

Volume Control Valve HON 530-E-WG 530-E-WG.20

OPERATING AND MAINTENANCE INSTRUCTIONS/
SPARE PARTS

EDITION 01/2017

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1. General information

All persons involved with the assembly, operation and/or maintenance of HON 530 volume control valves must read and understand all of the following documents:

- Technical product information brochure 530-E-WG - 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/spare parts (1257) - this document contains more detailed information on assembly and operation of HON volume control valves 530-E-WG.

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.


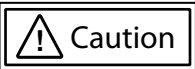
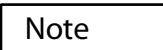
During maintenance, components must be cleaned and then checked thoroughly. This is necessary even if there have been any unusual observations during operation and/or functional testing. Checks must focus, in particular, on diaphragms and seals and all movable parts and their respective bearings. Any 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.

1.1 Safety information

In this manual, safety information is highlighted by means of the following titles 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 maintenance instructions

Under normal circumstances, maintenance jobs may be limited to the sealing elements of the drive shaft and actuator (zero shut-off) and the threads of the spindle and mitre gear.

2.1 Disassembling and replacing seals

- Use the electrical actuator to move the valve sleeve to the UP position. (Limit switch UP switches off.)
- Remove screws/bolts (37) to dismount the rotary drive + cap (5).

Note

Mark the position of the drive shaft (3) with a view to actuator (16) and in relation to the feather key (2) and position of plate (53). (Important during re-assembly.)

- Loosen the cheese head screw in adjusting nut (4) and remove the nut.
- Remove the cheese head screws (7).
- Remove the plate (52) from housing (16) by screwing in two 2 M10 eye bolts.
- After you removed the cheese head screws (56), pull bush (58) out of plate (53).
- Replace the seal (54). Consider the proper position when fitting: the coil spring must point in the direction of the pressure side.
- Remove the device from the system and place it on its inlet flange. Remove the cheese head screws (29) and pull out the outlet part (34) towards the top.
- Discard the O rings (28 + 45) and put in new ones.
- Loosen the cheese head screw in adjusting nut (41) and remove the nut. Remove the valve sleeve (40). Use two M8 eye bolts to pull it out of the device .
- Loosen screws/bolts (47) and remove ring segment (32). Discard seal elements (43 + 44) and place new ones.
- Remove release sleeve (38). Use two M6 eye bolts to pull it out of the device . Discard the O ring (64), compensation ring (62), guide-ring (61) and seal (63) cpl. w/support ring (60). Use new ones. Clean the grease chamber (48) and fill with new lubricant (48).

Note

Mark the position of spindle (23) with a view to bush 2 (26). (Important during re-assembly.)

- Loosen the cheese head screws (25) in bush 2 (26), and pull out bush 2. Remove and clean the feather key (24).
- Screw out the cheese head screws (20) and pull out bush 1 (22). Remove the spindle (23).

2.2 Checking components, assembly

Clean ALL the components. Find and grease all components mentioned in lubricant table 2.4 before you put them back in. Grease ALL screws + bolts before you put them back in. Consult table 2.5 for tightening torques MA.



Caution

Check the thread and feather key groove of spindle (23): Worn?

- The sides of the thread must be smooth – no score marks.
 - The unit consisting of the spindle + rotary drive must not show any axial play.
 - The spindle must screw easily into the rotary drive.
 - Lubricate the spindle (23), internal thread of the rotary drive (15), feather key (24) and key-feather groove generously.
- Insert spindle (23) into rotary drive (15). Screw down bush 1 (22) onto rotary drive. Place feather key (24) into the groove on spindle (23). Place bush 2 (26) on top. Use the cheese head screws (25) and lock washers (27) to tighten everything.

Note

Turn drive shaft (3) to move the spindle (23) up and/or down all the way to the mark. The marks on the shaft (3) and plate (53) must match.

- Pull the special washer (31) over the spindle (23).
- Place the compensation ring (62) in the pit of the actuator housing (16) provided for that purpose.
- Grease and place the new O ring (64), GT ring / O ring (63) cpl. with support rings (60) and guide ring (61) into the groove of the release sleeve (38). (Don't forget to clean the groove.) Fill the grease chamber (48) with lubricant.
- Grease and place the Glyd ring (43) and O ring (44) in the flow restrictor (38). Use the screws (47) to fix the ring segment (32) to the flow restrictor.
- Before you mount them: pull the flow restrictor (38) over the valve sleeve (40).
- Use eye bolts to fix the valve sleeve (40) and flow restrictor to the actuator (16).



