

- 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 [cm³]: 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!

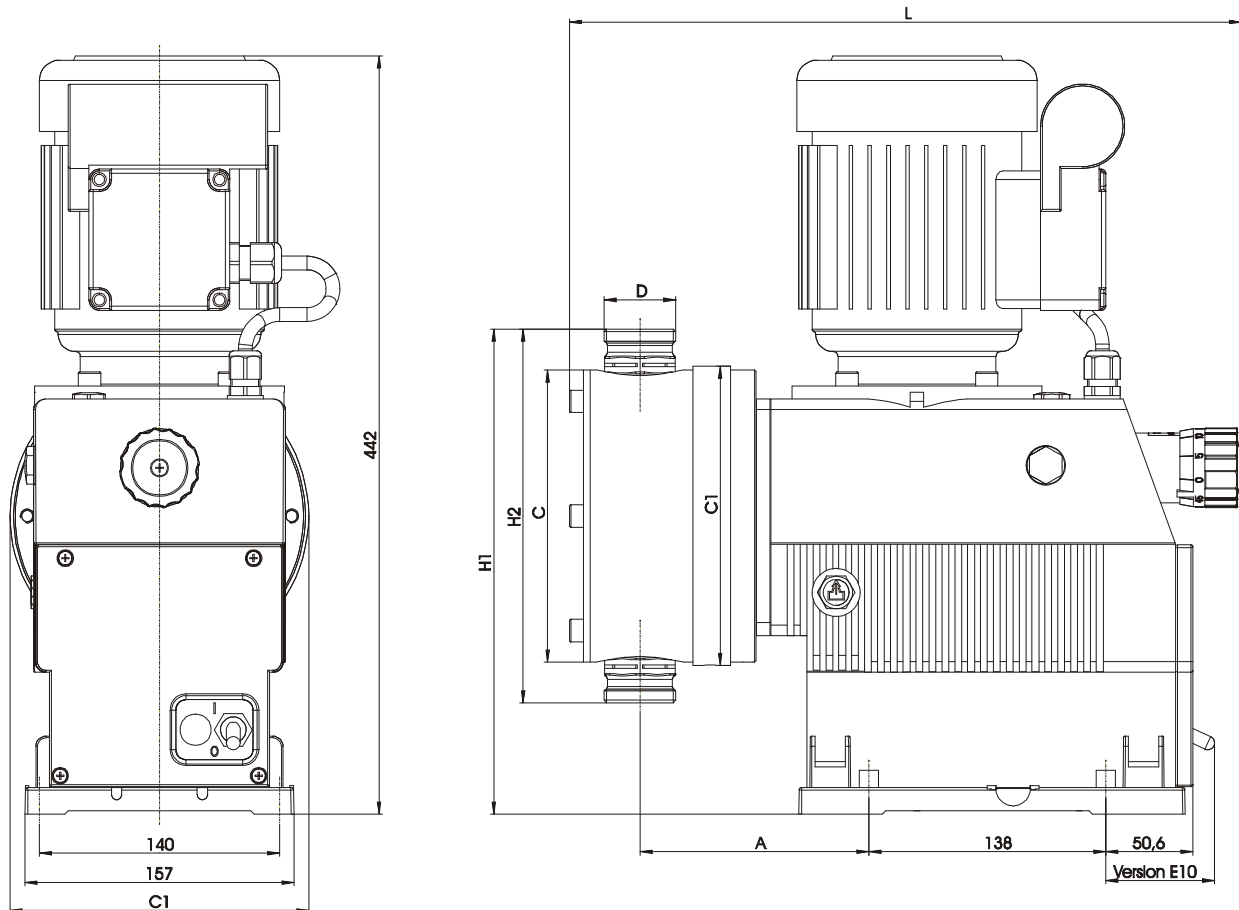
Electrical Data:

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.

