

OPERATING AND MAINTENANCE INSTRUCTIONS/
SPARE PARTS

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1. General information

All persons involved with the assembly, operation and/or maintenance of safety shut-off valves must read and understand all of the following documents:

- Technical product information (booklet 711.00) - it contains the technical data and dimensions of the equipment as well as instructions concerning set-up and mode of operation.
- General operating manual for gas pressure regulators and safety devices this Honeywell document contains information on assembly and operation as well as general information on troubleshooting.
- Operating and maintenance instructions, list of spare parts (booklet 711.20) – it contains more details concerning installation and operation of safety shut-off valve HON 711. Furthermore it contains the operating instructions and spare parts drawings and lists of the actuator unit.
- The various components and units are described in separate booklets "Operating and Maintenance Instructions, spare parts":

Control unit	HON 672 K 10a / K 11a	672.20
Control unit	HON 670 K 16 / K 17 / K 18 / K 19	670.20
Push button valve	HON 910a	910.20

There are national laws and regulations for all sorts of jobs on gas pressure regulators, from planning to maintenance. Be sure to comply. (In Germany, for instance, DVGW work sheets G 600, G 459/II, G 491 and G 495.)

Inspection and maintenance intervals depend mostly on operating conditions and the nature and properties of the gas. There are no general rules or recommendations for intervals. For Germany, we recommend to consider maintenance intervals as stated in DVGW work sheet G 495 in a first instance. However, in the mid-term, intervals must be adapted to the requirements of each specific equipment.

During maintenance, components must be cleaned and then checked thoroughly. This is necessary even if there have been any unusual observations during operation and/or functional testing. Checks must focus, in particular, on diaphragms and seals and all movable parts and their respective bearings. Any and all defective parts must be replaced with new ones. The same applies to O rings removed during disassembly.

Item numbers mentioned in the specific operating and maintenance instructions correspond with the numbers in the spare parts lists and drawings. Some parts in the lists and drawings are marked with a letter "W". We recommend you always have a reserve of those parts in stock for maintenance purposes. Those spare parts are put together in another separate list at the end of the spare parts list.



There have been design changes to nominal diameters DN 80 and DN 100 concerning the attachment of the valve flaps.

In this context please be sure to read important information in item 4.2.2

1.1 Safety information

Eye catcher	used for:
	Danger to life and limb
	Danger of damage to property and/or the environment
	Important additional information

3. Specific operating instructions

Opening the safety shut-off valve (SAV in German)

- In order to open the SAV device, insert handle bar (12) into the bore hole of disc (34) and turn.

Note

On actuators K 10a and K 11a, the SAV device can be opened only, if the actuator has been engaged before.

- Engage actuators K 10a and K 11a by pulling on the switching rod.
Proceed as follows: Screw the sealing cap onto the switching rod, but the other way round (see 672.20).

Note

Actuators K 10a and K 11a are equipped with an underpressure shut-off. They can be engaged only, if the pressure at the measuring point corresponds to the operating pressure.

Actuation tests on actuators K 10a and K 11a



Actuation tests may be carried out only, if actuators K 10a and K 11a are properly installed on switch housing (10). Otherwise, there is a danger of mechanical damage.

4. Specific maintenance instructions



Before disassembly, chambers filled with gas must be depressurised.

4.1 Switching device

- Before you can dismantle switch bearing (7), you must screw off thrust piece (68) from switch housing (10).
- When assembling the switch bearing, take care of the following:
 - One of the angular twin stops of the switch bearing must point towards thrust piece (68). (See spare parts drawing, section B-B.)
 - Slide ring (21) must be BELOW the switch bearing.

4.2 Actuator

4.2.1 Replacing the valve gasket (O ring item 54) in the valve flap

- Close (disengage) the shut-off valve.
- Dismount the flap (47).
- Remove the disc (34).
- Re-connect screw (36) complete with washer (35) to the valve rod.
- Release closing spring (31) in spring housing (33). To accomplish that, loosen screws (32).

Please note: When you loosen screws (32), be sure to hold up using handle bar (12).

