

Volume Control Valve HON 530-E-WG 530-E-WG.24

OPERATING AND MAINTENANCE INSTRUCTIONS/
SPARE PARTS

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1. General information

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

- **Technical product information 530-E-WG** – 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 530.24** – this Honeywell document contains more details concerning installation and operation of volume control valve HON 530. Furthermore it contains the maintenance instructions and spare parts drawings and lists of the SSV actuator.

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 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 not 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.

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 maintenance instructions

Under normal circumstances, maintenance jobs may be limited to the sealing elements of the drive shaft and final control element (bubble-tight shut-off) and the threads of the spindle and mitre gear.

2.1 Dismantling and replacing sealing rings

- Use the electric drive to move the valve sleeve to the “UP” position. (Limit switch “UP” switches off.)
- Remove screws/bolts (37) to dismount the rotary drive + cover (5).

Note

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

- Loosen the cylinder screw in adjusting nut (4) and remove the nut.
- Remove the cylinder screws (7).
- Remove the plate (52) from housing (16) by screwing in two 2 M10 eye bolts.
- After you removed the cylinder screws (56), pull bush (58) out of plate (53).
- Replace the sealing ring (54). Consider the proper mounting position when fitting: **The coil spring must point in the direction of the pressure side.**
- Dismantle the device from the system and place it on its inlet flange. Remove the cylinder screws (29) and pull out the outlet device (34) towards the top.
- Discard the O rings (28+45) and put in new ones.
- Loosen the M4 clamping bolts 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), compensating ring (62), guide ring (61) and sealing ring (63) cpl. with 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 cylinder screws (25) in bush 2 (26), and pull out bush 2. Remove and clean the feather key (24).
- Screw out the cylinder 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 M_A .



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 cylinder screws (25) and safety 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 axle (3) and plate (53) must match.

- Pull the special washer (31) over the spindle (23).
- Place the compensating ring (62) in the pit of the main valve body (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 grid plate (38). Use the screws (47) to fix the ring segment (32) to the grid plate.
- Before you mount them: pull the grid plate (38) over the valve sleeve (40).
- Use eye bolts to insert the valve sleeve (40) and grid plate to the final control element (16).



Danger

Risk of accidents. Secure the grid plate against slipping.

- Use the special washer (33) and adjusting nut (41) to fix the valve sleeve to the spindle (23). Tighten well. Tighten the M4 clamping bolts to fix the adjusting nut (41).
- Grease and place the O ring (28) + (45) into the groove provided for that purpose. Screw main valve body 2 (34) onto main valve body 1 (16).
- Put the device right side up again. Clean, grease and replace the lower axial 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 axial 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 cylinder screw.
- Set the electric drive to end bearing position "UP", place cover (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 electric drive.

