



Reichelt
Chemietechnik
GmbH + Co.

THOMAFLUID® V

Cocks and Valves

- Multiple-way Cocks
- Ball Cocks
- Solenoid Valves
- Regulating Valves
- Check Valves

Flowmeters

- Flow Indicators / Switches
- Electrical Flowmeters
- Variable Area Flowmeters

Pumps

- Drum Pumps
- Hand- and Foot Pumps
- Piston Pumps
- Peristaltic Pumps
- Diaphragm Pumps

Reichelt Chemietechnik '15

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"Alte Brücke" in Heidelberg

Content: Cocks and Valves

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Multiple-Way Cocks

- plastics: PP, PFA, PTFE, PVDF
3-way-, 4-way-, 5-way-cock; bore (T, L); cock-plug (L, T, straight)
- metals: stainless steel, brass chromium-plated

3 - 10

10 - 11



Solenoid Valves

- plastics: PP, PEEK, PVC-U, PTFE, PVDF
valves: micro, mini-, multi-way, for high-purity media, tube pinch
partially direct acting, liquid-damped
- metals: stainless steel
valves: mini, multi-way, high-temperature, high-speed switching

12 - 24

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Diaphragm Valves

- plastics: PP, PVC-U, PVDF, partially pneumatic operated

28 - 33



Pressure Retaining Valves

- plastics: PP, PTFE, PVC-U, PVDF, partially adjustable

33 - 39



Diaphragm Pressure Gauge Guard

- plastics: PP, PVC-U, PVDF

39 - 41



Regulating Valves

- plastics: PEEK, PFA, PP, PTFE, PVDF
valves: multi-way, fine regulating, angle, needle, shut-off, block
- metals: stainless steel, brass
valves: angle, needle, shut-off,

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Check valves

- PFA, PP, PVC, PVC-U, PVDF, stainless steel, brass
mini valves, angle seat valves, partially with nozzle, internal thread, spigot or screw joint

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Angle Seat Valves made of plastics: PP, PVC, PVDF

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Content: Flowmeters

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Flow indicators made of PS, SAN, TPX, brass, stainless steel

53 - 54

Flow Switches made of brass, stainless steel

54 - 55



Electr. Flowmeters

- plastics: PA12, PPS, PVDF, PP
turbine flowmeters, rotor vane flowmeters, electronic flowmeters
- metals: stainless steel, aluminium, red brass
flowmeters (low flow rates), oval gear volumetric meters, accessories

55 - 56

59 - 63



Variable Area Flowmeters

- plastics: PA, PFA, PMMA, PP, PTFE, PVDF, PVC-U
partially with: control valve, changeable measuring tube
- metals: stainless steel, brass

63 - 74

74 - 77



Drum Pumps

- made of PE, PP, PVDF, stainless steel
- squeeze bulb pumps, container pumps, drum pumps, accessories

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Gas Pumps

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Hand and Foot Pumps

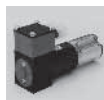
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Piston Pumps

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Multiple-Way Cocks
Plastics

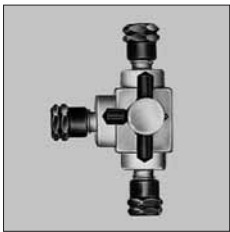
MULTIFIT®-Three-Way Cock made of PTFE

Product specification

- MULTIFIT®-cocks and valves for rigid tubing
- With fine regulation, for controlled splitting of flow and reproducible, constant aliquot sampling
- MULTIFIT®-cocks and valves fix tubing (pipes) by means of a compressed FPM O-ring. The higher the internal pressure is, the tighter is the joint.
- MULTIFIT®-connections are closed and opened within seconds.
- **Size A:**
Nominal width 0.8 mm, for highly flexible PTFE tubing, with outside Ø 0.6 to 1.0 mm (1/32").
- **Size C:**
Nominal width 1.6 mm, for tubing used in many chromatography systems, with outside Ø 1.3 to 1.6 mm (1/16"). The cap nuts of size C and D have the same thread size. Therefore, the total versatile assortment of size D RCT®-couplings, cocks, and columns can be coupled to the 1/16" tubes after changing the cap nut and the sealing ring.
- **Size D:**
Nominal width 3.2 mm, for 1/8" tubes of the THOMACHROM®-chromatography system available in various materials and with inside diameters of 0.25 to 2.0 mm. Suitable for outside Ø 2.4 to 3.2 mm. The nuts of size D are marked with a notch.
- **Size E:**
Nominal width 6.4 mm, for 1/4" tubes and glass pipes of chromatography columns, suitable for outside Ø of 5.7 to 6.4 mm.
- MULTIFIT® are available as standard type with PVC nuts for aqueous and non-aggressive solvents, and as SR-type with nuts made of PCTFE for temperatures up to +120 °C. O-rings made of FFKM are available for particularly aggressive liquids such as pyridine, ketones, and esters (to request separately).

Technical specification

- **Material:**
Body and plug: PTFE
valve needle: PCTFE
- **Max. operating pressure:** 1.5 bar



Item	For pipes outside Ø mm	Size	Material nuts	Price EURO
9300105	1.3 - 1.6	C / C / C	PVC	151.00
9300106	2.4 - 3.2	D / D / D	PVC	151.00
9300107	5.7 - 6.4	E / E / E	PVC	151.00
93001059	1.3 - 1.6	C / C / C	PCTFE	169.00
93001069	2.4 - 3.2	D / D / D	PCTFE	169.00
93001079	5.7 - 6.4	E / E / E	PCTFE	169.00

THOMAFLUID®-Three-Way Cock made of PP/PVDF - T-bore

Product specification

- Three-way cocks are used to transfer or block liquids or gases or to change the flow direction
- With mounting plate for easy installation
- The cock is made of PVDF or a composition of PP and PE:
PVDF: excellent chemical resistance, suitable for food
PP / PE: for industrial use

Technical specification

- **Colour:**
PP/PE: red / white
PVDF: transparent
- **Max. operating pressure:** 1 bar
- **Temperature range:**
PP/PE: +5 to +40 °C
PVDF: 0 to +40 °C
- **Design:** T-bore, nozzles on three sides for tubing of inside Ø 5-11 mm

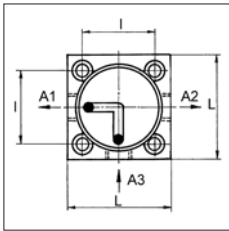
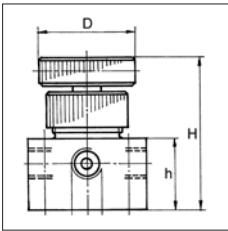


Item	Nominal width mm	For tubing inside Ø mm	Material plug, handle	Material housing	Price EURO
33462	4	5 - 7	PE	PP	29.00
33463	4	5 - 7	PVDF	PVDF	37.00
33464	6	7 - 9	PE	PP	29.00
33465	6	7 - 9	PVDF	PVDF	42.00
33466	8	9 - 11	PE	PP	29.00
33467	8	9 - 11	PVDF	PVDF	42.00

THOMAFLUID®-Three-Way Cock made of PP/PVDF/PTFE - L-cock plug

Product specification

- Compact construction, L-cock plug made of PTFE, 3 x R-internal thread

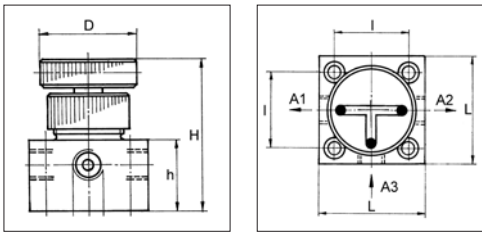


Item	Nominal width mm	Internal thread	L mm	H mm	Material	Price EURO
24412	4	R 1/4"	50	70	PP	190.00
24413	4	R 1/4"	50	70	PTFE	297.00
24414	4	R 1/4"	50	70	PVDF	220.00
24416	6	R 1/4"	50	70	PP	259.00
24417	6	R 1/4"	50	70	PTFE	312.00
24418	6	R 1/4"	50	70	PVDF	302.00
24420	8	R 1/2"	70	100	PP	259.00
24421	8	R 1/2"	70	100	PTFE	312.00
24422	8	R 1/2"	70	100	PVDF	302.00
24424	10	R 1/2"	70	100	PP	259.00
24425	10	R 1/2"	70	100	PTFE	312.00
24426	10	R 1/2"	70	100	PVDF	302.00

THOMAFUID®-Three-Way Cock
made of PP/PVDF/PTFE - T-cock plug

Product specification

- Compact construction, T-cock plug made of PTFE, 3 x R-internal thread

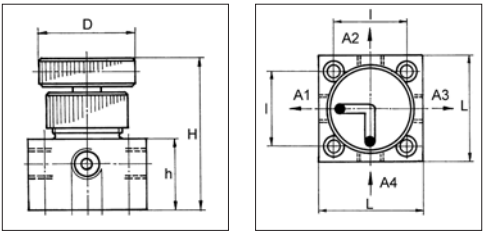


Item	Nominal width mm	Internal thread	L mm	H mm	Material	Price EURO
24428	4	R 1/4"	50	70	PP	266.00
24429	4	R 1/4"	50	70	PTFE	379.00
24430	4	R 1/4"	50	70	PVDF	282.00
24432	6	R 1/4"	50	70	PP	266.00
24433	6	R 1/4"	50	70	PTFE	379.00
24434	6	R 1/4"	50	70	PVDF	282.00
24436	8	R 1/2"	70	100	PP	266.00
24437	8	R 1/2"	70	100	PTFE	427.00
24438	8	R 1/2"	70	100	PVDF	379.00
24440	10	R 1/2"	70	100	PP	269.00
24441	10	R 1/2"	70	100	PTFE	427.00
24442	10	R 1/2"	70	100	PVDF	379.00

THOMAFUID®-Four-Way Cock
made of PP/PVDF/PTFE - L-cock plug

Product specification

- Compact construction, L-cock plug made of PTFE, 4 x R-internal thread

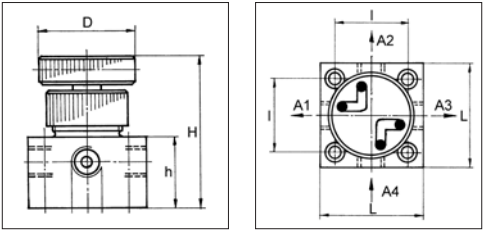


Item	Nominal width mm	Internal thread	L mm	H mm	Material	Price EURO
24444	4	R 1/4"	50	70	PP	266.00
24445	4	R 1/4"	50	70	PTFE	379.00
24446	4	R 1/4"	50	70	PVDF	318.00
24448	6	R 1/4"	50	70	PP	266.00
24449	6	R 1/4"	50	70	PTFE	379.00
24450	6	R 1/4"	50	70	PVDF	318.00
24452	8	R 1/2"	70	100	PP	338.00
24453	8	R 1/2"	70	100	PTFE	522.00
24454	8	R 1/2"	70	100	PVDF	456.00
24456	10	R 1/2"	70	100	PP	338.00
24457	10	R 1/2"	70	100	PTFE	522.00
24458	10	R 1/2"	70	100	PVDF	456.00

THOMAFUID®-Four-Way Cock
made of PP/PVDF/PTFE - double L-cock plug

Product specification

- Compact construction, double L-cock plug made of PTFE, 4 x R-internal thread

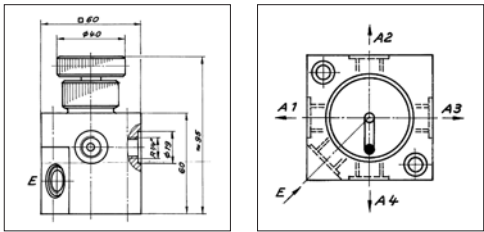


Item	Nominal width mm	Internal thread	L mm	H mm	Material	Price EURO
24460	4	R 1/4"	50	70	PP	266.00
24461	4	R 1/4"	50	70	PTFE	379.00
24462	4	R 1/4"	50	70	PVDF	318.00
24464	6	R 1/4"	50	70	PP	266.00
24465	6	R 1/4"	50	70	PTFE	379.00
24466	6	R 1/4"	50	70	PVDF	318.00
24468	8	R 1/2"	70	100	PP	373.00
24469	8	R 1/2"	70	100	PTFE	569.00
24470	8	R 1/2"	70	100	PVDF	472.00
24472	10	R 1/2"	70	100	PP	373.00
24473	10	R 1/2"	70	100	PTFE	569.00
24474	10	R 1/2"	70	100	PVDF	472.00

THOMAFLUID®-Five-Way Cock
made of PP/PVDF/PTFE - one-way cock plug

Product specification

- Compact construction, one-way cock plug made of PTFE, 5 x R-internal thread

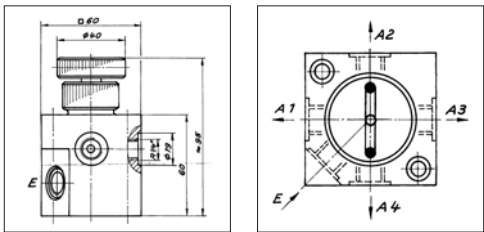


Item	Nominal width mm	Internal thread	L mm	H mm	Material	Price EURO
24476	4	R 1/4"	60	95	PP	266.00
24477	4	R 1/4"	60	95	PTFE	379.00
24478	4	R 1/4"	60	95	PVDF	351.00
24480	6	R 1/4"	60	95	PP	287.00
24481	6	R 1/4"	60	95	PTFE	420.00
24482	6	R 1/4"	60	95	PVDF	348.00

THOMAFLUID®-Five-Way Cock
made of PP/PVDF/PTFE - straight-way cock plug

Product specification

- Compact construction, straight-way cock plug made of PTFE, 5 x R-internal thread



Item	Nominal width mm	Internal thread	L mm	H mm	Material	Price EURO
24484	4	R 1/4"	60	95	PP	266.00
24485	4	R 1/4"	60	95	PTFE	343.00
24488	6	R 1/4"	60	95	PP	266.00
24489	6	R 1/4"	60	95	PTFE	379.00
24490	6	R 1/4"	60	95	PVDF	351.00

THOMAFLUID®-High-Quality Ball Multiway Cocks

General product specification

- THOMAFLUID®-ball cocks with rotary handle are available in numerous variations.
- Two types are available: the block construction EMP-A6 (parts 28888) on the one hand, and the compact cocks EMP-L6 on the other hand (parts 304881).
- The type EMP-L6 is produced cost-effectively by injection moulding, providing a remarkable manageability and compactness of the cock body.
- The block construction EMP-A6 is produced in the metal-cutting manufacturing process. The cocks are excellently suitable for direct wall mounting due to their rectangular construction. The product range varies from two-way cocks with through bore to five-way cocks with ball angled bore.
- Therefore, the desired solutions can be found for specific applications:
 - Three-way ball cock (ball with L-bore/vertical design)
 - Three-way ball cock (ball with L-bore/horizontal design)
 - Three-way ball cock (ball with T-bore/horizontal design)
 - Four-way ball cock (ball with double L-bore)
 - Five-way ball cock (ball with angled bore, vertical)
- The ball cocks are designed for max. 10 bar (at +20 °C).
- Safe and reliable isolation, mixture as well as distribution of gases and liquids
- High flow rates even at heavily contaminated media
- Ball and stem are manufactured in one piece
- Sealing sleeves made of PTFE (polytetrafluoroethylene) with highest resistance to chemically aggressive media
- Securing of the sealing sleeves by O-rings made of FPM (fluorinated rubber)
- Sealing of the ball upward by stem sealing using an O-ring
- Numerous connection possibilities due to compatibility with THOMAFLUID®- and MULTIFIT®-tubing connectors, pipe connectors and fittings
- Easily revolving manual rotary handle with position indicator
- Fastening possibilities due to fixing clamps and angle brackets
- Seamless cylindrical G 1/2" and G 1/4" internal thread according to DIN ISO 228

General technical specification

- **PP (Polypropylene)**
 - High surface hardness
 - Resistant to hydrolysis
 - Autoclavable
 - Thermoforming possible
 - Physiologically safe
 - Very good dielectrical properties
 - Extremely good impact toughness and notch impact strength
 - Higher hardness and stiffness as well as better resilience than PE
 - Good resistance to alcohols, ketones, conc. acids and alkalis
 - Not stable to aromatic hydrocarbons, fats and oils, halogenes
 - Colour: grey
 - Density: 0.92 g/cm³
 - Temperature range: +5 to +90 °C
 - Shore hardness D: 72°
 - Water absorption: <0.05 % (lowest water absorption)
 - Tensile strength: 25 - 40 N/mm²
 - Elongation at break: 800 %
 - Surface resistance: >10¹³ Ohm
- **PVDF (Polyvinylidene fluoride)**
 - High-quality technical plastic for chemical apparatus and machine building, especially in the petrochemical, metallurgical, pharmaceutical, food processing, paper and textile industry as well as in the nuclear technology.
 - High impact toughness even at low temperatures
 - Highest mechanical stability and stiffness

Good breakdown strength
Low dielectric loss factor
Physiologically safe
Meeting highest purity requirements
Outstanding resistance to UV, weather and aging
Flame-resistant
High thermal stability
Resistant to alcohols, fats and oils, halogenes, alkalis, acids
Not stable to aromatic hydrocarbons, ketones, amines, pyridine, dimethylformamide, hot alkalis, fuming sulfuric acid
Colour: nature, slightly translucent
Density: 1.75 g/cm³
Temperature range: -40 to +140 °C
Shore hardness D: 79° (great hardness)
Water absorption: <0.04 % (water resistant)
Tensile strength: 38 - 50 N/mm²
Elongation at break: 12 %
Surface resistance: >10¹³ Ohm

• **PTFE (Polytetrafluoroethylene)**
Heavy-duty plastic
Antiadhesive surface
Highest gas-tightness
Non-combustible
Outstanding sliding properties
High tracking resistance
Excellent stress cracking resistance
Excellent weather resistance
Very good dielectrical properties independent of frequency and temperature
Very good electrical insulating capacity also at air humidity
Very good chemical resistance to most aggressive media
Colour: milky, white
Density: 2.20 g/cm³
Temperature range: -200 to +150 °C
Shore hardness D: 60°
Water absorption: 0.01 %
Tearing strength: 30 - 40 N/mm²
Elongation at break: 300 %
Surface resistance: >10¹⁷ Ohm

• **PFA (Perfluoroalkoxy)**
High-quality technical plastic for chemical apparatus and machine construction as well as electrical engineering
Very good pressure resistance
Very high resistance to media
Excellent resistance to weather
Flame-resistant
Colour: milky, translucent
Density: 2.10 g/cm³
Temperature range: -200 to +200 °C (highest dimensional stability in heat)
Shore hardness D: 60° to 65°
Water absorption: <0.03 %
Tensile strength: 27 to 32 N/mm²
Elongation at break: 300 %
Surface resistance: >10¹⁷ Ohm

• **FPM (Fluorinated rubber)**
FPM (fluorinated rubber) is a polymer of highest quality made of fluorinated hydrocarbons (fluorine content 64 % to 70 %) and belongs to the group of elastomers
FPM has the best resistance to swelling in mineral oils compared to all elastomers
Highest sealing force in continuous operation (after 100 h at +150 °C in air still 90 % of the initial sealing force)
Lowest evaporation rates at high vacuum
Low permeability to gas

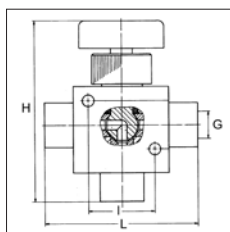
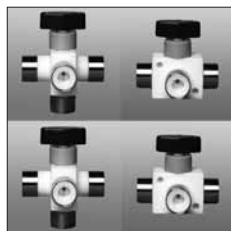
Outstanding radiation resistance
Excellent chemical and physical properties, almost identical to those of PTFE (polytetrafluoroethylene). The essential difference compared to PTFE is the lower cold flow, lower diffusion and better transparency.
High chemical resistance to many chemicals, ozone, heat and weather.
Unstable to polar solvents such as ketones and esters (considerable swelling), organic acids (acetic acid or formic acid), strong bases such as amines (chemical attack).
Not suitable for applications at temperatures below -20 °C as well as in hot steam.
Colour: black
Density: 1.10 g/cm³
Temperature range: -30 to +220 °C, for a short time +300 °C
Water absorption: no data
Tensile strength: 13 N/mm²
Elongation at break: 450 %
Shore hardness A: 75°
Surface resistance: no data

THOMAFUID®-High-Chem Ball Multiway Cock
made of PTFE - block construction

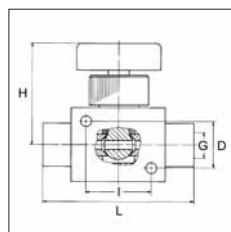
- Product specification**
- Robust ball cock, block construction, made of highly chemical-resistant PTFE (polytetrafluoroethylene).
 - Ball is embedded in the casing bed, which has the same shape as the ball.
 - Ball and stem are manufactured in one piece, therefore double bearing of the ball in the casing bed on the one hand and in the packing gland on the other hand, thus minimizing the risk of leakage.
 - Connections: seamless cylindrical G-internal thread. The threaded sleeves are reinforced by stainless steel rings.
 - Sealing of the ball by PTFE (polytetrafluoroethylene) sealing sleeves, which also serve for adjustment.
 - Highest media resistance guaranteed by housing and sealing sleeves made of PTFE (polytetrafluoroethylene).

- Technical specification**
- **Material:**
Housing: PTFE (polytetrafluoroethylene)
Sealing sleeves: PTFE (polytetrafluoroethylene)
O-ring: FPM (fluorinated rubber)

Item	L mm	H mm	h mm	l mm	d mm	D mm
28888	80	95	20	36	6.6	25
28890	80	95	20	36	6.6	25
28894	120	138	30	45	6.6	45
304024	120	138	30	45	6.6	45
304025	80	55	20	36	6.6	25
304026	80	55	20	36	6.6	25
304027	120	78	30	45	6.6	45
304028	120	78	30	45	6.6	45
304029	80	55	20	36	6.6	25
304030	80	55	20	36	6.6	25
304031	120	78	30	45	6.6	45
304032	120	78	30	45	6.6	45
28896	80	55	20	36	6.6	25
28898	100	63	25	40	6.6	35
28904	80	55	20	36	6.6	25
28906	80	55	20	36	6.6	25
28910	120	78	30	45	6.6	45

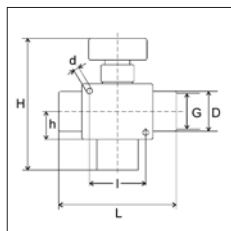


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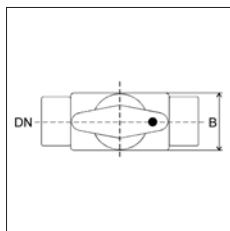


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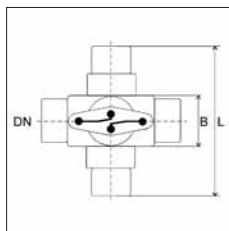
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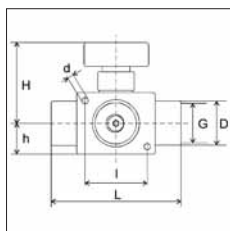
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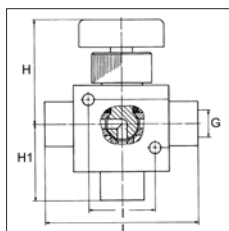
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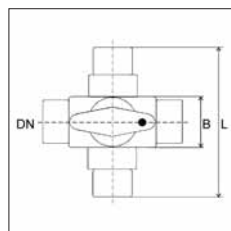
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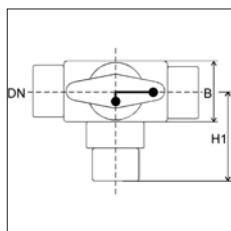
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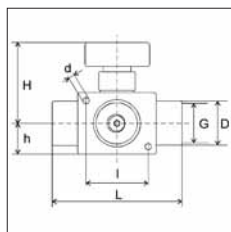
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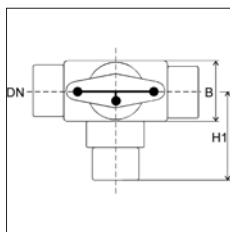
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304029



304029



304029

Item	Design	Nominal width mm	Internal thread	Price EURO
28888	3-way L-bore vertical	4	G 1/4"	316.00
28890	3-way L-bore vertical	6	G 1/4"	316.00
28894	3-way L-bore vertical	8	G 1/2"	856.00
304024	3-way L-bore vertical	10	G 1/2"	856.00
304025	3-way L-bore horizontal	4	G 1/4"	316.00
304026	3-way L-bore horizontal	6	G 1/4"	316.00
304027	3-way L-bore horizontal	8	G 1/2"	856.00
304028	3-way L-bore horizontal	10	G 1/2"	856.00
304029	3-way T-bore horizontal	4	G 1/4"	316.00
304030	3-way T-bore horizontal	6	G 1/4"	316.00
304031	3-way T-bore horizontal	8	G 1/2"	856.00
304032	3-way T-bore horizontal	10	G 1/2"	856.00
28896	4-way double L-bore	4	G 1/4"	506.00
28898	4-way double L-bore	6	G 1/2"	696.00
28904	5-way L-bore vertical	4	G 1/4"	506.00
28906	5-way L-bore vertical	6	G 1/4"	506.00
28910	5-way L-bore vertical	8	G 1/2"	1,036.00

THOMAFLUID®-High-Quality Ball Multiway Cock made of PP, PVDF or PFA - injection-molded

Product specification

- Light type, produced by the injection-moulding process.
- Ball with stem is both centered and sealed by sealing sleeves, thus ensuring optimal sealing of the ball to the connections and preventing an undesired leakage of the medium.
- Highest media resistance is guaranteed by housing alternatively made of PP (polypropylene), PVDF (polyvinylidene fluoride) or PFA (perfluoroalkoxy) as well as by sealing sleeves made of PTFE (polytetrafluoroethylene).

Technical specification

• Material:

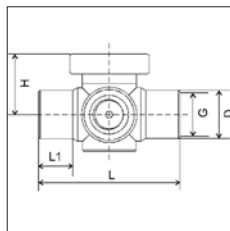
Housing: alternatively PP (polypropylene), PVDF (polyvinylidene fluoride) or PFA (perfluoroalkoxy)

Sealing sleeves: PTFE (polytetrafluoroethylene)

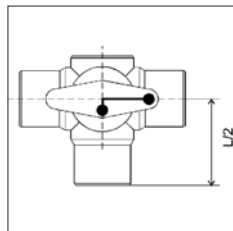
O-ring: FPM (fluorinated rubber)



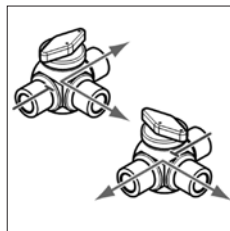
304881, 304012



304881, 304012



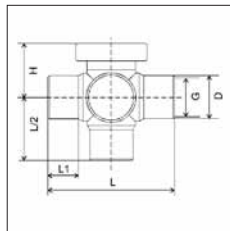
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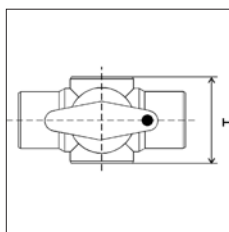
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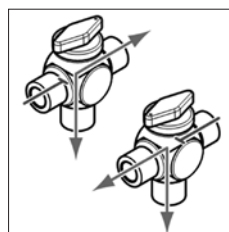
304004, 304889



304004, 304889



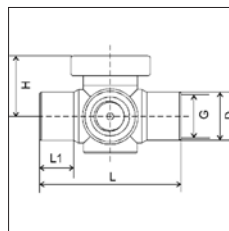
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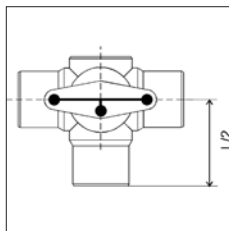
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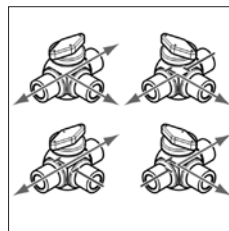
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304890, 304014



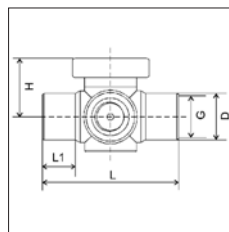
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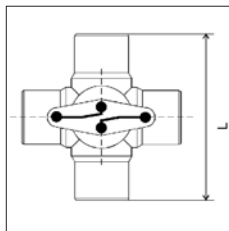
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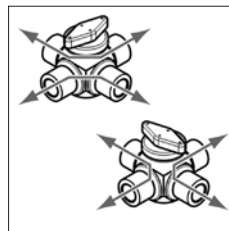
304015, 304019



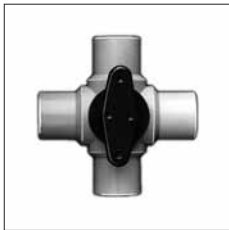
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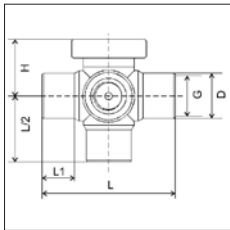
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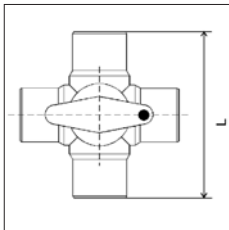
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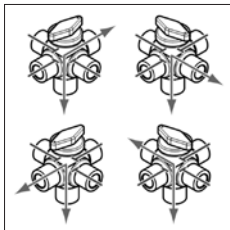
304895, 304022



304895, 304022



304895, 304022



304895, 304022

Design: 3-way L-bore horizontal

Item	Nominal width mm	Internal thread	Max. flow rate liquids ¹ l/h	Material	Price EURO
304881	3	G 1/8"	500	PP	86.00
304882	3	G 1/8"	500	PVDF	116.00
43010	4	G 1/4"	610	PP	98.00
304006	4	G 1/4"	610	PVDF	148.00
304011	4	G 1/4"	610	PFA	346.00
304883	6	G 1/4"	900	PP	98.00
304884	6	G 1/4"	900	PVDF	148.00
304885	6	G 1/4"	900	PFA	346.00
304886	8	G 1/8"	1,900	PP	196.00
43014	10	G 1/2"	3,900	PP	196.00
304007	10	G 1/2"	3,900	PVDF	424.00
304012	10	G 1/2"	3,900	PFA	842.00

¹ Water (+20 °C)

Design: 3-way L-bore vertical

Item	Nominal width mm	Internal thread	Max. flow rate liquids ¹ l/h	Material	Price EURO
304004	4	G 1/4"	610	PP	98.00
304005	4	G 1/4"	610	PVDF	148.00
304010	4	G 1/4"	610	PFA	346.00
304887	6	G 1/4"	900	PP	98.00
304888	6	G 1/4"	900	PVDF	148.00
304889	6	G 1/4"	900	PFA	346.00

¹ Water (+20 °C)

Design: 3-way T-bore horizontal

Item	Nominal width mm	Internal thread	Max. flow rate liquids ¹ l/h	Material	Price EURO
304890	3	G 1/8"	500	PP	86.00
304891	3	G 1/8"	500	PVDF	132.00
43024	4	G 1/4"	610	PP	86.00
304008	4	G 1/4"	610	PVDF	148.00
304013	4	G 1/4"	610	PFA	346.00
304892	6	G 1/4"	900	PP	86.00
304893	6	G 1/4"	900	PVDF	148.00
304894	6	G 1/4"	900	PFA	346.00
43028	10	G 1/2"	3,900	PP	198.00
304009	10	G 1/2"	3,900	PVDF	446.00
304014	10	G 1/2"	3,900	PFA	798.00

¹ Water (+20 °C)

Design: 4-way double L-bore

Item	Nominal width mm	Internal thread	Max. flow rate liquids ¹ l/h	Material	Price EURO
43037	2	G 1/4"	100	PP	86.00
304015	4	G 1/4"	610	PP	138.00
43038	4	G 1/4"	610	PVDF	190.00
304018	4	G 1/4"	610	PFA	430.00
304016	6	G 1/2"	900	PP	322.00
304017	6	G 1/2"	900	PVDF	466.00
304019	6	G 1/2"	900	PFA	842.00

¹ Water (+20 °C)

Design: 5-way L-bore vertical

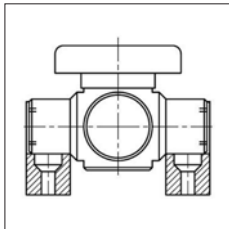
Item	Nominal width mm	Internal thread	Max. flow rate liquids ¹ l/h	Material	Price EURO
304895	3	G 1/8"	500	PP	146.00
304896	3	G 1/8"	500	PVDF	184.00
304020	4	G 1/4"	610	PP	172.00
304021	4	G 1/4"	610	PVDF	218.00
304022	4	G 1/4"	610	PFA	512.00

¹ Water (+20 °C)

RCT®-Accessories for Ball Cocks



304033 - 304035



304036 - 304038

Product specification

- Clamps are used exclusively for wall mounting of ball cocks EMP-L6 (parts 304871). Each clamp will be fixed to the wall with one screw. One clamp is required per „way“. Clamps are made of weather- and aging-resistant PE (polyethylene), good mechanical stability, hydrophobic.
- Claws are also used for wall mounting of ball cocks, specially for ball cocks with actuator. The claws are made of temperature-resistant PP (polypropylene) and therefore they have more mechanical stability and stiffness than clamps made of PE.

Item	Design	Internal thread	Unit piece	Price EURO
304033	clamp	G 1/8"	1	3.00
304034	clamp	G 1/4"	1	4.00
304035	clamp	G 1/2"	1	6.00
304036	claw	G 1/8"	1	24.00
304037	claw	G 1/4"	1	32.00
304038	claw	G 1/2"	1	44.00

Product specification

- Precision three-way cocks in miniaturized construction, combination of hose nozzles for flexible plastic tubing of different standard sizes; individually lobed seal faces, permanently chromium-plated; handy, 180° rotatable cock plug with end stop.

Item	Connection type	Unit piece	Price EURO
15602	female Luer-Lock, nozzle 3.2 - 4.8 mm, male Luer-Lock	1	103.00
15604	hose nozzles at all sides 3.2 - 4.8 mm, 120° angle	1	112.00
15613	female Luer-Lock, nozzle 3.2 - 4.8 mm, male Luer	1	101.00
15614	female Luer-Lock, nozzle 1.6 - 2.4 mm, male Luer	1	101.00
15618	female Luer-Lock, nozzle 1.6 - 2.4 mm, nozzle 1.6 - 2.4 mm	1	101.00
15619	female Luer-Lock, nozzle 3.2 - 4.8 mm, nozzle 1.6 - 2.4	1	101.00

Metals

THOMAFUID®-Three-Way Luer Connecting Cock for Flexible Tubing



15602



15604



15613



15614



15618



15619

THOMAFUID®-Three-Way Luer Connecting Cock for Rigid Tubing

Product specification

- Precision three-way cocks in miniaturized construction, on one side special RCT screw fitting for connection of flanged PTFE, polyethylene or polypropylene tubing in usual standard sizes, two rectangular positioned outlets with female Luer-Lock connection; individually lobed seal faces, permanently chromium-plated; handy, 180° rotatable cock plug with end stop.



Item	For tubing outside Ø mm	For tubing inside Ø mm	Nominal width mm	Unit piece	Price EURO
15587	1.1	0.25 - 0.65	0.5	1	90.00
15588	1.5	0.65 - 0.9	0.8	1	90.00
15589	1.9	1 - 1.3	1.3	1	90.00
15590	2.7	1.6 - 1.8	1.8	1	90.00
15591	3.7	2 - 2.7	2.4	1	90.00

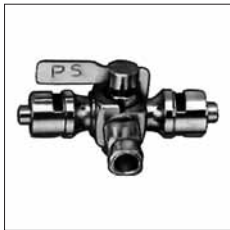
THOMAFUID®-Three-Way Luer Connecting Cock

Product specification

- Precision three-way cocks in miniaturized construction, combination of female Luer connections; individually lobed seal faces, permanently chromium-plated; handy, 180° rotatable cock plug with end stop.



15603



15606



15608



15609



15610



15611



15612



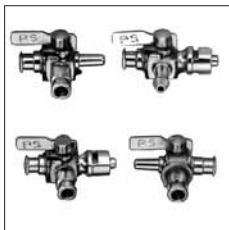
15612

Item	Connection type	Unit piece	Price EURO
15603	female Luer-Lock, female Luer-Lock, male Luer-Lock right	1	89.00
15606	male Luer-Lock, female Luer-Lock, male Luer-Lock right	1	149.00
15608	male Luer-Lock, female Luer-Lock, male Luer-Lock	1	199.00
15609	male Luer-Lock, female Luer-Lock, female Luer-Lock	1	166.00
15610	female Luer-Lock, female Luer-Lock, female Luer-Lock	1	192.00
15611	female Luer-Lock, female Luer-Lock, male Luer	1	82.00
15612	female Luer-Lock at all sides, T-arrangement	1	137.00

THOMAFLUID®-Three-Way Tube Connecting Cock with Clip

Product specification

- Precision three-way cocks in miniaturized construction, on one side female Luer connection. Outlets optionally of male or female Luer type and/or hose nozzle; individually lobed seal faces, permanently chromium-plated; handy, 180° rotatable cock plug with end stop, additionally plug clip for fixation of the cock plug in the working positions.



15659



15660



15661



15662



15663

Item	Connection type	Unit piece	Price EURO
15659	female Luer-Lock, female Luer-Lock, male Luer	1	125.00
15660	female Luer-Lock, nozzle 3.2 - 4.8 mm, male Luer	1	125.00
15661	female Luer-Lock, nozzle 3.2 - 4.8 mm, male Luer-Lock	1	125.00
15662	female Luer-Lock, female Luer-Lock, male Luer-Lock	1	125.00
15663	male Luer, female Luer-Lock, female Luer-Lock	1	125.00

Solenoid Valves

Plastics

THOMAFUID®-Mini Solenoid Valves made of PTFE

General product specification

- Small valves for applications, where high purity is required, as well as for corrosive media. The THOMAFUID®-mini solenoid valves are constructed in the seating principle, the solenoid inner parts being separated from medium by a PTFE diaphragm.
- All medium-contacting components made of PTFE
- Long service life
- Small internal volume
- Short response time
- Small construction size
- Low power consumption
- Zero dead volume
- Extremely light weight

General technical specification

- **Material:**
Housing: steel (electrical part)
Valve body: PTFE
Gasket: PTFE
- **Mounting position:** optional
- **Valve type:** poppet valve
- **Media handled:** neutral and aggressive gases and liquids, no solid matters
- **Max. temperature of medium:** -10 to +70 °C
- **Max. ambient temperature:** -10 to +70 °C
- **Gas pressure range:** vacuum to 2 bar
- **Liquid pressure range:** vacuum to 2 bar
- **Response time:** 20 ms max. (on); 30 ms max. (off)
- **Control function:** normally closed (NC) or normally open (NO)

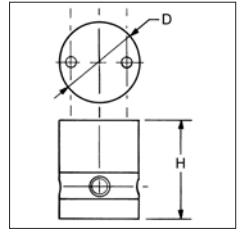
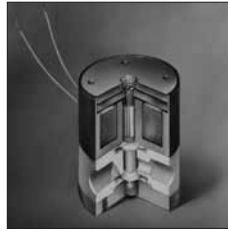
THOMAFUID®-2/2-Way Solenoid Valve made of PTFE - mini

Technical specification

- **Valve type:** 2/2-way poppet valve
- **Internal volume:** 20 - 713 µl (from port to port)

Item	Control function ¹	Power consumption W	D mm	H mm
87300	NC	1.15	19	29
87301	NC	1.15	19	29
87310	NC	1.5	26	38
87311	NC	1.5	26	38
87312	NC	4.2	32	47
87313	NC	4.2	32	47
87315	NC	7.2	38	54
87316	NC	7.2	38	54
87303	NO	1.15	19	29
87304	NO	1.15	19	29
87319	NO	1.6	26	38
87320	NO	1.6	26	38
87321	NO	4.2	32	47
87322	NO	4.2	32	47
87324	NO	7.2	38	54
87325	NO	7.2	38	54

¹ NC = normally closed; NO = normally open



Item	Internal volume µl	Nominal width mm	Connection voltage volt	Internal thread	Price EURO
87300	20	1	12=	UNF 10-32	307.00
87301	20	1	24=	UNF 10-32	307.00
87310	57	1.6	12=	UNF 1/4"-28	430.00
87311	57	1.6	24=	UNF 1/4"-28	430.00
87312	157	2.4	12=	UNF 1/4"-28	548.00
87313	157	2.4	24=	UNF 1/4"-28	548.00
87315	713	4	12=	NPT 1/8"	681.00
87316	713	4	24=	NPT 1/8"	681.00
87303	20	1	12=	UNF 10-32	328.00
87304	20	1	24=	UNF 10-32	328.00
87319	57	1.6	12=	UNF 1/4"-28	430.00
87320	57	1.6	24=	UNF 1/4"-28	430.00
87321	157	2.4	12=	UNF 1/4"-28	548.00
87322	157	2.4	24=	UNF 1/4"-28	548.00
87324	713	4	12=	NPT 1/8"	681.00
87325	713	4	24=	NPT 1/8"	681.00

THOMAFUID®-3/2-Way Solenoid Valve made of PTFE - mini

Technical specification

- **Valve type:** 3/2-way poppet valve
- **Internal volume:** 27 - 1094 µl (from port to port)

Item	Control function ¹	Power consumption W	D mm	H mm
87307	NC	1.13	19	30
87308	NC	1.15	19	30
87329	NC	1.5	26	38
87330	NC	1.5	26	38
87331	NC	4.23	32	46
87332	NC	4.23	32	46
87334	NC	7.2	45	53
87335	NC	7.2	45	53

¹ NC = normally closed

Item	Internal volume µl	Nominal width mm	Connection voltage volt	Internal thread	Price EURO
87307	27	1	12=	UNF 10-32	307.00
87308	27	1	24=	UNF 10-32	307.00
87329	111	1.6	12=	UNF 1/4"-28	415.00
87330	111	1.6	24=	UNF 1/4"-28	415.00
87331	494	2.4	12=	UNF 1/4"-28	507.00

Item	Internal volume µl	Nominal width mm	Connection voltage volt	Internal thread	Price EURO
87332	494	2.4	24=	UNF 1/4"-28	507.00
87334	1,094	4	12=	NPT 1/8"	660.00
87335	1,094	4	24=	NPT 1/8"	660.00

THOMAFUID®-6/2-Way Solenoid Valve
made of PTFE - mini

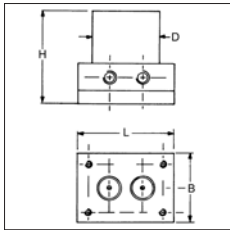
Product specification

- The THOMAFUID®-6/2-way mini solenoid valve is a double 3/2-way solenoid valve and may replace two 3/2-way solenoid valves. The 6/2-way mini solenoid valve operates with one single solenoid and is thus suitable for systems where two valves have to work simultaneously.

Technical specification

- **Material:**
Housing: steel (electrical part)
Valve body: PTFE
Gasket: PTFE
- **Valve type:** 6/2-way poppet valve
- **Mounting position:** optional
- **Media handled:** neutral and aggressive gases and liquids, no solid matters
- **Max. temperature of medium:** -10 to +70 °C
- **Max. ambient temperature:** -10 to +70 °C
- **Max. operating pressure:**
Gases: 2 bar
Liquids: 2 bar
- **Duty factor:** 100 % ED
- **Response time:** 25 ms for nominal width 1.6 mm,
35 ms for nominal width 2.4 mm
- **Control function:** normally closed (NC)
- **Power consumption:** 4.2 W for nominal width 1.6 mm;
7.2 W for nominal width 2.4 mm
- **Construction size:** see table

Item	L mm	D mm	H mm
87339	46	32	46
87340	46	32	46
87342	59	39	54
87343	59	39	54



Item	Connection voltage volt	Amperage A	Nominal width mm	Internal thread	Price EURO
87339	12=	0.4	1.6	UNF 1/4"-28	696.00
87340	24=	0.18	1.6	UNF 1/4"-28	696.00
87342	12=	0.6	2.4	NPT 1/8"	1,151.00
87343	24=	0.3	2.4	NPT 1/8"	1,151.00

THOMAFUID®-Solenoid Valves made of PTFE

Application area

- PTFE solenoid valves for conveyance of neutral and aggressive gases and liquids

General product specification

- THOMAFUID®-solid PTFE solenoid valves are constructed in the seating principle, the solenoid parts being separated from medium by the PTFE bellows. The special shape of the sealing edges ensures high tightness. The electrical connection is made via a plug. The control head can be easily removed from the valve body by means of a cap nut. The extremely low effort for assembly is of great importance for cleaning of the valves. All medium-contacting parts are made of PTFE.
- Solenoid valves with 6 watt are usually suitable for sensitive low-pressure analytical apparatuses. For all other applications as well as for working at higher pressure the 12 watt valves are recommended.

General technical specification

- **Material:**
Housing: steel (electrical part)
Valve body: PTFE
Gasket: PTFE
- **Valve type:** diaphragm valve
- **Mounting position:** optional
- **Internal volume:** 0.3 ml
- **Media handled:** neutral and aggressive gases and liquids
- **Max. temperature of medium:** -50 to +100 °C
- **Max. ambient temperature:** -50 to +100 °C
- **Pressure range gases:** 0 - 2 bar
- **Pressure range liquids:** 0 - 2 bar
- **Duty factor:** 100 % ED
- **Operating time:** 20 - 25 ms
- **Protection category:** IP 54
- **Control function:** normally closed (NC)
- **Power consumption:** 6 or 12 W
- **Seat diameter:** 1.6; 2.4; 3.2; 6.4; 9.5 mm
- **Connection:** 1/4"-28 UNF; 1/8" NPT, 1/4" NPT, 3/8" NPT
- **Life cycle:** 5 Mio. operations

THOMAFUID®-2/2-Way Solenoid Valve made of PTFE



Item	Power consumption W	Nominal width mm	Connection voltage volt	Internal thread	Price EURO
86122	6	1.6	12=	UNF 1/4"-28	379.00
86123	6	1.6	24=	UNF 1/4"-28	379.00
86124	6	1.6	230~	UNF 1/4"-28	379.00
86125	6	2.4	12=	NPT 1/8"	379.00
86126	6	2.4	24=	NPT 1/8"	379.00
86127	6	2.4	230~	NPT 1/8"	379.00
86128	6	3.2	12=	NPT 1/8"	379.00

Item	Nominal width mm	Max. op. pressure ¹ bar	Material diaphragm	Connection voltage volt	Price EURO
350954	2	6	EPDM	230~	246.00
350955	4	4	EPDM	230~	246.00
350956	6	2	EPDM	230~	246.00
350957	2	6	EPDM	24=	246.00
350958	4	4	EPDM	24=	246.00
350959	6	2	EPDM	24=	246.00
350960	2	6	FPM	230~	252.00
350961	4	4	FPM	230~	252.00
350962	6	2	FPM	230~	252.00
350963	2	6	FPM	24=	252.00
350964	4	4	FPM	24=	252.00
350965	6	2	FPM	24=	252.00

¹ at +20 °C

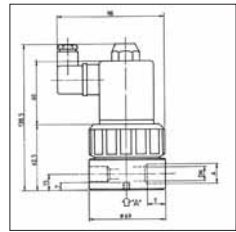
THOMAFLUID®-2/2-Way Solenoid Valve made of PVC-U - direct acting

Product specification

- Direct acting, solenoid valve made of plastic with PTFE (polytetrafluoroethylene) bellows for many applications in industry and plant construction. The valve is also suitable for aggressive liquids and gases due to its high chemical resistance. In a deenergized state, the valve is closed by spring force. When energized, the plunger moves upwards, raising the bellows connected to it and allowing the medium to flow. The PTFE bellows reliably separates the medium from the plunger or from the atmosphere. An elastomer cap placed on the bellows in the valve seat guarantees a high sealing effect. The coil is 360° adjustable against the valve body. The pressure and liquid tightness of the valve housing even during disassembly of the solenoid coil ensures operating safety.

Technical specification

- **Material:**
Housing: PVC-U (rigid PVC, polyvinyl chloride)
Bellows: PTFE (polytetrafluoroethylene)
Gaskets (O-ring, sealing cap): EPDM (ethylene-propylene-diene rubber); FPM (fluorinated rubber)
- **Media handled:** neutral and aggressive gases and liquids
- **Viscosity:** up to approx. 38 mm²/sec (cSt)
- **Max. operating pressure:** DN 10: 2.0 bar; DN 15: 1.0 bar; DN 20: 0.5 bar
- **Max. temperature of medium:** PVC-U: up to +60 °C; EPDM: up to +110 °C; FPM: up to +110 °C
- **Max. ambient temperature:** +50 °C
- **Mounting position:** optional (coil preferably in upright position)
- **Control function:** normally closed (NC)
- **Connection voltage:** 220 V / 50 Hz or 24 V=
- **Switching time:** opening: 30 - 40 ms; closing: 40 - 50 ms
- **Duty factor:** 100 %
- **Power consumption:** 9.5 W
- **Protection category:** IP 65
- **Electrical connection:** plug socket Pg 9 acc. DIN 43560
- **Weight:** 825 g
- **Connection:** cementing socket (OD 16, 20, 25 mm)



Item	Nominal width mm	For pipes 0-0 mm	Max. op. pressure ¹ bar	Material gasket	Connection voltage volt	Price EURO
350919	10	16	2	EPDM	230~	386.00
350920	15	20	1	EPDM	230~	386.00
350921	20	25	0.5	EPDM	230~	386.00
350922	10	16	2	EPDM	24=	386.00
350923	15	20	1	EPDM	24=	386.00
350924	20	25	0.5	EPDM	24=	386.00
350925	10	16	2	FPM	230~	392.00
350926	15	20	1	FPM	230~	392.00
350927	20	25	0.5	FPM	230~	392.00
350928	10	16	2	FPM	24=	392.00
350929	15	20	1	FPM	24=	392.00
350930	20	25	0.5	FPM	24=	392.00

¹ at +20 °C

THOMAFLUID®-2/2-Way Solenoid Valve made of PP - direct acting

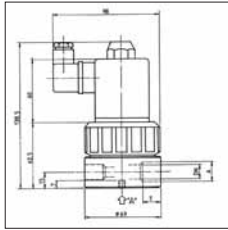
Product specification

- Direct acting, solenoid valve made of plastic with PTFE (polytetrafluoroethylene) bellows for many applications in industry and plant construction. The valve is also suitable for aggressive liquids and gases due to high chemical resistance of all materials. In a deenergized state, the valve is closed by spring force. When energized, the plunger moves upwards, raising the bellows connected to it and allowing the medium to flow. The PTFE bellows reliably separates the medium from the plunger or from the atmosphere. An elastomer cap placed on the bellows in the valve seat guarantees a high sealing effect. The coil is 360° adjustable against the valve body. The pressure and liquid tightness of the valve housing even during disassembly of the solenoid coil ensures operating safety.

Technical specification

- **Material:**
Housing: PP (polypropylene)
Bellows: PTFE (polytetrafluoroethylene)
Gaskets (O-ring, sealing cap): EPDM (ethylene-propylene-diene rubber); FPM (fluorinated rubber)
- **Media handled:** neutral and aggressive gases and liquids
- **Viscosity:** up to approx. 38 mm²/sec (cSt)
- **Max. operating pressure:** DN 10: 2.0 bar; DN 15: 1.0 bar; DN 20: 0.5 bar
- **Max. temperature of medium:** PP: up to +80 °C; PTFE: up to +110 °C; EPDM: up to +110 °C; FPM: up to +110 °C
- **Max. ambient temperature:** +50 °C
- **Mounting position:** optional (coil preferably in upright position)
- **Control function:** normally closed (NC)
- **Connection voltage:** 220 V / 50 Hz or 24 V=
- **Switching time:** opening: 30 - 40 ms; closing: 40 - 50 ms

- **Duty factor:** 100 %
- **Power consumption:** 9.5 W
- **Protection category:** IP 65
- **Electrical connection:** plug socket Pg 9 acc. DIN 43560
- **Weight:** 825 g
- **Connection:** welded socket



Item	Nominal width mm	For pipes 0-Ø mm	Max. op. pressure ¹ bar	Material gasket	Connection voltage	Price EURO
350931	10	16	2	EPDM	230~	444.00
350932	15	20	1	EPDM	230~	444.00
350933	20	25	0.5	EPDM	230~	444.00
350934	10	16	2	EPDM	24=	444.00
350935	15	20	1	EPDM	24=	444.00
350936	20	25	0.5	EPDM	24=	444.00
350937	10	16	2	FPM	230~	456.00
350938	15	20	1	FPM	230~	456.00
350939	20	25	0.5	FPM	230~	456.00
350940	10	16	2	FPM	24=	456.00
350941	15	20	1	FPM	24=	456.00
350942	20	25	0.5	FPM	24=	456.00

¹ at +20 °C

THOMAFUID®-3/2-Way Solenoid Valve made of PVDF

Application area

- Operating of conveying lines for corrosive, liquid, and gaseous media in the areas of chemical laboratory technology and chemical engineering, measurement and control engineering, precision machine construction, and for experimental, pilot and production plants.

Product specification

- Pressure-loadable solenoid valves of particularly small dimensions, made of duty plastic material PVDF, maintenance-free, medium-contacting components metal-free; direct acting, normally closed poppet valve.

Technical specification

- **Material:**
valve body: PVDF (polyvinylidene fluoride)
gasket: EPDM, FPM or FFKM
- **Valve type:** poppet valve
- **Weight:** <120 g
- **Control function:** normally closed (NC)
- **Duty factor:** up to 100 %
- **Power consumption:** <5 W
- **Switching time:** 8 - 15 ms
- **Electrical connection:** plug socket acc. DIN 43650C
- **Protection category:** IP 65
- **Max. temperature of medium:** -15 to +100 °C

- **Max. ambient temperature:** +50 °C
- **Mounting position:** optional
- **Pipe connection:** internal thread UNF 1/4" - 28
- **Max. back pressure:** 1.2 bar
- **Dimensions:** 32 x 25 x 72 mm (LxWxH)



Item	Nom. width mm	Max. op. press. ¹ bar	Internal thread	Mat. gasket	Connection voltage	Price EURO
339663	1.6	7	UNF 1/4"-28	EPDM	12=	332.00
339664	1.6	7	UNF 1/4"-28	EPDM	24=	332.00
339665	1.6	7	UNF 1/4"-28	FPM	12=	364.00
339666	1.6	7	UNF 1/4"-28	FPM	24=	364.00
339667	1.6	7	UNF 1/4"-28	FFKM	12=	442.00
339668	1.6	7	UNF 1/4"-28	FFKM	24=	442.00
339669	2	5	UNF 1/4"-28	EPDM	12=	332.00
339670	2	5	UNF 1/4"-28	EPDM	24=	332.00
339671	2	5	UNF 1/4"-28	FPM	12=	364.00
339672	2	5	UNF 1/4"-28	FPM	24=	364.00
339673	2	5	UNF 1/4"-28	FFKM	12=	442.00
339674	2	5	UNF 1/4"-28	FFKM	24=	442.00
339675	2.4	3.5	UNF 1/4"-28	EPDM	12=	332.00
339676	2.4	3.5	UNF 1/4"-28	EPDM	24=	332.00
339677	2.4	3.5	UNF 1/4"-28	FPM	12=	364.00
339678	2.4	3.5	UNF 1/4"-28	FPM	24=	364.00
339679	2.4	3.5	UNF 1/4"-28	FFKM	12=	442.00
339680	2.4	3.5	UNF 1/4"-28	FFKM	24=	442.00

¹ at +20 °C

THOMAFUID®-2/2-Way Compact Valve made of PVDF

Application area

- Switching valve for pressure or vacuum conveying systems for problematic liquid media, to be used as single valve or ranged to a valve block.



Product specification

- Direct acting 2/2-way rocker valve with elastomeric separating diaphragm as bulkhead and for thermal decoupling of drive and medium, in normal position (currentless) alternatively open or closed, compact construction, low dead volume, chemically sterilizable.

Technical specification

- **Material:**
Valve housing: PVDF
Diaphragm: perfluoroelastomer FFKM
Solenoid housing: PA
- **Nominal width:** 1.5 - 1.6 mm
- **Internal volume:** <85 µl
- **Connection:** G 1/8", NPT 1/8" or nozzle for tubing 2.5 mm
- **Mounting position:** optional
- **Max. temperature of medium:** -10 to +55 °C
- **Max. ambient temperature:** +50 °C
- **Max. operating pressure:** 2 bar
- **Vacuum:** 0.5 bar
- **Kv-value:** 0.06 m³/h (water); 0.65 l/h (air)
- **Connection voltage:** 12 or 24 V=, voltage tolerance ±10 %
- **Power consumption:** 3.4 W
- **Electr. wiring:** 2 FEP litz wires 0.2 mm², 500 mm long
- **Switching time:** approx. 25 ms
- **Operating display:** by LED
- **Operating frequency:** up to 300/min
- **Nominal operation:** continuous operation 100 % ED
- **At block mounting:** ambient and medium temperatures > +40 °C: periodic duty 40 % (10 min.)
- **Dimensions:** 56 x 16 x 27 mm

Item	Connection voltage volt	Control function¹	Connection type	Price EURO
49108	12=	NO	int. thread G 1/8"	286.00
49109	12=	NO	int. thread NPT 1/8"	286.00
49110	12=	NO	nozzle 2.5 mm	286.00
49111	24=	NO	int. thread G 1/8"	286.00
49112	24=	NO	int. thread NPT 1/8"	286.00
49113	24=	NO	nozzle 2.5 mm	286.00
49816	220 - 240~	NO	int. thread G 1/8"	286.00
49817	220 - 240~	NO	int. thread NPT 1/8"	286.00
49818	220 - 240~	NO	nozzle 2.5 mm	286.00
49114	12=	NC	int. thread G 1/8"	286.00
49115	12=	NC	int. thread NPT 1/8"	286.00
49116	12=	NC	nozzle 2.5 mm	286.00
49117	24=	NC	int. thread G 1/8"	286.00
49118	24=	NC	int. thread NPT 1/8"	286.00
49119	24=	NC	nozzle 2.5 mm	286.00
49819	220 - 240~	NC	int. thread G 1/8"	286.00
49820	220 - 240~	NC	int. thread NPT 1/8"	286.00
49821	220 - 240~	NC	nozzle 2.5 mm	286.00

¹ NC = normally closed; NO = normally open

THOMAFLUID®-3/2-Way Compact Valve made of PVDF

Application area

- Mixing and/or distributing valve for pressure or vacuum delivery systems for problematic liquid media, for use as single valve or ranged to a valve block.

Product specification

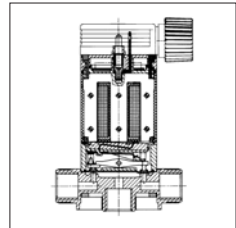
- Direct acting 3/2-way rocker valve with elastomeric separating diaphragm as bulkhead and for thermal decoupling of drive and medium. Compact construction, low dead volume, chemically sterilizable.

