

- **Mechanical stroke adjustment**
- **Stroke frequency regulation**
- **Pulse control**
- **Pulse multiplication and division**
- **Pulse memory**
- **Standard signal control**
- **Empty signal and low level warning**
- **External metering lock**
- **Empty signal and stroke signal output**
- **Metering regulator (readjustment of metering output) in combination with an oval gear meter**



The ELADOS® EMP III series of metering pumps is constructed on the building block principle. It comprises the drive unit, the gear box unit, the metering pump head and the electronics. Different designs of drive option allow the pump to be

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



Technical Data:

Mechanical Data:

Pump capacity [l/h]:	80	120
Metering back-pressure [bar]:	4	3
Delivery capacity per stroke [cm ³]:	10.8	16.1
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 temperature max.:	40° C	

Electrical Data:

Connection:	230 V / 50/60 Hz
	At a mains frequency of 60 Hz, delivery capacity increases by 20 %, whereas metering back-pressure decreases by 20 %.
	Special voltages on request
Current consumption [mA]:	950 (50 Hz)
Power output [W]:	90 (50 Hz)
Safety type:	IP 55
Insulation class:	F

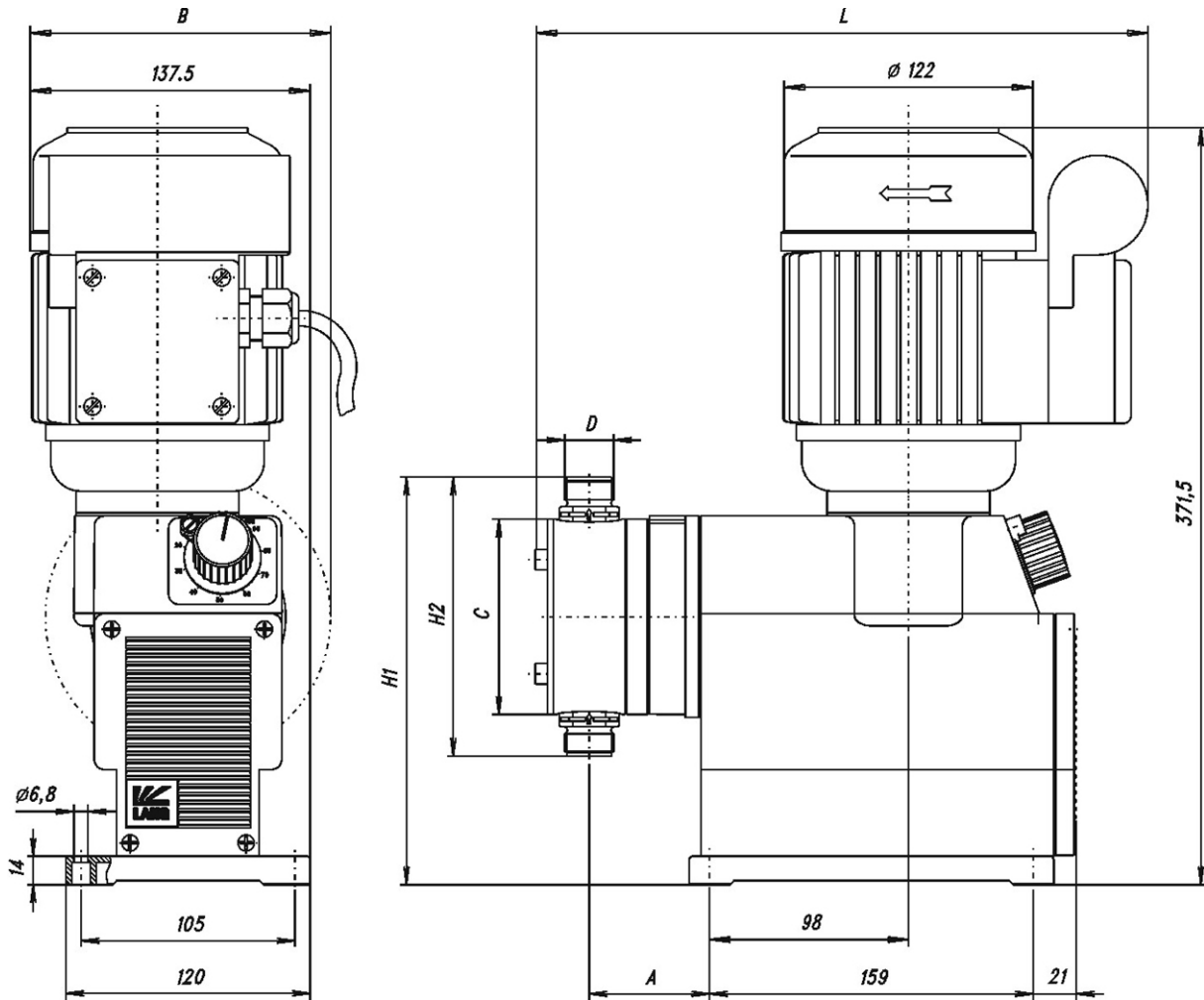
All values at 50 Hz. All data refer to water temperature of 20 °C according to the instructions of the technical manual, subject to!