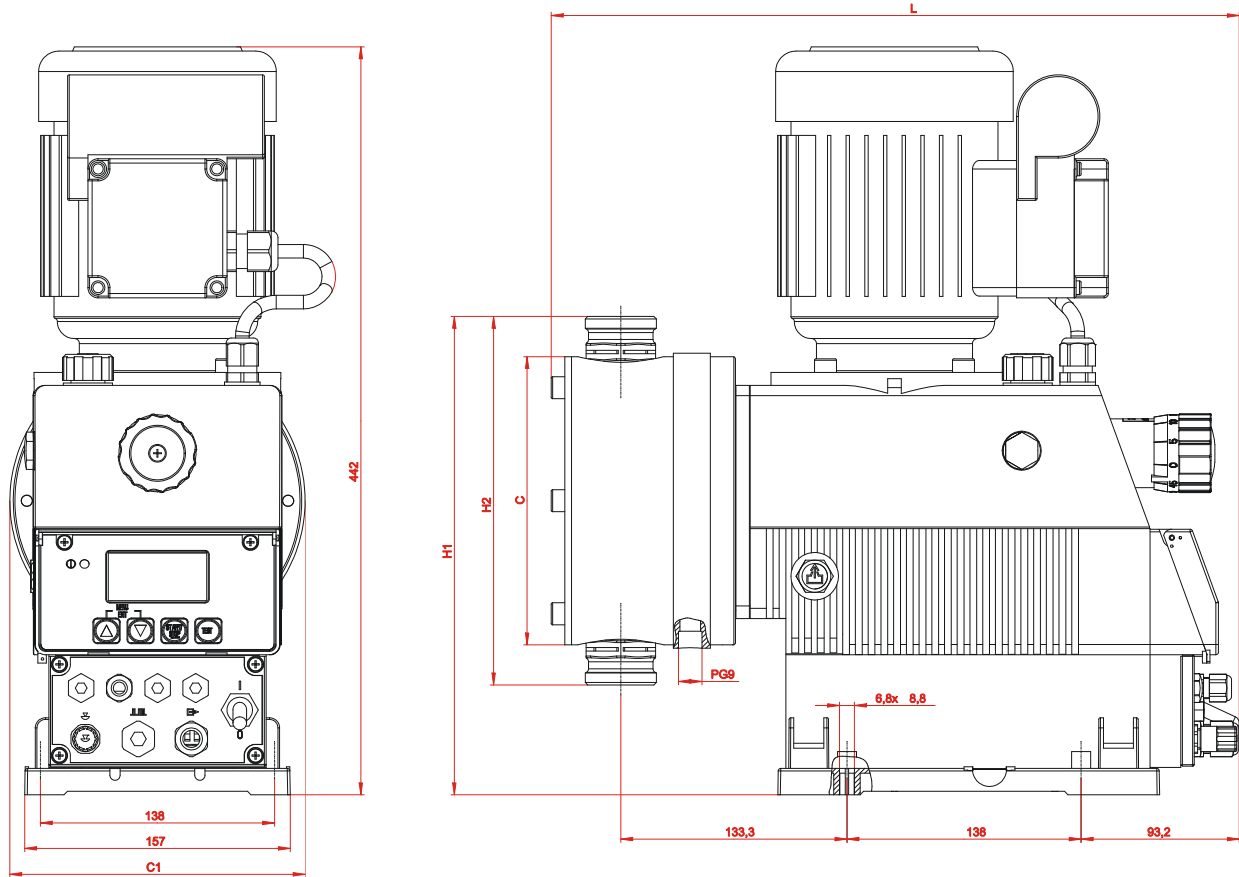
Dimensions:

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

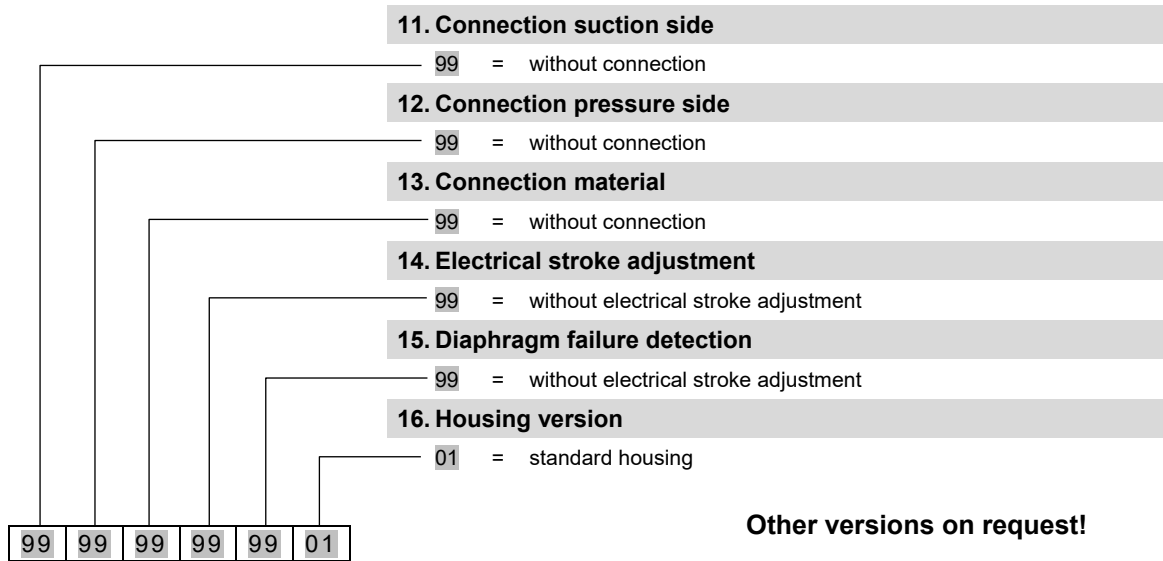
	1. Electrical version (please see legend on page 7)
	E 00 E 60
	2. Pump capacity 50 Hz [60 Hz]
	04500 = 450 l/h [540 l/h] 06300 = 630 l/h [756 l/h] 07500 = 750 l/h [900 l/h]
	3. Pump material
	PP = PP (standard) PV = PVDF VA = stainless steel
	4. Metering back pressure (depends on pump capacity)
	03 = 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
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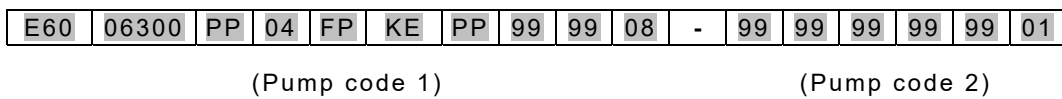
Other versions on request!



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 01	150301
	E00 04500 PP 06 FP KE PP 99 99 10 - 99 99 99 99 01	150341
	E00 06300 PP 04 FP KE PP 99 99 08 - 99 99 99 99 01	150401
	E00 06300 PP 04 FP KE PP 99 99 10 - 99 99 99 99 01	150441
	E00 07500 PP 03 FP KE PP 99 99 08 - 99 99 99 99 01	150501
	E00 07500 PP 03 FP KE PP 99 99 10 - 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 01	150360
	E60 06300 PP 04 FP KE PP 99 99 08 - 99 99 99 99 01	150460
	E60 07500 PP 03 FP KE PP 99 99 08 - 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:



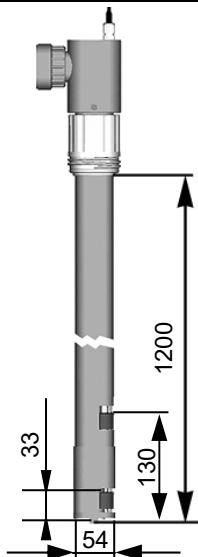
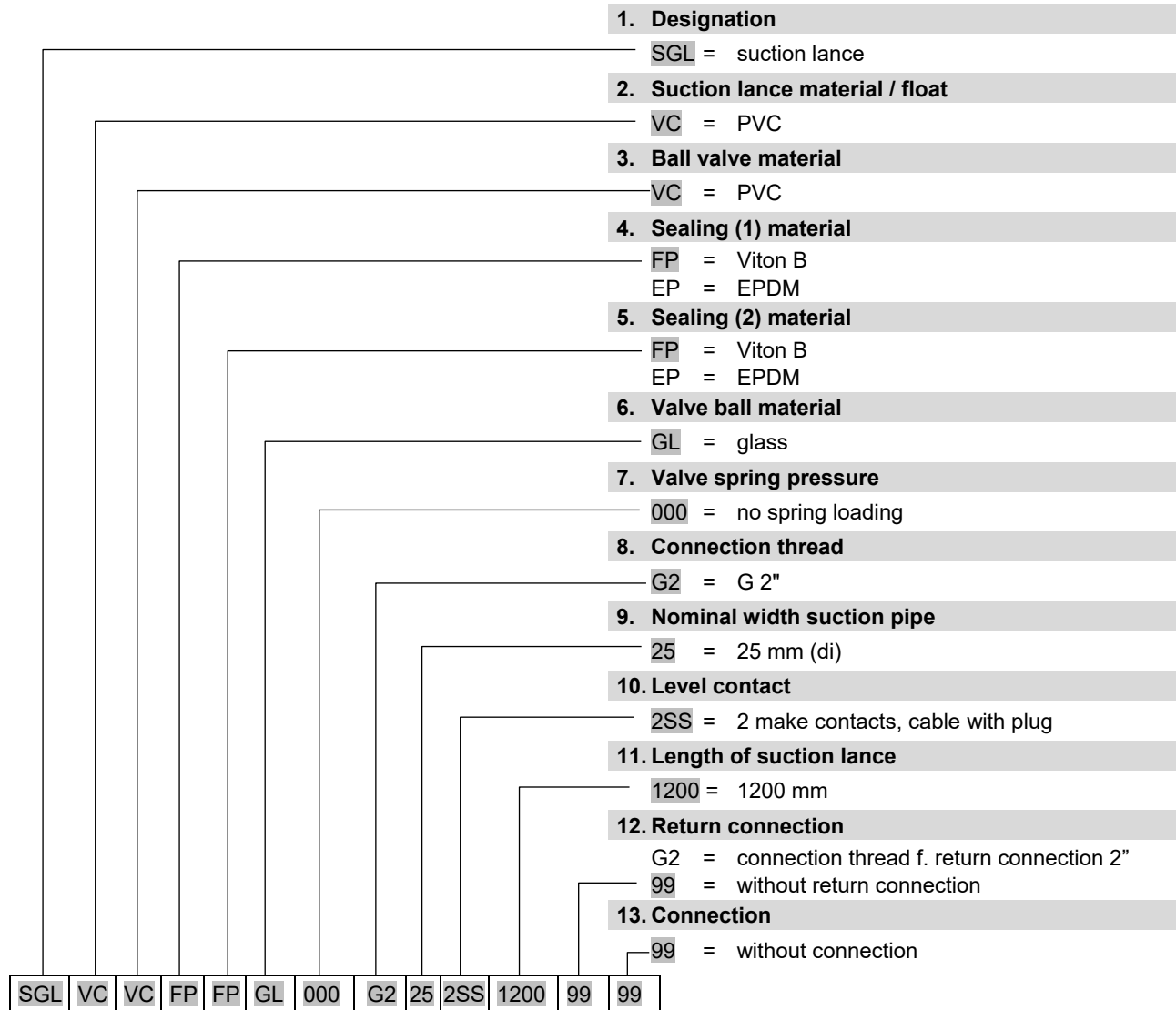
Oval gear meter