Technical specification

- **Material:**
Valve housing: PVDF
Diaphragm: perfluoroelastomer FFKM
Solenoid housing: PA
- **Nominal width:** 1.5 - 1.6 mm
- **Internal volume:** <85 µl
- **Connection:** G 1/8", NPT 1/8" or nozzle for tubing 2.5 mm
- **Mounting position:** optional
- **Max. temperature of medium:** -10 to +55 °C
- **Max. ambient temperature:** +50 °C
- **Max. operating pressure:** 2 bar
- **Vacuum:** 0.5 bar
- **Kv-value:** 0.06 m³/h (water); 0.65 l/h (air)
- **Connection voltage:** 12 or 24 V=, voltage tolerance ±10 %
- **Power consumption:** 3.4 W
- **Electr. connection:** 2 FEP litz wires 0.2 mm², 500 mm long at 12 V and 24 V; at 220 V it is a standard cable plug type 1054
- **Switching time:** approx. 25 ms
- **Operating display:** by LED
- **Operating frequency:** up to 300/min
- **Nominal operation:** continuous operation 100 % ED
- **At block mounting:** ambient and medium temperatures > +40 °C: periodic duty 40 % (10 min.)
- **Dimensions:** 56 x 16 x 27 mm



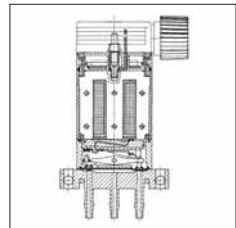
49979



49979



49981



49981

Item	Connection voltage volt	Connection type	Price EURO
49979	12=	int. thread G 1/8"	286.00
49980	12=	int. thread NPT 1/8"	286.00
49981	12=	nozzle 2.5 mm	286.00
49982	24=	int. thread G 1/8"	286.00
49983	24=	int. thread NPT 1/8"	286.00
49984	24=	nozzle 2.5 mm	286.00

Item	Connection voltage volt	Connection type	Price EURO
49822	220 - 240~	int. thread G 1/8"	286.00
49823	220 - 240~	int. thread NPT 1/8"	286.00
49824	220 - 240~	nozzle 2.5 mm	286.00

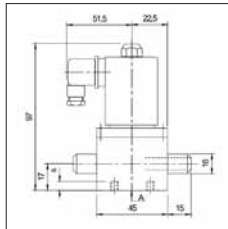
THOMAFUID®-2/2-Way Solenoid Valve made of PVDF - direct acting, liquid-damped

Product specification

- Direct acting, liquid-damped solenoid valve made of plastic for many applications in industry and plant construction. In a deenergized state, the valve is closed by spring force. When energized, the plunger moves upwards, raising the diaphragm connected to it and allowing the medium to flow. The liquid filling (with silicone oil as standard) supports the closing effect of the spring. Therefore the valve is also suitable for closed systems with counterpressure.
- The elastomer diaphragm reliably separates the medium from the plunger or from the atmosphere and is also suitable for aggressive liquids and gases due to its high chemical resistance. The coil is 360° adjustable against the valve body. The pressure and liquid tightness of the valve housing even during disassembly of the solenoid coil ensures operating safety.

Technical specification

- **Material:**
Housing: PVDF (polyvinylidene fluoride)
Diaphragm: EPDM (ethylene-propylene-diene rubber);
FPM (fluorinated rubber)
- **Media handled:** neutral and aggressive gases and liquids
- **Viscosity:** up to approx. 37 mm²/sec (cSt)
- **Max. temperature of medium:** PVDF: up to +110 °C; EPDM: up to +110 °C; FPM: up to +110 °C
- **Max. ambient temperature:** +50 °C
- **Mounting position:** optional (coil preferably in upright position)
- **Control function:** normally closed (NC)
- **Connection voltage:** 220 V / 50 Hz or 24 V=
- **Switching time:** opening: 30 - 40 ms; closing: 40 - 50 ms
- **Duty factor:** 100 %
- **Power consumption:** 12.5 VA
- **Protection category:** IP 65
- **Electrical connection:** plug socket Pg 9 acc. DIN 43650
- **Weight:** 350 g
- **Connection:** fittings for butt welding and socket welding 16 mm



Item	Nominal width mm	Max. op. pressure ¹ bar	Material diaphragm	Connection voltage volt	Price EURO
350966	2	6	EPDM	230~	266.00
350967	4	4	EPDM	230~	266.00
350968	6	2	EPDM	230~	266.00

Item	Nominal width mm	Max. op. pressure ¹ bar	Material diaphragm	Connection voltage volt	Price EURO
350969	2	6	EPDM	24=	266.00
350970	4	4	EPDM	24=	266.00
350971	6	2	EPDM	24=	266.00
350972	2	6	FPM	230~	272.00
350973	4	4	FPM	230~	272.00
350974	6	2	FPM	230~	272.00
350975	2	6	FPM	24=	272.00
350976	4	4	FPM	24=	272.00
350977	6	2	FPM	24=	272.00

¹ at +20 °C

THOMAFUID®-2/2-Way Solenoid Valves made of PVDF for Critical Media

Application area

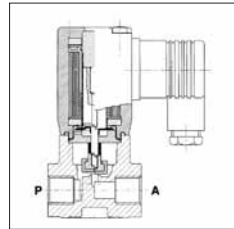
- Operation of conveying lines for aggressive or soiled liquid or gaseous media in laboratory and pilot plant areas.

Product specification

- Pressure and temperature-loadable, electrically controlled 2/2-way duty valve for higher flow rates, compact design, by corrugated bellows electromagnetically operated poppet valves; all medium-contacting parts made of chemically inert and biocompatible plastic materials, unsusceptible to settlements.

Technical specification

- **Material:**
Housing: PVDF
Seat seal: PTFE
Bellows: PTFE
- **Nominal width:** 3 - 8 mm
- **Connection of conveying line:** G 1/4" or G 3/8"
- **Flow direction:** determined
- **Max. temperature of medium:** -10 to +110 °C
- **Max. ambient temperature:** +50 °C (The sum of ambient and media temperature should not exceed +130 °C).
- **Control function:** normally closed (NC)
- **Connection voltage:** 24 V=; 24 V~ or 230 V~; each ±10 %; alternating current version (50 Hz) fitted with integrated rectifier.
- **Power consumption:** 13 W (according to VDE at +20 °C)
- **Duty factor:** 100 %
- **Protection class:** IP 65
- **Mounting position:** optional
- **Dimensions:** 90 x 70 x 44 mm (L x W x H)
- **Weight:** 300 g



Item	Nominal width	Internal thread	Max. flow rate liquids	Max. op. pressure¹	Connection voltage	Price
	mm		l/h	bar	volt	EURO
16042	3	G 1/4"	230	7	24=	306.00
16043	3	G 3/8"	230	7	24=	306.00
16044	4.5	G 3/8"	420	5	24=	306.00
16045	4.5	G 1/4"	420	5	24=	306.00
16046	6	G 3/8"	620	2	24=	306.00
16047	6	G 1/4"	620	2	24=	306.00
16048	8	G 3/8"	830	1	24=	306.00
16049	8	G 1/4"	830	1	24=	306.00
16058	3	G 3/8"	230	7	230~	306.00
16059	3	G 1/4"	230	7	230~	306.00
16060	4.5	G 3/8"	420	5	230~	306.00
16061	4.5	G 1/4"	420	5	230~	306.00
16062	6	G 3/8"	620	2	230~	306.00
16063	6	G 1/4"	620	2	230~	306.00
16064	8	G 3/8"	830	1	230~	306.00
16065	8	G 1/4"	830	1	230~	306.00

¹ at +20 °C

THOMAFLUID®-2/2-Way Solenoid Valve made of PTFE - direct acting

Product specification

- Direct acting, small solenoid valve made of plastic for many applications in industry and plant construction. The highly corrosion-, UV- and weather-resistant housing material PTFE (polytetrafluoroethylene) allows the valve to be used also in outside areas. The valve is also suitable for aggressive liquids and gases due to its high chemical resistance. In a deenergized state, the valve is closed by spring force. When energized, the plunger moves upwards, raising the diaphragm connected to it and allowing the medium to flow. The elastomer diaphragm reliably separates the medium from the plunger or from the atmosphere. The coil is 360° adjustable against the valve body. The pressure and liquid tightness of the valve housing even during disassembly of the solenoid coil ensures operating safety.

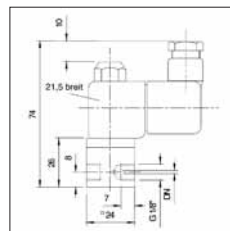
Technical specification

- **Material:**

Housing: PTFE (polytetrafluoroethylene)

Diaphragm: EPDM (ethylene-propylene-diene rubber),
FPM (fluorinated rubber)

- **Media handled:** neutral and aggressive gases and liquids
- **Viscosity:** up to approx. 37 mm²/sec (cSt)
- **Max. temperature of medium:** PTFE: up to +110 °C;
EPDM: up to +110 °C; FPM: up to +110 °C
- **Max. ambient temperature:** +50 °C
- **Mounting position:** optional (coil preferably in upright position)
- **Control function:** normally closed (NC)
- **Connection voltage:** 220 V / 50 Hz or 24 V=
- **Switching time:** opening: 40 - 50 ms; closing: 40 - 50 ms
- **Duty factor:** 100 %
- **Power consumption:** 4.5 W
- **Protection category:** IP 65
- **Electrical connection:** flat plug 6.3 x 0.8 for rectangular plug socket
acc. DIN 46248
- **Weight:** 130 g
- **Connection:** internal thread G 1/8"



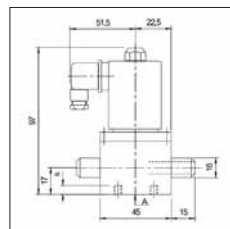
Item	Nom. width mm	Internal thread	Max. op. press. ¹ bar	Material diaphragm	Connection voltage volt	Price EURO
350903	1	G 1/8"	6	EPDM	230~	188.00
350904	1.5	G 1/8"	4	EPDM	230~	188.00
350905	2	G 1/8"	2	EPDM	230~	188.00
350906	2.5	G 1/8"	1	EPDM	230~	188.00
350907	1	G 1/8"	6	EPDM	24=	188.00
350908	1.5	G 1/8"	4	EPDM	24=	188.00
350909	2	G 1/8"	2	EPDM	24=	188.00
350910	2.5	G 1/8"	1	EPDM	24=	188.00
350911	1	G 1/8"	6	FPM	230~	200.00
350912	1.5	G 1/8"	4	FPM	230~	200.00
350913	2	G 1/8"	2	FPM	230~	200.00
350914	2.5	G 1/8"	1	FPM	230~	200.00
350915	1	G 1/8"	6	FPM	24=	200.00
350916	1.5	G 1/8"	4	FPM	24=	200.00
350917	2	G 1/8"	2	FPM	24=	200.00
350918	2.5	G 1/8"	1	FPM	24=	200.00

¹ at +20 °C

THOMAFLUID®-2/2-Way Solenoid Valve
made of PTFE - direct acting, liquid-damped

Product specification

- Direct acting, liquid-damped, small solenoid valve made of plastic for many applications in industry and plant construction. The highly corrosion-, UV- and weather-resistant housing material PTFE (polytetrafluoroethylene) allows the valve to be used also in outside areas. In a deenergized state, the valve is closed by spring force. When energized, the plunger moves upwards, raising the diaphragm connected to it and allowing the medium to flow. The liquid filling (with silicone oil as standard) supports the closing effect of the spring. Therefore the valve is also suitable for closed systems with counterpressure. The elastomer diaphragm reliably separates the medium from the plunger or from the atmosphere and is also suitable for aggressive liquids and gases due to its high chemical resistance. The coil is 360° adjustable against the valve body. The pressure and liquid tightness of the valve housing even during disassembly of the solenoid coil ensures operating safety.



Technical specification

• Material:

Housing: PTFE (polytetrafluoroethylene)
Diaphragm: EPDM (ethylene-propylene-diene rubber),
FPM (fluorinated rubber)

• Media handled:

neutral and aggressive gases and liquids

• Viscosity:

up to approx. 37 mm²/sec (cSt)

• Max. temperature of medium:

PTFE: up to +110 °C;
EPDM: up to +110 °C; FPM: up to +110 °C

• Max. ambient temperature:

+50 °C

• Mounting position:

optional (coil preferably in upright position)

• Control function:

normally closed (NC)

• Connection voltage:

220 V / 50 Hz or 24 V=

• Switching time:

opening: 30 - 40 ms; closing: 40 - 50 ms

• Duty factor:

100 %

• Power consumption:

12.5 VA

• Protection category:

IP 65

• Electrical connection:

plug socket Pg 9 acc. DIN 43650

• Weight:

350 g

• Connection:

internal thread G 1/4"

• Operating time:

0.5 s

• Protection category:

IP 65

• Ex-protection category:

Ex s G4

• Control function:

normally closed (NC) / normally open (NO)

• Power consumption:

11 VA (at opening and on holding)

• Nominal width:

3 mm

• Electrical connection:

Pg 9, plug DIN 43650

• Life cycle:

approx. 2 Mio operations

• Weight:

450 g



Item	Nominal width mm	Internal thread	Max. op. pressure ¹ bar	Material diaphragm	Connection voltage volt	Price EURO
350978	2	G 1/4"	6	EPDM	230~	266.00
350979	4	G 1/4"	4	EPDM	230~	266.00
350980	6	G 1/4"	2	EPDM	230~	266.00
350981	2	G 1/4"	6	EPDM	24=	266.00
350982	4	G 1/4"	4	EPDM	24=	266.00
350983	6	G 1/4"	2	EPDM	24=	266.00
350984	2	G 1/4"	6	FPM	230~	272.00
350985	4	G 1/4"	4	FPM	230~	272.00
350986	6	G 1/4"	2	FPM	230~	272.00
350987	2	G 1/4"	6	FPM	24=	272.00
350988	4	G 1/4"	4	FPM	24=	272.00
350989	6	G 1/4"	2	FPM	24=	272.00

¹ at +20 °C

THOMAFUID®-2/2-Way EX Solenoid Valves made of PTFE

Product specification

- Direct-controlled 2/2-way solenoid valve made of PTFE with valve seat made of PTFE. Sealing towards the operating solenoid by miniature bellows. The electrical connection is made via a plug according to DIN 43650. The control head can be easily removed from the valve body by a cap nut.

Technical specification

• Material:

Valve body: PTFE
Diaphragm: EPDM

• Valve type:

bellows valve

• Mounting position:

optional

• Internal volume:

<1 ml

• Media handled:

gases and liquids

• Max. viscosity:

3° E

• Max. temperature of medium:

+80 °C

• Max. ambient temperature:

+40 °C

• Pressure range:

gases: 0 - 3 bar, liquids: 0 - 2 bar

• Duty factor:

100 % ED

• Flow rate:

gases: approx. 500 l/h, liquids: approx. 140 l/h

Item	Connection voltage volt	Nominal width mm	Control function ¹	Internal thread	Price EURO
61462	24=	3	NO	R 1/4"	1,180.00
61463	24~	3	NO	R 1/4"	1,180.00
61464	230~	3	NO	R 1/4"	1,180.00
61465	24=	3	NC	R 1/4"	1,180.00
61466	24~	3	NC	R 1/4"	1,180.00
61467	230~	3	NC	R 1/4"	1,180.00

¹ NC = normally closed; NO = normally open

THOMAFUID®-High-Tech Solenoid Valves made of PTFE for High-Purity Media

Application area

- For opening, closing, dosing, venting, mixing and distributing.
- The valve is particularly suitable for aggressive media and gases, aromatic compound, ether, ester and ketone, as well as for oxidizing acids and substances, oils, salt solutions, waste gases, technical vacuum and FFKM (perfluorinated elastomer).

General product specification

• High performance valve

The separation between the magnetic system and the media chamber is represented by an intermediate separating diaphragm system.

• Direct-acting by separating diaphragm

• Pivoted armature valve with manual override

General technical specification

• Material:

Housing: PTFE (polytetrafluoroethylene)
Gaskets: FPM (fluorinated rubber)

• Viscosity:

37 mm²/sec

• Max. temperature of medium:

-10 to +90 °C (FPM; FFKM)

• Max. ambient temperature:

+50 °C

• Mounting position:

optional (coil preferably in upright position)

• Control function:

normally closed (NC)

• Protection category:

IP 65 (with cable or plug socket)

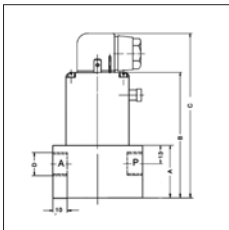
• Voltage tolerance:

±10 %

THOMAFLUID®-High-Tech 2/2-Way Solenoid Valve
made of PTFE for High-Purity Media

Product specification

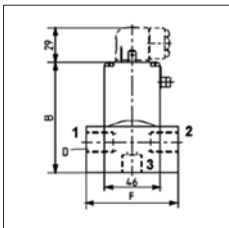
- 2 types:
Type A: with plug socket
Type B: with 1 m moulded-in silicone cable and integrated high-performance coil (at opening: 60 W; on holding: 3 W)
- Pipe connection: internal thread G 3/8"



Item	Nominal width	Connection voltage	Max. flow rate liquids ²	Material gasket	Type	Price
	mm	volt	l/h			EURO
339731	4	24=	300	FPM	A	1,178.00
339732	4	24=	300	FFKM	A	1,178.00
339735	4	230~	300	FPM	A	1,178.00
339736	4	230~	300	FFKM	A	1,178.00
339827	4	24=	300	FPM	B	1,178.00
339828	4	24=	300	FFKM	B	1,178.00
339829	4	230~	300	FPM	B	1,178.00
339830	4	230~	300	FFKM	B	1,178.00
339737	6	24=	600	FPM	A	1,178.00
339738	6	24=	600	FFKM	A	1,178.00
339741	6	230~	600	FPM	A	1,178.00
339742	6	230~	600	FFKM	A	1,178.00
339743	6	24=	600	FPM	B	1,178.00
339744	6	24=	600	FFKM	B	1,178.00
339745	6	230~	600	FPM	B	1,178.00
339746	6	230~	600	FFKM	B	1,178.00

¹ at +20 °C ² Water (+20 °C)

THOMAFLUID®-High-Tech 3/2-Way Solenoid Valve
made of PTFE for High-Purity Media



Product specification

- 2 types:
Type A: with plug socket
Type B: with 1 m moulded-in silicone cable and integrated high-performance coil (at opening: 60 W; on holding: 3 W)
- Media connection: internal thread G 3/8"
- Fitted for 2 control functions: 2 inlets and 1 outlet or 1 inlet and 2 outlets

Item	Nominal width	Connection voltage	Max. flow rate liquids ²	Material gasket	Type	Price
	mm	volt	l/h			EURO
339831	4	24=	300	FPM	A	1,224.00
339832	4	24=	300	FFKM	A	1,224.00
339749	4	24=	300	FPM	B	1,258.00
339750	4	24=	300	FFKM	B	1,258.00
339751	4	230~	300	FPM	A	1,224.00
339752	4	230~	300	FFKM	A	1,224.00
339833	4	230~	300	FPM	B	1,258.00
339834	4	230~	300	FFKM	B	1,258.00
339793	6	24=	600	FPM	A	1,224.00
339794	6	24=	600	FFKM	A	1,224.00
339797	6	230~	600	FPM	A	1,224.00
339798	6	230~	600	FFKM	A	1,224.00
339835	6	24=	600	FPM	B	1,258.00
339836	6	24=	600	FFKM	B	1,258.00
339837	6	230~	600	FPM	B	1,258.00
339838	6	230~	600	FFKM	B	1,258.00

¹ at +20 °C ² Water (+20 °C)

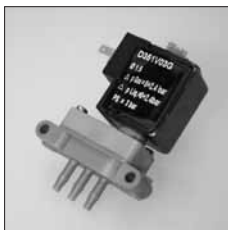
THOMAFLUID®-High-Chem 3/2-Way Solenoid Valve
made of PEEK for High-Purity Media - micro

Application area

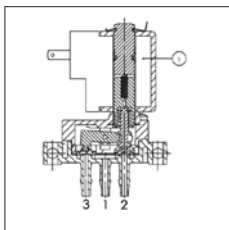
- For opening, closing, dosing, diverting, mixing and distributing of small volumes.

Product specification

- High performance valve for aggressive media and gases, except conc. sulfuric acid and nitric acid.
- The separation between the magnetic system and the media chamber is ensured by hermetically sealed separating diaphragm, thus the medium is just in contact with valve body and diaphragm.
- Possibility of disassembling for inspection
- Reduced internal volume
- The parts subject to sliding friction are duly coated by PTFE (polytetrafluoroethylene) based self lubricating material.
- Media connections available as hose nozzles or internal threads
- Not suitable for use with dangerous fluids listed in Group 1 (article 3 § 3 of the European Directive 97/23/EC – Pressure Equipment Directive).



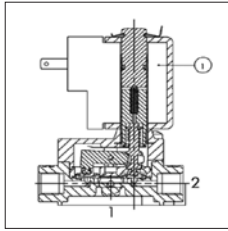
339799



339799



339805



339805

Technical specification

- **Kv-value:** 0.03 m³/h
- **Max. temperature of medium:** -10 to +100 °C
- **Max. ambient temperature:** -10 to +60 °C
- **Insulation category:** F (155 °C)
- **Max. operating pressure:** 3 bar
- **Opening time:** ≈20 ms
- **Closing time:** ≈30 ms (EPDM); ≈60 ms (FPM); ≈90 ms (FFKM)
- **Pipe connection:**
Type A: with nozzle for tubing of inside Ø 2.2 to 2.8 mm
Type B: with internal thread UNF 1/4"-28
- **Duty factor:** 100 %
- **Control function:** normally closed (NC)
- **Protection category:** IP 65 (EN 60529) with micro plug
- **Electrical connection:** micro plug DIN 46340

Item	Nominal width mm	Connection voltage volt	Material gasket	Type	Price EURO
339799	1.5	12=	EPDM	A	192.00
339800	1.5	12=	FPM	A	192.00
339801	1.5	12=	FFKM	A	328.00
339802	1.5	24=	EPDM	A	192.00
339803	1.5	24=	FPM	A	192.00
339804	1.5	24=	FFKM	A	328.00
339805	1.5	12=	EPDM	B	192.00
339806	1.5	12=	FPM	B	192.00
339807	1.5	12=	FFKM	B	328.00
339808	1.5	24=	EPDM	B	192.00
339809	1.5	24=	FPM	B	192.00
339810	1.5	24=	FFKM	B	328.00

THOMAFUID®-2/2-Way Pinch Valve - mini

Product specification

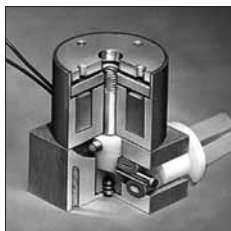
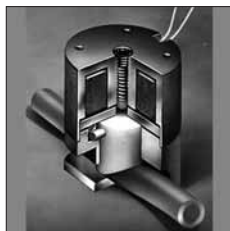
- Small valves for applications where contact of medium with valve parts has to be avoided. The tube can be easily and rapidly changed.
- Long service life, extremely light weight
- Low power consumption, short response time
- Zero dead volume, small construction size

Technical specification

- **Material:**
Housing: steel
Valve body: POM
- **Media handled:** neutral and aggressive gases and fluids
- **Max. temperature of medium:** -10 to +70 °C
- **Max. ambient temperature:** -10 to +70 °C
- **Duty factor:** 100 % ED
- **Response time:** 15 - 25 ms
- **Control function:** normally closed (NC) or normally open (NO)

Item	D mm	H mm	Amperage A	Power consumption W
87355	19	26	0.08	1.1
87356	19	26	0.04	1.1
87361	26	36	0.13	1.5
87362	26	36	0.13	1.5
87363	26	36	0.06	1.5
87364	26	36	0.06	1.5
87366	32	51	0.4	4.2
87367	32	51	0.4	4.2
87369	32	51	0.18	4.2
87370	32	51	0.18	4.2
87376	38	59	0.6	7.2
87379	38	59	0.3	7.2
87358	19	29	0.08	1.1
87384	19	29	0.13	1.1
87359	19	29	0.04	1.1
87386	19	29	0.06	1.1
87385	26	36	0.13	1.5
87387	26	36	0.06	1.5
87389	32	51	0.4	4.2
87390	32	51	0.4	4.2
87392	32	51	0.18	4.2
87393	32	51	0.18	4.2
87399	38	59	0.6	7.2
87402	38	59	0.3	7.2
87407	26	36	0.13	1.5
87408	26	36	0.13	1.5
87409	26	36	0.06	1.5
87410	26	36	0.06	1.5
87411	32	51	0.4	4.2
87412	32	51	0.4	4.2
87414	32	51	0.18	4.2
87415	32	51	0.18	4.2
87422	38	59	0.6	7.2
87425	38	59	0.3	7.2
87430	26	36	0.13	1.5
87431	26	36	0.13	1.5
87432	26	36	0.06	1.5
87433	26	36	0.06	1.5
87434	32	51	0.4	4.2
87435	32	51	0.4	4.2
87437	32	51	0.18	4.2
87438	32	51	0.18	4.2
87445	38	59	0.6	7.2
87448	38	59	0.3	7.2
87453	26	46	0.13	1.5
87454	26	46	0.13	1.5
87464	26	46	0.06	1.5
87465	26	46	0.06	1.5
87475	32	57	0.4	4.2
87476	32	57	0.4	4.2
87490	32	57	0.18	4.2
87491	32	57	0.18	4.2
87522	38	66	0.6	7.2
87537	38	66	0.3	7.2
87457	32	57	0.4	4.2
87480	32	57	0.4	4.2

Item	D mm	H mm	Amperage A	Power consumption W
87468	32	57	0.18	4.2
87495	32	57	0.18	4.2
87482	38	66	0.6	7.2
87497	38	66	0.3	7.2
87483	32	57	0.4	4.2
87498	32	57	0.18	4.2
87455	26	46	0.13	1.5
87466	26	46	0.06	1.5
87477	32	57	0.4	4.2
87478	32	57	0.4	4.2
87492	32	57	0.18	4.2
87493	32	57	0.18	4.2
87525	38	66	0.6	7.2
87540	38	66	0.3	7.2
87461	26	46	0.13	1.5
87472	26	46	0.06	1.5
87486	25	64	0.32	4.2
87501	25	64	0.16	4.2
87488	38	97	0.66	7.2
87503	38	97	0.33	7.2



Item	Number of tubing	Control function ¹	Connection voltage volt	I-Ø tubing mm	O-Ø tubing mm	Price EURO
87355	1	NC	12=	0.8	1.6	231.00
87356	1	NC	24=	0.8	1.6	231.00
87361	1	NC	12=	0.8	2.4	228.00
87362	1	NC	12=	1.6	3.2	228.00
87363	1	NC	24=	0.8	2.4	228.00
87364	1	NC	24=	1.6	3.2	228.00
87366	1	NC	12=	1.6	4.8	317.00
87367	1	NC	12=	3.2	6.4	317.00
87369	1	NC	24=	1.6	4.8	317.00
87370	1	NC	24=	3.2	6.4	317.00
87376	1	NC	12=	6.4	9.5	696.00
87379	1	NC	24=	6.4	9.5	696.00
87358	1	NO	12=	0.8	1.6	241.00
87384	1	NO	12=	0.8	2.4	247.00
87359	1	NO	24=	0.8	1.6	241.00
87386	1	NO	24=	0.8	2.4	247.00
87385	1	NO	12=	1.6	3.2	247.00
87387	1	NO	24=	1.6	3.2	247.00
87389	1	NO	12=	1.6	4.8	335.00
87390	1	NO	12=	3.2	6.4	335.00
87392	1	NO	24=	1.6	4.8	335.00
87393	1	NO	24=	3.2	6.4	335.00

Item	Number of tubing	Control function ¹	Connection voltage volt	I-Ø tubing mm	O-Ø tubing mm	Price EURO
87399	1	NO	12=	6.4	9.5	696.00
87402	1	NO	24=	6.4	9.5	696.00
87407	2	NC	12=	0.8	2.4	228.00
87408	2	NC	12=	1.6	3.2	228.00
87409	2	NC	24=	0.8	2.4	228.00
87410	2	NC	24=	1.6	3.2	228.00
87411	2	NC	12=	1.6	3.2	365.00
87412	2	NC	12=	1.6	4.8	365.00
87414	2	NC	24=	1.6	3.2	365.00
87415	2	NC	24=	1.6	4.8	365.00
87422	2	NC	12=	3.2	6.4	455.00
87425	2	NC	24=	3.2	6.4	455.00
87430	2	NO	12=	0.8	2.4	228.00
87431	2	NO	12=	1.6	3.2	228.00
87432	2	NO	24=	0.8	2.4	228.00
87433	2	NO	24=	1.6	3.2	228.00
87434	2	NO	12=	1.6	3.2	365.00
87435	2	NO	12=	1.6	4.8	365.00
87437	2	NO	24=	1.6	3.2	365.00
87438	2	NO	24=	1.6	4.8	365.00
87445	2	NO	12=	3.2	6.4	455.00
87448	2	NO	24=	3.2	6.4	455.00
87453	2	1 NO, 1 NC	12=	0.8	2.4	302.00
87454	2	1 NO, 1 NC	12=	1.6	3.2	302.00
87464	2	1 NO, 1 NC	24=	0.8	2.4	302.00
87465	2	1 NO, 1 NC	24=	1.6	3.2	302.00
87475	2	1 NO, 1 NC	12=	1.6	4.8	434.00
87476	2	1 NO, 1 NC	12=	3.2	6.4	434.00
87490	2	1 NO, 1 NC	24=	1.6	4.8	434.00
87491	2	1 NO, 1 NC	24=	3.2	6.4	434.00
87522	2	1 NO, 1 NC	12=	4.8	7.9	434.00
87537	2	1 NO, 1 NC	24=	4.8	7.9	434.00
87457	4	NC	12=	0.8	2.4	654.00
87480	4	NC	12=	1.6	3.2	654.00
87468	4	NC	24=	0.8	2.4	654.00
87495	4	NC	24=	1.6	3.2	654.00
87482	4	NC	12=	3.2	6.4	863.00
87497	4	NC	24=	3.2	6.4	863.00
87483	4	NO	12=	1.6	3.2	859.00
87498	4	NO	24=	1.6	3.2	859.00
87455	4	2 NO, 2 NC	12=	0.8	2.4	600.00
87466	4	2 NO, 2 NC	24=	0.8	2.4	600.00
87477	4	2 NO, 2 NC	12=	1.6	3.2	806.00
87478	4	2 NO, 2 NC	12=	1.6	4.8	806.00
87492	4	2 NO, 2 NC	24=	1.6	3.2	806.00
87493	4	2 NO, 2 NC	24=	1.6	4.8	806.00
87525	4	2 NO, 2 NC	12=	3.2	6.4	936.00
87540	4	2 NO, 2 NC	24=	3.2	6.4	936.00
87461	8	4 NO, 4 NC	12=	0.8	2.4	863.00
87472	8	4 NO, 4 NC	24=	0.8	2.4	863.00
87486	8	4 NO, 4 NC	12=	1.6	3.2	859.00
87501	8	4 NO, 4 NC	24=	1.6	3.2	859.00
87488	8	4 NO, 4 NC	12=	3.2	6.4	1,069.00
87503	8	4 NO, 4 NC	24=	3.2	6.4	1,069.00

¹ NC = normally closed; NO = normally open

THOMAFUID®-2/2-Way Tube Pinch Valve - standard

Product specification

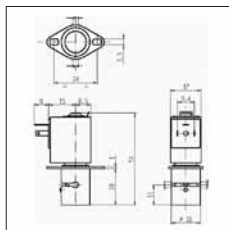
- Media-separated control of tubing
- Alternatively available as function „normally open (NO)“ or „normally closed (NC)“
- Perfect functioning guaranteed only with silicone tubes, which must be ordered separately
- Complete with valve plug (cable lug)

Technical specification

• Material:

housing: anodically oxidized aluminium
 clamp: POM

- **Quality of tubing:** silicone rubber (Shore A 50°)
- **Operating overpressure:** 2 bar
- **Response time:** <20 ms
- **Duty factor:** 100 %
- **Protection category:** IP 65 (DIN 40050)
- **Insulation category:** F (+155 °C)
- **Max. ambient temperature:** -10 to +60 °C
- **Max. temperature of medium:** -10 to +60 °C
- **Electrical connection:** DIN 46340 - 3-pin connector plug
- **Regulations:** ISO 9001



Item	Connec. voltage volt	Control function ¹	Power consumption W	I-Ø tubing mm	O-Ø tubing mm	Price EURO
339811	12=	NO	4	0.8	1.6	108.00
339812	24=	NO	4	0.8	1.6	108.00
339813	12=	NC	4	0.8	1.6	108.00
339814	24=	NC	4	0.8	1.6	108.00
339764	12=	NO	4	1.6	3.2	108.00
339765	24=	NO	4	1.6	3.2	108.00
339766	12=	NC	4	1.6	3.2	108.00
339767	24=	NC	4	1.6	3.2	108.00
339768	12=	NO	13	4.8	7.9	206.00
339769	24=	NO	13	4.8	7.9	206.00
339770	12=	NC	13	4.8	7.9	206.00
339771	24=	NC	13	4.8	7.9	206.00
339772	12=	NO	13	6.4	9.5	216.00
339773	24=	NO	13	6.4	9.5	216.00
339774	12=	NC	13	6.4	9.5	216.00
339775	24=	NC	13	6.4	9.5	216.00

¹ NC = normally closed; NO = normally open

THOMAFUID®-2/2-Way Tube Pinch Valve - standard

Product specification

- One tube „normally open (NO)“; one tube „normally closed (NC)“
- Media-separated control of tubing
- Perfect functioning guaranteed only with silicone tubes, which must be ordered separately
- Complete with valve plug (cable lug)

Technical specification

• Material:

- housing: anodically oxidized aluminium
- clamp: POM
- **Quality of tubing:** silicone rubber (Shore A 50 - 60°)
- **Operating overpressure:** 2 bar
- **Response time:** <20 ms
- **Duty factor:** 100 %
- **Protection category:** IP 65 (DIN 40050)
- **Insulation category:** F (+155 °C)
- **Max. ambient temperature:** -10 to +60 °C
- **Max. temperature of medium:** -10 to +60 °C
- **Electrical connection:** DIN 46340 - 3-pin connector plug
- **Regulations:** ISO 9001



Item	Connection voltage volt	Power consumption W	Inside Ø tubing mm	Outside Ø tubing mm	Price EURO
339815	12=	4	0.8	1.6	108.00
339816	24=	4	0.8	1.6	108.00
339776	12=	8	1.6	3.2	108.00
339777	24=	8	1.6	3.2	108.00
339778	12=	13	4.8	7.9	206.00
339779	24=	13	4.8	7.9	206.00
339780	12=	13	6.4	9.5	216.00
339781	24=	13	6.4	9.5	216.00

Metals

THOMAFUID®-2/2-Way Solenoid Mini Valves
for Gases and Liquids

Application area

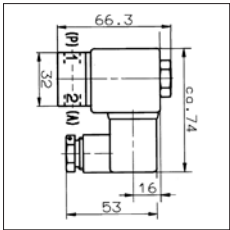
- Operation of conveying lines for liquid (water, oil) or gaseous particle-free media in laboratory units and pilot plants.

Product specification

- Pressure- and vacuum-resistant 2/2-way valves of compact construction, maintenance-free, with direct acting, solenoid-operated poppet valves, for screwed pipe joints in any installation position, for direct voltage.

Technical specification

- **Material:**
Housing: stainless steel 1.4401, AISI 316;
item 16498: stainless steel 1.4104
Seat seal: EPDM or FPM
Inner parts: stainless steel 1.4404
- **Pipe connection:** G 1/8" or G 1/4"
- **Flow direction:** determined
- **Max. operating pressure:** up to 12 bar
- **Max. viscosity:** 40 cSt mm²/s
- **Max. temperature of medium:** -10 to +100 °C
- **Max. ambient temperature:** +60 °C
- **Control function:** normally closed (NC)
- **Connection voltage:** 24 V=
- **Power consumption:** up to DN 2.4 = 5.5 W; DN 3 = 7 W
- **Isolation class (magnet):** F
- **Switching time (magnet):** 5 to 10 ms
- **Protection category:** IP 65 (EN 60529)
- **Mounting position:** optional



Item	Nominal width	Max. flow rate liquids ²	Max. op. pressure ¹	Material gasket	Internal thread	Price
	mm	l/h	bar			EURO
16493	1.6	80	12	EPDM	G 1/8"	218.00
16494	1.6	80	12	FPM	G 1/8"	225.00
16495	2.4	130	4	EPDM	G 1/8"	218.00
16496	2.4	130	4	FPM	G 1/8"	225.00
16498	3	280	8	FPM	G 1/4"	274.00

¹ at +20 °C, operable pressure difference ² Water Δp 1 bar

THOMAFLUID® -2/2-Way Seat Valve - normally closed

Application area

- For neutral and slightly aggressive gases and liquid fluids

Product specification

- Vacuum-resistant 2/2-way valve, working without pressure differential
- With direct acting, solenoid-operated seat valves
- High flow rate
- Functional compact design
- Solenoid interchangeable without tools
- For screwed pipe joints in any installation position (preferably solenoid vertical on top)
- For direct or alternating current
- Flow direction determined
- For contaminated fluids insertion of a strainer is recommended

Technical specification

- **Material:**
Housing: stainless steel 1.4408
Seat seal: FPM
Inner parts: stainless steel
- **Temperature of medium:** -10 to +110 °C
- **Ambient temperature:** -10 to +50 °C
- **Control function:** normally closed (NC)
- **Connection voltage:** 24 V= or 230 V~ (40-60 Hz)
- **Power consumption:** <18 W
- **Duty factor:** 100 ED
- **Protective system:** EN 60529 IP65
- **Mounting position:** optional



Nominal width: 1.5 mm Max. flow rate liquids: 0.07 m³/h

Item	Connection voltage	Max. op. pressure	Internal thread	Power consumption ¹	Price
	volt	bar	inch		EURO
16241	24=	25	G 1/8"	8	on req.
16242	230~	25	G 1/8"	15	on req.
16243	24=	25	NPT 1/8"	8	on req.
16244	230~	25	NPT 1/8"	15	on req.
16245	24=	25	G 1/4"	8	on req.
16246	230~	25	G 1/4"	15	on req.
16247	24=	25	NPT 1/4"	8	on req.
16248	230~	25	NPT 1/4"	15	on req.
16249	24=	70	G 1/8"	18	on req.
16250	230~	70	G 1/8"	45	on req.
16251	24=	70	NPT 1/8"	18	on req.
16252	230~	70	NPT 1/8"	45	on req.
16253	24=	70	G 1/4"	18	on req.
16254	230~	70	G 1/4"	45	on req.
16255	24=	70	NPT 1/4"	18	on req.
16256	230~	70	NPT 1/4"	45	on req.

The specification on power consumption with 24 V = in Watts (W), with 230 V ~ in volt-amperes (VA)

Nominal width: 2.5 mm Max. flow rate liquids: 0.15 m³/h

Item	Connection voltage	Max. op. pressure	Internal thread	Power consumption ¹	Price
	volt	bar	inch		EURO
16257	24=	10	G 1/8"	8	on req.
16258	230~	10	G 1/8"	15	on req.
16259	24=	10	NPT 1/8"	8	on req.
16260	230~	10	NPT 1/8"	15	on req.
16261	24=	10	G 1/4"	8	on req.
16262	230~	10	G 1/4"	15	on req.
16263	24=	10	NPT 1/4"	8	on req.

Item	Connection voltage volt	Max. op. pressure bar	Internal thread inch	Power consumption ¹	Price EURO
16264	230~	10	NPT 1/4"	15	on req.
16265	24=	40	G 1/8"	18	on req.
16266	230~	40	G 1/8"	45	on req.
16267	24=	40	NPT 1/8"	18	on req.
16268	230~	40	NPT 1/8"	45	on req.
16269	24=	40	G 1/4"	18	on req.
16270	230~	40	G 1/4"	45	on req.
16271	24=	40	NPT 1/4"	18	on req.
16272	230~	40	NPT 1/4"	45	on req.

The specification on power consumption with 24 V = in Watts (W), with 230 V ~ in volt-amperes (VA)

Nominal width: 3 mm **Max. flow rate liquids:** 0.21 m³/h

Item	Connection voltage volt	Max. op. pressure bar	Internal thread inch	Power consumption ¹	Price EURO
16273	24=	4	G 1/8"	8	on req.
16274	230~	4	G 1/8"	15	on req.
16275	24=	4	NPT 1/8"	8	on req.
16276	230~	4	NPT 1/8"	15	on req.
16277	24=	4	G 1/4"	8	on req.
16278	230~	4	G 1/4"	15	on req.
16279	24=	4	NPT 1/4"	8	on req.
16280	230~	4	NPT 1/4"	15	on req.
16281	24=	20	G 1/8"	18	on req.
16282	230~	20	G 1/8"	45	on req.
16283	24=	20	NPT 1/8"	18	on req.
16284	230~	20	NPT 1/8"	45	on req.
16285	24=	20	G 1/4"	18	on req.
16286	230~	20	G 1/4"	45	on req.
16287	24=	20	NPT 1/4"	18	on req.
16288	230~	20	NPT 1/4"	45	on req.

The specification on power consumption with 24 V = in Watts (W), with 230 V ~ in volt-amperes (VA)

Nominal width: 4 mm **Max. flow rate liquids:** 0.35 m³/h

Item	Connection voltage volt	Max. op. pressure bar	Internal thread inch	Power consumption ¹	Price EURO
16289	24=	12	G 1/4"	18	on req.
16290	230~	12	G 1/4"	45	on req.
16291	24=	12	NPT 1/4"	18	on req.
16292	230~	12	NPT 1/4"	45	on req.
16293	24=	12	G 3/8"	18	on req.
16294	230~	12	G 3/8"	45	on req.
16295	24=	12	NPT 3/8"	18	on req.
16296	230~	12	NPT 3/8"	45	on req.

The specification on power consumption with 24 V = in Watts (W), with 230 V ~ in volt-amperes (VA)

Nominal width: 5 mm **Max. flow rate liquids:** 0.5 m³/h

Item	Connection voltage volt	Max. op. pressure bar	Internal thread inch	Power consumption ¹	Price EURO
16297	24=	6	G 1/4"	8	on req.
16298	230~	6	G 1/4"	15	on req.
16299	24=	6	NPT 1/4"	8	on req.
16300	230~	6	NPT 1/4"	15	on req.
16301	24=	6	G 3/8"	8	on req.
16302	230~	6	G 3/8"	15	on req.
16303	24=	6	NPT 3/8"	8	on req.
16304	230~	6	NPT 3/8"	15	on req.

The specification on power consumption with 24 V = in Watts (W), with 230 V ~ in volt-amperes (VA)

THOMAFUID®-High-Tech 2/2-Way High-Temperature Solenoid Valve made of Stainless Steel

Application area

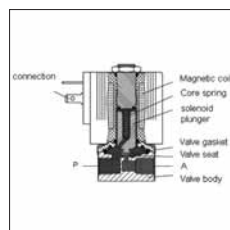
- For conveyance of organic media such as fuels, alcohols or hydraulic solutions and oils as well as gases or steam at high temperatures.

Product specification

- Poppet valve for gases and liquids
- Direct-acting plunger solenoid valve for high pressures and high-temperature applications

Technical specification

- **Material:**
Housing: stainless steel 1.4581
Gasket: PTFE (polytetrafluoroethylene)
- **Electrical connection:** plug socket for cable Ø 7 mm acc. DIN EN 175301-803 shape A
- **Max. temperature of medium:** -40 to +180 °C
- **Max. ambient temperature:** +55 °C
- **Viscosity:** up to 21 mm²/sec.
- **Voltage tolerance:** ±10 %
- **Power consumption:** 10 W (alternating current); 12 W (direct current)
- **Control function:** normally closed (NC)
- **Duty factor:** 100 %
- **Protection category:** IP 65 (DIN 40050)
- **Mounting position:** optional (actuator preferably in upright position)



Item	Nominal width mm	Connec. voltage volt	Max. flow rate liquids ¹ l/h	Max. op. press. ¹ bar	Internal thread	Price EURO
339782	1	24~	30	100	G 1/4"	582.00
339783	3	24=	250	10	G 1/4"	582.00
339784	3	24~	250	16	G 1/2"	582.00
339785	3	230~	250	16	G 1/2"	582.00

Item	Nominal width mm	Connec. voltage volt	Max. flow rate liquids ¹ l/h	Max. op. press. ¹ bar	Internal thread	Price EURO
339786	4	24=	500	4	G 1/4"	582.00
339787	4	24=	500	4	G 1/2"	582.00
339788	5	24~	650	6	G 1/4"	582.00
339789	5	230~	650	6	G 1/4"	582.00
339790	6	24=	800	1	G 1/2"	582.00
339791	6	24~	800	4	G 1/2"	582.00
339792	6	230~	800	4	G 1/2"	582.00

³ Water (+20 °C) ² Gases (+20 °C)

THOMAFLUID®-3/2-Way Miniature Solenoid Valve made of Stainless Steel

Application area

- Switching of conveying lines for all kinds of inert liquid and gaseous media in experimental and production plants.

Product specification

- Pressure-loadable, rugged solenoid valves of especially small construction size, made of stainless steel, maintenance-free; direct-controlled, normally closed poppet valve with gaskets made of duty plastic materials.

Technical specification

- Material:**
Valve body: stainless steel 1.4301
Gasket: EPDM, FPM or PTFE
- Valve type:** poppet valve
- Connection voltage:** 12; 24 V= or 220 V~
- Control function:** normally closed (NC)
- Duty factor:** up to 100 %
- Power consumption:** 10 W
- Switching time:** 8 - 15 ms
- Electrical connection:** male connector according to DIN 43650 A
- Protection category:** IP 65
- Max. temperature of medium:** -15 to +130 °C
- Max. ambient temperature:** +50 °C
- Mounting position:** optional
- Pipe connection:** internal thread G 1/8" or G 1/4"
- Weight:** <250 g
- Construction size:** 30 x 30 x 70 mm (L x W x H)



Item	Nominal width mm	Connection voltage volt	Material gasket	Max. op. pressure ¹ bar	Internal thread	Price EURO
87232	1.2	12=	FPM	17	G 1/8"	208.00
87233	1.2	24=	FPM	17	G 1/8"	208.00
87234	1.2	230~	FPM	17	G 1/8"	208.00

Item	Nominal width mm	Connection voltage volt	Material gasket	Max. op. pressure ¹ bar	Internal thread	Price EURO
58231	1.2	12=	EPDM	17	G 1/8"	208.00
58232	1.2	24=	EPDM	17	G 1/8"	208.00
58233	1.2	230~	EPDM	17	G 1/8"	208.00
87235	1.6	12=	FPM	14	G 1/8"	208.00
87236	1.6	24=	FPM	14	G 1/8"	208.00
87237	1.6	230~	FPM	14	G 1/8"	208.00
58234	1.6	12=	EPDM	14	G 1/8"	208.00
58235	1.6	24=	EPDM	14	G 1/8"	208.00
58236	1.6	230~	EPDM	14	G 1/8"	208.00
58237	2	12=	FPM	10	G 1/8"	208.00
58238	2	24=	FPM	10	G 1/8"	208.00
58239	2	230~	FPM	10	G 1/8"	208.00
58240	2	12=	EPDM	10	G 1/8"	208.00
58241	2	24=	EPDM	10	G 1/8"	208.00
58242	2	230~	EPDM	10	G 1/8"	208.00
87238	2.4	12=	FPM	8	G 1/8"	208.00
87239	2.4	24=	FPM	8	G 1/8"	208.00
87240	2.4	230~	FPM	8	G 1/8"	208.00
87251	2.4	12=	PTFE	8	G 1/8"	228.00
87252	2.4	24=	PTFE	8	G 1/8"	228.00
87253	2.4	230~	PTFE	8	G 1/8"	228.00
58243	2.4	12=	EPDM	8	G 1/8"	208.00
58244	2.4	24=	EPDM	8	G 1/8"	208.00
58245	2.4	230~	EPDM	8	G 1/8"	208.00
87241	3	12=	FPM	5.5	G 1/4"	208.00
87242	3	24=	FPM	5.5	G 1/4"	208.00
87243	3	230~	FPM	5.5	G 1/4"	208.00
58246	3	12=	EPDM	5.5	G 1/4"	208.00
58247	3	24=	EPDM	5.5	G 1/4"	208.00
58248	3	230~	EPDM	5.5	G 1/4"	208.00

¹ at +20 °C

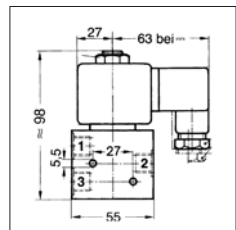
THOMAFLUID®-3/2-Way Solenoid High-Speed Switching Valve for Aggressive Gases and Liquids

Application area

- Operation of conveying lines for aggressive liquid or gaseous particle-free media in laboratory units and pilot plants.

Product specification

- Pressure-resistant 3/2-way valves of compact construction, maintenance-free, with direct acting, solenoid-operated high-speed poppet valve, for screwed pipe joints in any installation position, for direct or alternating current, alternating current version with integrated rectifier.



Technical specification

- **Material:**
Housing: stainless steel 1.4404
Seat seal: FPM, NBR or Silicone
Inner parts: stainless steel 1.4404 and 1.4522
- **Nominal width:** DN 5
- **Pipe connections:** G 1/4" or NPT 1/4"
- **Kv-value:** 0.34 m³/h
- **Flow direction:** not determined
- **Max. operating pressure:** 10 bar at +20 °C
- **Max. temperature of medium:** -10 to +80 °C, with silicone seat gasket from -40 °C
- **Max. ambient temperature:** +55 °C
- **Control function:** normally closed (NC) on the pressure side
- **Opening frequency:** up to 100/min
- **Connection voltage:** 12 V~, 24 V~ or 220 V~ (40-60 Hz)
- **Power consumption:** <20 W
- **Operating time:** up to 100 %
- **Protective system:** IP 65 (DIN 40050)
- **Mounting position:** optional

Item	Connection voltage volt	Internal thread	Material gasket	Price EURO
16527	12=	G 1/4"	FPM	481.00
16528	12=	NPT 1/4"	FPM	489.00
16530	12=	G 1/4"	NBR	491.00
16531	12=	G 1/4"	silicone	624.00
16532	24=	G 1/4"	FPM	481.00
16533	24=	NPT 1/4"	FPM	489.00
16535	24=	G 1/4"	NBR	491.00
16536	24=	G 1/4"	silicone	624.00
16537	230~	G 1/4"	FPM	502.00
16538	230~	NPT 1/4"	FPM	522.00
16540	230~	G 1/4"	NBR	522.00
16541	230~	G 1/4"	silicone	658.00

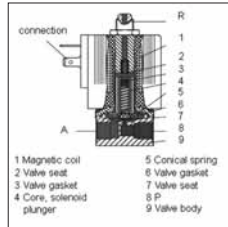
THOMAFLUID®-High-Tech 3/2-Way High-Temperature Solenoid Valve made of Stainless Steel

Application area

- For conveyance of organic media such as fuels, alcohols or hydraulic solutions and oils as well as gases or steam at high temperatures.

Product specification

- Poppet valve for gases and liquids
- Direct-acting plunger solenoid valve for high pressures and high-temperature applications



Technical specification

- **Material:**
Housing: stainless steel 1.4581
Gasket: PTFE (polytetrafluoroethylene), FPM
- **Connection:** female thread G 1/4"
- **Electrical connection:** plug socket for cable Ø 7 mm acc. DIN EN 175301-803 shape A
- **Max. temperature of medium:** -40 to +180 °C
- **Max. ambient temperature:** +55 °C
- **Viscosity:** up to 21 mm²/sec.
- **Voltage tolerance:** ±10 %
- **Duty factor:** 100 %
- **Protection category:** IP 65 with plug socket
- **Mounting position:** optional (actuator preferably in upright position)
- **Control function**
mixer valve (A): 2 inlets, 1 outlet
distributor valve (B): 1 inlet, 2 outlets

Item	Nominal width mm	Connection voltage volt	Max. flow rate liquids² l/h	Max. op. pressure¹ bar	Price EURO
339817	2	24=	110	6	622.00
339818	2	24~	110	6	622.00
339819	2	230~	110	6	622.00
339820	3	24=	200	4	622.00
339821	3	24~	200	4	622.00
339822	3	230~	200	4	622.00
339823	4	24=	200	2	622.00
339824	4	24~	400	2	622.00
339825	4	230~	400	2	622.00

¹ at +20 °C ² Water (+20 °C)

Diaphragm Valves

THOMAFLUID®-Diaphragm Valves

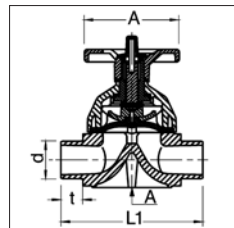
Application area

- Chemical and pharmaceutical industry, environmental technology and process engineering, surface engineering, water treatment technology and sewage technology, plant and apparatus construction

General product specification

- High flow rates or kv-values
- Low flow resistance
- Increased endurance strength
- Good chemical resistance
- Safe in operation and low-maintenance

THOMAFLUID®-Diaphragm Valve made of PVDF



Product specification

- High-quality materials
- High impact toughness
- High mechanical stability
- Good temperature resistance
- High chemical resistance

Technical specification

• **Material of flow body:**

Housing lower part: PVDF (polyvinylidene fluoride)

Housing upper part: PP-GRP (glass fibre-reinforced polypropylene)

Shaped diaphragm: PTFE (polytetrafluoroethylene) on media side, with vulcanized-in, extremely tearing-resistant fabric insert

• **Valve type:** diaphragm valve

• **Flow direction:** optional

• **Mounting position:** optional

• **Max. operating pressure:** up to 10 bar at +20 °C

• **Installation size:** DN 15 to DN 50

• **Media:** neutral and aggressive liquid and gaseous media, also with solids content with concentration commonly used in process engineering

• **Max. temperature:**

Flow body: +20 °C

Diaphragm: -40 to +120 °C

• **Connection:** welding spigot according to DIN 16962 or screw joint with welded socket or PP/ steel flange

Item	Connection type	Nominal width mm	Material diaphragm	Price EURO
350534	butt fusion spigot or socket fusion spigot 20 mm	15	PTFE	248.00
350535	butt fusion spigot or socket fusion spigot 25 mm	20	PTFE	252.00
350536	butt fusion spigot or socket fusion spigot 32 mm	25	PTFE	272.00
350537	butt fusion spigot or socket fusion spigot 40 mm	32	PTFE	340.00
350538	butt fusion spigot or socket fusion spigot 50 mm	40	PTFE	452.00
350539	butt fusion spigot or socket fusion spigot 63 mm	50	PTFE	566.00
350540	screw joint with welded socket 20 mm	15	PTFE	312.00
350541	screw joint with welded socket 25 mm	20	PTFE	326.00
350542	screw joint with welded socket 32 mm	25	PTFE	366.00
350543	screw joint with welded socket 40 mm	32	PTFE	534.00
350544	screw joint with welded socket 50 mm	40	PTFE	618.00
350545	screw joint with welded socket 63 mm	50	PTFE	834.00
350546	PP/steel flange 20 mm	15	PTFE	322.00
350547	PP/steel flange 25 mm	20	PTFE	350.00
350548	PP/steel flange 32 mm	25	PTFE	380.00
350549	PP/steel flange 40 mm	32	PTFE	510.00
350550	PP/steel flange 50 mm	40	PTFE	588.00
350551	PP/steel flange 63 mm	50	PTFE	744.00

¹ at +20 °C

THOMAFLUID®-Diaphragm Valve made of PP

Product specification

- High impact toughness, except at temperatures below +10 °C
- Good mechanical stability
- Very good dielectrical properties
- Good temperature resistance

Technical specification

• **Material of flow body:**

Housing lower part: PP (polypropylene)

Housing upper part: PP-GRP (glass fibre-reinforced polypropylene)

Shaped diaphragm: EPDM (ethylene-propylene-diene rubber); PTFE (polytetrafluoroethylene) on media side, with vulcanized-in, extremely tearing-resistant fabric insert

• **Valve type:** diaphragm valve

• **Flow direction:** optional

• **Mounting position:** optional

• **Max. operating pressure:** 10 bar at +20 °C

• **Installation size:** DN 15 - DN 50

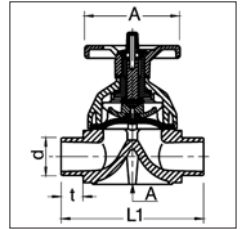
• **Media:** neutral and aggressive liquid and gaseous media, also with solids content with concentration and grain sizes commonly used in process engineering

• **Max. temperature:**

Flow body: +80 °C

Diaphragm: EPDM: -40 to +90 °C; PTFE: -40 to +120 °C

• **Connection:** welding spigot according to DIN 16962 or screw joint with welded socket or GRP flange

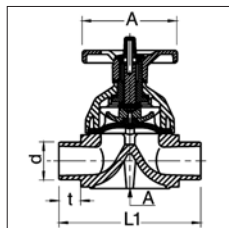


Item	Connection type	Nominal width mm	Material diaphragm	Price EURO
350480	butt fusion spigot or socket fusion spigot 20 mm	15	EPDM	106.00
350481	butt fusion spigot or socket fusion spigot 25 mm	20	EPDM	114.00
350482	butt fusion spigot or socket fusion spigot 32 mm	25	EPDM	132.00
350483	butt fusion spigot or socket fusion spigot 40 mm	32	EPDM	156.00
350484	butt fusion spigot or socket fusion spigot 50 mm	40	EPDM	202.00
350485	butt fusion spigot or socket fusion spigot 63 mm	50	EPDM	238.00
350486	screw joint with welded socket 20 mm	15	EPDM	126.00
350487	screw joint with welded socket 25 mm	20	EPDM	138.00
350488	screw joint with welded socket 32 mm	25	EPDM	174.00
350489	screw joint with welded socket 40 mm	32	EPDM	208.00

Item	Connection type	Nominal width mm	Material diaphragm	Price EURO
350490	screw joint with welded socket 50 mm	40	EPDM	278.00
350491	screw joint with welded socket 63 mm	50	EPDM	344.00
350492	GRP flange 20 mm	15	EPDM	168.00
350493	GRP flange 25 mm	20	EPDM	180.00
350494	GRP flange 32 mm	25	EPDM	212.00
350495	GRP flange 40 mm	32	EPDM	270.00
350496	GRP flange 50 mm	40	EPDM	324.00
350497	GRP flange 63 mm	50	EPDM	392.00
350498	butt fusion spigot or socket fusion spigot 20 mm	15	PTFE	208.00
350499	butt fusion spigot or socket fusion spigot 25 mm	20	PTFE	220.00
350500	butt fusion spigot or socket fusion spigot 32 mm	25	PTFE	232.00
350501	butt fusion spigot or socket fusion spigot 40 mm	32	PTFE	298.00
350502	butt fusion spigot or socket fusion spigot 50 mm	40	PTFE	344.00
350503	butt fusion spigot or socket fusion spigot 63 mm	50	PTFE	416.00
350504	screw joint with welded socket 20 mm	15	PTFE	236.00
350505	screw joint with welded socket 25 mm	20	PTFE	250.00
350506	screw joint with welded socket 32 mm	25	PTFE	276.00
350507	screw joint with welded socket 40 mm	32	PTFE	330.00
350508	screw joint with welded socket 50 mm	40	PTFE	384.00
350509	screw joint with welded socket 63 mm	50	PTFE	456.00
350510	GRP flange 20 mm	15	PTFE	252.00
350511	GRP flange 25 mm	20	PTFE	266.00
350512	GRP flange 32 mm	25	PTFE	296.00
350513	GRP flange 40 mm	32	PTFE	366.00
350514	GRP flange 50 mm	40	PTFE	414.00
350515	GRP flange 63 mm	50	PTFE	526.00

¹ at +20 °C

THOMAFLUID®-Diaphragm Valve made of PVC-U



Product specification

- High impact toughness, but risk of breakage at low temperatures
- Good mechanical stability
- Very good dielectrical properties
- Hardly inflammable

Technical specification

• Material of flow body:

Housing lower part: PVC-U (rigid PVC, polyvinyl chloride)

Housing upper part: PP-GRP (glass fibre-reinforced polypropylene)

Shaped diaphragm: EPDM (ethylene-propylene-diene rubber); PTFE (polytetrafluoroethylene) on media side, with vulcanized-in, extremely tearing-resistant fabric insert

• Valve type: diaphragm valve

• Flow direction: optional

• Mounting position: optional

• Max. operating pressure: 10 bar at +20 °C

• Installation size: DN 15 - DN 50

• Media: neutral and aggressive liquid and gaseous media, also with solids content with concentration and grain sizes commonly used in process engineering

• Temperature range:

Flow body: -10 to +60 °C

Diaphragm: EPDM: -40 to +90 °C; PTFE: -40 to +120 °C

• Connection: cementing spigot according to DIN 8063 or screw joint with cementing socket or GRP flange

Item	Connection type	Nominal width mm	Material diaphragm	Price EURO
350444	cementing spigot 20 mm	15	EPDM	86.00
350445	cementing spigot 25 mm	20	EPDM	82.00
350446	cementing spigot 32 mm	25	EPDM	106.00
350447	cementing spigot 40 mm	32	EPDM	126.00
350448	cementing spigot 50 mm	40	EPDM	172.00
350449	cementing spigot 63 mm	50	EPDM	188.00
350450	screw joint with cementing socket 20 mm	15	EPDM	112.00
350451	screw joint with cementing socket 25 mm	20	EPDM	118.00
350452	screw joint with cementing socket 32 mm	25	EPDM	138.00
350453	screw joint with cementing socket 40 mm	32	EPDM	166.00
350454	screw joint with cementing socket 50 mm	40	EPDM	198.00
350455	screw joint with cementing socket 63 mm	50	EPDM	246.00
350456	GRP flange 20 mm	15	EPDM	122.00
350457	GRP flange 25 mm	20	EPDM	140.00
350458	GRP flange 32 mm	25	EPDM	172.00
350459	GRP flange 40 mm	32	EPDM	192.00
350460	GRP flange 50 mm	40	EPDM	248.00
350461	GRP flange 63 mm	50	EPDM	310.00
350462	cementing spigot 20 mm	15	PTFE	180.00
350463	cementing spigot 25 mm	20	PTFE	190.00
350464	cementing spigot 32 mm	25	PTFE	226.00
350465	cementing spigot 40 mm	32	PTFE	256.00
350466	cementing spigot 50 mm	40	PTFE	294.00
350467	cementing spigot 63 mm	50	PTFE	398.00
350468	screw joint with cementing socket 20 mm	15	PTFE	194.00

Item	Connection type	Nominal width mm	Material diaphragm	Price EURO
350469	screw joint with cementing socket 25 mm	20	PTFE	208.00
350470	screw joint with cementing socket 32 mm	25	PTFE	232.00
350471	screw joint with cementing socket 40 mm	32	PTFE	306.00
350472	screw joint with cementing socket 50 mm	40	PTFE	376.00
350473	screw joint with cementing socket 63 mm	50	PTFE	444.00
350474	GRP flange 20 mm	15	PTFE	210.00
350475	GRP flange 25 mm	20	PTFE	212.00
350476	GRP flange 32 mm	25	PTFE	266.00
350477	GRP flange 40 mm	32	PTFE	336.00
350478	GRP flange 50 mm	40	PTFE	428.00
350479	GRP flange 63 mm	50	PTFE	498.00

¹ at +20 °C

THOMAFLUID®-Pneumatic Diaphragm Valves

Application area

- Environmental technology and process engineering, water treatment technology and sewage technology, plant and apparatus construction

General product specification

- 2/2-way diaphragm valve with pneumatic actuator. Its compact construction allows a space-saving mounting. The valve features high throughput and is insensitive to heavily soiled media due to the used corrosion-resistant materials.
- All control functions are realisable by adding or removing the respective pressure springs. The standard valve is fitted with stroke limiter and visual position indicator.

