

- 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]: | 140 | 210 |
| Metering back-pressure* [bar]: | 10 | 8 |
| Delivering capacity per stroke [cm ³]: | 19.4 | 29.2 |
| Reproductivity: | <± 3 % | |
| Suction height: | 2 mWs, suction height with clean, slightly wet valves | |
| Metering frequency max: | 122 1/min | |
| Pressure valve: | without spring | |
| Suction valve: | without spring | |
| Ambient temp. max.: | 40° 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: | approx. 25 kg |
| Colour: | blue RAL 5007 |

Electrical Data:

| | |
|----------------------|--|
| Connection: | 230 V / 50 Hz 400 V / 50/60 Hz (only with E 00) |
| Note: | At a mains frequency of 60 Hz delivery capacity increases by 20 % and back-pressure decreases by 20 %. |
| Current consumption: | 2.3 A (50 Hz) |
| Power output: | 0.37 kW (50 Hz) |
| Safety type: | IP 55 |
| Insulation class: | F |

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

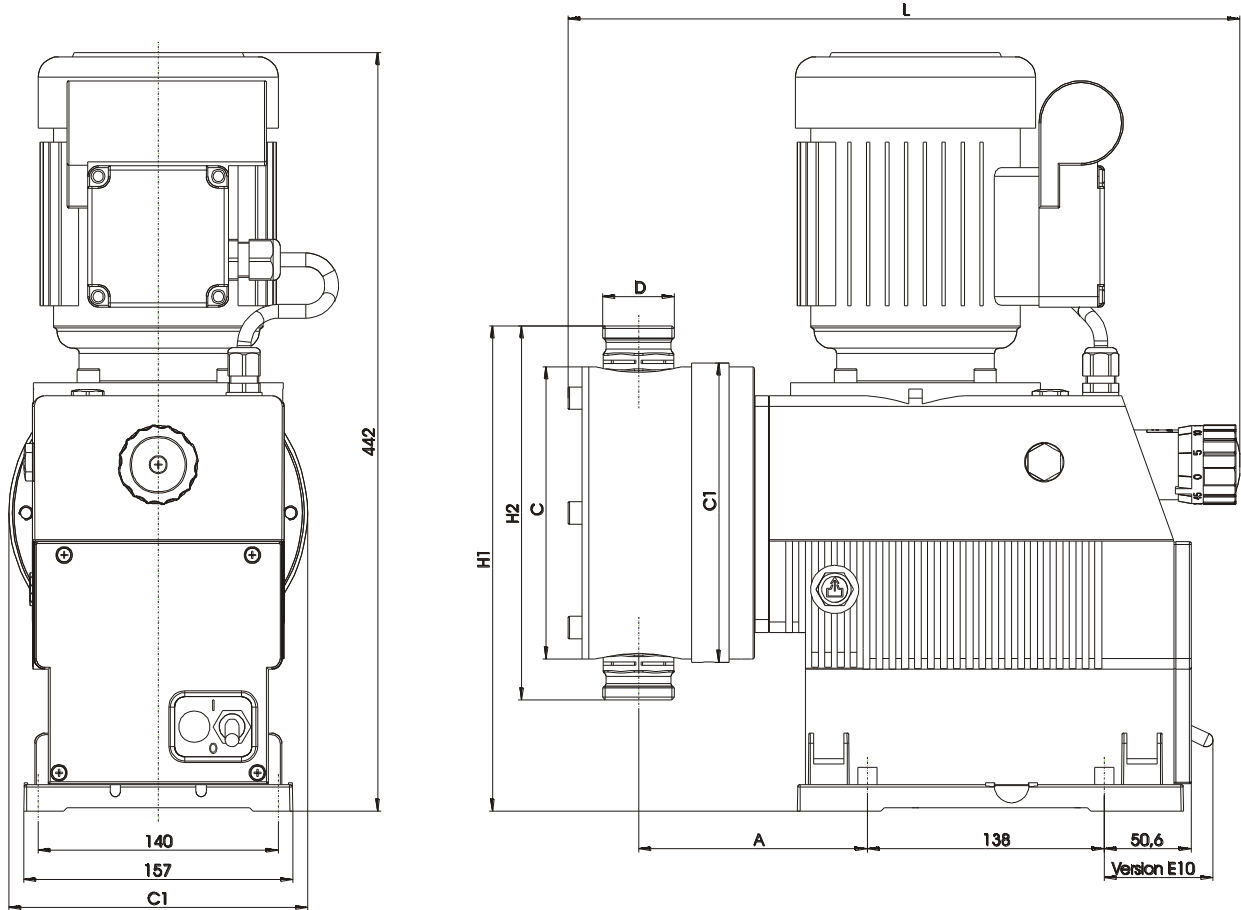
Notice: To guarantee the newest state of our products, we reserve the rights for single technical changes.

*For **EMP VI HP (High Pressure)** version see page 22.

Other special versions on request.

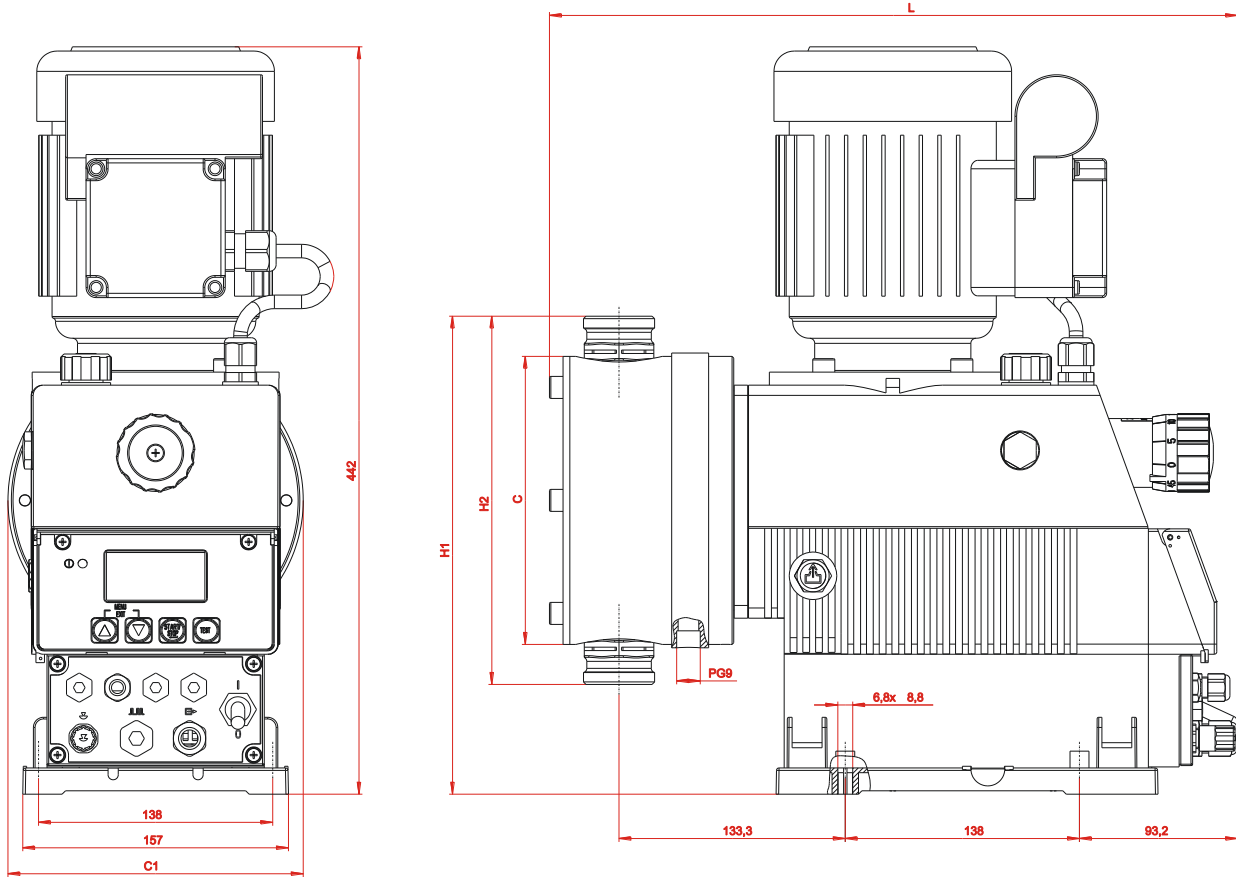
Dimensions:

Version E 00



| Capacity l / h | Dimensions in mm | | | | | | |
|-------------------|------------------|-----|-----|-----|-----|-----|-----|
| | A | C | C1 | L | H1 | H2 | D |
| 140 | 133.5 | 170 | 174 | 392 | 280 | 216 | 1¼" |
| 210 | 133.5 | 170 | 174 | 392 | 280 | 216 | 1¼" |

Version E 60



| Capacity l/h | Dimensions in mm | | | | |
|-----------------|------------------|-----|-----|-----|-----|
| | C | C1 | L | H1 | H2 |
| 140 | 170 | 174 | 392 | 280 | 216 |
| 210 | 170 | 174 | 392 | 280 | 216 |



Pump code – part 1

1. Electrical version (please see legend on page 7)

E 00

E 60

2. Pump capacity 50 Hz [60 Hz]

01400 = 140 l/h [168 l/h]

02100 = 210 l/h [252 l/h]

3. Pump material

PP = PP (standard)

PV = PVDF

VA = stainless steel

4. Metering back pressure (depends on pump capacity)

08 = 8 bar (for 210 l/h) [6.4 bar]

10 = 10 bar (for 140 l/h) [8 bar]

5. Sealing material

EP = EPDM

FP = Viton B (standard)

KA = kalrez

PT = teflon

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)

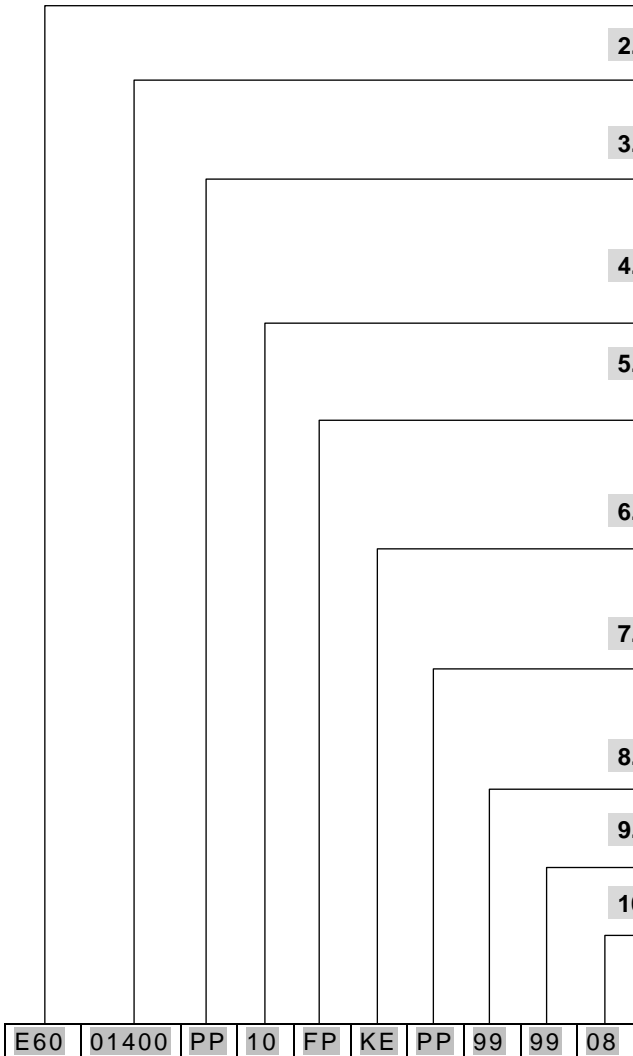
9. Mains supply

99 = without cable (standard)