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

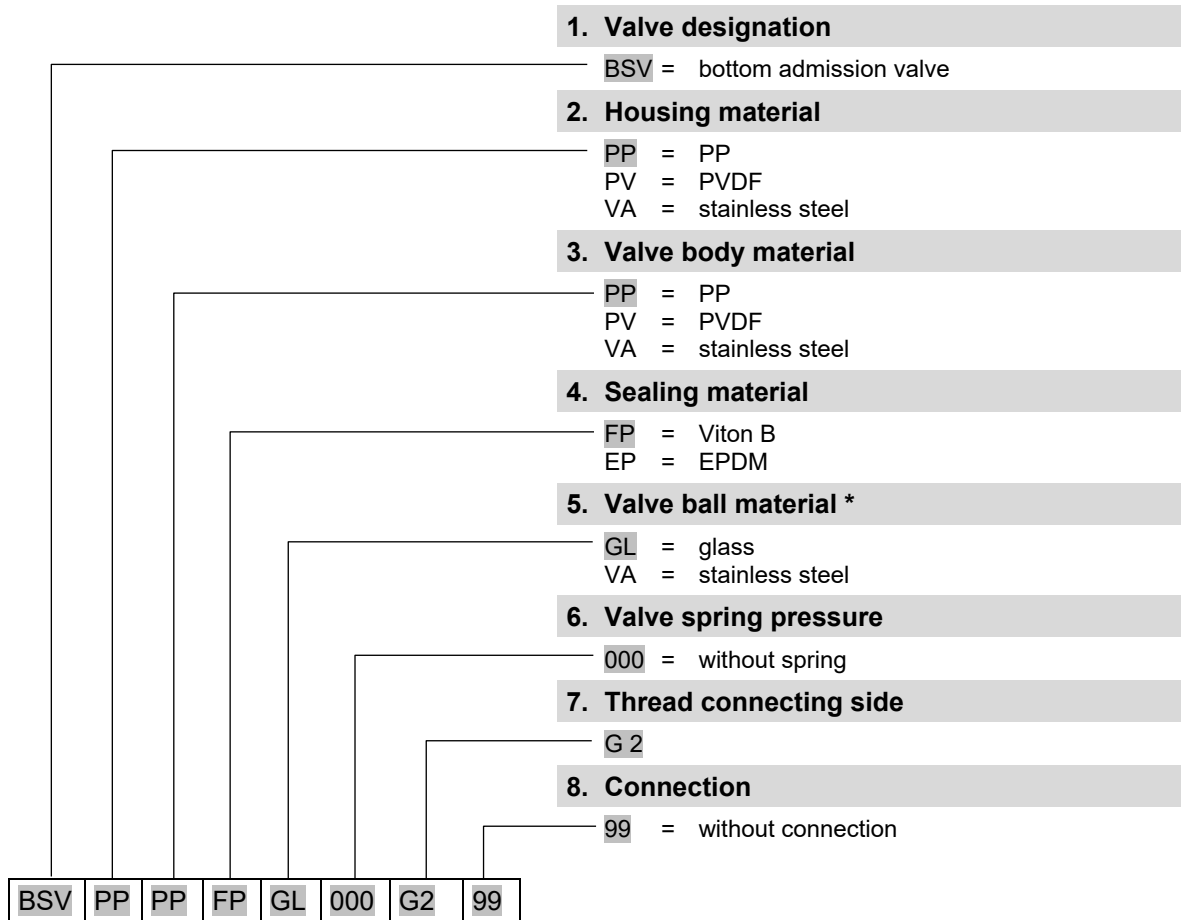
Extent of supply: Connecting seal EPDM (black) or Viton (brown), connection cable 5 m, container screw connection, **without** hose connection

