Water Safety Shut-off Valve HON 790 790.20

OPERATING AND MAINTENANCE INSTRUCTIONS/
SPARE PARTS

EDITION 01/2017

Serving the Gas Industry Worldwide

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Contents

1. General information

All persons involved with the assembly, operation and/or maintenance of safety shut-off valve HON 790 must read and understand all of the following documents:

- **Technical product information 790.00 –** this Honeywell document contains the technical data and dimensions of the equipment as well as instructions concerning construction 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, spare parts 790.20 –** this Honeywell document contains more detailed information on assembly and operation of the safety shut-off valve HON 790.

There are **national laws and regulations** for all sorts of jobs on gas pressure governors, from planning to maintenance. Be sure to comply. (In Germany, for instance, DVGW work sheets G 600, G 491, G 495 and G 499.)

Inspection and maintenance intervals depend mostly on operating conditions and the nature and properties of the water. 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 not been any unusual observations during operation and/or functional testing. Checks must focus, in particular, on 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.

Do not use any spare/wear parts and/or oils & lubricants not specifically recommended in the Honeywell operating and maintenance instructions for spare parts. In the event spare/wear parts and/or lubricants & oils other than those specifically recommended are used, Honeywell shall not be held liable for any defects and/or consecutive damages attributable to such use of illegal parts, lubricants, oils etc.

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 to 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.

1.1 Safety information

In this manual, safety information is highlighted by means of the following signal words and eye catchers:

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

2. Specific operating instructions

To protect a boiler, install safety shut-off valves HON 790 on the flow and return pipes of the hot water circuit.
In Germany, installation must be carried out according to DVGW work sheet G 499.
During installation, pay attention particularly to the following (nos. in ☐ refer to items shown in fig. 1):

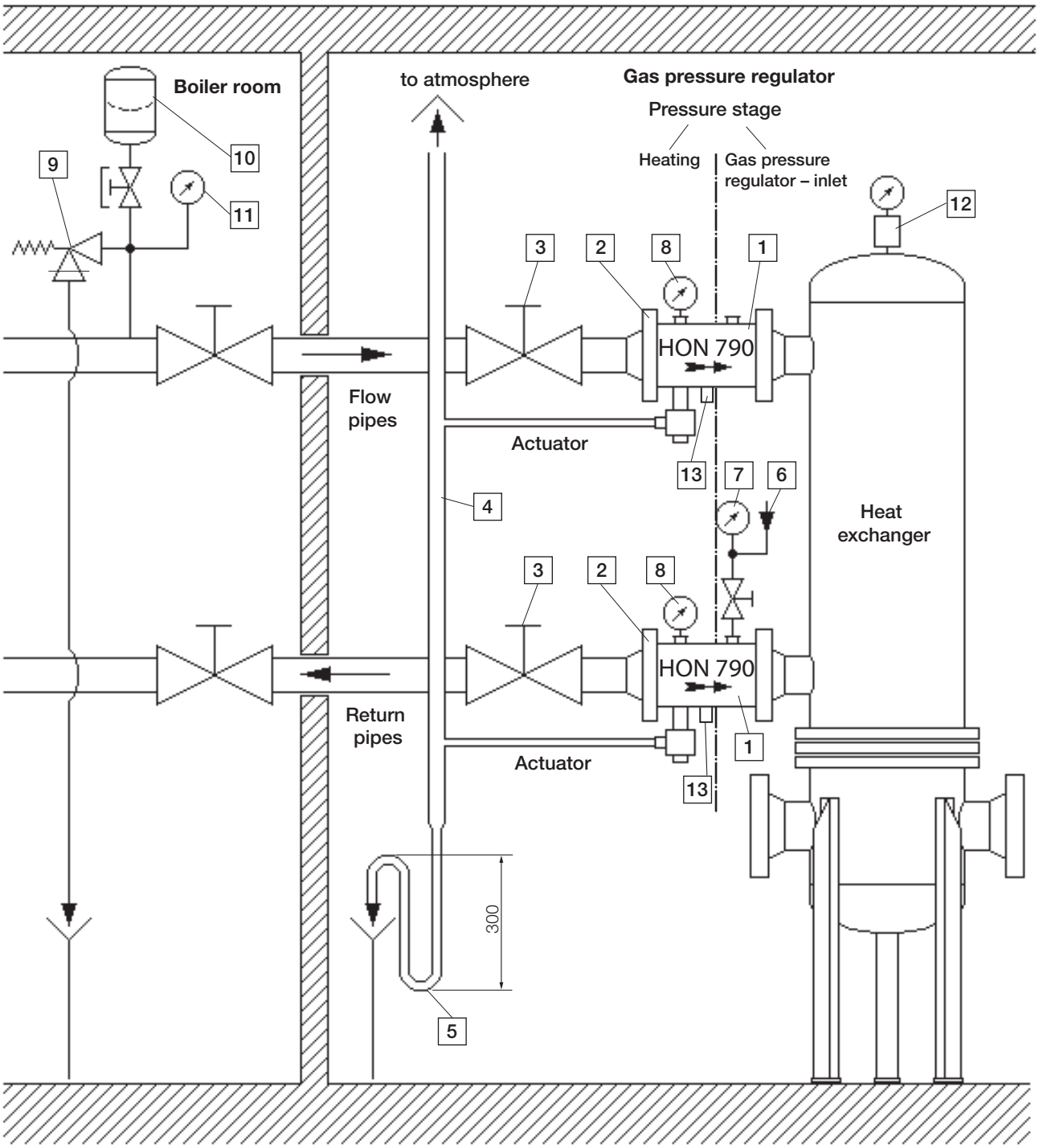


Fig. 1: Schematic layout of a natural gas pre-heater

1 Make sure arrows on type plate point to heat exchanger. Mounting position doesn't matter for DN 100 but is crucial for DN 150 + 200 and must be VERTICAL.

2 The flange on the heater side must be in the pressure stage of the connecting flange of the heat exchanger side. (Crucial because SSV HON 790 sits between third-party product flanges.)

3 The stop valves are for function tests. Be sure to have them in the pressure stage of the heater unit. Valves may not be necessary if the boiler room has other shutoff devices.

4 Connect outlet of actuators Rp 3/4 to a combined discharge and manifold line for gas and water. Manifold must be as follows:

Response pressure of HON 790	Pipe
2.5 bar	R 3/4" (DN 20)
> 2.5 bar	R 1" (DN 25)

5 If discharge and manifold line leads to atmosphere, make sure it's protected against frost. If water manifold line ends within a building, make sure there's a siphon filled with water. In case of failure it will prevent gas from getting to the installation room through the water discharge.
For a 10-m discharge line, water in the siphon must be at least 300 mm high.

6 To carry out a function test with the HON 790 SSVs, be sure to increase the pressure in the heat exchanger. You will have to shut off one (and only one) of the SSVs. SSV threads are G 1/4. (New SSVs come with a plug.)

7 There's a gauge where you can check the pressure applied during testing. Select the range so that pressure can be increased 5 to 10 bar approx. above response pressure of HON 790. In case of failure, pressure in heat exchanger may rise to the value of gas inlet pressure. So be sure there's a shutoff device between gauge and water circuit (that stays closed, of course, as long as operation is normal).

