



OPERATING AND MAINTENANCE INSTRUCTIONS/
SPARE PARTS

EDITION 01/2017

**Serving the Gas Industry
Worldwide**

Honeywell

1. General

For the regulator HON 640 the detailed information publication 640.00 containing technical data, designs and dimensions applies.

The RMG publication "General operating instructions for gas pressure regulators and safety devices" contains information on installation, commissioning, operation as well as notices on fault finding.

When constructing and setting up as well as monitoring and maintaining gas pressure systems the relevant regulations, especially the DVGW work sheets G 490, G 491, and G 495 should be observed.

The time intervals for maintenance on the regulator HON 640 depend largely on the operating conditions and the composition of the gas media. Therefore, no fixed intervals will be given.

It is recommended to keep to the maintenance intervals stated in DVGW work sheet G 495.

During maintenance all components must be cleaned and subjected to a thorough visual inspection. A visual inspection will still be required where irregularities were found during operation or functional checks.

The inspection must in particular extend to seals and diaphragms and all moving components. Damaged components must be renewed.

The item numbers referred to in the maintenance notices correspond to those in the spare part drawing and spare part list.

It is recommended to keep a stock of specially marked items in the spare part list for maintenance purposes.

2. Special operating notices

2.1 Startup valve

Depending on pipe size the gas pressure regulators HON 402/502/503 will be fitted with a startup valve. The startup valve is designed to achieve a faster pressure equalisation at the throttle diaphragm after applying the inlet pressure.

- Prior to applying pressure, the startup valve must be opened.
- After applying pressure the startup valve must be closed again.

2.2 Throttling valve

The normal settings made at factory do not require adjustment for the vast majority of regulating tasks. The amplification can be reduced by turning the spindle anti-clockwise.