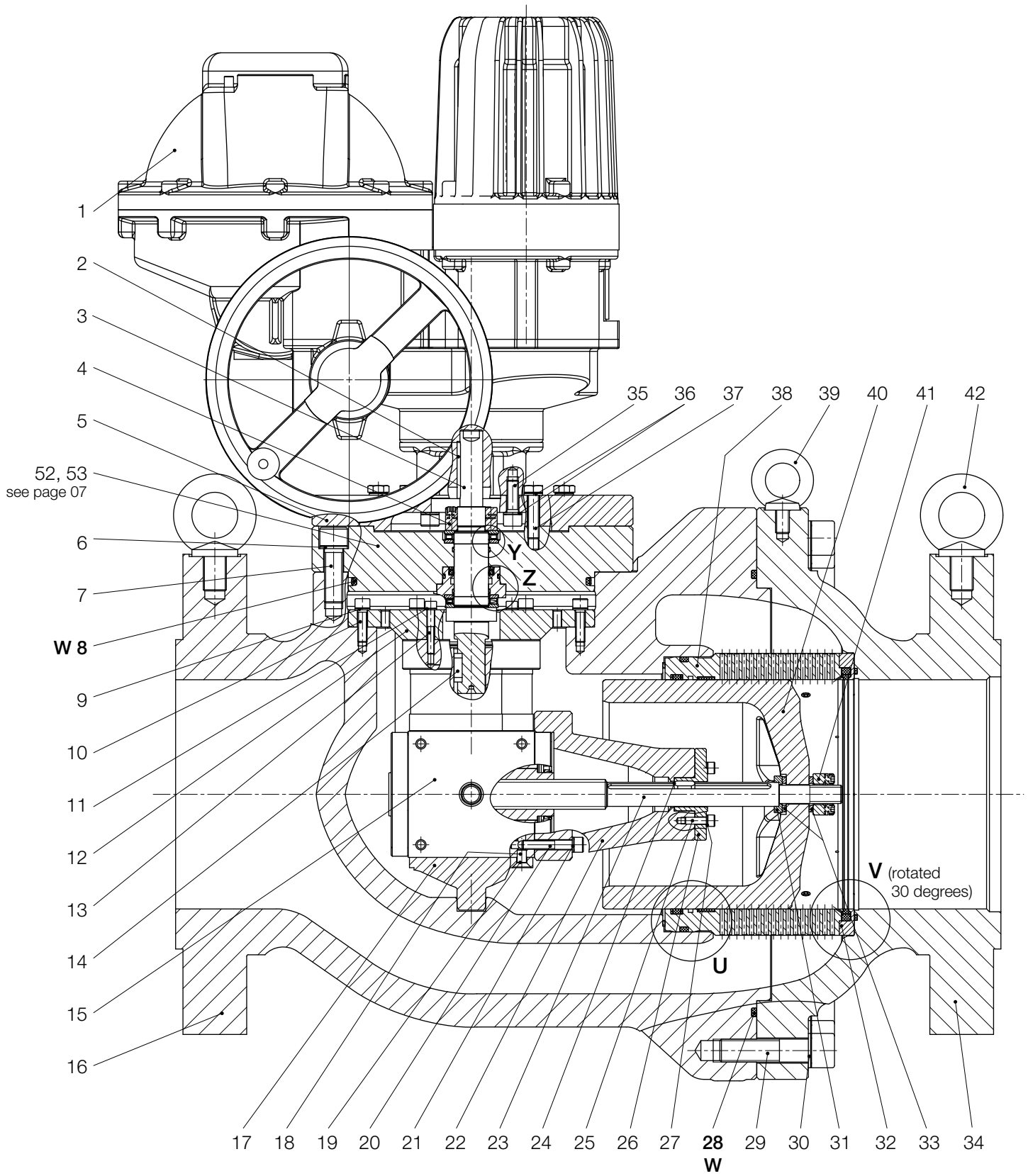
2.3 Tightening torques M_A

DN	Tightening torques M_A in Nm											
	Screws & bolts – item no.											
	7	10	13	18	20	25	29	35	37	41	47	56
200/200												
200/250 (VS200)												
200/300 (VS200)												
250/250 (VS200)	190	20	12	20	30	10	350	45	45	35	5	4
250/300 (VS200)												
250/400 (VS200)												
300/300 (VS200)												
300/300	350	80	40	40	40	8	510	45	45	50	8	4
400/400							1100					

2.4 Lubricants

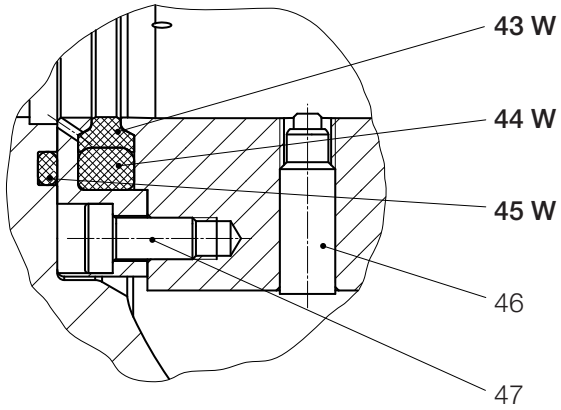
Components	Lubricants	HON part no.
Spindle (23) Feather key (24) (Grease well!) Valve sleeve (40), grease chambers (48), thrust bearings (49–51)	Silicone grease	27052
Seal elements (Grease lightly!) and all the fastening screws	Silicone grease	27081

