

NSF-50 O&M Manual Addendum

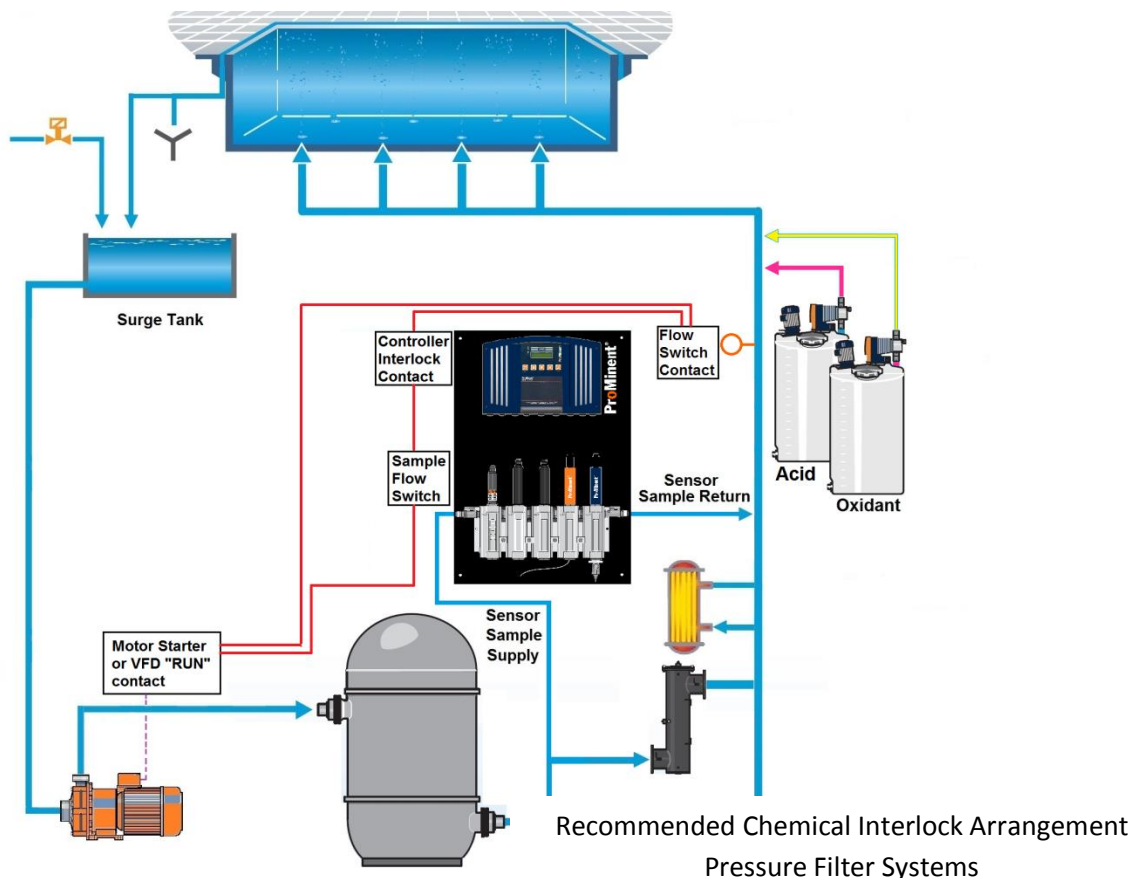
This addendum is to be shipped with all ProMinent operations and maintenance manuals for Controllers and Chemical feed pumps with the NSF-50 certification.

	WARNING
	This product must be installed with interlocks in place to avoid chemical overdose in case of loss of circulation flow in Pools and Spas. Chemical feed during periods of no water flow, like filter backwash, can pose a serious health threat from potentially high chemical concentrations and hazardous gas formation.

Interlocking

During periods of no circulation flow, chemical feeders must be interlocked to prevent feed of chemicals in swimming pools, spas and other recreational waters. This is best accomplished by using a flow switch in the circulation return line just upstream of where chemicals are being injected. Use that flow switch to interrupt chemical feeder permissions, either directly in the feeder or through an automated controller interlock circuit.

A sample flow switch provided with the automated control system should not be the only safety interlock for the chemical feeders. See the example drawings below.



Errata

On page 50 of the BT4b/BT5b Operating instructions. The performance data table section 16.1 has been corrected for the type 0713 pumps without self-bleeding heads. The corrected values are:

Beta b operating at 180 strokes/minute
and 100 % stroke length

Type	Minimum pump capacity at maximum back pressure			Minimum pump capacity at medium back pressure			Con- nector size outside Ø x inside Ø	Suction lift*	Priming lift**	Max- imum priming pressure on suc- tion side
	bar	l/h	ml/ stroke	bar	l/h	ml/ stroke				
Beta b										
0713	7	10.5	0.97	3.5	12.3	1.14	8x5	2.5	2.5	0.5

Spare Parts

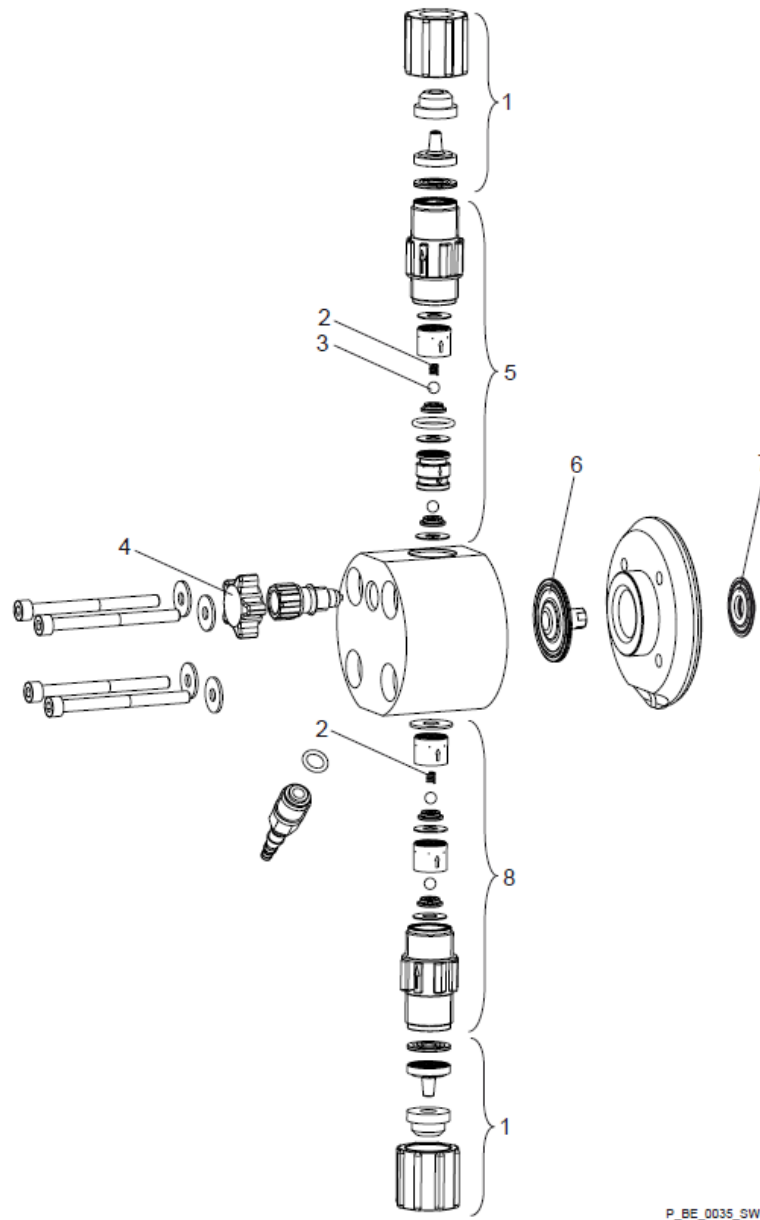
For NSF-50 pump repair parts information, use the Model Identification Code on your pump and refer to the exploded drawings below or contact your local ProMinent distributor.