10. Power supply

08 = 230 V / 50/60 Hz

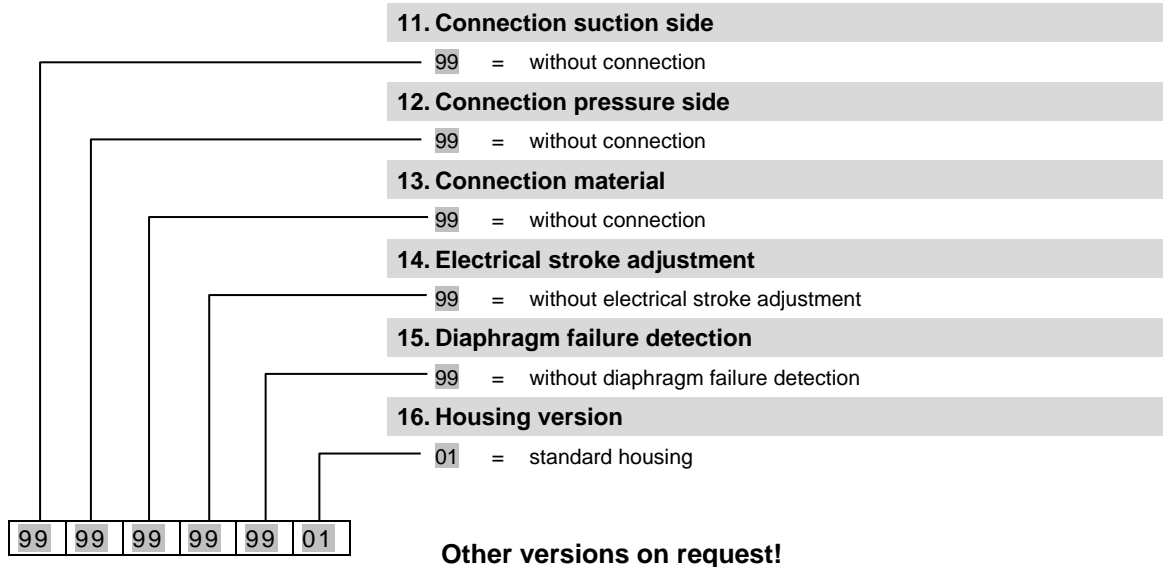
10 = 3PE 400/230 V 50/60 Hz (only for version E00)



Other versions on request!



Pump code – part 2



Example of a complete pump code of a standard pump:

| | | | | | | | | | | | | | | | | |
|-----|-------|----|----|----|----|----|----|----|----|---|----|----|----|----|----|----|
| E60 | 01400 | PP | 10 | FP | KE | PP | 99 | 99 | 08 | - | 99 | 99 | 99 | 99 | 99 | 01 |
|-----|-------|----|----|----|----|----|----|----|----|---|----|----|----|----|----|----|

(Pump code 1)

(Pump code 2)



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 01400 PP 10 FP KE PP 99 99 08 - 99 99 99 99 99 01 | 150001 |
| | E00 01400 PP 10 FP KE PP 99 99 10 - 99 99 99 99 99 01 | 150041 |
| | E00 02100 PP 08 FP KE PP 99 99 08 - 99 99 99 99 99 01 | 150101 |
| | E00 02100 PP 08 FP KE PP 99 99 10 - 99 99 99 99 99 01 | 150141 |

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

| | | |
|----------------|---|--------|
| ELADOS® EMP IV | E60 01400 PP 10 FP KE PP 99 99 08 - 99 99 99 99 99 01 | 150060 |
| | E60 02100 PP 08 FP KE PP 99 99 08 - 99 99 99 99 99 01 | 150160 |

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:



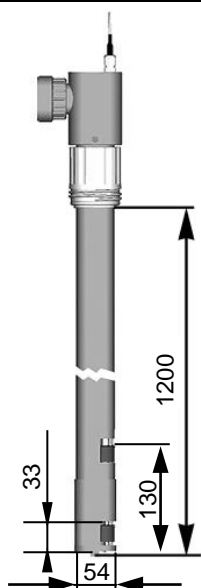
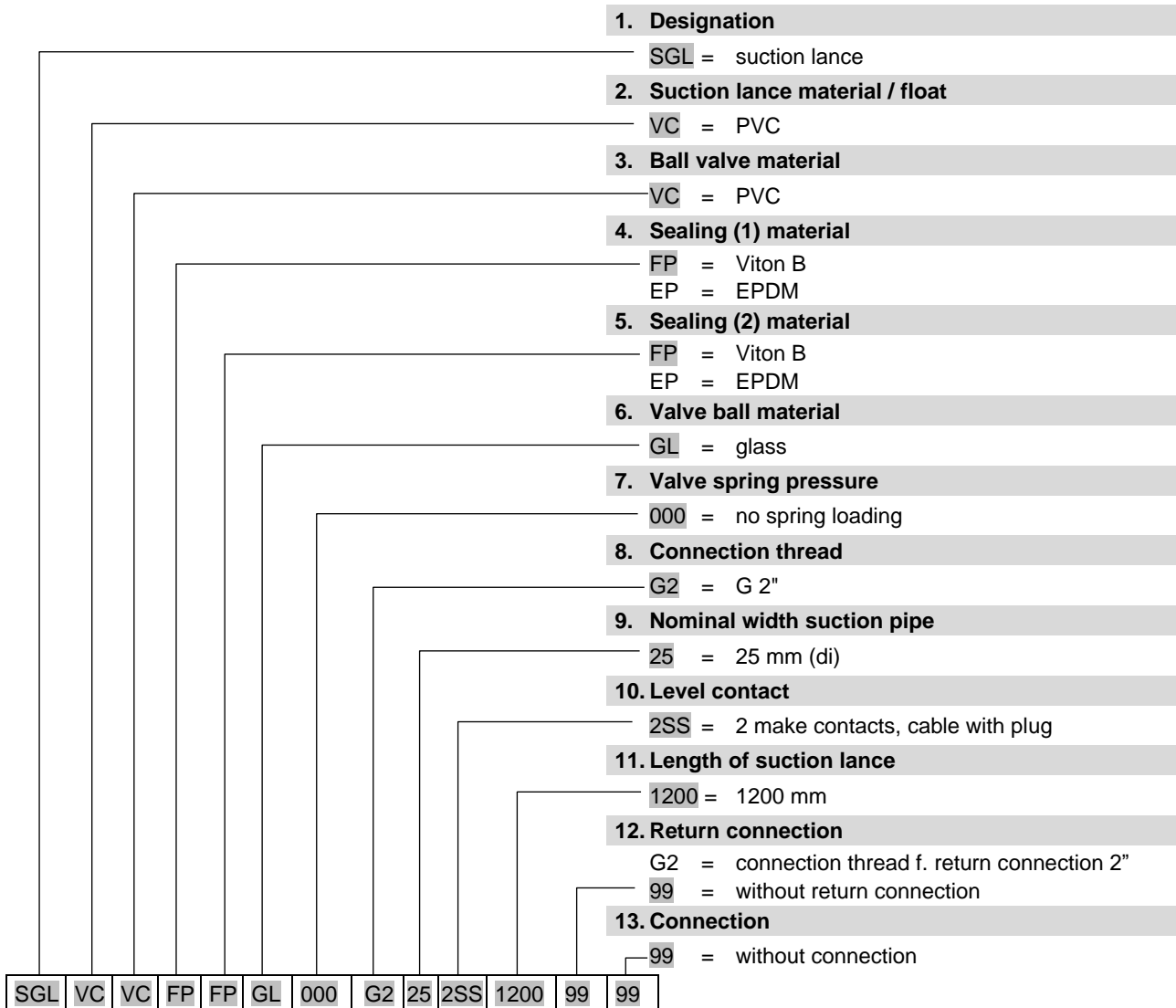
Oval gear meter

for volumetric measurement of the rate of flow

Ordering data are to be found in chapter “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

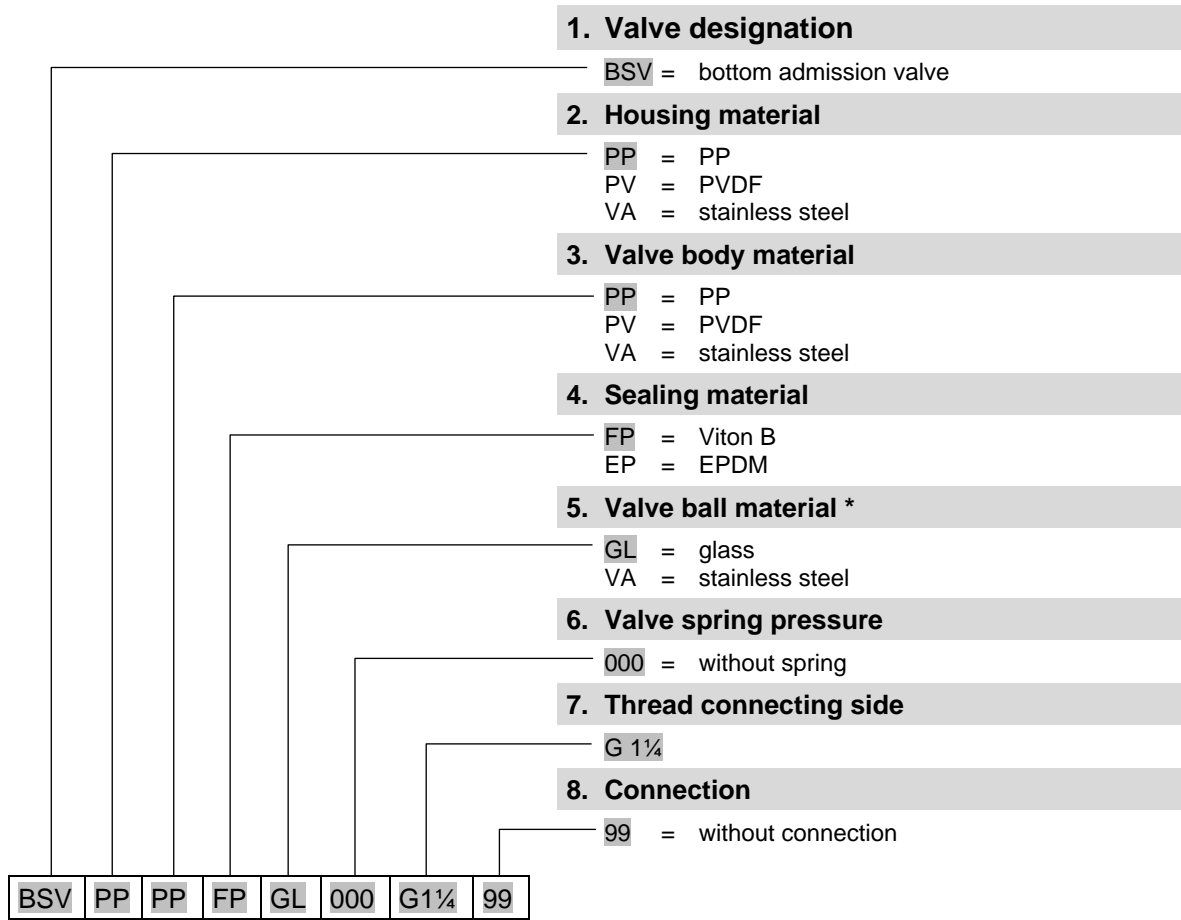
Connection material see page 16 (chapter EMP IV 450-750 I/h)