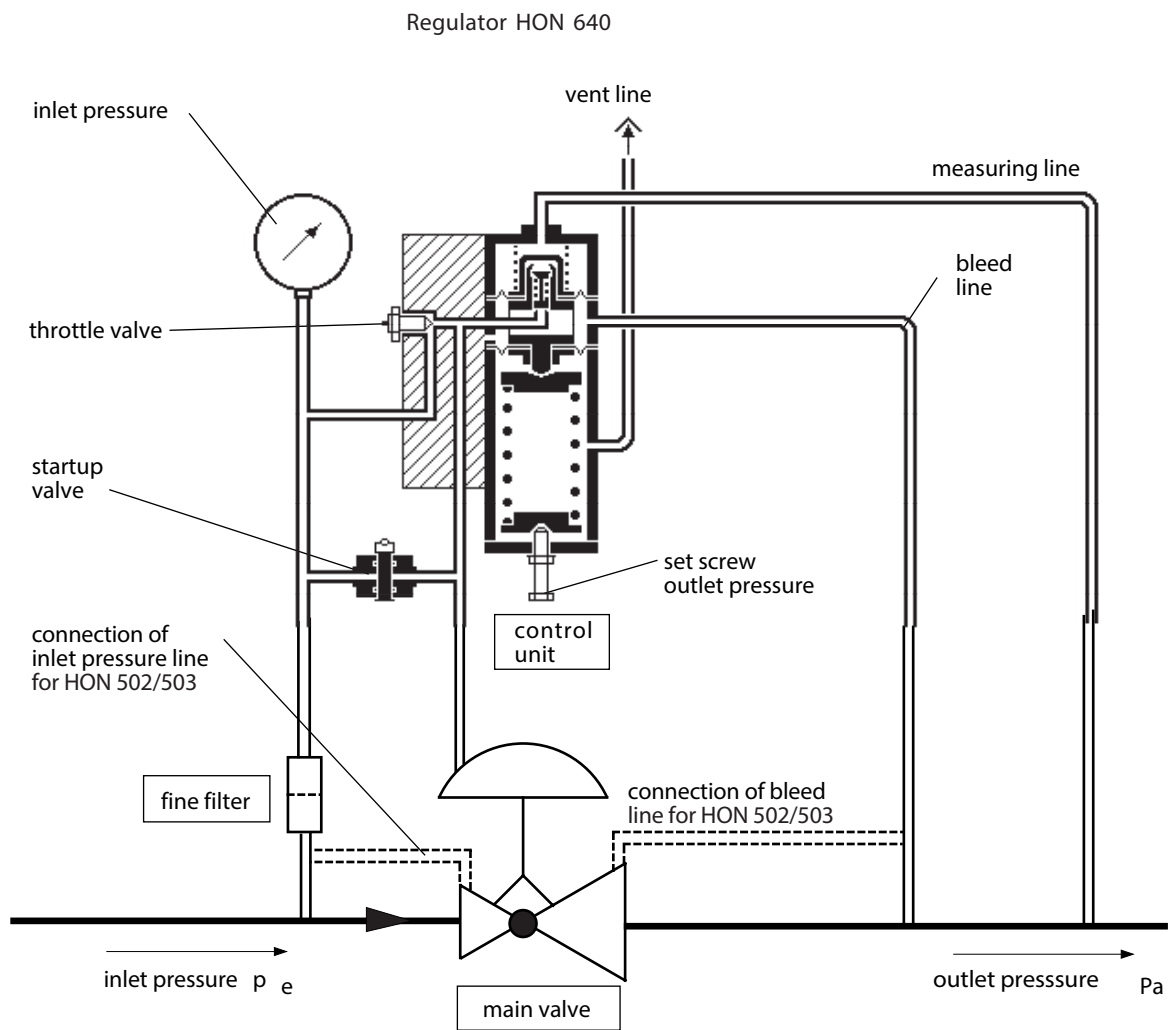


Figure 1: Basic layout of regulator HON 640 with main valve

3. Special maintenance notices

flange shaped diaphragm (119, 169)

During assembly the correct installation position of the loop must be observed (see spare part drawings for each stage p.10, p.12)

diaphragm plate (107, 154)

When tightening the casing cap (103, 167) and the hexagonal nut (123) the diaphragm plate must be stopped from turning using a spanner size 24.

Alignment of the diaphragm system (119)

During assembly the diaphragm system must be secured :

The centre position, where the cross holes of the connecting piece (122) and the valve body (121) line up, is found by turning clockwise or anti-clockwise up to the stop.

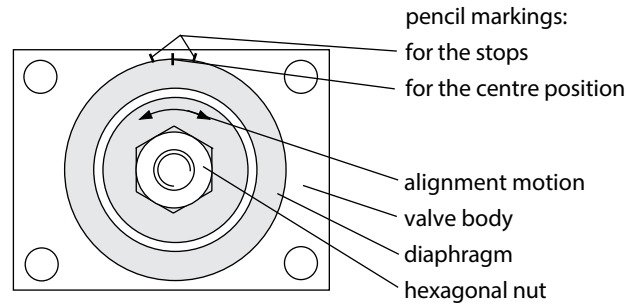


figure 2: diaphragm system

Connecting piece (158)

Brush the threaded stem of the completely assembled connection piece with LOCTITE and turn fully into the connecting piston of the metal harmonica (173) until the cross hole of the connecting piece lies 0.5 mm to 1 mm lower than the cross hole in the valve body (171).

Note: Both cross holes must line up

Valve core (105, 156)

The diaphragm system must be adjusted using the adjustment screw (124, 185) until the valve core can be fitted.

Base plate (1)

At the control unit the surfaces touching the base plate must be aligned flush.

Spindle (25) of the amplifier valve

For the initial adjustment of the amplifier valve the spindle (25) is moved until the spindle nut marked in black is aligned with the front edge of the sleeve (27) stuck in the guide screw (26).

Tightening torques

item no.	tightening torque M in Nm _A
176	6
11, 114, 115, 165, 183	12
103, 123, 167	20

Lubricants

component (brush thinly)	lubricant	part no.
all O rings, all sliding faces	tube silicon grease	00 027 081
hollow of spring plates (13, 108, 161) thread of cover (112) thread of plate (181)	assembly paste	00 027 091