For NSF-50 controllers the spare parts are listed in Section 7 or 8 of the Install manual supplied on the flash drive that came with your controller.

Concept Plus and Beta pump expanded drawings and Spare Parts lists are listed below for your reference.

18 Exploded Views of Liquid Ends

Beta® 1000 - 2504 NPT liquid end
with and without bleed valve



P_BE_0035_SW

Fig. 34

Item	Description	Types 0400 - 1000	Types 0401 - 1601	Types 0402 - 1602	Types 0404 - 2504
1	Connector kit 6/4 FVD/PVT	1035640	1035640	1035640	1035640
3	4 Valve balls	404201	404201	404201	404201

Spring (item 2) is a special accessory. The positions listed are included in the spare parts kit. Technical changes reserved.

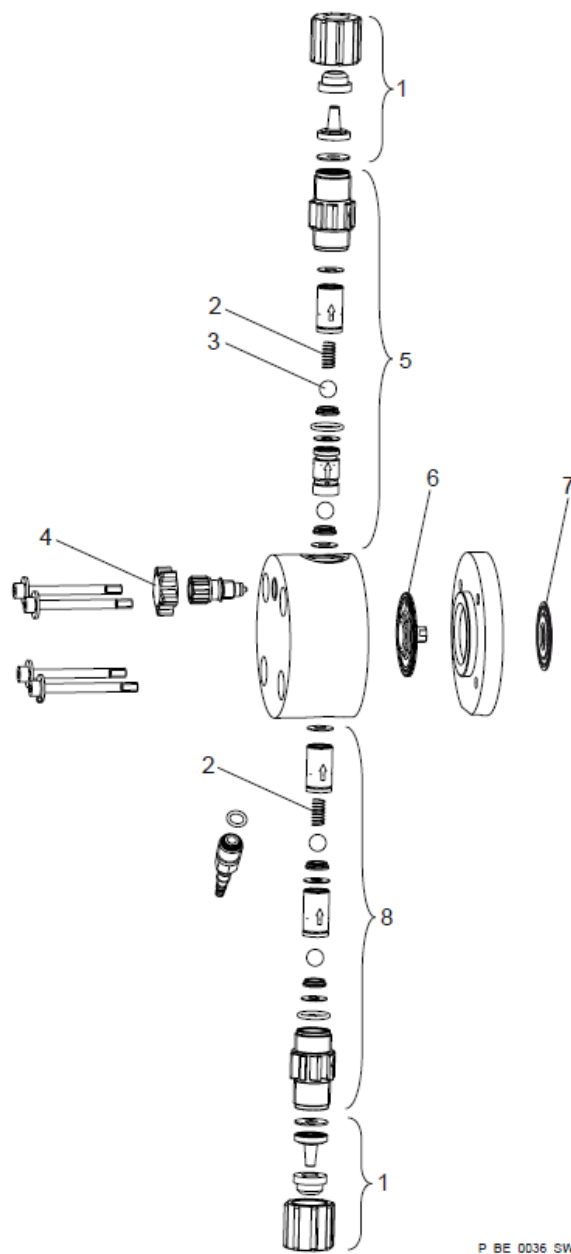
Exploded Views of Liquid Ends

Item	Description	Types 0400 - 1000	Types 0401 - 1601	Types 0402 - 1602	Types 0404 - 2504
4	Bleed valve	1021662	1021662	1021662	1021662
5	Discharge valve, compl. 4.7-2 PVT	1023127	1023127	1023127	1023127
6	Diaphragm	1000244	1000245	1000246	1034612
7	Safety diaphragm	1006061	1006061	1006061	1006061
8	Suction valve, compl. 4.7-2 PVT	1023128	1023128	1023128	1023128

Spring (item 2) is a special accessory. The positions listed are included in the spare parts kit. Technical changes reserved.

Exploded Views of Liquid Ends

Beta® 0708 (1008) - 0220 (0420) NPT
liquid end with and without bleed
valve



P_BE_0036_SW

Fig. 35

Item	Description	Type 0708 (1008)	Type 0413 (0713)	Type 0220 (0420)
1	Connector kit 8/5 FVD/PVT	1035641	1035641	1035641
3	4 Valve balls	404281	404281	404281

Spring (item 2) is a special accessory. The positions listed are included in the spare parts kit. Technical changes reserved.

Item	Description	Type 0708 (1008)	Type 0413 (0713)	Type 0220 (0420)
4	Bleed valve	1021662	1021662	1021662
5	Discharge valve, compl. 9.2-2 PVT	1023125	1023125	1023125
6	Diaphragm	1000248	1000249	1000250
7	Safety diaphragm	1006061	1006061	1006061
8	Suction valve, compl. 9.2-2 PVT	1023126	1023126	1023126

Spring (item 2) is a special accessory. The positions listed are included in the spare parts kit. Technical changes reserved.

Beta® 0232 NPT liquid end with and without bleed valve

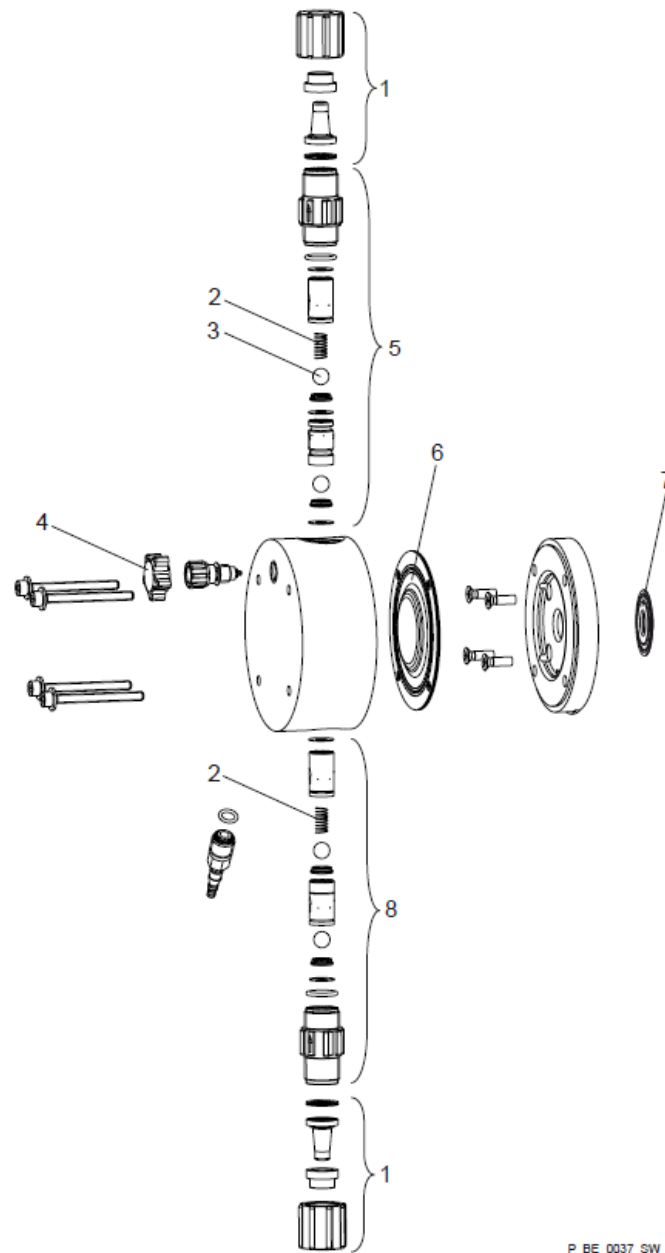


Fig. 36

Item	Description	Type 0232
1	Connector kit 12/9 FVD/PVT	1035642
3	4 Valve balls	404281
5	Discharge valve, compl. 9.2-2 PVT	1023125
Spring (item 2) is a special accessory. The positions listed are included in the spare parts kit. Technical changes reserved.		

