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THOMAFLUID® High-Tech Swash-Plate Piston Micro Metering Pump Type: Drive System E-1500 MP – Microprocessor-controlled –

Product specification:

- Valveless metering pump for precise delivery of solutions, suspensions, low-viscous slurries, and all kinds of media in laboratory and plant.
- The drive system E-1500 MP is infinitely variable.
  Speed range: 0-1500 rpm and Δp=0.
- The microprocessor-controlled pump is equipped with a RS-232 interface as well as with a 25-pin D-plug and thus can also be controlled via SPS.
- Functions: start/stop, speed variation: 0-100%.

Technical specification:

- **Material:**
  Pump head: PVDF or ETFE

19 123

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- **Medium-contacting parts:** conforming to FDA
- **Conveying medium:** liquids
- **Delivery rate:** 10-150 ml/min.
- **Accuracy of delivery:** better than 0.1 %
- **Display indication:** delivery rate in percentage values referring to the max. flow rate
- **Max. operating pressure:** 6.9 bar
- **Temperature:** max. +120 °C
- **Motor speed:** infinitely variable 0-1500 rpm, high-speed function
- **Speed variation:** 0-100 %
- **External control:** via SPS by means of 25-pin D-plug; via RS-232 interface (microprocessor-controlled)
- **External input:** 0-10 VDC, 4-20 mA
- **Start-Stop-Function:** zero-potential relais contact or Open
  Collector Input
- **Connected voltage:** 230 V / 50 Hz
- **Regulations:** conforming to RoHS
- **Dimensions:** 320 x 130 x 150 mm (L x W x H)

Order specification:

Cat. No.	Max. delivery rate ml/min	Max. delivery pressure bar	Conveying medium	Material of pump head	Pipe connection	Price EURO
19123	10-37.5	1.4	liquid	ETFE	6.4 mm	4950.00
19124	10-37.5	1.4	liquid	ETFE	1/4"-28 UNF	4950.00
978731	10-75	6.9	liquid	PVDF	6.4 mm	4950.00
19125	10-75	6.9	liquid	PVDF	1/4"-28 UNF	4950.00
978732	10-150	6.9	liquid	PVDF	6.4 mm	4950.00
19126	10-150	6.9	liquid	PVDF	1/4"-28 UNF	4950.00

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Subject to technical and price change.

The prices in this handbook are valid for the European currency area!

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Pumps

Piston Pumps

THOMAFLUID®-High-Tech Swash-Plate Piston Micro Metering Pump Type: RCT®-Drive System E-1500 MP – Microprocessor-Operated

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 THOMAFLUID® E-1500 MP drive system is infinitely variable. Speed range: 0 - 1500 rpm and 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).
- Function: Start/stop, speed variation 0-100%.
- Valveless operating pump head, infinitely variable. The swash-plate piston rotates and pumps simultaneously. Piston als 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:** better than 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 VDC; 4 - 20 mA
- **Start-Stop-Function:** zero-potential relais contact or Open Collector Input
- **Connected voltage:** 230 V / 50 Hz
- **Pipe connection:** for pipes outside Ø 6.4 mm or internal thread 1/4"-28 UNF
- **Regulations:** conforming to RoHS
- **Dimension:** 320 x 130 x 150 mm (L x W x H)

Cat. No.	Max. delivery rate ml/min.	Max. operating pressure bar	Medium	Material pump head	Connection type	Price Euro
978730	10 – 37.5	6.9	gaseous	PVDF	for pipes OD 6.4 mm	4950.00
19120	10 – 37.5	6.9	gaseous	PVDF	internal thread 1/4"-28 UNF	4950.00
19121	10 – 37.5	1.4	gaseous	ETFE	for pipes OD 6.4 mm	4950.00
19122	10 – 37.5	1.4	gaseous	ETFE	internal thread 1/4"-28 UNF	4950.00
19123	10 – 37.5	1.4	liquid	ETFE	for pipes OD 6.4 mm	4950.00
19124	10 – 37.5	1.4	liquid	ETFE	internal thread 1/4"-28 UNF	4950.00
978731	10 – 75	6.9	liquid	PVDF	for pipes OD 6.4 mm	4950.00
19125	10 – 75	6.9	liquid	PVDF	internal thread 1/4"-28 UNF	4950.00
978732	10 – 150	6.9	liquid	PVDF	for pipes OD 6.4 mm	4950.00
19126	10 – 150	6.9	liquid	PVDF	internal thread 1/4"-28 UNF	4950.00

THOMAFLUID®-Precision Micro Pump Head System: RCT®-NODVOL®-FMI RH-893

Application area:

- Pressure conveyance of anorganic and organic media, low-viscous slurries, suspensions, emulsions, and viscous concentrates up to 500 cP etc.

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97 8730

- 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 chemical-

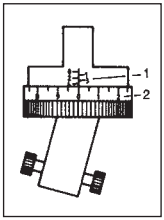
ly resistant, biocompatible and abrasion-proof anorganic corund or organic fluoropolymer materials PVDF and ETFE.
- Mounting: Directly adaptable to any front panel.
- Mode of operation:
  The pump cylinder is mounted slewably, the piston ground in with a tolerance of 0.1 µm rotates during the pump motion 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 incliniation 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 incliniation 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 1/4“-28 UNF

Cat. No.	Delivery volume µl/stroke	Max. operating pressure bar	Medium	Material pump head	Connection type	Price Euro

97 869



97 869

97869	25	6.9	gaseous	PVDF	for pipes OD 6.4 mm	1013.00
19113	25	6.9	gaseous	PVDF	internal thread 1/4“-28 UNF	1013.00
19114	25	1.4	gaseous	ETFE	for pipes OD 6.4 mm	1013.00
19115	25	1.4	gaseous	ETFE	internal thread 1/4“-28 UNF	1013.00
19116	25	1.4	liquid	ETFE	for pipes OD 6.4 mm	1013.00
19117	25	1.4	liquid	ETFE	internal thread 1/4“-28 UNF	1013.00
97873	50	6.9	liquid	PVDF	for pipes OD 6.4 mm	1013.00

THOMAFLUID®-Precision Micro Pump Head System: RCT®-NODVOL®-FMI RH-893

Cat. No.	Delivery volume µl/stroke	Max. operating pressure bar	Medium	Material pump head	Connection type	Price Euro
19118	50	6.9	liquid	PVDF	internal thread 1/4“-28 UNF	1013.00
97830	100	6.9	liquid	PVDF	for pipes OD 6.4 mm	1013.00
19119	100	6.9	liquid	PVDF	internal thread 1/4“-28 UNF	1013.00

THOMAFLUID®-Swash-Plate Piston Micro Metering Pump Type: RCT®-Drive System 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 incliniation and the respective change of the piston stroke way in the cylinder.

Technical specification:

- **Speed range:** 1500 rpm (constant)
- **Max. operating pressure**: 7 bar
- **Pipe connection:** for tubing or internal thread 1/4“-28 UNF
- **Connected voltage:** 220 V / 50 Hz

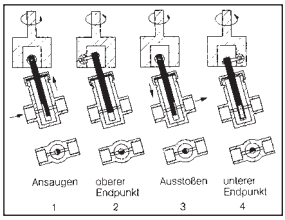
Cat. No.	Max. delivery rate ml/min.	Unit piece	Price Euro
46650	0 – 150	1	2296.00

THOMAFLUID®-Swash Plate Piston Metering Pump Type: RCT®-FMI SY-CSC

Product specification:

- The RCT® swash plate piston metering pumps are valveless metering pumps usable for all media, infinitely variable with reversal. The swash plate piston, ground in the cylinder sleeve with a tolerance of 0.1 µm, rotates and pumps simultaneously. The piston stroke can be altered by change of the piston stroke way in the cylinder.
- A metering accuracy better than ± 1% is guaranteed for delivery of liquids of medium viscosity (50 - 500 cp). Also aqueous solutions and thin solvents can be delivered well but show „slight sliding“ at altered compression pressure of the head.
- The synchronous motor works almost noiseless and guarantees highest quietness of running and constancy of revolutions, thus realizing maximum stroke rate accuracy independently from the given load.
- As the pump weakly pulsates, the THOMAFLUID® pulsation damper should be put behind the system. Connected voltage: 220 V / 50 Hz, weight approx. 6.3 kg.

97 8631



97 8631

Cat. No.	Max. delivery rate ml/min.	Max. operating pressure bar	Motor speed rpm	Ø piston mm	Unit piece	Price Euro
978631	0 – 19.4	7.0	72	6.4	1	1995.00
978632	0 – 46.0	7.0	72	9.6	1	1995.00

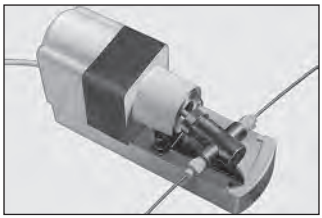
THOMAFLUID®-Swash Plate Piston Metering Pump Type: RCT®-FMI G-CSC

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.
- Connected voltage: 220 V / 50 Hz, weight approx. 4.5 kg



97 8611 97 8561

Cat. No.	Max. delivery rate ml/min.	Max. operating pressure bar	Motor speed rpm	Ø piston mm	Unit piece	Price Euro
978611	0 – 1.6	5.0	6	6.4	1	1662.00
978612	0 – 3.7	3.5	6	9.6	1	1662.00
978721	0 – 5.4	3.5	20	6.4	1	1662.00
978722	0 – 12.8	3.0	20	9.6	1	1662.00
978591	0 – 13.0	3.0	50	6.4	1	1662.00
978592	0 – 32.0	2.0	50	9.6	1	1662.00
978711	0 – 40.0	2.0	150	6.4	1	1662.00
978712	0 – 96.0	1.4	150	9.6	1	1662.00
978571	0 – 108.0	1.4	400	6.4	1	1662.00
978572	0 – 250.0	0.7	400	9.6	1	1662.00

THOMAFLUID®-Swash Plate Piston Metering Pump Type: RCT®-FMI D-CSC

Product specification:

- The gear split-phase motor is extremely quiet in running. It is forced-air ventilated, sparkless, and fully enclosed.
- Connected voltage: 220 V / 50 Hz, weight approx. 5 kg

Cat. No.	Max. delivery rate. ml/min	Max. operating pressure bar	Motor speed rpm	Ø piston mm	Weight kg	Unit piece	Price Euro
978561	0 – 450	7.0	1725	6.4	5	1	2266.00
978562	0 – 1000	3.5	1725	9.6	5	1	2266.00

THOMAFLUID®-Precision Micro Piston Pump System: RCT®-NODVOL®-PDP BHS-3000

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 in the temperature range of 0 °C to +60 °C, reproducibility 0.1%; accuracy of delivery 0.15%; 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:

- **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

49 906

(adjustable upper and lower limits)

- **Interface:** PDP 3004 and PDP 3005
- **Electrical connection:** 220 - 240 V / 50 Hz, 40 VA
- **Dimension:** 450 x 160 x 230 mm

Cat. No.	Design	Max. delivery rate ml/h	Weight kg	Unit piece	Price Euro
49906	PDP3003	1.0 – 200	10	1	10920.00
49907	PDP3004	0.1 – 999	10	1	12820.00
49908	PDP3005	0.1 – 999	12	1	16760.00

THOMAFLUID®-Precision Delivery Pump System: RCT®-NODVOL®-FLU

General product specification:

- THOMAFLUID® precision delivery pumps of system NODVOL®-FLU 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.
- NODVOL®-FLU 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 Cat. No. 58385, 58386, 58376, 58381

THOMAFLUID®-High-Tech Precision Micro Metering Pump System: RCT®-NODVOL®-FLU PP-S993

Application area:

- Metering of aggressive fluids, purest media, suspensions, and viscous solutions.

Product specification:

- Metal-free low-pressure single-piston pump for smallest delivery rates with three-stage synchronous motor; unsusceptible to gas bubbles contained in the delivered fluid and viscosity alterations; RCT®-conveying line connections to be chosen optionally. Precisely adjustable delivery rates by micromechanical alteration of stroke frequency and piston stroke height; suitable for continuous duty, fitted with pedal switch (foot-operated push-button), thus predetermined for filling and dosing processes.
- Function of pedal switch (foot-operated push-button): Halt (stop), forerun, return
- A separate control switch allows two further applications via pedal switch of the pump.
- Filling and dosing function:
  Delivery of one stroke (stroke volume), alternatively 50 or 100 µl
  Permanent function (continuous duty)
- By manual alteration of the gearing three pump speeds can be realized, alternatively 123 rpm, 246 rpm, and 492 rpm.

Technical specification:

- **Material of pump head:**
  Piston: sinter corundum
  Cylinder: sinter corundum
  Housing: fluorocarbon material PVDF
  Connection: fluorocarbon material PVDF
- **Driving system:**
- **Electrical connection:** 220 V (50/60 Hz)
- **Motor speed:** speed reduction to 150, 300 or 600 piston strokes per minute or 150, 300, and 600 rpm resp.
- **Power consumption:** approx. 20 W
- **Precision of delivery:** better than 1.0%
- **Max. delivery rates (at 50 µl/stroke):**
  at 123 rpm: 0 - 7.5 ml/min., max. 3.4 bar counterpressure;
  at 246 rpm: 0 - 15 ml/min., max. 1.4 bar counterpressure;

58 367 (see page 6)

  at 492 rpm: 0 - 30 ml/min., max. 1.4 bar counterpressure
- **Max. delivery rates (at 100 µl/stroke):**
  at 123 rpm: 0 - 15 ml/min., max. 3.4 bar counterpressure;
  at 246 rpm: 0 - 30 ml/min., max. 1.4 bar counterpressure;
  at 492 rpm: 0 - 60 ml/min., max. 1.4 bar counterpressure
- **Conveying line connection:** compression-type fitting for

flexible plastic tubing OD 6.4 mm, reducible with adapter, or internal thread 1/4"-28 UNF

- **Max. operating pressure:** 3.2 bar
- **Dimension:** 127 x 127 x 102 mm (L x W x H)
- **Weight:** approx. 2.25 kg

Cat. No.	Delivery volume µl/stroke	Max. delivery rate ml/min.	Connection type	Price Euro
58367	50	0 – 30	for pipes OD 6.4 mm	2035.00
58368	50	0 – 30	internal thread 1/4"-28 UNF	2035.00
58383	100	0 – 60	for pipes OD 6.4 mm	2035.00
58384	100	0 – 60	internal thread 1/4"-28 UNF	2035.00

THOMAFLUID®-High-Tech Precision Semimicro Metering Pump System: RCT®-NODVOL®-FLU QC-S993

Application area:

- Metering of aggressive fluids, purest media, suspensions, and viscous media.

Product specification:

- Metal-free low-pressure piston pump without valve for smallest delivery rates; unsusceptible to gas bubbles contained in the conveying fluid and viscosity alterations; RCT®-conveying line connections to be chosen optionally. Precisely adjustable delivery rates by micromechanical alteration of piston stroke height; suitable for continuous duty, fitted with pedal switch (foot-operated push-button), thus predetermined for filling and dosing processes.
- Function of pedal switch (foot-operated push-button): Halt (stop), forerun, return
- A separate control switch allows two further applications via pedal switch of the pump
- Delivery of one stroke (stroke volume), alternatively 50 µl, 100 µl, 320 µl, 720 µl or 1280 µl
- Permanent function (continuous duty)

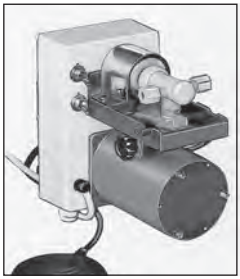
Technical specification:

- **Material of pump head:**
  Piston: sinter corundum
  Cylinder: sinter corundum
  Housing: fluorocarbon material PVDF
  Connection: fluorocarbon material PVDF
- **Driving system:**
- **Electrical connection:** 220 VAC / 50-60 Hz
- **Motor speed:** speed reduction to 184 piston strokes per minute (184 rpm)
- **Power consumption:** approx. 80 W
- **Precision of delivery:** better than 1.0 %
- **Max. delivery rate:** 50, 100, 320, 720 or 1280 µl/stroke
- **Conveying line connection:** compression-type fitting for flexible plastic tubing OD 6.4 mm, reducible with adapter
- **Dimension:** 206 x 210 x 133 mm (L x W x H)
- **Weight:** approx. 4.5 kg

Cat. No.	Delivery volume µl/stroke	Max. delivery rate ml/min.	Max. operating pressure bar	for pipes OD mm	Price Euro
58371	50	0 – 9.2	6.9	6.4	2470.00
58372	100	0 – 18.4	6.9	6.4	2470.00

THOMAFLUID®-High-Tech Precision Semimicro Metering Pump System: RCT®-NODVOL®-FLU QC-S993

Cat. No.	Delivery volume µl/stroke	Max. delivery rate ml/min.	Max. operating pressure bar	for pipes OD mm	Price Euro
58373	320	0 – 58.9	6.9	6.4	2470.00
58374	720	0 – 132.5	6.9	6.4	2470.00
58377	1280	0 – 235.5	1.7	6.4	2552.00



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THOMAFLUID®-High-Tech Precision Delivery Pump System: RCT®-NODVOL®-FLU RHSY-S793

Application area:

- Delivery and metering of aggressive fluids, purest media and biomedia, suspensions, and viscous solutions.

Product specification:

- Metal-free low-pressure single-piston pump without valves with three-stage synchronous drive motor, low weight and small dimensions; unsusceptible to gas bubbles contained in the delivered fluid and viscosity alterations; RCT®-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

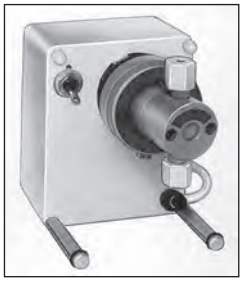
Technical specification:

- **Material of pump head:**
  Piston: sinter corundum
  Cylinder: sinter corundum
  Housing: fluorocarbon material PVDF
  Connection: fluorocarbon material PVDF
- **Driving system:**
  Electrical connection: 220 VAC 50-60 Hz
  Motor speed: variable 150, 300 or 600 rpm
- **Precision of delivery:** better than 1.0 %
- **Max. delivery rate:**
  at 123 rpm: 0 - 7.5 ml/min., max. 3.4 bar counterpressure;
  at 246 rpm: 0 - 15 ml/min., max. 1.4 bar counterpressure;
  at 492 rpm: 0 - 30 ml/min., max. 1.4 bar counterpressure
- **Stroke volume:** 50 µl/stroke
- **Conveying line connection:** compression-type fitting for pipes OD 6.4 mm, reducible with adapter, or internal thread 1/4"-28 UNF

- **Max. operating pressure:** 2.4 bar
- **Dimension:** 127 x 127 x 102 mm (L x W x H)
- **Weight:** approx. 1.8 kg

Cat. No.	Delivery volume µl/stroke	Max. delivery rate ml/min.	Connection type	Price Euro
58352	50	0 – 30	for pipes OD 6.4 mm	1882.00
58332	50	0 – 30	internal thread 1/4"-28 UNF	1882.00

THOMAFLUID®-High-Tech Precision Delivery Pump System: RCT®-NODVOL®-FLU RHSY-S793



58 352

Application area:

- Delivery and metering of aggressive fluids, purest media, biomedia, suspensions, and viscous solutions.