Risk of accidents. Secure the flow restrictor against slipping.

- Use the special washer (33) and adjusting nut (41) to fix the valve sleeve to the spindle (23). Tighten well. Fix the adjusting nut (41) use cheese head screws.
- Grease and place the O ring (28) + (45) into the groove provided for that purpose. Screw actuator housing 2 (34) onto actuator housing 1 (16).
- Put the device right side up again. Clean, grease and replace the lower thrust bearing.

Note

Be sure to mount the shaft washer (49) and housing washer (51) the right way.

- Place the plate (52) and fix to housing (16).
- Now, mount the upper thrust bearing. Be sure to mount the shaft washer (49) and housing washer (51) the right way.
- Tighten the adjusting nut (4) LIGHTLY and fix with a cheese head screw.
- Set the electrical drive to end bearing position "Up", place cap (5) and mount onto the drive shaft (3). (Don't forget to grease the shaft.)
- With this procedure, it will not be necessary to adjust the limit switches of the electrical drive system.

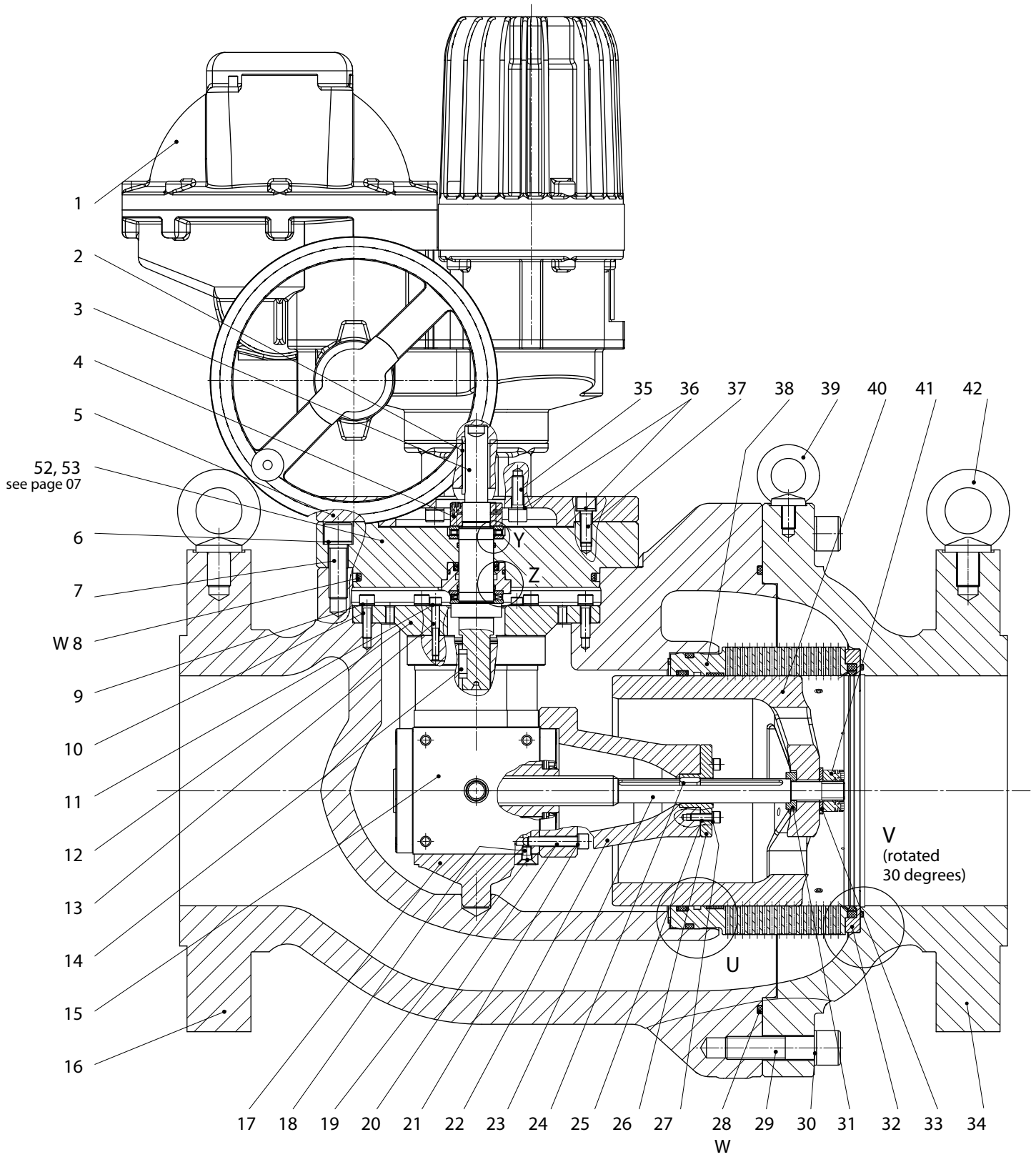
2.3 Tightening torques MA

DN	Tightening torques MA in Nm										
	Screws & bolts – item no.										
	7	10	13	18	20	25	29	35	37	47	56
300/300	350	80	40	40	40	8	510	45	45	8	4

2.4 Lubricants

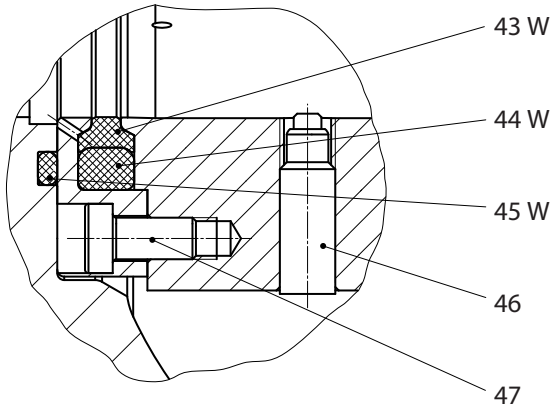
Components	Lubricants	HON part no.
Spindle (23) Feather key (24) (Grease well!) Valve sleeve (40), grease chambers (48), thrust bearings (49 - 51)	Silicone grease	27052
Seal elements (Grease lightly!) and all the fastening screws	Silicone grease	27081