THOMAFLUID®-Diaphragm Valve made of PP/PVDF - pneumatic operated

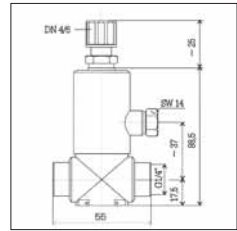
Product specification

- Pneumatic operated release and blocking of gas flows in pilot and industrial plants.
- Diaphragm valve specially developed for aggressive media, for reliable continuous use as shut-off valve and safety valve in process engineering and plant technology.
- High safety at use with aggressive media by selection of resistant materials. For good media resistance the valve body is made of PP (polypropylene), for higher requirements and durability at high temperatures it is made of PVDF (polyvinylidene fluoride).
- High safety is also guaranteed by the special construction of the diaphragm valve: The flow rate is not controlled by a diaphragm alone, but in combination with a sealing cone.
- Improved durability compared to conventional diaphragm valves. The PTFE (polytetrafluoroethylene) sealing cone protects the PTFE diaphragm and prevents particle deposition as well as associated leakages.
- In „closed“ position the cone seals the medium off. The diaphragm provides the sealing off the valve against atmosphere.
- The valve is available in two different designs according to closure type: (A) - normally open (NO), (B) - normally closed (NC). Type A: the control air connection is situated on the top and a vent connection on the side. Type B: the other way around.

- The connections are compatible with THOMAFLUID®-/MULTIFIT®-tubing connectors EMP-3 (parts 20246) or pipe connectors EMP-4 (parts 10642), thus offering various connection and adaption possibilities.

Technical specification

- Material:**
Valve body: PP (polypropylene) or PVDF (polyvinylidene fluoride)
Diaphragm: PTFE (polytetrafluoroethylene)
- Media:** gases, also aggressive media such as fluorine or chlorine
- Closure type:** A - normally open (NO); B - normally closed (NC)
- Max. operating pressure:** 4 bar
- Control pressure:** normally open (NO): 2.5-5 bar; normally closed (NC): 3 bar
- Max. temperature:** PP up to +90 °C; PVDF up to +120 °C
- Nominal width:** DN 5
- Control air connection:** for tubing DN 4/6
- Connection:** seamless, cylindrical internal thread; medium: G 1/4“; control air: G 1/8“

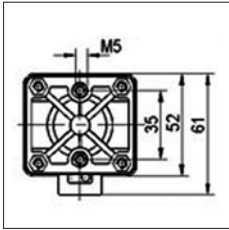
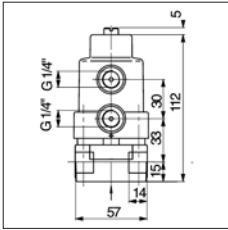


Item	Material	Max. temp. °C	Control function	Price EURO
305124	PP	90	A	234.00
305125	PP	90	B	234.00
305126	PVDF	120	A	256.00
305127	PVDF	120	B	256.00

THOMAFLUID®-Diaphragm Valve made of PVDF - pneumatic operated

Technical specification

- Material:**
Housing: PVDF (polyvinylidene fluoride)
Medium-contacting materials: PVDF (polyvinylidene fluoride)
Diaphragm: EPDM (ethylene-propylene-diene rubber); FPM (fluorinated rubber); EPDM/PTFE (polytetrafluoroethylene) coated
- Installation size:** DN 12 - DN 15
- Control functions:** normally closed (NC); normally open (NO); double acting (DA)
- Max. control pressure:** 7 bar
- Max. operating pressure:** 6 bar
- Media:** neutral and aggressive liquid and gaseous media
- Max. temperature:** PVDF up to +120 °C; EPDM up to +90 °C; FPM up to +120 °C; EPDM/PTFE up to +90 °C
- Connection:** threaded socket, welded socket or screw joint with welded socket



Material diaphragm: FPM

Item	Nominal width mm	Connection type	Control function	Price EURO
350615	12	threaded socket Rp 3/8"	NC	208.00
350616	12	welded socket 16 mm	NC	208.00
350617	15	screw joint with welded socket 20 mm	NC	292.00
350618	12	threaded socket Rp 3/8"	NO	208.00
350619	12	welded socket 16 mm	NO	208.00
350620	15	screw joint with welded socket 20 mm	NO	292.00
350621	12	threaded socket Rp 3/8"	DA	208.00
350622	12	welded socket 16 mm	DA	208.00
350623	15	screw joint with welded socket 20 mm	DA	292.00

Material diaphragm: PTFE

Item	Nominal width mm	Connection type	Control function	Price EURO
350624	12	threaded socket Rp 3/8"	NC	214.00
350625	12	welded socket 16 mm	NC	214.00
350626	15	screw joint with welded socket 20 mm	NC	298.00
350627	12	threaded socket Rp 3/8"	NO	214.00
350628	12	welded socket 16 mm	NO	214.00
350629	15	screw joint with welded socket 20 mm	NO	298.00
350630	12	threaded socket Rp 3/8"	DA	214.00
350631	12	welded socket 16 mm	DA	214.00
350632	15	screw joint with welded socket 20 mm	DA	298.00

THOMAFUID®-Diaphragm Valve made of PP - pneumatic operated

Technical specification

- **Material:**
Housing: PP (polypropylene)
Medium-contacting materials: PP (polypropylene)
Diaphragm: see table
- **Control functions:** normally closed (NC); normally open (NO); double acting (DA)
- **Max. control pressure:** 7 bar
- **Max. operating pressure:** 6 bar
- **Media:** neutral and aggressive liquid and gaseous media
- **Max. temperature:** PP up to +80 °C; EPDM up to +90 °C; FPM up to +120 °C; PTFE up to +90 °C

Material diaphragm: EPDM

Item	Nominal width mm	Connection type	Control function	Price EURO
350579	12	threaded socket Rp 3/8"	NC	154.00
350580	12	welded socket 16 mm	NC	154.00
350581	15	screw joint with welded socket 20 mm	NC	226.00
350582	12	threaded socket Rp 3/8"	NO	154.00
350583	12	welded socket 16 mm	NO	154.00
350584	15	screw joint with welded socket 20 mm	NO	226.00
350585	12	threaded socket Rp 3/8"	DA	154.00
350586	12	welded socket 16 mm	DA	154.00
350587	15	screw joint with welded socket 20 mm	DA	226.00

Material diaphragm: FPM

Item	Nominal width mm	Connection type	Control function	Price EURO
350588	12	threaded socket Rp 3/8"	NC	178.00
350589	12	welded socket 16 mm	NC	178.00
350590	15	screw joint with welded socket 20 mm	NC	252.00
350591	12	threaded socket Rp 3/8"	NO	178.00
350592	12	welded socket 16 mm	NO	178.00
350593	15	screw joint with welded socket 20 mm	NO	252.00
350594	12	threaded socket Rp 3/8"	DA	178.00
350595	12	welded socket 16 mm	DA	178.00
350596	15	screw joint with welded socket 20 mm	DA	252.00

Material diaphragm: PTFE

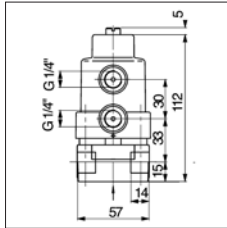
Item	Nominal width mm	Connection type	Control function	Price EURO
350597	12	threaded socket Rp 3/8"	NC	186.00
350598	12	welded socket 16 mm	NC	186.00
350599	15	screw joint with welded socket 20 mm	NC	258.00
350600	12	threaded socket Rp 3/8"	NO	186.00
350601	12	welded socket 16 mm	NO	186.00
350602	15	screw joint with welded socket 20 mm	NO	258.00
350603	12	threaded socket Rp 3/8"	DA	186.00

Item	Nominal width mm	Connection type	Control function	Price EURO
350604	12	welded socket 16 mm	DA	186.00
350605	15	screw joint with welded socket 20 mm	DA	258.00

THOMAFLUID®-Diaphragm Valve made of PVC-U - pneumatic operated

Technical specification

- **Material:**
Housing: PVC-U (rigid PVC, polyvinyl chloride without plasticizers)
Medium-contacting materials: PVC-U (rigid PVC, polyvinyl chloride without plasticizers)
Diaphragm: see table
- **Control functions:** normally closed (NC); normally open (NO); double acting (DA)
- **Max. control pressure:** 7 bar
- **Max. operating pressure:** 6 bar
- **Media:** neutral and aggressive liquid and gaseous media
- **Max. temperature:** PVC-U up to +60 °C; EPDM up to +90 °C; FPM up to +120 °C; PTFE up to +90 °C
- **Connection:** threaded socket RP, cementing socket or screw joint with cementing socket



Material diaphragm: EPDM

Item	Nominal width mm	Connection type	Control function	Price EURO
350552	12	threaded socket Rp 3/8"	NC	146.00
350553	12	cementing socket 16 mm	NC	146.00
350554	15	screw joint with cementing socket 20 mm	NC	198.00
350555	12	threaded socket Rp 3/8"	NO	146.00
350556	12	cementing socket 16 mm	NO	146.00
350557	15	screw joint with cementing socket 20 mm	NO	198.00
350558	12	threaded socket Rp 3/8"	DA	146.00
350559	12	cementing socket 16 mm	DA	146.00
350560	15	screw joint with cementing socket 20 mm	DA	198.00

Material diaphragm: FPM

Item	Nominal width mm	Connection type	Control function	Price EURO
350561	12	threaded socket Rp 3/8"	NC	174.00
350562	12	cementing socket 16 mm	NC	174.00

Item	Nominal width mm	Connection type	Control function	Price EURO
350563	15	screw joint with cementing socket 20 mm	NC	230.00
350564	12	threaded socket Rp 3/8"	NO	174.00
350565	12	cementing socket 16 mm	NO	174.00
350566	15	screw joint with cementing socket 20 mm	NO	230.00
350567	12	threaded socket Rp 3/8"	DA	174.00
350568	12	cementing socket 16 mm	DA	174.00
350569	15	screw joint with cementing socket 20 mm	DA	230.00

Material diaphragm: PTFE

Item	Nominal width mm	Connection type	Control function	Price EURO
350570	12	threaded socket Rp 3/8"	NC	184.00
350571	12	cementing socket 16 mm	NC	184.00
350572	15	screw joint with cementing socket 20 mm	NC	238.00
350573	12	threaded socket Rp 3/8"	NO	184.00
350574	12	cementing socket 16 mm	NO	184.00
350575	15	screw joint with cementing socket 20 mm	NO	238.00
350576	12	threaded socket Rp 3/8"	DA	184.00
350577	12	cementing socket 16 mm	DA	184.00
350578	15	screw joint with cementing socket 20 mm	DA	238.00

Pressure Retaining Valves

THOMAFLUID®-Pressure Retaining Valves / Overflow valves - back pressure safe

Application area

- In process plants for maintenance of working- or system-induced counter pressures as well as for reduction of pressure pulsation. The special diaphragm design and the interaction of diaphragm surface, valve piston and valve seat keep the working pressure at occurring counter pressure almost constant.
- As pressurizing valve in metering pumps for guarantee of metering accuracy. In case of counter pressure at the secondary side the preliminary pressure and thus the metering quantity remain constant.
- In all working areas where constant pressure is required.

General product specification

- **Operating principle:**
Does the working pressure or inlet pressure rise above a certain preset pressure value, the pressurized valve piston is lifted against the spring force. The valve opens and a pressure relief on the outlet side takes place. It closes as soon as the working pressure at the valve piston drops below preset spring force. If a system determined counter pressure arises at the secondary side this pressure has an impact on both simultaneously, namely under the diaphragm and on the valve piston, i.e. the forces cancel out each other because the diaphragm and the valve mating surface / effective surface are the same size. The valve force and thus the working pressure remain nearly constant.

High-quality materials
Stable, low-vibration regulating behavior
Hermetically tight due to valve diaphragm with integral sealing rings
Valve adjustment also under working pressure
Low-maintenance

THOMAFUID®-Pressure Retaining Valve / Overflow Valve made of PTFE - back pressure safe

Product specification

- Resistant to weather
- Good mechanical stability
- High chemical resistance
- High tracking resistance

Technical specification

• Material:

Lower valve body: PTFE (polytetrafluoroethylene), black

Upper valve body: PP-GRP (glass fibre-reinforced polypropylene), orange (RAL 2005)

Piston: PTFE (polytetrafluoroethylene)

Separation disc: PTFE (polytetrafluoroethylene)

Crimped diaphragm: EPDM (ethylene-propylene-diene rubber), on media side PTFE-coated

Valve seat seal: FPM/PTFE (polytetrafluoroethylene/fluorinated rubber)

O-ring sealings of union ends: EPDM (ethylene-propylene-diene rubber); FPM (fluorinated rubber)

Connecting screws: stainless steel 1.4301 (V2A)

- **Media:** technically pure, neutral and aggressive liquids provided that the selected valve materials are resistant at working temperature

- **Max. temperature:** +100 °C

- **Max. operating pressure:** 10 bar at +20 °C

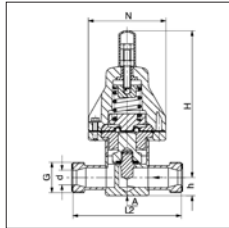
- **Working pressure:** set pressure plus flow dependent pressure increase (approx. 0.3 - 10.0 bar)

- **Release pressure:** approx. 0.5 bar

- **Hysteresis:** approx. 0.3 bar

- **Mounting position:** optional

- **Connection:** External thread (DIN 8063)



Item	External thread	d mm	Nominal width mm	Material gasket	Price EURO
350867	G 3/4"	16	10	FPM, PTFE	686.00
350868	G 1"	20	15	FPM, PTFE	686.00
350869	G 1 1/4"	25	20	FPM, PTFE	1,018.00
350870	G 1 1/2"	32	25	FPM, PTFE	1,018.00
350871	G 2"	40	32	FPM, PTFE	1,574.00
350872	G 2 1/4"	50	40	FPM, PTFE	1,574.00
350873	G 2 3/4"	63	50	FPM, PTFE	1,574.00

THOMAFUID®-Pressure Retaining Valve / Overflow Valve made of PVDF - back pressure safe

Product specification

- Resistant to corrosion and weather
- High impact toughness even at low temperatures
- High mechanical stability
- High chemical resistance

Technical specification

• Material:

Lower valve body: PVDF (polyvinylidene fluoride), yellowish-white

Upper valve body: PP-GRP (glass fibre-reinforced polypropylene), orange (RAL 2005)

Piston: PVDF (polyvinylidene fluoride)

Separation disc: PVDF (polyvinylidene fluoride)

Crimped diaphragm: EPDM (ethylene-propylene-diene rubber), on media side PTFE-coated (polytetrafluoroethylene)

Valve seat seal: EPDM (ethylene-propylene-diene rubber); FPM (fluorinated rubber)

O-ring sealings of union ends: EPDM and FPM resp.

Connecting screws: stainless steel 1.4301 (V2A)

- **Media:** technically pure, neutral and aggressive liquids provided that the selected valve materials are resistant at working temperature

- **Max. temperature:** +100 °C

- **Max. operating pressure:** 10 bar at +20 °C

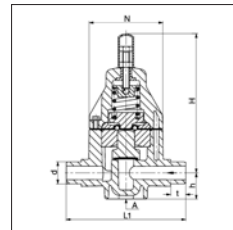
- **Working pressure:** set pressure plus flow dependent pressure increase (approx. 0.3 - 10.0 bar)

- **Release pressure:** approx. 0.5 bar

- **Hysteresis:** approx. 0.3 bar

- **Mounting position:** optional

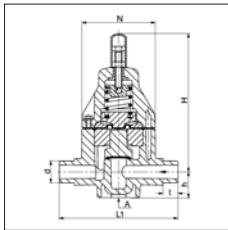
- **Connection:** butt fusion spigot or socket fusion spigot or screw joint with welded socket



Item	Connection type	Nominal width mm	Material gasket	Price EURO
350839	butt fusion spigot or socket fusion spigot 16 mm	10	EPDM	672.00
350840	butt fusion spigot or socket fusion spigot 20 mm	15	EPDM	672.00
350841	butt fusion spigot or socket fusion spigot 25 mm	20	EPDM	1,010.00
350842	butt fusion spigot or socket fusion spigot 32 mm	25	EPDM	1,010.00
350843	butt fusion spigot or socket fusion spigot 40 mm	32	EPDM	1,590.00
350844	butt fusion spigot or socket fusion spigot 50 mm	40	EPDM	1,590.00
350845	butt fusion spigot or socket fusion spigot 63 mm	50	EPDM	1,590.00

Item	Connection type	Nominal width mm	Material gasket	Price EURO
350846	screw joint with welded socket 16 mm	10	EPDM	708.00
350847	screw joint with welded socket 20 mm	15	EPDM	708.00
350848	screw joint with welded socket 25 mm	20	EPDM	1,060.00
350849	screw joint with welded socket 32 mm	25	EPDM	1,080.00
350850	screw joint with welded socket 40 mm	32	EPDM	1,646.00
350851	screw joint with welded socket 50 mm	40	EPDM	1,682.00
350852	screw joint with welded socket 63 mm	50	EPDM	1,742.00
350853	butt fusion spigot or socket fusion spigot 16 mm	10	FPM	684.00
350854	butt fusion spigot or socket fusion spigot 20 mm	15	FPM	684.00
350855	butt fusion spigot or socket fusion spigot 25 mm	20	FPM	1,018.00
350856	butt fusion spigot or socket fusion spigot 32 mm	25	FPM	1,018.00
350857	butt fusion spigot or socket fusion spigot 40 mm	32	FPM	1,574.00
350858	butt fusion spigot or socket fusion spigot 50 mm	40	FPM	1,574.00
350859	butt fusion spigot or socket fusion spigot 63 mm	50	FPM	1,576.00
350860	screw joint with welded socket 16 mm	10	FPM	722.00
350861	screw joint with welded socket 20 mm	15	FPM	728.00
350862	screw joint with welded socket 25 mm	20	FPM	1,066.00
350863	screw joint with welded socket 32 mm	25	FPM	1,644.00
350864	screw joint with welded socket 40 mm	32	FPM	1,660.00
350865	screw joint with welded socket 50 mm	40	FPM	1,700.00
350866	screw joint with welded socket 63 mm	50	FPM	1,760.00

THOMAFLUID®-Pressure Retaining Valve / Overflow Valve made of PP - back pressure safe



Product specification

- Corrosion and impact resistant

Technical specification

• **Material:**

Lower valve body: PP (polypropylene), grey (RAL 7032)
Upper valve body: PP-GRP (glass fibre-reinforced polypropylene), orange (RAL 2005)

Piston: PP (polypropylene)

Separation disc: PP (polypropylene)

Crimped diaphragm: EPDM (ethylene-propylene-diene rubber), on media side PTFE (polytetrafluoroethylene)-coated

Valve seat seal: EPDM (ethylene-propylene-diene rubber); FPM (fluorinated rubber)

O-ring sealings of union ends: EPDM and FPM resp.

Connecting screws: stainless steel 1.4301 (V2A)

- **Media:** technically pure, neutral and aggressive liquids provided that the selected valve materials are resistant at working temperature

- **Max. temperature:** +70 °C

- **Max. operating pressure:** 10 bar at +20 °C

- **Working pressure:** set pressure plus flow dependent pressure increase (approx. 0.3 - 10.0 bar)

- **Release pressure:** approx. 0.5 bar

- **Hysteresis:** approx. 0.3 bar

- **Mounting position:** optional

- **Connection:** butt fusion spigot or socket fusion spigot or screw joint with welded socket

Item	Connection type	Nominal width mm	Material gasket	Price EURO
350811	butt fusion spigot or socket fusion spigot 16 mm	10	EPDM	232.00
350812	butt fusion spigot or socket fusion spigot 20 mm	15	EPDM	232.00
350813	butt fusion spigot or socket fusion spigot 25 mm	20	EPDM	314.00
350814	butt fusion spigot or socket fusion spigot 32 mm	25	EPDM	314.00
350815	butt fusion spigot or socket fusion spigot 40 mm	32	EPDM	386.00
350816	butt fusion spigot or socket fusion spigot 50 mm	40	EPDM	386.00
350817	butt fusion spigot or socket fusion spigot 63 mm	50	EPDM	386.00
350818	screw joint with welded socket 16 mm	10	EPDM	258.00
350819	screw joint with welded socket 20 mm	15	EPDM	262.00
350820	screw joint with welded socket 25 mm	20	EPDM	344.00
350821	screw joint with welded socket 32 mm	25	EPDM	348.00
350822	screw joint with welded socket 40 mm	32	EPDM	420.00
350823	screw joint with welded socket 50 mm	40	EPDM	434.00
350824	screw joint with welded socket 63 mm	50	EPDM	462.00
350825	butt fusion spigot or socket fusion spigot 16 mm	10	FPM	262.00
350826	butt fusion spigot or socket fusion spigot 20 mm	15	FPM	262.00

Item	Connection type	Nominal width mm	Material gasket	Price EURO
350827	butt fusion spigot or socket fusion spigot 25 mm	20	FPM	356.00
350828	butt fusion spigot or socket fusion spigot 32 mm	25	FPM	356.00
350829	butt fusion spigot or socket fusion spigot 40 mm	32	FPM	436.00
350830	butt fusion spigot or socket fusion spigot 50 mm	40	FPM	436.00
350831	butt fusion spigot or socket fusion spigot 63 mm	50	FPM	436.00
350832	screw joint with welded socket 16 mm	10	FPM	292.00
350833	screw joint with welded socket 20 mm	15	FPM	298.00
350834	screw joint with welded socket 25 mm	20	FPM	394.00
350835	screw joint with welded socket 32 mm	25	FPM	400.00
350836	screw joint with welded socket 40 mm	32	FPM	490.00
350837	screw joint with welded socket 50 mm	40	FPM	508.00
350838	screw joint with welded socket 63 mm	50	FPM	544.00

THOMAFUID®-Pressure Retaining Valve / Overflow Valve made of PVC-U - back pressure safe

Product specification

- Free of plasticizers, therefore physiologically indifferent, no embrittling by leaching
- Corrosion and impact resistant, also usable in the outside area.

Technical specification

• Material:

Lower valve body: PVC-U (polyvinyl chloride, rigid), grey (RAL 7011)

Upper valve body: PP-GRP (glass fibre-reinforced polypropylene), orange (RAL 2005)

Piston: PVC-U (polyvinyl chloride, rigid)

Separation disc: PVC-U (polyvinyl chloride, rigid)

Crimped diaphragm: EPDM (ethylene-propylene-diene rubber), on media side PTFE (polytetrafluoroethylene)-coated

Valve seat seal: EPDM (ethylene-propylene-diene rubber); FPM (fluorinated rubber)

O-ring sealings of union ends: EPDM (ethylene-propylene-diene rubber); FPM (fluorinated rubber)

Connecting screws: stainless steel 1.4301 (V2A)

- **Media:** technically pure, neutral and aggressive liquids provided that the selected valve materials are resistant at working temperature

- **Max. temperature:** +50 °C

- **Max. operating pressure:** 10 bar at +20 °C

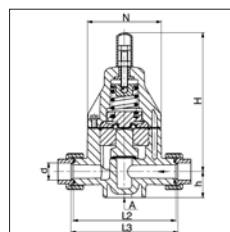
- **Working pressure:** set pressure plus flow dependent pressure increase (approx. 0.3 - 10.0 bar)

- **Release pressure:** approx. 0.5 bar

- **Hysteresis:** approx. 0.3 bar

- **Mounting position:** optional

- **Connection:** cementing spigot or screw joint with cementing socket



Material gasket: EPDM

Item	Connection type	For pipes outside Ø mm	Nominal width mm	Price EURO
350783	cementing spigot 16 mm	16	10	196.00
350784	cementing spigot 20 mm	20	15	196.00
350785	cementing spigot 25 mm	25	20	262.00
350786	cementing spigot 32 mm	32	25	262.00
350787	cementing spigot 40 mm	40	32	316.00
350788	cementing spigot 50 mm	50	40	316.00
350789	cementing spigot 63 mm	63	50	316.00
350790	screw joint with cementing socket 16 mm	16	10	214.00
350791	screw joint with cementing socket 20 mm	20	15	216.00
350792	screw joint with cementing socket 25 mm	25	20	268.00
350793	screw joint with cementing socket 32 mm	32	25	276.00
350794	screw joint with cementing socket 40 mm	40	32	326.00
350795	screw joint with cementing socket 50 mm	50	40	336.00
350796	screw joint with cementing socket 63 mm	63	50	348.00

Material gasket: FPM

Item	Connection type	For pipes outside Ø mm	Nominal width mm	Price EURO
350797	cementing spigot 16 mm	16	10	200.00
350798	cementing spigot 20 mm	20	15	200.00
350799	cementing spigot 25 mm	25	20	254.00
350800	cementing spigot 32 mm	32	25	254.00
350801	cementing spigot 40 mm	40	32	312.00
350802	cementing spigot 50 mm	50	40	312.00
350803	cementing spigot 63 mm	63	50	312.00
350804	screw joint with cementing socket 16 mm	16	10	218.00
350805	screw joint with cementing socket 20 mm	20	15	220.00
350806	screw joint with cementing socket 25 mm	25	20	278.00
350807	screw joint with cementing socket 32 mm	32	25	290.00
350808	screw joint with cementing socket 40 mm	40	32	332.00

Item	Connection type	For pipes outside Ø mm	Nominal width mm	Price EURO
350809	screw joint with cementing socket 50 mm	50	40	344.00
350810	screw joint with cementing socket 63 mm	63	50	358.00

THOMAFUID®-Safety Pressurizing Valve - adjustable

Application area

- Generation of functionally required system pressure in pumps for pressure-free liquid delivery and avoidance of drainage of conveying lines at pump rest.

Product specification

- Safety restrictor system working in the dynamic pressure principle by spring-loaded diaphragm chamber for installation in liquid conveying lines behind the pump.

Technical specification

- **Port:** depending on type 4 to 32 mm Ø
- **Connection type:** depending on type with pressure tubing or piping
- **Dynamic pressure:** ex factory set to 3 bar, by means of an adjusting screw to be lowered up to 1 bar
- **Installation:** at delivery side



Item	Mat. housing	Mat. gasket	Nom. width mm	Connection type	Price EURO
58499	PVC	FPM	4	tube 4/6	167.00
58500	PP	FPM	4	tube 4/6	167.00
58501	PVDF	PVDF	4	pipe 6x1	356.00
58502	stainless steel		4	pipe 6x1	563.00
58503	PVC	FPM	8	tube 6/12, pipe 12x1,4	167.00
58504	PP	FPM	10	pipe DN 10	264.00
58505	PVDF	PTFE	10	pipe DN 10	458.00
58506	stainless steel		8	screw joint R 1/4"	397.00
58507	PP	FPM	20	tube 12/20 pipe 25x1.9	453.00
58508	PVC	FPM	20	tube 12/20 pipe 25x1.9	412.00
58509	PVDF	FPM	20	pipe 25x1.9	898.00
58510	stainless steel		20	screw joint R 3/4"	788.00
58511	PP	FPM	32	DIN flange DN 32	1,230.00
58512	PVC	FPM	32	pipe 40x3	1,120.00
58513	PVC	FPM	32	DIN flange DN 32	1,159.00
58514	PVDF	FPM	32	DIN flange DN 32	1,294.00
58515	stainless steel		32	screw joint R 1 1/4"	742.00
58516	stainless steel		32	DIN flange DN 32	2,179.00

THOMAFUID®-Safety Pressure Relief Valves - adjustable

Product specification

- The overflow valve protects the overall metering piping system on the pressure side against a possible buildup of inadmissibly high pressure.
- If the pressure exceeds the preset release pressure, the valve opens and the metering medium can flow back in the metering container.

Technical specification

- **Material:** material combinations depending on type
- **Port:** depending on type 4 - 32 mm Ø
- **Connection type:** depending on type with pressure tubing, piping or thread
- **Release pressure:** 10 bar, to be lowered by means of an adjusting screw
- **Ambient temperature:** 0 to +40 °C
- **Media temperature:**
 Stainless steel: -10 to +40 °C (up to 10 bar); -10 to +20 °C (up to 16 bar)
 PVC: 0 to +40 °C (up to 10 bar); 0 to +20 °C (up to 16 bar)
 PP: 0 to +40 °C (up to 10 bar)
 PVDF: -10 to +40 °C (up to 10 bar); -10 to +20 °C (up to 16 bar)



Item	Mat. housing	Mat. gasket	Nom. width mm	Connection type	Price EURO
58517	PVC	EPDM	4	tube 4/6	192.00
58518	PVDF	PTFE	4	pipe 6x1	494.00
58519	stainless steel	FPM	4	pipe 6x1	488.00
58520	PP	FPM	4	tube 4/6	192.00
58521	PP	FPM	8	pipe 16x2	356.00
58522	PVC	FPM	8	tube 6/12, pipe 12x1	192.00
58523	PVDF	PTFE	8	pipe 16x2	609.00
58524	stainless steel	FPM	8	int. thread R 1/4"	430.00
58525	PP	FPM	20	pipe 25x2.5	553.00
58527	PVDF	PTFE	20	pipe 25x2.5	1,197.00
58528	stainless steel	FPM	20	int. thread R 3/4"	916.00
58529	PP	FPM	32	DIN flange DN 32	1,491.00
58530	PVC	FPM	32	pipe 40x4	1,284.00
58531	PVC	FPM	32	DIN flange DN 32	1,348.00
58532	PP	FPM	32	DIN flange DN 32	1,394.00
58533	stainless steel	FPM	32	int. thread R 1 1/4"	1,051.00

THOMAFUID®-Pressurizing Valve for Liquids

Application area

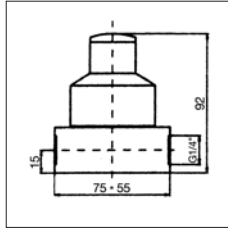
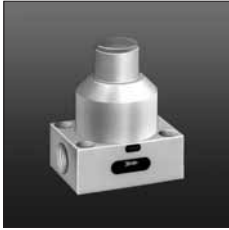
- Maintenance of working- and system-induced counterpressures as well as reduction and compensation of pressure peaks and pulsations in liquid conveying laboratory and pilot plants.

Product specification

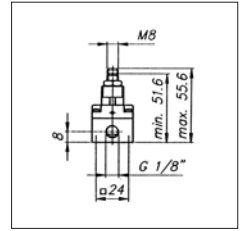
- Maintenance-poor, adjustable compact diaphragm valve for screwed fitting into piping systems, adjustable also under working pressure; medium-contacting parts made of inert fluorocarbon polymer materials, with fastening holes for fixed mounting.

Technical specification

- **Adjustment range:** 0.2 - 6.0 bar
- **Mounting position:** optional
- **Dimensions (HxWxD):** 92 x 75 x 35 mm



Item	NW mm	Thread	Material housing	Material diaphragm	Material gasket	Price EURO
16545	6	G 1/4"	PTFE	PFA	FFKM	592.00
16546	6	G 1/4"	PVDF	PFA	FFKM	592.00



Item	Material housing	Material diaphragm	Pressure range ¹ bar	Price EURO
16483	PP	EPDM	0.2 - 2.5	149.00
16484	PP	EPDM	2 - 6.5	153.00
16485	PP	FPM	0.2 - 2.5	163.00
16486	PP	FPM	2 - 6.5	169.00
16487	PP	FFKM	0.2 - 2.5	253.00
16488	PP	FFKM	2 - 6.5	259.00
16489	PVDF	FPM	0.2 - 2.5	199.00
16490	PVDF	FPM	2 - 6.5	205.00
16491	PVDF	FFKM	0.2 - 2.5	286.00
16492	PVDF	FFKM	2 - 6.5	292.00

¹ at +20 °C

THOMAFUID®-Pressurizing Valve for Liquids and Gases

Application area

- Compensation of pressure fluctuation, maintenance of constant counterpressure in conveying and metering piping systems for highly pure liquids or gases, and for use as spill valve for protection of pumps, fittings, and lines in innovative research and production areas of chemical analytical technology, process engineering, chemical nuclear, technology, biotechnology, environmental technology and medical engineering

Product specification

- Temperature-loadable, stepless by spindle head adjustable miniature regulation system based on a spring-loaded heavy duty diaphragm; all medium-contacting parts made of problem-oriented, chemically inert polymer material combinations, prepared for screwed pipe joint G 1/8".

Technical specification

• Material:

Housing: alternatively PP or PVDF
Diaphragm: alternatively EPDM (ethylene-propylene);
FPM (fluorinated rubber); FFKM (perfluorinated rubber)

• Connection:

G 1/8"

• Pressure range:

0.2 - 6.5 bar (at +20 °C)

• Max. temperature:

+80 °C

• Dimensions (LxWxH):

30 x 24 x 55,6 mm

• Weight:

approx. 55 g

• Max. permissible flow rate at:

0.2 - 2.5 bar: liquids 3 l/min.; gases 150 NI/min.

2.0 - 6.5 bar: liquids 12 l/min.; gases 300 NI/min.

THOMAFUID®-Pressure Reducing Valve for Liquids

Application area

- Reduction of systemic pressures in liquid conveying laboratory units and pilot plants.

Product specification

- Compact diaphragm valve for mounting in piping systems for pressure reduction, cylindrical construction with good handle knurled knob for adjustment of operating pressure, adjustable also under operating pressure, medium-contacting parts made of inert polymer materials.

Technical specification

• Material:

Housing: alternatively PP, PTFE or PVDF
Diaphragm: TFM (fluoroplastic, similar to PTFE)
O-ring: FPM

• Connection:

Nominal width: DN 5

Thread: G 1/4"

• Kv-value:

0.35 m³/h

• Regulation range:

0.1 up to 5 bar

• Working pressure stability:

+0.2 bar

• Max. operating pressure:

6 bar

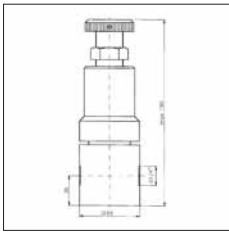
• Mounting position:

optional

• Dimensions:

Height: 182 mm (fully opened)

Diameter: 60 mm



Item	Nominal width mm	Internal thread	Material	Price EURO
16547	5	G 1/4"	PP	990.00
16548	5	G 1/4"	PTFE	2,146.00
16549	5	G 1/4"	PVDF	2,146.00

THOMAFLUID®-Pressure Retaining Valve / Overflow Valve - back pressure safe

Application area

- In process plants for maintenance of working- or system-induced counter pressures as well as for reduction of pressure pulsation. The special diaphragm design and the interaction of diaphragm surface, valve piston and valve seat keep the working pressure at occurring counter pressure almost constant.
- As pressurizing valve in metering pumps for guarantee of metering accuracy. In case of counter pressure at the secondary side the preliminary pressure and thus the metering quantity remain constant.
- In all working areas where constant pressures are required.

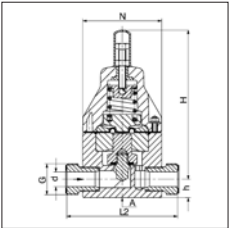
Product specification

- Operating principle:
Does the working pressure or inlet pressure rise above a certain preset pressure value, the pressurized valve piston is lifted against the spring force. The valve opens and a pressure relief on the outlet side takes place. It closes as soon as the working pressure at the valve piston drops below preset spring force. If a system determined counter pressure arises at the secondary side this pressure has an impact on both simultaneously, namely under the diaphragm and on the valve piston, i.e. the forces cancel out each other because the diaphragm and the valve mating surface / effective surface are the same size. The valve force and thus the working pressure remain nearly constant.
- High-quality materials
- Stable, low-vibration regulating behavior
- Hermetically tight due to valve diaphragm with integral sealing rings
- Valve adjustment also under working pressure
- Low-maintenance, resistant to weather and rust-resistant

Technical specification

- **Material:**
Lower valve body: V4A-steel (stainless steel 1.4571), bright
Upper valve body: PP-GRP (glass fibre-reinforced polypropylene), orange
Piston: V4A-steel (stainless steel 1.4571)
Separation disc: V4A-steel (stainless steel 1.4571)
Crimped diaphragm: EPDM (ethylene-propylene-diene rubber); on media side PTFE-coated (polytetrafluoroethylene)
Valve seat seal: FPM/PTFE (fluorinated rubber/ polytetrafluoroethylene)
O-ring sealings of union ends: EPDM (ethylene-propylene-diene rubber); FPM (fluorinated rubber)
Connecting screws: stainless steel 1.4301 (V2A)
- **Media:** technically pure, neutral and aggressive liquids provided that the selected valve materials are resistant at working temperature

- **Max. temperature:** +100 °C
- **Max. operating pressure:** 10 bar at +20 °C
- **Working pressure:** set pressure plus flow dependent pressure increase (approx. 0.3 - 10.0 bar)
- **Release pressure:** approx. 0.5 bar
- **Hysteresis:** approx. 0.3 bar
- **Mounting position:** optional
- **Connection:** External thread (DIN 8063)



Item	External thread	d mm	Nominal width mm	Material gasket	Price EURO
350874	G 3/4"	16	10	FPM, PTFE	1,110.00
350875	G 1"	20	15	FPM, PTFE	1,110.00
350876	G 1 1/4"	25	20	FPM, PTFE	1,366.00
350877	G 1 1/2"	32	25	FPM, PTFE	1,366.00
350878	G 2"	40	32	FPM, PTFE	2,100.00
350879	G 2 1/4"	50	40	FPM, PTFE	2,100.00
350880	G 2 3/4"	63	50	FPM, PTFE	2,100.00

Diaphragm Pressure Gauge Guard

THOMAFLUID®-Diaphragm Pressure Gauge Guard

Application area

- Plant and apparatus construction, in the chemical and pharmaceutical industry, process engineering

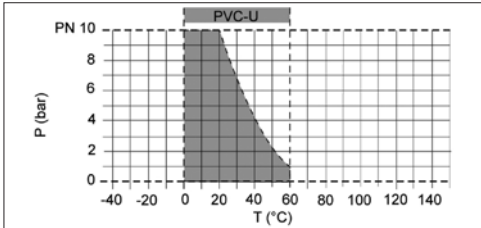
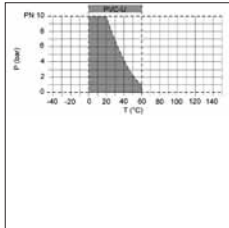
General product specification

- The diaphragm pressure gauge guard is used for safe pressure transmission to corresponding pressure measuring instruments. The used high-quality materials (PVC-U, PP or PVDF) feature high impact toughness and increased creep strength. The elastostatic, PTFE-laminated shaped diaphragm with its large effective diaphragm surface ensures optimal measuring accuracy. The diaphragm is hermetically tight due to integral sealing rings. The large surface area of the diaphragm and the used neutral transmission liquid (e.g. glysantine) are ecologically safe and separate as well as protect pressure gauges from corrosive influences of aggressive media.
- The upper side is made of PP-glass fibre reinforced, the lower side ist made of PVC-U (grey, RAL 7011), PP (grey, RAL 7032) or PVDF (opaque, white).
- Corresponding manometer with pressure ranges from 0 to 2.5 bar, from 0 to 4 bar, from 0 to 6 bar and from 0 to 10 bar on request

THOMAFUID®-Diaphragm Pressure Gauge Guard
made of PVC-U

Technical specification

- **Material:**
Housing: PVC-U (rigid PVC, polyvinyl chloride)
Diaphragm: EPDM, on media side PTFE (polytetrafluoroethylene)-laminated
- **Transmitter liquid:** neutral
- **Media:** neutral and aggressive media
- **Max. operating pressure:** 10 bar at +20 °C
- **Max. temperature:** PVC-U up to +60 °C; EPDM up to +90 °C
- **Mounting position:** optional
- **Connection:** internal thread G 1/4" or G 1/2" for manometer connection, cementing spigot

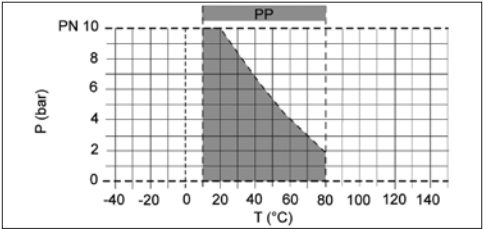


Item	Connection type	d	D	l1	h	Price
		mm	mm	mm	mm	
350881	spigot 25 mm/ thread G 1/4"	25	80	18	86	108.00
350882	spigot 32 mm/ thread G 1/2"	32	80	22	86	108.00

THOMAFUID®-Diaphragm Pressure Gauge Guard
made of PP

Technical specification

- **Material:**
Housing: PP (polypropylene)
Diaphragm: EPDM, on media side PTFE (polytetrafluoroethylene)-laminated
- **Transmitter liquid:** neutral
- **Media:** neutral and aggressive media
- **Max. operating pressure:** 10 bar at +20 °C
- **Max. temperature:** PP up to +80 °C; EPDM up to +90 °C
- **Mounting position:** optional
- **Connection:** internal thread G 1/4" or G 1/2" for manometer connection, welding spigot

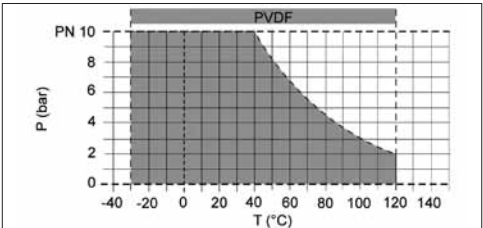
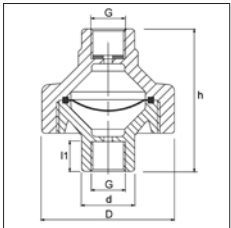


Item	Connection type	d	D	l1	h	Price
		mm	mm	mm	mm	
350883	spigot 25 mm/ thread G 1/4"	25	80	18	86	132.00
350884	spigot 32 mm/ thread G 1/2"	32	80	22	86	132.00

THOMAFUID®-Diaphragm Pressure Gauge Guard
made of PVDF

Technical specification

- **Material:**
Housing: PVDF (polyvinylidene difluoride)
Diaphragm: EPDM, on media side PTFE (polytetrafluoroethylene)-laminated
- **Transmitter liquid:** neutral
- **Media:** neutral and aggressive media
- **Max. operating pressure:** 10 bar at +20 °C
- **Max. temperature:** PVDF up to +120 °C; EPDM up to +90 °C
- **Mounting position:** optional
- **Connection:** internal thread G 1/4" or G 1/2" for manometer connection, welding spigot



Item	Connection type	d	D	l1	h	Price
		mm	mm	mm	mm	EURO
350885	spigot 25 mm/ thread G 1/4"	25	80	18	86	278.00
350886	spigot 32 mm/ thread G 1/2"	32	80	22	86	278.00

Regulating Valves Plastics

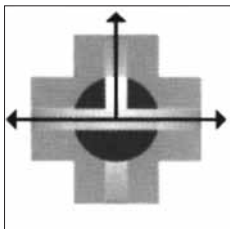
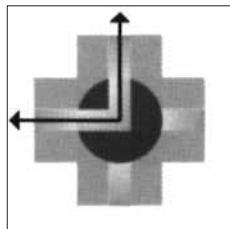
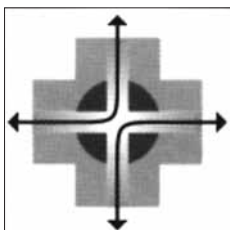
THOMAFLUID®-High-Tech 4-Way Control Valve made of PEEK/ETFE

Product specification

- Leakproof, "four-lines" hand control valves made of carbon-filled high-tech materials polyether-etherketone (PEEK) and fluoropolymer (ETFE) for piping made of rigid polymer materials, especially PEEK, with outside diameter 1.6 mm (1/16"), small dead volume (<10 µl). Chemically inert to acids (except conc. sulfuric and nitric acid), alkalis and solvents, sterilizable with all known procedures. Complete with ferrules screw-in fittings made of fluoropolymer material ETFE; four different practice-oriented designs as double-L, single-L, single-T, and straight-way control valve.

Technical specification

- **Material:** PEEK and ETFE
- **Max. operating pressure:** 34 bar
- **Max. temperature:** +80 °C



Item	Design	Unit piece	Price EURO
43854	double-L	1	224.00
43855	single-L	1	224.00
43856	single-T	1	224.00
43857	port	1	224.00

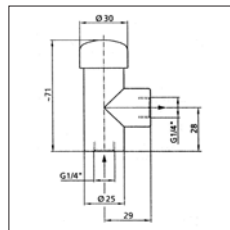
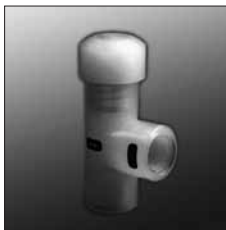
THOMAFLUID®-High-Tech Angle Single-Hand Operated Valve

Product specification

- A newly developed single-hand operated valve for uncomplicated sampling from flexible tubes.
- A problem time and again in practice: often you only have one hand free during sampling, but it is difficult to open a valve or a cock with only one hand.
- With the single-hand operated valve EMP-H5 these tasks are now very easy. It can be comfortably held and operated with one hand and via the spring-mounted press button an optimal metering of the sample quantity is possible.

Technical specification

- **Material:**
Sealing cone: PTFE (polytetrafluoroethylene)
O-ring: FPM (fluorinated rubber)
- **Kv-value:** 0.16 m³/h = 160 l/h; (water +5 to +30 °C, Δp = 1 bar)
- **Connection:** G 1/4" internal thread
- **Max. operating pressure:** 6 bar



Item	Internal thread	Material	Price EURO
314133	G 1/4"	PP	128.00
314134	G 1/4"	PVDF	188.00
314135	G 1/4"	PFA	222.00

MULTIFIT®-Valves made of PTFE

General product specification

- MULTIFIT®-cocks and valves for rigid tubing
- With fine regulation, for controlled splitting of flow and reproducible, constant aliquot sampling
- MULTIFIT®-cocks and valves fix tubing (pipes) by means of a compressed FPM O-ring. The higher the internal pressure is, the tighter is the joint.
- MULTIFIT®-connections are closed and opened within seconds.
- **Size A:**
Nominal width 0.8 mm, for highly flexible PTFE tubing, with outside Ø 0.6 to 1.0 mm (1/32").
- **Size C:**
Nominal width 1.6 mm, for tubing used in many chromatography systems, with outside Ø 1.3 to 1.6 mm (1/16"). The cap nuts of size C and D have the same thread size. Therefore, the total versatile assortment of size D RCT®-couplings, cocks, and columns can be coupled to the 1/16" tubes after changing the cap nut and the sealing ring.
- **Size D:**
Nominal width 3.2 mm, for 1/8" tubes of the THOMACHROM®-chromatography system available in various materials and with inside diameters of 0.25 to 2.0 mm. Suitable for outside Ø 2.4 to 3.2 mm. The nuts of size D are marked with a notch.

• Size E:

Nominal width 6.4 mm, for 1/4" tubes and glass pipes of chromatography columns, suitable for outside Ø of 5.7 to 6.4 mm.

- **MULTIFIT®** are available as standard type with PVC nuts for aqueous and non-aggressive solvents, and as SR-type with nuts made of PCTFE for temperatures up to +120 °C. O-rings made of FFKM are available for particularly aggressive liquids such as pyridine, ketones, and esters (to request separately).

General technical specification
• Material:

Body and plug: PTFE
valve needle: PCTFE

- **Max. operating pressure:** 1.5 bar

MULTIFIT®-Needle Valve made of PTFE
Product specification

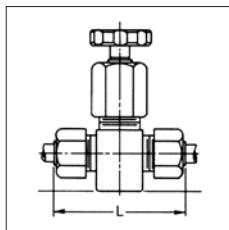
- Needle valves guarantee exact metering of gases and liquids as well as bubblefree sealing when the valve is closed

Technical specification
• Material:

Body and valve spindle: PTFE
Cap nuts: stainless steel

- **Shape:** straight

- **Connection:** for tubing of the same outside Ø



Item	Nominal width mm	L mm	H mm	For pipes outside Ø inch	Price EURO
60115	8	54	19	3/8"	246.00

MULTIFIT®-2 Way Fine Regulating Valve made of PTFE for Tubing (Pipes) of Equal Size
Technical specification
• Material:

Body and valve spindle: PTFE
Cap nuts: PVC or PCTFE

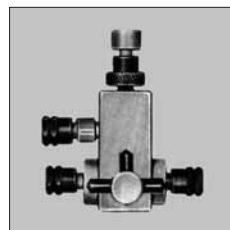
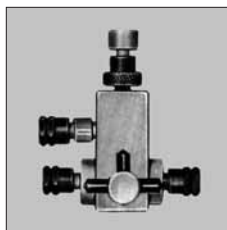


Item	For pipes outside Ø mm	Material nuts	Price EURO
9301704	0.6 - 1	PVC	151.00
9301705	1.3 - 1.6	PVC	151.00
9301706	2.4 - 3.2	PVC	151.00
9301707	5.7 - 6.4	PVC	151.00
93017049	0.6 - 1	PCTFE	169.00
93017059	1.3 - 1.6	PCTFE	169.00
93017069	2.4 - 3.2	PCTFE	169.00
93017079	5.7 - 6.4	PCTFE	169.00

MULTIFIT®-2 Way Fine Regulating Valve made of PTFE for Tubing (Pipes) of Different Size
Technical specification
• Material:

Body and valve spindle: PTFE
Cap nuts: PVC or PCTFE

Item	For pipes outside Ø (A) mm	For pipes outside Ø (B) mm	Material nuts	Price EURO
93017047	0.6 - 1	5.7 - 6.4	PVC	151.00
93017057	1.3 - 1.6	5.7 - 6.4	PVC	151.00
93017067	2.4 - 3.2	5.7 - 6.4	PVC	151.00
930170479	0.6 - 1	5.7 - 6.4	PCTFE	169.00
930170579	1.3 - 1.6	5.7 - 6.4	PCTFE	169.00
930170679	2.4 - 3.2	5.7 - 6.4	PCTFE	169.00

MULTIFIT®-2 Way Fine Regulating Valve made of PTFE for Tubing (Pipes) of Equal Size


Item	For pipes outside Ø mm	Size	Material nuts	Price EURO
9300505	1.3 - 1.6	C / C / C	PVC	159.00
9300506	2.4 - 3.2	D / D / D	PVC	159.00
93005059	1.3 - 1.6	C / C / C	PCTFE	190.00
93005069	2.4 - 3.2	D / D / D	PCTFE	190.00

THOMAFUID®-High-Quality Fine Regulating Valve - injection molded
Product specification

- Injection-molded of high-quality plastics, compact regulating valves with linear regulation characteristics.
- The two types „straight-way valve“ and „angle valve“ offer a wide range of application.

- The adjustment of the volumetric flow rate is effected by a rotatable knurled screw, spindle, valve cone and valve seat.
- Numerous connection possibilities due to compatibility with THOMAFUID®-and MULTIFIT®-tubing connectors, pipe connectors and fittings
- With panel nut for control panel mounting

Technical specification

- **Material:**
Housing: PP (polypropylene), PVDF (polyvinylidene fluoride), PFA (perfluoroalkoxy)
Spindle: PCTFE (polychlorotrifluoroethylene)
O-ring: FPM (fluorinated rubber)
- **Temperature range:** PP: -5 to +90 °C, PVDF: -40 to +120 °C
PFA: -40 to +180 °C, PCTFE: -250 to +170 °C, FPM: -40 to +200 °C
- **Nominal width:** 3.4 and 8 mm
- **Flow range:**
for air ($\Delta p = 0.1$ bar): 350 - 4.500 l/h
for water ($\Delta p = 1$ bar): 60 - 600 l/h
- **Max. operating pressure:** 6 bar (at +20 °C) The pressure utilization factor should be taken into account: at increased temperatures accordingly reduced pressurization
- **Connection:** seamless, cylindrical G-internal thread, panel nut with M-thread

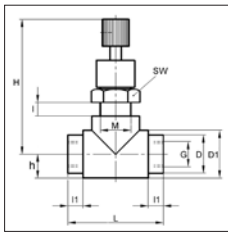
Item	M	h	H	I	I1	L	D	D1	WAF
		mm	mm	mm	mm	mm	mm	mm	mm
305106	M12 x 1	10	59	6	8	44	5	20	17
305107	M12 x 1	22	76	6	8	32	15	15	17
305108	M16 x 1	13	71	7	8	50	20	25	22
305109	M16 x 1	30	95	7	8	38	20	25	22
305110	M20 x 1.5	18	86	9	14	60	32	36	27
305111	M20 x 1.5	30	114	9	10	46	32	36	27
305112	M12 x 1	10	59	6	8	44	5	20	17
305113	M12 x 1	22	76	6	8	32	15	15	17
305114	M16 x 1	13	71	7	8	50	20	25	22
305115	M16 x 1	30	95	7	8	38	20	25	22
305116	M20 x 1.5	18	86	9	14	60	32	36	27
305117	M20 x 1.5	30	86	9	14	60	32	36	27
305118	M12 x 1	10	59	6	8	44	5	20	17
305119	M12 x 1	22	76	6	8	32	15	15	17
305120	M16 x 1	13	71	7	8	50	20	25	22
305121	M16 x 1	30	95	7	8	38	20	25	22
305122	M20 x 1.5	18	86	9	14	60	32	36	27
305123	M20 x 1.5	30	114	9	10	46	32	36	27



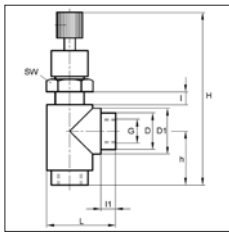
305106



305107



305106



305107

Item	Design	Nom. width	Int. thread	Mat.	Max. flow rate gases l/h	Max. flow rate liquids ¹ l/h	Price
		mm					EURO
305106	port	3	G 1/8"	PP	450	70	96.00
305107	angle	3	G 1/8"	PP	350	60	104.00
305108	port	4	G 1/4"	PP	2,000	250	110.00
305109	angle	4	G 1/4"	PP	3,000	270	118.00
305110	port	8	G 1/2"	PP	4,500	600	126.00
305111	angle	8	G 1/2"	PP	4,500	600	144.00
305112	port	3	G 1/8"	PVDF	450	70	146.00
305113	angle	3	G 1/8"	PVDF	350	60	144.00
305114	port	4	G 1/4"	PVDF	2,000	250	152.00
305115	angle	4	G 1/4"	PVDF	3,000	270	164.00
305116	port	8	G 1/2"	PVDF	4,500	600	176.00
305117	angle	8	G 1/2"	PVDF	4,500	600	204.00
305118	port	3	G 1/8"	PFA	450	70	144.00
305119	angle	3	G 1/8"	PFA	350	60	150.00
305120	port	4	G 1/4"	PFA	2,000	250	174.00
305121	angle	4	G 1/4"	PFA	3,000	270	182.00
305122	port	8	G 1/2"	PFA	4,500	600	198.00
305123	angle	8	G 1/2"	PFA	4,500	600	220.00

¹ Water (+20 °C)

THOMAFUID®-Finest Regulating Valve
made of High-Tech Plastic Material

Application area

- Fine regulation of all kinds of liquid and gas flows in the areas of chemical process engineering, analytical technology, biotechnology, chemical nuclear technology, medical engineering and environmental technology

Product specification

- Manually adjustable finest control valve with precision stem, strongly linear regulation characteristics, made of proven, chemically resistant and biocompatible plastic materials, chemically sterilizable, prepared for mounting into fixed piping with standardized internal thread according to DIN ISO 228.

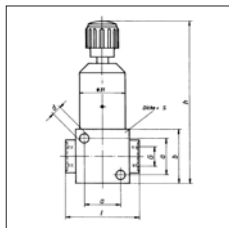
Technical specification

- **Material:** alternatively PP (polypropylene), PVDF (polyvinylidene difluoride) or PTFE (polytetrafluoroethylene)
- **Flow range:**
for water ($\Delta p = 1$ bar): 1-30 l/h; 10-100 l/h; 10-200 l/h; 50-500 l/h
for air ($\Delta p = 1$ bar): 3-150 l/h; 40-675 l/h; 80-1150 l/h; 500-3000 l/h
- **Connection:** G 1/4" or G 1/2" (internal thread)

• Construction sizes:

G 1/4": a = 24 mm; b = 36 mm; l = 49 mm; h = 112 mm; s = 25 mm;
d = 6.6 mm

G 1/2": a = 34 mm; b = 48 mm; l = 66 mm; h = 124 mm; s = 30 mm;
d = 6.6 mm



Item	Material	Max. flow rate liquids l/h	Max. flow rate gases l/h	Internal thread	Price EURO
16550	PP	30	150	G 1/4"	215.00
16551	PP	100	675	G 1/4"	215.00
16552	PP	200	1,150	G 1/4"	215.00
16553	PP	500	3,000	G 1/2"	255.00
16554	PVDF	30	150	G 1/4"	338.00
16555	PVDF	100	675	G 1/4"	338.00
16556	PVDF	200	1,150	G 1/4"	348.00
16557	PVDF	500	3,000	G 1/2"	445.00
16558	PTFE	30	150	G 1/4"	399.00
16559	PTFE	100	675	G 1/4"	399.00
16560	PTFE	200	1,150	G 1/4"	410.00
16561	PTFE	500	3,000	G 1/2"	558.00

THOMAFUID®-Shut-off-Valves

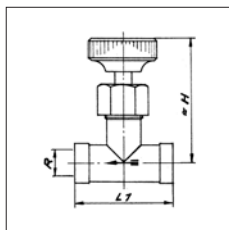
General product specification

- The Shut-off valves are available with straight or angled design. By screwing in the spindle the media flow is reliably shut-off. The valves are available in different materials for usage with aggressive media. They have a female thread on both sides and can thus be used with various connecting elements.
- Tightness test in accordance with DIN 3230, very high quality control
- Low wear valve seat
- Flow optimised design
- Suitable for wall mounting

THOMAFUID®-Shut-off-Valve made of PP/PVDF

Product specification

- 2-way; port; R-internal thread on both sides

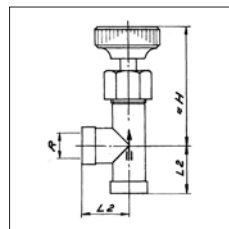


Item	Nominal width mm	Internal thread	L1 mm	H mm	Material	Unit piece	Price EURO
23564	4	R 1/4"	45	65	PP	3	129.00
23565	4	R 1/4"	45	65	PVDF	1	119.00
23567	6	R 3/8"	55	80	PP	1	68.00
23568	6	R 3/8"	55	80	PVDF	1	144.00
23570	8	R 1/2"	65	95	PP	2	148.00
23571	8	R 1/2"	65	95	PVDF	1	211.00

THOMAFUID®-Angle Valve made of PP/PVDF

Product specification

- 2-way; angle; R-internal thread on both sides

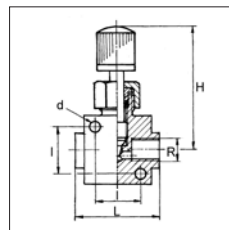
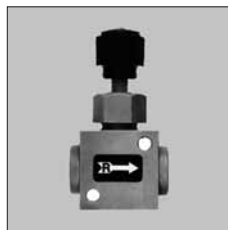


Item	Nominal width mm	Internal thread	L2 mm	H mm	Material	Unit piece	Price EURO
23573	4	R 1/4"	23	65	PP	3	139.00
23574	4	R 1/4"	23	65	PVDF	1	129.00
23576	6	R 3/8"	28	80	PP	1	74.00
23577	6	R 3/8"	28	80	PVDF	1	151.00
23579	8	R 1/2"	33	95	PP	1	81.00
23580	8	R 1/2"	33	95	PVDF	1	224.00

THOMAFUID®-Block Straight-Way Valve made of PP/PVDF/PTFE

Product specification

- R-internal thread on both sides; can be supplied with fastening angle.



