

- Single phase motor with winding protection, standard
- PP plastic material for pump head and valves, standard
- Plastic external housing, metal internal housing
- High delivery capacity at low number of strokes
- Electronics with display and mode switch for simple pre-selection of menu
- Safety diaphragm as a standard feature, signalling of fractures in diaphragm as a standard feature of electronic version
- Evaluation unit for signalling of fractures in diaphragm, standard feature of electronic version
- Selectable error signal relay, standard feature of electronic version
- Mechanical stroke adjustment
- Empty signal report and level pre-warning
- Empty signal and stroke signal output
- Pulse control
- Pulse multiplication and division
- Pulse storage
- Stroke frequency regulation
- Standard signal drive
- External metering stop
- Single stroke control
- Metering regulator (readjustment of metering output) in combination with an oval gear meter



The ELADOS® EMP IV series of metering pumps is based on the building block principle. Devices of this series comprise the drive unit, the gear, the metering pump head and the electronics. Different electronic control variants guarantee that the pump

may be adapted to any processing sequence for proportional or quantity metering. The scope of delivery is rounded off by practical accessories, so forming a complete range of equipment for all metering applications.

Technical Data:

Mechanical Data:

| | |
|--|---|
| Pump capacity [l/h]: | 450 630 750 |
| Metering back-pressure [bar]: | 6 4 3 |
| Delivering capacity per stroke [cm ³]: | 62,5 87,5 87,5 |
| Reproductivity: | <± 3 % |
| Suction height: | 2 mWs, suction height with clean, slightly wet valves |
| Metering frequency max: | 122 / 122 / 146 1/min |
| Pressure valve: | without spring |
| Suction valve: | without spring |
| Ambient temp. max.: | 40° C |
| All information relates to water at 20° C | |

Materials:

| | |
|--------------|--|
| Housing: | thermoplastic polyester |
| Pump head: | polypropylene PP optional: PVDF or stainless steel 1.4571 |
| Diaphragm: | PTFE - EPDM compound diaphragm |
| Seals: | FPM 602 (Viton B) optional: EPDM or Kalrez |
| Valve balls: | ceramics optional: PTFE or stainless steel 1.4401 |
| Weight [kg] | approx. 25 |
| Colour: | blue RAL 5007 |

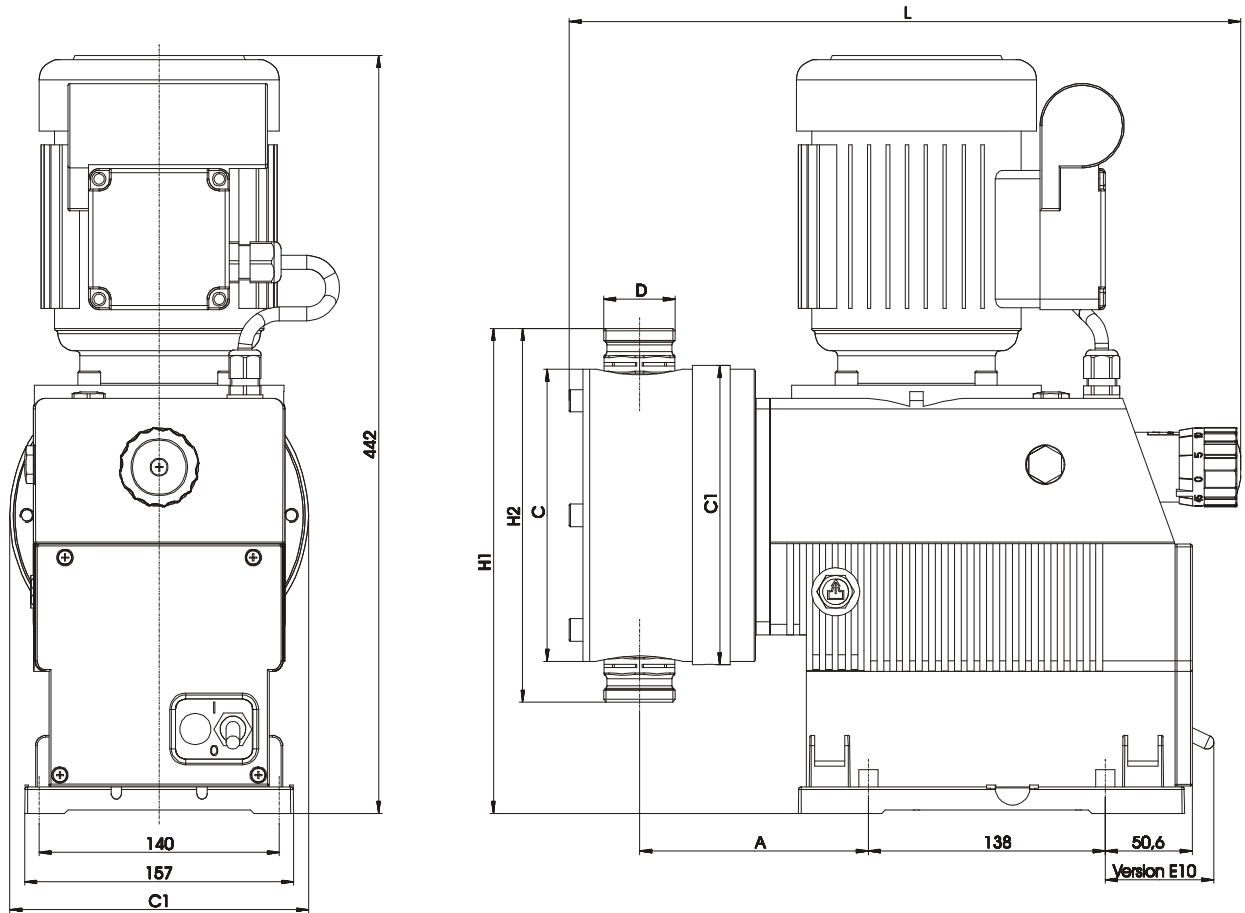
Special versions on request

All values at 50 Hz. All data refer to water temperature of 20° C according to the instructions of the technical manual, subject to!