Item	Description	Type 0232
6	Diaphragm	1000251
7	Safety diaphragm	1006061
8	Suction valve, compl. 9.2-2 PVT	1023126

Spring (item 2) is a special accessory. The positions listed are included in the spare parts kit. Technical changes reserved.

19 Further order information

Spare Parts kits

Type	NPE	NPT	PVT
0400, 0700, 1000	1001713	1023107	1023107
0401, 0701, 1001, 1601	1001714	1023108	1023108
0402, 0702, 1002, 1602	1001715	1023109	1023109
0404, 0704, 1004, 1604 (2504)	1039988	1035332	1035332
0708 (1008)	1001717	1023111	1023111
0413 (0713)	1001718	1023112	1023112
0220 (0420)	1001719	1023113	1023113
0232	1001720	1023124	1023124

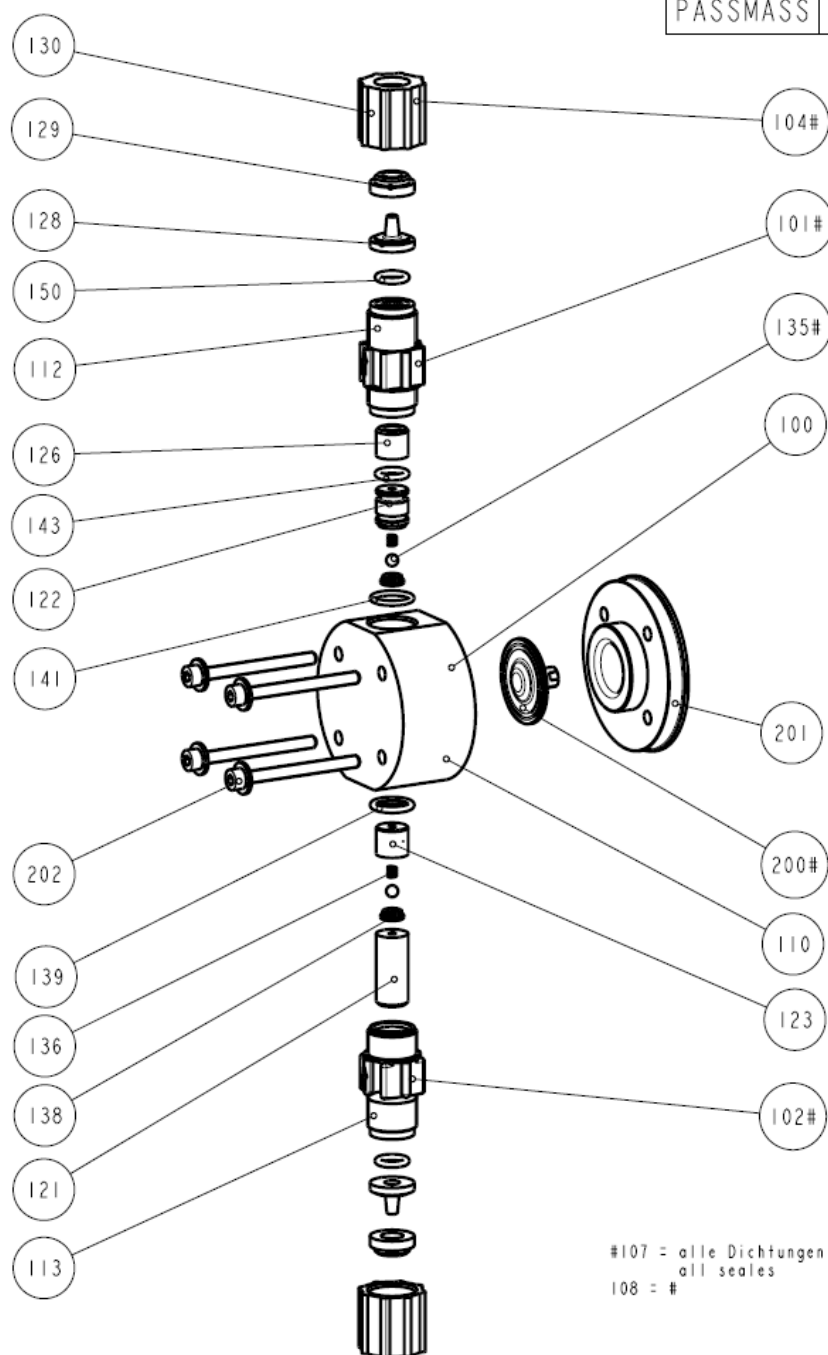
Sealing sets

Type	NPE	NPT	PVT
0400, 0700, 1000	1001775	1023130	1023130
0401, 0701, 1001, 1601	1001775	1023130	1023130
0402, 0702, 1002, 1602	1001775	1023130	1023130
0404, 0704, 1004, 1604 (2504)	1001775	1023130	1023130
0708 (1008)	1001776	1023129	1023129
0413 (0713)			
0220 (0420)			
0232	1001776	1023129	1023129

Further sources of information

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

- the exploded drawings
- the identity code
- the "General Operating Instructions on ProMinent solenoid metering pumps".
- the ProMinent product catalogue



Schutzvermerk nach DIN34 beachten
Copyright reserved

		Werkstueck- kanten	Allg. Tol.	Oberfl.	Maßstab scale	T.-Nr. p.-no.
					Werkstoff material	NPE / NPB / PPE / PPB
			Datum	Name	Bezeichnung/description ETL Fördereinheit o.E. CNPA SPL liquid end w.v.v. CNPA	
		Bearb.	15-Nov-02	Bonin		
		Gepr.	23.09.03	Bubb		
		Norm				
		ProMinent Dosiertechnik GmbH Im Schumacherweg 5-11 D-69123 Heidelberg Postfach 101160 D-69007 Heidelberg			Zchnng.-Nr./drawing no.	Blatt
					60_07-104_00_44-04	2
01	02029	15.11.02	Bo			2 Bl.
Zust.	Aend.-Mittl.-Nr.	Datum	Name	Ursprung	Ers. f.	Ers. d.

