

Datasheet

Solenoid Metering Pump gamma/ X, GMXa

EN



LENNTECH
WATER TREATMENT SOLUTIONS

info@lennotech.com Tel. +31-152-610-900
www.lennotech.com Fax. +31-152-616-289

17 Technical data

17.1 Performance data

gamma/ X at 200 strokes/minute and
100% stroke length

Type	Pump capacity			Connector size outside Ø x inside Ø	Suction lift ¹	Priming lift ²	Max. priming pressure on the suction side
	bar	l/h	ml/stroke	mm	m WS	m WS	bar
gamma/ X							
2002	20	2.05	0.17	6x3	6.0	2.5	5.5
1602	16	2.3	0.20	6x4	6.0	2.5	5.5
1604	16	3.6	0.30	6x4 ⁴	5.0	3.0	3
0708	7	7.6	0.63	8x5 ⁴	4.0	2.0	2
0414	4	13.5	1.13	8x5 ^{4, ****}	3.0	2.5	1.5
0220	2	19.7	1.64	12x9 ⁴	2.0	2.0	1
2504	25	3.8	0.32	8x4 ^{4, ***}	4.0	3.0	3
1009	10	9.0	0.75	8x5 ⁴	3.0	3.0	2
0715	7	14.5	1.21	8x5 ^{4, ****}	3.0	3.0	1.5
0424	4	24.0	2.00	12x9 ⁴	3.0	3.0	1
0245	2	45.0	3.70	12x9	2.0	2.0	0.8
gamma/ X Metering pumps with self-bleeding dosing head SER ³							
1602	10	0.9*	0.08	6x4	1.8	1.2	0.5
1604	10	1.55*	0.13	6x4	1.8	1.2	0.5
0708	7	5.7	0.48	8x5	1.8	1.0	0.5
0414	4	12.0	1.00	8x5	1.8	1.4	0.5
0220	2	17.4	1.45	12x9	1.8	1.7	0.5
1009	10	6.0	0.50	8x5	1.8	1.0	0.5
0715	7	12.9	1.08	8x5	1.8	1.4	0.5
0424	4	19.2	1.60	12x9	1.8	1.7	0.5
gamma/ X Metering pumps with self-bleeding dosing head SEK ³							
1602	10	1.3*	0.11	6x4	2.1	-	0.5
1604	10	2.4*	0.21	6x4	2.7	-	0.5
0708	7	6.8	0.57	8x5	2.0	-	0.5
0414	4	12.0	1.00	8x5	2.0	-	0.5
0220	2	18.0	1.50	12x9	2.0	-	0.5
1009	10	8.0	0.67	8x5	3.0	-	0.5
0715	7	13.5	1.12	8x5	2.5	-	0.5
0424	4	20.0	1.67	12x9	2.5	-	0.5

- * - The capacity can significantly fall at pressures above the nominal pressure.
- 1 - Suction lift with a filled suction line and filled liquid end. With self-bleeding dosing head with air in the suction line.
- 2 - Priming lift with clean and moist valves. Priming lift at 100% stroke length and free outlet or opened bleed valve.
- 3 - The given performance data represents guaranteed minimum values, calculated using water as the medium at room temperature. The bypass connection with a self-bleeding dosing head SEK is 6x4 mm.
- 4 - These pump types are also available with dosing heads for higher-viscosity media (HV). The pump types have a 10 ... 20 % lower capacity and are not self-priming.
- *** - With stainless steel design 6 mm connector width
- **** - With stainless steel design 12 mm connector width

All data calculated with water at 20 °C.

17.2 Accuracy

17.2.1 Standard Liquid End

Data	Value	Unit
Capacity range of the series	-5 ... +10	% *
Reproducibility	±2	% **

* - at max. stroke length and max. operating pressure for all material versions

** - at constant conditions and min. 30 % stroke length

17.2.2 Self-Bleeding Liquid End

As the self-bleeding liquid end is used with outgassing media and when operating with air bubbles, no dosing accuracy or reproducibility can be provided.

The recommended minimum stroke length with self-bleeding dosing pumps is 50 %.

17.3 Viscosity

The liquid ends are suitable for the following viscosity ranges:

Design	Range	Unit
Standard	0 ... 200	mPas
With valve springs	200 ... 500	mPas
With HV head	500 ... 3000*	mPas
Self-bleeding (SEK)	0 ... 50	mPas

* Even significantly higher with corrected adjusted installation. Contact Technical; Support in Heidelberg.

17.4 Material specifications

Standard liquid ends

Design	Dosing head	Valves	Seals	Balls
PPT	Polypropylene	PVDF	PTFE	Ceramic
NPT	Clear acrylic	PVDF	PTFE	Ceramic
PVT	PVDF	PVDF	PTFE	Ceramic
PPE	Polypropylene	EPDM	EPDM	Ceramic
PPB	Polypropylene	FKM	FKM	Ceramic
NPE	Clear acrylic	EPDM	EPDM	Ceramic
NPB	Clear acrylic	FKM	FKM	Ceramic
TTT	PTFE	PTFE	PTFE	Ceramic
SST	Stainless steel 1.4404	Stainless steel 1.4404/1.4571	PTFE	Ceramic

Diaphragm: with PTFE coating.

FKM = fluorine rubber

Pump

Housing parts: polyphenylene ether (PPE with fibreglass)

17.5 Electrical data

Design: 100 - 230 V $\pm$ 10%, 50/60 Hz,
gamma/ X GMXa

Parameter	M70	M85
Nominal power**, approx.	25 W	30 W
Current I _{eff}	0.25 ... 0.10 A	0.30 ... 0.12 A
Switch on peak current (for 3 ...5 ms)	20 A	20 A
Fuse*	2.5 AT	2.5 AT

** with relay closed: The nominal power rises by 1 W.

* Fuses must have VDE, UL and CSA certification. e.g. type 19195 manufactured by Wickmann in compliance with IEC Publ. 127 - 2/3

17.6 Temperatures

Pump, fully assembled

Data	Value	Unit
Storage and transport temperature:	-20 ... +50	°C
Ambient temperature in operation (power end/drive and control):	-10 ... +45	°C
Medium temperature:	-10 °C ... see following table	

Liquid ends

Material version	Long term	Temporary *
PP	50 °C	100 °C
NP	45 °C	60 °C
PV	50 °C	120 °C
SS	50 °C	120 °C
TT	50 °C	120 °C

* Max. temp., for 15 min at max. 2 bar, depending on the ambient temperature

17.7 Climate

Data	Value	Unit
Maximum air humidity*:	95	% relative humidity

* non-condensing

Test: Humid heat, cyclical

in accordance with EN 680068-2-30: 2005

17.8 Degree of Protection and Safety Requirements

Degree of protection

Protection against contact and humidity:

IP 66 according to DIN EN 60529 with contamination level 2

NEMA 4X / indoor as per NEMA 250

Safety Requirements

Degree of protection:

1 - mains power connection with protective earth conductor

17.9 Compatibility

Unlike the gamma/ L product range, compatibility is guaranteed with the following components:

- Control cable Beta® 5-wire for "External" function.
- Control cable gamma/Vario 2-, 4- and 5-wire for the "External" function
- Level switch 2-stage (gamma / Beta® / delta®)
- Dosing line cross-sections for gamma / Beta®
- Standard connector kit for gamma / Beta®
- Wall brackets for gamma / Beta®
- Dosing tanks and fixing plates
- Distance between suction and pressure connector
- Distance between the connectors and the pump fixing holes
- Distance between the pump fixing holes
- Identical use of accessories, such as back pressure valves, multifunctional valves and flushing assembly
- Compatibility of resistance by the equivalence of the material used for the liquid ends

Compatibility to the gamma/ L product range is not guaranteed for the following points:

- External dimensions of the pump
- Distance between the support surface for the mounting foot and the centre of the dosing head
- Dosing monitor

17.10 Shipping weight

Shipping weight of gamma/ X types - in kg

Material	Types	
	2002, 1602, 1604, 0708, 0414, 0220	2504, 1009, 0715, 0424, 0245
PP, NP, PV, TT	3.6 .. 3.7	4.9 ... 5.2
SS	4.1 ... 5.0	5.5 ... 7.0

17.11 Sound pressure level

Sound pressure level

Sound pressure level LpA < 70 dB according to EN ISO 20361

at maximum stroke length, maximum stroke rate, maximum back pressure (water)

Spare parts for liquid end gamma/ X 1602 - 1604 PP_2

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 1602 PP_2

	PPE2	PPB2	PPT2
Liquid end	1050931	1050900	1050942
Spare parts kit	1001646	1001654	1023109
Diaphragm	1000246	1000246	1000246

Liquid end gamma/ X 1604 PP_2

	PPE2	PPB2	PPT2
Liquid end	1050932	1050901	1050943
Spare parts kit	1039989	1039987	1035332
Diaphragm	1034612	1034612	1034612

Liquid end gamma/ X 0708 (1009) - 0220
(0424) PP_2

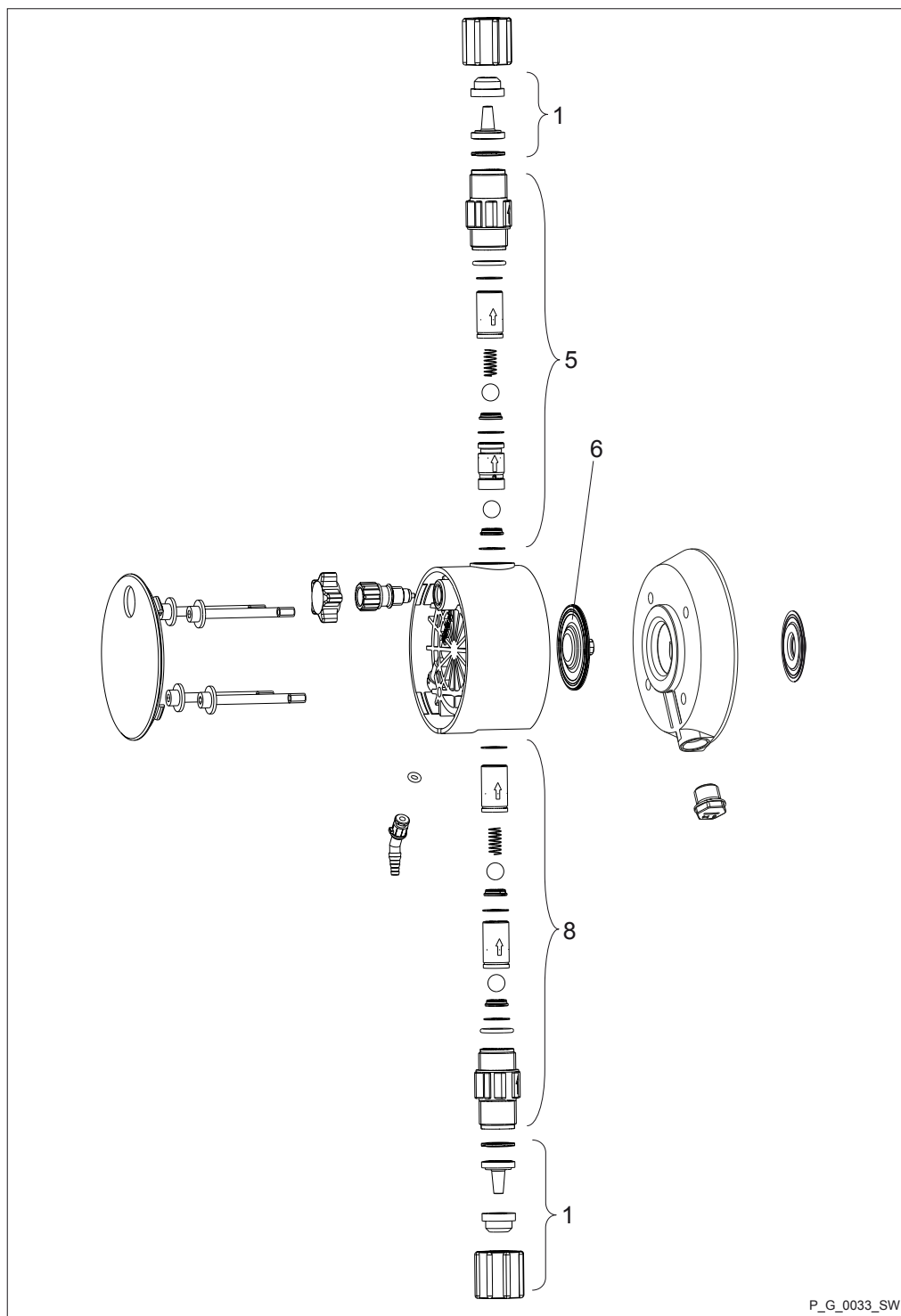


Fig. 41

Spare parts for liquid end gamma/ X 0708 (1009) - 0220 (0424) PP_2

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Exploded Drawings and Ordering Information

Liquid end gamma/ X 0708 (1009) PP_2

	PPE2	PPB2	PPT2
Liquid end	1050933	1050902	1050944
Spare parts kit	1001648	1001656	1023111
Diaphragm	1000248	1000248	1000248

Liquid end gamma/ X 0414 (0715) PP_2

	PPE2	PPB2	PPT2
Liquid end	1050934	1050903	1050945
Spare parts kit	1001649	1001657	1023112
Diaphragm	1000249	1000249	1000249

Liquid end gamma/ X 0220 (0424) PP_2

	PPE2	PPB2	PPT2
Liquid end	1050935	1050924	1050946
Spare parts kit	1051096	1051085	1051129
Diaphragm	1045456	1045456	1045456

Liquid end gamma/ X 0245 PP_0

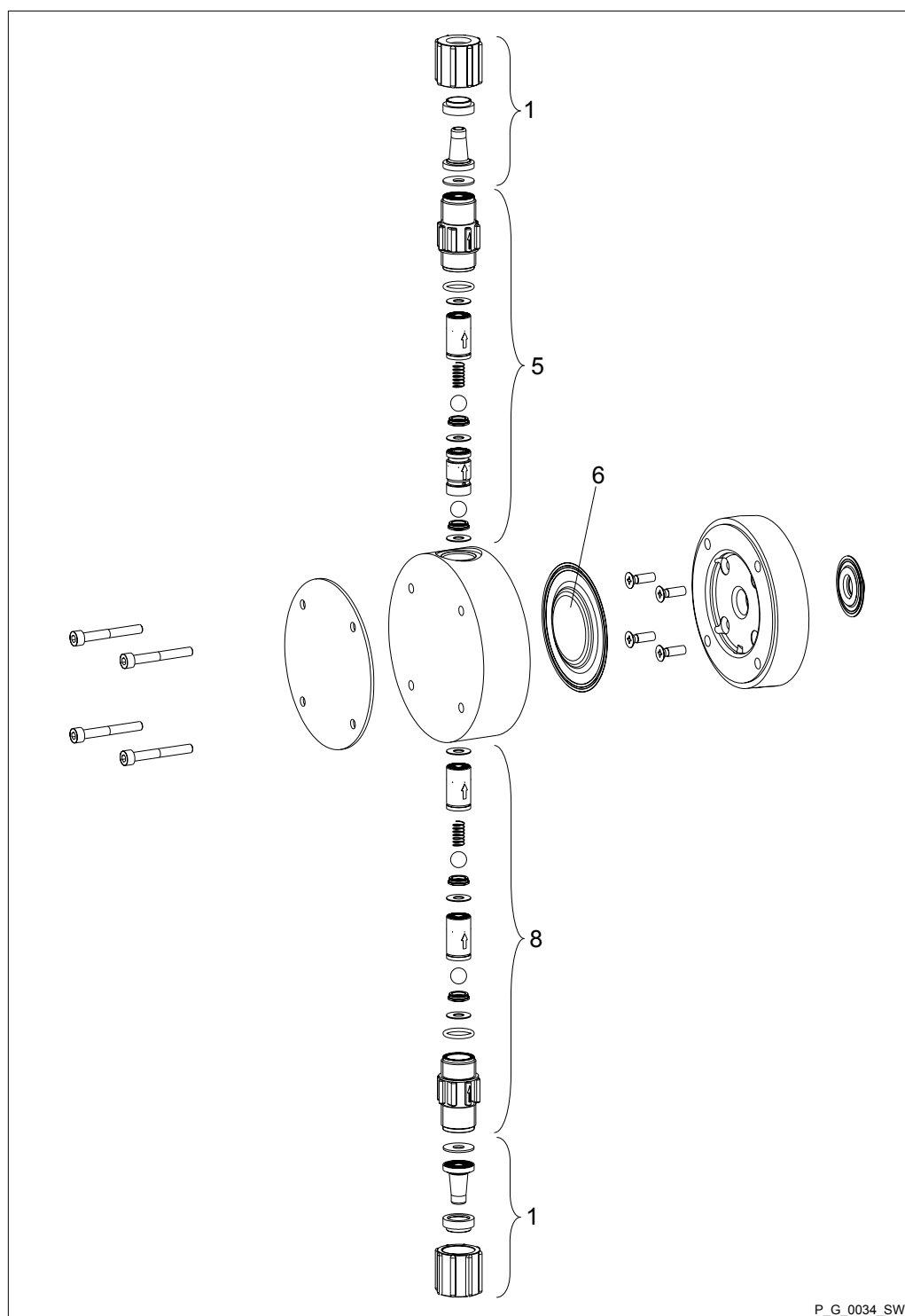


Fig. 42

Spare parts kit for liquid end gamma/ X 0245 PP_0

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 0245

	PPE0	PPB0	PPT0
Liquid end	1050936	1050925	1050947
Spare parts kit	1051097	1051086	1051130
Diaphragm	1045443	1045443	1045443

