

## Commissioning and Maintenance Manual



### Complete Spare Parts Catalog Elevators

Lift Control Valve, Oil-Immersed Power Unit, Plunger Telescopic and Pulling Cylinder

---

Published by

**Bucher Hydraulics AG**  
Industriestrasse 15  
CH-6345 Neuheim

Phone +41 41 757 03 33  
Email [info.ch@bucherhydraulics.com](mailto:info.ch@bucherhydraulics.com)  
Internet [www.bucherhydraulics.com](http://www.bucherhydraulics.com)

---

Classification: 420.245.

© 2025 by Bucher Hydraulics AG, CH-6345 Neuheim

All rights reserved. This documentation, in whole and/or in part, is protected by copyright. It may not be reproduced, nor may it be stored, processed, replicated or distributed by electronic means, without written permission from Bucher Hydraulics.

Data is provided for the purpose of product description only, and must not be construed as warranted characteristics in the legal sense. No assertion regarding either a particular property or the fitness for a particular intended purpose can be derived or deduced from this information. The information does not relieve users from the duty of conducting their own evaluations and tests.

Because the products are subject to continual improvement, we reserve the right to amend the product specifications contained in this catalogue. The original language and legal terminology of all Bucher Hydraulics documentation is exclusively German. Bucher Hydraulics cannot be held liable for any possible errors in translation.

**Contents**

Page

**Lift Control Valves**

<b>1</b>	<b>Lift Control Valve Type series iValve / VF-iValve</b> .....	<b>6</b>
1.1	iValve-i250 .....	6
1.2	iValve-i500 .....	8
1.3	VF-iValve-i250 .....	10
1.4	VF-iValve-i500 .....	12
1.5	Electronic .....	14
1.6	iValve – i250 Spare parts kit .....	16
<b>2</b>	<b>Lift Control Valve series LRV / LRV...PM / VF-LRV</b> .....	<b>18</b>
2.1	LRV .....	18
2.2	LRV Pilot plate .....	20
2.3	LRV Seal kits .....	22
2.4	LRV...PM .....	24
2.5	LRV...PM Pilot plate .....	26
2.6	LRV...PM Seal kits .....	27
2.7	VF-LRV .....	28
2.8	VF-LRV Pilot plate .....	30
2.9	VF-LRV Seal kits .....	31
2.10	LRV / LRV...PM Electronic .....	32
2.11	VF-LRV Electronic .....	34
2.12	LRV Spare parts kit .....	36
2.13	VF-LRV Spare parts kit .....	37
<b>3</b>	<b>Safety valve series DSV-A3</b> .....	<b>38</b>
3.1	DSV 175-A3 .....	38
3.2	DSV 350-A3 .....	39
3.3	DSV 700-A3 .....	40
<b>4</b>	<b>Pipe-Rupture Valve series RSG</b> .....	<b>41</b>
4.1	RSG 55 / 70 / 90 .....	41

**Oil-Immersed Power Unit**

<b>1</b>	<b>Electric motor</b> .....	<b>44</b>
1.1	Saturn Beta .....	44
1.2	Saturn Alpha .....	46
1.2.1	Magnetic ring & sensor .....	47
1.2.2	Mounting plate .....	47
1.3	Orion Alpha .....	48
1.3.1	Mounting plate .....	48
<b>2</b>	<b>Main pumps</b> .....	<b>50</b>
2.1	Saturn Beta / Comfort Line .....	50
2.2	Saturn / Orion Alpha / Eco Line .....	52
<b>3</b>	<b>Pulsation damper</b> .....	<b>54</b>
3.1	Pulsation damper standard .....	54
3.2	Pulsation damper VF-LRV 350 .....	56
3.3	Pulsation damper VF-LRV 700 .....	58
<b>4</b>	<b>Soft starter / Output unit / Frequency inverter</b> .....	<b>59</b>
4.1	Soft starter complete incl. connection box .....	59
4.2	Soft starter without housing .....	59
4.3	Output unit .....	60
4.4	Soft starter to output unit .....	60
4.5	Frequency inverter .....	61
4.5.1	Exchange .....	62
4.5.2	Accessories .....	62
4.5.3	Braking resistor .....	63
4.5.4	RFI mains filter .....	65
4.5.5	Power choke .....	66
<b>5</b>	<b>Relevelling unit</b> .....	<b>68</b>
5.1	Motor for relevelling .....	68
5.2	Cover for relevelling .....	69
5.3	Basic setup plus hydraulic pipe .....	70
<b>6</b>	<b>Oil filler neck plus bleed screw</b> .....	<b>71</b>
<b>7</b>	<b>Return</b> .....	<b>72</b>
7.1	Return hose 1" .....	72
7.2	Return hose 1½" .....	72
7.3	Return hose 2" .....	73
<b>8</b>	<b>Heating</b> .....	<b>74</b>
<b>9</b>	<b>Cooler connections</b> .....	<b>76</b>

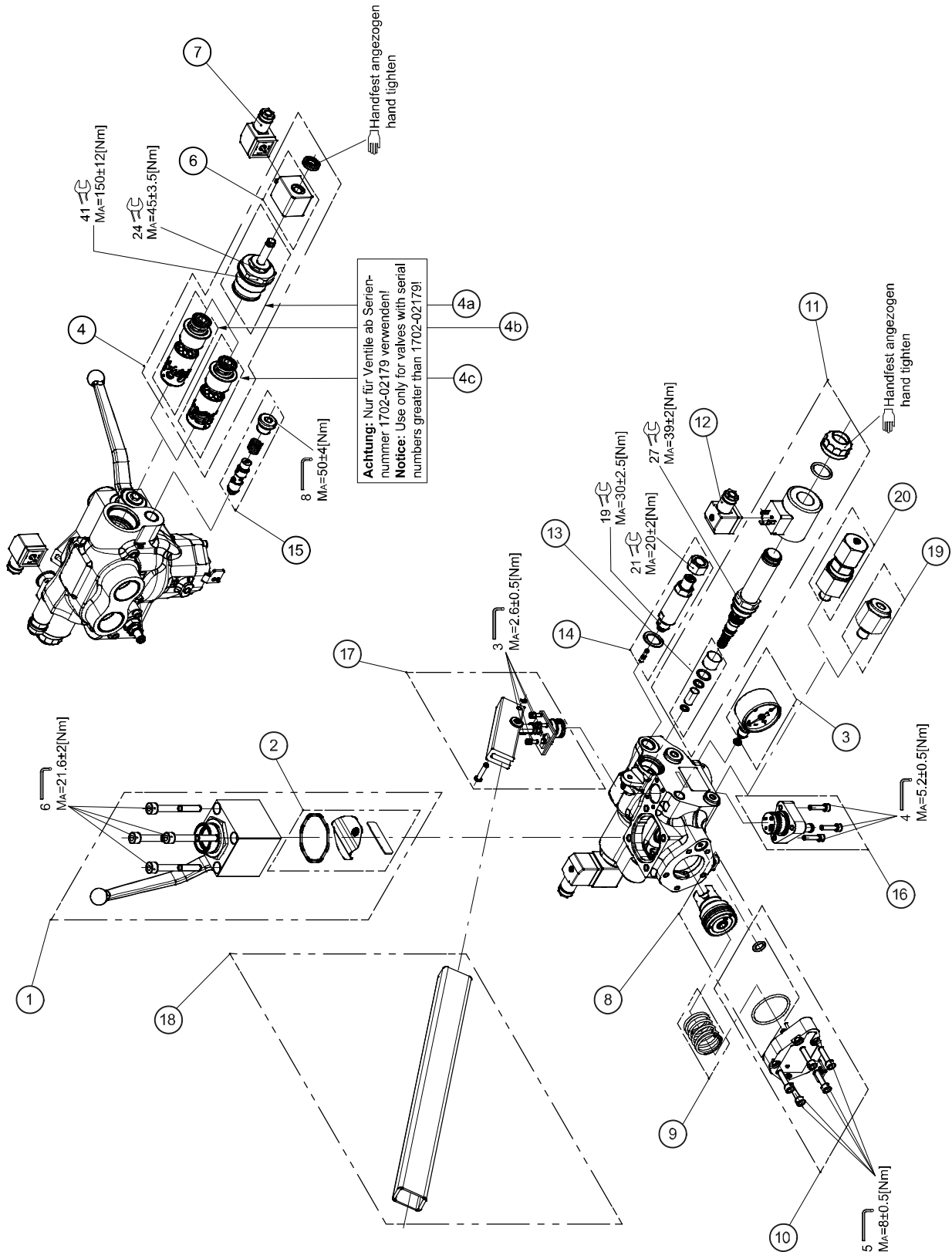
**Plunger, Telescopic- and Pulling Cylinder**

<b>1</b>	<b>Plunger cylinder</b> .....	<b>78</b>
1.1	Type series BZH – BZG .....	78
1.1.1	Seal Kit .....	78
1.1.2	Guide bush with rod seal complet .....	79
1.1.3	Accessories .....	79
1.2	Type series BZML – BZML .....	80
1.2.1	Seal Kit .....	80
1.2.2	Accessories .....	81
1.3	Type series BZP .....	82
1.3.1	Seal Kit .....	82
1.4	Type series BZE .....	84
1.4.1	Seal Kit .....	84
1.5	Type series BZO .....	86
1.5.1	Seal Kit .....	86
1.6	Type series BZK .....	87
1.6.1	Guide bush with rod seal complet .....	87
1.7	Type series BZC .....	88
1.7.1	Seal Kit .....	88
1.8	Type series BZB .....	89
1.8.1	Seal Kit .....	89
1.9	Type series BZA .....	90
1.9.1	Seal Kit .....	90
1.10	Type series LZ .....	91
1.10.1	Seal Kit .....	91
<b>2</b>	<b>Telescopic cylinder</b> .....	<b>92</b>
2.1	Type series BGLZ .....	92
2.1.1	Seal kit / external 2-stage .....	92
2.1.2	Seal kit / internal 2-stage .....	94
2.1.3	Check valve .....	95
2.1.4	Accessories .....	95
2.1.5	Seal kit / external 3-stage .....	96
2.1.6	Seal kit / internal 3-stage .....	98
2.1.7	Check valve .....	99
2.1.8	Accessories .....	100
2.2	Type series BZBGL .....	102
2.2.1	Seal kit / external 2-stage .....	102
2.2.2	Seal kit / internal 2-stage .....	104
2.2.3	Check valve .....	105
2.2.4	Seal kit / external 3-stage .....	106
2.2.5	Seal kit / internal 3-stage .....	108
2.2.6	Check valve .....	109
<b>3</b>	<b>Pulling cylinder</b> .....	<b>110</b>
3.1	Type series BZZ .....	110

# 1 Lift Control Valve Type series iValve / VF-iValve

## 1.1 iValve-i250

Release 2.3 - Type series off 1702-02179

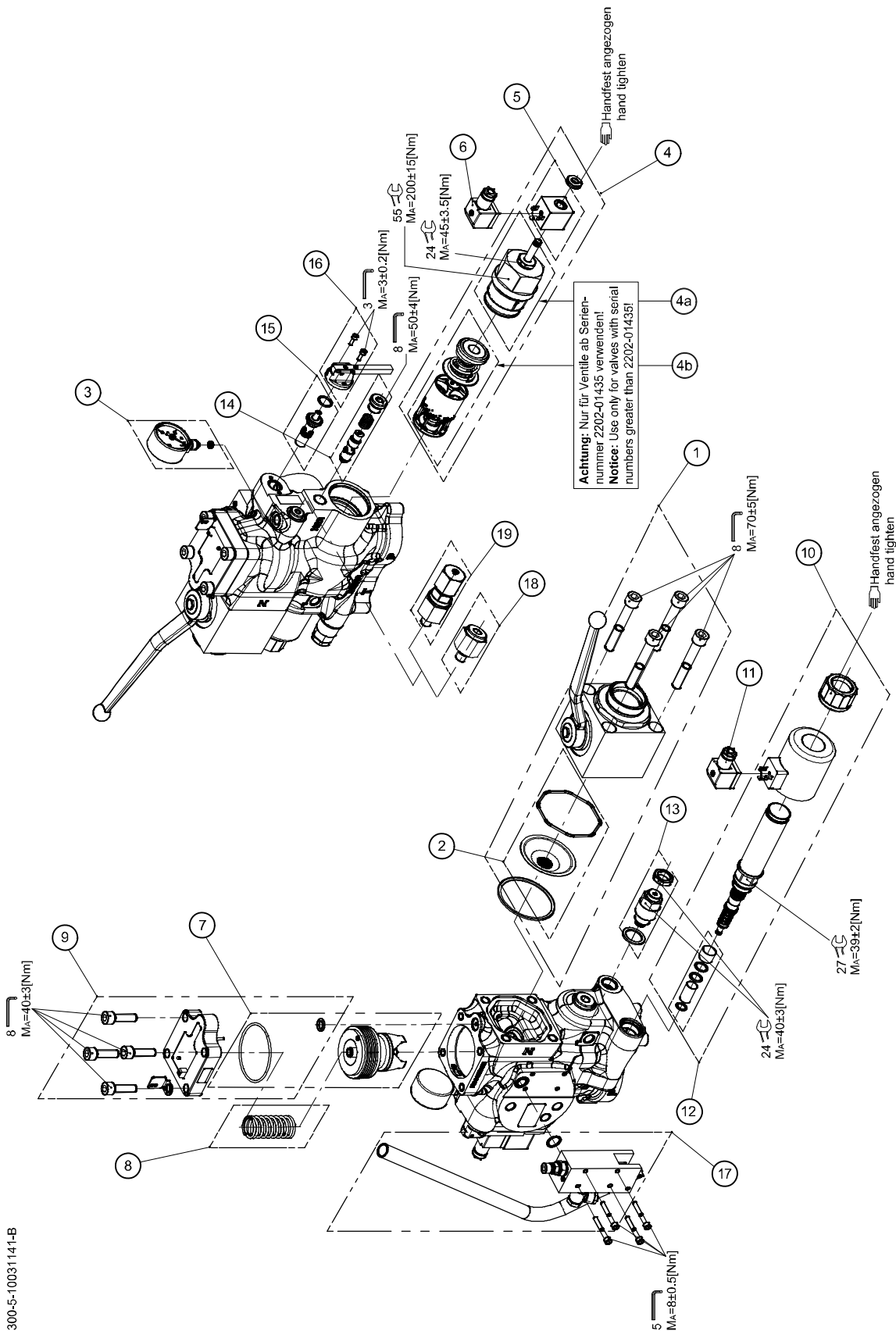


300-5-10028490-E

Item	Part No.	Description	Type	Dimension
1	3007021108	Ball valve and filter	i250 / VF-i250	28 L
2	3007021107	Main filter	i250 / VF-i250	
3	3007021109	Pressure gauge	0-160 Bar	NG50
4	3007022839	Main spool incl. A3 pilot	i250	160 l/min
4	3007022840	Main spool incl. A3 pilot	i250	250 l/min
4a	3007022715	Release pilot	i250	
4b	3007022713	Main spool	i250	160 l/min
4c	3007022714	Main spool	i250	250 l/min
6	3007021255	Solenoid coil	A3 Pilot	24 V DC / 13.5 W
7	3000040503+	Solenoid plug	black	
8	3007022763	RSVQ piston	i250 / VF-i250	
9	3007021257	Compression spring	RSVQ i250	
10	3007023575	iBox	i250	160 l/min
10	3007023576	iBox	i250	250 l/min
11	3007021238	Pilot valve with solenoid	i250	
12	3000040504+	Solenoid plug	grey	
13	3007021239	Pilot filter set	i250	
14	3007021261	Pressure relief valve	i250	
15	3007021234	Directional valve	i250 / VF- i250	
16	3007021114	Hand pump operation	i250 / VF-i250	
17	3007021115	Hand pump piston	i250 / VF-i250	
18	3007021113	Hand pump lever	i250 / VF-i250	
19	3007021614	Test connection		G ½"
20	3007021615	Test nipple		M20 x 1.5

1.2 iValve-i500

Release 2.1 - Type series off 2202-01435



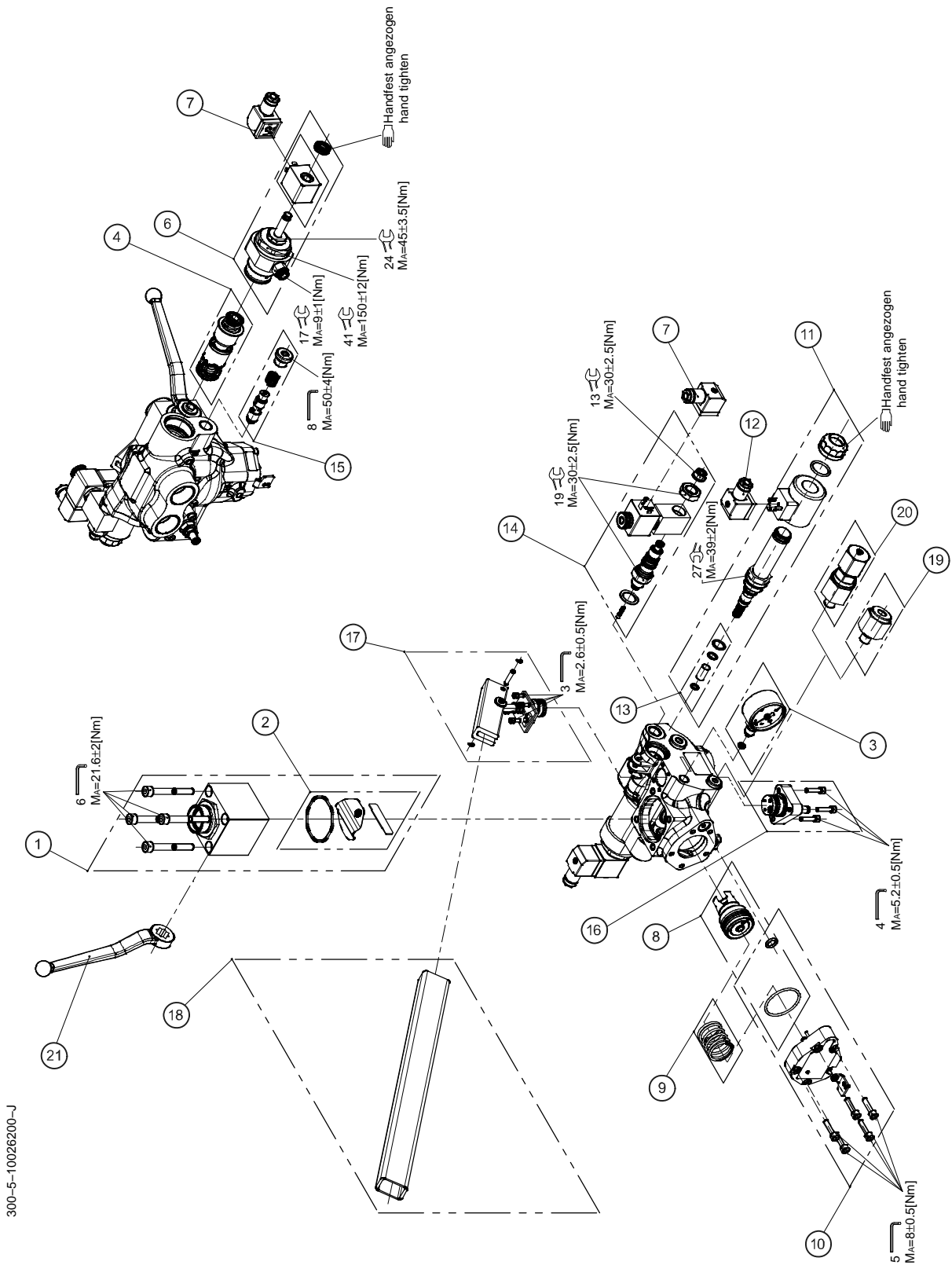
300-5-10031141-B



Item	Part No.	Description	Type	Dimension
1	3007021246	Ball valve and filter	i500 / VF-i500	42 L
2	3007021245	Main filter	i500 / VF-i500	
3	3007021109	Pressure gauge	0-160 bar	NG50
4	3007023453	Main spool incl. pilot A3	i500	500 l/min
4a	3007023456+	Release pilot	i500	
4b	3007023423+	Main spool	i500	
5	3007021255	Solenoid coil	A3 Pilot	24 V DC / 13.5 W
6	3000040503+	Solenoid plug	black	
7	3007021251	RSVQ piston	i500 / VF-i500	
8	3007021256	Compression spring	RSVQ i500	
9	3007023578	iBox	i500	
10	3007022128	Pilot valve with solenoid	i500	
11	3000040504+	Solenoid plug	grey	
12	3007021249	Pilot filter set	i500	
13	3007021248	Pressure relief valve	i500	
14	3007021242	Directional valve	i500 / VF-i500	
15	3007010142	Cartridge emergency lowering	i500 / VF-i500	
16	3007010141	Retainer emergency lowering	i500 / VF-i500	
17	3007018192+	Hand pump	i500 / VF-i500	
18	3007021614	Test connection		G ½"
19	3007021615	Test nipple		M20 x 1.5

1.3 VF-iValve-i250

Release 1.2 - Type series off 1502-01768

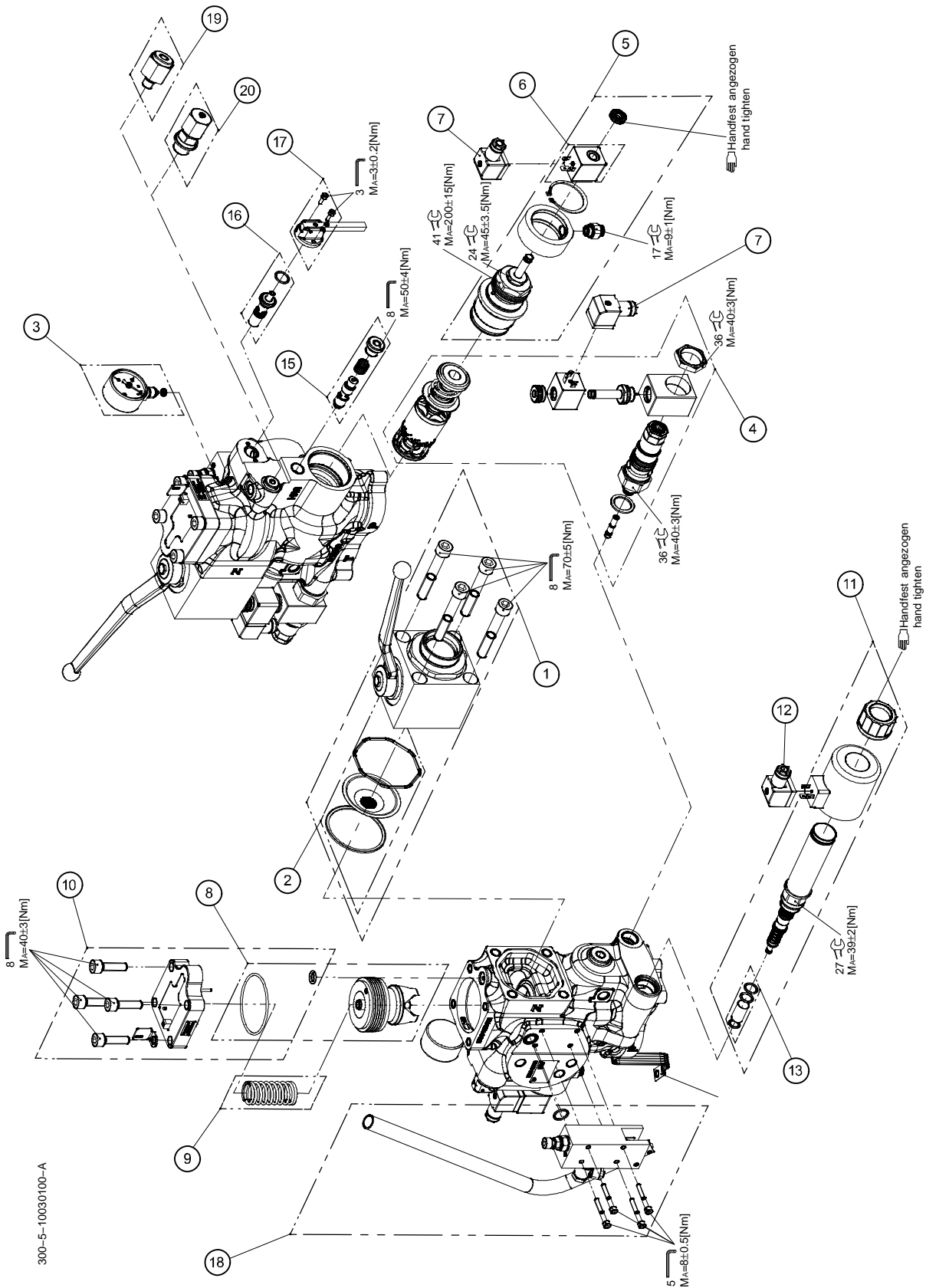


300-5-10026200-J

Item	Part No.	Description	Type	Dimension
1	3007021108	Ball valve and filter	i250 / VF-i250	28 L
2	3007021107	Main filter	i250 / VF-i250	
3	3007021109	Pressure gauge	0-160 Bar	NG50
4	3007022741	Main spool	VF-i250	250 l/min
6	3007021236	Valve cartridge pilot A3	VF-i250	24 V DC / 13.5 W
7	3000040503+	Solenoid plug	black	
8	3007022763	RSVQ piston	i250 / VF-i250	
9	3007021257	Compression spring	RSVQ i250	
10	3007023577	iBox	VF-i250	
11	3007021974	Pilot valve with solenoid	VF-i250	
12	3000040504+	Solenoid plug	grey	
13	3007021975	Pilot filter set	VF-i250	
14	3007021237	Pressure relief valve	Emergency stop VF-i250	24 V DC / 17 W
15	3007021234	Directional valve	i250 / VF-i250	
16	3007021114	Hand pump operation	i250 / VF-i250	
17	3007021115	Hand pump piston	i250 / VF-i250	
18	3007021113	Hand pump lever	i250 / VF-i250	
19	3007021614	Test connection		G ½"
20	3007021615	Test nipple		M20 x 1.5

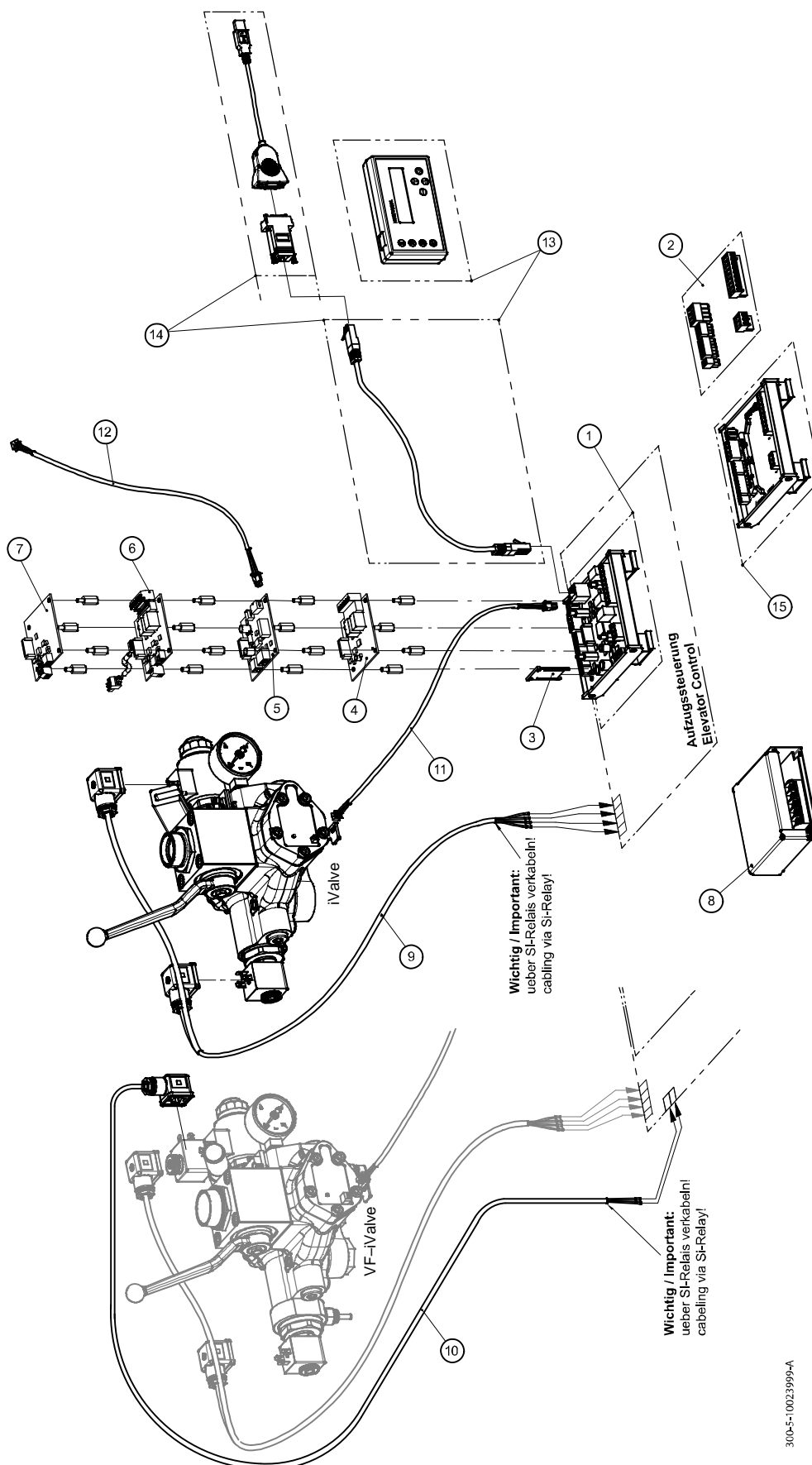
1.4 VF-iValve-i500

Release 1.1 - Type series off 1910-09070



Item	Part No.	Description	Type	Dimension
1	3007021246	Ball valve and filter	i500 / VF-i500	42 L
2	3007021245	Main filter	i500 / VF-i500	
3	3007021109	Pressure gauge	0-160 bar	NG50
4	3007023344	Main spool and pressure relief valve	VF-i500	
5	3007021685	A3 Unlocking pilot complete	VF-i500	
6	3007021255	Solenoid coil	A3 Pilot	24 V DC / 13.5 W
7	3000040503+	Solenoid plug	black	
8	3007021251	RSVQ piston	i500 / VF-i500	
9	3007021256	Compression spring	RSVQ i500	
10	3007023579	iBox	VF-i500	
11	3007021987	Pilot valve with solenoid	VF-i500	
12	3000040504+	Solenoid plug	grey	
13	3007021986	Pilot filter set	VF-i500	
15	3007021242	Directional valve	i500 / VF-i500	
16	3007010142	Cartridge emergency lowering	i500 / VF-i500	
17	3007010141	Retainer emergency lowering	i500 / VF-i500	
18	3007018192+	Hand pump	i500 / VF-i500	
19	3007021614	Test connection		G ½"
20	3007021615	Test nipple		M20 x 1.5

## 1.5 Electronic



300-S-10023999-A

Item	Part No.	Description	Type	Dimension
1	3007023384	Control card	iCon-2	
2	3007020030+	Connector set for iCon		
3	3007020455+	ParamCard		
4	3007020445	Option board additional switching outputs	SO	
5	3007020447	Option board VF	VF	
6	3007022441	Option board Multi Valve	MVS	
7	3007023388	Option board - CAN	CAN	
8	3007020442+	Power supply unit Multirange	i250	24 V / 50 W
8	3007022344+	Power supply unit Multirange	i500, VF-i250, VF-i500	24 V / 120 W
9	3007023639+	Connection cable	standard	1.5 m
9	3007018167+	Connection cable	standard	6 m
9	3000009002+	Connection cable	standard	12 m
9	3007011327+	Connection cable	halogen free	6 m
9	3007020467+	Connection cable	halogen free	20 m
10	3007011976	Solenoid cable VF	standard	1.5 m
10	3000012213	Solenoid cable VF	standard	6 m
10	3000012214	Solenoid cable VF	standard	12 m
10	3007013023	Solenoid cable VF	halogen free	6 m
10	3007010276	Solenoid cable VF	halogen free	20 m
11	3007019644+	iBox cable	standard	1.5 m
11	3007020460+	iBox cable	standard	6 m
11	3007020461+	iBox cable	standard	12 m
11	3007020462+	iBox cable	halogen free	6 m
11	3007020463+	iBox cable	halogen free	20 m
12	3007020468+	Cable inverter	standard	6 m
12	3007020469+	Cable inverter	standard	12 m
13	3007010231+	Handterminal with cable		
14	3007020027+	IWin software set		
15	3007019906	iCon Dummy		

## 1.6 iValve – i250 Spare parts kit

- your spare parts for immediate intervention always at hand
- reduced need for second interventions
- detailed installation instructions

iValve – i250 Spare parts kit



### Scope of delivery:

- Main spool complete incl. valve cartridge i250/160
- Main spool complete incl. valve cartridge i250/250
- Hand pump operation complete
- RSVQ piston complete
- Pilot filter complete
- Pilot valve complete incl. solenoid coil
- Directional valve complete

