



AVK GATE VALVE, FLANGED, PN10/16 EN 558-2 S.15/DIN F5, DN40-500

02/60-0035



AVK gate valves are designed with built-in safety in every detail. The wedge is fully vulcanized with AVK's own drinking water approved EPDM rubber compound. It features an outstanding durability due to the ability of the rubber to regain its original shape, the double bonding vulcanization process and the sturdy wedge design. The triple safety stem sealing system, the high strength stem and the thorough corrosion protection safeguard the unmatched reliability.

Product description:

Flanged gate valve EN 558-2 S.15/DIN F5. For drinking water and neutral liquids to max. 70°C

Standards:

- Designed according to EN 1074 part 1 & 2, Designed according to EN 1171
- Face-to-face dimension according to EN 558 Table 2 Basic Series 15
- Standard flange drilling to EN1092-2 (ISO 7005-2), PN10/16

Test/Approvals:

- Hydraulic test according to EN 1074-1 and 2 / EN 12266
- Seat: 1.1 x PN (in bar), Body: 1.5 x PN (in bar). Operation torque test
- Approved according to ACS-France
- Belgaqua approved
- Approved according to DIN-DVGW Certificate NW-6202BN0109
- Approved according to KIWA Certificate K 6320
- Approved according to ÖVGW Certificate W 1.417
- Approved according to SVGW Certificate No. 0301-4606

Features:

- Fixed, integral wedge nut prevents vibration and ensures durability
- Wedge fully vulcanized with drinking water approved EPDM rubber and equipped with wedge shoes to provide smooth operation
- Large conical stem hole in the wedge prevents stagnant water
- Wedge and body guide rails ensure stable operation
- Stainless steel stem with wedge stop and rolled threads for high strength
- Full circle thrust collar provides fixation of the stem and low free running torques
- Triple safety stem sealing with an NBR wiper ring, a polyamide bearing with four NBR O-rings, and an EPDM rubber manchette
- Round EPDM bonnet gasket fixed in a recess
- Countersunk and sealed stainless steel bonnet bolts encircled by the bonnet gasket
- Full bore
- Low operating torque
- Fusion bonded epoxy coating in compliance with DIN 3476 part 1 and EN 14901, GSK approved

Accessories:

Stem cap, handwheel, extension spindle, street cover, flange adaptor and combi-flange