Liquid end gamma/ X 1602 - 2504 NP_0 and NP_2

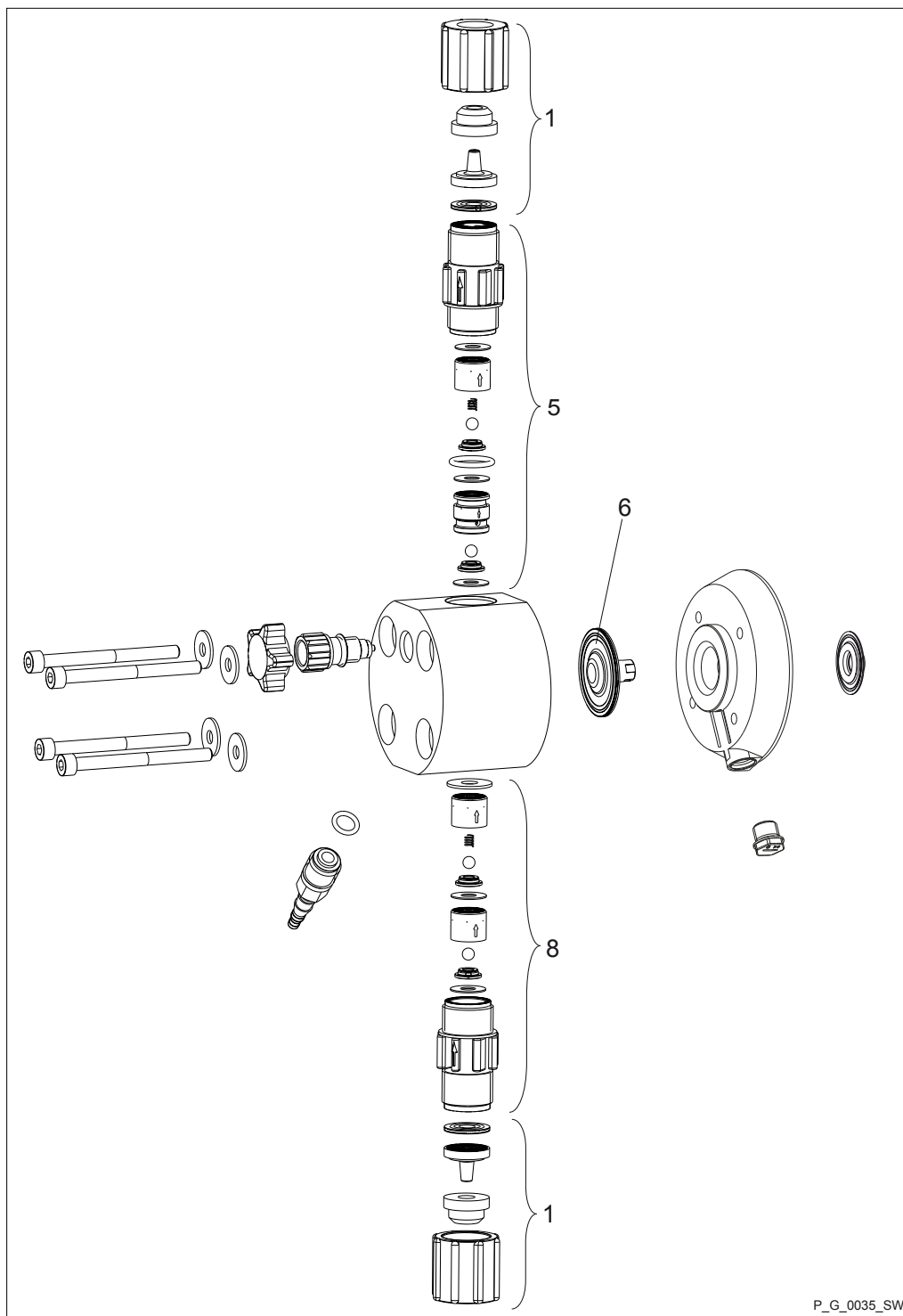


Fig. 43

Spare parts for liquid end gamma/ X 1602 - 2504 NP NP_0 and NP_2

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 2002

	NPE_	NPB_	NPT_
Liquid end with bleed valve, _2	1050965	1050948	1050982
Liquid end without bleed valve, _0	1050971	1050954	1050988
Spare parts kit	1001715	1001723	1023109
Diaphragm	1000246	1000246	1000246

Liquid end gamma/ X 1602

	NPE_	NPB_	NPT_
Liquid end with bleed valve_2	1051073	1051071	1051087
Liquid end without bleed valve, _0	1051084	1051072	1051088
Spare parts kit	1001715	1001723	1023109
Diaphragm	1000246	1000246	1000246

Liquid end gamma/ X 2504

	NPE_	NPB_	NPT_
Liquid end with bleed valve, _2	1051175	1051163	1051179
Liquid end without bleed valve, _0	1051176	1051174	1051180
Spare parts kit	1039988	1039986	1035332
Diaphragm	1034612	1034612	1034612

Liquid end gamma/ X 1604

	NPE_	NPB_	NPT_
Liquid end with bleed valve, _2	1050966	1050949	1050983
Liquid end without bleed valve, _0	1050972	1050955	1050989
Spare parts kit	1039988	1039986	1035332
Diaphragm	1034612	1034612	1034612

Liquid end gamma/ X 0708 (1009) - 0220
(0424) NP_0 and NP_2

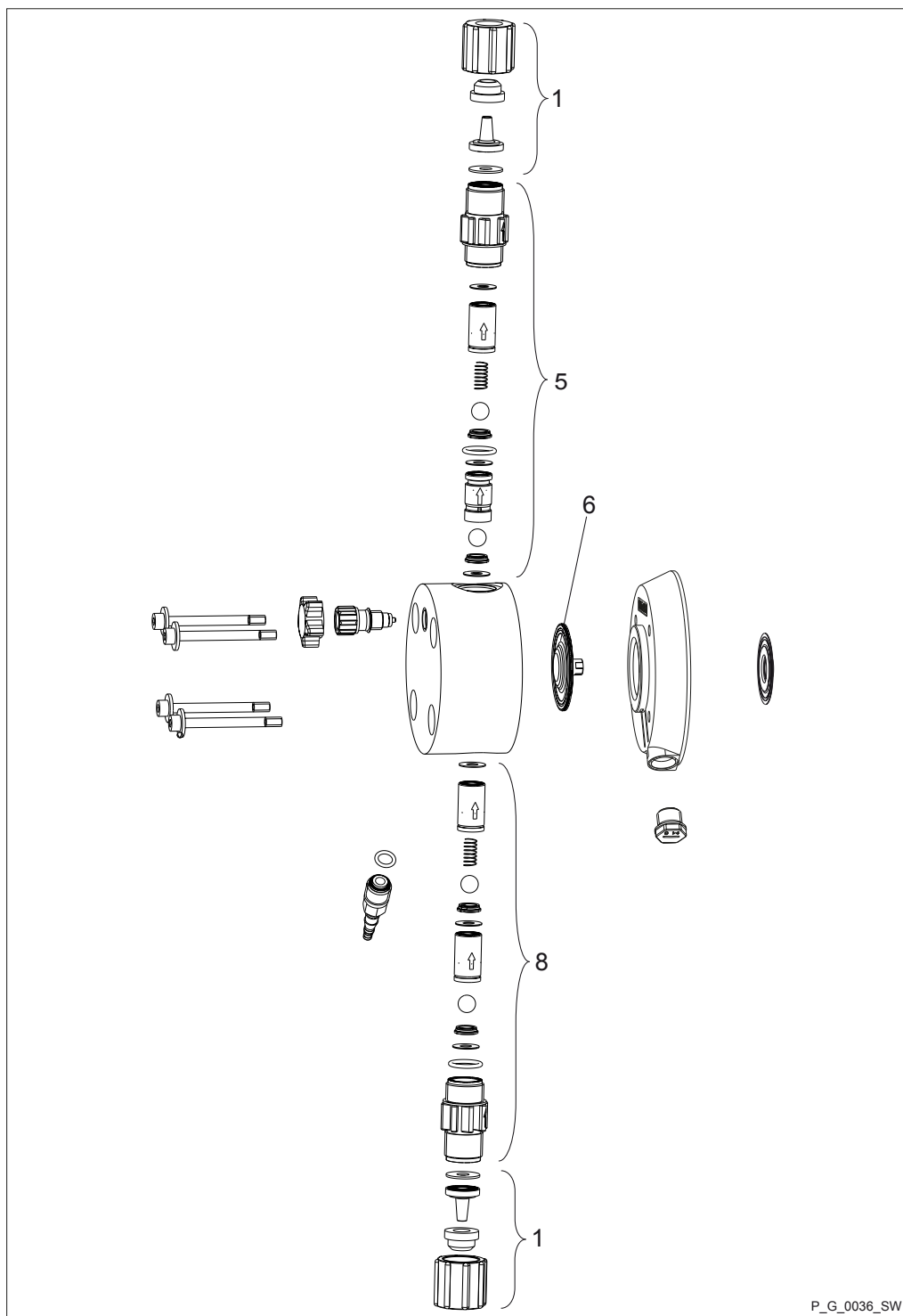


Fig. 44

Spare parts for liquid end gamma/ X 0708 (1009) - 0220 (0424) NP_0 and NP_2

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 0708 (1009)

	NPE_	NPB_	NPT_
Liquid end with bleed valve, _2	1050967	1050950	1050984
Liquid end without bleed valve, _0	1050973	1050956	1050990
Spare parts kit	1001717	1001725	1023111
Diaphragm	1000248	1000248	1000248

Liquid end gamma/ X 0414 (0715)

	NPE_	NPB_	NPT_
Liquid end with bleed valve, _2	1050968	1050951	1050985
Liquid end without bleed valve, _0	1050974	1050957	1050991
Spare parts kit	1001718	1001726	1023112
Diaphragm	1000249	1000249	1000249

Liquid end gamma/ X 0220 (0424)

	NPE_	NPB_	NPT_
Liquid end with bleed valve, _2	1050969	1050952	1050986
Liquid end without bleed valve, _0	1050975	1050958	1050992
Spare parts kit	1051118	1051107	1051129
Diaphragm	1045456	1045456	1045456

Liquid end gamma/ X 0245 NP_0 and NP_2

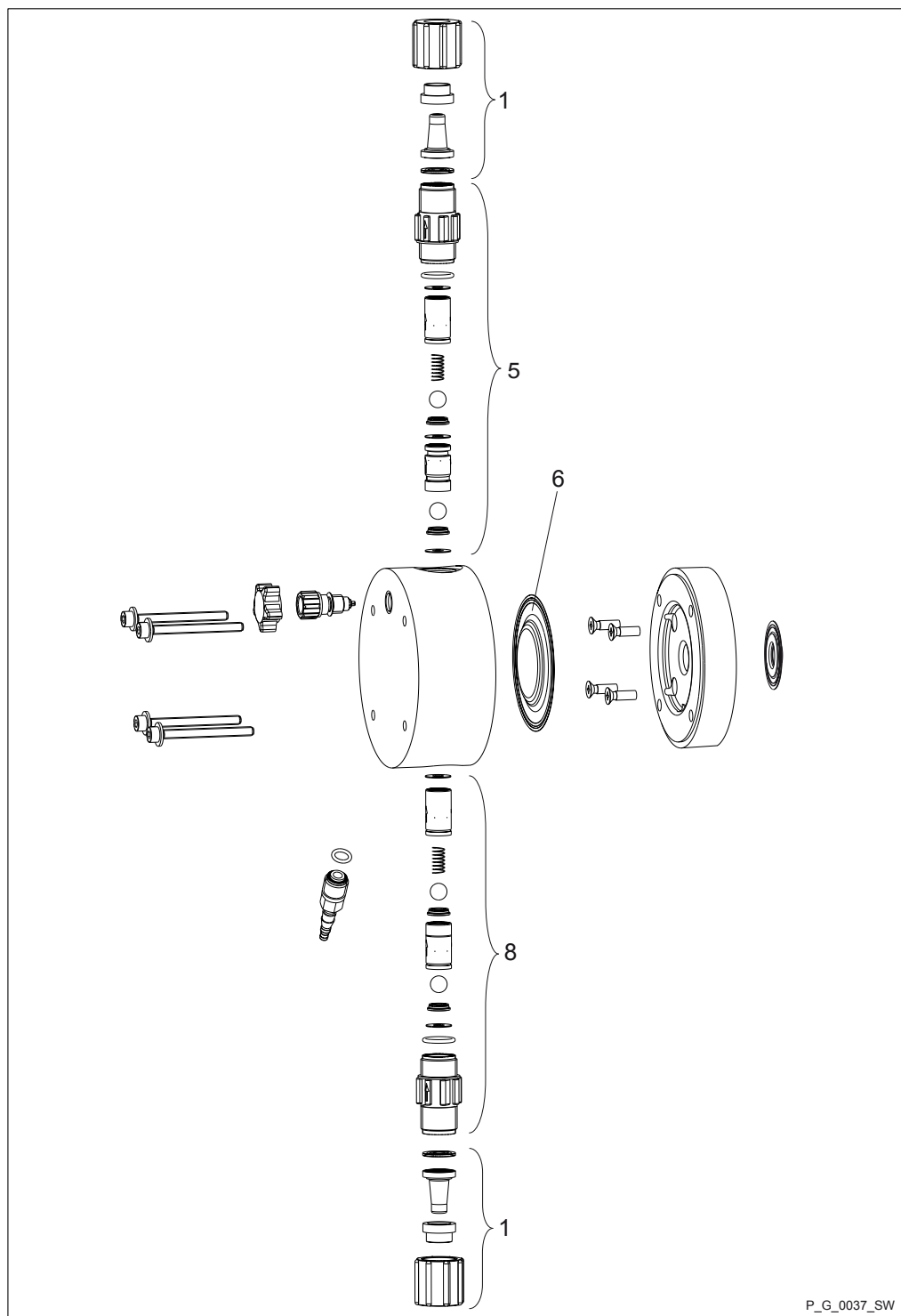


Fig. 45

Spare parts for liquid end gamma/ X 0245 NPT0 and NPT2

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 0245

	NPE_	NPB_	NPT_
Liquid end with bleed valve, _2	1050970	1050953	1050987
Liquid end without bleed valve, _0	1050976	1050959	1050993
Spare parts kit	1051119	1051108	1051130
Diaphragm	1045443	1045443	1045443