3.1 Spare parts drawing HON 530-E-WG

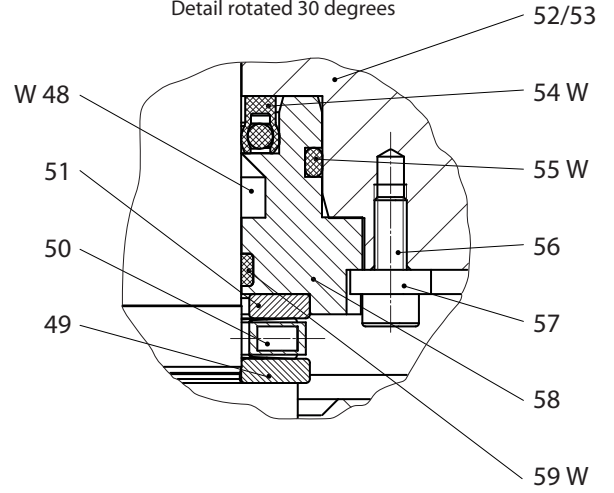


Details

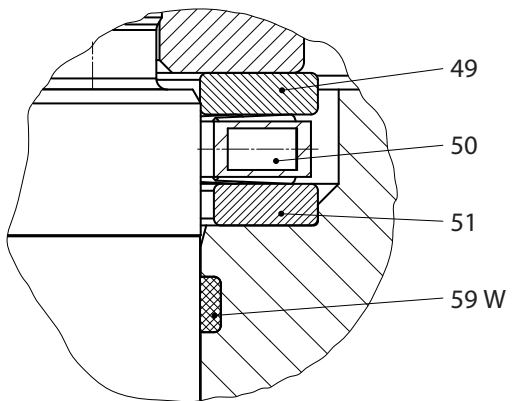
Detail "V"
Detail rotated 30 degrees



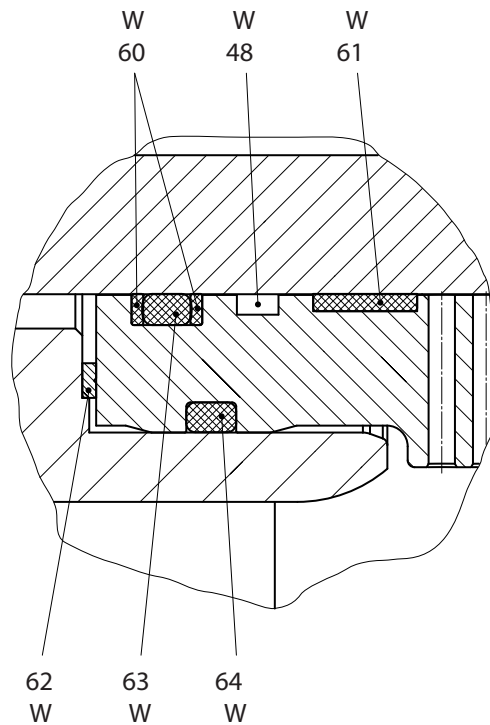
Detail "Z"
Detail rotated 30 degrees



Detail "Y"



Detail "U"



3.2.1 Spare parts drawing HON 530-E-WG

Item no.	Denomination	Number	W	Materials	Part #
1	Rotary drive				Please call.
2	Feather key	1		St	26241
3	Shaft	1		St	10030784
4	Adjusting nut	1		St	21195
5	Cover	1		LM	10031080
6	Lock washer	24		FSt	14124
7	Cheese head screw	24		St	100683
8	O ring	1	W	KG	21387
9	Lock washer	8		FSt	14114
10	Cheese head screw	8		St	10373
11	Lock washer	4		FSt	14112
12	Louvre	1		St	10030778
13	Cheese head screw	4		St	10379
14	Feather key	1		St	100684
15	rotary drive	1		St	100680
16	Actuator housing 1 ANSI 900 RTJ	1		St	10031074
17	Base plate	1			10030787
18	Cheese head screw	4		St	10400
19	Lock washer	4		FSt	14113
20	Cheese head screw	4		St	10450
21	Lock washer	4		FSt	14113
22	Bush 1	1		GS	10030818
23	Spindle	1		AlBz	10030770
24	Feather key	1		St	100685
25	Cheese head screw	4		St	10551
26	Bush 2	1		St	10030772
27	Lock washer	4		FSt	14112
28	O ring	1	W	KG	100840
29	Cheese head screw	38		St	100703
30	Lock washer	38		FSt	14140
31	Special washer	1		St	10030647
32	Ring segment	1		St	10030645
33	Special washer	1		St	10030649

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 ... gummosus synthetic materials
Cu ... copper	GLM ... Light metal casting	SSt ... foamed materials