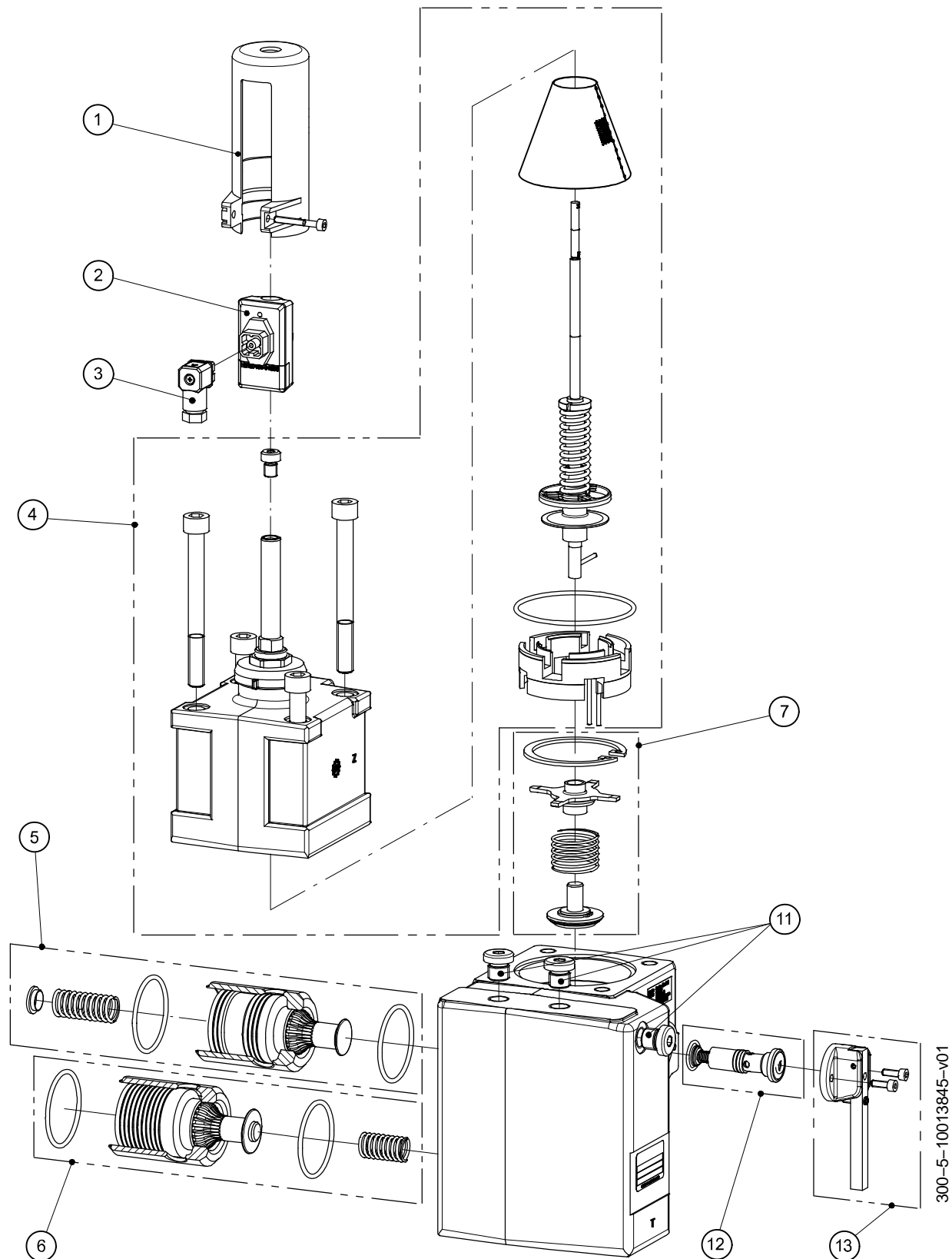
Item	Part No.	Description	Type	Dimension
1	3007023336	iValve Spare parts kit i250	Spare parts	1





## 2 Lift Control Valve series LRV / LRV...PM / VF-LRV

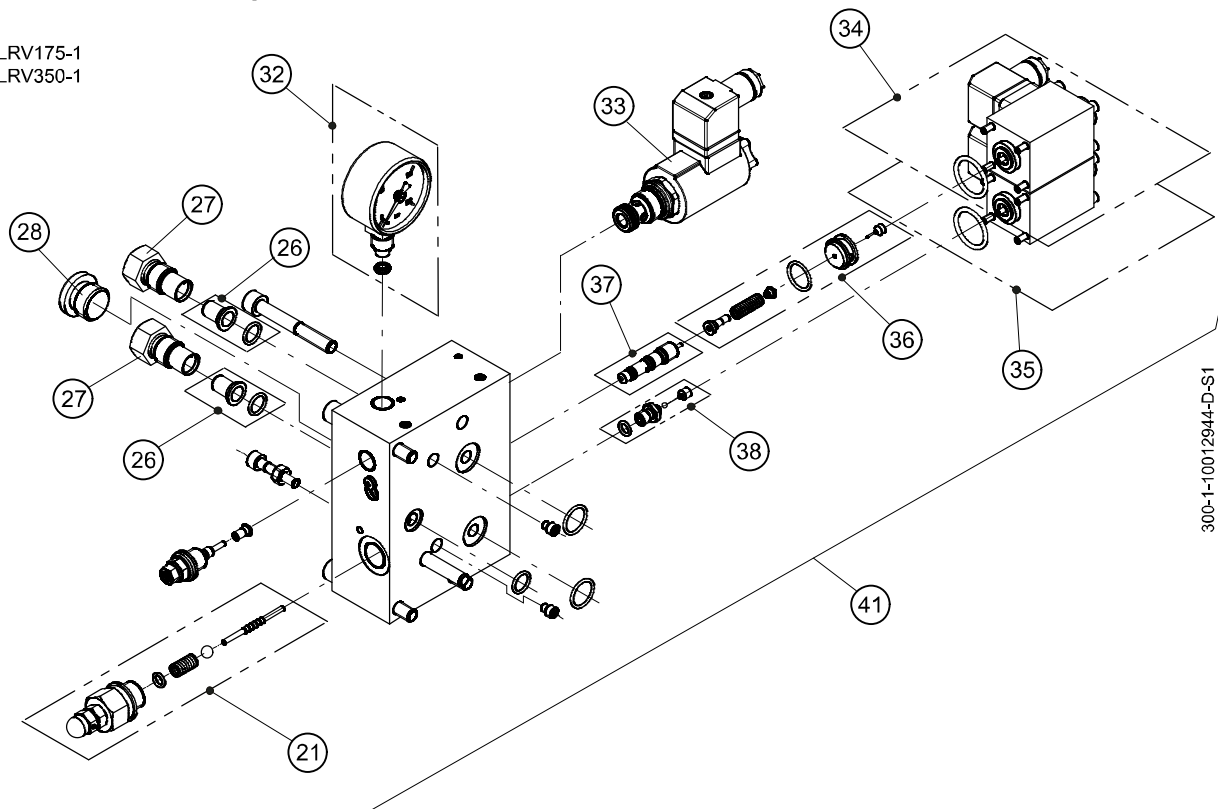
### 2.1 LRV



Item	Part No.	Description	Type	Dimension
1	3007010206	Protection cap with screw	175 / 350 / 700	
2	3007012009+	Hall sensor, complete	175 / 350 / 700	
3	3000009015+	Feedback cable with plug-in connectors	175 / 350 / 700	6 m
3	3000009016+	Feedback cable with plug-in connectors	175 / 350 / 700	9 m
3	3000009017+	Feedback cable with plug-in connectors	175 / 350 / 700	12 m
3	3000009958+	Feedback cable with plug-in connectors	175 / 350 / 700	20 m
4	3007017850	Valve top part (without Hall sensor / cap)	175	45 l
4	3007017851	Valve top part (without Hall sensor / cap)	175	90 l
4	3007017852	Valve top part (without Hall sensor / cap)	175	175 l
4	3007017853	Valve top part (without Hall sensor/ cap)	175	250 l
4	3007017854	Valve top part (without Hall sensor / cap)	350	250 l
4	3007017855	Valve top part (without Hall sensor / cap)	350	350 l
4	3007017856	Valve top part (without Hall sensor / cap)	350	500 l
4	3007017857	Valve top part (without Hall sensor / cap)	700	700 l
4	3007017858	Valve top part (without Hall sensor / cap)	700	1000 l
5	3007011147	DOWN spool, complete	175	90 l
5	3007011148	DOWN spool, complete	175	250 l
5	3007011149	DOWN spool, complete	350	500 l
5	3007011150	DOWN spool, complete	700	1000 l
6	3007011151	UP spool, complete	175	90 l
6	3007011152	UP spool, complete	175	250 l
6	3007011153	UP spool, complete	350	500 l
6	3007011155	UP spool, complete	700	1000 l
7	3000007128	Check valve, complete	175	
7	3000007129	Check valve, complete	350	
7	3000304512	Check valve, complete	700	
11	3000065185	Plug screw VSTI	175 / 350 / 700	G ¼ "
11	3000065219	Plug screw VSTI	700	G ⅜ "
12	3007010142	Cartridge emergency-lowering, preloaded	175 / 350 / 700	
13	3007010141	Emergency lowering handle kit, complete	175 / 350 / 700	

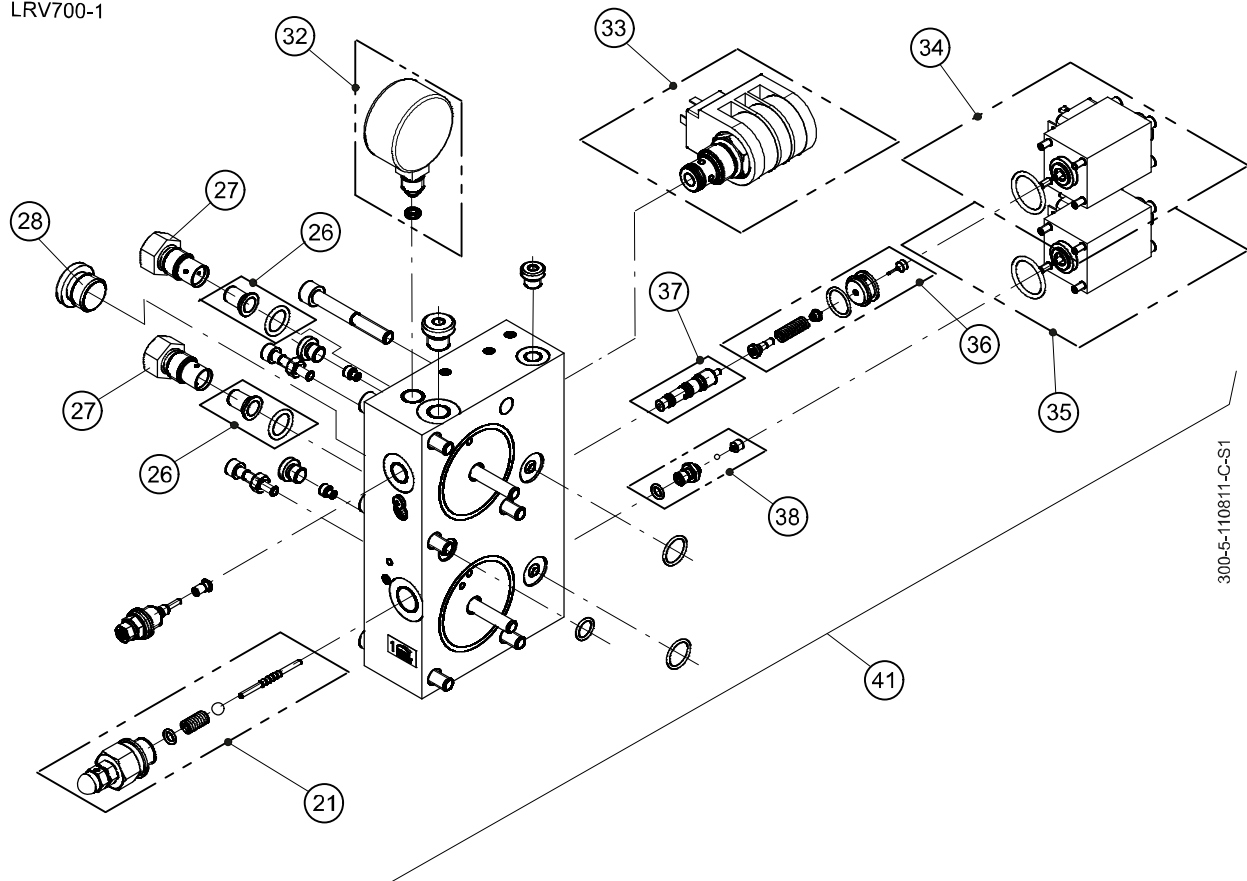
## 2.2 LRV Pilot plate

LRV175-1  
LRV350-1



300-1-10012944-D-S1

LRV700-1



300-5-110811-C-S1

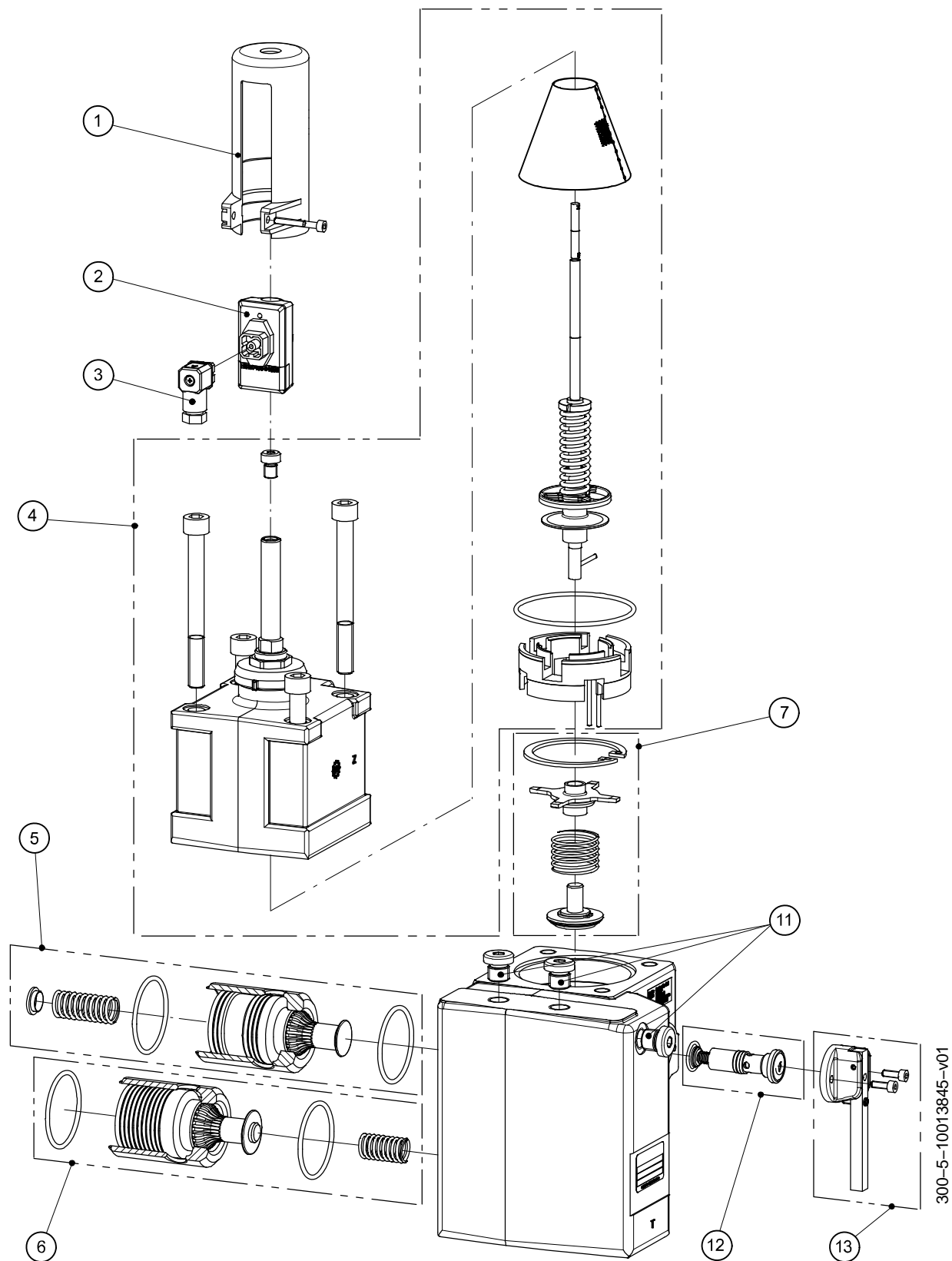
Item	Part No.	Description	Type	Dimension
21	3007010140	Pressure relief valve, complete	175 / 350 / 700	
26	3007010158	Pilot filter kit	175 / 350 / 700	
27	3007010195	Pilot filter screw kit (without filter)	175 / 350	2 Stk.
27	3007010184	Pilot filter screw kit (without filter)	700	2 Stk.
28	3007010196	Test nipple complete	175 / 350 / 700	
32	3007010138	Pressure gauge complete	175 / 350 / 700	
33	3007017602	Electrical emergency lowering valve	175 / 350	12 V DC
33	3007017603	Electrical emergency lowering valve	175 / 350	24 V DC
33	3007018580	Electrical emergency lowering valve	700	12 V DC
33	3007018581	Electrical emergency lowering valve	700	24 V DC
34	3007010131	DOWN solenoid, complete (black plug)	175 / 350 / 700	
35	3007010132	UP solenoid, complete (grey plug)	175 / 350 / 700	
36	3007010143	DOWN pilot valve, complete	175 / 350	
36	3007010148	DOWN pilot valve, complete	700	
37	3000007532+	Adjusting spindle, complete	175 / 350	
37	3000007675+	Adjusting spindle, complete	700	
38	3007010144	UP pilot valve, complete	175 / 350	
38	3007010145	UP pilot valve, complete	700	
41	3007015527	Pilot plate, complete	175	EN 00
41	3007015528	Pilot plate, complete	350	EN 00
41	3007015529	Pilot plate, complete	700	EN 00
41	3007017552	Pilot plate, complete	175	EN 12 V DC
41	3007017554	Pilot plate, complete	350	EN 12 V DC
41	3007018933	Pilot plate, complete	700	EN 12 V DC
41	3007017553	Pilot plate, complete	175	EN 24 V DC
41	3007017555	Pilot plate, complete	350	EN 24 V DC
41	3007018934	Pilot plate, complete	700	EN 24 V DC
41	3007018930	Pilot plate, complete (120 bar)	175	EN 00
41	3007018931	Pilot plate, complete (120 bar)	175	EN 12 V DC
41	3007018932	Pilot plate, complete (120 bar)	175	EN 24 V DC

## 2.3 LRV Seal kits

Item	Part No.	Description	Type	Dimension
	3007012334	Seal kit complete, incl. DOWN pilot valve	175	
	3007012335	Seal kit complete, incl. DOWN pilot valve	350	
	3007012336	Seal kit complete, incl. DOWN pilot valve	700	



2.4 LRV...PM

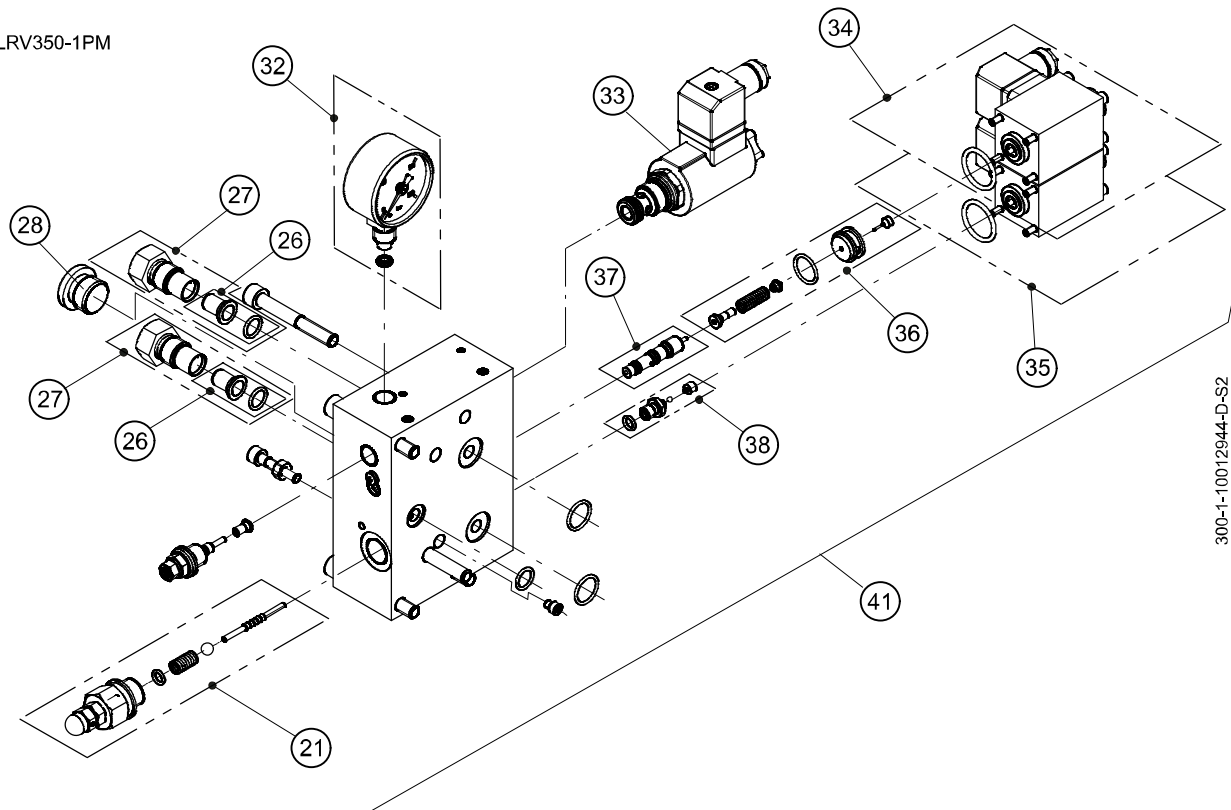




Item	Part No.	Description	Type	Dimension
1	3007010206	Protection cap with screw	350 / 700	
2	3007012009+	Hall sensor, complete	350 / 700	
3	3000009015+	Feedback cable with plug-in connectors	350 / 700	6 m
3	3000009016+	Feedback cable with plug-in connectors	350 / 700	9 m
3	3000009017+	Feedback cable with plug-in connectors	350 / 700	12 m
3	3000009958+	Feedback cable with plug-in connectors	350 / 700	20 m
4	3007017856	Valve top part (without Hall sensor / cap)	350 BSP	500 l
4	3007018574	Valve top part (without Hall sensor / cap)	350 NPT	500 l
4	3007017858	Valve top part (without Hall sensor / cap)	700 BSP	1000 l
4	3007018575	Valve top part (without Hall sensor / cap)	700 NPT	1000 l
5	3007018576	UP/DOWN spool, complete	350	500 l
5	3007018577	UP/DOWN spool, complete	700	1000 l
6	3007018576	UP/DOWN spool, complete	350	500 l
6	3007018577	UP/DOWN spool, complete	700	1000 l
7	3000007129	Check valve, complete	350	
7	3000304512	Check valve, complete	700	
11	3000065185	Plug screw VSTI	350 / 700	G ¼ "
11	3000065219	Plug screw VSTI	700 (1*)	G ⅜ "
12	3007010142	Cartridge, emergency-lowering, with preload (VN)	350 / 700	
12	3007018962	Cartridge emergency lowering complete (SN)	350 / 700	
13	3007010141	Emergency lowering handle kit, complete	350 / 700	

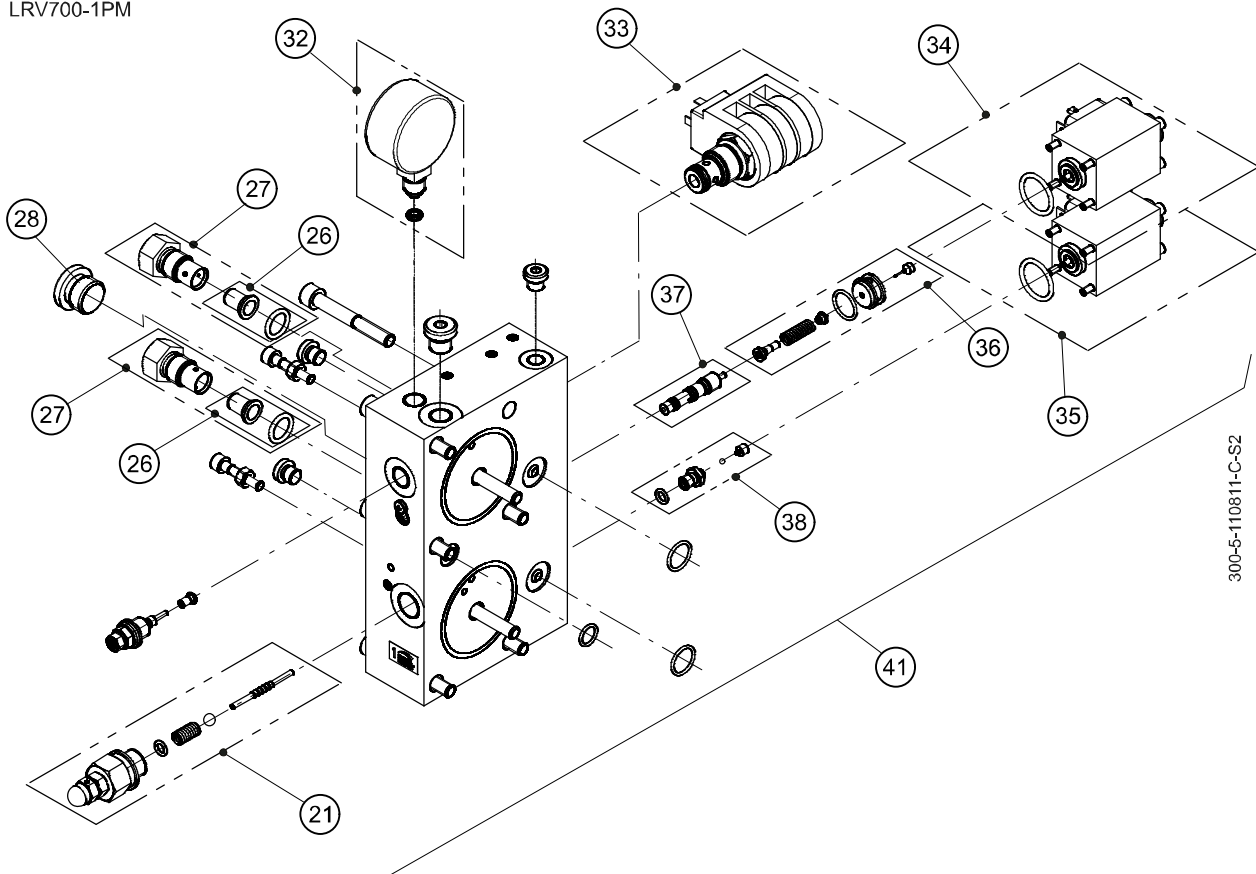
## 2.5 LRV...PM Pilot plate

LRV350-1PM



300-1-10012944-D-S2

LRV700-1PM



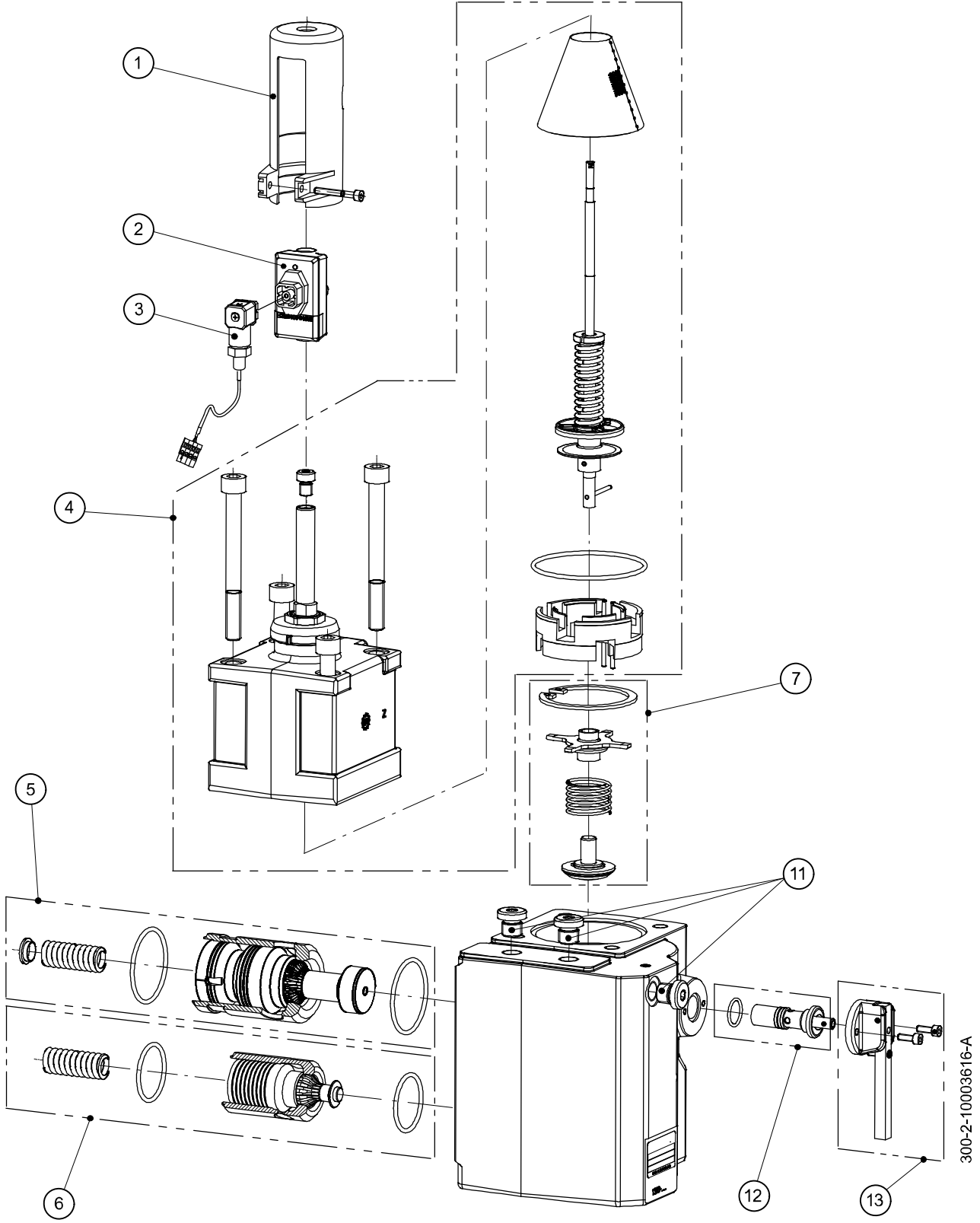
300-5-110811-C-S2

Item	Part No.	Description	Type	Dimension
21	3007010140	Pressure relief valve, complete	350 / 700	
26	3007010158	Pilot filter kit	350	
26	3007018645	Pilot filter kit	700	
27	3007018578	Pilot filter screw kit	350	incl. filter
27	3007018578	Pilot filter screw kit UP	700	incl. filter
27	3007018579	Pilot filter screw kit DOWN	700	incl. filter
28	3007010196	Test nipple, complete	350 / 700	
32	3007018582	Pressure gauge, complete	350 / 700	
33	3007017602	Electrical emergency lowering valve	350	12 V DC
33	3007017603	Electrical emergency lowering valve	350	24 V DC
33	3007018580	Electrical emergency lowering valve	700	12 V DC
33	3007018581	Electrical emergency lowering valve	700	24 V DC
34	3007010131	DOWN solenoid, complete (black plug)	175 / 350 / 700	
35	3007010132	UP solenoid, complete (grey plug)	175 / 350 / 700	
36	3007018583	DOWN pilot valve, complete	350	
36	3007018584	DOWN pilot valve, complete	700	
37	3000007675+	Adjusting spindle, complete	350	
37	3007018002+	Adjusting spindle, complete	700	
38	3007017321	UP pilot valve, complete	350 / 700	
41	3007018586	Pilot plate, complete	350	EN 00
41	3007018587	Pilot plate, complete	700	EN 00
41	3007018588	Pilot plate, complete	350	EN 12 V DC
41	3007018590	Pilot plate, complete	700	EN 12 V DC
41	3007018589	Pilot plate, complete	350	EN 24 V DC
41	3007018591	Pilot plate, complete	700	EN 24 V DC