Liquid end gamma/ X 1602 - 1604 PVT2

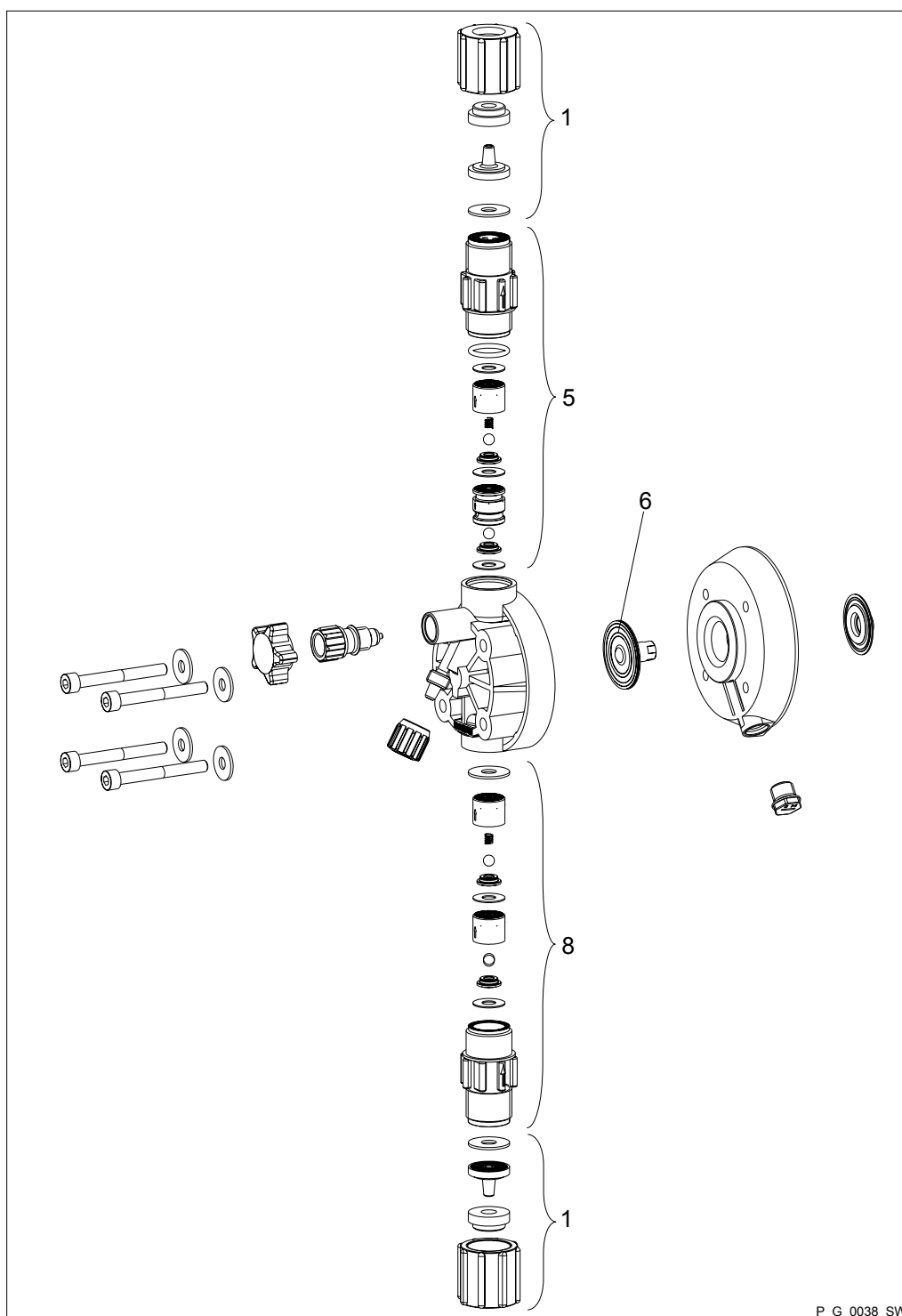


Fig. 46

Spare parts for liquid end gamma/ X 1602 - 1604 PVT2

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 1602

	PVT2
Liquid end	1050994
Spare parts kit	1023109
Diaphragm	1000246

Liquid end gamma/ X 1604

	PVT2
Liquid end	1050995
Spare parts kit	1035332
Diaphragm	1034612

Liquid end gamma/ X 0708 (1009) - 0220 (0424) PVT2

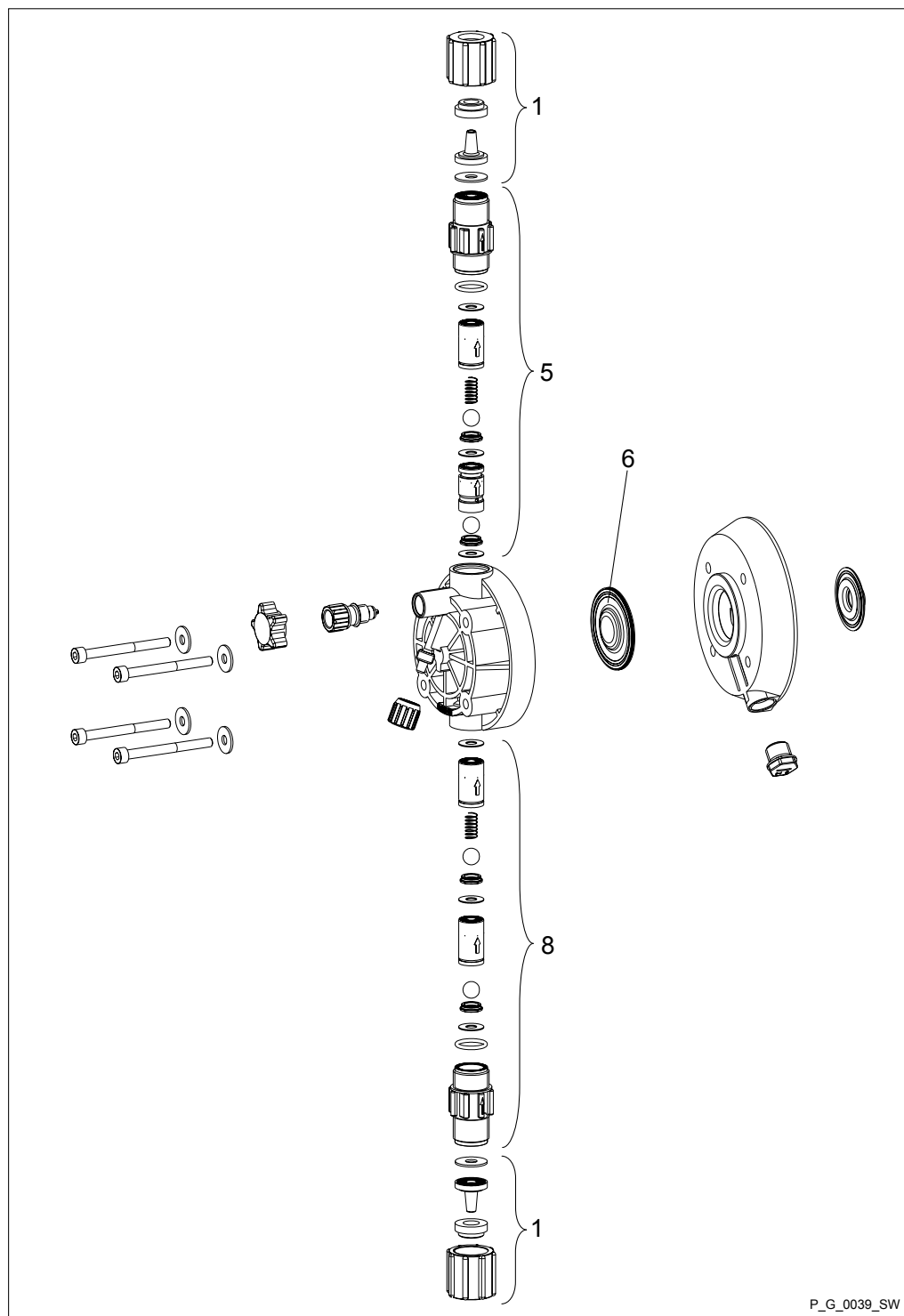


Fig. 47

Spare parts kit for liquid end gamma/ X 0708 (1009) - 0220 (0424) PVT2

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 0708 (1009)

	PVT2
Liquid end	1050996
Spare parts kit	1023111
Diaphragm	1000248

Liquid end gamma/ X 0414 (0715)

	PVT2
Liquid end	1050997
Spare parts kit	1023112
Diaphragm	1000249

Liquid end gamma/ X 0220 (0424)

	PVT2
Liquid end	1050998
Spare parts kit	1051129
Diaphragm	1045456

Liquid end gamma/ X 0245 PVT0

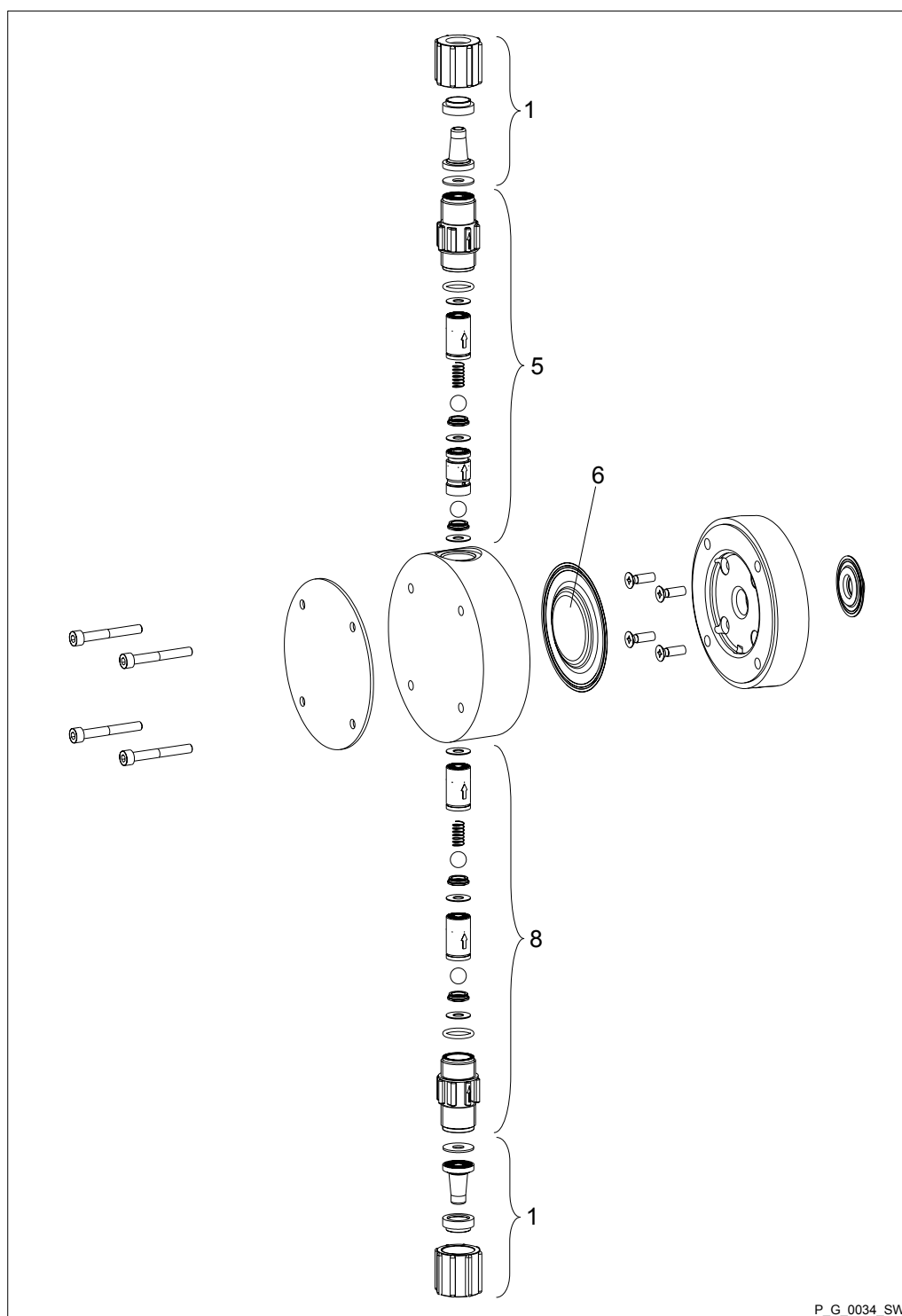


Fig. 48

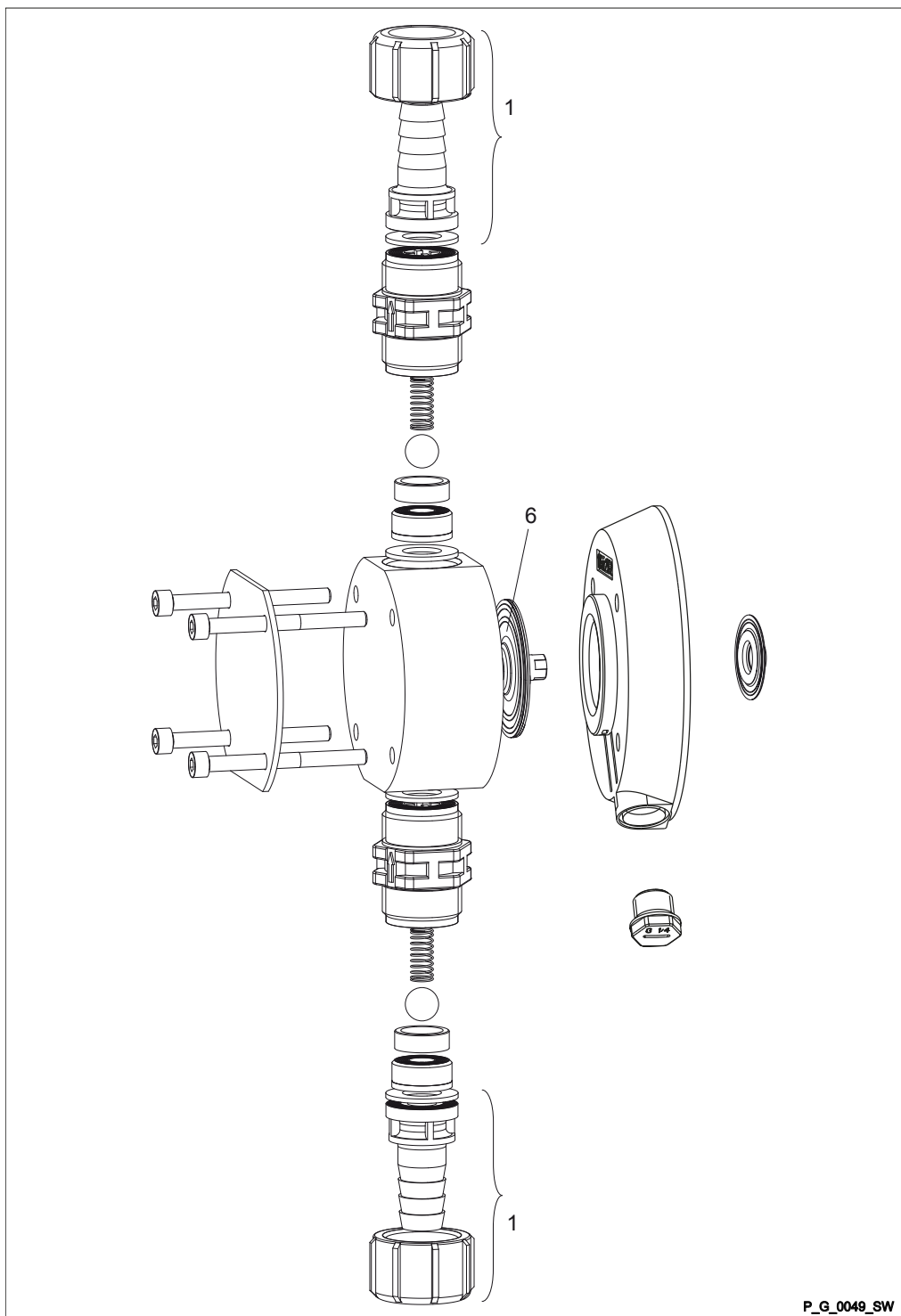
Spare parts kit for liquid end gamma/ X 0245 PVT0

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 0245

	PVT0
Liquid end	1050999
Spare parts kit	1051130
Diaphragm	1045443

Liquid end gamma/ X 1604 - 0220 (0424)
PV_4



P_G_0049_SW

Fig. 49

Spare parts kit for liquid end gamma/ X 1604 - 0220 (0424) PV_4

Pos.	Description
1	Connector kit with hose nozzle
6	Diaphragm

Liquid end gamma/ X 1604

	PV_4
Liquid end	1051000
Spare parts kit	1035342
Diaphragm	1034612

Liquid end gamma/ X 0708 (1009)

	PV_4
Liquid end	1051001
Spare parts kit	1019067
Diaphragm	1000248

Liquid end gamma/ X 0414 (0715)

	PV_4
Liquid end	1051002
Spare parts kit	1019069
Diaphragm	1000249

Liquid end gamma/ X 0220 (0424)

	PV_4
Liquid end	1051003
Spare parts kit	1051134
Diaphragm	1045456

Liquid end gamma/ X 1602 - 1604 TTT0

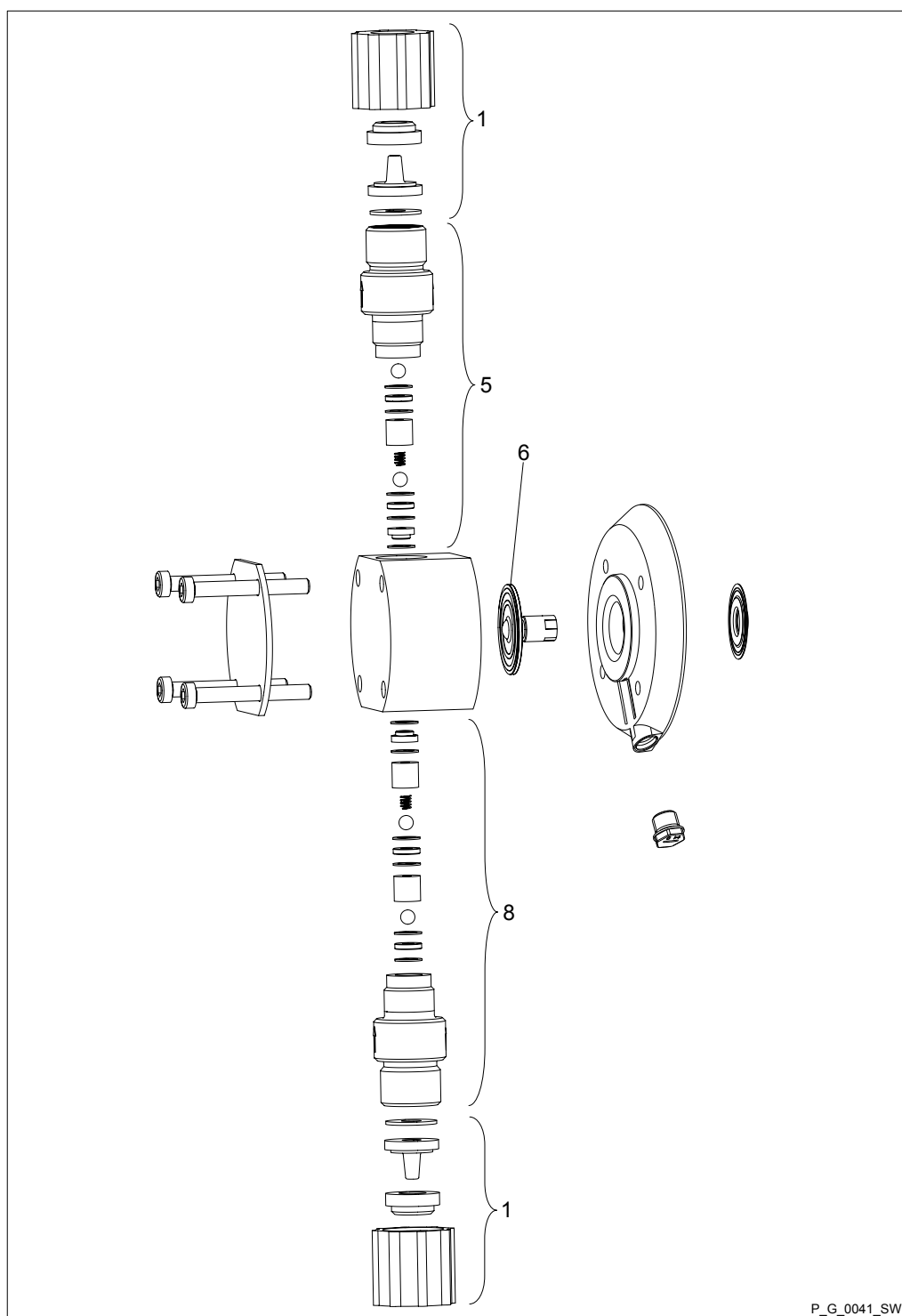


Fig. 50

Spare parts for liquid end gamma/ X 1602 - 1604 TTT0

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Exploded Drawings and Ordering Information