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

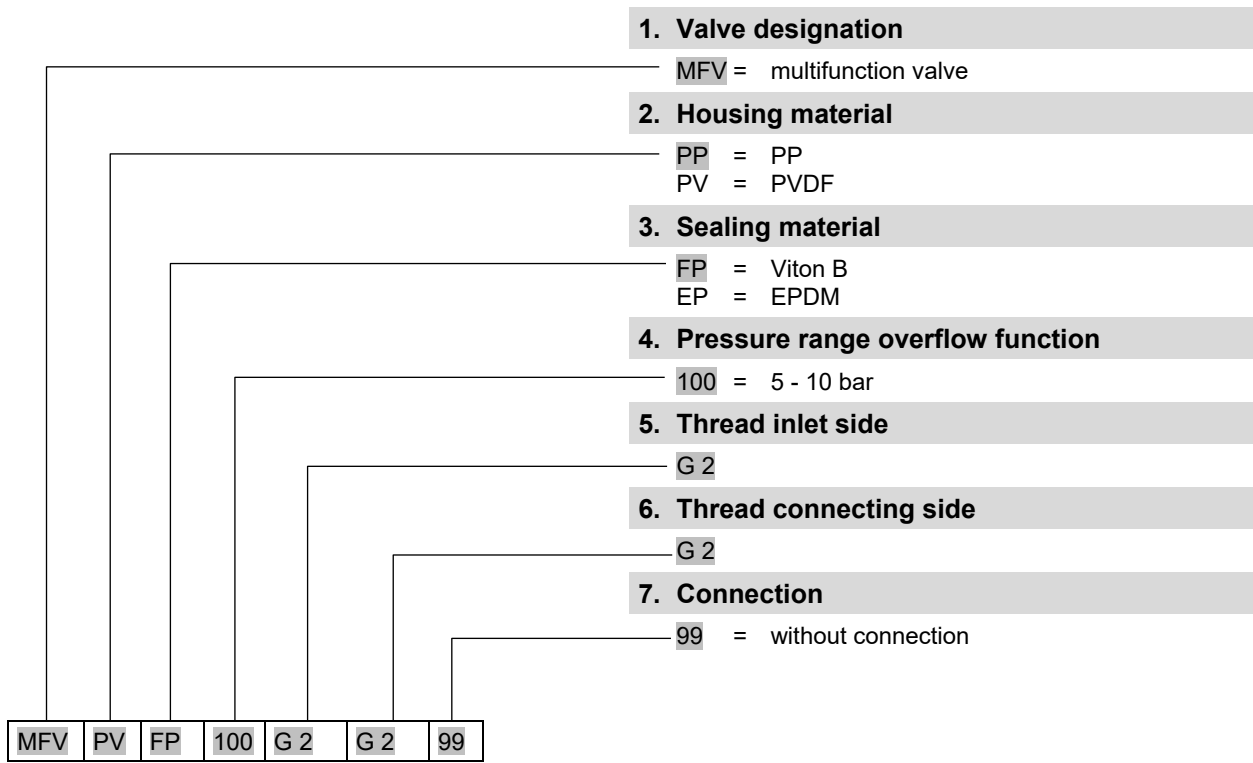


Pump bracket

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	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

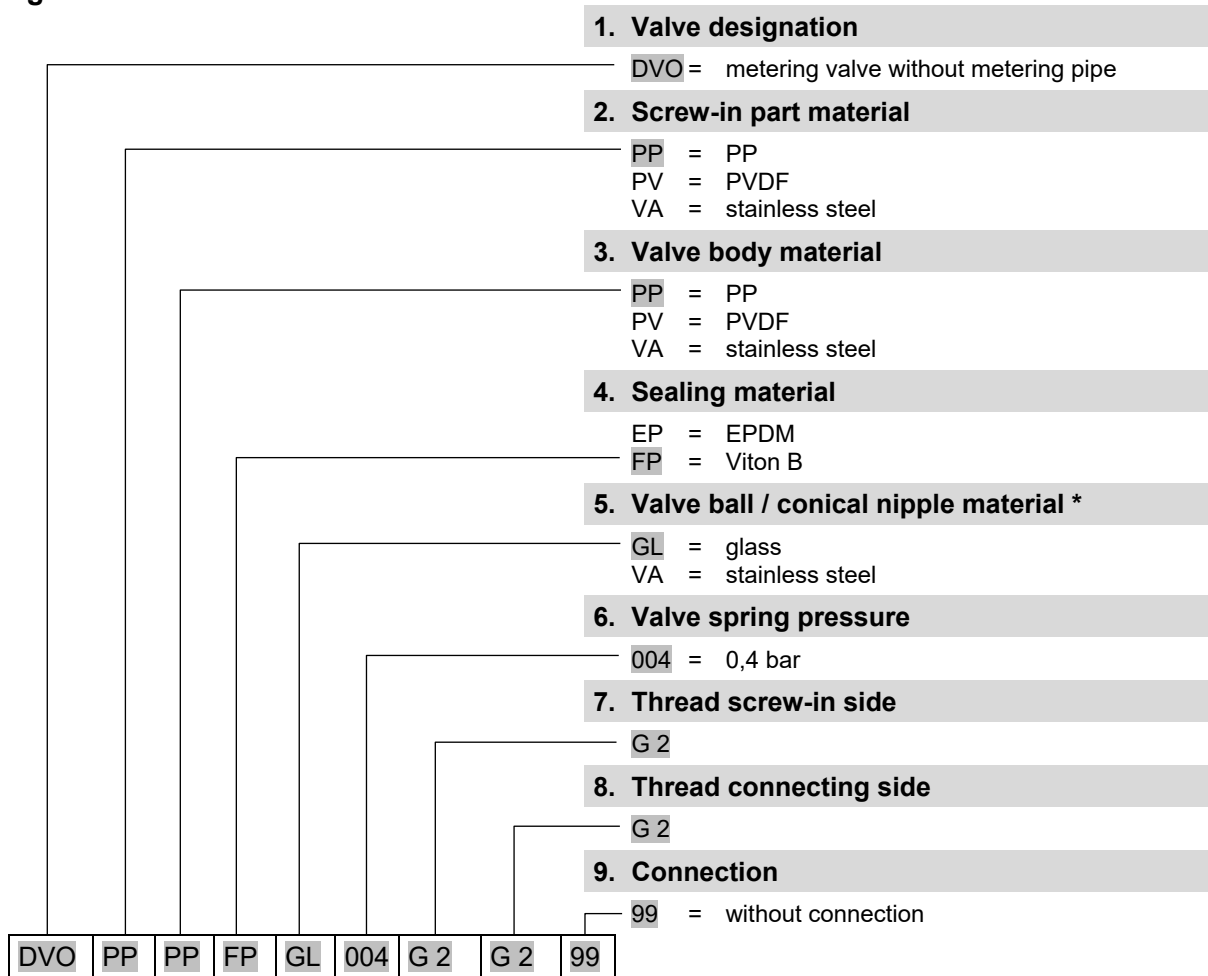
Extent of supply: 2 fixing clips with securing bracket (415018707), 3 O-ring seals (417003412) Viton B, user's manual