8 Gauges II will be needed for function tests. Set measuring range to match max. admissible operating pressure p_{max} of the heating system. SSV threads are G 1/4. (New SSVs come with a plug.) It may be necessary to install a pressure switch on one of the SSVs (see 2.3).

9 For SSV response pressures see table.

10 Dimensions of expansion vessel (see 2.5).

11 Gauge with limit marker for max. admissible operating pressure of water circuit (see 2.4).

12 Float and/or pressure switches may be an option to monitor minor damages.

13 All SSVs may be equipped with (optional) electrical remote indication (position indicators).
Bear in mind that remote transmission equipment must not be covered with insulation.
If SSV is mounted horizontally (admissible only for DN 100), be sure not install remote equipment in a suspended position.

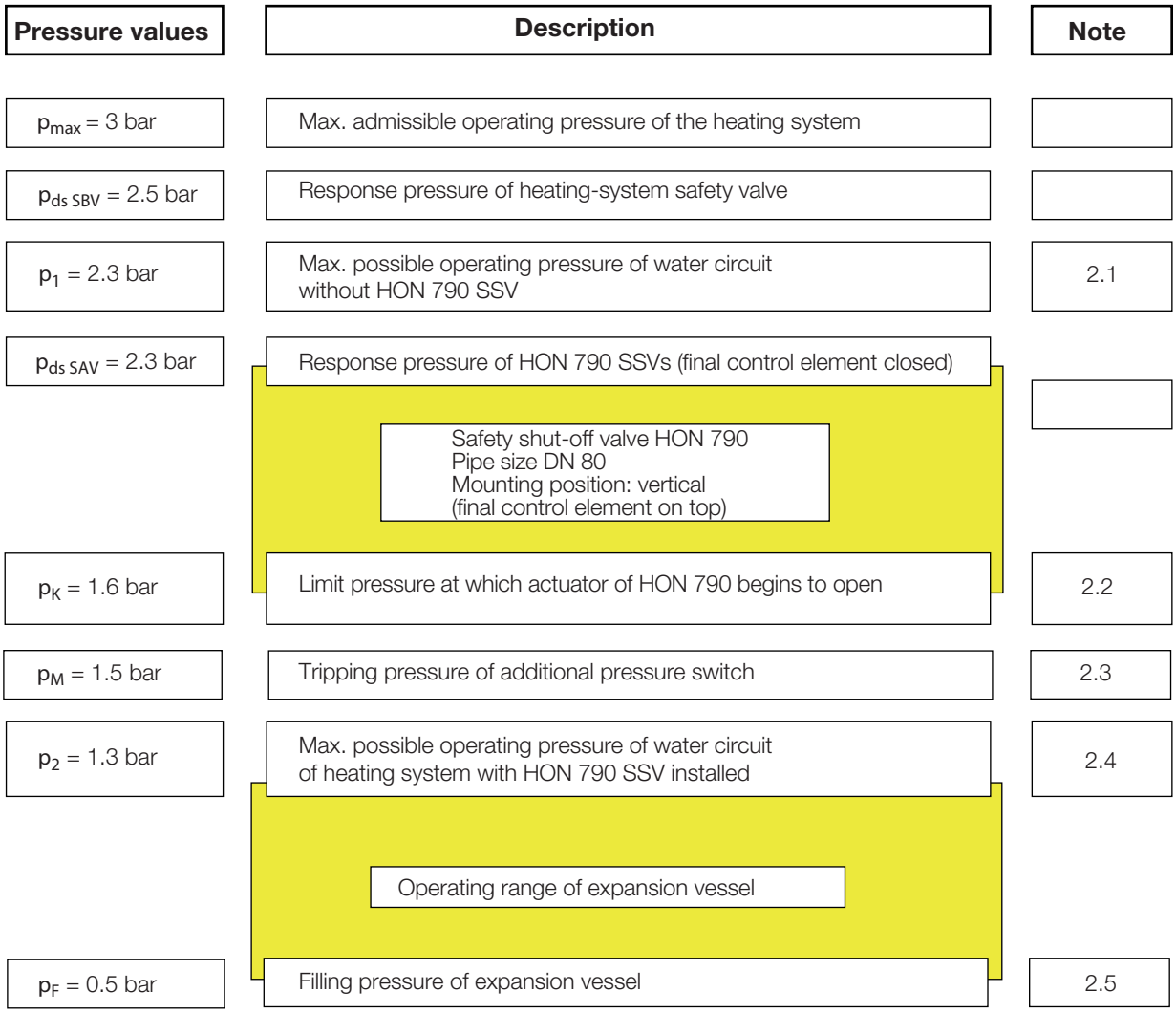


Fig. 2: Pressure table (example) for a pre-heater equipped with HON 790 safety shut-off valves

Note

2.1 Max. possible operating pressure p_1 of the water circuit without HON 790 safety shut-off valves is important for determining the size of the expansion vessel. The value will be 0.1 to 0.2 bar below the response pressure pds SRV of the safety valve of the heating system. (Example above: $p_1 = p_{ds\ SRV} - 0.2$ bar = 2.3 bar).

2.2 The limit pressure p_K that must be set on HON 790's actuator depends on desired response pressure $p_{ds\ SSV}$ of HON 790, on the pipe size of the final control element, and on its mounting position. The following table contains reference values for limit pressure p_K.

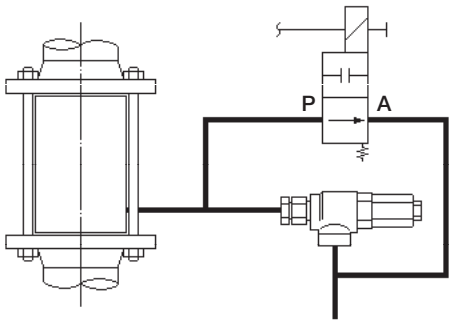
Limit pressure p_K to be set (in bar)

Pipe size	Mounting position of HON 790		
	vertical (final control element on top)	vertical (final control element below)	horizontal
DN 25	$p_{ds} - 0.3$	$p_{ds} - 0.4$	$p_{ds} - 0.35$
DN 50	$p_{ds} - 0.6$	$p_{ds} - 0.8$	$p_{ds} - 0.7$
DN 80	$p_{ds} - 0.7$	$p_{ds} - 1.0$	$p_{ds} - 0.85$
DN 100	$p_{ds} - 0.7$	$p_{ds} - 1.0$	$p_{ds} - 0.85$
DN 150	$p_{ds} - 0.7$	$p_{ds} - 1.0$	
DN 200	$p_{ds} - 0.7$	$p_{ds} - 1.0$	

Example: HON 790, pipe size DN 80, vertical mounting position (final control element on top)
$p_K = p_{ds\ SSV} - 0.7$ bar = 2.3 bar – 0.7 bar = 1.6 bar

2.3 Float and/or pressure switches may be an option to monitor minor damages.
Be sure to install the float switch at the highest point inside the heat exchanger. We recommend you install a switch with two switch positions. The first position could be used to trigger an alarm. The second for closing the SSVs via a second solenoid valve installed parallel to the actuator (this one would open in such a case – see fig. below).