3.1 Spare parts drawing HON 530-E-WG

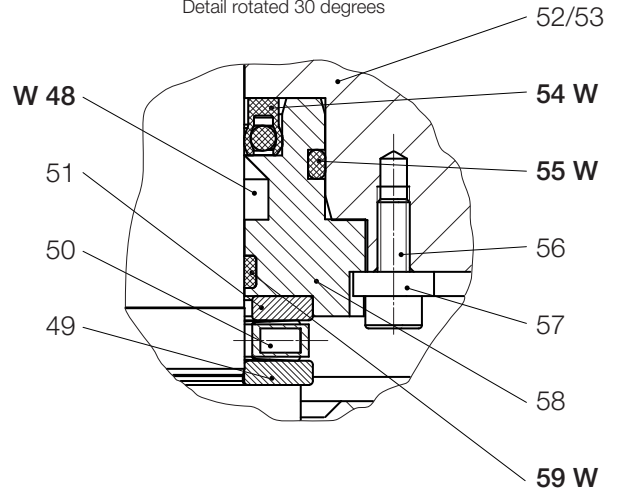


Details

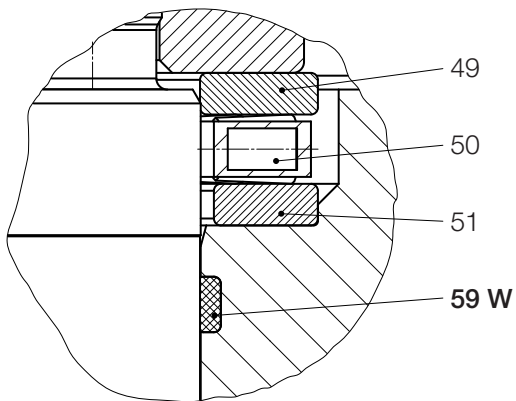
Detail "V"
Detail rotated 30 degrees



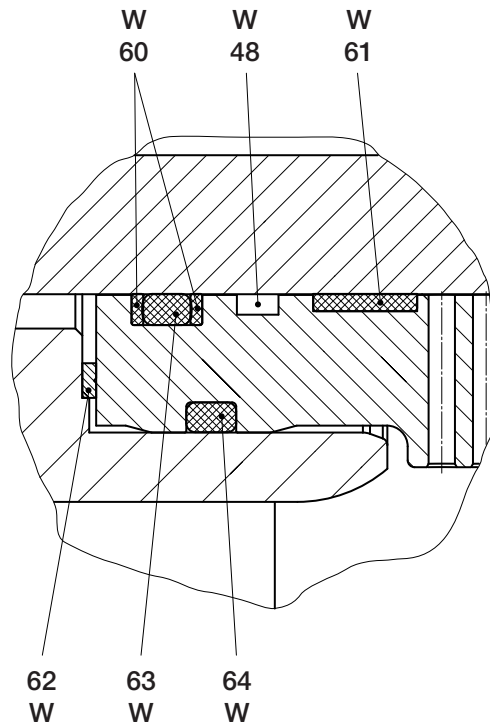
Detail "Z"
Detail rotated 30 degrees



Detail "Y"



Detail "U"