Product specification:

- Metal-free low-pressure single-piston pump without valves with three-stage synchronous drive motor, low weight and small dimensions; unsusceptible to gas bubbles contained in the delivered fluid and viscosity alterations; RCT®-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
- Accessory: Adapter

Technical specification:

- **Material of pump head:**
  Piston: sinter corundum
  Cylinder: sinter corundum
  Housing: fluorocarbon material PVDF
  Connection: fluorocarbon material PVDF
- **Driving system:**
  Electrical connection: 220 VAC / 50-60 Hz
  Motor speed: variable 150, 300 or 600 rpm
- **Precision of delivery:** better than 1.0 %
- **Max. delivery rate:**
  at 123 rpm: 0 - 15 ml/min., max. 3.4 bar counterpressure;
  at 246 rpm: 0 - 30 ml/min., max. 1.4 bar counterpressure;
  at 492 rpm: 0 - 60 ml/min., max. 1.4 bar counterpressure
- **Stroke volume:** 100 µl/stroke
- **Conveying line connection:** compression-type fitting for pipes OD 6.4 mm, reducible with adapter or internal thread 1/4"-28 UNF

- **Max. operating pressure:** 2.4 bar
- **Dimension:** 127 x 127 x 102 mm (L x W x H)
- **Weight:** approx. 1.8 kg

Cat. No.	Delivery volume µl/stroke	Max. delivery rate ml/min.	Connection type	Price Euro
58353	100	0 – 60	for pipes OD 6.4 mm	1882.00
58340	100	0 – 60	internal thread 1/4"-28 UNF	1882.00

THOMAFLUID®-High-Tech Delivery Pump for Critical Media with Low-Voltage Drive 24 Volt System: RCT®-NODVOL®-FLU QG-S 693

58 353

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 with robust, ball-bearing low-voltage driving motor, self-cooling; unsusceptible to gas bubbles in the delivered fluid and viscosity alterations, RCT®-conveying line connections to be chosen optionally. Precisely adjustable delivery rates by mechanical delivery stroke alteration; suitable for continuous duty.

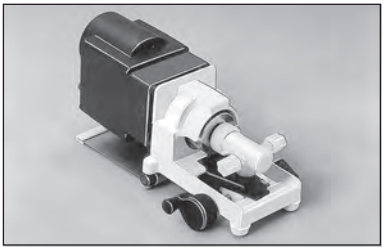
Technical specification:

- **Material of pump head:**
  Piston: sinter corundum
  Cylinder: sinter corundum
  Housing: fluorocarbon material PVDF
  Connection: fluorocarbon material PVDF
- **Driving system:**
  Electrical connection: 24 VAC
  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
- **Max. operating pressure:** 6.9 bar
- **Dimension:** 248 x 124 x 146 mm (L x W x H)
- **Weight:** approx. 4.5 kg

Cat. No.	Delivery volume ml/stroke	Max. operating pressure bar	Motor speed rpm	for pipes OD mm	Price Euro
19081	0.15	6.9	6	6.4	2393.00
19082	0.30	6.9	6	6.4	2260.00
19083	0.60	6.9	6	6.4	2260.00

THOMAFLUID®-High-Tech Delivery Pump for Critical Media with Low-Voltage Drive 24 Volt System: RCT®-NODVOL®-FLU QG-S 693

Cat. No.	Delivery volume ml/stroke	Max. operating pressure bar	Motor speed rpm	for pipes OD mm	Price Euro
19084	1.92	5.2	6	6.4	2010.00
19085	4.32	3.5	6	6.4	2010.00
19086	7.68	1.7	6	6.4	2312.00
19087	0.50	6.9	20	6.4	2393.00
19088	1.00	6.9	20	6.4	2260.00
19089	2.00	6.9	20	6.4	2260.00
19090	6.40	3.5	20	6.4	2010.00



19 081 (see page 7)

19091	14.40	2.8	20	6.4	2010.00
19092	25.60	1.4	20	6.4	2312.00
19093	1.25	6.9	50	6.4	2393.00
19094	2.50	6.9	50	6.4	2260.00
19095	5.00	6.9	50	6.4	2260.00
19096	16.00	2.8	50	6.4	2010.00
19097	36.00	2.1	50	6.4	2010.00
19098	64.00	1.0	50	6.4	2312.00
19099	3.75	6.9	150	6.4	2393.00
19100	7.50	6.9	150	6.4	2260.00
19101	15.00	6.9	150	6.4	2260.00
19102	48.00	2.1	150	6.4	2010.00
19103	108.00	1.4	150	6.4	2010.00
19104	192.00	0.7	150	6.4	2312.00
19105	10.00	6.9	400	6.4	2393.00
19106	20.00	6.9	400	6.4	2260.00
19107	40.00	6.9	400	6.4	2260.00
19108	128.00	1.4	400	6.4	2010.00
19109	288.00	0.7	400	6.4	2010.00
19110	512.00	0.3	400	6.4	2312.00

THOMAFLUID®-High-Tech Low-Pressure Pilot Plant Delivery Pump for Critical Media with Low-Voltage Drive 24 Volt System: RCT®-NODVOL®-FLU QB-S 893

Application area:

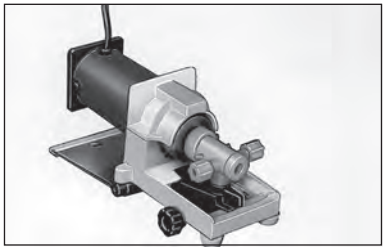
- Mains-independent systems for pumping out, delivering, and metering of aggressive fluids, purest media, suspensions, and viscous solutions.

Product specification:

- Valveless low-pressure single-piston pump for smallest delivery rates with three-stage synchronous drive motor, low weight and small dimensions; unsusceptible to gas bubbles contained in the delivered fluid and viscosity alterations; RCT®-conveying line connections to be chosen optionally. Precisely adjustable delivery rates by speed variation in fixed steps and 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:**
  - Electrical connection: 24 VDC
  - Power consumption: 80 W
  - Motor speed: 1800 rpm
- **Precision of delivery:** better than 1.0 %
- **Conveying line connection:** compression-type fitting for pipes OD 6.4 mm, reducible with adapter
- **Max. operating pressure:** 6.9 bar



58 362

- **Dimension:** 267 x 127 x 114 mm (L x W x H)
- **Weight:** approx. 3.6 kg

Cat. No.	Max. delivery rate ml/min.	Max. operating pressure bar	for pipes OD mm	Price Euro
58362	90	6.9	6.4	2081.00
58363	180	6.9	6.4	2081.00
58364	576	4.8	6.4	1754.00
58365	1296	2.1	6.4	1754.00
58382	2304	1.0	6.4	2061.00

THOMAFLUID®-High-Tech Delivery Pump for Critical Media System: RCT®-NODVOL®-FLU QG-S 693

Application area:

- Mains-independent systems for pumping out, delivering, and metering of aggressive fluids, purest media, suspensions, and viscous solutions.

Product specification:

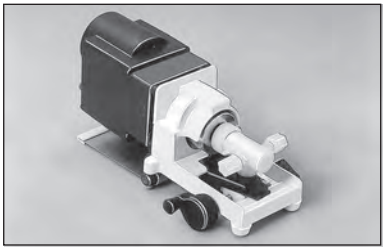
- Valveless low-pressure single-piston pump with robust, ball-bearing low-voltage driving motor, self-cooling; unsusceptible to gas bubbles in the delivered fluid and viscosity alterations, RCT®-conveying line connections to be chosen optionally. Precisely adjustable delivery rates by mechanical delivery 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:**
  Electrical connection: 220 VAC / 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
- **Max. operating pressure:** 6.9 bar
- **Dimension:** 248 x 124 x 146 mm (L x W x H)
- **Weight:** approx. 4.5 kg

Cat. No.	Delivery volume ml/stroke	Max. operating pressure bar	Motor speed rpm	for pipes OD mm	Price Euro
58311	0.15	6.9	6	6.4	2393.00
58312	0.30	6.9	6	6.4	2260.00
58313	0.60	6.9	6	6.4	2260.00



58 311

58314	1.92	5.2	6	6.4	2010.00
58315	4.32	3.5	6	6.4	2010.00
58316	7.68	1.7	6	6.4	2312.00
58317	0.50	6.9	20	6.4	2393.00
58318	1.00	6.9	20	6.4	2260.00
58319	2.00	6.9	20	6.4	2260.00
58320	6.40	3.5	20	6.4	2010.00
58321	14.40	2.8	20	6.4	2010.00
58322	25.60	1.4	20	6.4	2312.00
58323	1.25	6.9	50	6.4	2393.00
58324	2.50	6.9	50	6.4	2260.00
58325	5.00	6.9	50	6.4	2260.00
58326	16.00	2.8	50	6.4	2010.00
58327	36.00	2.1	50	6.4	2010.00
58328	64.00	1.0	50	6.4	2312.00
58329	3.75	6.9	150	6.4	2393.00
58330	7.50	6.9	150	6.4	2260.00
190711	15.00	6.9	150	6.4	2260.00
190721	48.00	2.1	150	6.4	2010.00
190731	108.00	1.4	150	6.4	2010.00
190741	192.00	0.7	150	6.4	2312.00
190751	10.00	6.9	400	6.4	2393.00
190761	20.00	6.9	400	6.4	2260.00
190771	40.00	6.9	400	6.4	2260.00
190781	128.00	1.4	400	6.4	2010.00
190791	288.00	0.7	400	6.4	2010.00
190801	512.00	0.3	400	6.4	2312.00

THOMAFLUID®-High-Tech Precision Delivery Pump for Critical Media System: RCT®-NODVOL®-FLU QSY-S 793

Application area:

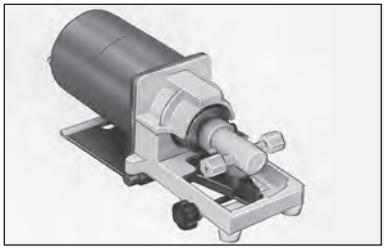
- Delivery and metering of aggressive fluids, purest media, biomedia, suspensions, and viscous solutions.

Product specification:

- Metal-free low-pressure single-piston pump without valves with synchronous driving motor of constant speed; unsusceptible to gas bubbles in the delivered fluid and viscosity alterations, RCT®-conveying line connections to be chosen optionally. Precisely adjustable delivery rates by mechanical delivery stroke alteration; suitable for continuous duty.
- Accessories: Adapter

Technical specification:

- **Material of pump head:**
  Piston: sinter corundum
  Cylinder: sinter corundum
  Housing: fluorocarbon material PVDF
  Connection: fluorocarbon material PVDF
- **Driving system:**
  Electrical connection: 220 VAC / 50-60 Hz



58 356

Motor speed: 72 rpm

- **Precision of delivery:** better than 1.0 %
- **Conveying line connection:** compression-type fitting for pipes OD 6.4 mm, reducible with adapter
- **Max. operating pressure:** up to 6.9 bar
- **Dimension:** 267 x 121 x 137 mm (L x W x H)
- **Weight:** approx. 4 kg

Cat. No.	Max. delivery rate ml/min.	Max. operating pressure bar	for pipes OD mm	Price Euro
58356	3.60	6.9	6.4	2158.00
58357	7.20	6.9	6.4	2158.00
58358	23.00	6.9	6.4	2030.00
58359	51.80	6.9	6.4	2030.00
58333	92.10	1.7	6.4	2240.00

THOMAFLUID®-High-Tech Laboratory Delivery Pump System: RCT®-NODVOL®-FLU QD-S 593

Application area:

- Pumping out, delivering, and metering of aggressive fluids, purest media, suspensions, and viscous solutions.

Product specification:

Valveless, metal-free low-pressure single-piston pump with robust, ball-bearing high-speed driving motor, self-cooling; unsusceptible to gas bubbles in the delivered fluid and viscosity alterations, RCT®-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:**
  Electrical connection: 220 VAC / 50-60 Hz
  Motor speed: 1725 rpm
- **Precision of delivery:** better than 1.0 %
- **Conveying line connection:** compression-type fitting for pipes OD 6.4 mm, reducible with adapter
- **Max. operating pressure:** 6.9 bar
- **Dimension:** 248 x 121 x 137 mm (L x W x H)
- **Weight:** approx. 4.5 kg

THOMAFLUID®-Adapter for Rigid Tubing

Cat. No.	for pipes OD mm	Unit piece	Price Euro
58376	3.2	2	34.00

THOMAFLUID®-Threaded Adapter

Cat. No.	Internal thread inch	Unit piece	Price Euro
58381	1/4“-28 UNF	2	34.00

THOMAFLUID®-High-Tech Laboratory Delivery Pump System: RCT®-NODVOL®-FLU QD-S 593

Cat. No.	Max. delivery rate ml/min.	for pipes OD mm	Price Euro
58305	86.25	6.4	2071.00
58306	172.50	6.4	2071.00
58307	550.00	6.4	1918.00
58308	1200.00	6.4	1918.00

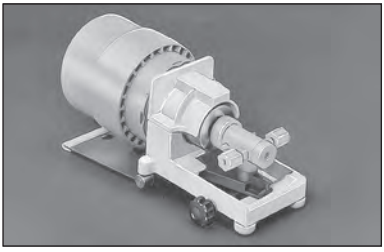
58 385

58 385

Accessories for THOMAFLUID®-Delivery Pumps System: RCT®-NODVOL®-FLU

General product specification:

- The adapters fit all delivery pumps, system NODVOL®-FLU, the pump heads of which are fitted with compression-type fittings for tubing 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.



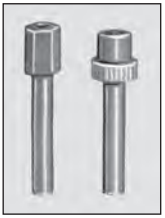
58 385

Accessories: RCT® Micrometer Set

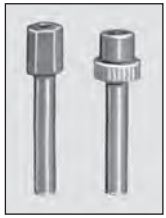
Product specification:

- The micrometer set can be mounted at the FLU pumps to a later time point and allows an 0.1% exact adjustment and reproducibility of the pump speed.

Cat. No.	Unit piece	Price Euro
97950	1	399.00



58 376 58 381



58 376 58 381

THOMAFLUID®-Adapter for Flexible Tubing

Cat. No.	For tubing inside Ø mm	Unit piece	Price Euro
58385	3.2	2	34.00
58386	6.4	2	34.00
58375	9.6	2	34.00

RCT®-FLU Pulsation dampener

Product specification:

- Membrane pulsation dampener 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 FLU pulsation dampener suppresses approx. 90% of the shocks coming from the pump.

Technical specification:

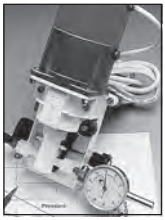
- **Dimension:** 120 x 80 x 150 mm
- **Weight:** 0.72 kg

Cat. No.	Internal thread inch	Pressure range[1] bar	Price Euro
97951	UNF 1/4“-28	0.5 – 7.0	992.00

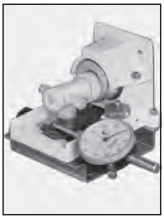
[1]at +20 °C

Gear Pumps

THOMAFLUID®-Gear Pumps System: RCT®



97 950 (see page 10)



97 950 (see page 10)

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

97 951

97 951

- 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).

THOMAFLUID®-High-Special Gear Pump SS 316 System: RCT®-VR-VG – Variable

Technical specification:

- **Material:**
  Housing: high-quality steel SS 316 L
  Shaft: high-quality steel SS 316 L

33 0317

33 0319 (see page 12)

  Gearwheels: PEEK (polyether-etherketone)
  Bearing: PEEK (polyether-etherketone)
  O-rings: PTFE (polytetrafluoroethylene)
- **Temperature range:** -46 to +176 °C
- **Max. delivery rate:** 1.3 to 53 l/h (variable)
- **Motor speed:** 100 to 4000 rpm
- **Differential pressure:** 10 bar
- **Max. operating pressure:** 34 bar
- **Negative pressure:** 0.97 bar
- **Viscosity:** 1000 mPas
- **Connected 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“

Cat. No.	Max. delivery rate l/h	Differential pressure bar	Unit piece	Price Euro
330317	1.3 – 53	10	1	4898.00
330318	2.0 – 80	10	1	4898.00

THOMAFLUID®-High-Special Gear Pump SS 316 System: RCT®-VR-VG – Variable

Technical specification:

- **Material:**
  Housing: high-quality steel SS 316 L
  Shaft: high-quality steel SS 316 L
- **Gearwheels:** PEEK (polyether-etherketone)
  Bearing: PEEK (polyether-etherketone)
  O-rings: PTFE (polytetrafluoroethylene)
- **Temperature range:** -46 to +176 °C
- **Max. delivery rate:** 4.3 to 171 l/h (variable)

- **Motor speed:** 100 to 4000 rpm
- **Differential pressure:** 8 bar
- **Max. operating pressure:** 34 bar
- **Negative pressure:** 0.97 bar
- **Viscosity:** 10000 mPas
- **External control:** 4 to 20 mA or 2 to 10 V
- **Connected 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“

Cat. No.	Max. delivery rate l/h	Differential pressure bar	Unit piece	Price Euro
330319	4.3 – 171	8	1	4930.00

THOMAFLUID®-High-Special Gear Pump SS 316 System: RCT®-VR-VG – Constant

Technical specification:

- **Material:**
  Housing: high-quality steel SS 316 L
  Shaft: high-quality steel SS 316 L
  Gearwheels: PEEK (polyether-etherketone)
  Bearing: PEEK (polyether-etherketone)
  O-rings: PTFE (polytetrafluoroethylene)
- **Temperature range:** -46 to +176 °C
- **Max. delivery rate:** 120 l/h (constant)
- **Motor speed:** 3000 rpm
- **Differential pressure:** 17 bar
- **Max. operating pressure:** 34 bar
- **Negative pressure:** 0.97 bar
- **Viscosity:** 10000 mPas
- **Connected voltage:** 230 V / 50 Hz; 400 V / 50 Hz

33 0320

- **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“

Cat. No.	Max. delivery rate l/h	Differential pressure bar	Unit piece	Price Euro
330320	120	17	1	1682.00

THOMAFLUID®-High-Tech Magnet-Driven Gear Delivery Pump Type: RCT®-Drive System E-2000 MP – Microprocessor-Operated

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).
- Function: 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:

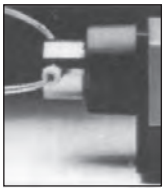
- **Material:**
  Gearwheels: PTFE or PEEK
  Pump head: high-quality steel (SS 316)
- **Conveying medium:** liquids
- **Max. delivery rate:** 38 - 105 l/h
- **Precision of delivery:** better than 0.1 %
- **Max. operating pressure:** 20 bar
- **Negative pressure:** max. 950 mbar
- **Differential pressure:** 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 relais 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 (micro-processor-operated)
- **External input:** 0 - 10 VDC; 4 - 20 mA
- **Regulations:** conforming to RoHS
- **Pipe connection:** 1/4“ NPT internal thread
- **Connected voltage:** 220 V / 50 Hz
- **Dimension:** 320 x 130 x 150 mm (L x W x H)

Cat. No.	Max. delivery rate l/h	Differential pressure bar	Max. media temperature °C	Material gearwheels	Price Euro
83000	38	8	+40	PTFE	4950.00
83001	68	6	+40	PTFE	4950.00
83002	105	3	+40	PTFE	4950.00
83003	38	8	+95	PEEK	4950.00

THOMAFLUID®-High-Tech Magnet-Driven Gear Delivery Pump Type: RCT®-Drive System E-2000 MP – Microprocessor-Operated

Cat. No.	Max. delivery rate l/h	Differential pressure bar	Max. media temperature °C	Material gearwheels	Price Euro
83004	68	6	+95	PEEK	4950.00
83005	105	3	+95	PEEK	4950.00

83 000 (see page 12)



83 000 (see page 12)

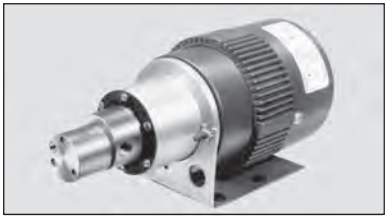
THOMAFLUID®-High-Tech Gear Delivery Pump System: RCT®-NODVOL®-MPC 120

Application area:

- Leak-tight delivery and metering of all kinds of liquids in the areas of laboratory technology, chemical nuclear technology, medical engineering and biotechnology.