- When slewing out valve flap (53), actuate manual release (67).

Note

When you insert a new, well greased O ring (54) into the groove of valve flap (53), press it down gently into the groove at three or four evenly distanced points along the circumference. Only then should you press it down completely.

Please note: In case the valve flap has been removed from the lever (50), be sure to tighten lock nut (52) – observe torque! – and secure with cotter pin (73).

4.2.2 Flexibility of valve flaps (53) of nominal diameters DN 80 and DN 100 delivered up to March 1995 (series numbers start with 9503).



The connection between valve flap (53) and lever (50) must be flexible.

For the shut-off valve to function properly it is important to have a flexible connection between the valve flap and valve flap lever. However, when admitting contaminated gases and/or after extended operation this flexibility may be significantly reduced or even gone. In that case it cannot be excluded that the connection pieces sustain damage when the shut-off valve closes. In order to avoid problems during operation, we recommend to adapt to the new design of the flap and lever module during the next scheduled maintenance.

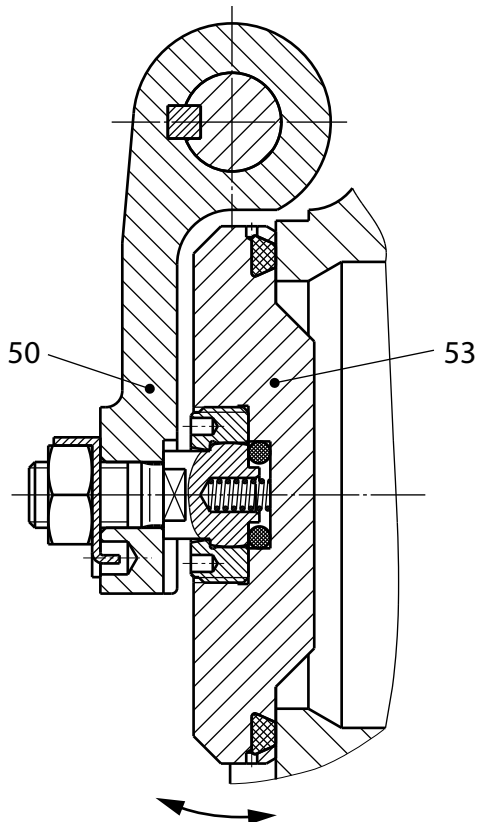
In order to facilitate installation, we pre-assembled the new valve flap and lever module with the new connection pieces at the factory. The new module can be ordered ready to install. Use the following order numbers:

part no. 10 022 395 for nominal diameter DN 80

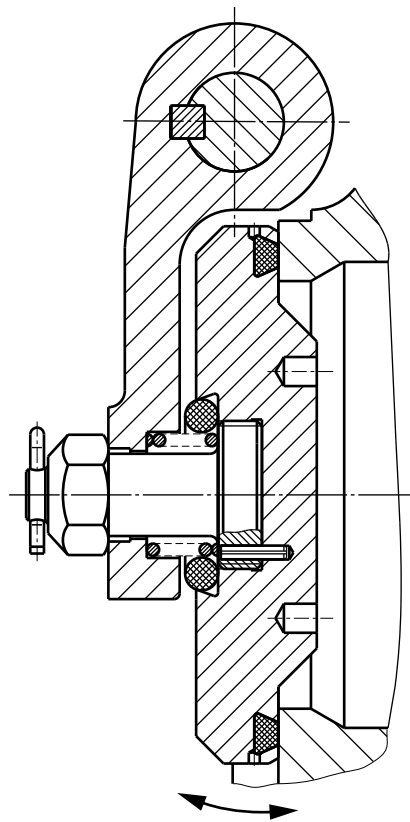
part no. 10,022,445 for nominal diameter DN 100

These measures concern all older types of shut-off valve SAV HON 711 - DN 80 and DN 100 delivered up to March 1995. The series numbers of those valves start with 9105 ...(May 1991) thru 9503 ... (March 1995).