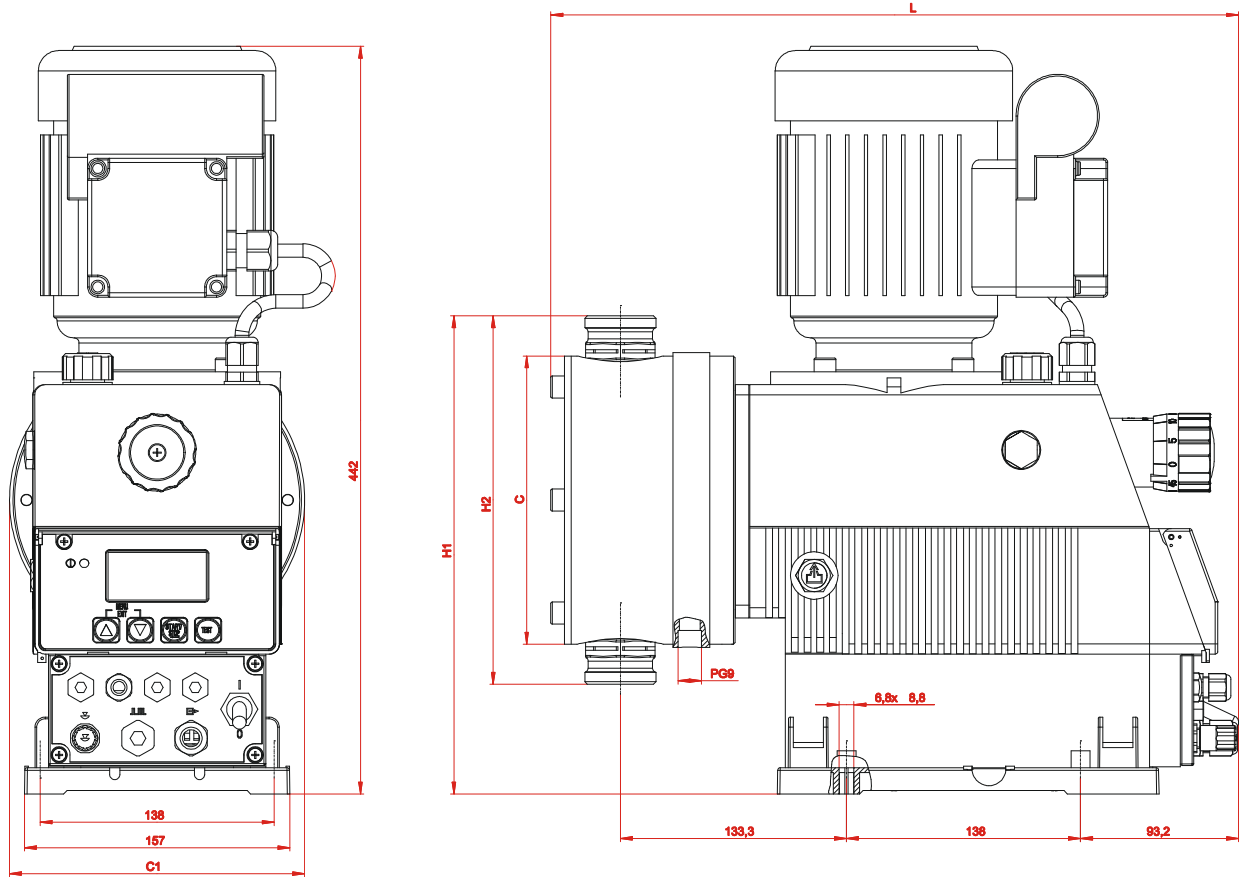
Electrical Data:

| | |
|--------------------------|---|
| Connection: | 230 V / 50 Hz 400 V / 50/60 Hz (only with E00) |
| Note: | At a mains frequency of 60 Hz delivery capacity increases by 20 % and back-pressure decreases by 20 %. Special voltages on request |
| Current consumption [A]: | 2,3 (50 Hz) |
| Power output [kW]: | 0,37 (50 Hz) |
| Safety type: | IP 55 |
| Insulation class: | F |

Notice: To guarantee the newest state of our products, we reserve the rights for single technical changes.



| I / h | A | C | C1 | L | H1 | H2 | D |
|-------|-------|-----|-----|-----|-------|-----|----|
| 450 | 142,5 | 190 | 194 | 412 | 303,5 | 263 | 2" |
| 630 | 142,5 | 220 | 225 | 412 | 318,5 | 293 | 2" |
| 750 | 142,5 | 220 | 225 | 412 | 318,5 | 293 | 2" |



| Capacity l / h | Dimensions in mm | | | | |
|-------------------|------------------|-----|-----|-------|-----|
| | C | C1 | L | H1 | H2 |
| 450 | 190 | 194 | 412 | 303,5 | 263 |
| 630 | 220 | 225 | 412 | 318,5 | 293 |
| 750 | 220 | 225 | 412 | 318,5 | 293 |