| | 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, 12/21 mm (int.Ø/ext.Ø) | 417400127 |
| | PVC- fabric, 19/27 mm (int.Ø/ext.Ø) | 417400131 |
| | PVC- fabric, 25/34 mm (int.Ø/ext.Ø) | 417400139 |

Note: 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.

Bottom admission valve



| Article | Material-No. |
|-------------------------------|--------------|
| BSV PP PP FP GL 000 G 1¼ – 99 | 250011 |
| BSV PP PP EP GL 000 G 1¼ – 99 | 250012 |
| BSV PV PV FP GL 000 G 1¼ – 99 | 249082 |
| BSV PV PV FP GL 000 G 1¼ – 99 | 249083 |
| BSV VA VA FP VA 000 G 1¼ – 99 | 249036 |
| BSV VA VA EP VA 000 G 1¼ – 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: 40 cm³/stroke
 Admissible nominal pressure: 10 bar
 Thread connection: G 1 ¼

PDS 250 D25 PP/Hypalon

415503005

Housing material: PP
 Sealing/diaphragms: Hypalon

PDS 250 D25 PP/Viton

415503006

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

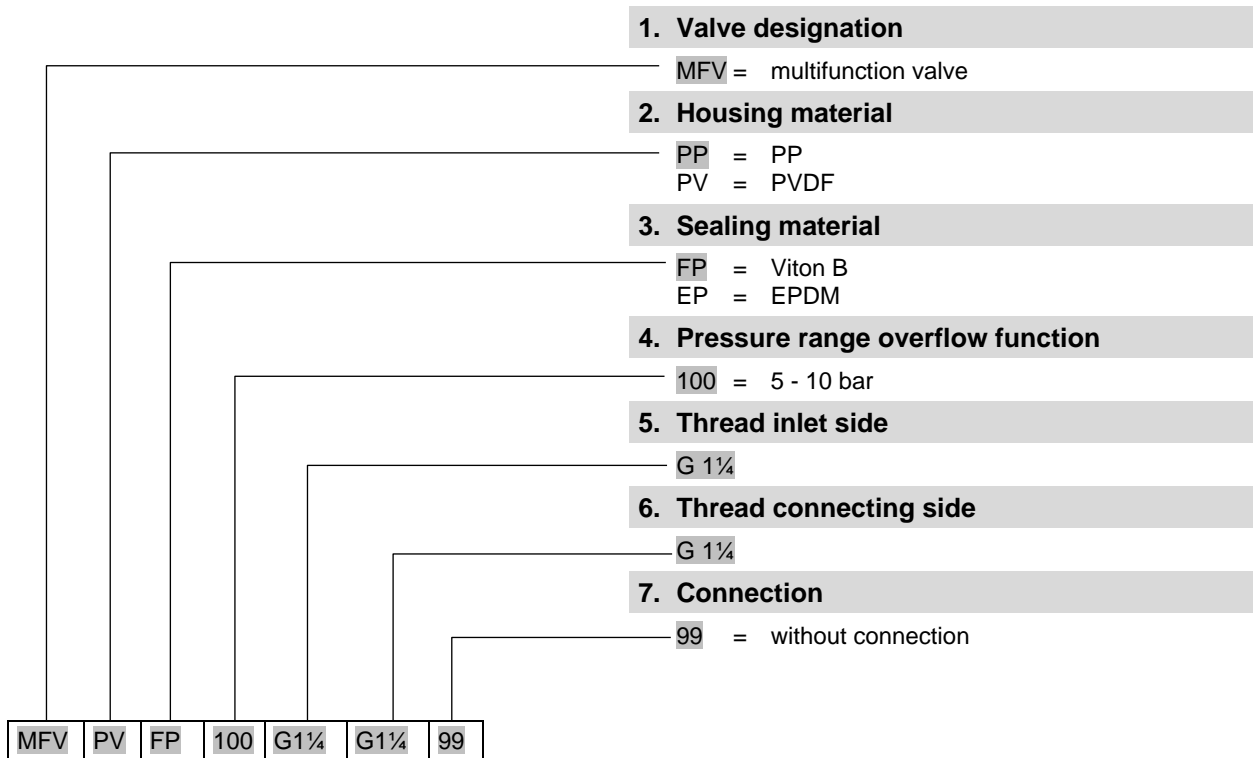


Pump bracket VA

250047

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 | Material-No. |
|----------------------------------|--------------|
| MFV PP FP 100 G 1 ¼ – G 1 ¼ – 99 | 250060 |
| MFV PP EP 100 G 1 ¼ – G 1 ¼ – 99 | 250061 |
| MFV PV FP 100 G 1 ¼ – G 1 ¼ – 99 | 250064 |
| MFV PV EP 100 G 1 ¼ – G 1 ¼ – 99 | 250065 |

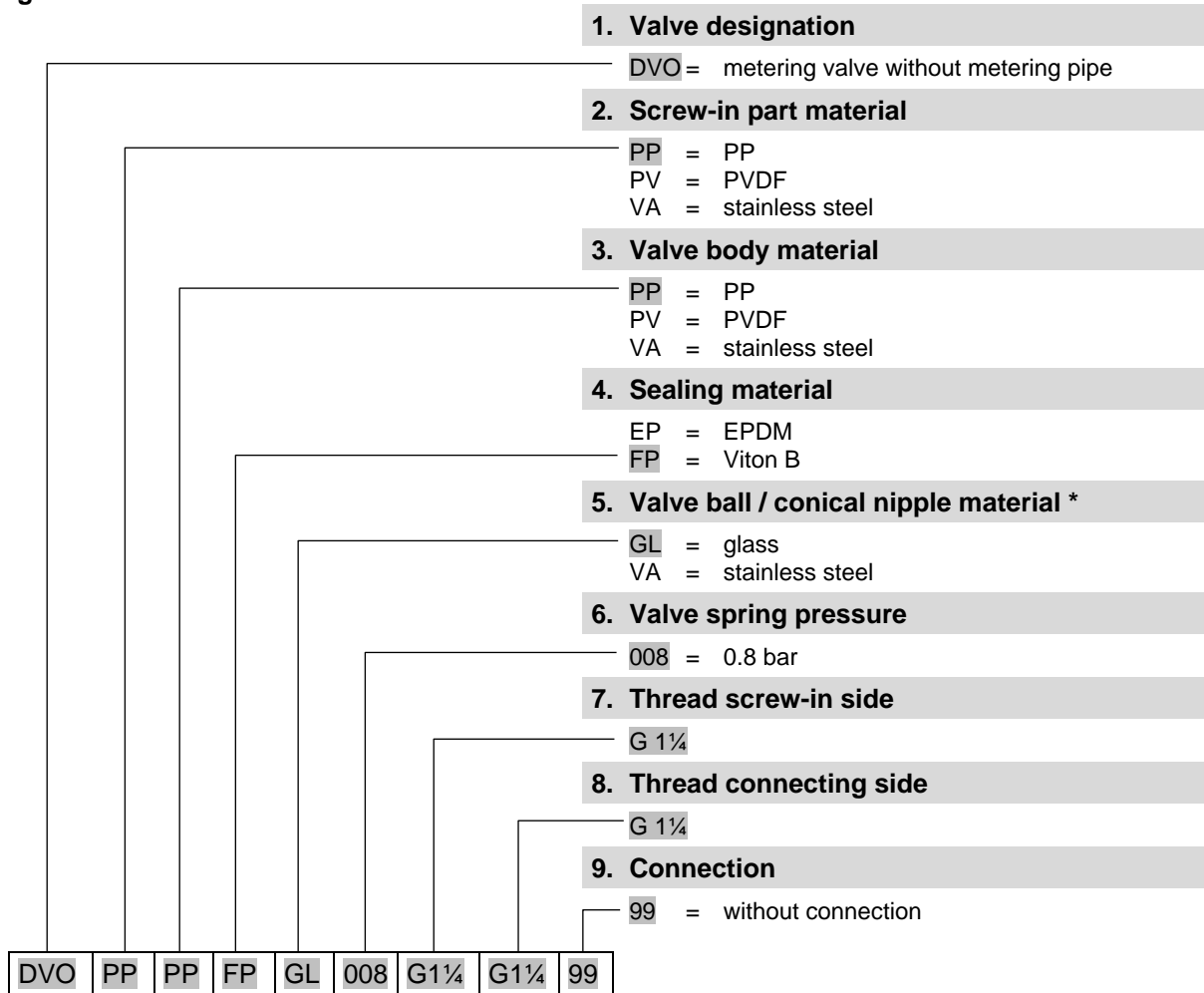
Extent of supply: 2 fixing clips with securing bracket (415018707), 3 O-ring seals (417003593) Viton B, user's manual

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

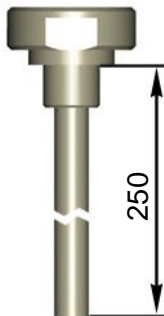
Connection material see page 16



Metering valves



* standard valve ball material will soon be changed to ceramics



| Article | Material-No. |
|--------------------------------------|--------------|
| DVO PP PP FP GL 008 G 1¼ – G 1¼ – 99 | 250017 |
| DVO PP PP EP GL 008 G 1¼ – G 1¼ – 99 | 250018 |
| DVO PV PV FP GL 008 G 1¼ – G 1¼ – 99 | 249086 |
| DVO PV PV EP GL 008 G 1¼ – G 1¼ – 99 | on request |
| DVO VA VA FP VA 008 G 1¼ – G 1¼ – 99 | 249468 |
| DVO VA VA EP VA 008 G 1¼ – G 1¼ – 99 | 249059 |

Connection material see page 16

| | |
|-----------------------------------|--------|
| Metering pipe PP G ¾ for DVO G 1¼ | 249235 |
| Metering pipe PV G ¾ for DVO G 1¼ | 249236 |



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

Article

Material-No.