## 2.6 LRV...PM Seal kits

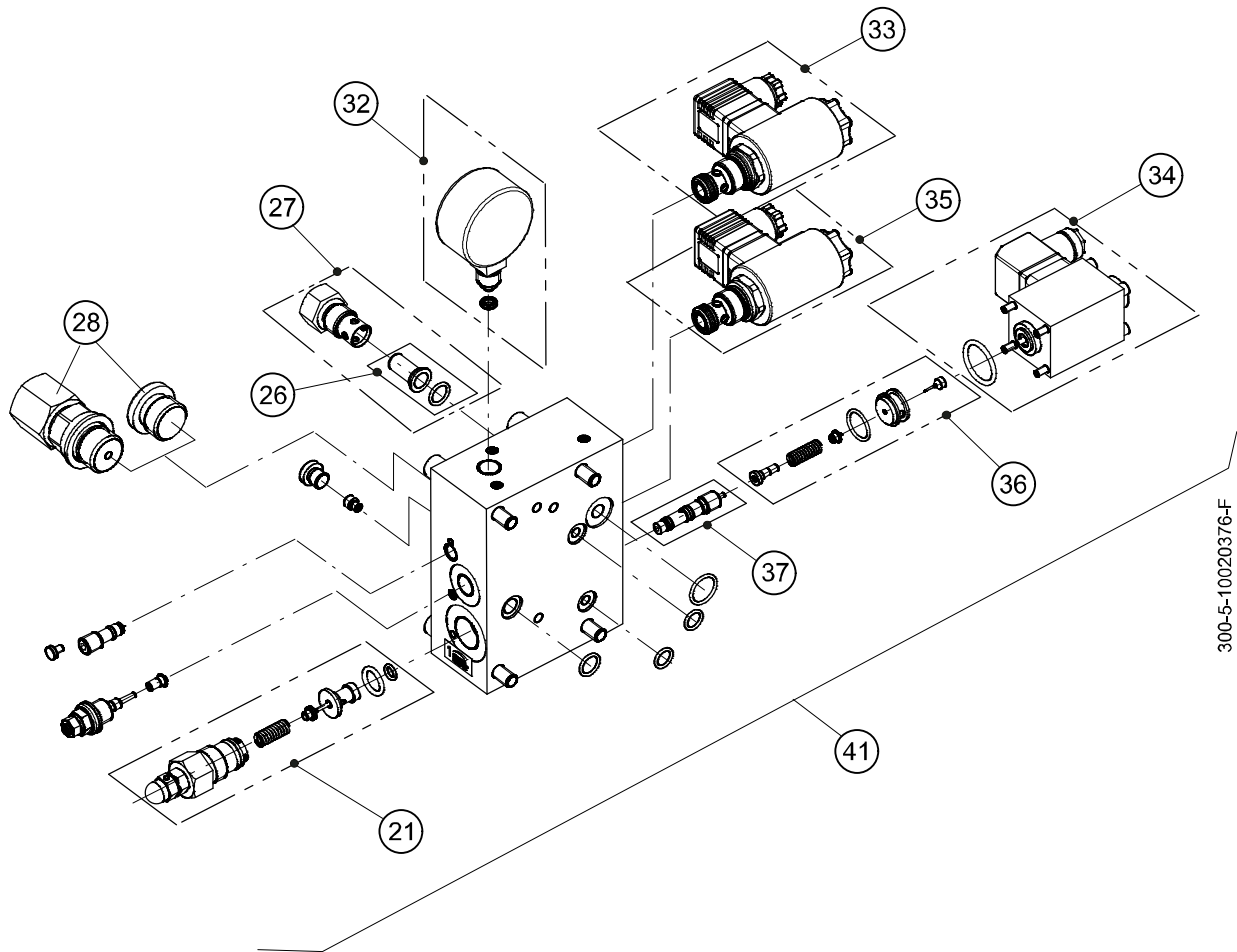
Item	Part No.	Description	Type	Dimension
	3007019798	Seal kit complete, incl. DOWN pilot valve	350	
	3007019799	Seal kit complete, incl. DOWN pilot valve	700	

2.7 VF-LRV



Item	Part No.	Description	Type	Dimension
1	3007010206	Protection cap with screw	VF350 / VF700	
2	3007011055+	Hall sensor, complete	VF350 / VF700	
3	3000009015+	Feedback cable with plug-in connectors	VF350 / VF700	6 m
3	3000009016+	Feedback cable with plug-in connectors	VF350 / VF700	9 m
3	3000009017+	Feedback cable with plug-in connectors	VF350 / VF700	12 m
3	3000009958+	Feedback cable with plug-in connectors	VF350 / VF700	20 m
4	3007017854	Valve top part (without Hall sensor / cap)	VF350	250 l
4	3007017855	Valve top part (without Hall sensor / cap)	VF350	350 l
4	3007017856	Valve top part (without Hall sensor / cap)	VF350	500 l
4	3007017857	Valve top part (without Hall sensor / cap)	VF700	700 l
4	3007017858	Valve top part (without Hall sensor / cap)	VF700	1000 l
5	3007010963	DOWN spool, complete	VF350	500 l
5	3007011609	DOWN spool, complete	VF700	1000 l
6	3007010964	Pressure relief valve cartridge, complete	VF350	500 l
6	3007011610	Pressure relief valve cartridge, complete	VF700	1000 l
7	3000007129	Check valve, complete	VF350	
7	3000304512	Check valve, complete	VF700	
11	3000065185	Plug screw VSTI	VF350 / VF700	G ¼ "
11	3000065219	Plug screw VSTI	VF700 (1*)	G ⅜ "
12	3007010142	Cartridge, emergency-lowering, with preload	VF350 / VF700	
13	3007010141	Emergency lowering handle kit, complete	VF350 / VF700	

2.8 VF-LRV Pilot plate



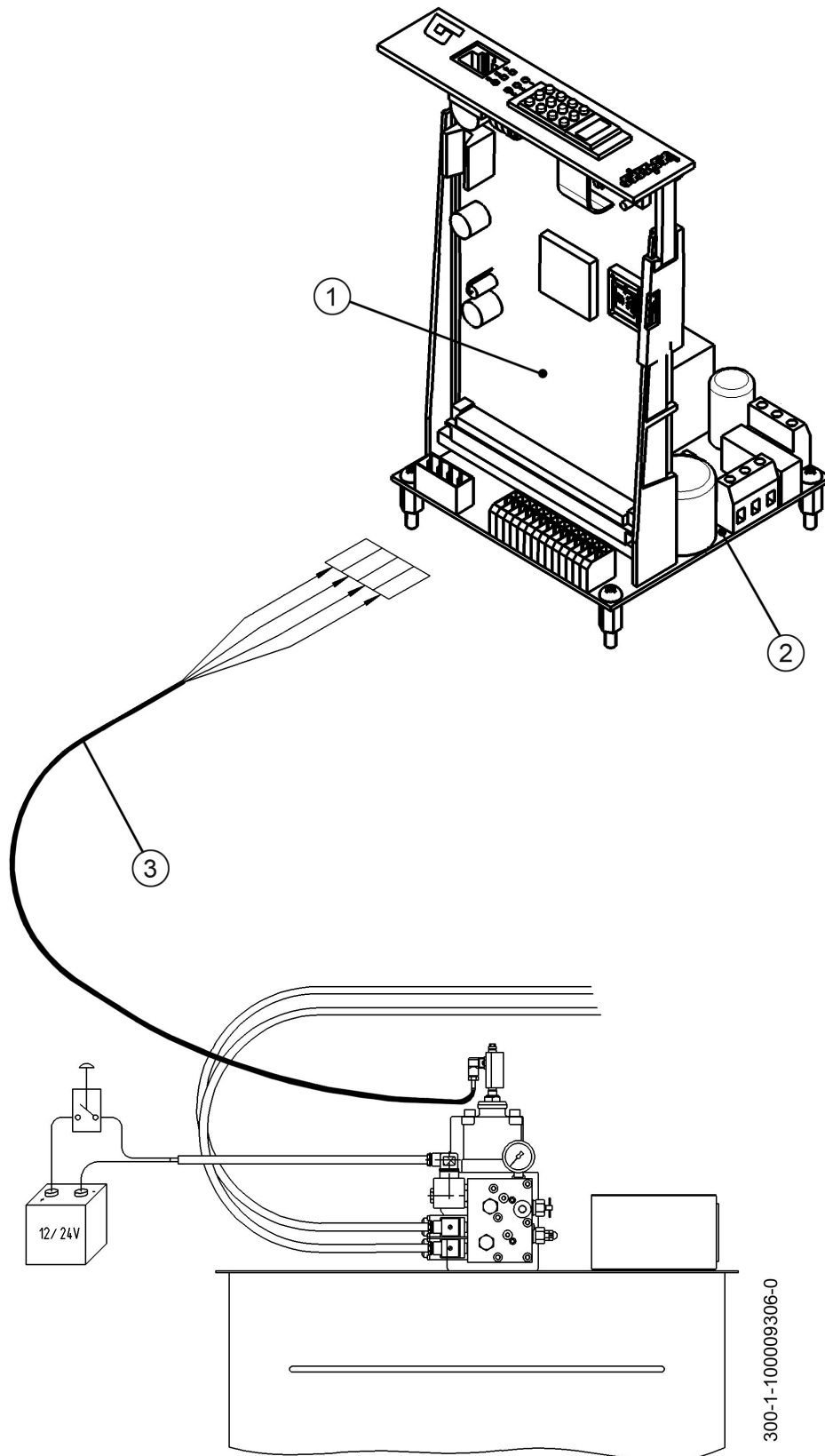
300-5-10020376-F

Item	Part No.	Description	Type	Dimension
21	3000305758+	Pressure relief valve, complete	VF350 / VF700	VF
26	3007010975	Filter pilotage	VF350 / VF700	L 23
27	3007010974	Pilot filter screw incl. filter	VF350 / VF700	4 x Ø4
28	3007010196	Test nipple, complete	VF350 / VF700	
32	3007010138	Pressure gauge, complete	VF350 / VF700	
33	3007019807	Electrical emergency stop valve	VF350 / VF700	230 V AC
33	3007019806	Electrical emergency stop valve	VF350 / VF700	115 V AC
33	3007019805	Electrical emergency stop valve	VF350 / VF700	24 V DC
34	3007010131	DOWN solenoid, complete (black plug)	VF350 / VF700	
35	3007017602	Electrical emergency lowering valve	VF350	12 V DC
35	3007017603	Electrical emergency lowering valve	VF350	24 V DC
35	3007018580	Electrical emergency lowering valve	VF700	12 V DC
35	3007018581	Electrical emergency lowering valve	VF700	24 V DC
36	3007010978	DOWN pilot valve, complete	VF350	
36	3007010148	DOWN pilot valve, complete	VF700	
37	3000010345+	Adjusting spindle, complete	VF350	
37	3000007675+	Adjusting spindle, complete	VF700	
41	3007017766	Pilot plate, complete	VF350	EN 00
41	3007018497	Pilot plate, complete	VF700	EN 00
41	3007017767	Pilot plate, complete	VF350	EN 12 V DC
41	3007018498	Pilot plate, complete	VF700	EN 12 V DC
41	3007017768	Pilot plate, complete	VF350	EN 24 V DC
41	3007018499	Pilot plate, complete	VF700	EN 24 V DC

## 2.9 VF-LRV Seal kits

Item	Part No.	Description	Type	Dimension
	3007018602	Seal kit complete incl. DOWN pilot valve	VF350	
	3007018603	Seal kit complete, incl. DOWN pilot valve	VF700	

2.10 LRV / LRV...PM Electronic

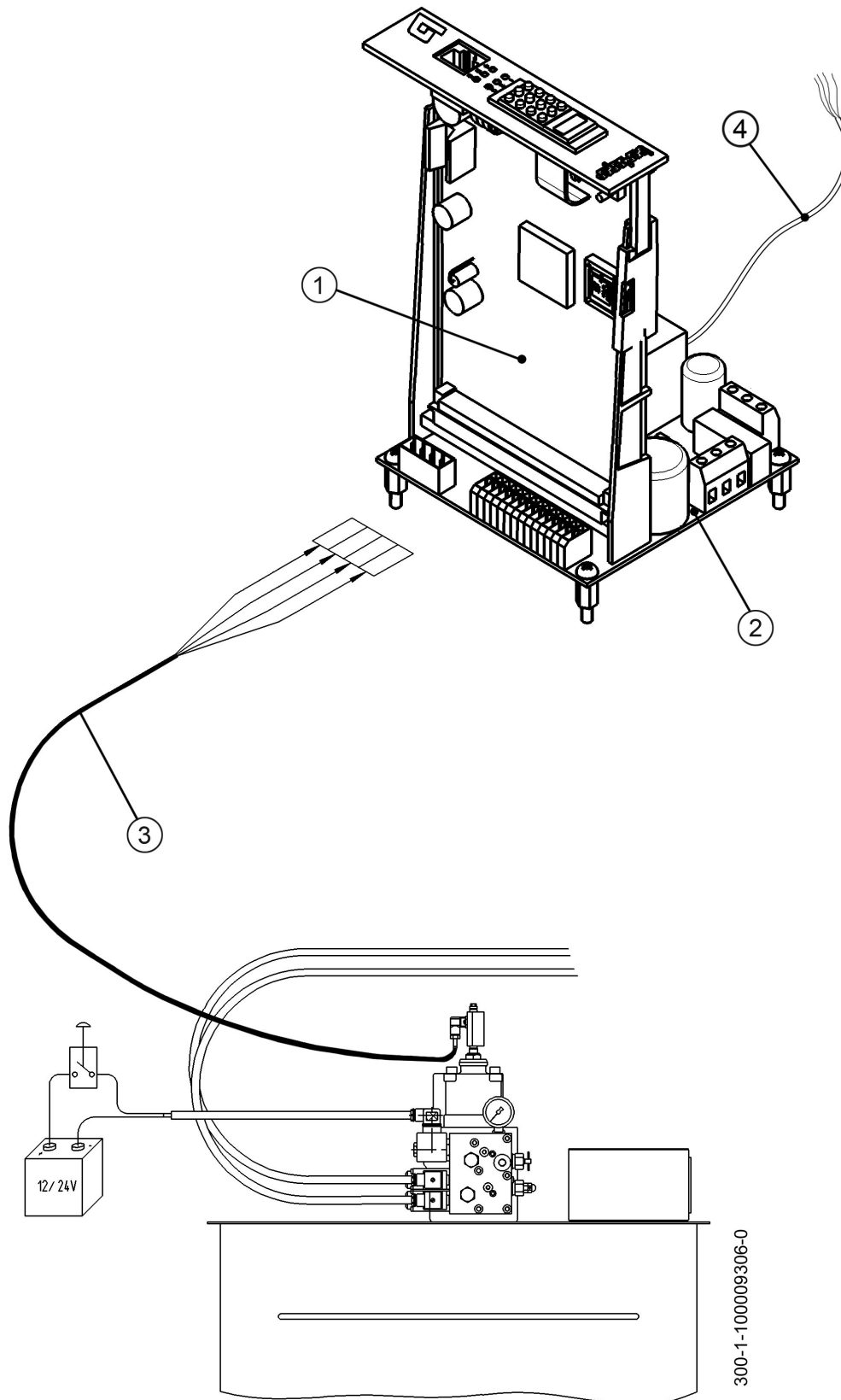


300-1-100009306-0



Item	Part No.	Description	Type	Dimension
1	3007010590+	Control card Delta Controller	175 / 350 / 700	
2	3007013534+	Power supply unit NTA-2	115 V	100 / 115 / 120 V
2	3007013535+	Power supply unit NTA-2	230 V	220 / 230 / 240 V
2	3007013536+	Power supply unit NTA-2	400 V	380 / 400 / 440 V
2	3007018437+	Power supply unit NTA-2 CSA	115 V	100 / 115 / 120 V
2	3007018438+	Power supply unit NTA-2 CSA	230 V	220 / 230 / 240 V
3	3007018167+	Connection cable		6 m
3	3007010472+	Connection cable		1.5 m
3	3000009002+	Connection cable		12 m
3	3007015988+	Connection cable		20 m
3	3007011327+	Connection cable	halogen free	6 m
3	3007011329+	Connection cable	halogen free	12 m
3	3007020467+	Connection cable	halogen free	20 m
	3007020027+	Software and cable	iWin / WinDelta32	

2.11 VF-LRV Electronic



300-1-100009306-0

Item	Part No.	Description	Type	Dimension
1	3000305012+	Control card VF Delta Controller	VF350 / VF700	
2	3007013537+	Power supply unit VF-NTA-2	115 V	100 / 115 / 120 V
2	3007013538+	Power supply unit VF-NTA-2	230 V	220 / 230 / 240 V
2	3007013539+	Power supply unit VF-NTA-2	400 V	380 / 400 / 440 V
3	3007018167+	Connection cable		6 m
3	3007010472+	Connection cable		1.5 m
3	3007009002+	Connection cable		12 m
3	3000015988+	Connection cable		20 m
3	3007011327+	Connection cable	halogen free	6 m
3	3007011329+	Connection cable	halogen free	12 m
3	3007020467+	Connection cable	halogen free	20 m
	3007020027+	Software and cable	iWin / WinDelta32	
4	3007013502+	Cable inverter	VF-NTA-2	6 m

## 2.12 LRV Spare parts kit

- your spare parts for immediate intervention always at hand
- reduced need for second interventions

LRV Spare parts kit Mechanical



LRV Spare parts kit Electrical



**Scope of delivery:**

- DOWN spool to 250 litre, LRV 175
- DOWN spool to 500 litre, LRV 350
- Set of pilot filter
- Seal kit with DOWN pilot valve LRV 175
- Seal kit with DOWN pilot valve LRV 350
- Seal kit with DOWN pilot valve LRV 700
- Non-return valve EHP hand pump
- Emergency lowering cartridge with handle
- Complete documentation

**Scope of delivery:**

- Electronic card DELCON
- Power supply NTA-2
- Feedback cable 9 m
- Hallsensor
- UP / DOWN solenoid complete
- Complete documentation

Item	Part No.	Description	Type	Dimension
1	3007014930	LRV Spare parts kit Mechanical	Spare parts	1
2	3007014998	LRV Spare parts kit Electrical 115V	Spare parts	1
2	3007014931	LRV Spare parts kit Electrical 230V	Spare parts	1
2	3007014932	LRV Spare parts kit Electrical 400V	Spare parts	1

## 2.13 VF-LRV Spare parts kit

- your spare parts for immediate intervention always at hand
- reduced need for second interventions

VF-LRV Spare parts kit Mechanical



**Scope of delivery:**

- Pressure relief valve cartridge VF-LRV 350
- DOWN spool to 500 litre, VF-LRV 350
- Pilot filter VF-LRV 350
- Seal kit with DOWN pilot valve VF-LRV 350
- Non-return valve EHP hand pump
- Emergency lowering cartridge with handle
- Complete documentation

VF-LRV Spare parts kit Electrical



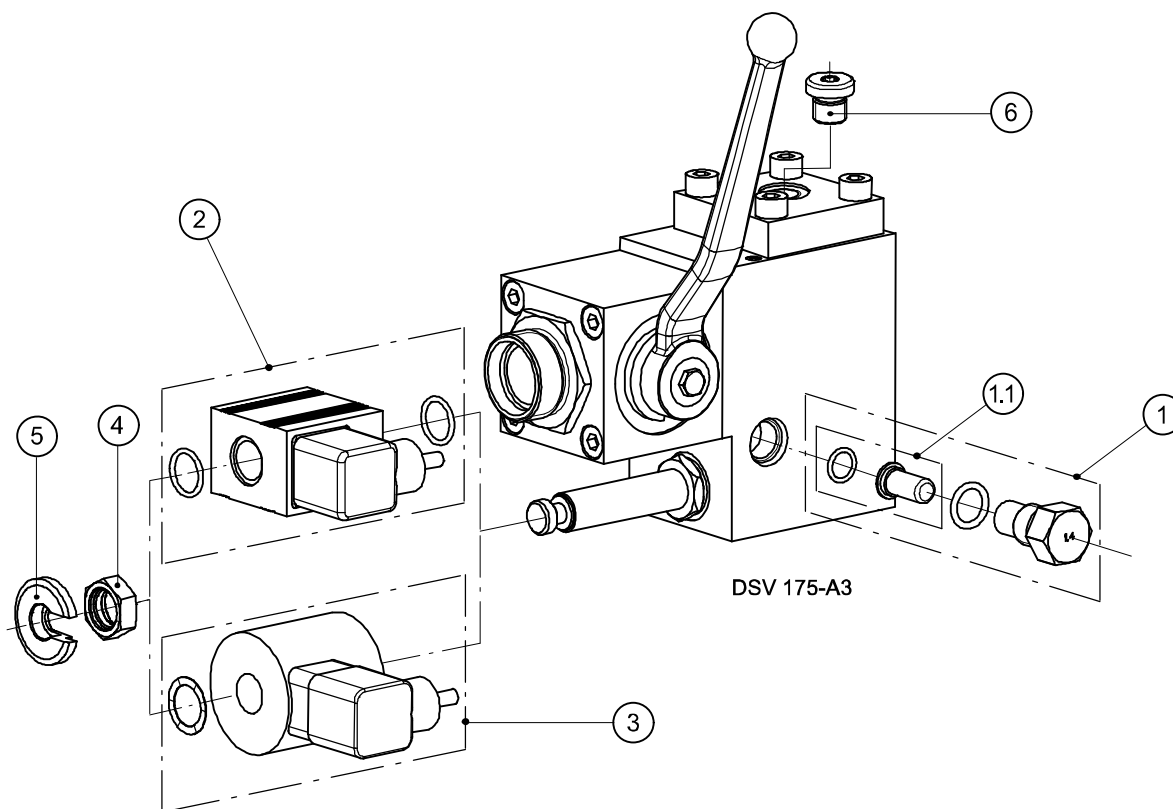
**Scope of delivery:**

- Electronic card VF-DELCON
- Power supply VF-NTA-2
- Feedback cable 9 m
- Hallsensor VF-LRV
- DOWN solenoid complete
- Complete documentation

Item	Part No.	Description	Type	Dimension
1	3007018166	Spare parts kit Mechanical	Spare parts	1
2	3007019304	Spare parts kit Electrical 230V	Spare parts	1
2	3007018157	Spare parts kit Electrical 400V	Spare parts	1

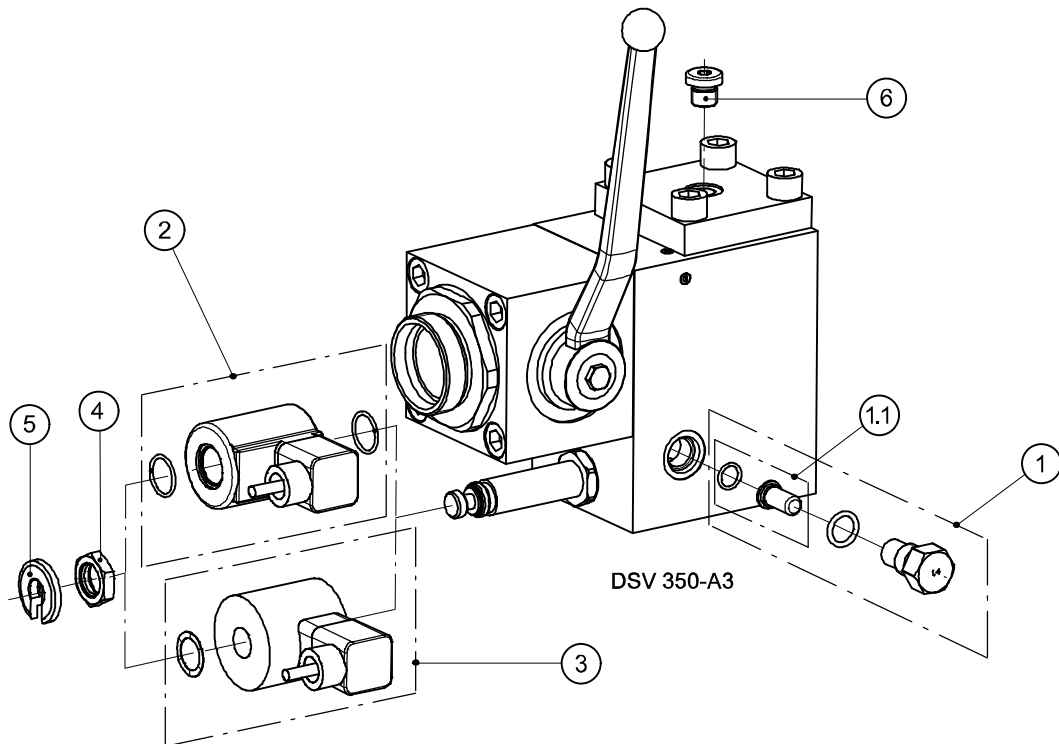
### 3 Safety valve series DSV-A3

#### 3.1 DSV 175-A3



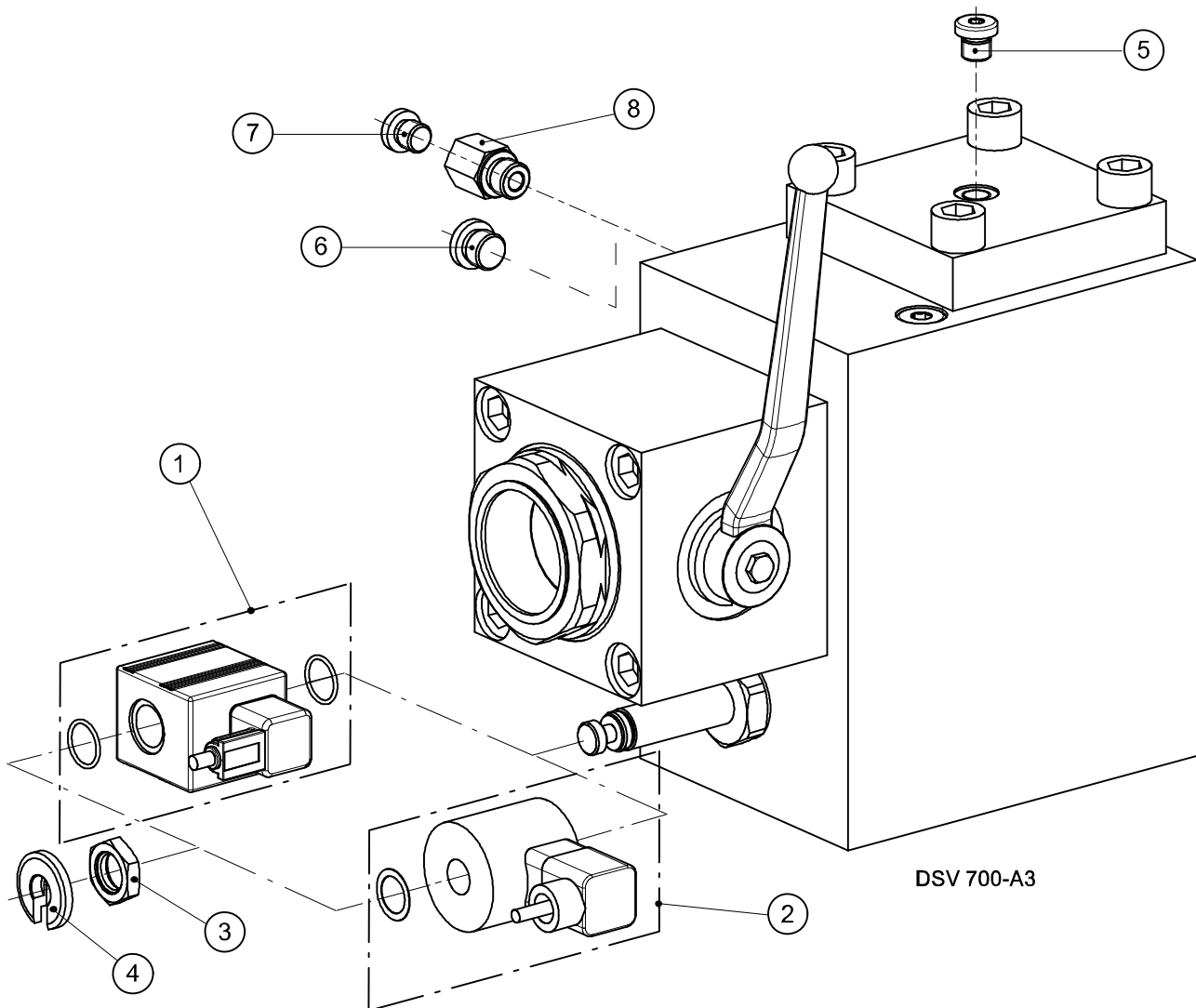
Item	Part No.	Description	Type	Electrical characteristics
1	3007019494	Filter screw, complete	DSV 175-A3	
1.1	3007010975	Strainer/filter, complete	DSV 175-A3	
2	3007019334+	Solenoid coil, complete	DSV 175-A3	230 V AC 50 Hz / —
3	3007019330+	Solenoid coil, complete	DSV 175-A3	230 V AC 50 Hz / 12 V DC
3	3007019331+	Solenoid coil, complete	DSV 175-A3	230 V AC 50 Hz / 24 V DC
4	3007019658	Nut M16x1	DSV 175-A3	
5	3007019654	Emergency lowering adapter	DSV 175-A3	
6	3007018508	Plug screw G ¼	DSV 175-A3	

### 3.2 DSV 350-A3



Item	Part No.	Description	Type	Electrical characteristics
1	3007019494	Filter screw, complete	DSV 350-A3	
1.1	3007010975	Strainer/filter, complete	DSV 350-A3	
2	3007019666+	Solenoid coil, complete	DSV 350-A3	230 V AC 50 Hz / —
3	3007019571+	Solenoid coil, complete	DSV 350-A3	230 V AC 50 Hz / 12 V DC
3	3007019572+	Solenoid coil, complete	DSV 350-A3	230 V AC 50 Hz / 24 V DC
4	3007019703	Nut M18x1,5	DSV 350-A3	
5	3007019654	Emergency lowering adapter	DSV 350-A3	
6	3007018508	Plug screw G ¼	DSV 350-A3	

3.3 DSV 700-A3

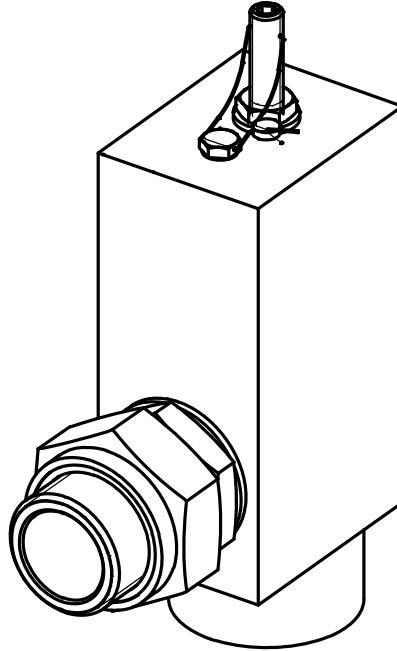


Item	Part No.	Description	Type	Electrical characteristics
1	3007019666+	Solenoid coil, complete	DSV 700-A3	230 V AC 50 Hz / —
2	3007019571+	Solenoid coil, complete	DSV 700-A3	230 V AC 50 Hz / 12 V DC
2	3007019572+	Solenoid coil, complete	DSV 700-A3	230 V AC 50 Hz / 24 V DC
3	3007019703	Nut M18x1,5	DSV 700-A3	
4	3007019654	Emergency lowering adapter	DSV 700-A3	
5	3007018508	Plug screw G ¼	DSV 700-A3	
6	3000065219	Plug screw G ⅜ (standard)	DSV 700-A3	
7	3007018508	Plug screw G ¼ (option)	DSV 700-A3	
8	3007018146	Fitting RI ⅜ ED x ¼ (option)	DSV 700-A3	



## 4 Pipe-Rupture Valve series RSG

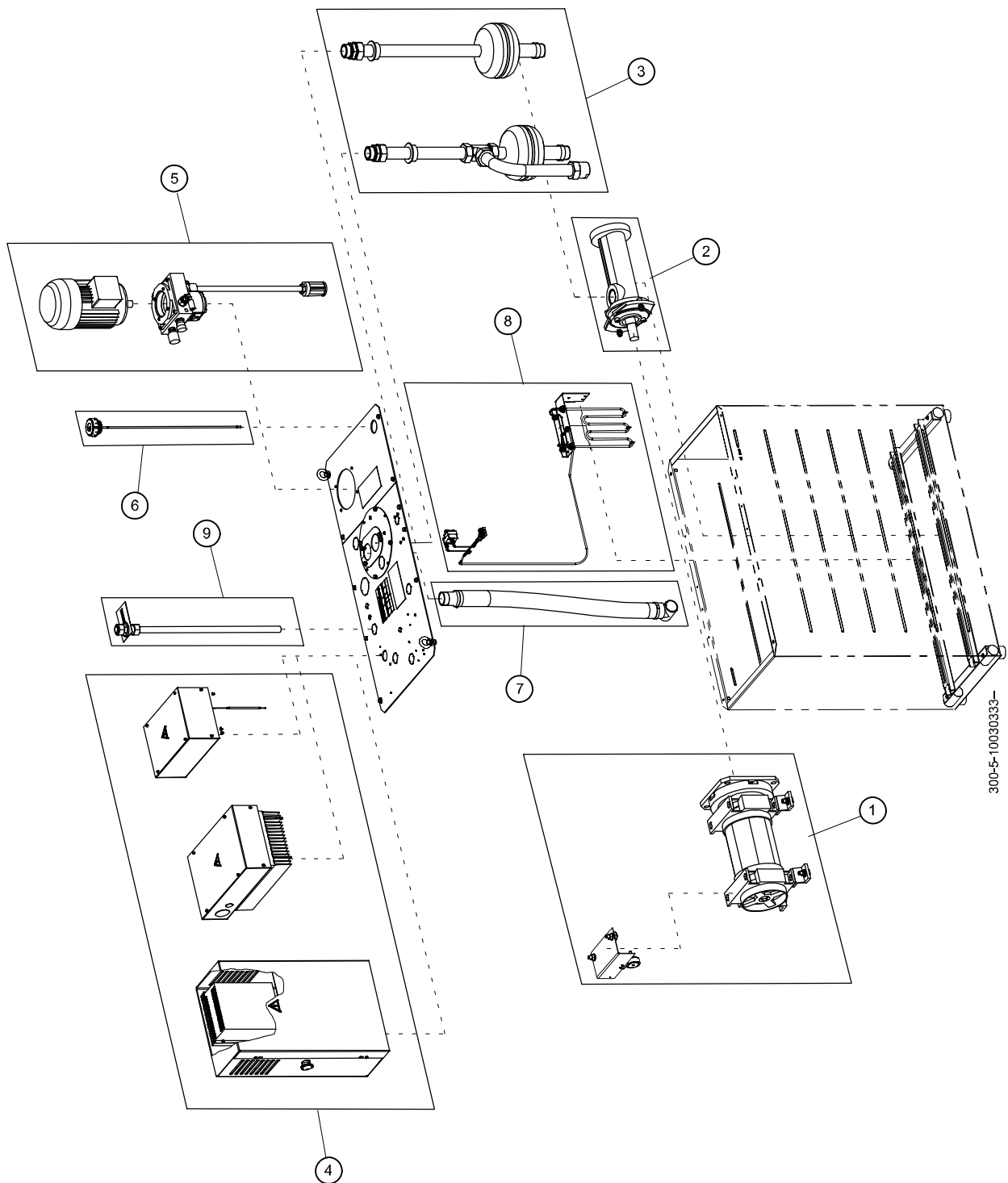
### 4.1 RSG 55 / 70 / 90



Item	Part No.	Description	Type	
	3007023470	Pipe rupture valve replacement	SPP RSG55-P1 / M1	
	3007023471	Pipe rupture valve replacement	SPP RSG55-P11 / 4 / M1	
	3007023472	Pipe rupture valve replacement	SPP RSG55-P11 / 2 / M1	
	3007023473	Pipe rupture valve replacement	SPP RSG70-P11 / 4 / M1½	
	3007023474	Pipe rupture valve replacement	SPP RSG70-P11 / 2 / M1½	
	3007023475	Pipe rupture valve replacement	SPP RSG70-P2 / M1½	
	3007023476	Pipe rupture valve replacement	SPP RSG90-P2 / M2	
	3007023477	Pipe rupture valve replacement	SPP RSG90-P2 / M1½	