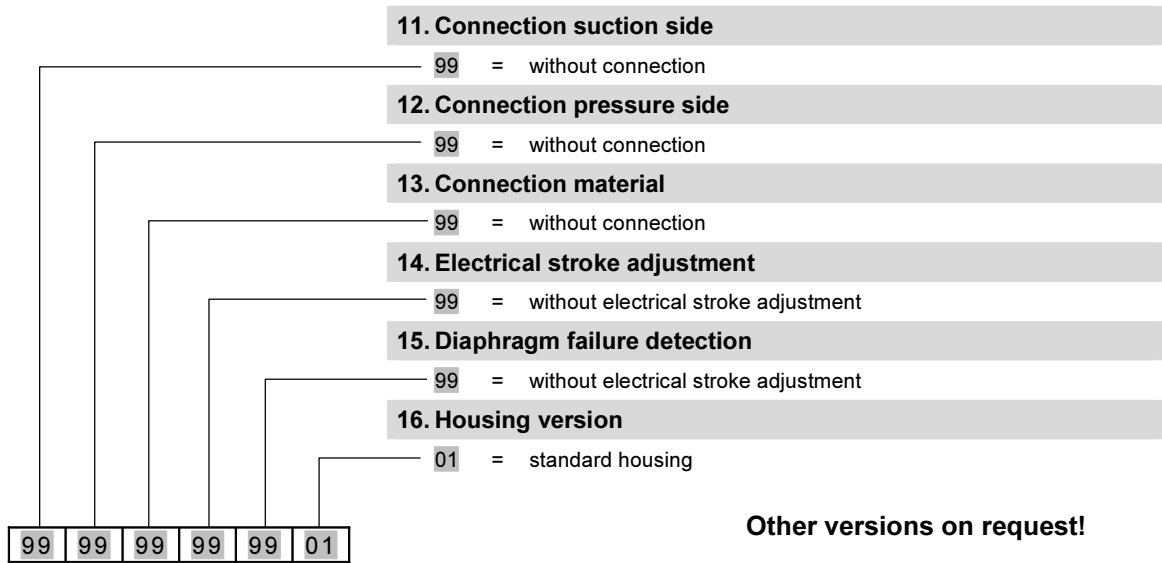
Pump code – part 1

| | |
|--|---|
| | 1. Electrical version (please see legend on page 7) |
| | E 00 E 60 |
| | 2. Pump capacity 50 Hz [60 Hz] |
| | 04500 = 450 l/h [540 l/h] 06300 = 630 l/h [756 l/h] 07500 = 750 l/h [900 l/h] |
| | 3. Pump material |
| | PP = PP (standard) PV = PVDF VA = stainless steel |
| | 4. Metering back pressure (depends on pump capacity) |
| | 03 = 3 bar (for 750 l/h) [2,6 bar] 04 = 4 bar (for 630 l/h) [3,2 bar] 06 = 6 bar (for 450 l/h) [4,8 bar] |
| | 5. Sealing material |
| | EP = EPDM FP = Viton B (standard) KA = kalrez |
| | 6. Valve ball material |
| | KE = ceramics (standard) VA = stainless steel PT = teflon |
| | 7. Valve material |
| | PP = PP (standard) PV = PVDF VA = stainless steel |
| | 8. Valve spring |
| | 99 = without spring (standard) |
| | 9. Mains supply |
| | 99 = without cable (standard) |
| | 10. Power supply |
| | 08 = 230V / 50/60 Hz 09 = 115V / 50/60 Hz (only for version E60) 10 = 3PE 400/230 V 50/60 Hz (only for version E00) |

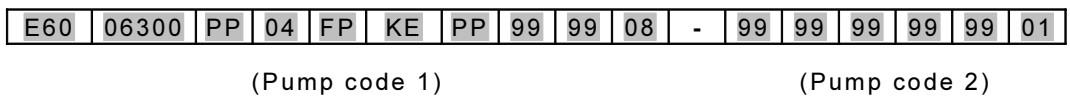
| | | | | | | | | | |
|-----|-------|----|----|----|----|----|----|----|----|
| E60 | 06300 | PP | 04 | FP | KE | PP | 99 | 99 | 08 |
|-----|-------|----|----|----|----|----|----|----|----|

Other versions on request!

Pump code – part 2



Example of a complete pump code of a standard pump:



Electrical versions

E 00 Mechanical stroke adjustment

- E 60**
- On / off switch
 - Mechanical stroke adjustment
 - Back-lit graphic display, 4 operating keys
 - Single stroke control (each stroke is completely executed)
 - Metering monitoring via stroke-signal output or via external metering-monitoring system (e.g. liquid level switch) possible
 - Registration of operating and consumption data (calculative)
 - Calibration function
 - Diaphragm failure detection

Selectable operating modes:

Internal mode

Selection of metering rate/metering frequency via:

- Strokes/min
- Percent
- Liter/h (or gallon/h)

External mode

- Pulse mode (actuation via pulses)
 - Pulse multiplication (one incoming pulse = n metering strokes)
 - Pulse division (n incoming pulses = 1 metering stroke)
- Standard signal mode (actuation via external standard signal 0/4-20 mA or 20-0/4 mA)
- Charge mode (a previously selected quantity is metered, with initiation via an external initiation pulse)

Inputs:

- Level monitoring, package vessel (reserve and empty signal)
- Pulse
- Standard signal
- Enable (metering interlock)
- Metering control

Outputs:

- Level monitoring package vessel / malfunction
- Stroke signal

Ordering data – standard pumps:

| Article | Pump code | Material-No. |
|----------------|---|--------------|
| ELADOS® EMP IV | E00 04500 PP 06 FP KE PP 99 99 08 - 99 99 99 99 99 01 | 150301 |
| | E00 04500 PP 06 FP KE PP 99 99 10 - 99 99 99 99 99 01 | 150341 |
| | E00 06300 PP 04 FP KE PP 99 99 08 - 99 99 99 99 99 01 | 150401 |
| | E00 06300 PP 04 FP KE PP 99 99 10 - 99 99 99 99 99 01 | 150441 |
| | E00 07500 PP 03 FP KE PP 99 99 08 - 99 99 99 99 99 01 | 150501 |
| | E00 07500 PP 03 FP KE PP 99 99 10 - 99 99 99 99 99 01 | 150541 |

Extent of supply: Terminal box on motor,
operating instructions
without hose connection material
without connector cable

| | | |
|----------------|---|--------|
| ELADOS® EMP IV | E60 04500 PP 06 FP KE PP 99 99 08 - 99 99 99 99 99 01 | 150360 |
| | E60 06300 PP 04 FP KE PP 99 99 08 - 99 99 99 99 99 01 | 150460 |
| | E60 07500 PP 03 FP KE PP 99 99 08 - 99 99 99 99 99 01 | 150560 |

Extent of supply: Terminal box on motor,
operating instructions
without hose connection material
without connector cable

Connection material see page 16

ELADOS® EMP IV E 60^{PLUS}

with the add-on unit for the capture of operating data (dongle plate) the version E 60 turns to version E 60^{PLUS}. For installation of the dongle plate the front panel has to be removed. Then the dongle plate can be plugged on the allocated terminal.



Article

Material-No.

Dongle plate

249629

with the following additional functions:

- Automatic readjustment of pump output in combination with an oval gear meter (for operating modes "internal" and "current" only)
- Automatic calibration function via oval gear meter
- Consumption data control by means of oval gear meter

Accessories:

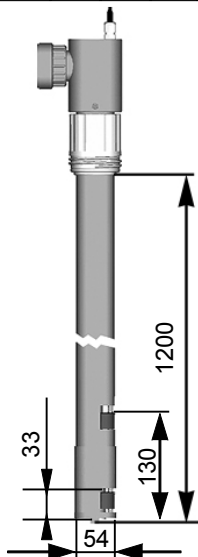
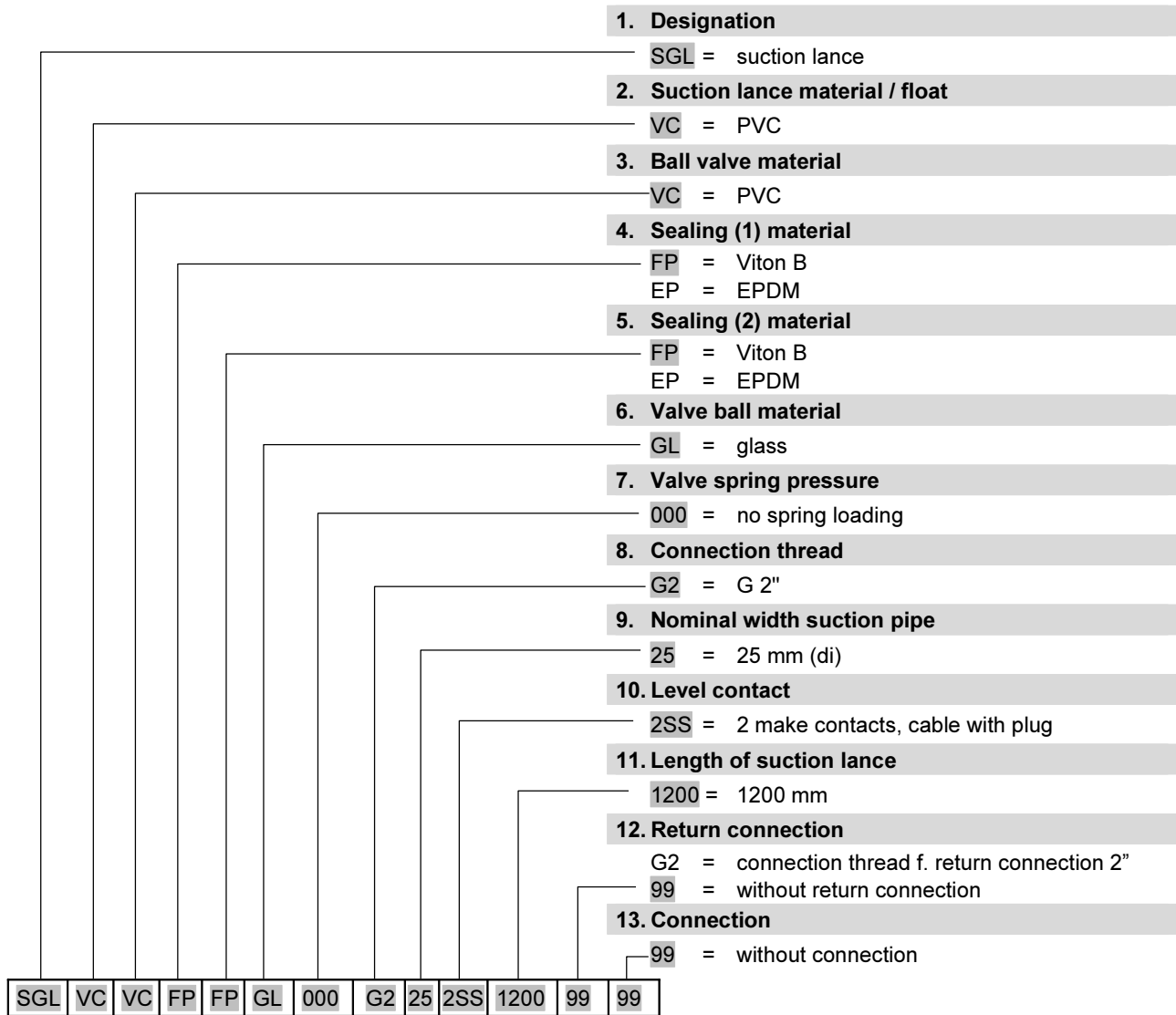


Oval gear meter

for volumetric measurement of the rate of flow

Ordering data are to be found in chapter 6 of “Measuring and Controlling”.

Suction lances






Article

Material-No.

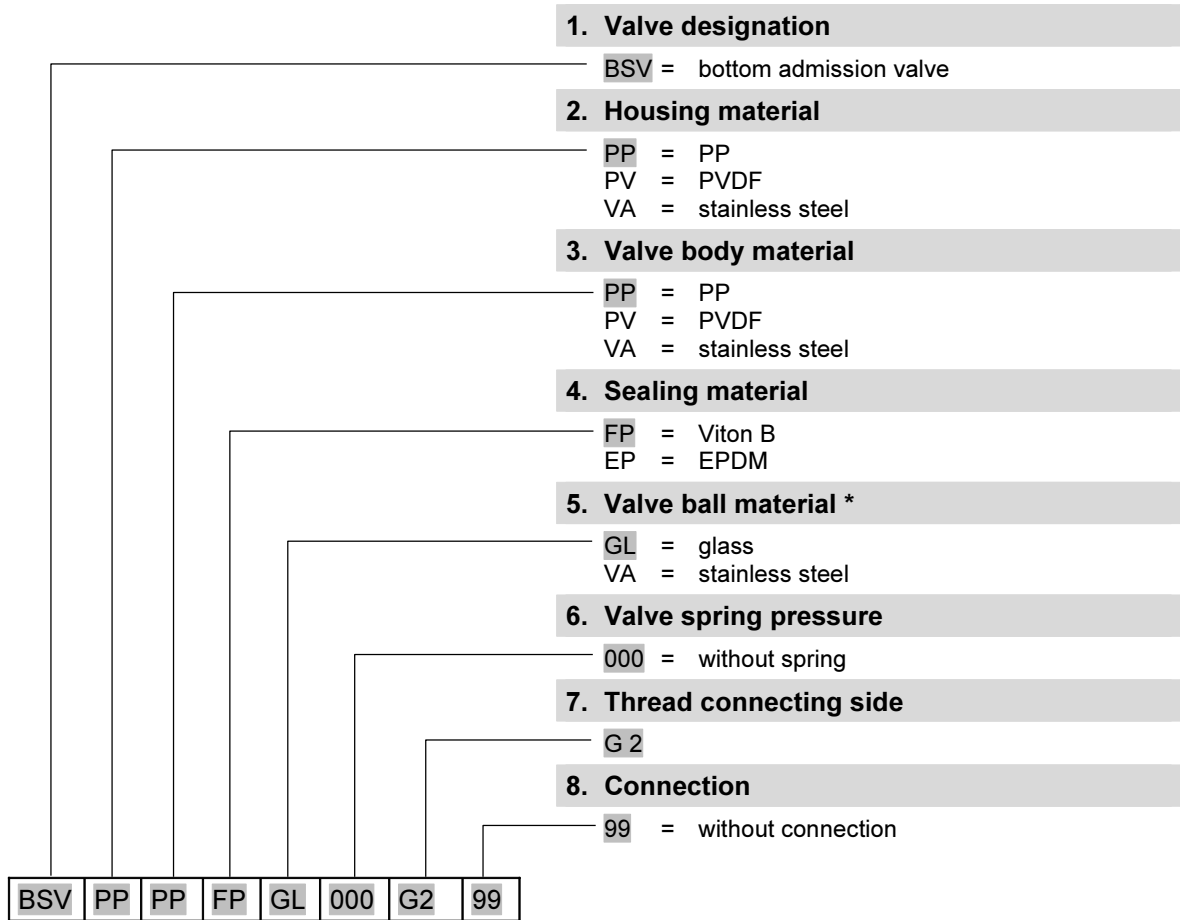
| | |
|---|--------|
| SGL VC VC FP FP GL 000 G2 25 2SS 1200 99 99 | 250052 |
| SGL VC VC EP EP GL 000 G2 25 2SS 1200 99 99 | 250054 |
| SGL VC VC FP FP GL 000 G2 25 2SS 1200 G2 99 | 250055 |
| SGL VC VC EP EP GL 000 G2 25 2SS 1200 G2 99 | 250056 |