Connection set PP, G 1¼ - NW 20/22

249239

consisting of:

1 union nut PP G 1¼ (415099835), 1 pressure hose nozzle PP
NW 20/22 (34950256) and 2 hose clips for hose AD 25-40
(415013306)



Hose clips (stainless steel)

for hose AD 20-32
for hose AD 25-40

415013305

415013306



Union nut G 1 1/4

PP
PVDF
stainless steel

415099835

415099072

38610405



Pressure hose nozzle

PP for hose NW 20/22 (ill.)
PP for hose NW 25/27
PVDF for hose NW 20/22 (ill.)
PVDF for hose NW 25/27
stainless steel

34950256

34950257

34950199

34950201

on request

Article **Material-No.**

Connection to tubes



Union nut G 1¼

PP
PVDF
stainless steel (1.4571)

415099835
415099072
38610405



Insertion part (welded bush) 1¼" for tube connection DN 20 (d25)

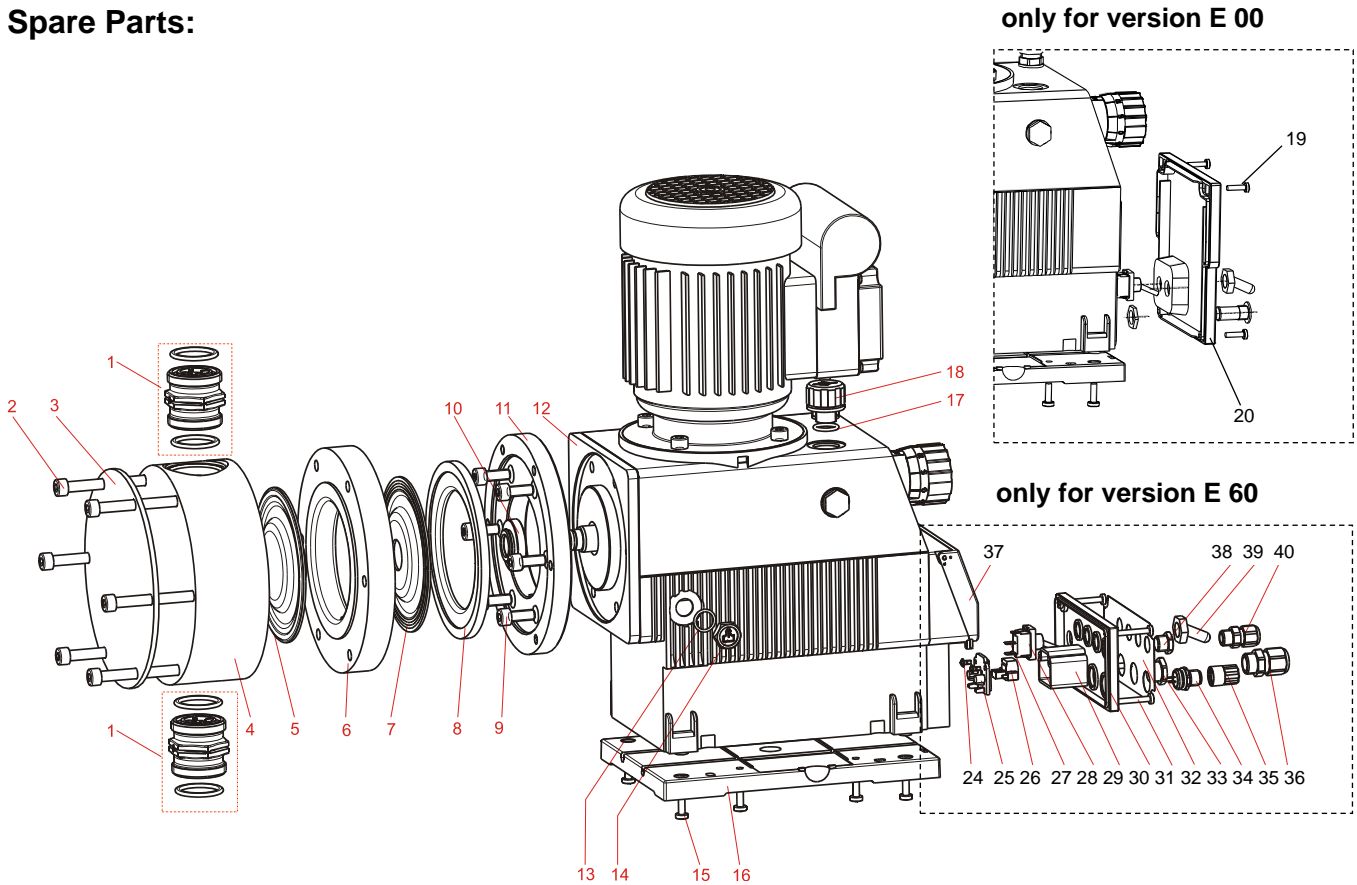
PP
PVDF
stainless steel (screw-in thread G ¾)

415099709
415099033
38610407

Further connection material on request!



Spare Parts:



| Item | Article | Material-No. |
|------|--|--------------------------------------|
| 1 | Suction/pressure valve SDV PP FP KE 000 G1¼ - G1¼ - 99* Suction/pressure valve SDV PP EP KE 000 G1¼ - G1¼ - 99* Suction/pressure valve SDV PV FP KE 000 G1¼ - G1¼ - 99* Suction/pressure valve SDV PV EP KE 000 G1¼ - G1¼ - 99* | 249075 249055 249074 249041 |
| 2 | Hexagon socket screw M8 x 100 VA | 413031066 |
| 3 | Proofing plate | 34950144 |
| 4 | Pump head PP Pump head PVDF | 34950135 34950137 |
| 5 | Conveying diaphragm | 34950101 |
| 6 | Intermediate ring PP Intermediate ring PVDF | 34950150 34950194 |
| 7 | Protective diaphragm | 34950163 |
| 8 | Supporting disc | 34950177 |
| 9 | Hexagon socket screw M8 x 20 VA | 413031055 |
| 10 | Receiver disc for protective diaphragm | 34950152 |
| 11 | Intermediate plate | 34950147 |
| 12 | Flange plate | 34950124 |

* Please see page 20 for code declaration



| Item | Article | Material-No. |
|------|----------------------------|--------------|
| 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

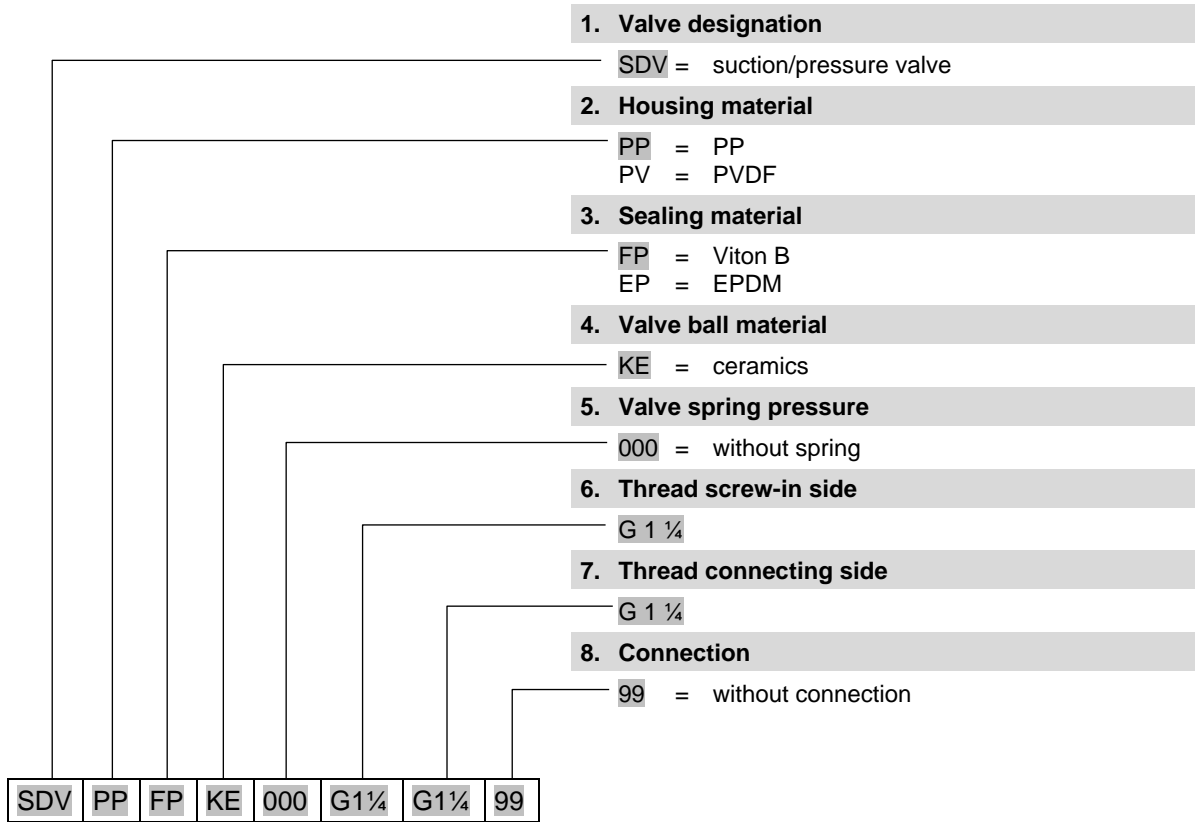
| | | |
|----|-----------------------------|-----------|
| 19 | Oval head screw M4 x 16 VA | 413119230 |
| 20 | Front panel for version E00 | 34950161 |

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 |



Valve code



Connection material see page [16](#)