Product specification:

- Gear pump working against counterpressure for leak-tight delivery of all kinds of liquids in continuous use, low construction weight, efficient delivery gear wheel system made of low-abrasion PTFE, 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, fully enclosed, air-cooled electric drive, patented, seal-free magnetic coupling system, stable stand and mounting base with bores for building-in or fixed screwing.



58 206

Technical specification:

- **Material:**
  Pump body: high-quality steel SS 316
  Medium-contacting parts: PTFE and high-quality steel SS 316
- **Driving system:**
  Electr. connection: 230 V / 50 Hz / 0.9 A
  Power consumption: 210 W
  Motor speed: 3000 rpm
- **Temperature range:** -45 to +95 °C
- **Max. operating pressure:** 20 bar
- **Max. negative pressure:** 724 mm Hg (water against normal pressure)
- **Conveying line connection:** internal thread 1/8" NPT
- **Dimension:** 109 x 107 x 224 mm (H x W x L)
- **Weight:** 3.0 kg

Cat. No.	Max. delivery rate l/min.	Unit piece	Price Euro
58206	2.4	1	1371.00

THOMAFLUID®-High-Tech Micro Gear Delivery Pump – Variable, with Low-Voltage Drive System: RCT®-NODVOL®-MPC 180-183

Application area:

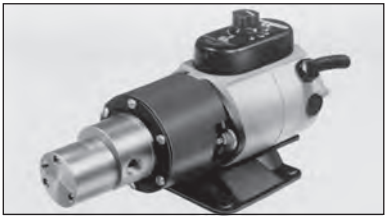
- Smooth delivery and metering of small quantities of all kinds of liquids in the areas of
- analytical technology
- radiochemistry
- medical engineering
- environmental techology
- precision engineering

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.

Technical specification:

- **Material:**
  Pump body: high-quality steel SS 316
  Medium-contacting parts: graphite, PTFE, and high-quality steel SS 316
- **Temperature range:** -73 to +135 °C



58 198 (see page 14)

- **Motor speed:** 0 - 8.000 rpm
- **Electr. connection:** 0 - 24 V= / 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

Cat. No.	Max. delivery rate ml/min.	Max. operating pressure bar	Motor speed rpm	Unit piece	Price Euro
58198	305	2.8	6800	1	1422.00
58199	600	1.5	6550	1	1425.00
58200[1]	350	4.4	7900	1	1470.00
58201[1]	725	4.2	7700	1	1468.00
58202	20	2.75	460	1	1509.00
58203	40	3.5	460	1	1509.00

[1]max. current: 6.8 A; max. power consumption: 164 W

THOMAFLUID®-High-Tech Gear Delivery Pump – Variable, with Low-Voltage Drive System: RCT®-NODVOL®-MPC 200-201

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
- 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:

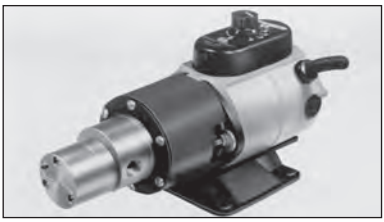
- **Material:**
  Pump body: high-quality steel SS 316
  Seal: FPM
  Medium-contacting parts: PPS and high-quality steel SS 316
- **Temperature range:** -73 to +135 °C
- **Motor speed:** 0 - 3450 rpm
- **Electr. connection:** 12 or 24 V=; 5 or 2.5 A
- **Power consumption:** approx. 62 W
- **Max. delivery rate:** 4.2 l/min at max. 5 bar; 5 l/min at max. 3 bar counter-pressure
- **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

Cat. No.	Max. delivery rate ml/min.	Connecting voltage volt	Max. operating pressure bar	Unit piece	Price Euro
81003	4.2	12=	5	1	2040.00
81004	5.0	24=	3	1	2040.00

THOMAFLUID®-Magnetically Driven Gear Pump with Variable Delivery Rate

Product specification:

- 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
- Pumps made of high-quality steel 316 (1.4571), PTFE and carbon
- Magnetically driven
- Absolutely leak-free and contamination-free operation
- Nonpulsating
- Self-priming
- Safe to run dry



81 003

- THOMAFLUID®-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 high-quality steel 316.

Technical specification:

- **Material:**
  Pump body: high-quality steel
  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
- **Connected voltage:** 230 V, 50 Hz, 1.1 amp.
- **Conveying line connection:** internal thread 1/8" NPT
- **Dimension:** 190 x 110 x 90 mm (L x W x H)
- **Weight:** 2.5 kg

Cat. No.	Max. delivery rate ml/min.	Max. operating pressure bar	Unit piece	Price Euro
81008	10 – 100	10	1	1943.00

THOMAFLUID®-Magnet-Driven Gear Pump Type: RCT®-Drive System 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 high-quality steel 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
- **Conveying line connection:** internal thread NPT 1/4"-28 Gg.
- **Electrical connection:** 220 V / 50 Hz
- **Motor performance:** approx. 0.7 hp

46 647

Cat. No.	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.	Max. DR at 3.1 bar[1] ml/min.	Max. DR at 3.4 bar[1] ml/min.
46647	1.9	1.8	1.5	1.2	0.9	0.5	
46648	5.5	5.4	4.9	4.2	3.5	3.1	2.2

[1]DR = delivery rate

THOMAFLUID®-Magnet-Driven Gear Pump Type: RCT®-Drive System K-2000

Cat. No.	Motor speed rpm	Unit piece	Price Euro
46647	3350	1	1918.00
46648	5000	1	2035.00

Peristaltic Pumps

THOMAFLUID®-Universal Peristaltic Pump Type: RCT®-Drive System E-25 MP – Microprocessor-Operated

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 THOMAFLUID®-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).
- Function: 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 Δp=0
- **External input:** 0 - 10 VDC; 4 - 20 mA
- **Motor speed:** infinitely variable 0 - 100 rpm, high-speed function
- **Speed variation:** 0 - 100 %
- **Motor direction of rotation:** reversal
- **Connected voltage:** 230 V / 50 Hz
- **Regulations:** conforming to RoHS
- **Dimension:** 320 x 130 x 150 mm (L x W x H)

Cat. No.	Unit piece	Price Euro
90411	1	3660.00

90 411

THOMAFLUID®-Low-Speed Peristaltic Pump Type: RCT®-MFX K-1/50

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 brushless driving motor and precision transmission. With radial-flow fan in stackable, epoxy coated housing. Seven types with varying motor constant speed for fitting with two THOMAFLUID® pump heads of the RCT®-MFX series for varying tubing diameters allowing adjustment of delivery rates in a wide range.

Technical specification:

- **Max. delivery rate:** adjustable in a range of 0.06 ml/min to 230 ml/min, depending on the used pump head size/tubing dimensions (see specification THOMAFLUID® Pump Heads)

33 3900

- **Motor speed:** 1, 2, 5, 10, 15, 20 or 50 rpm constant
- **Electrical connection:** 220 V / 50 Hz
- **Motor protection class:** IP 21
- **Dimension:** 15 x 13 x 11 cm (W x D x H)
- **Weight:** approx. 3 kg

Cat. No.	Motor speed rpm	Unit piece	Price Euro
333900	1	1	1100.00
333901	2	1	1100.00
333902	5	1	1100.00
333903	10	1	1100.00
333904	15	1	1100.00
333905	20	1	1100.00
333906	50	1	1100.00

THOMAFLUID®-Universal Peristaltic Pump Type: RCT®-Drive System K-25

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 brushless driving motor and precision transmission. Two types with varying motor constant speed for fitting with two THOMAFLUID® pump heads of the RCT®-MFX series for varying tubing diameters allowing adjustment of delivery rates in a wide range.

Technical specification:

- **Max. delivery rate:** adjustable in a range of 6 ml/min to 2185 ml/min, depending on the used pump head size/tubing dimensions (see specification THOMAFLUID® Pump Heads)
- **Motor speed:** alternatively 100 or 575 rpm constant
- **Electrical connection:** 220 V / 50 Hz
- **Weight:** approx. 4 kg

Cat. No.	Motor speed rpm	Unit piece	Price Euro
46645	100	1	1361.00
46646	575	1	1361.00

THOMAFLUID®-Pump Heads

46 645

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 drive system) and secondary pump heads (attachment to the primary system).
- The pump heads are suitable for universal peristaltic pumps (Cat. No. 90411; 46645; 333900).

THOMAFLUID®-Primary Pump Heads Type: RCT®-MFX 1

Product specification:

- The primary pump heads are intended for direct attachment to the drive system and are supplied with fitting threaded sleeves for attachment of secondary pump heads.

delivery rates (DR)

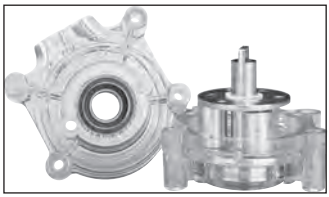
Type	Max. DR at 1 rpm ml/min.	Max. DR at 2 rpm ml/min.	Max. DR at 5 rpm ml/min.	Max. DR at 10 rpm ml/min.	Max. DR at 15 rpm ml/min.	Max. DR at 20 rpm ml/min.	Max. DR at 50 rpm ml/min.	Max. DR at 100 rpm ml/min.	Max. DR at 400 rpm ml/min.
A	0.06	0.12	0.36	0.72	1.2	1.8	3.6	6	24
B	0.21	0.42	1.3	2.5	4.2	6.3	13	21	84
C	0.8	1.6	4.8	9.6	16	24	48	80	320
D	1.7	3.4	10	20	34	50	150	170	680
E	2.8	5.6	17	34	46	84	170	280	1120
F	3.8	7.6	23	46	76	110	230	380	1520

Cat. No.	Type	For tubing inside Ø mm	For tubine outside-Ø mm	Unit piece	Price Euro
97013	A	0.8	4.0	1	256.00

THOMAFLUID®-Primary Pump Heads Type: RCT®-MFX 1

Cat. No.	Type	For tubing inside Ø mm	For tubine outside-Ø mm	Unit piece	Price Euro
97014	B	1.6	4.8	1	256.00
97016	C	3.2	6.4	1	256.00
97015	D	4.8	9.6	1	256.00
97017	E	6.4	9.6	1	256.00
97018	F	8.0	11.2	1	256.00

THOMAFLUID®-Secondary Pump Heads Type: RCT®-MFX 2



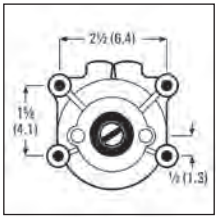
97 013 (see page 16) 97 023

Product specification:

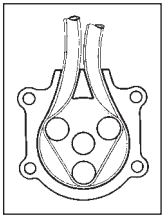
- The secondary pump heads cannot be attached directly to the drive system, but are mounted on the primary pump heads and allow to increase the capacity of pumps with respectively powerful drive.

delivery rates (DR)

Type	Max. DR at 1 rpm ml/min.	Max. DR at 2 rpm ml/min.	Max. DR at 5 rpm ml/min.	Max. DR at 10 rpm ml/min.	Max. DR at 15 rpm ml/min.	Max. DR at 20 rpm ml/min.	Max. DR at 50 rpm ml/min.	Max. DR at 100 rpm ml/min.	Max. DR at 400 rpm ml/min.
A	0.06	0.12	0.36	0.72	1.2	1.8	3.6	6	24
B	0.21	0.42	1.3	2.5	4.2	6.3	13	21	84
C	0.8	1.6	4.8	9.6	16	24	48	80	320
D	1.7	3.4	10	20	34	50	150	170	680



97 013



97 023 97 013

E	2.8	5.6	17	34	46	84	170	280	1120
F	3.8	7.6	23	46	76	110	230	380	1520

Cat. No.	Type	For tubing inside Ø mm	For tubine outside-Ø mm	Unit piece	Price Euro
97023	A	0.8	4.0	1	256.00
97024	B	1.6	4.8	1	256.00
97026	C	3.2	6.4	1	256.00

THOMAFLUID®-Secondary Pump Heads Type: RCT®-MFX 2

Cat. No.	Type	For tubing inside Ø mm	For tubine outside-Ø mm	Unit piece	Price Euro
97025	D	4.8	9.6	1	256.00
97027	E	6.4	9.6	1	256.00
97028	F	8.0	11.2	1	256.00

Diaphragm Pumps

THOMAFLUID®-Diaphragm Delivery Pumps for Liquids / 100 ml/min with Low-Voltage Drive System: RCT®-NODVOL®-NPM NF-10 D511

Application area:

- Delivery of liquids in the areas of
- medical and precision engineering
- biotechnology
- analytical technology
- environmental technology

Product specification:

- Self-priming miniature diaphragm pumps for delivery of liquids also against pressure, safe to run dry and mainetance-free, medium-contacting parts made of proven, chemically resistant polymer material combinations, low-voltage drive with ironless direct current motor.

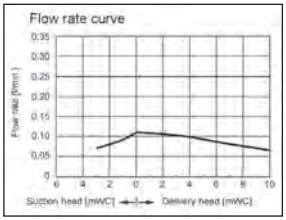
Technical specification:

- **Material:**
  Pump head: PP or PVDF
  Valves: EPDM or FFPM
  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:** 100 ml/min. at atmospheric pressure (H_2O +20 °C); 90 ml/min against 10 m water column
- **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
- **Connected voltage:** 6; 12 or 24 V=
- **Power consumption:** 0.61; 0.28; 0.13 A at load
- **Protective system:** IP 30
- **EMC-Directive:** EN 55014

16 585 (see page 18)

- **Dimension:** 69 x 46 x 66 mm (L x W x H)
- **Weight:** approx. 60g

Cat. No.	Connecting 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



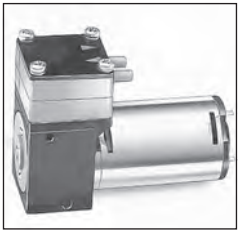
16 585

THOMAFLUID®-Diaphragm Delivery Pumps for Liquids / 300 ml/min with Low-Voltage Drive System: RCT®-NODVOL®-NPM NF-30 D513

Product specification:

- Efficient, self-priming miniature diaphragm pumps for delivery of liquids also against pressure, safe to run dry and mainetance-free, medium-contacting parts made of proven, chemically resistant polymer material combinations, low-voltage drive with direct current motor.

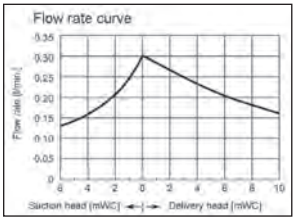
Technical specification:



16 594

- **Material:**
  Pump head: PP or PVDF
  Valves: EPDM or FFPM
  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 (H_2O +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
- **Connected voltage:** 6; 12 or 24 V=
- **Power consumption:** 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

Cat. No.	Connecting voltage volt	Current strength A	Material pump head	Material valves	Material diaphragm	Price Euro
16594	6=	1.9	PP	EPDM	EPDM	232.00



16 594

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	388.00

THOMAFLUID®-Diaphragm Delivery Pumps for Liquids / 600 ml/min with Low-Voltage Drive System: RCT®-NODVOL®-NPM NF-60 D514

Application area:

- Delivery of liquids in the areas of
- medical and precision engineering
- biotechnology
- analytical technology
- environmental technology
- also for mobile use.

Product specification:

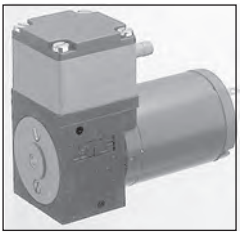
- Efficient, self-priming miniature diaphragm pumps for delivery of liquids also against pressure, safe to run dry and mainetan-ce-free, medium-contacting parts made of proven, chemically resistant polymer material combinations, low-voltage drive with direct current motor.

Technical specification:

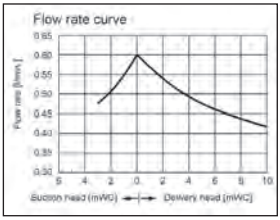
- **Material:**
  Pump head: PP or PVDF
  Valves: EPDM or FFPM
  Diaphragm: EPDM or PTFE
- **Suction head:** up to 3 m water column
- **Max. delivery head:** 10 m water column
- **Max. working excess-pressure:** 1 bar

- **Max. delivery rate:** 600 ml/min at atmospheric pressure (H_2O +20 °C); 400 ml/min against 10 m water column
- **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
- **Connected voltage:** 6; 12 or 24 V=
- **Power consumption:** 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. 190g

Cat. No.	Connecting voltage volt	Current strength 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



16 603



16 603

THOMAFLUID®-Diaphragm Metering Pumps for Liquids / 170 ml/min with Low-Voltage Drive System: RCT®-NODVOL®-NPM NF-130 D512

Application area:

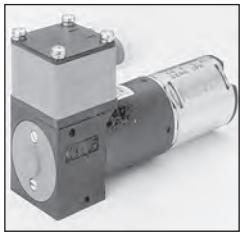
- Delivery of liquids in the areas of
- medical and precision engineering
- biotechnology
- analytical technology
- environmental technology
- also for mobile use.

Product specification:

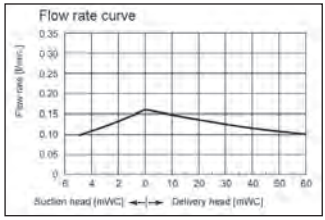
- Self-priming miniature diaphragm pumps for delivery and metering of small quantities of liquids also against higher pressures, safe to run dry and mainetance-free, medium-contacting parts made of proven, chemically resistant polymer material combinations, low-voltage drive with direct current motor.

Technical specification:

- **Material:**
  Pump head: PP or PVDF
  Valves: FFPM
  Diaphragm: PTFE
- **Suction head:** up to 5 m water column
- **Max. delivery head:** 60 m water column
- **Max. delivery rate:** 170 ml/min at atmospheric pressure (H_2O +20 °C); 100 ml/min against 60 m water column
- **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
- **Connected voltage:** 12 or 24 V=
- **Power consumption:** depending on type 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



16 612



16 612

Cat. No.	Connecting voltage volt	Current strength 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

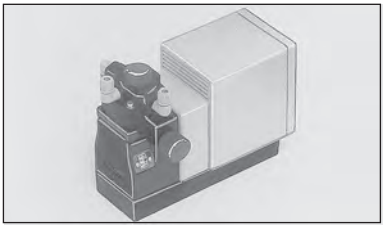
THOMAFLUID®-Diaphragm Metering Pumps for Liquid Aggressive Media and Purest Media System: RCT®-NODVOL®-FM NF-3018

Product specification:

- Robust precision diaphragm pump for metering of liquids against pressure, alternatively with integrated pump head venting. Variable delivery rate by stroke-variable eccentric system with mechanical precision display; completely maintenance-free, self-priming, and safe to run dry. Medium-contacting parts made of inert plastic materials, connections for conveying tubing. Complete with on-off switch and mains cable.