Design thru
series number: 9503



Design starting with
series number: 9503



The valve flap must be flexible when open.

4.2.3 Closing springs (31)

- Spring housing (33) contains two support grooves that take up the closing springs. The grooves are needed to take up the springs and provide for the different versions of the device with the "tending side left" or "tending side right".
- Installation: First insert the closing springs into spring housing (33). Make sure you position the springs exactly as shown in figs. 1 and 2.
- The closing springs are properly tensioned when all four fastening screws (32) can be installed inside the housing (about half turn of spring housing). The valve flap must be closed during the procedure.

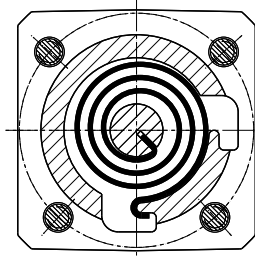


Fig. 1 Fitting position of closing springs with "tending side right". (standard version)

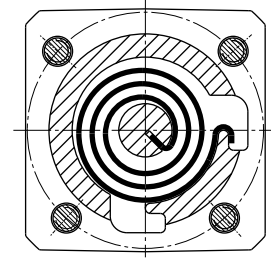


Fig. 2 Fitting position of closing springs with "tending side left".

4.3 Tightening torques M_A

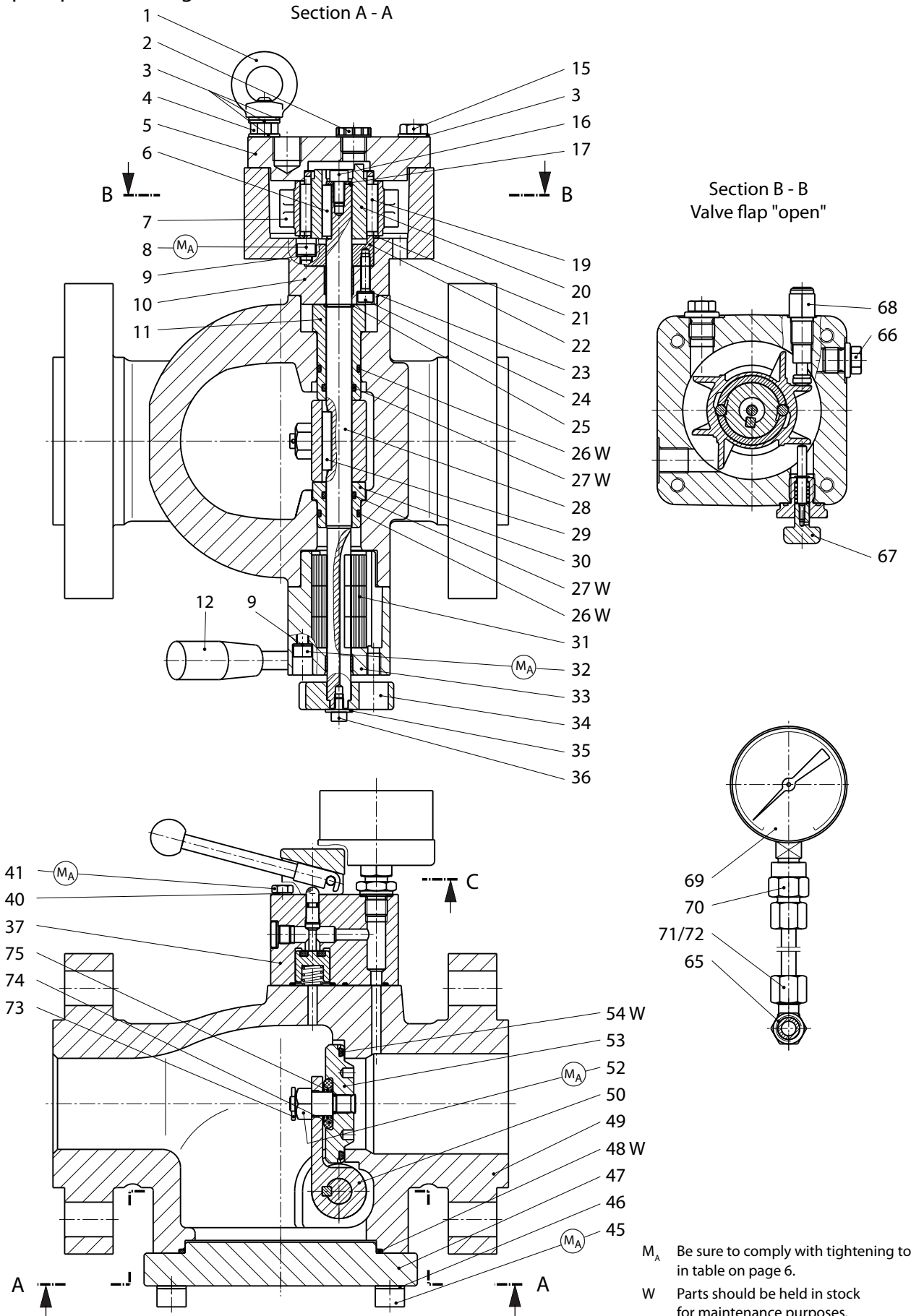
DN	Tightening torques M_A in Nm				
	Screws & bolts – item no.				
	8	32	41	45	52
25	8	8	8	20	8
50	8	8	8	40	12
80	20	20	8	75	40
100	20	20	8	75	40
150	40	40	8	180	80