Overview Power Unit Parts  
Comfort Line / Eco Line

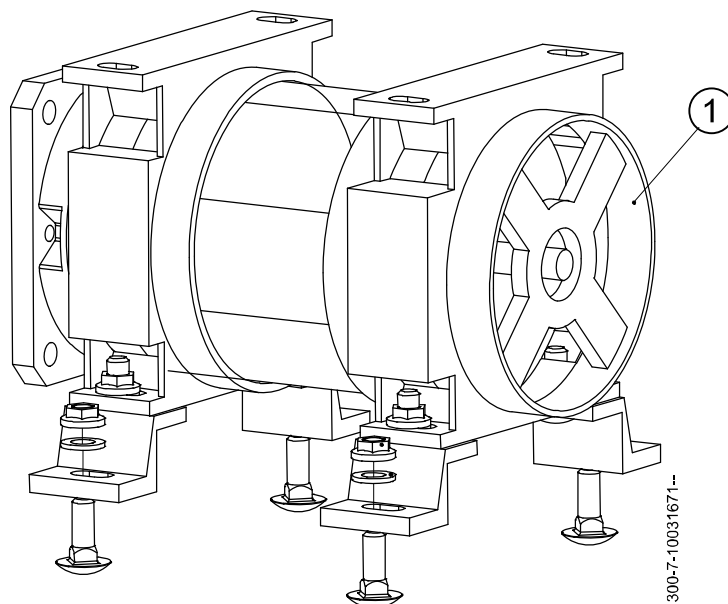


300-5-10030333-

①	Motor	④	Soft starter / output unit	⑦	Return
②	Pump	⑤	Relevelling unit	⑧	Heating
③	Pulsation damper	⑥	Oil filler neck	⑨	Cooler connections

# 1 Electric motor

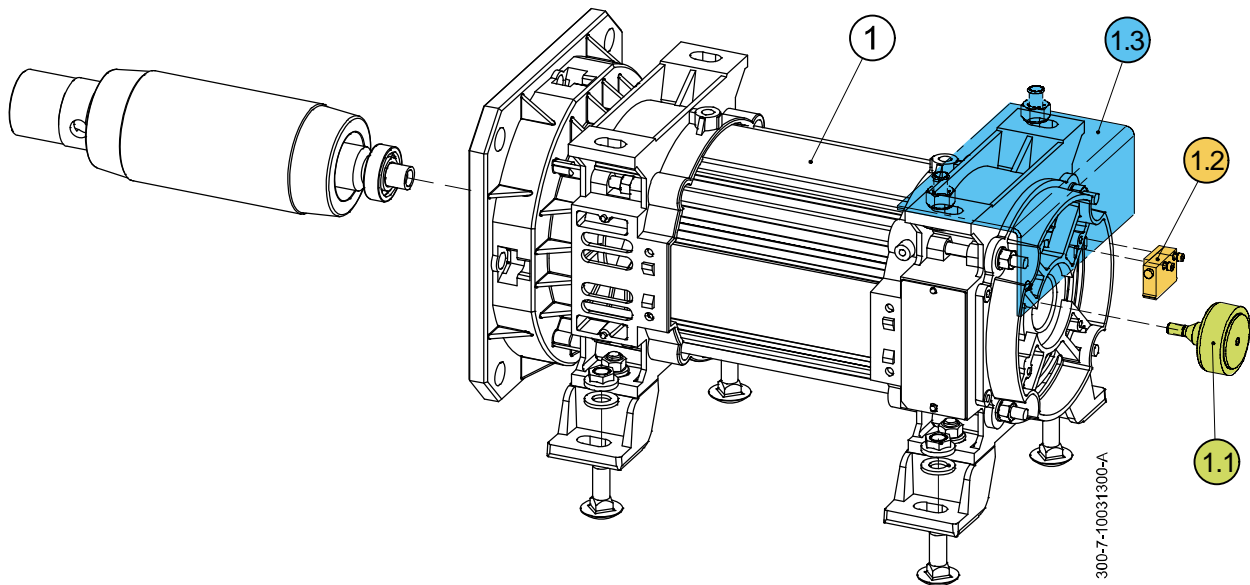
## 1.1 Saturn Beta



Item	Part No.	Description	Output	Description	Frequency	Flange
1	3007015990+	Electric motor	3.0 kW	400 V	50 Hz	A
1	3007015991+	Electric motor	4.4 kW	400 V	50 Hz	A
1	3007015992+	Electric motor	6.0 kW	400 V	50 Hz	A
1	3007015993+	Electric motor	7.7 kW	400 V	50 Hz	A
1	3007015994+	Electric motor	9.5 kW	400 V	50 Hz	A
1	3007019152+	Electric motor	9.5 kW	400 V	50 Hz	C
1	3007019155+	Electric motor	9.5 kW	400 V	50 Hz	AC
1	3007015995+	Electric motor	11.0 kW	400 V	50 Hz	A
1	3007019153+	Electric motor	11.0 kW	400 V	50 Hz	C
1	3007019156+	Electric motor	11.0 kW	400 V	50 Hz	AC
1	3007018158+	Electric motor	12.5 kW	400 V	50 Hz	A
1	3007019154+	Electric motor	12.5 kW	400 V	50 Hz	C
1	3007019157+	Electric motor	12.5 kW	400 V	50 Hz	AC
1	3007012029+	Electric motor	14.7 kW	400 V	50 Hz	A
1	3007012034+	Electric motor	14.7 kW	400 V	50 Hz	C
1	3007015354+	Electric motor	14.7 kW	400 V	50 Hz	AC
1	3007012030+	Electric motor	16.0 kW	400 V	50 Hz	A

Item	Part No.	Description	Output	Description	Frequency	Flange
1	3007011836+	Electric motor	16.0 kW	400 V	50 Hz	C
1	3007015354+	Electric motor	16.0 kW	400 V	50 Hz	AC
1	3007012030+	Electric motor	16.0 kW	400 V	50 Hz	A
1	3007011836+	Electric motor	16.0 kW	400 V	50 Hz	C
1	3007015355+	Electric motor	16.0 kW	400 V	50 Hz	AC
1	3007011791+	Electric motor	20.0 kW	400 V	50 Hz	C
1	3007015356+	Electric motor	20.0 kW	400 V	50 Hz	AC
1	3007011837+	Electric motor	24.0 kW	400 V	50 Hz	C
1	3007015357+	Electric motor	24.0 kW	400 V	50 Hz	AC
1	3007011808+	Electric motor	28.0 kW	400 V	50 Hz	C
1	3007015358+	Electric motor	28.0 kW	400 V	50 Hz	AC
1	3007012035+	Electric motor	33.0 kW	400 V	50 Hz	C
1	3007012036+	Electric motor	40.0 kW	400 V	50 Hz	C
1	3007012037+	Electric motor	47.0 kW	400 V	50 Hz	C
1	3007012038+	Electric motor	60.0 kW	400 V	50 Hz	C
1	3007012039+	Electric motor	77.0 kW	400 V	50 Hz	C

1.2 Saturn Alpha



Item	Part No.	Description	Output	Description	Frequency	Flange
1	3007018619	Electric motor	4.4 kW	400 V	50 Hz	A
1	3007018621	Electric motor	6.0 kW	400 V	50 Hz	A
1	3007018622	Electric motor	7.7 kW	400 V	50 Hz	A
1	3007018623	Electric motor	9.5 kW	400 V	50 Hz	A
1	3007018628	Electric motor	9.5 kW	400 V	50 Hz	C
1	3007018624	Electric motor	11.0 kW	400 V	50 Hz	A
1	3007018629	Electric motor	11.0 kW	400 V	50 Hz	C
1	3007018625	Electric motor	12.5 kW	400 V	50 Hz	A
1	3007018630	Electric motor	12.5 kW	400 V	50 Hz	C
1	3007018626	Electric motor	14.7 kW	400 V	50 Hz	A
1	3007018631	Electric motor	14.7 kW	400 V	50 Hz	C
1	3007018627	Electric motor	16.0 kW	400 V	50 Hz	A
1	3007018632	Electric motor	16.0 kW	400 V	50 Hz	C
1	3007018633	Electric motor	20.0 kW	400 V	50 Hz	C
1	3007018634	Electric motor	24.0 kW	400 V	50 Hz	C
1	3007018635	Electric motor	28.0 kW	400 V	50 Hz	C
1	3007018636	Electric motor	33.0 kW	400 V	50 Hz	C
1	3007018637	Electric motor	40.0 kW	400 V	50 Hz	C
1	3007018638	Electric motor	47.0 kW	400 V	50 Hz	C

Item	Part No.	Description	Output	Description	Frequency	Flange
1	3007018639	Electric motor	60.0 kW	400 V	50 Hz	C
1	3007018640	Electric motor	77.0 kW	400 V	50 Hz	C

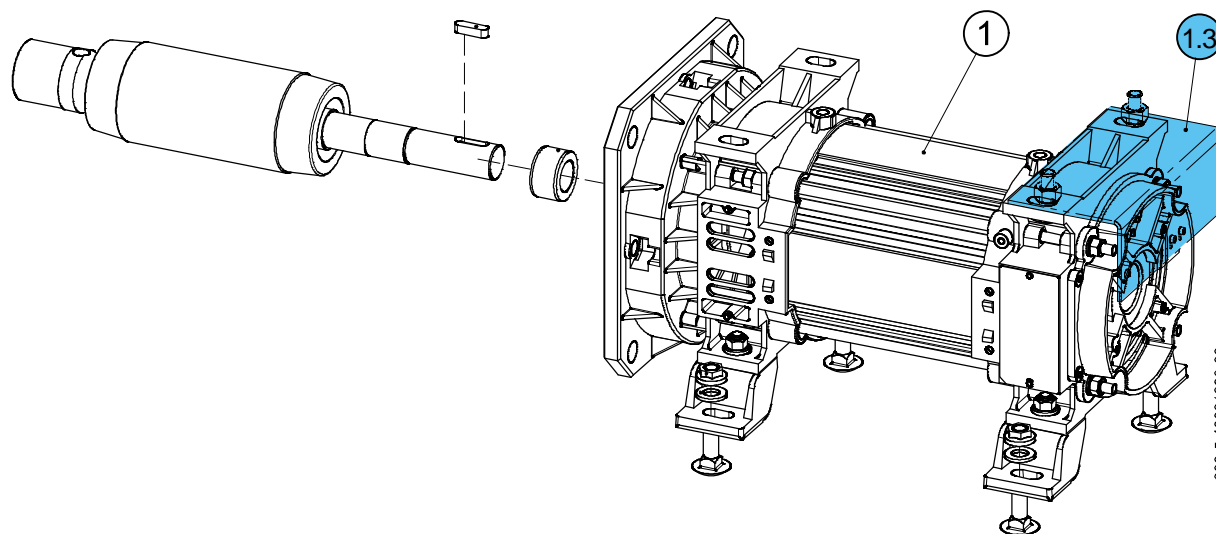
### 1.2.1 Magnetic ring & sensor

Item	Part No.	Description	
1.1	3007011833+	Magnetic ring with support	
1.2	3000010882+	Magnetic sensor	

### 1.2.2 Mounting plate

Item	Part No.	Description	
1.3	–	Mounting plate on request	

### 1.3 Orion Alpha



Item	Part No.	Description	Output	Description	Frequency	Flange
1	3007018208	Electric motor	9.5 kW	400 V	50 Hz	C
1	3007018209	Electric motor	11.0 kW	400 V	50 Hz	C
1	3007018210	Electric motor	14.7 kW	400 V	50 Hz	C
1	3007018212	Electric motor	16.0 kW	400 V	50 Hz	C
1	3007018213	Electric motor	20.0 kW	400 V	50 Hz	C
1	3007018214	Electric motor	24.0 kW	400 V	50 Hz	C
1	3007018215	Electric motor	28.0 kW	400 V	50 Hz	C
1	3007018216	Electric motor	33.0 kW	400 V	50 Hz	C
1	3007018217	Electric motor	40.0 kW	400 V	50 Hz	C

#### 1.3.1 Mounting plate

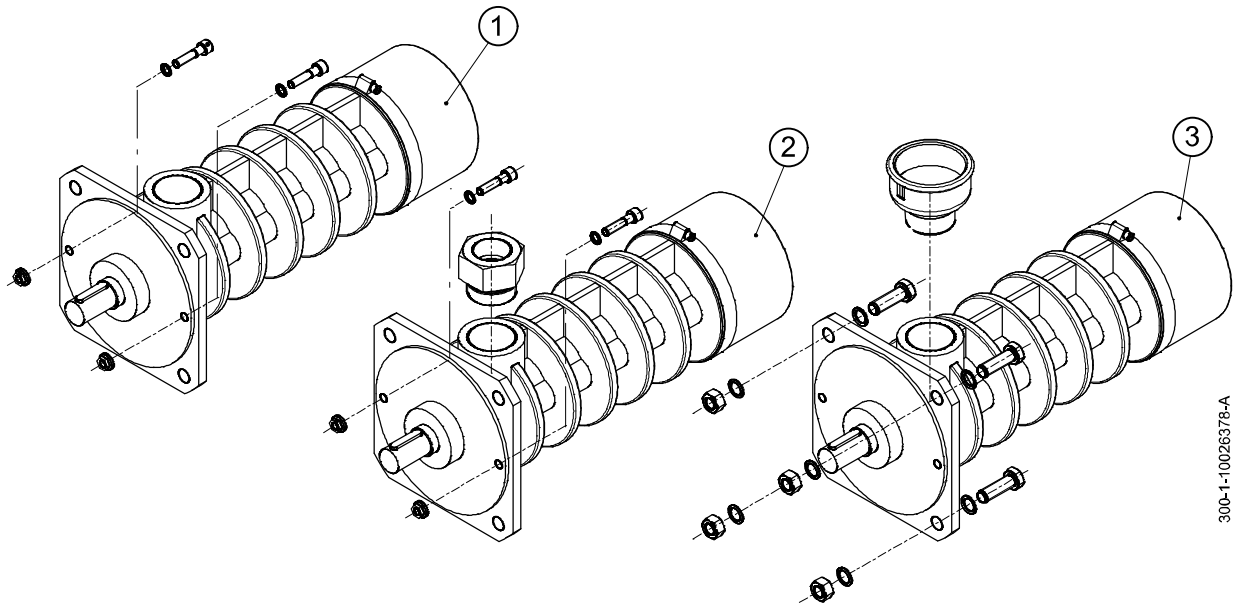
Item	Part No.	Description
1.3	–	Mounting plate on request





## 2 Main pumps

### 2.1 Saturn Beta / Comfort Line

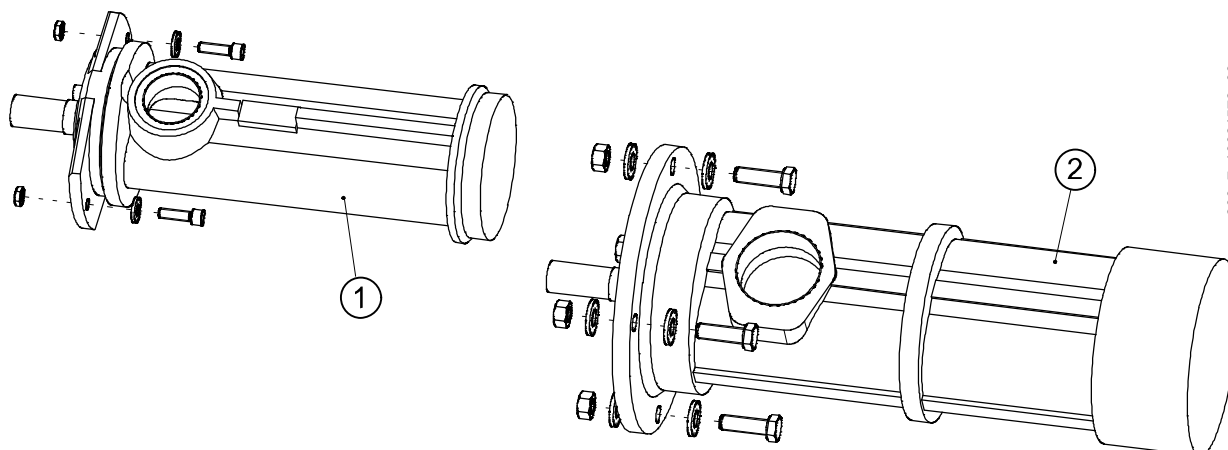


300-1-10026378-A

Item	Part No.	Description	Type	Replacement RUC/RUA	Connection	Flange
1	3007021717	Pump	GR25-25L	20-38	½"	A
1	3007021718	Pump	GR25-30L	20-46	½"	A
1	3007015149+	Pump	GR32-35L		1"	A
1	3007015150+	Pump	GR32-35L		1"	A
1	3007021719	Pump	GR32-55L	40-41	1"	A
1	3007021720	Pump	GR32-75L	40-49	1"	A
2	3007021721	Pump	GR40-100L	80-36	1"	A
2	3007021722	Pump	GR40-125L	80-42	1"	A
2	3007021723	Pump	GR40-150L	80-46	1"	A
3	3007018066+	Pump spec. Tiger	GR45-150L		1 ½"	AC
1	3007021724	Pump	GR45-180L	140-37	1 ½"	C
1	3007021725	Pump	GR45-210L	140-39	1 ½"	C
1	3007021726	Pump	GR45-210L	140-43	1 ½"	C
1	3007018495+	Pump	GR55-252L		1 ½"	C
1	3007021727	Pump	GR55-270L	140-46	1 ½"	C
3	3007018070+	Pump	GR55-300L		1 ½"	AC

Item	Part No.	Description	Type	Replacement RUC/RUA	Connection	Flange
1	3007021218+	Pump	GR55-300L		1 ½"	C
2	3007021728	Pump	GR55-330L	210-40	1 ½"	C
2	3007021729	Pump	GR55-330L	210-43	1 ½"	C
2	3007021730	Pump	GR55-380L	210-46	1 ½"	C
1	3007021731	Pump	GR60-440L	280-43	2"	C
1	3007021222+	Pump	GR60-500L		2"	C
3	3007021732	Pump	GR70-560L	280-46	2"	C
3	3007021224+	Pump	GR70-600L		2"	C
3	3007021733	Pump	GR70-660L	440-40	2"	C
3	3007021734	Pump	GR70-800L	440-46	2"	C

## 2.2 Saturn / Orion Alpha / Eco Line

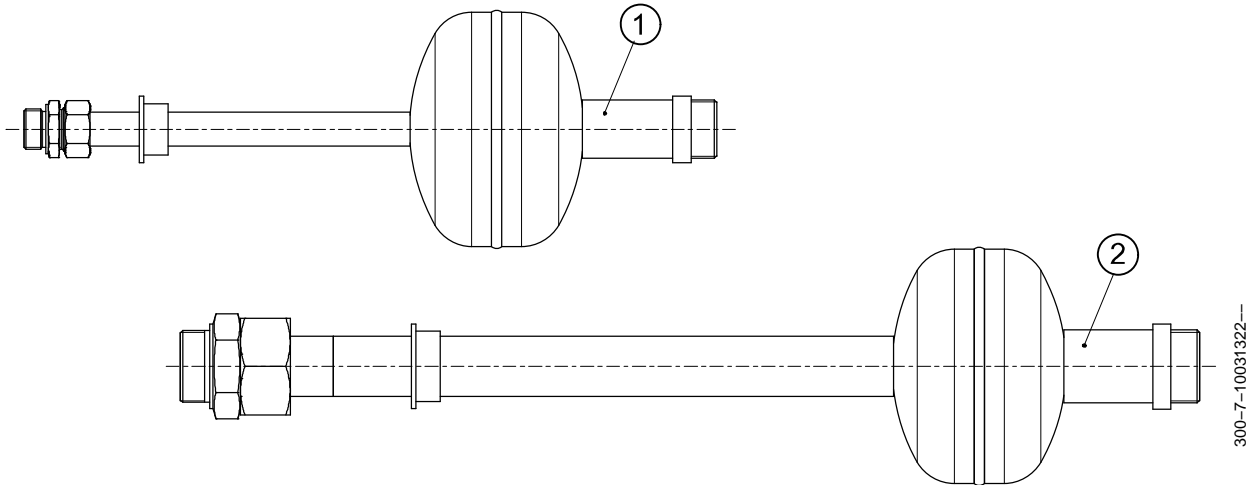


Item	Part No.	Description	Type	Connection	Flange
1	3000045298+	Pump	SUC 20-38	1"	A
1	3000045299+	Pump	SUC 20-46	1"	A
1	3000045300+	Pump	SUC 40-41	1"	A
1	3000045301+	Pump	SUC 40-49	1"	A
1	3000045303+	Pump	SUA 80-36	1 ½"	A
1	3000045304+	Pump	SUA 80-42	1 ½"	A
1	3000045305+	Pump	SUA 80-46	1 ½"	A
1	3000045307+	Pump	SUC 140-39	1 ½"	C
1	3000045308+	Pump	SUC 140-43	1 ½"	C
1	3000045309+	Pump	SUC 140-46	1 ½"	C
1	3000045311+	Pump	SUC 210-40	2"	C
1	3000045312+	Pump	SUC 210-43	2"	C
1	3000045313+	Pump	SUC 210-46	2"	C
1	3000045315+	Pump	SUC 280-43	2"	C
1	3000045316+	Pump	SUC 280-46	2"	C
2	3000045317+	Pump	SUC 440-40	3"	C
2	3000045318+	Pump	SUC 440-46	3"	C



### 3 Pulsation damper

#### 3.1 Pulsation damper standard

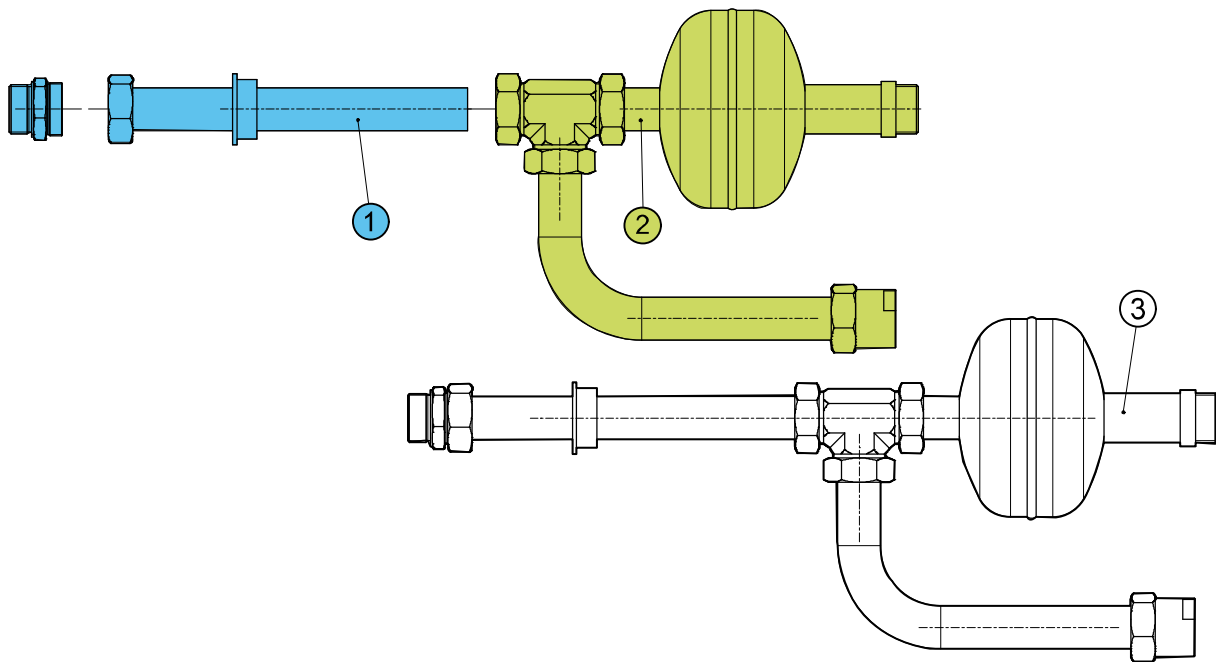


300-7-10031322--

Item	Part No.	Description	Tank type	Pump	Valve
1	3007018542+	Pulsation damper	C-UDA	G 1 ½"	175/250
1	3007014266+	Pulsation damper	UDA 150	G 1 ½"	175/250
1	3007017789+	Pulsation damper	UDA 150	G 1"	175/250
1	3007017790+	Pulsation damper	UDA 230	G 1"	175/250
1	3007015068+	Pulsation damper	UDA 230	G 1 ½"	350/500
1	3007023479+	Pulsation damper	UEA 200	G 1 ½"	175/250
1	3000010810+	Pulsation damper	UD 200 / UDA 230	G 1 ½"	175/250
1	3000010483+	Pulsation damper	UD 350	G 1 ½"	175/250
1	3007017791+	Pulsation damper	UD 350	G 1"	175/250
1	3000010467+	Pulsation damper	UD 350	G 1 ½"	350/500
1	3000010472+	Pulsation damper	UD 350	G 2"	350/500
1	3000010484+	Pulsation damper	UD 500	G 1 ½"	175/250
1	3007017792+	Pulsation damper	UD 500	G 1"	175/250
1	3000010468+	Pulsation damper	UD 500	G 1 ½"	350/500
1	3000010473+	Pulsation damper	UD 500	G 2"	350/500
2	3007023355+	Pulsation damper	UD 500	G 2"	700
2	3007023360+	Pulsation damper	UD 500	G 3"	700

Item	Part No.	Description	Tank type	Pump	Valve
1	3000011053+	Pulsation damper	UC 250	G 1 ½"	175/250
1	3000011046+	Pulsation damper	UC 250	G 1 ½"	350/500
1	3000011048+	Pulsation damper	UC 250	G 2"	350/500
1	3000011047+	Pulsation damper	UC 500	G 1 ½"	350/500
1	3000011050+	Pulsation damper	UC 500	G 2"	350/500
1	3000010482+	Pulsation damper	UC 500	G 1 ½"	175/250
1	3000010485+	Pulsation damper	UC 750	G 1 ½"	175/250
1	3000010469+	Pulsation damper	UC 750	G 1 ½"	350/500
1	3000010474+	Pulsation damper	UC 750	G 2"	350/500
2	3007023356+	Pulsation damper	UC 750	G 2"	700
2	3007023361+	Pulsation damper	UC 750	G 3"	700
1	3000010486+	Pulsation damper	UC 1000	G 1 ½"	175/250
1	3000010471+	Pulsation damper	UC 1000	G 1 ½"	350/500
1	3000010475+	Pulsation damper	UC 1000	G 2"	350/500
2	3007023357+	Pulsation damper	UC 1000	G 2"	700
2	3007023362+	Pulsation damper	UC 1000	G 3"	700
1	3000012317+	Pulsation damper	UC 1200	G 1 ½"	350/500
1	3000012315+	Pulsation damper	UC 1200	G 2"	350/500
2	3007023358+	Pulsation damper	UC 1200	G 2"	700
2	3007023363+	Pulsation damper	UC 1200	G 3"	700
1	3000012318+	Pulsation damper	UC 1400	G 1 ½"	350/500
1	3000012316+	Pulsation damper	UC 1400	G 2"	350/500
2	3007023359+	Pulsation damper	UC 1400	G 2"	700
2	3007023364+	Pulsation damper	UC 1400	G 3"	700

### 3.2 Pulsation damper VF-LRV 350



300-7-10031397-

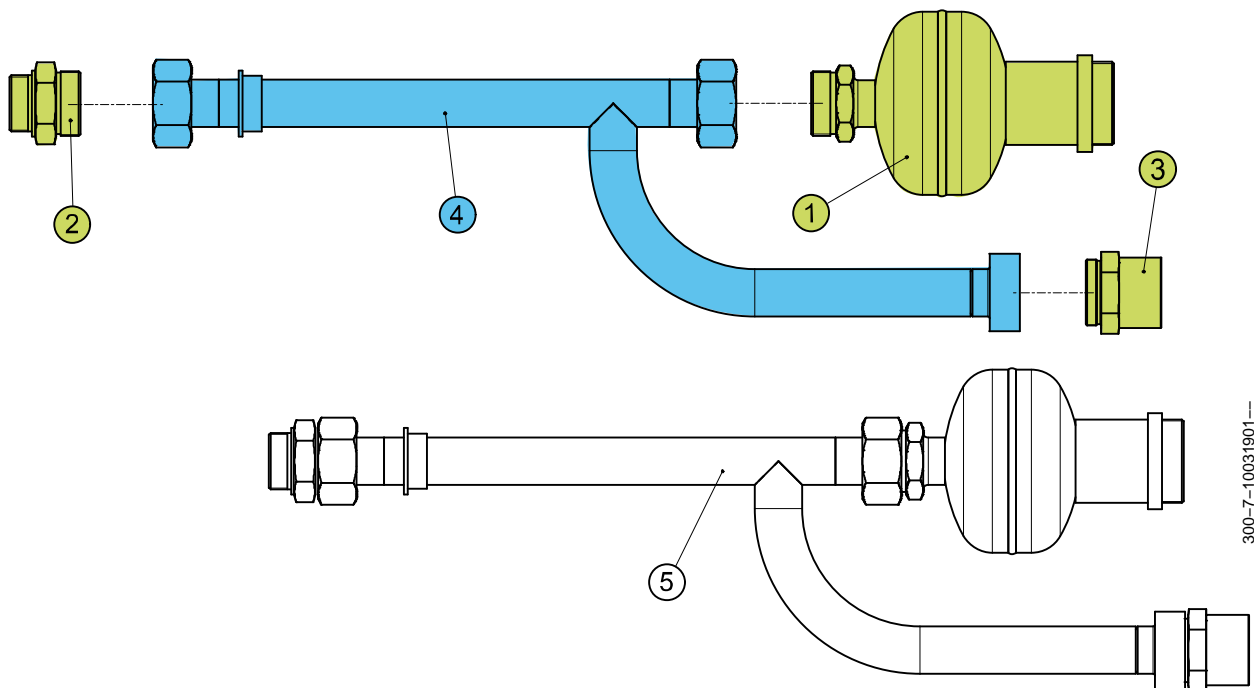
Item	Part No. (Pos. 1)	Description	Length [mm]	Basic structure (Pos. 2)	Tank type	Pump	Valve
3	3007019751	Riser pipe	135	3007011075+	UDA 150	G 1 ½"	VF-LRV
3	3000057491*	Riser pipe	192	3007011075+	UD 300A UD 450A	G 1 ½"	VF-LRV
3	3007019752	Riser pipe	300	3007011075+	UDA 200 UD 200 UD 300 UDA 230 UD 470	G 1 ½"	VF-LRV
3	3007019753	Riser pipe	345	3007011075+	UD 350	G 1 ½"	VF-LRV
3	3007019755	Riser pipe	368	3007011075+	UC 750	G 1 ½"	VF-LRV
3	3007019754	Riser pipe	510	3007011075+	UDA 400 UD 500 UD 600	G 1 ½"	VF-LRV
3	3000057491*	Riser pipe	192	3007011076+	UD 300A UD 450A	G 2"	VF-LRV
3	3007019752	Riser pipe	300	3007011076+	UD 400 UD 470	G 2"	VF-LRV
3	3007019753	Riser pipe	345	3007011076+	UD 350	G 2"	VF-LRV
3	3007019755	Riser pipe	368	3007011076+	UC 750	G 2"	VF-LRV



Item	Part No. (Pos. 1)	Description	Length [mm]	Basic structure (Pos. 2)	Tank type	Pump	Valve
3	3007019754	Riser pipe	510	3007011076+	UDA 400 UD 480 UD 500 UD 600	G 2"	VF-LRV
3	3000057491*	Riser pipe	576 776 976	3007011076+	UC 1000 UC 1200 UC 1400	G 2"	VF-LRV
3	3007019754	Riser pipe	510	3007017108+	UD 500	G 3"	VF-LRV