Extent of supply: Connecting seal EPDM (black) or Viton (brown), connection cable 5 m, container screw connection, **without** hose connection

Connection material see page 16

| | Article | Material-No. |
|--|---|---------------------|
|  | Sealing for suction lance (spare part) | |
| | Viton B 40.64 x 5.33 (for 250052, 250055) | 417003359 |
| | EPDM 40.6 x 5.3 (for 250054, 250056) | 415100413 |
|  | Suction lance adapter | 417401588 |
| | Screw cap DN 150 for container with bung plug | |
|  | Suction and pressure lines | |
| | available by the metre | |
| | max. operating pressure: 15 bar (at 20° C) | |
| | PVC-fabric, 19/27 mm (int.Ø/ext.Ø)* | 417400131 |
| | PVC-fabric, 25/34 mm (int.Ø/ext.Ø) | 417400139 |
| | PVC-fabric, 30/38 mm (int.Ø/ext.Ø) | 417400136 |
| | PVC-fabric, 32/42 mm (int.Ø/ext.Ø) | 417400135 |
| | *up to max. 450l/h on the pressure side | |
| Note: | <p>We explicitly point out that PVC fabric tubes have a limited lifetime if alkaline chemicals will be used. To avoid damage for your staff and your company the tubes have to be exchanged at least every 6 months. In case of non-compliance we exclude all kinds of liability and responsibility.</p> | |

Bottom admission valve



| Article | Material-No. |
|------------------------------|--------------|
| BSV PP PP FP GL 000 G 2 – 99 | 250007 |
| BSV PP PP EP GL 000 G 2 – 99 | 250008 |
| BSV PV PV FP GL 000 G 2 – 99 | 250009 |
| BSV PV PV EP GL 000 G 2 – 99 | 250010 |
| BSV VA VA FP VA 000 G 2 – 99 | on request |
| BSV VA VA EP VA 000 G 2 – 99 | on request |

Connection material see page 16

* standard valve ball material will soon be changed to ceramics

Article

Material No.



Pulsation damper

To reduce pressure peaks and pulsation at oscillating rotary pumps at the pressure side and to prevent cavitating at the suction side.

Stroke volume: 120 cm³/stroke
Admissible nominal pressure: 10 bar
Thread connection: G 1 ¼

PDS 750 D32 PP/Hypalon

415503007

Housing material: PP
Sealing/diaphragms: Hypalon

PDS 750 D32 PP/Viton

415503008

Housing material: PP
Sealing/diaphragms: Viton



Manometer

415502560

0-10 bar, connection G ¼

Attention:

When adjusting the initial pressure the pulsation damper has to be relieved on the metering media side.



Reduction G ½ a – G ¼ i

415202771

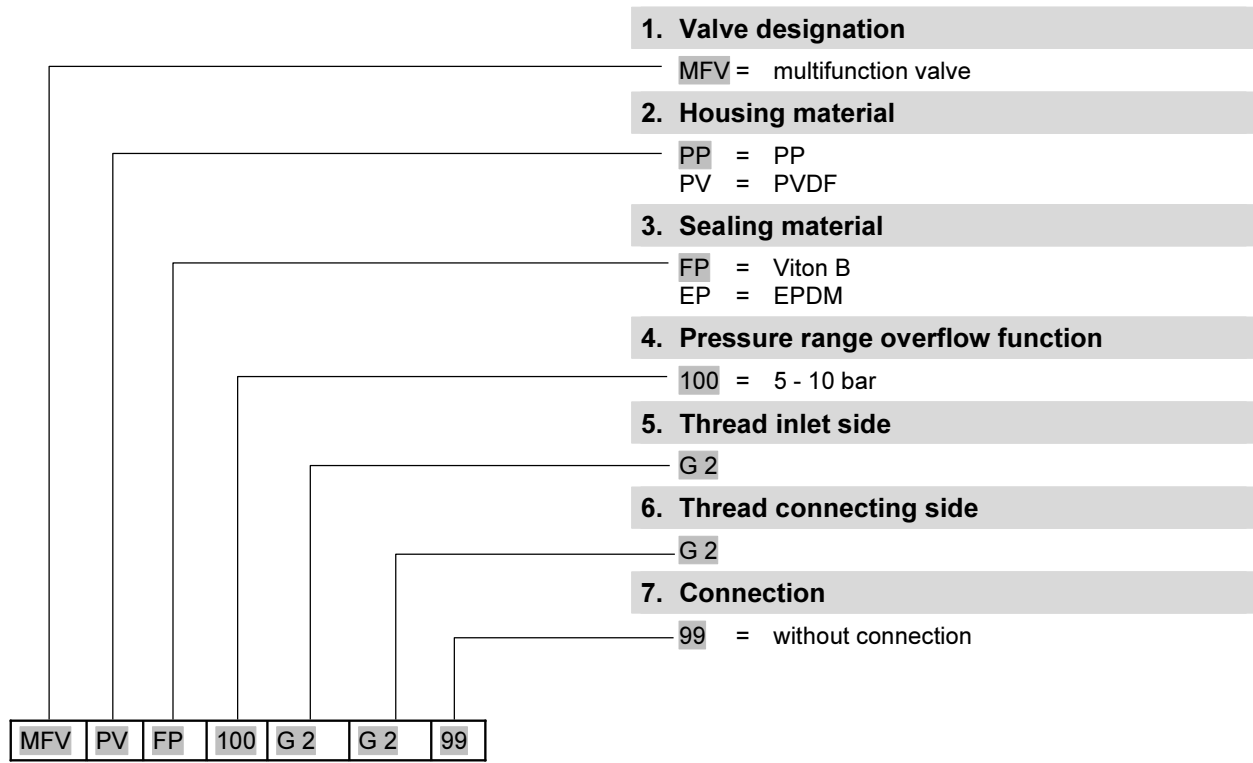


Pump bracket

250047

stainless steel, incl. mounting accessories
bracket with holder out 4 edge hollow profile
with movable fixing plate

Multifunction valve



This safety-relevant component serves the purpose of protecting the piping system and the metering pump and permits safe and reliable commissioning and maintenance of the system.