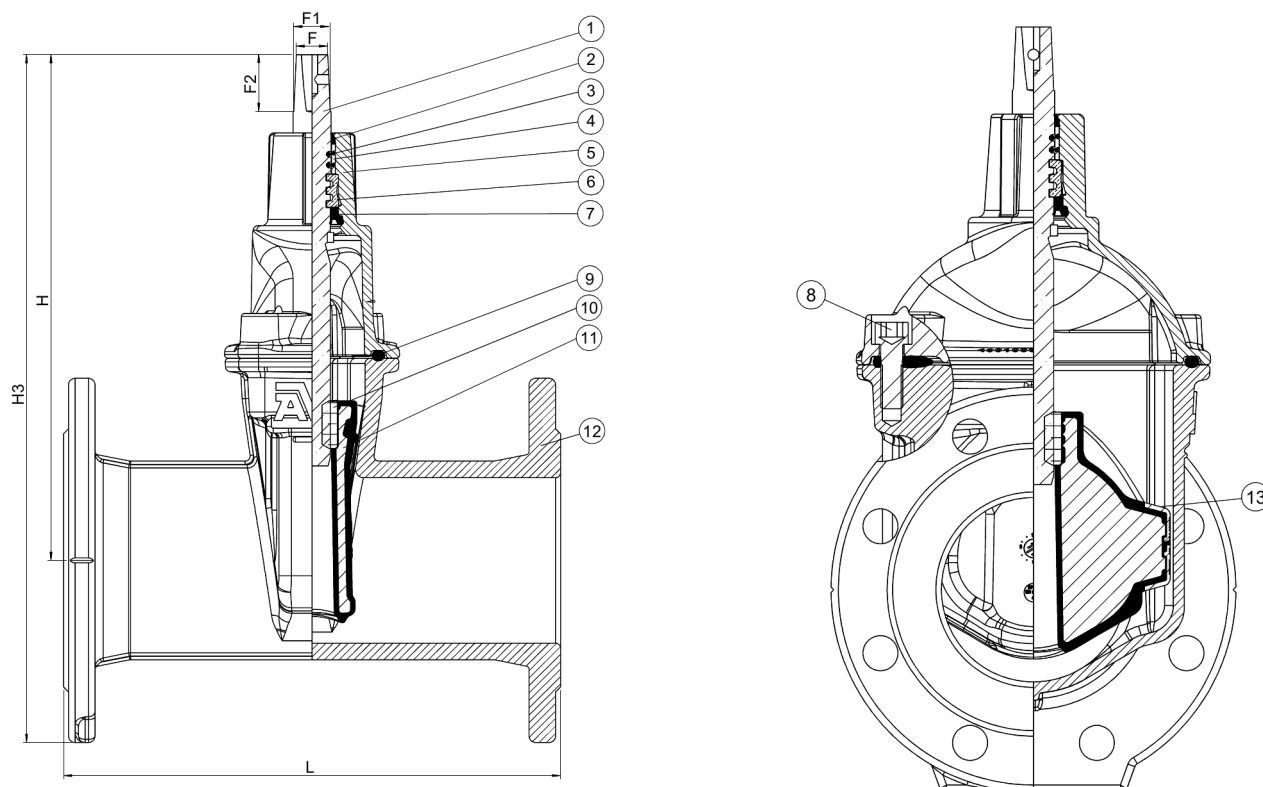


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The designs, materials and specifications shown are subject to change without notice. This is due to the continuous development of our product programme.



Component list:

1. Stem	Stainless steel 1.4104 (430F)	8. Bonnet bolt	Stainless steel A2, sealed with hot melt
2. Wiper ring	NBR rubber	9. Bonnet gasket	EPDM rubber
3. O-ring	NBR rubber	10. Wedge nut	Brass, DZR CW626N
4. Bearing	Polyamide	11. Wedge	Ductile iron, EPDM encapsulated
5. Bonnet	Ductile iron GJS-500-7 (GGG-50)	12. Body	Ductile iron GJS-500-7 (GGG-50)
6. Thrust collar	Brass, DZR CW602N	13. Wedge shoe	Polyamide
7. Manchette	EPDM rubber		

Components may be substituted with equivalent or higher class materials without prior notification.

Reference nos. and dimensions:

AVK ref. no.	DN	Flange	L	H	H3	F	F1	F2	Theoretical weight/kg	GWP Kg CO2 eq.
	mm	drilling	mm	mm	mm	mm	mm	mm		
02-040-60-014649	40	PN10/16	240	194	269	14	18	29	8.0	17
02-050-60-014649	50	PN10/16	250	209	292	14	18	29	9.3	19
02-065-60-014649	65	PN10/16	270	243	336	17	23	34	12	25
02-080-60-014649	80	PN10/16	280	282	382	17	23	34	16	32
02-100-60-014649	100	PN10/16	300	306	416	19	23	34	19	39
02-125-60-014649	125	PN10/16	325	346	471	19	23	34	24	50
02-150-60-014649	150	PN10/16	350	403	543	19	22	34	33	68
02-200-60-004649	200	PN10	400	490	660	24	28	34	54	112
02-200-60-014649	200	PN16	400	490	660	24	28	34	54	112
02-250-60-004649	250	PN10	450	625	825	27	36	47	88	182
02-250-60-014649	250	PN16	450	625	825	27	36	47	88	182
02-300-60-004647	300	PN10	500	706	934	27	36	47	126	261
02-300-60-014647	300	PN16	500	706	934	27	36	47	126	261
02-350-60-006 (1)	350	PN10	550	947	1207	32	40	55	278	575
02-350-60-016 (1)	350	PN16	550	947	1207	32	40	55	278	575
02-400-60-006	400	PN10	600	959	1249	32	40	55	272	563
02-400-60-016	400	PN16	600	959	1249	32	40	55	272	563
02-450-60-006 (2)	450	PN10	650	958	1278	32	40	55	360	745