Technical specification:

- **Material:**



16 566

Pump head:	PE
Diaphragm:	PTFE-coated
Valves:	FPM
O-rings:	FPM
Tubing connectors:	PVDF
• **Max. delivery rate:**	mechanically adjustable 0 to 0.3 l/min (at delivery head zero)
• **Max. suction head:**	5 m water column
• **Max. delivery head:**	60 m water column
• **Pipe connection:**	for tubing DN 4/6 mm
• **Max. temperature of medium:**	+80 °C
• **Max. ambient temperature:**	+40 °C
• **Connected voltage:**	230 V / 50 Hz, according to VDE
• **Power consumption:**	96 W
• **Protective system:**	IP 21
• **Dimension:**	approx. 210 x 144 x 139 mm (L x W x H)
• **Weight:**	2.7 kg

Cat. No.	Max. delivery rate l/min.	Pump head venting	Unit piece	Price Euro
16566	0 – 0.3	without	1	934.00
16567	0 – 0.3	with	1	1036.00

THOMAFLUID®-Variable Single-Head Diaphragm Pumps for Liquid Aggressive Media and Purest Media System: RCT®-NODVOL®-ND-NF 1018-D500

Product specification:

- Portable single-head diaphragm pump with variable delivery rate for all kinds of liquids. Heavy duty RCT® 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. Complete with on-off switch and mains cable.

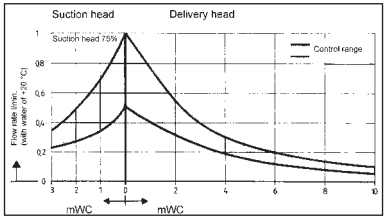
Technical specification:

- **Material:**

Pump head:	PE or PVDF
Diaphragm:	PTFE
Valves:	PTFE
O-rings:	FKM or PTFE
Tubing connectors:	PVDF
• **Max. delivery rate:**	variable 0.5 - 1.0 l/min.
• **Max. suction head:**	3 m water column (H_2O at +20 °C)

16 562 16 564

• **Max. delivery head:**	10 m water column (H_2O at +20 °C)
• **Pipe connection:**	tubing connectors, straight, for tubing DN 8/10 mm
• **Max. temperature of medium:**	+80 °C
• **Max. ambient temperature:**	+40 °C
• **Connected voltage:**	230 V/50 Hz, according to VDE
• **Power consumption:**	12 W
• **Protective system:**	IP 21
• **Dimension:**	approx. 190 x 170 x 85 mm (L x W x H)
• **Weight:**	2.4 kg



16 562

Cat. No.	Max. delivery rate l/min.	Material pump head	Material diaphragm	Material valves	Material gasket	Price Euro
16562	0.5 – 1.0	PE	PTFE	PTFE	FPM	660.00
16563	0.5 – 1.0	PVDF	PTFE	PTFE	PTFE	960.00

THOMAFLUID®-Variable Single-Head Diaphragm Pumps for Liquid Aggressive Media and Purest Media System: RCT®-NODVOL®-ND-NF 3018-D550

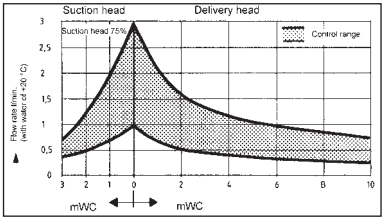
Product specification:

- Portable single-head diaphragm pump with variable delivery rate for all kinds of liquids. Heavy duty RCT® 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. Complete with on-off switch and mains cable.

Technical specification:

- **Material:**
  Pump head: PE or PVDF
  Diaphragm: PTFE
  Valves: PTFE
  O-rings: FKM or PTFE
  Tubing connectors: PVDF
- **Max. delivery rate:** variable 1.0 - 3.0 l/min
- **Max. suction head:** 3 m water column (H_2O at +20 °C)
- **Max. delivery head:** 10 m water column (H_2O at +20 °C)
- **Pipe connection:** tubing connectors, straight, for tubing ID 12 x 1 mm
- **Max. ambient temperature:** +40 °C
- **Connected voltage:** 230 V / 50 Hz, according to VDE
- **Power consumption:** 18 W
- **Protective system:** IP 21
- **Dimension:** approx. 215 x 198 x 107 mm (L x W x H)
- **Weight:** 2.8 kg

Cat. No.	Max. delivery rate l/min.	Material pump head	Material diaphragm	Material valves	Material gasket	Price Euro
16564	1.0 – 3.0	PE	PTFE	PTFE	FPM	849.00
16565	1.0 – 3.0	PVDF	PTFE	PTFE	PTFE	1056.00



16 564

THOMAFLUID®-PTFE Diaphragm Pump for Purest Media Type: RCT®-Drive System E-25 T

Application area:

- Conveyance of purest media in the areas of micro electronics as well as in biological, chemical, and medical research.
- Conveyance of aggressive media, such as acids, alkalis, and salt solutions in the areas of industrial chemical research, pilot and small production plants.
- Conveyance of media in the areas of nuclear technology and isotope applications.

Product specification:

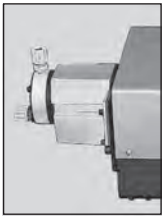
- The THOMAFLUID® E-25 T drive system is stepless variable.
- The delivery rate (rpm) is preselected with a potentiometer and directly digitally displayed. The drive system can be driven clockwise and anticlockwise. By pressing a high-speed button double maximum speed (approx. 400 rpm) is reached within seconds. This advantage is especially useful for rapid filling of the tubing system and for drawing off samples.
- The pump is equipped with a 15-pin D-plug for external control (SPC).
- Duty diaphragm pump head for continuous use for conveyance of all kinds of media, particularly of aggressive and ultra-pure media, with viscosities up to 500 mPas (continous delivery of halogenated compounds including perchloric acid, chloroethyl alcohol, chlorinated hydrocarbons, aqueous hydrofluoric acid, and methyl ethyl ketone not recommended).
- All medium-contacting parts including the long-life PTFE diaphragm are completely made of PTFE. Bifunctional, identical and mutually interchangeable inlet and outlet valves with corrosion-proof, PTFE spring-loaded ball sealing system made of borosilicate glass; delivery rate linearly variable between 10 and 50 ml/min by stepless speed controller (100 rpm correspond to 25 ml/min), furthermore overdrive delivering 100 ml/min (corresponding to 400 rpm) at counterpressures > 0.4 bar.

Technical specification:

- **Material:** PTFE (polytetrafluoroethylene)
- **Speed range:** 0 - 200 rpm and Δp = 0
- **Function:** Start/Stop, speed variation 0-100%.
- **Max. temperature of medium:** in continuous use up to +65 °C, for a short time up to +110 °C
- **Pipe connection:** external thread NPT 1/8”
- **Max. delivery rate:** variable 10 - 50 ml/min
- **Total dead volume:** approx. 2 ml
- **Max. counterpressure:** 10 bar, for a short time 14 bar
- **Reproducibility of flow rate:** > 4 % (counterpressure > 0.4 bar)

Cat. No.	Max. delivery rate ml/min.	Max. media temperature °C	Price Euro
41003	10 – 50	+65	3043.00

41 003



41 003

THOMAFLUID®-Piston Diaphragm Metering Pump for Small Delivery Volumes Delivery Rate Variable System: RCT®-MEDOS 208

Application area:

- Metering of liquids in the areas of
- chemical laboratory technology
- radiochemical technology

- environmental technology
- biotechnology and food technology
- precision engineering
- medical engineering

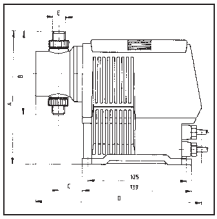
Product specification:

- Low-noise, oscillating displacement pump with effective electric drive using a synchronous motor safe against overloading and mechanical diaphragm coupling via hermetical precision excenter/plunger/spring system, coated safety PTFE diaphragm, linear regulation of delivery rate by stroke adjustment; double ball valves for suction and pressure side; pump head vent with ecologically safe recirculation of medium.
- Seven different types for adjustable delivery rates between 0 and 14 l/h.

Technical specification:

- **Material:**

58 389



58 389

Metering head: PP
Gasket: FPM
Diaphragm: PTFE
Valve ball: glass

- **Max. suction head:** 6 m water column
- **Pipe connection:** for tubing DN 4/6 mm
- **Drive:** synchronous motor 220 V / 50 Hz
- **Protective system:** IP 65
- **Dimension:** approx. 211 x 110 x 170 mm (L x W x H)
- **Weight:** approx. 2.2 kg

Cat. No.	Max. delivery rate l/h	Delivery volume ml/stroke	Max. operating pressure	NW mm bar	Price Euro
58389	0.3	0.04	10	4/6	884.00
58390	1.0	0.14	10	4/6	884.00
58391	1.6	0.22	10	4/6	884.00
58392	3.0	0.42	10	4/6	884.00
58393	5.0	0.68	6	4/6	938.00
58394	6.0	0.84	8	4/6	996.00
58395	14.0	1.92	4	8/12	1180.00

THOMAFLUID®-Pneumatic Diaphragm Pump made of PTFE Type: RCT®-AT AD 6

Application area:

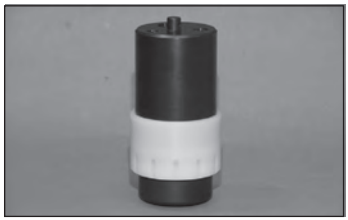
- Laboratory pump for conveyance of liquid media, also usable in explosion-hazard areas and for inflammable liquids.

Product specification:

- AD 6 pumps are oscillating displacement pumps with pneumatic drive, can be infinitely controlled via the air volume. The housing is made of solid PTFE conductive. This material is resistant to corrosion by virtually all media. Its conductivity permits use of the pump in explosion-hazard areas and for inflammable liquids.
- AD 6 pumps are equipped with spring-loaded valves and can therefore be installed in any position; excellent dry suction lift, submersible, proof against overloading, proof against dry running and maintenance-free; suitable for unattended continuous tests due to pneumatic drive. The gentle displacement ensures that measurement results are not falsified.
- The connection kit for laboratory is available as accessory. It comprises hose connections for suction port, discharge port and air inlet.

Technical specification:

- **Max. driving air pressure:** 7 bar
- **Max. particle size of solids:** 1 mm
- **Suction head:**
  dry: 3 m water column
  wet: 9 m water column
- **Max. viscosity:** 1000 cP
- **Max. operating temperature:** +100 °C



33 3645

- **Pipe connection:**
  suction side: R 1/2“
  pressure side: R 1/4“
  air inlet R: 1/8“
  air exhaust: R 1/4“
- **Dimension:** Ø 78 mm; height 150 mm
- **Weight:** 1.2 kg

Cat. No.	Design	Price Euro
333645	pump AD 6	1580.00
333646	connection kit for laboratory	98.00

THOMAFLUID®-Pneumatic Diaphragm Pump made of PTFE System: RCT®-AT-E

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.

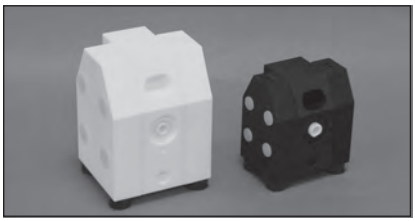
Technical specification:

- **Max. driving air pressure:** 7 bar
- **Max. operating temperature:** +100 °C

THOMAFLUID®

- **Air connection:** R 1/8“

Cat. No.	Dimension LxBxH mm	Internal thread inch	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
333631	90 x 113 x 129	NPT 1/4“	2	2
333632	90 x 113 x 129	NPT 1/4“		2
333633	110 x 127 x 169	NPT 3/8“	3	4
333634	110 x 127 x 169	NPT 3/8“		4
333635	110 x 127 x 169	NPT 3/8“	3	4
333636	110 x 127 x 169	NPT 3/8“		4



33 3629

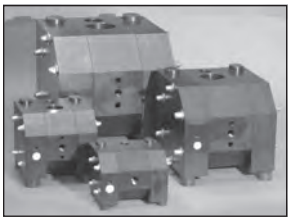
Cat. No.	Max. delivery rate l/min.	Valve system	Suction head dry mWC	Suction head wet mWC	Material housing[1]	Price Euro
333629	10	ball	0.5	9	P	1712.00
333630	10	cylinder	1	9	P	1712.00
333631	10	ball	0.5	9	PL	1838.00
333632	10	cylinder	1	9	PL	1838.00
333633	22	ball	1.5	9	P	5450.00
333634	22	cylinder	2	9	P	5450.00
333635	22	ball	1.5	9	PL	5880.00
333636	22	cylinder	2	9	PL	5880.00

[1]P = PTFE (white), PL = PTFE conductive (black)

Technical specification:

- **Max. driving air pressure:** 7 bar
- **Max. operating temperature:** +70 °C
- **Air connection:** R 1/4“

Cat. No.	Dimension LxBxH mm	Internal thread inch	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



33 3637

Cat. No.	Max. delivery rate l/min.	Valve system	Suction head dry mWC	Suction head wet mWC	Material housing[1]	Price Euro
333637	10	ball	0.5	8	3000	815.00
333638	10	cylinder	1.5	8	3000	840.00
333639	20	ball	0.5	8	6000	1010.00
333640	20	cylinder	2	8	6000	1025.00
333641	50	ball	1.5	9	10000	1355.00
333642	50	cylinder	3	9	10000	1390.00
333643	130	ball	2.5	9	15000	1975.00
333644	130	cylinder	4	9	15000	1975.00

THOMAFLUID®-Pneumatic Diaphragm Pump made of PTFE/PE System: RCT®-AT CX

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.

THOMAFLUID®-High-Precise Solenoid-Driven Diaphragm Pumps made of PVDF Type: RCT®-PMT D 1.4

Application area:

- Laboratory technology
- Nuclear technology
- Medical engineering
- Process technology
- Environmental technology
- Isotope 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 (Cat.-No. 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 to 75 l/h
- **Max. backpressure:** 2 to 16 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
- **Connected voltage:** 100-230 V/50-60 Hz
- **Max. ambient temperature:** -10 to +45 °C
- **External input:** 0/4-20 mA (analogue input)

30 0510 30 0516

- **Protective system:** IP 65
- **Insulation class:** F
- **Pipe connection:** hose nozzle or screwed connection
- **Weight:** approx. 10 kg

Cat. No.	Max. delivery rate l/h	Max. counter-pressure bar	Delivery volume cm³/Hub	Suction head wet[1] mWC	Connection type	Price Euro
300510	7.8	16	0.65	5	nozzle for tubing 8x5 mm	2600.00
300511	11.3	16	0.94	6	nozzle for tubing 8x5 mm	2600.00
300512	19.1	10	1.59	5	nozzle for tubing 12x9 mm	2600.00
300513	29.2	7	2.43	5	nozzle for tubing 12x9 mm	2600.00
300514	49.0	4	4.08	3	external thread G 3/4“	2750.00
300515	75.0	2	6.25	2	external thread G 3/4“	2800.00

[1]suction lift when dosing head und suction pipe are full

THOMAFLUID®-High-Precise Solenoid-Driven Diaphragm Pumps made of High-Quality Steel Type: RCT®-PMT D 1.4

Application area:

- Laboratory technology
- Nuclear technology
- Medical engineering
- Process technology
- Environmental technology
- Isotope 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 (Cat.-No. 300516-300159)
- 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: high-quality steel 1.4404/1.4581
  Gasket: PTFE
  Valve ball: ceramic
- **Max. delivery rate:** 7.8 to 75 l/h
- **Max. backpressure:** 2 to 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
- **Connected 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

Cat. No.	Max. delivery rate l/h	Max. counter-pressure bar	Delivery volume cm³/Hub	Suction head wet[1] mWC	Connection type	Price Euro
300516	7.5	25	0.62	5	nozzle for pipes OD 6 mm	3610.00
300517	11.3	16	0.94	6	nozzle for pipes OD 8 mm	3610.00
300518	19.1	10	1.59	5	nozzle for pipes OD 12 mm	3610.00
300519	29.2	7	2.43	5	nozzle for pipes OD 12 mm	3610.00
300520	49.0	4	4.08	3	external thread G 3/4“	3750.00
300521	75.0	2	6.25	2	external thread G 3/4“	3750.00

[1]suction lift when dosing head und suction pipe are full

THOMAFLUID®-High-Tech Solenoid Diaphragm Metering Pumps made of PVDF – controllable Type: RCT®-PMT G 1.3

Application area:

- For biochemical, chemical and clinical applications in laboratory technology
- Radiochemistry
- Environmental technology
- Process technology
- Medical engineering

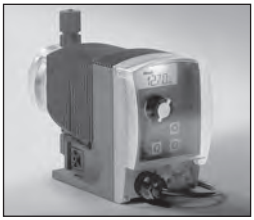
Product specification:

- 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 to 32 l/h
- **Reproducible dosing accuracy:** ±2 %
- **Stroke length:** 0 to 100 % infinitely variable
- **Max. stroke frequency:** 180 strokes/min
- **Stroke volume:** 0.07 to 2.96 ml/stroke
- **Suction head:** 2 to 6 mWC
- **Max. ambient temperature:** -10°C to +45°C
- **Power consumption:** 22 W
- **Connected voltage:** 100 to 230 V/50-60 Hz
- **Protective system:** IP 65
- **Insulation class:** F



34 1808

- **Pipe connection:** for tubing 6 x 4, 8 x 5, 12 x 9 mm

Cat. No.	Max. delivery rate l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet mWC	For tubing inside Ø mm	Price Euro
341808	0.74	10	0.07	6	4	1640.00
341809	1.1	16	0.10	6	4	1640.00
341810	2.1	16	0.19	6	4	1640.00
341811	4.4	10	0.41	6	5	1780.00
341812	7.1	7	0.66	6	5	1780.00
341813	12.3	4	1.14	3	5	1780.00
341814	19	2	1.76	2	9	1780.00
341815	4.1	16	0.38	6	5	2600.00
341816	6.8	10	0.63	6	5	2600.00
341817	11	7	1.02	4	5	2600.00
341818	17.1	4	1.58	3	9	2600.00
341819	32	2	2.96	2	9	2600.00

THOMAFLUID®-High-Tech Solenoid Diaphragm Metering Pumps made of High-Quality Steel – controllable Type: RCT®-PMT G 1.3

Application area:

- For biochemical, chemical and clinical applications in laboratory technology
- Radiochemistry
- Environmental technology
- Process technology
- Medical engineering

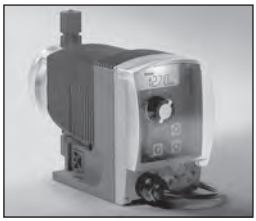
Product specification:

- 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: high-quality steel 1.4401
  Valve ball: ceramic
- **Max. delivery rate:** 0.74 to 32 l/h
- **Reproducible dosing accuracy:** ±2 %
- **Stroke length:** 0 to 100 % infinitely variable
- **Max. stroke frequency:** 180 strokes/min
- **Stroke volume:** 0.07 to 2.96 ml/stroke
- **Suction head:** 2 to 6 mWC
- **Max. ambient temperature:** -10°C to +45°C
- **Power consumption:** 22 W
- **Connected voltage:** 100 to 230 V/50-60 Hz
- **Protective system:** IP 65
- **Insulation class:** F
- **Pipe connection:** for pipes 6, 8 and 12 mm

Cat. No.	Max. delivery rate l/h	Max. counter-pressure bar	Delivery volume ml/stroke	Suction head wet mWC	for pipes OD mm	Price Euro
341820	0.74	10	0.07	6	6	2570.00
341821	1.1	16	0.10	6	6	2570.00
341822	2.1	16	0.19	6	6	2570.00
341823	4.4	10	0.41	6	6	2620.00
341824	7.1	7	0.66	6	8	2620.00
341825	12.3	4	1.14	3	8	2620.00
341826	19	2	1.76	2	12	2620.00
341827	4.1	16	0.38	6	6	3020.00
341828	6.8	10	0.63	6	8	3020.00
341829	11	7	1.02	4	8	3020.00
341830	17.1	4	1.58	3	12	3020.00
341831	32	2	2.96	2	12	3520.00



34 1820

THOMAFLUID®-Diaphragm Metering Pumps made of PVDF – Standard Type: RCT®-PMT V 2.1

Application area:

- Chemical technology
- Environmental technology
- Process engineering
- Drinking water purification
- Process technology
- Sewage treatment
- 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
- 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 to 64 l/h
- **Max. backpressure:** 4 to 10 bar
  Stroke length: 3 mm
- **Max. stroke frequency:** 38 to 192 strokes/min
- **Stroke volume:** 3.6 to 5.4 ml/stroke
- **Suction head:** 6 to 7 mWC
- **Max. ambient temperature:** -10 to +40 °C
- **Power consumption:** 0.07 kW
- **Motor speed:** 1500 rpm at 50 Hz
- **Connected 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

Cat. No.	Max. delivery rate[1] l/h	Max. counter-pressure bar	Permissible admission pressure bar	Delivery volume ml/stroke	Stroke frequency strokes/min.	Suction head wet mWC	Price Euro
301055	8	10	2.8	3.6	38	7	1280.00
301056	16	10	2.8	3.6	77	7	1280.00
301057	26	7	2.8	3.6	120	7	1280.00
301058	42	7	2.8	3.6	192	7	1280.00
301059	12	7	1.7	5.4	38	6	1320.00
301060	24	7	1.7	5.4	77	6	1320.00
301061	40	4	1.7	5.4	120	6	1320.00
301062	64	4	1.7	5.4	192	6	1320.00

[1]with motor 1500 rpm at 50 Hz

THOMAFLUID®-Diaphragm Metering Pumps made of High-Quality Steel – Standard Type: RCT®-PMT V 2.1

Application area:

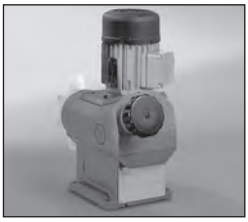
- Chemical technology
- Drinking water purification
- Sewage treatment
- Process technology
- Environmental technology
- Industrial engineering

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: high-quality steel 1.4404/1.4581
  Gasket: PTFE
  Valve ball: high-quality steel 1.4401
  Valve seat: PTFE
- **Max. delivery rate:** 9.6 to 76.8 l/h
- **Max. backpressure:** 4 to 10 bar
- **Stroke length:** 3 mm
- **Max. stroke frequency:** 45 to 230 strokes/min
- **Stroke volume:** 3.6 to 5.4 ml/stroke
- **Suction head:** 6 to 7 mWC
- **Max. ambient temperature:** -10 to +40 °C
- **Power consumption:** 0.07 kW



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- **Motor speed:** 1500 rpm at 50 Hz
- **Connected 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

Cat. No.	Max. delivery rate[1] l/h	Max. counter-pressure bar	Permissible admission pressure bar	Delivery volume ml/stroke	Stroke frequency strokes/min.	Suction head wet mWC	Price Euro
301063	8	10	2.8	3.6	38	7	2200.00
301064	16	10	2.8	3.6	77	7	2200.00
301065	26	7	2.8	3.6	120	7	2200.00
301066	42	7	2.8	3.6	192	7	2200.00
301067	12	7	1.7	5.4	38	6	2240.00
301068	24	7	1.7	5.4	77	6	2240.00
301069	40	4	1.7	5.4	120	6	2240.00
301070	64	4	1.7	5.4	192	6	2240.00

[1]with motor 1500 rpm at 50 Hz

THOMAFLUID®-High-Tech Microprocessor Diaphragm Metering Pumps made of PVDF – MP Type: RCT®-MP-PMT S 2.2

Application area:

- Process technology
- Chemical technology
- Industrial engineering
- Process engineering
- Pharmaceutical technology
- 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 to 120 l/h
- **Control:** 0/4 to 20 mA (contact or analogue signals)
- **Max. backpressure:** 4 to 12 bar
- **Permissible admission pressure:** 1 bar
- **Max. stroke frequency:** 88 to 200 strokes/min
- **Stroke volume:** 4.0 to 9.7 ml/stroke
- **Reproducible dosing accuracy:** better than ±2 %
- **Suction head:** 3 to 7 mWC
- **Max. ambient temperature:** -10 to +40 °C
- **Power consumption:** 0.09 kW
- **Motor speed:** 1800 rpm
- **Connected voltage:** 100-230 V/50-60 Hz
- **Protective system:** control: IP 65; motor: IP 55
- **Pipe connection:** for tubing with inside Ø 16 mm or 20 mm, (external thread G 3/4“ or G 1“)
- **Weight:** 9 kg

Cat. No.	Max. delivery rate[1] l/h	Max. counter-pressure bar	Delivery volume ml/ stroke	Stroke frequency strokes/ min.	Suction head wet mWC	For tubing inside Ø mm	Price Euro
301880	20	12	4.0	88	7	16	3250.00
301881	42	12	4.0	172	7	16	3250.00
301882	50	10	4.0	200	7	16	3250.00
301883	26	10	5.1	88	6	16	3280.00
301884	53	10	5.1	172	6	16	3280.00
301885	65	7	5.1	200	6	16	3280.00
301886	50	7	9.7	88	3	20	3420.00
301887	101	4	9.7	172	6	20	3420.00
301888	120	4	9.7	200	3	20	3420.00

[1]with motor 1500 rpm at 60 Hz

THOMAFLUID®-High-Tech Microprocessor Diaphragm Metering Pumps made of High-Quality Steel – MP Type: RCT®-MP-PMT S 2.2

Application area:

- Process technology
- Chemical technology
- Industrial engineering
- Process engineering
- Pharmaceutical technology
- Environmental technology

Product specification:

- Microprocessor-controlled diaphragm metering pump MP-high-quality 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.

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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: high-quality steel 1.4404/1.4581
  Valve ball: high-quality steel 1.4404
  Valve seat: PTFE
- **Max. delivery rate:** 20 to 120 l/h
- **Control:** 0/4 to 20 mA (contact or analogue signals)
- **Max. backpressure:** 4 to 12 bar

- **Permissible admission pressure:** 1 bar
- **Max. stroke frequency:** 88 to 200 strokes/min
- **Stroke volume:** 4.0 to 9.7 ml/stroke
- **Reproducible dosing accuracy:** better than ±2 %
- **Suction head:** 3 to 7 mWC
- **Max. ambient temperature:** -10 to +40 °C
- **Power consumption:** 0.09 kW
- **Motor speed:** 1800 rpm
- **Connected voltage:** 100-230 V/50-60 Hz
- **Protective system:** control: IP 65; motor: IP 55
- **Pipe connection:** external thread G 3/8“ or G 1/2“
- **Weight:** 12 kg

Cat. No.	Max. delivery rate[1] l/h	Max. counter-pressure bar	Delivery volume ml/ stroke	Stroke frequency strokes/ min.	Suction head wet mWC	Connection type	Price Euro
301890	20	12	4.0	88	7	external thread G 3/4“	3810.00
301891	42	12	4.0	172	7	external thread G 3/4“	3810.00
301892	50	10	4.0	200	7	external thread G 3/4“	3810.00
301893	26	10	5.1	88	6	external thread	3840.00
301894	53	10	5.1	172	6	external thread G 3/4“	3840.00
301895	65	7	5.1	200	6	external thread G 3/4“	3840.00
301896	50	7	9.7	88	3	external thread G 1“	4160.00
301897	101	4	9.7	172	6	external thread G 1“	4160.00
301898	120	4	9.7	200	3	external thread G 1“	4160.00

30 1890

[1]with motor 1500 rpm at 60 Hz

THOMAFLUID®-High-Tech Microprocessor Macro Diaphragm Metering Pumps made of PVDF – MP Type: RCT®-MP-PMT S 2.3

Application area:

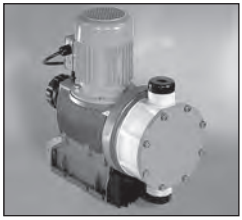
- Process technology
- Chemical technology
- Industrial engineering
- Pharmaceutical technology
- Process engineering
- Plant construction
- Environmental technology

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 to 350 l/h
- **Control:** 0/4 to 20 mA (contact or analogue signals)
- **Max. backpressure:** 4 to 10 bar
- **Permissible admission pressure:** 1 or 3 bar
- **Stroke length:** 5 mm
- **Max. stroke frequency:** 87 to 198 strokes/min
- **Stroke volume:** 11.4 to 29.4 ml/stroke
  Reproducible dosing accuracy: better than ±2 %
- **Suction head:** 5 to 7 mWC



34 1834 (see page 29)

- **Max. ambient temperature:** -10 to +40 °C
- **Power consumption:** 0.25 kW
- **Motor speed:** 1800 rpm
- **Connected voltage:** 100-230 V/50-60 Hz
- **Protective system:** control: IP 65; motor: IP 55
- **Pipe connection:** for tubing with inside Ø 20 mm or 25 mm (external thread G 1“ or G 1 1/2“)
- **Weight:** 9 kg

THOMAFLUID®-High-Tech Microprocessor Macro Diaphragm Metering Pumps made of PVDF – MP Type: RCT®-MP-PMT S 2.3

Cat. No.	Max. delivery rate[1] l/h	Max. counter-pressure bar	Permissible admission pressure bar	Delivery volume ml/ stroke	Stroke frequency strokes/ min.	Suction head wet mWC	For tubing Ø mm inside	Price Euro
341834	60	10	3	11.4	87	7	20	4525.00
341835	108	10	3	11.4	156	7	20	4525.00
341836	130	10	3	10.9	198	7	20	4525.00
341837	144	7	1	27.4	87	5	25	4845.00
341838	264	7	1	27.7	156	5	25	4845.00
341839	350	7	1	29.4	198	5	25	4845.00

[1]with motor 1500 rpm at 60 Hz

THOMAFLUID®-High-Tech Microprocessor Macro Diaphragm Metering Pumps made of High-Quality Steel – MP Type: RCT®-MP-PMT S 2.3

Application area:

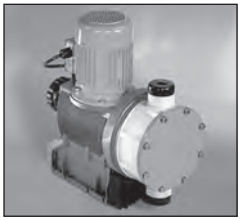
- Process technology
- Chemical technology
- Industrial engineering
- Pharmaceutical technology
- Process engineering
- Plant construction
- Environmental technology

Product specification:

- Microprocessor-controlled diaphragm metering pump MP-high-quality 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: high-quality steel 1.4404/1.4581
  Valve ball: high-quality steel 1.4404
  Valve seat: PTFE
- **Max. delivery rate:** 57 to 350 l/h
- **Control:** 0/4 to 20 mA (contact or analogue signals)
- **Max. backpressure:** 4 to 16 bar
- **Permissible admission pressure:** 1 or 3 bar
- **Stroke length:** 5 mm
- **Max. stroke frequency:** 87 to 198 strokes/min
- **Stroke volume:** 11.4 to 29.4 ml/stroke
- **Reproducible dosing accuracy:** better than ±2 %
- **Suction head:** 5 to 7 mWC
- **Max. ambient temperature:** -10 to +40 °C
- **Power consumption:** 0.25 kW



34 1802

- **Motor speed:** 1800 rpm
- **Connected 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“

Cat. No.	Max. delivery rate[1] l/h	Max. counter-pressure bar	Permissible admission pressure bar	Delivery volume ml/ stroke	Stroke frequency strokes/ min.	Suction head wet mWC	Connec-tion type[2]	Price Euro
341802	57	16	3	11.4	87	7	G 1“	5215.00
341803	103	16	3	11.4	156	7	G 1“	5215.00
341804	150	10	3	10.9	198	7	G 1“	5215.00
341805	144	7	1	27.4	87	5	G 11/2“	5720.00
341806	264	7	1	27.7	156	5	G 11/2“	5720.00
341807	350	4	1	29.4	198	5	G 11/2“	5720.00

[1]with motor 1500 rpm at 60 Hz [2]connection type = external thread

Centrifugal Pumps

THOMAFLUID®-Universal Magnet-Driven Centrifugal Pump PP System: RCT®-VR-VMD

Application area:

- Electroplating
- Food industry
- Environmental technology
- Process engineering
- Pharmaceutical industry
- Industrial engineering
- Process technology

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 fiber filled
  Shaft: ceramic
  Bearing: ceramic; carbon (330316)
- **Max. suction head:** inlet
- **Protective system:**
  IP 42: for 330310; 330312; 330313
  IP 55: 330314; 33015; 330316
  IP 64: 330311

33 0310

Cat. No.	Max. media temperature °C	Max. operating pressure[1] bar	Connecting voltage V	Connection suction side	Connection pressure side
330310	+70	0.3	230 / 50 Hz	G 3/4“ (ex.thr.)	G 3/4“ (ex.thr.)
330311	+70	0.6	230 / 50 Hz	G 3/4“ (ex.thr.)	G 3/4“ (ex.thr.)
330312	+70	0.96	230 / 50 Hz	G 3/4“ (ex.thr.)	G 3/4“ (ex.thr.)
330313	+65	1.5	230 / 50 Hz	BSP 1“ (ex.thr.)	BSP 1“ (ex.thr.)
330314	+65	1.5	230; 400 / 50 Hz	BSP 1“ (ex.thr.)	BSP 1“ (ex.thr.)
330315	+70	2.1	230; 400 / 50 Hz	NPT 1“ (ex.thr.)	NPT 1“ (ex.thr.)
330316	+70	2.5	230; 400 / 50 Hz	DN 40	DN 40

[1]at +20 °C

Cat. No.	Max. delivery rate l/min.	Max. delivery head mWC	Motor speed rpm	Power consumption kW	Price Euro
330310	16	2.5	2.900	0.015	522.00
330311	30	4	2.900	0.045	710.00
330312	40	5	2.800	0.15	966.00
330313	120	11	2.800	0.29	1322.00
330314	120	11	2.900	0.37	1610.00
330315	120	12.2	2.800	0.39	1772.00
330316	250	17	2.900	1.1	2654.00

THOMAFLUID®-Universal Magnet-Driven Centrifugal Pump ETFE System: RCT®-VR-VMD

Application area:

- Semiconductor technology
- Food technology
- Process technology
- Environmental technology
- Hospital technology
- Pharmaceutical technology
- Chemical technology
- Process engineering
- Industrial engineering
- 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: for 330321; 330322; 330323
  IP 55: for 330324; 330325

Cat. No.	Max. media temperature °C	Max. operating pressure[1] bar	Connecting voltage V	Connection suction side	Connection pressure side
330321	+70	0.6	230 / 50 Hz	G 3/4“ (ex.thr.)	G 3/4“ (ex.thr.)
330322[2]	+90	0.75	220	G 3/4“ (ex.thr.)	G 3/4“ (ex.thr.)
330323	+65	1.5	220 – 230 / 50 Hz	BSP 1“ (ex.thr.)	BSP 1“ (ex.thr.)
330324	+65	1.5	230; 400 / 50 Hz	BSP 1“ (ex.thr.)	BSP 1“ (ex.thr.)
330325	+70	2.1	230; 400 / 50 Hz	NPT 1“ (ex.thr.)	NPT 1“ (ex.thr.)

[1]at +20 °C [2]connected voltage with 1 phase (AC)

Cat. No.	Max. delivery rate l/min.	Max. delivery head mWC	Motor speed rpm	Power consumption kW	Price Euro
330321	30	4	2.800	0.045	1710.00
330322	40	5	2.500	0.15	2390.00
330323	120	11	2.800	0.29	1568.00
330324	120	11	2.900	0.37	1674.00
330325	120	12.2	2.800	0.39	1758.00

THOMAFLUID®-Magnetically Driven Low Voltage Laboratory Centrifugal Pump System: RCT®-MAP 1036-GN

Application area:

- Pumping out and circulating of liquids in the areas of
- chemical laboratory technology
- biotechnology
- food technology
- 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.

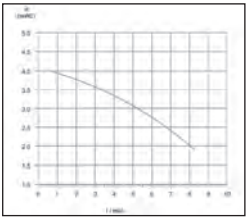
Technical specification:

- **Material:**
  Casing / vane-wheel: PP
  Vane-wheel shaft: high-quality steel 1.4401
- **Drive system:**
  Electrical connection: 12 or 24 VDC
  Nominal current: 1 A at 12 V; 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” at both, suction and pressure side

THOMAFLUID®-Magnetically Driven Low Voltage Laboratory Centrifugal Pump System: RCT®-MAP 1036-GN

Cat. No.	Max. delivery rate l/min.	Max. delivery head mWC	Connecting voltage volt	Power consumption W	Unit piece	Price Euro
58543	9.8	3.2	24=	9	1	496.00

THOMAFLUID®-Magnetically Driven Centrifugal Pump, 220 V, with Tubing Connections System: RCT®-MAP 1250-S



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Application area:

- Pumping out and circulating of liquids in the areas of
- chemical laboratory technology
- biotechnology
- food technology
- 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:**
  Electrical connection: 230 V / 50 Hz
  Power consumption: 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"

Cat. No.	Max. delivery rate l/min.	Max. delivery head mWC	Connecting voltage volt	Power consumption W	Unit piece	Price Euro
58544	17.4	2.75	230	40	1	900.00

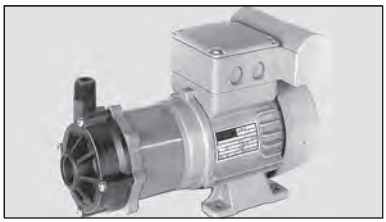
THOMAFLUID®-Magnetically Driven Industrial Centrifugal Pump V 230 System: RCT®-MAP 5153/55-S

Application area:

- Pumping out and circulating of liquids in the areas of
- chemical laboratory technology
- biotechnology
- food technology
- 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.