3.2.1 Spare parts drawing HON 530-E-WG

Item no.	Denomination	Number	W	Materials	part #
34	Actuator housing 2 ANSI 900 RTJ	1		St	10031076
35	Cheese head screw	4		St	10400
36	Lock washer	12		FSt	14113
37	Cheese head screw	8		St	10400
38	Grid plate	1		GGG	10031083
39	Eye bolt	1		St	10590
40	Valve sleeve	1		GS	10030776
41	Adjusting nut	1		St	100681
42	Eye bolt	2		St	10590
43	Glyd ring	1	W	KG	100841
44	O ring	1	W	KG	100230
45	O ring	1	W	KG	20838
46	Guide screw	6		St/K	10024447
47	Cheese head screw	6		St	10320
48	Lubricant		W		27052
49	Housing washer	2		St	21219
50	Axial bearing	2		St	21196
51	Shaft washer	2		St	21197
52	Plate, pre-assembled, consisting of:	1		St	
53	Plate	1		St	10030618
54	Shaft seal	1	W	KG	21297
55	O ring	1	W	KG	21299
56	Cheese head screw	2		St	10497
57	Washer	2		St	10024854
58	Insert sealing ring	1		St	18356757
59	Slide ring	2	W	K	21194
61	Guide ring	1	W	K	100677
62	Compensating ring	1	W	LM	10030783
63	GT ring	1	W	KG	100842
64	O ring	1	W	KG	21338

4. Parts for maintenance purposes

DN_E 200

Item no.	Denomination	Number	Part #
8	O ring	1	21387
28	O ring	1	100840
43	Glyd ring	1	100841
44	O ring	1	100230
45	O ring	1	20838
48	Lubricant		27052
54	Shaft seal	1	21297
55	O ring	1	21299
59	Slide ring	2	21194
61	Guide ring	1	100677
62	Compensating ring	1	10030783
63	GT ring	1	100842
64	O ring	1	21338

For More Information

To learn more about Honeywell's
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