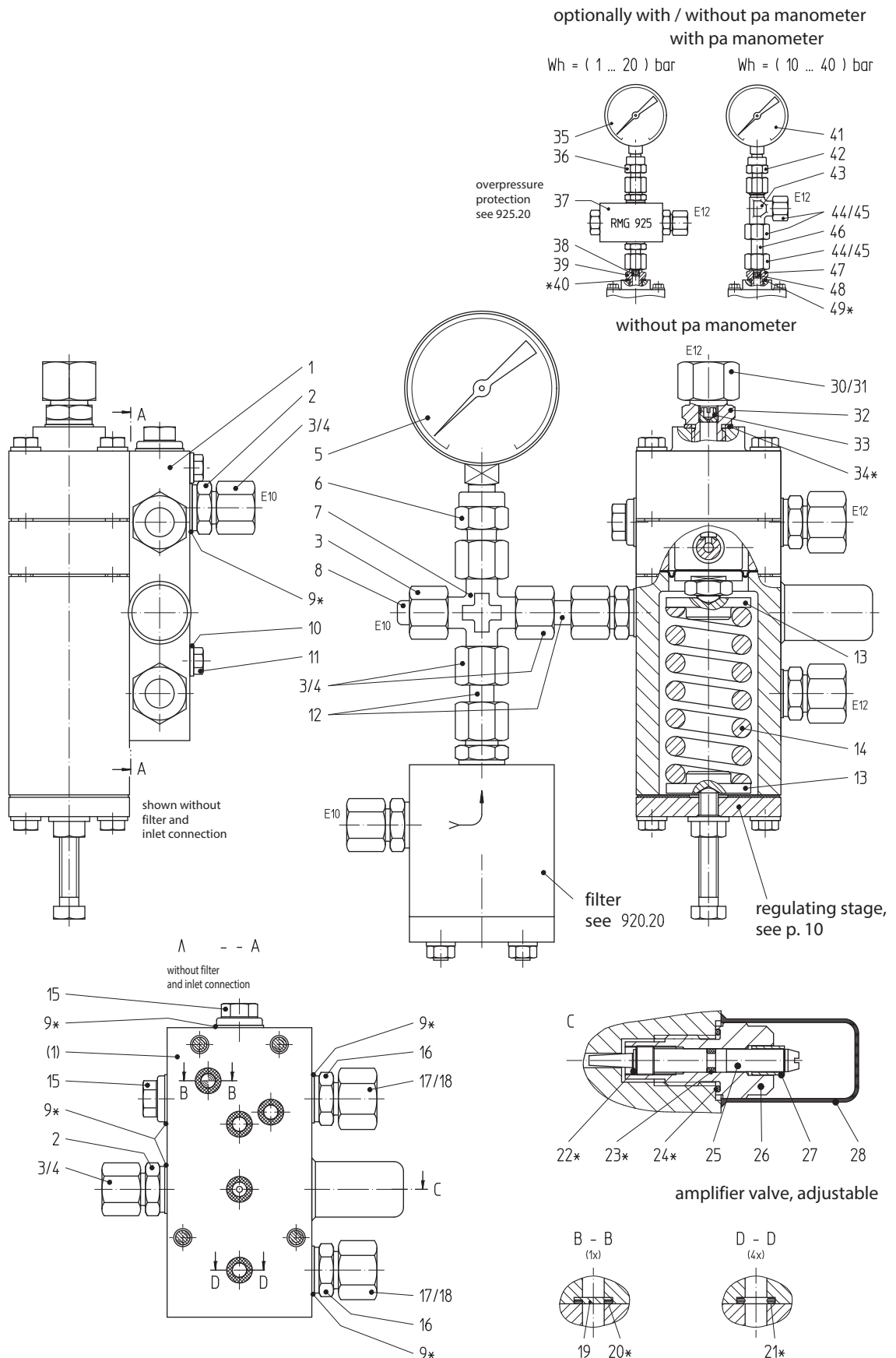
locking agent

component (brush components thinly)	locking agent	part no.
thread of closing cap (103, 167) thread of hexagonal nut (123) thread of connecting piece (122,158)	LOCTITE	00 026 688