The multiple function valve combines all of the following functions: **overflow, pressure maintenance, venting and drainage**

Dimensions (L * D * H): 341 x 160 x 200 mm



Article

MFV PP FP 100 G 2 – G 2 – 99
MFV PP EP 100 G 2 – G 2 – 99
MFV PV FP 100 G 2 – G 2 – 99
MFV PV EP 100 G 2 – G 2 – 99

Material-No.

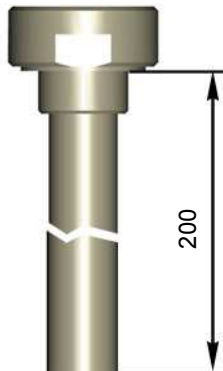
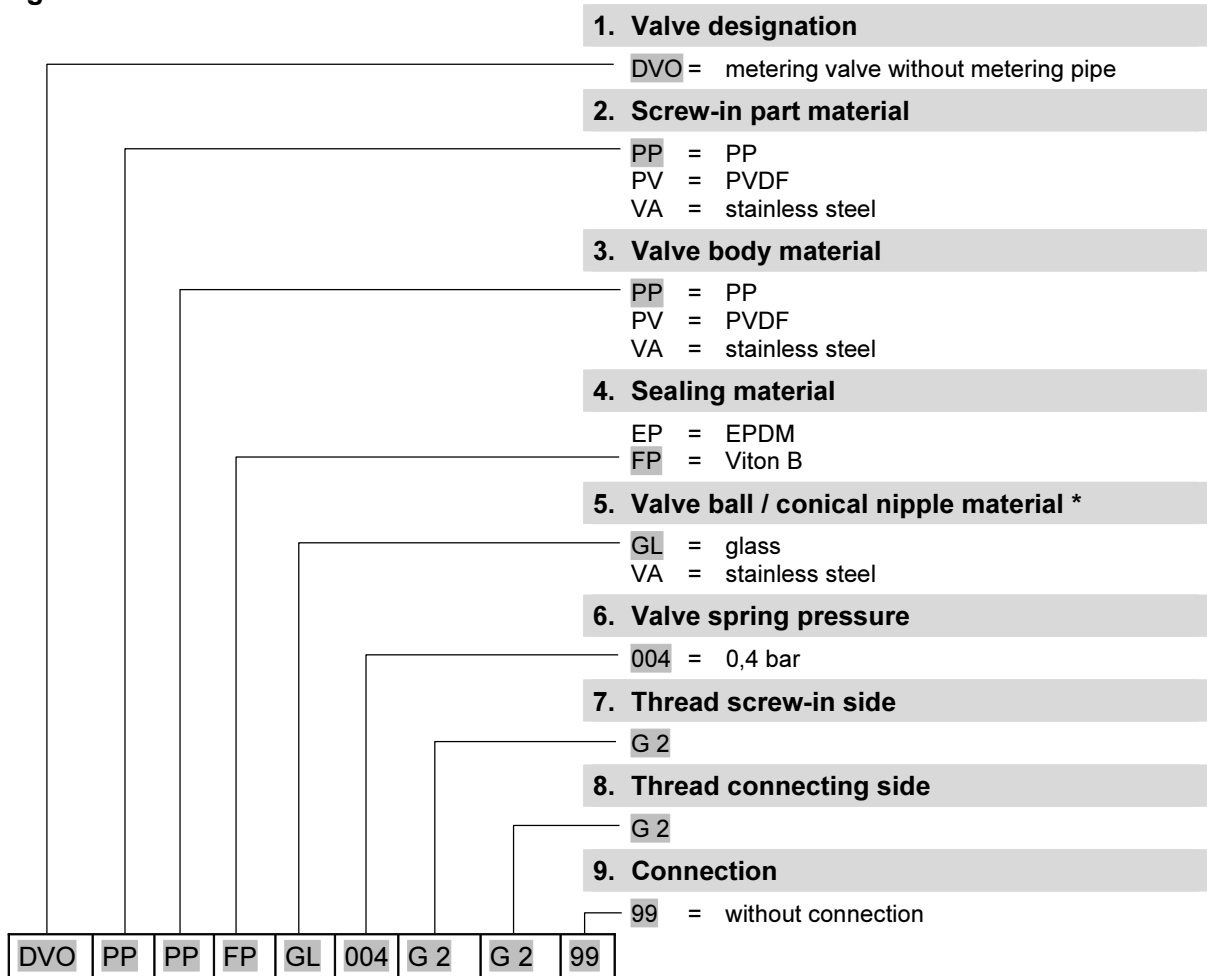
250062
250063
250066
250067

Extent of supply: 2 fixing clips with securing bracket (415018707), 3 O-ring seals (417003412) Viton B, user's manual

The multiple function valve should be installed close to the pump on a suitable wall.

Connection material see page 16

Metering valves



* standard valve ball material will soon be changed to ceramics

| Article | Material-No. |
|------------------------------------|--------------|
| DVO PP PP FP GL 004 G 2 – G 2 – 99 | 250013 |
| DVO PP PP EP GL 004 G 2 – G 2 – 99 | 250014 |
| DVO PV PV FP GL 004 G 2 – G 2 – 99 | 250015 |
| DVO PV PV EP GL 004 G 2 – G 2 – 99 | 250016 |
| DVO VA VA FP VA 004 G 2 – G 2 – 99 | on request |
| DVO VA VA EP VA 004 G 2 – G 2 – 99 | on request |

Connection material see page 16

Metering pipes

| | |
|-----------------------------------|--------|
| Metering pipe PP G 1¼ für DVO G 2 | 250094 |
| Metering pipe PV G 1¼ für DVO G 2 | 250095 |

**Connection material for suction and pressure valves,
bottom admission valves and metering valves
(to be ordered separately)**

Article

Material-No.