3.2.1 Spare parts list HON 530-E-WG DN 200/200 through DN 250/300

Item no.	Denomination	Number	W	Material	Part no.				
					DN 200/200	DN 200/250 VS 200	DN 200/300 VS 200	DN 250/250 VS 200	DN 250/300 VS 200
1	Rotary drive						on demand		
2	Feather key	1		St	26241	26241	26241	26241	26241
3	Shaft	1		St	10030660	10030660	10030660	10030660	10030660
4	Adjusting nut	1		St	21195	21195	21195	21195	21195
5	Cap	1		LM	10030638	10030638	10030638	10030638	10030638
6	Lock washer	16		FSt	14116	14116	14116	14116	14116
7	Cheese head screw	16		St	10555	10555	10555	10555	10555
8	O ring	1	W	KG	100655	100655	100655	100655	100655
9	Lock washer	6		FSt	14112	14112	14112	14112	14112
10	Cheese head screw	6		St	10098	10098	10098	10098	10098
11	Lock washer	4		FSt	14111	14111	14111	14111	14111
12	Louvre	1		St		10030643			
13	Cheese head screw	4		St	10587	10587	10587	10587	10587
14	Feather key	1		St	100684	100684	100684	100684	100684
15	Rotary drive	1		St	100689	100689	100689	100689	100689
16	Main valve body 1, at option:								
16	Main valve body 1 PN 40	1		St	10030623				
16	Main valve body 1 ANSI 600 RF	1		St	10030632	10030632	10030632	10030674	10030674
17	Base plate	1			10030840	10030840	10030840	10030840	10030840
18	Countersunk screw	4		St	100713	100713	100713	100713	100713
20	Cheese head screw	4		St	10098	10098	10098	10098	10098
21	Lock washer	4		FSt	14112	14112	14112	14112	14112
22	Bush 1	1		GS	10030837	10030837	10030837	10030837	10030837
23	Spindle	1		AIBz	10030648	10030648	10030648	10030648	10030648
24	Feather key	1		St	100693	100693	100693	100693	100693
25	Cheese head screw	4		St	10591	10591	10591	10591	10591
26	Bush 2	1		St	10030641	10030641	10030641	10030641	10030641
27	Lock washer	4		FSt	14111	14111	14111	14111	14111
28	O ring	1	W	KG	100694	100694	100694	100694	100694
29	Cheese head screw	28		St	100400	100400	100400	100400	100400
30	Lock washer	28		FSt	14124	14124	14124	14124	14124
31	Special washer	1		St	10030647	10030647	10030647	10030647	10030647
32	Ring segment	1		St	10030645	10030645	10030645	10030645	10030645
33	Special washer	2		St	101316	101316	101316	101316	101316

W Parts should be held in stock for maintenance purposes.

German abbreviations stand for the following materials:

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

Item no.	Denomination	Number	W	Material	Part no.				
					DN 200/200	DN 200/250 VS 200	DN 200/300 VS 200	DN 250/250 VS 200	DN 250/300 VS 200
34	Main valve body 2, at option:								
34	Main valve body 2 PN 40	1		St	10030646				
34	Main valve body 2 ANSI 600 RF	1		St	10030635	10030675	10030679	10030675	10030679
35	Cheese head screw	4		St	10400	10400	10400	10400	10400
36	Lock washer	12		FSt	14113	14113	14113	14113	14113
37	Cheese head screw	8		St	10400	10400	10400	10400	10400
38	Grid plate	1		LM	10030652	10030652	10030652	10030652	10030652
39	Eye bolt	1		St	10021	10021	10021	10021	10021
40	Valve sleeve	1		GS	10030843	10030843	10030843	10030843	10030843
41	Adjusting nut	1		St	100690	100690	100690	100690	100690
42	Eye bolt	2		St	10590	10590	10590	10590	10590
43	Glyd ring	1	W	KG	100658	100658	100658	100658	100658
44	O ring	1	W	KG	100659	100659	100659	100659	100659
45	O ring	1	W	KG	20618	20618	20618	20618	20618
46	Guide screw	6		St/K	10024447	10024447	10024447	10024447	10024447
47	Cheese head screw	6		St	10596	10596	10596	10596	10596
48	Lubricant		W		27052	27052	27052	27052	27052
49	Housing washer	2		St	21219	21219	21219	21219	21219
50	Axial bearing	2		St	21196	21196	21196	21196	21196
51	Shaft washer	2		St	21197	21197	21197	21197	21197
52	Plate, pre-assembled, consisting of:	1		St	10030681	10030681	10030681	10030681	10030681
53	Plate	1		St	10030644	10030644	10030644	10030644	10030644
54	Shaft seal	1	W	KG	21297	21297	21297	21297	21297
55	O ring	1	W	KG	21299	21299	21299	21299	21299
56	Cheese head screw	2		St	10497	10497	10497	10497	10497
57	Washer	2		St	10024854	10024854	10024854	10024854	10024854
58	Insert sealing ring	1		St	18356757	18356757	18356757	18356757	18356757
59	Sliding ring	2	W	K	21194	21194	21194	21194	21194
60	Support ring	2	W	K	100656	100656	100656	100656	100656
61	Guide ring	1	W	K	21364	21364	21364	21364	21364
62	Compensating ring	1	W	LM	10030662	10030662	10030662	10030662	10030662
63	O ring	1	W	KG	100655	100655	100655	100655	100655
64	O ring	1	W	KG	20545	20545	20545	20545	20545