16.06.2004

Description: CNPa Liquid ends w.vv NPB Version: 00

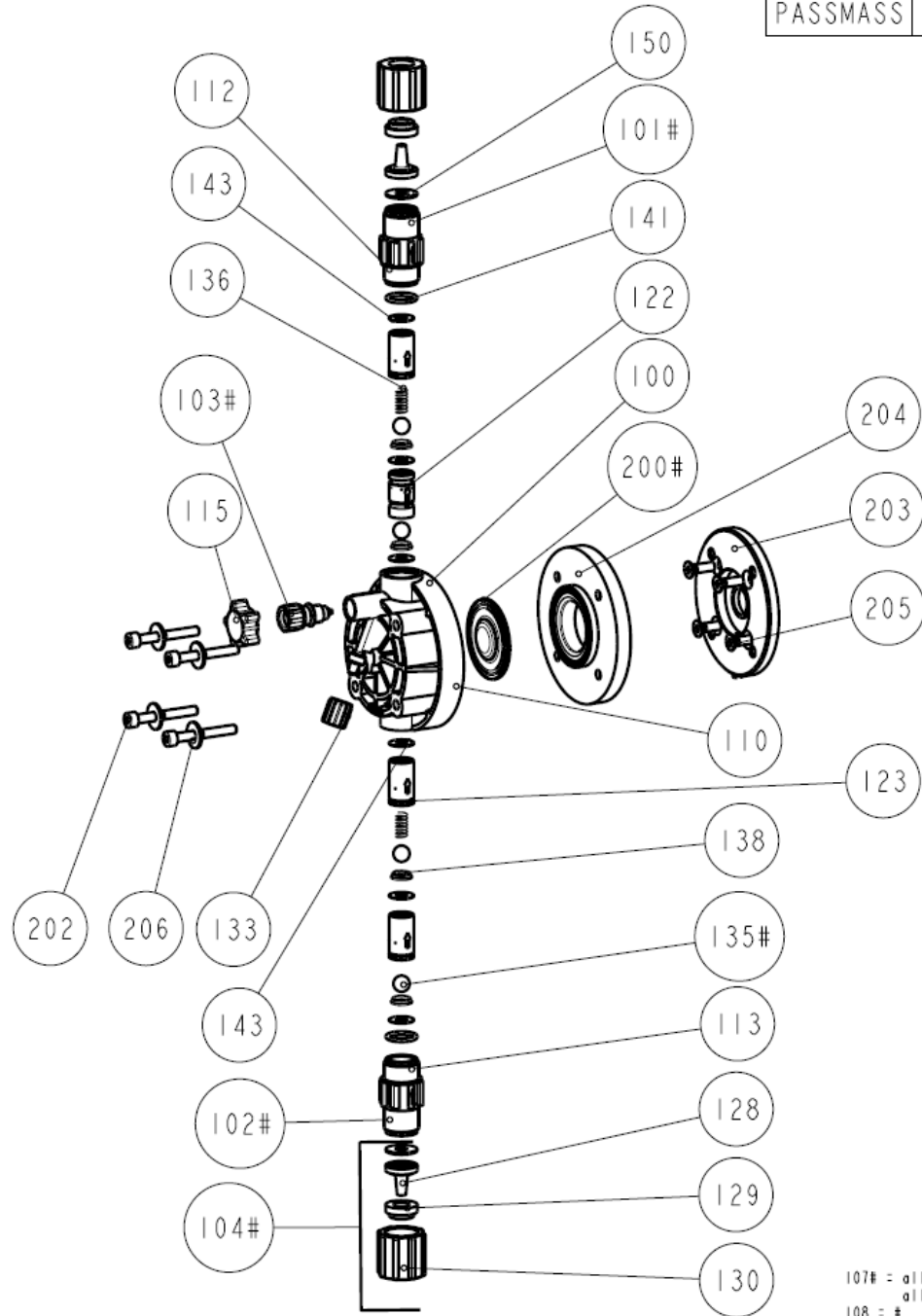
Abb

*=spcl. accessories/**=without connect. set, cover and knob for
vent.valve/**=not shown

CNPa Liquid ends w.vv NPB			
Pos.Type	No.of	Description	Part No.
001 A	1.000	Liquid end 1000-2 w.v. NPB	1024594
001 B	1.000	Liquid end 1601-2 w.v. NPB	1024595
001 C	1.000	Liquid end 1002-2 w.v. NPB	1024596
001 D	1.000	Liquid end 0704 w.v. NPB	1024597
001 E	1.000	Liquid end 0308 w.v. NPB	1024598
001 F	1.000	Liquid end 0213 w.v. NPB	1024599
100 A **	1.000	Dos.h.ass. 70x10-2 hc50 NPB	1000951
100 B **	1.000	Dos.h.ass. 70x12.5-2 hc50 NPB	1000952
100 C **	1.000	Dos.h.ass. 70x16.5-2 hc50 NPB	1000954
100 D **	1.000	Dos.h.ass. 70x20-E LK50 NPB	1023489
100 E **	1.000	Dos.h.ass. 90x29-2 hc66 NPB	1000956
100 F **	1.000	Dos.h.ass. 90x37-2 hc66 NPB	1000957
101 A-D	1.000	Disch.valve cpl. 4.7-1 PCB	740348
101 E-F	1.000	Disch.valve cpl. 9.2-2 PCB	1001438
102 A-D	1.000	Suct.valve cpl. 4.7-1 PCB	792026
102 A-D	1.000	Valve insert 4.7-1 bypass P	791879
102 E-F	1.000	Suct.valve cpl. 9.2-2 PCB	1001434
103 A-F	1.000	Vent valve cpl. PVDF/Viton B	791365
104 A-C	1.000	Connect. set 6x 4 PCB	817050
104 A-D *	1.000	Connect. set sing. 10x 4 PCB	1002589
104 A-F *	2.000	Connect. set sing. 9x 5 PCB	792189
104 A-F *	1.000	Connect. set 12x 6 PCB	817052
104 B-F *	1.000	Connect. set 12x 9 USA PCB	817055
104 D-F *	1.000	Connect. set 8x 5 PCB	817053
105 A-F */***	1.000	Adap.set sing. M20x1.5-G3/4 PCB	740601
105 A-F */***	1.000	Adap.set sing. M20x1.5-G5/8 PCB	817069
107 A-D	1.000	Gasket-set valve 4.7-2 FPM-B	1001773
107 E-F	1.000	Gasket-set valve 9.2-2 FPM-B	1001774
108 A	1.000	Spare part set 1000-2 PCB	1001721
108 B	1.000	Spare part set 1601-2 PCB	1001722
108 C	1.000	Spare part set 1602-2 PCB	1001723
108 D	1.000	Spare part set 1005-2/1605-2 PCB	1001724
108 E	1.000	Spare part set 0708-2/1008-2 PCB	1001725
108 F	1.000	Spare part set 0413-2/0713-2 PCB	1001726
110 A	1.000	Dosing head 70x10-2 hc 50 N	1003140
110 B	1.000	Dosing head 70x12.5-2 hc 50 N	1003141
110 C	1.000	Dosing head 70x16.5-2 hc 50 N	1003142
110 D	1.000	Dosing head 90x23-2 hc 66 N	1003143
110 E	1.000	Dosing head 90x29-2 hc 66 N	1003164
110 F	1.000	Dosing head 90x37-2 hc 66 N	1003165
112 A-D	1.000	Discharge conn. M20x1.5-1 P	791880
112 E-F	1.000	Discharge conn. M20x1.5-2 P	1000500
113 A-D	1.000	Suction conn. M20x1.5 PVC	800569
113 E-H	1.000	Suction conn. M20x1.5-2 P	1000498
115 A-F	1.000	Knob for vent valve dosh.	800832
122 A-D	1.000	Distance sleeve d13x18 P	791089
122 E-F	2.000	Valve insert under 9.2-2 P	1000492
123 A-D	3.000	Valve insert 4.7-1 P	791090
123 E-F	2.000	Valve insert tops. 9.2-2 P	1000490
124 E-F	2.000	Valve lid 9.2-2 P	1000494
125 E-F	4.000	Disc d 13 / d 9.5x1 PVC	140554
128 A-C	2.000	Tube nozzle 6 x 4 P	800520
128 A-F *	2.000	Tube nozzle 12 x 6 P	800522
128 B-F	2.000	Tube nozzle 12 x 9 P	800523