Liquid end gamma/ X 1602

	TTT0
Liquid end	1051016
Spare parts kit	1001739
Diaphragm	1000246

Liquid end gamma/ X 1604

	TTT0
Liquid end	1051017
Spare parts kit	1035331
Diaphragm	1034612

Liquid end gamma/ X 0708 (1009) - 0220
(0424) TTT0

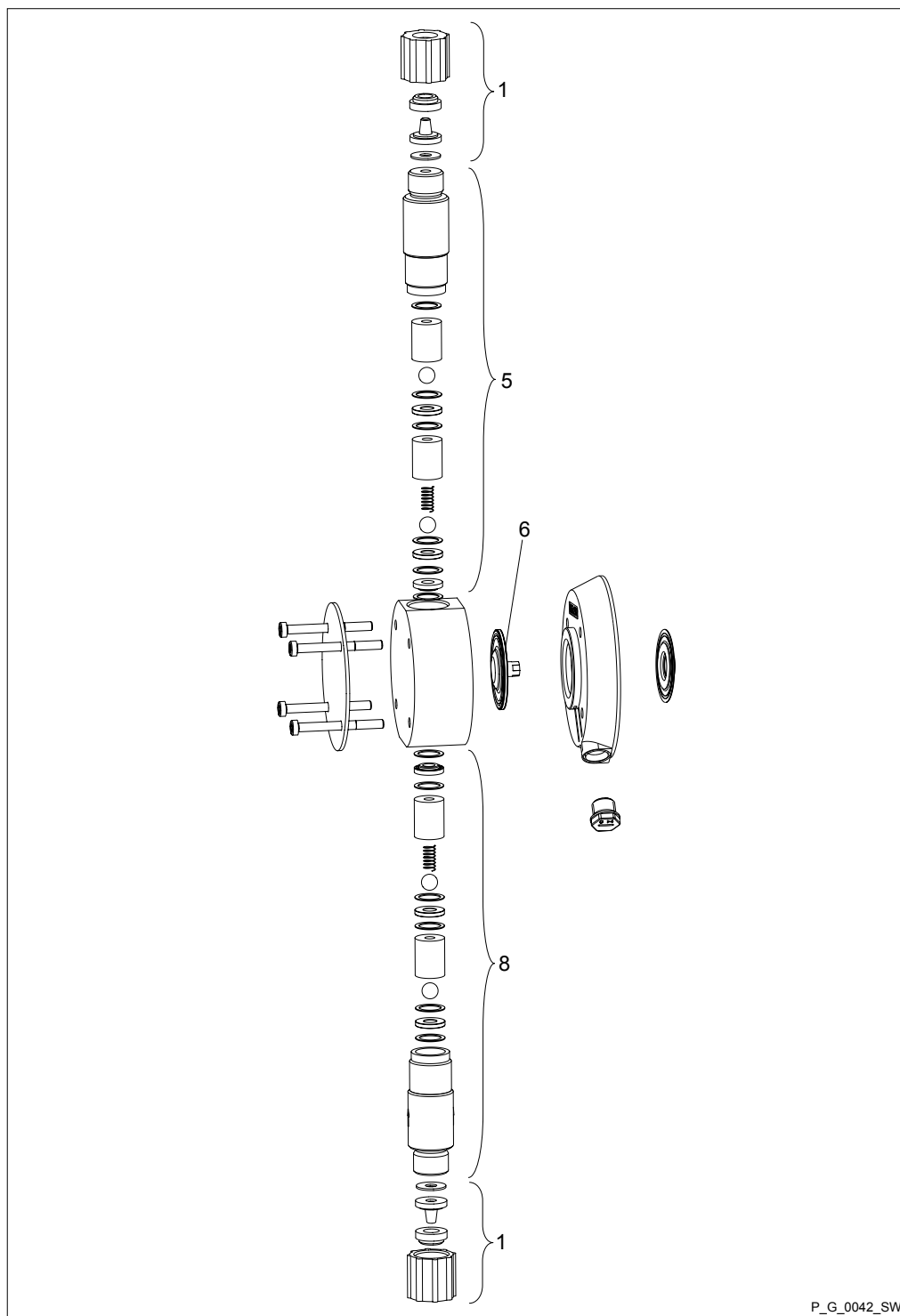


Fig. 51

Liquid end gamma/ X 0708 (1009) - 0220 (0424) TTT0

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Exploded Drawings and Ordering Information

Liquid end gamma/ X 0708 (1009)

	TTT0
Liquid end	1051018
Spare parts kit	1001741
Diaphragm	1000248

Liquid end gamma/ X 0414 (0715)

	TTT0
Liquid end	1051019
Spare parts kit	1001742
Diaphragm	1000249

Liquid end gamma/ X 0220 (0424)

	TTT0
Liquid end	1051020
Spare parts kit	1051151
Diaphragm	1045456

Liquid end gamma/ X 0245 TTT0

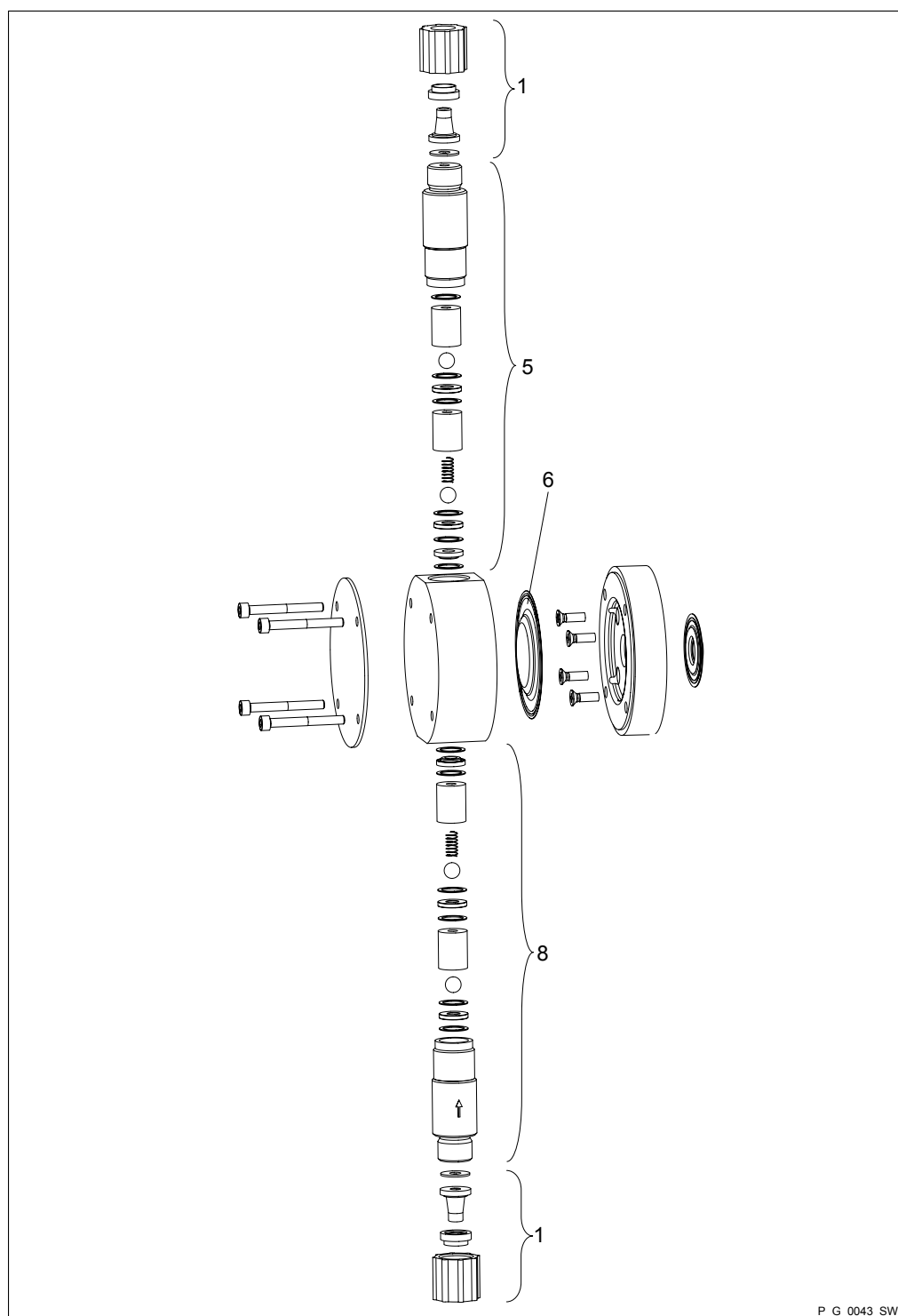


Fig. 52

Spare parts kit for liquid end gamma/ X 0245 TTT0

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 0245

	TTT0
Liquid end	1051021
Spare parts kit	1051152
Diaphragm	1045443

Liquid end gamma/ X 1602 - 2504 SST0

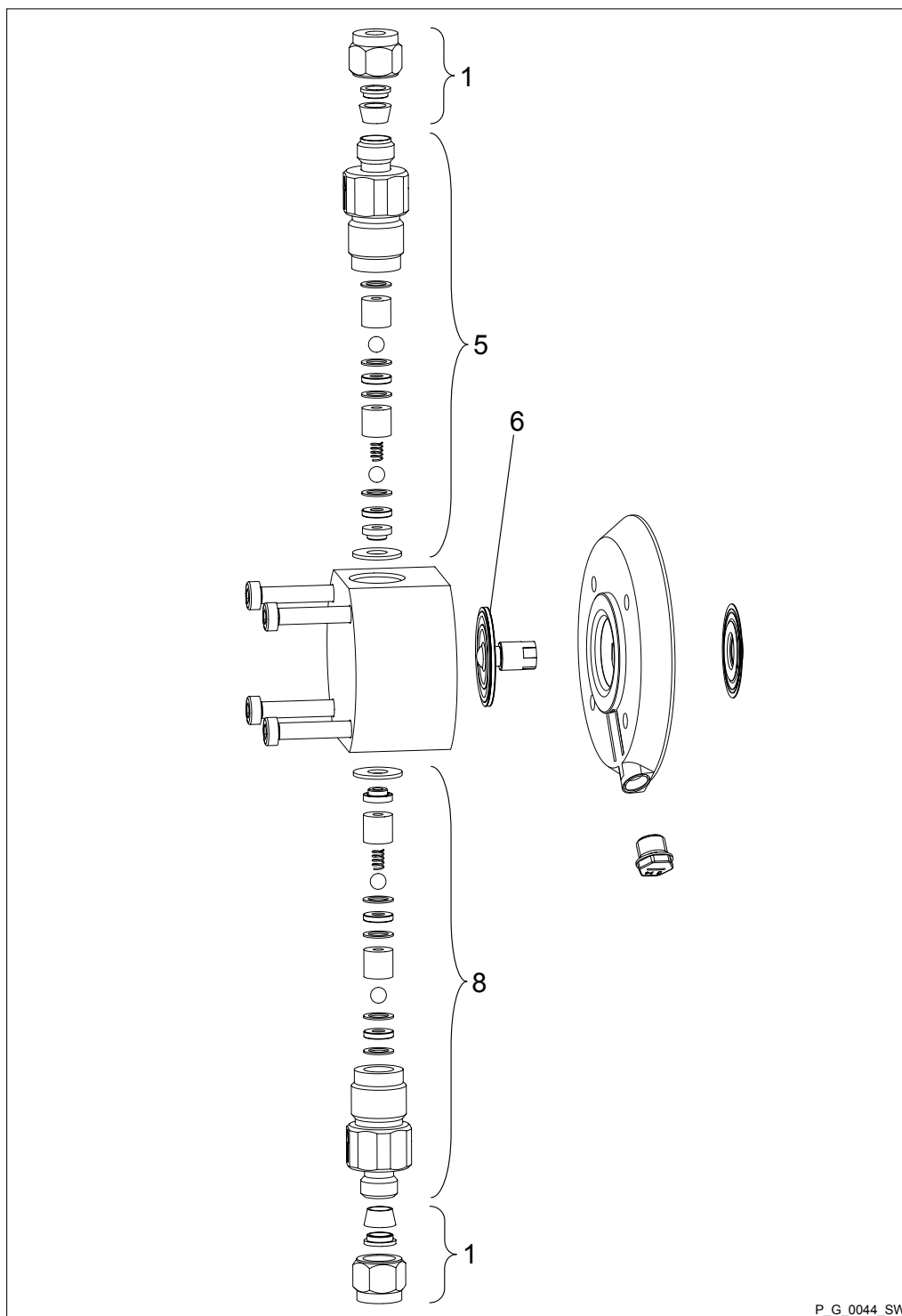


Fig. 53

Spare parts for liquid end gamma/ X 1602 - 2504 SST0

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 1602 (2002)

	SST0
Liquid end	1051004
Spare parts kit	1001731
Diaphragm	1000246

Liquid end gamma/ X 1604 (2504)

	SST0
Liquid end	1051005
Spare parts kit	1035331
Diaphragm	1034612

Liquid end gamma/ X 0708 (1009) - 0220
(0424) SST0

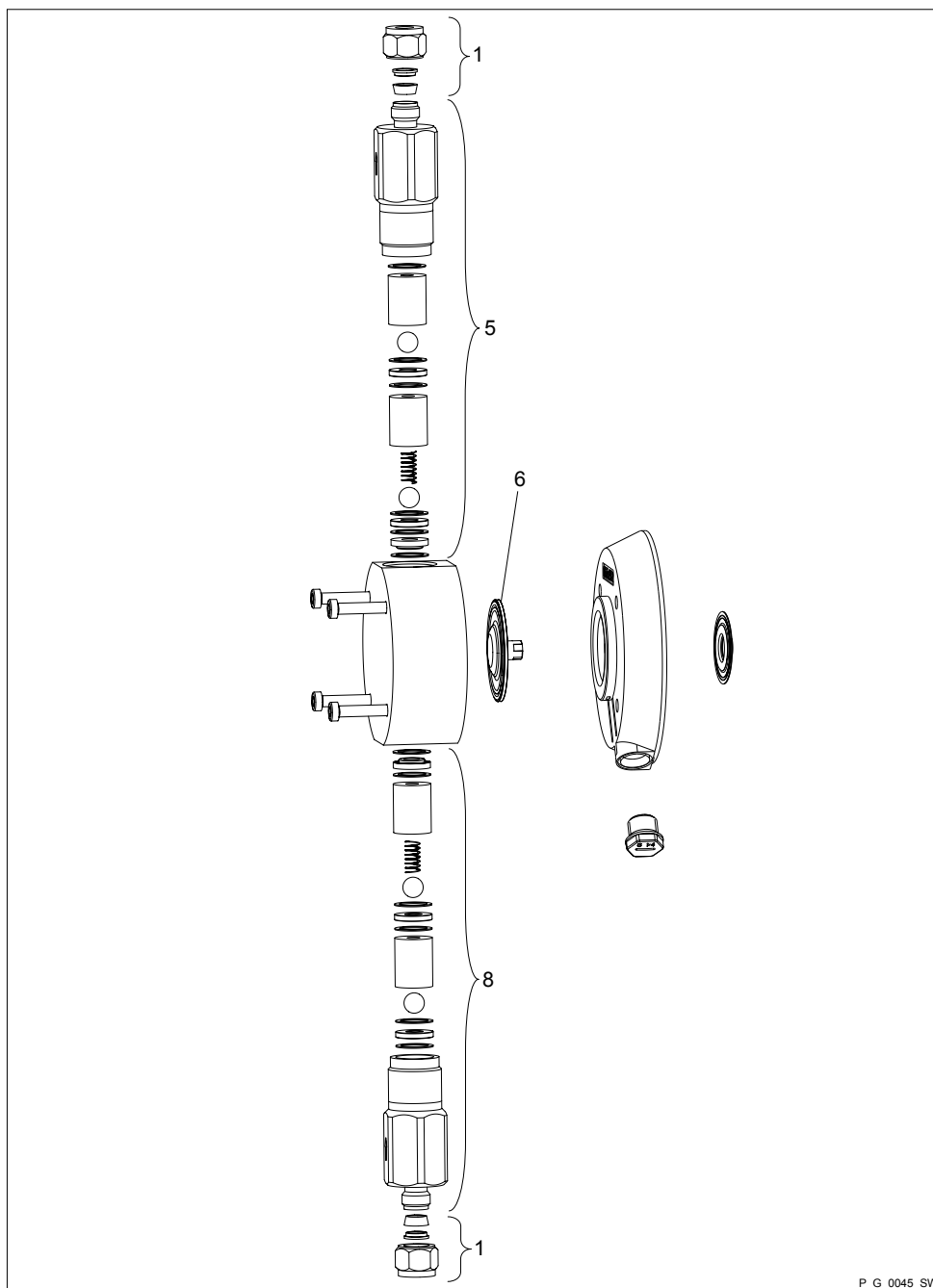


Fig. 54

Spare parts kit for liquid end gamma/ X 0708 (1009) - 0220 (0424) SST0

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 0708 (1009)