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

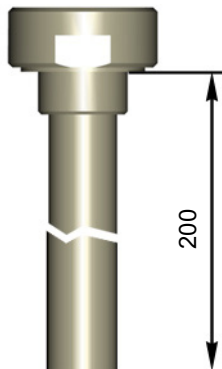
Connection material see page 16



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

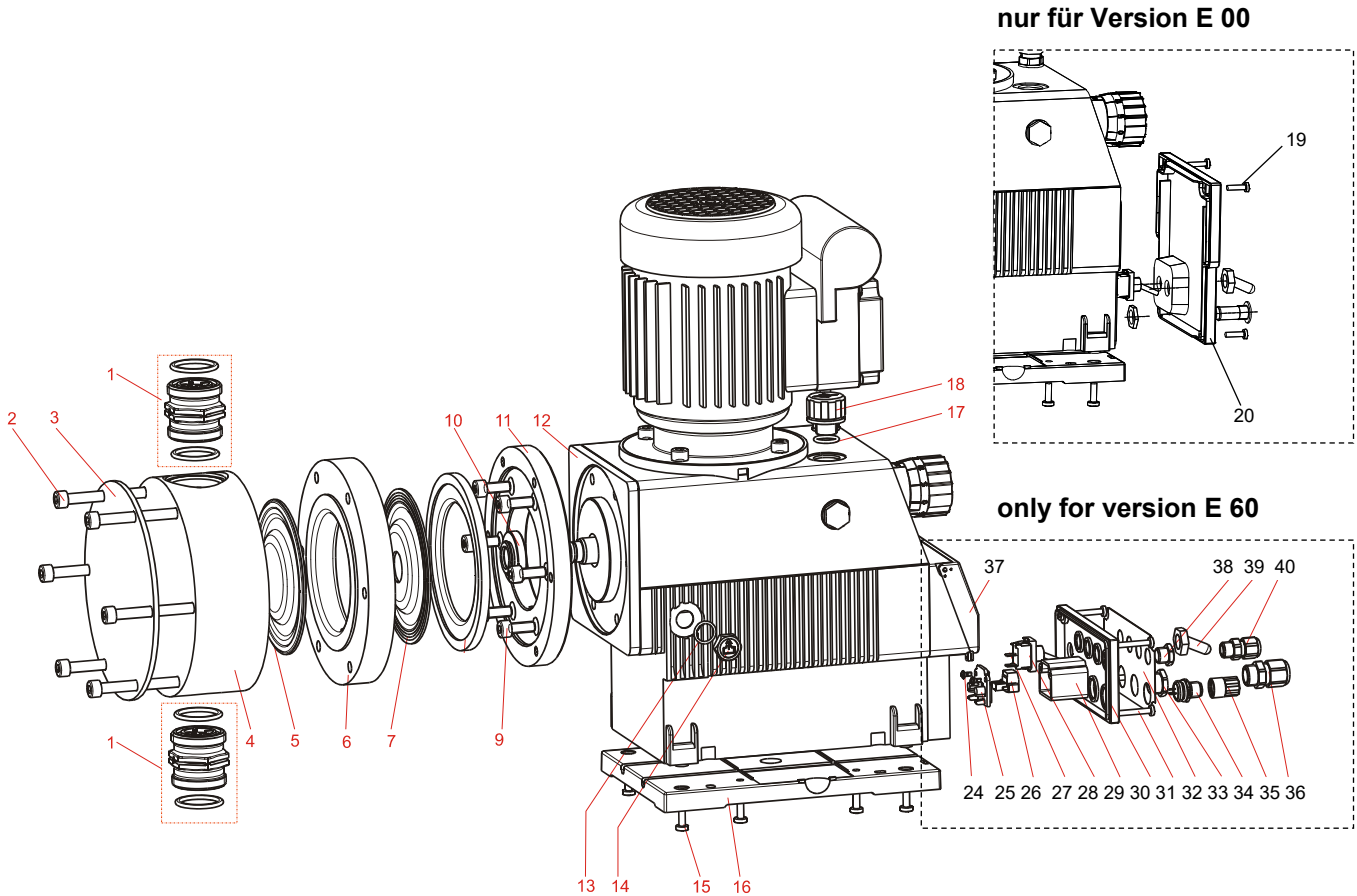
Insertion part 2" (welded bush) for tube connection DN 32 (d40)