CNPa Liquid ends w.vv NPB

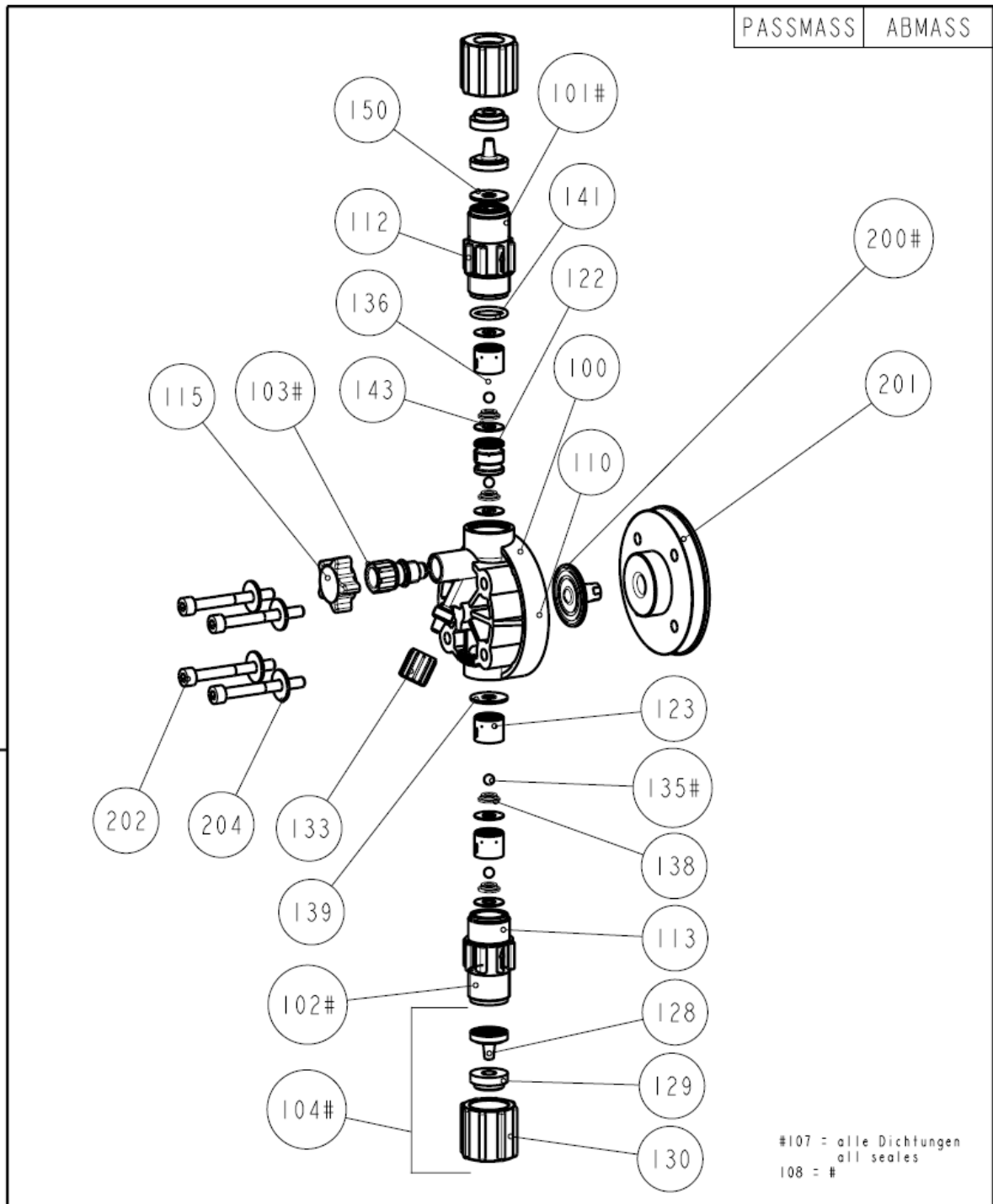
Pos.Type	No.of	Description	Part No.
128 D-F	2.000	Tube nozzle 8 x 5 P	800521
129 A-C	2.000	Clamp ring d 6 PPE	800712
129 A-D *	1.000	Clamp ring d 10 PPE	1002209
129 A-F *	2.000	Clamp ring d 12 PVDF	811334
129 B-F *	2.000	\$Clamp ring d 12 USA PPE	800715
129 D-F *	2.000	Clamp ring d 8 PPE	800713
130 A-F	2.000	Union nut M20x1.5x25 P	800518
131 A-F */***	2.000	Adapter M20x1.5-G5/8 P	800524
131 A-F */***	2.000	Adapter M20x1.5-G3/4 P	800579
133 A-F	1.000	Threaded socket G1/4" - d 6 P	1001984
135 A-D	4.000	Valve ball 4.7 mm Al2 O3	404201
135 E-F	4.000	Valve ball 9.2 mm Al2 O3	404281
136 A-D *	2.000	Valve spring d0.3/DA 3.9 0.1bar 1.4571	469406
136 E-F *	2.000	Valve spring d0.3/DA 6.8 0.1bar 1.4571	469403
137 A-F */***	2.000	Locking cap for M 20	140592
138 A-D	4.000	valve face 3.0x9.5 FPM-B	792759
139 A-D	1.000	Moulding gasket 18x2.5 FPM-B	791051
139 E-F	2.000	Moulding gasket 14x1.5 FPM-B	1000496
141 A-D	1.000	O-ring/m 14.00 - 2.00 FPM-B	791628
141 E-F	2.000	O-ring/m 14.00 - 2.00 FPM-B	791628
142 E-F	4.000	O-ring/K 7.65 - 1.78 FPM-B	791110
143 A-D	1.000	O-ring/m 9.00 - 2.50 FPM-B	791421
143 E-F	2.000	O-ring/m 9.00 - 2.50 FPM-B	791421
144 A-F	1.000	O-ring/K 7.65 - 1.78 FPM-B	791110
145 A-F	2.000	O-ring/K 3.68 - 1.78 FPM-B	791109
146 A-F	1.000	O-ring/K 7.65 - 1.78 FPM-B	791110
150 A-F	2.000	O-ring/m 9.00 - 2.50 FPM-B	791421
200 A	1.000	Diaphragm 30.0x 5.0 -M5 PTFE	1000244
200 B	1.000	Diaphragm 30.0x 7.5 -M5 PTFE	1000245
200 C	1.000	Diaphragm 35.0x 11.5 -M5 PTFE	1000246
200 D	1.000	Diaphragm core 35.0x 15 - M5 PTFE	1020672
200 E	1.000	Diaphragm 46.0x 21.5 -M5 PTFE	1000248
200 F	1.000	Diaphragm 55.0x 26.0 -M5 PTFE	1000249
201 A	1.000	Back plate 70x10-E hc50 PPE RAL7016	1021785
201 B	1.000	Back plate 70x12,5-E hc50 PPE RAL7016	1021786
201 C	1.000	Back plate 70x16,5-E hc50 PPE RAL7016	1021787
201 D	1.000	Back plate 70x20-E hc50 PPE RAL7016	1021784
202 A-D	4.000	Cyl.screw DIN 912 M 5x 60 A4	468077
202 E	4.000	Cyl.screw DIN 912 M 5x 45 A4	468074
202 F	4.000	Cyl.screw DIN 912 M 5x 50 A4	468075
203 E	1.000	Insert back plate 90x29-2 LK66/50 PPE	1023807
203 F	1.000	Insert back plate 90x35-2 LK66/50 PPE	1023806
204 E-F	1.000	Back plate collet PPE	1023805
205 E-F	4.000	Cntrsunk screw DIN 965 M 5x16 A2	791725
206 A-F	4.000	Washer DIN 9021 5.3/ 15 A2	462228



107# = alle Dichtungen
all seals
108 = #

Schutzvermerk nach DIN34 beachten
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				Werkstueck- konten		Allg. Tol.		Oberfl.		Masstab scale - / -		T.-Nr. p.-no. . .	
										Werkstoff material PVT			
					Datum	Name		Bezeichnung/description					
				Bearb.	18.07.05	Post		Förderein.0308 0215					
				Gepr.	18.07.05	Ludwig		Liquid end					
				Norm									



#107 = alle Dichtungen
all seals
108 = #

		Werkstueck- kanten		Allg. Tol.		Oberfl.		Maßstab scale		- / -		T.-Nr. p.-no.		:	
								Werkstoff material PVT							
					Datum	Name		Bezeichnung/description							
				Bearb.	18-Juli-05	Post		Fördereinl. 1000-1602,0704 CNPa Liquid end							
				Gepr.	18.07.05	Ludwig									
				Norm											
				ProMinent Dosiertechnik GmbH Im Scheibachergraben 5-11 D-69123 Heidelberg Postfach 101760 D-69007 Heidelberg				Zchn.-Nr./drawing no.					Blatt		
02	TEM-05252	10.01.06	Wie					60_07-104_00_68-04					2		
01	HD-05036	18.07.05	Post										2 Bl.		
Zust.		Aend.-Mitt.-Nr.		Datum		Name		Ursprung		Ers. f.			Ers. d.		