	SST0
Liquid end	1051006
Spare parts kit	1001733
Diaphragm	1000248

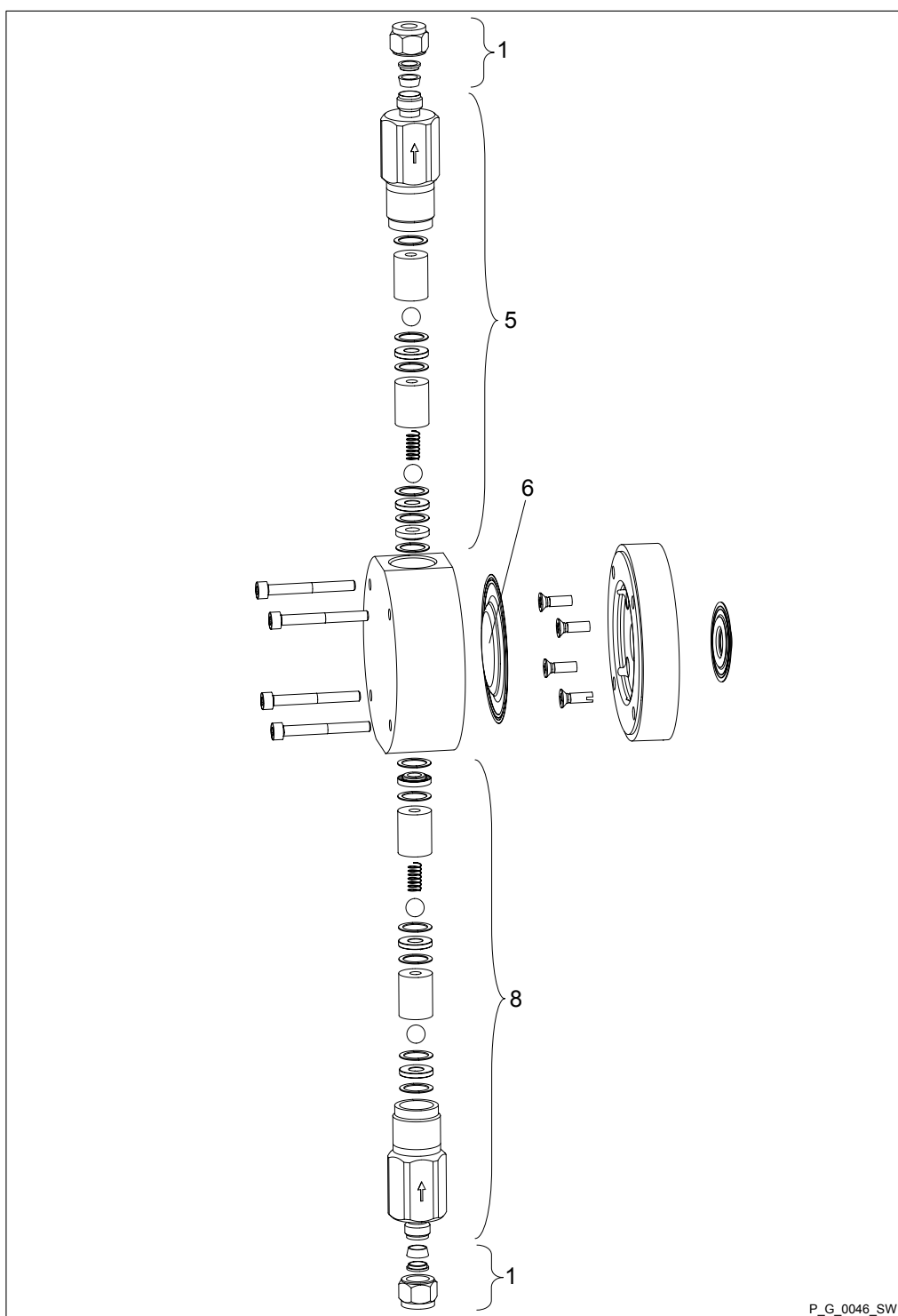
Liquid end gamma/ X 0414 (0715)

	SST0
Liquid end	1051007
Spare parts kit	1001734
Diaphragm	1000249

Liquid end gamma/ X 0220 (0424)

	SST0
Liquid end	1051008
Spare parts kit	1051139
Diaphragm	1045456

Liquid end gamma/ X 0245 SST0



P_G_0046_SW

Fig. 55

Spare parts kit for liquid end gamma/ X 0245 SST0

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 0245

	SST0
Liquid end	1051009
Spare parts kit	1051140
Diaphragm	1045443

Liquid end gamma/ X 1602 -2504 SER,
self-bleeding without bypass, NPT7

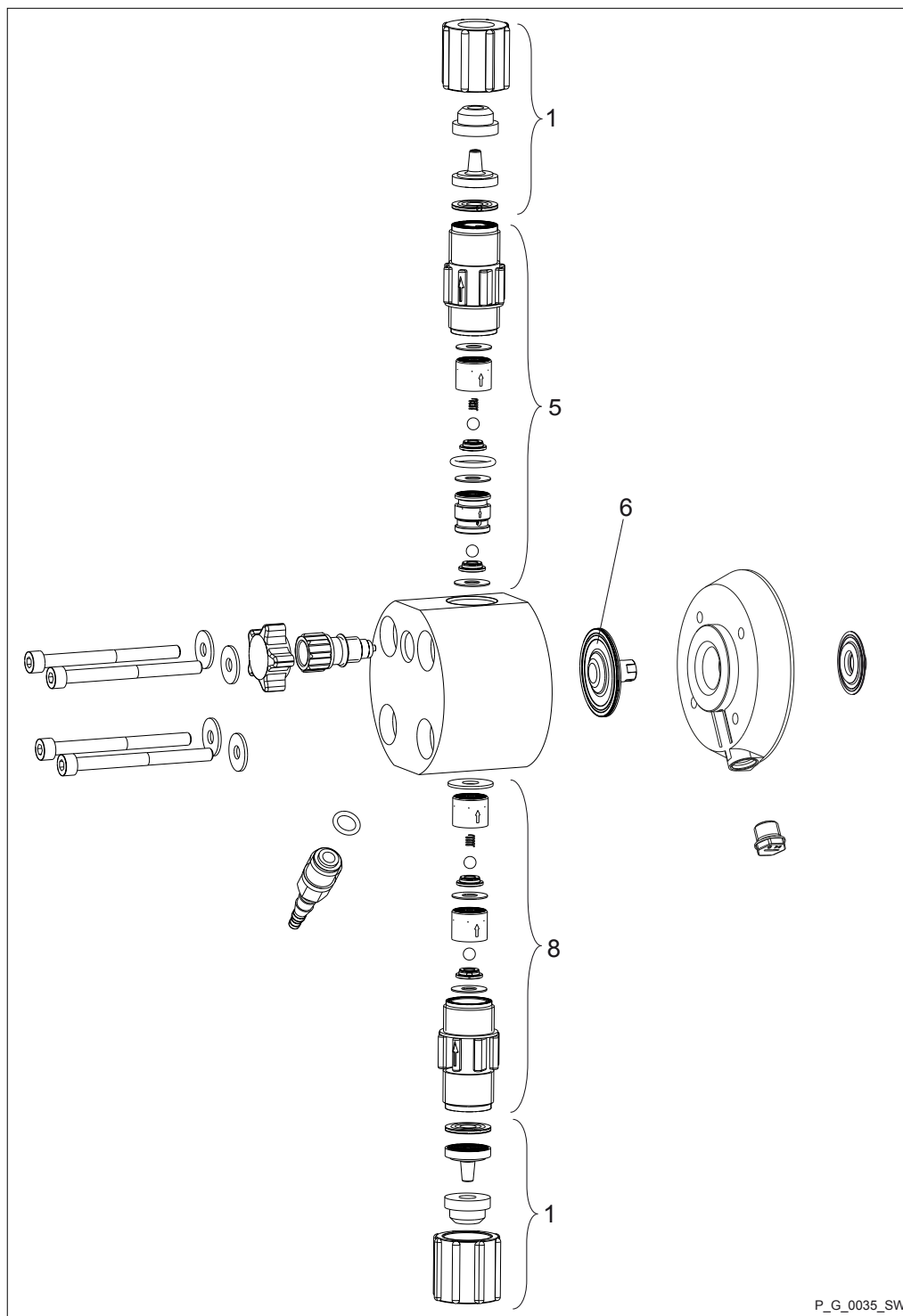


Fig. 56

Spare parts for liquid end gamma/ X 1602 - 2504 SER, self-bleeding without bypass, NPT7

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 1602

	NPT7
Liquid end SER, self-bleeding without bypass	1051092
Spare parts kit	1047830
Diaphragm	1000246

Liquid end gamma/ X 1604

	NPT7
Liquid end SER, self-bleeding without bypass	1051093
Spare parts kit	1047858
Diaphragm	1034612

Liquid end gamma/ X 0708 (1009) - 0220
(0424) SER, self-bleeding without bypass,
NPT7

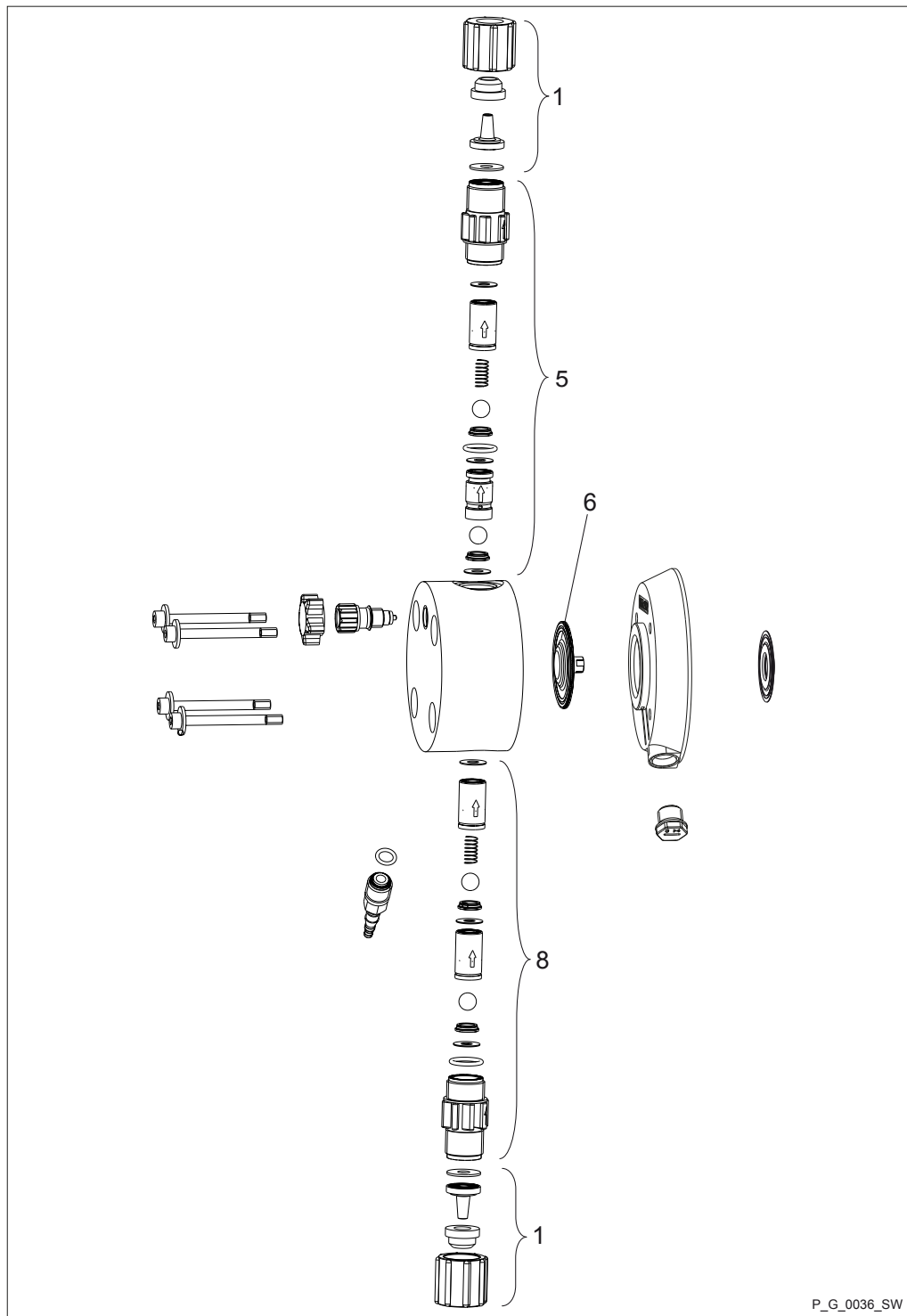


Fig. 57

Exploded Drawings and Ordering Information

Spare parts for liquid end gamma/ X 0708 (1009) - 0220 (0424) SER, self-bleeding without bypass, NPT7

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 0708 (1009)

	NPT7
Liquid end SER, self-bleeding without bypass	1051094
Spare parts kit	1047832
Diaphragm	1000248

Liquid end gamma/ X 0414 (0715)

	NPT7
Liquid end SER, self-bleeding without bypass	1051095
Spare parts kit	1047833
Diaphragm	1000249

Liquid end gamma/ X 0220 (0424)

	NPT7
Liquid end SER, self-bleeding without bypass	1051098
Spare parts kit	1047837
Diaphragm	1045456

Liquid end gamma/ X 1602 - 1604 SER,
self-bleeding without bypass, PVT7

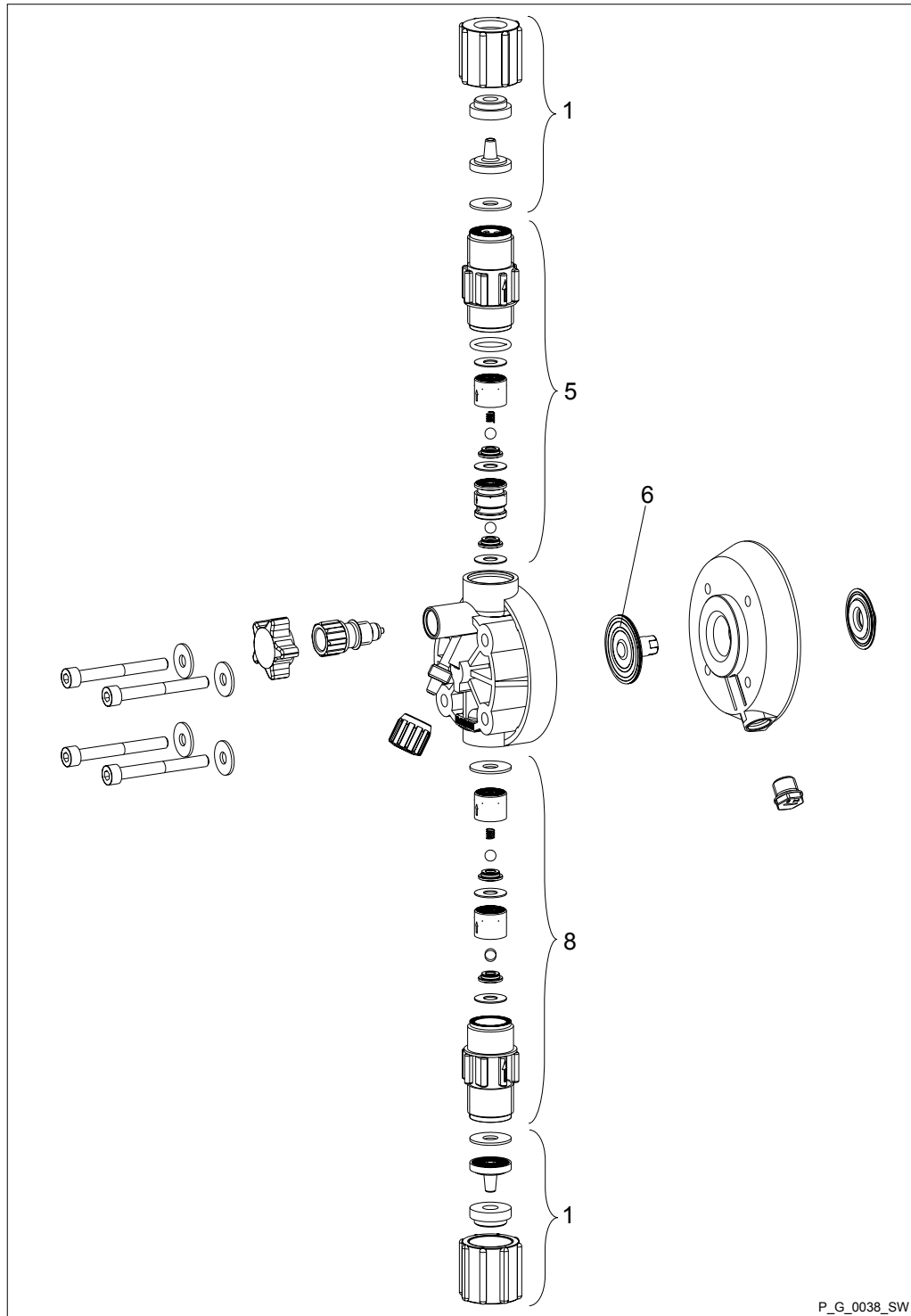


Fig. 58

Spare parts for liquid end gamma/ X 1602 - 1604 SER, self-bleeding without bypass, PVT7

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Exploded Drawings and Ordering Information

Liquid end gamma/ X 1602

	PVT7
Liquid end SER, self-bleeding without bypass	1051099
Spare parts kit	1047830
Diaphragm	1000246