3.2.2 Spare parts list HON 530-E-WG DN 250/400 through DN 400/400

Item no.	Denomination	Number	W	Material	Part no.			
					DN 250/400	DN 300/300 VS 200	DN 300/300 VS 200	DN 400/400
1	Rotary drive				on demand			
2	Feather key	1		St	26241	26241	26241	26241
3	Shaft	1		St	10030660	10030660	10030784	10030620
4	Adjusting nut	1		St	21195	21195	21195	21195
5	Cap	1		LM	10030638	10030638	10030627	10030627
6	Lock washer	16		FSt	14116	14116		
6	Lock washer	20		FSt			14124	14124
7	Cheese head screw	16		St	10555	10555		
7	Cheese head screw	20		St			100683	100683
8	O ring	1	W	KG	100655	100655	21387	21387
9	Lock washer	6		FSt	14112	14112		
9	Lock washer	8		FSt			14114	14114
10	Cheese head screw	6		St	10098	10098		
10	Cheese head screw	8		St			10373	10373
11	Lock washer	4		FSt	14111	14111	14112	14112
12	Louvre	1		St			10030778	10030621
13	Cheese head screw	4		St	10587	10587	10379	10379
14	Feather key	1		St	100684	100684	100684	100684
15	Rotary drive	1		St	100689	100689	100680	100680
16	Main valve body 1 ANSI 600 RF	1		St	10030674	10030678	10030781	10030613
17	Base plate	1		GGG	10030840	10030840	10030787	10030844
18	Countersunk screw	4		St	100713	100713		
18	Cheese head screw	4		St			10400	10400
19	Lock washer	4		FSt			14113	14113
20	Cheese head screw	4		St	10098	10098	10450	10450
21	Lock washer	4		FSt	14112	14112	14113	14113
22	Bush 1	1		GGG	10030837	10030837	10030818	10030845
23	Spindle	1		AlBz	10030648	10030648	10030770	10030628
24	Feather key	1		St	100693	100693	100685	100685
25	Cheese head screw	4		St	10591	10591	10551	10551
26	Bush 2	1		St	10030641	10030641	10030772	10030616
27	Lock washer	4		FSt	14111	14111	14112	14112
28	O ring	1	W	KG	100649	100694	100840	100676
29	Cheese head screw	28		St	100400	100400		
29	Cheese head screw	46		St			10621	
29	Cheese head screw	42		St				100703
30	Lock washer	28		FSt	14124	14124		
30	Lock washer	46		FSt			14129	
30	Lock washer	42		FSt				14140