2/2-way solenoid valve



2/2-way solenoid valve for hot water PN 16, DN 13, G 3/8 i explosion-protected

Power	Type	HON part no.
24 VDC	no power open	24149
230 VAC, 50 Hz	NO	24150
24 VDC	no power closed NC	524001

If you use a pressure switch: set it so that the tripping pressure is at least 0.2 bar above max. operating pressure of water circuit and 0.1 to 0.2 bar below limit value set on HON 790's actuator.

2.4 We recommend you install a second marker on the heating system's gauge – in addition to the mandatory one for the response pressure of the safety valve pds SRV – indicating the max. possible operating pressure p2 of the heating system's water circuit.

2.5 Safety shut-off valve HON 790 limits the max. possible operating pressure of the heating system's water circuit. However, this restriction must be taken into consideration when dimensioning the expansion vessel: that one must be bigger.
Use the following formula to calculate the volume of the expansion vessel:

$$V_2 = V_1 \cdot \frac{p_2 \cdot (p_1 - p_F)}{p_1 \cdot (p_2 - p_F)}$$

Use absolute values for pressure values.

Symbols:

V_1 = required volume of expansion vessel
p_1 = max. possible operating pressure
> without HON 790 safety shut-off valve

V_2 = required volume of expansion vessel
p_2 = max. possible operating pressure
p_F = filling pressure of expansion vessel
> with HON 790 safety shut-off valve

Example given on page 6 above: Calculate the necessary volume as follows:

$$V_2 = V_1 \cdot \frac{2.3 \cdot (3.3 - 1{,}5)}{3.3 \cdot (2.3 - 1{,}5)} = 1.6 \cdot V_1$$

With a water stopper between final control element and actuator, you can remove the actuator (for inspection and maintenance) without losing water.

⚠ Caution

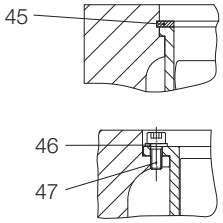
- Bear in mind the safety shut-off valve does not work properly as long as the actuator is gone.
- To make sure the water stopper can be opened safely while the actuator is gone, it is essential that only OEM connection pieces are used between actuator and drain stopper.

3. Specific maintenance instructions

3.1 O ring in valve plate

Removing O ring (**14** – DN 25 to DN 150, **101** – DN 200) – proceed as follows:

- DN 25 to DN 150 – PN 10/16 to class 600
  - Pull out shielding disc (1).
  - Remove split pin (13) and washer (12) on guide piston (16). Next, take out cpl. assembly with valve plate (5).
- DN 50 to DN 100 – classes 900 and 1500
  - Remove locking ring (45).
  - Continue as described above.
- DN 150 – classes 900 and 1500
  - Remove cylinder screws (47) cpl. with washers (46).
  - Continue as described above.
- DN 200 – all pressure stages
  - Remove countersunk screws (108).
  - Pull out shielding disc (100). Next, take out cpl. assembly with valve plate (109).



⚠ Caution Shielding disc is under strong tension from compression spring (106).

Remote equipment: Before re-installing the valve plate assembly, be sure to un-screw remote equipment approx. two turns. Do not forget to re-adjust afterwards.

3.2 Actuator

- DN 25 to DN 150/DN 200 – temporary dismantling of main valve
  - Remove screwed connection (33/127) with complete main valve from water stopper housing (19/113).
  - Valve inside water stopper will close now. Water will not exit through SSV anymore. Actuator may now be serviced.

- DN 25 to DN150/DN200 – check important functional parts
  - Valve lock (26/121) – check for easy movement.
  - Sealing shim (35/131) – check for dirty/damaged sealing faces.

3.3 Adjusting electrical remote indication (position indicator)

DN 25 to DN 150/DN 200 with optional electrical remote indication.

- SSV must be in open position.
- Loosen nuts of proximity sensor (59/149).
- Screw proximity switch inside body (55 or 60/143 or 150) on switch rod (54 or 61/148 or 151) all the way up to switch rod.
- Next, screw back proximity switch inside body about ½ turn or 150 degrees, to a distance of x ~ 0.4 mm.
- Re-tighten nuts against body (55 or 60/143 or 150) again, in order to stabilise proximity switch.

3.4 Tightening torques M_A

Item no.	Tightening torques M_A in Nm
47	6
108	6

3.5 Lubricants

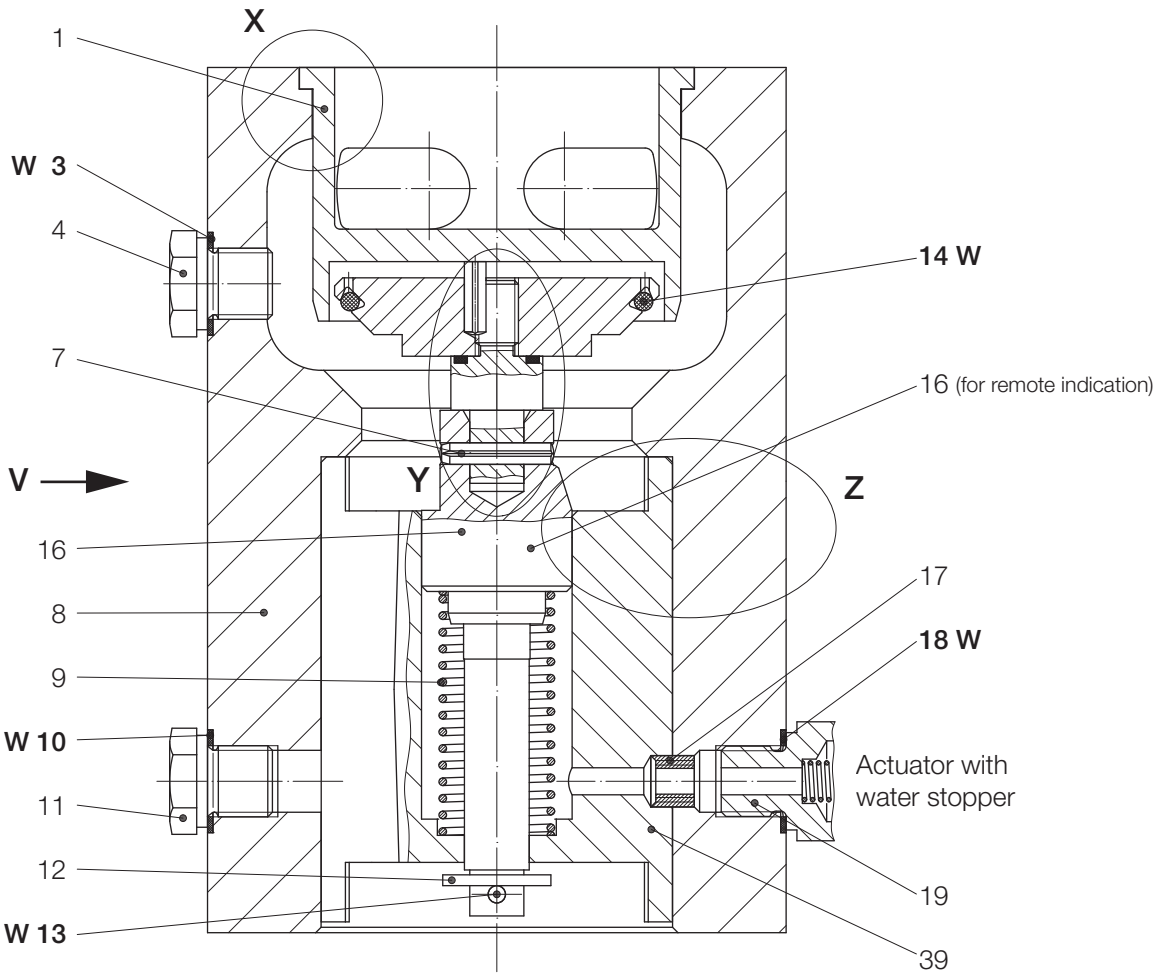
Components		Lubricant	HON part no.
all O rings and all sliding surfaces		Silicone grease (apply a thin film)	27081
DN 25 to DN 150	all fastening screws and bolts and screwed connections	Silicone grease	27081
DN 200	all screwed connections	Klüberalfa YV 93-302	28211