4. Spare parts

4.1 Spare part drawing HON 640

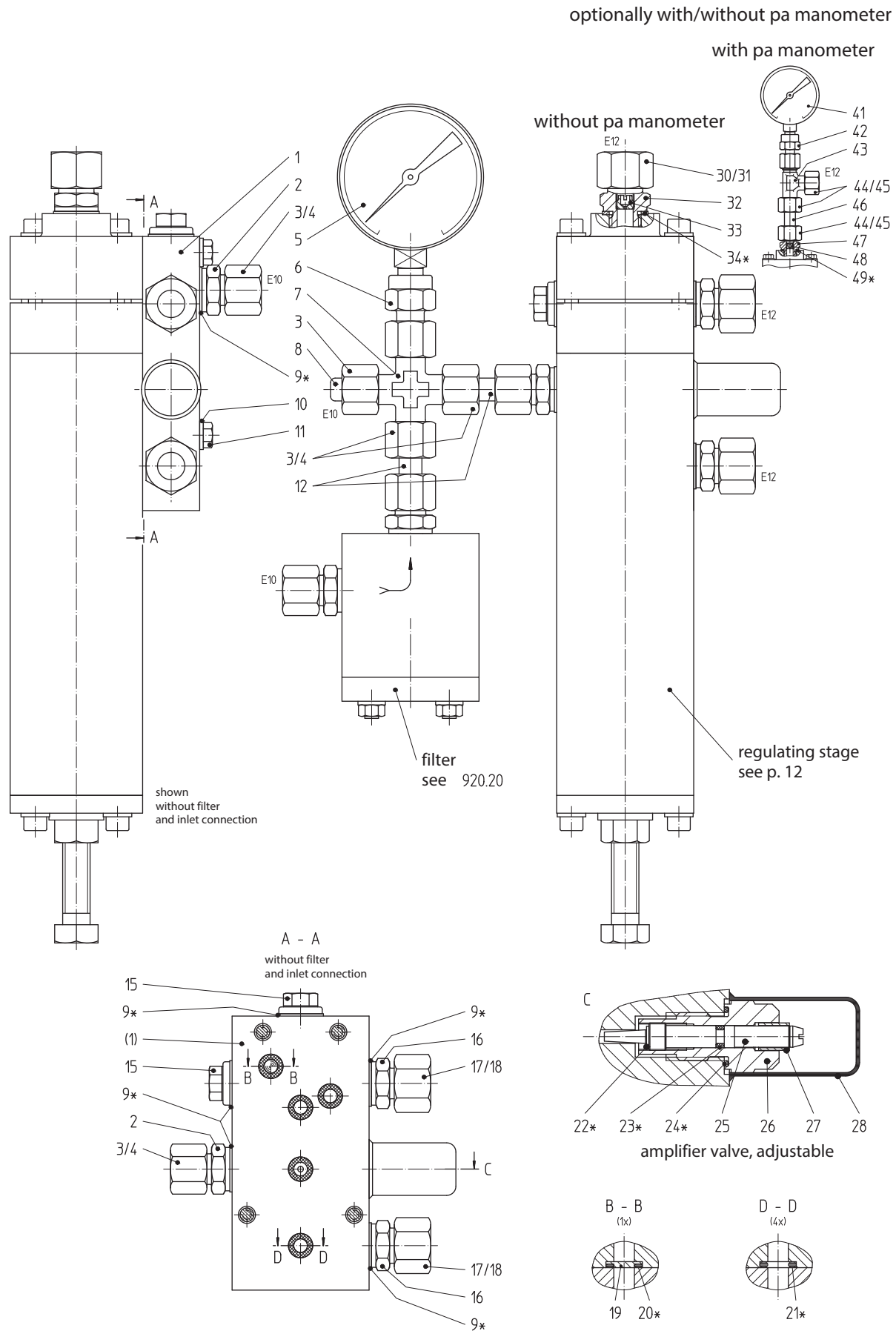
Setting range W_H 1 bar to 40 bar with diaphragm measuring unit



* Keep parts in stock for maintenance purposes

4.2 Spare part drawing HON 640

Setting range W_h 20 bar to 90 bar with metal harmonica measuring unit



* keep parts in stock for maintenance purposes

4.3 Spare part list HON 640

W_h 1 Bar to 40 Bar with diaphragm measuring unit,
 W_h 20 Bar to 90 Bar with metal harmonica measuring unit