20.10.2009

Description: CNPa Liquid ends PVT Version: 03

*=special accessories/**=without connect. set and knob for
vent.valve/**=not shown/

#=only in connect. Set

CNPa Liquid ends PVT

Pos.Type	No.of	Description	Part No.
001 A	1.000	Liquid end 1000-2 CNPa PVT	1027095
001 B	1.000	Liquid end 1601-2 CNPa PVT	1027096
001 C	1.000	Liquid end 1602-2 CNPa PVT	1027097
001 D	1.000	Liquid end 0704 CNPa PVT	1027731
001 E	1.000	Liquid end 0308 CNPa PVT	1027005
001 F	1.000	Liquid end 0215 CNPa PVT	1027098
100 A **	1.000	Dos.h.ass. 70x10-2 hc50 PVT	1021632
100 B **	1.000	Dos.h.ass. 70x12.5-2 hc50 PVT	1021633
100 C **	1.000	Dos.h.ass. 70x16.5-2 hc50 PVT	1021634
100 D **	1.000	Dos.h.ass. 70x20-2 hc50 PVT	1027730
100 E **	1.000	Dos.h.ass. 90x29-2 hc66 PVT	1021636
100 F **	1.000	Dos.h.ass. 90x37-2 hc66 PVT	1021637
101 A-D	1.000	Disch.valve cpl. 4.7-2 PVT	1023127
101 E-F	1.000	Disch.valve cpl. 9.2-2 PVT	1023125
102 A-D	1.000	Suct.valve cpl. 4.7-2 PVT	1023128
102 E-F	1.000	Suct.valve cpl. 9.2-2 PVT	1023126
103 A-F	1.000	Vent valve cpl. -2 PVDF/PTFE	1021662
104 A-D	1.000	Connect. set 6x 4 PVT	1023246
104 A-D *	1.000	Connect. set sing. 6x 4 PVT	1024619
104 A-D *	1.000	Connect. set sing. 10x 4 PVT	1024585
104 A-F	1.000	Connect. set 8x 5 PVT	1023247
104 A-F *	1.000	Connect. set sing. 12x 6 PVT	1024617
104 A-F *	1.000	Connect. set 12x 6 PVT	1024586
104 A-F *	1.000	Connect. set sing. 6x 3 PVT	1024583
104 B-F *	1.000	Connect. set 12x 9 USA PVT	1024584
104 E-F *	1.000	Connect. set sing. 8x 5 PVT	1024620
107 A-D	1.000	Gasket-set valve 4.7-2 PVT	1023130
107 E-F	1.000	Gasket-set valve 9.2-2 PVT	1023129
108 A	1.000	Spare part set 1000-2 PVT	1023107
108 B	1.000	Spare part set 1601-2 PVT	1023108
108 C	1.000	Spare part set 1602-2 PVT	1023109
108 D	1.000	Spare part set 0704-2 PVT	1027732
108 E	1.000	Spare part set 0708-2/1008-2 PVT	1023111
108 F	1.000	Spare part set 0413-2/0713-2 PVT	1023112
110 A	1.000	Dosing head 70x10-2 hc 50 PVDF	1021647
110 B	1.000	Dosing head 70x12,5-2 hc 50 PVDF	1021648
110 C	1.000	Dosing head 70x16,5-2 hc 50 PVDF	1021649
110 D	1.000	Dosing head 70x20-2 hc 50 PVDF	1027729
110 E	1.000	Dosing head 90x29-2 hc 66 PVDF	1021651
110 F	1.000	Dosing head 90x37-2 hc 66 PVDF	1021652
112 A-D	1.000	Discharge conn. M20x1.5 (d4.7) PVDF	1021678
112 E-F	1.000	Discharge conn. M20x1.5 (d9.2) PVDF	1021690
113 A-D	1.000	Suction conn. M20x1.5 (4.7) PVDF	1021681
113 E-F	1.000	Suction conn. M20x1.5 (9.2) PVDF	1021677
115 A-F	1.000	Knob for vent valve dosh. FLOW.CON.	800832
122 A-D	1.000	Valve insert 4.7 -2 bypass PVDF	1021679
122 E-F	1.000	Valve insert 9.2-2 bypass PVDF	1021691
123 A-D	3.000	Valve insert 4.7-2 PVDF	1021680
123 E-F	3.000	Valve insert 9.2-2 PVDF	1021692
128 A-D	2.000	Tube nozzle 6 x 4 PVDF MFV	1021432
128 A-F *	1.000	Tubing nozzle 6x3 PVDF	1021349
128 A-F *	2.000	Tube nozzle 12 x 6 PVDF	1024587
128 B-F	2.000	Tube nozzle 12 x 9 PVDF	1022565
128 E-F	2.000	Tube nozzle 8 x 5 PVDF	1022566
129 A-D , A-F *	2.000	Clamp ring d 6 PVDF MFV	811332

CNPa Liquid ends PVT

Pos.Type	No.of	Description	Part No.
129 A-D *	1.000	\$Clamp ring d 10 PPE	1002209
129 A-F *	2.000	Clamp ring d 12 PVDF	811334
129 B-C, E-F *	2.000	Clamp ring d 12 USA PVDF	1009040
129 E-F	2.000	Clamp ring d 8 PVDF	811333
130 A-F	2.000	Union nut M20x1.5x25, white PVDF MFV	1024479
133 A-F	1.000	union nut d6-G1/8 PVDF	1021688
135 A-D	4.000	Valve ball 4.7 mm Al2 O3	404201
135 E-F	4.000	Valve ball 9.2 mm Al2 O3 MFV	404281
136 A-D *	2.000	Valve spring d0.3/DA 3.9 0.1bar 1.4571	469406
136 E-F *	2.000	Valve spring d0.3/DA 6.8 0.1bar 1.4571	469403
137 A-F */***	2.000	Locking cap for M 20	140592
138 A-D	4.000	valve face 3.0x10.5 (d4.7) PVDF	1021682
138 E-F	4.000	valve face 5.4x12.5 (d9.2) PVDF	1021693
139 A-D	1.000	Flat gasket 17.8x 6.5x1 PTFE	483911
141 A-D	1.000	O_ring 14.00 - 2.00 PTFE	1021685
141 E-F	2.000	O_ring 14.00 - 2.00 PTFE	1021685
143 A-D	5.000	gasket D14xd6x0,5 PTFE	1021686
143 E-F	6.000	gasket D14xd6x0,5 PTFE	1021686
150 A-F	2.000	Flat gasket 17.8x 6.5x1 PTFE	483911
150 A-F #	2.000	Flat gasket 18x6.5x1 EPDM/P	1024791
150 A-F #	2.000	Flat gasket 18x6.5x1 FPM-A	1024792
200 A	1.000	Diaphragm 30.0x 5.0 -M5 PTFE	1000244
200 B	1.000	Diaphragm 30.0x 7.5 -M5 PTFE	1000245
200 C	1.000	Diaphragm 35.0x 11.5 -M5 PTFE	1000246
200 D	1.000	Diaphragm 35.0x 15.0 -M5 PTFE	1020672
200 E	1.000	Diaphragm 46.0x 21.5 -M5 PTFE	1000248
200 F	1.000	Diaphragm 55.0x 26.0 -M5 PTFE	1000249
201 A	1.000	Back plate 70x10-E hc50 PPE RAL7016	1021785
201 B	1.000	Back plate 70x12,5-E hc50 PPE RAL7016	1021786
201 C	1.000	Back plate 70x16,5-E hc50 PPE RAL7016	1021787
201 D	1.000	Back plate 70x20-E hc50 PPE RAL7016	1021784
202 A-D	4.000	Cyl.screw DIN 912 M 5x 45 A4	468074
202 E-F	4.000	Cyl.screw DIN 912 M 5x 40 A4	468073
203 E	1.000	Insert back plate 90x29-2 LK66/50 PPE	1023807
203 F	1.000	Insert back plate 90x35-2 LK66/50 PPE	1023806
204 E-F	1.000	Back plate collet PPE RAL5003	1023805
205 E-F	4.000	Cntrsunk screw DIN 965 M 5x16 A2	791725
206 A-F	4.000	Washer DIN 9021 5.3/ 15 A2	462228