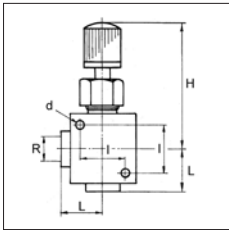
Item	Nominal width mm	Internal thread	H mm	L mm	Material	Unit piece	Price EURO
23708	4	R 1/4"	65	45	PP	1	98.00
23709	4	R 1/4"	65	45	PTFE	1	280.00
23710	4	R 1/4"	65	45	PVDF	1	198.00

Item	Nominal width mm	Internal thread	H mm	L mm	Material	Unit piece	Price EURO
23712	6	R 3/8"	80	55	PP	1	127.00
23713	6	R 3/8"	80	55	PTFE	1	275.00
23714	6	R 3/8"	80	55	PVDF	1	241.00
23716	10	R 1/2"	95	65	PP	1	176.00
23717	10	R 1/2"	95	65	PTFE	1	333.00
23718	10	R 1/2"	95	65	PVDF	1	293.00

THOMAFUID®-Block Angle Valve
made of PP/PVDF/PTFE

Product specification

- R-internal thread on both sides; can be supplied with fastening angle.

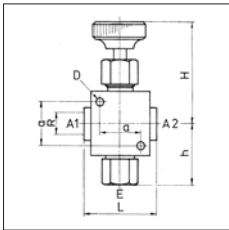


Item	Nominal width mm	Internal thread	L mm	H mm	Material	Price EURO
23720	4	R 1/4"	23	65	PP	197.00
23721	4	R 1/4"	23	65	PTFE	237.00
23722	4	R 1/4"	23	65	PVDF	207.00
23724	6	R 3/8"	28	80	PP	139.00
23725	6	R 3/8"	28	80	PTFE	281.00
23726	6	R 3/8"	28	80	PVDF	247.00
23728	10	R 1/2"	33	95	PP	185.00
23729	10	R 1/2"	33	95	PTFE	331.00
23730	10	R 1/2"	33	95	PVDF	290.00

THOMAFUID®-Block Distributing Valve
made of PP/PVDF/PTFE

Product specification

- 1 inlet and up to 4 outlets (each with internal thread). The valves can be optimally fitted with either tube or pipe screw fittings.



Item	Outlets	Nominal width mm	Internal thread	L mm	Material	Price EURO
24112	2	4	R 1/4"	45	PP	72.00
24113	2	4	R 1/4"	45	PTFE	346.00
24114	2	4	R 1/4"	45	PVDF	266.00
24116	2	6	R 3/8"	55	PP	116.00
24117	2	6	R 3/8"	55	PTFE	440.00
24118	2	6	R 3/8"	55	PVDF	343.00
24120	2	8	R 1/2"	65	PP	169.00
24121	2	8	R 1/2"	65	PTFE	632.00
24122	2	8	R 1/2"	65	PVDF	486.00
24124	3	4	R 1/4"	45	PP	169.00
24125	3	4	R 1/4"	45	PTFE	632.00
24126	3	4	R 1/4"	45	PVDF	486.00
24128	3	6	R 3/8"	55	PP	169.00
24129	3	6	R 3/8"	55	PTFE	632.00
24130	3	6	R 3/8"	55	PVDF	486.00
24132	3	8	R 1/2"	65	PP	199.00
24133	3	8	R 1/2"	65	PTFE	746.00
24134	3	8	R 1/2"	65	PVDF	658.00
24136	4	4	R 1/4"	45	PP	169.00
24137	4	4	R 1/4"	45	PTFE	632.00
24138	4	4	R 1/4"	45	PVDF	486.00
24140	4	6	R 3/8"	55	PP	169.00
24141	4	6	R 3/8"	55	PTFE	632.00
24142	4	6	R 3/8"	55	PVDF	486.00
24144	4	8	R 1/2"	65	PP	218.00
24145	4	8	R 1/2"	65	PTFE	819.00
24146	4	8	R 1/2"	65	PVDF	683.00

Metals

THOMAFUID®-Needle Valve made of Brass or
Stainless Steel with Screw Joints

Product specification

- Needle valve with through bore made of brass and stainless steel 1.4401 (SS 316, US standard) with PTFE gasket for connection of standard capillaries.
- The needle valves are available with various stems:
 - Type R: Cone stem 30°
 - Type N: Regulating stem 2.5°
 - Type K: Stem with interchangeable PCTFE soft seat
- Fitted with bite-type fitting joints on both sides. This method of sealing ensures almost zero dead volume.



Technical specification

- **Max. operating pressure:** brass: 210 bar at +20 °C
stainless steel: 350 bar at +20 °C

Item	For pipes outside Ø inch	Material	Nominal width mm	Spindle type	Price EURO
54913	1/8"	stainless steel	2	R	213.00
54915	1/8"	stainless steel	2	N	213.00
54917	1/8"	stainless steel	2	K	213.00
54919	1/4"	stainless steel	4.5	R	213.00
54920	1/4"	brass	4.5	R	95.00
54921	1/4"	stainless steel	4.5	N	213.00
54922	1/4"	brass	4.5	N	95.00
54923	1/4"	stainless steel	4.5	K	213.00
54924	1/4"	brass	4.5	K	126.00
54925	3/8"	stainless steel	4.5	R	271.00
54926	3/8"	brass	4.5	R	146.00
54927	3/8"	stainless steel	4.5	N	271.00
54928	3/8"	brass	4.5	N	146.00
54929	3/8"	stainless steel	4.5	K	271.00
54930	3/8"	brass	4.5	K	156.00

THOMAFUID®-Needle Valve made of Brass or Stainless Steel with Internal Thread

Product specification

- Needle valve with highly precise bore made of brass and stainless steel with FPM gasket for extremely small flow rates of gases and liquids.
- The needle valve allows an outstandingly exact regulation of flow. The sliding needle with conical ground surface reciprocates in a nozzle aperture and varies the aperture cross-section linearly with the stem turn.
- The throttle cross-section is reproducible at exact stem setting.
- Hysteresis of the area characteristic is eliminated by a spring.

Technical specification

- **Material:**
housing: stainless steel or brass
nozzle: fluorinated elastomer
needle: stainless steel
gasket: PTFE
- **Connection:** NPT 1/8" internal thread
- **Media handled:** gases and liquids
- **Max. flow rate:**
gases: 420 l/h (at 1 bar and atmospheric pressure on the output side)
liquids: 14.5 l/h
- **Kv-value:** 0.0145 m³/h
- **Design:** straight-way (type A) or angle-body needle valve (type B)



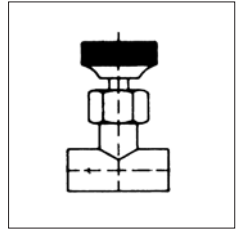
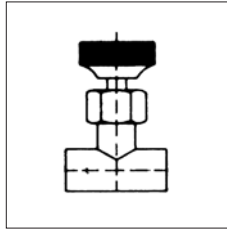
Item	Type	Material	Max. op. pressure¹ bar	Max. temp. °C	Price EURO
55838	A	stainless steel	65	120	458.00
55839	A	brass	40	85	384.00
55840	B	stainless steel	65	120	458.00
55841	B	brass	40	85	384.00

¹ at +20 °C

THOMAFUID®-Shut-off Valve made of Brass with Internal Thread

Product specification

- Internal thread on both sides



Item	Internal thread	Unit piece	Price EURO
50285	R 1/4"	1	41.00

THOMAFUID®-Shut-off Valve made of Stainless Steel with Internal Thread

Product specification

- Shut-off Valve with through-bore 1/4" (6.35 mm) made of stainless steel 1.4401 (SS 316, US standard) with PTFE gasket for connection of standard capillaries.
- Fitted with tapered NPT-threads on both sides.
- Maximum operating pressure: 345 bar.



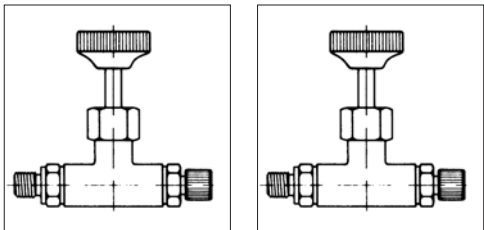
Item	Internal thread	Max. op. pressure¹ bar	Unit piece	Price EURO
97411	NPT 1/8"	345	1	236.00

¹ at +20 °C

THOMAFLUID®-Shut-off Valve made of Brass

Product specification

- Tubing connection on one side, R-external thread on the other side

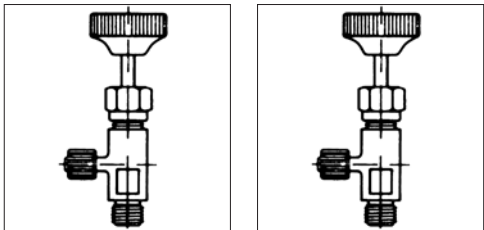


Item	For tubing inside Ø mm	For tubing outside Ø mm	External thread	Unit piece	Price EURO
50286	4	6	R 1/4"	1	57.00

THOMAFLUID®-Angle Valve made of Brass

Product specification

- Tubing connection on one side, R-external thread on the other side



Item	For tubing inside Ø mm	For tubing outside Ø mm	External thread	Unit piece	Price EURO
50284	4	6	R 1/4"	1	49.00

Check valves

THOMAFLUID®-Check valve made of PP/PVDF with nozzle for Gases and Liquids - Mini

Product specification

- The valve is suitable for both directions (horizontal / vertical)



Technical specification

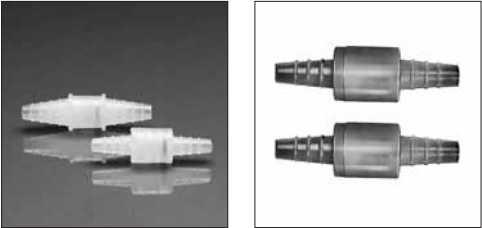
- **Material Diaphragm:** FPM/FKM (fluorinated rubber)
- **Max. temperature:** +90 °C
- **Min. release pressure:** 13 mbar
- **Min. closing pressure:** 70 mbar
- **Max. operating pressure:** liquids: 1 bar, gases: 3 bar
- **Sterilization:** autoclavable (+121 °C)

Item	Material housing	For tubing inside Ø mm	Max. flow rate liquids l/h	Unit piece	Price EURO
13917	PP	3.2	110	3	96.00
13918	PP	4.8	120	3	96.00
13919	PP	6.4	120	3	108.00
13920	PP	8	130	3	122.00
13921	PVDF	3.2	110	1	72.00
13922	PVDF	4.8	120	1	83.00
13923	PVDF	6.4	120	1	86.00

THOMAFLUID®-Check valve made of PP with nozzles - Labor

Technical specification

- **Material:**
 - Gasket and diaphragm: FPM (fluorinated rubber), valve ball: PP
- **Min. release pressure:** 120 mbar
- **Temperature range:** 0 to +40 °C
- **Max. operating pressure:** 4 bar
- **Sterilization:** autoclavable (+121 °C)
- **Design:** Tubing connections on both sides

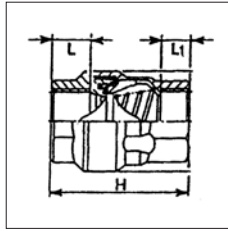


Item	For tubing inside Ø mm	Unit piece	Price EURO
339656	6 - 8	5	44.00
60832	8 - 10	5	64.00
60844	10 - 15	5	85.00

THOMAFLUID®-Check Valve made of PP with Internal Thread - Industrial

Technical specification

- **Material:**
 - Housing: glass fibre reinforced PP (polypropylene)
 - Gasket: EPDM (ethylene-propylene-diene rubber)
 - Spring: stainless steel 1.4401
- **Colour:** light-grey
- **Max. operating pressure:** 6 bar at +20 °C
- **Max. temperature:** +80 °C
- **Release pressure:** <0.5 bar
- **Sterilization:** autoclavable (+121 °C)
- **Design:** cylindrical G-internal thread on both sides

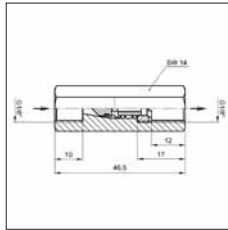


Item	Internal thread	H	L	L1	Unit	Price
		mm	mm	mm	piece	EURO
14291	G 1/2"	62	17	16	2	67.00
14292	G 3/4"	68	18	17	2	72.00
14293	G 1"	75	20	17	2	77.00

THOMAFUID®-Check Valve made of PP/PVDF/PFA with Internal Thread - Standard

Technical specification

- Material:**
Housing: PP (polypropylene), PVDF (polyvinylidene fluoride);
PFA (perfluoroalkoxy)
Locking cone: PTFE (polytetrafluoroethylene)
Functional spring: Hastelloy B®
O-ring: FPM (fluorinated rubber)
- Temperature range:** PP: 5 to +90 °C, PVDF: -40 to +120 °C
PFA: -40 to +180 °C
- Max. operating pressure:** G 1/8" up to 6 bar; G 1/4" up to 6 bar or
G 1/2" up to 10 bar
- Release pressure:** G 1/8": 0.4 bar; G 1/4": 0.6 bar; G 1/2": 1.2 bar
- Kv-value:** G 1/8": 0.15 m³/h; G 1/4": 0.25 m³/h; G 1/2": 0.45 m³/h
- Sterilization:** autoclavable (+121 °C)
- Connection:** internal thread G 1/8"; G 1/4" or G 1/2"



Item	Material	Nominal width	Internal thread	Length	WAF	Price
		mm		mm	mm	EURO
309888	PP	3	G 1/8"	46	14	118.00
340972	PP	4	G 1/4"	63	19	146.00
309889	PP	8	G 1/2"	76	27	304.00
309896	PVDF	3	G 1/8"	46	14	168.00
340973	PVDF	4	G 1/4"	63	19	212.00
309897	PVDF	8	G 1/2"	76	27	438.00
340974	PFA	3	G 1/8"	46	14	200.00
340975	PFA	4	G 1/4"	63	19	248.00
340976	PFA	8	G 1/2"	76	27	496.00

THOMAFUID®-Check Valves (Angle Seat)

Application area

- Process engineering and process technology, chemical industry, transport of chemicals, desulfurization and denitrification systems, sewage purification, water purification, environmental technology, hygiene technology and sanitary engineering
- In the above mentioned areas they serve as shut-off, safety and cleaning devices on containers, piping and pump systems.

General product specification

- Angle seat valves are made of plastics, with excellent resistance to chemically aggressive and corrosive media, offering a wide range of application
- Leak-free shut-off of liquid and gaseous media.
- Injection-molded valve housing.
- All medium-contacting valve parts are made of plastics with high resistance to chemicals. They are particularly suitable for applications where aggressive media are to be conveyed and blocked.
- Housing material:
alternatively rigid PVC (polyvinyl chloride), PP (polypropylene), PVDF (polyvinylidene fluoride).
- Type of connection:
screw joint on both sides. The screw joints contain O-seals, insert parts, screw-in components (PVC valves) and cap nuts. The valves are supplied as complete unit with the screw joint. They are fitted with end fittings for fastening to pipes.
The connection of the PVC (polyvinyl chloride) valves to piping is effected at the first application by adhesive bonding of the connections with the pipe, in the case of PP (polypropylene) and PVDF (polyvinylidene fluoride) valves connection and pipe are welded together. Once the valves are fixed to pipes, they can be easily removed from the pipe by disconnecting the screw joint.

- Check valves:**
The O-ring of the designs PP and PVDF is spring loaded.
They are used in piping of technical or sanitary equipment, in case the medium must flow only in one direction as required by the process.
- Chemical resistance of used materials:**
Rigid PVC (polyvinyl chloride): Resistant to most alkalis, acids, salt solutions and water-miscible organic compounds. Not resistant to aromatic and chlorinated hydrocarbons.
Polybutene: Resistant to aqueous solutions of acids, salts, alkalis and a lot of organic solvents. Not resistant to concentrated, oxidizing acids.
PVDF (polyvinylidene fluoride): Resistant to acids, salt solutions, aliphatic and aromatic (chlorinated) hydrocarbons, halogenes and alcohols, but only of limited resistance to ketones, esters, ethers, and not usable for organic bases and alkalis.
PTFE (polytetrafluoroethylene): PTFE is resistant to most chemicals.
FPM (fluorinated rubber): High chemical resistance to all kinds of solvents. Not suitable for hot steam, organic acids and strong bases.
PP (polypropylene): Resistant to aqueous solutions of acids, salts, alkalis and a lot of organic solvents. Not resistant to concentrated, oxidizing acids.
FEP (tetrafluoroethylene / hexafluoropropylene copolymer): FEP is resistant to most chemicals.

General technical specification

- Max. temperature:**
PVC: +60 °C, Polybuton: +90 °C, PVDF: +100 °C, PTFE: +250 °C, FPM: +150 °C, PP: +90 °C, FEP: +150 °C

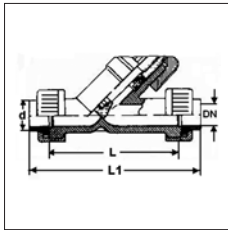
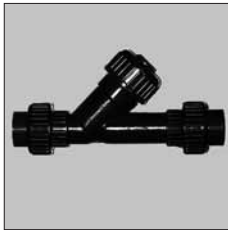
THOMAFUID®-Check Valve (Angle Seat) made of PVDF with Srew Joint

Product specification

- The check valves are developed for mounting in PVDF (polyvinylidene fluoride) piping, delivered with complete connection set.

Technical specification

- **Material of valve parts:** PVDF (polyvinylidene fluoride)
- **Gasket:** valve seat made of FPM (fluorinated rubber)
- **Max. operating pressure:** 6 bar
- **Connection set:**
PVDF (polyvinylidene fluoride) connecting nuts, on both sides
PVDF (polyvinylidene fluoride) insert parts, on both sides
FPM (fluorinated rubber) o-rings, on both sides



Item	d mm	Nominal width mm	L mm	L1 mm	Price EURO
303430	20	15	130	184	246.00
303431	25	20	150	212	268.00
303432	32	25	160	232	332.00
303433	40	32	180	264	438.00
303434	50	40	200	280	606.00
303435	63	50	230	348	854.00

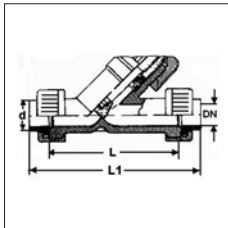
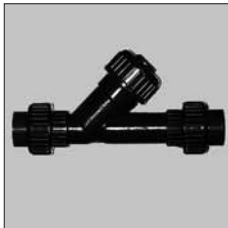
THOMAFUID®-Check Valve (Angle Seat) made of PP with Srew Joint

Product specification

- The check valves are developed for mounting in PE (polyethylene) or PP (polypropylene) piping according to DIN 8074 and DIN 8077 resp., delivered with complete connection set.

Technical specification

- **Material of valve parts:** PP (polypropylene)
- **Max. operating pressure:** 6 bar
- **Connection set:**
PP (polypropylene) connecting nuts, on both sides
PP (polypropylene) insert parts, on both sides
FPM (fluorinated rubber) o-rings, on both sides



Item	d mm	Nominal width mm	L mm	L1 mm	Price EURO
303424	20	15	130	184	174.00
303425	25	20	150	212	182.00
303426	32	25	160	232	196.00
303427	40	32	180	264	228.00
303428	50	40	200	280	276.00
303429	63	50	230	348	348.00

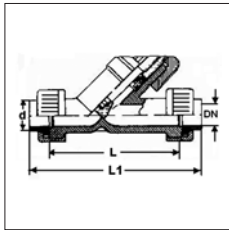
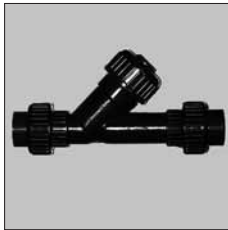
THOMAFUID®-Check Valve (Angle Seat) made of PVC with Srew Joint

Product specification

- The check valves are developed for mounting in PVC (polyvinyl chloride) piping according to DIN 8062 and for fittings according to DIN 8063, delivered with complete connection set.

Technical specification

- **Material of valve parts:** rigid PVC (polyvinyl chloride)
The material does not contain plasticizers and meets the recommendations of the Federal Health Office (Federal Health Gazette 1964, No. 23).
- **Max. operating pressure:** 6 bar
- **Connection set:**
PVC (polyvinyl chloride) connecting nuts, on both sides
PVC (polyvinyl chloride) insert parts, on both sides
PVC (polyvinyl chloride) screw-in components, on both sides
FPM (fluorinated rubber) o-rings, on both sides



Item	d mm	Nominal width mm	L mm	L1 mm	Price EURO
303418	20	15	130	168	120.00
303419	25	20	150	194	128.00
303420	32	25	160	210	146.00
303421	40	32	180	238	168.00
303422	50	40	200	268	212.00
303423	63	50	230	312	240.00

THOMAFUID®-Check Valves (Angle Seat) with Spigot

General product specification

- Break-proof, tight-closing check valves made of PVC-U or PP and PVDF resp. The liquid-tightly enclosed metal core of the valve piston guarantees a complete shut-off already at low working pressures. The valve is distinguished by freedom from maintenance and simplest design.
- The sizes DN 15 to DN 50 can be retrofitted with a FEP-coated shutting spring providing a safe closing function at horizontal or vertical installation with overhead valve body.

THOMAFUID®-Check Valve (Angle Seat) made of PVDF with Spigot

Product specification

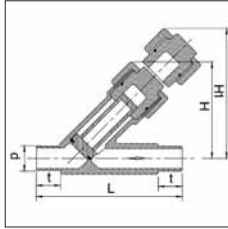
- Small pressure loss due to flow-enhancing housing
- Corrosion-resistant
- Metal-free, therefore no media oxidation
- High impact toughness
- Good chemical resistance
- Good mechanical stability

Technical specification

• Material:

Housing: PVDF (polyvinylidene fluoride)
Valve piston: PVDF (polyvinylidene fluoride)
O-ring, seat gasket: FPM (fluorinated rubber), Type: A
Spring: FEP-coated (fluorinated ethylene-propylene)

- **Max. operating pressure:** 10 bar at +20 °C
- **Max. temperature:** +120 °C for neutral media
- **Mounting position:** horizontal and vertical
- **Connection:** butt fusion spigot or socket fusion spigot according to DIN 3442, shape S



Item	d mm	Nominal width mm	Max. op. pressure ¹ bar	Material gasket	Price EURO
350651	20	15	10	FPM	314.00
350652	25	20	10	FPM	324.00
350653	32	25	10	FPM	406.00
350654	40	32	10	FPM	544.00
350655	50	40	10	FPM	786.00
350656	63	50	10	FPM	1,144.00

¹ at +20 °C

THOMAFUID®-Check Valve (Angle Seat) made of PP with Spigot

Product specification

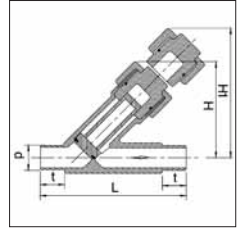
- Small pressure loss due to flow-enhancing housing
- Corrosion-resistant
- Metal-free, therefore no media oxidation
- High impact resistance
- Good temperature resistance
- Good chemical resistance
- Resistant to hydrolysis
- Very good dielectrical properties
- Good mechanical stability
- Not resistant to weather and cold (embrittlement)

Technical specification

• Material:

Housing: PP (polypropylene)
Valve piston: PP (polypropylene)
O-ring: FPM (fluorinated rubber), Type: A
Spring: FEP-coated (fluorinated ethylene-propylene)

- **Max. operating pressure:** 10 bar at +20 °C
- **Max. temperature:** +80 °C for neutral media
- **Mounting position:** horizontal and vertical
- **Connection:** welding spigot according to DIN 3442, shape S



Item	d mm	Nominal width mm	Max. op. pressure ¹ bar	Material gasket	Price EURO
350645	20	15	10	FPM	124.00
350646	25	20	10	FPM	140.00
350647	32	25	10	FPM	154.00
350648	40	32	10	FPM	168.00
350649	50	40	10	FPM	202.00
350650	63	50	10	FPM	304.00

¹ at +20 °C

THOMAFUID®-Check Valve (Angle Seat) made of PVC-U with Spigot

Product specification

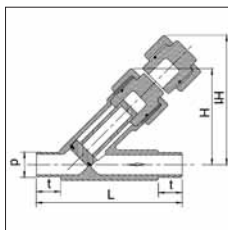
- Small pressure loss due to flow-enhancing housing
- Corrosion-resistant
- Metal-free, therefore no media oxidation
- Free of plasticizers, therefore physiologically indifferent
- High impact toughness but risk of breakage at low temperatures
- Good mechanical stability
- Very good dielectrical properties
- Good chemical resistance
- Hardly inflammable

Technical specification

• Material:

Housing: PVC-U (rigid PVC, polyvinyl chloride)
Valve piston: PVC-U (rigid PVC, polyvinyl chloride)
O-ring: EPDM (ethylene-propylene-diene rubber); FPM (fluorinated rubber), Type: A
Spring: FEP-coated (fluorinated ethylene-propylene)

- **Max. operating pressure:** 10 bar at +20 °C
- **Max. temperature:** +60 °C for neutral media
- **Mounting position:** horizontal and vertical
- **Connection:** cementing spigot according to DIN 8063, Part 8



Item	d mm	Nominal width mm	Max. op. pressure ¹ bar	Material gasket	Price EURO
350633	20	15	10	EPDM	82.00
350634	25	20	10	EPDM	98.00
350635	32	25	10	EPDM	114.00
350636	40	32	10	EPDM	128.00
350637	50	40	10	EPDM	184.00
350638	63	50	10	EPDM	254.00
350639	20	15	10	FPM	104.00
350640	25	20	10	FPM	126.00
350641	32	25	10	FPM	134.00
350642	40	32	10	FPM	176.00
350643	50	40	10	FPM	276.00
350644	63	50	10	FPM	374.00

¹ at +20 °C

THOMAFLUID®-Check Valve made of Brass or Stainless Steel

Product specification

- Check valve with easily interchangeable soft O-ring made of FPM.
- Very low pressure loss
- Responding range according to the preset opening pressure
- On both sides fitted with bite-type fitting joints.



Item	For pipes outside Ø inch	Material	Release pressure bar	Nominal width mm	Price EURO
54948	1/8"	stainless steel	0.07	3.2	285.00
549511	1/8"	brass	0.07	3.2	112.00
54950	1/8"	stainless steel	0.35	3.2	285.00
54951	1/8"	brass	0.35	3.2	112.00
54952	1/8"	stainless steel	0.7	3.2	285.00
54953	1/8"	brass	0.7	3.2	112.00
54954	1/4"	stainless steel	0.023	3.2	285.00
54955	1/4"	brass	0.023	3.2	112.00
54956	1/4"	stainless steel	0.07	6.4	285.00

Item	For pipes outside Ø inch	Material	Release pressure bar	Nominal width mm	Price EURO
54957	1/4"	brass	0.07	6.4	112.00
54958	1/4"	stainless steel	0.35	6.4	285.00
54959	1/4"	brass	0.35	6.4	112.00
54960	1/4"	stainless steel	0.7	6.4	285.00
54961	1/4"	brass	0.7	6.4	112.00
54962	3/8"	stainless steel	0.023	6.4	285.00
54963	3/8"	brass	0.023	6.4	112.00
54964	3/8"	stainless steel	0.07	9.6	458.00
54965	3/8"	brass	0.07	9.6	212.00
54966	3/8"	stainless steel	0.35	9.6	458.00
54967	3/8"	brass	0.35	9.6	212.00
54968	3/8"	stainless steel	0.7	9.6	458.00
54969	3/8"	brass	0.7	9.6	212.00
54970	1/2"	stainless steel	0.023	9.6	458.00
549691	1/2"	brass	0.023	9.6	212.00
54972	1/2"	stainless steel	0.07	12.7	512.00
54973	1/2"	brass	0.07	12.7	314.00
54974	1/2"	stainless steel	0.35	12.7	512.00
54975	1/2"	brass	0.35	12.7	314.00
54976	1/2"	stainless steel	0.7	12.7	512.00
54977	1/2"	brass	0.7	12.7	314.00

Angle Seat Valves

THOMAFLUID®-Shut-off Valves (Angle Seat)

Application area

- Process engineering, chemical industry, transport of chemicals, desulfurization and denitrification systems, sewage purification, water purification, environmental technology, hygiene technology and sanitary engineering
- In the above mentioned areas they serve as shut-off, safety and cleaning devices on containers, piping and pump systems.

General product specification

- Angle seat valves are made of plastics, with excellent resistance to chemically aggressive and corrosive media, offering a wide range of application
- Leak-free shut-off of liquid and gaseous media.
- Injection-molded valve housing.
- All medium-contacting valve parts are made of plastics with high resistance to chemicals. They are particularly suitable for applications where aggressive media are to be conveyed and blocked.
- Housing material: alternatively rigid PVC (polyvinyl chloride), PP (polypropylene), PVDF (polyvinylidene fluoride).
- Type of connection: screw joint on both sides. The screw joints contain O-seals, insert parts, screw-in components (PVC valves) and cap nuts. The valves are supplied as complete unit with the screw joint. They are fitted with end fittings for fastening to pipes.
- The connection of the PVC valves to piping is effected at the first application by adhesive bonding of the connections with the pipe, in the case of PP and PVDF valves connection and pipe are welded together. Once the valves are fixed to pipes, they can be easily removed from the pipe by disconnecting the screw joint.

- Manual shut-off valves:
Remarkable advantage compared e.g. to ball valves as shut-off devices: an unintentional opening of the valves during a transport is nearly excluded.
Particular case of operation: application as shut-off device on transport containers for chemicals, with respective approval.
Flat-seat valve plate with rigid seal.
The stem is fitted with a double chevron packing for sealing of the valve top.
The sealing elements can be easily changed.

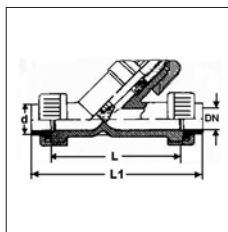
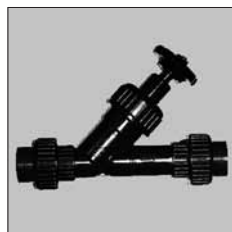
General technical specification

- Max. temperature:** PVC: +60 °C, Polybutone: +90 °C, PVDF: +100 °C
PTFE: +250 °C, FPM: +150 °C, PP: +90 °C, FEP: +150 °C

THOMAFUID®-Shut-off Valve (Angle Seat) made of PVDF

Product specification

- The manual shut-off valves are developed for mounting in PVDF (polyvinylidene fluoride) piping.
- All medium-contacting valve parts (valve body, stem, valve plate, support ring, clamp) are made of PVDF (polyvinylidene fluoride).
- Gasket: chevron packings made of PTFE (polytetrafluoroethylene) for stem and housing.
- Complete with connection set: PVDF (polyvinylidene fluoride) connecting nuts, on both sides, PVDF (polyvinylidene fluoride) insert parts, on both sides, FPM (fluorinated rubber) O-rings

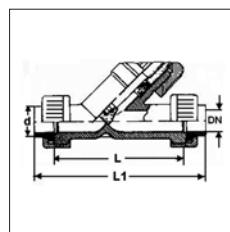
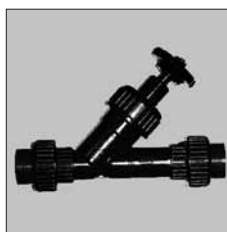


Item	d mm	Nominal width mm	L mm	L1 mm	Price EURO
303412	20	15	130	184	288.00
303413	25	20	150	212	306.00
303414	32	25	160	232	402.00
303415	40	32	180	264	530.00
303416	50	40	200	280	680.00
303417	63	50	230	248	918.00

THOMAFUID®-Shut-off Valve (Angle Seat) made of PP

Product specification

- The manual shut-off valves are developed for mounting in PE (polyethylene) or PP (polypropylene) piping according to DIN 8074 or DIN 8077.
- All valve parts are made of PP (polypropylene), except the hand wheel (Bakelite phenolic formaldehyde resin) and the cap nut made of PVC (polyvinyl chloride)
- Gasket: valve plate as well as chevron packing of the stem made of polybutene.
- Complete with connection set: PP (polypropylene) connecting nuts, on both sides, PP (polypropylene) insert parts, on both sides, FPM (fluorinated rubber) O-rings

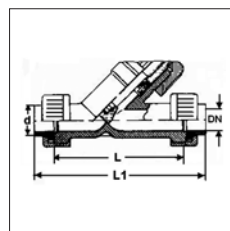
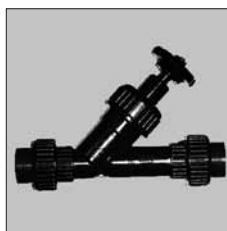


Item	d mm	Nominal width mm	L mm	L1 mm	Price EURO
303406	20	15	130	168	116.00
303407	25	20	150	194	128.00
303408	32	25	160	210	156.00
303409	40	32	180	238	180.00
303410	50	40	200	268	216.00
303411	63	50	230	312	378.00

THOMAFUID®-Shut-off Valve (Angle Seat) made of PVC

Product specification

- The manual shut-off valves are developed for mounting in PVC (polyvinyl chloride) piping according to DIN 8062 and for fittings according to DIN 8063.
- All valve parts are made of rigid PVC (polyvinyl chloride). The material does not contain plasticizers and meets the recommendations of the Federal Health Office (Federal Health Gazette 1964, No. 23).
- Gaskets made of polybutene. Stem sealing by chevron packings.
- Complete with connection set: PVC (polyvinyl chloride) connecting nuts, on both sides, PVC (polyvinyl chloride) insert parts, on both sides, PVC (polyvinyl chloride) screw-in components



Item	d mm	Nominal width mm	L mm	L1 mm	Price EURO
303400	20	15	130	168	116.00
303401	25	20	150	194	128.00
303402	32	25	160	210	156.00
303403	40	32	180	238	180.00
303404	50	40	200	268	216.00
303405	63	50	230	312	378.00

Flowmeters Flow indicators

THOMAFLOW®-Flow Indicator made of Plastics

Product specification

- Indicates flow of gases and liquids even at smallest flow rates. The flow indicator is made of polystyrene (PS), styrene acrylonitrile (SAN) or polymethyl pentane (PMP). All materials are glass-clear.
- The flow is visualized by blade movement or ball run. Hose nozzles on both ends.
- Read-out: minimum flow rate 5 ml/s
- Read-out: maximum flow rate 95 ml/s
- PS and SAN are particularly suitable for cooling circuits up to maximum +30 °C and 2 bar. However, PMP (TPX) is mostly resistant to organic and anorganic media in a temperature range of -40 to +60 °C (pressure: 2 bar).



Item	Material housing	For tubing inside Ø mm	Unit piece	Price EURO
60448	PS	7 - 11	1	46.00
604481	SAN	6 - 11	1	46.00
604482	TPX (PMP)	6 - 11	1	62.00

THOMAFLOW®-High-Tech Flow Indicator made of Brass or Stainless Steel

Application area

- Process monitoring

Product specification

- Flow indicator for liquid media
- Visible rotor for quantitative flow indication
- A signal-red rotor provides a directly flow-proportional indication of the momentary flow rate
- Cleaning mechanism of the internal surface of the glass

Technical specification

Material:

Housing: brass (Ms58) nickel-plated or stainless steel 1.4305

Wiper and Seal: NBR (at Ms58); FPM (at 1.4305)

Rotor: POM red (DN 8-25); PA12 white (DN 32-40)

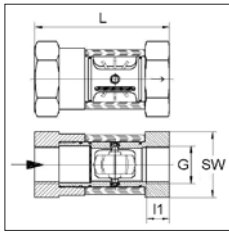
Tube: borosilicate glass

Axle: stainless steel 1.4541

Bearing: PEEK (polyether-etherketone)

- Media temperature:** max. +100 °C

- Pressure loss:** 0.25 bar (at max. flow)



Material: brass

Item	Max. flow rate liquids ¹ l/min.	Nominal width mm	Internal thread	L mm	WAF (SW) mm	Price EURO
341729	4	8	G 1/4"	71	36	286.00
341730	8	10	G 3/8"	71	36	308.00
341731	12	15	G 1/2"	86	46	354.00
341732	25	20	G 3/4"	94	46	358.00
341733	40	25	G 1"	104	46	376.00
341734	80	32	G 1 1/4"	120	65	540.00
341735	100	40	G 1 1/2"	130	65	608.00

¹ Water (+20 °C)

Material: stainless steel

Item	Max. flow rate liquids ¹ l/min.	Nominal width mm	Internal thread	L mm	WAF mm	Price EURO
341736	4	8	G 1/4"	71	36	490.00
341737	8	10	G 3/8"	71	36	520.00
341738	12	15	G 1/2"	86	46	554.00
341739	25	20	G 3/4"	94	46	572.00
341740	40	25	G 1"	104	46	598.00
341741	80	32	G 1 1/4"	120	65	830.00
341742	100	40	G 1 1/2"	130	65	918.00

¹ Water (+20 °C)

THOMAFLOW®-Paddle Flowmeter made of Brass

Application area

- Pointer instrument for measuring of flow of non-aggressive media such as water, oils or emulsions.

Product specification

- Dirt resistant
- Low pressure loss
- High repeatability
- A bellows-supported paddle activates a metering unit with a pointer range of 270°.
- With the paddle flow display, the flow strength of the medium presses the paddle against a spring force. Hermetically separated by the bellows, the paddle's deflection is transmitted to a display movement, and may optionally be monitored with an adjustable micro switch. There is no magnet in the area of flow.

Technical specification

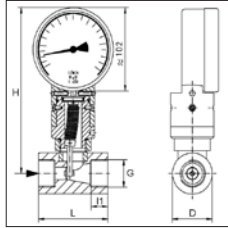
Material:

Housing: CW614N (brass, nickel-plated)

Paddle parts: stainless steel 1.4571/1.4305

Bellows: stainless steel 1.4571

- **Connection:** Internal thread G 1/2" to G 2"
- **Accuracy of measurement:** $\pm 3\%$ of full scale value
- **Media temperature:** max. $+100^\circ\text{C}$
- **Pressure stage:** 16 bar (static); 6 bar (dynamic)
- **Pressure loss:** approx. 0.2 bar (at max. flow)



Flow direction: left-to-right

Item	Nom. width mm	G	Max. flow rate liquids ¹ l/min.	Measur. range liquids ² l/min.	H mm	L mm	Price EURO
341755	15	G 1/2"	60	3 - 50	201	70	1,312.00
341756	20	G 3/4"	100	4 - 60	206	74	1,334.00
341757	25	G 1"	200	10 - 100	201	87	1,358.00
341758	32	G 1 1/4"	300	20 - 200	209	104	1,398.00
341759	40	G 1 1/2"	400	10 - 300	215	111	1,422.00
341760	50	G 2"	600	30 - 500	227	130	1,482.00

¹ Water ($+20^\circ\text{C}$) ² The measuring range is indicated for 1 bar absolute. When ordering, please specify the installation position and the operating pressure

Flow direction: right-to-left

Item	Nom. width mm	G	Max. flow rate liquids ¹ l/min.	Measur. range liquids ² l/min.	H mm	L mm	Price EURO
341761	15	G 1/2"	60	20 - 35	201	70	1,312.00
341762	20	G 3/4"	100	6 - 70	206	74	1,334.00
341763	25	G 1"	200	10 - 100	201	87	1,358.00
341764	32	G 1 1/4"	300	20 - 200	209	104	1,398.00
341765	40	G 1 1/2"	400	10 - 300	215	111	1,422.00
341766	50	G 2"	600	100 - 500	227	130	1,482.00

¹ Water ($+20^\circ\text{C}$) ² The measuring range is indicated for 1 bar absolute. When ordering, please specify the installation position and the operating pressure

- The flow switches are used for monitoring aggressive and non-aggressive media. The maximum operating pressures amount to 16 bar for the brass version and 25 bar for the stainless steel version, both at maximum operating temperatures of $+110^\circ\text{C}$. The flow switches are safe in operation at small pressure drops in the device and unsuspensible to soiled media and scale formation in the device interior.

Technical specification

• Material:

Housing: brass (Ms58) nickel-plated or stainless steel 1.4305

Body: brass (Ms58) nickel-plated or stainless steel 1.4571

Paddle parts: stainless steel 1.4301; 1.4571

Spring: stainless steel 1.4310

Magnet: oxyd 300

Seal: NBR (at Ms58); FPM (at 1.4305)

• Connection voltage: 230 V~

• Amperage: 1 A

• Power consumption: 50 VA

• Max. operating pressure: 25 bar

• Pressure loss: 0.01 bar

• Max. temperature: $+110^\circ\text{C}$

• Protection class: IP 65

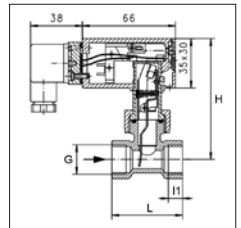
• Tolerances of setting range: $\pm 15\%$ of full scale

• Switching hysteresis: depending on switch value, min. 0.7 l/min

• Cable length: 1.5 m

• Plug: DIN 43650 - A

Item	Internal thread	L mm	H mm	I1 mm	WAF mm
54370	G 3/8"	50	87	10	27
54371	G 1/2"	50	87	10	27
54372	G 3/4"	50	88	12	30
54373	G 1"	50	92	12	37
54374	G 1 1/4"	50	96	12	46
54375	G 1 1/2"	50	99	12	52
54376	G 2"	50	108	12	70
54377	G 3/8"	50	87	10	27
54378	G 1/2"	50	87	10	27
54379	G 3/4"	50	88	12	30
54380	G 1"	50	92	12	37
54381	G 1 1/4"	50	96	12	46
54382	G 1 1/2"	50	99	12	52
54383	G 2"	50	108	12	70



Flow Switches

THOMAFLOW®-Flow Switch made of Brass or Stainless Steel

Product specification

- The flow switch is fitted in its flow room with a bounce plate attached to one end of a balance arm placed in the flow room and bearing a barium-ferrite magnet on the other end. Effects of friction are almost prevented. The magnet operates a reed contact in a switching tube placed outside the flow room. Depending on the setting of this switching tube, the reed contact operates as working current or closed-circuit current switch.

Item	Measuring range liquids ¹ l/min.	Max. flow rate liquids ¹ l/min.	Nominal width mm	Material	Price EURO
54370	3.5 - 5	10	10	stainless steel	564.00
54371	5 - 6.5	20	15	stainless steel	600.00

Item	Measuring range liquids ¹ l/min.	Max. flow rate liquids ¹ l/min.	Nominal width mm	Material	Price EURO
54372	6 - 8.5	40	20	stainless steel	648.00
54373	12 - 15	60	25	stainless steel	708.00
54374	20 - 27	80	32	stainless steel	832.00
54375	34 - 44	100	40	stainless steel	958.00
54376	54 - 69	150	50	stainless steel	1,138.00
54377	3.5 - 5	10	10	brass	222.00
54378	5 - 6.5	20	15	brass	222.00
54379	6 - 8.5	40	20	brass	222.00
54380	12 - 15	60	25	brass	251.00
54381	20 - 27	80	32	brass	282.00
54382	34 - 44	100	40	brass	353.00
54383	54 - 69	150	50	brass	353.00

¹ Water (+20 °C)

THOMAFLUID®-Paddle Flow Switch made of Brass or Stainless Steel

Application area

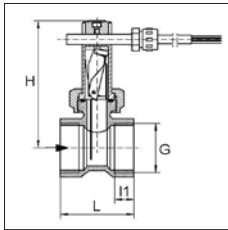
- The flow switch is used for monitoring aggressive and non-aggressive media in laboratory, pilot and industrial plants.

Product specification

- The flow switch operates by a spring-supported paddel with magnetic triggering of a reed switch.
- Lowest pressure loss, optimal repeatability
- Hermetic separation of electrical and hydraulic components
- Fixation of switch unit by plastic cap

Technical specification

- Material:**
 - Housing: brass (Ms58) or stainless steel 1.4305
 - Body: brass (Ms58) or stainless steel 1.4571
 - Paddle parts: stainless steel 1.4301, 1.4571
 - Spring: stainless steel 1.4310
 - Magnet: oxyd 300
 - Seal: NBR (at Ms58); FPM (1.4305)
- Max. operating pressure:** 25 bar
- Connection:** internal thread G 3/8" to G2"
- Tolerance:** ±15 % of full scale
- Media temperature:** max. +110 °C
- Pressure loss:** 0.01 bar (at max. flow)
- Hysteresis:** 0.7 l/min (minimum; depending on switch value)
- Protection class:** IP 65
- Connection voltage:** 230 V~
- Amperage:** 1 A
- Power consumption:** 50 VA
- Cable length:** 1.5 m



Material: brass

Item	Internal thread	Measur. range liquids ¹ l/min.	Max. flow rate liquids ² l/min.	Nom. width mm	H mm	L mm	Price EURO
341715	G 3/8"	2.5 - 3.5	10	10	82	50	218.00
341716	G 1/2"	4 - 4.5	20	15	82	50	218.00
341717	G 3/4"	5 - 6	40	20	83	50	218.00
341718	G 1"	9.5 - 11.5	60	25	87	50	222.00
341719	G 1 1/4"	13.5 - 17.5	80	32	91	50	264.00
341720	G 1 1/2"	30 - 38	100	40	94	50	296.00
341721	G 2"	42 - 53	150	50	103	50	386.00

¹ The measuring range is indicated for horizontally decreasing flow rate
² Water (+20 °C)

Material: stainless steel

Item	Internal thread	Measur. range liquids ¹ l/min.	Max. flow rate liquids ² l/min.	Nom. width mm	H mm	L mm	Price EURO
341722	G 3/8"	2.5 - 3.5	10	10	82	50	502.00
341723	G 1/2"	4 - 4.5	20	15	82	50	502.00
341724	G 3/4"	5 - 6	40	20	83	50	558.00
341725	G 1"	9.5 - 11.5	60	25	87	50	576.00
341726	G 1 1/4"	13.5 - 17.5	80	32	91	50	648.00
341727	G 1 1/2"	30 - 38	100	40	94	50	762.00
341728	G 2"	42 - 53	150	50	103	50	782.00

¹ The measuring range is indicated for horizontally decreasing flow rate
² Water (+20 °C)

Electr. Flowmeters and Accessories

Plastics

THOMAFLUID®-Turbine Flowmeters - Digital Standard

Application area

- Laboratory technology, analytical technology, pilot plants

Product specification

- Turbine flowmeters with integrated digital indicator
- Display indicates the already passed volume
- Resistant to most aqueous chemicals
- Functional principle:** The rotor in the flowmeter is rotated by the medium to be measured. A Hall sensor scans the rotor and produces, according to the flow rate, a frequency signal which is evaluated and digitally displayed.
- Accessories:** high-tech screw-on connectors items 341770-341772



Technical specification

Material:

Housing: PA12 (polyamide)
 Rotor: PA12 (polyamide), ferrite
 Bearing: PTFE (polytetrafluoroethylene), graphite

Measuring range: 1.5 - 25 l/min.

Media characteristic: liquid free of foreign matters; filtration at suspended matter size of approx. 20 to 30 microns recommended

Temperature range: -20 to +100 °C

Max. operating pressure: 25 bar

Bursting pressure: 200 bar

Accuracy of measurement: ±3 % of instantaneous value

Repeatability: better than 0.5 %

Viscosity: up to approx. 15 cSt

Pressure loss: 0.2 bar at 15 l/min.

Electr. connection: pin plate with 3 contact pins 2.8 x 0.5, matching female connector EN 60 529

Power consumption: 9 - 24 V=

Amperage: approx. 8 mA

Output signal: frequency open collector (NPN sinking)

Output current: max. 20 mA

Connection: external thread G 3/8"

Regulations: all media-contacting materials have the KTW approval

Item	Measuring range liquids ¹ l/min.	Price EURO
341789	1.5 - 25	478.00

¹ Water (+20 °C)

THOMAFUID®-Turbine Flowmeters - Digital

Application area

- Laboratory technology, analytical technology, pilot plant technology, sanitary engineering, tank monitoring

Product specification

- Flowmeters meeting highest requirements, with integrated digital indicator
- Indication of the instantaneous value and the already passed volume
- Resistant to most aqueous chemicals
- **Functional principle:** The rotor in the flowmeter is rotated by the medium to be measured. A Hall sensor scans the rotor and produces, according to the flow rate, a frequency signal which is evaluated and digitally displayed.
- **Accessories:** high-tech screw-on connectors items 303671, 303675, 303679 and 341770-341772

Technical specification

Material:

Housing: PA12 (polyamide)
 Rotor: PA12 (polyamide), ferrite
 Bearing: PTFE (polytetrafluoroethylene), graphite

Measuring range: 0.1 - 25 l/min.

Media characteristic: liquid free of foreign matters; filtration at suspended matter size of approx. 20 to 30 microns recommended

Max. operating pressure: 25 bar

Bursting pressure: 200 bar

Temperature range: -20 to +100 °C

Accuracy of measurement: ±3 % of instantaneous value

Repeatability: better than 0.5 %

Viscosity: up to approx. 15 cSt

Electr. connection: pin plate with 3 contact pins 2.8 x 0.5, matching female connector EN 60 529

Power consumption: 9 - 24 V=

Amperage: approx. 8 mA

Output signal: frequency open collector (NPN sinking)

Output current: max. 20 mA

Connection: external thread G 3/8" or G 1/4"

Regulations: all media-contacting materials have the KTW approval

Pressure loss table

Item	Δp at 0,5 l/min. ¹ bar	Δp at 2 l/ min. ¹ bar	Δp at 10 l/ min. ¹ bar	Δp at 20 l/ min. ¹ bar	Δp at 30 l/ min. ¹ bar
341782	0	0	0.15	0.45	0.92
341783	0	0	0.17	0.48	
341784	0	0	0.2		
341785	0	0.05	0.4		
341786	0	0	0.4		
341787	0	0.06	0.7		
341788	0.02	0.25			

¹ Water (+20 °C)



Item	Measur. range liquids ¹ l/min.	Pulses	Frequency Hz	Nom. width mm	External thread	Price EURO
341782	2 - 35	700	23 - 408	8	G 3/8"	560.00
341783	1.5 - 25	1000	25 - 416	8	G 3/8"	560.00
341784	1 - 15	2200	37 - 550	8	G 3/8"	560.00
341785	1 - 10	3300	55 - 550	6	G 3/8"	560.00
341786	0.5 - 7.5	4700	38 - 575	8	G 3/8"	560.00
341787	0.5 - 5	6900	38 - 575	6	G 3/8"	560.00
341788	0.1 - 2.5	20000	42 - 833	5	G 1/4"	674.00

¹ Water (+20 °C)

THOMAFUID®-High-Chem Turbine Flowmeters - Digital-Resistant

Application area

- Laboratory technology, analytical technology, pilot plant technology, sanitary engineering, tank monitoring



Product specification

- Flowmeters meeting highest requirements, with integrated digital indicator
- Indication of the instantaneous value and the already passed volume
- Resistant to alcohol and methanol
- **Functional principle:** The rotor in the flowmeter is rotated by the medium to be measured. A Hall sensor scans the rotor and produces, according to the flow rate, a frequency signal which is evaluated and digitally displayed.

Technical specification

- **Material:**
Housing: PA12 (polyamide) - modified heavy-duty plastic
Rotor: PA12 (polyamide), ferrite
Bearing: PTFE (polytetrafluoroethylene), graphite
- **Measuring range:** 0.1 - 2.5 l/min.
- **Media characteristic:** liquid free of foreign matters; filtration at suspended matter size of approx. 20 to 30 microns recommended
- **Max. operating pressure:** 25 bar
- **Bursting pressure:** 100 bar
- **Temperature range:** -20 to +100 °C
- **Accuracy of measurement:** ± 3 % of instantaneous value
- **Repeatability:** better than 0.5 %
- **Viscosity:** up to approx. 15 cSt
- **Pressure loss:** 0.2 bar at 15 l/min.
- **Electr. connection:** pin plate with 3 contact pins 2.8 x 0.5, matching female connector EN 60 529
- **Power consumption:** 9 - 24 V=
- **Amperage:** approx. 8 mA
- **Output signal:** frequency open collector (NPN sinking)
- **Output current:** max. 20 mA
- **Connection:** external thread G 1/4"
- **Regulations:** all media-contacting materials have the KTW approval

Item	Measuring range liquids ¹ l/min.	Price EURO
341781	0.1 - 2.5	730.00

¹ Water (+20 °C)

THOMAFLUID®-Turbine Flowmeters - Standard

Application area

- Laboratory technology, analytical technology, pilot plant technology, sanitary engineering, tank monitoring

Product specification

- Flowmeters meeting highest requirements, for the exact measuring of small fluid volumes
- Measuring of the actual flow rate
- Measuring of the already passed total volume
- The large number of pulses gives a good resolution
- The response time is very short due to the small weight of the turbine.
- It is not necessary to install a straight length of pipeline at the upstream side
- Resistant to most aqueous chemicals
- **Functional description:** The turbine is rotated by the flowing liquid. The revolutions of the rotor are measured with a magnetic pick-up. They are linear proportional to the flow. The generated frequency is available for further digital processing.
- **Accessories:** high-tech screw-on connectors items 303671, 303675, 303679, 341770-341772

Technical specification

- **Material:**
Housing: PA12 (polyamide)
Rotor: PA12 (polyamide), ferrite
Bearing: PTFE (polytetrafluoroethylene), graphite
- **Measuring range:** 0.1 - 25 l/min.
- **Media characteristic:** liquid free of foreign matters; filtration at suspended matter size of approx. 20 to 30 microns recommended
- **Temperature range:** -20 to +100 °C
- **Max. operating pressure:** 25 bar
- **Bursting pressure:** 200 bar
- **Accuracy of measurement:** ± 3 % of instantaneous value
- **Repeatability:** better than 0.5 %
- **Viscosity:** up to approx. 15 cSt
- **Electr. connection:** multiple outlet
- **Power consumption:** 5 - 24 V=
- **Amperage:** approx. 8 mA
- **Output signal:** frequency open collector (NPN sinking)
- **Output current:** max. 20 mA
- **Connection:** external thread G 3/8" or G 1/4"
- **Regulations:** conforming to FDA

Pressure loss table

Item	Δp at 0.5 l/min. ¹ bar	Δp at 2 l/min. ¹ bar	Δp at 10 l/min. ¹ bar	Δp at 20 l/min. ¹ bar	Δp at 30 l/min. ¹ bar
341773	0	0	0.15	0.45	0.92
341774	0	0	0.17	0.48	
341775	0	0	0.2		
341776	0	0.05	0.4		
341777	0	0	0.4		
341778	0	0.06	0.7		
341779	0.02	0.25			

¹ Water (+20 °C)



Item	Measur. range water ¹ l/min.	Pulses	Frequency Hz	Nom. width mm	External thread	Price EURO
341773	2 - 35	700	23 - 408	8	G 3/8"	194.00
341774	1.5 - 25	1000	25 - 416	8	G 3/8"	194.00
341775	1 - 15	2200	37 - 550	8	G 3/8"	194.00
341776	1 - 10	3300	55 - 550	6	G 3/8"	194.00
341777	0.5 - 7.5	4700	38 - 575	8	G 3/8"	194.00
341778	0.5 - 5	6900	38 - 575	6	G 3/8"	194.00
341779	0.1 - 2.5	20000	42 - 833	5	G 1/4"	194.00

¹ +20 °C

THOMAFUID®-High-Tech Rotor Vane Flowmeter made of PPS

Application area

- Process chemistry, plant construction, engineering operations and maintenance

Product specification

- Flowmeter for small volumes, with inductive sensor
- Large wear liberty due to high-quality ceramic axle and ceramic bearings
- Output circuit PNP
- No straight line in-out necessary
- Easy measurement of flow rates
- **Functional description:** The rotor vane is rotated by the speed of the flowing medium. The speed of rotation is proportional to the volume flow per unit time. The rotation of the rotor is detected by an inductive sensor.

Technical specification

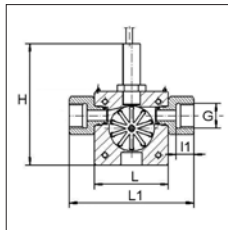
- **Material:**
Housing: PPS (polyphenylene sulfide)
Rotor: PVDF (polyvinylidene fluoride) and 1.4310 (stainless steel)
Bearings: Iglidur X
Axle: ceramic ZrO₂ - TZP
Seal: FPM (fluorinated rubber)
- **Max. operating pressure:** 16 bar at +20 °C
- **Amperage:** 10 mA (quiet); 200 mA (max. output)
- **Sensor connection:** 2 m cable
- **Output:** PNP
- **Short-circuit proof:** yes
- **Reverse polarity proof:** yes
- **Protection class:** IP 67
- **Connection:** internal thread G 3/8" or G 1" made of PVDF

Dimensions

Item	H mm	I1 mm	L mm	L1 mm	WAF mm
341743	88	12	50	84	22
341744	88	12	50	84	22
341745	88	12	50	84	22
341746	103	18	70	110	38
341747	103	18	70	110	38
341748	103	18	70	110	38



341743, 341749



341743, 341749

Item	Nom. width mm	Internal thread	Max. flow rate liquids ¹ l/min.	Measur. range liquids ¹ l/min.	Pulses ²	Price EURO
341743	10	G 3/8"	1.8	0.1 - 1.5	10200	426.00
341744	10	G 3/8"	12	0.2 - 10	3345	436.00
341745	10	G 3/8"	16.8	0.4 - 12	1755	446.00
341746	25	G 1"	36	2 - 30	1216	604.00

Item	Nom. width mm	Internal thread	Max. flow rate liquids ¹ l/min.	Measur. range liquids ¹ l/min.	Pulses ²	Price EURO
341747	25	G 1"	72	3 - 60	607	614.00
341748	25	G 1"	120	4 - 100	252	624.00

¹ Water (+20 °C) ² possible variation of pulses/litres ±10 % in the batch

THOMAFUID®-High-Tech Rotor Vane Flowmeter made of PVDF

Application area

- Process chemistry, plant construction, engineering operations and maintenance

Product specification

- Flowmeter for small volumes, with inductive sensor
- Large wear liberty due to high-quality ceramic axle and ceramic bearings
- Output circuit PNP, no straight line in-out necessary
- Easy measurement of flow rates
- **Functional description:** The rotor vane is rotated by the speed of the flowing medium. The speed of rotation is proportional to the volume flow per unit time. The rotation of the rotor is detected by an inductive sensor.