Material:

Housing:	thermoplastic polyester
Pump head:	polypropylene optional PVDF, PVC 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]:	8.6 8.8
Colour:	blue RAL 5007
Special versions on request	

Dimensions:

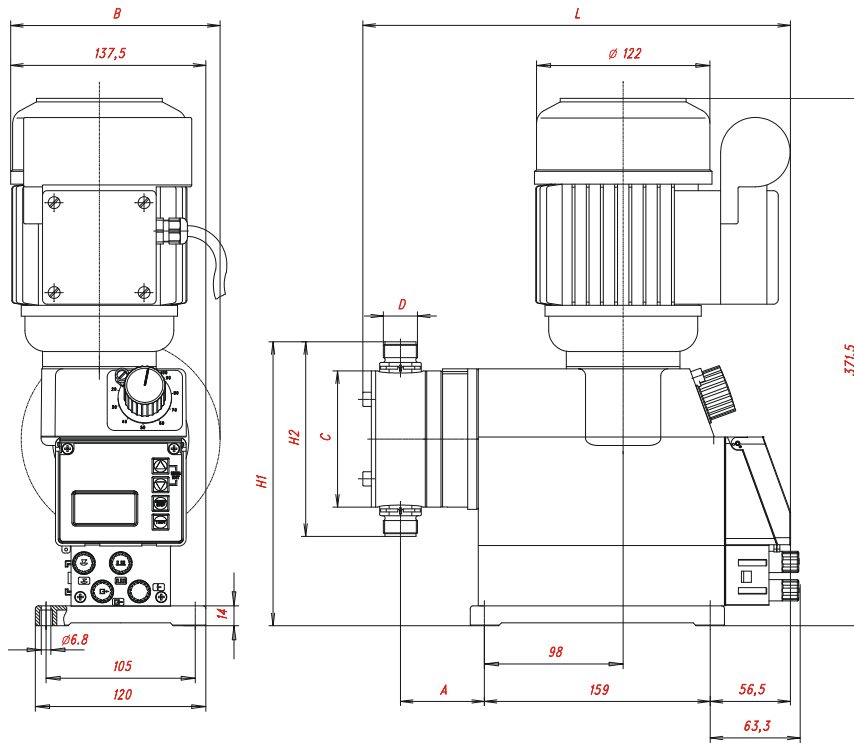
Version E 00



Capacity l/h	Dimensions [mm]					
	A	C	L	H1	H2	D
80	74.5	∅ 130	328	219.3	175.5	1 ¼"
120	74.5	∅ 140	330	224.3	185.5	1 ¼"

Dimensions:

Version E 10 – E 60



Capacity l / h	Dimensions [mm]						
	A	B	C	L	H1	H2	D
80	74.5	140	$\varnothing 130$	328	219.3	175.5	1 1/4"
120	74.5	145	$\varnothing 140$	330	224.3	185.5	1 1/4"