item no.	designation	material	part no.	
			1 Bar ...40 Bar	20 Bar ... 90 Bar
1	base plate	LM	10 011 749	10 011 749
2	adapter	St	00 030 111	00 030 111
3	union nut	St	00 030 803	00 030 803
4	cutting ring	St	00 030 903	00 030 903
5	pressure gauge, optionally:			
-	for device control unit PN16	NSt/Ms	00 026 314	-
-	for device control unit PN 25/ANSI 150	NSt/Ms	00 026 284	-
-	for device control unit PN 40	NSt/Ms	00 026 282	-
-	for device control unit ANSI 300	NSt/Ms	00 026 283	00 026 285
-	for device control unit ANSI 600	NSt/Ms	00 026 285	00 026 285
6	adapter	St	00 031 810	00 031 810
7	adapter	St	00 031 609	00 031 609
8	closing cone	St	00 032 004	00 032 004
9*	sealing ring	LM	00 018 842	00 018 842
10	disk	St	00 008 279	00 008 279
11	hexagonal screw	St	00 010 024	00 010 024
12	straight pipe piece	St	00 032 101	00 032 101
13	spring plate, optionally:			
-	W _h 1 Bar to 10 Bar	LM	10 000 114	-
-	W _h 5 Bar to 40 Bar	LM	10 000 148	-
14	pressure spring, optionally:			
-	W _h 1 Bar to 5 Bar (yellow)	FSt	10 000 063	-
-	W _h 2 Bar to 10 Bar (brown)	FSt	10 000 115	-
-	W _h 5 Bar to 20 Bar (red)	FSt	10 000 064	-
-	W _h 10 Bar to 40 Bar (green)	FSt	10 000 149	-
15	closing cap	St	00 026 175	00 026 175
16	adapter	St	00 030 074	00 030 074
17	union nut	St	00 030 804	00 030 804
18	cutting ring	St	00 030 904	00 030 904
19	disk	LM	10 010 479	10 010 479
20*	O ring (1 off)	KG	00 020 231	00 020 231
21*	O ring (4 off)	KG	00 020 225	00 020 225
22*	locking washer	FSt	00 019 065	00 019 065
23*	O ring (1 off)	KG	00 020 283	00 020 283
24*	O ring (1 off)	KG	00 020 332	00 020 332
25	spindle	NSt	10 000 145	10 000 145
26	guide screw	Ms	10 000 144	10 000 144
27	sleeve	PGI	10 000 171	10 000 171
28	closing cap	K	00 026 343	00 026 343

Parts marked with * should be kept in stock for maintenance purposes

Material key:

St	... steel	LM	...light alloy	K	... plastic
NSt	... stainless steel	Ms	... brass	KG	... rubbery plastic
FSt	... spring steel	PGI	... plexiglass		