\* Article with variable length

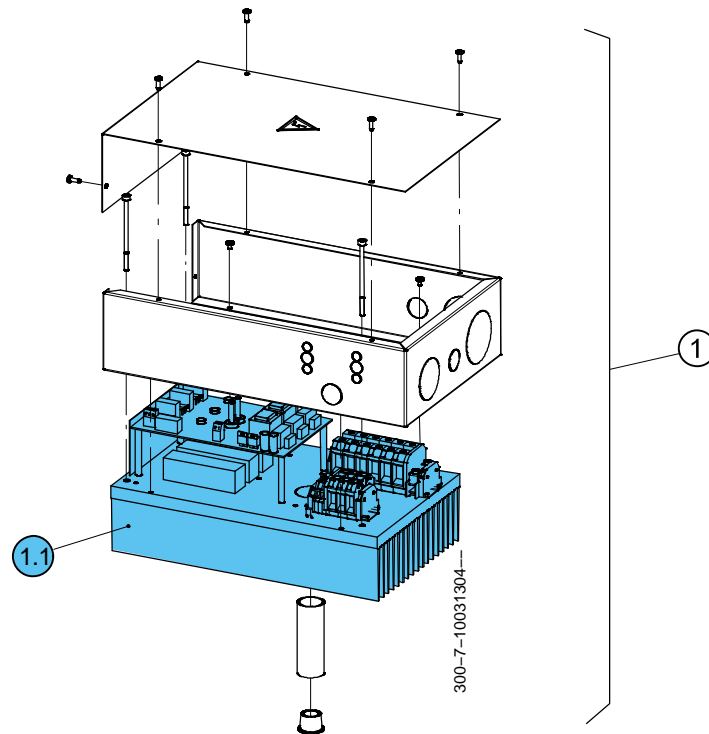
### 3.3 Pulsation damper VF-LRV 700



Item	Part No. (Pos. 4)	Description	Basic structure (Pos. 1-3)	Tank type	Pump	Valve
5	3007023365	Riser pipe	3007010903+	UD 500	G 2"	VF-LRV
5	3007023366	Riser pipe	3007010903+	UC 750	G 2"	VF-LRV
5	3007023367	Riser pipe	3007010903+	UC 1000	G 2"	VF-LRV
5	3007023368	Riser pipe	3007010903+	UC 1200	G 2"	VF-LRV
5	3007023369	Riser pipe	3007010903+	UC 1400	G 2"	VF-LRV
5	3007023365	Riser pipe	3007011160+	UD 500	G 3"	VF-LRV
5	3007023366	Riser pipe	3007011160+	UC 750	G 3"	VF-LRV
5	3007023367	Riser pipe	3007011160+	UD 1000	G 3"	VF-LRV
5	3007023368	Riser pipe	3007011160+	UD 1200	G 3"	VF-LRV
5	3007023369	Riser pipe	3007011160+	UD 1400	G 3"	VF-LRV

Item	Part No.	Description
3	3007010633	Available separately as spare part

## 4 Soft starter / Output unit / Frequency inverter

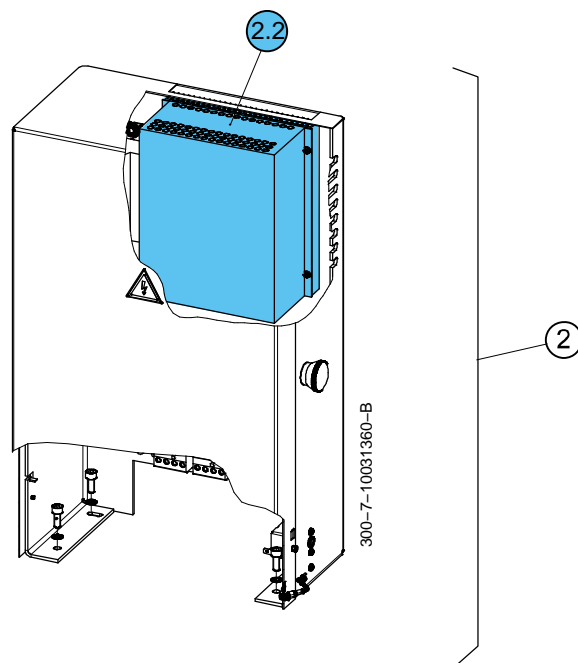


### 4.1 Soft starter complete incl. connection box

Item	Part No.	Description	Output	Voltage	Frequency
1	3007017507	Soft starter BE1 UDA	3-15 kW	400 V	50 Hz
1	3007017508	Soft starter BE1 UD/UC	3-15 kW	400 V	50 Hz
1	3007017509	Soft starter BE3 UDA	16-29 kW	400 V	50 Hz
1	3007017510	Soft starter BE3 UD/UC	16-29 kW	400 V	50 Hz
1	3007017511	Soft starter BE4 UDA	30-40 kW	400 V	50 Hz
1	3007017513	Soft starter BE5 UD/UC	41-60 kW	400 V	50 Hz
1	3007022467	Soft starter BE6 UD/UC	61-93 kW	400 V	50 Hz

### 4.2 Soft starter without housing

Item	Part No.	Description	Output	Voltage	Frequency
1.1	3000010375+	Soft starter BE1	3-15 kW	400 V	50 Hz
1.1	3000010376+	Soft starter BE3	16-29 kW	400 V	50 Hz
1.1	3000010377+	Soft starter BE4	30-40 kW	400 V	50 Hz
1.1	3000010379+	Soft starter BE5	41-60 kW	400 V	50 Hz
1.1	3000010809+	Soft starter BE6	61-93 kW	400 V	50 Hz

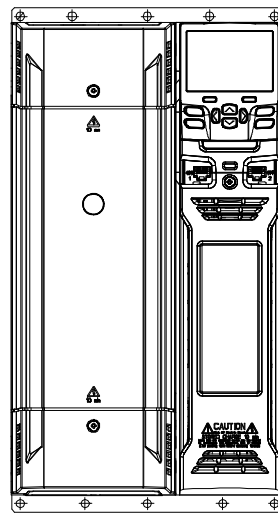


### 4.3 Output unit

Item	Part No.	Description	Output	Voltage	Frequency
2	3007022834+	Power unit LC1	3-15 kW	400 V	50 Hz
2	3007022835+	Power unit LC4	16-40 kW	400 V	50 Hz
2	3007022836+	Power unit LC5	41-60 kW	400 V	50 Hz

### 4.4 Soft starter to output unit

Item	Part No.	Description	Output	Voltage	Frequency
2.2	3007011389	Soft starter LC1	3-15 kW	400 V	50 Hz
2.2	3007011391	Soft starter LC4	16-40 kW	400 V	50 Hz
2.2	3007011392	Soft starter LC5	41-60 kW	400 V	50 Hz



3

## 4.5 Frequency inverter

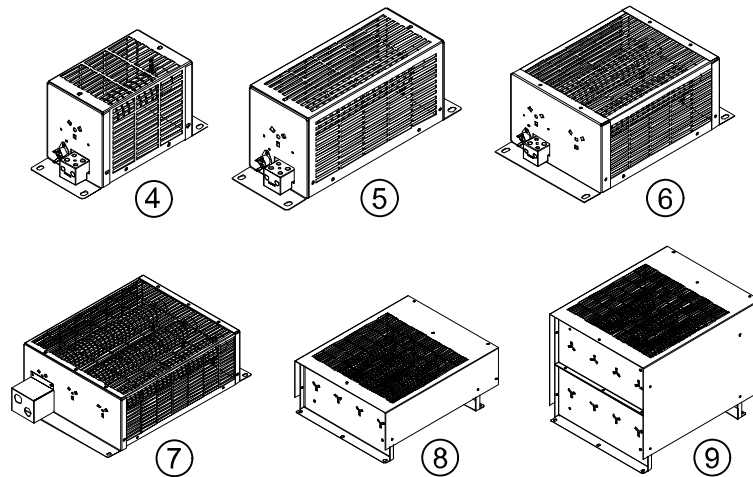
Item	Part No.	Description	Type	Output	Voltage	Frequency
3	3007022029+	Frequency inverter	M701-044	5.5 kW/15.0 A	400 V	50 ... 60 Hz
3	3007022030+	Frequency inverter	M701-054	11.0 kW/27.0 A	400 V	50 ... 60 Hz
3	3007022031+	Frequency inverter	M701-064	15.0 kW/35.0 A	400 V	50 ... 60 Hz
3	3007022032+	Frequency inverter	M701-064	18.5 kW/42.0 A	400 V	50 ... 60 Hz
3	3007022033+	Frequency inverter	M701-064	22.0 kW/47.0 A	400 V	50 ... 60 Hz
3	3007022034+	Frequency inverter	M701-074	30.0 kW/66.0 A	400 V	50 ... 60 Hz
3	3007022035+	Frequency inverter	M701-074	37.0 kW/77.0 A	400 V	50 ... 60 Hz
3	3007022036+	Frequency inverter	M701-074	45.0 kW/100.0 A	400 V	50 ... 60 Hz
3	3007022037+	Frequency inverter	M701-084	55.0 kW/134.0 A	400 V	50 ... 60 Hz
3	3007022038+	Frequency inverter	M701-084	75.0 kW/157.0 A	400 V	50 ... 60 Hz
3	3007022039+	Frequency inverter	M701-094	90.0 kW/200.0 A	400 V	50 ... 60 Hz
3	3007022040+	Frequency inverter	M701-094	110.0 kW/224.0 A	400 V	50 ... 60 Hz

### 4.5.1 Exchange

Item	Part No.	Description	Type	Output	Voltage	Frequency
3	3007022029A	Frequency inverter	M701-044	5.5 kW/15.0 A	400 V	50 ... 60 Hz
3	3007022030A	Frequency inverter	M701-054	11.0 kW/27.0 A	400 V	50 ... 60 Hz
3	3007022031A	Frequency inverter	M701-064	15.0 kW/35.0 A	400 V	50 ... 60 Hz
3	3007022032A	Frequency inverter	M701-064	18.5 kW/42.0 A	400 V	50 ... 60 Hz
3	3007022033A	Frequency inverter	M701-064	22.0 kW/47.0 A	400 V	50 ... 60 Hz
3	3007022034A	Frequency inverter	M701-074	30.0 kW/66.0 A	400 V	50 ... 60 Hz
3	3007022035A	Frequency inverter	M701-074	37.0 kW/77.0 A	400 V	50 ... 60 Hz
3	3007022036A	Frequency inverter	M701-074	45.0 kW/100.0 A	400 V	50 ... 60 Hz
3	3007022037A	Frequency inverter	M701-084	55.0 kW/134.0 A	400 V	50 ... 60 Hz
3	3007022038A	Frequency inverter	M701-084	75.0 kW/157.0 A	400 V	50 ... 60 Hz
3	3007022039A	Frequency inverter	M701-094	90.0 kW/200.0 A	400 V	50 ... 60 Hz
3	3007022040A	Frequency inverter	M701-094	110.0 kW/224.0 A	400 V	50 ... 60 Hz

### 4.5.2 Accessories

Item	Part No.	Description	Type
–	3007023550+	Mounting bracket	3470-0074-00
–	3007023352+	Smartcard programmed	AC SMARTCARD
–	3007022421	Certificate of origin	
–	3007022041+	Keypad	AC KI-KEYPAD LCD ZU M701

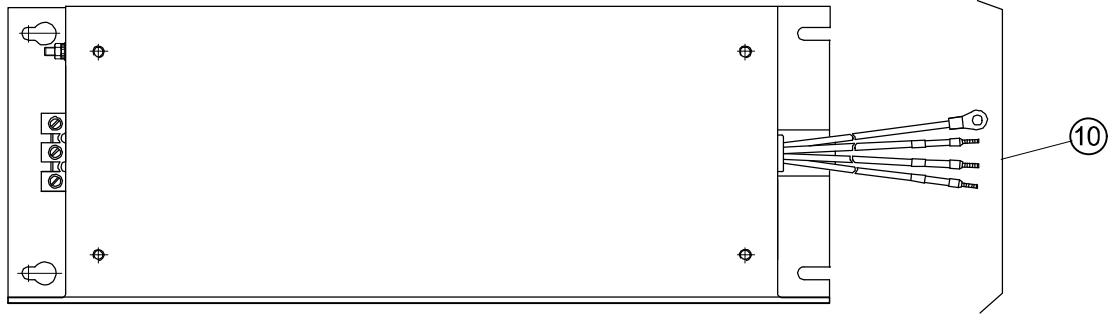


### 4.5.3 Braking resistor

Item	Part No.	Description	Type	to Unidrive M701-...
4	3007022115+	Braking resistor	ESH-35R-S-B-6004	044 5.5 kW 054 11.0 kW
5	3007023085+	Braking resistor	DBR3-1000W-40R-TS	044 5.5 kW 054 11.0 kW 064 15.0 kW 064 18.5 kW
6	3007023086+	Braking resistor	DBR3-2000W-40R-TS	064 15.0 kW 064 18.5 kW 064 22.0 kW 074 30.0 kW 074 37.0 kW 074 45.0 kW
7	3007023087+	Braking resistor	DBR3-4500W-20R-TS	074 30.0 kW 074 37.0 kW 074 45.0 kW 084 55.0 kW
8	3007023088+	Braking resistor	DBR3-6000W-20R-TS	074 30.0 kW 074 37.0 kW 074 45.0 kW 084 55.0 kW 084 75.0 kW
9	3007022058+	Braking resistor	ES8-11R-S-B- 9000	074 30.0 kW 074 37.0 kW 074 45.0 kW 084 55.0 kW 084 75.0 kW 094 90.0 kW

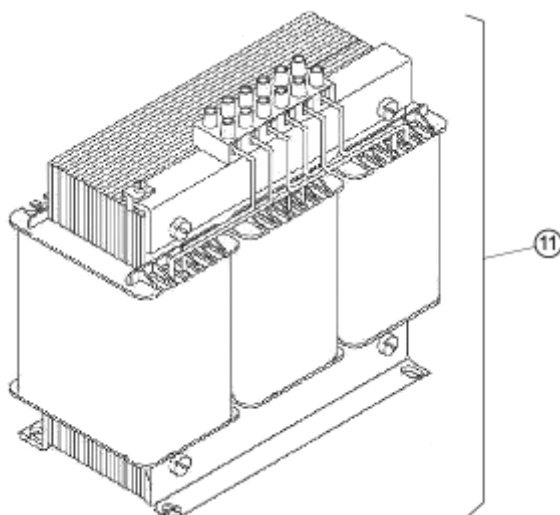
Item	Part No.	Description	Type	to Unidrive M701-...
-	3007013242+	Braking resistor	DBR24-12R-12000	074 30.0 kW 074 37.0 kW 074 45.0 kW 084 55.0 kW 084 75.0 kW 094 90.0 kW 094 110.0 kW
-	3007019265+	Braking resistor	DBR36-12R-18000	074 30.0 kW 074 37.0 kW 074 45.0 kW 084 55.0 kW 084 75.0 kW 094 90.0 kW 094 110.0 kW





#### 4.5.4 RFI mains filter

Item	Part No.	Description	Type	to Frame
10	3007022042+	RFI mains filter	RFI4200-0252	F4
10	3007021812+	RFI mains filter	RFI4200-0402	F5
10	3007022043+	RFI mains filter	RFI4200-4800	F6
10	3007022044+	RFI mains filter	RFI4200-1132	F7
10	3007022045+	RFI mains filter	RFI4200-1972	F8
10	3007023636+	RFI mains filter	RFI4200-3021	F9

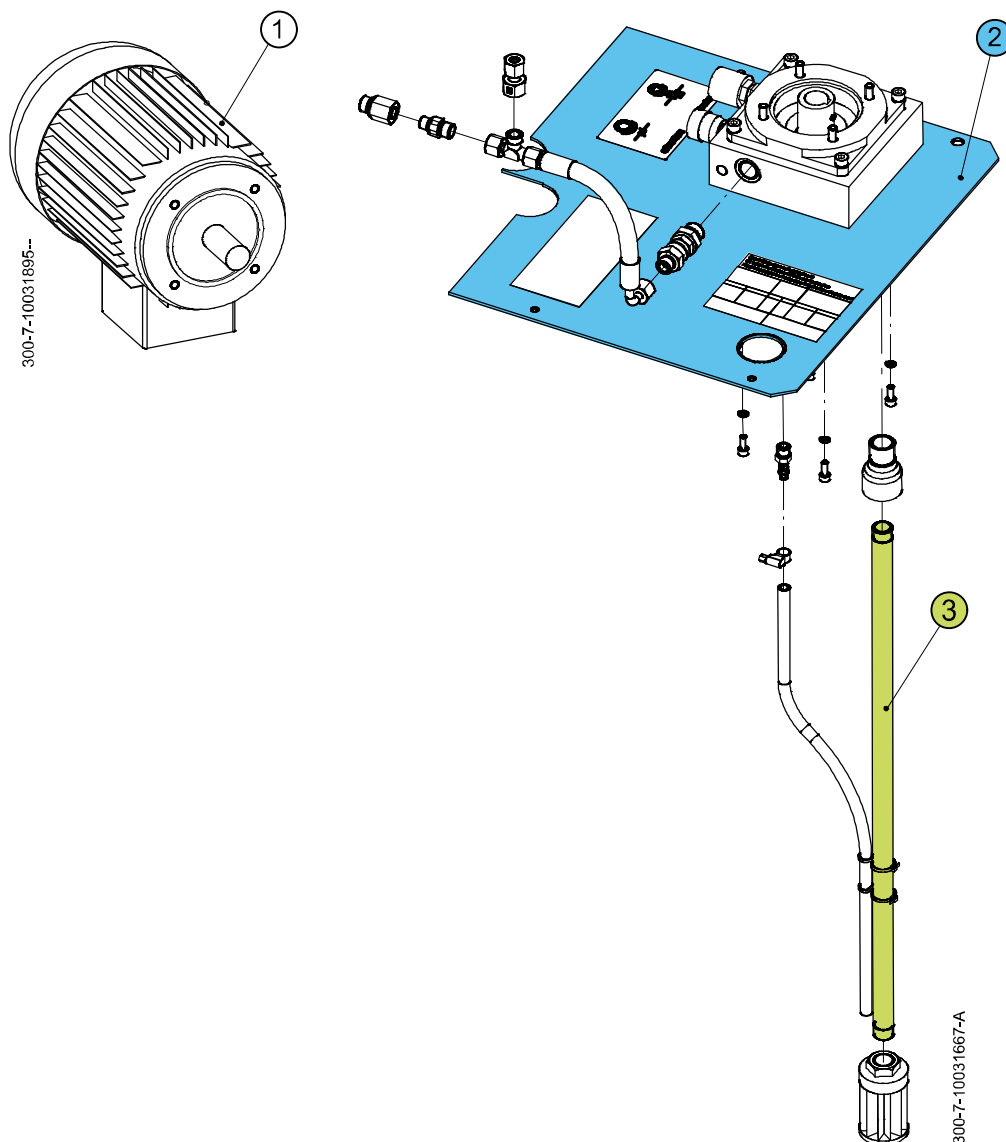


#### 4.5.5 Power choke

Item	Part No.	Description	Type	to Unidrive M701-...
11	3007021813+	Power choke	DDLI3-5.5KW 12.6A/3X2.6MH	044 5.5 kW
11	3007021814+	Power choke	DDLI3-11KW 22A/3X1.5MH	054 11.0 kW
11	3007022047+	Power choke	DDLI3-15KW H 29A/3X0.8MH	064 15.0 kW
11	3007022048+	Power choke	DDLI3-18.5KW 34.5A/3X0.8MH	064 18.5 kW
11	3007022049+	Power choke	DDLI3-22KW 38.4A/3X0.8MH	064 22.0 kW
11	3007022050+	Power choke	DDLI3-30KW 56A/3X0.3MH	074 30.0 kW
11	3007022051+	Power choke	DDLI3-37KW 65A/3X0.2MH	074 37.0 kW
11	3007022052+	Power choke	DDLI3-45KW 83A/3X0.2MH	074 45.0 kW
11	3007022053+	Power choke	DDLI3-55KW 118A/3X0.065MH	084 55.0 kW
11	3007022054+	Power choke	DDLI3-75KW 136A/3X0.065MH	084 75.0 kW
11	3007022055+	Power choke	DDLI3-90KW 180A/3X0.063MH	094 90.0 kW
11	3007022056+	Power choke	DDLI3-110KW 197A/3x0.063MH	094 110.0 kW



## 5 Relevelling unit



### 5.1 Motor for relevelling

Item	Part No.	Description	Output	Voltage	Frequency	Pump
1	3000040996+	Electric motor for relevelling	1.1 kW	230 / 400 V	50 Hz	N10
1	3000040997+	Electric motor for relevelling	1.5 kW	230 / 400 V	50 Hz	N16
1	3007017605+	Electric motor for relevelling	1.5 kW	230 V	50 Hz / 1 PH	N16
1	3000040998+	Electric motor for relevelling	2.2 kW	230 / 400 V	50 Hz	N25
1	3000040981+	Electric motor for relevelling	4.0 kW	230 / 400 V	50 Hz	N50

## 5.2 Cover for releveling

Item	Part No.	Description	Tank type	Valve		
–	3007022916	Rotating disc*	UDA 230			
2	3007015063	Cover	UDA 230	LRV 175		
2	3007015064	Cover	UDA 230	LRV 350		
–	3007022892	Rotating disc*	UD 350			
2	3007023091	Cover	UD 350	i250		
2	3007022892	Cover	UD 350	i500		
2	3000010511	Cover	UD 350	LRV 175		
2	3000010513	Cover	UD 350	LRV 350		
–	3007022895	Rotating disc*	UDA 400			
2	3007016112	Cover	UDA 400	LRV 700		
2	3000008015	Cover	UC 500	LRV 175 LRV 350 LRV 700		
–	3007022898	Rotating disc*	UD 500			
2	3000010514	Cover	UD 500	LRV 175		
2	3000010516	Cover	UD 500	LRV 700		
2	3007021297	Cover	UC 750	i500		
2	3000008069	Cover	UC 750	LRV 175 LRV 350 LRV 700		
2	3007021553 3007022950**	Cover	UD 800	i500		
2	3007022503	Cover	UC 1000	i500		
2	3000008070	Cover	UC 1000	LRV 175 LRV 350 LRV 700		
2	3000008070	Cover	UC 1200	LRV 175 LRV 350 LRV 700		
2	3007021553	Cover	UD 1300	i500		
2	3000008070	Cover	UC 1400	LRV 175 LRV 350 LRV 700		

\* At all cover versions from as of 2022

\*\* With output unit

### 5.3 Basic setup plus hydraulic pipe

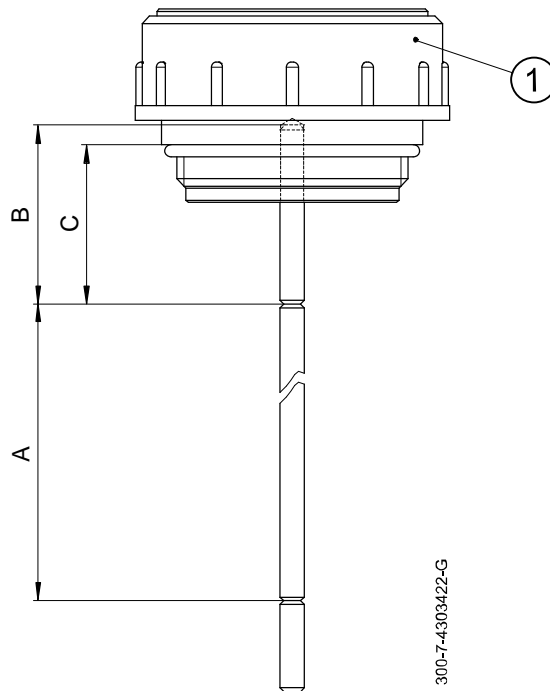
Pump	Basic setup	Valve	Item	UD 200	UDA 200	UEA 200	UDA 230	UC 250
N10	3000008036+	i250 / LRV 175-1	3	3000008073	3000008073	3000008073	3000008073	3000008072
N16	3000008038+	i500 / LRV 350-1	3	–	–	–	3000008073	3000008072
N25	3000008039+	2x i500 / LRV 700-1	3	–	–	–	–	–
N50	3000011162+	2x i500 / LRV 700-1	3	–	–	–	–	–

Pump	Basic setup	Valve	Item	UD 300A	UD 350	UDA 400	UDA 450A	UC 500
N10	3000008036+	i250 / LRV 175-1	3	–	3000008074	3007011242	–	3000008073
N16	3000008038+	i500 / LRV 350-1	3	3000008073	3000008074	3007011242	3000008073	3000008073
N25	3000008039+	2x i500 / LRV 700-1	3	–	3000008074	3007011242	3000008073	3000008073
N50	3000011162+	2x i500 / LRV 700-1	3	–	–	–	–	–

Pump	Basic setup	Valve	Item	UD 500	UC 750	UD 800	UC 1000	UC 1200
N10	3000008036+	i250 / LRV 175-1	3	3007011242	3000008074	3000008074	3000008075	–
N16	3000008038+	i500 / LRV 350-1	3	3007011242	3000008074	–	3000008075	3007017215
N25	3000008039+	2x i500 / LRV 700-1	3	3007011242	3000008074	3000008074	3000008075	–
N50	3000011162+	2x i500 / LRV 700-1	3	3000011160	3000011160	3000011160	3000011161	3007017234 3000055812

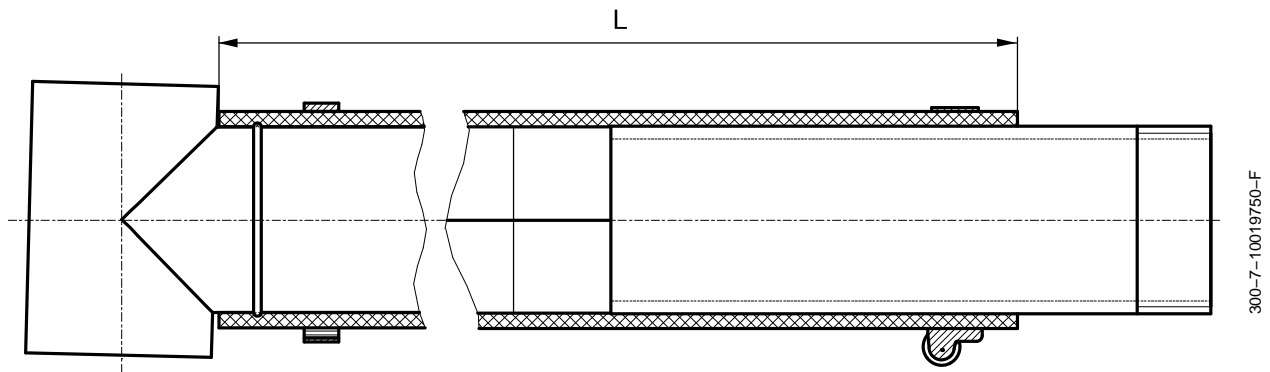
Pump	Basic setup	Valve	Item	UD 1300	UC 1300	
N10	3000008036+	i250 / LRV 175-1	3	–	3007017216	
N16	3000008038+	i500 / LRV 350-1	3	–	3007017216	
N25	3000008039+	2x i500 / LRV 700-1	3	3007022454	–	
N50	3000011162+	2x i500 / LRV 700-1	3	3007022455	3007017235 3007014091	

## 6 Oil filler neck plus bleed screw



Item	Part No.	Description	Tank type	A [mm]	B [mm]	C [mm]
1	3007014292+	Oil filler neck plus bleed screw	UDA 150 / C-UDA 150	361	46	42
1	3007015069+	Oil filler neck plus bleed screw	UDA 230 / UD 350	513	48	44
1	3007017244+	Oil filler neck plus bleed screw	UDA 400 / UD 500 UD 600 / UD 800	640	64	53
1	3007018675+	Oil filler neck plus bleed screw	UD 470	410	64	53
1	3007022289+	Oil filler neck plus bleed screw	UD 1300	1100	64	53
1	3000000855+	Oil filler neck plus bleed screw	UC 750	554	37	33
1	3000000856+	Oil filler neck plus bleed screw	UC 1000	754	37	33
1	3000010715+	Oil filler neck plus bleed screw	UC 1200	934	57	53
1	3000010716+	Oil filler neck plus bleed screw	UC 1400	1134	57	53
1	3007018087+	Oil filler neck plus bleed screw	TG2-15 MK2	712	46	42
1	3007015445+	Oil filler neck plus bleed screw	TG2-25 MK2	712	46	42
1	3007018448+	Oil filler neck plus bleed screw	ISA 130	858	66	62

## 7 Return



### 7.1 Return hose 1"

Spare parts article	Tank type	L [mm]	Valve
3007015932+	C-UDA 150	530	LRV 175 / 250
3007015102+	UDA 150	610	LRV 175 / 250
3000003078+	UDA 230	800	LRV 175 / 250
3000010948+	UD 350	800	LRV 175 / 250
3000010949+	UDA 400 / UD 500 / UD 600	980	LRV 175 / 250
3000006872+	UC 250	535	LRV 175 / 250
3000006875+	UC 500	715	LRV 175 / 250
3000006878+	UC 750	800	LRV 175 / 250
3000006881+	UC 1000	980	LRV 175 / 250

### 7.2 Return hose 1½"

Spare parts article	Tank type	L [mm]	Valve
3007015067+	UDA 230	780	LRV 350 / i500
3000010790+	UD 350	830	LRV 350 / i500
3000010791+	UDA 400 / UD 500 / UD 600	1020	LRV 350 / i500
3000006873+	UC 250	520	LRV 350 / i500
3000006876+	UC 500	700	LRV 350 / i500
3000006879+	UC 750	830	LRV 350 / i500
3007022239+	UD 800	1020	LRV 350 / i500
3000006883+	UC 1000	1020	LRV 350 / i500

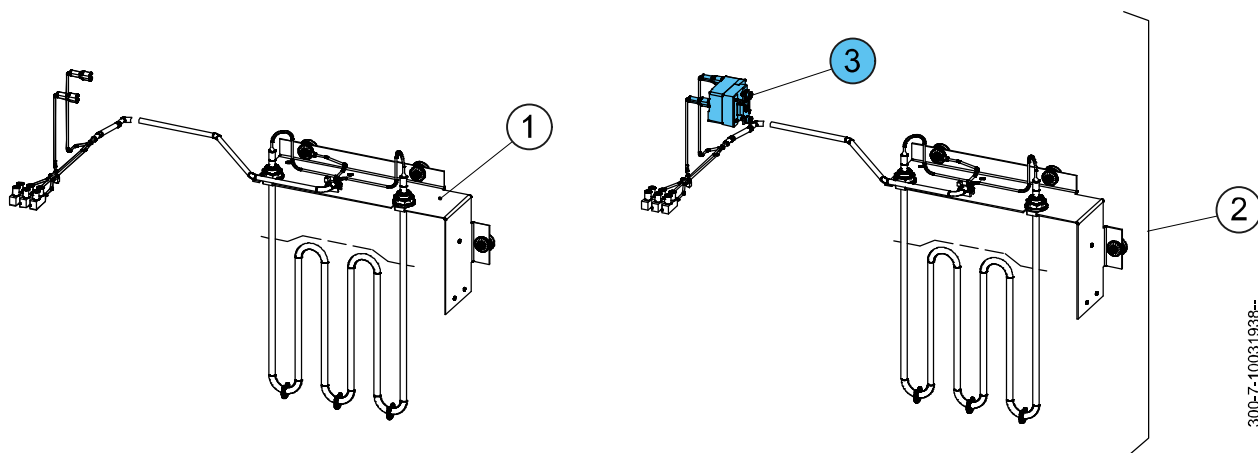


Spare parts article	Tank type	L [mm]	Valve
3007022244+	UD 1300	1420	LRV 350 / i500
3007022746+	UC 1400 / i500	1420	LRV 350 / i500

### 7.3 Return hose 2"

Spare parts article	Tank type	L [mm]	Valve
3000010792+	UD 500	1000	LRV 700
3000006877+	UC 500	680	LRV 700
3000006880+	UC 750	830	LRV 700
3000006884+	UC 1000	1000	LRV 700
3000010683+	UC 1200	1230	LRV 700
3000010684+	UC 1400	1430	LRV 700

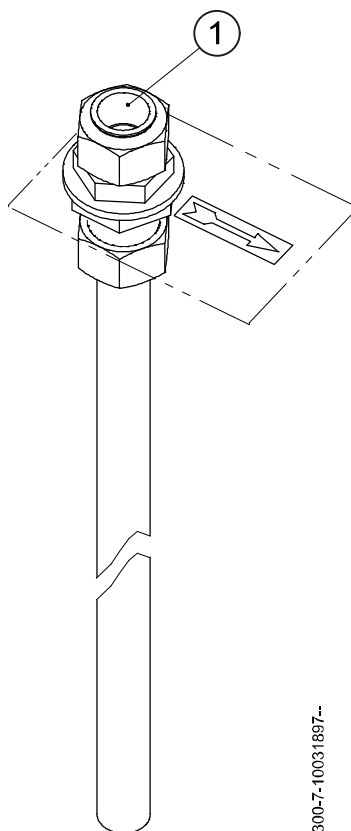
## 8 Heating



Item	Part No.	Description	Tank type	Voltage	
1	3007018855+	Heating without thermostat	UD / UC	400 VAC	
2	3007018557+	Heating incl. thermostat	UD / UC	230 VAC	
2	3007018975+	Heating incl. thermostat	UD / UC	400 VAC	
2	3007019024+	Heating incl. thermostat	TG2	400 VAC	
3	3000009524+	Thermostat			