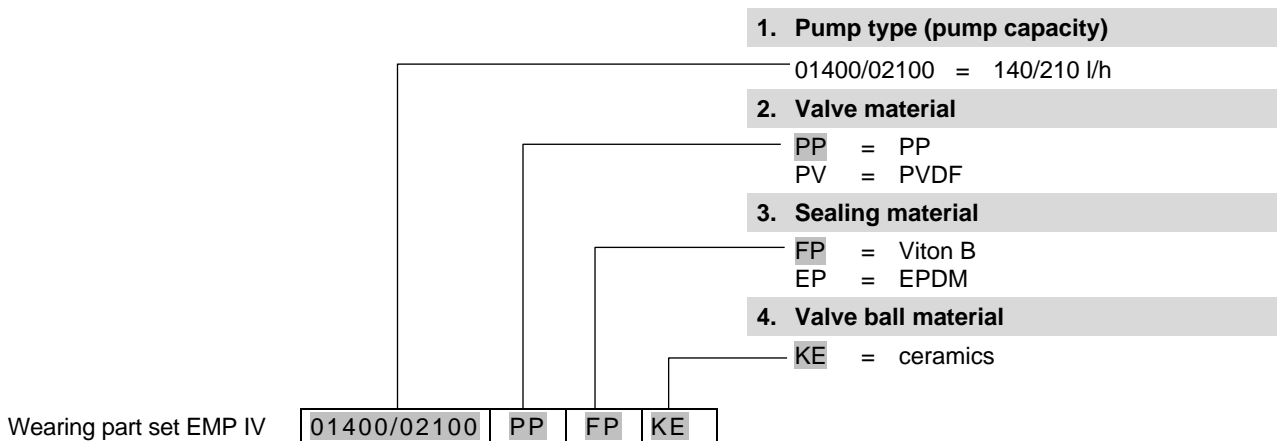


Set of wearing parts (complete)

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 01400/02100 PP FP KE | 250160 |
| | EMP IV 01400/02100 PP EP KE | 250161 |
| | EMP IV 01400/02100 PV FP KE | 250162 |
| | EMP IV 01400/02100 PV EP KE | 250163 |





EMP IV HP (High Pressure)

Note: The pump versions EMP IV HP (High Pressure) 01400 and 02100 can be operated with a higher metering back pressure. The below pictured pump key enables the configuration of the desired EMP IV HP pumps.

Pump code – part 1

1. Electrical version (please see page 7)

E 00

E 60

2. Pump capacity 50 Hz [60 Hz]

| | | | |
|-------|---|---------|-----------|
| 01400 | = | 135 l/h | [162 l/h] |
| 02100 | = | 202 l/h | [242 l/h] |

3. Pump material

| | | | |
|----|---|-----------------|------------|
| PP | = | PP | (standard) |
| PV | = | PVDF | |
| VA | = | stainless steel | |

4. Metering back pressure (depends on pump capacity)

| | | | |
|----|---|----------------------|-----------|
| 10 | = | 10 bar (for 202 l/h) | [8 bar] |
| 12 | = | 12 bar (for 135 l/h) | [9.6 bar] |

5. Sealing material

| | | | |
|----|---|---------|------------|
| EP | = | EPDM | |
| FP | = | Viton B | (standard) |
| KA | = | kalrez | |
| PT | = | teflon | |

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) |
|----|---|---------------|------------|

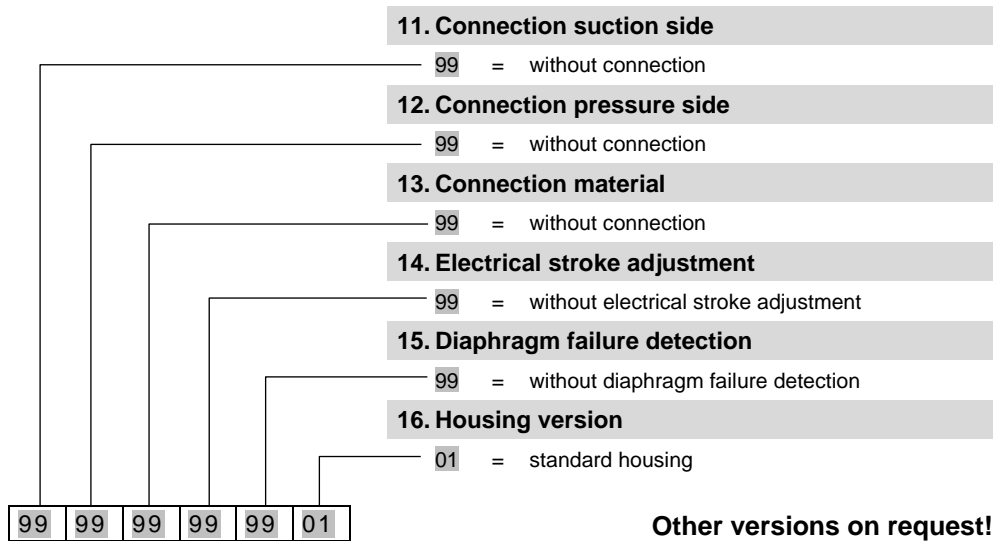
10. Power supply

| | | | |
|----|---|------------------------|------------------------|
| 08 | = | 230 V / 50/60 Hz | |
| 09 | = | 115 V / 50/60 Hz | (only for version E60) |
| 10 | = | 3PE 400/230 V 50/60 Hz | (only for version E00) |

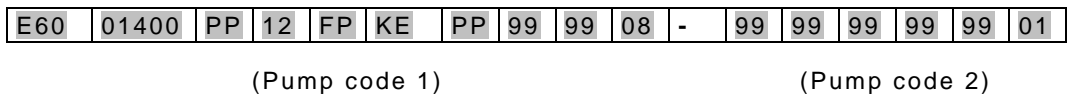
Other versions on request!

| | | | | | | | | | |
|-----|-------|----|----|----|----|----|----|----|----|
| E60 | 01400 | PP | 12 | FP | KE | PP | 99 | 99 | 08 |
|-----|-------|----|----|----|----|----|----|----|----|

Pump code – part 2



Example of a complete pump code of a **EMP IV HP** pump:



Note: For pump versions **EMP IV HP** the hose connection material has to be ordered separately.

Connection material (pressure side)



Straight connection PVDF 415102354
Connection G1/2a for hose 13/20



Insertion part PVDF 1 1/4 G1/2i 34900292



Union nut PVDF G1 1/4 d25 415099072

Pressure lines (available by the metre)

max. operating pressure [bar] bei 20° C



PVC-fabric 13/20 mm 15 417400128

- 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!

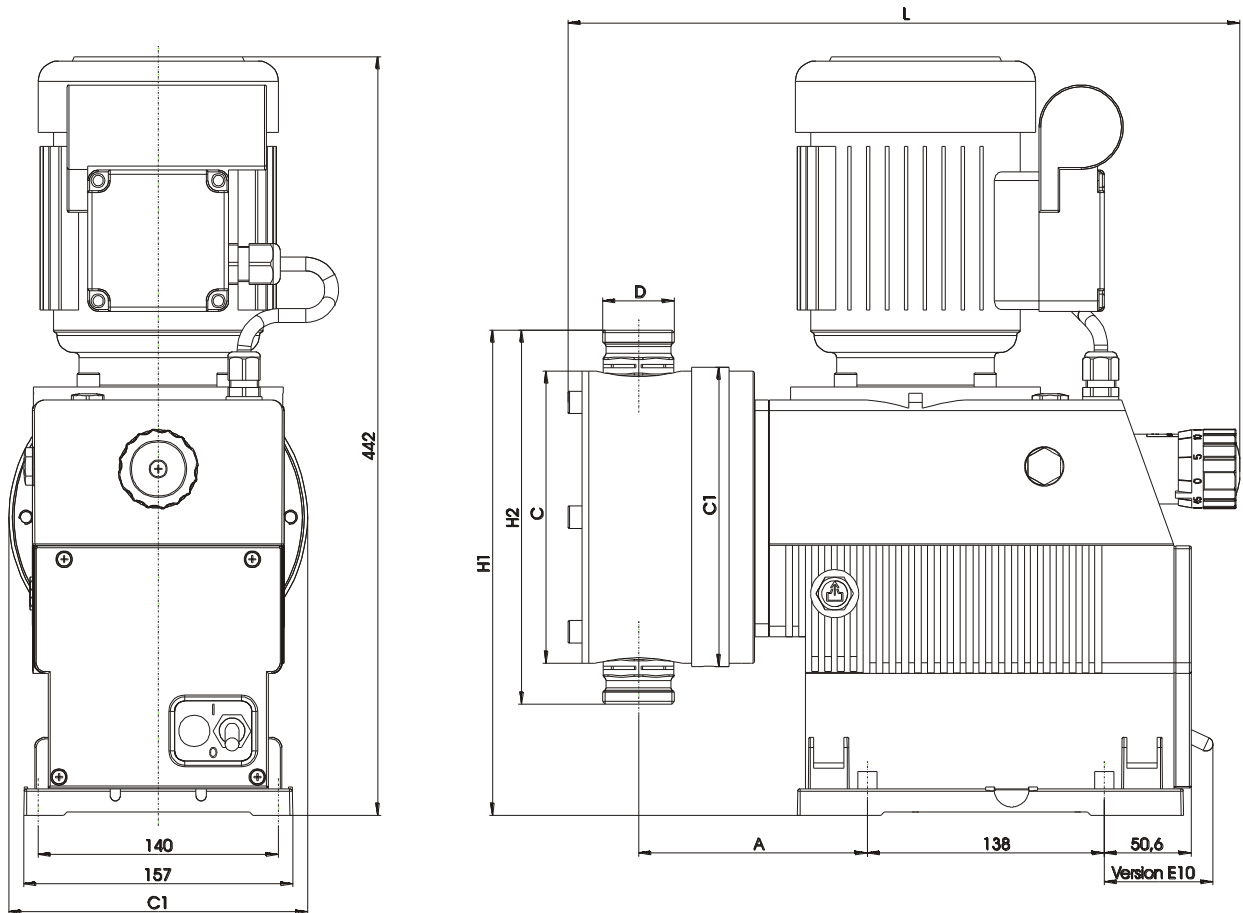
Electrical Data:

| | |
|--------------------------|---|
| 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.