3.6 Screw locking devices

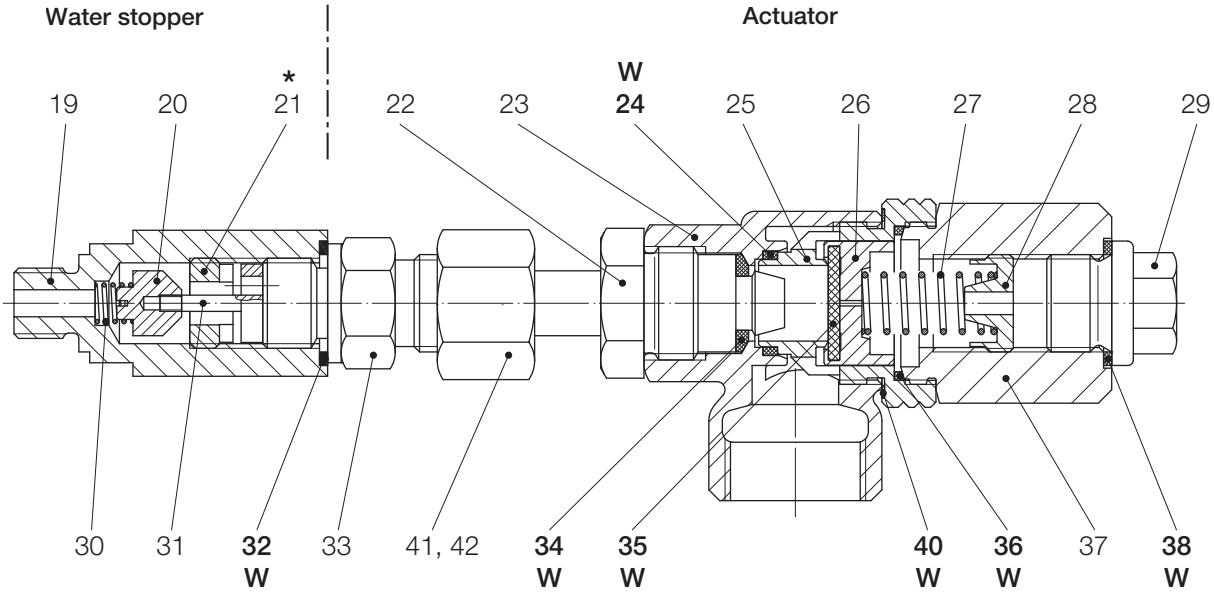
Components	Method/device	HON part no.
Countersunk screw (108) Ensat threaded insert (112)	WEICONLOCK 302-21	525045
Finned body for position indicator (60/150)	WEICONLOCK 302-70	525046

4.1.1.1 Spare parts drawing DN 25 to DN 150

(Fig. shows DN 50 to DN 150, PN 10 to class 600)



Actuator with water stopper



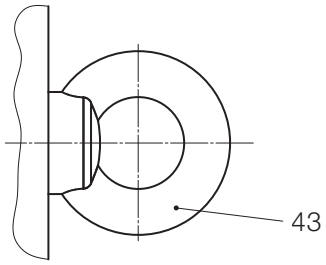
* Sealed with PTFE tape

W Parts should be held in stock for maintenance purposes.

4.1.1.2 Details

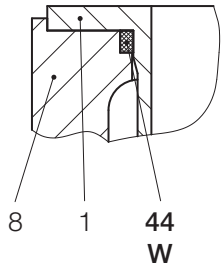
View “V”

Version DN 150

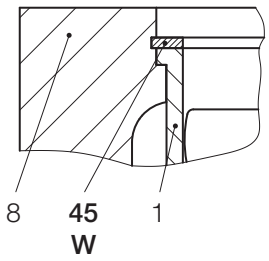


Detail “X”

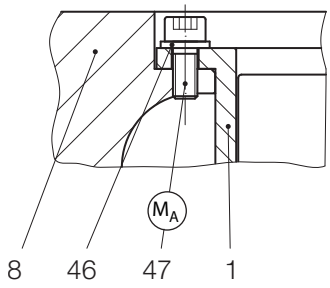
Version DN 25 since August 2004



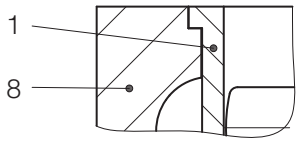
Versions DN 50 through DN 100
Classes 900 and 1500



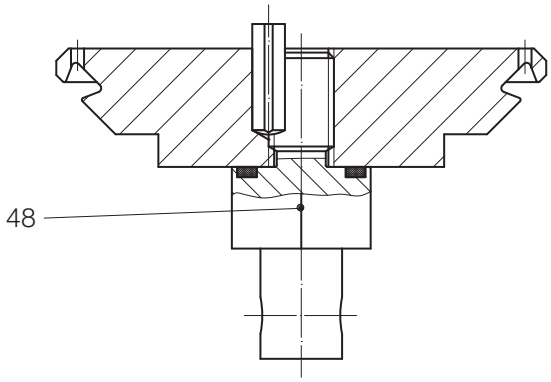
Version DN 150
Classes 900 and 1500



Detail “X”
Version DN 25 up to July 2004



Detail “Y”

