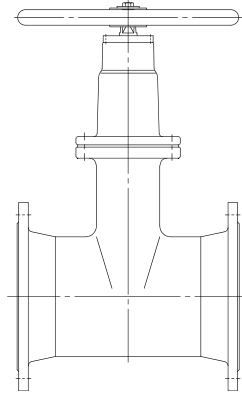


BA27E011



Operating and Maintenance Instructions

ERHARD – Multamed Premium Gate Valve

-

Contents

These operating instructions must always be used together with the standard operating instructions BA01D001!

1 Product and Functional Description

1.1.0 ERHARD Premium Multamed gate valve (oval face-to-face dimensions)
R15 EN558-1

1.1.1 ERHARD Premium Multamed gate valve (short face-to-face dimensions)
R14 EN558-1

1.1.2 ERHARD Premium Multamed gate valve for PVC plastic pipes to DIN
19532

1.1.3 ERHARD Premium Multamed gate valve for ductile pipes to DIN 28610

1.2 Design features

1.3 Functional description

1.4 Intended use

1.5 Allowable operation

1.6 Unacceptable operation

1.7 Installation in the pipe - assembly

2 Maintenance

2.1 Maintenance

2.2 Spare parts

Operating Instructions for ERHARD Multamed Premium Gate Valve - HR, KR and Square Cap Actuation

1 Product and Functional Description

1.1.0 ERHARD Multamed oval gate valve

EN 1171 PN10	270 . . 010	3.174614	(DN 80, 200- 350/300)
EN 1171 PN16	270 . . 016	3.174614	(DN 40- 350/300)
Face-to-face dimension R15 EN 558-1 (with flanges)			

1.1.1 ERHARD Multamed gate valve with short face-to-face dimensions

EN 1171 PN10	271 . . 010	3.174614	(DN 80, 200- 350/300)
EN 1171 PN16	271 . . 016	3.174614	(DN 40- 350/300)
Face-to-face dimension R14 EN 558-1 (with flanges)			

1.1.2 ERHARD Multamed gate valve

with plastic socket connection on both sides 273 . . 016 3.174616 (DN 50-300)
for PVC plastic pipes to DIN 19532

1.1.3 ERHARD Multamed gate valve

with socket connection on both sides 272 . . 016 3.174615 (DN 80- 200)
for ductile pipes to DIN 28610

Pressures

Product No.	Size	PN	PFA [bar]	PMA [bar]	PEA [bar]	Hydrostatic test pressure [bar] for		allowable operating pressure in [bar] at Working temperature < 60° C
						Body	Seal	
271...010	80,200-350/300	10	10	12	17	15	10	10
271...016	40-350/300	16	16	20	25	24	16	16
270...010	80,200-350/300	10	10	12	17	15	10	10
270...016	40-350/300	16	16	20	25	24	16	16
273...016	50-300	16	16	20	25	24	16	16
272...016	80-200	16	16	20	25	24	16	16

The strength and leaktightness of the gate valves are tested in the manufacturing factory according to EN 12266 and EN 1074. They can be impinged in both flow directions.

Operating Instructions for ERHARD Multamed Premium Gate Valve - HR, KR and Square Cap Actuation

1.2 Design features

20 ADAPTER / ADAPTER
19 KANTENSCHUTZ / EDGE PROTECTION
18 HANDRAD / HANDWHEEL
17 AKT-SCHÖNER MIT STIFT / SQUARE CAP WITH PIN
16 SCHEIBE / WASHER
15 SECHSKANTSCHRAUBE / HEXAGON SCREW
14 SICHERUNG / LOCKING
13 SCHUTZKAPPE / PROTECTIVE CAP
12 ZYLINDERSCHRAUBE / CYLINDRICAL SCREW
11 O-RING / O-RING
10 O-RING / O-RING
9 LAGERBUCHSE / BEARING BUSH
8 O-RING / O-RING
7 SPINDELRING / STEM RING
6 PROFILSCHUTZ MIT KANTENSCHUTZ DN40-200
5 SPINDELMÄTTER / SPINDLE NUT
4 KEIL OM. IM KEILSCHNITT / RUBBER-COATED WORM WITH RUBBER SHOE
3 HAUBE / BONNET
2 BEHAUSE / BODY
1 STÜCK PART-BEZEICHNUNG / DESCRIPTION