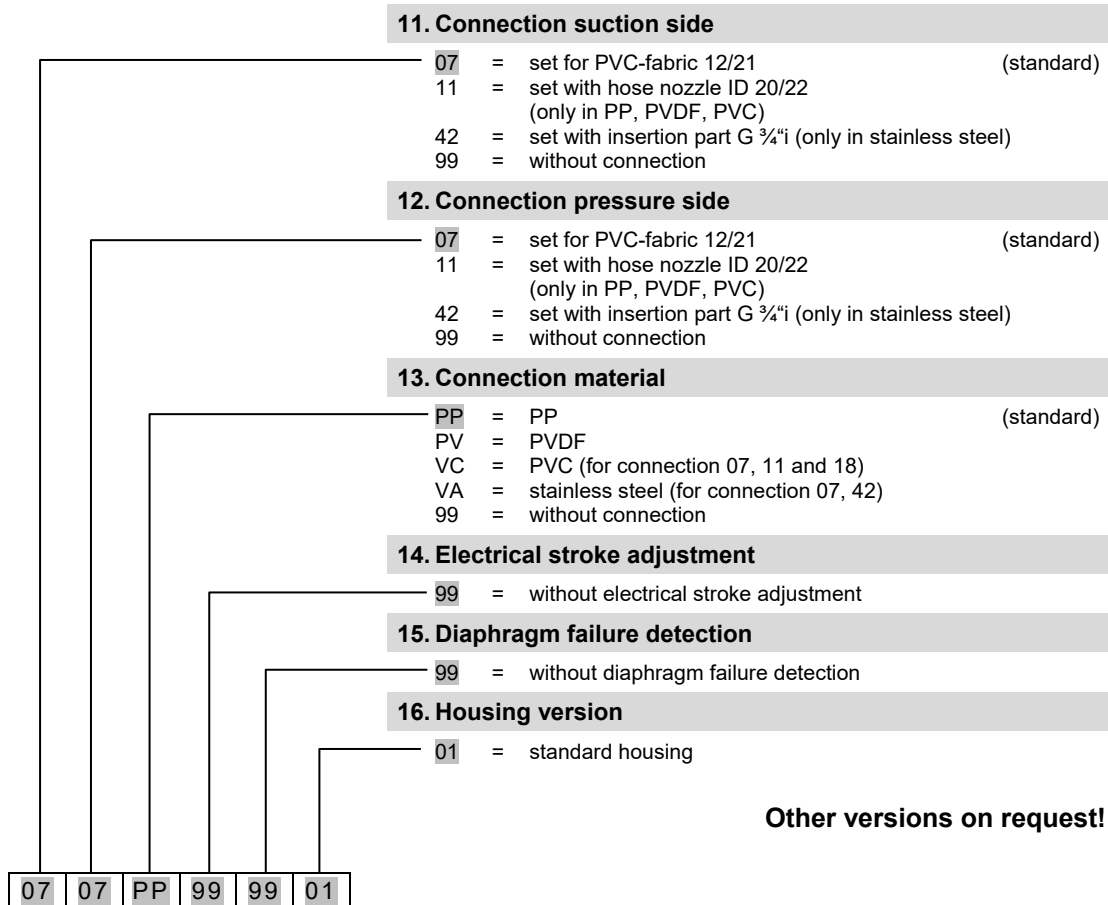
Pump code – part 1

	1. Electrical version (please see legend on page 7)
	E 00
	E 10
	E 60
	2. Pump capacity 50 Hz [60 Hz]
	00800 = 80 l/h [96 l/h]
	01200 = 120 l/h [144 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 120 l/h) [2.4 bar]
	04 = 4 bar (for 80 l/h) [3.2 bar]
	5. Sealing material
	EP = EPDM
	FP = Viton B (standard)
	KA = kalrez
	6. Valve ball material
	KE = ceramics (standard)
	VA = V4A
	PT = teflon
	7. Valve material
	PP = PP (standard)
	PV = PVDF
	VA = stainless steel
	8. Valve spring
	99 = without spring (standard)
	9. Mains supply
	01 = mains cable 2m shock-proof plug (standard)
	02 = mains cable 3-wired 2.4m end sleeves
	99 = without cable
	10. Power supply
	08 = 230V / 50/60 Hz
	09 = 115V / 50/60 Hz
	10 = 3PE 400/230 V 50/60 Hz (only for version E00)

E60	01200	PP	03	FP	KE	PP	99	01	08
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Other versions on request!

Pump code – part 2



Example of a complete pump code of a standard pump:

E60	01200	PP	03	FP	KE	PP	99	01	08	-	07	07	PP	99	99	01
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(Pump code 1)

(Pump code 2)



Electrical versions

E 00 Mechanical stroke adjustment

E 10 On / off switch, mechanical stroke adjustment

- E 60**
- 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

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 III	E00 00800 PP 04 FP KE PP 99 99 08 – 07 07 PP 99 99 01	149301
	E00 01200 PP 03 FP KE PP 99 99 08 – 07 07 PP 99 99 01	149401
	Extent of supply: hose connection material 12/21 mm, operating instructions, without connection cable	
ELADOS® EMP III	E10 00800 PP 04 FP KE PP 99 01 08 – 07 07 PP 99 99 01	149310
	E10 01200 PP 03 FP KE PP 99 01 08 – 07 07 PP 99 99 01	149410
	Extent of supply: 2.0 m connection cable with shock-proof plug, hose connection material 12/21 mm, operating instructions	
ELADOS® EMP III	E60 00800 PP 04 FP KE PP 99 01 08 – 07 07 PP 99 99 01	149860
	E60 01200 PP 03 FP KE PP 99 01 08 – 07 07 PP 99 99 01	149960
	Extent of supply: 2.0 m connection cable with shock-proof plug, hose connection material 12/21 mm, dummy plug for empty signal input, dummy cap for empty signal or stroke signal output, 5-pin connection plug for pulse or standard signal input, plug allocation plan, operating instructions	

ELADOS® EMP III E 60^{PLUS}

with the add-on unit (Dongle Box) for connection of an OGM^{PLUS} oval gear meter the version E 60 turns to version E 60^{PLUS}



Article

Material-No.

Dongle Box

248606

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".

Accessories:



Article

**Material
No.**

Suction lances D32 with reserve and empty signal report

incl. of ball non-return valve, suction strainer, zero-potential empty signal contact (empty = contact interrupted)