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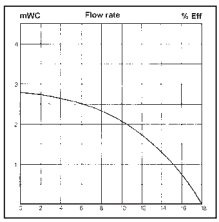
Technical specification:

- **Material:**
  Casing / vane-wheel: PP or PVDF
  Vane-wheel shaft: ceramic
- **Drive system:**
  Electrical connection: 230 V / 50 Hz
  Power consumption: 90 W
  Current: 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



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- **Pipe connection:**
  Suction side: R 3/4" or R 1" (inside)
  Pressure side: R 1/2" (outside)

Cat. No.	Material pump head	Max. delivery rate l/min.	Max. delivery head mWC	Connection suction side inch	Connection pressure side inch	Unit piece	Price Euro
58545	PP	33.0	4.3	R 3/4" (in.thr.)	R 1/2" (ex.thr.)	1	930.00
58546	PVDF	33.0	4.3	R 3/4" (in.thr.)	R 1/2" (ex.thr.)	1	1560.00
58547	PP	51.0	4.7	R 1" (in.thr.)	R 1/2" (ex.thr.)	1	1250.00

THOMAFLUID®-Magnetically Driven Industrial Centrifugal Pump V 230 System: RCT®-MAP 5153/55-S

Cat. No.	Material pump head	Max. delivery rate l/min.	Max. delivery head mWC	Connection suction side inch	Connection pressure side inch	Unit piece	Price Euro
58548	PVDF	51.0	4.7	R 1“ (in.thr.)	R 1/2“ (ex.thr.)	1	1710.00
58549	PP	76.0	7.3	R 1“ (in.thr.)	R 1/2“ (ex.thr.)	1	1670.00
58550	PVDF	76.0	7.3	R 1“ (in.thr.)	R 1/2“ (ex.thr.)	1	2040.00

THOMAFLUID®-Magnetically Driven Centrifugal Pump V 380 System: RCT®-MAP 1345/50-S

Application area:

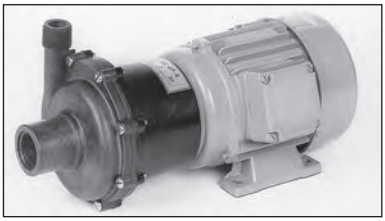
- Pumping out and circulating of liquids in the areas of
- chemical laboratory technology
- biotechnology
- food technology
- environmental technology

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:**
  Electrical connection: 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)



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Cat. No.	Material pump head	Max. delivery rate l/min.	Max. delivery head mWC	Power consumption W	Current strength A	Unit piece	Price Euro
58551	PP	110	9.3	180	0.52	1	2058.00
58552	PVDF	110	9.3	180	0.52	1	2896.00
58553	PP	115	10.5	370	1.05	1	1920.00
58554	PVDF	115	10.5	370	1.05	1	2890.00
58555	PP	175	12.5	550	1.45	1	2020.00
58556	PVDF	175	12.5	550	1.45	1	2910.00

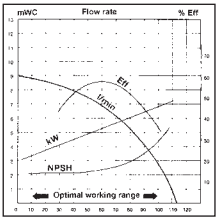
THOMAFLUID®-High-Tech Magnetically Coupled Centrifugal Pumps PP/PVDF

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



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- 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

THOMAFLUID®-High-Tech Magnetically Coupled Centrifugal Pumps PP Type: RCT®-PMT-T5.5

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 connected values

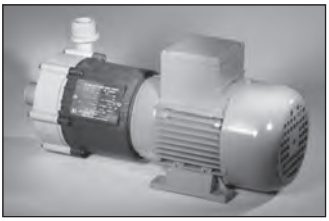
Cat. No.	Dimension LxBxH mm	W kg	Connecting voltage[1] V	Motor speed[1] rpm	Connection suction side[2]	Connection pressure side[2]
330025	240x120x145	2.7	230 (0.7 A), 1ph	2871	G 1 1/4“	G 1“
330026	283x138x185	5	230 (1.1 A)/400 (0.65 A), 3 ph	2760	G 1 1/4“	G 1 1/4“
330027	320x163x191	7.6	230 (1.65 A)/400 (0.95 A), 3 ph	2820	G 2“	G 1 1/2“

[1]measured at 50 Hz [2]external thread

THOMAFLUID®-High-Tech Magnetically Coupled Centrifugal Pumps PP Type: RCT®-PMT-T5.5

Cat. No.	Max. delivery rate[1] l/h	Max. delivery head mWC	Max. operating pressure bar	Power con-sumption kW	Max. medium density kg/dm³	Price Euro
330025	1800	4.5	1.0	0.06	1.25-1.35	840.00
330026	6600	7.9	2.5	0.25	1.20-1.80	1165.00
330027	'9600	10.0	2.5	0.37	1.60-2.00	1320.00

[1]at 0 mWC



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THOMAFLUID®-High-Tech Magnetically Coupled Centrifugal Pumps PVDF Type: RCT®-PMT-T5.5

Technical specification:

- **Material:**

Housing:	PVDF (polyvinylidene fluoride)
Impeller:	PVDF (polyvinylidene fluoride)
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 connected values

Cat. No.	Dimension LxBxH mm	W kg	Connecting voltage[1] V	Motor speed[1] rpm	Connection suction side[2]	Connection pressure side[2]
330028	240x120x145	2.8	230 (0.7 A), 1ph	2871	G 1 1/4“	G 1“
330029	283x138x185	5.2	230 (1.1 A)/400 (0.65 A), 3 ph	2760	G 1 1/4“	G 1 1/4“
330030	320x163x191	8.0	230 (1.65 A)/400 (0.95 A), 3 ph	2820	G 2“	G 1 1/2“

[1]measured at 50 Hz [2]external thread

Dimensions as well as drive and connected values

Cat. No.	Max. delivery rate[1] l/h	Max. delivery head mWC	Max. operating pressure bar	Power con-sumption kW	Max. medium density kg/dm³	Price Euro
330028	1800	4.5	2.0	0.06	1.25-1.35	1095.00
330029	6600	7.9	3.5	0.25	1.20-1.80	1545.00
330030	'9600	10.0	3.5	0.37	1.60-2.00	1710.00

[1]at 0 mWC

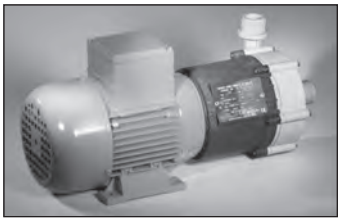
THOMAFLUID®-High-Tech Centrifugal Pump, Variable, with Compressed-Air Motor Drive System: RCT®-NODVOL®-MPC 101

Application area:

- Leak-tight delivery and metering of all kinds of liquids in experimental, pilot and small production units.

Product specification:

- Rugged, non-self-priming centrifigal pump of low construction weight, for leak-tight delivery of smaller quantities of all kinds of liquids in continuous use, almost unsusceptable to particles in suspension; system safe up to 13 bar; driven by an adjustable heavy-duty compressed-air motor, patented, seal-free magnetic coupling system; stable stand and mounting base with bores for building-in or fixed screwing.



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Technical specification:

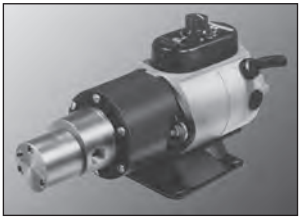
- **Material:**

Pump body:	high-quality steel SS 316
Medium-contacting parts:	PTFE and high-quality steel SS 316

- **Temperature range:** -45 to +121 °C
- **Motor speed:** 0 - 8000 rpm
- **Max. delivery rate:** 10 l/min. at 1.5 bar
- **Max. operating pressure:** 13 bar
- **Pipe connection:**

suction side:	3/8” NPT (inside)
pressure side:	1/8” NPT (inside)

- **Dimension:** 13.0 x 7.4 x 17.0 cm (H x W x L)
- **Weight:** 1.4 kg



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THOMAFLUID®-High-Tech Centrifugal Pump, Variable, with Compressed-Air Motor Drive System: RCT®-NODVOL®-MPC 101

Cat. No.	Max. delivery rate l/min.	Unit piece	Price Euro
58208	40	1	2335.00

Drum Pumps

THOMAPLAST®-PE Squeeze Bulb Pump Type: RCT®-SMI-55-94

Product specification:

- Easy to handle squeeze bulb pump made of polyethylene (LD-PE) 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.
- This model allows accurate metering as it is fitted with a easy-running ball valve made of polypropylene. The outlet is tapered to 13 mm external diameter.

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11 606

Cat. No.	Immersion tube length mm	Ø pipe mm	Max. delivery rate l/min.	Unit piece	Price Euro
11606	700	15	5	1	67.00
11607	1000	18	9	1	190.00
11608	700	15	5	1	169.00

THOMAPLAST®-Universal PP Filling Pump System: RCT®-Pumpit®-FRAJOS

Product specification:

- Heavy-duty industrial 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 6.5 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 riser tube of 1000 mm length 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®-FRAJOS 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®-FRAJOS 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: Cat. No. 83242

Cat. No.	Design	Material gasket	Price Euro
83239	universal PP filling pump	FPM	215.00
83240	universal PP filling pump	EPDM	215.00
83241	universal PP filling pump	NBR	215.00

Accessories for Universal PP Filling Pump

Cat. No.	Design	Price Euro
83242	Mauser Fasset for external thread	31.00

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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 Cat. No. 83242-45	77.00

THOMAPLAST®-PP Pump for Chemical Tanks Type: RCT®-VB 44

Product specification:

- Sturdy pump made of polypropylene (PP) for chemical tanks.
- All medium-contacting parts made of PP, FPM, and PTFE.

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- 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: Cat. No. 40032

Cat. No.	Immersion tube length mm	Ø pipe mm	Weight g	Price Euro
40028	500	32	600	215.00

THOMAPLAST®-PP Pump for Chemical Tanks Type: RCT®-VB 44

Cat. No.	Immersion tube length mm	Ø pipe mm	Weight g	Price Euro
40029	650	32	700	215.00
40030	800	32	800	233.00
40031	1000	32	880	238.00

Accessories for PP Pump for Chemical Tanks

Cat. No.	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

THOMAPLAST®-Stainless Steel Chemical Drum Pump

Product specification:

- Chemical drum pump made of stainless steel (1.4301), PTFE and PVDF.
- Safe filling of highly inflammable fluids and solvents.
- Remove of electrostatic charge is effected through an earth cable (accessory).
- Accessory: Cat. No. 40025

Cat. No.	Immersion tube length mm	Ø pipe mm	Price Euro
40023	500	32	331.00
40024	800	32	351.00

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Accessories for Stainless Steel Chemical Drum Pumps

Cat. No.	Design	Price Euro
40025	wall mounting bracket	45.00
40026	drum screwed fitting 2“	45.00
40027	earth cable	85.00

THOMAFLUID®-Sealless Drum Pump with Speed-Controlled 230 V Electric Drive System: RCT®-NODVOL®-JP-2830-EC

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,

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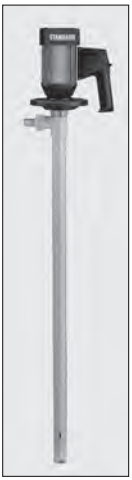

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splash-proof and radio interference suppressed, but not explosion-proof.

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:**
  - Electr. connection: 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

Cat. No.	Material pump tube	Immersion tube length mm	Unit piece	Price Euro
58557	PP	1000	1	1036.00

THOMAFLUID®-Sealless Drum Pump with Speed-Controlled 230 V Electric Drive System: RCT®-NODVOL®-JP-2830-EC

Cat. No.	Material pump tube	Immersion tube length mm	Unit piece	Price Euro
58558	PP	1200	1	1090.00
58559	PVDF	1000	1	1380.00
58560	PVDF	1200	1	1442.00

THOMAPLAST®-Accessories for Sealless Drum Pumps

Cat. No.	Design	Unit piece	Price Euro
58563	foot strainer for pump tube made of PP	1	45.00
58564	quick-acting stop-cock brass MS 25/1“, gaskets: Thiokol	1	170.00
58565	quick-acting stop-cock brass MS 25/1“, gaskets: PTFE	1	182.00
58566	wall hook	1	40.00
58567	drum screwed fitting	1	24.00

THOMAFLUID®-Universal Drum and Container Pump Type: RCT®-LZ-32/28

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/dm^3
- **Connected voltage:** 230 V / 50 Hz
- **Power consumption:** 200 W
- **Protective system:** IP 24

THOMAFLUID®-Universal Drum and Container Pump PP Type: RCT®-LZ-DL32

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

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Cat. No.	Immersion tube length mm	Design	Unit piece	Price Euro
330326	500	A	1	732.00
330327	500	B	1	912.00
330328	700	A	1	756.00
330329	700	B	1	936.00
330330	1000	A	1	828.00
330331	1000	B	1	1008.00

THOMAFLUID®-Universal Drum and Container Pump 1.4571 Type: RCT®-LZ-DL28

Technical specification:
- **Material:**
  Pump tube: high-quality 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

Cat. No.	Immersion tube length mm	Design	Unit piece	Price Euro
330332	500	A	1	1176.00
330333	500	B	1	1356.00
330334	700	A	1	1176.00
330842	700	B	1	1356.00
330843	1000	A	1	1248.00
330844	1000	B	1	1428.00

THOMAFLUID®-Electronical Flow Meter – Accessories Type: RCT®-LZ-90

Application area:

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

General 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.

33 0332 (see page 36)

33 0332 (see oage 36)

- 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:

- Design A: assembly at drum pump
- Design B: assembly at nozzle

General technical specification:

- **Material:**
  Housing top: PP (polypropylene)
  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

THOMAFLUID®-Electronical Flow Meter PP Type: RCT®-LZ-PP-90

Technical specification:

- **Material:**
  Measuring chamber: PP (polypropylene)
  Turbine: PP (polypropylene)
- **Weight:** 0.3 kg

Cat. No.	Design	Unit piece	Price Euro
331564	A	1	628.00
331565	B	1	628.00

THOMAFLUID®-Electronical Flow Meter PVDF Type: RCT®-LZ-PVDF-90

Technical specification:

- **Material:**
  Measuring chamber: PVDF (polyvinylidene fluoride)
  Turbine: PVDF (polyvinylidene fluoride)
- **Weight:** 0.4 kg

Cat. No.	Design	Unit piece	Price Euro
331566	A	1	742.00
331567	B	1	742.00

33 1564

33 1566

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 polypropylene 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.

60 853

60 845 (see page 38)

THOMAPLAST®-Hand Pump – Stopper Size 30-70 mm

Product specification:

- For demijohns, plastic carboys, and tanks
- Delivery rate: 14 to 26 l/min

Cat. No.	Immersion tube length mm	Ø pipe mm	Price Euro
60853	700	12	113.00
60854	700	15	131.00
60855	700	18	141.00

THOMAPLAST®-Foot Pump – Stopper Size 30-70 mm

Product specification:

- For drums, demijohns, barrels
- Delivery rate: 20 to 25 l/min

Cat. No.	Immersion tube length mm	Ø pipe mm	Price Euro
60845	700	15	123.00
60846	700	18	149.00
60847	900	22	164.00

Gas Pumps

THOMAFLUID®-Diaphragm Micro Delivery Pumps for Gases up to 0.40 l/min with Low-Voltage Drive System: RCT®-NODVOL®-NPM NF-05 D004

Application area:

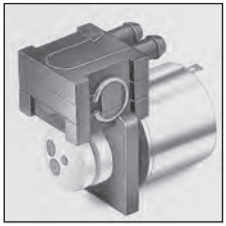
- Delivery of gases and purest gases in the areas of
- medical and precision engineering
- analytical technology
- biotechnology
- environmental technology

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:**



16 572

Pump head: Ryton
Diaphragm: EPDM
Valves: EPDM

- **Drive system:**
  Electr. connection: 2.5; 3; 5 or 6 V=
  Power consumption: < 100 mA
  Connection: prepared litz wire for soldering or for low-voltage plug
- **Final vacuum:** 500 - 600 mbar absolute
- **Max. operating 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

Cat. No.	Max. delivery rate l/min.	Connecting voltage volt	Unit piece	Price Euro
16572	0.25	3=	1	286.00
16573	0.40	6=	1	286.00
16574	0.30	6=	1	286.00
16575	0.40	9=	1	286.00

THOMAFLUID®-Diaphragm Micro Delivery Pumps for Gases up to 0.85 l/min with Low-Voltage Drive System: RCT®-NODVOL®-NPM NF-09 D004

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:**
  Electr. connection: 6; 12 or 24 V=
  Power consumption: < 200 mA
  Connection: prepared litz wire for soldering or for low-voltage plug
- **Final vacuum:** 500 mbar absolute
- **Max. operating excess pressure:** 250 mbar

16 576

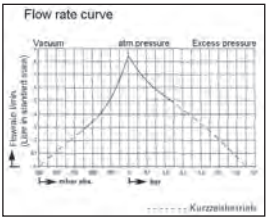
- **Max. permissible ambient temperature:** +5 to +40 °C
- **Pipe connection:** nozzles, for tubing ID 4 mm
- **Dimension:** 39 x 20 x 28 mm (L x W x H)
- **Weight:** 30 g

Cat. No.	Max. delivery rate l/min.	Connecting voltage volt	Weight g	Unit piece	Price Euro
16576	0.85	6=	50	1	352.00
16577	0.85	12=	50	1	352.00
16578	0.85	24=	50	1	352.00

THOMAFLUID®-Diaphragm Micro Delivery Pumps for Gases up to 3.1 l/min with Low-Voltage Drive
System: RCT®-NODVOL®-NPM NF-830 D005

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.



16 576 (see page 38)

Technical specification:

- **Material:**
  Pump head: PPS
  Diaphragm: EPDM
  Valves: CR
- **Drive system:**
  Electr. connection: 6; 12 or 24 V=
  Power consumption: < 500 mA
  Connection: flat plug B 2.8 according to DIN 46247
- **Final vacuum:** 250 mbar (absolute)
- **Max. operating excess pressure:** 1 bar
- **Max. ambient temperature:** +5 to +40 °C

16 579

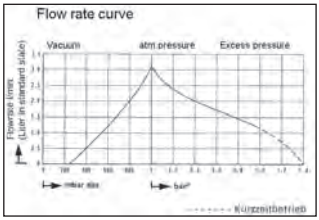
- **Max. temperature of medium:** +5 to +40 °C
- **Pipe connection:** nozzles, for tubing ID 4 mm
- **Dimension:** 76 x 30.5 x 51 mm (L x W x H)
- **Weight:** 195 g

Cat. No.	Max. delivery rate l/min.	Connecting voltage volt	Unit piece	Price Euro
16579	3.1	6=	1	204.00
16580	3.1	12=	1	204.00
16581	3.1	24=	1	204.00

THOMAFLUID®-Diaphragm Micro Delivery Pumps for Gases up to 4.5 l/min with Low-Voltage Drive
System: RCT®-NODVOL®-NPM NF-850 D005

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.



16 579

Technical specification:

- **Material:**
  Pump head: PPS
  Diaphragm: EPDM
  Valves: EPDM
- **Drive system:**
  Electr. connection: 6; 12 or 24 V=
  Power consumption: < 800 mA
  Connection: flat plug
- **Max. delivery rate:** 4.5 l/min at atmospheric pressure
- **Final vacuum:** 230 mbar
- **Max. operating excess pressure:** 1.5 bar
- **Max. ambient temperature:** +5 to +40 °C

16 582

- **Pipe connection:** nozzles, for tubing ID 5 - 6 mm
- **Dimension:** 80 x 38 x 54 mm (L x W x H)
- **Weight:** 210 g

Cat. No.	Max. delivery rate l/min.	Connecting voltage volt	Unit piece	Price Euro
16582	4.5	6=	1	232.00
16583	4.5	12=	1	232.00
16584	4.5	24=	1	232.00

THOMAFLUID®-High-Tech Precision Micro Gas Metering Pump System: RCT®-NODVOL®-FLU PP-5993

Application area:

- Metering and delivery of smallest quantities of gases.