4.4 Lubricants

Components	Lubricants	HON part no.
Thread of manual release (67), all fastening screws and screwed pipe connections.	Assembly paste	27091
All O rings, slip guides, slip faces and switching elements	Silicone grease	27081 (tube 0.1 kg)

5. Spare parts

5.1 Spare parts drawing



M_A Be sure to comply with tightening torques in table on page 6.

W Parts should be held in stock for maintenance purposes.

5.2. Spare parts

Item no.	Denomination	Number	W	Material	Part no.				
					DN 25	DN 50	DN 80	DN 100	DN 150
1	Ring nut	1		St	13129	13129	13130	13130	13116
2	Plug	1		K	26550	26550	26550	26550	26550
3	Washer	6		St	8281	8281	14106	14106	8276
4	Hex screw	1		St	10022349	10022349	10022449	10022449	10001495
5	Switch housing cover	1		LM	10022323	10022323	10022423	10022423	10022473
6	Feather key	1		St	26255	26255	26240	26240	26264
7	Switch bearing	1		NSt	10022327	10022327	10024632	10024632	10022477
8	Cheese head screw	4		St	10120	10120	10379	10379	10441
9	Lock washer	8		FSt	14111	14111	14112	14112	14113
10	Switch housing, complete	1		GLM/K	10022326	10022326	10022426	10022426	10022476
11	Bearing bush	1		Ms	10022318	10022318	10022368	10022418	10022468
12	Handle bar, complete	1		NSt/K/KG	10024536	10024536	10024636	10024636	10022489
15	Hex screw	3		St	10083	10083	3873	3873	10611
16	Cheese head screw	1		St	8177	8177	8177	8177	8177
17	Washer	1		LM	10001186	10001186	10001386	10001386	10001486
19	Needle roller	2		St	27646	27646	27301	27301	27301
20	Lock bushing, complete	1		NSt/SF	10022332	10022332	10022432	10022432	10022482
21	Slide ring	1		KT	21140	21140	21112	21112	21191
22	Guide bush	1		NSt	10022330	10022330	10022430	10022430	10022480
23	Lock washer	3		FSt	14118	14118	14111	14111	14112
24	Cheese head screw	3		St	10561	10561	10150	10150	10098
25	Snap ring	1		FSt	19110	19110	19112	19112	19113
26	O ring	2	W	KG	20227	20227	20235	20235	20336
27	O ring	2	W	KG	21142	21142	20607	20607	20600
28	Valve cap shaft	1		Nst	10022317	10022317	10022367	10022417	10022467
29	Feather key	1		St	26256	26256	26241	26241	26265
30	Bearing bush	1		Ms	10022319	10022319	10022369	10022369	10022469
31	Spiral band spring	3		NSt	10022336	10022336			
31	Spiral band spring	4		NSt			10022436	10022436	10022486
32	Cheese head screw	4		St	10549	10549	10428	10428	10610
33	Spring housing, complete	1		GLM/K	10024535	10024535	10024635	10024635	10022485
34	Disc, complete	1		LM/St	10022348	10022348	10022448	10022448	10022498
35	Washer	1		St/LM	14082	14082	14137	14137	10001486
36	Cheese head screw	1		St	10618	10618	8177	8177	8177
37	Push button valve HON 910a	1			10005224	10005224	10005224	10005224	10005224