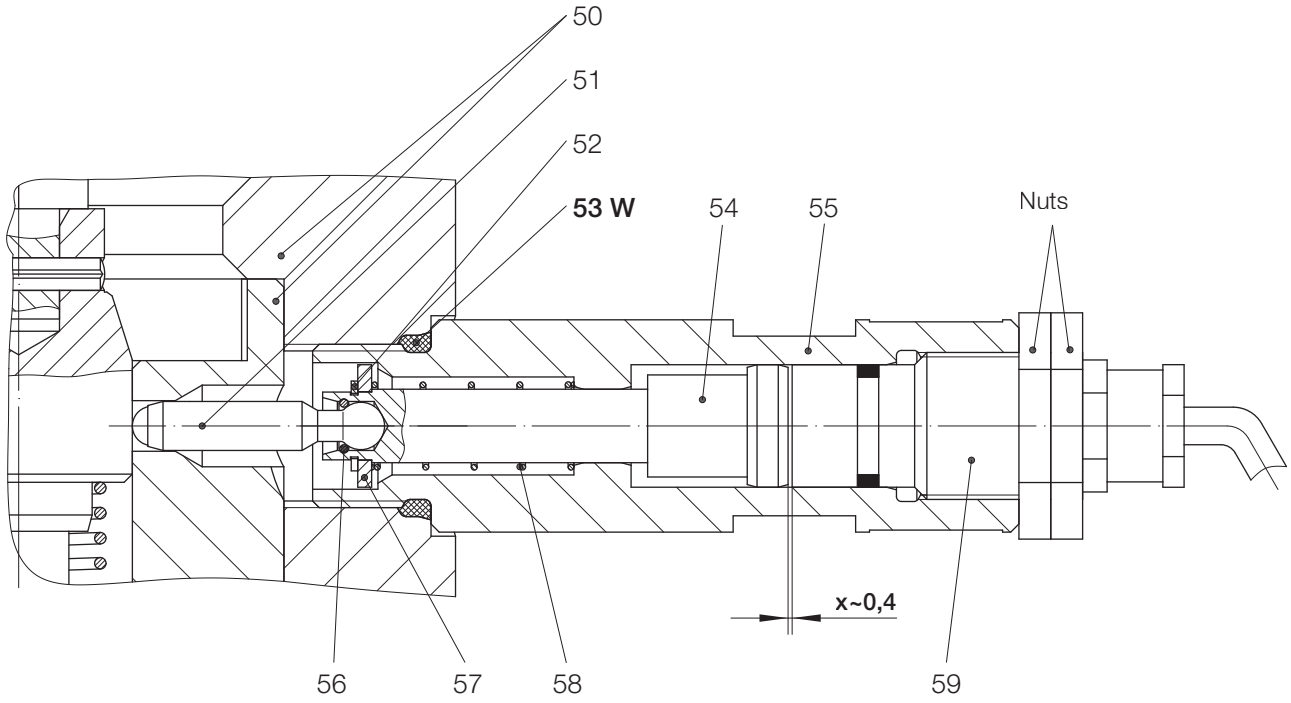


M_A Be sure to comply with tightening torques in table on page 8.

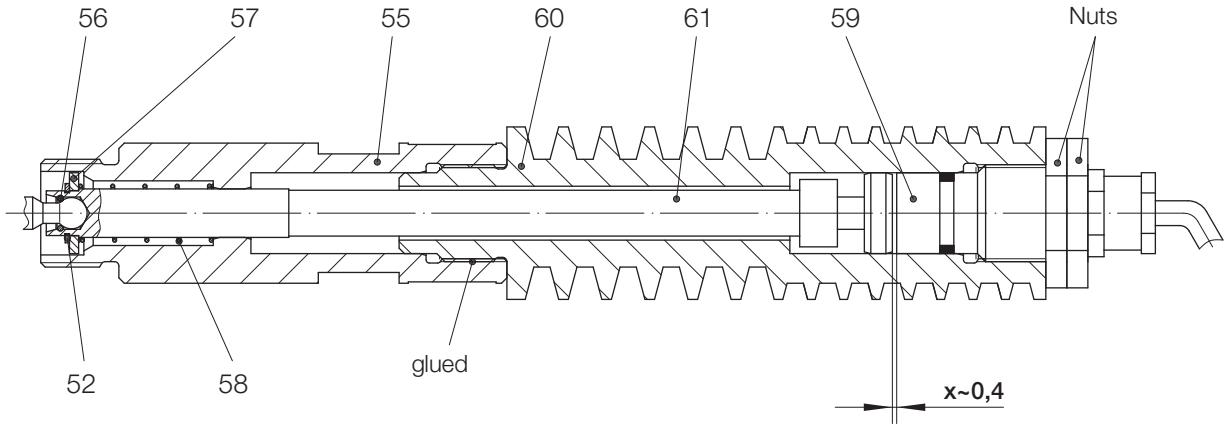
W Parts should be held in stock for maintenance purposes.

4.1.1.3 Electrical remote indication (position indicator) Detail “Z”

Version I, $t_{max} \leq 90$ °C



Version II, $t_{max} > 90$ °C



W Parts should be held in stock for maintenance purposes.

4.1.2 Spare parts lists DN 25 to DN 150

Item no.	Denomination	Num-ber	W	Material	Part no. DN 25	DN 50	DN 80	DN 100	DN 150
1	Shielding disc, at option:								
1	Shielding disc	1		Ms	15407099	10008902	10008914	10008926	18352415
1	Shielding disc for classes 900/1500	1		Ms					18354766
1	Shielding disc – up to July 2004	1		Ms	10008958				
3	**Sealing ring**	**1**	**W**	**Cu**	**18802**	**18802**	**18802**	**18802**	**18802**
4	Sealing cap	1		NSt	510052	510052	510052	510052	510052
7	Grooved dowel pin	1		NSt	17215	17214	17214	17214	17214
8	Body, optional:								
8	Housing without position indicator								
8	Housing PN 10/16	1		Ms	15407090	10008906	10008918	10008930	10008270
8	Housing PN 25/40	1		Ms	15407090	10008906	10008918	10008931	10008271
8	Housing class 300 RF	1		Ms	15407090	10008906	10008919	10008933	10008272
8	Housing class 600 RF	1		Ms	15407090	10008906	10008919	10008934	10008274
8	Housing class 900 RF	1		Ms		15408101	15409101	15410101	18354785
8	Housing class 1500 RF	1		Ms		15408101	15409301	15410101	15411701
8	Housing – up to July 2004								
	PN 10/16 up to class 600 RF	1		Ms	10008947				
9	Pressure spring	1		NFSt	18353488	18353366	18353317	10008936	10008282
10	**Sealing ring**	**1**	**W**	**Cu**	**18802**	**18802**	**18802**	**18802**	**18802**
11	Sealing cap	1		NSt	510052	510052	510052	510052	510052
12	Washer	1		Ms/NSt	14145	14142	14142	14142	14142
13	**Split pin**	**1**	**W**	**NSt**	**15031**	**15030**	**15030**	**15030**	**15030**
14	**O ring**	**1**	**W**	**KG**	**20616**	**20590**	**20591**	**20589**	**20824**
16	Guide piston, at option:								
16	Guide piston without position indicator	1		NSt	10008954	10008888	10008888	10008935	10008280
16	Guide piston with position indicator	1		NSt	15407111	15409111	15409111	15410111	15411111
17	Ensat threaded insert	1		St	27132	27132	27132	27132	27132
18	**Sealing ring**	**1**	**W**	**Cu**	**18802**	**18802**	**18810**	**18810**	**18810**
19	Housing for water stopper	1		Ms	10008251	10008251	10008256	10008256	10008256
20	Sealing cone	1		Ms	10008254	10008254	10008254	10008254	10008254