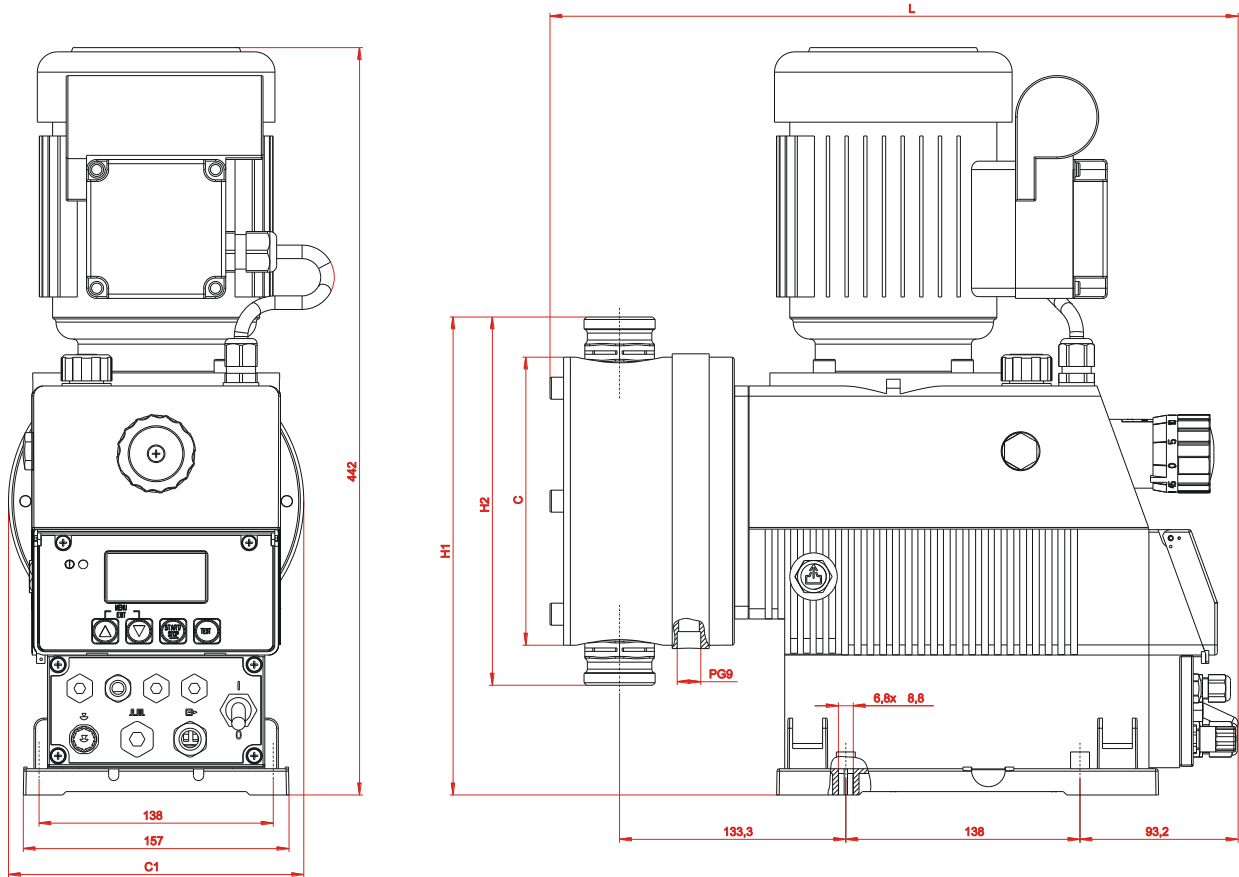
Dimensions:

Version E 00



| Capacity l / h | Dimensions in mm | | | | | | |
|-------------------|------------------|-----|-----|-----|-------|-----|----|
| | 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" |

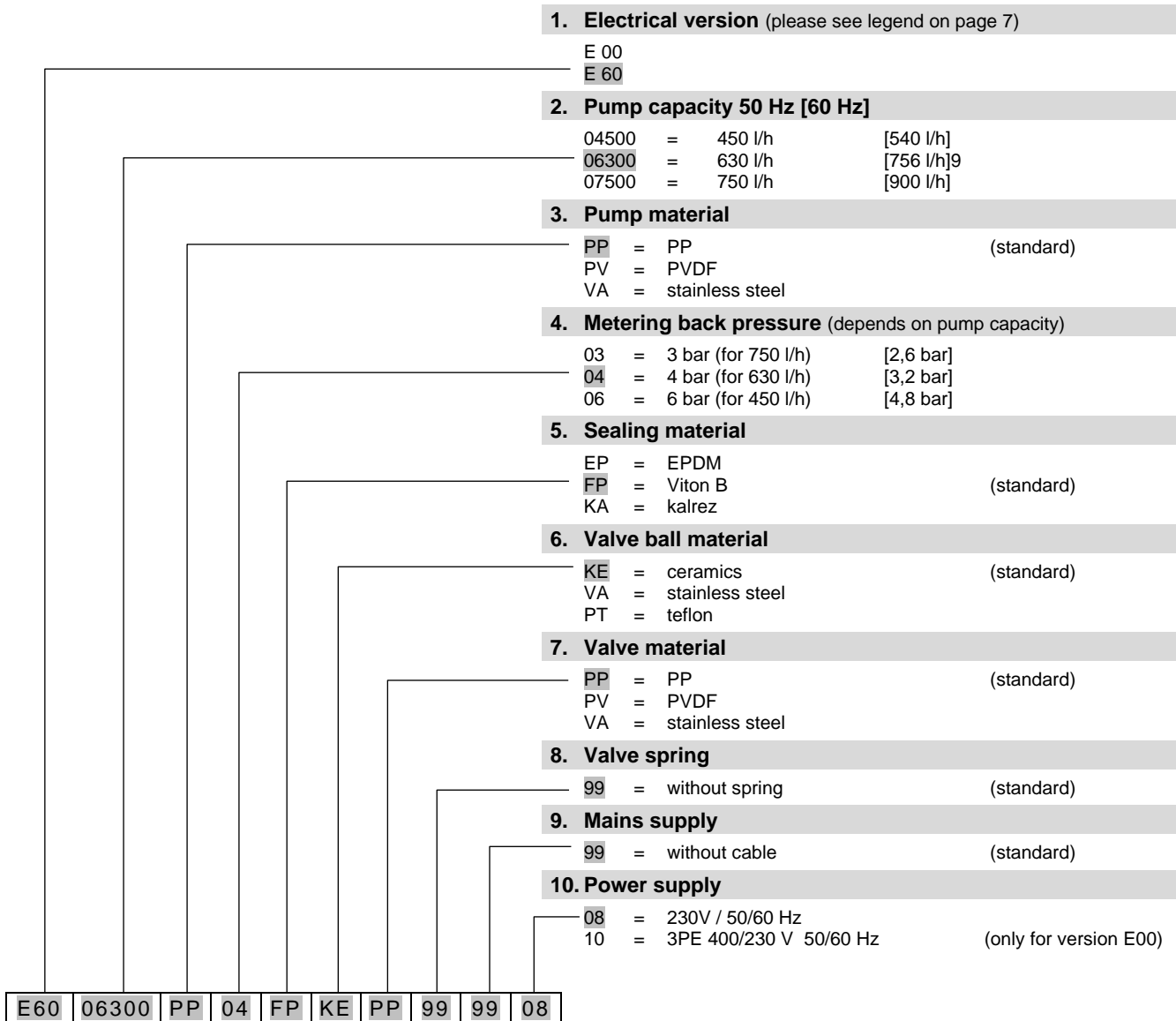
Version E 60



| 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 |



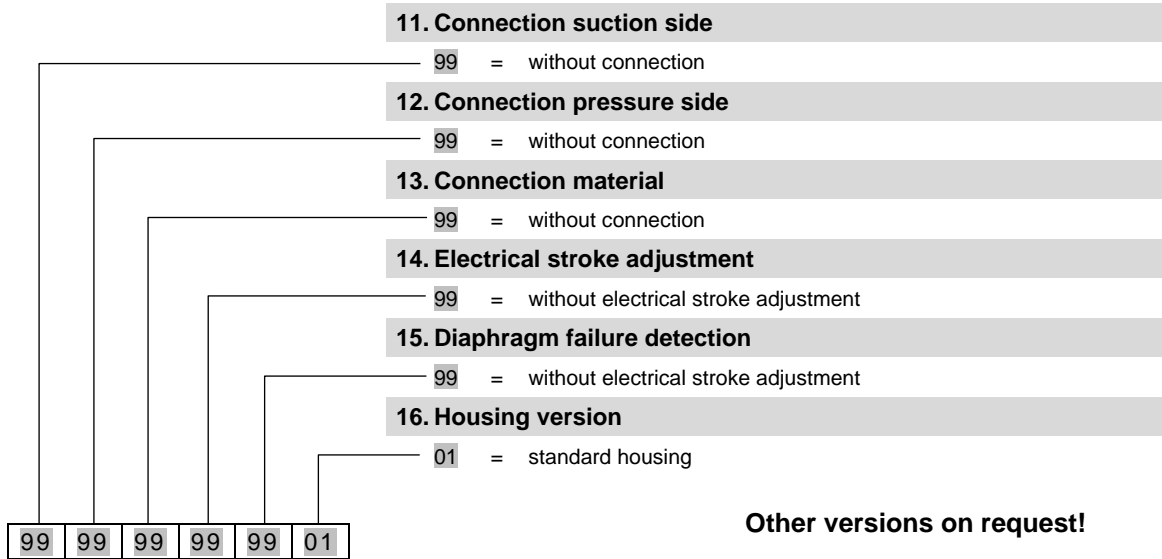
Pump code – part 1



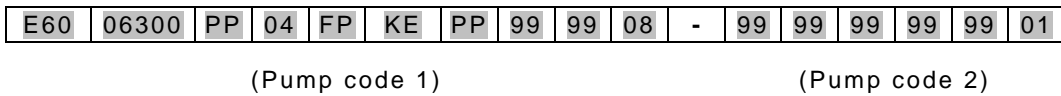
Other versions on request!



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:



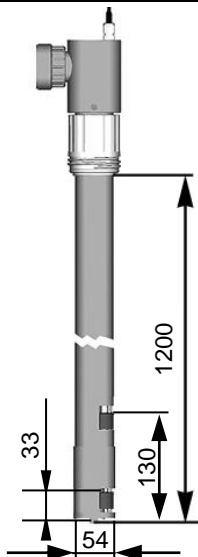
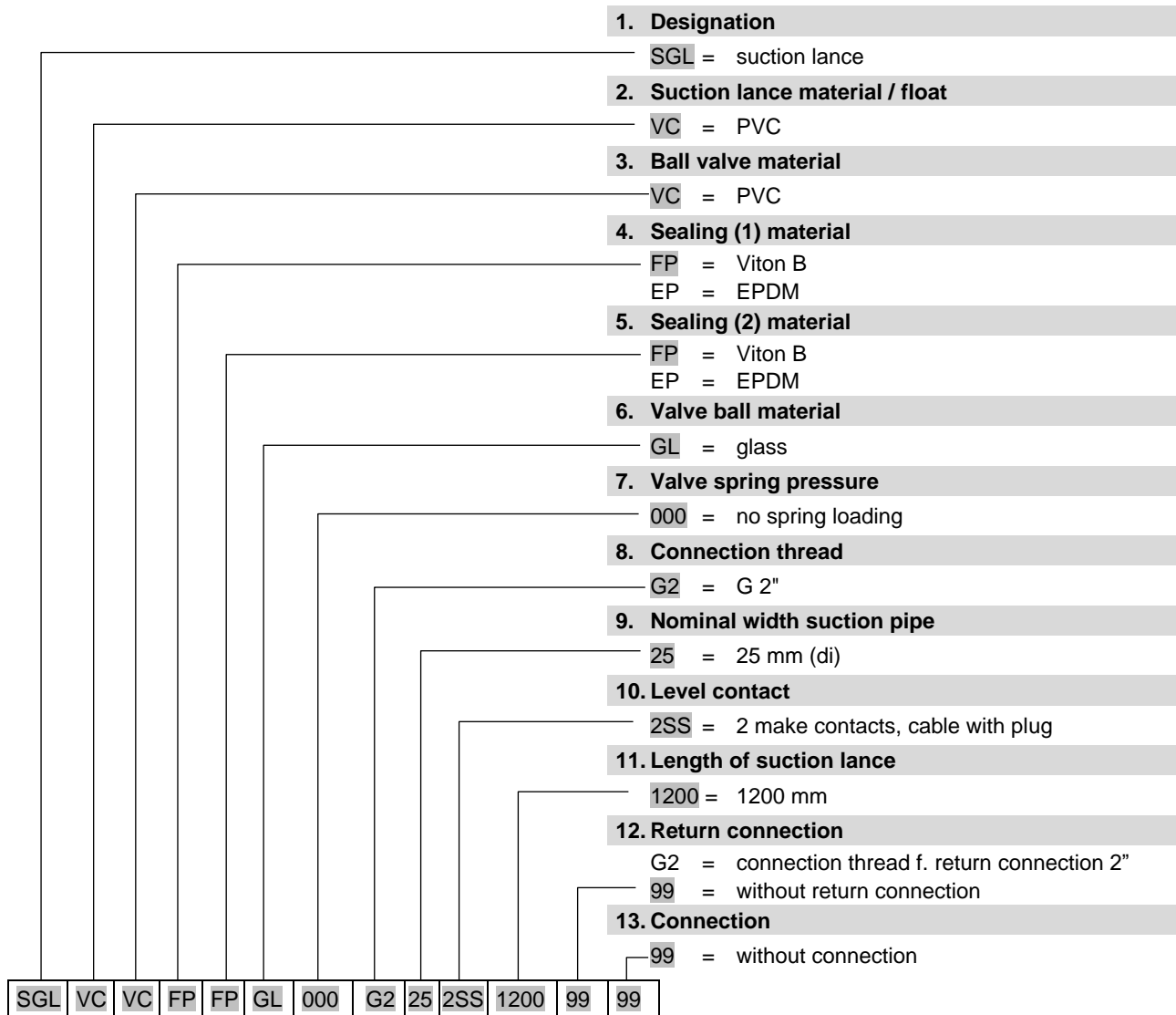
Oval gear meter

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 |

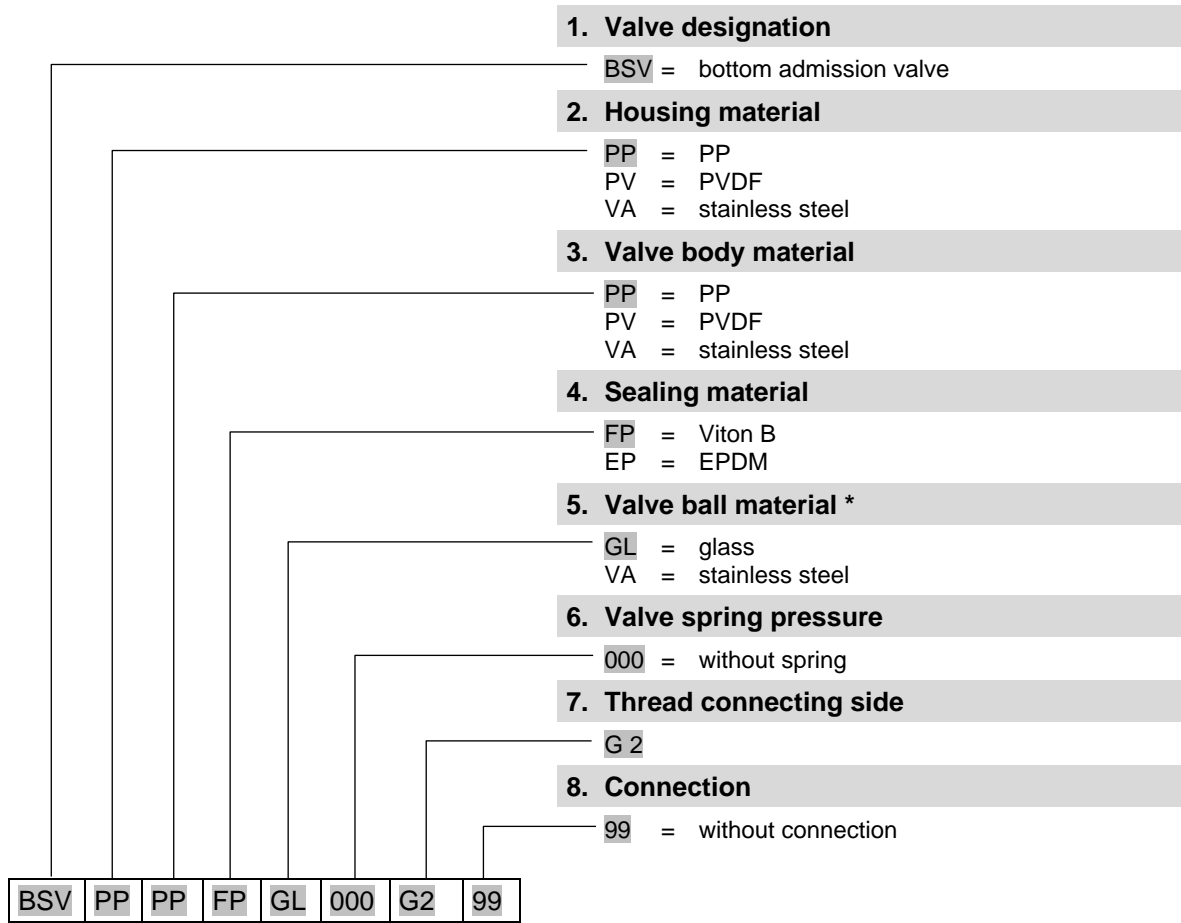
Extent of supply: Connecting seal EPDM (black) or Viton (brown), connection cable 5 m, container screw connection, **without** hose connection

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: | 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. | |



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

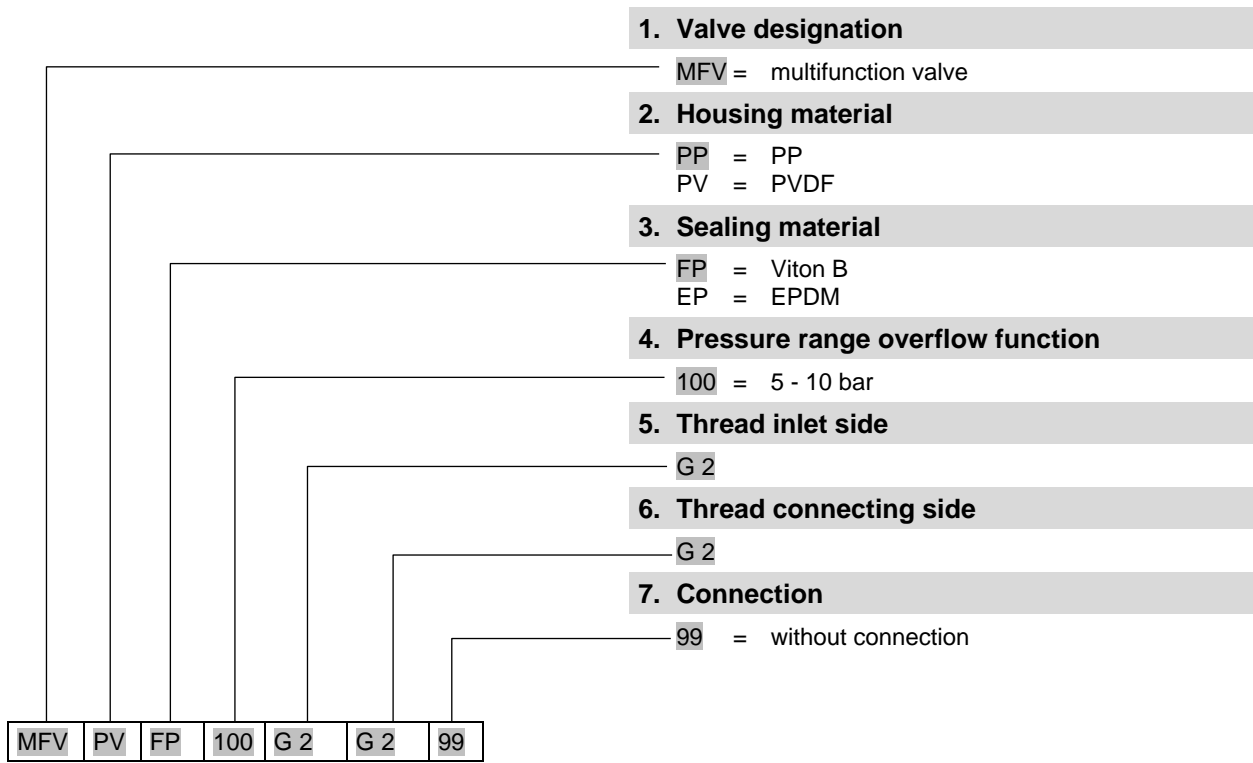


Pump bracket

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

Material-No.

| | |
|------------------------------|--------|
| MFV PP FP 100 G 2 – G 2 – 99 | 250062 |
| MFV PP EP 100 G 2 – G 2 – 99 | 250063 |
| MFV PV FP 100 G 2 – G 2 – 99 | 250066 |
| MFV PV EP 100 G 2 – G 2 – 99 | 250067 |