Liquid end gamma/ X 1604

	PVT7
Liquid end SER, self-bleeding without bypass,	1051100
Spare parts kit	1047858
Diaphragm	1034612

Exploded Drawings and Ordering Information

Spare parts for liquid end gamma/ X 0708 (1009) - 0220 (0424) SER, self-bleeding without bypass, PVT7

Pos.	Description
1	Connector kit
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid end gamma/ X 0708 (1009)

	PVT7
Liquid end SER, self-bleeding without bypass	1051101
Spare parts kit	1047832
Diaphragm	1000248

Liquid end gamma/ X 0414 (0715)

	PVT7
Liquid end SER, self-bleeding without bypass	1051103
Spare parts kit	1047833
Diaphragm	1000249

Liquid end gamma/ X 0220 (0424)

	PVT7
Liquid end SER, self-bleeding without bypass	1051104
Spare parts kit	1047837
Diaphragm	1045456

Liquid end gamma/ X 1602 - 1604 PP_9
and NP_9

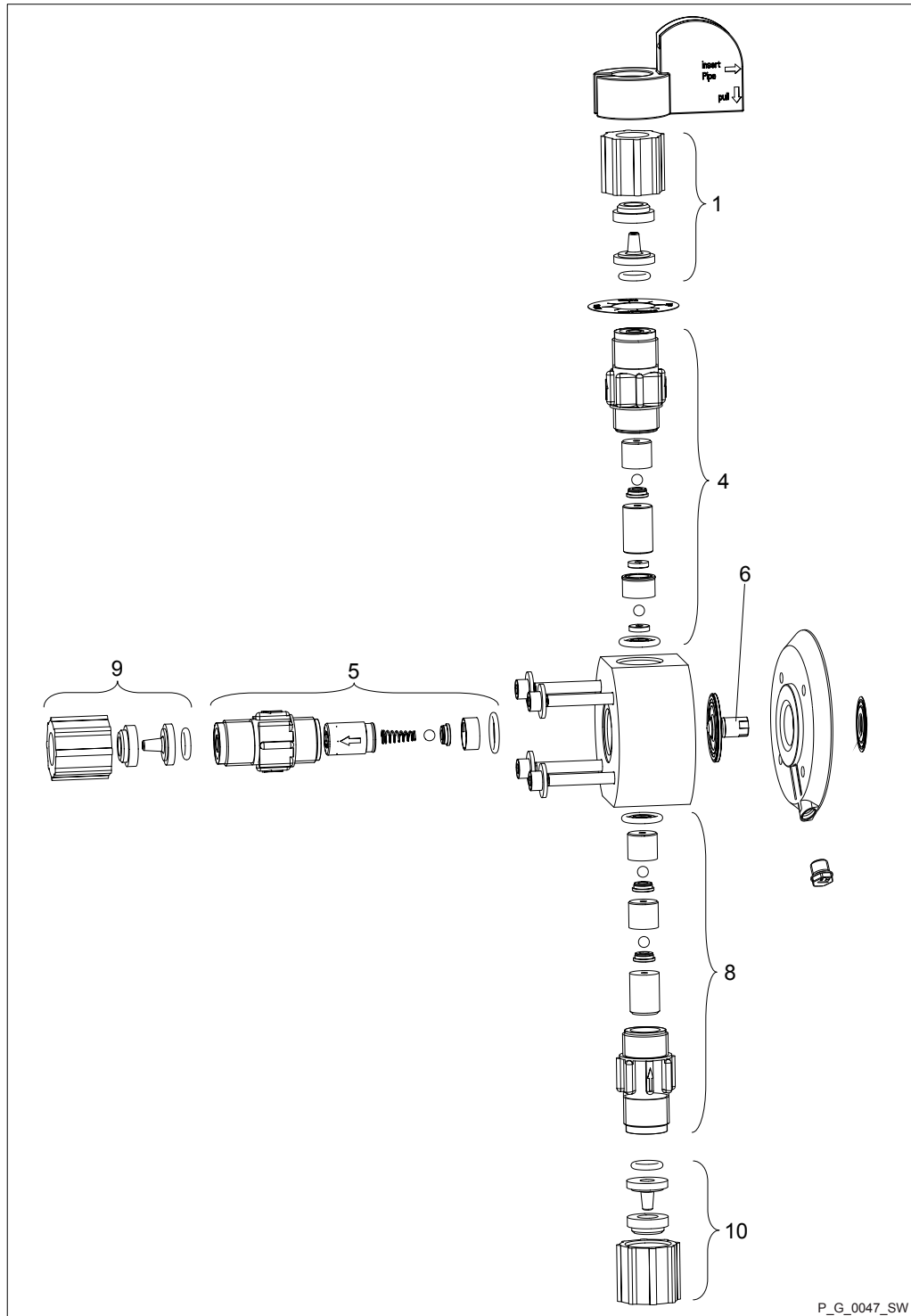


Fig. 60

Pos.	Part
1, 9, 10	Connector kit
4	Bleed valve
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid ends

Type	Order No.
PPE_9	-
1602	1050937
1604	1050938
PPB_9	-
1602	1050926
1604	1050927

Liquid ends

Type	Order No.
NPE_9	-
1602	1050977
1604	1050978
NPB_9	-
1602	1050960
1604	1050961

Spare parts kits for type:	Material version	Order No.
1602 with spring	PPE	1001757
1604 with spring	PPE	1035335
1602 with spring	PPB	1001763
1604 with spring	PPB	1035336
1602 with spring	NPE	1001661
1604 with spring	NPE	1035333
1602 with spring	NPB	1001667
1604 with spring	NPB	1035334

Diaphragm for type:	Order No.
1602	1000246
1604	1034612

Liquid end gamma/ X 0708 (1008) - 0220
(0420) PP_9 and NP_9

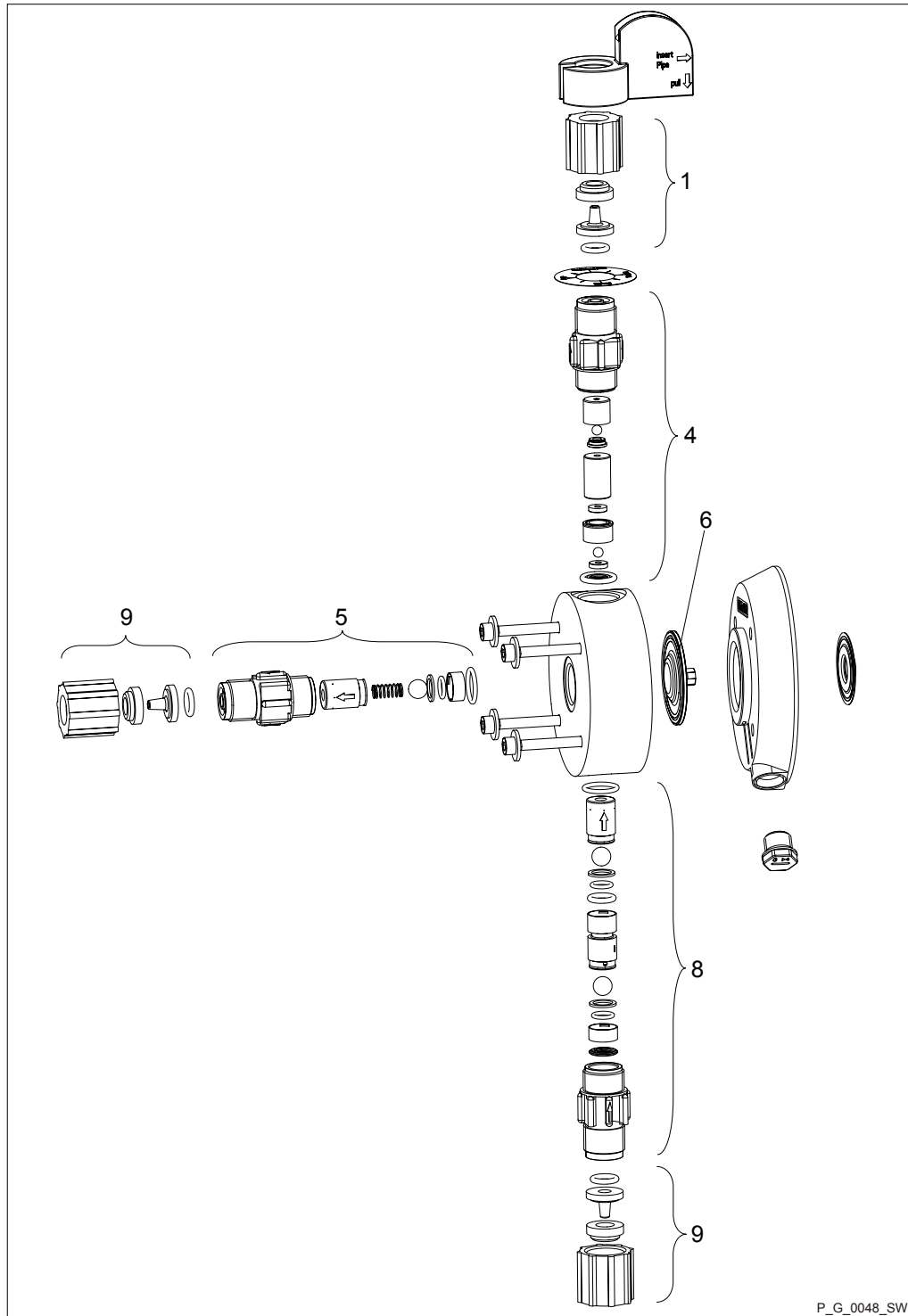


Fig. 61

Pos.	Part
1, 9, 10	Connector kit
4	Bleed valve
5	Discharge valve
6	Diaphragm
8	Suction valve

Liquid ends

Type	Order No.
PPE9	-
0708 / 1009	1050939
0414 / 0715	1050940
0220 / 0424	1050941
PPB9	-
0708 / 1009	1050928
0414 / 0715	1050929
0220 / 0424	1050930

Liquid ends

Type	Order No.
NPE9	-
0708 / 1009	1050979
0414 / 0715	1050980
0220 / 0424	1050981
NPB9	-
0708 / 1009	1050962
0414 / 0715	1050963
0220 / 0424	1050964

Spare parts kits for type:	Material version	Order No.
0708 (1008)	PPE	1001759
0413 (0713)	PPE	1001760
0220 (0420)	PPE	1051102
0708 (1008)	PPB	1001765
0413 (0713)	PPB	1001766
0220 (0420)	PPB	1051091
0708 (1008)	NPE	1001663
0413 (0713)	NPE	1001664
0220 (0420)	NPE	1051124
0708 (1008)	NPB	1001669
0413 (0713)	NPB	1001670
0220 (0420)	NPB	1051113

Diaphragm for type:	Order No.
0708	1000248
0413	1000249
0220	1045456

18.2 Ordering information

Retrofit kits

Retrofit kit	Order No.
Fault indicating relay:	1050643
Fault indicating/pacing relay:	1050654
Current output:	1050655
Bleed valve 4-p. 24 V PVF:	1061480
Retrofit kit for bleed valve 3-p. 230 V PVF:	1061481

Further sources of information

Further information on spare parts, accessories and options can be found in:

- the exploded drawings
- the identity code
- under www.prominent.com
- the ProMinent product catalogue

19 Dimensional Drawings



- Compare the dimensions on the dimensional drawing with those of the pump and mounting foot.
- All dimensions are in mm.

Dimensional drawing of gamma/ X mounting foot

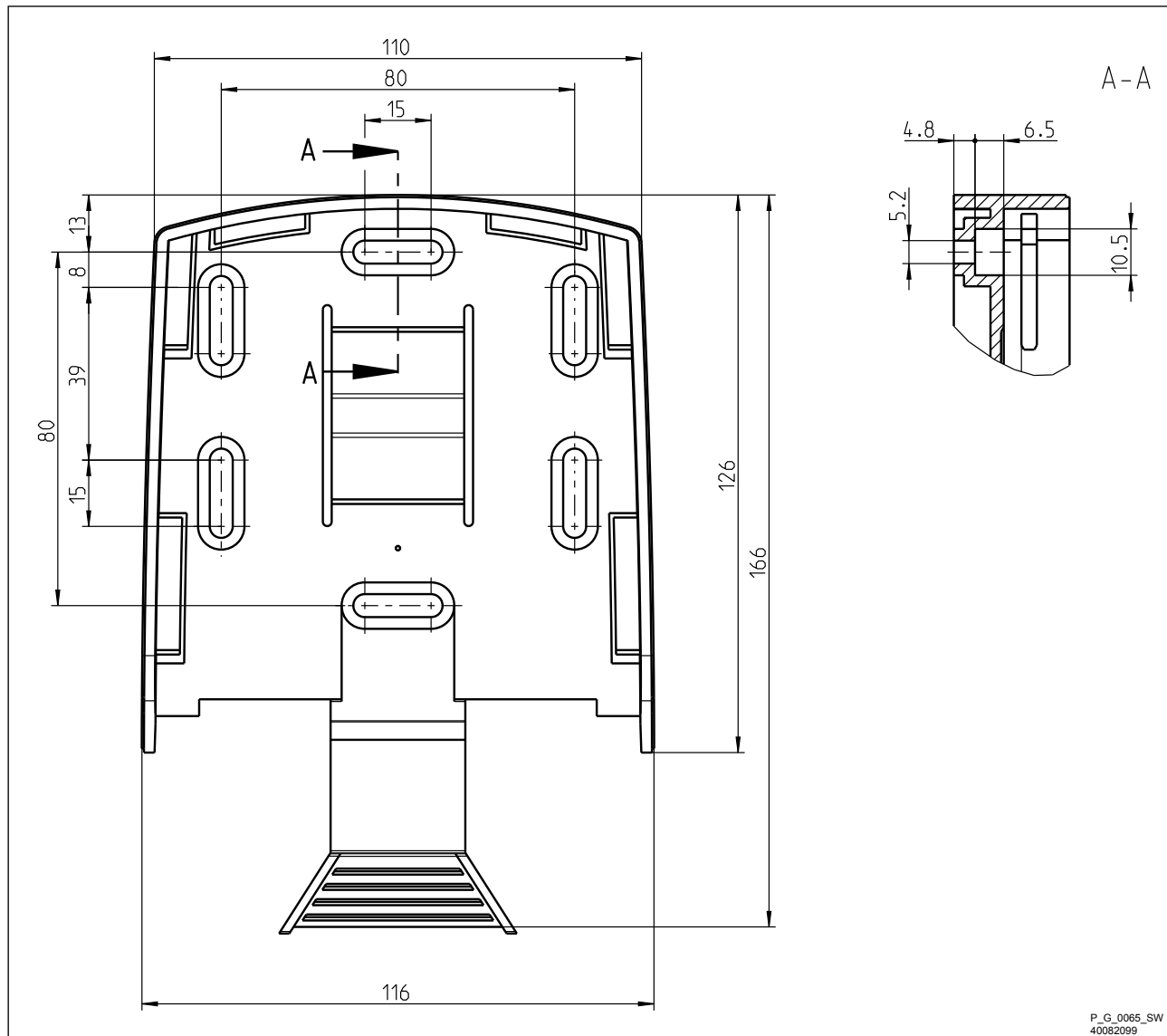
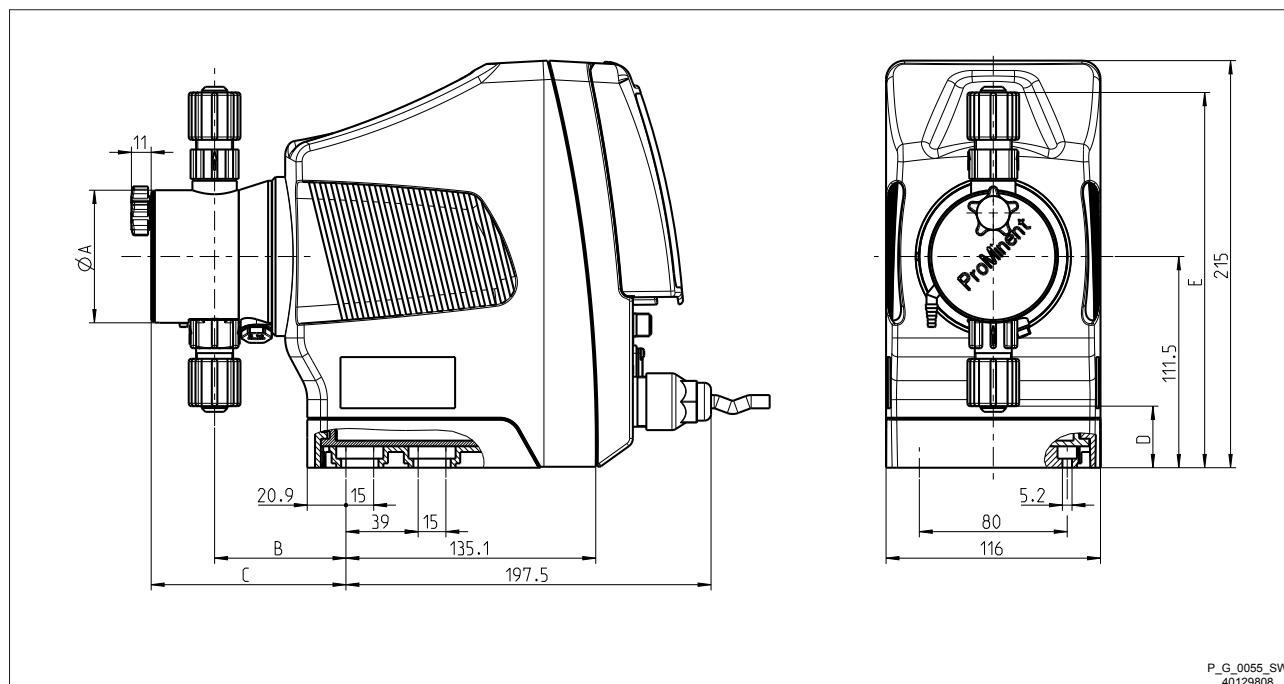