W Parts should be held in stock for maintenance purposes.

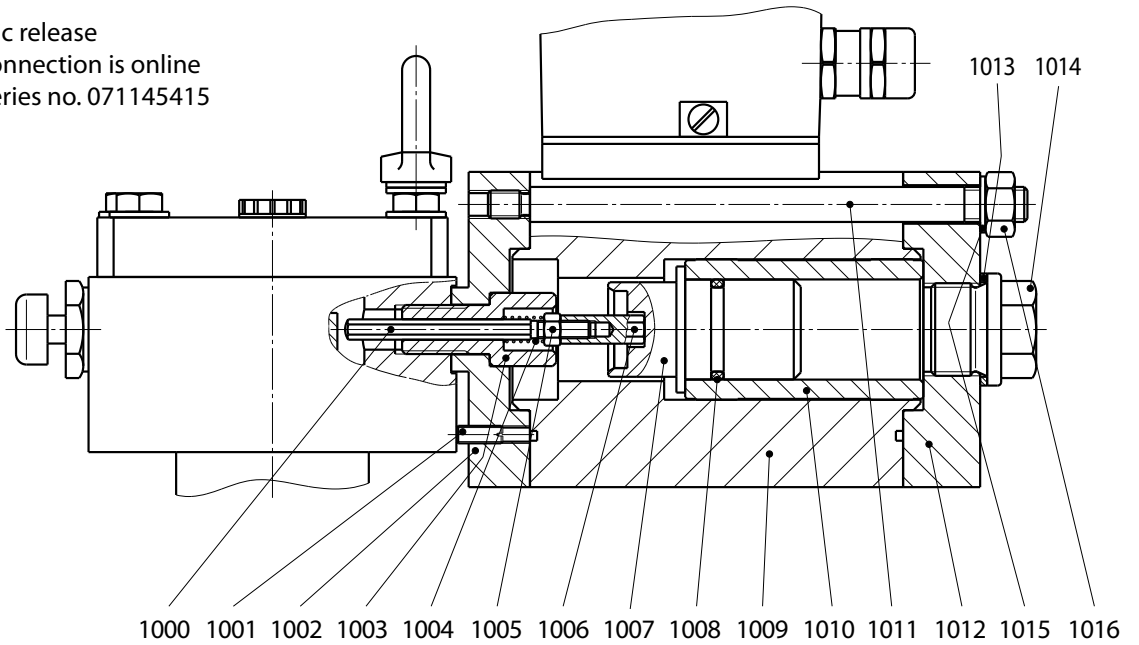
German abbreviations stand for the following materials:

St ... Steel	LM ... Light metal/alloy	GMs ... Brass casting
NSt ... Stainless steel	Ms ... Brass	GZn ... Zinc casting
FSt ... Spring steel	GS ... Cast steel	AlBz ... Aluminium bronze
NFSt ... Stainless spring steel	GGG ... Spheroidal graphite cast iron	K ... Synthetic materials
Bz ... Bronze	GBz ... Bronze casting	KG ... Gummous synthetic materials
Cu ... Copper	GLM ... Light metal casting	SSt ... Foamed materials