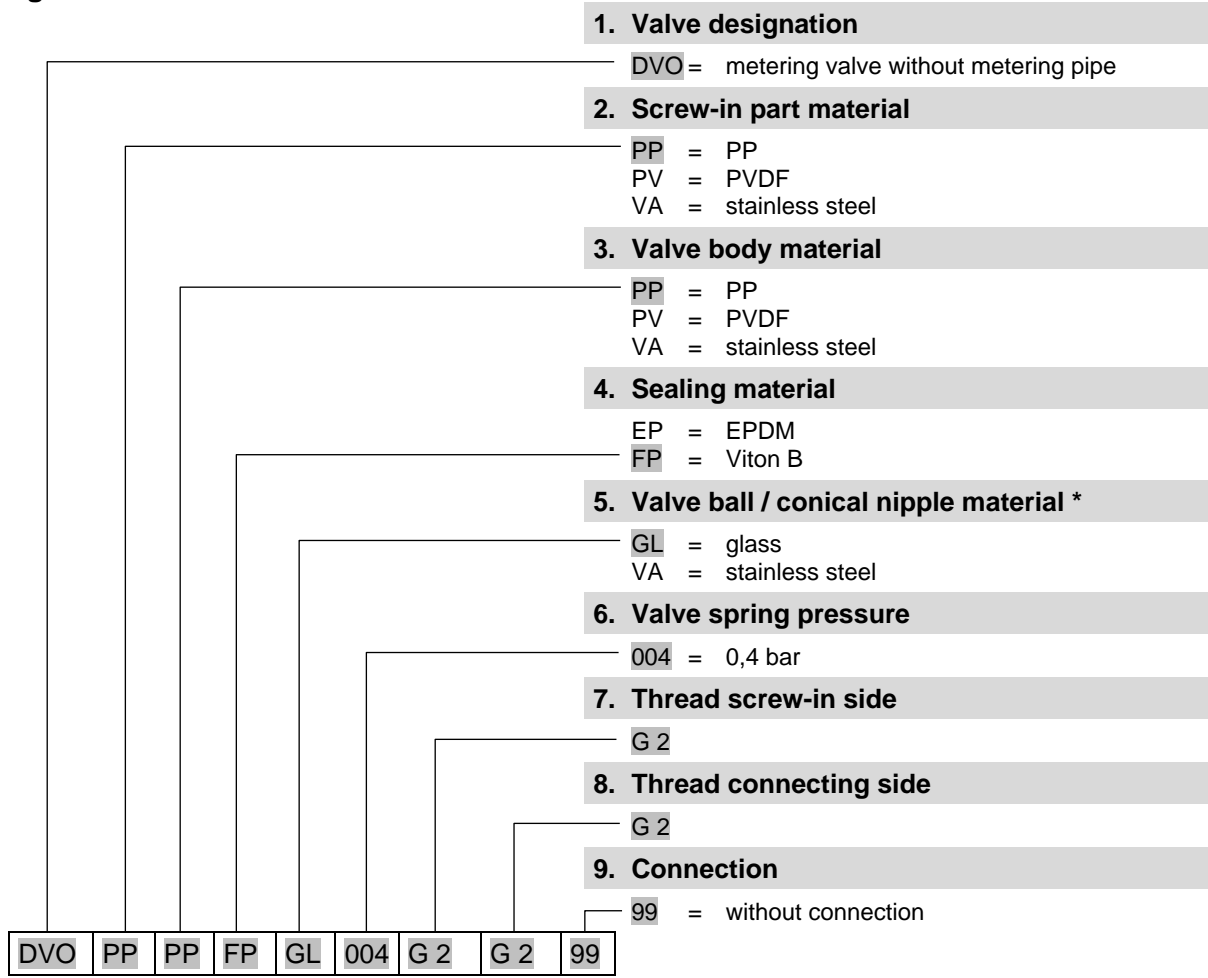
Extent of supply: 2 fixing clips with securing bracket (415018707), 3 O-ring seals (417003412) Viton B, user's manual

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

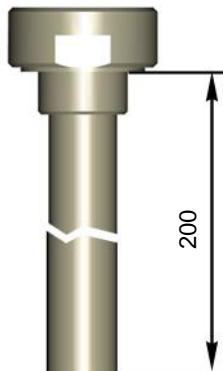
Connection material see page 16



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
for hose AD 25-40

415013305
415013306



Union nut G 2

PP
PVDF
stainless steel (1.4571)

415099837
415099074
415205316



Pressure hose nozzle

PP NW 20/22
PP NW 25/27 (ill.)
PP NW 30/32

34950253
34950254
34950255

PVDF NW 20/22
PVDF NW 25/27 (ill.)
PVDF NW 30/32

34950197
34950198
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

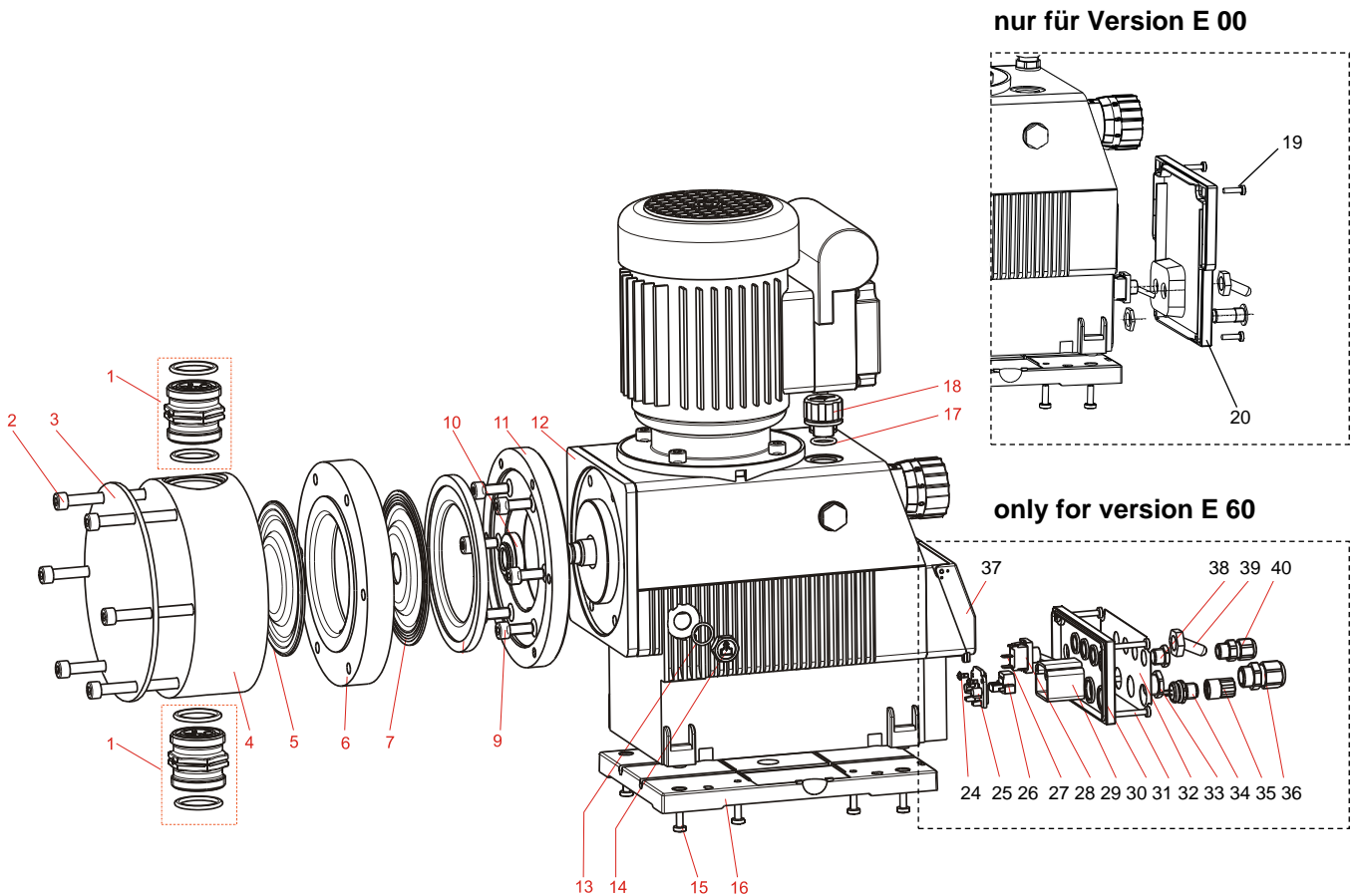
Insertion part 2" (welded bush) for tube connection DN 32 (d40)

PP
PVDF
stainless steel (screw-in thread G 1 ¼ i)

415099711
415099035
34950237

Further connection material on request!

Spare Parts:



nur für Version E 00

only for version E 60

| 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

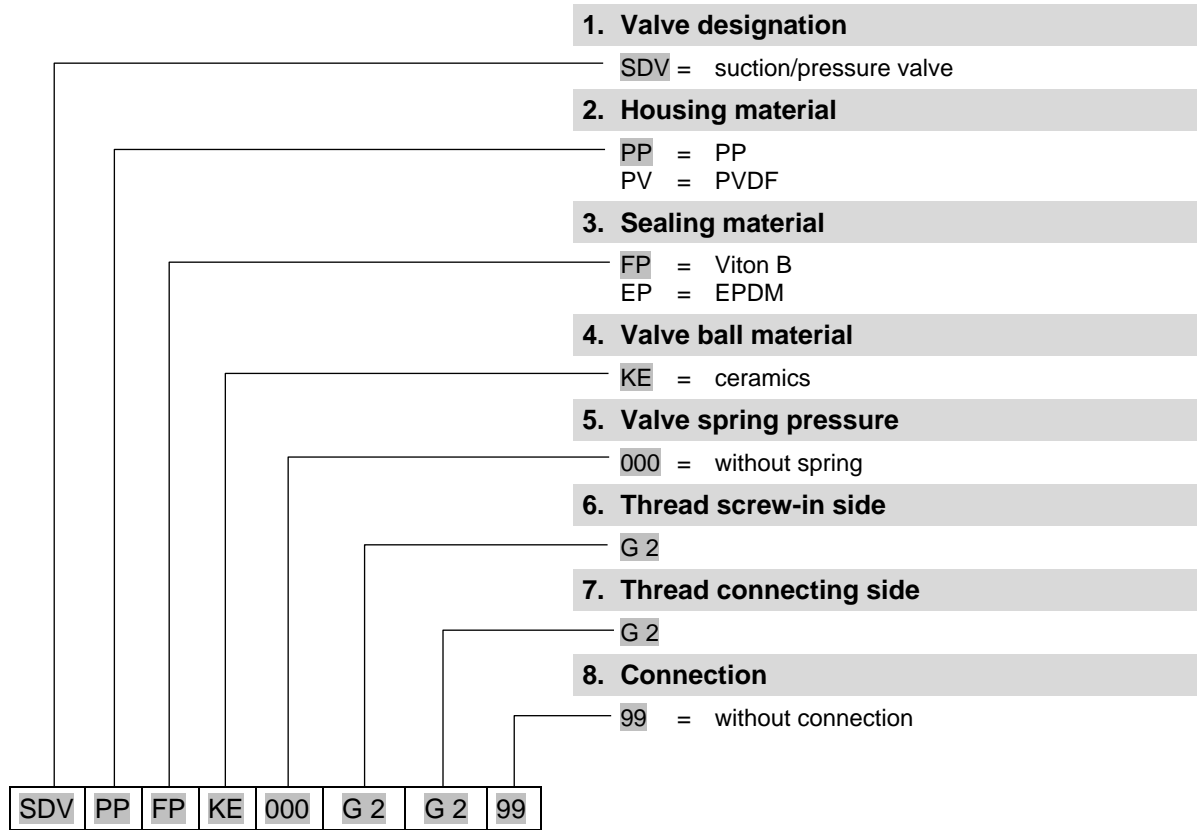
| | | |
|----|-----------------------------|-----------|
| 19 | Oval head screw M4 x 16 VA | 413119230 |
| 20 | Front panel for version E00 | 34950161 |

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 |