W **Parts should be held in stock for maintenance purposes.**

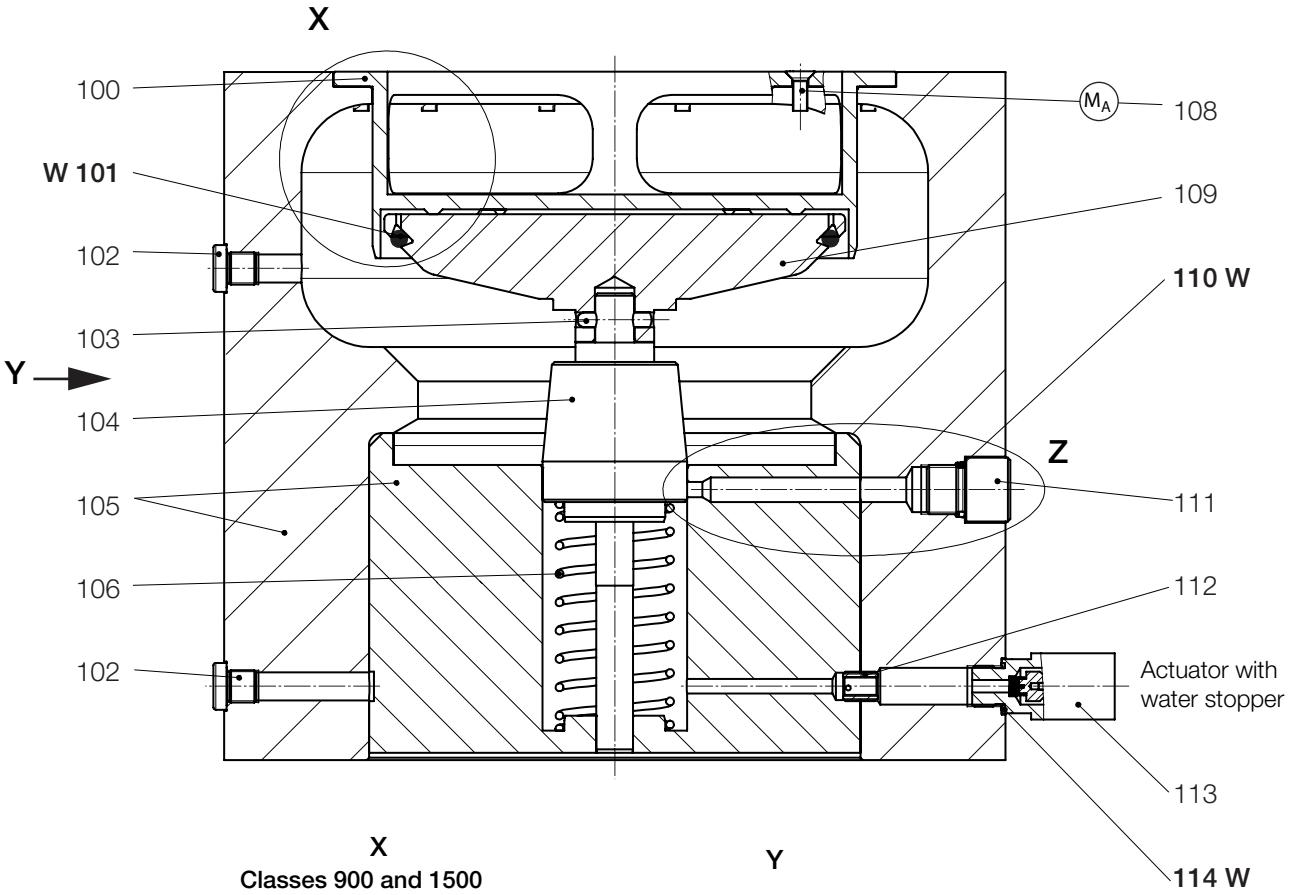
German abbreviations stand for the following materials:

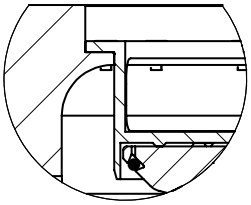
St ... steel
NSt ... stainless steel
FSt ... spring steel
NFSt ... stainless spring steel
Bz ... bronze
Cu ... copper
LM ... light metal / alloy
Ms ... brass
GS ... cast steel
GGG ... spheroidal graphite cast iron
GBz ... cast bronze
GLM ... cast light metal
GMs ... cast brass
GZn ... cast zinc
AlBz ... aluminium bronze
K ... synthetic materials
KG ... gummous synthetic materials
SSt ... foamed materials

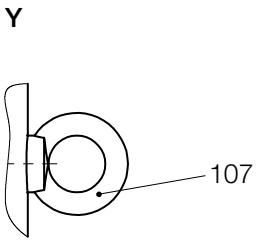
Item no.	Denomination	Num-ber	W	Material	Part no. DN 25	DN 50	DN 80	DN 100	DN 150
21	Screwed-in nozzle	1		Ms	10008253	10008253	10008253	10008253	10008253
22	Transition piece	1		NSt	10008900	10008900	10008900	10008900	10008900
23	Housing for actuator	1		Ms	26868	26868	26868	26868	26868
24	**O ring**	**1**	**W**	**KG**	**26869**	**26869**	**26869**	**26869**	**26869**
25	Screwed-in nozzle	1		Ms	10008294	10008294	10008294	10008294	10008294
26	Valve lock	1		Ms	10008295	10008295	10008295	10008295	10008295
27	Control spring, optional:								
27	F1: W_{ds} 2.0 bar to 2.5 bar	1		NSt	10008290	10008290	10008290	10008290	10008290
27	F2: W_{ds} 2.5 bar to 3.5 bar	1		NSt	10008291	10008291	10008291	10008291	10008291
27	F3: W_{ds} 3.5 bar to 16.0 bar	1		NSt	10008285	10008285	10008285	10008285	10008285
28	Adjusting screw	1		K	26870	26870	26870	26870	26870
29	Sealing cap	1		Ms	26760	26760	26760	26760	26760
30	Pressure spring	1		NFSt	10016923	10016923	10016923	10016923	10016923
31	Pressure pin	1		Ms	10008252	10008252	10008252	10008252	10008252
32	**Sealing ring**	**1**	**W**	**Cu**	**18810**	**18810**	**18810**	**18810**	**18810**
33	Screwed connection	1		NSt	30122	30122	30122	30122	30122
34	**Sealing ring**	**1**	**W**	**KG**	**20903**	**20903**	**20903**	**20903**	**20903**
35	**Sealing shim**	**1**	**W**	**KG**	**10008297**	**10008297**	**10008297**	**10008297**	**10008297**
36	**O ring**	**1**	**W**	**KG**	**20805**	**20805**	**20805**	**20805**	**20805**
37	Control spring guide	1		Ms	10008296	10008296	10008296	10008296	10008296
38	**Sealing ring**	**1**	**W**	**Cu**	**18810**	**18810**	**18810**	**18810**	**18810**
39	Hydraulic insert	1		Ms	10008953	10008903	10008915	10008927	18352416
40	**Sealing ring**	**1**	**W**	**LM**	**3916**	**3916**	**3916**	**3916**	**3916**
41	Union nut	1		NSt	30822	30822	30822	30822	30822
42	Cutting ring	1		NSt	30919	30919	30919	30919	30919
43	Eye bolt	2		St					10487
45	**Sealing ring**	**1**	**W**	**NSt**		**519014**	**519015**	**519016**	
46	Washer	12		NSt					14146
47	Cheese head screw	12		NSt					510121
48	Valve plate, cpl., at option:								
48	Valve plate, complete	1		Ms/NSt/KG	15407096	15408096	15409096		
48	Valve plate, cpl., PN 10 - PN 40; classes 300/600	1		Ms/NSt/KG				15410096	
48	Valve plate, cpl., classes 900/1500	1		Ms/NSt/KG				15410097	
48	Valve plate, cpl., PN 10 - PN 40; classes 300/900	1		Ms/NSt/KG					15411096
48	Valve plate, cpl., class 1500	1		Ms/NSt/KG					15411097