Connection to pressure hose nozzle with hose clip

Connection set PP, G 2 - NW 25/27

250096

consisting of:

1 union nut PP G 2 (415099837), 1 pressure hose nozzle PP NW 25/27 (34950254) and 2 hose clips for hose AD 25-40 (415013306)

Connection set PP, G 2 - NW 30/32

250097

consisting of:

1 union nut PP G 2 (415099837), 1 pressure hose nozzle PP NW 30/32 (34950255) and 2 hose clips for hose AD 25-40 (415013306)



Hose clips (stainless steel)

for hose AD 20-32

415013305

for hose AD 25-40

415013306



Union nut G 2

PP

415099837

PVDF

415099074

stainless steel (1.4571)

415205316

Pressure hose nozzle

PP NW 20/22

34950253

PP NW 25/27 (ill.)

34950254

PP NW 30/32

34950255



PVDF NW 20/22

34950197

PVDF NW 25/27 (ill.)

34950198

PVDF NW 30/32

34950202

stainless steel (1.4571)

on request

Connection to tubes

Article

Material-No.



Union nut G 2

PP
PVDF
stainless steel (1.4571)

415099837
415099074
415205316



Insertion part 2" (welded bush) for tube connection DN 25 (d32)

PP
PVDF

34950191
34950192

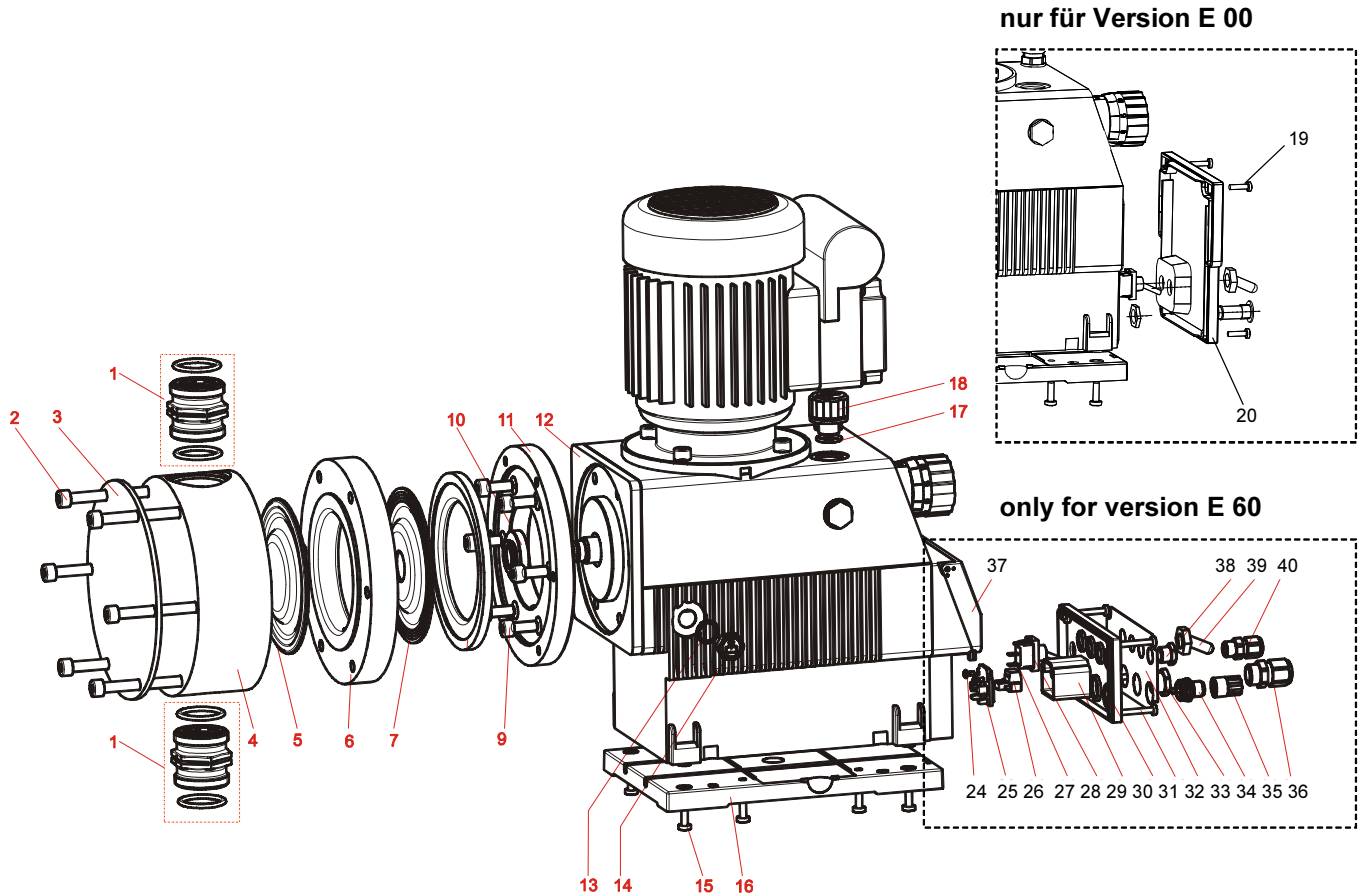
Insertion part 2" (welded bush) for tube connection DN 32 (d40)

PP
PVDF
stainless steel (screw-in thread G 1¼ i)

415099711
415099035
34950237

Further connection material on request!