DCM5 SPARE PARTS	
Part Number	Description
Sensors	
7500441	pH sensor, Aquatic, Industrial Grade, 38.9mL Inorganic gel, 25mm with SN6 connector, NSF
7500442	ORP Sensor, Aquatic, Industrial Grade, 38.9mL Inorganic gel, with proprietary Platinum tip design , SN6 connector , NSF
792919	CLE 3-mA-10 ppm Free Chlorine probe w/o Cyanuric Acid to track better with DPD1, NSF
1018368	CLE 3.1-mA-10 ppm Free Chlorine probe w/o Cyanuric Acid (rarely used in Pools and Spas)
740684	CTE 1-mA-10ppm Total Chlorine probe for use with CLE 3 or CLE3.1 without Cyanuric Acid, NSF
792842	CGE 1-10 ppm. Free Chlorine used when Cyanuric Acid is present
1006895	BRE 1-MA-10PPM Bromine Sensor DCM5
1033870	CLO 1-10 ppm Free Chlorine Probe for use with Salt Pools or On-Site Chlorine Generation
7746896	SGT - Temperature sensor and solution ground (DCM5/200), NSF
7761452	Conductivity / Salinity + Temperature Sensor (for Salt pools)
7500567	Expansion board Upgrade Kit (includes expansion PC board, mounting hardware and ribbon cable) Adds (1) 4-20mA input, (2) 4-20mA Outputs, (1) Temperature input and (2) Corrosion sensor inputs.
Sensor Accessories and Rebuild Parts	
305030	Coax Cable (for pH/ORP), SN6 x Open End, 6 ft
305039	Coax Cable (for pH/ORP), SN6 x Open End, 16 ft
305040	Coax Cable (for pH/ORP), SN6 x Open End, 33 ft
1033011	SN6 to BNC connector Cable for retrofits on controllers with BNC, 2m(6Ft.), SN6-BNC
1024611	Accessory set for CLE (2 membrane caps + 100mL electrolyte)
741277	Accessory set for CTE 1 (0.5 ppm) (2 membrane caps + 50mL electrolyte)
740048	Accessory set for CGE 2/CTE 1 (2/5/10 ppm) and BRE 1 (2 membrane caps + 50mL
790488	Membrane cap for types: CLE 2.2, CLE 3, CDE 1.2, CDE 2,OZE 2 and OZE 3
792862	Membrane cap for CGE/CTE 1 (2/5/10 ppm) and BRE 1
741274	Membrane cap CTE 1 (0.5 ppm), CBR 1
1035197	Sensor cap for CLO 1
1035191	CLO 1 Electrolyte, 100ml
506270	CLE Electrolyte 100mL, all CLE chlorine sensors
792892	CTE Electrolyte 50mL, for sensor types CGE/CTE/BRE
Sample Cell Parts (DCM5 and DCM2)	
1010380	Lab valve for DGMa flowcell (#4)
791635	Flow Switch Sensor (#1)
1004739	Sampling tap for 25mm flow modules (petcock assy.) (#29)
987356	DGMa In-line housing Operating Instructions, G/GB/F/E
791634	Flow switch Float (#2)
1023973	Flow expansion module with scale in gph (kit that includes #2 & #10)
7500521	Spacer Clip - DGM Flow Switch
7500753	Flow Switch Warning Label

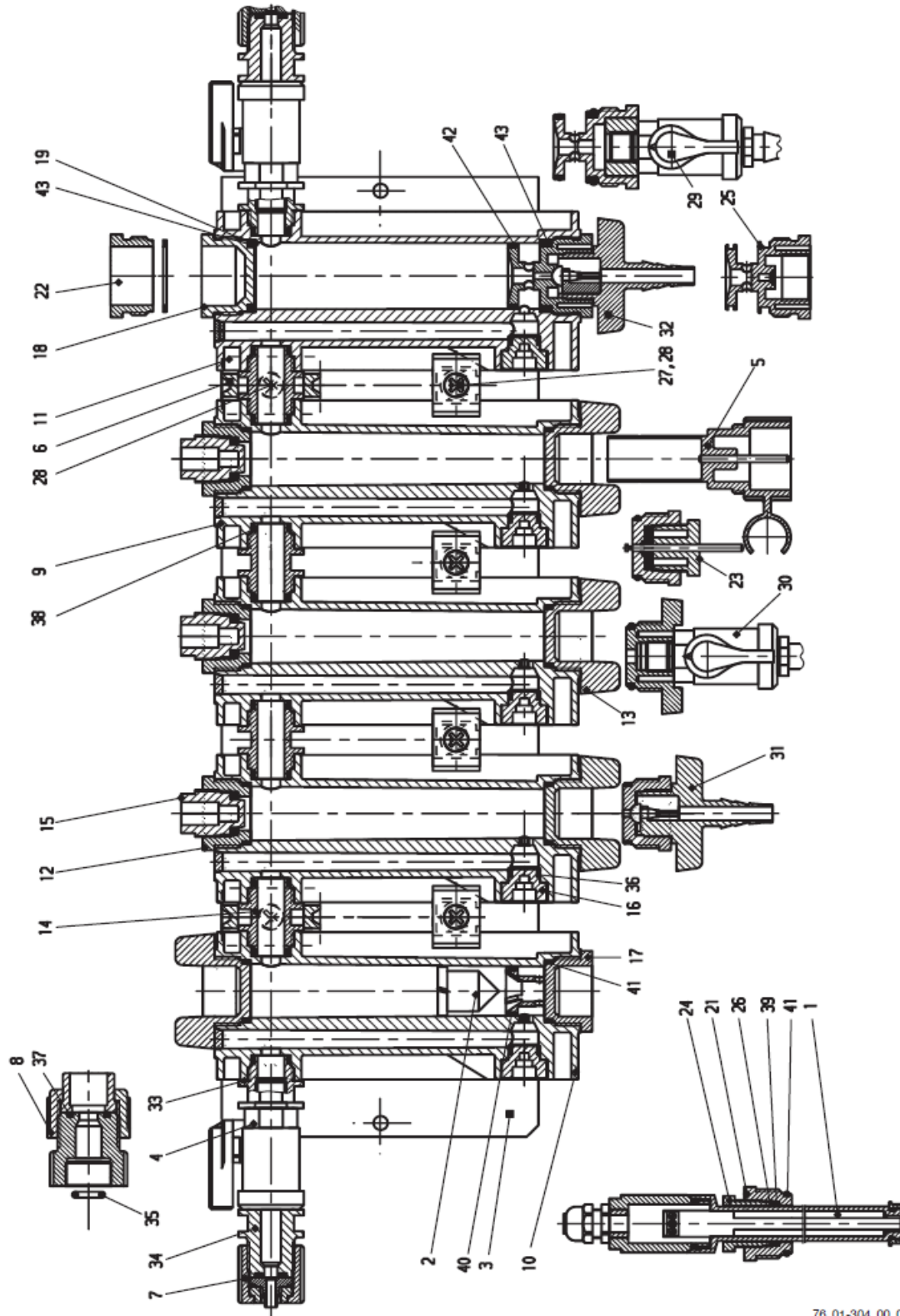
DCM5 SPARE PARTS (Continued)