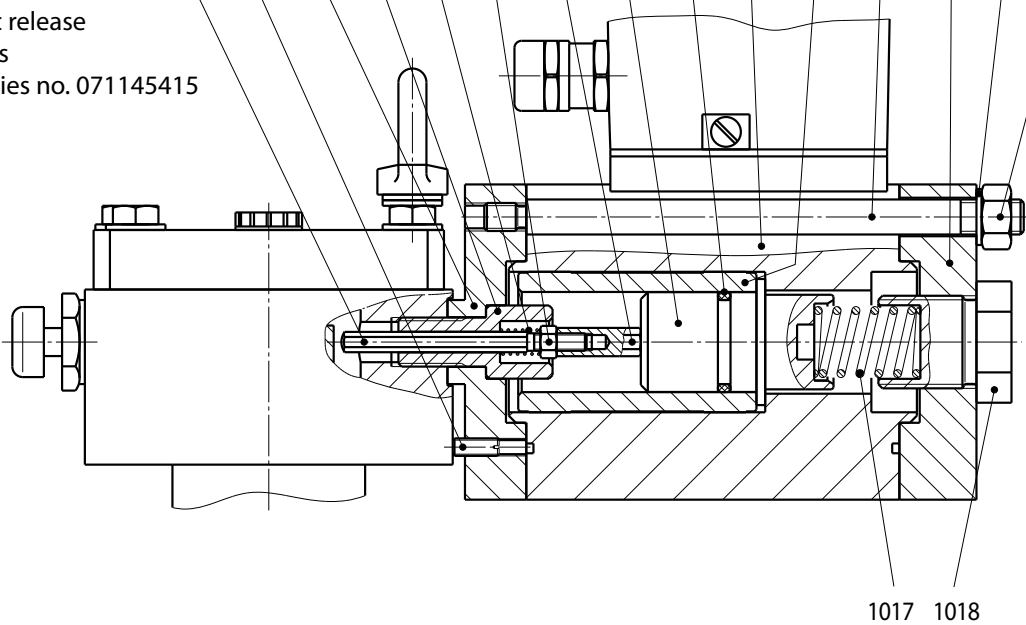
Item no.	Denomination	Number	W	Material	Part no.				
					DN 25	DN 50	DN 80	DN 100	DN 150
40	Lock washer	4		SF	14111	14111	14111	14111	14111
41	Hex screw	4		St	10181	10181	10181	10181	10181
45	Cheese head screw	6		St	10551				
45	Cheese head screw	10		St		10400			
45	Cheese head screw	12		St			10563		
45	Cheese head screw	16		St				10556	10609
46	Lock washer	6		SF	14112				
46	Lock washer	10		SF		14113			
46	Lock washer	12		SF			14114		
46	Lock washer	16		SF				14114	14115
47	Cap	1		St	10022279	10022329	10022379	10022429	10022479
48	O ring	1	W	KG	21141	20248	20250	20457	21193
49	Housing, at option:								
49	PN 25 and PN 40	1		GS	10022250	10022300	10022350	10022400	10022450
49	ANSI 300 RF	1		GS	10022253	10022303	10022353	10022403	10022453
49	ANSI 300 RJ	1		GS	10022254	10022304	10022354	10022404	10022454
49	ANSI 600 RF	1		GS	10022255	10022305	10022355	10022405	10022455
49	ANSI 600 RJ	1		GS	10022256	10022306	10022356	10022406	10022456
50	Valve flap lever	1		St	10022263	10022313	10022371	10022421	10022463
52	Lock nut	1		St	13199	13200	13202	13202	10030722
53	Valve flap, complete	1		Ms/NSt/St	10022262	10022312	10022357	10022407	10022464
54	O ring	1	W	KG	20236	20458	20330	20313	20338
65	Connection pipe	1		St	31206	31206	31206	31206	31206
66	locking screw	2		St	26175	26175	26175	26175	26175
67	Manual release, complete	1		St/NSt/..	10022340	10022340	10022440	10022440	10022490
68	Thrust piece, spring-loaded	1		LM/NSt/..	10022391	10022391	10022391	10022391	10022391
69	Pressure gauge, at option:								
69	0 - 40 bar	1		NSt/Ms	26282	26282	26282	26282	26282
69	0 - 60 bar	1		NSt/Ms	26283	26283	26283	26283	26283
69	0 - 100 bar	1		NSt/Ms	26285	26285	26285	26285	26285
70	Screwed connection	1		St	31811	31811	31811	31811	31811
71	Union nut	1		St	30801	30801	30801	30801	30801
72	Cutting ring	1		St	30901	30901	30901	30901	30901
73	Cotter pin	1		St	15000	15000	15005	15005	15020
74	O ring	1		KG	20282	20154	21224	21224	21192
75	Pressure spring	1		FSt	10018394	10018394	10001262	10001262	10001462