PP
PVDF
stainless steel (screw-in thread G 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

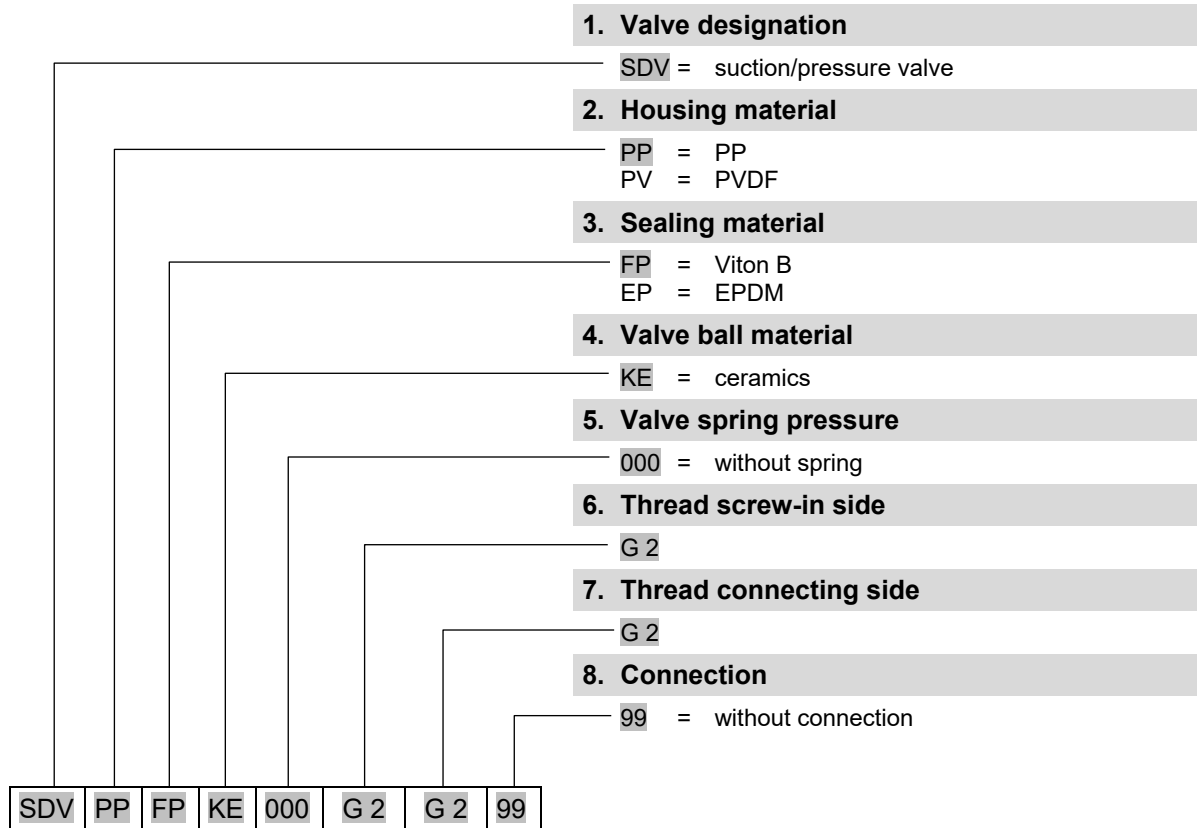
19	Oval head screw M4 x 16 VA	413119230
20	Front panel for version E00	34950161

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