Spare Parts:



| Item | Article | 450 l/h (540 l/h) | 630 - 750 l/h (756 - 900 l/h) |
|------|---|--------------------------------------|----------------------------------|
| 1 | Suction/pressure valve SDV PP FP KE 000 G2 -G2 - 99* SDV PP EP KE 000 G2 -G2 - 99* SDV PV FP KE 000 G2 - G2 - 99* SDV PV EP KE 000 G2 - G2 - 99* | 249503 249504 249505 249506 | |
| 2 | Hexagon socket screw M8 x 120 VA | 413031067 | |
| 3 | Pressing plate | 34950160 | 34950145 |
| 4 | Pump head PP Pump head PVDF | 34950134 34950138 | 34950136 34950139 |
| 5 | Conveying diaphragm | 34950153 | 34950105 |
| 6 | Intermediate ring PP Intermediate ring PVDF | 34950149 34950195 | 34950151 34950196 |
| 7 | Protective diaphragm | 34950164 | 34950165 |
| 9 | Hexagon socket screw M8 x 20 VA | 413031055 | |
| 10 | Receiver disc for protective diaphragm | 34950152 | |
| 11 | Intermediate plate | 34950146 | 34950148 |

* Please see page 20 for code declaration

| Item | Article | Material-No. |
|------|----------------------------|--------------|
| 12 | Flange plate | 34950124 |
| 13 | O-ring 9 x 2 NBR | 417002063 |
| 14 | Locking nut | 415204603 |
| 15 | Oval head screw M5 x 16 VA | 413119274 |
| 16 | Mounting plate | 34950123 |
| 17 | O-ring 15 x 2,5 NBR | 417002137 |
| 18 | Vent screw | 415204601 |

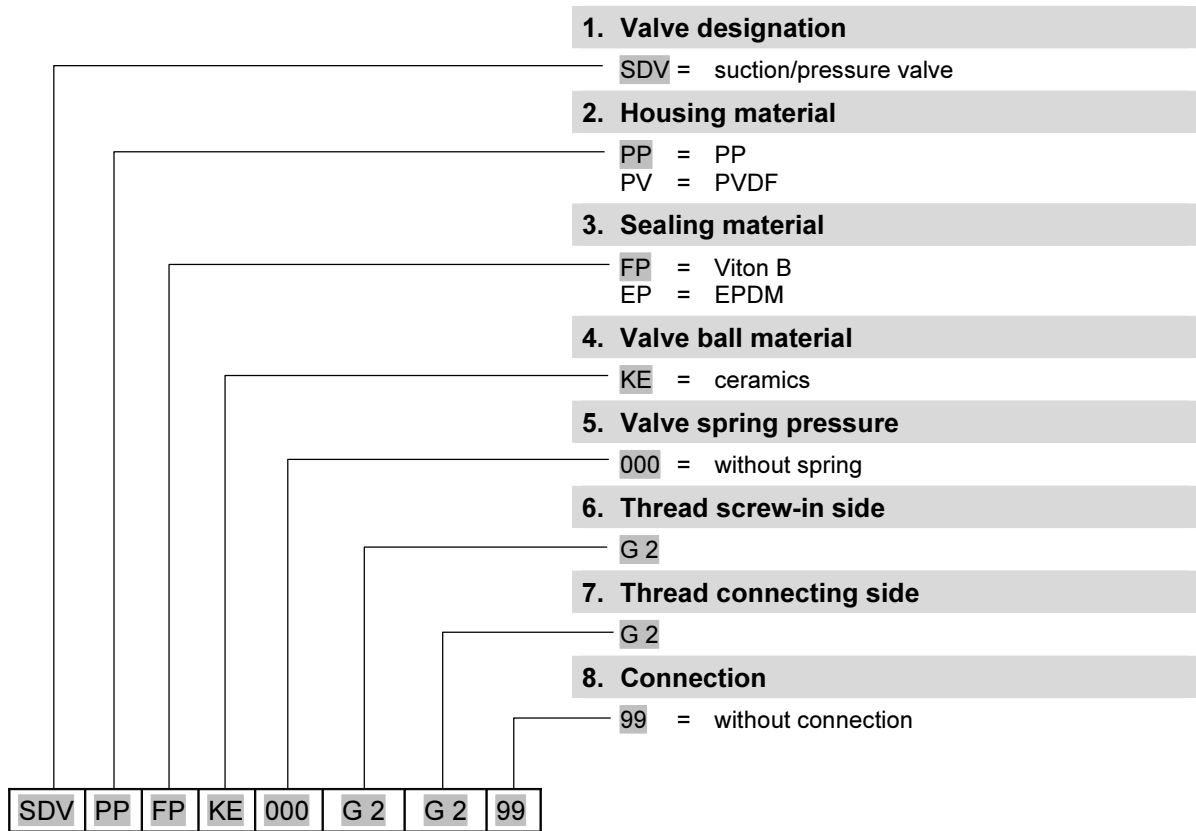
only for versions E 00 / E 10

| | | |
|----|-----------------------------|-----------|
| 19 | Oval head screw M4 x 16 VA | 413119230 |
| 20 | Front panel for version E00 | 34950161 |

only for version E 60

| | | |
|----|--|-----------|
| 24 | EJOT-PT - Screw KB 30 x 8 | 413071033 |
| 25 | Connector mounting | 34950125 |
| 26 | Connector, two-pole, RM 5.08 | 418461544 |
| 27 | Switch connecting cable | 249690 |
| 28 | Toggle switch | 418244171 |
| | Slip-on lever sleeve for toggle switch | 418244180 |
| 29 | Connecting cover | 34950119 |
| 30 | Sealing cord Ø 2 mm in connecting cover (0.37 m) (available by the meter) | 417401005 |
| 31 | Oval head bolt M4 x 30 | 413119236 |
| 32 | Connection label E60 | 34950131 |
| 33 | Dummy plug M16 x 1,5 | 418441042 |
| 34 | Flange connector, 3-pole M12 | 34950209 |
| 35 | Dummy connector, "Empty" signal input | 248186 |
| 36 | Threaded cable union M16 x 1,5 | 418441010 |
| 37 | See-through cover | 34950120 |
| 38 | Dummy plug M12 x 1,5 | 418441041 |
| 39 | Protective cap for toggle switch | 418244179 |
| 40 | Threaded cable union M12 x 1,5 | 418441009 |

Suction and pressure valve code



Connection material see page 16

Set of wearing parts (complete)

consisting of 1 piece each:

- Suction valve with hose connection material
- Pressure valve with hose connection material
- Diaphragms
- Supporting ring

| Article | Code | Material-No. |
|------------------|-----------------------------|--------------|
| Wearing part set | EMP IV 04500 PP FP KE | 250164 |
| | EMP IV 06300/07500 PP FP KE | 250165 |
| | EMP IV 04500 PP EP KE | 250166 |
| | EMP IV 06300/07500 PP EP KE | 250167 |
| | EMP IV 04500 PV FP KE | 250168 |
| | EMP IV 06300/07500 PV FP KE | 250169 |
| | EMP IV 04500 PV EP KE | 250170 |
| | EMP IV 06300/07500 PV EP KE | 250171 |