Technical specification

- **Material:**
Housing: PVDF (polyvinylidene fluoride)
Rotor: PVDF (polyvinylidene fluoride) and 1.4310 (stainless steel)
Bearings: Iglidur X
Axle: ceramic ZrO₂ - TZP
Seal: FPM (fluorinated rubber)
- **Max. operating pressure:** 16 bar at +20 °C
- **Amperage:** 10 mA (quiet); 200 mA (max. output)
- **Sensor connection:** 2 m cable
- **Output:** PNP
- **Short-circuit proof:** yes
- **Reverse polarity proof:** yes
- **Protection class:** IP 67
- **Connection:** internal thread G 3/8" or G 1" made of PVDF

Dimensions

Item	H mm	I1 mm	L mm	L1 mm	WAF mm
341749	88	12	50	84	22
341750	88	12	50	84	22
341751	88	12	50	84	22
341752	103	18	70	110	38
341753	103	18	70	110	38
341754	103	18	70	110	38

Item	Nom. width mm	Internal thread	Max. flow rate liquids ¹ l/min.	Measur. range liquids ¹ l/min.	Pulses ²	Price EURO
341749	10	G 3/8"	1.8	0.1 - 1.5	10200	518.00
341750	10	G 3/8"	12	0.2 - 10	3345	528.00
341751	10	G 3/8"	16.8	0.4 - 12	1755	538.00
341752	25	G 1"	36	2 - 30	1216	852.00
341753	25	G 1"	72	3 - 60	607	862.00
341754	25	G 1"	120	4 - 100	252	872.00

¹ Water (+20 °C) ² possible variation of pulses/litres ±10 % in the batch

THOMAFLUID®-Electronic Flowmeter made of PVDF

Application area

- As stationary flowmeter, as mobile flowmeter
- Applicable in a fluid management system

Product specification

- Flowmeter for flowing liquids based on the measuring principle of a turbine wheel meter.
- The meter consists of a measurement chamber with a turbine wheel, the evaluation electronic system as well as display and keyboard. The turbine wheel has a magnet pair which in the case of volume flow transfers the meter pulses to a reed switch on the evaluation electronic system.
- The FMT meter must not be operated with combustible and explosive liquids from hazard material classes A I, A II or B. Liquids of hazardous material class A III must not be used, if they are heated above their flash point.

Technical specification

- **Material:**
Housing: PVDF (polyvinylidene fluoride)
Seal: FPM (fluorinated rubber)
- **Dimensions:** 90 x 130 x 61 mm
- **Connection:** external thread G 1"
- **Max. operating pressure:** 4 bar
- **Bursting pressure:** 9 bar
- **Viscosity:** 0.8 to 40 mPas
- **Measuring range:** 5 - 90 l/min
- **Accuracy of measurement:**
calibrated: 1 %
uncalibrated: 2 %
- **Repeatability:** ±0.5 %
- **Temperature range:** -10 to +50 °C
- **Connection voltage:** Li-Mo battery, 3.6 V=, 1200 mAh, Type CR1/2 AA
- **Pulsar output:** optional, 25 pulses/litre
- **Weight:** approx. 300 g
- **Protective system:** IP 65



Item	Measuring range liquids ¹ l/min.	Price EURO
340977	5 - 90	748.00

¹ Water (+20 °C)

THOMAFLUID®-Electronic Flowmeter made of PP

Product specification

- Electronic flowmeter with large, clearly arranged display and foil keyboard to be used for input of user's parameter.
- Indication of current flow rate, total volume of liquid and indicator of measuring process.
- Precalibrated for media like water, in-field calibration capabilities for other low viscosity media.
- Durable lithium battery for a service life up to 5 years
- Also suitable for aggressive liquids: e.g. hydrochloric acid, sodium hydroxide solution, citric acid, seawater

Technical specification

- **Material:**
Housing: PP (polypropylene)
Wheel: PVDF (polyvinylidene fluoride)
Shaft: Hastelloy C (2.4610)
Seal: FPM (fluorinated rubber)
- **Max. operating pressure:** 6 bar
- **Bursting pressure:** max. 10 bar
- **Viscosity:** up to 20 mPas
- **Measurement range:** 20 - 120 l/min
- **Accuracy of measurement:** ±1 % (calibrated)
- **Measurement resolution:** 0.03 l
- **Display resolution:** 0.05 l
- **Repeatability:** ±0.5 %
- **Temperature range:**
Monitoring medium: +5 to +30 °C
Environment: +5 to +50 °C
Storage: -10 to +60 °C (free from medium)
- **Connection:** external thread G 1"
- **Connection voltage:** Li-battery, 3.6 V=, 2300 mAh, Type AA
- **Dimensions:** 163 x 125 x 71 mm
- **Weight:** approx. 300 g



Item	Measuring range liquids ¹ l/min.	Price EURO
339648	20 - 120	576.00

¹ Water (+20 °C)

Metals

THOMAFLUID®-High-Tech Flowmeter for Low Flow Rates - Standard

Application area

- Calorimetric flow switch / transmitter for use in laboratory and plant

Product specification

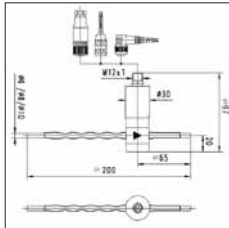
- Flow switch for low flow rates
- Only a medium-contacting material
- No movable parts (rotor) in monitoring medium
- Analogue output
- Low pressure losses, very fast reaction times
- The device is linearized and temperature-compensated
- Integrated minimum limit switch, which is freely programmable

• **Functional description:** In a compact design, the flow sensor combines the measuring tube and evaluation electronics that, according to the respective version, can control a settable limit value with a transistor output or an analogue output (4-20 mA or 0-10 V). The evaluation electronics records the flow speed by the temperature difference of two temperature sensors. The switching output is a push-pull transistor output and controls both PNP and NPN inputs. The function is designed as minimum contact.

• **Accessories:**
THOMAFUID®-round plug connectors items 341709 - 341714

Technical specification

- **Material:** stainless steel 1.4571, medium-contacting
- **Measurement range:** 0.01 - 10 l/min.
- **Measuring principle:** calorimetric
- **Temperature range:** 0 to +70 °C
- **Max. operating pressure:** 10 bar
- **Pressure loss:** 0.3 bar (at max. flow)
- **Protection class:** IP 65
- **Connection voltage:** 24 V= ±10 %
- **Amperage:** max. 100 mA
- **Switching output:** push-pull transistor output (short circuit proof and reverse polarity protected)
- **Switching hysteresis:** flow 1% F.S., temperature approx. +1 °C
- **Display:** yellow LED
- **Adjustment:** via magnet
- **Analog output / signal:** 4 - 20 mA or 0 - 10 V=
- **Electr. connection:** for round plug connector M12x1, 4-pin
- **Weight:** 200 g



Item	Measuring range liquids l/min.	Ø Pipe mm	Signal output	Price EURO
341703	0.01 - 2	6	0 - 10 V	496.00
341704	0.01 - 2	6	4 - 20 mA	496.00
341705	0.025 - 5	8	0 - 10 V	496.00
341706	0.025 - 5	8	4 - 20 mA	496.00
341707	0.05 - 10	10	0 - 10 V	496.00
341708	0.05 - 10	10	4 - 20 mA	496.00

RCT®-Accessories: Round Plug Connector - Plug 4-pin

Product specification

- Plug 4-pin, screened, cable material PUR

Item	Design	Unit m	Price EURO
341709	straight	2	18.00
341710	straight	5	28.00
341711	straight	10	56.00

Item	Design	Unit m	Price EURO
341712	90° angle	2	18.00
341713	90° angle	5	28.00
341714	90° angle	10	56.00

THOMAFUID®-High-Tech Flowmeter for Low Flow Rates - digital

Application area

- Laboratory technology, analytical technology, measurement technology, plant technology, engineering operations and maintenance

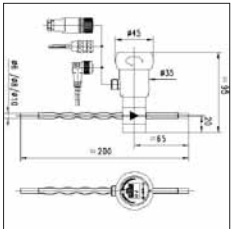
Product specification

- Flow transmitter for low flow rates
- Only a medium-contacting material
- No movable parts (rotor) in monitoring medium
- Analogue output
- Easily readable, backlit LCD display
- Low pressure loss
- The device is linearized and temperature-compensated
- The flow rate is indicated in absolute units (e.g. l/min)
- **Functional principle:** The integrated evaluation electronics contains a microcontroller which indicates the sensor signal. Thereby, two adjustable limit values monitor the analog output. The exceedance of the limit values is indicated by blinking of a red LED. A plain text message appears on the LCD display. At the same time, the push-pull execution is indicated by both switching outputs. The measurement is transmitted as an analog signal (4 - 20 mA or 0 - 10 V=). Both the lower and the upper value of the analog output are programmable via a scaling of the indicating range.

• **Accessories:**
THOMAFUID®-round plug connectors, items 341697 - 341702

Technical specification

- **Material:** stainless steel 1.4571, medium-contacting
- **Measurement range:** 0.01 - 10 l/min.
- **Measuring principle:** calorimetric
- **Temperature range:** 0 to +70 °C
- **Max. operating pressure:** 10 bar
- **Pressure loss:** 0.3 bar (at max. flow)
- **Protection class:** IP 65
- **Connection voltage:** 24 V= ±10 %
- **Amperage:** max. 100 mA
- **Limit values:** 2 as minimum or maximum alarm adjustable limit values with individual hysteresis
- **Limit switches:** 2 push-pull outputs
- **Analog output / signal:** 4 - 20 mA or 0 - 10 V=
- **Electr. connection:** for round plug connector M12x1, 5-pin
- **Weight:** 200 g



Item	Measuring range liquids l/min.	Ø Pipe mm	Signal output	Price EURO
341691	0.01 - 2	6	0 - 10 V	686.00
341692	0.01 - 2	6	4 - 20 mA	686.00
341693	0.025 - 5	8	0 - 10 V	686.00
341694	0.025 - 5	8	4 - 20 mA	686.00
341695	0.05 - 10	10	0 - 10 V	686.00
341696	0.05 - 10	10	4 - 20 mA	686.00

RCT®-Accessories: Round Plug Connector - Plug 5-pin

Product specification

- Plug 5-pin, screened, cable material PUR

Item	Design	Unit m	Price EURO
341697	straight	2	24.00
341698	straight	5	36.00
341699	straight	10	56.00
341700	90° angle	2	24.00
341701	90° angle	5	36.00
341702	90° angle	10	56.00

THOMAFLUID®-Oval Gear Volumetric Meter

Product specification

- Highly precise flowmeter for volumetric measuring of liquids at flow rates of 0.5 to 500 l/h.
- Combination with the accessory LCD-register System MRK L provides a micro-measuring station for summing up volumes for instance in ml and indicating the actual flow rate for instance in l/h.
- The measuring element consists of two oval toothed rotors driven by the medium and displacing an exactly defined volume at each revolution. One of the rotors contains two magnets which open and close the reed-contact integrated in the housing at every revolution. The batterie supplied LCD-register provides the reed-contact with voltage via a 2-wire cable thus producing impulses which are processed by the register. An external voltage supply is not required for the combination oval gear volumetric meter/LCD-register.
- There are 3 construction sizes available in varying materials for viscosities up to 1000 cP.
- The standard connection consists of a R-internal thread. The offered accessory screwings allow to choose between pipe and tubing connections additionally.
- Chemical resistance at +20 °C to:
Special resin: petrols, mineral oils and mineral fats, alcohols, solvents, ammonia (aqueous), photo developer etc.
Stainless steel 1.4401: as special resin and to aggressive media (see resistance lists)
Aluminium: fuels, mineral oils and mineral fats, photo developer etc.
Gaskets: see resistance lists
Hard coal: at least as resistant as 1.4401

Technical specification

- **Material:**
Version L: housing made of aluminium; rotors made of special resin
Version P: housing made of stainless steel 1.4401 (similar to 1.4571); rotors made of special resin
Version C: housing and rotors made of stainless steel 1.4401
- **Gaskets:** alternatively FPM or PTFE

- **Bearing:** hard coal
- **Viscosity of media:**
Version P and L: 0.3 - 1.000 cP
Version C: 0.3 - 200 cP
- **Max. flow rate:** model 40: 50 l/h, model 41: 100 l/h, model 45: 500 l/h
- **Min. flow rate in l/h:** depending on version and viscosity
- **Accuracy:** better than ±1 % of actual measured value
- **Max. operating pressure:** version C and P: 25 bar
Version L: 10 bar
- **Temperature range:** -20 to +85 °C
- **Connection:** model 40: internal thread G 1/8"
model 41: internal thread G 1/8", model 45: internal thread G 1/4"
(other connections see accessories)
- **Impulse value:** model 40: 2 impulses per 1 ml
model 41: 1 impulse per 1 ml, model 45: 1 impulse per 5 ml
- **Pressure loss:** at 1 cP: <0.1 bar, at 20 cP: <0.2 bar
- **Reed-contact:**
Max. voltage: 100 V (AC or DC)
Contact capacity: 10 W or 0.5 A
Max. frequency: 27.8 Hz (at max. flow rate)
- **Dimensions (WxHxD):** model 40,41: 40 x 40 x 35 mm
model 45: 50 x 50 x 50 mm
- **Electrical connection:** 2-pin plug (mating plug is supplied)
- **Cable:** optional commercially available 2-wire cable

Item	Min. flow rate (viscosity 0.3-0.8) l/h	Min. flow rate (viscosity 0.8-2) l/h	Min. flow rate (viscosity 2-5) l/h	Min. flow rate (viscosity 5-200) l/h
19033	1.5	1	0.7	0.5
19034	1.5	1	0.7	0.5
19035	1.5	1	0.7	0.5
19036	1.5	1	0.7	0.5
19037	3	2	1.5	1
19038	3	2	1.5	1
19039	3	2	1.5	1
19040	3	2	1.5	1
19041	7	4	2	1
19042	7	4	2	1
19043	10	7	4	2.5
19044	10	7	4	2.5
19045	10	7	4	2.5
19046	10	7	4	2.5
19047	25	15	7	3.5
19048	25	15	7	3.5



Item	Design	Measuring range liquids l/h	Internal thread	Material gasket	Price EURO
19033	40 L	0.5 - 50	R 1/8"	FPM	908.00
19034	40 L	0.5 - 50	R 1/8"	PTFE	944.00

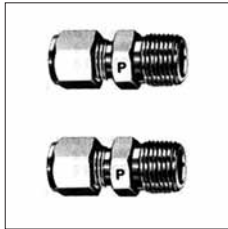
Item	Design	Measuring range liquids ¹ l/h	Internal thread	Material gasket	Price EURO
19035	40 P	0.5 - 50	R 1/8"	FPM	2,140.00
19036	40 P	0.5 - 50	R 1/8"	PTFE	2,186.00
19037	41 L	1 - 100	R 1/8"	FPM	872.00
19038	41 L	1 - 100	R 1/8"	PTFE	908.00
19039	41 P	1 - 100	R 1/8"	FPM	2,050.00
19040	41 P	1 - 100	R 1/8"	PTFE	2,096.00
19041	41 C	1 - 100	R 1/8"	FPM	2,755.00
19042	41 C	1 - 100	R 1/8"	PTFE	2,802.00
19043	45 L	2.5 - 500	R 1/4"	FPM	1,004.00
19044	45 L	2.5 - 500	R 1/4"	PTFE	1,046.00
19045	45 P	2.5 - 500	R 1/4"	FPM	2,374.00
19046	45 P	2.5 - 500	R 1/4"	PTFE	2,428.00
19047	45 C	2.5 - 500	R 1/4"	FPM	2,980.00
19048	45 C	2.5 - 500	R 1/4"	PTFE	3,032.00

¹ Water (+20 °C)

RCT®-Accessories: Connecting Screwed Fitting for Oval Gear Volumetric Meter

Product specification

- Straight screw-in threaded joint made of stainless steel 1.4571 or brass for connection of tubing or piping to a oval gear volumetric meter.
- Connection on one side: Model 40/41: R 1/8"; Model 45: R 1/4"
- Connection on the other side: hose nozzle or compression-type fitting



Item	External thread	For pipes 0-Ø mm	For tubing i-Ø mm	Material	Unit piece	Price EURO
19051	R 1/8"		6	brass	2	36.00
19052 ¹	R 1/8"		6	stainless steel	2	61.00
19053	R 1/4"	6		brass	2	39.00
19054 ¹	R 1/4"	6		stainless steel	2	64.00
19055	R 1/4"		8	brass	2	36.00
19056 ¹	R 1/4"		8	stainless steel	2	74.00
19057	R 1/4"	6		brass	2	39.00
19058 ¹	R 1/4"	6		stainless steel	2	64.00
19059	R 1/4"		8	brass	2	43.00
19060	R 1/4"		8	stainless steel	2	64.00

¹ Housing of stainless steel 1.4571

RCT®-Accessories: LCD-Register for Oval Gear Volumetric Meter

Product specification

- Accessories for items 19033-19048
- Multifunctional, battery-driven LCD register for voltage supply and impulse evaluation of all models of the oval gear volumetric meter System MRK. Besides the resettable volume summing the actual flow can be indicated. An integrated clock serves additionally as time meter or operating hour meter. The integrated impulse divider allows adjustment of any measuring units (e.g. ml, l, l/h, l/min). The LCD-register is designed for mounting into an housing (for instance in a control cabinet). Alternatively it is available as table pedestal model with fastening devices for the oval gear volumetric meter.

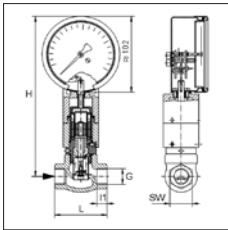
Technical specification

- **Function:** resettable flow summing; instantaneous flow indication; time meter; operating hour meter
- **Display:** 8-place, liquid crystal black; height of numbers 9 mm
- **Reset:** manually at the front or externally via contact
- **Impulse divider:** between 0.001 and 9999 (decimal point adjustable)
- **Connection voltage:** with built-in lithium-battery 3 V=, service life approx. 8 years
- **Auxiliary voltage:** approx. 2.7 V= (for micro oval gear volumetric meter)
- **Input:** voltage impulses max. 28 V=
- **Protective system:** front IP 65
- **Dimensions (W x H):**
Front: 72.0 x 36.0 mm
Window for building-in: 66.5 x 33.0 mm
Table pedestal model: approx. 100 x 150 mm
- **Material of table pedestal:** acrylic glass
- **Supplied accessories:** label for measuring units, sealing ring and clamping devices for building-in



Item	Design	Unit piece	Price EURO
19049	for mounting into house	1	504.00

THOMAFUID®-Flowmeter made of Red Brass for Liquids



Product specification

- The RCT®-flowmeters with mounted on, round pointer instrument serve for measuring of flow of non-aggressive liquids such as water, oils or emulsions. The red casting brass housing contains a screw-in component made of brass, which the round pointer instrument is mounted on. The free-moving piston placed in the flow room is supported by a compression spring. At the front side, the piston is fitted with a zero disk meshing with a measuring cone screwed in the seating valve of the straight seated body. In its rear part the piston carries two barium-ferrite rings magnetized in opposite direction which constitute the primary part of a concentric magnetic coupling. The secondary part of the coupling is placed outside the flow room and is taken with hysteresis-free when the piston is moved through the flowing medium. It operates the pointer via an measuring element.

Technical specification

Material:

Housing: red casting brass RG 5 nickel-plated
Piston / Disk: brass MS 58
Compression spring: stainless steel 1.4310
Magnet: barium ferrite
Seal: NBR

- Accuracy of measurement:** ± 3 % of full scale value

- Media temperature:** +90 °C

- Average pressure loss:** 0.25 bar

Item	L mm	H mm	l1 mm	Weight kg
54385	68	212	12	1.6
543851	68	212	12	1.6
54386	68	212	12	1.6
543861	68	212	12	1.6
54387	68	212	13	1.6
543871	68	212	13	1.6
54388	73	212	11	1.7
543881	73	212	11	1.7
54389	87	216	12	2
54390	98	226	13	2.6
54391	113	228	14	3.1
54392	137	236	17	6.4

Item	Nominal width mm	Max. op. pressure¹ bar	Internal thread	Measuring range liquids l/min.	Price EURO
54385	8	100	G 1/4"	2 - 6	860.00
543851	8	100	G 1/4"	3 - 12	860.00
54386	10	100	G 3/8"	2 - 6	906.00
543861	10	100	G 3/8"	3 - 12	906.00
54387	15	100	G 1/2"	2 - 6	946.00
543871	15	100	G 1/2"	4 - 20	946.00
54388	20	25	G 3/4"	4 - 20	946.00
543881	20	25	G 3/4"	10 - 40	946.00
54389	25	25	G 1"	10 - 60	998.00
54390	32	16	G 1 1/4"	10 - 100	1,134.00
54391	40	16	G 1 1/2"	10 - 150	1,410.00
54392	50	16	G 2"	20 - 250	1,530.00

¹ at +20 °C

RCT®-Accessories: Contact Sensor

Product specification

- The RCT®-contact sensor serves as accessory for RCT®-flowmeter made of red brass.

Item	Design	Unit piece	Price EURO
54393	single-pole for items 54385-92	1	225.00
54394	two-pole for items 54385-92	1	266.00

Variable Area Flowmeters Plastics

THOMAFUID®-High-Tech Flowmeters

General product specification

- The flowmeters EMP-4 operate in accordance with the float measuring principle. At constant flow speed, the float in the conical measuring tube comes to rest as soon as the resistibility / flow force compensates, at the corresponding cross section, the inertial forces acting on the float. When the flow speed changes, e.g. by pressure change, the float moves freely up and down until the resistibility, altering with the free cross-sectional flow area, has stabilized at the value of inertial forces and an equilibrium of forces is again prevalent. The position of the float reached in this manner corresponds to a specific volumetric flow and is indicated as flow rate on the scale printed on measuring tube.
- Precisely operating, compact flowmeters with measuring tube, needle fine regulating valve and connecting fittings as complete unit.
- Housing parts are made of high-quality plastics and injection-molded.
- The very accurate reading is enabled by a calibrated ribbed measuring tube, through which the ball float (for measurement of gases) or cone float are precisely conducted.
- A pipe of acrylic glass protects the measuring tube against contaminations and break.
- The fine regulating valve allows the exact adjustment of very small measuring intervals.
- The flowmeters are supplied alternatively with or without annular proximity switch (flow controller).
- Standardly, the flowmeters are fitted with screw-in tubing joints accepting tubes and pipes made of PP (polypropylene), PVDF (polyvinylidene fluoride) or PFA (perfluoroalkoxy) with inside diameter of 4 mm and outside diameter of 6 mm. Alternatively, these connections can be replaced by other fittings accepting tubes or pipes with different outside diameters. The screw joint bodies are screwed into an internal thread G.
- Connections with bulkhead nut for wall mounting or control panel mounting.
- Rear connections allow a close alignment of the flowmeters.
- The measuring tube consists of pure DURAN glass of highest quality.
- Accuracy class of the glass tube 2.5 according to VDI / VDE
- Very good corrosion resistance to most measuring media except to hot, concentrated alkalis and hydrofluoric acid.
- Due to its high boric oxide content (BO₂) the DURAN glass exhibits a high thermal shock resistance, which is reflected in an extremely low linear expansion coefficient of $k = 3.2 \cdot 10^{-6}$ m/K.
- Four different measuring tubes with diameters of 10, 17 and 28 mm and lengths of 75 and 150 mm offer numerous solutions for a wide variety of applications.

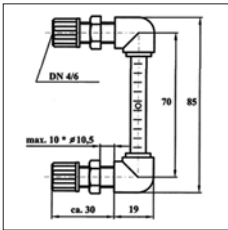
THOMAFUID®-High-Tech Flowmeter for Gases - without valve

Product specification

- The smallest flowmeters of the series EMP-4
- Similar to MULTIFIT®-EMP-K4, part 24875, but in standard design without regulation valve and protective pipe
- Suitable for bulkhead mounting
- Glass ball float for measurement of gases

Technical specification

- Max. operating pressure: 1 bar
- Max. temperature: +70 °C
- Connection: for tubing DN 4/6
- Measuring tube dimensions: 65 x 8 mm (L x Ø)



Item	Measuring range gases ¹ l/h	Material	Price EURO
305104	12 - 120	PP	162.00
305105	12 - 120	PVDF	188.00

¹ Δp = 1 bar (at +20 °C)

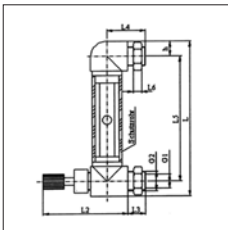
THOMAFUID®-High-Tech Flowmeter for Gases

Product specification

- Precisely operating, compact flowmeters with measuring tube, needle fine regulating valve and connecting fittings as complete unit.
- Identical to Type MULTIFIT®-EMP-K4, part 24875, but with glass ball float for measurement of gases.

Technical specification

- Max. operating pressure: 6 bar
- Max. temperature: +70 °C



Length of measuring tube: 75 mm

Item	Measuring range gases ¹ l/h	Ø measuring tube mm	Material	Internal thread	Price EURO
305098	4 - 40	10	PP	G 1/8"	284.00
305100	4 - 40	10	PVDF	G 1/8"	316.00

Item	Measuring range gases ¹ l/h	Ø measuring tube mm	Material	Internal thread	Price EURO
305102	4 - 40	10	PFA	G 1/8"	354.00
3050981	10 - 100	10	PP	G 1/8"	284.00
3051001	10 - 100	10	PVDF	G 1/8"	316.00
3051021	10 - 100	10	PFA	G 1/8"	354.00
305099	40 - 400	17	PP	G 1/4"	302.00
305101	40 - 400	17	PVDF	G 1/4"	322.00
305103	40 - 400	17	PFA	G 1/4"	362.00
3050991	150 - 1600	17	PP	G 1/4"	302.00
3051011	150 - 1600	17	PVDF	G 1/4"	322.00
3051031	150 - 1600	17	PFA	G 1/4"	362.00

¹ Δp = 1 bar (at +20 °C)

Length of measuring tube: 150 mm

Item	Measuring range gases ¹ l/h	Ø measuring tube mm	Material	Internal thread	Price EURO
305057	250 - 2500	28	PP	G 1/2"	836.00
305065	250 - 2500	28	PVDF	G 1/2"	884.00
305073	250 - 2500	28	PFA	G 1/2"	948.00
305081	600 - 6000	28	PP	G 1/2"	836.00
305089	600 - 6000	28	PVDF	G 1/2"	884.00
305094	600 - 6000	28	PFA	G 1/2"	948.00

¹ Δp = 1 bar (at +20 °C)

THOMAFUID®-High-Tech Flowmeter for Liquids

Technical specification

• Material:

Housing: injection-molded: high-quality PP (polypropylene), PVDF (polyvinylidene fluoride) or PFA (perfluoroalkoxy). PFA = „extrudable PTFE“, highly resistant

O-rings: highly loadable FPM (fluorinated rubber) with high swelling resistance to mineral oils

Needle valve: PCTFE (polychlorotrifluoroethylene) with very good chemical resistance to aggressive media

Measuring tube: borosilicate glass

Protective pipe: acrylic glass

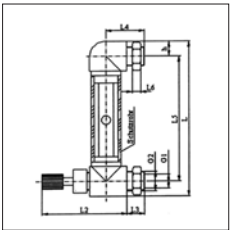
Cone float: stainless steel

- **Flow range:** is defined individually. When ordering please specify the following data: medium, flow range, temperature, pressure, density, viscosity

- **Max. temperature:** +70 °C

- **Max. operating pressure:** 6 bar

- **Accuracy:** flowmeters are calibrated individually in case of critical media



Length of measuring tube: 75 mm

Item	Measuring range liquids ¹ l/h	Ø measuring tube mm	Material	Internal thread	Price EURO
305054	2.5 - 25	17	PP	G 1/4"	306.00
305055	2.5 - 25	17	PVDF	G 1/4"	332.00
305056	2.5 - 25	17	PFA	G 1/4"	362.00
305062	4 - 40	17	PP	G 1/4"	306.00
305063	4 - 40	17	PVDF	G 1/4"	332.00
305064	4 - 40	17	PFA	G 1/4"	362.00
305070	10 - 100	17	PP	G 1/4"	306.00
305071	10 - 100	17	PVDF	G 1/4"	332.00
305072	10 - 100	17	PFA	G 1/4"	362.00

¹ Δp = 1 bar (at +20 °C)

Length of measuring tube: 150 mm

Item	Measuring range liquids ¹ l/h	Ø measuring tube mm	Material	Internal thread	Price EURO
305078	25 - 250	28	PP	G 1/2"	834.00
305079	25 - 250	28	PVDF	G 1/2"	908.00
305080	25 - 250	28	PFA	G 1/2"	948.00
305086	60 - 600	28	PP	G 1/2"	834.00
305087	60 - 600	28	PVDF	G 1/2"	908.00
305088	60 - 600	28	PFA	G 1/2"	948.00

¹ Δp = 1 bar (at +20 °C)

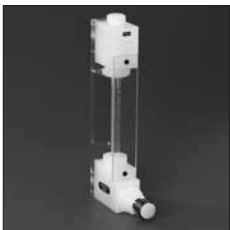
THOMAFUID®-Flowmeter made of PP

Application area

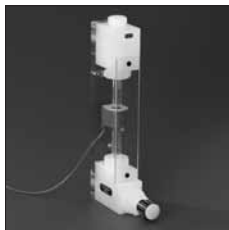
- Flowmeters for use in laboratory, pilot and production plant for smallest as well as for largest measuring ranges.

Product specification

- Flowmeters with needle valve, measuring tube, and connecting fittings as complete unit.
- The very accurate reading is enabled by a calibrated ribbed measuring tube, through which the cone plummets are precisely conducted.
- The flowmeters are supplied alternatively with or without annular proximity switch (flow controller).
- Standardly, the flowmeters are fitted with screwed tubing joints accepting tubing made of PVC, silicone or FPM with inside diameter of 4 mm and outside diameter of 6 mm.
- Alternatively, these connections can be replaced by other fittings accepting pipes with larger or smaller outside diameters. The internal thread G 1/4" is suitable for all common THOMAFUID® tubing or pipe connectors. The connecting fittings are principally mounted at the rear.



without ring sensor



with ring sensor

Item	Measuring range	Medium	Ring sensor	Ø measur. tube mm	Price EURO
24875	0 - 15	argon	with	10	793.00
24876	0 - 15	argon	without	10	435.00
24877	0 - 30	argon	with	10	793.00
24878	0 - 30	argon	without	10	435.00
24879	0 - 60	argon	with	10	793.00
24880	0 - 60	argon	without	10	435.00
24881	0 - 100	argon	with	10	793.00
24882	0 - 100	argon	without	10	435.00
24883	0 - 160	argon	with	10	793.00
24884	0 - 160	argon	without	10	435.00
24885	0 - 240	argon	with	17	813.00
24886	0 - 240	argon	without	17	445.00
24887	0 - 320	argon	with	17	813.00
24888	0 - 320	argon	without	17	445.00
24889	0 - 600	argon	with	17	813.00
24890	0 - 600	argon	without	17	445.00
11066	0 - 22	helium	with	10	793.00
10994	0 - 22	helium	without	10	435.00
11067	0 - 55	helium	with	10	793.00
10995	0 - 55	helium	without	10	435.00
11068	0 - 130	helium	with	10	793.00
10996	0 - 130	helium	without	10	435.00
11069	0 - 220	helium	with	17	813.00
10997	0 - 220	helium	without	17	445.00
11070	0 - 360	helium	with	17	813.00
10998	0 - 360	helium	without	17	445.00
11071	0 - 600	helium	with	17	813.00
10999	0 - 600	helium	without	17	445.00
11072	0 - 750	helium	with	17	813.00
11000	0 - 750	helium	without	17	445.00
11073	0 - 1600	helium	with	17	813.00
11001	0 - 1600	helium	without	17	445.00
11074	0 - 18	carbon dioxide	with	10	793.00
11002	0 - 18	carbon dioxide	without	10	435.00
11075	0 - 32	carbon dioxide	with	10	793.00
11003	0 - 32	carbon dioxide	without	10	435.00
11076	0 - 65	carbon dioxide	with	10	793.00
11004	0 - 65	carbon dioxide	without	10	435.00
11077	0 - 100	carbon dioxide	with	10	793.00
11005	0 - 100	carbon dioxide	without	10	435.00
11078	0 - 170	carbon dioxide	with	17	813.00
11006	0 - 170	carbon dioxide	without	17	445.00
11079	0 - 250	carbon dioxide	with	17	813.00
11007	0 - 250	carbon dioxide	without	17	445.00
11080	0 - 300	carbon dioxide	with	17	813.00
11008	0 - 300	carbon dioxide	without	17	445.00
11081	0 - 600	carbon dioxide	with	17	813.00
11009	0 - 600	carbon dioxide	without	17	445.00
11090	0 - 13	nitrogen dioxide (+25 °C)	with	10	793.00
11018	0 - 13	nitrogen dioxide (+25 °C)	without	10	435.00
11091	0 - 24	nitrogen dioxide (+25 °C)	with	10	793.00
11019	0 - 24	nitrogen dioxide (+25 °C)	without	10	435.00

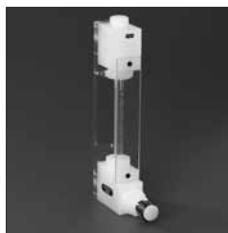
Item	Measuring range	Medium	Ring sensor	Ø measur. tube mm	Price EURO
11092	0 - 46	nitrogen dioxide (+25 °C)	with	10	793.00
11020	0 - 46	nitrogen dioxide (+25 °C)	without	10	435.00
11093	0 - 75	nitrogen dioxide (+25 °C)	with	10	793.00
11021	0 - 75	nitrogen dioxide (+25 °C)	without	10	435.00
11094	0 - 110	nitrogen dioxide (+25 °C)	with	10	793.00
11022	0 - 110	nitrogen dioxide (+25 °C)	without	10	435.00
11095	0 - 190	nitrogen dioxide (+25 °C)	with	17	813.00
11023	0 - 190	nitrogen dioxide (+25 °C)	without	17	445.00
11096	0 - 220	nitrogen dioxide (+25 °C)	with	17	813.00
11024	0 - 220	nitrogen dioxide (+25 °C)	without	17	445.00
11097	0 - 400	nitrogen dioxide (+25 °C)	with	17	813.00
11025	0 - 400	nitrogen dioxide (+25 °C)	without	17	445.00
11098	0 - 18	nitrogen	with	10	793.00
11026	0 - 18	nitrogen	without	10	435.00
11099	0 - 75	nitrogen	with	10	793.00
11027	0 - 75	nitrogen	without	10	435.00
11100	0 - 120	nitrogen	with	17	793.00
11028	0 - 120	nitrogen	without	17	435.00
11102	0 - 200	nitrogen	with	17	813.00
11030	0 - 200	nitrogen	without	17	445.00
11103	0 - 300	nitrogen	with	17	813.00
11031	0 - 300	nitrogen	without	17	445.00
11104	0 - 380	nitrogen	with	17	813.00
11032	0 - 380	nitrogen	without	17	445.00
11105	0 - 750	nitrogen	with	17	813.00
11033	0 - 750	nitrogen	without	17	445.00
11106	0 - 48	hydrogen	with	10	793.00
11034	0 - 48	hydrogen	without	10	435.00
11107	0 - 110	hydrogen	with	10	793.00
11035	0 - 110	hydrogen	without	10	435.00
11108	0 - 230	hydrogen	with	10	793.00
11036	0 - 230	hydrogen	without	10	435.00
11109	0 - 400	hydrogen	with	10	793.00
11037	0 - 400	hydrogen	without	10	435.00
11110	0 - 600	hydrogen	with	17	813.00
11038	0 - 600	hydrogen	without	17	445.00
11111	0 - 1000	hydrogen	with	17	813.00
11039	0 - 1000	hydrogen	without	17	445.00
11112	0 - 1300	hydrogen	with	17	813.00
11040	0 - 1300	hydrogen	without	17	445.00
11113	0 - 2600	hydrogen	with	17	813.00
11041	0 - 2600	hydrogen	without	17	445.00
11114	0 - 20	air (+20 °C)	with	10	793.00
11042	0 - 20	air (+20 °C)	without	10	435.00

Item	Measuring range	Medium	Ring sensor	Ø measur. tube mm	Price EURO
11115	0 - 40	air (+20 °C)	with	10	793.00
11043	0 - 40	air (+20 °C)	without	10	435.00
11116	0 - 80	air (+20 °C)	with	10	793.00
11044	0 - 80	air (+20 °C)	without	10	435.00
11117	0 - 130	air (+20 °C)	with	17	813.00
11045	0 - 130	air (+20 °C)	without	17	445.00
11118	0 - 200	air (+20 °C)	with	17	813.00
11046	0 - 200	air (+20 °C)	without	17	445.00
11119	0 - 320	air (+20 °C)	with	17	813.00
11047	0 - 320	air (+20 °C)	without	17	445.00
11120	0 - 400	air (+20 °C)	with	17	813.00
11048	0 - 400	air (+20 °C)	without	17	445.00
11121	0 - 800	air (+20 °C)	with	17	813.00
11049	0 - 800	air (+20 °C)	without	17	445.00
11122	0 - 0.35	water (+20 °C)	with	10	793.00
11050	0 - 0.35	water (+20 °C)	without	10	435.00
11123	0 - 0.8	water (+20 °C)	with	10	793.00
11051	0 - 0.8	water (+20 °C)	without	10	435.00
11124	0 - 1.8	water (+20 °C)	with	10	793.00
11052	0 - 1.8	water (+20 °C)	without	10	435.00
11125	0 - 3	water (+20 °C)	with	17	813.00
11053	0 - 3	water (+20 °C)	without	17	445.00
11126	0 - 5	water (+20 °C)	with	17	813.00
11054	0 - 5	water (+20 °C)	without	17	445.00
11127	0 - 8	water (+20 °C)	with	17	813.00
11055	0 - 8	water (+20 °C)	without	17	445.00
11128	0 - 10	water (+20 °C)	with	17	813.00
11056	0 - 10	water (+20 °C)	without	17	445.00
11129	0 - 20	water (+20 °C)	with	17	813.00
11057	0 - 20	water (+20 °C)	without	17	445.00

THOMAFUID®-Flowmeter made of PVDF

Application area

- Flowmeters for use in laboratory, pilot and production plant for smallest as well as for largest measuring ranges.



without ring sensor



with ring sensor

Product specification

- Flowmeters with needle valve, measuring tube, and connecting fittings as complete unit.
- The very accurate reading is enabled by a calibrated ribbed measuring tube, through which the cone plummets are precisely conducted.
- The flowmeters are supplied alternatively with or without annular proximity switch (flow controller).

- Standardly, the flowmeters are fitted with screwed pipe joints accepting pipes made of PVDF or PTFE with outside diameter of 6 mm.
- Alternatively, these connections can be replaced by other fittings accepting pipes with larger or smaller outside diameters. The internal thread G 1/4" is suitable for all common THOMAFLUID® tubing or pipe connectors. The connecting fittings are principally mounted at the rear.

Technical specification

• Material:

Valve body: PVDF

Valve spindle: PTFE

Needle valve: PVDF

Measuring tube: borosilicate glass

Cone plummet: Dylor 2000 with ferrum core, glass, titanium, stainless steel, PTFE, Hastelloy, Carboloy, tantalum (depending on medium)

Plummet stop: PTFE

O-rings: FPM

Connecting fittings: PVDF

Wall panel: PVC-glass

• Length of scale: 150 mm

• Max. operating pressure: depending on flow till 6 bar

• Max. temperature: +130 °C

• Accuracy: measuring tubes are calibrated individually

• Connection: for pipes outside 6 mm

Item	Measuring range	Medium	Ring sensor	Ø measur. tube mm	Price EURO
25035	0 - 15	argon	with	10	844.00
25036	0 - 15	argon	without	10	507.00
25037	0 - 30	argon	with	10	844.00
25038	0 - 30	argon	without	10	507.00
25039	0 - 60	argon	with	10	844.00
25040	0 - 60	argon	without	10	507.00
25041	0 - 100	argon	with	10	844.00
25042	0 - 100	argon	without	10	507.00
25043	0 - 160	argon	with	10	844.00
25044	0 - 160	argon	without	10	507.00
25045	0 - 240	argon	with	17	865.00
25046	0 - 240	argon	without	17	537.00
25047	0 - 320	argon	with	17	865.00
25048	0 - 320	argon	without	17	537.00
25049	0 - 600	argon	with	17	865.00
25050	0 - 600	argon	without	17	537.00
11202	0 - 15	chlorine gas	with	10	844.00
11130	0 - 15	chlorine gas	without	10	507.00
11203	0 - 30	chlorine gas	with	10	844.00
11131	0 - 30	chlorine gas	without	10	507.00
11204	0 - 55	chlorine gas	with	10	844.00
11132	0 - 55	chlorine gas	without	10	507.00
11205	0 - 90	chlorine gas	with	10	844.00
11133	0 - 90	chlorine gas	without	10	507.00
11206	0 - 140	chlorine gas	with	17	865.00
11134	0 - 140	chlorine gas	without	17	537.00
11207	0 - 200	chlorine gas	with	17	865.00
11135	0 - 200	chlorine gas	without	17	537.00
11208	0 - 260	chlorine gas	with	17	865.00
11136	0 - 260	chlorine gas	without	17	537.00
11209	0 - 480	chlorine gas	with	17	865.00
11137	0 - 480	chlorine gas	without	17	537.00
11210	0 - 22	helium	with	10	844.00
11138	0 - 22	helium	without	10	507.00

Item	Measuring range	Medium	Ring sensor	Ø measur. tube mm	Price EURO
11211	0 - 55	helium	with	10	844.00
11139	0 - 55	helium	without	10	507.00
11212	0 - 130	helium	with	10	844.00
11140	0 - 130	helium	without	10	507.00
11213	0 - 220	helium	with	17	865.00
11141	0 - 220	helium	without	17	537.00
11214	0 - 360	helium	with	17	865.00
11142	0 - 360	helium	without	17	537.00
11215	0 - 600	helium	with	17	865.00
11143	0 - 600	helium	without	17	537.00
11216	0 - 750	helium	with	17	865.00
11144	0 - 750	helium	without	17	537.00
11217	0 - 1600	helium	with	17	865.00
11145	0 - 1600	helium	without	17	537.00
11218	0 - 18	carbon dioxide	with	10	844.00
11146	0 - 18	carbon dioxide	without	10	507.00
11219	0 - 32	carbon dioxide	with	10	844.00
11147	0 - 32	carbon dioxide	without	10	507.00
11220	0 - 65	carbon dioxide	with	10	844.00
11148	0 - 65	carbon dioxide	without	10	507.00
11221	0 - 100	carbon dioxide	with	10	844.00
11149	0 - 100	carbon dioxide	without	10	507.00
11222	0 - 170	carbon dioxide	with	17	865.00
11150	0 - 170	carbon dioxide	without	17	507.00
11223	0 - 250	carbon dioxide	with	17	865.00
11151	0 - 250	carbon dioxide	without	17	537.00
11224	0 - 300	carbon dioxide	with	17	865.00
11152	0 - 300	carbon dioxide	without	17	537.00
11225	0 - 600	carbon dioxide	with	17	865.00
11153	0 - 600	carbon dioxide	without	17	537.00
11226	0 - 16	sulfur dioxide	with	10	844.00
11154	0 - 16	sulfur dioxide	without	10	507.00
11227	0 - 30	sulfur dioxide	with	10	844.00
11155	0 - 30	sulfur dioxide	without	10	507.00
11228	0 - 55	sulfur dioxide	with	10	844.00
11156	0 - 55	sulfur dioxide	without	10	507.00
11229	0 - 90	sulfur dioxide	with	10	844.00
11157	0 - 90	sulfur dioxide	without	10	507.00
11230	0 - 140	sulfur dioxide	with	17	865.00
11158	0 - 140	sulfur dioxide	without	17	537.00
11231	0 - 220	sulfur dioxide	with	17	865.00
11159	0 - 220	sulfur dioxide	without	17	537.00
11232	0 - 260	sulfur dioxide	with	17	865.00
11160	0 - 260	sulfur dioxide	without	17	537.00
11233	0 - 500	sulfur dioxide	with	17	865.00
11161	0 - 500	sulfur dioxide	without	17	537.00
11234	0 - 13	nitrogen dioxide (+25 °C)	with	10	844.00
11162	0 - 13	nitrogen dioxide (+25 °C)	without	10	507.00
11235	0 - 24	nitrogen dioxide (+25 °C)	with	10	844.00
11163	0 - 24	nitrogen dioxide (+25 °C)	without	10	507.00
11236	0 - 46	nitrogen dioxide (+25 °C)	with	10	844.00

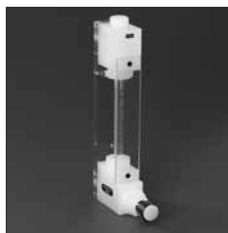
Item	Measuring range	Medium	Ring sensor	Ø measur. tube mm	Price EURO
11164	0 - 46	nitrogen dioxide (+25 °C)	without	10	507.00
11237	0 - 75	nitrogen dioxide (+25 °C)	with	10	844.00
11165	0 - 75	nitrogen dioxide (+25 °C)	without	10	507.00
11238	0 - 110	nitrogen dioxide (+25 °C)	with	10	844.00
11166	0 - 110	nitrogen dioxide (+25 °C)	without	10	507.00
11239	0 - 190	nitrogen dioxide (+25 °C)	with	17	865.00
11167	0 - 190	nitrogen dioxide (+25 °C)	without	17	537.00
11240	0 - 220	nitrogen dioxide (+25 °C)	with	17	865.00
11168	0 - 220	nitrogen dioxide (+25 °C)	without	17	537.00
11241	0 - 400	nitrogen dioxide (+25 °C)	with	17	865.00
11169	0 - 400	nitrogen dioxide (+25 °C)	without	17	537.00
11242	0 - 18	nitrogen	with	10	844.00
11170	0 - 18	nitrogen	without	10	507.00
11243	0 - 38	nitrogen	with	10	844.00
11171	0 - 38	nitrogen	without	10	507.00
11244	0 - 75	nitrogen	with	10	844.00
11172	0 - 75	nitrogen	without	10	507.00
11245	0 - 120	nitrogen	with	17	865.00
11173	0 - 120	nitrogen	without	17	507.00
11246	0 - 200	nitrogen	with	17	865.00
11174	0 - 200	nitrogen	without	17	537.00
11247	0 - 300	nitrogen	with	17	865.00
11175	0 - 300	nitrogen	without	17	537.00
11250	0 - 380	nitrogen	with	17	865.00
11176	0 - 380	nitrogen	without	17	537.00
11251	0 - 750	nitrogen	with	17	865.00
11177	0 - 750	nitrogen	without	17	537.00
11252	0 - 48	hydrogen	with	10	844.00
11178	0 - 48	hydrogen	without	10	507.00
11253	0 - 110	hydrogen	with	10	844.00
11179	0 - 110	hydrogen	without	10	507.00
11254	0 - 230	hydrogen	with	10	844.00
11180	0 - 230	hydrogen	without	10	507.00
11255	0 - 400	hydrogen	with	10	844.00
11181	0 - 400	hydrogen	without	10	507.00
11256	0 - 600	hydrogen	with	17	865.00
11182	0 - 600	hydrogen	without	17	507.00
11257	0 - 1000	hydrogen	with	17	865.00
11183	0 - 1000	hydrogen	without	17	507.00
11258	0 - 1300	hydrogen	with	17	865.00
11184	0 - 1300	hydrogen	without	17	537.00
11259	0 - 2600	hydrogen	with	17	865.00
11185	0 - 2600	hydrogen	without	17	537.00
11260	0 - 20	air (+20 °C)	with	10	844.00
11186	0 - 20	air (+20 °C)	without	10	507.00

Item	Measuring range	Medium	Ring sensor	Ø measur. tube mm	Price EURO
11261	0 - 40	air (+20 °C)	with	10	844.00
11187	0 - 40	air (+20 °C)	without	10	507.00
11262	0 - 80	air (+20 °C)	with	10	844.00
11188	0 - 80	air (+20 °C)	without	10	507.00
11263	0 - 130	air (+20 °C)	with	17	865.00
11189	0 - 130	air (+20 °C)	without	17	537.00
11264	0 - 200	air (+20 °C)	with	17	865.00
11190	0 - 200	air (+20 °C)	without	17	537.00
11265	0 - 320	air (+20 °C)	with	17	865.00
11191	0 - 320	air (+20 °C)	without	17	537.00
11266	0 - 400	air (+20 °C)	with	17	865.00
11192	0 - 400	air (+20 °C)	without	17	537.00
11267	0 - 800	air (+20 °C)	with	17	865.00
11193	0 - 800	air (+20 °C)	without	17	537.00
11268	0 - 0.35	water (+20 °C)	with	10	844.00
11194	0 - 0.35	water (+20 °C)	without	10	507.00
11269	0 - 0.8	water (+20 °C)	with	10	844.00
11195	0 - 0.8	water (+20 °C)	without	10	507.00
11270	0 - 1.8	water (+20 °C)	with	10	844.00
11196	0 - 1.8	water (+20 °C)	without	10	507.00
11271	0 - 3	water (+20 °C)	with	17	865.00
11197	0 - 3	water (+20 °C)	without	17	537.00
11272	0 - 5	water (+20 °C)	with	17	865.00
11198	0 - 5	water (+20 °C)	without	17	537.00
11273	0 - 8	water (+20 °C)	with	17	865.00
11199	0 - 8	water (+20 °C)	without	17	537.00
11274	0 - 10	water (+20 °C)	with	17	865.00
11200	0 - 10	water (+20 °C)	without	17	537.00
11275	0 - 20	water (+20 °C)	with	17	865.00
11201	0 - 20	water (+20 °C)	without	17	537.00

THOMAFUID®-Flowmeters made of PTFE

Application area

- Flowmeters for use in laboratory, pilot and production plant for smallest as well as for largest measuring ranges.



without ring sensor



with ring sensor

Product specification

- Flowmeters with needle valve, measuring tube, and connecting fittings as complete unit.
- The very accurate reading is enabled by a calibrated ribbed measuring tube, through which the cone plummets are precisely conducted.
- The flowmeters are supplied alternatively with or without annular proximity switch (flow controller).

- Standardly, the flowmeters are fitted with screwed pipe joints accepting pipes made of PVDF or PTFE with outside diameter of 6 mm.
- Alternatively, these connections can be replaced by other fittings accepting pipes with larger or smaller outside diameters. The internal thread G 1/4" is suitable for all common THOMAFLUID® tubing or pipe connectors. The connecting fittings are principally mounted at the rear.

Technical specification

• Material:

Valve body: PTFE
 Valve spindle: PTFE
 Needle valve: PTFE
 Measuring tube: borosilicate glass
 Cone plummet: Dylor 2000 with ferrum core, glass, titanium, stainless steel, PVDF, PTFE, Hastelloy (depending on medium)
 Plummet stop: PTFE
 O-rings: FPM
 Connecting fittings: PTFE
 Wall panel: PVC-glass

• Length of scale: 150 mm

• Max. operating pressure: depending on flow till 6 bar

• Max. temperature: +130 °C

• Accuracy: measuring tubes are calibrated individually

• Connection: for pipes outside 6 mm

Item	Measur. range	Medium	Ring sensor	Ø measur. tube mm	Price EURO
24971	0 - 15	argon	with	10	844.00
24972	0 - 15	argon	without	10	507.00
24973	0 - 30	argon	with	10	844.00
24974	0 - 30	argon	without	10	507.00
24975	0 - 60	argon	with	10	844.00
24976	0 - 60	argon	without	10	507.00
24977	0 - 100	argon	with	10	844.00
24978	0 - 100	argon	without	10	507.00
24979	0 - 160	argon	with	10	844.00
24980	0 - 160	argon	without	10	507.00
24981	0 - 240	argon	with	17	865.00
24982	0 - 240	argon	without	17	537.00
24983	0 - 320	argon	with	17	865.00
24984	0 - 320	argon	without	17	537.00
24985	0 - 600	argon	with	17	865.00
24986	0 - 600	argon	without	17	537.00
11348	0 - 15	chlorine gas	with	10	844.00
11276	0 - 15	chlorine gas	without	10	507.00
11349	0 - 30	chlorine gas	with	10	844.00
11277	0 - 30	chlorine gas	without	10	507.00
11350	0 - 55	chlorine gas	with	10	844.00
11278	0 - 55	chlorine gas	without	10	507.00
11351	0 - 90	chlorine gas	with	10	844.00
11279	0 - 90	chlorine gas	without	10	507.00
11352	0 - 140	chlorine gas	with	17	865.00
11280	0 - 140	chlorine gas	without	17	537.00
11353	0 - 200	chlorine gas	with	17	865.00
11281	0 - 200	chlorine gas	without	17	537.00
11354	0 - 260	chlorine gas	with	17	865.00
11282	0 - 260	chlorine gas	without	17	537.00
11355	0 - 480	chlorine gas	with	17	865.00
11283	0 - 480	chlorine gas	without	17	537.00
11356	0 - 22	helium	with	10	844.00
11284	0 - 22	helium	without	10	507.00

Item	Measur. range	Medium	Ring sensor	Ø measur. tube mm	Price EURO
11357	0 - 55	helium	with	10	844.00
11285	0 - 55	helium	without	10	507.00
11358	0 - 130	helium	with	10	844.00
11286	0 - 130	helium	without	10	507.00
11359	0 - 220	helium	with	17	865.00
11287	0 - 220	helium	without	17	537.00
11360	0 - 360	helium	with	17	865.00
11288	0 - 360	helium	without	17	537.00
11361	0 - 600	helium	with	17	865.00
11289	0 - 600	helium	without	17	537.00
11362	0 - 750	helium	with	17	865.00
11290	0 - 750	helium	without	17	537.00
11363	0 - 1600	helium	with	17	865.00
11291	0 - 1600	helium	without	17	537.00
11364	0 - 18	carbon dioxide	with	10	844.00
11292	0 - 18	carbon dioxide	without	10	507.00
11365	0 - 32	carbon dioxide	with	10	844.00
11293	0 - 32	carbon dioxide	without	10	507.00
11366	0 - 65	carbon dioxide	with	10	844.00
11294	0 - 65	carbon dioxide	without	10	507.00
11367	0 - 100	carbon dioxide	with	10	844.00
11295	0 - 100	carbon dioxide	without	10	507.00
11368	0 - 170	carbon dioxide	with	17	865.00
11296	0 - 170	carbon dioxide	without	17	537.00
11369	0 - 250	carbon dioxide	with	17	865.00
11297	0 - 250	carbon dioxide	without	17	537.00
11370	0 - 300	carbon dioxide	with	17	865.00
11298	0 - 300	carbon dioxide	without	17	537.00
11371	0 - 600	carbon dioxide	with	17	865.00
11299	0 - 600	carbon dioxide	without	17	537.00
11372	0 - 16	sulfur dioxide	with	10	844.00
11300	0 - 16	sulfur dioxide	without	10	507.00
11373	0 - 30	sulfur dioxide	with	10	844.00
11301	0 - 30	sulfur dioxide	without	10	507.00
11374	0 - 55	sulfur dioxide	with	10	844.00
11302	0 - 55	sulfur dioxide	without	10	507.00
11375	0 - 90	sulfur dioxide	with	10	844.00
11303	0 - 90	sulfur dioxide	without	10	507.00
11376	0 - 140	sulfur dioxide	with	17	865.00
11304	0 - 140	sulfur dioxide	without	17	537.00
11377	0 - 220	sulfur dioxide	with	17	865.00
11305	0 - 220	sulfur dioxide	without	17	537.00
11378	0 - 260	sulfur dioxide	with	17	865.00
11306	0 - 260	sulfur dioxide	without	17	537.00
11379	0 - 500	sulfur dioxide	with	17	865.00
11307	0 - 500	sulfur dioxide	without	17	537.00
11380	0 - 13	nitrogen dioxide (+25 °C)	with	10	844.00
11308	0 - 13	nitrogen dioxide (+25 °C)	without	10	507.00
11381	0 - 24	nitrogen dioxide (+25 °C)	with	10	844.00
11309	0 - 24	nitrogen dioxide (+25 °C)	without	10	507.00
11382	0 - 46	nitrogen dioxide (+25 °C)	with	10	844.00

Item	Measur. range	Medium	Ring sensor	Ø measur. tube mm	Price EURO
11310	0 - 46	nitrogen dioxide (+25 °C)	without	10	507.00
11383	0 - 75	nitrogen dioxide (+25 °C)	with	17	865.00
11311	0 - 75	nitrogen dioxide (+25 °C)	without	17	537.00
11384	0 - 110	nitrogen dioxide (+25 °C)	with	17	865.00
11312	0 - 110	nitrogen dioxide (+25 °C)	without	17	537.00
11385	0 - 190	nitrogen dioxide (+25 °C)	with	17	865.00
11313	0 - 190	nitrogen dioxide (+25 °C)	without	17	537.00
11386	0 - 220	nitrogen dioxide (+25 °C)	with	17	865.00
11314	0 - 220	nitrogen dioxide (+25 °C)	without	17	537.00
11387	0 - 400	nitrogen dioxide (+25 °C)	with	17	865.00
11315	0 - 400	nitrogen dioxide (+25 °C)	without	17	537.00
11388	0 - 18	nitrogen	with	10	844.00
11316	0 - 18	nitrogen	without	10	507.00
11389	0 - 38	nitrogen	with	10	844.00
11317	0 - 38	nitrogen	without	10	507.00
11390	0 - 75	nitrogen	with	10	844.00
11318	0 - 75	nitrogen	without	10	507.00
11391	0 - 120	nitrogen	with	17	865.00
11319	0 - 120	nitrogen	without	17	537.00
11392	0 - 200	nitrogen	with	17	865.00
11320	0 - 200	nitrogen	without	17	537.00
11393	0 - 300	nitrogen	with	17	865.00
11321	0 - 300	nitrogen	without	17	537.00
11394	0 - 380	nitrogen	with	17	865.00
11322	0 - 380	nitrogen	without	17	537.00
11395	0 - 750	nitrogen	with	17	865.00
11323	0 - 750	nitrogen	without	17	537.00
11396	0 - 48	hydrogen	with	10	844.00
11324	0 - 48	hydrogen	without	10	507.00
11397	0 - 110	hydrogen	with	10	844.00
11325	0 - 110	hydrogen	without	10	507.00
11398	0 - 230	hydrogen	with	10	844.00
11326	0 - 230	hydrogen	without	10	507.00
11399	0 - 400	hydrogen	with	10	844.00
11327	0 - 400	hydrogen	without	10	507.00
11400	0 - 600	hydrogen	with	17	865.00
11328	0 - 600	hydrogen	without	17	537.00
11401	0 - 1000	hydrogen	with	17	865.00
11329	0 - 1000	hydrogen	without	17	537.00
11402	0 - 1300	hydrogen	with	17	865.00
11330	0 - 1300	hydrogen	without	17	537.00
11403	0 - 2600	hydrogen	with	17	865.00
11331	0 - 2600	hydrogen	without	17	537.00
11404	0 - 20	air (+20 °C)	with	10	844.00
11332	0 - 20	air (+20 °C)	without	10	507.00

Item	Measur. range	Medium	Ring sensor	Ø measur. tube mm	Price EURO
11405	0 - 40	air (+20 °C)	with	10	844.00
11333	0 - 40	air (+20 °C)	without	10	507.00
11406	0 - 80	air (+20 °C)	with	10	844.00
11334	0 - 80	air (+20 °C)	without	10	507.00
11407	0 - 130	air (+20 °C)	with	17	865.00
11335	0 - 130	air (+20 °C)	without	17	537.00
11408	0 - 200	air (+20 °C)	with	17	865.00
11336	0 - 200	air (+20 °C)	without	17	537.00
11409	0 - 320	air (+20 °C)	with	17	865.00
11337	0 - 320	air (+20 °C)	without	17	537.00
11410	0 - 400	air (+20 °C)	with	17	865.00
11338	0 - 400	air (+20 °C)	without	17	537.00
11411	0 - 800	air (+20 °C)	with	17	865.00
11339	0 - 800	air (+20 °C)	without	17	537.00
11412	0 - 0.35	water (+20 °C)	with	10	844.00
11340	0 - 0.35	water (+20 °C)	without	10	507.00
11413	0 - 0.8	water (+20 °C)	with	10	844.00
11341	0 - 0.8	water (+20 °C)	without	10	507.00
11414	0 - 1.8	water (+20 °C)	with	10	844.00
11342	0 - 1.8	water (+20 °C)	without	10	507.00
11415	0 - 3	water (+20 °C)	with	17	865.00
11343	0 - 3	water (+20 °C)	without	17	537.00
11416	0 - 5	water (+20 °C)	with	17	865.00
11344	0 - 5	water (+20 °C)	without	17	537.00
11417	0 - 8	water (+20 °C)	with	17	865.00
11345	0 - 8	water (+20 °C)	without	17	537.00
11418	0 - 10	water (+20 °C)	with	17	865.00
11346	0 - 10	water (+20 °C)	without	17	537.00
11419	0 - 20	water (+20 °C)	with	17	865.00
11347	0 - 20	water (+20 °C)	without	17	537.00

THOMAFUID®-Flowmeters

General product specification

- Flowmeter of high measurement accuracy and operational reliability for use in laboratory, pilot and production plants. It meets the high requirements of process engineering and is usable in process automation due to limit signal transmitters and measured value remote transmission.
- Transparent measuring body made of PVC-U or PA, available in three installation lengths. The medium flows vertically from the bottom to the top. The flow forces cause the float to lift without friction and its top graduation edge indicates directly the flow volume on the graduated tube scale. The optimized stabilization of the float makes reading easier. The measuring range scale on the conical graduated tube indicates as standard l/h for water at +20 °C. The graduated tube is equipped with external dovetailed strips with two movable set-point indicators for the optimum marking of minimum and maximum flow volume or for accommodating limit signal transmitters. The float of PVDF as standard as well as the float trap are located in the measuring tube.
- For automatic measurement, the float is equipped with a magnet insert which is impervious to fluids. The connections (socket ends for solvent) with two O-rings ensure a reliable sealing and fast, unproblematic radial installation.