Item no.	Denomination	Num-ber	W	Material	Part no. DN 25	DN 50	DN 80	DN 100	DN 150
	Housing for version with position indicator								
50	Housing/hydraulic insert; at option:								
50	PN 10 - PN 40, classes 300/600 RF	1		Ms	15407240				
50	Class 900/1500 RF	1		Ms		15408140			
50	PN 10 - PN 40; classes 300/600 RF	1		Ms		15408340			
50	Class 900 RF	1		Ms			15409140		
50	Class 1500 RF	1		Ms			15409340		
50	PN 10 - PN 40	1		Ms			15409540		
50	Class 300/600 RF	1		Ms			15409640		
50	Class 1500 RF	1		Ms				15410140	
50	PN 10/16	1		Ms				15410540	
50	PN 25/40	1		Ms				15410640	
50	Class 300 RF	1		Ms				15410740	
50	Class 600 RF	1		Ms				15410840	
50	PN 10/16	1		Ms					15411140
50	PN 25/40	1		Ms					15411240
50	Class 300 RF	1		Ms					15411340
50	Class 600 RF	1		Ms					15411440
50	Class 900 RF	1		Ms					15411540
50	Class 1500 RF	1		Ms					15411740
51	Tracer pin, pre-assembled	1		Ms/NSt	15407130	15408130	15409130	15410130	15411130
52	Sealing ring	1		NSt	19192	19192	19192	19192	19192
53	**O ring**	**1**	**W**	**KG**	**20912**	**20912**	**20912**	**20912**	**20912**
54	Switch rod for position indicator	1		NSt	15409122	15409122	15409122	15409122	15409122
55	Housing for position indicator	1		Ms	15409121	15409121	15409121	15409121	15409121
56	Circlip	1		NSt	15409112	15409112	15409112	15409112	15409112
57	Washer	1		NSt	14160	14160	14160	14160	14160
58	Pressure spring	1		NFSt	15409123	15409123	15409123	15409123	15409123
59	Proximity sensor	1		NSt/KG	24142	24142	24142	24142	24142
60	Finned body for position indicator	1		Ms	15409151	15409151	15409151	15409151	15409151
61	Switch rod for position indicator	1		NSt	15409152	15409152	15409152	15409152	15409152

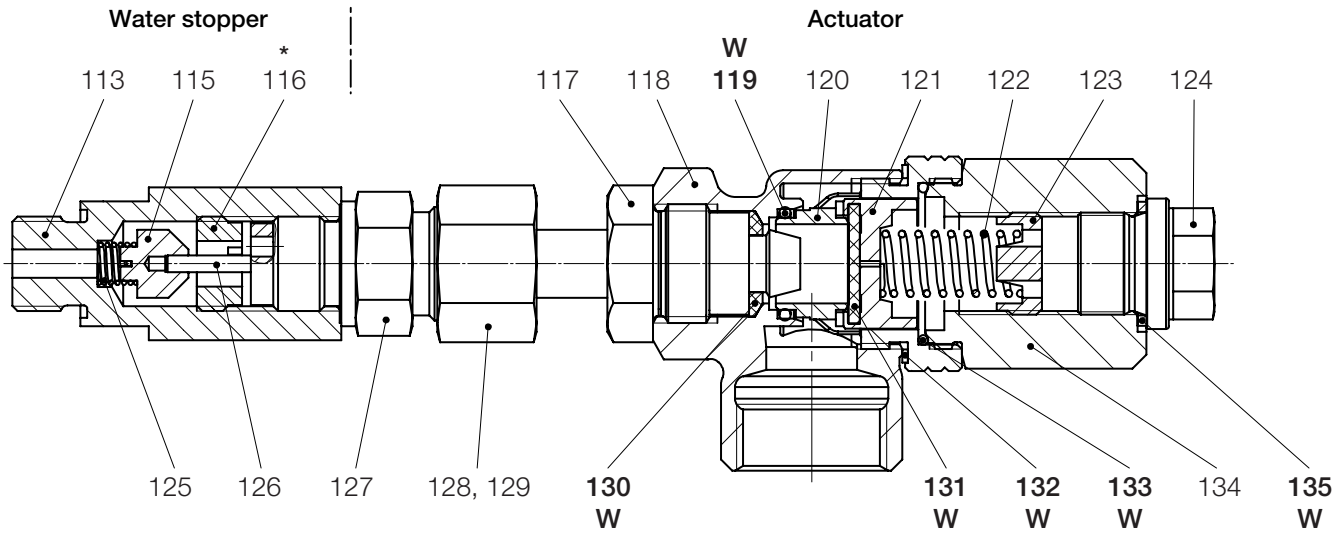
4.2.1.1 Spare parts drawing DN 200







Actuator with water stopper



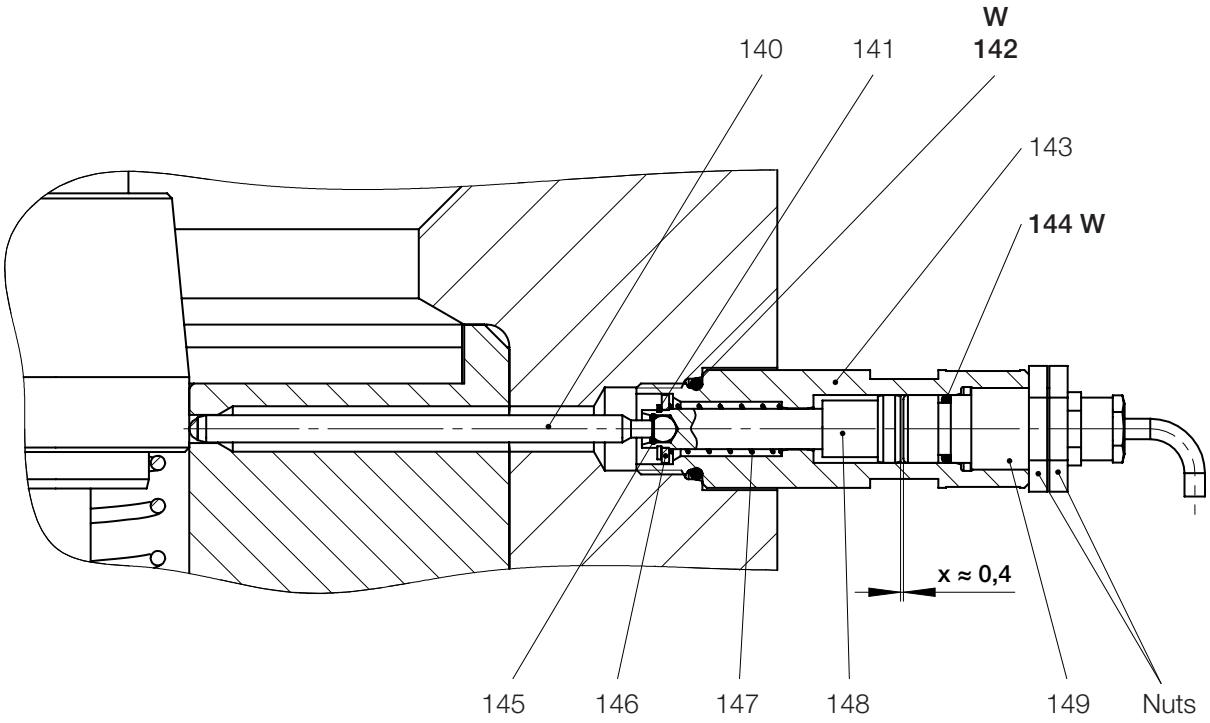
* sealed with PTFE tape

M_A Be sure to comply with tightening torques in table on page 8.