## 9 Cooler connections



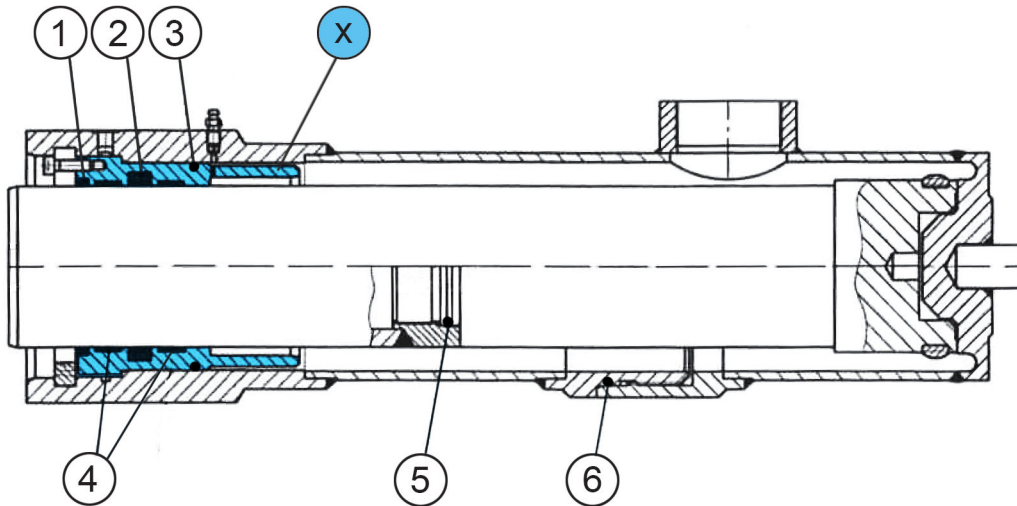
300-7-10031897--

Item	Part No.	Description	Dimension	Tank type
1	3000304621+	Cooler connection	K22	UD 350 / UC 750
1	3000304623+	Cooler connection	K22	UD 500 / UD 800 / UC 1000
1	3000303752+	Cooler connection	K22	UD 200 (230)
1	3000303871+	Cooler connection	K22	UD 100
1	3000302734+	Cooler connection	K22	UC 500
1	3007014341+	Cooler connection	K22	UDA 150
1	3007017206+	Cooler connection	K22	UC 1200
1	3007017211+	Cooler connection	K22	UC 1400 / UD 1300
1	3000305165+	Cooler connection	K28	UD 200 (230)
1	3000304622+	Cooler connection	K28	UD 350 / UC 750
1	3000304624+	Cooler connection	K28	UD 500 / UD 800 / UC 1000
1	3000302738+	Cooler connection	K28	UC 500
1	3007014093+	Cooler connection	K28	UC 1400 / UD 1300
1	3007017207+	Cooler connection	K28	UC 1200

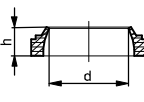
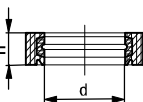
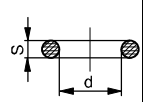
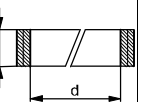
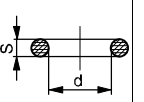
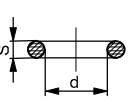
Item	Part No.	Description	Dimension	Tank type
1	3000304670+	Cooler connection	K35	UD 500 / UD 800 / UC 1000
1	3007017208+	Cooler connection	K35	UC 1200
1	3007010288+	Cooler connection	K35	UC 750
1	3007017212+	Cooler connection	K35	UC 1400 / UD 1300
1	3000305271+	Cooler connection	K50 / 42	UC 750
1	3007010620+	Cooler connection	K50 / 42	UD 500 / 800, UC 1000
1	3007017210+	Cooler connection	K50 / 42	UC 1200
1	3007017214+	Cooler connection	K50 / 42	UC 1400 / UD 1300

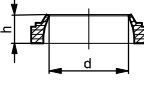
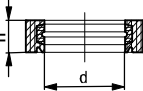
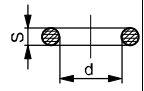
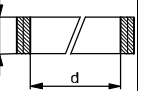
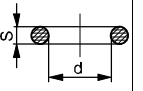
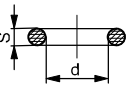
# 1 Plunger cylinder

## 1.1 Type series BZH – BZG




### 1.1.1 Seal Kit

Item		①	②	③	④	⑤	⑥						
Quantity		1	1	1	2	1	1						
Description		Wiper seal 	Rod seal 	O-ring 	Guide ring 	O-ring 	O-ring 						
Cylinder type	Part No.	d	h	d	h	d	S	d	h	d	S	d	S
BZH/BZG 50 NBR	3007013901	50	7	50	7.5	64.77	2.62	50	9.6	–	–	82.22	2.62
BZH/BZG 56 NBR	3007013902	56	7	56	12	75.87	2.62	56	9.6	–	–	94.92	2.62
BZH/BZG 60 NBR	3007013903	60	7	60	10	75.87	2.62	60	12.8	39.34	2.62	94.92	2.62
BZH/BZG 63 NBR	3007013904	63	7	63	12	82.22	2.62	63	12.8	39.34	2.62	101.27	2.62
BZH/BZG 70 NBR	3007013905	70	7	70	10	88.57	2.62	70	12.8	39.34	2.62	107.62	2.62
BZH/BZG 80 NBR	3007013906	80	7	80	10	94.92	2.62	80	12.8	39.34	2.62	113.97	2.62
BZH/BZG 85 NBR	3007013907	85	7	85	12	107.62	2.62	85	12.8	45.69	2.62	126.67	2.62
BZH/BZG 90 NBR	3007013908	90	7	90	12	107.62	2.62	90	12.8	45.69	2.62	126.67	2.62
BZH/BZG 95 NBR	3007013909	95	7	95	12	120.32	2.62	95	12.8	45.69	2.62	139.37	2.62
BZH/BZG 100 NBR	3007013910	100	7	100	12	120.32	2.62	100	12.8	45.25	2.62	139.37	2.62
BZH/BZG 110 NBR	3007013911	110	10	110	12	126.67	2.62	110	12.8	55.25	2.62	145.72	2.62
BZH/BZG 120 NBR	3007013912	120	10	120	16	145.72	2.62	120	12.8	63.17	2.62	164.77	2.62
BZH/BZG 125 NBR	3007013913	125	10	125	16	145.72	2.62	125	12.8	63.17	2.62	164.77	2.62

Item		①	②	③	④	⑤	⑥						
Quantity		1	1	1	2	1	1						
Description		 Wiper seal	 Rod seal	 O-ring	 Guide ring	 O-ring	 O-ring						
Cylinder type	Part No.	d	h	d	h	d	S	d	h	d	S	d	S
BZH/BZG 130 NBR	3007013914	130	10	130	12	145.72	2.62	130	12.8	63.17	2.62	164.77	2.62
BZH/BZG 140 NBR	3007013915	140	10	130	16	164.77	2.62	130	12.8	75.87	2.62	190.17	2.62
BZH/BZG 150 NBR	3007013916	150	10	150	16	171.12	2.62	150	12.8	75.87	2.62	190.17	2.62
BZH/BZG 160 NBR	3007013917	160	10	160	16	190.17	2.62	160	19.2	94.92	2.62	215.57	2.62
BZH/BZG 170 NBR	3007013918	170	10	170	16	209.22	2.62	170	19.2	113.97	2.62	240.97	2.62
BZH/BZG 180 NBR	3007013919	180	10	180	16	209.22	2.62	180	19.2	113.97	2.62	240.97	2.62
BZH/BZG 185 NBR	3007013920	185	9	185	16	209.22	2.62	185	19.2	113.97	2.62	240.97	2.62
BZH/BZG 200 NBR	3007013921	200	10.2	200	16	240.89	3.53	200	25	151.99	3.53	266.29	3.53
BZH/BZG 210 NBR	3007013922	210	10.2	210	16	240.89	3.53	210	25	164.69	3.53	266.29	3.53
BZH/BZG 220 NBR	3007013923	220	10.2	220	16	253.37	5.33	220	25	171.04	3.53	291.47	5.33
BZH/BZG 230 NBR	3007013924	230	10.2	230	16	253.37	5.33	230	25	183.74	3.53	291.47	5.33
BZH/BZG 240 NBR	3007013925	240	10.2	240	16	278.77	5.33	240	25	190.09	3.53	316.87	6.99
BZH/BZG 290 NBR	3007013928	290	10.2	290	16	316.87	6.99	290	25	240.89	3.53	354.97	6.99

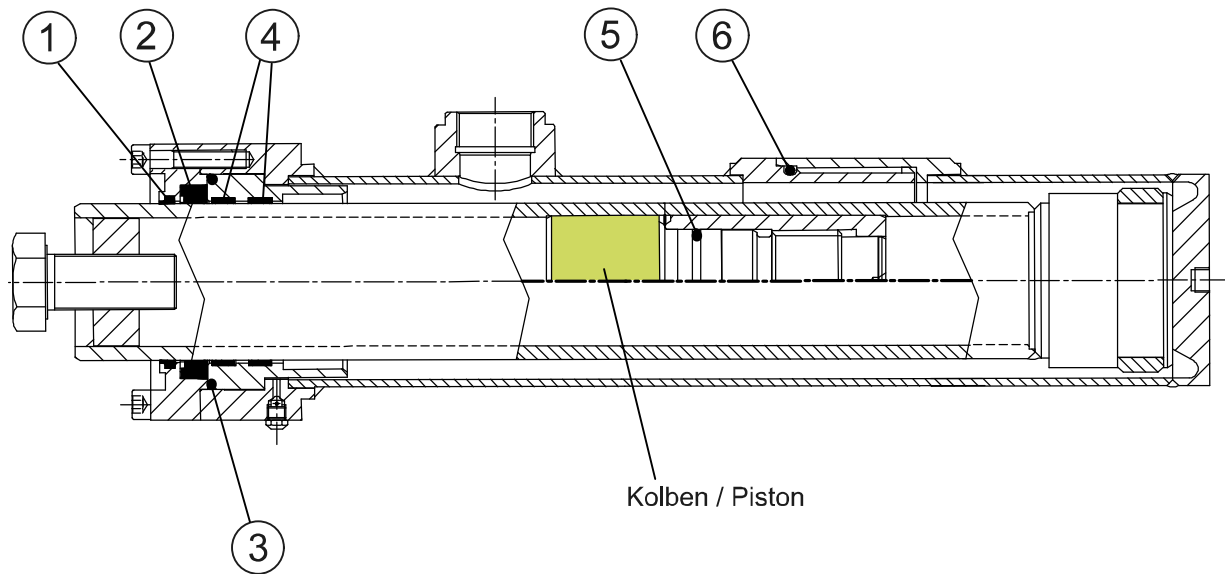
### 1.1.2 Guide bush with rod seal complet

Item 					
Cylinder type	Part no.	Cylinder type	Part no.	Cylinder type	Part no.
SLV BZG 60	3000010547	SLV BZG 95	3000010554	SLV BZG 130	3000010559
SLV BZG 80	3000010550	SLV BZG 100	3000010555	SLV BZG 170	3000010564
SLV BZG 85	3000010551	SLV BZG 110	3000010556	SLV BZG 180	3000010565
SLV BZG 90	3000010552	SLV BZG 120	3000010557		

### 1.1.3 Accessories

Cylinder type	Description	Part no.
SCW M 8 BZH	Bleed screw	3000009459
CON WES 8/R1/8 PA 6	Hose connection	3000053873
HOS PVC 8/12 L= 10 M	Hose transparent	3007018466
HOS PVC 8/12 L= 15 M	Hose transparent	3007018467

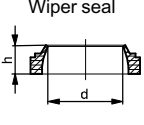
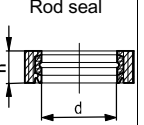
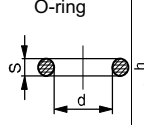
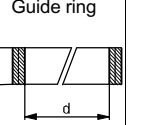
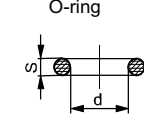
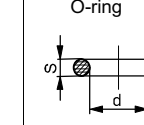
## 1.2 Type series BZML – BZML



### 1.2.1 Seal Kit

Item		①		②		③		④		⑤			⑥	
Quantity		1		1		1		2		1			1	
Description		Wiper seal		Rod seal		O-ring		Guide ring		O-ring			O-ring	
Cylinder type	Part No.	d	h	d	h	d	S	d	h	Ø Piston	d	S	d	S
BZML/BZMH 50	3007018044	50	5.3	50	11	91.67	3.53	50	9.7	-	-	-	-	-
BZML/BZMH 60	3007018045	60	5.3	60	13	91.67	3.53	60	12.8	-	-	-	-	-
BZML/BZMH 70	3007018046	70	5.3	70	12.5	101.2	3.53	70	12.8	5 7.5	39.69	3.53	113.7	5.34
BZML/BZMH 80	3007018047	80	5.3	80	14.5	110.7	3.53	80	12.8	5 7.5 12	49.21 39.69	3.53 3.53	113.7	5.34
BZML/BZMH 85	3007018048	85	5.3	85	14.5	110.7	3.53	85	12.8	7.5	49.21	3.53	113.7	5.34
BZML/BZMH 90	3007018049	90	7.1	90	12.5	120.2	3.53	90	12.8	5 7.5 12	49.21	3.53	133.4	5.34
BZML/BZMH 100	3007018050	100	7.1	100	12	129.8	3.53	100	12.8	5 7.5 12	63.50 49.21	3.53 3.53	142.9	5.34
BZML/BZMH 110	3007018051	110	7.1	110	12.5	139.3	3.53	110	12.8	5 7.5 12	73.03 63.50	3.53 3.53	164.5	6.99

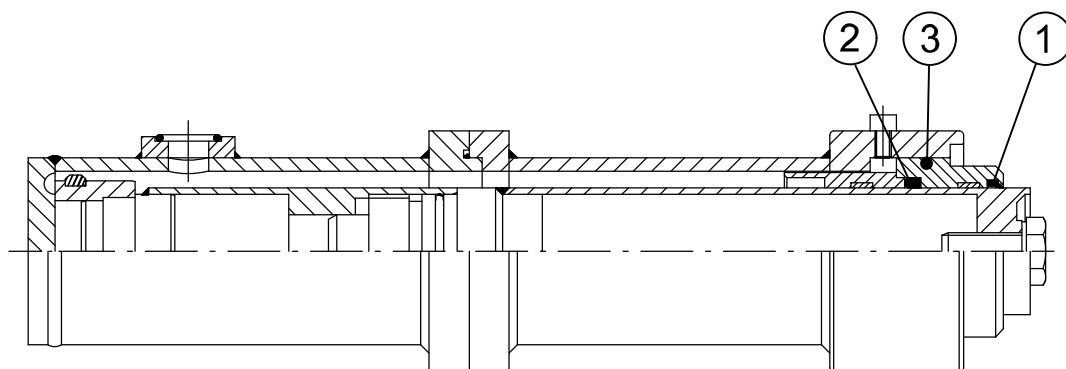


Item		①		②		③		④		⑤			⑥	
Quantity		1		1		1		2		1			1	
Description														
Cylinder type	Part No.	d	h	d	h	d	S	d	h	Ø Piston	d	S	d	S
BZML/BZMH 120	3007018052	120	7.1	120	12.5	148.8	3.53	120	12.8	5	62.14	3.53	164.5	6.99
										7.5				
										12				
BZML/BZMH 130	3007018053	130	7.1	130	15	158.8	3.53	130	12.8	5	91.67	3.53	177.2	6.99
										7.5				
										12				
BZML/BZMH 150	3007018054	150	7.1	150	13	183.7	3.53	150	12.8	6 10	98.02	3.53	200.0	6.99
BZML/BZMH 160	3007018055	160	10.1	160	16	190.1	3.53	160	19.2	10	98.02	3.53	221.6	6.99
BZML/BZMH 180	3007018056	180	10.1	180	12.5	209.1	3.53	180	19.2	10	129.8	3.53	247.0	6.99
BZML/BZMH 200	3007018057	200	10.1	200	14.5	234.5	3.53	200	19.2	10	148.8	3.53	272.4	6.99

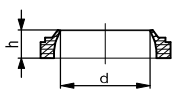
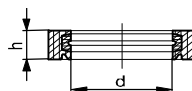
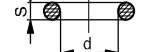
## 1.2.2 Accessories

Cylinder type	Description	Part no.
ET SCW BZMH/BZML M10	Bleed screw	3007018238
CON WES 8/R1/8 PA 6	Hose connection	3000053873
HOS PVC 8/12 L= 10 M	Hose transparent	3007018466
HOS PVC 8/12 L= 15 M	Hose transparent	3007018467

## 1.3 Type series BZP

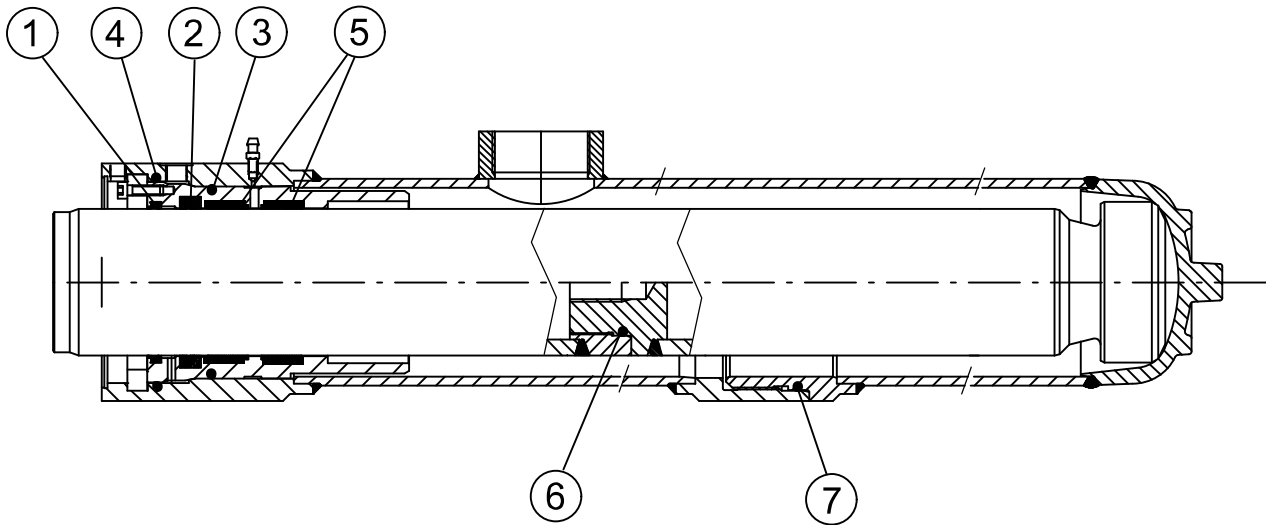


### 1.3.1 Seal Kit

Item	①		②		③		
Quantity	1		1		1		
Description	Wiper seal 		Rod seal 		O-ring 		
Cylinder type	Part No.	d	h	d	h	d	S
BZP 50 NBR	3007015031	50	11	50	5.3	78.97	3.53
BZP 60 NBR	3007015032	60	13	60	5.3	88.5	3.53
BZP 70 NBR	3007015033	70	12	70	5.3	98.02	3.53
BZP 80 NBR	3007015034	80	12	80	5.3	113.9	3.53
BZP 90 NBR	3007015035	90	12.5	90	7.1	123.4	3.53
BZP 100 NBR	3007015036	100	12	100	7.1	132.9	3.53
BZP 110 NBR	3007015037	110	12.5	110	7.1	142.5	3.53
BZP 120 NBR	3007015038	120	12.5	120	7.1	152	3.53
BZP 130 NBR	3007015039	130	16	130	7.1	164.7	3.53
BZP 150 NBR	3007015040	150	14.5	150	7.1	183.7	3.53
BZP 180 NBR	3007015041	180	21	180	10.1	227.96	5.34
BZP 200 NBR	3007015042	200	14.5	200	10.1	247.01	5.34
BZP 230 NBR	3007015043	230	20.5	230	10.1	278.76	5.34

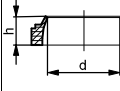
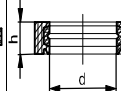
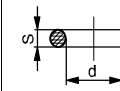
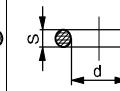
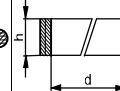
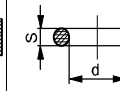
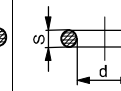


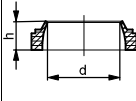
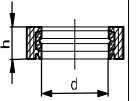
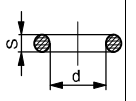
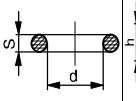
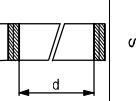
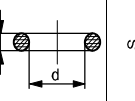
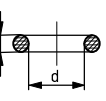
## 1.4 Type series BZE



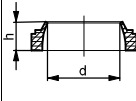
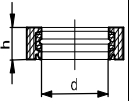
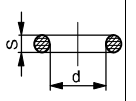
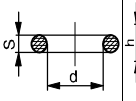
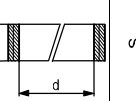
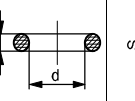
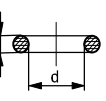
### 1.4.1 Seal Kit

Yellow rod seal from year of production 1.1.1992

Item		①	②	③	④	⑤	⑥	⑦							
Quantity		1	1	1	1	2	1	1							
Description		Wiper seal 	Rod seal 	O-ring 	O-ring 	Guide ring 	O-ring 	O-ring 							
Cylinder type	Part No.	d	h	d	h	d	S	d	S	d	h	d	S	d	S
BZE 50	3000004995	50	6	50	10	63.17	2.62	75.87	2.62	50	14.8	-	-	88.57	2.62
BZE 56	3000004996	56	6	56	12	72.69	2.62	88.57	2.62	56	14.8	-	-	94.92	2.62
BZE 63	3000004997	63	6	63	12	82.22	2.62	94.92	2.62	63	14.8	39.34	2.62	101.27	2.62
BZE 70	3000004998	70	6	70	12	88.57	2.62	101.27	2.62	70	14.8	44.12	2.62	107.62	2.62
BZE 80	3000004999	80	6	80	12	101.27	2.62	113.97	2.62	80	24.5	52.07	2.62	113.97	2.62
BZE 90	3000005000	90	6	90	12	107.62	2.62	126.67	2.62	90	24.5	59.99	2.62	126.67	2.62
BZE 100	3000005001	100	6	100	14	126.67	2.62	139.37	2.62	100	24.5	59.99	2.62	139.37	2.62
BZE 110	3000005002	110	8.2	110	12	133.02	2.62	145.72	2.62	110	24.5	67.95	2.62	152.07	2.62
BZE 125	3000005003	125	8.2	125	16	151.99	3.53	164.69	3.53	126	24.5	82.22	2.62	177.47	2.62
BZE 140	3000005004	140	8.2	140	16	171.04	3.53	183.74	3.53	140	24.5	94.92	2.62	190.09	3.53
BZE 160	3000005005	160	8.2	160	16	196.44	3.53	209.14	3.53	160	24.5	113.97	2.62	215.49	3.53
BZE 180	3000005006	180	8.2	180	16	215.49	3.53	228.19	3.53	180	24.5	133.02	2.62	240.89	3.53

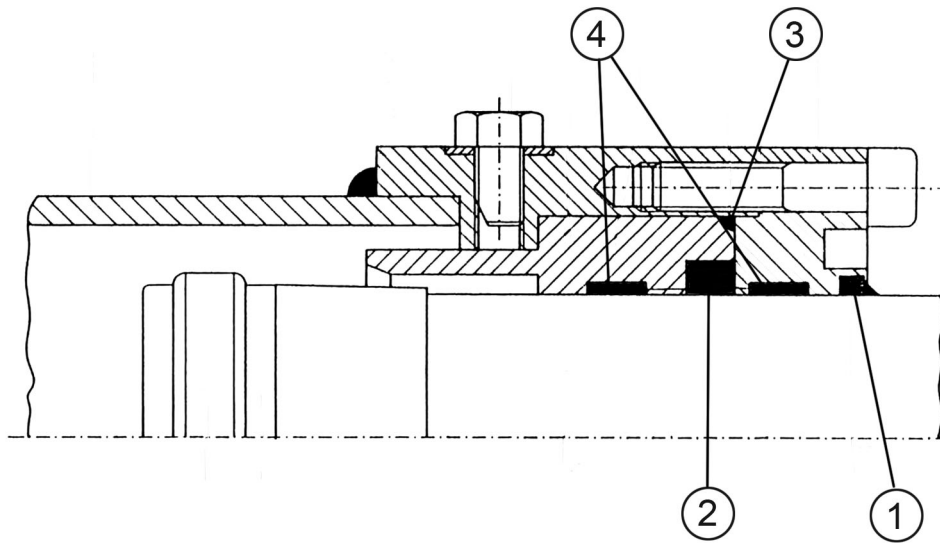
Item		①	②	③	④	⑤	⑥	⑦							
Quantity		1	1	1	1	2	1	1							
Description		Wiper seal 	Rod seal 	O-ring 	O-ring 	Guide ring 	O-ring 	O-ring 							
Cylinder type	Part No.	d	h	d	h	d	S	d	S	d	h	d	S	d	S
BZE 200	3000005007	200	8.2	200	16	240.89	3.53	253.37	5.33	200	24.5	151.99	3.53	266.29	3.53
BZE 220	3000005008	220	9.5	220	16	253.37	5.33	278.77	5.33	220	24.5	171.04	3.53	291.69	3.53

**Green rod seal until year of production 31.12.1991**

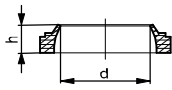
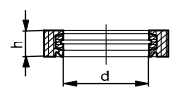
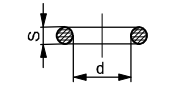
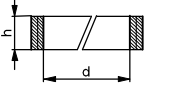
Item		①	②	③	④	⑤	⑥	⑦							
Quantity		1	1	1	1	2	1	1							
Description		Wiper seal 	Rod seal 	O-ring 	O-ring 	Guide ring 	O-ring 	O-ring 							
Cylinder type	Part No.	d	h	d	h	d	S	d	S	d	h	d	S	d	S
BZE 50	3000006545	50	6	50	7.3	63.17	2.62	75.87	2.62	50	14.8	–	–	88.57	2.62
BZE 56	3000006546	56	6	56	11.4	72.69	2.62	88.57	2.62	56	14.8	–	–	94.92	2.62
BZE 63	3000006547*	63	6	63	11.4	82.22	2.62	94.92	2.62	63	14.8	39.34	2.62	101.27	2.62
BZE 70	3000006548	70	6	70	11.4	88.57	2.62	101.27	2.62	70	14.8	44.12	2.62	107.62	2.62
BZE 80	3000006549	80	6	80	11.4	101.27	2.62	113.97	2.62	80	24.5	52.07	2.62	113.97	2.62
BZE 90	3000006550	90	6	90	11.4	107.62	2.62	126.67	2.62	90	24.5	59.99	2.62	126.67	2.62
BZE 100	3000006552	100	6	100	14.5	126.67	2.62	139.37	2.62	100	24.5	59.99	2.62	139.37	2.62
BZE 110	3000006553	110	8.2	110	14.5	133.02	2.62	145.72	2.62	110	24.5	67.95	2.62	152.07	2.62
BZE 125	3000006554	125	8.2	125	14.5	151.99	3.53	164.69	3.53	126	24.5	82.22	2.62	177.47	2.62
BZE 140	3000006555	140	8.2	140	14.5	171.04	3.53	183.74	3.53	140	24.5	94.92	2.62	190.09	3.53
BZE 160	3000006556	160	8.2	160	18.2	196.44	3.53	209.14	3.53	160	24.5	113.97	2.62	215.49	3.53
BZE180	3000006557	180	8.2	180	18.2	215.49	3.53	228.19	3.53	180	24.5	133.02	2.62	240.89	3.53
BZE 200	3000006558	200	8.2	200	18.2	240.89	3.53	253.37	5.33	200	24.5	151.99	3.53	266.29	3.53
BZE 220	3000006559	220	9.5	220	22.7	253.37	5.33	278.77	5.33	220	24.5	171.04	3.53	291.69	3.53

\* This article is no longer available

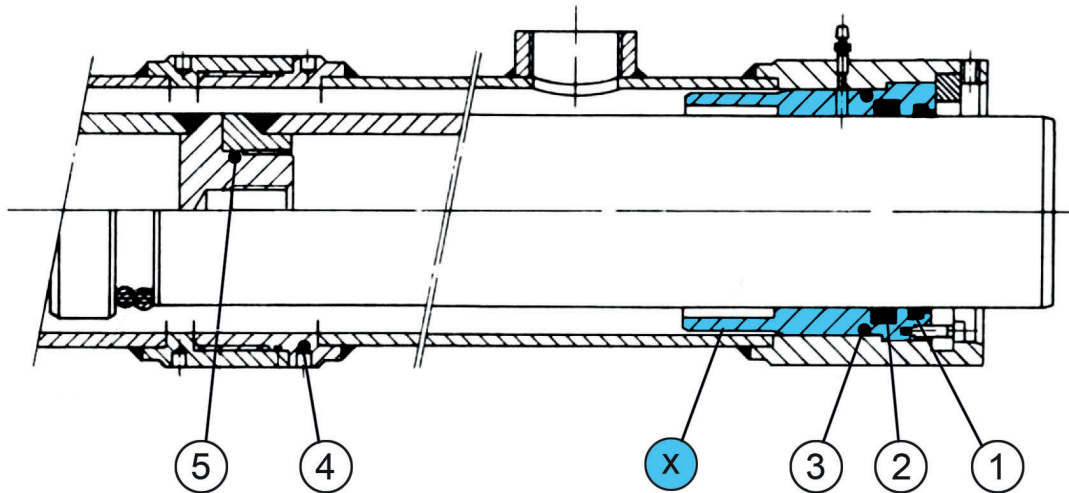
1.5 Type series BZO



1.5.1 Seal Kit

Item		①	②	③	④				
Quantity		1	1	1	2				
Description		Wiper seal 	Rod seal 	O-ring 	Guide ring 				
Cylinder type	Part No.	d	h	d	h	d	S	d	h
BZO 60	3000008935	60	5.3	60	13	85.32	3.53	60	12.8
BZO 70	3000008936	70	5.3	70	12	94.84	3.53	70	12.8
BZO 80	3000008937	80	5.3	80	12	107.54	3.53	80	12.8
BZO 90	3000008938	90	7.1	90	12.5	113.89	3.53	90	12.8
BZO 100	3000008939	100	7.1	100	11.5	123.42	3.53	100	12.8
BZO 110	3000008940	110	7.1	110	12.5	139.29	3.53	110	12.8
BZO 120	3000008941	120	7.1	120	12.5	148.82	3.53	120	12.8
BZO 130	3000008942	130	7.1	130	18.8	164.69	3.53	130	12.8
BZO 150	3000008943	150	7.1	150	14.5	183.74	3.53	150	19.2
BZO 200	3000008945	200	10.1	200	14.5	234.54	3.53	200	19.2
BZO 230	3000008947	230	10.1	230	20.5	278.77	3.53	230	19.2

## 1.6 Type series BZK

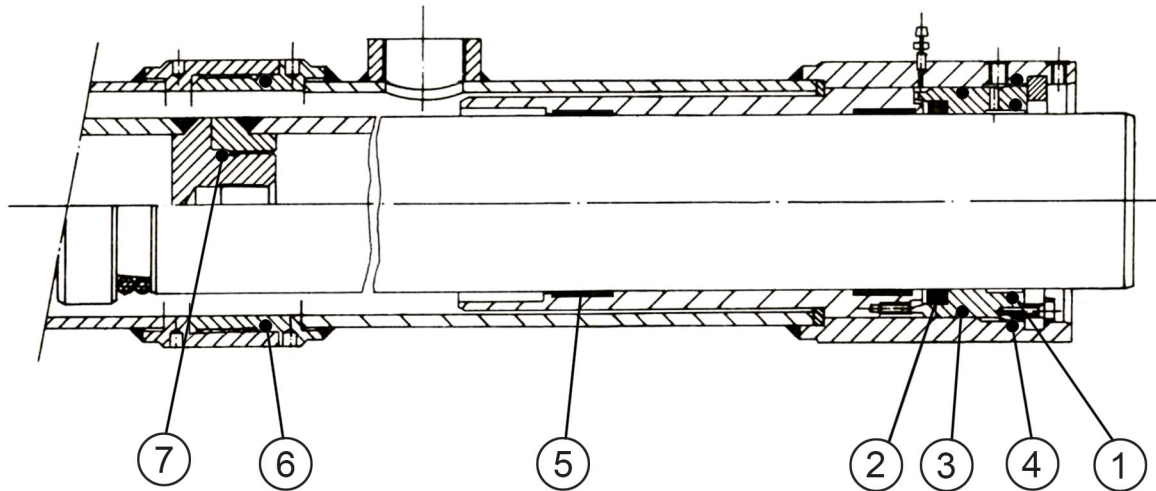


### 1.6.1 Guide bush with rod seal complet

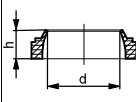
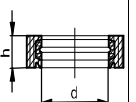
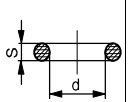
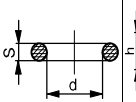
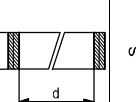
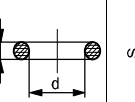
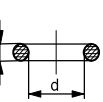
Item <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">X</span>											
Item		<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">1</span>		<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">2</span>		<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">3</span>		<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span>		<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">5</span> *	
Quantity		1		1		1		1		1	
Description		Wiper seal		Rod seal		O-ring		O-ring		O-ring	
Cylinder type	Part No.	d	h	d	h	d	S	d	S	d	S
SPP SLV BZK 50	3007023436	50	7	50	7.5	64.77	2.62	82.22	2.62	–	–
SPP SLV BZK 60	3007023437	60	7	60	10	75.87	2.62	94.92	2.62	–	–
SPP SLV BZK 70	3007023438	70	7	70	10	88.57	2.62	107.62	2.62	–	–
SPP SLV BZK 80	3007023439	80	7	80	10	94.92	2.62	113.97	2.62	39.34	2.62
SPP SLV BZK 90	3007023440	90	7	90	12	107.62	2.62	126.67	2.62	45.69	2.62
SPP SLV BZK 100	3007023441	100	7	100	12	120.32	2.62	139.37	2.62	55.25	2.62
SPP SLV BZK 110	3007023442	110	10	110	12	126.67	2.62	145.72	2.62	55.25	2.62
SPP SLV BZK 120	3007023443	120	10	120	16	145.72	2.62	164.77	2.62	63.17	2.62
SPP SLV BZK 140	3007023444	140	10	140	16	164.77	2.62	190.17	2.62	75.87	2.62
SPP SLV BZK 160	3007023445	160	10	160	16	190.17	2.62	215.57	2.62	94.92	2.62
SPP SLV BZK 180	3007023446	180	10	180	16	209.22	2.62	240.97	2.62	113.97	2.62