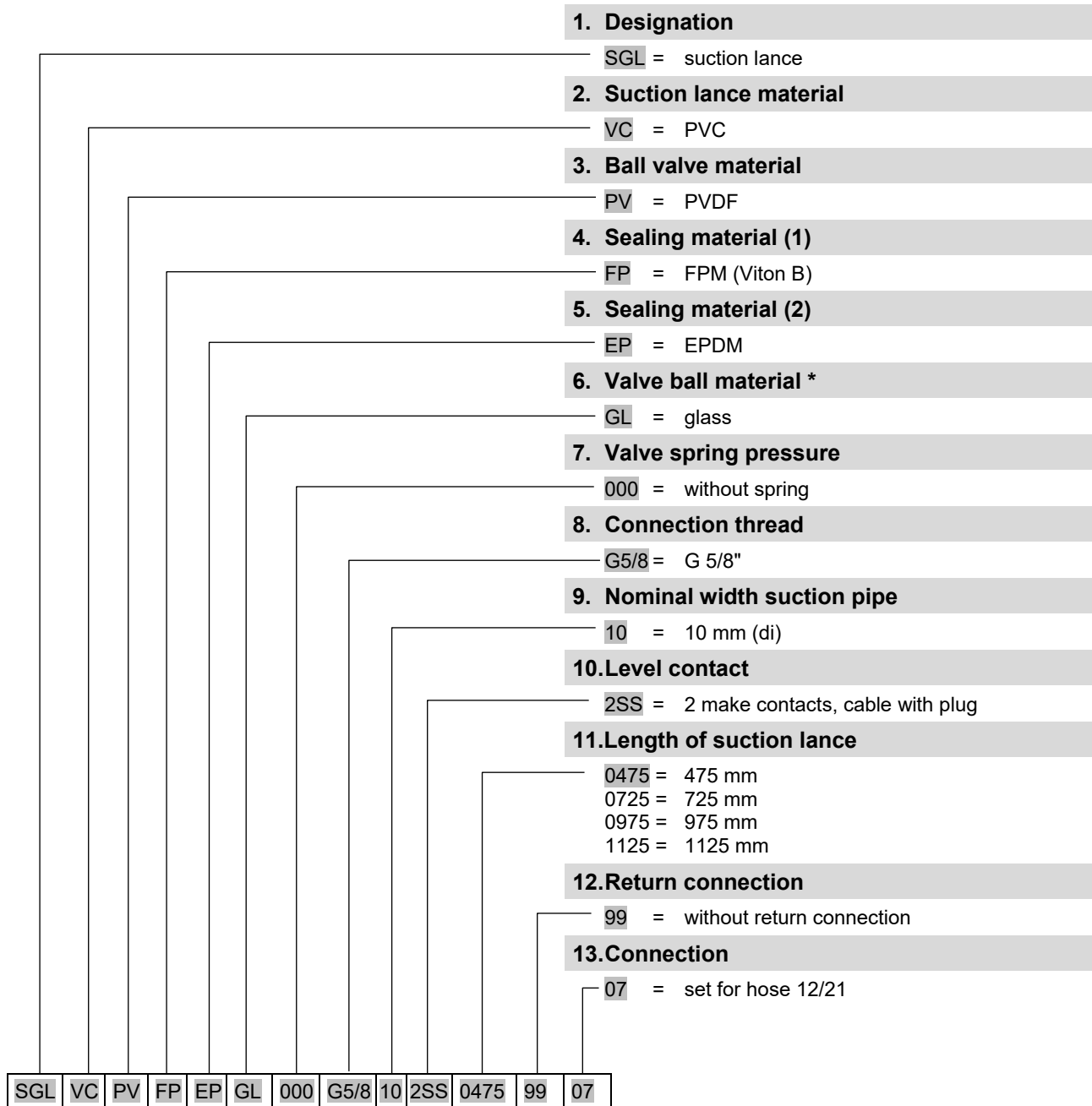
Tube diameter: 32 mm
 Hose connection: 12/21 mm
 Connection cable: circular connector
 Turn-on voltage: max.50 V AC/DC
 Switching current: 0.5 A
 Rupturing capacity: 10 W / 10 VA

SGL VCPVFPEPGL000 G5/8-10-2SS-0475-99-07 (for container 20 l)	186157
SGL VCPVFPEPGL000 G5/8-10-2SS-0725-99-07 (for container 30/60 l)	186158
SGL VCPVFPEPGL000 G5/8-10-2SS-0975-99-07 (for container 100/200 l)	186159
SGL VCPVFPEPGL000 G5/8-10-2SS-1125-99-07 (for container 200 l)	186160

Please see next page for pump code declaration.