THOMAFLUID®-Flowmeter made of PVC-U - Scale: 170/200 mm

Product specification

- Practical graduated measuring ranges according to DIN
- Increased measured value stability due to materials with reduced moisture absorption
- Increased accuracy due to optimized graduated tube geometry
- Resistant to corrosion
- High creep strength
- High mechanical stability
- Free of plasticizers, therefore physiologically indifferent
- High impact toughness, but sensitive to impact in the cold
- Hermetically sealed, connected with O-rings
- Require little maintenance
- Encapsulated magnet impervious to fluids with only one polarization for monostable and bistable function.

Technical specification

• Material:

Measuring tube: PVC-U (polyvinyl chloride), transparent
 Float: PVDF, stainless steel 1.4301 (V2A) or PVDF with encapsulated magnet impervious to fluids
 O-rings: EPDM (ethylene-propylene-diene-monomer); FPM (fluorinated rubber) on request
 Union socket ends: PVC-U (rigid polyvinyl chloride), grey (RAL 7011)

• Measuring range: 5 - 1500 l/h

• Indicator accuracy: according to VDI / VDE 3513, Part 2

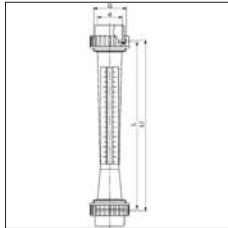
• Pressure stage: PN 10 at +20 °C

• Media handled: technical clean, neutral and aggressive liquids

• Media temperature: +60 °C

• Pipe connection: PVC socket ends for solvent welding according to DIN 8063, Part 8; G-external thread connector for pipe fitting, with optional insert and internal thread connector

• Installation: vertical; flow direction from the bottom to the top



Item	d	Nominal width	External thread	Measuring range liquids l/h	Material float	Price
	mm	mm				EURO
350727	20	15	G 1"	5 - 50	PVDF	110.00
350728	20	15	G 1"	15 - 150	PVDF	110.00
350729	20	15	G 1"	25 - 250	PVDF	110.00
350730	20	15	G 1"	40 - 400	PVDF	110.00
350731	20	15	G 1"	5 - 50	PVDF/magnet	154.00
350732	20	15	G 1"	15 - 150	PVDF/magnet	154.00
350733	20	15	G 1"	25 - 250	PVDF/magnet	154.00
350734	20	15	G 1"	40 - 400	PVDF/magnet	154.00
350735	32	25	G 1 1/2"	25 - 250	PVDF	122.00
350736	32	25	G 1 1/2"	40 - 400	PVDF	122.00
350737	32	25	G 1 1/2"	100 - 1000	PVDF	122.00
350738	32	25	G 1 1/2"	150 - 1500	PVDF	122.00

Item	d	Nominal width	External thread	Measuring range liquids l/h	Material float	Price
	mm	mm				EURO
350743	32	25	G 1 1/2"	25 - 250	PVDF	170.00
350744	32	25	G 1 1/2"	40 - 400	PVDF/magnet	170.00
350745	32	25	G 1 1/2"	100 - 1000	PVDF/magnet	170.00
350746	32	25	G 1 1/2"	150 - 1500	PVDF/magnet	170.00

THOMAFLUID®-Flowmeter made of PVC-U - Scale: 350 mm

Product specification

- Practical graduated measuring ranges according to DIN
- Increased measured value stability due to materials with reduced moisture absorption
- Increased accuracy due to optimized graduated tube geometry
- Resistant to corrosion
- Free of plasticizers, therefore physiologically indifferent
- High impact toughness, but sensitive to impact in the cold
- High mechanical stability
- High creep strength
- Hermetically sealed, connected with O-rings
- Require little maintenance
- Encapsulated magnet impervious to fluids with only one polarization for monostable and bistable function.

Technical specification

• Material:

Measuring tube: PVC-U (polyvinyl chloride), transparent
 Float: PVDF (polyvinylidene fluoride); stainless steel 1.4301 (V2A); PVDF, with encapsulated magnet impervious to fluids
 O-rings: EPDM (ethylene-propylene-diene-monomer); FPM (fluorinated rubber) on request

Union socket ends: PVC-U (rigid polyvinyl chloride), grey (RAL 7011)

• Measuring range: 15 - 10.000 l/h

• Indicator accuracy: according to VDI / VDE 3513, Part 2

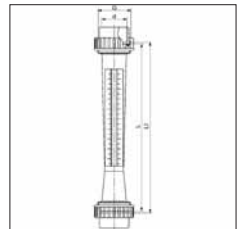
• Pressure stage: PN 10 at +20 °C

• Media handled: technical clean, neutral and aggressive liquids

• Media temperature: +60 °C

• Pipe connection: PVC socket ends for solvent welding according to DIN 8063, Part 8; threaded connection for pipe union G 1 1/2" to G 2 3/4"

• Installation: vertical; flow direction from the bottom to the top



Item	d	Nominal width	Ex-ternal thread	Measuring range liquids l/h	Material float	Price
	mm	mm				EURO
350693	32	25	G 1 1/2"	15 - 150	PVDF	150.00
350694	32	25	G 1 1/2"	30 - 300	PVDF	150.00
350695	32	25	G 1 1/2"	60 - 600	PVDF	150.00

Item	d	Nominal width	Ex-ternal thread	Measuring range liquids l/h	Material float	Price
	mm	mm				EURO
350696	32	25	G 1 1/2"	100 - 1000	PVDF	150.00
350697	40	32	G 2"	150 - 1500	PVDF	202.00
350698	40	32	G 2"	250 - 2500	PVDF	202.00
350699	50	40	G 2 1/4"	200 - 2000	PVDF	220.00
350700	50	40	G 2 1/4"	300 - 3000	PVDF	220.00
350701	63	50	G 2 3/4"	400 - 4000	PVDF	310.00
350702	63	50	G 2 3/4"	600 - 6000	PVDF	310.00
350703	63	50	G 2 3/4"	1000 - 10000	PVDF	310.00
350715	32	25	G 1 1/2"	15 - 150	PVDF/magnet	190.00
350716	32	25	G 1 1/2"	30 - 300	PVDF/magnet	190.00
350717	32	25	G 1 1/2"	60 - 600	PVDF/magnet	190.00
350718	32	25	G 1 1/2"	100 - 1000	PVDF/magnet	190.00
350719	40	32	G 2"	150 - 1500	PVDF/magnet	252.00
350720	40	32	G 2"	250 - 2500	PVDF/magnet	252.00
350721	50	40	G 2 1/4"	200 - 2000	PVDF/magnet	260.00
350722	50	40	G 2 1/4"	300 - 3000	PVDF/magnet	260.00
350723	63	50	G 2 3/4"	400 - 4000	PVDF/magnet	348.00
350724	63	50	G 2 3/4"	600 - 6000	PVDF/magnet	348.00
350725	63	50	G 2 3/4"	1000 - 10000	PVDF/magnet	348.00

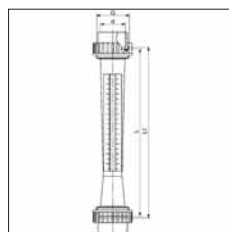
THOMAFUID®-Flowmeter made of PA - Scale: 170/200 mm

Product specification

- Practical graduated measuring ranges according to DIN
- Increased accuracy due to optimized graduated tube geometry
- Good temperature resistance
- High creep strength
- High impact toughness
- High wear resistance
- Hermetically sealed, connected with O-rings
- Require little maintenance
- Encapsulated magnet impervious to fluids with only one polarization for monostable and bistable function.

Technical specification

- **Material:**
Measuring tube: PA (polyamide), transparent
Float: PVDF (polyvinylidene fluoride); stainless steel 1.4301 (V2A);
PVDF, with encapsulated magnet impervious to fluids
O-rings: EPDM (ethylene-propylene-diene-monomer); FPM (fluorinated rubber) on request
Union socket ends: PVC-U (rigid polyvinyl chloride), grey (RAL 7011)
- **Measuring range:** 5 - 1.500 l/h
- **Indicator accuracy:** according to VDI / VDE 3513, Part 2
- **Pressure stage:** PN 10 at +20 °C
- **Media handled:** technical clean, neutral liquids and gases
- **Media temperature:** +75 °C
- **Pipe connection:** PVC socket ends for solvent welding according to DIN 8063, Part 8; threaded connection for pipe union G 1/2" and G 1 1/2"
- **Installation:** vertical; flow direction from the bottom to the top



Item	d	Nominal width	External thread	Measuring range liquids l/h	Material float	Price
	mm	mm				EURO
350747	20	15	G 1"	5 - 50	PVDF	116.00
350748	20	15	G 1"	15 - 150	PVDF	116.00
350749	20	15	G 1"	25 - 250	PVDF	116.00
350750	20	15	G 1"	40 - 400	PVDF	116.00
350751	20	15	G 1"	5 - 50	PVDF/magnet	160.00
350752	20	15	G 1"	15 - 150	PVDF/magnet	160.00
350753	20	15	G 1"	25 - 250	PVDF/magnet	160.00
350754	20	15	G 1"	40 - 400	PVDF/magnet	160.00
350755	32	25	G 1 1/2"	25 - 250	PVDF	128.00
350756	32	25	G 1 1/2"	40 - 400	PVDF	128.00
350757	32	25	G 1 1/2"	100 - 1000	PVDF	128.00
350758	32	25	G 1 1/2"	150 - 1500	PVDF	128.00
350763	32	25	G 1 1/2"	25 - 250	PVDF/magnet	176.00
350764	32	25	G 1 1/2"	40 - 400	PVDF/magnet	176.00
350765	32	25	G 1 1/2"	100 - 1000	PVDF/magnet	176.00
350766	32	25	G 1 1/2"	150 - 1500	PVDF/magnet	176.00

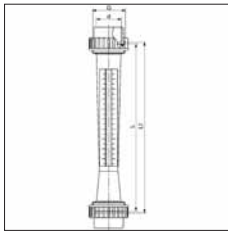
THOMAFUID®-Flowmeter made of PA - Scale: 350 mm

Product specification

- Practical graduated measuring ranges according to DIN
- Increased accuracy due to optimized graduated tube geometry
- Good temperature resistance
- High impact toughness
- High wear resistance
- High creep strength
- Hermetically sealed, connected with O-rings
- Require little maintenance
- Encapsulated magnet impervious to fluids with only one polarization for monostable and bistable function.

Technical specification

- **Material:**
Measuring tube: PA (polyamide), transparent
Float: PVDF (polyvinylidene fluoride); stainless steel 1.4301 (V2A);
PVDF, with encapsulated magnet impervious to fluids
O-rings: EPDM (ethylene-propylene-diene-monomer);
FPM (fluorinated rubber) on request
Union socket ends: PVC-U (rigid polyvinyl chloride), grey (RAL 7011)
- **Measuring range:** 15 - 10.000 l/h
- **Indicator accuracy:** according to VDI / VDE 3513, Part 2
- **Pressure stage:** PN 10 at +20 °C
- **Media handled:** technical clean, neutral liquids and gases
- **Media temperature:** +75 °C
- **Pipe connection:** PVC socket ends for solvent welding according to DIN 8063, Part 8; threaded connection for pipe union G 1 1/2" to G 2 3/4"
- **Installation:** vertical; flow direction from the bottom to the top



Item	d	Nominal width	Ex-ternal thread	Measuring range liquids l/h	Material float	Price
	mm	mm				EURO
350999	32	25	G 1 1/2"	60 - 600	PVDF	165.00
351000	32	25	G 1 1/2"	100 - 1000	PVDF	165.00
351001	40	32	G 2"	150 - 1500	PVDF	210.00
351002	40	32	G 2"	250 - 2500	PVDF	210.00
351003	50	40	G 2 1/4"	200 - 2000	PVDF	255.00
351004	50	40	G 2 1/4"	300 - 3000	PVDF	255.00
351005	63	50	G 2 3/4"	400 - 4000	PVDF	310.00
351006	63	50	G 2 3/4"	600 - 6000	PVDF	310.00
351007	63	50	G 2 3/4"	1000 - 10000	PVDF	310.00
351019	32	25	G 1 1/2"	15 - 150	PVDF/magnet	206.00
351020	32	25	G 1 1/2"	30 - 300	PVDF/magnet	206.00
351021	32	25	G 1 1/2"	60 - 600	PVDF/magnet	206.00
351022	32	25	G 1 1/2"	100 - 1000	PVDF/magnet	206.00
351023	40	32	G 2"	150 - 1500	PVDF/magnet	262.00
351024	40	32	G 2"	250 - 2500	PVDF/magnet	262.00
351025	50	40	G 2 1/4"	200 - 2000	PVDF/magnet	286.00
351026	50	40	G 2 1/4"	300 - 3000	PVDF/magnet	286.00
351027	63	50	G 2 3/4"	400 - 4000	PVDF/magnet	356.00
351028	63	50	G 2 3/4"	600 - 6000	PVDF/magnet	356.00
351029	63	50	G 2 3/4"	1000 - 10000	PVDF/magnet	356.00

THOMAFLUID®-Flowmeter made of acrylic glas

Product specification

- Shatterproof and corrosion-resistant
- Short installation length
- With needle valve fine adjustable
- Frontal scale imprint

Technical specification

- **Material:**
Housing: Acrylic glass
Float: stainless steel 1.4305
Valve spindle: stainless steel 1.4310
O-rings: FPM
- **Temperature range:** 0 bis +65 °C
- **Nominal width:** DN 4
- **Tolerance:** ±5% of full scale value
- **Pressure resistance:** 6 bar
- **Installation location:** vertical inwards flow from below
- **Weight:** 0,13 kg



Item	Measuring range water l/h	Measuring range air l/min.	Float control	Internal thread	L mm	Price EURO
350769	5 - 50		without	R 1/4"	120	120.00
350774	0.2 - 3		with	NPT 1/8"	102	234.00
350775	0.5 - 6		with	NPT 1/8"	102	234.00
350776	1 - 15		with	NPT 1/8"	102	234.00
350777	4 - 40		with	NPT 1/8"	102	234.00
350778	10 - 80		with	NPT 1/8"	102	234.00
350779		0.04 - 0.5	with	NPT 1/8"	102	234.00
350780		0.1 - 1	with	NPT 1/8"	102	234.00
350781		0.4 - 5	with	NPT 1/8"	102	234.00
350782		2 - 25	with	NPT 1/8"	102	234.00

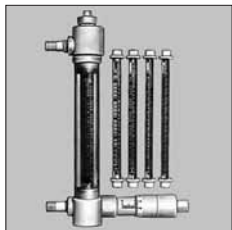
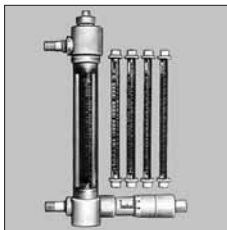
THOMAFLUID®-Flowmeter with Control Valve and Changeable Measuring Tube

Application area

- Linear flow indication for gaseous and liquid ultra pure as well as aggressive media at technical low-pressure experimental set-ups and pilot plants in the areas of chemical synthesis, medical engineering, process technology, environmental technology and biotechnology.

Product specification

- Complete flowmeter with safety casing duct and a set of three differently dimensioned, calibrated precision measuring tubes well-suited to each other as well as involved needle fine valve for flow adjustment; calibration charts referring to media, pressure, and temperature for different overlapping measuring ranges for gases and just as much for liquids, per measuring tube size two different alternatively usable plummets for two measuring ranges of each kind of medium; laminar overflow channels for stabilization of the plummet position in the flowing medium; black etched scale on white background for correct read-out especially for optical remote reading. Securing pieces for the plummet at the ends of the measuring tube.



Technical specification

• **Material:**

Measuring tube: borosilicate glass / clear
 Plummets: borosilicate glass / black; stainless steel 1.4401 (SS 316)
 Securing end pieces: PTFE
 Safety casing duct: polycarbonate
 Casing duct connections: polypropylene
 NPT connection: PTFE-FEP
 Flow regulating valve: medium-contacting: PTFE/ borosilicate glass/FPM

• **Measuring ranges for borosilicate glass plummets:**

Measuring tube size II: air: 1-280 ml/min.; water: 0.01-4 ml/min.
 Measuring tube size III: air: 10-1.900 ml/min.; water: 0.2-36 ml/min.
 Measuring tube size IV: air: 200-14.000 ml/min.; water: 3-300 ml/min.
 Measuring tube size V: air: 1000-36000 ml/min; water: 10-850 ml/min.
 Measuring tube size VI: air: 3000-77000 ml/min; water: 30-1900 ml/min.

• **Measuring ranges for stainless steel plummets:**

Measuring tube size II: air: 2-500 ml/min.; water: 0.02 - 8.6 ml/min.
 Measuring tube size III: air: 20-3.400 ml/min.; water: 0.43 - 77 ml/min.
 Measuring tube size IV: air: 360-25.000 ml/min.; water: 6 - 640 ml/min.
 Measuring tube size V: air: 1800-64000 ml/min; water: 21-1820 ml/min.
 Measuring tube size VI: air: 5300-137000 ml/min; water: 64-4100 ml/min.

• **Reading accuracy:** ±2 % of measured value

• **Connections:** NPT 1/4" external thread

Item	Measuring tube size	Max. op. pressure ¹ bar	Price EURO
50148	II, III and IV	5	2,232.00
58190	V and VI	3.5	2,452.00

¹ at +20 °C

Technical specification

• **Material:**

Housing, cleaning plug, plummet stop: polycarbonate
 Ball plummet: glass or stainless steel
 O-rings: FPM
 Needle valve, connectors: stainless steel or brass

• **Length of scale:** 37 mm

• **Max. operating pressure:** 6.8 bar

• **Max. temperature:** +55 °C

• **Standard accuracy:** ±10 % of full scale value or better

• **Reproducibility:** within 1 % of actual value

• **Connection:** Internal thread NPT 1/8"

Item	Measur. range air l/h	Measur. range water l/h	Float	Needle valve	Price EURO
55600	10 - 80	0.1 - 1.5	glass	stainless steel	413.00
55601	10 - 150	0.5 - 4	stainless steel	stainless steel	413.00
55602	20 - 300	0.5 - 6	glass	stainless steel	413.00
55603	50 - 500	1 - 6	stainless steel	stainless steel	413.00
55604	100 - 1500	5 - 35	glass	stainless steel	413.00
55605	200 - 2600	5 - 80	stainless steel	stainless steel	413.00
55607	10 - 80	0.1 - 1.5	glass	brass	290.00
55608	10 - 150	0.5 - 4	stainless steel	brass	290.00
55609	20 - 300	0.5 - 6	glass	brass	290.00
55610	50 - 500	1 - 6	stainless steel	brass	290.00
55611	100 - 1500	5 - 35	glass	brass	290.00
55612	200 - 2600	5 - 80	stainless steel	brass	290.00

Metals

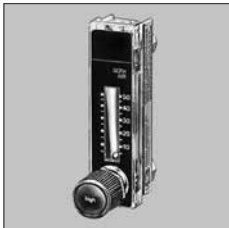
THOMAFLOW®-Flowmeter made of Metal - Scale: 37 mm

Application area

- Device for indication of small flow rates.

Product specification

- Mechanically robust, shockproof and impact-resistant. The device consists of a single plastic part which includes housing, ribbed measure tube, front frame, and ball stop.
- Very good readability due to the position of the measuring tube directly behind front frame and scale without interposed window and frame. The proven ribbed construction ensures stabilization of the plummet and thus improves accuracy.
- The connectors and the valve unit are mounted without threads by means of a O-ring seal and remain rotatable; thus preventing damage by excessive tightening of the line and simplifying the assembly.
- Low pressure loss.



55600, 55607



55600, 55607

THOMAFLOW®-Flowmeter made of Metal - Scale: 65 mm

Product specification

- The small flowmeter KDM was developed using proven constructions and wide operating experience. It is distinguished by reliability of operation, ease of assembly and disassembly, versatility of applications and sturdiness.



55614, 55648



55614, 55648

Technical specification

• **Material:**

Needle valve: stainless steel 1.4401 (SS 316) or brass
 Measuring tube: borosilicate glass
 Ball plummet: borosilicate glass or stainless steel 1.4401 (SS 316)
 Plummet stops: PTFE
 Side plates: black anodized aluminium
 Valve stem: stainless steel
 Nozzle: graphite, PTFE coated
 O-rings: FPM in stainless steel type; NBR in brass type
 Gaskets: FPM in stainless steel type; CR in brass type
 Connectors: stainless steel 1.4401 (SS 316) or brass

- **Length of scale:** 65 mm
- **Max. operating pressure:** 14 bar
- **Max. temperature:** +120 °C
- **Standard accuracy:** ±10 % of full scale value
- **Reproducibility:** 0.5 % of full scale value
- **Flow range:** 10:1

Item	Measur. range air l/h	Measur. range water l/h	Float	Needle valve	Connec. type	Price EURO
55614	0.2 - 4		glass	stainless steel	NPT 1/8"	493.00
55615	0.2 - 4		glass	stainless steel	NPT 1/4"	493.00
55616	0.2 - 4		glass	stainless steel	nozzle 1/4"	493.00
55617	2.5 - 13		stainless steel	stainless steel	NPT 1/8"	493.00
55618	2.5 - 13		stainless steel	stainless steel	NPT 1/4"	493.00
55619	2.5 - 13		stainless steel	stainless steel	nozzle 1/4"	493.00
55620	4 - 40	0.06 - 0.6	glass	stainless steel	NPT 1/8"	493.00
55621	4 - 40	0.06 - 0.6	glass	stainless steel	NPT 1/4"	493.00
55622	4 - 40	0.06 - 0.6	glass	stainless steel	nozzle 1/4"	493.00
55623	5 - 50	0.18 - 1.8	glass	stainless steel	NPT 1/8"	493.00
55624	5 - 50	0.18 - 1.8	glass	stainless steel	NPT 1/4"	493.00
55625	5 - 50	0.18 - 1.8	glass	stainless steel	nozzle 1/4"	493.00
55626	10 - 150	0.4 - 4	stainless steel	stainless steel	NPT 1/8"	493.00
55627	10 - 150	0.4 - 4	stainless steel	stainless steel	NPT 1/4"	493.00
55628	10 - 150	0.4 - 4	stainless steel	stainless steel	nozzle 1/4"	493.00
55629	18 - 180	0.35 - 3.4	glass	stainless steel	NPT 1/8"	493.00
55630	18 - 180	0.35 - 3.4	glass	stainless steel	NPT 1/4"	493.00
55631	18 - 180	0.35 - 3.4	glass	stainless steel	nozzle 1/4"	493.00
55632	30 - 300	0.75 - 7.5	stainless steel	stainless steel	NPT 1/8"	493.00
55633	30 - 300	0.75 - 7.5	stainless steel	stainless steel	NPT 1/4"	493.00
55634	30 - 300	0.75 - 7.5	stainless steel	stainless steel	nozzle 1/4"	493.00
55635	35 - 360	0.85 - 8.5	glass	stainless steel	NPT 1/8"	493.00
55636	35 - 360	0.85 - 8.5	glass	stainless steel	NPT 1/4"	493.00
55637	35 - 360	0.85 - 8.5	glass	stainless steel	nozzle 1/4"	493.00
55638	60 - 600	2 - 20	stainless steel	stainless steel	NPT 1/8"	493.00

Item	Measur. range air l/h	Measur. range water l/h	Float	Needle valve	Connec. type	Price EURO
55639	60 - 600	2 - 20	stainless steel	stainless steel	NPT 1/4"	493.00
55640	60 - 600	2 - 20	stainless steel	stainless steel	nozzle 1/4"	493.00
55641	125 - 1250	3.5 - 35	glass	stainless steel	NPT 1/8"	493.00
55642	125 - 1250	3.5 - 35	glass	stainless steel	NPT 1/4"	493.00
55643	125 - 1250	3.5 - 35	glass	stainless steel	nozzle 1/4"	493.00
55644	200 - 2300	8 - 80	stainless steel	stainless steel	NPT 1/8"	493.00
55645	200 - 2300	8 - 80	stainless steel	stainless steel	NPT 1/4"	493.00
55646	200 - 2300	8 - 80	stainless steel	stainless steel	nozzle 1/4"	493.00
55648	0.2 - 4		glass	brass	NPT 1/8"	405.00
55649	0.2 - 4		glass	brass	NPT 1/4"	405.00
55650	0.2 - 4		glass	brass	nozzle 1/4"	405.00
55651	2.5 - 13		stainless steel	brass	NPT 1/8"	405.00
55652	2.5 - 13		stainless steel	brass	NPT 1/4"	405.00
55653	2.5 - 13		stainless steel	brass	nozzle 1/4"	405.00
55654	4 - 40	0.06 - 0.6	glass	brass	NPT 1/8"	405.00
55655	4 - 40	0.06 - 0.6	glass	brass	NPT 1/4"	405.00
55656	4 - 40	0.06 - 0.6	glass	brass	nozzle 1/4"	405.00
55657	5 - 50	0.18 - 1.8	glass	brass	NPT 1/8"	405.00
55658	5 - 50	0.18 - 1.8	glass	brass	NPT 1/4"	405.00
55659	5 - 50	0.18 - 1.8	glass	brass	nozzle 1/4"	405.00
55660	10 - 150	0.4 - 4	stainless steel	brass	NPT 1/8"	325.00
55661	10 - 150	0.4 - 4	stainless steel	brass	NPT 1/4"	325.00
55662	10 - 150	0.4 - 4	stainless steel	brass	nozzle 1/4"	325.00
55663	18 - 180	0.35 - 3.4	glass	brass	NPT 1/8"	325.00
55664	18 - 180	0.35 - 3.4	glass	brass	NPT 1/4"	325.00
55665	18 - 180	0.35 - 3.4	glass	brass	nozzle 1/4"	325.00
55666	30 - 300	0.75 - 7.5	stainless steel	brass	NPT 1/8"	325.00
55667	30 - 300	0.75 - 7.5	stainless steel	brass	NPT 1/4"	325.00
55668	30 - 300	0.75 - 7.5	stainless steel	brass	nozzle 1/4"	325.00
55669	35 - 360	0.85 - 8.5	glass	brass	NPT 1/8"	325.00
55670	35 - 360	0.85 - 8.5	glass	brass	NPT 1/4"	325.00
55671	35 - 360	0.85 - 8.5	glass	brass	nozzle 1/4"	325.00
55672	60 - 600	2 - 20	stainless steel	brass	NPT 1/8"	325.00
55673	60 - 600	2 - 20	stainless steel	brass	NPT 1/4"	325.00
55674	60 - 600	2 - 20	stainless steel	brass	nozzle 1/4"	325.00
55675	125 - 1250	3.5 - 35	glass	brass	NPT 1/8"	325.00

Item	Measur. range air l/h	Measur. range water l/h	Float	Needle valve	Connec. type	Price EURO
55676	125 - 1250	3.5 - 35	glass	brass	NPT 1/4"	325.00
55677	125 - 1250	3.5 - 35	glass	brass	nozzle 1/4"	325.00
55678	200 - 2300	8 - 80	stainless steel	brass	NPT 1/8"	325.00
55679	200 - 2300	8 - 80	stainless steel	brass	NPT 1/4"	325.00
55680	200 - 2300	8 - 80	stainless steel	brass	nozzle 1/4"	325.00

THOMAFUID®-Flowmeters made of Metal – Scale: 150 and 250 mm

Application area

- Flowmeters for use in laboratory and plant, for very small measuring ranges.

General product specification

- The flowmeters are equipped with ribbed measuring tubes which allow a very precise reading by precise guidance of the ball plummet.
- The measuring range of each tube can be altered without recalibration by simply interchanging the balls.
- Measuring tubes are available in 8 sizes, thus the device covers an exceptionally wide measuring range.
- The measuring tubes are clamped between flat gaskets in a rugged, torsional stiff housing. This fixing device ensures a reliable and read-justable sealing despite interchange of tubes within seconds.
- Connectors are made of solid material and can be displaced by 180°, if the pipe connection should be conducted in the other direction.

General technical specification

• Material:

Needle valve: stainless steel 1.4401 (SS 316) or brass
 Measuring tube: borosilicate glass
 Ball plummet: borosilicate glass, stainless steel, sapphire, carboloy, tantalum
 Plummet stops: PTFE
 Side plates: black anodized aluminium
 Valve stem: stainless steel
 Nozzle: graphite, PTFE coated
 O-rings: FPM in stainless steel type; NBR in brass type
 Gaskets: FPM in stainless steel type; CR in brass type
 Connectors: stainless steel 1.4401 (SS 316) or brass

- **Length of scale:** SR150: 150 mm, SR250: 250 mm
- **Max. operating pressure:** 14 bar
- **Max. temperature:** +120 °C
- **Accuracy:** SR150: ±5 % of full scale value, SR250: ±3 % of full scale value
- **Connection:** Internal thread NPT 1/8"

THOMAFUID®-Flowmeter made of Metal – Scale: 150 mm

Product specification

- The flowmeter SR150 is suitable for various standard gases such as argon, helium, carbon dioxide, hydrogen, nitrogen, and oxygen.

Item	Measur. range water l/h	Measur. range air l/h	Float	Needle valve	Price EURO
55681	0 - 0.033	0 - 2.78	glass	stainless steel	560.00
55682	0 - 0.064	0 - 4.32	sapphire	stainless steel	560.00

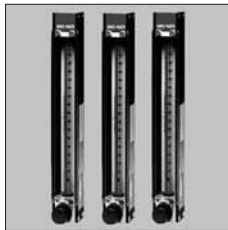
Item	Measur. range water l/h	Measur. range air l/h	Float	Needle valve	Price EURO
55683	0 - 0.15	0 - 8.28	stainless steel	stainless steel	560.00
55684	0 - 0.296	0 - 14	Carboloy	stainless steel	560.00
55685	0 - 0.33	0 - 15.3	tantalum	stainless steel	560.00
55686	0 - 0.068	0 - 5.4	glass	stainless steel	560.00
55687	0 - 0.125	0 - 8.2	sapphire	stainless steel	560.00
55688	0 - 0.315	0 - 15.9	stainless steel	stainless steel	560.00
55689	0 - 0.575	0 - 26.9	Carboloy	stainless steel	560.00
55855	0 - 0.67	0 - 29.1	tantalum	stainless steel	560.00
55690	0 - 0.34	0 - 21	glass	stainless steel	560.00
55691	0 - 0.63	0 - 29	sapphire	stainless steel	560.00
55692	0 - 1.35	0 - 46	stainless steel	stainless steel	560.00
55693	0 - 2.09	0 - 69	Carboloy	stainless steel	560.00
55694	0 - 2.26	0 - 73	tantalum	stainless steel	560.00
55695	0 - 1	0 - 46	glass	stainless steel	560.00
55696	0 - 1.57	0 - 61	sapphire	stainless steel	560.00
55697	0 - 2.76	0 - 94	stainless steel	stainless steel	560.00
55698	0 - 4.24	0 - 136	Carboloy	stainless steel	560.00
55856	0 - 4.54	0 - 144	tantalum	stainless steel	560.00
55699	0 - 3.2	0 - 133	glass	stainless steel	560.00
55700	0 - 4.8	0 - 173	sapphire	stainless steel	560.00
55701	0 - 7.9	0 - 262	stainless steel	stainless steel	560.00
55702	0 - 12.1	0 - 376	Carboloy	stainless steel	560.00
55857	0 - 13.1	0 - 398	tantalum	stainless steel	560.00
55703	0 - 5.2	0 - 221	glass	stainless steel	560.00
55704	0 - 8	0 - 292	sapphire	stainless steel	560.00
55705	0 - 13.3	0 - 439	stainless steel	stainless steel	560.00
55706	0 - 20.3	0 - 629	Carboloy	stainless steel	560.00
55707	0 - 21.9	0 - 667	tantalum	stainless steel	560.00
55708	0 - 12.3	0 - 510	glass	stainless steel	560.00
55709	0 - 18.3	0 - 669	sapphire	stainless steel	560.00
55710	0 - 30	0 - 944	stainless steel	stainless steel	560.00
55711	0 - 44.4	0 - 1347	Carboloy	stainless steel	560.00
55712	0 - 47.7	0 - 1430	tantalum	stainless steel	560.00
55713	0 - 34	0 - 1296	glass	stainless steel	560.00
55714	0 - 49	0 - 1690	sapphire	stainless steel	560.00
55715	0 - 80	0 - 2500	stainless steel	stainless steel	560.00
55716	0 - 117	0 - 3549	Carboloy	stainless steel	560.00
55717	0 - 125	0 - 3644	tantalum	stainless steel	560.00
55718	0 - 0.033	0 - 2.78	glass	brass	380.00
55719	0 - 0.064	0 - 4.32	sapphire	brass	380.00
55720	0 - 0.15	0 - 8.28	stainless steel	brass	380.00
55721	0 - 0.296	0 - 14	Carboloy	brass	380.00
55722	0 - 0.33	0 - 15.3	tantalum	brass	380.00
55723	0 - 0.068	0 - 5.4	glass	brass	380.00
55724	0 - 0.125	0 - 8.2	sapphire	brass	380.00
55725	0 - 0.315	0 - 15.9	stainless steel	brass	380.00
55726	0 - 0.575	0 - 26.9	Carboloy	brass	380.00
55858	0 - 0.67	0 - 29.1	tantalum	brass	380.00
55727	0 - 0.34	0 - 21	glass	brass	380.00
55729	0 - 0.63	0 - 29	sapphire	brass	380.00
55730	0 - 1.35	0 - 46	stainless steel	brass	380.00
55731	0 - 2.09	0 - 69	Carboloy	brass	380.00
55732	0 - 2.26	0 - 73	tantalum	brass	380.00
55733	0 - 1	0 - 46	glass	brass	380.00

Item	Measur. range water l/h	Measur. range air l/h	Float	Needle valve	Price EURO
55734	0 - 1.57	0 - 61	sapphire	brass	380.00
55735	0 - 2.76	0 - 94	stainless steel	brass	380.00
55736	0 - 4.24	0 - 136	Carboloy	brass	380.00
55859	0 - 4.54	0 - 144	tantalum	brass	380.00
55737	0 - 3.2	0 - 133	glass	brass	380.00
55738	0 - 4.8	0 - 173	sapphire	brass	380.00
55739	0 - 7.9	0 - 262	stainless steel	brass	380.00
55740	0 - 12.1	0 - 376	Carboloy	brass	380.00
55860	0 - 13.1	0 - 398	tantalum	brass	380.00
55741	0 - 5.2	0 - 221	glass	brass	380.00
55742	0 - 8	0 - 292	sapphire	brass	380.00
55743	0 - 13.3	0 - 439	stainless steel	brass	380.00
55744	0 - 20.3	0 - 629	Carboloy	brass	380.00
55745	0 - 21.9	0 - 667	tantalum	brass	380.00
55746	0 - 12.3	0 - 510	glass	brass	380.00
55747	0 - 18.3	0 - 669	sapphire	brass	380.00
55748	0 - 30	0 - 944	stainless steel	brass	380.00
55749	0 - 44.4	0 - 1347	Carboloy	brass	380.00
55750	0 - 47.7	0 - 1430	tantalum	brass	380.00
55751	0 - 34	0 - 1296	glass	brass	380.00
55752	0 - 49	0 - 1690	sapphire	brass	380.00
55753	0 - 80	0 - 2500	stainless steel	brass	380.00
55754	0 - 117	0 - 3549	Carboloy	brass	380.00
55755	0 - 125	0 - 3644	tantalum	brass	380.00

THOMAFLUID®-Flowmeter made of Metal - Scale: 250 mm

Product specification

- The flowmeter SR250 is suitable for various standard gases such as argon, helium, carbon dioxide, hydrogen, nitrogen, and oxygen.



Item	Measur. range water l/h	Measur. range air l/h	Float	Needle valve	Price EURO
55757	0 - 0.33	0 - 20	glass	stainless steel	825.00
55758	0 - 0.61	0 - 28	sapphire	stainless steel	825.00
55759	0 - 1.21	0 - 45	stainless steel	stainless steel	825.00
55760	0 - 1.94	0 - 67	Carboloy	stainless steel	825.00
55761	0 - 2.1	0 - 71	tantalum	stainless steel	825.00
55762	0 - 1	0 - 47	glass	stainless steel	825.00
55763	0 - 1.6	0 - 62	sapphire	stainless steel	825.00
55764	0 - 2.8	0 - 96	stainless steel	stainless steel	825.00

Item	Measur. range water l/h	Measur. range air l/h	Float	Needle valve	Price EURO
55765	0 - 4.3	0 - 138	Carboloy	stainless steel	825.00
55766	0 - 4.6	0 - 147	tantalum	stainless steel	825.00
55767	0 - 2.9	0 - 123	glass	stainless steel	825.00
55768	0 - 4.5	0 - 160	sapphire	stainless steel	825.00
55769	0 - 7.4	0 - 242	stainless steel	stainless steel	825.00
55770	0 - 11.1	0 - 347	Carboloy	stainless steel	825.00
55771	0 - 11.9	0 - 370	tantalum	stainless steel	825.00
55772	0 - 4.9	0 - 212	glass	stainless steel	825.00
55773	0 - 7.5	0 - 277	sapphire	stainless steel	825.00
55774	0 - 12.8	0 - 416	stainless steel	stainless steel	825.00
55775	0 - 19.1	0 - 579	Carboloy	stainless steel	825.00
55776	0 - 20.5	0 - 611	tantalum	stainless steel	825.00
55777	0 - 11.8	0 - 483	glass	stainless steel	825.00
55778	0 - 17.6	0 - 619	sapphire	stainless steel	825.00
55779	0 - 29.2	0 - 910	stainless steel	stainless steel	825.00
55780	0 - 43	0 - 1280	Carboloy	stainless steel	825.00
55781	0 - 45.8	0 - 1356	tantalum	stainless steel	825.00
55782	0 - 33	0 - 1273	glass	stainless steel	825.00
55783	0 - 49	0 - 1621	sapphire	stainless steel	825.00
55784	0 - 80	0 - 2349	stainless steel	stainless steel	825.00
55785	0 - 113	0 - 3283	Carboloy	stainless steel	825.00
55786	0 - 120	0 - 3470	tantalum	stainless steel	825.00
55788	0 - 0.33	0 - 20	glass	brass	640.00
55789	0 - 0.61	0 - 28	sapphire	brass	640.00
55790	0 - 1.21	0 - 45	stainless steel	brass	640.00
55791	0 - 1.94	0 - 67	Carboloy	brass	640.00
55792	0 - 2.1	0 - 71	tantalum	brass	640.00
55793	0 - 1	0 - 47	glass	brass	640.00
55794	0 - 1.6	0 - 62	sapphire	brass	640.00
55795	0 - 2.8	0 - 96	stainless steel	brass	640.00
55796	0 - 4.3	0 - 138	Carboloy	brass	640.00
55797	0 - 4.6	0 - 147	tantalum	brass	640.00
55798	0 - 2.9	0 - 123	glass	brass	640.00
55799	0 - 4.5	0 - 160	sapphire	brass	640.00
55800	0 - 7.4	0 - 242	stainless steel	brass	640.00
55801	0 - 11.1	0 - 347	Carboloy	brass	640.00
55802	0 - 11.9	0 - 370	tantalum	brass	640.00
55803	0 - 4.9	0 - 212	glass	brass	640.00
55804	0 - 7.5	0 - 277	sapphire	brass	640.00
55805	0 - 12.8	0 - 416	stainless steel	brass	640.00
55806	0 - 19.1	0 - 579	Carboloy	brass	640.00
55807	0 - 20.5	0 - 611	tantalum	brass	640.00
55808	0 - 11.8	0 - 483	glass	brass	640.00
55809	0 - 17.6	0 - 619	sapphire	brass	640.00
55810	0 - 29.2	0 - 910	stainless steel	brass	640.00
55811	0 - 43	0 - 1280	Carboloy	brass	640.00
55812	0 - 45.8	0 - 1356	tantalum	brass	640.00
55813	0 - 33	0 - 1273	glass	brass	640.00
55814	0 - 49	0 - 1621	sapphire	brass	640.00
55815	0 - 80	0 - 2349	stainless steel	brass	640.00
55816	0 - 113	0 - 3283	Carboloy	brass	640.00
55817	0 - 120	0 - 3470	tantalum	brass	640.00

Pumps
Drum Pumps

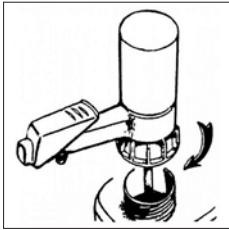
THOMAPLAST®-Squeeze Bulb Pump made of PE

Product specification

- Easy to handle squeeze bulb pump made of LDPE for discharging of bottles, carboys, tanks and open containers up to approx. 100 litres and depth of max. 100 cm. The squeeze bulb is fitted with an inlet tube of 1 m length with a stopcock at the end. The riser tube is fitted with an adjustable-height conical stopper Ø 35 to 50 mm, securing a better mounting in bottles and carboys.
- The squeeze bulb is filled completely by squeezing the bellows several times while the stopcock is closed. When the stopcock is opened, the medium flows continuously out of the container.
Type I: Immersion depth 700 mm, tube-Ø 15 mm, flow rate approx. 5 l/min.
Type II: Immersion depth 1000 mm, tube-Ø 18 mm, flow rate approx. 9 l/min.
Type III: Immersion depth 700 mm, tube-Ø 15 mm, flow rate approx. 5 l/min.
Type II and III allow accurate metering as they are fitted with a easy-running ball valve made of polypropylene. The outlet is tapered to 16 mm external diameter.



Item	Type	Immersion tube length mm	Ø pipe mm	Max. delivery rate l/min.	Price EURO
11606	I	700	15	5	67.00
11607	II	1,000	18	9	190.00
11608	III	700	15	5	169.00



Item	Immersion tube length mm	Max. delivery rate l/min.	Material gasket	Price EURO
83239	1,000	8	FPM	215.00
83240	1,000	8	EPDM	215.00
83241	1,000	8	NBR	215.00

RCT®-Accessories for Container Pump



Item	Design	Price EURO
83242	Mauser Fasset for external thread	31.00
83243	2" tri-sure van Leer for container internal thread	26.00
83244	Mauser L-ring 220 l-container for internal thread	27.00
83245	2"-fine thread steel drum	26.00
83246	adapter set consisting of items 83242-45	77.00

THOMAPLAST®-Container Pump made of PP

Product specification

- Container pump made of polypropylene (PP) suitable for fluids up to 1400 cP (at +20 °C). Depending on the medium,
- seals made of NBR, EPDM, and FPM are optionally available
- The max. delivery rate amounts to 8 l/min, the filling pump being laid out for containers of 15 to 220 l. The stroke volume is 200 ml. The pump is fitted with a stepless length adjustment of immersion tube of 1000 mm as standard. The pump can be screwed on all containers with an opening of 64 mm Ø.
- Adapters in 2 inch for "van-Leer-Systems", for L-ring and steel drums (220 l) as well as 60-mm-DIN adapter are available as accessories.
- Pumpit® is shockproof and impact-resistant and weights only 310 g.
- The special discharge valve allows accurate metering and shuts absolutely tightly without dropping.
- Assembling is very easy. Pumpit® is simply screwed on by means of a hand wheel. By hand pumping (pressing pressure) the fluid is pressurized and delivered through the riser tube to the drain cock.
- Accessory: item 83242 - 83246



Product specification

- All medium-contacting parts made of PP, FPM, and PTFE.
- As standard design with permanently screw-on bended discharge which is turnable to avoid dropping.
- Accessories: for remote or higher standing barrels fitting connecting tubing and stopcocks are available.
- Not suited for inflammable fluids; in this case we recommend the THOMAPLAST® stainless steel chemical drum pump.
- Accessory: items 40032 - 40037

Item	Immersion tube length mm	Ø pipe mm	Weight g	Price EURO
40028	500	32	600	215.00
40029	650	32	700	215.00
40030	800	32	800	233.00
40031	1,000	32	880	238.00

Item	Immersion tube length mm	Ø pipe mm	Design	Price EURO
40023	570	32	with discharge tube	331.00
40024	910	32	with discharge tube	351.00
40076	570	32	with discharge hose and stopcock	529.00
40077	910	32	with discharge hose and stopcock	549.00

RCT®-Accessories for Pump for Chemical Tanks



Item	Design	Price EURO
40032	outlet tube 1.5 m with screw joint and valve	51.00
40033	outlet elbow	44.00
40034	wall mounting bracket	35.00
40035	drum screwed fitting 2"	35.00
40036	drum screwed fitting 2" gas-tight, vapors do not escape	66.00
40037	set: spare gaskets (piston/suction valve)	28.00

RCT®-Accessories for Drum Pumps

Product specification

- **Discharge tube:**
Discharge tube for stainless steel barrel pump.
- **Brass barrel screw joint:**
The container connectors make decanting even easier and safer with their more secure connection to barrels. The connectors secure the pump in the barrel, enable a vertical position change and allow the required air exchange.
Barrel screw joint made of nickel-plated brass for barrel pump stainless steel. Prevents electro-static charge in combination with the anti-static set. For the safe transfer of flammable and easily flammable liquids. For containers with R2" steel fine thread inside.
- **Anti-static set:**
When decanting flammable liquids without the machines and containers involved in the process being sufficiently earthed, electrostatic build-up can occur, which for many substances can result in fire or an explosion. The anti-static set ensures easy and reliable earthing and consists of three colour-coded connecting copper cables with clamps in a handy plastic case.



Item	Design	Price EURO
40025	Discharge tube	90.00
40026	Brass barrel screw joint 2"	45.00
40027	Anti-static set	85.00

THOMAPLAST®-Drum Pump made of Stainless Steel

Product specification

- Chemical drum pump made of stainless steel (1.4301) and gaskets made of PTFE.
- Safe filling of highly inflammable fluids and solvents.
- Remove of electrostatic charge is effected through an earth cable (accessory).
- Accessory: items 40025 - 40027
- **In two different designs:**
with removable discharge tube
with removable hose, 1.2 m in length and ball valve made of stainless steel NW 8 mm, discharge nozzle Ø 12.8 mm



40023



40076

THOMAFLUID®-Sealless Drum Pump with Speed-Controlled 230 V Electric Drive



Application area

- Conveying of all kinds of non-combustible, thin to medium viscous fluids out of containers. For stationary or mobile application in permanent or intermittent operation.

Product specification

- High-performance feed pump for failsafe conveyance of water, aqueous solutions, alkali lyes, and mineral acids. Sealless pump unit made of practice-oriented plastics materials; long suction pipe and drum screwed fitting. Wall hook for deposition of the pump during operational interruptions; speed-controlled easily adjustable electric drive with 5 m connection cable; internally ventilated 230 Volt universal motor with excess-current switch, splash-proof and radio interference suppressed, but not explosion-proof.

Technical specification

- **Pump tube:**
Material: PP or PVDF
Length: suction pipe, 1000 or 1200 mm
Pipe Ø: 41 mm
Max. delivery rate: 200 l/min.
Max. delivery head: 14 mWC
- **Drive system:**
Connection voltage: 230 V~ / 50 Hz
Power consumption: 825 W
Motor: universal motor with overcurrent circuit breaker
- **Max. temperature of medium:** +100 °C
- **Max. viscosity:** 1000 mPas
- **Design:** PP pump tube open/internally ventilated; PVDF pump tube fully encapsulated/externally ventilated

Item	Material pump tube	Immersion tube length mm	Price EURO
58557	PP	1,000	1,036.00
58558	PP	1,200	1,090.00
58559	PVDF	1,000	1,380.00
58560	PVDF	1,200	1,442.00

RCT®-Accessories for Sealless Drum Pumps



Item	Design	Price EURO
58563	foot strainer for pump tube made of PP	45.00
58564	quick-acting stop-cock: brass MS 25/1", gaskets: Thiokol	170.00
58565	quick-acting stop-cock: brass MS 25/1", gaskets: PTFE	182.00
58566	wall hook	40.00
58567	drum screwed fitting	24.00

THOMAFUID®-Drum and Container Pump

Application area

- Laboratory technology, engineering operations and maintenance, process technology, chemical technology

General product specification

- Container pump for refilling of acids and alkalis as well as thin to medium viscous fluids
- Sealless pump tube, lube-free, thus no contamination of the liquid
- Variable speed switch for the transfer of liquids in small amounts (volumes)
- Ultra quiet
- Long service life
- Different lengths available 500, 700 and 1000 mm for the use in small vessels up to 200 litre drums
- Easily mountable, thus very service-friendly
- With integrated motor protection switch and 3 m connection cable
- The pump is available in two designs:
Design A: pump tube with external thread G 1" and hose nozzle 19 mm
Design B: pump set with pump tube, PVC tubing, wall bracket and pump nozzle made of PP (polypropylene)

General technical specification

- **Max. viscosity:** 300 mPas
- **Density:** 1.3 kg/dm³
- **Connection voltage:** 230 V~ / 50 Hz
- **Power consumption:** 200 W
- **Protective system:** IP 24

THOMAFUID®-Drum and Container Pump made of PP

Technical specification

- **Material:**
Pump tube: PP (polypropylene)
Impeller: PP (polypropylene)
- **Immersion tube Ø:** 32 mm
- **Max. delivery rate:** 75 l/min.
- **Max. delivery head:** 7 mWC
- **Max. temperature of medium:** -15 to +50 °C
- **Weight:** approx. 2.5 kg



Item	Immersion tube length mm	Design	Price EURO
330326	500	A	732.00
330327	500	B	912.00
330328	700	A	756.00
330329	700	B	936.00
330330	1,000	A	828.00
330331	1,000	B	1,008.00

**THOMAFLUID®-Drum and Container Pump
made of Stainless Steel**

Technical specification

- **Material:**
Pump tube: stainless steel 1.4571
Impeller: ETFE (ethylene tetrafluoroethylene)
- **Immersion tube Ø:** 28 mm
- **Max. delivery rate:** 68 l/min.
- **Max. delivery head:** 6.4 mWC
- **Max. temperature of medium:** -15 to +90 °C
- **Weight:** approx. 3.5 kg



Item	Immersion tube length mm	Design	Price EURO
330332	500	A	1,176.00
330333	500	B	1,356.00
330334	700	A	1,176.00
330842	700	B	1,356.00
330843	1,000	A	1,248.00
330844	1,000	B	1,428.00

**THOMAFLUID®-Electronical Flow Meter
made of PP or PVDF**

Application area

- Flow meter for all drum and container pumps with G 1 1/4"-external connecting thread.

Product specification

- Wide measuring range, also for small volume flow
- Displays both sub-total and total volume, sub totals can be reset
- Measurement by radial turbine technology
- For thin-bodied, non inflammable liquids
- Easy calibration
- Durable lithium battery
- The flow meter made of PP is suitable for neutral and aggressive media such as ferric (III) chloride, glycol, phosphoric acid, hydrochloric acid, etc.
- The flow meter made of PVDF is suitable for highly aggressive media such as chlorine solution, nitric acid and sulphuric acid.
- The pump is available in two designs.

Technical specification

- **Material:**
Housing top: PP (polypropylene)
Measuring chamber: PP (polypropylene) or
PVDF (polyvinylidene fluoride)
Turbine: PP (polypropylene) or PVDF (polyvinylidene fluoride)
Keypad: PES (polyethersulfone)
Shaft and bearing ball: Hastelloy C4 (2.4620)
Gasket: FPM (fluorinated rubber)

- **Range of measurement:** 5 to 90 l/min.
- **Temperature range:** -10 to +50 °C
- **Range of viscosity:** 0.8 to 40 mPas
- **Max. operating pressure:** 4 bar at +20 °C
- **Accuracy of measurement:** ±1 %
- **Repeating accuracy:** ±0.5 %
- **Pipe connection:** external thread G 1 1/4"
- **Protective system:** IP 65



331564, 331565



331566, 331567

Item	Design	Material pump tube	Weight	Price
			kg	EURO
331564	assembly at drum pump	PP	0.3	628.00
331565	assembly at nozzle	PP	0.3	628.00
331566	assembly at drum pump	PVDF	0.4	742.00
331567	assembly at nozzle	PVDF	0.4	742.00

Gas Pumps

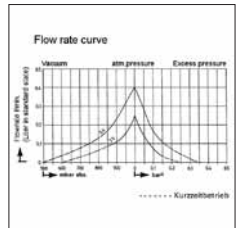
**THOMAFLUID®-Micro Diaphragm Delivery Pump
for Gases up to 0.40 l/min with Low-Voltage Drive**

Application area

- Delivery of gases and purest gases in the areas of medical and precision engineering, analytical technology, biotechnology, environmental technology

Product specification

- Miniaturised diaphragm pumps for oil-free delivery and compressing of air and other non-aggressive and condensate-free gases as well as for evacuation. Low-voltage direct current motor, ready for mounting, electrical connection with tags. Maintenance-free, robust construction for continuous duty and long service life, medium-contacting parts made of low wear polymer materials. Installation position optional, but pump not running up against pressure or vacuum. Delivery rate adjustable by throttling at the suction side.



Technical specification

- **Material:**
Pump head: PPS (Polyphenylsulfide)
Diaphragm: EPDM
Valves: EPDM
- **Drive system:**
Connection voltage: 3; 5; 6 or 9 V=
Amperage: <100 mA
Connection: prepared litz wire for soldering or for low-voltage plug
- **Final vacuum:** 500 - 600 mbar absolute
- **Max. op. excess pressure:** 150 mbar
- **Max. ambient temperature:** +5 to +40 °C
- **Pipe connection:** parallel tubing connections, straight, for tubing ID 3 mm
- **Dimension:** 32 x 27 x 17 mm (L x W x H)
- **Weight:** 20 g

Item	Max. delivery rate l/min.	Connection voltage volt	Price EURO
16572	0.25	3=	286.00
16573	0.4	5=	286.00
16574	0.3	6=	286.00
16575	0.4	9=	286.00

THOMAFUID®-Chemically Resistant Vacuum Diaphragm Pump for Gaseous Aggressive Media and Pured Media

Product specification

- Soft running universal laboratory vacuum pump in compact design for delivery of gaseous media, particularly of aggressive gases and vapours for evacuation as replacement for water-jet pumps and rotary slide-valve pumps, oil-free vacuum, maintenance-free pump head with hermetically separated swing chamber, highly gas-tight due to novel sealing zone on the diaphragm outer ring; long service life, medium-contacting parts made of inert high-tech plastic materials PTFE and FFKM; complete with on-off switch and mains cable; integrated fold-away carrier handle.

Technical specification

- **Material:**
Pump head: PTFE
Gasket: FFKM
- **Drive system:**
Connection voltage: 230 V~ / 50 Hz, according to VDE
Power consumption: 50 W
Protective system: IP 44
- **Max. delivery rate:** 10; 20 or 40 l/min
- **Final vacuum:** <100; 8 or 2 mbar abs.
- **Max. ambient temperature:** +5 to +40 °C
- **Pipe connection:** for tubing ID 10 mm

Item	Max. delivery rate l/min.	Final vacuum mbar	Dimensions LxWxH mm	Weight kg	Price EURO
16568	10	<100	256 x 146 x 187	5.9	1,503.00
16569	20	8	312 x 154 x 207	9.3	1,894.00
16570	40	2	341 x 167 x 223	13.4	4,979.00

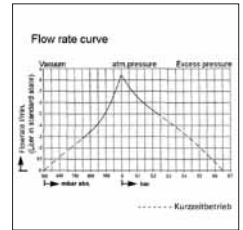
THOMAFUID®-Micro Diaphragm Delivery Pump for Gases up to 0.85 l/min with Low-Voltage Drive

Product specification

- Miniaturized diaphragm pumps for oil-free delivery and compressing of air and other non-aggressive and condensate-free gases as well as for evacuation. Low-voltage direct current motor, ready for mounting, prepared litz wire for electrical connection. Maintenance-free, robust construction for continuous duty and long service life, medium-contacting parts made of low wear polymer materials. Installation position optional, but pump not running up against pressure or vacuum. Delivery rate adjustable by throttling at the suction side.

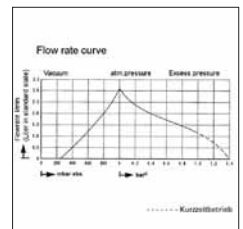
Technical specification

- **Material:**
Pump head: PPS
Diaphragm: EPDM
Valves: EPDM
- **Drive system:**
Connection voltage: 6; 12 or 24 V=
Amperage: <200 mA
Connection: prepared litz wire for soldering or for low-voltage plug
- **Final vacuum:** 500 mbar absolute
- **Max. op. excess pressure:** 250 mbar
- **Max. permissible ambient temperature:** +5 to +40 °C
- **Pipe connection:** nozzles, for tubing ID 4 mm
- **Dimension:** 39 x 20 x 28 mm (L x W x H)
- **Weight:** 30 g



Item	Max. delivery rate l/min.	Connection voltage volt	Price EURO
16576	0.85	6=	352.00
16577	0.85	12=	352.00
16578	0.85	24=	352.00

THOMAFUID®-Micro Diaphragm Delivery Pump for Gases up to 3.1 l/min with Low-Voltage Drive



Product specification

- Miniaturized diaphragm pumps for oil-free delivery and compressing of air and other non-aggressive and condensate-free gases as well as for evacuation. Low-voltage direct current motor, ready for mounting, electrical connection with flat pin bushing. Maintenance-free, robust construction for continuous duty and long service life, medium-contacting parts made of low wear polymer materials. Installation position optional, but pump not running up against pressure or vacuum. Delivery rate adjustable by throttling at the suction side.

Technical specification

- **Material:**
Pump head: PPS
Diaphragm: EPDM
Valves: CR
- **Drive system:**
Connection voltage: 6; 12 or 24 V=
Amperage: <500 mA
Connection: flat plug B 2.8 according to DIN 46247
- **Final vacuum:** 250 mbar (absolute)
- **Max. op. excess pressure:** 1 bar
- **Max. ambient temperature:** +5 to +40 °C
- **Max. temperature of medium:** +5 to +40 °C
- **Pipe connection:** nozzles, for tubing ID 4 mm
- **Dimension:** 76 x 30.5 x 51 mm (L x W x H)
- **Weight:** 195 g

Item	Max. delivery rate l/min.	Connection voltage volt	Price EURO
16579	3.1	6=	204.00
16580	3.1	12=	204.00
16581	3.1	24=	204.00

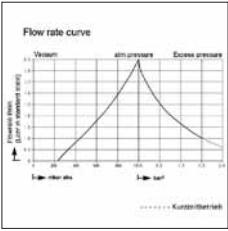
THOMAFLUID®-Micro Diaphragm Delivery Pump for Gases up to 4.5 l/min with Low-Voltage Drive

Product specification

- Miniaturized diaphragm pumps for oil-free delivery and compressing of air and other non-aggressive and condensate-free gases as well as for evacuation. Low-voltage direct current motor, ready for mounting, electrical connection with flat plug. Maintenance-free, robust construction for continuous duty and long service life, medium-contacting parts made of low wear polymer materials. Installation position optional, but pump not running up against pressure or vacuum. Delivery rate adjustable by throttling at the suction side.