\* Piston rod, two-part, made of solid material has no o-ring (BZK 80, 90, 100)

## 1.7 Type series BZC



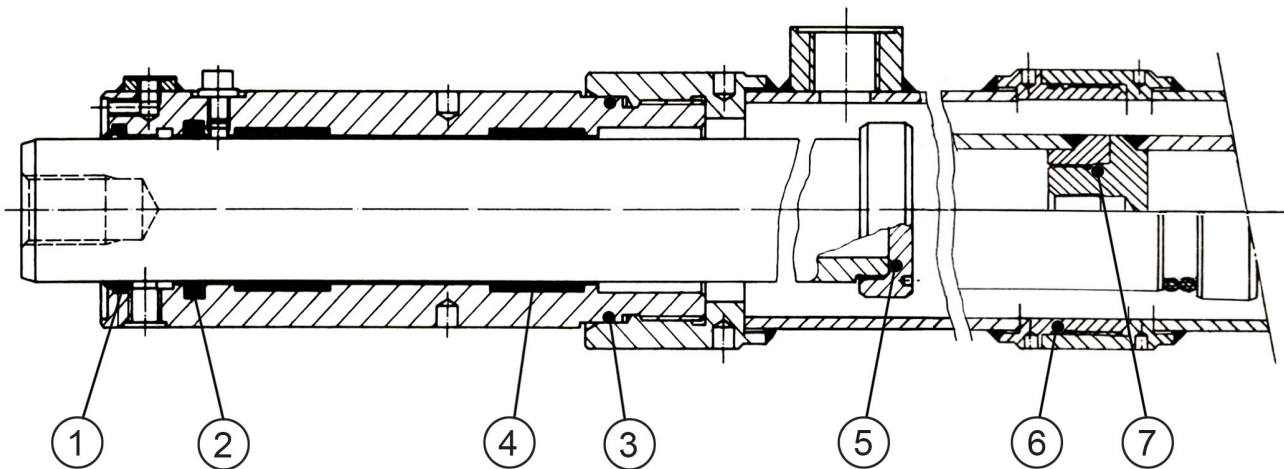
### 1.7.1 Seal Kit

Item	①	②	③	④	⑤	⑥	⑦*								
Quantity	1	1	1	1	2	1	1								
Description	Wiper seal 	Rod seal 	O-ring 	O-ring 	Guide ring 	O-ring 	O-ring 								
Cylinder type	Part No.	d	h	d	h	d	S	d	S	d	h	d	S	d	S
BZC 50	3000053166	50	8	50	7.5	69.52	2.62	75.87	2.62	50	35	82.22	2.62	-	-
BZC 60	3000053174	60	8	60	10	82.22	2.62	88.57	2.62	60	35	94.92	2.62	-	-
BZC 70	3000053182	70	8	70	10	88.57	2.62	101.27	2.62	70	35	107.62	2.62	-	-
BZC80	3000053200	80	8	80	10	101.27	2.62	113.97	2.62	80	35	113.97	2.62	39.34	2.62
BZC 90	3000053208	90	8	90	12	113.97	2.62	126.67	2.62	90	35	126.67	2.62	45.69	2.62
BZC 100	3000053216	100	8	100	12	120.32	2.62	133.02	2.62	100	35	139.37	2.62	55.25	2.62
BZC 110	3000053224	110	11	110	12	133.02	2.62	145.72	2.62	110	35	145.72	2.62	55.25	2.62
BZC 120	3000053232	120	11	120	16	145.72	2.62	164.77	2.62	120	35	164.77	2.62	63.17	2.62
BZC 140	3000053242	140	11	140	16	171.12	2.62	183.82	2.62	140	35	190.17	2.62	75.87	2.62
BZC 160	3000053257	160	11	160	16	190.17	2.62	209.22	2.62	160	35	215.57	2.62	94.92	2.62
BZC 180	3000053265	180	11	180	16	215.57	2.62	234.62	2.62	180	35	240.97	2.62	113.97	2.62

\* Piston rod, two-part, made of solid material has no o-ring (BZC 80, 90, 100)



## 1.8 Type series BZB

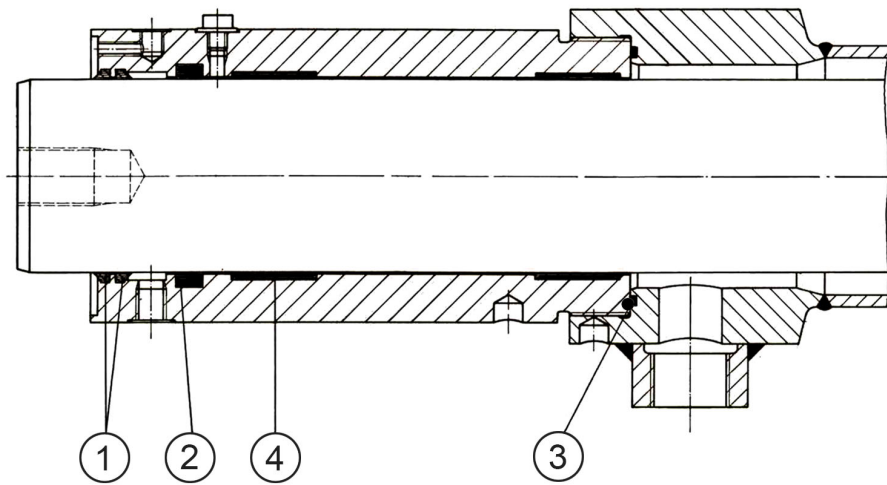


### 1.8.1 Seal Kit

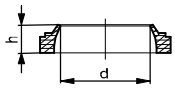
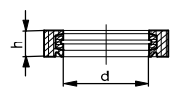
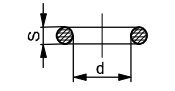
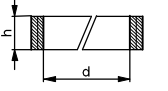
Item		①	②	③	④	⑤	⑥*	⑦*							
Quantity		1	1	1	2	1	1	1							
Description		Wiper seal	Rod seal	O-ring	Guide ring	O-ring	O-ring	O-ring							
Cylinder type	Part No.	d	h	d	h	d	S	d	h	d	S	d	S	d	S
BZB 50	3000053165	50	8	50	7.5	69.52	2.62	50	35	-	-	82.22	2.62	-	-
BZB 60	3000053173	60	8	60	10	82.22	2.62	60	35	-	-	94.92	2.62	-	-
BZB 70	3000053181	70	8	70	10	88.57	2.62	70	35	-	-	107.62	2.62	-	-
BZB 80	3000053199	80	8	80	10	101.27	2.62	80	35	-	-	113.97	2.62	-	-
BZB 90	3000053207	90	8	90	12	113.97	2.62	90	35	-	-	126.67	2.62	-	-
BZB 100	3000053215	100	8	100	12	120.32	2.62	100	35	-	-	139.37	2.62	-	-
BZB 110	3000053223	110	11	110	12	133.02	2.62	110	35	88.57	2.62	145.72	2.62	55.25	2.62
BZB 120	3000053231	120	11	120	16	145.72	2.62	120	35	101.27	2.62	158.42	2.62	63.17	2.62
BZB 140	3000053250	140	11	140	12	158.42	2.62	140	35	120.32	2.62	183.82	2.62	82.22	2.62
BZB 180	3000053264	180	11	180	16	202.87	2.62	180	35	158.42	2.62	234.62	2.62	107.62	2.62

\* Items 6 + 7 are only installed on 2-part cylinders.

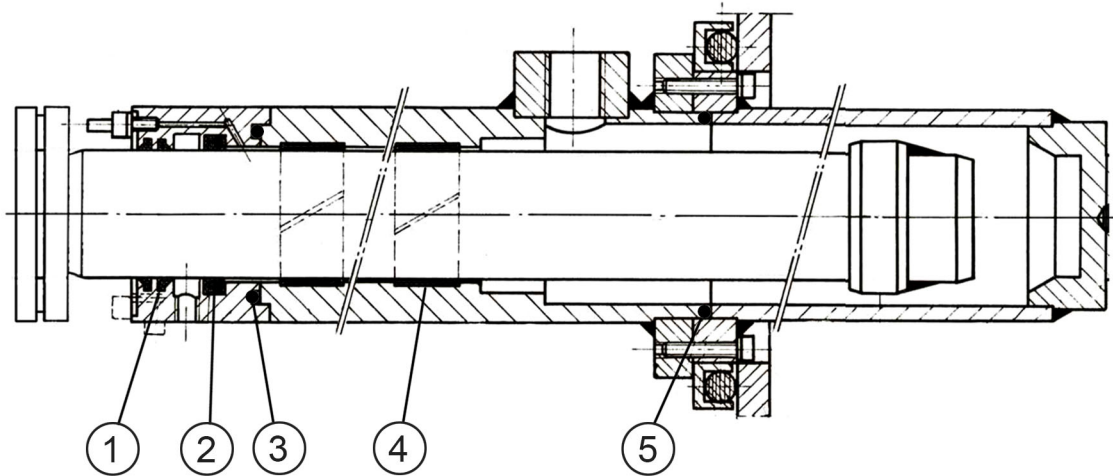
1.9 Type series BZA



1.9.1 Seal Kit

Item		①	②	③	④				
Quantity		1	1	1	2				
Description		Wiper seal 	Rod seal 	O-ring 	Guide ring 				
Cylinder type	Part No.	d	h	d	h	d	S	d	h
BZA 50	3000053058	50	7	50	7.5	64.77	2.62	35	12.8
BZA 60	3000053066	60	7	60	10	75.87	2.62	35	12.8
BZA 70	3000053074	70	7	70	10	88.57	2.62	35	12.8
BZA 80	3000053082	80	7	80	10	94.92	2.62	80	12.8
BZA 90	3000053090	90	7	90	12	107.62	2.62	90	12.8
BZA 100	3000053108	100	7	100	12	120.32	2.62	100	12.8
BZA 110	3000053116	110	10	110	12	133.02	2.62	110	12.8
BZA 120	3000053124	120	10	120	16	139.37	2.62	120	12.8
BZA 140	3000053132	140	10	140	12	164.77	2.62	140	19.2
BZA 160	3000053140	160	10	160	16	202.87	2.62	160	19.2

## 1.10 Type series LZ

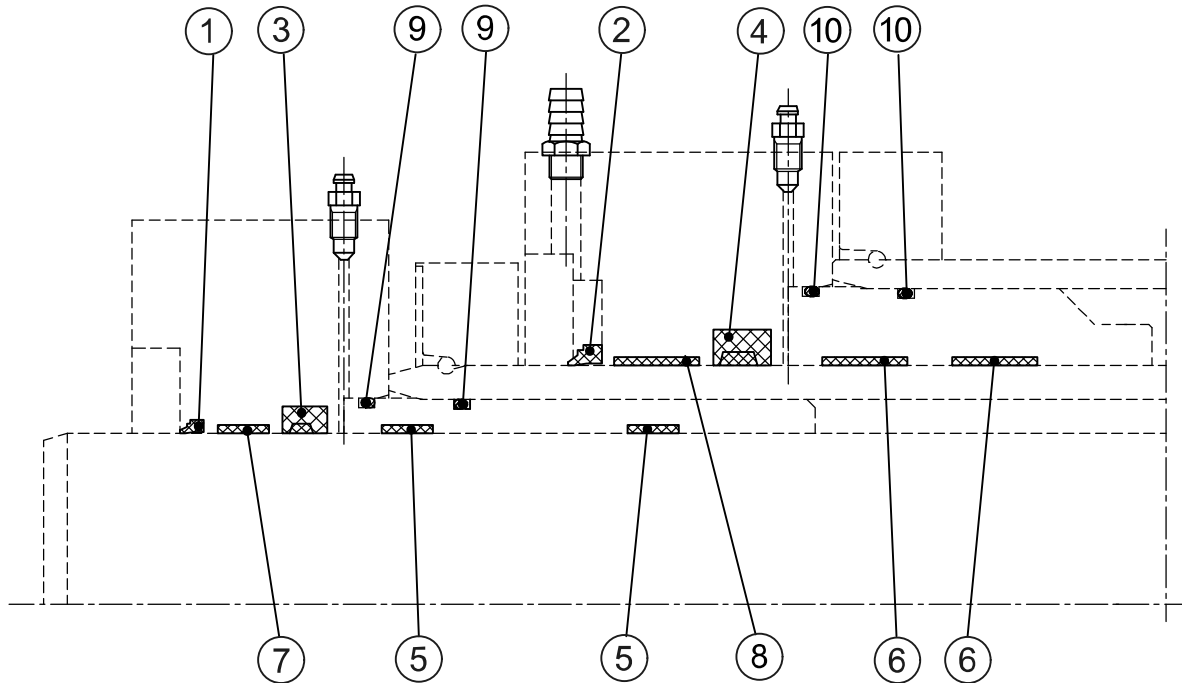


### 1.10.1 Seal Kit

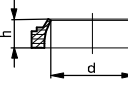
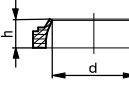
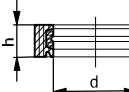
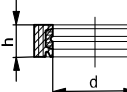
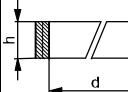
Item		①		②		③		④		⑤	
Quantity		1		1		1		2		1	
Description		Wiper seal 		Rod seal 		O-ring 		Guide ring 		O-ring 	
Cylinder type	Part No.	d	h	d	h	d	S	d	h	d	S
LZ 50	3000053272	50	7	50	7.5	54	3	50	50	73	2.4
LZ 60	3000053280	60	8	60	10	66	3	60	50	83	2.4
LZ 70	3000053298	70	8	70	10	76	3	70	50	93	2.4
LZ 80	3000053306	80	8	80	10	88	3	80	50	101	2.4
LZ 90	3000053314	90	9	90	12	100	3	90	50	113	2.4
LZ 100	3000053322	100	9	100	12	108	3	100	50	120	2.4
LZ 110	3000053330	110	11	110	12	118	4	110	50	133	2.4
LZ 120	3000053348	120	11	120	16	130	4	120	50	143	2.4
LZ 140	3000053355	140	11	140	12	145.72	2.62	140	50	169	2.4

## 2 Telescopic cylinder

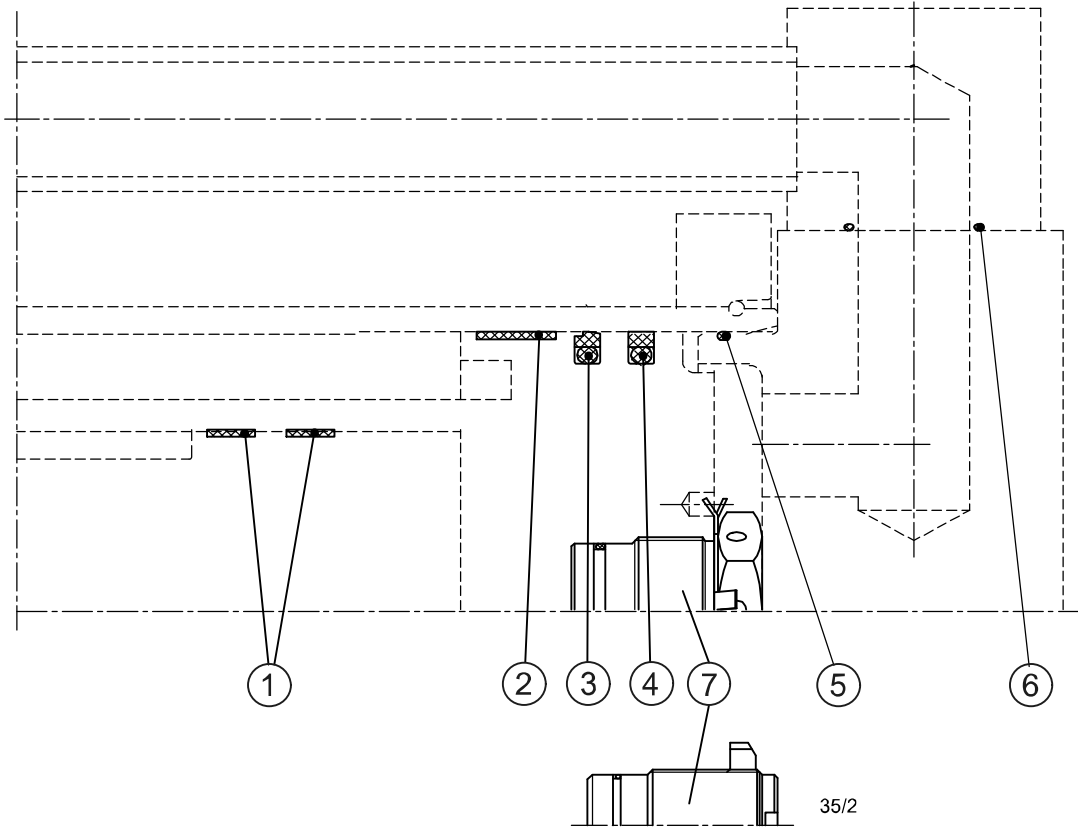
### 2.1 Type series BGLZ



#### 2.1.1 Seal kit / external 2-stage

Item			①		②		③		④		⑤	
Quantity			1		1		1		1		3	
Description			 Wiper seal		 Wiper seal		 Rod seal		 Rod seal		 Guide ring	
Cylinder type	Part No.	external 2-stage	d	h	d	h	d	h	d	h	d	h
BGLZ 35/2	3000011258	35/2 35/50	35	7	50	7	35	10	50	10	35	15
BGLZ 50/2	3000011259	50/2 50/70	50	7	70	7	50	10	70	12	50	15
BGLZ 63/2	3000011260	63/2 63/85	63	7	85	7	63	12	85	12	63	15
BGLZ 70/2	3000011261	70/2 70/100	70	7	100	7	70	12	100	12	70	15
BGLZ 85/2	3000011263	85/2 85/120	85	7	120	10	85	12	120	16	85	15
BGLZ 100/2	3000011264	100/2 100/140	100	7	140	10	100	12	140	16	100	25
BGLZ 120/2	3000011265	120/2 120/170	120	10	170	10	120	16	170	16	120	25
BGLZ 140/2	3000011266	140/2 140/200	140	10	200	10.2	140	16	200	16	140	25
BGLZ 170/2	3000011267	170/2 170/240	170	10	240	10.2	170	16	240	16	170	25

Item				⑥		⑦		⑧		⑨		⑩	
Quantity				2		1		1		2		2	
Description													
Cylinder type	Part No.	external 2-stage		d	h	d	h	d	h	d	S	d	S
BGLZ 35/2	3000011258	35/2	35/50	50	15	–	–	–	–	37.77	2.62	53.57	3.53
BGLZ 50/2	3000011259	50/2	50/70	70	15	–	–	–	–	53.57	3.53	78.97	3.53
BGLZ 63/2	3000011260	63/2	63/85	85	15	–	–	–	–	66.27	3.53	98.02	3.53
BGLZ 70/2	3000011261	70/2	70/100	100	15	–	–	–	–	78.97	3.53	113.89	3.53
BGLZ 85/2	3000011263	85/2	85/120	120	15	–	–	–	–	91.67	3.53	139.29	3.53
BGLZ 100/2	3000011264	100/2	100/140	140	25	100	15	140	15	113.89	3.53	164.69	3.53
BGLZ 120/2	3000011265	120/2	120/170	170	25	120	15	170	15	132.94	3.53	196.44	3.53
BGLZ 140/2	3000011266	140/2	140/200	200	25	–	–	200	15	158.34	3.53	234.54	3.53
BGLZ 170/2	3000011267	170/2	170/240	240	25	–	–	–	–	202.79	3.53	278.99	3.53



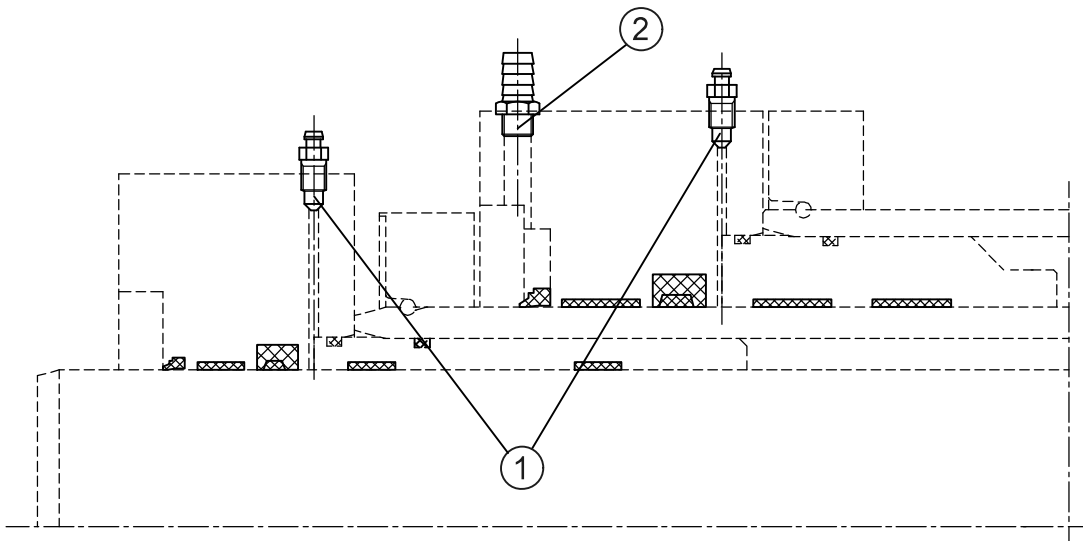
## 2.1.2 Seal kit / internal 2-stage

Item				①	②	③	④	⑤	⑥						
Quantity				1	1	1	1	2	2						
Description				Guide ring	Guide ring	Sliding ring O-ring	Step Seal O-ring	O-ring	O-ring						
Cylinder type	Part No.	internal 2-stage		d	h	d	h	d	S	d	S	d	S	d	S
BGLZ 35/2	3000011269	35/2	35/50	37	15	55	25	49	3.9	49	3.7	53.57	3.53	23.47	2.62
BGLZ 50/2	3000011270	50/2	50/70	55	15	80	25	69.9	6	69.5	5.8	87.97	3.53	28.24	2.62
BGLZ 63/2	3000011271	63/2	63/85	68	15	101	25	90.9	6	90.5	5.8	98.02	3.53	39.34	2.62
BGLZ 70/2	3000011272	70/2	70/100	80	15	115	25	104.9	6	104.5	5.8	113.89	3.53	39.34	2.62
BGLZ 85/2	3000011273	85/2	85/120	95	15	142	25	126	7.8	126	7.6	139.29	3.53	39.34	2.62
BGLZ 100/2	3000011274	100/2	100/140	115	25	167	25	151	7.8	151	7.6	164.69	3.53	39.34	2.62
BGLZ 120/2	3000011275	120/2	120/170	135	25	203	25	187	7.8	187	7.6	196.44	3.53	55.25	2.62
BGLZ 140/2	3000011276	140/2	140/200	165	25	239	25	223	7.8	223	7.6	234.55	3.53	55.25	2.62
BGLZ 170/2	3000011277	170/2	170/240	205	25	289	25	273	7.8	273	7.6	278.99	3.53	55.25	2.62

### 2.1.3 Check valve

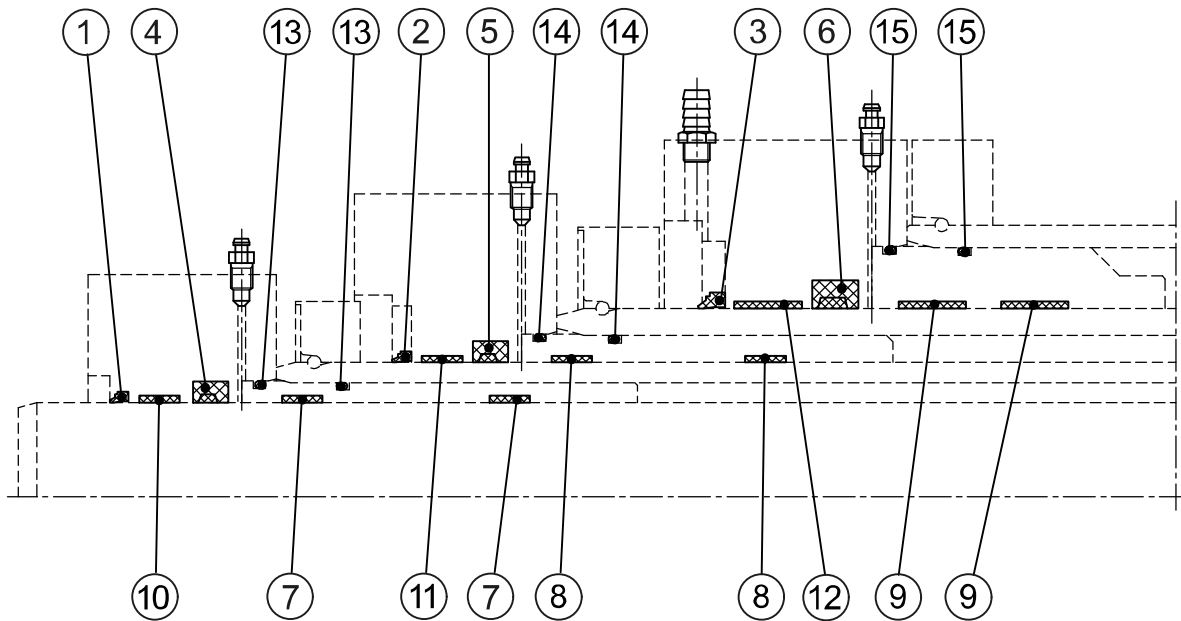
Item	⑦	
Quantity	1	
Cylinder type	Part No.	Cylinder type *
CKV BGLZ 35/2	3000011299	35/2
CKV BGLZ ab 50/2	3000011300	as of 50/2

\* 2 stage = 1 x check valve



### 2.1.4 Accessories

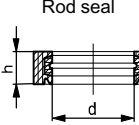
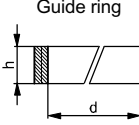
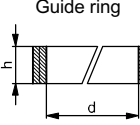
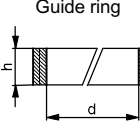
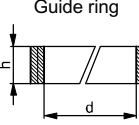
Item ①			Item ②		
Cylinder type	Part No.	Description	Cylinder type	Part No.	Description
SWC M8 BHZ/BGLZ	3000009459	Bleed screw	CON WES 8/R1/8 PA6	3000053873	Hose connection

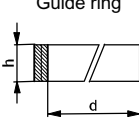
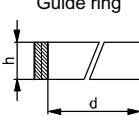
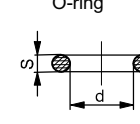
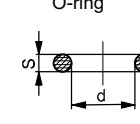
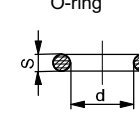


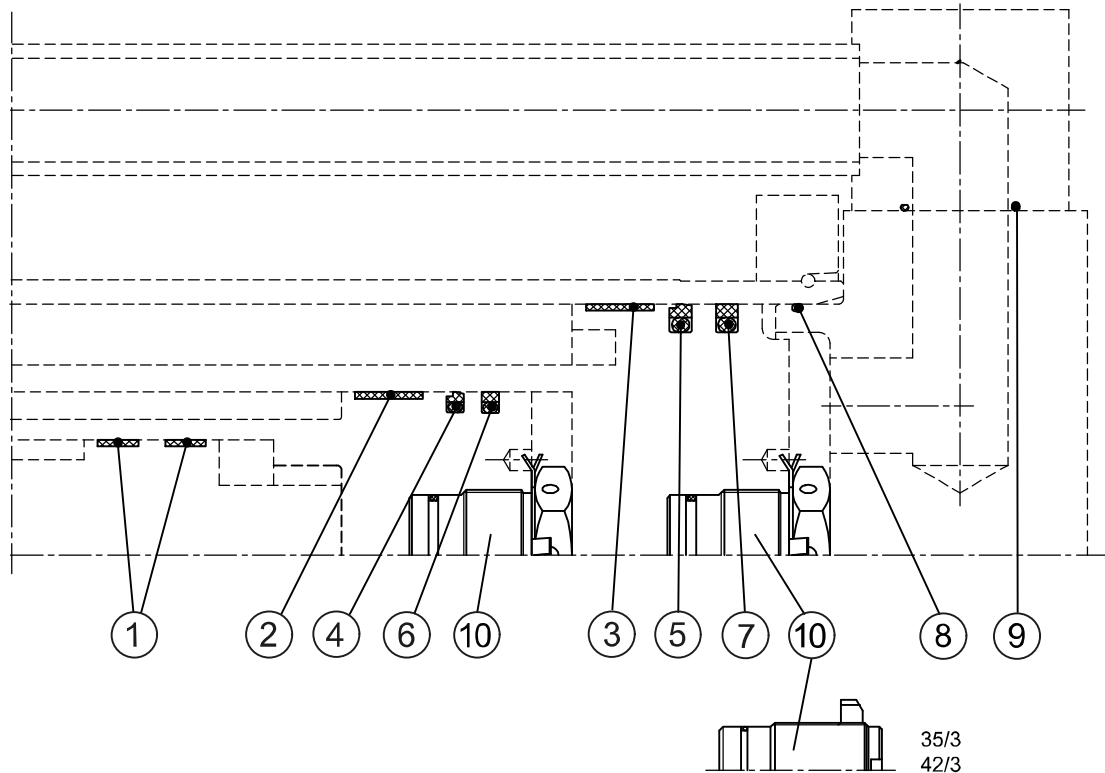
**2.1.5 Seal kit / external 3-stage**

Item			①		②		③		④		⑤	
			1		1		1		1		1	
Description			Wiper seal		Wiper seal		Wiper seal		Rod seal		Rod seal	
Cylinder type	Part No.	external 3-stage	d	h	d	h	d	h	d	h	d	h
BGLZ 35/3	3000011279	35/3 35/50/70	35	7	50	7	70	7	35	7	50	10
BGLZ 42/3	3000011280	42/3 42/60/85	42	7	60	7	85	7	42	8	60	10
BGLZ 50/3	3000011281	50/3 50/70/100	50	7	70	7	100	7	50	10	70	12
BGLZ 63/3	3000011282	63/3 63/85/120	63	7	85	7	120	10	63	12	85	12
BGLZ 70/3	3000011283	70/3 70/100/140	70	7	100	7	140	10	70	12	100	12
BGLZ 85/3	3000011284	85/3 85/120/170	85	7	120	10	170	10	85	12	120	16
BGLZ 100/3	3000011285	100/3 100/140/200	100	7	140	10	200	10.2	100	12	140	16
BGLZ 120/3	3000011286	120/3 120/170/240	120	10	170	10	240	10.2	120	16	170	16
BGLZ 140/3	3000011287	140/3 140/200/285	140	10	200	10.2	290	10.2	140	16	200	16



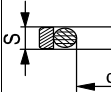
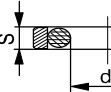
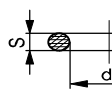
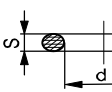
Item				⑥		⑦		⑧		⑨		⑩	
Quantity				1		1		1		1		1	
Description													
Cylinder type	Part No.	external 3-stage		d	h	d	h	d	h	d	h	d	h
BGLZ 35/3	3000011279	35/3	35/50/70	70	12	35	15	50	15	70	15	-	-
BGLZ 42/3	3000011280	42/3	42/60/85	85	12	42	15	60	15	85	15	-	-
BGLZ 50/3	3000011281	50/3	50/70/100	100	12	50	15	70	15	100	15	-	-
BGLZ 63/3	3000011282	63/3	63/85/120	120	16	63	15	85	15	120	15	-	-
BGLZ 70/3	3000011283	70/3	70/100/140	140	16	70	15	100	15	140	25	-	-
BGLZ 85/3	3000011284	85/3	85/120/170	170	16	85	15	120	25	170	25	-	-
BGLZ 100/3	3000011285	100/3	100/140/200	200	16	100	25	140	25	200	25	100	15
BGLZ 120/3	3000011286	120/3	120/170/240	240	16	120	25	170	25	240	25	120	15
BGLZ 140/3	3000011287	140/3	140/200/285	290	16	140	25	200	25	290	25	-	-