Suction lance code



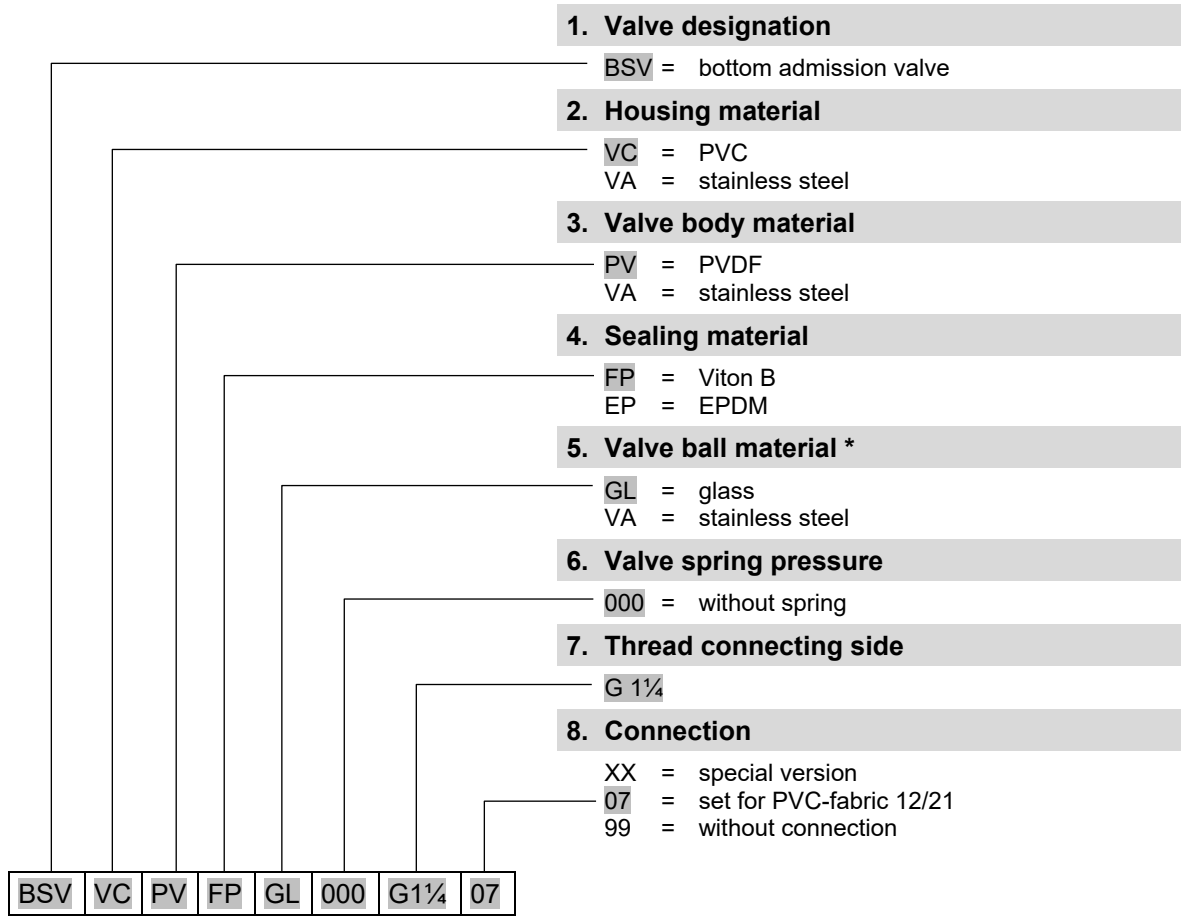
* standard valve ball material will soon be changed to ceramics

	Article	Material No.
	<p>Adapter – insert cap for suction lance Ø 32 mm PVC soft to attach on: canister 10 l and 20 l</p>	286198
	<p>Adapter – screw joint for suction lance Ø 32 mm PVC hard Thread pitch: 5 mm Threaded int. diameter: 56 mm Threaded ext. diameter: 61 mm can be screwed on: canister 30 l or container 60 – 200 l</p>	286197
	<p>Suction lance adapter, rigid PVC/Viton B for canister and barrel</p>	288549
	<p>Suction lance adapter, rigid PVC/Viton B for barrels (I-ring plus – barrel 220)</p>	288547
	<p>Suction lance adapter, rigid PVC/Viton B for container (ECOBULK-container with skid pallet) for screw in in screw cap with 2” Tri-Sure-Stuffing</p>	288548

Article	Material No.
	<p>Adapter – insert cap 288534</p> <p>for suction lance Ø 32 mm PVC – hard / Viton B appropriate for degassing products Return connection: 4/6, 6/8 or 6/12 mm (int.Ø/ext.Ø) Vent connection: 6/12 mm (int.Ø/ext.Ø) to attach on: canister 30 l or container 60 – 200 l</p>
	<p>Adapter – screw joint 288535</p> <p>for suction lance Ø 32 mm PVC – hard / Viton B / silicone appropriate for degassing products Return connection: 4/6, 6/8 or 6/12 mm (int.Ø/ext.Ø) Vent connection: 6/12 mm (int.Ø/ext.Ø) Thread pitch: 5 mm Threaded int. diameter: 63 mm Threaded ext. diameter: 69 mm for barrel with internal thread (L–ring plus barrel 220 l)</p>
	<p>Terminal box for connection cable of the suction pipe 288419</p> <p>for connection cable with round plug incl. cable union PG 7 (max. 2 x 1 m²)</p>
	<p>Protection tubes for suction lances, D32</p> <p>for prevention of mechanical damage of the suction valve and the float respectively; suitable for all suction lances Ø 32 mm</p> <p>Protection tube, PVDF, 32.5/40 (int.Ø/ext.Ø) 286191</p> <p>incl. fastening screw</p> <p>Protection tube, VA (1.4035), 32.5/40 (int.Ø/ext.Ø) 286153</p> <p>incl. fastening screw</p>



Bottom admission valve



Article

Material-No.