*** KANTENSCHUTZ NUR BEI DN350 UND 380**

H2 BIS MITTE SCHIEBER UP TO CENTRE OF GATE VALVE

POS. 18 (HANDRAD) UND POS. 17 (VIERTAKTSCHÖNER) SIND ELEMENTE DER WAHLEISE FERTIGGESTELLTEN ARMATUR
ITEM 18 (HANDWHEEL) AND ITEM 17 (SQUARE CAP) ARE ELEMENTS OF VALVE MANUFACTURED ALTERNATIVELY

*** SCHIEBER DN350 IST IM SITZ AUF DN300 REDUZIERT**
*** GATE DN350 THE SEAT IS REDUCED TO DN300**

FLANSCH/FLANGE B DG TYP21 DIN EN1092-2

DN	d1	d2	d3	d4	d5	b	b1	b2	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13	H14	H15	H16	H17	H18	H19	H20	H21	H22	H23	H24	H25	H26	H27	H28	H29	H30	H31	H32	H33	H34	H35	H36	H37	H38	H39	H40	H41	H42	H43	H44	H45	H46	H47	H48	H49	H50	H51	H52	H53	H54	H55	H56	H57	H58	H59	H60	H61	H62	H63	H64	H65	H66	H67	H68	H69	H70	H71	H72	H73	H74	H75	H76	H77	H78	H79	H80	H81	H82	H83	H84	H85	H86	H87	H88	H89	H90	H91	H92	H93	H94	H95	H96	H97	H98	H99	H100
40	150	110	84	19	4	19	110	84	19	4	19	140	240	175	211	196	122	76	20	200	14	3	10	5	3	6																																																																																		
50	165	125	99	19	4	19	125	99	19	4	19	150	250	186	222	207	124	85	20	200	14	3	12	5	8	10																																																																																		
65	185	145	118	19	4	19	145	118	19	4	19	170	270	225	279	256	135	103	25	250	17	3	13	11	8	13																																																																																		
80	200	160	132	19	8	19	160	132	19	8	19	180	280	248	302	273	153	131	25	250	17	3	16	14	15	5																																																																																		
100	220	180	156	19	8	19	180	156	19	8	19	200	300	285	335	316	178	141	25	300	19	3	16	14	15	5																																																																																		
125	250	210	184	19	8	19	210	184	19	8	19	200	325	330	380	381	202	145	28	300	19	3	25	24	42	5																																																																																		
150	285	240	211	19	8	23	240	211	19	8	23	210	350	374	424	405	233	164	28	300	19	3	30	30	54	5																																																																																		
200	340	285	266	20	8	23	285	266	20	12	28	250	450	546	609	582	358	183	36	500	27	3	45	40	8	9																																																																																		
250	400	350	318	22	12	23	355	319	22	12	28	250	500	618	681	661	411	201	36	500	27	3	50	45	10	12																																																																																		
300	455	400	370	24	12	23	410	370	24	12	28	270	500	618	681	661	411	201	36	500	27	3	50	45	10	12																																																																																		
350	520	460	429	26	15	23	470	429	26	15	28	280	550	618	681	636	411	201	36	500	27	3	50	45	10	12																																																																																		