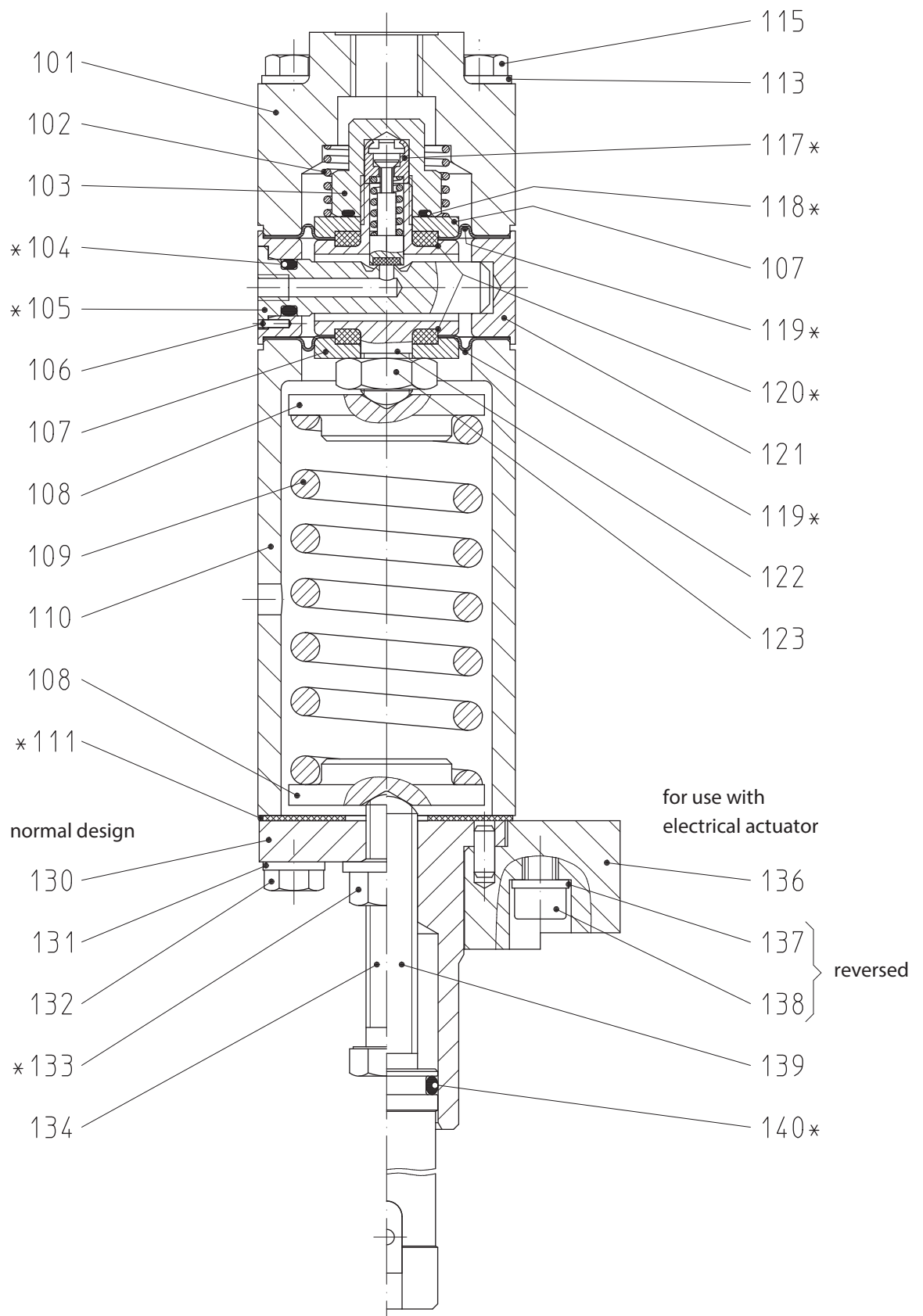
item no.	designation	material	part no.	
			1 Bar ...40 Bar	20 Bar ... 90 Bar
	optionally without/with p_a manometer			
	<i>without p_a manometer</i>			
30	union nut	St	00 030 804	00 030 804
31	cutting ring	St	00 030 904	00 030 904
32	adapter	St	10 009 683	10 009 683
33	dosing screw dia. 0.5 mm	Ms	10 014 015	10 014 015
34*	sealing ring	LM	00 018 842	00 018 842
	<i>with p_a manometer for W_h 1 Bar to 20 Bar</i>			
35	pressure gauge, optionally:			
-	for Wh 1 Bar to 5 Bar	NSt/Ms	00 026 281	-
-	for Wh 2 Bar to 10 Bar	NSt/Ms	00 026 314	-
-	for Wh 5 Bar to 20 Bar	NSt/Ms	00 026 284	-
36	adapter	St	00 031 810	-
37	overpressure protection, optionally:			
-	for Wh 1 Bar to 5 Bar		10 023 336	-
-	or Wh 2 Bar to 10 Bar		10 023 337	-
-	or Wh 5 Bar to 20 Bar		10 023 338	-
38	dosing screw dia. 0.5 mm	Ms	10 014 015	-
39	adapter	St	10 000 714	-
40*	sealing ring	LM	00 018 842	-
	<i>with p_a manometer for W_h 10 Bar to 90 Bar</i>			
41	pressure gauge	NSt/Ms	00 026 282	00 026 285
42	adapter	St	00 031 810	00 031 810
43	adapter	St	00 030 455	00 030 455
44	union nut	St	00 030 804	00 030 804
45	cutting ring	St	00 030 904	00 030 904
46	straight pipe piece	St	00 032 141	00 032 141
47	dosing screw dia. 0.5 mm	Ms	10 014 015	10 014 015
48	adapter	St	10 009 683	10 009 683
49*	sealing ring	LM	00 018 842	00 018 842

Parts marked with * should be kept in stock for maintenance purposes

Material key:

St	... steel	LM	...light alloy
NSt	... stainless steel	Ms	... brass

4.4 Spare part drawing HON 640
control element with diaphragm measuring unit



* parts to be kept in stock for maintenance purposes

4.5 Spare part list HON 640
control element with diaphragm measuring unit

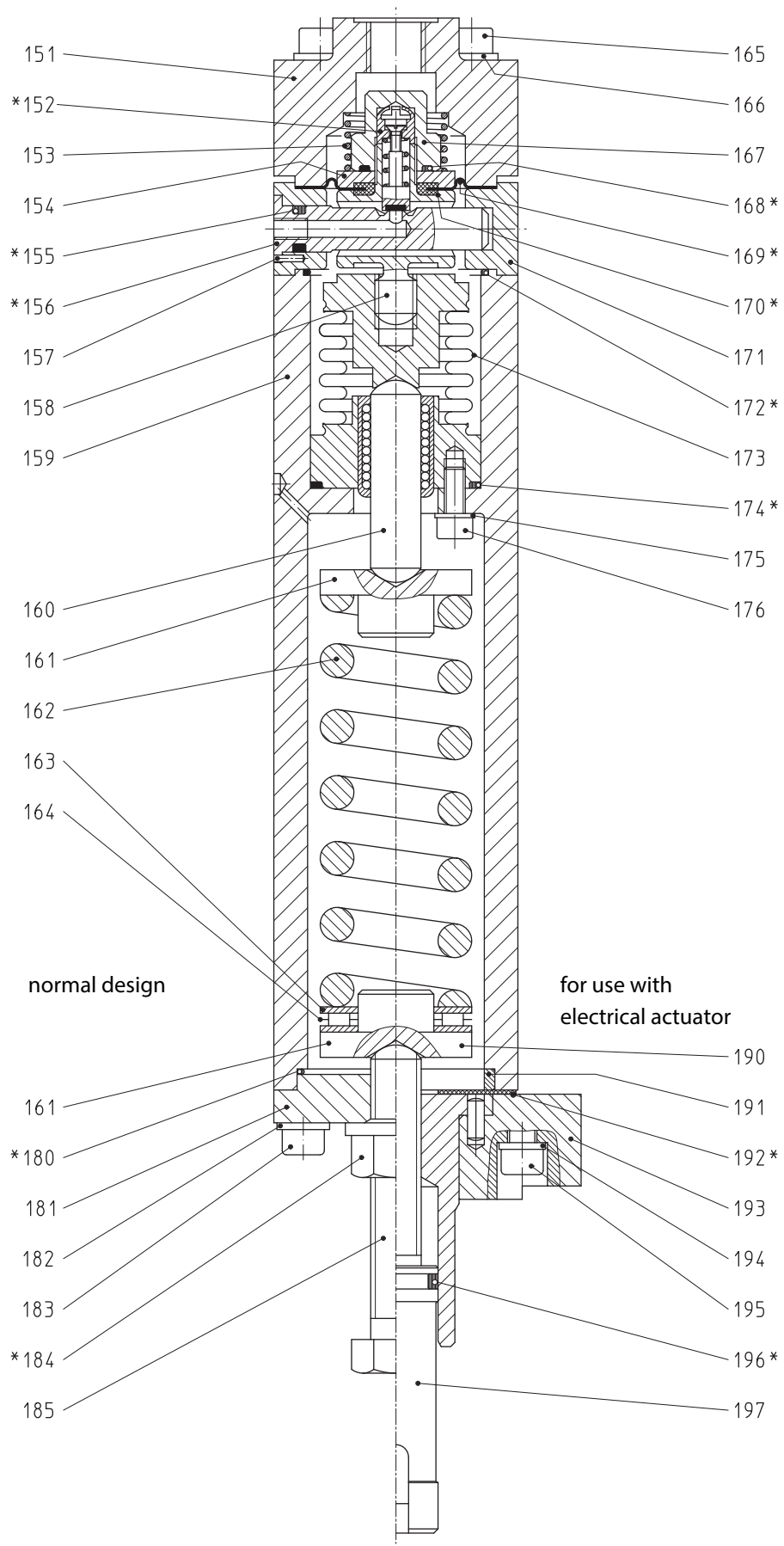
item no.	designation	material	part no.
			valve seat dia. 3
101	cover	LM	10 000 190
102	pressure spring	NFSt	10 010 463
103	closing cap	NSt	10 000 188
104*	O ring	KG	00 020 225
105*	valve core	LM	10 000 061
106	grooved dowel pin	St	00 017 197
107	diaphragm plate	LM	10 000 110
108	spring plate	LM	see p. 6 item no. 13, 14
109	pressure spring	FSt	
110	spring housing	LM	10 000 062
111*	seal	K	10 000 100
113	disk	St	00 008 279
115	hexagonal screw	St	00 010 377
117*	piston, fully assembled	NFSt/NSt/KV	10 000 186
118*	O ring	KG	00 020 332
119*	flange-shaped diaphragm	KG	10 000 191
120*	stem seal	KG	10 000 066
121	valve body	LM	10 000 137
122	connecting piece	NSt	10 000 108
123	hexagonal nut	St	00 013 114
130	cover	St	10 000 116
131	disk	St	00 008 279
132	hexagonal screw	St	00 006 493
133*	hexagonal collar nut	St/K	00 013 136
134	adjusting screw	NSt	10 002 795
136	for use with electrical actuator plate, complete	St/AlBz	10 000 079
137	disk	St	00 014 146
138	cylinder bolt	St	00 010 150
139	coupling half, pre-assembled	St/NSt	10 010 538
140*	O ring	KG	00 020 326