BSV VC PV FP GL 000 G 1 1/4 – 07	249019
BSV VC PV EP GL 000 G 1 1/4 – 07	249025
BSV VA VA FP VA 000 G 1 1/4 – 99	249036
BSV VA VA EP VA 000 G 1 1/4 – 99	on request

Hose connection: bush for hose NW 16 mm and NW 19 mm

BSV VC PV FP GL 000 G 1 1/4 – XX	249017
BSV VC PV EP GL 000 G 1 1/4 – XX	249030

* standard valve ball material will soon be changed to ceramics

**Article****Material No.****Multiple function valve**

on request

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**.

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 a

415202771

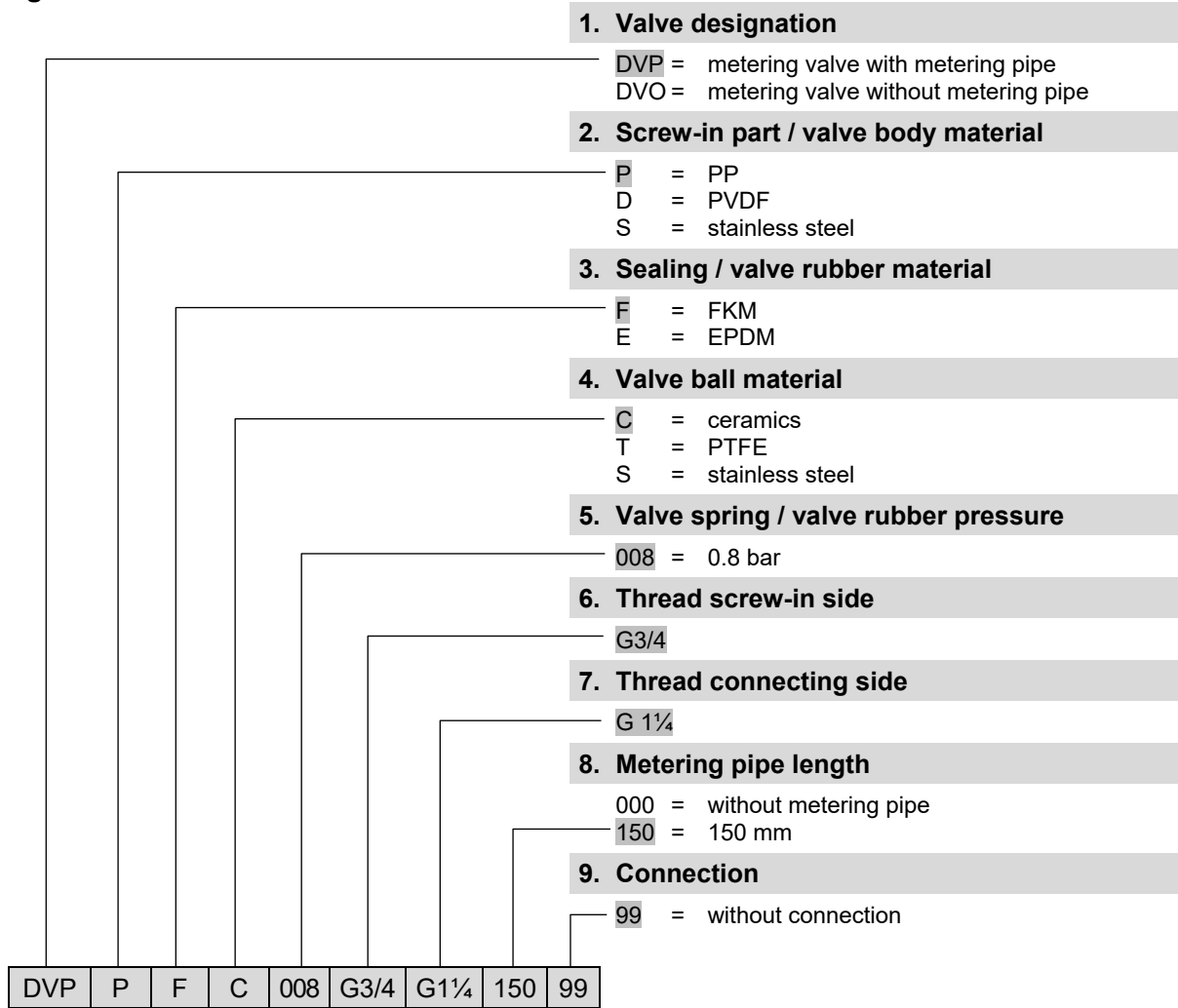


Pressure maintenance valve

415708711

Housing material: PVC
 Diaphragm: EPDM/PTFE
 Seals: Viton B
 Connections: adhesive muffs 25
 Response pressure: 0.2-10 bar (adjustable)

Metering valves



Article

Article no.