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Reference nos. and dimensions:

AVK ref. no.	DN	Flange	L	H	H3	F	F1	F2	Theoretical	GWP
	mm	drilling	mm	mm	mm	mm	mm	mm	weight/kg	Kg CO2 eq.
02-450-60-016 ⁽²⁾	450	PN16	650	958	1278	32	40	55	360	745
02-500-60-006 ⁽²⁾	500	PN10	700	958	1316	32	40	55	379	785
02-500-60-016 ⁽²⁾	500	PN16	700	958	1316	32	40	55	379	785

(1) Valve having an increased bore (400 mm)
 (2) Valve having a reduced bore (400 mm)

Comments:

Global Warming Potential (GWP) for each valve is calculated as GWP per kilo valve multiplied by the theoretical weight of the valve. GWP per kilo valve has been calculated for the phases A1-A3 (cradle to gate) as declared in the Environmental Product Declaration (ref. no. S-P-09366) found under downloads for this valve in our product finder on www.avkvalves.eu. The EPD is in accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 and based on Product Category Rules PCR 2019:14 Construction Products (UN CPC code: 412).

Note: For comparison of GWP values, please be aware that EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be directly comparable. For further information about comparability, please refer to page two of the EPD.

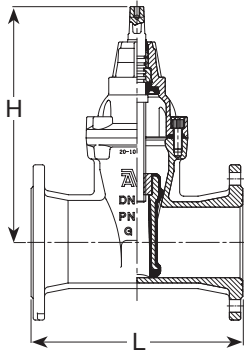


FACE TO FACE DIMENSIONS AND HEIGHTS ABOVE CENTER LINE:

Valves to EN 1074-1 & 2, type A (DIN 3352 part 4)

Valves to EN 1074-1 & 2, type B (BS 5163)

DN	Face to face dim. to EN 558-F14 (DIN 3202 part 1, F4) L mm	Face to face dim. to EN 558-F15 (DIN 3202 part 1, F5) L mm	Height above center line H mm	Face to face dim. to EN 558-F3 (BS 5163) L mm	Height above center line H mm
25	-	120	180	-	-
32	-	140	190	-	-
40	140	240	194	-	-
50	150	250	208	178	279
65	170	270	244	190	279
80	180	280	282	203	294
100	190	300	305	229	324
125	200	325	346	254	324
150	210	350	401	267	429
200	230	400	490	292	531
250	250	450	625	330	614
300	270	500	740	356	690
350	290	550	940/924	381	867
400	310	600	940/951	406	867
450	330	650	951*/1157**/1130***	-	-
500	350	700	951*/1142**/1130***	-	-
600	390	800	- /1285**/1270***	-	-
700	430	-	1622	-	-
800	470	1000	1672**/1591***	-	-
900	510	-	2118	-	-
1000	550	-	2067	-	-



* Series 02 ** Series 06 *** Series 55

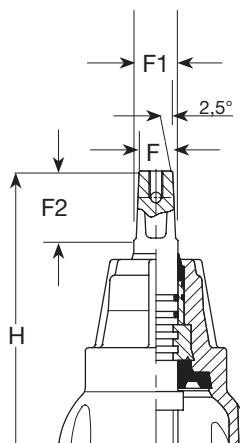
STEM DIMENSIONS AND HEIGHTS ABOVE CENTER LINE:

Service connection valve

Valves to EN 1074-1 & 2, type A (DIN 3352 part 4)

Valves to EN 1074-1 & 2, type B (BS 5163)