Fig. 62

Dimensional drawing gamma/ X, material versions PP_2



P_G_0055_SW
40129808

Fig. 63

	gamma/ X M70					gamma/ X M85			
	1602	1604	0708	0414	0220	1009	0715	0424	0245
ØA	70	70	90	90	90	90	90	90	110
B	71	71	74	74	76	74	74	76	76
C (with bleed valve)	106	106	108	107	110	108	107	110	-
C (without bleed valve)	-	-	-	-	-	-	-	-	93
D	32	32	24	24	24	24	24	24	14
E	198	198	202	202	202	202	202	202	209

Dimensional drawing gamma/ X, material versions NP_2

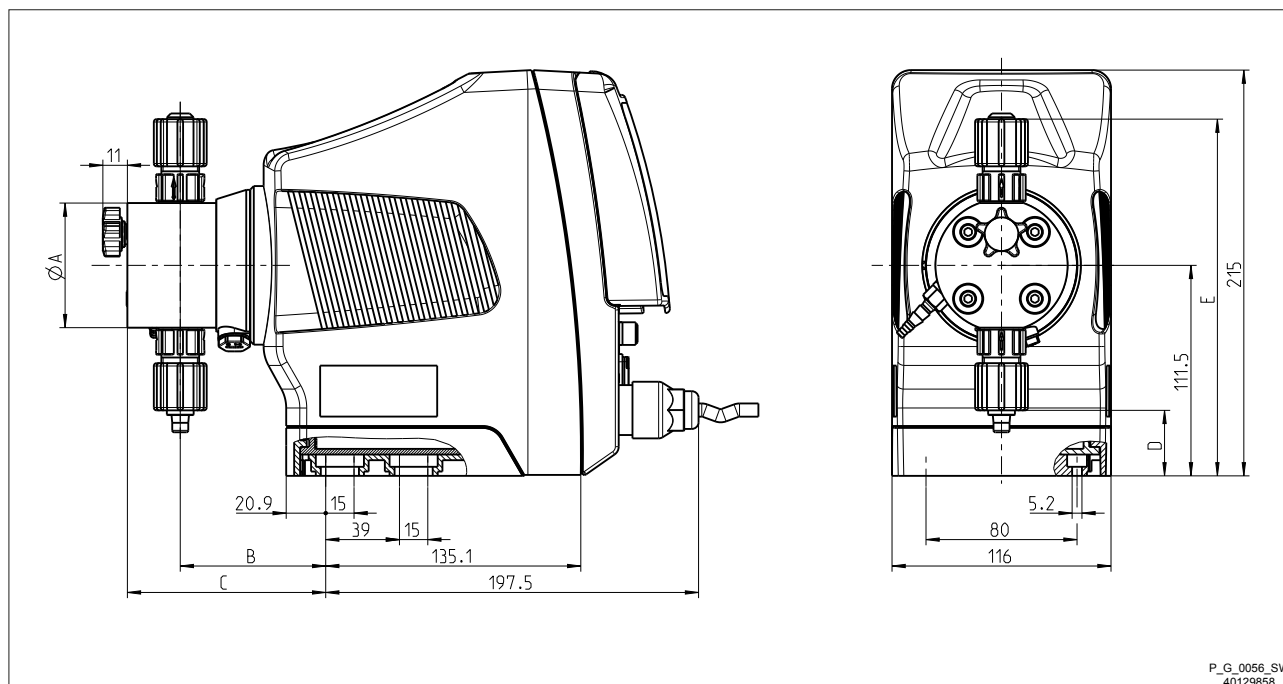


Fig. 64

	gamma/ X M70					gamma/ X M85			
	1602	1604	0708	0414	0220	1009	0715	0424	0245
ØA	70	70	90	90	90	90	90	90	110
B	77	77	74	76	76	74	76	76	76
C (with bleed valve)	105	105	102	104	104	102	104	104	105
C (without bleed valve)	92	92	91	91	91	91	91	91	91
D	33	33	23	23	23	23	23	23	14
E	191	191	200	200	200	200	200	200	210

Dimensional drawing gamma/ X, material version PVT2

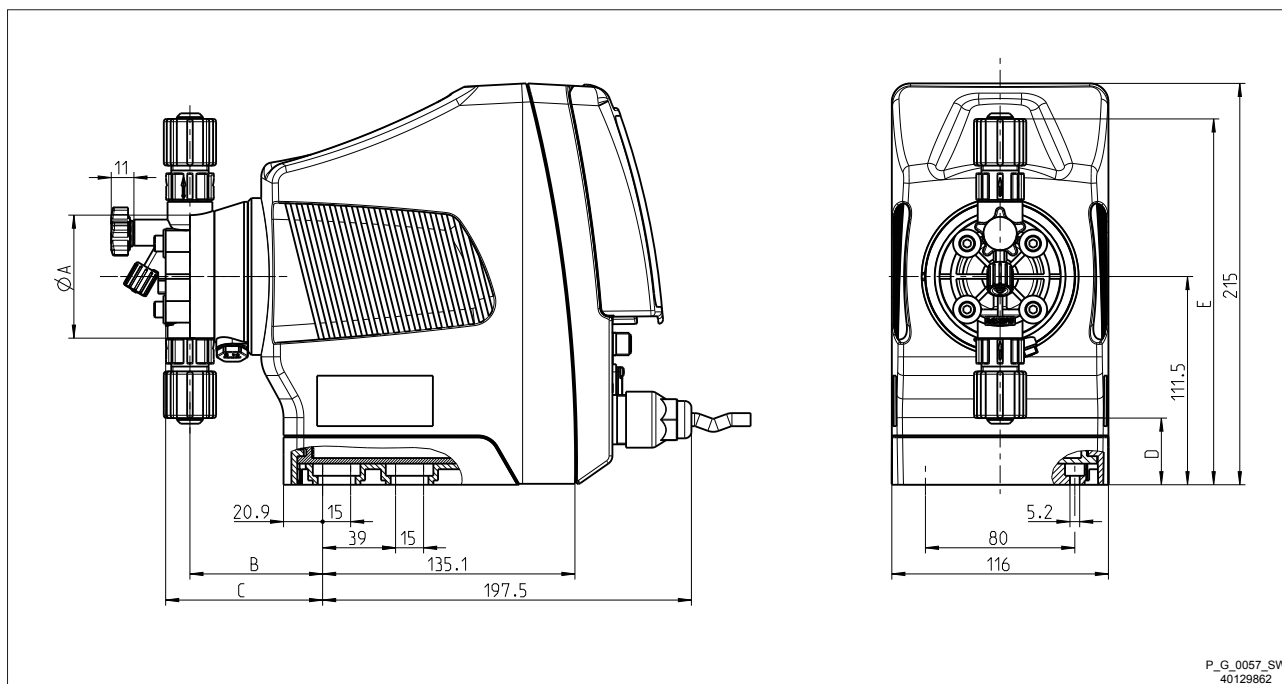


Fig. 65

	gamma/ X M70					gamma/ X M85			
	1602	1604	0708	0414	0220	1009	0715	0424	0245
ØA	70	70	90	90	90	90	90	90	110
B	71	71	75	73	79	75	73	79	76
C (with bleed valve)	84	84	92	90	90	92	90	90	-
C (without bleed valve)	-	-	-	-	-	-	-	-	93
D	36	36	25	25	25	25	25	25	14
E	196	196	203	203	203	203	203	203	209

Dimensional drawing gamma/ X, material version PVT4

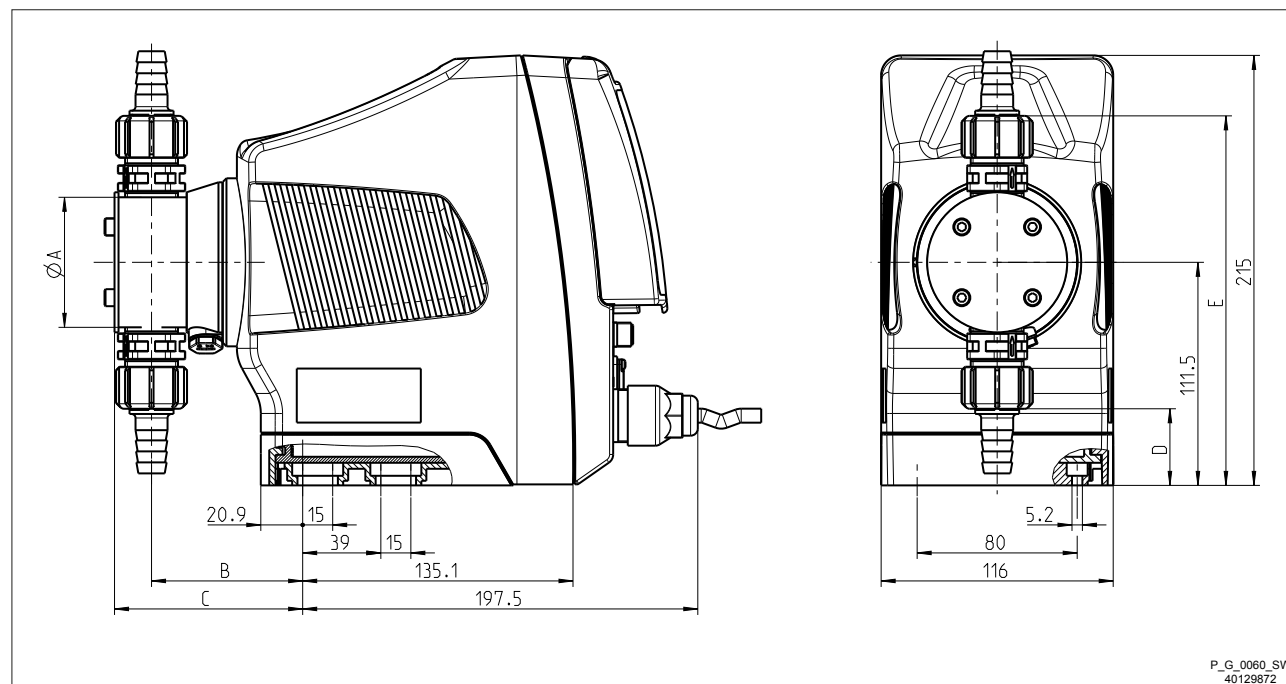


Fig. 66

	gamma/ X M70				gamma/ X M85		
	1604	0708	0414	0220	1009	0715	0424
$\varnothing A$	70	80	80	85	80	80	85
B	76	78	78	79	78	78	79
C	94	96	96	97	96	96	97
D	38	33	33	30	33	33	30
E	185	190	190	193	190	190	193

Dimensional drawing gamma/ X, material
version TTT0

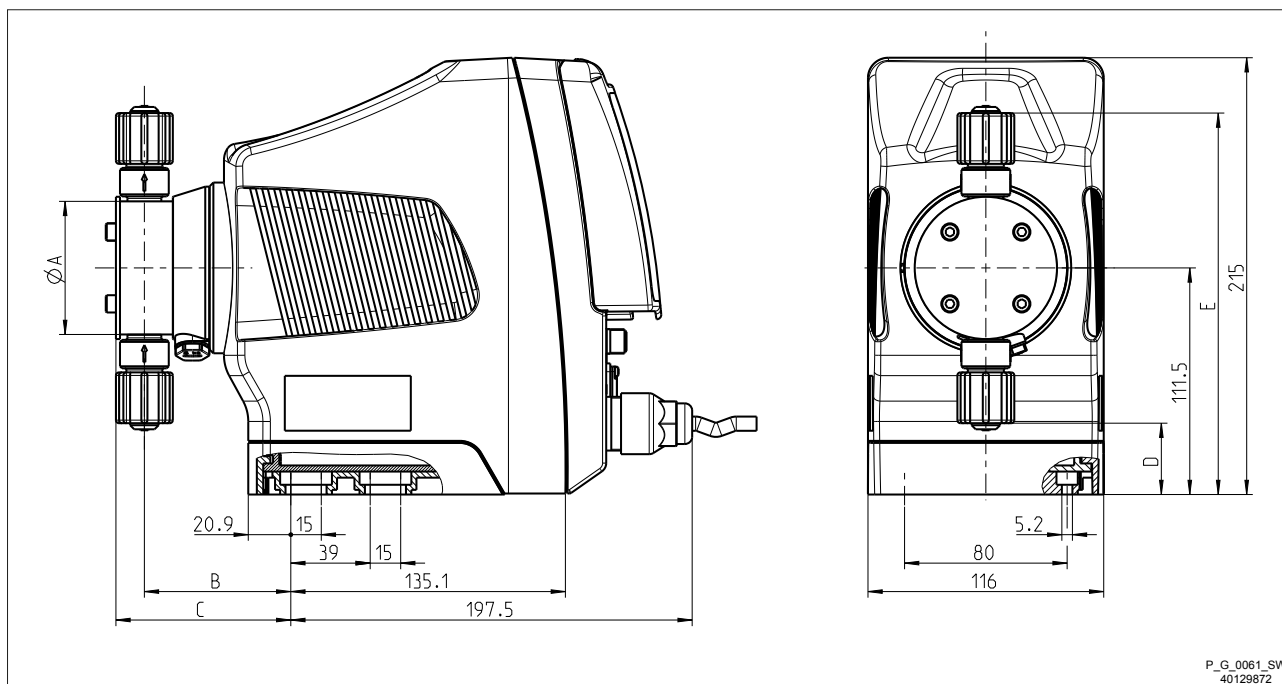


Fig. 67

	gamma/ X M70					gamma/ X M85			
	1602	1604	0708	0414	0220	1009	0715	0424	0245
$\varnothing A$	70	70	85	85	85	85	85	85	100
B	72	72	79	77	77	79	77	77	78
C	86	86	96	96	96	96	96	96	97
D	35	35	3	3	3	3	3	3	-5
E	188	188	220	220	202	220	220	202	227

Dimensional drawing gamma/ X, material
version SST0

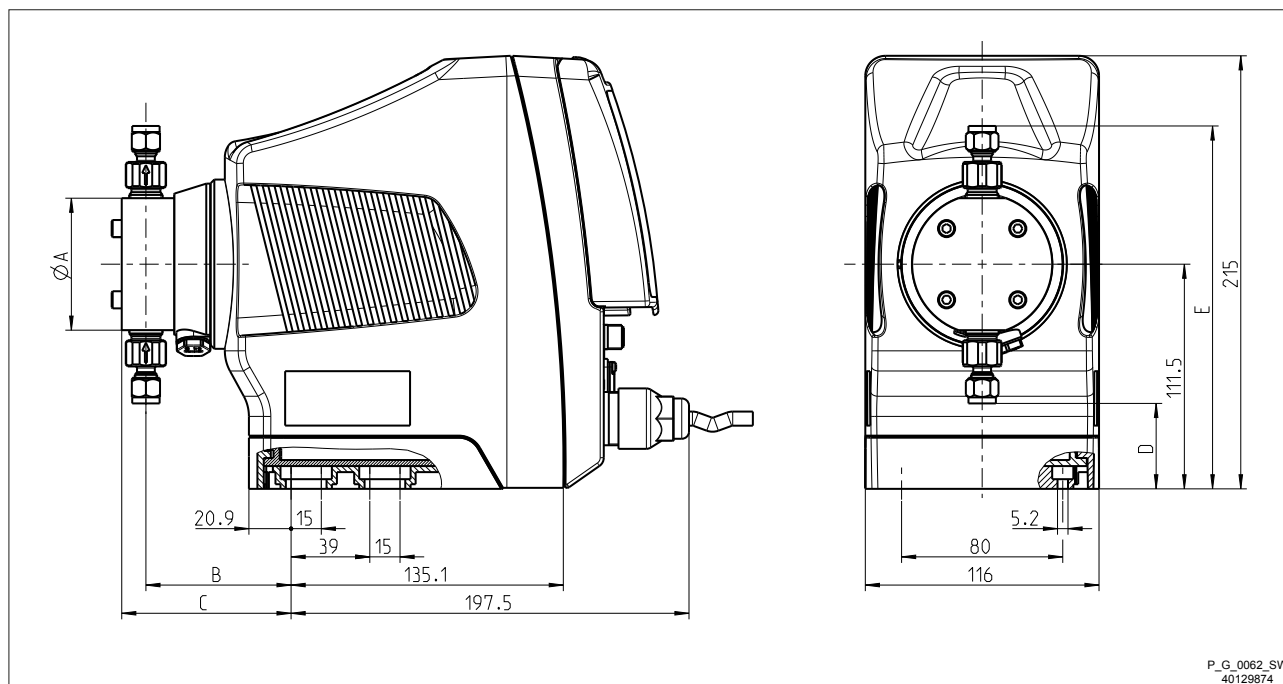


Fig. 68

	gamma/ X M70					gamma/ X M85			
	1602	1604	0708	0414	0220	1009	0715	0424	0245
$\varnothing A$	70	70	85	85	85	85	85	85	100
B	72	72	79	77	77	79	77	77	78
C	84	84	94	94	94	94	94	94	95
D	42	42	11	11	11	11	11	11	4
E	180	180	211	211	211	211	211	211	219