Accessories and Replacement Parts (Continued)

Part Number	Description
7500539	Pulse Flow sensor for 1/2" to 4" pipe with direct connection to DCM5. Saddle ordered separately
7500540	Pulse Flow sensor for 5" to 8" pipe with direct connection to DCM5. Saddle ordered separately
7500541	Pulse Flow sensor for 10" and greater pipe with direct connection to DCM5. Saddle ordered separately
7500542	PVC Saddle 2" PVC
7500543	PVC Saddle 3" PVC
7500544	PVC Saddle 4" PVC
7500545	PVC Saddle 6" PVC
7500546	PVC Saddle 8" PVC
7500547	PVC Saddle 10" PVC
7500548	PVC Saddle 12" PVC
7500505	10 foot corded Antenna for 3G service
7500507	27 foot corded Antenna for 3G service
732379	Relay Fuse 5x20mm slow 6.3 A, 250V DCM5
7500560	Pool Photometer Cl pH CYA LPAP3
7500561	Pool Photometer Cl Br pH CYS TA CAL LPAP6
7746887	Gray 4 cond 22 gauge Shielded Cable
7500448	Keypad DCM5
792866	Clamping disc, for probe groove, D30/D23x2.1 PVC
Documents	
987356	DGMa In-line housing Operating Instructions, G/GB/F/E
7500591	DCM2/DCM5 Manuals - USB flash drive
7760179	CD - Trackster 3 Software
7500582	Installation Guide DCM5 (this manual)
7500581	Quick Start Guide DCM5
7500583	Browser Manual DCM5
7500752	Keypad User's Manual (O&M) - DCM5

DCM 2 SPARE PARTS	
Part Number	Description
	Sensors
7500441	pH Sensor , Aquatic, Industrial Grade, 38.9mL Inorganic gel, 25mm dia. with SN6 connector, (DCM 5/DCM 2), NSF-50
7500442	ORP Sensor , Aquatic, Industrial Grade, 38.9mL Inorganic gel, with proprietary Platinum tip design , 25mm dia. with SN6 connector, (DCM 5/DCM 2), NSF-50
1003875	ORP (Redox) Sensor Gold Tip for salt generator pools with SN6 connector (RHEP- Au-SE)
1041696	CLB3 -uA-5 ppm 0.05 to 5.0 ppm Free Chlorine (for DCM2-Cl only)
7746896	SGT - Temperature sensor and solution ground (DCM 5/DCM 2), NSF-50
	Sensor Accessories and Rebuild Parts
305030	Coax Cable (for pH/ORP), SN6 x Open End, 6 ft
305039	Coax Cable (for pH/ORP), SN6 x Open End, 16 ft
305040	Coax Cable (for pH/ORP), SN6 x Open End, 33 ft
1033011	SN6 to BNC connector adapter Cable for retrofits on controllers with BNC, 2m (6Ft.), SN6-BNC
	Accessories and Replacement Parts
7500539	Flow sensor for 1/2" to 4" pipe with direct connection to DCM5/2. Saddle ordered separately
7500540	Flow sensor for 5" to 8" pipe with direct connection to DCM5/2. Saddle ordered separately
7500541	Flow sensor for 10" and greater pipe with direct connection to DCM5/200. Saddle ordered separately
7500542	PVC Saddle 2" PVC
7500543	PVC Saddle 3" PVC
7500544	PVC Saddle 4" PVC
7500545	PVC Saddle 6" PVC
7500546	PVC Saddle 8" PVC
7500547	PVC Saddle 10" PVC
7500548	PVC Saddle 12" PVC
7500505	10 foot corded Antenna for 3G service
7500507	27 foot corded Antenna for 3G service
7500609	Fuse, Relay, 5A, 250V, 374 series - DCM2
7500560	Pool Test Kit w Photometer Cl pH CYA LPAP3
7500561	Pool Test Kit w Photometer Cl Br pH CYS TA CAL LPAP6
7746887	Gray 4 conductor, 22 gauge Shielded Cable
7500449	Keypad DCM2
792866	Clamping disc, for probe groove, D30/D23x2.1 PVC

12 List of Replacement Parts

Figure 6
Spare Parts

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List of Replacement Parts

Pos.	Type	No. of	Description	Order No.
DGMa in-line probe housing				
1		1	Flow sensor cpl. PC	791635
2		1	Floating cpl. PC	791634
3		1	Mounting plate 258x10x135 (2/3 mod.)	1001853
3		1	Mounting plate 412x10x135 (4/5 mod.)	1001855
4		1	Labor ball valve PVC	1010380
5		1	Calibration cup PP	791229
6		1	Wall fastening	791228
7		1	Connection set 8x5-1 PC3	790886
8		2	Screwing set cpl. DN10 PC1	791665
9		1	DGM module without logo PVC-transparent	791667
9		1	DGM module with logo PVC-transparent	791217
10		1	Flow meter module gph without logo PVC-transparent	791672
10		1	Flow meter module gph with logo PVC-transparent	791671
10		1	Flow meter module l/h without logo PVC-transparent	791670
10		1	Flow meter module l/h with logo PVC-transparent	791637
11		1	DGM mod. 25 mm without logo PVC-transparent	791674
11		1	DGM module 25 mm with logo PVC-transparent	791673
12		1	Red.nipple M30/PG13.5-d14.8 PVDF	791219
13		2	Blanking plug M30x4 P2 PVDF	791220
14		1	Connection nipple M20x6 P2 P	791226
15		1	Connection nipple M20x6P2-M20x1.5 P	791227
16		1	Blanking plug M20x1.5 P	791235
17		1	Flow plug M30x4 P2 P	791703
18		1	Blanking plug M34x1.5 PVDF	791734
19		1	Clamped disk d31.3/25.5x1.5 P	791733
20		1	Connection nipple G1/4xM20x1.5 P	1006236
21		1	Red.nipple M30/PG13.5-d16	791688
22		1	Attachment screw M34x1.5-d25.5 PVDF	791732
23		1	Equipotential plug w. rod PC1	791663
24		1	Clamped nipple PG 13.5-d15.5 P	791223
25		1	Flow plug M34x1.5 P	740207
26		1	Clamped disk d18.5/d15.5x2 P	791225
27		1	Holding nut for mounting plate PP	1001856
28		1	PT-screw KB 50x20 galvanized	468445
29		1	Sampling tap for 25 mm module	1004739
30		1	Sampling tap for PG 13,5 module	1004737
31		1	Outlet nozzle DGMa cpl. M13.5	1008770
32		1	Outlet nozzle DGMa cpl. M25	1008771
33		1	Connection nipple M20x6 P2xG1/4 P	1006235
34		1	O-ring/m 9.00 - 2.50 83FPM-A	791496
35		1	O-ring/m 10.00 - 2.00 83FPM-A	481027
36		1	O-ring/K 13.00 - 2.50 67FPM-A	481013
37		2	O-ring/m 14.00 - 2.00 83FPM-A	791639
38		1	O-ring/m 15.00 - 2.00 83FPM-A	481017
39		1	O-ring/m 17.17 - 1.78 83FPM-A	791989
40		1	O-ring/m 20.00 - 2.50 83FPM-A	481020
41		1	O-ring/m 24.00 - 2.00 83FPM-A	481034
42		1	O-ring/m 25.00 - 3.50 83FPM-A	1002722
*		1	Spacer Clip - DGM Flow Switch	7500521
*		1	Flow Switch Warning Label	7500753

* Not shown on drawing