Item				⑪		⑫		⑬		⑭		⑮	
Quantity				1		1		2		2		2	
Description													
Cylinder type	Part No.	external 3-stage		d	h	d	h	d	S	d	S	d	S
BGLZ 35/3	3000011279	35/3	35/50/70	-	-	-	-	37.77	2.62	53.57	3.53	85.32	3.53
BGLZ 42/3	3000011280	42/3	42/60/85	-	-	-	-	44.12	2.62	66.27	3.53	104.37	3.53
BGLZ 50/3	3000011281	50/3	50/70/100	-	-	-	-	53.57	3.53	78.97	3.53	123.42	3.53
BGLZ 63/3	3000011282	63/3	63/85/120	-	-	-	-	66.27	3.53	98.02	3.53	151.99	3.53
BGLZ 70/3	3000011283	70/3	70/100/140	-	-	-	-	78.97	3.53	113.89	3.53	177.39	3.53
BGLZ 85/3	3000011284	85/3	85/120/170	120	15	170	15	91.67	3.53	139.29	3.53	215.49	3.53
BGLZ 100/3	3000011285	100/3	100/140/200	140	15	-	-	113.89	3.53	164.69	3.53	253.59	3.53
BGLZ 120/3	3000011286	120/3	120/170/240	170	15	-	-	132.9	3.53	196.44	3.53	304.39	3.53
BGLZ 140/3	3000011287	140/3	140/200/285	200	15	-	-	158.34	3.53	234.54	3.53	355.19	3.53



### 2.1.6 Seal kit / internal 3-stage

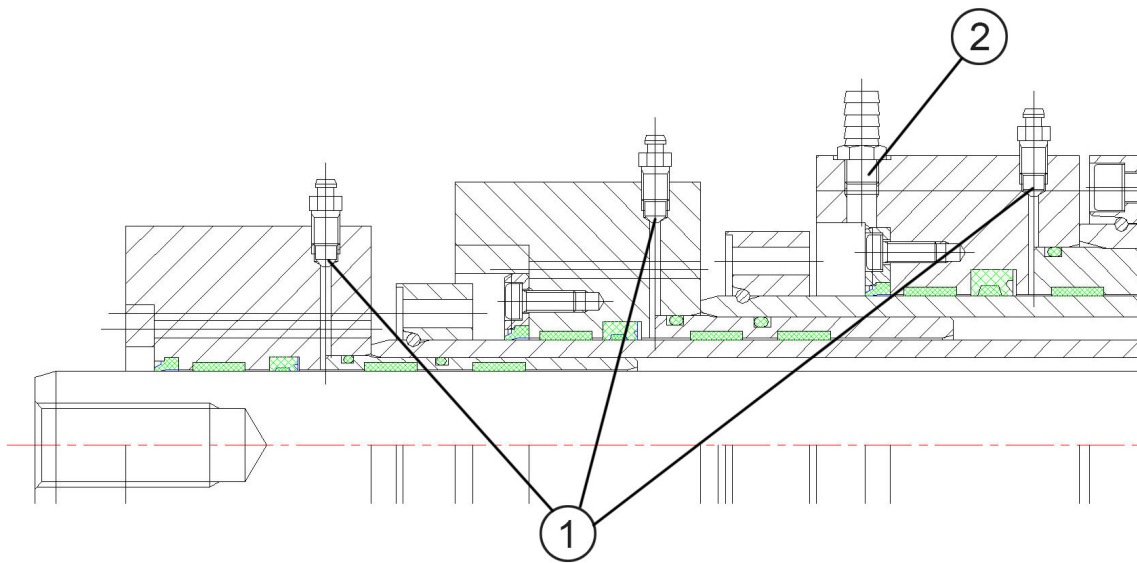
Item			①	②	③	④	⑤					
Quantity			2	1	1	1	1					
Description			Guide ring	Guide ring	Guide ring	Sliding ring O-ring	Sliding ring O-ring					
Cylinder type	Article No.	internal 3-stage	d	h	d	h	d	h	d	S	d	S
BGLZ 35/3	3000011289	35/3 35/50/70	37	15	55	25	87	25	39	3.9	76.9	6
BGLZ 42/3	3000011290	42/3 42/60/85	45	15	68	25	107	25	62	3.9	96.9	6
BGLZ 50/3	3000011291	50/3 50/70/100	55	15	80	25	125	25	69.9	6	114.9	6
BGLZ 63/3	3000011292	63/3 63/85/120	68	15	101	25	155	25	90.9	6	139	7.8
BGLZ 70/3	3000011293	70/3 70/100/140	80	15	115	25	180	25	104.9	6	164	7.8
BGLZ 85/3	3000011294	85/3 85/120/170	95	15	142	25	220	25	126	7.8	204	7.8
BGLZ 100/3	3000011295	100/3 100/140/200	115	25	167	25	258	25	151	7.8	242	7.8
BGLZ 120/3	3000011296	120/3 120/170/240	135	25	203	25	312.5	25	187	7.8	296.5	7.8
BGLZ 140/3	3000011297	140/3 140/200/285	165	25	239	25	373	25	223	7.8	353.5	7.8

Item	⑥		⑦		⑧		⑨				
Quantity	1		1		1		1				
Description	Step Seal O-ring		Step Seal O-ring		O-ring		O-ring				
											
Cylinder type	Part No.	internal 3-stage		d	S	d	S	d	S	d	S
BGLZ 35/3	3000011289	35/3	35/50/70	49	3.7	76.5	5.8	85.32	3.53	28.24	2.62
BGLZ 42/3	3000011290	42/3	42/60/85	62	3.7	96.5	5.8	104.37	3.53	39.34	2.62
BGLZ 50/3	3000011291	50/3	50/70/100	69.5	5.8	114.5	5.8	123.42	3.53	39.34	2.62
BGLZ 63/3	3000011292	63/3	63/85/120	90.5	5.8	139	7.6	151.99	3.53	39.34	2.62
BGLZ 70/3	3000011293	70/3	70/100/140	104.5	5.8	164	7.6	177.39	3.53	39.35	2.62
BGLZ 85/3	3000011294	85/3	85/120/170	126	7.6	204	7.6	215.49	3.53	55.25	2.62
BGLZ 100/3	3000011295	100/3	100/140/200	151	7.6	242	7.6	153.59	3.53	55.25	2.62
BGLZ 120/3	3000011296	120/3	120/170/240	187	7.6	296.5	7.6	304.39	3.53	55.25	2.62
BGLZ 140/3	3000011297	140/3	140/200/285	223	7.6	353.5	7.6	355.19	3.53	55.25	2.62

### 2.1.7 Check valve

Item	⑩	
Quantity	2	
Description	Part No.	Cylinder type *
CKV BGLZ	3000011299	35/3 + 42/3
CKV BGLZ	3000011300	as of 50/3

\* 3 stage = 2 x check valve

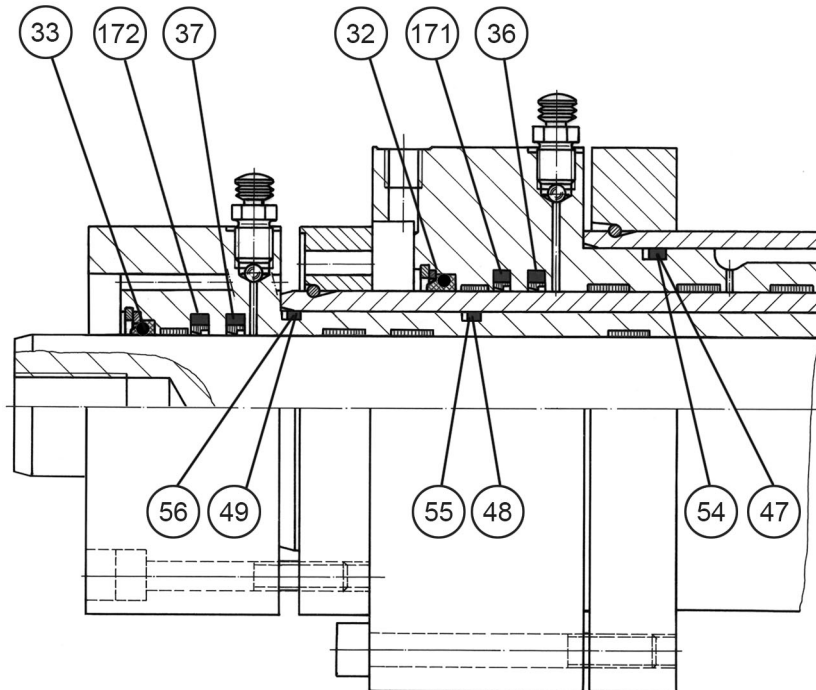


### 2.1.8 Accessories

Item ①			Item ②		
Cylinder type	Part No.	Description	Cylinder type	Part No.	Description
SWC M8 BHZ/BGLZ	3000009459	Bleed screw	CON WES 8/R1/8 PA6	3000053873	Hose connection

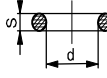
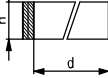
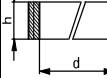
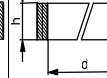
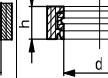
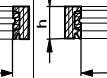


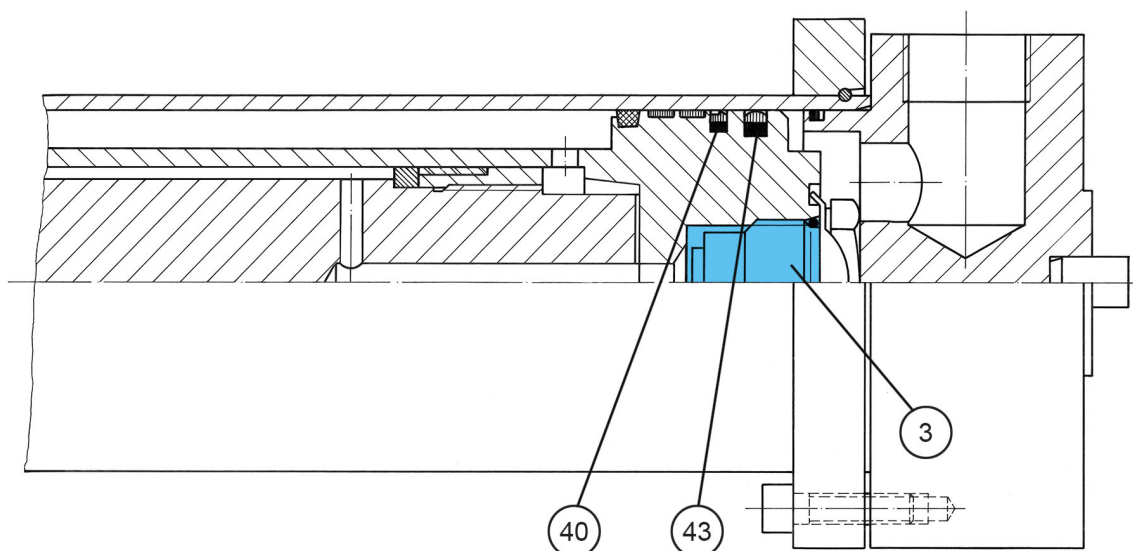
## 2.2 Type series BZBGL



### 2.2.1 Seal kit / external 2-stage

Item	32		33		36		37		47		48				
Quantity	1		1		1		1		2		1				
Description	Wiper seal		Wiper seal		Inner slide ring Rod seal		Inner slide ring Rod seal		O-ring		O-ring				
Cylinder type	Part No.	external 2-stage		d	h	d	h	d	h	d	h	d	S	d	S
BZBGL 35/2	3000053016	35/2	35/50	50	2.62	35	2.62	50	5.33	35	5.33	53.57	3.53	37.82	1.78
BZBGL 50/2	3000053018	50/2	50/70	70	2.62	50	2.62	70	5.33	50	5.33	78.97	3.53	53.57	3.53
BZBGL 63/2	3000053020	63/2	63/85	85	2.62	63	2.62	85	5.33	63	5.33	94.62	5.33	69.44	3.53
BZBGL 70/2	3000053022	70/2	70/100	100	3	70	2.62	100	5.33	70	5.33	107.32	5.33	78.97	3.53
BZBGL 85/2	3000053024	85/2	85/120	120	3	85	2.62	120	5.33	85	5.33	132.72	5.33	91.67	3.53
BZBGL 100/2	3000053026	100/2	100/140	140	3.53	100	3	140	5.33	100	5.33	158.12	5.33	107.32	5.33
BZBGL 120/2	3000053028	120/2	120/170	170	3	120	3	170	5.33	120	5.33	189.87	5.33	123.19	5.33
BZBGL 140/2	3000053030	140/2	140/200	200	18	140	16	200	7	140	5.33	221.62	5.33	158.12	5.33
BZBGL 170/2	3000053032	170/2	170/240	240	18	170	12	240	7	170	5.33	266.07	6.99	189.87	5.33
BZBGL 200/2	3000053034	200/2	200/285	285	20	200	18	285	7	200	7	329.57	6.99	221.62	5.33

Item				④9		⑤4		⑤5		⑤6		①71		①72	
Quantity				1		2		1		1		1		1	
Description				Guide ring		Guide ring		Support ring Guide ring		Support ring Guide ring		O-ring		O-ring	
															
Cylinder type	Part No.	external 2-stage		d	S	d	h	d	h	d	h	d	h	d	h
BZBGL 35/2	3000053016	35/2	35/50	34.65	1.78	54.4	1.6	39.4	1.6	38.4	5.33	50	5.33	35	3.53
BZBGL 50/2	3000053018	50/2	50/70	53.57	3.53	79.4	1.6	55.4	1.6	54.4	5.33	70	5.33	50	5.33
BZBGL 63/2	3000053020	63/2	63/85	69.44	3.53	97.2	2.4	70.4	1.6	69.4	5.33	85	5.33	63	5.33
BZBGL 70/2	3000053022	70/2	70/100	–	–	111.2	2.4	79.4	1.6	–	–	100	5.33	70	5.33
BZBGL 85/2	3000053024	85/2	85/120	–	–	138.2	2.4	94.4	1.6	–	–	120	5.33	85	5.33
BZBGL 100/2	3000053026	100/2	100/140	–	–	161.2	2.4	111.2	2.4	–	–	140	5.33	100	5.33
BZBGL 120/2	3000053028	120/2	120/170	–	–	199.2	2.4	131.2	2.4	–	–	170	5.33	120	5.33
BZBGL 140/2	3000053030	140/2	140/200	–	–	231.2	2.4	161.2	2.4	–	–	–	–	–	–
BZBGL 170/2	3000053032	170/2	170/240	–	–	278.4	3.2	201.2	2.4	–	–	–	–	–	–
BZBGL 200/2	3000053034	200/2	200/285	–	–	328.4	3.2	231.2	2.4	–	–	–	–	–	–



### 2.2.2 Seal kit / internal 2-stage

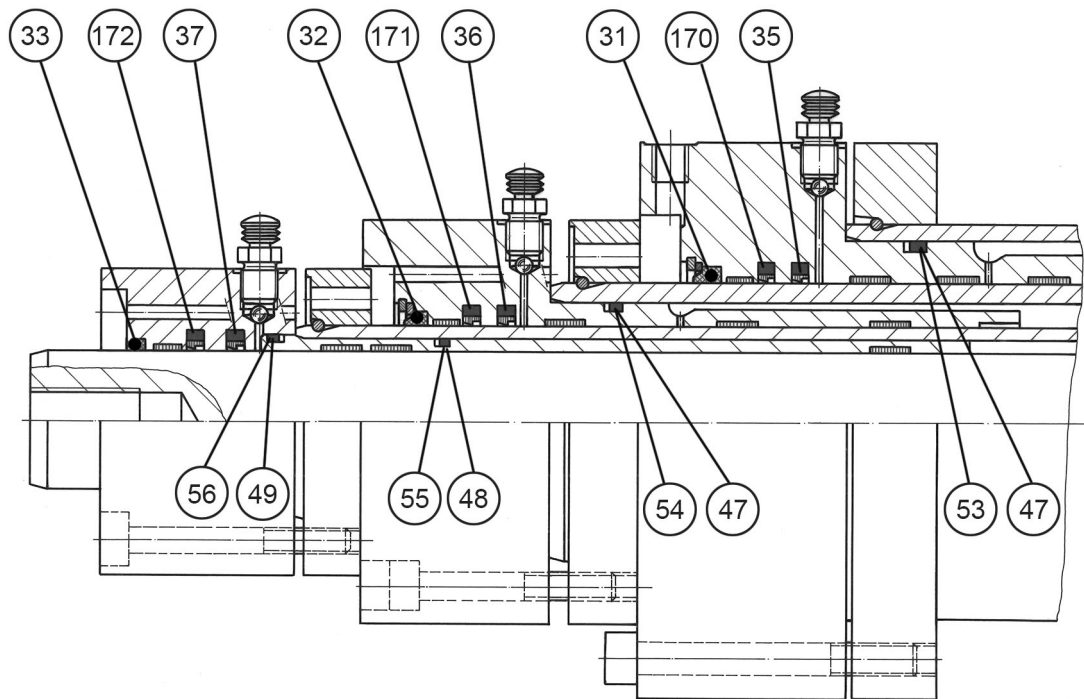
Item			④①			④③		
Quantity			1			1		
Description			Step Seal O-ring 		Sliding ring O-ring 			
Cylinder type	Part No.	internal 2-stage		d	S	d	S	
BZBGL 35/2	3000053017	35/2	35/50	43.82	5.33	47.22	3.53	
BZBGL 50/2	3000053019	50/2	50/70	69.22	5.33	63	7	
BZBGL 63/2	3000053021	63/2	63/85	88.27	5.33	85	7	
BZBGL 70/2	3000053023	70/2	70/100	104.14	5.33	98	7	
BZBGL 85/2	3000053025	85/2	85/120	129.54	5.33	123.19	7	
BZBGL 100/2	3000053027	100/2	100/140	151.77	5.33	145.42	7	
BZBGL 120/2	3000053029	120/2	120/170	183.52	7	183.52	7	
BZBGL 140/2	3000053031	140/2	140/200	215.27	7	215.27	7	
BZBGL 170/2	3000053033	170/2	170/240	266.07	7	266.07	7	
BZBGL 200/2	3000053035	200/2	200/280	316.87	7	316.87	7	



### 2.2.3 Check valve

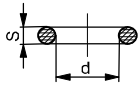
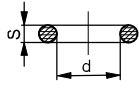
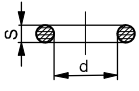
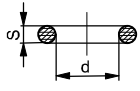
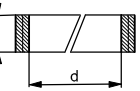
Item	③		
Quantity	1		
Description	Part No.	Cylinder type *	
CKV NG 8 BZBGL	3000047557	35/2	
CKV NG 15 BZBGL	3000047558	as of 50/2	

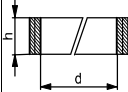
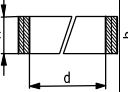
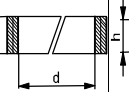
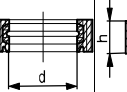
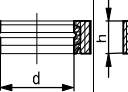

\* 2-stage = 1 x check valve

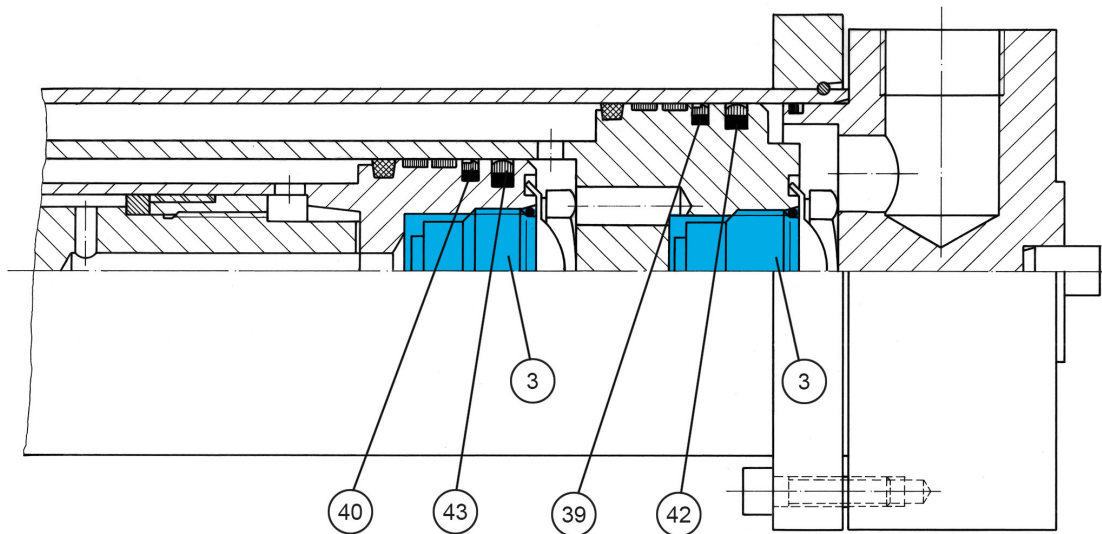


### 2.2.4 Seal kit / external 3-stage

Item	31		32		33		35		36		37				
Quantity	1		1		1		1		1		1				
Description	Wiper seal		Wiper seal		Wiper seal		Inner slide ring Rod seal		Inner slide ring Rod seal		Inner slide ring Rod seal				
Cylinder type	Part No.	external 3-stage		d	h	d	h	d	S	d	h	d	h	d	h
BZBGL 35/3	3000053038	35/3	35/50/70	70	2.62	50	2.62	35	2.62	70	5.33	50	5.33	35	5.33
BZBGL 42/3	3000053040	42/3	42/60/85	85	2.62	60	2.62	42	2.62	85	5.33	60	5.33	42	5.33
BZBGL 50/3	3000053042	50/3	50/70/100	100	3	70	2.62	50	2.62	100	5.33	70	5.33	50	5.33
BZBGL 63/3	3000053044	63/3	63/85/120	120	3	85	2.62	63	2.62	120	5.33	85	5.33	63	5.33
BZBGL 70/3	3000053046	70/3	70/100/140	140	3.53	100	3	70	2.62	140	5.33	100	5.33	70	5.33
BZBGL 85/3	3000053048	85/3	85/120/170	170	3	120	3	85	2.62	170	5.33	120	5.33	85	5.33
BZBGL 100/3	3000053050	100/3	100/140/200	200	5.33	140	3.53	100	3	200	7	140	5.33	100	5.33
BZBGL 120/3	3000053052	120/3	120/170/240	240	18	170	12	120	12	240	7	170	5.33	120	5.33
BZBGL 140/3	3000053054	140/3	140/200/285	285	20	200	18	140	16	285	7	200	7	140	5.33

Item			④⑥	④⑦	④⑧	④⑨	⑤③					
Quantity			2	1	1	1	2					
Description			O-ring 	O-ring 	O-ring 	O-ring 	Support ring Guide ring 					
Cylinder type	Part No.	external 3-stage	d	S	d	S	d	S	d	S	d	h
BZBGL 35/3	3000053038	35/3 35/50/70	82.14	3.53	53.57	3.53	37.82	1.78	34.65	1.78	86.4	1.6
BZBGL 42/3	3000053040	42/3 42/60/85	100.97	5.33	66.27	3.53	44.04	3.53	44.04	3.53	103.2	1.6
BZBGL 50/3	3000053042	50/3 50/70/100	116.84	5.33	78.97	3.53	53.57	3.53	53.57	3.53	121.2	2.4
BZBGL 63/3	3000053044	63/3 63/85/120	148.59	5.33	94.62	5.33	66.27	3.53	66.27	3.53	151.2	2.4
BZBGL 70/3	3000053046	70/3 70/100/140	170.82	5.33	107.32	5.33	78.97	3.53	-	-	176..2	2.4
BZBGL 85/3	3000053048	85/3 85/120/170	215.27	5.33	132.72	5.33	91.67	3.53	-	-	216.2	2.4
BZBGL 100/3	3000053050	100/3 100/140/200	240.64	5.33	158.12	5.33	107.54	3.53	-	-	251.2	2.4
BZBGL 120/3	3000053052	120/3 120/170/240	304.17	6.99	189.87	5.33	123.19	5.33	-	-	306.4	3.2
BZBGL 140/3	3000053054	140/3 140/200/285	342.27	6.99	221.62	5.33	158.12	5.33	-	-	358.4	3.2

Item			⑤④	⑤⑤	⑤⑥	①⑦⑦	①⑦①	①⑦②						
Quantity			1	1	1	1	1	1						
Description			Support ring Guide ring 	Support ring Guide ring 	Support ring Guide ring 	Rimseal Rod seal 	Rimseal Rod seal 	Rimseal Rod seal 						
Cylinder type	Part No.	external 3-stage	d	h	d	h	d	h	d	h	d	h	d	h
BZBGL 35/3	3000053038	35/2 35/50/70	54.4	1.6	39.4	1.6	38.4	1.6	70	5.33	50	5.33	35	5.33
BZBGL 42/3	3000053040	42/3 42/60/85	67.4	1.6	46.4	1.6	46.4	1.6	85	5.33	60	5.33	42	5.33
BZBGL 50/3	3000053042	50/3 50/70/100	79.4	1.6	55.4	1.6	54.4	1.6	100	5.33	70	5.33	50	5.33
BZBGL 63/3	3000053044	63/3 63/85/120	97.2	2.4	69.4	1.6	67.4	1.6	120	5.33	85	5.33	63	5.33
BZBGL 70/3	3000053046	70/3 70/100/140	111.2	2.4	79.4	1.6	-	-	140	5.33	100	5.33	70	5.33
BZBGL 85/3	3000053048	85/3 85/120/170	138.2	2.4	94.4	1.6	-	-	170	5.33	120	5.33	85	5.33
BZBGL 100/3	3000053050	100/3 100/140/200	161.2	2.4	111.2	2.4	-	-	200	7	140	5.33	100	5.33
BZBGL 120/3	3000053052	120/3 120/170/240	199.2	2.4	131.2	2.4	-	-	-	-	-	-	-	-
BZBGL 140/3	3000053054	140/3 140/200/285	231.2	2.4	161.2	2.4	-	-	-	-	-	-	-	-



### 2.2.5 Seal kit / internal 3-stage

Item			③⑨		④①		④②		④③	
Quantity			1		1		1		1	
Description			Step Seal O-ring		Step Seal O-ring		Sliding ring O-ring		Sliding ring O-ring	
Cylinder type	Part No.	internal 3-stage	d	S	d	S	d	S	d	S
BZBGL 35/3	3000053039	35/3 35/50/70	75.57	5.33	43.82	5.33	75.57	5.33	47.22	5.33
BZBGL 42/3	3000053041	42/3 42/60/85	94.62	5.33	56.52	5.33	94.62	5.33	56.52	5.33
BZBGL 50/3	3000053043	50/3 50/70/100	113.67	5.33	69.22	5.33	108	7	63	7
BZBGL 63/3	3000053045	63/3 63/85/120	142.24	5.33	88.27	5.33	135.89	7	85	7
BZBGL 70/3	3000053047	70/3 70/100/140	164.47	5.33	104.14	5.33	158.12	7	98	7
BZBGL 85/3	3000053049	85/3 85/120/170	202.57	7	129.54	5.33	202.57	7	123.19	7
BZBGL 100/3	3000053051	100/3 100/140/200	227.97	7	151.77	5.33	240.67	7	145.42	7
BZBGL 120/3	3000053053	120/3 120/170/240	291.47	7	183.52	7	291.47	7	183.52	7
BZBGL 140/3	3000053055	140/3 140/200/285	342.27	7	215.27	7	342.27	7	215.27	7

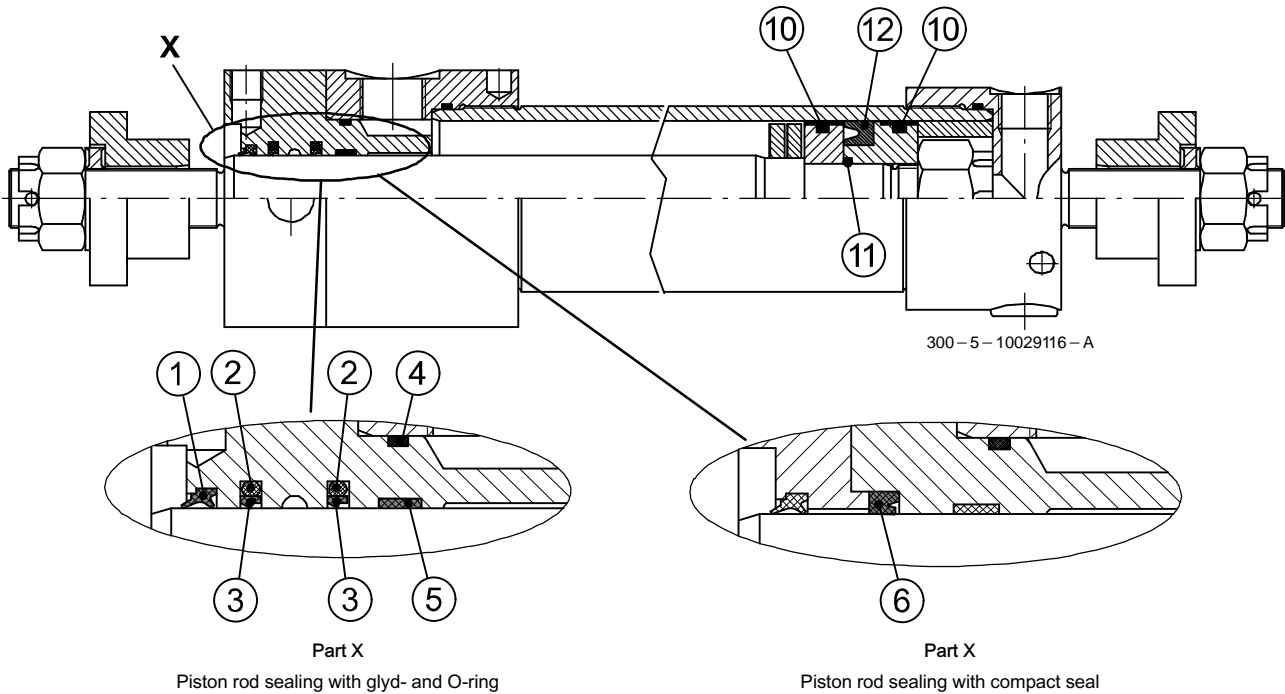
## 2.2.6 Check valve

Item	③		
Quantity	2		
Description	Part No.	Cylinder type *	
CKV NG 8 BZBGL	3000047557	35/3	
CKV NG 15 BZBGL	3000047558	as of 42/3	

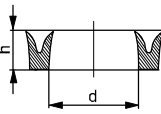
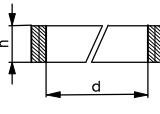
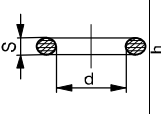
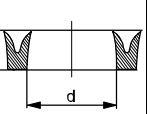
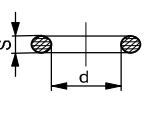
\* 3-stage = 2 x check valve

### 3 Pulling cylinder

#### 3.1 Type series BZZ



Item	①		②		③		④		⑤			
Quantity	1		2		1		2		1			
Description	Wiper seal		Rod seal		O-ring		O-ring		Guide ring			
Cylinder type	Part No.	Part No.	d	h	d	S	d	h	d	S	d	h
BZZ 40/25	3007022935	40/25	25	8	28.25	2.62	32	3.2	35	3	25	5.6
BZZ 50/28	3007022936	50/28	28	8	32.92	3.53	28	4.2	45	3	28	5.6
BZZ 63/35	3007022937	63/35	35	7	37.69	3.53	35	4.2	57	3	35	9.7
BZZ 75/35	3007022938	75/35	35	7	37.69	3.53	35	4.2	70	3	35	9.7
BZZ 80/30	3007022939	80/30	30	8	34.52	3.53	30	4.2	75	3	30	9.7
BZZ 100/40	3007022940	100/40	40	8	44.04	3.53	40	4.2	94.5	3	40	14.8
BZZ 110/40	3007022941	110/40	40	8	44.04	3.53	40	4.2	104.5	3	40	14.8
BZZ 125/45	3007022942	125/45	45	8	50.39	3.53	45	4.2	120	3	45	14.8
BZZ 125/50	3007022943	125/50	50	7	53.57	3.53	50	4.2	120	3	-	-

Item			⑥		⑩		⑪		⑫		⑳	
Quantity			1		1		2		1		2	
Description			Wiper seal 		Rod seal 		O-ring 		O-ring 		Guide ring 	
Cylinder type	Part No.	Part No.	d	h	d	S	d	h	d	h	d	S
BZZ 40/25	3007022935	40/25	25	7.5	25	5.6	22	2.5	30	7.5	46	3
BZZ 50/28	3007022936	50/28	30	12	28	5.6	25	2.5	30	12	56	3
BZZ 63/35	3007022937	63/35	35	10	35	5.6	28	2.5	43	12	72	3
BZZ 75/35	3007022938	75/35	35	10	35	5.6	28	2.5	55	11.5	82	3
BZZ 80/30	3007022939	80/30	30	10	30	5.6	26	2.5	60	12	88	3
BZZ 100/40	3007022940	100/40	40	7	40	5.6	32	3	80	12	110	3.5
BZZ 110/40	3007022941	110/40	40	7	40	5.6	32	3	90	12	120.24	3.53
BZZ 125/45	3007022942	125/45	45	7.2	45	5.6	38	3	100	15.5	132.95	3.53
BZZ 125/50	3007022943	125/50	–	–	50	5.6	44	3	100	15	139.3	3.53