Technical specification

- **Material:**
Pump head: PPS
Diaphragm: EPDM
Valves: EPDM
- **Drive system:**
Connection voltage: 6; 12 or 24 V=
Amperage: <800 mA
Connection: flat plug
- **Max. delivery rate:** 4.5 l/min at atmospheric pressure
- **Final vacuum:** 230 mbar
- **Max. op. excess pressure:** 1.5 bar
- **Max. ambient temperature:** +5 to +40 °C
- **Pipe connection:** nozzles, for tubing ID 5 - 6 mm
- **Dimension:** 80 x 38 x 54 mm (L x W x H)
- **Weight:** 210 g



Item	Max. delivery rate l/min.	Connection voltage volt	Price EURO
16582	4.5	6=	232.00
16583	4.5	12=	232.00
16584	4.5	24=	232.00

THOMAFLUID®-High-Tech Low-Flow Precision Gas Delivery Pump

Application area

- Delivery and metering of small and smallest quantities of all kinds of gases.

Product specification

- Valveless low-pressure single-piston pump system FMI® with three-stage synchronous drive motor, low weight and small dimensions, conveying line connections optionally to be chosen. Precisely adjustable delivery rates by speed variation in fixed steps and mechanical delivery stroke alteration; suitable for continuous duty.
- Control functions: Halt (stop), forerun, return

Technical specification

- **Material pump head:**
Piston: stainless steel 1.4401 (SS 316)
Cylinder: sinter corundum
Housing: fluorocarbon material PVDF
Connection: fluorocarbon material PVDF
- **Drive system:**
Connection voltage: 220 V~ / 50-60 Hz
Motor speed: variable 123, 246 or 492 rpm
- **Precision of delivery:** better than 1.0 %
- **Max. delivery rate:**
at 123 rpm: 0 - 3.1 ml/min., max. 3.4 bar counterpressure
at 246 rpm: 0 - 6.15 ml/min., max. 1.4 bar counterpressure
at 492 rpm: 0 - 12.3 ml/min., max. 1.4 bar counterpressure
- **Stroke volume:** 25 µl/stroke
- **Pipe connection:** compression-type fitting for pipes OD 6.4 mm or internal thread UNF 1/4"-28
- **Max. operating pressure:** 6.9 bar
- **Dimension:** 127 x 127 x 102 mm (L x W x H)
- **Weight:** approx. 1.8 kg



Item	Delivery volume µl/stroke	Max. delivery rate ml/min.	For pipes outside Ø mm	Internal thread	Price EURO
58351	25	12.3	6.4		1,984.00
58331	25	12.3		UNF 1/4"-28	1,984.00

THOMAFUID®-High-Tech Gas Delivery Pump

Application area

- Delivery and metering of all kinds of gases.

Product specification

- Valveless low-pressure single-piston pump system FMI® with robust, ball-bearing low-voltage driving motor, self-cooling; for delivery of all kinds of gases; conveying line connections to be chosen optionally. Precisely adjustable delivery rates by mechanical delivery stroke alteration; suitable for continuous duty.

Technical specification

• Material pump head:

Piston: stainless steel 1.4401 (SS 316)

Cylinder: graphite (sinter carbon)

Housing: fluorocarbon material PVDF

Connection: fluorocarbon material PVDF

• Drive system:

Connection voltage: 220 V~ / 50-60 Hz

Gear reduction: 6; 20; 50; 150 or 400 rpm

• Precision of delivery: better than 1.0 %

• Pipe connection: compression-type fitting for pipes OD 6.4 mm, reducible with adapter

• Max. operating pressure: 6.9 bar

• Dimension: 248 x 124 x 146 mm (L x W x H)

• Weight: approx. 4.5 kg



Item	Delivery volume ml/stroke	Max. op. pressure ¹ bar	Motor speed rpm	For pipes outside Ø mm	Price EURO
58341	0.15	6.9	6	6.4	2,409.00
58342	0.48	1.4	6	6.4	2,179.00
58343	1.92	5.2	6	6.4	1,984.00
58344	4.32	3.5	6	6.4	1,984.00
58345	0.5	6.9	20	6.4	2,409.00
58346	1.6	1.4	20	6.4	2,179.00
58347	6.4	3.5	20	6.4	1,984.00
58348	14.4	2.8	20	6.4	1,984.00
58349	1.25	6.9	50	6.4	2,409.00
58350	4	6.9	50	6.4	2,179.00
190611	16	2.8	50	6.4	1,984.00
190621	36	2.1	50	6.4	1,984.00
190631	3.75	6.9	150	6.4	2,409.00
190641	12	6.9	150	6.4	2,179.00

Item	Delivery volume ml/stroke	Max. op. pressure ¹ bar	Motor speed rpm	For pipes outside Ø mm	Price EURO
190651	48	2.1	150	6.4	1,984.00
190661	108	1.4	150	6.4	1,984.00
190671	10	6.9	400	6.4	2,409.00
190681	32	6.9	400	6.4	2,179.00
190691	128	1.4	400	6.4	1,984.00
190701	288	0.7	400	6.4	1,984.00

¹ at +20 °C

THOMAFUID®-Displacement Pump for Aggressive Gases

Application area

- Gas analysis and gas measuring technology, process technology and engineering, air conditioning and ventilation technology, environmental and hygiene technology, biotechnology

Product specification

- Highly robust sample gas pump for delivery of aggressive gases and gas mixtures. The pump is fitted with a PTFE bellows made of one solid piece and operates according to the displacement principle.
- Very robust design.
- Manufactured with high precision, thus minimum noise emission and high quietness of running.
- Valves made of PTFE (polytetrafluoroethylene) and PCTFE (polychlorotrifluoroethylene) for highest resistance to chemically aggressive media as well as high thermal loading capacity.
- Pump head made of PTFE (polytetrafluoroethylene) with highest resistance to chemically aggressive media.
- PTFE is flexible compared with stainless steel, thus this design is advisable for the delivery of gases in tubed analytical systems.
- Pump head made of stainless steel 1.4571 allows highest gas tightness and outstanding mechanical robustness. The pump is suitable for delivery of gases in piped analytical systems.
- Optionally with bypass valve in the pump head for rough regulation of the delivery rate to specified values <100 %.
- Support console with vibration dampers for easy installation.
- Easy to replace valves.
- The plastics PTFE (polytetrafluoroethylene) and PCTFE (polychlorotrifluoroethylene) are highly resistant to countless aggressive media and reagents. A resistance table is available on request.

Technical specification

• Material:

Bellows: PTFE

Valves: PTFE / PVDF; PCTFE

Pump head: PTFE; stainless steel 1.4571, Viton, 1.4401; PTFE with bypass valve for rough regulation of the volume flow

• Drive system:

Connection voltage: 230 V~ / 50-60 Hz

Amperage: 0.8 A (0.85 A)

Power consumption: 90 W

Motor speed: 1440 rpm

Protective system: IP 54

• Delivery rate acc. to delivery characteristic:

against atm. pressure: approx. 400 Nl/h

at suction side at -0.5 bar: approx. 50 Nl/h

at pressure side at +0.2 bar: approx. 280 Nl/h

• Max. temperature of medium: +80 °C (valves made of PTFE / PVDF); +140 °C (valves made of PCTFE)

• Max. ambient temperature: +60 °C

• Dead volume: 8.5 ml

- **Internal thread:** G 1/4"
- **Pipe connection:** for tubing DN 4/6
- **Dimension:** 207 x 125 x 248 mm (H x W x D)
- **Weight:** 6.5 kg
- **Regulations:** manufactured according to DIN EN ISO 9001



Item	Max. delivery rate l/h	Material pump head	Material valves	Max. temp. °C	Price EURO
303376	400	PTFE	PVDF, PTFE	80	1,525.00
303377	400	stainless steel	PVDF, PTFE	80	1,925.00
303378 ¹	400	PTFE	PVDF, PTFE	80	1,800.00
303379	400	PTFE	PCTFE	140	1,725.00
303380	400	stainless steel	PCTFE	140	2,195.00
303381 ¹	400	PTFE	PCTFE	140	2,175.00

¹ regulable with bypass

THOMAFLUID®-Displacement Pump for Aggressive Gases with Condensate

Application area

- Gas analysis and gas measuring technology, process technology and engineering, air conditioning and ventilation technology, environmental and hygiene technology, biotechnology

Product specification

- Highly robust sample gas pump for delivery of aggressive gases and gas mixtures according to the displacement principle. The pump is fitted with a bellows and therefore excellently suitable also for delivery of gases with entrained liquid.
- Due to its special bellows construction, the pump features a far longer service life compared to diaphragm pumps especially when delivering gases with entrained liquid.
- The bellows is made of one solid piece and consists of PTFE (polytetrafluoroethylene).
- Very robust design.
- Manufactured with high precision, thus minimum noise emission and high quietness of running.
- Valves made of PTFE (polytetrafluoroethylene) and PCTFE (polychlorotrifluoroethylene) for highest resistance to chemically aggressive media as well as high thermal loading capacity.
- Pump head made of PTFE (polytetrafluoroethylene) with highest resistance to chemically aggressive media. PTFE is flexible compared with stainless steel, thus this design is advisable for the delivery of gases in tubed analytical systems.
- Pump head made of stainless steel 1.4571 allows highest gas tightness and outstanding mechanical robustness. The pump is suitable for delivery of gases in piped analytical systems.
- Optionally with bypass valve in the pump head for rough regulation of the delivery rate to specified values <100 %.
- Support console with vibration dampers for easy installation.

- Easy to replace valves.
- The plastics PTFE (polytetrafluoroethylene) and PCTFE (polychlorotrifluoroethylene) are highly resistant to countless aggressive media and reagents. Below are given the flue gases important in heating engineering and fuel technology as well as the acids usually resulting as aggressive condensates from the reaction of flue gases with water.
 - Nitrogen oxides NO_x
 - Concentrated nitric acid HNO₃
 - Nitrous acid HNO₂
 - Anhydrides such as SO₂ and SO₃
 - Concentrated sulfuric acid H₂SO₄
 - Sulfurous acid H₂SO₃
 A resistance table is available on request

Technical specification

- **Material:**
 - Bellows: PTFE
 - Valves: PCTFE
 - Pump head: PTFE; stainless steel 1.4571, Viton, 1.4401; PTFE with bypass valve for rough regulation of the volume flow
- **Drive system:**
 - Connection voltage: 230 V~ / 50-60 Hz
 - Amperage: 0.8 A (0.85 A)
 - Power consumption: 90 W
 - Motor speed: 1440 rpm
 - Protective system: IP 54
- **Delivery rate acc. to delivery characteristic:**
 - against atm. pressure: approx. 800 NI/h
 - at suction side at -0.6 bar: approx. 100 NI/h
 - at pressure side at +0.2 bar: approx. 520 NI/h
- **Max. temperature of medium:** +80 °C (valves made of PTFE / PVDF); +140 °C (valves made of PCTFE)
- **Max. ambient temperature:** +60 °C
- **Dead volume:** 8.5 ml
- **Internal thread:** G 1/4"
- **Pipe connection:** for tubing DN 4/6
- **Dimension:** 262 x 125 x 248 mm (H x W x D)
- **Weight:** 6.5 kg
- **Regulations:** manufactured according to DIN EN ISO 9001



Item	Max. delivery rate l/h	Material pump head	Material valves	Max. temp. °C	Price EURO
303373	800	PTFE	PCTFE	140	2,196.00
303374	800	stainless steel	PCTFE	140	2,692.00
303375 ¹	800	PTFE	PCTFE	140	2,654.00

¹ regulable with bypass

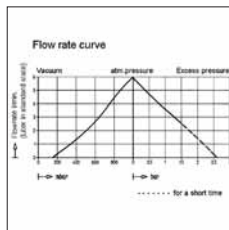
THOMAFUID®-Mini Vacuum Diaphragm Pump for Gaseous Media and Purest Media

Product specification

- Portable miniaturized single-head diaphragm pump for gases, very smooth, low-vibration run; cool-running motor. Thermal circuit breaker and mains fuse as overload protection; high tolerance to condensates and steam, maintenance-free. Medium-contacting parts made of inert plastic materials. Connections for conveying tubing, robust construction for any mounting position. Complete with on-off switch and mains cable.

Technical specification

- **Material:**
Pump head: PPS
Diaphragm: PTFE
Valves: FFKM
Tubing connectors: PVDF
- **Drive system:**
Connection voltage: 230 V~ / 50 Hz, according to VDE
Power consumption: 50 W
Protective system: IP 20
- **Final vacuum:** 100 mbar abs.
- **Max. op. excess pressure:** 2.5 bar
- **Max. ambient temperature:** +40 °C
- **Pipe connection:** nozzles, for tubing ID 4 mm
- **Dimension:** approx. 216 x 90 x 141 mm (L x W x H)
- **Weight:** 1.9 kg



Item	Max. delivery rate l/min.	Price EURO
16571	5.5	667.00

THOMAPLAST®-Hand Pump - Stopper Size 20-36 mm

Product specification

- Material delivery tube: PP
- Type I: for stand vessels and small barrels
- Type II: for laboratory bottles

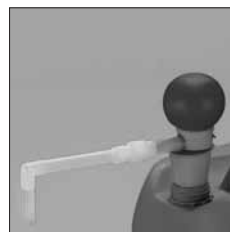


Item	Type	Design	Delivery rate l/min.	Ø pipe mm	Price EURO
60861	I	stopper size 20 x 28 mm	4	8	45.00
60862	I	stopper size 24 x 32 mm	4	10	47.00
60864	II	stopper size 17 x 19 mm	2 - 3	6	35.00
60865	II	stopper size 19 x 21 mm	2 - 3	6	40.00

THOMAPLAST®-Hand Pump - Stopper Size 30-70 mm

Product specification

- For demijohns, plastic carboys, and tanks
- Hand pumps with delivery tubes made of stainless steel include additionally three stoppers made of LDPE (Ø -size: 48 - 56 mm, 54 - 62 mm, 60 - 68 mm).



Item	Material delivery tube	Immersion tube length mm	Ø pipe mm	Max. delivery rate l/min.	Price EURO
60853	PP	700	12	14	113.00
60854	PP	700	15	20	131.00
60855	PP	700	18	26	141.00
60856	PVDF	700	16	20	231.00
60857	stainless steel	900	18	26	241.00

THOMAPLAST®-Foot Pump - Stopper Size 30-70 mm

Product specification

- For drums, demijohns, barrels
- Foot pumps with delivery tubes made of stainless steel include additionally three stoppers made of LDPE (Ø -size: 48 - 56 mm, 54 - 62 mm, 60 - 68 mm).

Hand and Foot Pumps

THOMAPLAST®-Hand and Foot Pumps

General product specification

- For transferring and filling of all kinds of fluids, acids, alkalis and many solvents, consisting of a ball pump or foot bellows, with a set of pipes made of PP (polypropylene), PVDF (polyvinylidene fluoride) or stainless steel and stopper made of non-rigid PVC. Slight pumping produces an excess pressure in the storage container forcing the liquid through the pipes into the filling vessel.
- Chemical characteristics:
PP: resistant to weak acids, alkalis and detergents
PVDF: well suitable for acids, alkalis and chlorine bleach, not for heavily oxidising acids and alkalis
Stainless steel: well suitable for liquids that are not easily combustible in Hazard Category AIII (VbF), unsuitable for corrosive media.



Item	Material delivery tube	Immersion tube length mm	Ø pipe mm	Max. delivery rate l/min.	Price EURO
60845	PP	700	15	20	123.00
60846	PP	700	18	26	149.00
60847	PP	700	22	30	164.00
60848	PVDF	700	16	20	249.00
60849	stainless steel	900	18	26	264.00

- Valveless operating pump head, infinitely variable. The swash-plate piston rotates and pumps simultaneously. Piston as well as piston sleeve (cylinder liner) of the pump head are made of corundum. The hard ceramic material allows manufacturing with particularly close tolerances (0.1 µl), piston and piston sleeve being ground in precisely on one another. This ensures the highly accurate delivery of fluids and gases. All medium-contacting parts are resistant to organic and anorganic media, they are made of corundum and PTFE. The cylinder jacket is made of PVDF.

Technical specification

- **Material:**
Pump head housing: PVDF or ETFE
Medium-contacting parts: conforming to FDA
- **Conveying medium:** liquids or gases
- **Max. delivery rate:** 10 - 150 ml/min.
- **Precision of delivery:** >0.1 %
- **Display:** delivery rate in percentage referring to the max. capacity
- **Max. operating pressure:** 6.9 bar
- **Max. temperature:** +120 °C
- **Motor speed:** infinitely variable 0 - 1500 rpm, with high-speed function
- **Speed variation:** 0 - 100 %
- **Control:** via SPC by means of 25-pin D-plug
- **External control:** via RS-232 interface (microprocessor-operated)
- **External input:** 0 - 10 V=; 4 - 20 mA
- **Start-Stop-Function:** zero-potential relays contact or Open Collector Input
- **Connection voltage:** 230 V~ / 50 Hz
- **Pipe connection:** for pipes outside Ø 6.4 mm or internal thread UNF 1/4"-28
- **Regulations:** conforming to RoHS
- **Dimension:** 320 x 130 x 150 mm (L x W x H)

Piston Pumps

THOMAFUID®-High-Tech Swash-Plate Piston Micro Metering Pump E-1500-MP

Application area

- Delivery of anorganic and organic media, low-viscous slurries, suspensions, emulsions, dilute solutions, and viscous concentrates (50 - 500 cP).
- Addition of reagents in automatic analyzers and in chemical process technology.
- Precise addition of fuel additives during production of gasoline and other fuels.
- Addition of colourings, odorous or flavouring additives in the food and semiluxuries producing industries as well as in the cosmetics and pharmaceutical industries.
- Addition of dyes, catalysts, and plasticizers in the paper, textile, and plastics industries.
- Extremely precise metering of gases even when delivering extremely small amounts.

Product specification

- Valveless metering pump for precise delivery of solutions, suspensions, low-viscous slurries, and all kinds of media in laboratory and plant.
- The E-1500-MP drive system is infinitely variable.
Speed range: 0 - 1500 rpm and $\Delta p=0$.
- The delivery rate is preselected with the arrow keys and directly digitally displayed in percent. Pressing a high-speed button increases the delivery rate within seconds. This advantage is especially useful for rapid filling of the tubing system and for drawing off samples.
- Apart from speed control, the delivery rate can be changed or reduced by another 50 % by changing the piston stroke. Thus, a very wide delivery rate range is covered with high precision.
- The pump is microprocessor-operated and equipped with both a RS-232 interface and a 25-pin D-plug for external control (SPC).
- Functions: Start/stop, speed variation 0-100%.



Medium: gaseous

Item	Delivery rate ml/min.	Max. op. pressure ¹ bar	Pump head	Connection type	Price EURO
978730	10 - 37.5	6.9	PVDF	for pipes OD 6.4 mm	4,950.00
19120	10 - 37.5	6.9	PVDF	int. thread UNF 1/4"-28	4,950.00
19121	10 - 37.5	1.4	ETFE	for pipes OD 6.4 mm	4,950.00
19122	10 - 37.5	1.4	ETFE	int. thread UNF 1/4"-28	4,950.00

¹ at +20 °C

Medium: liquid

Item	Delivery rate ml/min.	Max. op. pressure ¹ bar	Pump head	Connection type	Price EURO
19123	10 - 37.5	1.4	ETFE	for pipes OD 6.4 mm	4,950.00
19124	10 - 37.5	1.4	ETFE	int. thread UNF 1/4"-28	4,950.00

Item	Delivery rate ml/min.	Max. op. pressure ¹ bar	Pump head	Connection type	Price EURO
978731	10 - 75	6.9	PVDF	for pipes OD 6.4 mm	4,950.00
19125	10 - 75	6.9	PVDF	int. thread UNF 1/4"-28	4,950.00
978732	10 - 150	6.9	PVDF	for pipes OD 6.4 mm	4,950.00
19126	10 - 150	6.9	PVDF	int. thread UNF 1/4"-28	4,950.00

¹ at +20 °C

THOMAFUID®-Precision Micro Pump Head

Application area

- Pressure conveyance of anorganic and organic media, low-viscous slurries, suspensions, emulsions, and viscous concentrates up to 500 cP etc.
- Pressure conveyance of liquids for sterile filtration.
- Controlled metering of solutions in lysimeter tests and field cultivation experiments.
- Controlled metering of reagents, additives, and other auxiliary agents in automated chemical processes.
- Fine-metering and conveyance of gases.
- Sample collection for environmental analytics.

Product specification

- Constant running, valveless precision pump head with stepless variable delivery rate by precision-mechanical change of the piston stroke. Medium-contacting components made of chemically resistant, biocompatible and abrasion-proof anorganic corund or organic fluoropolymer materials PVDF and ETFE.
- Mounting: Directly adaptable to any front panel.
- **Mode of operation:**

The pump cylinder is mounted slewably, the piston ground in with a tolerance of 0.1 µm rotates during the pump motion thus executing a „tumbling“ movement. The delivery chamber ground in the lower part of the piston which executes an elevating motion at suction is turned to the outlet side, while the piston performs the respective backward motion and discharges the conveying medium. The delivery rate is precisely adjustable in a wide range with micrometer adjustment by alteration of the pump head inclination and the respective change of the piston stroke way in the cylinder. The stroke length is variable from 0 to 100 %, a fine-graduation from 0 to 10 on the dial scale ensuring the fine-adjustment range.

• Handling:

The delivery rate can be precisely adjusted in a wide range with micrometer adjustment by alteration of the pump head inclination and the respective change of the piston stroke way in the cylinder. Turning the handy knurled graduated collar with scale-of-ten and subdivided fine-graduation to the left side increases the stroke volume of the piston, the respective turn to the right side decreases the stroke volume. In combination with the fixed scale of 0 to 4 covered by the graduated collar and its dial scale-of-ten, adjustment of delivery rates is very precise and reproducible.

• The maximum delivery rates correspond to position 4 on the fixed scale and position 0 on the dial scale (see figure). The decline of delivery rates occurs linearly with the decline of scale values, the positions 0 on fixed and dial scale indicating a delivery rate of zero.

Technical specification

- **Material of pump head housing:** PVDF or ETFE
- **Max. delivery rate:** 100 µl/stroke
- **Max. operating pressure:** 6.9 bar
- **Conveying medium:** liquids
- **Pipe connection:** for pipes with outside Ø 6.4 mm or internal thread UNF 1/4"-28



Medium: gaseous

Item	Delivery volume µl/stroke	Max. op. pressure ¹ bar	Pump head	Connection type	Price EURO
97869	25	6.9	PVDF	for pipes OD 6.4 mm	1,013.00
19113	25	6.9	PVDF	int. thread UNF 1/4"-28	1,013.00
19114	25	1.4	ETFE	for pipes OD 6.4 mm	1,013.00
19115	25	1.4	ETFE	int. thread UNF 1/4"-28	1,013.00

¹ at +20 °C

Medium: liquid

Item	Delivery volume µl/stroke	Max. op. pressure ¹ bar	Pump head	Connection type	Price EURO
19116	25	1.4	ETFE	for pipes OD 6.4 mm	1,013.00
19117	25	1.4	ETFE	int. thread UNF 1/4"-28	1,013.00
97873	50	6.9	PVDF	for pipes OD 6.4 mm	1,013.00
19118	50	6.9	PVDF	int. thread UNF 1/4"-28	1,013.00
97830	100	6.9	PVDF	for pipes OD 6.4 mm	1,013.00
19119	100	6.9	PVDF	int. thread UNF 1/4"-28	1,013.00

¹ at +20 °C

THOMAFUID®-Swash-Plate Piston Micro Metering Pump K-1500

Application area

- Pressure conveyance of anorganic and organic media, low-viscous slurries, suspensions, emulsions, and viscous concentrates up to 500 cP etc.
- Pressure conveyance of combustible fluids and explosive gases.
- Controlled metering of solutions for sterile filtration.
- Controlled metering of culture media in lysimeter tests and field cultivation experiments.
- Fine-metering of reagents, additives, and other auxiliary agents in automated chemical processes.
- Fine-metering and conveyance of gases.
- Sample collection for environmental analytics.

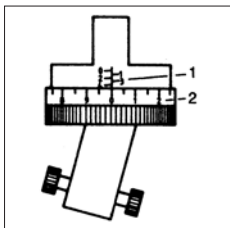
Product specification

- Constant running, valveless precision pump with stepless variable delivery rate by precision-mechanical change of the piston stroke. Medium-contacting components made of chemically resistant, biocompatible and abrasionproof anorganic corundum or organic fluoropolymer materials PVDF and PTFE.

- **Mode of operation:** The pump cylinder is mounted slewably, the piston ground in with a tolerance of 0.1 µm rotates during the pump motion thus executing a „tumbling“ movement. The delivery chamber ground in the lower part of the piston which executes an elevating motion at suction is turned to the outlet side, while the piston performs the respective backward motion and discharges the conveying medium. The delivery rate is precisely adjustable in a wide range with micrometer adjustment by alteration of the pump head inclination and the respective change of the piston stroke way in the cylinder.

Technical specification

- **Speed range:** 1,500 rpm (constant)
- **Max. operating pressure:** 7 bar
- **Pipe connection:** for tubing or internal thread UNF 1/4"-28
- **Connection voltage:** 220 V~ / 50 Hz



Item	Max. delivery rate ml/min.	Price EURO
46650	150	2,296.00

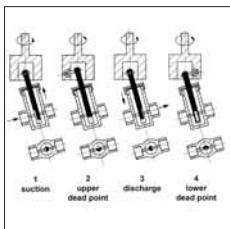
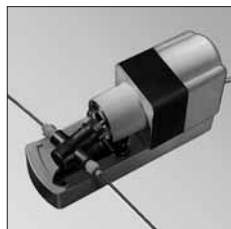
THOMAFUID®-Swash Plate Piston Metering Pump

Application area

- Metering of all kinds of liquids, suspensions, emulsions, pastes, oils, fats as well as low- and high-viscous slurries, up to a mean viscosity of 50-500 cp (mPas).
- Extremely precise metering of gases.

Product specification

- The gear split-phase motor is extremely quiet in running. It is forced-air ventilated, sparkless, and fully enclosed.
- Connection voltage: 220 V~ / 50 Hz, weight approx. 4.5 kg



Item	Max. delivery rate ml/min.	Max. op. pressure ¹ bar	Motor speed rpm	Ø piston mm	Price EURO
978611	1.6	5	6	6.4	1,662.00
978612	3.7	3.5	6	9.6	1,662.00
978721	5.4	3.5	20	6.4	1,662.00
978722	12.8	3	20	9.6	1,662.00
978591	13	3	50	6.4	1,662.00

Item	Max. delivery rate ml/min.	Max. op. pressure ¹ bar	Motor speed rpm	Ø piston mm	Price EURO
978592	32	2	50	9.6	1,662.00
978711	40	2	150	6.4	1,662.00
978712	96	1.4	150	9.6	1,662.00
978571	108	1.4	400	6.4	1,662.00
978572	250	0.7	400	9.6	1,662.00
978561	450	7	1,725	6.4	2,266.00
978562	1000	3.5	1,725	9.6	2,266.00

¹ at +20 °C

THOMAFUID®-Precision Micro Double-Piston Pump

Application area

- Pressure conveyance and metering of all kinds of liquid media in the areas of chemical laboratory and analytical technology, especially low-pressure chromatography, chemical nuclear technology and radiochemistry, biotechnology, semiconductor research, pharma development and pharma production, medical engineering and chemical apparatus construction.

Product specification

- Precision double-piston pumps with complex Abbé-kinematics and micro-processor controlled stepping motor drive for extremely linear and pressure-independent delivery also of very small quantities.
- Remote control via interface (V 24 and RS 232 resp.).
- Inert design, medium-contacting parts made of glass, PTFE, and fluoropolymer PCTFE, gaskets made of epoxy (EP), FPM, and silicone, chemically sterilizable. Digital LED-display of flow and pressure; three application-oriented versions for delivery rates of 1 to 200 ml/h and 0.1 to 999 ml/h resp.

Technical specification

- **Temperature range:** 0 to +60 °C
- **Reproducibility:** 0.1%
- **Accuracy of delivery:** 0.15%
- **Max. counterpressure at:**
200 ml/h: 50 bar,
500 ml/h: 50 bar (not PDP 3003),
750 ml/h: 30 bar (not PDP 3003)
999 ml/h: 20 bar (not PDP 3003)
- **Autom. delivery compensation at valve change-over:** only PDP 3005
- **Pressure monitoring:** PDP 3004 and PDP 3005 (adjustable upper and lower limits)
- **Interface:** PDP 3004 and PDP 3005
- **Connection voltage:** 220 - 240 V~ / 50 Hz
- **Power consumption:** 40 VA
- **Dimensions:** 450 x 160 x 230 mm



Item	Design	Delivery rate ml/h	Weight kg	Price EURO
49906	PDP3003	1 - 200	10	10,920.00
49907	PDP3004	0.1 - 999	10	12,820.00
49908	PDP3005	0.1 - 999	12	16,760.00

THOMAFUID®-High-Tech Precision Delivery Pump – Single-Piston Pump

General product specification

- Precision delivery pumps of system FMI® are efficient single-piston pumps for continuous use, the sturdiness of which other pumps can hardly compete with. They are extremely versatile in use and suitable even for viscous and suspended particles-containing liquid media.
- FMI®-precision delivery pumps work without valves. Their cylinders are swivelling and have involved, opposite standing medium inlet and outlet connections at the lower cylinder part. The piston working in the cylinder is mounted slewably and rotatably at the same time. A return passage is precisely ground lengthwise in the piston. During pump movement the piston rotates around its axis. At suction during the piston stroke the cylinder is filled as usual. When reaching the upper dead point, the return passage has moved to the outlet side by rotation of the piston; during the following backward motion of the piston the medium to be delivered is discharged.
- By retracting the pump head by means of micrometer adjustment, the piston stroke and with it the delivery rate can precisely be altered and adjusted in a wide range.
- Accessories: adapter items 58385, 58386, 58376, 58381

THOMAFUID®-High-Tech Delivery Pump for Critical Media with Low-Voltage Drive 24 Volt

Application area

- Mains-independent systems for pumping out, delivering, and metering of aggressive fluids, purest media, suspensions, and viscous solutions.

Product specification

- Valveless low-pressure single-piston pump system FMI® with robust, ball-bearing low-voltage driving motor, self-cooling; unsusceptible to gas bubbles in the delivered fluid and viscosity alterations; conveying line connections to be chosen optionally. Precisely adjustable delivery rates by mechanical delivery stroke alteration; suitable for continuous duty.



Technical specification

- Material of pump head:**
Piston: sinter corundum
Cylinder: sinter corundum
Housing: fluorocarbon material PVDF
Connection: fluorocarbon material PVDF

Driving system:

Connection voltage: 24 V~
Gear reduction: 6; 20; 50; 150 or 400 rpm

Precision of delivery: better than 1.0 %

- Conveying line connection:** compression-type fitting for pipes OD 6.4 mm, reducible with adapter

Dimension: 248 x 124 x 146 mm (L x W x H)

- Weight:** approx. 4.5 kg

Item	Delivery volume ml/stroke	Max. op. pressure ¹ bar	Motor speed rpm	For pipes outside Ø mm	Price EURO
19081	0.15	6.9	6	6.4	2,393.00
19082	0.3	6.9	6	6.4	2,260.00
19083	0.6	6.9	6	6.4	2,260.00
19084	1.92	5.2	6	6.4	2,010.00
19085	4.32	3.5	6	6.4	2,010.00
19086	7.68	1.7	6	6.4	2,312.00
19087	0.5	6.9	20	6.4	2,393.00
19088	1	6.9	20	6.4	2,260.00
19089	2	6.9	20	6.4	2,260.00
19090	6.4	3.5	20	6.4	2,010.00
19091	14.4	2.8	20	6.4	2,010.00
19092	25.6	1.4	20	6.4	2,312.00
19093	1.25	6.9	50	6.4	2,393.00
19094	2.5	6.9	50	6.4	2,260.00
19095	5	6.9	50	6.4	2,260.00
19096	16	2.8	50	6.4	2,010.00
19097	36	2.1	50	6.4	2,010.00
19098	64	1	50	6.4	2,312.00
19099	3.75	6.9	150	6.4	2,393.00
19100	7.5	6.9	150	6.4	2,260.00
19101	15	6.9	150	6.4	2,260.00
19102	48	2.1	150	6.4	2,010.00
19103	108	1.4	150	6.4	2,010.00
19104	192	0.7	150	6.4	2,312.00
19105	10	6.9	400	6.4	2,393.00
19106	20	6.9	400	6.4	2,260.00
19107	40	6.9	400	6.4	2,260.00
19108	128	1.4	400	6.4	2,010.00
19109	288	0.7	400	6.4	2,010.00
19110	512	0.3	400	6.4	2,312.00

¹ at +20 °C

THOMAFUID®-High-Tech Delivery Pump for Critical Media

Application area

- Mains-independent systems for pumping out, delivering, and metering of aggressive fluids, purest media, suspensions, and viscous solutions.

Product specification

- Valveless low-pressure single-piston pump system FMI® with robust, ball-bearing low-voltage driving motor, self-cooling; unsusceptible to gas bubbles in the delivered fluid and viscosity alterations; conveying line connections to be chosen optionally. Precisely adjustable delivery rates by mechanical delivery stroke alteration; suitable for continuous duty.

Technical specification

• Material of pump head:

Piston: sinter corundum
Cylinder: sinter corundum
Housing: fluorocarbon material PVDF
Connection: fluorocarbon material PVDF

• Driving system:

Connection voltage: 220 V~ / 50-60 Hz
Gear reduction: 6; 20; 50; 150 or 400 rpm

• Precision of delivery: better than 1.0 %

• Conveying line connection: compression-type fitting for pipes OD 6.4 mm, reducible with adapter

• Dimension: 248 x 124 x 146 mm (L x W x H)

• Weight: approx. 4.5 kg



Item	Delivery volume ml/stroke	Max. op. pressure ¹ bar	Motor speed rpm	For pipes outside Ø mm	Price EURO
58311	0.15	6.9	6	6.4	2,393.00
58312	0.3	6.9	6	6.4	2,260.00
58313	0.6	6.9	6	6.4	2,260.00
58314	1.92	5.2	6	6.4	2,010.00
58315	4.32	3.5	6	6.4	2,010.00
58316	7.68	1.7	6	6.4	2,312.00
58317	0.5	6.9	20	6.4	2,393.00
58318	1	6.9	20	6.4	2,260.00
58319	2	6.9	20	6.4	2,260.00
58320	6.4	3.5	20	6.4	2,010.00
58321	14.4	2.8	20	6.4	2,010.00
58322	25.6	1.4	20	6.4	2,312.00
58323	1.25	6.9	50	6.4	2,393.00
58324	2.5	6.9	50	6.4	2,260.00
58325	5	6.9	50	6.4	2,260.00
58326	16	2.8	50	6.4	2,010.00
58327	36	2.1	50	6.4	2,010.00
58328	64	1	50	6.4	2,312.00
58329	3.75	6.9	150	6.4	2,393.00
58330	7.5	6.9	150	6.4	2,260.00
190711	15	6.9	150	6.4	2,260.00
190721	48	2.1	150	6.4	2,010.00
190731	108	1.4	150	6.4	2,010.00
190741	192	0.7	150	6.4	2,312.00
190751	10	6.9	400	6.4	2,393.00
190761	20	6.9	400	6.4	2,260.00
190771	40	6.9	400	6.4	2,260.00
190781	128	1.4	400	6.4	2,010.00
190791	288	0.7	400	6.4	2,010.00
190801	512	0.3	400	6.4	2,312.00

¹ at +20 °C

Accessories for FMI®-Delivery Pumps

General product specification

- The adapters fit all delivery pumps, system FMI®, the pump heads of which are fitted with compression-type fittings for pipes of OD 1/4".
- The adapters are mounted with zero dead volume by means of the locking nut of the compression-type fitting.
- Additional accessories: see Multifit-SI- or Multifit-VPI-Fittings with UNF-thread 1/4"-28 Gg.

RCT®-Accessories: Adapter for Flexible Tubing



Item	For tubing inside Ø mm	Unit piece	Price EURO
58385	3.2	2	34.00
58386	6.4	2	34.00
58375	9.5	2	34.00

RCT®-Accessories: Adapter for Rigid Tubing



58376, 58381 58376, 58381

Item	For pipes outside Ø mm	Unit piece	Price EURO
58376	3.2	2	34.00

RCT®-Accessories: Threaded Adapter

Item	Internal thread	Unit piece	Price EURO
58381	UNF 1/4"-28	2	34.00

RCT®-Accessories: Micrometer Set

Product specification

- The micrometer set can be mounted at the FMI®-pumps to a later time point and allows an 0.1 % exact adjustment and reproducibility of the pump speed.



Item	Unit piece	Price EURO
97950	1	399.00

RCT®-Accessories: Pulsation damper

Product specification

- Membrane pulsation damper with spring back potential and manometer separated from fluid with scale in psi and bar, made of stainless steel and PTFE.
- When accurately adjusted the FMI®-pulsation damper suppresses approx. 90 % of the shocks coming from the pump.

Technical specification

- Dimension:** 120 x 80 x 150 mm
- Weight:** 0.72 kg



Item	Internal thread	Pressure range ¹ bar	Price EURO
97951	UNF 1/4"-28	0.5 - 7	992.00

¹ at +20 °C

Centrifugal Pumps

THOMAFIUID®-Magnetically Driven Centrifugal Pump PP

Application area

- Electroplating, pharmaceutical industry, food industry, industrial engineering, environmental technology, process technology, process engineering

Product specification

- Self priming design
- High product safety due to leak-free construction
- Very efficient due to optimum pressure/performance ratio
- Absolutely reliable and safe according to UL-VDE regulations

Technical specification

• Material:

Housing: PP (polypropylene) - glass fibre filled

Shaft: ceramic

Bearing: ceramic; carbon (330316)

• Max. suction head: inlet

• Protective system:

IP 42: 330310; 330312; 330313

IP 55: 330314; 330315; 330316

IP 64: 330311

Item	Max. temp. °C	Max. op. pressure ¹ bar	Connection voltage volt	Connection type
330310	70	0.3	230~	pressure and suction side G 3/4" (ext.thr.)
330311	70	0.6	230~	pressure and suction side G 3/4" (ext.thr.)
330312	70	0.96	230~	pressure and suction side G 3/4" (ext.thr.)
330313	65	1.5	230~	pressure and suction side BSP 1" (ext.thr.)
330314	65	1.5	220 - 400~	pressure and suction side BSP 1" (ext.thr.)
330315	70	2.1	220 - 400~	pressure and suction side NPT 1" (ext.thr.)
330316	70	2.5	220 - 400~	pressure and suction side DN 40

¹ at +20 °C



Item	Max. delivery rate l/min.	Max. delivery head mWC	Motor speed rpm	Power consumption W	Price EURO
330310	16	2.5	2,900	15	522.00
330311	30	4	2,900	45	710.00
330312	40	5	2,800	150	966.00
330313	120	11	2,800	290	1,322.00
330314	120	11	2,900	370	1,610.00
330315	120	12.2	2,800	390	1,772.00
330316	250	17	2,900	1,100	2,654.00

THOMAFUID®-Magnetically Driven Centrifugal Pump ETFE

Application area

- Semiconductor technology, pharmaceutical technology, food technology, chemical technology, process technology, process engineering, environmental technology, industrial engineering, hospital technology, medical engineering

Product specification

- Self priming design
- Leak-free system, thus highest product safety
- Excellent efficiency due to optimum pressure/performance ratio
- Absolutely reliable and safe according to UL-VDE regulations

Technical specification

• Material:

Housing: ETFE (ethylene tetrafluoroethylene)
Shaft: ceramic
Bearing: ceramic

• Max. suction head: inlet

• Protective system:

IP 42: 330321; 330322; 330323
IP 55: 330324; 330325

Item	Max. temp. °C	Max. op. pressure ¹ bar	Connection voltage ² volt	Connection type
330321	70	0.6	220 - 230~	pressure and suction side G 3/4" (ext.thr.)
330322	90	0.75	220 - 230~	pressure and suction side G 3/4" (ext.thr.)
330323	65	1.5	220 - 230~	pressure and suction side BSP 1" (ext.thr.)
330324	65	1.5	230 - 400~	pressure and suction side BSP 1" (ext.thr.)
330325	70	2.1	230 - 400~	pressure and suction side NPT 1" (ext.thr.)

¹ at +20 °C ² connected voltage with 1 phase (AC)



Item	Max. delivery rate l/min.	Max. delivery head mWC	Motor speed rpm	Power consumption W	Price EURO
330321	30	4	2,800	45	1,710.00
330322	40	5	2,500	150	2,390.00
330323	120	11	2,800	290	1,568.00
330324	120	11	2,900	370	1,674.00
330325	120	12.2	2,800	390	1,758.00

THOMAFUID®-Magnetically Driven Low Voltage Laboratory Centrifugal Pump

Application area

- Pumping out and circulating of liquids in the areas of chemical laboratory technology, biotechnology, food technology and environmental technology.

Product specification

- Rugged centrifugal pump for liquid media of low particle content, contact-free permanent magnetic coupling, delivery rate up to 10 l/min; low-voltage drive with epoxy resin encased direct-current motor.

Technical specification

• Material:

Casing / vane-wheel: PP
Vane-wheel shaft: stainless steel 1.4401

• Drive system:

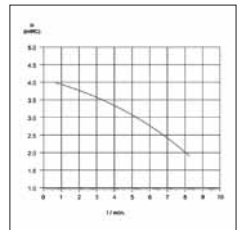
Connection voltage: 24 V=
Amperage: 0.5 A at 24 V=
Motor speed: 3450 rpm

• Max. operating pressure: 3.4 bar

• Max. temperature of medium: +70 °C

• Pump head: self-lubricating by conveying medium

• Pipe connection: hose nozzle 1/2" on both, suction and pressure side



Item	Max. delivery rate l/min.	Max. delivery head mWC	Connection voltage volt	Power consumption W	Price EURO
58543	9.8	3.2	24=	9	496.00

THOMAFUID®-Magnetically Driven Centrifugal Pump, 220 V, with Tubing Connections

Application area

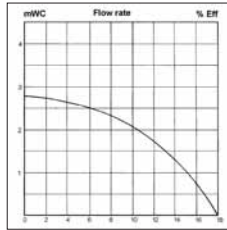
- Pumping out and circulating of liquids in the areas of chemical laboratory technology, biotechnology, food technology and environmental technology.

Product specification

- Rugged centrifugal pump for liquid media of low particle content, contact-free, hermetical permanent magnetic coupling, delivery rate up to 17 l/min; drive with standard electric motor.

Technical specification

- **Material:**
Casing / vane-wheel: PP
Vane-wheel shaft: ceramic
- **Drive system:**
Connection voltage: 230 V~ / 50 Hz
Amperage: 0.17 A
Motor speed: 4000 rpm
Protective system: IP 54
- **Max. operating pressure:** 3.4 bar
- **Max. temperature of medium:** +70 °C
- **Pump head:** self-lubricating by conveying medium
- **Pipe connection:**
Suction side: hose nozzle 3/4"
Pressure side: hose nozzle 1/4"



Item	Max. delivery rate l/min.	Max. delivery head mWC	Connection voltage volt	Power consumption W	Price EURO
58544	17.4	2.75	230~	40	900.00

THOMAFUID®-Magnetically Driven Industrial Centrifugal Pump 230 V

Application area

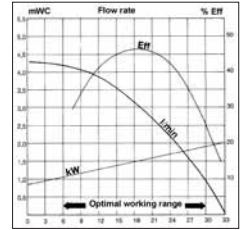
- Pumping out and circulating of liquids in the areas of chemical laboratory technology, biotechnology, food technology and environmental technology.

Product specification

- Rugged centrifugal pump for liquid media of low particle content, contact-free, hermetical, permanent magnetic coupling, delivery rate up to 175 l/min; drive with standard rotary current motor.

Technical specification

- **Material:**
Casing / vane-wheel: PP or PVDF
Vane-wheel shaft: ceramic
- **Drive system:**
Connection voltage: 230 V~ / 50 Hz
Power consumption: 90 W
Amperage: 0.3 A
Protective system: IP 54
- **Max. operating pressure:** 3.4 bar
- **Max. temperature of medium:** +70 °C
- **Pump head:** self-lubricating by conveying medium
- **Pipe connection:** suction side: R 3/4" or R 1" (inside), Pressure side: R 1/2" (outside)



Item	Pump head	Max. delivery rate l/min.	Max. delivery head mWC	Connection type	Price EURO
58545	PP	33	4.3	suction side R 3/4" int. thr.; pressure side R 1/2" ext. thr.	930.00
58546	PVDF	33	4.3	suction side R 3/4" int. thr.; pressure side R 1/2" ext. thr.	1,560.00
58547	PP	51	4.7	suction side R 1" int. thr.; pressure side R 1/2" ext. thr.	1,250.00
58548	PVDF	51	4.7	suction side R 1" int. thr.; pressure side R 1/2" ext. thr.	1,710.00
58549	PP	76	7.3	suction side R 1" int. thr.; pressure side R 1/2" ext. thr.	1,670.00
58550	PVDF	76	7.3	suction side R 1" int. thr.; pressure side R 1/2" ext. thr.	2,040.00

THOMAFUID®-Magnetically Driven Centrifugal Pump 380 V

Application area

- Pumping out and circulating of liquids in the areas of chemical laboratory technology, biotechnology, food technology and environmental technology.

Product specification

- Rugged centrifugal pump for liquid media of low particle content, contact-free, hermetical, permanent magnetic coupling, delivery rate up to 76 l/min; drive with standard electric motor.

Technical specification

- **Material:**
Casing / vane-wheel: PP or PVDF
Vane-wheel shaft: ceramic
- **Drive system:**
Connection voltage: 400 V~ / 50 Hz
Drive: three phase motor (according to VDE-/DIN-/ISO regulations)
Protective system: IP 54
- **Max. temperature of medium:** +70 °C
- **Pump head:** self-lubricating by conveying medium
- **Pipe connection:**
Suction side: R 1" or R 1/2" (inside)
Pressure side: R 3/4" or R 1" (outside)



Item	Pump head	Max. delivery rate l/min.	Max. delivery head mWC	Power consump. W	Amperage A	Price EURO
58551	PP	110	9.3	180	0.52	2,058.00
58552	PVDF	110	9.3	180	0.52	2,896.00
58553	PP	115	10.5	370	1.05	1,920.00
58554	PVDF	115	10.5	370	1.05	2,890.00
58555	PP	175	12.5	550	1.45	2,020.00
58556	PVDF	175	12.5	550	1.45	2,910.00

THOMAFUID®-High-Tech Magnetically Coupled Centrifugal Pumps made of PP/PVDF

Application area

- Process engineering, process technology, environmental technology, engineering operations and maintenance, laboratory technology, food processing technology

General product specification

- Robust centrifugal pump
- A low solid fraction in the delivered medium is permissible
- Conveyance of liquid media from container to container
- Conveyance of liquid media from a container into a pressure line
- Because the capacity heavily depends on the backpressure, the delivery characteristic must be absolutely observed
- The pump is not self-priming and requires a feed
- The pump is to be protected against running dry by means of a flow monitor

General technical specification

- **Max. ambient temperature:** +40 °C
- **Max. temperature of medium:** +80 °C (PP); +95 °C (PVDF)
- **Viscosity:** <20 mPas
- **Solid fraction:** low
- **Suction head:** intake
- **Protective system:** IP 55
- **Insulation class:** F

THOMAFUID®-High-Tech Magnetically Coupled Centrifugal Pump made of PP

Technical specification

- **Material:**
Housing: PP (polypropylene), glass fibre reinforced
Impeller: PP (polypropylene), glass fibre reinforced
O-rings: FPM (fluorinated rubber)
Shaft: oxide ceramics
Bearing: oxide ceramics
O-rings suction port: FPM (fluorinated rubber)
O-rings pressure port: FPM (fluorinated rubber)

Dimensions as well as drive and connection voltage

Item	Dimensions LxWxH mm	Weight kg	Connection voltage ³ volt	Motor speed ³ rpm
330025	240 x 120 x 145	2.7	230~ (0,7 A), 1 ph 230~ (1,1 A) / 400~ (0,65 A), 3 ph	2,871
330026	283 x 138 x 185	5	230~ (1,65 A) / 400~ (0,95 A), 3 ph	2,760
330027	320 x 163 x 191	7.6	230~ (1,65 A) / 400~ (0,95 A), 3 ph	2,820

³ measured at 50 Hz

Connection type

Item	Connection type
330025	pressure side G 1" (ext.thr.), suction side G 1 1/4" (ext.thr.)
330026	pressure and suction side G 1 1/4" (ext.thr.)
330027	pressure side G 1 1/2" (ext.thr.), suction side G 2" (ext.thr.)



Item	Max. delivery rate ² l/h	Max. delivery head mWC	Max. op. pressure ¹ bar	Power consumption W	Price EURO
330025	1800	4.5	1	60	840.00
330026	6600	7.9	2.5	250	1,165.00
330027	9600	10	2.5	370	1,320.00

¹ at +20 °C ² at 0 mWC

THOMAFUID®-High-Tech Magnetically Coupled Centrifugal Pump made of PVDF

Technical specification

- **Material:**
Housing, impeller: PVDF (polyvinylidene fluoride)
O-rings: FPM (fluorinated rubber)
Shaft: oxide ceramics
Bearing: oxide ceramics
O-rings suction port / pressure port: FPM (fluorinated rubber)

Dimensions as well as drive and connection voltage

Item	Dimensions LxWxH mm	Weight kg	Connection voltage ³ volt	Motor speed ³ rpm
330028	240 x 120 x 145	2.8	230~ (0,7 A), 1 ph 230~ (1,1 A) / 400~ (0,65 A), 3 ph	2,871
330029	283 x 138 x 185	5.2	230~ (1,65 A) / 400~ (0,95 A), 3 ph	2,760
330030	320 x 163 x 191	8	230~ (1,65 A) / 400~ (0,95 A), 3 ph	2,820

³ measured at 50 Hz

Connection type

Item	Connection type
330028	pressure side G 1" (ext.thr.), suction side G 1 1/4" (ext.thr.)
330029	pressure and suction side G 1 1/4" (ext.thr.)
330030	pressure side G 1 1/2" (ext.thr.), suction side G 2" (ext.thr.)

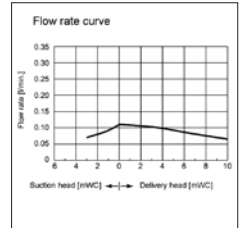
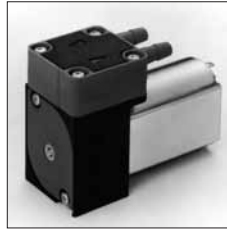
³ measured at 50 Hz



Item	Max. delivery rate ² l/h	Max. delivery head mWC	Max. op. pressure ¹ bar	Power consumption W	Price EURO
330028	1800	4.5	2	60	1,095.00
330029	6600	7.9	3.5	250	1,545.00
330030	9600	10	3.5	370	1,710.00

¹ at +20 °C ² at 0 mWC

- **Amperage:** 0.61; 0.28; 0.13 A at load
- **Protective system:** IP 30
- **EMC-Directive:** EN 55014
- **Dimension:** 69 x 46 x 66 mm (L x W x H)
- **Weight:** approx. 60 g



Item	Connection voltage volt	Material pump head	Material valves	Material diaphragm	Price EURO
16585	6=	PP	EPDM	EPDM	382.00
16586	12=	PP	EPDM	EPDM	382.00
16587	24=	PP	EPDM	EPDM	382.00
16588	6=	PP	FFKM	PTFE	400.00
16589	12=	PP	FFKM	PTFE	400.00
16590	24=	PP	FFKM	PTFE	400.00
16591	6=	PVDF	FFKM	PTFE	416.00
16592	12=	PVDF	FFKM	PTFE	416.00
16593	24=	PVDF	FFKM	PTFE	416.00

Diaphragm Pumps

THOMAFUID®-Diaphragm Delivery Pump for Liquids - 100 ml/min with Low-Voltage Drive

Application area

- Delivery of liquids in the areas of medical and precision engineering, biotechnology, analytical technology and environmental technology.

Product specification

- Self-priming miniature diaphragm pumps for delivery of liquids also against pressure, safe to run dry and maintenance-free, medium-contacting parts made of proven, chemically resistant polymer material combinations, low-voltage drive with ironless direct current motor.

Technical specification

- **Material:**
Pump head: PP or PVDF
Valves: EPDM or FFKM
Diaphragm: EPDM or PTFE
- **Suction head:** up to 3 m water column
- **Max. delivery head:** 10 m water column
- **Max. working excess-pressure:** 1 bar
- **Max. delivery rate:**
at atmospheric pressure (H₂O +20 °C): 100 ml/min.
against 10 m water column: 90 ml/min.
- **Pipe connection:** parallel tubing connections, straight,
for tubing ID 4.3 mm
- **Max. temperature of medium:** +80 °C
- **Max. ambient temperature:** +5 to +40 °C
- **Connection voltage:** 6; 12 or 24 V=

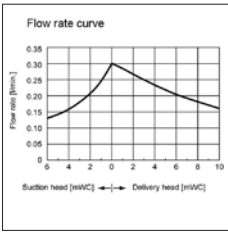
THOMAFUID®-Diaphragm Delivery Pump for Liquids - 300 ml/min with Low-Voltage Drive

Product specification

- Efficient, self-priming miniature diaphragm pumps for delivery of liquids also against pressure, safe to run dry and maintenance-free, medium-contacting parts made of proven, chemically resistant polymer material combinations, low-voltage drive with direct current motor.

Technical specification

- **Material:**
Pump head: PP or PVDF
Valves: EPDM or FFKM
Diaphragm: EPDM or PTFE
- **Suction head:** up to 6 m water column;
with PTFE diaphragm up to 5 m water column
- **Max. delivery head:** 10 m water column
- **Max. working excess-pressure:** 1 bar
- **Max. delivery rate:**
300 ml/min at atmospheric pressure (H₂O +20 °C)
150 ml/min against 10 m water column
- **Pipe connection:** parallel tubing connections, straight,
for tubing ID 4.5 mm
- **Max. temperature of medium:** +80 °C
- **Max. ambient temperature:** +5 to +40 °C
- **Connection voltage:** 6; 12 or 24 V=
- **Amperage:** 1.25; 0.69; 0.36 A at load
- **Protective system:** IP 00
- **EMC-Directive:** EN 55014
- **Dimension:** 83 x 31 x 58 mm (L x W x H)
- **Weight:** approx. 180 g



Item	Con- nection voltage volt	Am- perage A	Material pump head	Material valves	Material diaphragm	Price EURO
16594	6=	1.9	PP	EPDM	EPDM	232.00
16595	12=	0.7	PP	EPDM	EPDM	232.00
16596	24=	0.36	PP	EPDM	EPDM	232.00
16597	6=	1.9	PP	FFKM	PTFE	314.00
16598	12=	0.7	PP	FFKM	PTFE	314.00
16599	24=	0.36	PP	FFKM	PTFE	314.00
16600	6=	1.9	PVDF	FFKM	PTFE	388.00
16601	12=	0.7	PVDF	FFKM	PTFE	388.00
16602	24=	0.36	PVDF	FFKM	PTFE	405.00

**THOMAFUID®-Diaphragm Delivery Pump
for Liquids - 600 ml/min with Low-Voltage Drive**

Application area

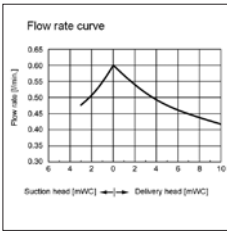
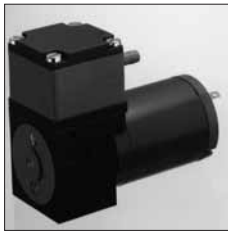
- Delivery of liquids in the areas of medical and precision engineering, biotechnology, analytical technology and environmental technology.
- Also for mobile use.

Product specification

- Efficient, self-priming miniature diaphragm pumps for delivery of liquids also against pressure, safe to run dry and maintenance-free, medium-contacting parts made of proven, chemically resistant polymer material combinations, low-voltage drive with direct current motor.

Technical specification

- **Material:**
Pump head: PP or PVDF
Valves: EPDM or FFKM
Diaphragm: EPDM or PTFE
- **Suction head:** up to 3 m water column
- **Max. delivery head:** 10 m water column
- **Max. working excess-pressure:** 1 bar
- **Max. delivery rate:**
at atmospheric pressure (H₂O +20 °C): 600 ml/min.
against 10 m water column: 400 ml/min.
- **Pipe connection:** parallel tubing connections, straight, for tubing ID 4.8 mm
- **Max. temperature of medium:** +80 °C
- **Max. ambient temperature:** +5 to +40 °C
- **Connection voltage:** 6; 12 or 24 V=
- **Amperage:** 1.25; 0.69; 0.36 A at load
- **Protective system:** IP 00
- **EMC-Directive:** EN 55014
- **Dimension:** 74 x 31 x 60 mm (L x W x H)
- **Weight:** approx. 190 g



Item	Con- nection voltage volt	Am- perage A	Material pump head	Material valves	Material diaphragm	Price EURO
16603	6=	1.9	PP	EPDM	EPDM	275.00
16604	12=	0.7	PP	EPDM	EPDM	275.00
16605	24=	0.36	PP	EPDM	EPDM	275.00
16606	6=	1.9	PP	FFKM	PTFE	342.00
16607	12=	0.7	PP	FFKM	PTFE	342.00
16608	24=	0.36	PP	FFKM	PTFE	342.00
16609	6=	1.9	PVDF	FFKM	PTFE	388.00
16610	12=	0.7	PVDF	FFKM	PTFE	388.00
16611	24=	0.36	PVDF	FFKM	PTFE	388.00

**THOMAFUID®-Diaphragm Metering Pump
for Liquids - 170 ml/min with Low-Voltage Drive**

Application area

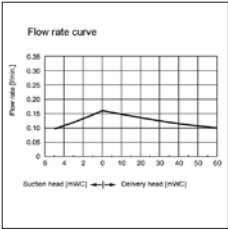
- Delivery of liquids in the areas of medical and precision engineering, biotechnology, analytical technology, environmental technology
- Also for mobile use.

Product specification

- Self-priming miniature diaphragm pumps for delivery and metering of small quantities of liquids also against higher pressures, safe to run dry and maintenance-free, medium-contacting parts made of proven, chemically resistant polymer material combinations, low-voltage drive with direct current motor.

Technical specification

- **Material:**
Pump head: PP or PVDF
Valves: FFKM
Diaphragm: PTFE
- **Suction head:** up to 5 m water column
- **Max. delivery head:** 60 m water column
- **Max. delivery rate:**
at atmospheric pressure (H₂O +20 °C): 170 ml/min.
against 60 m water column: 100 ml/min.
- **Pipe connection:** tubing screwed joints for tubing ID 4 mm / OD 6 mm
- **Max. temperature of medium:** +80 °C
- **Max. ambient temperature:** +5 to +40 °C
- **Connection voltage:** 12 or 24 V=
- **Amperage:** 0.61; 0.35 A at load
- **Protective system:** IP 00
- **EMC-Directive:** EN 55014
- **Dimension:** 102 x 3 x 63 mm (L x W x H)
- **Weight:** approx. 220 g



Item	Con- nection voltage volt	Am- perage A	Material pump head	Material valves	Material diaphragm	Price EURO
16612	12=	0.6	PP	FFKM	PTFE	394.00
16613	24=	0.35	PP	FFKM	PTFE	394.00
16614	12=	0.6	PVDF	FFKM	PTFE	428.00
16615	24=	0.35	PVDF	FFKM	PTFE	428.00

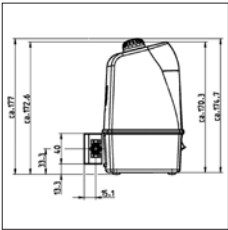
THOMAFUID®-Variable Single-Head Diaphragm Pump for Liquid Aggressive Media and Purest Media

Product specification

- Portable single-head diaphragm pump with variable delivery rate for all kinds of liquids. Heavy duty pump head with variable, cavitation-free swing chamber without rotating gaskets, completely maintenance-free, self-priming and safe to run dry. Medium-contacting parts made of inert plastic materials.
- Connections for conveying tubing, robust construction for any mounting position.
- Knob with LED display
- Standby mode
- Optional as RC version available, which can be externally controlled

Technical specification

- **Material:**
Pump head: PP; PVDF or PTFE
Diaphragm: PTFE
Valves: FFKM
O-rings: PTFE-coated
Tubing connectors: PVDF
- **Max. suction head:** 3 m water column (H₂O at +20 °C)
- **Max. viscosity:** 150 cSt.
- **Pipe connection:** hose nozzle for tubing inside Ø 8 mm
- **Max. temperature of medium:** +80 °C
- **Max. ambient temperature:** +40 °C
- **Connection voltage:** 230 V~ / 50 Hz, according to VDE
- **Protective class:** III
- **Protective system:** IP 65
- **Dimension:** 130 x 177 x 99 mm (L x W x H)
- **Weight:** approx. 1 kg



Item	Delivery rate l/min.	Max. delivery head mWC	Power consumption W	Material pump head	Price EURO
16562	0.2 - 1.2	10	12	PP	748.00
16563	0.2 - 1.2	10	12	PVDF	920.00
16542	0.2 - 1.2	10	12	PTFE	2,222.00
16564	0.2 - 1.3	60	18	PP	873.00
16565	0.2 - 1.3	60	18	PVDF	1,043.00
16543	0.2 - 1.3	60	18	PTFE	2,347.00

THOMAFUID®-Pneumatic Diaphragm Pump made of PTFE

Application area

- Universal delivery pump made of PTFE for corrosive media in laboratory and plant.