ERHARD
BY TALIS

REVISION

NO.	DATE	DESCRIPTION
1	03.02.16	EC
2	19.11.15	GS
3	10.08.15	GS
4	27.05.14	GS
5	07.02.13	GS

ERHARD GMBH & CO
D-89502 HEIDENHEIM AN DER BRENZ

CAD THIS DRAWING MUST BE REVISED ON THE SCREEN ONLY

FINISH PART NO.
RAW PART NO.
SCALE: DESCRIPTION GATE VALVE PREMIUM PN10 AND 16 DN40-300
DRAWING NO. 3.174614
DIN EN1171

NOMINAL DIM. TOLERANCES

DEPART. RECEIVING COPIES

WORK-PIECE DIMS ACC. TO DIN 818

FINISH DIMS ACC. TO DIN 818

DRILL DIMS ACC. TO DIN 818

SHAFT DIMS ACC. TO DIN 818

ADDITIONAL DATA FOR RAW MATERIAL ACC. TO PARTS LIST

Operating Instructions for ERHARD Multamed Premium Gate Valve - HR, KR and Square Cap Actuation

14	DICHTUNG / SEALING RING	1	07.02.13	GS
13	SICHERUNG / LOCKING	1	DAY	NAME
11	SCHUTZKAPPE / PROTECTIVE CAP	1	ERHARD-ARMATUREN	
12	ZYLINDERSCHRAUBE / CYLINDRICAL SCREW	1	ERHARD GMBH & CO D-89502 HEIDENHEIM AN DER BRENZ	
11	O-RING / O-RING	2	OBSERVE PROTECTION MARK	
10	O-RING / O-RING	1	ACC. TO DIN34	
9	LAGERBUCHSE / BEARING BUSH	1	MATERIAL DATE	
8	O-RING / O-RING	1	FINISH PART NO.	
7	SPINDELRING / STEM RING	1	SCALE DESCRIPTION: MULTIMEDIALES PREMIUM	
6	PROFILSCHÜTTUNG MIT KANTENSCHUTZ PROFILE SEAL WITH EDGE PROTECTION	1	PN10 UND/AND 16 DN80-200	
5	SPINDELNUTTER / SPINDLE NUT	1	DRAWING NO.	
4	SPINDEL / SPINDLE	1	PATTERN NO.	
3	KELLGUMMIKLEBSCHUH	1	DRAWING NO.	
2	HAUBE / BONNET	1	3.174616	
1	GEHÄUSE / BODY	1	DRAWING NO.	
	POS. / PART-BENENNUNG / DESCRIPTION		STÜCK QTY.	

DN	EXT	L	L1	H1	b1	b2	d1	Øs
80	90	335	84	248	153	131	25	17.3
100	110	355	88	285	178	141	25	19.3
125	125	325	91	310	202	145	28	19.3
150	160	405	94	374	233	184	28	19.3
200	225	450	100	455	304	174	32	24.3

NOMINAL DIM.	TOLERANCES	REV. DATE	REVISION	NAME
DEPARTM RECEIVING COPIES		A	1	Note added
MARK-FILES EDGES ACC. TO DIN 8748		ERHARD-ARMATUREN		
SURFACES ACC. TO DIN ISO 2768 M IN A		2011 DAY NAME AND SIGN OBSERVE PROTECTION MARK		
DRILLING ACC. TO DIN ISO 2768 M IN A		DRAWING NO. 3.174616		
GENERAL TOLERANCES TO DIN ISO 2768 M IN A		ACC. TO DIN34		
GENERAL TOLERANCES FOR SHAPE AND POSITION TO DIN ISO 2768 M IN A		MATERIAL DATE		
ADDITIONAL DATA FOR RAW CASTINGS AND ELASTOMERS		FINISH PART NO.		
MATERIAL ACC. TO PARTS LIST REPLACES		SCALE DESCRIPTION: MULTIMEDIALES PREMIUM		
		PN10 UND/AND 16 DN80-200		
		DRAWING NO.		
		PATTERN NO.		
		DRAWING NO.		

1.3 Functional description

ERHARD Premium Multamed gate valves are resilient-seated gate valves for "OPEN - CLOSED" operation. They conform to the normative requirements to EN 1171. The valve is closed by turning the control, e.g. handwheel or square cap to the right, i.e. in a clockwise direction.