5.3 Spare parts drawing - accessories

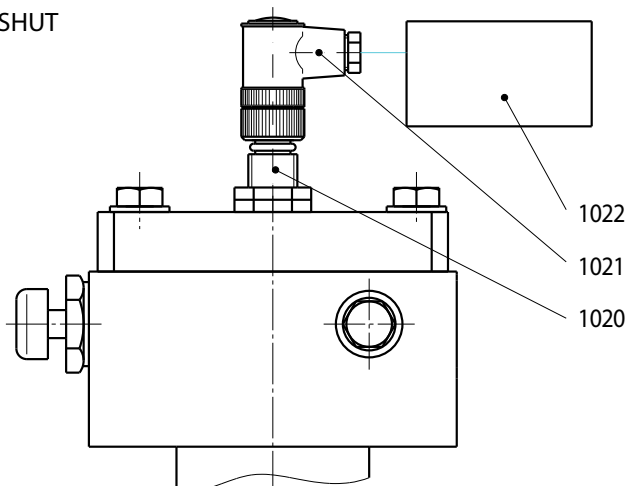
Electromagnetic release
when power connection is online
starting with series no. 071145415



Electromagnetic release
when power fails
starting with series no. 071145415



Electrical position indication SHUT



4.1.2 Spare parts list - accessories

Item no.	Denomination	Number	W	Material	Part no. DN 25 and DN 50	DN 80 and DN 100	DN 150
1000	Switching rod	1		NSt	10022568	10022573	10022578
1001	Headless pin (setscrew)	1		St	8486	8486	8486
1002	Connecting flange	1		LM	10022582	10022582	10030713
1003	Guide screw	1		NSt	10001811	10001811	10001811
1004	Pressure spring	1		NFSt	18355195	18355195	18355195
1005	Hex nut	1		St	3020	3020	3020
1006	Adjusting nut	1		Ms	10001864	10001864	10001864
1007	Bush	1		LM	10022584	10022584	10030715
1008	O ring	1		KG	20327	20327	20305
1009	Magnet	1			100223	100223	100772
1010	Cutout arm	1			100224	100224	100773
1011	Threaded bolt	4		NSt	10022585	10022585	10022585
1012	Cap	1		LM	10022583	10022583	10030714
1013	Sealing ring	1		LM	18706	18706	18706
1014	Sealing cap	1		St	26523	26523	26523
1015	Lock washer	4		FSt	14113	14113	14113
1016	Hex nut	4		St	5692	5692	5692
1017	Pressure spring	1		NFSt	28067	28067	100774
1018	Sealing cap	1		Ms	10022586	10022586	10022586
1020	Proximity switch	1			24160	24160	24160
1021	Cable box	1			24099	24099	24099
1022	Disconnection device, at option:						
1022	for 1 proximity switch (230V-AC)	1			24402	24402	24402
1022	for 2 proximity switch (230V-AC)	1			24403	24403	24403

5.5 Parts for maintenance purposes

Item no.	Denomination	Number	Part no.				
			DN 25	DN 50	DN 80	DN 100	DN 150
26	O ring	2	20227	20227	20235	20235	20336
27	O ring	2	21142	21142	20607	20607	20600
48	O ring	1	21141	20248	20250	20457	21193
54	O ring	1	20236	20458	20330	20313	20338

For More Information

To learn more about Honeywell's
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