Dimensional drawing gamma/ X, material
version PPB9

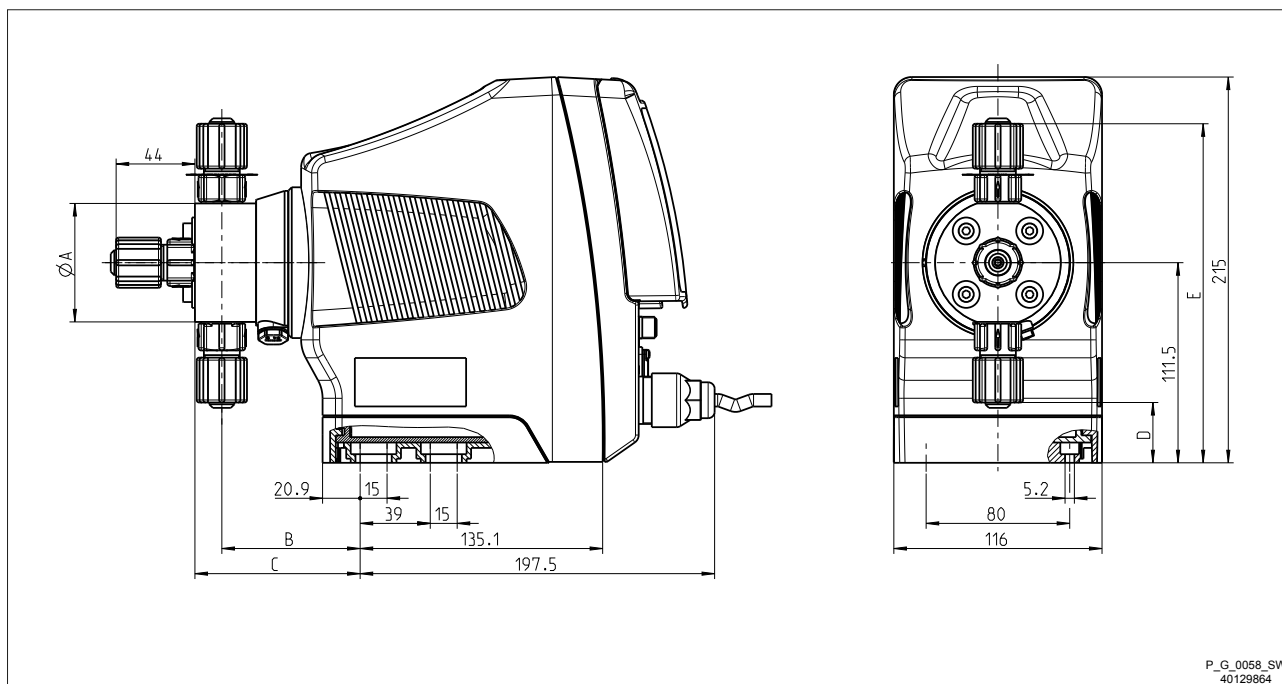


Fig. 69

	gamma/ X M70					gamma/ X M85		
	1602	1604	0708	0414	0220	1009	0715	0424
ØA	70	70	90	90	90	90	90	90
B	77	77	74	76	76	74	76	76
C	92	92	89	91	91	89	91	91
D	33	33	24	24	24	24	24	24
E	189	189	199	199	199	199	199	199

Dimensional drawing gamma/ X, material
version NPB9

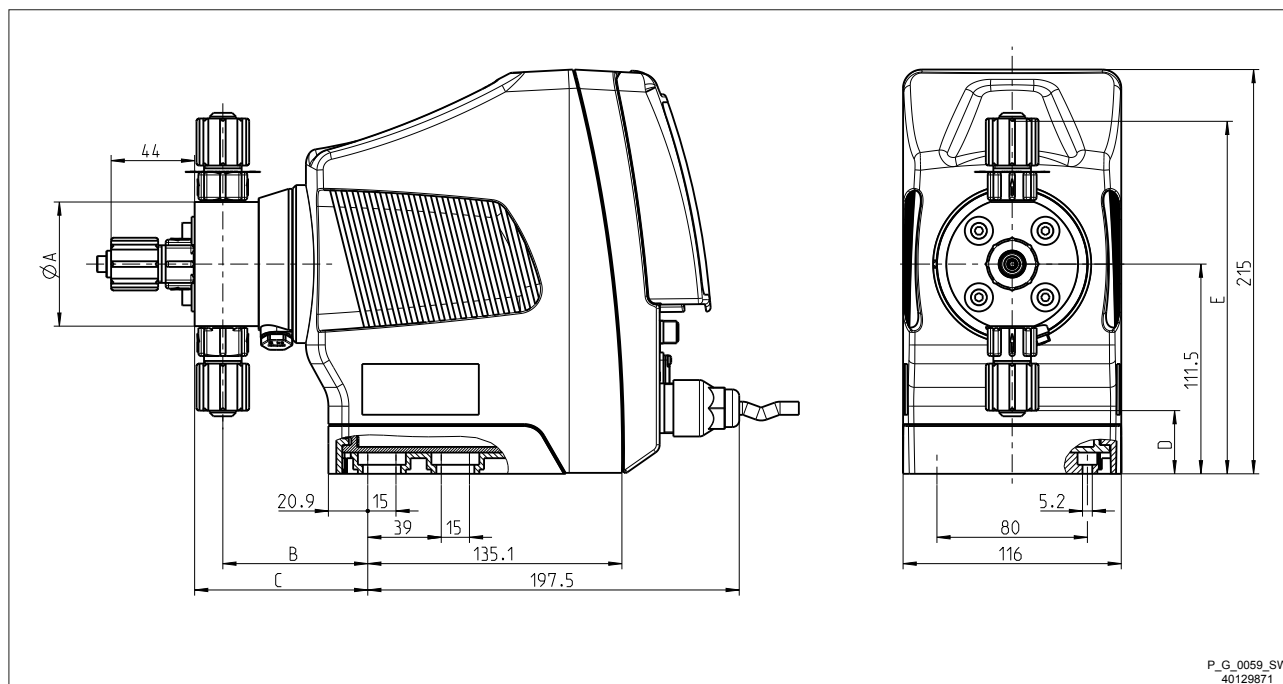


Fig. 70

	gamma/ X M70					gamma/ X M85		
	1602	1604	0708	0414	0220	1009	0715	0424
ØA	70	70	90	90	90	90	90	90
B	77	77	76	76	76	76	76	76
C	92	92	91	91	91	91	91	91
D	33	33	24	24	24	24	24	24
E	189	189	199	199	199	199	199	199

20 Diagrams for Setting the Capacity

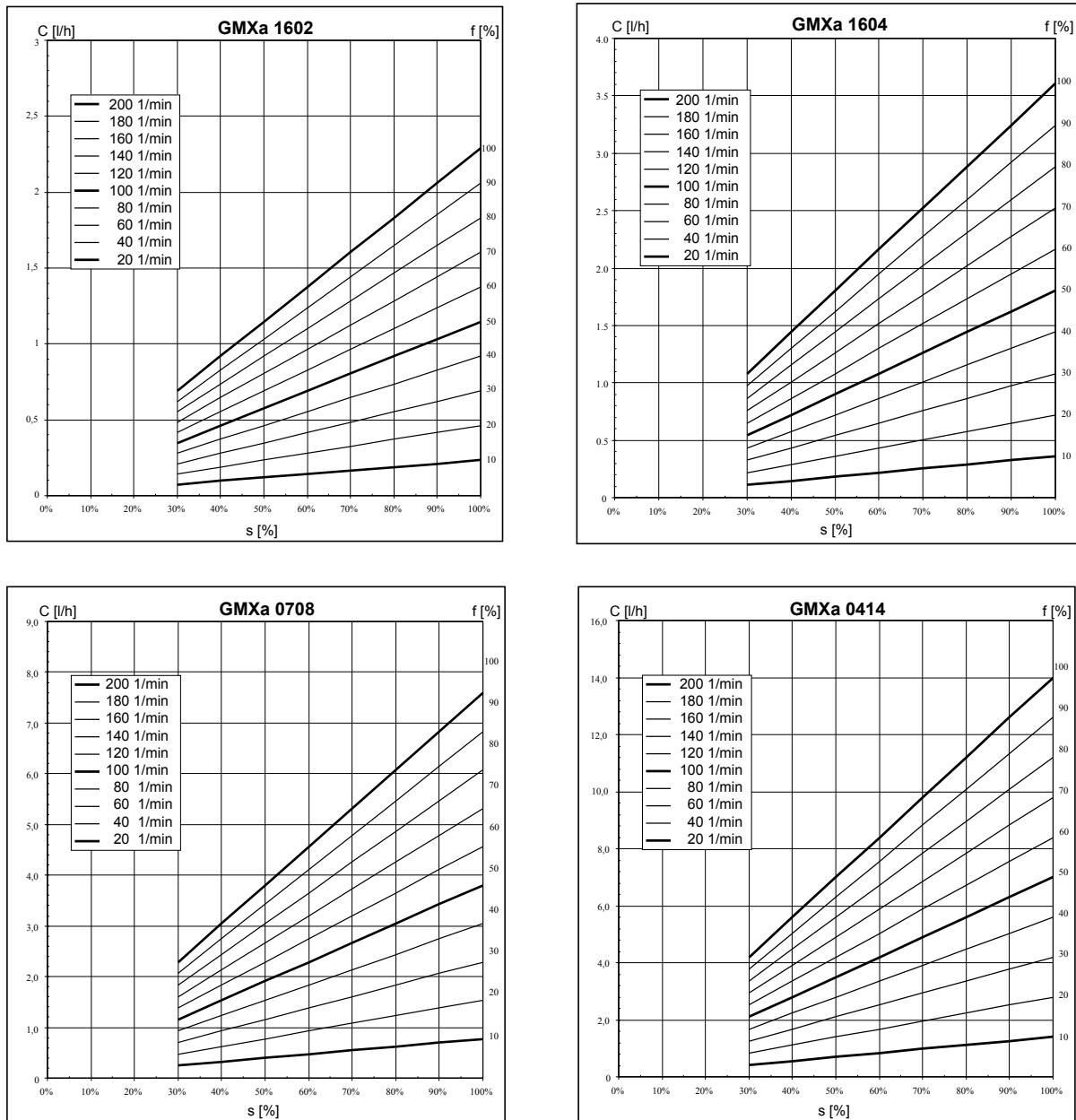


Fig. 71: Capacity C at maximum back pressure depending on the stroke length s for different stroke rates f

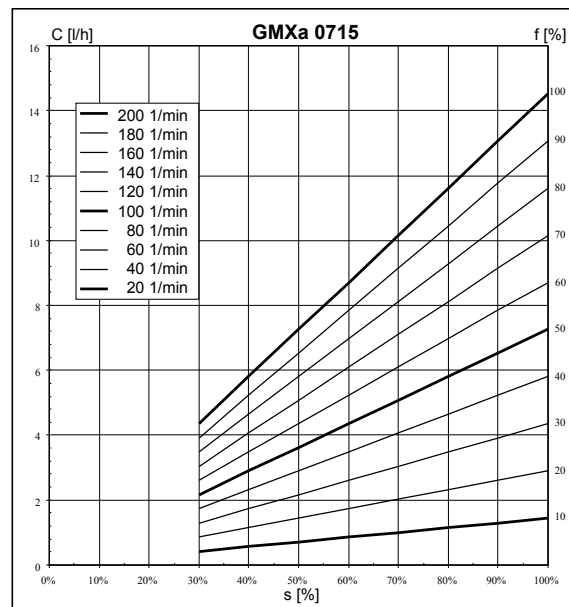
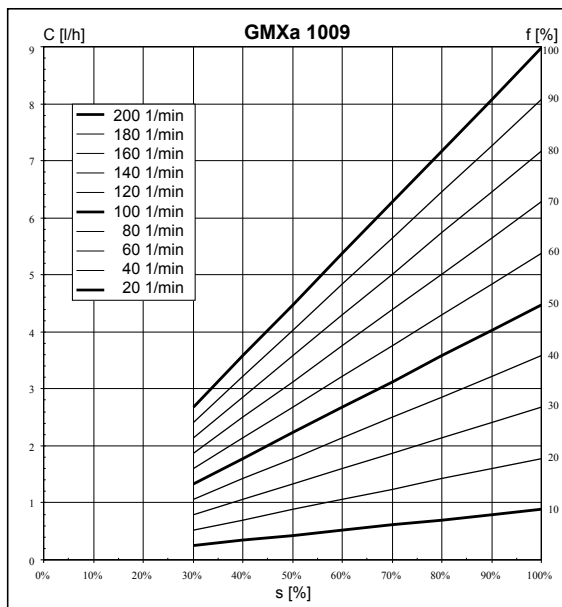
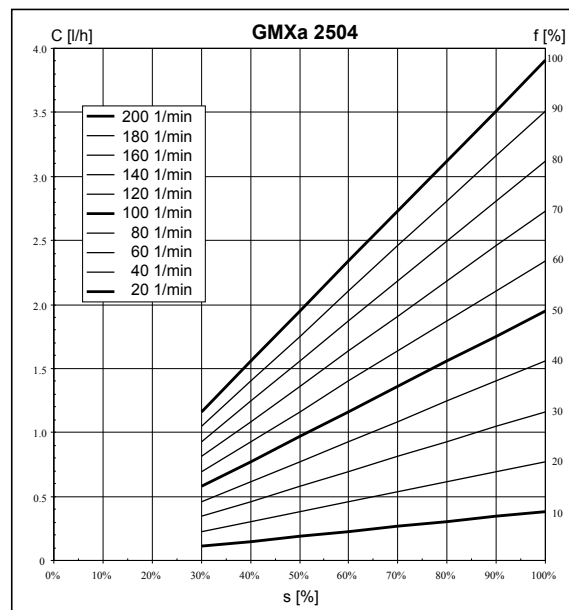
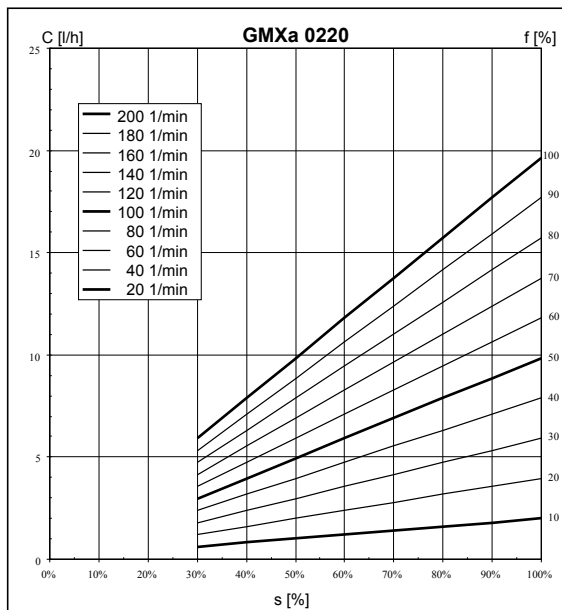


Fig. 72: Capacity C at maximum back pressure depending on the stroke length s for different stroke rates f

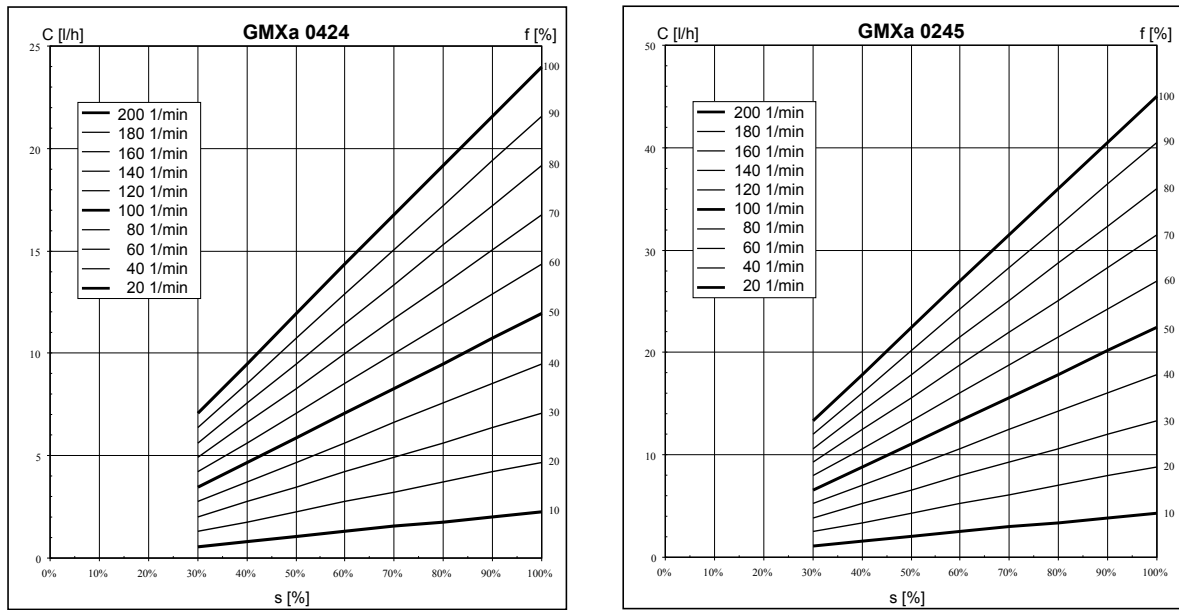


Fig. 73: Capacity C at maximum back pressure depending on the stroke length s for different stroke rates f

LENNTECH
WATER TREATMENT SOLUTIONS

info@lennotech.com Tel. +31-152-610-900
www.lennotech.com Fax. +31-152-616-289