Item no.	Denomination	Number	W	Material	Part no.			
					DN 250/400 VS 200	DN 300/300 VS 200	DN 300/300	DN 400/400
31	Special washer	1		St	10030647	10030647	10030625	10030625
32	Ring segment	1		St	10030645	10030645	10030779	10030615
33	Special washer	2		St	101316	101316	101316	101316
34	Housing 2 ANSI 600 RF	1		St	10031483	10030679	10030782	10030614
35	Cheese head screw	4		St	10400	10400	10400	10400
36	Lock washer	12		FSt	14113	14113		
36	Lock washer	14		FSt			14113	14113
37	Cheese head screw	8		St	10400	10400		
37	Cheese head screw	10		St			10400	10400
38	Grid plate	1		LM	10030652	10030652	10030769	10030631
39	Eye bolt	1		St	10021	10021	10590	10590
40	Valve sleeve	1		GS	10030843	10030843	10030776	10030847
41	Adjusting nut	1		St	100690	100690	100681	100681
42	Eye bolt	2		St	10590	10590	10590	28049
43	Glyd ring	1	W	K	100658	100658	100841	100673
44	O ring	1	W	KG	100659	100659	100230	100674
45	O ring	1	W	KG	20618	20618	20838	100675
46	Guide screw	6		St	10024447	10024447	10024447	10024447
47	Cheese head screw	6		St	10596	10596	10320	10320
48	Lubricant		W		27052	27052	27052	27052
49	Housing washer	2		St	21219	21219	21219	21219
50	Axial bearing	2		St	21296	21196	21196	21196
51	Shaft washer	2		St	21197	21197	21197	21197
52	Plate, pre-assembled, consisting of:				10030681	10030680	10030680	10030681
53	Plate	1		St	10030644	10030644	10030618	10030618
54	Shaft seal	1	W	KG	21297	21297	21297	21297
55	O ring	1	W	KG	21299	21299	21299	21299
56	Cheese head screw	2		St	10497	10497	10497	10497
57	Washer	2		St	10024854	10024854	10024854	10024854
58	Insert sealing ring	1		St	18356757	18356757	18356757	18356757
59	Sliding ring	2	W	KG	21194	21194	21194	21194
60	Support ring	2	W	K	100656	100656		
61	Guide ring	1	W	K	21364	21364	100677	100679
62	Compensating ring	1	W	LM	10030662	10030662	10030783	10030624
63	O ring	1	W	KG	100655	100655		
63	GT ring	1	W	K			100842	100682
64	O ring	1	W	KG	20545	20545	21338	20424

4. Parts for maintenance purposes

DN 200/200 through DN 250/300

Item no.	Denomination	Number	Part no.				
			DN 200/200	DN 200/250 VS 200	DN 200/300 VS 200	DN 250/250 VS 200	DN 250/300 VS 200
8	O ring	1	100655	100655	100655	100655	100655
28	O ring	1	100694	100694	100694	100694	100694
43	Glyd ring	1	100658	100658	100658	100658	100658
44	O ring	1	100659	100659	100659	100659	100659
45	O ring	1	20618	20618	20618	20618	20618
48	Lubricant		27052	27052	27052	27052	27052
54	Shaft seal	1	21297	21297	21297	21297	21297
55	O ring	1	21299	21299	21299	21299	21299
59	Sliding ring	2	21194	21194	21194	21194	21194
60	Support ring	2	100656	100656	100656	100656	100656
61	Guide ring	1	21364	21364	21364	21364	21364
62	Compensating ring	1	10030662	10030662	10030662	10030662	10030662
63	O ring	1	100655	100655	100655	100655	100655
64	O ring	1	20545	20545	20545	20545	20545

DN 250/300 through DN 400/400

Item no.	Denomination	Number	Part no.			
			DN 250/400 VS 200	DN 300/300 VS 200	DN 300/300	DN 400/400
8	O ring	1	100655	100655	21387	21387
28	O ring	1	100694	100694	100840	100676
43	Glyd ring	1	100658	100658	100841	100673
44	O ring	1	100659	100659	100230	100674
45	O ring	1	20218	20618	20838	100675
48	Lubricant		27052	27052	27052	27052
54	Shaft seal	1	21297	21297	21297	21297
55	O ring	1	21299	21299	21299	21299
59	Sliding ring	2	21194	21194	21194	21194
60	Support ring	2	100656	100656		
61	Guide ring	1	21364	21364	100677	100679
62	Compensating ring	1	10030662	10030662	10030783	10030624
63	O ring	1	100655	100655		
63	GT ring	1			100842	100682
64	O ring	1	20545	20545	21338	20424

For More Information

To learn more about Honeywell's
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