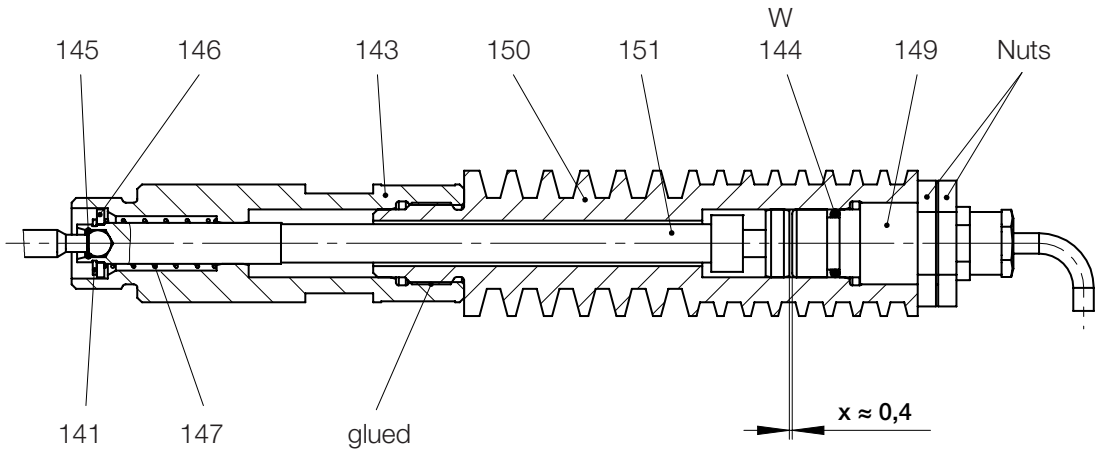
W Parts should be held in stock for maintenance purposes.

4.2.1.2 Electrical remote indication (position indicator) Detail “Z”

Version I, t_{max} ≤ 90 °C



Version II, t_{max} > 90 °C



W Parts should be held in stock for maintenance purposes.

4.2.2 Spare parts list DN 200

Item no.	Denomination	Num-ber	W	Materials	Part no.
100	Shielding disc	1		NSt	15413006
101	**O ring**	**1**	**W**	**KG**	**520111**
102	Plug	2		NSt/KG	525047
103	Dowel pin	1		NSt	516024
104	Guide piston	1		NSt	15413003
105	Body/hydraulic insert, at option:				
105	Class 600 RF	1		NSt	15413010
105	Class 900 RF	1		NSt	15413055
105	Class 1500 RF	1		NSt	15413075
106	Pressure spring	1		NFSt	15413004
107	Eye bolt, at option:				
107	Class 600 RF	2		St	10487
107	Class 900/1500 RF	2		St	10021
108	Countersunk screw	12		NSt	510122
109	Valve disc	1		NSt	15413005
110	**O ring**	**1**	**W**	**KG**	**520112**
111	Plug	1		NSt	15413007
112	Ensat threaded insert	1		NSt	525027
113	Housing for water stopper	1		NSt	15801611
114	**Elastic sealing ring**	**1**	**W**	**KG**	**520113**
115	Sealing cone	1		NSt	15801614
116	Screwed-in nozzle	1		NSt	15801613
117	Transition piece	1		NSt	15801621
118	Housing for actuator	1		Ms	15801616
119	**O ring**	**1**	**W**	**KG**	**520115**
120	Screwed-in nozzle	1		Ms	15801618
121	Valve lock	1		NSt	15801619
122	Control spring, optional:				
122	F1: W_{ds} 2.0 bar to 2.5 bar	1		NFst	10008290
122	F2: W_{ds} 2.5 bar to 3.5 bar	1		NFSt	10008291
122	F3: W_{ds} 3.5 bar to 16.0 bar	1		NFSt	10008285
123	Adjusting screw	1		NSt	15801617
124	Sealing cap	1		NSt	510123
125	Pressure spring	1		NFSt	10016923
126	Pressure pin	1		NSt	15801612
127	Screwed connection	1		NSt/KG	530049
128	Union nut	1		NSt	30822
129	Cutting ring	1		NSt	30919
130	**Sealing ring**	**1**	**W**	**KG**	**520114**

Item no.	Denomination	Num-ber	W	Materials	Part no.
131	**Sealing shim**	**1**	**W**	**KG**	**15299938**
132	**Sealing ring**	**1**	**W**	**LM**	**3916**
133	**O ring**	**1**	**W**	**KG**	**520116**
134	Control spring guide	1		NSt	15801620
135	**Sealing ring**	**1**	**W**	**LM**	**18688**
140	Tracer pin, pre-assembled	1		NSt	15413105
141	Sealing ring	1		NSt	19192
142	**O ring**	**1**	**W**	**KG**	**520112**
143	Housing for position indicator	1		NSt	15801623
144	**O ring**	**1**	**W**	**KG**	**520117**
145	Circlip	1		NSt	15409112
146	Washer	1		NSt	14160
147	Pressure spring	1		NFSt	15409123
148	Switch rod for position indicator	1		NSt	15801624
149	Proximity sensor	1		NSt/KG	24142
150	Finned body for position indicator	1		NSt	15413131
151	Switch rod for position indicator	1		NSt	15413132

5. Parts for maintenance purposes

Item no.	Denomination	Number	Part no. DN 25	DN 50	DN 80	DN 100	DN 150	DN 200
3	Sealing ring	1	18802	18802	18802	18802	18802	
10	Sealing ring	1	18802	18802	18802	18802	18802	
13	Split pin	1	15031	15030	15030	15030	15030	
14	O ring	1	20616	20590	20591	20589	20824	
18	Sealing ring	1	18802	18802	18810	18810	18810	
24	O ring	1	26869	26869	26869	26869	26869	
32	Sealing ring	1	18810	18810	18810	18810	18810	
34	Sealing ring	1	20903	20903	20903	20903	20903	
35	Sealing shim	1	10008297	10008297	10008297	10008297	10008297	
36	O ring	1	20805	20805	20805	20805	20805	
38	Sealing ring	1	18810	18810	18810	18810	18810	
40	Sealing ring	1	3916	3916	3916	3916	3916	
44	O ring	1	520042					
45	Sealing ring	1		519014	519015	519016		
53	O ring	1	20912	20912	20912	20912	20912	
101	O ring	1						520111
110	O ring	1						520112
114	Elastic sealing ring	1						520113
119	O ring	1						520115
130	Sealing ring	1						520114
131	Sealing shim	1						15299938
132	Sealing ring	1						3916
133	O ring	1						520116
135	Sealing ring	1						18688
142	O ring	1						520112
144	O ring	1						520117

For More Information

To learn more about Honeywell's Advanced Gas Solutions, visit www.honeywellprocess.com or contact your Honeywell account manager

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HON 790.20
2017-01

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