Product specification:

- Valveless low-pressure single-piston pump for smallest delivery rates with synchronous motor; low dead volume, for delivery of all kinds of gases, RCT®-conveying line connections optionally to be chosen. Precisely adjustable delivery rates by micromechanical alteration of stroke frequency and piston stroke height; suitable for continuous duty, fitted with pedal switch (foot-operated push-button), thus predetermined for filling and dosing processes.
- Function of pedal switch (foot-operated push-button): Halt (stop), forerun, return
- A separate control switch allows two further applications via pedal switch of the pump. Filling and dosing function:
  Delivery rate per stroke (stroke volume) 0-25 µl
  Permanent function continuous duty
- By manual alteration of the gearing three pump speeds can be realized, alternatively 123 rpm, 246 rpm, and 492 rpm.

Technical specification:

- **Material pump head:**
  Piston: high-quality steel SS 316
  Cylinder: sinter carbon
  Housing: fluorocarbon material PVDF
  Connection: fluorocarbon material PVDF
- **Drive system:**
- **Electr. connection:** 220 V / 50-60 Hz
- **Power consumption:** approx. 20 W
- **Motor speed:** speed reduction to 150, 300 or 600 piston strokes per minute or 150, 300, and 600 rpm resp.
- **Precision of delivery:** better than 1.0 %
- **Max. delivery rate:**
  at 123 rpm: 0 - 3.75 ml/min., max. 3.4 bar counterpressure;
  at 246 rpm: 0 - 7.50 ml/min., max. 1.4 bar counterpressure;
  at 492 rpm: 0 - 15.0 ml/min., max. 1.4 bar counterpressure
- **Stroke volume:** 0 - 25 µl/stroke
- **Pipe connection:** compression-type fitting for pipes OD 6.4 mm, reducible with adapter, or internal thread 1/4"-28 UNF
- **Max. operating pressure:** 6.9 bar
- **Dimension:** 127 x 127 x 102 mm (L x W x H)
- **Weight:** approx. 2.25 kg

Cat. No.	Delivery volume µl/stroke	Max. delivery rate l/min.	for pipes OD mm	Internal thread inch	Price Euro
58366	25	0 – 15	6.4		2268.00
58339	25	0 – 15		1/4"-28 UNF	2268.00

THOMAFLUID®-High-Tech Precision Micro Gas Metering Pump System: RCT®-NODVOL®-FLU QC-S993

Application area:

- Metering and delivery of smallest quantities of gases.

Product specification:

- Valveless low-pressure single-piston pump for smallest delivery rates; unsusceptible to gas bubbles contained in the delivered fluid and viscosity alterations; RCT®-conveying line connections optionally to be chosen. Precisely adjustable delivery rates by micromechanical alteration of stroke frequency and height of piston stroke; suitable for continuous duty, fitted with pedal switch (foot-operated push-button), thus predetermined for filling and dosing processes.
- Function of pedal switch (foot-operated push-button): Halt (stop), forerun, return
- A separate control switch allows two further applications via pedal switch of the pump. Filling and dosing function:
  Delivery of one stroke (stroke volume), alternatively 25 or 80 µl
  Permanent function (continuous duty)

Technical specification:

- **Material pump head:**

58 366

  Piston: high-quality steel SS 316
  Cylinder: sinter carbon
  Housing: fluorocarbon material PVDF
  Connection: fluorocarbon material PVDF
- **Drive system:**
  Electr. connection: 220 V / 50-60 Hz
  Power consumption: approx. 80 W
  Motor speed: speed reduction to 184 piston strokes per minute
- **Precision of delivery:** better than 1.0 %
- **Max. delivery rate:** 0 - 25 or 0 - 80 µl/stroke
- **Pipe connection:** compression-type fitting for pipes OD 6.4 mm, reducible with adapter
- **Dimension:** 206 x 210 x 133 mm (L x W x H)
- **Weight:** approx. 4.5 kg

Cat. No.	Delivery volume µl/stroke	Max. delivery rate ml/min.	Max. pressure operating bar	for pipes OD mm	Price Euro
58369	25	0 – 4.6	6.9	6.4	2268.00
58370	80	0 – 14.8	4.1	6.4	2268.00

THOMAFLUID®-High-Tech Low-Flow Precision Gas Delivery Pump System: RCT®-NODVOL®-FLU RHSY-S793

Application area:

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

Product specification:

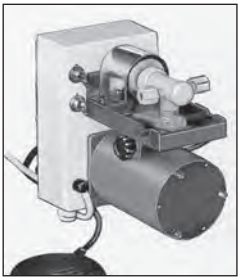
- Valveless low-pressure single-piston pump with three-stage syn-

chronous drive motor, low weight and small dimensions, RCT®-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: high-quality steel SS 316
  Cylinder: sinter corundum
  Housing: fluorocarbon material PVDF
  Connection: fluorocarbon material PVDF
- **Drive system:**
  Electr. connection: 220 VAC / 50-60 Hz
  Motor speed: variable 150, 300 or 600 rpm
- **Precision of delivery:** better than 1.0 %
- **Max. delivery rate:**



58 369

at 123 rpm: 0 - 3.75 ml/min., max. 3.4 bar counterpressure;
at 246 rpm: 0 - 7.50 ml/min., max. 1.4 bar counterpressure;
at 492 rpm: 0 - 15.0 ml/min., max. 1.4 bar counterpressure

- **Stroke volume:** 25 µl/stroke
- **Pipe connection:** compression-type fitting for pipes OD 6.4 mm, reducible with adapter, or internal thread 1/4"-28 UNF
- **Max. operating pressure:** 6.9 bar
- **Dimension:** 127 x 127 x 102 mm (L x W x H)

58 351

- **Weight:** approx. 1.8 kg

Cat. No.	Delivery volume µl/stroke	Max. delivery rate l/min.	for pipes OD mm	Internal thread inch	Price Euro
58351	25	0 – 15.0	6.4		1984.00
58331	25	0 – 15.0		1/4"-28 UNF	1984.00

THOMAFLUID®-High-Tech Gas Delivery Pump System: RCT®-NODVOL®-FLU QG-S 693

Application area:

- Delivery and metering of all kinds of gases.

Product specification:

- Valveless low-pressure single-piston pump with robust, ball-bearing low-voltage driving motor, self-cooling; for delivery of all kinds of gases; RCT®-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: high-quality steel SS 316
  Cylinder: graphite (sinter carbon)
  Housing: fluorocarbon material PVDF
  Connection: fluorocarbon material PVDF
- **Drive system:**
  Electr. connection: 220 VAC / 50-60 Hz
  Gear reduction: 6; 20; 50; 150 or 400 rpm
- **Precision of delivery:** better than 1.0 %
- **Max. delivery rate:** see table
- **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

Cat. No.	Delivery volume ml/stroke	Max. operating pressure bar	Motor speed rpm	for pipes OD mm	Price Euro
58341	0.15	6.9	6	6.4	2409.00
58342	0.48	1.4	6	6.4	2179.00
58343	1.92	5.2	6	6.4	1984.00
58344	4.32	3.5	6	6.4	1984.00
58345	0.50	6.9	20	6.4	2409.00
58346	1.60	1.4	20	6.4	2179.00
58347	6.40	3.5	20	6.4	1984.00
58348	14.40	2.8	20	6.4	1984.00

58 341

58349	1.25	6.9	50	6.4	2409.00
58350	4.00	6.9	50	6.4	2179.00
190611	16.00	2.8	50	6.4	1984.00
190621	36.00	2.1	50	6.4	1984.00
190631	3.75	6.9	150	6.4	2409.00
190641	12.00	6.9	150	6.4	2179.00
190651	48.00	2.1	150	6.4	1984.00
190661	108.00	1.4	150	6.4	1984.00

THOMAFLUID®-High-Tech Gas Delivery Pump System: RCT®-NODVOL®-FLU QG-S 693

Cat. No.	Delivery volume ml/stroke	Max. operating pressure bar	Motor speed rpm	for pipes OD mm	Price Euro
190671	10.00	6.9	400	6.4	2409.00
190681	32.00	6.9	400	6.4	2179.00
190691	128.00	1.4	400	6.4	1984.00
190701	288.00	0.7	400	6.4	1984.00

THOMAFLUID®-High-Tech Precision Gas Delivery Pump System: RCT®-NODVOL®-FLU QSY-S 793

Application area:

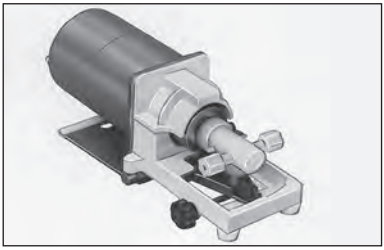
- Delivery and metering of smallest quantities of all kinds of gases.

Product specification:

- Low-pressure single-piston pump without valves with synchonous driving motor of constant speed, for delivery of all kinds of gases; RCT®-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: high-quality steel SS 316
  Cylinder: sinter carbon
  Housing: fluorocarbon material PVDF
  Connection: fluorocarbon material PVDF
- **Drive system:**
  Electr. connection: 220 VAC / 50-60 Hz
  Motor speed: 72 rpm
- **Precision of delivery:** better than 1.0 %
- **Max. delivery rate:** see table
- **Pipe connection:** compression-type fitting for pipes OD 6.4 mm, reducible with adapter
- **Max. operating pressure:** up to 6.9 bar



58 354

- **Dimension:** 267 x 121 x 137 mm (L x W x H)
- **Weight:** approx. 4 kg

Cat. No.	Max. delivery rate ml/min.	for pipes OD mm	Price Euro
58354	1.80	6.4	2552.00
58355	5.76	6.4	2419.00
583371	23.00	6.4	2230.00
58338	51.80	6.4	2230.00

THOMAFLUID®-High-Tech Gas Delivery Pump System: RCT®-NODVOL®-FLU QD-S 593

Application area:

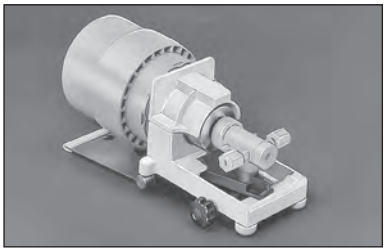
- Delivery and metering of all kinds of gases.

Product specification:

- Valveless low-pressure single-piston pump with robust, ball-bearing high-speed driving motor, self-cooling, for delivery of all kinds of gases; RCT®-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:**



58 309

  Piston: high-quality steel SS 316
  Cylinder: graphite (sinter carbon)
  Housing: fluorocarbon material PVDF
  Connection: fluorocarbon material PVDF
- **Drive system:**
  Electr. connection: 220 VAC / 50-60 Hz
  Motor speed: 1725 rpm
- **Precision of delivery:** better than 1.0 %
- **Max. delivery rate:** see table
- **Pipe connection:** compression-type fitting for pipes OD 6.4 mm, reducible with adapter
- **Max. operating pressure:** 6.9 bar
- **Dimension:** 248 x 121 x 137 mm (L x W x H)
- **Weight:** approx. 4.5 kg

Cat. No.	Max. delivery rate ml/min.	for pipes OD mm	Price Euro
58309	43	6.4	2179.00
58310	135	6.4	1989.00

THOMAFLUID®-High-Tech Gas Delivery Pump System: RCT®-NODVOL®-FLU QD-S 593

Cat. No.	Max. delivery rate ml/min.	for pipes OD mm	Price Euro
58336	550	6.4	1821.00
58337	1200	6.4	1821.00

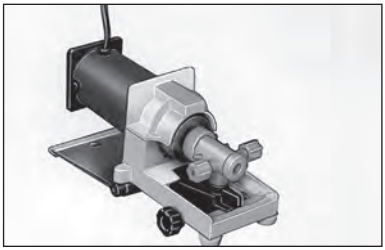
THOMAFLUID®-High-Tech Low-Pressure Pilot Plant Gas Delivery Pump with Low-Voltage Drive 24 Volt System: RCT®-NODVOL®-FLU QB-S 893

Application area:

- Delivery and metering of all kinds of gases.

Product specification:

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



58 360

Technical specification:

- **Material pump head:**
  Piston: high-quality steel SS 316
  Cylinder: sinter carbon
  Housing: fluorocarbon material PVDF
  Connection: fluorocarbon material PVDF
- **Drive system:**
  Electr. connection: 24 VDC
  Power consumption: 80 W
  Motor speed: 1800 rpm
- **Precision of delivery:** better than 1.0 %
- **Max. delivery rate:** see table
- **Pipe connection:** compression-type fitting for pipes OD 6.4 mm, reducible with adapter
- **Max. operating pressure:** 6.9 bar
- **Dimension:** 267 x 127 x 114 mm (L x W x H)
- **Weight:** approx. 3.6 kg

Cat. No.	Max. delivery rate ml/min.	Max. operating pressure bar	for pipes OD mm	Price Euro
58360	45	6.9	6.4	2230.00
58361	144	6.9	6.4	1979.00
58334	576	6.9	6.4	1805.00
58335	1296	6.9	6.4	1805.00

THOMAFLUID®-Displacement Pump for Aggressive Gases System: RCT®-HL P-2300

Application area:

- Gas analysis and gas measuring technology
- Process technology and engineering
- Air conditioning and ventilation technology
- Environmental and hygiene technology
- Biotechnology

Product specification:

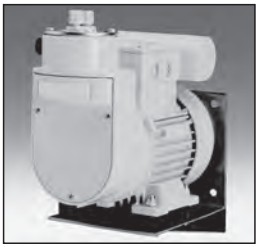
- Highly robust sample gas pump for delivery of aggressive gases and gas mixtures. The pump is fitted with a PTFE bellows made of one solid piece and operates according to the displacement principle.
- Very robust design.
- Manufactured with high precision, thus minimum noise emission and high quietness 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 high-quality steel, thus this design is advisable for the delivery of gases in tubed analytical systems.
- Pump head made of high-quality 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; high-quality steel 1.4571, Viton, 1.4401; PTFE with bypass valve for rough regulation of the volume flow
- **Drive system:**
  Electr. connection: 230 V / 50-60 Hz
  Current: 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

THOMAFLUID®-Displacement Pump for Aggressive Gases System: RCT®-HL P-2300

Cat. No.	Max. delivery rate l/h	Material pump head	Material valves	Max. media temperature °C	Unit piece	Price Euro
303376	0 – 400	PTFE	PTFE/PVDF	+80	1	1525.00
303377	0 – 400	high-quality steel	PTFE/PVDF	+80	1	1925.00
303378[1]	0 – 400	PTFE	PTFE/PVDF	+80	1	1800.00
303379	0 – 400	PTFE	PCTFE	+140	1	1725.00
303380	0 – 400	high-quality steel	PCTFE	+140	1	2195.00



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303381[1]	0 – 400	PTFE	PCTFE	+140	1	2175.00

[1]regulable with bypass

THOMAFLUID®-Displacement Pump for Aggressive Gases with Condensate System: RCT®-HL P-2830

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 high-quality steel, thus this design is advisable for the delivery of gases in tubed analytical systems.
- Pump head made of high-quality 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 NOx
- Concentrated nitric acid HNO_3
- Nitrous acid HNO_2
- Anhydrides such as SO_2 and SO_3
- Concentrated sulfuric acid H_2SO_4
- Sulfurous acid H_2SO_3
- A resistance table is available on request

Technical specification:

- **Material:**
  Bellows: PTFE
  Valves: PCTFE
  Pump head: PTFE; high-quality steel 1.4571, Viton, 1.4401; PTFE with bypass valve for rough regulation of the volume flow
- **Drive system:**
  Electr. connection: 230 V / 50-60 Hz
  Nominal current: 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 Nl/h
  at suction side at - 0.6 bar: approx. 100 Nl/h
  at pressure side at + 0.2 bar: approx. 520 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:** 262 x 125 x 248 mm (H x W x D)
- **Weight:** 6.5 kg
- **Regulations:** manufactured according to DIN EN ISO 9001

Cat. No.	Max. delivery rate l/h	Material pump head	Material valves	Max. media temperature °C	Unit piece	Price Euro
303373	0 – 800	PTFE	PCTFE	+140	1	2196.00
303374	0 – 800	high-quality steel	PCTFE	+140	1	2692.00
303375[1]	0 – 800	PTFE	PCTFE	+140	1	2654.00

[1]regulable with bypass

THOMAFLUID®-Mini Vaccu Diaphragm Pump for Gaseous Media and Purest Media
System: RCT®-NODVOL®-N-NF 8618-D070

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:**

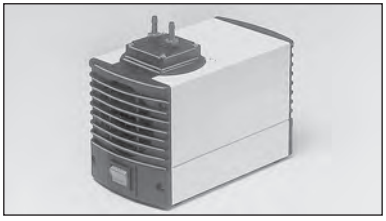
30 3373 (see page 44)

Pump head:	PPS
Diaphragm:	PTFE
Valves:	FFPM
Tubing connectors:	PVDF

- **Drive system:**

Electr. connection:	230 V / 50 Hz
Power consumption:	50 W
Electr. connection:	according to VDE
Protective system:	IP 20

- **Final vacuum:** 100 mbar abs.
- **Max. operating excess pressure:** 2.5 bar
- **Max. ambient temperature:** +40 °C



16 571

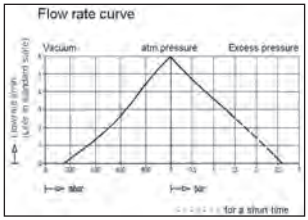
- **Pipe connection:** nozzles, for tubing ID 4 mm
- **Dimension:** approx. 216 x 90 x 141 mm
- **Weight:** 1.9 kg

Cat. No.	Max. delivery rate l/min.	Unit piece	Price Euro
16571	5.5	1	420.00

THOMAFLUID®-Chemically Resistant Diaphragm Vacuum Pumps for Gaseous Aggressive Media and Purest Media
System: RCT®-NODVOL®-FT NF-8124

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 FFPM; complete with on-off switch and mains cable; integrated fold-away carrier handle.



16 571

Technical specification:

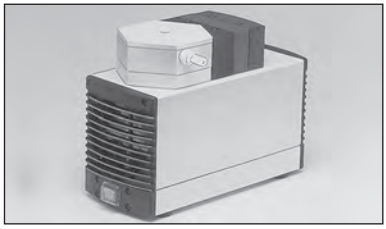
- **Material:**

Pump head:	PTFE
Gasket:	FFPM

- **Drive system:**

Electr. connection:	230 V / 50 Hz
Power consumption:	50 W
Electr. connection:	according to VDE
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



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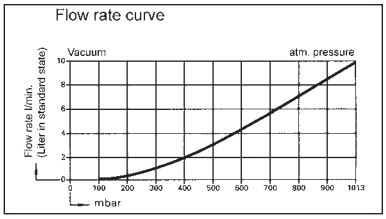
Cat. No.	Max. delivery rate l/min.	Final vacuum mbar	Dimension LxBxH mm	Weight kg	Unit piece	Price Euro
16568	10	<100	256 x 146 x 187	5.9	1	1235.00
16569	20	8	312 x 154 x 207	9.3	1	2186.00
16570	40	2	341 x 167 x 223	13.4	1	3652.00

Water-Jet Pumps

THOMAPLAST®-PP Special Water-Jet Pump Type: RCT®-SMI-145-05

Product specification:

- Water-jet pump, dismountable, made of impactproof polypropylene (PP) with built-in check valve in the suction pipe to prevent water reflux.
- Lowest water consumption both at low pressure (approx. 1.5-2 bar) and at high pressure (approx. 10 bar).
- Mechanism: Water pressure 1 atm, achievable vacuum within



16 568 (see page 45)

the 1.5 litre vessel approx. 20 mbar, evacuation time approx. 20 min.