1.4 Intended use

By virtue of their design, Premium Multamed gate valves are used in (see BA01D001 section 1.2.2).

1.5 Allowable operation

The valve is actuated using the handwheel, chainwheel or square cap. Do not apply excessive force.

If used in technically clean fluids, e.g. drinking water, flow speeds up to 4 m/s are allowed in the fully opened position of the shut-off wedge.

1.6 Unacceptable operation

Continuous operation in the flow-restricting position causes increased wear. This type of gate valves is suitable for "OPEN-CLOSED operation". Special types of valves are to be used for typically controlled operation. Extending the operating elements, e.g. with levers or similar devices is not allowed.

Do not exceed temperature limits for the flow media.

Do not exceed operating pressure limits.

The closed valve may only be loaded up to the nominal pressure.

If ERHARD Premium Multamed gate valves are equipped with an EPDM seal, the EPDM parts must not be allowed to come into contact with oil or grease, as EPDM swells.

Risk of burns due to hot flow medium; install thermal valve insulation on site.







Operating Instructions for ERHARD Multamed Premium Gate Valve - HR, KR and Square Cap Actuation

+ Extending the operating elements, e.g. with levers or similar devices is not allowed – risk of damage!

1.7 Installation in the pipe

Remove all packaging materials from the valve. Use suitable lifting gear, e.g. wide belts to transport valves and protect them from damage. Avoid chains and ropes. Before installation, the pipe must be checked for dirt and foreign bodies and cleaned if necessary. The valves are installed with vertical stems. Any installation position can be chosen for technically clean flow media. Ensure that the valves are accessible for operation and maintenance. If installed outdoors, protect the valves on site against direct exposure to weather conditions.

 <p>Warning</p>	<p>Warning</p> <p>Follow the relevant safety regulations in accordance with VGB 9a and wear the required personal protective equipment. Risk of injuries</p>
 <p>Gesundheits-schädlich</p>	<p>Warning</p> <p>Failure to use suitable load carrying devices for transport and installation of Multamed gate valves can cause health damage.</p>
  <p>Caution! Crushing hazard</p> <p>Schutz-handschuhe benutzen</p>	<p>During the functional testing (pneumatic or electrical) of the Multamed gate valve, there is a risk of crushing fingers when the wedge is actuated.</p>

1.7.1 "Flanged gate valve" installation

Gate valve product No. 270.... and 271....

Steel-reinforced rubber seals are recommended as flange seals. During installation of the valve, the distance between the pipe flanges should be at least 20 mm larger than the face-to-face dimensions of the valve so that the working strips are not damaged and the seals can be inserted.

The mating flanges of the pipe must be plane-parallel and concentric. The connecting bolts must be tightened uniformly (without distortion) and cross-wise. The pipe is to be installed free of stresses.

See also installation guidelines to
DVGW leaflet W332, Part IV and DIN 19630.

1.7.2 "Socket gate valve for plastic pipes to DIN 19532" installation

Gate valve product No. 273....

These gate valves are supplied with inserted sealing rings. The ends of the plastic pipes must be prepared for installation by bevelling (15° slant). The pipe surface must be undamaged and grease-free. The bevelled pipe end must be pushed into the valve socket up to the stop (if necessary, use tools for the installation).

1.7.3 "Socket gate valve for ductile pipes" installation

Gate valve product No. 272....

The pipe-specific sealing rings must be used. The spigot ends of the pipe must be cleaned. The assembly must be carried out according to the installation guidelines of the sealing ring manufacturer. Please note that various types of sealing rings are not tension proof (not restrained and resistant to end or axial loads). If necessary, install protection against shear or support.

2 Maintenance


2.1 Maintenance







ERHARD-2 Plus Multamed gate valves are maintenance-free. However, we do not have any influence on the quality and properties of the flow medium and recommend that Multamed Premium gate valves with ERHARD Pro-enamelling be installed where the flow media tend to form deposits and encrustations.

The function and leaktightness should be regularly monitored according to DVGW leaflet W 392 at maximum intervals of 4 years.