Parts marked with * should be kept in stock for maintenance purposes

Material key:

St	... steel	FSt	... spring steel	K	... plastic
NSt	... stainless steel	LM	... light alloy	KG	... rubbery plastic
NFSt	... stainless spring steel	AlBz	... aluminium bronze	KV	... Viton

4.6 Spare part drawing HON 640
control element with metal harmonica measuring unit



* Parts to be kept in stock for maintenance purposes

4.7 Spare part list HON 640

control element with metal harmonica measuring unit

item no.	designation	material	part no.
			valve seat dia.3
151	cover	LM	10 011 768
152*	piston, pre-assembled	NFSt/NSt/KV	10 000 186
153	pressure spring	NSF	10 010 463
154	diaphragm plate	LM	10 000 110
155*	O ring	KG	00 020 225
156*	valve core	LM	10 011 775
157	grooved dowel pin	St	00 017 197
158	connecting piece	NSt	10 011 773
159	spring housing	LM	10 011 767
160	guiding bolt	St	10 011 772
161	spring plate	NSt	10 011 774
162	pressure spring	FSt	10 010 444
163	axial disk (2 off)	St	00 026 385
164	axial needle bearing	St	00 026 384
165	cylinder bolt	St	00 010 548
166	disk	St	00 008 279
167	closing cap	NSt	10 000 188
168*	O ring	KG	00 020 332
169*	flange-shaped diaphragm	KG	10 000 191
170*	stem seal	KG	10 000 066
171	valve body	LM	10 011 769
172*	O ring	KG	00 020 416
173	metal harmonica, complete	NSt/St	10 011 764
174*	O ring	KG	00 020 317
175	disk	St	00 006 157
176	cylinder bolt	St	00 010 318
180*	O ring	KG	00 020 293
181	plate	St	10 011 770
182	disk	St	00 008 279
183	cylinder bolt	St	00 010 097
184*	hexagonal collar nut	St/K	00 013 145
185	hexagonal screw	NSt	10 010 447
	for use with electrical actuator		
190	spring plate	LM	10 011 795
191	ring	LM	10 021 766
192*	seal	K	10 021 765
193	plate, complete	St/AIBz	10 000 079
194	disk	St	00 014 156
195	cylinder bolt	St	00 010 150
196*	O ring	KG	00 020 326
197	coupling half, pre-assembled	St/NSt	10 010 538

Parts marked with * should be kept in stock for maintenance purposes

Material key:

St	... steel	FSt	... spring steel	K	... plastic
NSt	... stainless steel	LM	... light alloy	KG	... rubbery plastic
NFSt	... stainless spring steel	AIBz	... aluminium bronze	KV	... Viton

For More Information

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

GERMANY**Honeywell Process Solutions**

Honeywell Gas Technologies GmbH

Osterholzstrasse 45

34123 Kassel, Germany

Tel: +49 (0)561 5007-0

Fax: +49 (0)561 5007-107

HON 640.20
2017-01
© 2017 Honeywell International Inc.

The Honeywell logo is displayed in a bold, red, sans-serif font.