Cat. No.	Length mm	Connection type	Unit piece	Price Euro
40521	190	nozzle for tubing 9-12 mm	1	54.00
40522	190	nozzle for tubing 9-12 mm	3	102.00

THOMAPLAST®-PP Universal Water-Jet Pump

Product specification:

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40 521

- Water-jet pump made of reinforced polypropylene (PP) with built-in check valve, dismountable and therefore easy to clean.
- Vacuum of approx. 15 mbar at a preliminary pressure of 3.5 bar and water temperature of approx. +12 °C.
- Vacuum of approx. 24 mbar at a preliminary pressure of 3.5 bar and water temperature of approx. +20 °C.
- Suction rate of approx. 350 l/h at a water pressure (preliminary pressure) of 3.5 bar.
- Low water consumption, therefore very economical system (160 l/h at 3.5 bar).
- Specification of connection: Universal connection accepts 1/2“ and 3/4“ and hose nozzle of 9 to 12 mm.

THOMAPLAST®-PP Universal Water-Jet Pump

Cat. No.	Length mm	Connection type	Unit piece	Price Euro
40520	270	with internal thread 1/2“ and 3/4“, and hose nozzle of 9-12 mm	1	100.00

THOMAPLAST®-PP Chemical Water-Jet Pump

Product specification:

- Vacuum pump made of polypropylene (PP) for generation of

40 520

40 520

vacuum as well as for sucking off liquids and vapours.

- Water consumption extremely low, at flow pressure of 3.5 bar (absolute) consumption amounts to approx. 170 l/h.
- An optimal fluid flow geometry ensures an end pressure of 16 mbar over a range of 3-6 bar water flow pressure referred to a temperature of +12 °C.
- Suction capacity: approx. 400 l at 3.5 bar flow pressure and a water temperature of +12 °C.
- Pump time: approx. 60 sec for a 1 litre pressure vessel from normal pressure to 100 mbar.
- Permanent use temperature: up to max. +80 °C.
- Versatile connection combinations to connect the pump to the water main by provided adapters for cocks and tubing.
- Content of supply: Water main connection (cap nut R 3/4”,

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40 846

reducing adapter R 1/2“, tubing connection with olive, outside diameter 10-12 mm), vacuum connection (olive, outside diameter 6-10 mm, unscrewable, with screw cap GL 14).

Cat. No.	Design	Price Euro
40846	pump complete with reducing adapter 1/2“	101.00
40847	reducing adapter 3/8“	13.00
40848	reducing adapter M 22 x 1 (thread adapter)	13.00

THOMAPLAST®-PVC Water-Jet Pump

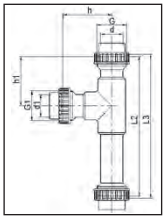
Application area:

- 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

35 0990



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Technical specification:

- **Material:**
  Housing / Nozzle: PVC-U, gray (RAL 7011)
  Gasket: EPDM
- **Connection (PVC-U):** union socket + insert for solvent welding
- **Nominal pressure:** PN 10 (H_2O at +20 °C)

Cat. No.	d mm	Nominal width mm	d1 mm	G inch	G1 inch	L2 mm	L3 mm	Unit piece	Price Euro
350990	16	10	16	3/4“	3/4“	110	116	1	144.00
350991	20	15	16	1“	3/4“	110	116	1	136.00
350992	25	20	16	1 1/4“	3/4“	145	151	1	158.00
350993	32	25	32	1 1/2“	1 1/2“	195	201	1	166.00
350994	40	32	40	2“	2“	239	245	1	178.00
350995	50	40	50	2 1/4“	2 1/4“	301	307	1	224.00
350996	63	50	63	2 3/4“	2 3/4“	351	357	1	276.00

THOMAFLUID® 3-Way Motorized Ball Valve System: NODVOL®-GNR 2353

Application areas:

- Remote-controlled turning on, blocking, mixing and distributing of media flows in industry and pilot plants.

Product specification:

- Robust brass fitting with ball body for universal use in chemical and industrial plants, equipped with electrical actuator, which drive the ball, optional with L- or T-bore, into the desired position by means of control shaft. The engine electronics enable either a 3-point control (with synchronous motor) or a continuous control (stepper motor), whereas the respective end position can be reached bidirectionally i.e. both clockwise and anticlockwise. The version with continuous control allows the ball to be driven into any position between defined end positions. The actuator is available both with and without manual adjustment. For the realization of the manual adjustment the rotary switch on the actuator is pushed downwards, which results in a decoupling from the electrical actuator and enables the adjustment of the ball position by turning the switch with the hand.

Technical specification:

- **Material:**
  Housing: brass, nickel-plated
  Control shaft: brass, chromium-plated
  Valve ball: brass, chromium-plated
  Valve gasket: PTFE (polytetrafluoroethylene)
- **Valve type:** 3-way motorized ball valve, alternatively with 3-point control or continous control
- **Max. operating pressure:** 30 bar
- **Actuator torque:** 8 Nm
- **Correction time:** NW 10, 15, 20: 60 seconds
  NW 25, 32: 120 seconds
- **Flow direction:** L or T, optional
- **Max. temperature of medium:** -10 to +70 °C
- **Max. ambient temperature:** -20 to 160 °C
- **Electrical actuator:** 230 V / 50 - 60 Hz or 24 V / 50 - 60 Hz
- **Power consumption:** max. 3.5 W (c) max. 7.0 W (continous control)
- **Control voltage:** 0 - 10 VDC (continous control)
- **Input resistance:** 100 kW (continous control)
- **Connecting cable:** 0.9 m / 0.75 mm^2
- **Safety class:** II (3-point control) III (continous control)
- **Protection category:** IP 54 - splash-proof, connecting cable downwards
- **Actuator dimensions:** 110 x 75 x 65 mm
  Weight: 900 - 3100 g
  Approval: according to DIN-VDE 0700

Cat. No.	Flow control	Nominal width mm	Internal thread inch	Type	Manual operating voltage	Control volt	Price Euro
305130	3-point control	10	G 3/8“	L	with	230~	308.00
305131	3-point control	10	G 3/8“	L	without	230~	286.00
305132	3-point control	10	G 3/8“	T	with	230~	308.00
305133	3-point control	10	G 3/8“	T	without	230~	286.00
305134	3-point control	15	G 1/2“	L	with	230~	308.00
305135	3-point control	15	G 1/2“	L	without	230~	286.00

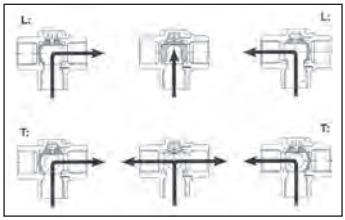
30 5130

30 5130

305136	3-point control	15	G 1/2“	T	with	230~	308.00
305137	3-point control	15	G 1/2“	T	without	230~	286.00
305138	3-point control	20	G 3/4“	L	with	230~	342.00
305139	3-point control	20	G 3/4“	L	without	230~	328.00
305140	3-point control	20	G 3/4“	T	with	230~	342.00
305141	3-point control	20	G 3/4“	T	without	230~	328.00
305142	3-point control	25	G 1“	L	with	230~	390.00
305143	3-point control	25	G 1“	L	without	230~	372.00
305144	3-point control	25	G 1“	T	with	230~	390.00
305145	3-point control	25	G 1“	T	without	230~	372.00
305146	3-point control	32	G 1 1/4 “	L	with	230~	498.00

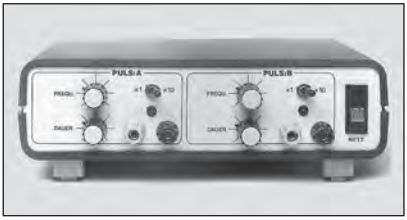
THOMAFLUID® 3-Way Motorized Ball Valve System: NODVOL®-GNR 2353

Cat. No.	Flow control	Nominal width mm	Internal thread inch	Type	Manual operating voltage	Control volt	Price Euro
305147	3-point control	32	G 1 1/4 "	L	without	230~	478.00
305148	3-point control	32	G 1 1/4 "	T	with	230~	498.00
305149	3-point control	32	G 1 1/4 "	T	without	230~	478.00
305150	3-point control	10	G 3/8"	L	with	24=	306.00
305151	3-point control	10	G 3/8"	L	without	24=	286.00
305152	3-point control	10	G 3/8"	T	with	24=	306.00
305153	3-point control	10	G 3/8"	T	without	24=	286.00
305154	3-point control	15	G 1/2"	L	with	24=	308.00



30 5130 (see page 47)

305155	3-point control	15	G 1/2"	L	without	24=	290.00
305156	3-point control	15	G 1/2"	T	with	24=	308.00
305157	3-point control	15	G 1/2"	T	without	24=	290.00
305158	3-point control	20	G 3/4"	L	with	24=	342.00
305159	3-point control	20	G 3/4"	L	without	24=	322.00
305160	3-point control	20	G 3/4"	T	with	24=	342.00
305161	3-point control	20	G 3/4"	T	without	24=	322.00
305162	3-point control	25	G 1"	L	with	24=	390.00
305163	3-point control	25	G 1"	L	without	24=	374.00
305164	3-point control	25	G 1"	T	with	24=	390.00
305165	3-point control	25	G 1"	T	without	24=	374.00
305166	3-point control	32	G 1 1/4 "	L	with	24=	390.00
305167	3-point control	32	G 1 1/4 "	L	without	24=	478.00
305168	3-point control	32	G 1 1/4 "	T	with	24=	390.00



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305169	3-point control	32	G 1 1/4 "	T	without	24=	478.00
305170	Continous control	10	G 3/8"	L	without	24=	378.00
305171	Continous control	10	G 3/8"	T	without	24=	378.00
305172	Continous control	15	G 1/2"	L	without	24=	374.00
305173	Continous control	15	G 1/2"	T	without	24=	374.00
305174	Continous control	20	G 3/4"	L	without	24=	404.00
305175	Continous control	20	G 3/4"	T	without	24=	404.00
305176	Continous control	25	G 1"	L	without	24=	456.00
305177	Continous control	25	G 1"	T	without	24=	456.00
305178	Continous control	32	G 1 1/4 "	L	without	24=	562.00
305179	Continous control	32	G 1 1/4 "	T	without	24=	562.00

RCT® Solenoid Valve Pulse Generator

Product specification:

- The RCT® solenoid valve pulse generator is used for driving of solenoid valves.
- The pulse frequency can be controlled at the device.
- Up to 2 solenoid valves can be connected simultaneously to the device.
- The device has two short-circuit-proof outputs which are independent of each other.
- The device is constructed using of the proven C-Moss technique.
- Compact and attractive construction.

Technical specification:

- **Period:** 0.75 - 80 sec.
- **Pulse width:** 0.1 – 8.0 sec.
- **Output current:** $I_{max.}$ 100 mA (short-circuit proof)
- **Max. temperature of medium:** 0 °C to +50 °C
- **Operating voltage:** 220 V / 10 A
- **Output voltage:** 12 V / 24 V toggle switch
- **Dimensions:** 70 x 230 x 130 mm (H x W x L)

Cat. No.	Description	Unit piece	Price Euro
87020	RCT® Solenoid Valve Pulse Generator	1	550.00

RCT® Solenoid Valve Power Supply Unit

Product specification:

- Ready for connecting plug in metal housing. 1.5 m supply line with safety plug, fine-wire fuse 220 V / 250 mA.
- Direct voltage output at 2 x 2 jacks for banana plugs.
- The power supply unit is separated from mains by a transformer, voltage stabilized, with electronic current limiting. Minus is grounded.
- Protection from overheating.
- Opening voltage = 30 V, holding voltage = 15 V.

Cat. No.	Control voltage volt	Current strength A	Unit piece	Price Euro
90118	24=	600	1	243.00

90 118

90 118

90119	12=	1000	1	243.00

THOMAFLUID®-High-Med Special TPE-S Tubing for Medical Engineering and Pharmaceutical Technology Type: RCT®-DRT

Application area:

- Communication technology
- Medical devices
- Clinical chemistry
- Laboratory technology
- Pharmaceutical technology
- Pharmaceutical production

Product specification:

- Very good compression set
- Sterilizable
- Autoclavable
- Heat-sealable
- Good resistance to acids and alkalis, but not resistant to fats, oils and highly concentrated alcohols
- The medical compound is tested according to the named medical base certifications and the Drug Master File (DMF)
- Free of plasticizers
- Absolutely free of latex and phthalates
- Absolutely resistant to weather and aging
  Outstanding elastic properties
- Pleasant feel and anti-slip properties
- UV-resistant

Technical specification:

- **Material:** TPE-S (styrene block copolymer)
- **Color:** translucent
- **Shore hardness A:** 60° (DIN 53505/ISO 868)
- **Temperature range:** -40 to +120 °C
- **Sterilization:** autoclavable; hot air (+134 °C); gas (ethylene oxide); gamma rays (2 x kGy)
- **Density:** 0.89 g/cm³ (DIN ISO 1183-1:2004)
- **Tearing strength:** 11.2 N/mm² (DIN 53504/ISO 37)
- **Tear propagation resistance:** 18.1 N/mm² (DIN ISO 34-1 method B)
- **Elongatekon at break:** 759.0 % (DIN 53504/ISO 37)
- **Compression set:** 32.8 % at +70 °C; 22h (ISO 815);
  49.4 % at +100 °C; 22h (ISO 815)
- **Regulations:** Drug Master-File and approval, USP Class IV and 6.6.1, ISO 10993-5, ISO 10993-10 and -11

35 1064

35 064

Cat. No.	I. D. mm	O. D. mm	Unit m	Price Euro
351064	0.5	1.5	5	74.00
351065	0.5	1.5	15	168.00
351066	0.5	2.0	5	76.00
351067	0.5	2.0	15	170.00
351068	0.8	4.0	5	98.00
351069	0.8	4.0	15	232.00
351070	1.0	3.0	5	78.00

THOMAFLUID®-High-Med Special TPE-S Tubing for Medical Engineering and Pharmaceutical Technology Type: RCT®-DRT

Cat. No.	I. D. mm	O. D. mm	Unit m	Price Euro
351071	1.0	3.0	15	174.00
351072	1.0	4.0	5	94.00
351073	1.0	4.0	15	220.00
351074	1.6	3.2	5	80.00
351075	1.6	3.2	15	178.00
351076	1.6	4.8	5	130.00
351077	1.6	4.8	15	304.00
351078	2.0	4.0	5	74.00
351079	2.0	4.0	15	176.00
351080	2.0	6.0	5	136.00
351081	2.0	6.0	15	340.00
351082	2.4	5.6	5	126.00
351083	2.4	5.6	15	322.00
351084	3.0	5.0	5	88.00
351085	3.0	5.0	15	208.00
351086	3.0	6.0	5	124.00
351087	3.0	6.0	15	290.00
351088	3.0	7.0	5	136.00
351089	3.0	7.0	15	330.00
351090	3.2	6.4	5	110.00
351091	3.2	6.4	15	264.00
351092	4.0	6.0	5	96.00
351093	4.0	6.0	15	248.00
351094	4.0	8.0	5	136.00
351095	4.0	8.0	15	304.00
351096	4.8	8.0	5	130.00
351097	4.8	8.0	15	300.00
351098	5.0	8.0	5	124.00
351099	5.0	8.0	15	292.00
351100	5.0	9.0	5	158.00
351101	5.0	9.0	15	354.00
351102	6.0	8.0	5	106.00
351103	6.0	8.0	15	246.00
351104	6.0	9.0	5	146.00
351105	6.0	9.0	15	332.00
351106	6.0	10.0	5	176.00
351107	6.0	10.0	15	398.00
351108	6.4	9.6	5	144.00
351109	6.4	9.6	15	322.00
351110	7.0	9.0	5	126.00
351111	7.0	9.0	15	308.00
351112	7.0	10.0	5	144.00
351113	7.0	10.0	15	326.00
351114	7.0	11.0	5	230.00
351115	7.0	11.0	15	544.00
351116	8.0	10.0	5	138.00
351117	8.0	10.0	15	312.00
351118	8.0	11.2	5	176.00
351119	8.0	11.2	15	394.00
351120	8.0	12.0	5	198.00
351121	8.0	12.0	15	464.00
351122	9.0	12.0	5	200.00
351123	9.0	12.0	15	468.00
351124	9.0	13.0	5	258.00
351125	9.0	13.0	15	566.00
351126	9.6	12.7	5	224.00
351127	9.6	12.7	15	526.00
351128	9.6	14.3	5	322.00
351129	9.6	14.3	15	724.00
351130	10.0	12.0	5	272.00
351131	10.0	12.0	15	618.00
351152	10.0	14.0	5	295.00
351153	10.0	14.0	15	756.00

THOMAFLUID® High-Tech Magnet-Driven Gear Delivery Pump Type: Drive System E-2000 MP – Microprocessor-controlled –

Product specification:

- The drive system E-2000 MP is infinitely variable. Speed range: 0-2000 rpm and Δp=0.
- The delivery rate is preselected with arrow keys and directly digitally displayed in percent.
- The microprocessor-controlled pump is equipped with a RS-232 interface as well as with a 25-pin D-plug and thus can also be controlled via SPS.
- Functions: start/stop, speed variation: 0-100%.

Technical specification:

- **Conveying medium:** liquids
- **Delivery rate:** 38-105 l/h
- **Accuracy of delivery:** better than 0.1 %

83 000

83 000

- **Operating pressure:** 20 bar
- **Negative pressure:** max. 950 mbar
- **Temperature range:** 0 °C to +40 °C
- **Material of gear wheels:** PTFE
- **Material of pump head:** high-quality steel (SS 316)
- **Viscosity:** max. 50 cP (mPas)
- **Display indication:** delivery rate in percentage values referring to the max. flow rate
- **Start-Stop-Function:** zero-potential relais contact or Open Collector Input
- **Motor speed:** infinitely variable 0-2000 rpm, high-speed function
- **Speed variation:** 0-100 %
- **Pipe connection:** ¼ " NPT
- **Connected voltage:** 230 V / 50 Hz
- **External control:** via SPS by means of 25-pin D-plug; via RS-232 interface (microprocessor-controlled)
- **External input:** 0-10 VDC, 4-20 mA
- **Regulations:** conforming to RoHS
- **Dimensions:** 320 x 130 x 150 mm (L x W x H)

Order specification:

Cat. No.	Max. delivery rate l/h	Differential pressure bar	Max. temperature of medium °C	Material of gear wheels	Price EURO
83000	38	8	0-40	PTFE	4950.00
83001	68	6	0-40	PTFE	4950.00
83002	105	3	0-40	PTFE	4950.00
83003	38	8	0-95	PEEK	4950.00
83004	68	6	0-95	PEEK	4950.00
83005	105	3	0-95	PEEK	4950.00

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