Product specification

- A-Series pumps are oscillating displacement pumps with pneumatic drive, can be infinitely controlled via the air volume. The series comprises two pump sizes with maximum delivery volumes of 10 and 25 l/min. The pumps are dry-running and overloading safe, self-priming and maintenance-free.
- Housing material: optionally solid PTFE or PTFE conductive. PTFE is resistant to corrosion by virtually all media. The conductive version permits use of the pump in explosion-hazard areas and for inflammable liquids.
- The pumps can optionally be fitted with ball valves or cylinder valves. Ball valves (PTFE) are unsusceptible to solid-containing media, cylinder valves (PTFE) allow very good dry priming values. PTFE is used as medium-contacting diaphragm material.

Technical specification

- **Colour:** white (PTFE), black (PTFE conductive)
- **Max. driving air pressure:** 7 bar
- **Max. operating temperature:** +100 °C
- **Pipe connection:** internal thread R 1/8"

Item	Dimensions LxWxH mm	Internal thread	Max. solid particle size mm	Weight kg
333629	90 x 113 x 129	NPT 1/4"	2	2
333630	90 x 113 x 129	NPT 1/4"	2	2
333631	90 x 113 x 129	NPT 1/4"	2	2
333632	90 x 113 x 129	NPT 1/4"	2	2
333633	110 x 127 x 169	NPT 3/8"	3	4
333634	110 x 127 x 169	NPT 3/8"	4	4
333635	110 x 127 x 169	NPT 3/8"	3	4
333636	110 x 127 x 169	NPT 3/8"	4	4



Item	Max. delivery rate l/min.	Valve system	Suction head dry mWC	Material	Price EURO
333629	10	ball	0.5	PTFE	1,712.00
333630	10	cylinder	1	PTFE	1,712.00
333631	10	ball	0.5	PTFE (conductive)	1,838.00
333632	10	cylinder	1	PTFE (conductive)	1,838.00
333633	25	ball	1.5	PTFE	5,450.00
333634	25	cylinder	2	PTFE	5,450.00
333635	25	ball	1.5	PTFE (conductive)	5,880.00
333636	25	cylinder	2	PTFE (conductive)	5,880.00

THOMAFUID®-Magnet-Driven Diaphragm Metering Pump for Alkalis and Acids

Application area

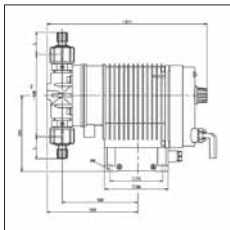
- Process chemistry, process technology, water purification, environmental technology

Product specification

- Magnet-driven diaphragm metering pump with microprocessor-controlled electronics
- Double ball valve ensures highest accuracy even at smallest flow rates
- Stepless adjustable flow rate / dosing rate (stroke length adjustment) with stroke arresting for preventing unintentional adjustment
- For conveyance of aggressive and toxic media
- Operational reliability due to adjustable pressure limit
- External control by impulses (e.g. controls, water meters or any other potential-free pulse sensors)
- Stroke rate adjustment 25, 50 and 100 %
- Connection for level control

Technical specification

- **Material:**
Metering head: PVC
Diaphragm: PTFE
Gasket: EPDM (lye pump); FPM (acid pump)
Valve ball: glass
- **Connection voltage:** 230 V~ / 50-60 Hz
- **Power consumption:** 30 W
- **Amperage:** 2.9 A
- **External input:** 5 V=
- **Input impulse length:** >10 ms
- **Max. counterpressure:** see diagrams (depending on the delivery rate)
- **Max. ambient temperature:** +45 °C
- **Max. permissible temperature of medium:** +50 °C
- **Weight:** approx. 2.7 kg
- **Protective system:** IP 65
- **Insulation category:** F



Connection type: pressure and suction side 4/6 mm

Item	Type¹	Max. delivery rate² l/min.	Suction head wet mWC	Stroke frequency strokes/min.	Price EURO
339681	L	1.7	3	80	1,156.00
339682	A	1.7	3	80	1,156.00
339683	L	3.9	3	80	1,156.00
339684	A	3.9	3	80	1,156.00

¹ L= Lye pump; A= Acid pump ² at counterpressure of 2 bar

Connection type: pressure side 4/6 mm, suction side 6/9 mm

Item	Type¹	Max. delivery rate² l/min.	Suction head wet mWC	Stroke frequency strokes/min.	Price EURO
339685	L	12.5	2	120	1,156.00
339686	A	12.5	2	120	1,156.00
339687	L	17.5	1.2	120	1,156.00
339688	A	17.5	1.2	120	1,156.00

¹ L= Lye pump; A= Acid pump ² at counterpressure of 2 bar

THOMAFUID®-Pneumatic Diaphragm Pump made of PTFE/PE

Application area

- Universal delivery pump for low to medium duty, e.g. as drum pump.

Product specification

- CX pumps are oscillating displacement pumps with pneumatic drive, can be infinitely controlled via the air volume. The series comprises four pump sizes with maximum delivery volumes of 10, 20, 50 and 130 l/min. CX pumps are self-priming and protected against dry running. The housing is made of solid PE conductive. This material has an extensive chemical resistance and is approved for foodstuffs. Its conductivity permits use of the pump in explosion-hazard areas and for inflammable liquids.
- Pumps of the CX series can optionally be fitted with ball valves or cylinder valves. Ball valves (PTFE) are unsusceptible to solid-containing media, cylinder valves (PE) allow very good dry priming values. PTFE is used as medium-contacting diaphragm material.

Technical specification

- **Max. driving air pressure:** 7 bar
- **Max. operating temperature:** +70 °C
- **Pipe connection:** internal thread R 1/4"

Item	Dimensions LxWxH mm	Internal thread	Max. solid particle size mm	Weight kg
333637	86 x 137 x 96	NPT 3/8"	1.5	1.2
333638	86 x 137 x 96	NPT 3/8"		1.2
333639	124 x 155 x 128	NPT 1/2"	2	2
333640	124 x 155 x 128	NPT 1/2"		2
333641	175 x 206 x 173	NPT 3/4"	3	4.5
333642	175 x 206 x 173	NPT 3/4"		4.5
333643	240 x 269 x 225	NPT 1 1/4"	4	10
333644	240 x 269 x 225	NPT 1 1/4"		10



Item	Max. delivery rate l/min.	Valve system	Suction head dry mWC	Suction head wet mWC	Price EURO
333637	10	ball	0.5	8	815.00
333638	10	cylinder	1.5	8	840.00
333639	20	ball	0.5	8	1,010.00
333640	20	cylinder	2	8	1,025.00
333641	50	ball	1.5	9	1,355.00
333642	50	cylinder	3	9	1,390.00
333643	130	ball	2.5	9	1,975.00
333644	130	cylinder	4	9	1,975.00

THOMAFUID®-High-Precise Solenoid-Driven Diaphragm Pump made of PVDF

Application area

- Laboratory technology, environmental technology, nuclear technology, isotope technology, medical engineering, process technology, pharmaceutical technology, chemical technology

Product specification

- For conveyance of small and medium volume flows
- Controlled solenoid-driven diaphragm pump with virtually wear-free drive
- Pressure stroke extendable up to 3 minutes
- Equipped with PTFE-coated metering diaphragm
- With double ball valves on the suction and pressure side (item 300510 to 300513)
- Dosing head vent with recirculation of chemicals
- Dosing head made of PVDF ensures high chemical resistance
- Control via external contact (pulse)
- Control via analogue signal (0/4-20 mA)
- Connection cable with Euro plug, length 2 m
- With fault indicating relay and pulse generator relay output
- Process timer for program sequences on request



Technical specification

- **Material:**
Dosing head: PVDF (polyvinylidene fluoride)
Gasket: PTFE
Valve ball: ceramic

- **Max. delivery rate:** 7.8 - 75 l/h
- **Max. backpressure:** 2 - 16 bar
- **Max. stroke frequency:** 200 strokes/min
- **Stroke volume:** 0.65 - 6.25 cm³/stroke
- **Suction head:** 2 - 6 mWC
- **Power consumption:** 78 W
- **Connection voltage:** 100 - 230 V~ / 50-60 Hz
- **Max. ambient temperature:** -10 to +45 °C
- **External input:** 0/4-20 mA (analogue input)
- **Protective system:** IP 65
- **Insulation class:** F
- **Pipe connection:** hose nozzle or screwed connection
- **Weight:** approx. 10 kg

Connection type: nozzle for tubing 8x5 mm

Item	Max. delivery rate l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet ¹ mWC	Price EURO
300510	7.8	16	0.65	5	2,600.00
300511	11.3	16	0.94	6	2,600.00

¹ suction lift when dosing head and suction pipe are full

Connection type: nozzle for tubing 12x9 mm

Item	Max. delivery rate l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet ¹ mWC	Price EURO
300512	19.1	10	1.59	5	2,600.00
300513	29.2	7	2.43	5	2,600.00

¹ suction lift when dosing head and suction pipe are full

Connection type: ext. thread G 3/4"

Item	Max. delivery rate l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet ¹ mWC	Price EURO
300514	49	4	4.08	3	2,750.00
300515	75	2	6.25	2	2,800.00

¹ suction lift when dosing head and suction pipe are full

THOMAFUID®-High-Precise Solenoid-Driven Diaphragm Pump made of Stainless Steel

Application area

- Laboratory technology, environmental technology, nuclear technology, isotope technology, medical engineering, process technology, pharmaceutical technology, chemical technology

Product specification

- For conveyance of small and medium volume flows
- Controlled solenoid-driven diaphragm pump with virtually wear-free drive
- Pressure stroke extendable up to 3 minutes
- Equipped with PVDF-coated metering diaphragm
- With double ball valves on the suction and pressure side (item 300516 - 300519)
- Robust design
- Control via external contact (pulse), control via analogue signal 0/4-20 mA
- Connection cable with Euro plug, length 2 m
- With fault indicating relay and pulse generator relay output
- Process timer for program sequences on request

Technical specification

- **Material:**
Dosing head: stainless steel 1.4404/1.4581
Gasket: PTFE
Valve ball: ceramic
- **Max. delivery rate:** 7.8 to 75 l/h
- **Max. backpressure:** 2 - 25 bar
- **Max. stroke frequency:** 200 strokes/min
- **Stroke volume:** 0.65 to 6.25 cm³/stroke
- **Suction head:** 2 to 6 mWC
- **Power consumption:** 78 W
- **Connection voltage:** 100 - 230 V~ / 50-60 Hz
- **Max. ambient temperature:** -10 to +45 °C
- **External input:** 0/4-20 mA (analogue input)
- **Protective system:** IP 65
- **Insulation class:** F
- **Pipe connection:** hose nozzle or screwed connection
- **Weight:** approx. 11 kg



Connection type: nozzle for pipes OD 6 mm

Item	Max. delivery rate l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet mWC	Price EURO
300516	7.5	25	0.62	5	3,610.00
300517	11.3	16	0.94	6	3,610.00
300518	19.1	10	1.59	5	3,610.00
300519	29.2	7	2.43	5	3,610.00

¹ suction lift when dosing head and suction pipe are full

Connection type: ext. thread G 3/4"

Item	Max. delivery rate l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet mWC	Price EURO
300520	49	4	4.08	3	3,750.00
300521	75	2	6.25	2	3,750.00

¹ suction lift when dosing head and suction pipe are full

THOMAFIUID®-High-Tech Solenoid Diaphragm Metering Pump made of PVDF - controllable

Application area

- For biochemical, chemical and clinical applications in laboratory technology, radiochemistry, environmental technology, process technology, medical engineering

Product specification

- Solenoid-driven diaphragm metering pump with virtually wear-free drive
- Equipped with PTFE-coated metering diaphragm
- Double ball valves on the suction and pressure side

- Dosing head made of PVDF ensures high chemical resistance
- Dosing head vent with recirculation of chemicals
- Fault indicating relay and pulse generator relay
- Select feed rate display in strokes/min. or l/h
- Programmable pressure levels
- External control through potential-free contact with optimum pulse transfer and reduction
- Control via analogue signal 0/4-20 mA
- Connector for 2-stage level switch
- 3-LED-function as operation indicator, alarm indicator and fault indicator
- Fitted with 2 m power cable and Euro plug

Technical specification

- **Material:**
Dosing head: PVDF (polyvinylidene fluoride)
Valve ball: ceramic
- **Max. delivery rate:** 0.74 - 32 l/h
- **Reproducible dosing accuracy:** ±2 %
- **Stroke length:** 0 - 100 % infinitely variable
- **Max. stroke frequency:** 180 strokes/min
- **Stroke volume:** 0.07 - 2.96 ml/stroke
- **Suction head:** 2 - 6 mWC
- **Max. ambient temperature:** -10 to +45°C
- **Power consumption:** 22 W
- **Connection voltage:** 100 - 230 V~ / 50-60 Hz
- **Protective system:** IP 65
- **Insulation class:** F
- **Pipe connection:** for tubing 6 x 4, 8 x 5, 12 x 9 mm



Item	Max. delivery rate l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet mWC	For tubing I-Ø mm	Price EURO
341808	0.74	10	0.07	6	4	1,640.00
341809	1.1	16	0.1	6	4	1,640.00
341810	2.1	16	0.19	6	4	1,640.00
341811	4.4	10	0.41	6	5	1,780.00
341812	7.1	7	0.66	6	5	1,780.00
341813	12.3	4	1.14	3	5	1,780.00
341814	19	2	1.76	2	9	1,780.00
341815	4.1	16	0.38	6	5	2,600.00
341816	6.8	10	0.63	6	5	2,600.00
341817	11	7	1.02	4	5	2,600.00
341818	17.1	4	1.58	3	9	2,600.00
341819	32	2	2.96	2	9	2,600.00

THOMAFUID®-High-Tech Solenoid Diaphragm Metering Pump made of Stainless Steel - controllable

Application area

- For biochemical, chemical and clinical applications in laboratory technology, radiochemistry, environmental technology, process technology, medical engineering

Product specification

- Solenoid-driven diaphragm metering pump with virtually wear-free drive
- Equipped with PTFE-coated metering diaphragm
- Double ball valves on the suction and pressure side
- Fault indicating relay and pulse generator relay
- Select feed rate display in strokes/min. or l/h
- Programmable pressure levels
- External control through potential-free contact with pulse transfer and reduction
- Control via analogue signal 0/4-20 mA
- Connector for 2-stage level switch
- 3-LED-function as operation indicator, alarm indicator and fault indicator
- Fitted with 2 m power cable and Euro plug

Technical specification

- **Material:**
Dosing head: stainless steel 1.4401
Valve ball: ceramic
- **Max. delivery rate:** 0.74 - 32 l/h
- **Reproducible dosing accuracy:** $\pm 2\%$
- **Stroke length:** 0 - 100 % infinitely variable
- **Max. stroke frequency:** 180 strokes/min
- **Stroke volume:** 0.07 - 2.96 ml/stroke
- **Suction head:** 2 - 6 mWC
- **Max. ambient temperature:** -10 to +45 °C
- **Power consumption:** 22 W
- **Connection voltage:** 100 - 230 V~ / 50-60 Hz
- **Protective system:** IP 65
- **Insulation class:** F
- **Pipe connection:** for pipes 6, 8 and 12 mm



Item	Max. delivery rate l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet mWC	For pipes 0-Ø mm	Price EURO
341820	0.74	10	0.07	6	6	2,570.00
341821	1.1	16	0.1	6	6	2,570.00
341822	2.1	16	0.19	6	6	2,570.00
341823	4.4	10	0.41	6	6	2,620.00
341824	7.1	7	0.66	6	8	2,620.00
341825	12.3	4	1.14	3	8	2,620.00
341826	19	2	1.76	2	12	2,620.00
341827	4.1	16	0.38	6	6	3,020.00
341828	6.8	10	0.63	6	8	3,020.00

Item	Max. delivery rate l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet mWC	For pipes 0-Ø mm	Price EURO
341829	11	7	1.02	4	8	3,020.00
341830	17.1	4	1.58	3	12	3,020.00
341831	32	2	2.96	2	12	3,520.00

THOMAFUID®-Diaphragm Metering Pump made of PVDF - Standard

Application area

- Chemical technology, process technology, environmental technology, sewage treatment, process engineering, industrial engineering, drinking water purification

Product specification

- For conveyance of small and medium volume flows for continuous metering
- Low-noise, oscillating displacement pump with electric drive and cam / spring follower mechanisms
- The delivery rate can be adjusted by a self-locking rotary knob in 1 % steps via the stroke length (3 mm)
- Reproducible dosing accuracy better than $\pm 2\%$
- Equipped with PTFE-coated metering diaphragm
- Ball valves for suction and pressure side
- Dosing head made of PVDF ensures high chemical resistance
- Polymer housing as protection against corrosion

Technical specification

- **Material:**
Dosing head: PVDF (polyvinylidene fluoride)
Gasket: PTFE
Valve ball: ceramic/glass
Valve seat: PTFE
- **Max. delivery rate:** 8 - 64 l/h
- **Max. backpressure:** 4 - 10 bar
- **Permissible admission pressure:** up to 2,8 bar
- **Stroke length:** 3 mm
- **Max. stroke frequency:** 38 - 192 strokes/min
- **Stroke volume:** 3.6 - 5.4 ml/stroke
- **Suction head:** 6 - 7 mWC
- **Max. ambient temperature:** -10 to +40 °C
- **Power consumption:** 0.07 kW
- **Motor speed:** 1500 rpm at 50 Hz
- **Connection voltage:** 230 V~ / 50-60 Hz
- **External input:** 0/4-20 mA (analogue input)
- **Protective system:** IP 55
- **Pipe connection:** hose nozzle for tubing with inside Ø 16 mm, external thread G 3/4"
- **Weight:** 6 kg



Item	Max. delivery rate ¹ l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet mWC	Price EURO
301055	8	10	3.6	7	1,280.00
301056	16	10	3.6	7	1,280.00
301057	26	7	3.6	7	1,280.00
301058	42	7	3.6	7	1,280.00
301059	12	7	5.4	6	1,320.00
301060	24	7	5.4	6	1,320.00
301061	40	4	5.4	6	1,320.00
301062	64	4	5.4	6	1,320.00

¹ with motor 1500 rpm at 50 Hz

THOMAFUID®-Diaphragm Metering Pump made of Stainless Steel - Standard

Application area

- Chemical technology, process technology, drinking water purification, environmental technology, sewage treatment, process engineering, industrial engineering

Product specification

- For conveyance of small and medium volume flows for continuous metering
- Low-noise, oscillating displacement pump with electric drive and cam / spring follower mechanisms
- The delivery rate can be adjusted by a self-locking rotary knob in 1 % steps via the stroke length (3 mm)
- Reproducible dosing accuracy better than ± 2 %
- Equipped with PTFE-coated metering diaphragm
- Ball valves for suction and pressure side
- Polymer housing as protection against corrosion



Technical specification

- Material:**
Dosing head: stainless steel 1.4404/1.4581
Gasket, valve seat: PTFE
Valve ball: stainless steel 1.4401
- Max. delivery rate:** 9.6 - 76.8 l/h
- Max. backpressure:** 4 - 10 bar
- Permissible admission pressure:** up to 2,8 bar
- Stroke length:** 3 mm
- Max. stroke frequency:** 45 - 230 strokes/min
- Stroke volume:** 3.6 - 5.4 ml/stroke
- Suction head:** 6 - 7 mWC
- Max. ambient temperature:** -10 to +40 °C
- Power consumption:** 0.07 kW
- Motor speed:** 1500 rpm at 50 Hz
- Connection voltage:** 230 V/50-60 Hz
- External input:** 0/4-20 mA (analogue input)
- Protective system:** IP 55

- Pipe connection:** external thread G 3/4"
- Weight:** 11 kg

Item	Max. delivery rate ¹ mWC	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet mWC	Price EURO
301063	8	10	3.6	7	2,200.00
301064	16	10	3.6	7	2,200.00
301065	26	7	3.6	7	2,200.00
301066	42	7	3.6	7	2,200.00
301067	12	7	5.4	6	2,240.00
301068	24	7	5.4	6	2,240.00
301069	40	4	5.4	6	2,240.00
301070	64	4	5.4	6	2,240.00

¹ with motor 1500 rpm at 50 Hz

THOMAFUID®-High-Tech Microprocessor Diaphragm Metering Pump made of PVDF - MP

Application area

- Process technology, process engineering, chemical technology, pharmaceutical technology, industrial engineering, environmental technology

Product specification

- Microprocessor-controlled diaphragm metering pump MP-PVDF for conveyance of medium to largest volume flows for variable metering and process tasks.
- Low-noise, oscillating displacement pump with electric drive and cam / spring follower mechanisms.
- Direct adjustment and control of dosing capacity in plain language via a big illuminated LC display.
- 3-LED-function as operation indicator, alarm indicator and fault indicator.
- Microprocessor control: optimum combination of variable AC frequency combined with digital stroking frequency, ensures exact metering even in the lower minimum range due to individual stroke control.
- Control via external contact (pulse)
- Control via analogue signal
- Control: microprocessor-controlled
- Linear regulation of metering capacity by stroke adjustment in 1 % steps.
- PTFE-multilayer safety diaphragm with visual diaphragm rupture indicator, i.e. even should the diaphragm rupture the feed chemical cannot escape from the pump unchecked or penetrate the pump drive.
- Ball valves for suction and pressure side
- High-strength inner housing for energy-stressed components as well as additional polymer housing as protection against corrosion.
- Application profiles:
Time-controlled chemical addition
Quantity-proportional chemical addition
Measurement-dependent chemical addition, e.g. acid and brine dosing
Pulse-controlled dosing, e.g. when bottling different volumina



Technical specification

- **Material:**
Dosing head: PVDF (polyvinylidene fluoride)
Valve ball: ceramic/glass
Valve seat: PTFE
- **Max. delivery rate:** 20 - 120 l/h
- **Control:** 0/4-20 mA (contact or analogue signals)
- **Max. backpressure:** 4 - 12 bar
- **Permissible admission pressure:** 1 bar
- **Max. stroke frequency:** 88 - 200 strokes/min
- **Stroke volume:** 4.0 - 9.7 ml/stroke
- **Reproducible dosing accuracy:** better than $\pm 2\%$
- **Suction head:** 3 - 7 mWC
- **Max. ambient temperature:** -10 to +40 °C
- **Power consumption:** 0.09 kW
- **Motor speed:** 1800 rpm
- **Connection voltage:** 100-230 V/50-60 Hz
- **Protective system:** control: IP 65; motor: IP 55
- **Pipe connection:** for tubing with inside \varnothing 16 mm or 20 mm (external thread G 3/4" or G 1")
- **Weight:** 9 kg

Item	Max. delivery rate ¹ l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet mWC	For tubing I- \varnothing mm	Price EURO
301880	20	12	4	7	16	3,250.00
301881	42	12	4	7	16	3,250.00
301882	50	10	4	7	16	3,250.00
301883	26	10	5.1	6	16	3,280.00
301884	53	10	5.1	6	16	3,280.00
301885	65	7	5.1	6	16	3,280.00
301886	50	7	9.7	3	20	3,420.00
301887	101	4	9.7	3	20	3,420.00
301888	120	4	9.7	3	20	3,420.00

¹ with motor 1500 rpm at 60 Hz

THOMAFLUID®-High-Tech Microprocessor Diaphragm Metering Pump made of Stainless Steel - MP

Application area

- Process technology, process engineering, chemical technology, pharmaceutical technology, industrial engineering, environmental technology

Product specification

- Microprocessor-controlled diaphragm metering pump MP-stainless steel for conveyance of medium to largest volume flows for variable metering and process tasks.
- Low-noise, oscillating displacement pump with electric drive and cam / spring follower mechanisms.
- Direct adjustment and control of dosing capacity in plain language via a big illuminated LC display.
- 3-LED-function as operation indicator, alarm indicator and fault indicator.
- Microprocessor control: optimum combination of variable AC frequency combined with digital stroking frequency, ensures exact metering even in the lower minimum range due to individual stroke control.
- Control via external contact (pulse), control via analogue signal
- Control: microprocessor-controlled
- Linear regulation of metering capacity by stroke adjustment in 1 % steps.
- PTFE-multilayer safety diaphragm with visual diaphragm rupture indicator, i.e. even should the diaphragm rupture the feed chemical cannot escape from the pump unchecked or penetrate the pump drive.
- Ball valves for suction and pressure side

- High-strength inner housing for energy-stressed components as well as additional polymer housing as protection against corrosion.
- Application profiles:
Time-controlled chemical addition
Quantity-proportional chemical addition
Measurement-dependent chemical addition, e.g. acid and brine dosing
Pulse-controlled dosing, e.g. when bottling different volumina

Technical specification

- **Material:**
Dosing head: stainless steel 1.4404/1.4581
Valve ball: stainless steel 1.4404
Valve seat: PTFE
- **Max. delivery rate:** 20 - 120 l/h
- **Control:** 0/4-20 mA (contact or analogue signals)
- **Max. backpressure:** 4 - 12 bar
- **Permissible admission pressure:** 1 bar
- **Max. stroke frequency:** 88 - 200 strokes/min
- **Stroke volume:** 4.0 - 9.7 ml/stroke
- **Reproducible dosing accuracy:** better than $\pm 2\%$
- **Suction head:** 3 - 7 mWC
- **Max. ambient temperature:** -10 to +40 °C
- **Power consumption:** 0.09 kW
- **Motor speed:** 1800 rpm
- **Connection voltage:** 100 - 230 V~ / 50-60 Hz
- **Protective system:** control: IP 65; motor: IP 55
- **Pipe connection:** external thread G 3/4" or G 1"
- **Weight:** 12 kg



Connection type: ext. thread G 3/4"

Item	Max. delivery rate ¹ l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet mWC	Price EURO
301890	20	12	4	7	3,810.00
301891	42	12	4	7	3,810.00
301892	50	10	4	7	3,810.00
301893	26	10	5.1	6	3,840.00
301894	53	10	5.1	6	3,840.00
301895	65	7	5.1	6	3,840.00

¹ with motor 1500 rpm at 60 Hz

Connection type: ext. thread G 1"

Item	Max. delivery rate ¹ l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet mWC	Price EURO
301896	50	7	9.7	3	4,160.00
301897	101	4	9.7	3	4,160.00
301898	120	4	9.7	3	4,160.00

¹ with motor 1500 rpm at 60 Hz

THOMAFUID®-High-Tech Microprocessor Macro Diaphragm Metering Pump made of PVDF - MP

Application area

- Process technology, process engineering, chemical technology, plant construction, industrial engineering, environmental technology, pharmaceutical technology

Product specification

- Microprocessor-controlled diaphragm metering pump MP-PVDF for conveyance of largest volume flows for variable metering and process tasks.
- Low-noise, oscillating displacement pump with electric drive and cam / spring follower mechanisms.
- Direct adjustment and control of dosing capacity in plain language via a big illuminated LC display.
- 3-LED-function as operation indicator, alarm indicator and fault indicator.
- Microprocessor control: optimum combination of variable AC frequency combined with digital stroking frequency, ensures exact metering even in the lower minimum range due to individual stroke control.
- Control via external contact (pulse)
- Control via analogue signal
- Control: microprocessor-controlled
- Linear regulation of metering capacity by stroke adjustment in 1 % steps.
- PTFE-multilayer safety diaphragm with visual diaphragm rupture indicator, i.e. even should the diaphragm rupture the feed chemical cannot escape from the pump unchecked or penetrate the pump drive.
- Ball valves for suction and pressure side
- High-strength inner housing for energy-stressed components as well as additional polymer housing as protection against corrosion.
- Application profiles:
 - Time-controlled chemical addition
 - Quantity-proportional chemical addition
 - Measurement-dependent chemical addition, e.g. acid and brine dosing
 - Pulse-controlled dosing, e.g. when bottling different volumina

Technical specification

- **Material:**
 - Dosing head: PVDF (polyvinylidene fluoride)
 - Valve ball: ceramic/glass
 - Valve seat: PTFE
- **Max. delivery rate:** 60 - 350 l/h
- **Control:** 0/4-20 mA (contact or analogue signals)
- **Max. backpressure:** 7 bar (for tubing inside Ø 25 mm) or 10 bar (for tubing inside Ø 20 mm)
- **Permissible admission pressure:** 1 bar (for tubing inside Ø 25 mm) or 3 bar (for tubing inside Ø 20 mm)
- **Stroke length:** 5 mm
- **Max. stroke frequency:** 87 - 198 strokes/min
- **Stroke volume:** 11.4 - 29.4 ml/stroke
- **Reproducible dosing accuracy:** better than ±2 %
- **Suction head:** 5 mWC (for tubing inside Ø 25 mm) or 7 mWC (for tubing inside Ø 20 mm)
- **Max. ambient temperature:** -10 to +40 °C
- **Power consumption:** 0.25 kW
- **Motor speed:** 1800 rpm
- **Connection voltage:** 100 - 230 V~ / 50-60 Hz
- **Protective system:** control: IP 65; motor: IP 55
- **Pipe connection:** for tubing with inside Ø 20 or 25 mm; (external thread G 1" or G 1 1/2")
- **Weight:** 9 kg



Item	Max. delivery rate¹ l/h	Delivery volume ml/stroke	Stroke frequency strokes/min.	For tubing inside Ø mm	Price EURO
341834	60	11.4	87	20	4,525.00
341835	108	11.4	156	20	4,525.00
341836	130	10.9	198	20	4,525.00
341837	144	27.4	87	25	4,845.00
341838	264	27.7	156	25	4,845.00
341839	350	29.4	198	25	4,845.00

¹ with motor 1800 rpm at 60 Hz

THOMAFUID®-High-Tech Microprocessor Macro Diaphragm Metering Pump made of Stainless Steel - MP

Application area

- Process technology, process engineering, chemical technology, plant construction, industrial engineering, environmental technology, pharmaceutical technology

Product specification

- Microprocessor-controlled diaphragm metering pump MP-stainless steel for conveyance of largest volume flows for variable metering and process tasks.
- Low-noise, oscillating displacement pump with electric drive and cam / spring follower mechanisms.
- Direct adjustment and control of dosing capacity in plain language via a big illuminated LC display.
- 3-LED-function as operation indicator, alarm indicator and fault indicator.
- Microprocessor control: optimum combination of variable AC frequency combined with digital stroking frequency, ensures exact metering even in the lower minimum range due to individual stroke control.
- Control via external contact (pulse)
- Control via analogue signal
- Control: microprocessor-controlled
- Linear regulation of metering capacity by stroke adjustment in 1 % steps.
- PTFE-multilayer safety diaphragm with visual diaphragm rupture indicator, i.e. even should the diaphragm rupture the feed chemical cannot escape from the pump unchecked or penetrate the pump drive.
- Ball valves for suction and pressure side
- High-strength inner housing for energy-stressed components as well as additional polymer housing as protection against corrosion.
- Application profiles:
 - Time-controlled chemical addition
 - Quantity-proportional chemical addition
 - Measurement-dependent chemical addition, e.g. acid and brine dosing
 - Pulse-controlled dosing, e.g. when bottling different volumina

Technical specification

- **Material:**
Dosing head: stainless steel 1.4404/1.4581
Valve ball: stainless steel 1.4404
Valve seat: PTFE
- **Max. delivery rate:** 57 - 350 l/h
- **Control:** 0/4-20 mA (contact or analogue signals)
- **Max. backpressure:** 4 - 16 bar
- **Permissible admission pressure:** 1 bar (for ext. thread G 1 1/2") or 3 bar (for ext. thread G 1")
- **Stroke length:** 5 mm
- **Max. stroke frequency:** 87 - 198 strokes/min
- **Stroke volume:** 11.4 - 29.4 ml/stroke
- **Reproducible dosing accuracy:** better than ±2 %
- **Suction head:** 5 mWC (for ext. thread G 1 1/2") or 7 mWC (for ext. thread G 1")
- **Max. ambient temperature:** -10 to +40 °C
- **Power consumption:** 0.25 kW
- **Motor speed:** 1800 rpm
- **Connection voltage:** 100 - 230 V~ / 50-60 Hz
- **Protective system:** control: IP 65; motor: IP 55
- **Pipe connection:** external thread G 1" or G 1 1/2"



Connection type: ext. thread G 1"

Item	Max. delivery rate ¹ l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Stroke frequency strokes/min.	Price EURO
341802	57	16	11.4	87	5,215.00
341803	103	16	11.4	156	5,215.00
341804	150	10	10.9	198	5,215.00

¹ with motor 1800 rpm at 60 Hz

Connection type: ext. thread G 1 1/2"

Item	Max. delivery rate ¹ l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Stroke frequency strokes/min.	Price EURO
341805	144	7	27.4	87	5,720.00
341806	264	7	27.7	156	5,720.00
341807	350	4	29.4	198	5,720.00

¹ with motor 1800 rpm at 60 Hz

- The pump cylinder with working and control piston is side-connected to the diaphragm head. While the cylinder is filled with a pressurizing agent of good lubricity to the stainless steel diaphragm, the liquid to be delivered is hermetically separated from actuator by the diaphragm. Therefore the pumped liquid does not come into contact with the piston packing, thus no leakage and the delivery rate corresponds to 100 % of the suction capacity.
- The post-flow device functions according to the low pressure principle in the pressurizing agent range within a lossless circuit. This ensures problem-free functioning and a maintenance-free continuous operation.
- If the NPSH value does not fall below the minimum given value when the pump is operating, which generally requires a fluid feed and adequately sized intake cross-sections, highest standards of metering accuracy and constancy of the delivery rate are guaranteed.
- Packingless plunger seal: Actuation by commercially available standard motors 220 V~ / 50 Hz; additional expansion to multiple aggregates also possible to a later time point; the delivery rate is smoothed by built-in pulsation dampener with residual pulsation >1 %.
- Prefilter: The filtration of the eluent is effected by a fine filter close to the pump head.
- Intermediate vessel made of glass: Standard size 30 ml. Effective bubble catcher, also for production of gradients. Fused-in stirrer magnet.
- Manometer: Clearly arranged scale, adjustable maximum contact, that allows the presetting of a safety pressure
- Side surface: With polyethylene tray, support rod for fastening of column

Technical specification

- **Material of product-contacting parts:** chromium-nickel steel 1.4571, Hastelloy C2,4602
- **Practical control range:** 1:100 (possible 1:1000)
- **Max. counterpressure:** 500 bar
- **Metering accuracy:** 0.1 %
- **Temperature range:** -10 to +110 °C
- **Viscosity range:** 0.01 - 1000 cSt
- **Manual stroke indicator:** 0 - 1000 graduation marks
- **Electr. actuator:** 0 - 500 ohm, 24 V=, 25 W
- **Dead space volume:** 370 µl
- **Pipe connections:**
Suction side: pipe 3/2 Ø
Pressure side: capillary 1.6/0.3 Ø



Item	Max. delivery rate ml/min.	Price EURO
97311	12.5	16,108.00

THOMAFUID®-High-Pressure Pump Station

Product specification

- The micro metering diaphragm pump is a glandless high-pressure diaphragm pump without any leakage of the product to be delivered. The proven function principle, combined with maintenance-free compact design predominantly for the liquid chromatography, is hard to beat relating to accuracy and reliability.

Peristaltic Pumps

THOMAFUID®-Peristaltic Pump E-25-MP
with Variable Drive

Application area

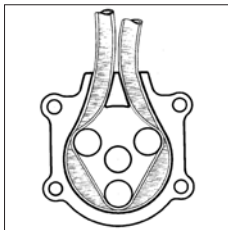
- Metering of very small and very large quantities in laboratory and plant.
- Delivery and metering of alkalis, catalysts, colloids, dyes, fertilizers, salts, solvents, organic and anorganic acids.
- Use with automatic analysers and in process technology.
- Liquid chromatography
- Sterile and process filtration

Product specification

- The E-25-MP drive system with microprocessor-operated controller is infinitely variable.
- The delivery rate is preselected with the arrow keys and directly digitally displayed.
- The E-25-MP drive system can be operated clockwise or anticlockwise (flow direction reversal).
- Pressing a high-speed button increases the maximum speed within seconds. This advantage is especially useful for rapid filling of a tubing system and for drawing off samples.
- The pump is microprocessor-operated and equipped with both a RS-232 interface and a 25-pin D-plug for external control (SPC).
- Functions: Start/stop, speed variation 0-100 %.

Technical specification

- **Max. delivery rate:** see specification of pump heads
- **External control:** via SPC by means of 25-pin D-plug and via RS-232 interface (microprocessor-operated)
- **Display:** delivery rate in percentage referring to the max. capacity
- **Start-Stop-Function:** zero-potential relais contact or Open Collector Input
- **Speed range:** 0 - 100 % and $\Delta p=0$
- **External input:** 0 - 10 V \pm ; 4 - 20 mA
- **Motor speed:** infinitely variable 0 - 100 rpm, high-speed function
- **Speed variation:** 0 - 100 %
- **Motor direction of rotation:** reversal
- **Connection voltage:** 230 V~ / 50 Hz
- **Dimension:** 320 x 130 x 150 mm (L x W x H)
- **Regulations:** conforming to RoHS



Item	Unit piece	Price EURO
90411	1	3,660.00

THOMAFUID®-Low-Speed Peristaltic Pump

Application area

- Delivery of aqueous media, also long-term, such as mobile phase delivery in low-pressure chromatography
- metering and checking of solutions in chemical and biotechnological processes
- continuous pumping out of aqueous process solutions
- purging in technical applications
- controlled metering of solutions in lysimeter tests and field cultivation experiments

Product specification

- Robust, constantly running two-channel peristaltic pump with brush-less driving motor and precision transmission. With radial-flow fan in stackable, epoxy coated housing.
- Seven types with varying motor constant speed for fitting with max. two THOMAFUID® pump heads of the RCT®-MFX series for varying tubing diameters allowing adjustment of delivery rates in a wide range.
- Lighted power switch on front of drive confirms that pump is running.
- Motors are UL- and cUL-listed and CE-compliant.

Technical specification

- **Max. delivery rate:** adjustable in a range of 0.06 ml/min. to 380 ml/min., depending on the used pump head size/tubing dimensions (see specification THOMAFUID® Pump Heads)
- **Motor speed:** 1, 2, 5, 10, 17, 25 or 50 rpm constant
- **Electrical connection:** 230 V~ / 50 Hz / 70 watts
- **Motor protection class:** IP 21
- **Dimension:** 15 x 13 x 11 cm (W x D x H)
- **Weight:** approx. 3 kg



Item	Motor speed rpm	Price EURO
333900	1	1,100.00
333901	2	1,100.00
333902	5	1,100.00
333903	10	1,100.00
333904	17	1,100.00
333905	25	1,100.00
333906	50	1,100.00

THOMAFUID®-Pump Heads

General product specification

- The pump heads made of glass-clear Lexan® polycarbonate consist of two identical housing parts with fitted in maintenance-free ball bearings, a pipe identical for all housing dimensions, and the screw joints.
- The pump heads are available in two designs: primary pump heads (direct attachment to the Reichelt drive system) and secondary pump heads (attachment to the primary system or some Masterflex®-pumps).
- The pump heads are suitable for the universal peristaltic pumps items 90411; 46645 and 333900.

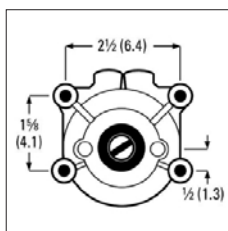
Masterflex®-Pump Head with Long Shaft

Product specification

- The primary pump heads are intended for direct attachment to the THOMAFUID®-peristaltic pumps and can be extended with secondary pump heads.

Delivery rates (DR)

Item	Max. DR at 1 rpm ml/min.	Max. DR at 15 rpm ml/min.	Max. DR at 100 rpm ml/min.	Max. DR at 400 rpm ml/min.
97013	0.06	1.2	6	24
97014	0.21	4.2	21	84
97016	0.8	16	80	320
97015	1.7	34	170	680
97017	2.8	46	280	1,120
97018	3.8	76	380	1,520



Item	For tubing inside Ø mm	For tubing outside Ø mm	Price EURO
97013	0.8	4	425.00
97014	1.6	4.8	425.00
97016	3.2	6.4	425.00
97015	4.8	9.5	425.00
97017	6.4	9.5	425.00
97018	7.9	11.1	425.00

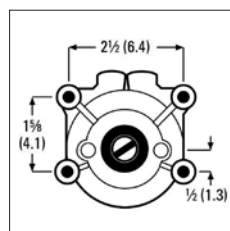
Masterflex® Pump Head with Short Shaft

Product specification

- The secondary pump heads cannot be attached directly to the THOMAFUID®-peristaltic pumps, but are mounted on the primary pump heads and allow to increase the capacity of pumps with respectively powerful drive.
- For some Masterflex® pumps they are suitable and can be mounted directly!

Delivery rates (DR)

Item	Max. DR at 1 rpm ml/min.	Max. DR at 15 rpm ml/min.	Max. DR at 100 rpm ml/min.	Max. DR at 400 rpm ml/min.
97023	0.06	1.2	6	24
97024	0.21	4.2	21	84
97026	0.8	16	80	320
97025	1.7	34	170	680
97027	2.8	46	280	1,120
97028	3.8	76	380	1,520



Item	For tubing inside Ø mm	For tubing outside Ø mm	Price EURO
97023	0.8	4	425.00
97024	1.6	4.8	425.00
97026	3.2	6.4	425.00
97025	4.8	9.5	425.00
97027	6.4	9.5	425.00
97028	7.9	11.1	425.00

Water-Jet Pumps

THOMAFUID®-Water-Jet Pump made of PP

Application area

- For generation of a vacuum (acceleration of filtering processes) and for sucking off liquids and vapours (suction main or condensation trap may need to be made available).
- Gentle distillation or sublimation
- Evacuation, e.g. of desiccators

Product specification

- High chemical resistance since the media to be delivered are only exposed to polypropylene, FPM and PTFE.
- Permanent operating temperature: up to max. +80 °C
- Working fluid: water
- Increased operational reliability due to built-in check valve
- Simple operation and easy to clean
- Detachable vacuum connection
- Versatile connection combinations to connect the pump to the water main by provided adapters as well as additionally deliverable reducing adapters.
- The flow configuration has been optimized, resulting in a 33% reduction of water consumption (190 liters/h at 3.5 bar water supply pressure).

Technical specification

- Material:**
 - Housing: PP
 - Flat packing: NBR (nitrile butadien rubber)
 - O-rings: FPM (fluoro elastomer) (an o-ring made of NBR fixed in the housing)
 - Valve reed: FPM (fluoro elastomer)
 - Sealing ring: PTFE
- Connection:**
 - Water supply: R 3/4" with reducing adapter R 1/2" (more adapters are available as accessories); hose nozzle: outside diameter: 10-12 mm
 - Suction line: Hose nozzle: outside diameter 6-9 mm, screw cap GL 14
- Max. temperature:** +80 °C
- Length:** 210 mm (with connection R 3/4")
- Weight:** 33 g (with connection R 3/4")

- **Water consumption:** approx. 190 litres/h at 3.5 bar (absolute pressure)
- **Suction capacity:** 400 l/h (± 50 l/h) air against atmospheric pressure at a supply pressure of 3.5 bar and a water temperature of 12 °C
- **Ultimate pressure:** ≤ 16 mbar at 12 °C (water temperature)
- **Water supply pressure:** 3-6 bar (absolute) to attain the ultimate pressure



Item	Design	Price EURO
40520	pump complete with reducing adapter 1/2"	77.00
40847	reducing adapter 3/8"	13.00
40848	reducing adapter M 22 x 1 (thread adapter)	13.00

THOMAFUID®-Water-Jet Pump made of PVC

Application area

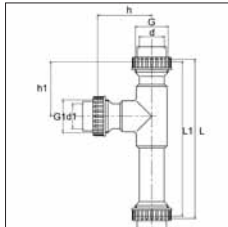
- In biological, chemical and pharmaceutical laboratories
- The pump is usually used in applications where liquids or gases are to be evacuated from a bypass flow via a main flow or to be mixed, e.g. at suction of regeneration materials or for generation of vacuum.

Product specification

- A nozzle in the main flow direction of the pump body produces an injector effect at the suction spigot end due to the acceleration of the medium.
- High impact toughness
- Good mechanical strength
- Good chemical resistance
- Resistant to weather
- Hardly inflammable

Technical specification

- **Material:**
Housing / Nozzle: PVC-U, grey (RAL 7011)
Gasket: EPDM
- **Connection:** union socket + insert for solvent welding made of PVC-U
- **Nominal pressure:** PN 10 (H₂O at +20 °C)



Item	d mm	Nominal width mm	d1 mm	G	G1	L mm	Price EURO
350990	16	10	16	G 3/4"	G 3/4"	116	144.00
350991	20	15	16	G 1"	G 3/4"	116	136.00
350992	25	20	16	G 1 1/4"	G 3/4"	151	158.00
350993	32	25	32	G 1 1/2"	G 1 1/2"	201	166.00
350994	40	32	40	G 2"	G 2"	245	178.00
350995	50	40	50	G 2 1/4"	G 2 1/4"	307	224.00
350996	63	50	63	G 2 3/4"	G 2 3/4"	357	276.00

Gear Pumps

THOMAFUID®-Gear Pumps

Application area

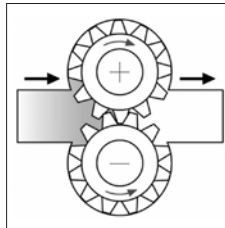
- Process technology, isotope technology, process engineering, chemical engineering, environmental technology
- Conveyance of highly pure chemicals
- Conveyance of sensitive dangerous goods
- Conveyance of smallest and largest quantities in laboratory and plant

General product specification

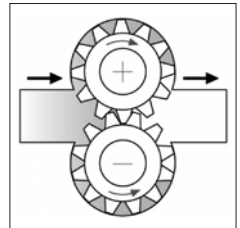
- Nonpulsating flow
- High metering accuracy
- Self-priming
- Very reliable
- Extremely easy to maintain
- Corrosion-proof

Working principle

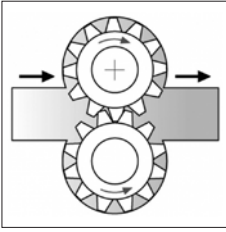
- A gear pump is a centrifugal pump and consists of two cogwheels which rotate in opposite directions and mesh into each other at the input end of the pump.
- The pump housing has an input and output connection.
- The motor directly drives one cogwheel (driving) and the driving cogwheel drives the other.
- The liquid is being sucked into the empty space between two teeth (see fig. I).
- The liquid, trapped between the tooth spaces, is being transported to the output side (see fig. II).
- After the liquid arrives at the output side, the teeth of the two gears fill each others empty spaces up, and the liquid is pumped into the outlet (see fig. III).



Gear pump principle step 1



Gear pump principle step 2



Gear pump principle step 3



THOMAFUID®-High-Tech Gear Pump made of Stainless Steel - variable

Technical specification

• Material:

Housing: stainless steel 1.4401 (SS 316) L
Shaft: stainless steel 1.4401 (SS 316) L
Gearwheels: PEEK (polyether-etherketone)
Bearing: PEEK (polyether-etherketone)
O-rings: PTFE (polytetrafluoroethylene)

• Temperature range: -46 to +176 °C

• Motor speed: 100 - 4000 rpm

• Max. operating pressure: 34 bar

• Negative pressure: 0.97 bar

• Differential pressure: up to 6 bar

• Viscosity: 0.3 - 10000 mPas

• External control: 4 - 20 mA or 2 - 10 V

• Connection voltage: 230 V~ / 50 Hz

• Power consumption: 0.13 kW

• Protective system: IP 55

• Noise level: <50 dB (A)

• Pipe connection:

Suction side: internal thread NPT 1/8"

Pressure side: internal thread NPT 1/8"

Item	Delivery rate l/h	Max. op. pressure ¹ bar	Price EURO
330317	1.3 - 53	34	4,898.00
330318	2.2 - 96	34	4,898.00
330319	3.2 - 128	34	4,930.00

¹ at +20 °C

THOMAFUID®-High-Tech Gear Pump made of Stainless Steel - constant

Technical specification

• Material:

Housing: stainless steel 1.4401 (SS 316) L
Shaft: stainless steel 1.4401 (SS 316) L
Gearwheels: PEEK (polyether-etherketone)
Bearing: PEEK (polyether-etherketone)
O-rings: PTFE (polytetrafluoroethylene)

• Temperature range: -46 to +176 °C

• Motor speed: 3000 rpm

• Max. operating pressure: 34 bar

• Negative pressure: 0.97 bar

• Differential pressure: up to 17 bar

• Viscosity: 0.3 - 10000 mPas

• Connection voltage: 230 V~ / 50 Hz; 400 V~ / 50 Hz

• Power consumption: 0.18 kW

• Protective system: IP 55

• Noise level: <50 dB (A)

• Pipe connection:

Suction side: internal thread NPT 1/8"

Pressure side: internal thread NPT 1/8"



Item	Max. delivery rate l/h	Max. op. pressure ¹ bar	Price EURO
330320	144	34	1,682.00

¹ at +20 °C

THOMAFUID®-High-Tech Magnet-Driven Gear Delivery Pump E-2000-MP

Application area

- Delivery of anorganic as well as organic media.
- Addition of reagents in chemical process technology.
- Precise addition of fuel additives during production of gasoline and other fuels.
- Addition of colourings, odorous or flavouring additives in the food and semiluxuries producing industries as well as in the cosmetics and pharmaceutical industries.
- Addition of dyes, catalysts, and plasticizers in the paper, textile, and plastics industries.

Product specification

- The E-2000-MP drive system is infinitely variable. Speed range: 0-2000 rpm and $\Delta p = 0$.
- The delivery rate is preselected with the arrow keys and directly digitally displayed in percent.
- Pressing a high-speed button increases the delivery rate within seconds. This advantage is especially useful for rapid filling of aggregates and systems as well as the tubing system and for drawing off samples.
- The pump is microprocessor-operated and equipped with both a RS-232 interface and a 25-pin D-plug for external control (SPC).
- Functions: Start/stop, speed variation 0-100 %.
- Magnetic drive ensures hermetically tight seal of the delivery chamber. This safety feature allows the delivery of critical as well as expensive media.



Technical specification

- **Material:**
Gearwheels: PTFE or PEEK
Pump head: stainless steel 1.4401 (SS 316)
- **Conveying medium:** liquids
- **Max. delivery rate:** 38 - 105 l/h
- **Precision of delivery:** better than 0.1 %
- **Max. operating pressure:** 20 bar
- **Negative pressure:** max. 950 mbar
- **Differential pressure:** up to 8 bar
- **Temperature range:** 0 to +40 °C
- **Viscosity:** max. 50 cP (mPas)
- **Display:** delivery rate in percentage referring to the max. capacity
- **Start-Stop-Function:** zero-potential relays contact or Open Collector Input
- **Motor speed:** infinitely variable 0 - 2000 rpm, high-speed function
- **Speed variation:** 0 - 100 %
- **External control:** via SPC by means of 25-pin D-plug and via RS-232 interface (microprocessor-operated)
- **External input:** 0 - 10 V_±; 4 - 20 mA
- **Regulations:** conforming to RoHS
- **Pipe connection:** 1/4" NPT internal thread
- **Connection voltage:** 220 V~ / 50 Hz
- **Dimension:** 320 x 130 x 150 mm (L x W x H)

Item	Max. delivery rate l/h	Max. temp. °C	Material gearwheels	Price EURO
83000	38	40	PTFE	4,950.00
83001	68	40	PTFE	4,950.00
83002	105	40	PTFE	4,950.00
83003	38	95	PEEK	4,950.00
83004	68	95	PEEK	4,950.00
83005	105	95	PEEK	4,950.00

THOMAFUID®-High-Tech Gear Delivery Pump - variable up to 725 ml/min.

Application area

- Smooth delivery and metering of small quantities of all kinds of liquids in the areas of analytical technology, radiochemistry, medical engineering, environmental technology, precision engineering.

Product specification

- Gear pumps working against counterpressure, of small size and low construction weight, particularly usable for low-pulsation and leak-tight delivery of all kinds of liquids, various ratings, suitable for continuous use, unsusceptible to gas bubbles contained in the conveying medium, system safe up to 40 bar, adjustable low-voltage electric drive 24 Volt direct current, patented, seal-free magnetic coupling system, stable stand and mounting base with bores for building-in or fixed screwing.



58198, 81003



58198, 81003

Technical specification

- **Material:**
Pump body: stainless steel 1.4401 (SS 316)
Medium-contacting parts: graphite, PTFE and stainless steel 1.4401 (SS 316)
- **Temperature range:** -73 to +135 °C
- **Motor speed:** 0 - 8.000 rpm
- **Connection voltage:** 0 - 24 V_±
- **Amperage:** 1.9 A
- **Power consumption:** 46 W
- **Max. delivery rate:**
725 ml/min. at 4.2 bar counterpressure/7700 rpm
600 ml/min. at 1.5 bar counterpressure/6550 rpm
350 ml/min. at 4.4 bar counterpressure/7900 rpm
305 ml/min. at 2.8 bar counterpressure/6800 rpm
40 ml/min. at 3.5 bar counterpressure/460 rpm
20 ml/min. at 2.75 bar counterpressure/460 rpm
- **Max. operating pressure:** 40 bar
- **Max. negative pressure:** 724 mm Hg (water against normal pressure)
- **Conveying line connection:** internal thread 1/8" NPT
- **Dimension:** 61 x 64 x 130 mm (H x W x L)
- **Weight:** approx. 0.7 kg

Item	Max. delivery rate ml/min.	Max. op. pressure ¹ bar	Motor speed rpm	Price EURO
58198	305	2.8	6,800	1,422.00
58199	600	1.5	6,550	1,425.00
58200 ²	350	4.4	7,900	1,470.00
58201 ²	725	4.2	7,700	1,468.00
58202	20	2.75	460	1,509.00
58203	40	3.5	460	1,509.00

¹ at +20 °C ² max. current strength: 6.8 A; max. power consumption: 164 W

THOMAFUID®-High-Tech Gear Delivery Pump - variable up to 5 l/min.

Application area

- Leak-tight delivery and metering of all kinds of liquids in the areas of laboratory technology, chemical nuclear technology, machine and apparatus construction, medical engineering and biotechnology.

Product specification

- Gear pumps working against counterpressure, of small size and low construction weight, for leak-tight delivery of all kinds of liquids in continuous use, unsusceptible to gas bubbles contained in the conveying medium, mechanically adjustable safety by-pass valve as overload-protection at pressure excess, system safe up to 20 bar, adjustable low-voltage electric drive, alternatively 12 or 24 Volt direct current, patented, seal-free magnetic coupling system, stable stand and mounting base with bores for building-in or fixed screwing.

Technical specification

- **Material:**
Pump body: stainless steel 1.4401 (SS 316)
Seal: FPM
Medium-contacting parts: PPS and stainless steel 1.4401 (SS 316)
- **Temperature range:** -73 to +135 °C
- **Motor speed:** 0 - 3450 rpm
- **Connection voltage:** 12 or 24 V_±
- **Amperage:** 5 or 2.5 A
- **Power consumption:** approx. 62 W

- **Max. delivery rate:** 4.2 l/min at max. 5 bar; 5 l/min at max. 3 bar counterpressure
- **Max. operating pressure:** 20 bar
- **Max. negative pressure:** 724 mm Hg (water against normal pressure)
- **Conveying line connection:** internal thread 1/8" NPT
- **Dimension:** 7.1 x 7.5 x 17.3 cm (H x W x L)
- **Weight:** 1.5 kg

Item	Max. delivery rate l/min.	Connection voltage volt	Max. op. pressure ¹ bar	Price EURO
81003	4.2	12=	5	2,040.00
81004	5	24=	3	2,040.00

¹ at +20 °C

THOMAFUID®-Magnetically Driven Gear Pump with Variable Delivery Rate

Product specification

- THOMAFUID®-magnetically driven gear pumps for applications, where a leak-free and contamination-free pumping is absolutely required. The pumps are ideal for all kinds of open or closed systems and can deliver any extraordinary liquids as well as non-lubricating but aggressive media and solvents, that are compatible with PTFE and stainless steel 1.4401 (SS 316).
- Due to its outstanding chemical resistance and its small and precise design, this pump is particularly suitable for use in machines, laboratories, pilot plants, technological processes, as well as for supply, sampling, pH control, and metering.
- Without shaft seal (magnetic coupling)
- Completely leak-free
- Magnetically driven
- Absolutely leak-free and contamination-free operation
- Nonpulsating
- Self-priming and safe to run dry

Technical specification

- **Material:**
Pump body: stainless steel 1.4401 (SS 316)
Seal: PTFE
Gear wheels: PEEK
- **Continuity of liquid:** ±1 % (at constant differential pressure, viscosity and mains voltage)
- **Temperature range:** -30 to +130 °C
- **Pulsation-free delivery:** up to 34.5 bar systemic pressure
- **Connection voltage:** 230 V~ / 50 Hz
- **Amperage:** 1.1 A
- **Conveying line connection:** internal thread 1/8" NPT
- **Dimension:** 190 x 110 x 90 mm (L x W x H)
- **Weight:** 2.5 kg



Item	Delivery rate ml/min.	Max. op. pressure ¹ bar	Price EURO
81008	10 - 100	10	1,943.00

¹ at +20 °C

THOMAFUID®-Magnet-Driven Gear Pump K-2000

Application area

- Shockless and contamination-free pressure delivery and metering of all kinds of liquid media in the range of small delivery rates.

Product specification

- Leak-proof, almost trouble-free and wear-resistant gear pump with air-cooled, running hot-safe induction motor and seal-less magnetic coupling; PTFE and stainless steel 1.4401 (SS 316) as medium-contacting construction materials. Special externally adjustable RCT® by-pass relief valve system to avoid excess-pressure. FDA-approved for use in pharmaceutical and food industry.
- Two versions with different motor speed for delivery rates between 0.5 and 5.5 ml/min.

Technical specification

- **Max. delivery rate:** see table
- **Max. operating pressure:** 3.4 bar
- **Connection voltage:** 220 V~ / 50 Hz
- **Conveying line connection:** internal thread NPT 1/4"-28 Gg.
- **Motor performance:** approx. 0.7 hp

Item	Max. DR at 0.3 bar ¹ ml/min.	Max. DR at 0.7 bar ¹ ml/min.	Max. DR at 1.4 bar ¹ ml/min.	Max. DR at 2.1 bar ¹ ml/min.	Max. DR at 2.8 bar ¹ ml/min.
46647	1.9	1.8	1.5	0.9	0.5
46648	5.5	5.4	4.9	4.2	3.5

¹ DR = delivery rate



Item	Motor speed rpm	Price EURO
46647	3,350	1,918.00
46648	5,000	2,035.00

To provide you with the best possible information about the application areas of our products, we take great care to give you a detailed, precise and technically up-to-date description.

However, please note, that we cannot be held liable for any errors. Any values given are recommendations only that have been tested under normal conditions.

We suggest, that you test the product under the appropriate conditions determined by your specific use of the application.

If you need any help, we will gladly share our experiences with you to give you further assistance.

The prices in this handbook are valid for the currency area of the „European Union“ !

No minimum order.

Subject to technical and price change.

Our product range is clearly classified into four product groups and presented in detail in other handbooks.

THOMAFLUID® I-V
Hoses, dosing and connection technology

THOMAPLAST® I-V
Laboratory plastics, semi-finished products, closure and fastening elements and gaskets

THOMAPOR®
Separation technology

THOMADRIVE®
Drive technology

Examples of the extremely wide range of products are employed in virtually every sector of industry.

The spectrum extends from hoses and fluids technology through elastomers and semi-finished products, plastics and bonding technology to laboratories and filtration technology.

Request our complete programme free of charge and without obligation or visit our homepage at

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