Metering valve with metering pipe

DVP PFC-008-G3/4-G11/4-150-99	252184
DVP PEC-008-G3/4-G11/4-150-99	252185
DVP DFC-008-G3/4-G11/4-150-99	252186
DVP DEC-008-G3/4-G11/4-150-99	252187

Note: Please order connection material for hose and pipe connection separately. Connection sets see page



Article	Article no.
Metering valve without metering pipe (suction / pressure valve)	
SDV PFC-008-G11/4-G11/4-99	249518
SDV PEC-008-G11/4-G11/4-99	249519
SDV DFC-008-G11/4-G11/4-99	252038
SDV DEC-008-G11/4-G11/4-99	252039



Note: Please order connection material for hose and pipe connection separately. Connection sets see page [19](#).



Connection material

Article	Article no.
Connection set for PVC hose 12/21 mm	
Connection set Di12/Da21-G11/4-PP-GY	249238
Connection set Di12/Da21-G11/4-PVDF-NA	249258
Connection set for PEX pipe 12/16 mm	
Screw-on connection PVDF, G1¼ _i - PEX 12/16	250076
Screw-on connection PP, G1¼ _i - PEX 12/16	250099
Connecting parts for pipe connection DN20/d25	
Union nut PVDF G1¼ _i	415099072
Insertion part (welded sleeve) PVDF DN20/d25 - 1¼ _i	415099033
Union nut PP G1¼ _i	415099835
Insertion part (welded sleeve) PP DN20/d25 - 1¼ _i	415099709
Connecting parts for transition to standard thread	
Union nut PVDF G1¼ _i	415099072
Insertion part PVDF G1/2 _i - 1¼ _i	34950235
Insertion part PVDF G1 _a (NPT) - 1¼ _i	34900277
Union nut PP G1¼ _i	415099835
Insertion part PP G1/2 _i - 1¼ _i	34950259
Insertion part PP G1 _a (NPT) - 1¼ _i	34900276



Article	Material No.
<p>Suction and pressure lines available by the metre max. operating pressure: 15 bar (at 20° C)</p>	
	<p>PVC-fabric, 12/21 mm (int.Ø/ext.Ø) 417400127 PVC-fabric, 19/27 mm (int.Ø/ext.Ø) 417400131</p>
<p>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.</p>	
	<p>PE-X tube 12/16 mm 417400362</p>

Article

Material No.



Signal horn with integrated red flash light

230 V / 50 Hz / IP 33 RO

418271053



Wall bracket

made of stainless steel 1.4301
incl. of attachment parts (dowels and screws)

286013



Connection cable, 5 m length

for empty signal input with straight 4-pin plug

418439001

for pulse or current input with straight 5-pin plug

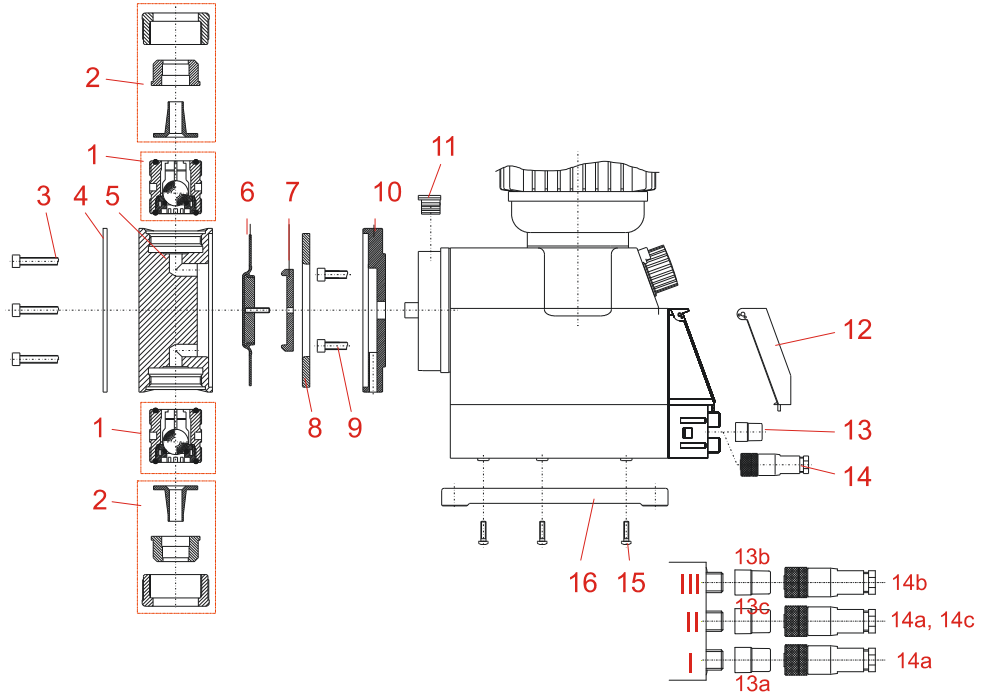
418439007

for empty signal or stroke signal output
with straight 4-pin plug

418439022



Spare parts:





Spare parts:

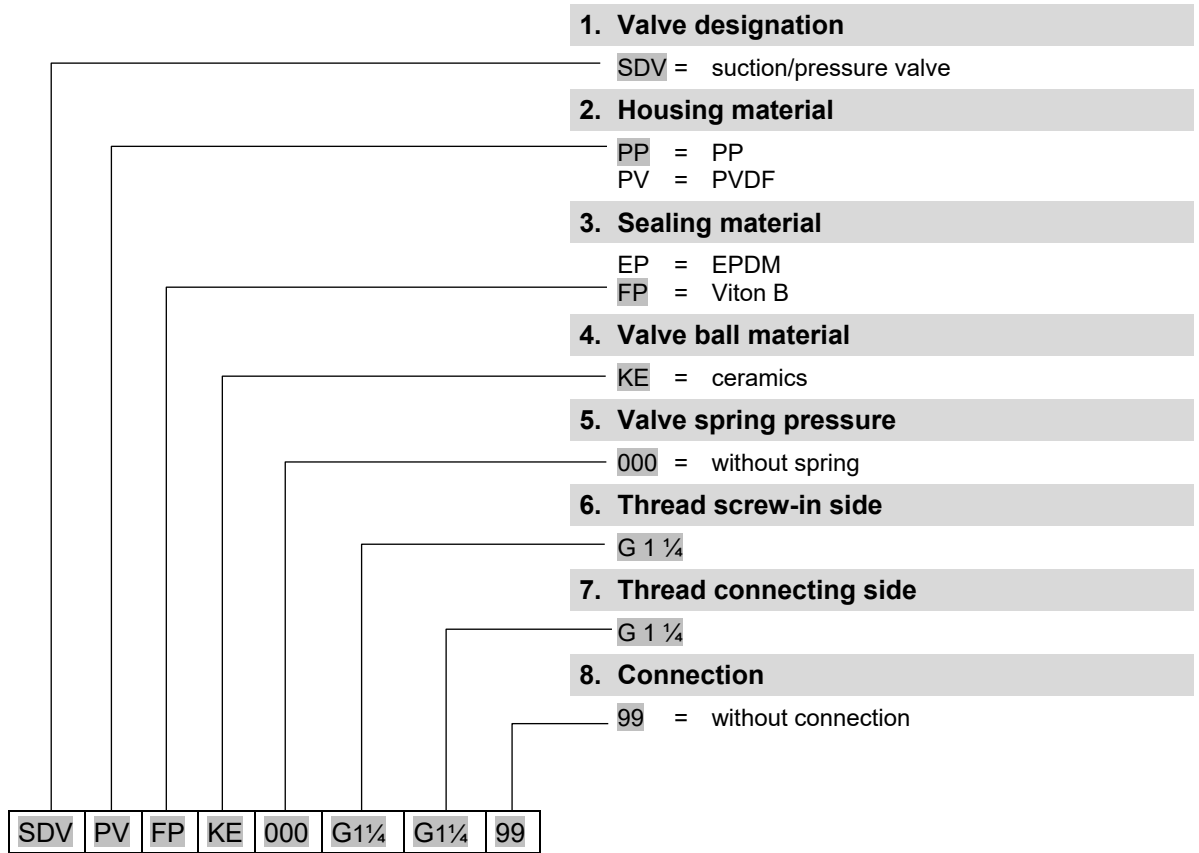
Item.-No.	Article	Material No.
1	Suction/pressure valve, SDV PP FP KE 000 G1¼ - G1¼ - 99*	249075
	Suction/pressure valve, SDV PP EP KE 000 G1¼ - G1¼ - 99*	249055
	Suction/pressure valve, SDV PV FP KE 000 G1¼ - G1¼ - 99*	249074
	Suction/pressure valve, SDV PV EP KE 000 G1¼ - G1¼ - 99*	249041
2	Connection set PP G1¼ - 12/21 mm	249238
	Connection set PVDF G1¼ - 12/21 mm (consisting of union nut, clamping piece and tapered part)	249258
9	Screw	413031042
11	Covering stopper	34900168
12	Transparent enclosure cover	34800120
13a	Dummy plug empty signal input	248186
13b	Cover cap control output	34800117
13c	Dummy plug control input	248187
14a	4-pin plug, empty signal input	418463115
14b	4-pin plug, control output	418463117
14c	5-pin plug, control input	418463118
15	Screw B40x16	413071167
16	Mounting plate	34900120

Pos.	Article	80 l/h	120 l/h
3	Pump head screw	413031047	413031064
4	Pressing plate	34900139	34900140
5	Pump head PP	34900105	349001064
	Pump head PVDF	34900178	34900179
6	Diaphragm	34900111	34900112
7	Supporting disk	34900149	34900151
8	Intermediate ring	34900136	34900137
10	Intermediate plate	34900134	34900135

* Please see next page for code declaration.



Suction and pressure valve code





Set of wearing parts (complete)

consisting of 1 piece each:

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

Article	Code	Material-No.
Wearing part set	EMP III 00800 PP FP KE	249560
	EMP III 01200 PP FP KE	249561
	EMP III 00800 PP EP KE	249562
	EMP III 01200 PP EP KE	249563
	EMP III 00800 PV FP KE	249564
	EMP III 01200 PV FP KE	249565
	EMP III 00800 PV EP KE	249566
	EMP III 01200 PV EP KE	249567