Klüber Unisilikon L641 recommended as the lubricant for flow medium water.
 Klüber Synth VR 69-252 recommended as the lubricant for flow medium water and silicone-free lubricant.

Klüber Nosol GBY2 recommended as lubricant for flow medium gas.

 Warning	<p>WARNING</p> <p>Before starting the maintenance work, all pressurised pipes must be depressurised and secured against being switched back on again!</p> <p>After completing the maintenance work, check all connections for tightness and secure fit</p>
-------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

 Danger	<p>DANGER</p> <p>If harmful liquids, substances, gases or vapours escape, the plant must be immediately shut down, the responsible supervisor informed and appropriate repair work carried out.</p> <p>Personal protective equipment must be used according to the health & safety regulations of the relevant body (in Germany the "Berufsgenossenschaft" regulations).</p> <p>Depending on the flow medium, there is a risk of poisoning and contamination, caustic burns, scalds, harm due to biological and microbiological substances as well as a fire and explosion hazard!</p>	    
------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Operating Instructions for ERHARD Multamed Premium Gate Valve - HR, KR and Square Cap Actuation

ERHARD Multamed gate valves are maintenance free. Proceed as follows if part of the gate valve has to be replaced:

Replace wedge:

Depressurise the gate valve, open slightly and remove the handwheel (or other controls).

Unscrew body bolts and remove bonnets;

Replace damaged wedge and/or stem nut and profile seal.

We recommend replacing the O-ring (8, 11) and stem ring (part 7) at the same time.

Replace stem seals:

The following seals can be replaced under pressure:

Dismantle handwheel and remove dust cover (13).

Use a screwdriver to pull the plastic fastener (22) out of its position between the bearing bush and bonnet.

The bearing bush is unlocked by pushing it downwards while at the same time turning it and can then be pulled off from above. Use a screwdriver to remove the two O-rings (10) in the bearing bush (9) and insert new O-rings.

Check the O-ring (11) underneath the bearing bush and if necessary replace.

When replaced, this O-ring (11) must lie in the shoulder provided cleanly against the outer diameter. When the bearing bush is installed, this O ring is pressed together.

Replace only if gate valve is depressurised:

The O-ring part 8 and the stem rings part 7 can only be replaced if the valve is depressurised.

The stem must be unscrewed and removed from the stem nut.

2.2 Spare parts PN10/16

PN10/16

Drawings:

3.174614, 3.174616,

3.174615

Operating Instructions for ERHARD Multamed Premium Gate Valve - HR, KR and Square Cap Actuation

- 2.2.1 Item 3 Wedge with seat profile made of PERB(NBR) or EPDM-W270
- 2.2.2 Seal set made of PERB (NBR) or EPDM-W270 consisting of:
- Item 6 Profile seal (with edge Protection DN40-200)
 - Item 8 O-ring
 - Item 10 O-ring
 - Item 11 O-ring
 - Item 13 Protective cap
 - Item 19 Edge protection (only DN250 and DN300)
- 2.2.3 Stem, stem nut module made of
- Standard: stem made of 1.4021, stem nut made CW721R, bearing bolt made of 2.0402
 - Seawater resistant: stem made of 1.4401, stem nut made of 2.0978, bearing bolt made of 2.0978
 - Free of non-ferrous metals: stem made of 1.4021, stem nut made of GG25, bearing bolt made of 2.0978
- Consisting of:
- Item 4 Stem
 - Item 5 Stem nut
 - Item 7 Stem ring
 - Item 9 Bearing bolt
- 2.2.4 **Revolutions / Stroke:**
- DN40 : 12
 - DN50 : 15.5
 - DN65 : 16
 - DN80 : 18
 - DN100: 22
 - DN125: 26
 - DN150: 32
 - DN200: 35.5
 - DN250: 44.5

Operating Instructions for ERHARD Multamed Premium Gate Valve - HR, KR and Square Cap Actuation

DN300: 52