DN	H mm	F mm	F1 mm	F2 mm	F mm	F1 mm	F2 mm	F mm	F2 mm	F2 mm
25	180	12,3	15,4	35	-	-	-	-	-	-
32	190	12,3	15,4	35	-	-	-	-	-	-
40	203	12,3	15,4	35	14	16	30	-	-	-
50	213	12,3	15,4	35	14	16	30	19	22,4	38
65	-	-	-	-	17	20	34	19	22,4	38
80	-	-	-	-	17	20	34	19	22,4	38
100	-	-	-	-	19	22	34	19	22,4	38
125	-	-	-	-	19	22	34	19	22,4	38
150	-	-	-	-	19	22	34	24	27,7	42
200	-	-	-	-	24	28	34	27	31,2	47
250	-	-	-	-	27	31	47	27	31,2	47
300	-	-	-	-	27	31	47	27	31,2	47
350	-	-	-	-	32	37	55	32	36,9	55
400	-	-	-	-	32	37	55	32	36,9	55
450*	-	-	-	-	32	36,9	55	-	-	-
500*	-	-	-	-	32	36,9	55	-	-	-
450**	-	-	-	-	Ø30/40	Ø30/40	75	-	-	-
500**	-	-	-	-	Ø30/40	Ø30/40	84	-	-	-
600**	-	-	-	-	Ø30/40	Ø30/40	83.5	-	-	-
700	-	-	-	-	Ø40	Ø40	83.5	-	-	-
800	-	-	-	-	Ø40	Ø40	83.5	-	-	-
900	-	-	-	-	Ø40	Ø40	83.5	-	-	-
1000	-	-	-	-	Ø40	Ø40	83.5	-	-	-



* series 02 and 20

** Ø30 for series 06 - Ø40 for series 55/30



FLOW, KV VALUES AND ZETA VALUES FOR GATE VALVES, RESILIENT- AND METAL SEATED APPENDIX 6

Calculated flow (m³/hr) going through a nominal valve size (DN40 = inside dia of 40 mm) at different flow velocities

Water velocity (m/sec)	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400	DN450	DN500	DN600	DN700	DN800	DN900	DN1000
1	5	7	12	18	28	44	64	113	177	254	346	452	573	707	1018	1385	1810	2290	2827
1,5	7	11	18	27	42	66	95	170	265	382	520	679	859	1060	1527	2078	2714	3435	4241
2	9	14	24	36	57	88	127	226	353	509	693	905	1145	1414	2036	2771	3619	4580	5655
2,5	11	18	30	45	71	110	159	283	442	636	866	1131	1431	1767	2545	3464	4524	5726	7069
3	14	21	36	54	85	133	191	339	530	763	1039	1357	1718	2121	3054	4156	5429	6871	8482
3,5	16	25	42	63	99	155	223	396	619	891	1212	1583	2004	2474	3563	4849	6333	8016	9896
4	18	28	48	72	113	177	254	452	707	1018	1385	1810	2290	2827	4072	5542	7238	9161	11310
4,5	20	32	54	81	127	199	286	509	795	1145	1559	2036	2576	3181	4580	6234	8143	10306	12723
5	23	35	60	90	141	221	318	565	884	1272	1732	2262	2863	3534	5089	6927	9048	11451	14137

Hydraulic values, fully open valve

	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400	DN450	DN500	DN600	DN700	DN800	DN900	DN1000
Kv (m³/hr - 1 bar)	310	555	650	1050	1945	2770	5715	7755	15405	27295	37150	48520	61410	75815	109175	148600	194090	229572	283422
Cv (Usg/min - 1 psi)	363	649	761	1229	2276	3241	6687	9073	18024	31935	43466	56768	71850	88704	127735	173862	227085	268599	331604
Zeta	0.04	0.03	0.07	0.06	0.04	0.05	0.02	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

NOTE: Hydraulic figures are based on tests or calculations, depending on size. Value uncertainty as per ref EN1267

Definitions / formulas:

Kv-value: Actual flow of water (m³/hr) creating pressure loss of 1 bar.

Pressure loss coefficient Zeta (K) value: Ratio of static to dynamic pressure loss.

Zeta (K) = Diff pressure / (500 X V²)

Diff pressure (Pa)

V: Water flow velocity (m/sec)

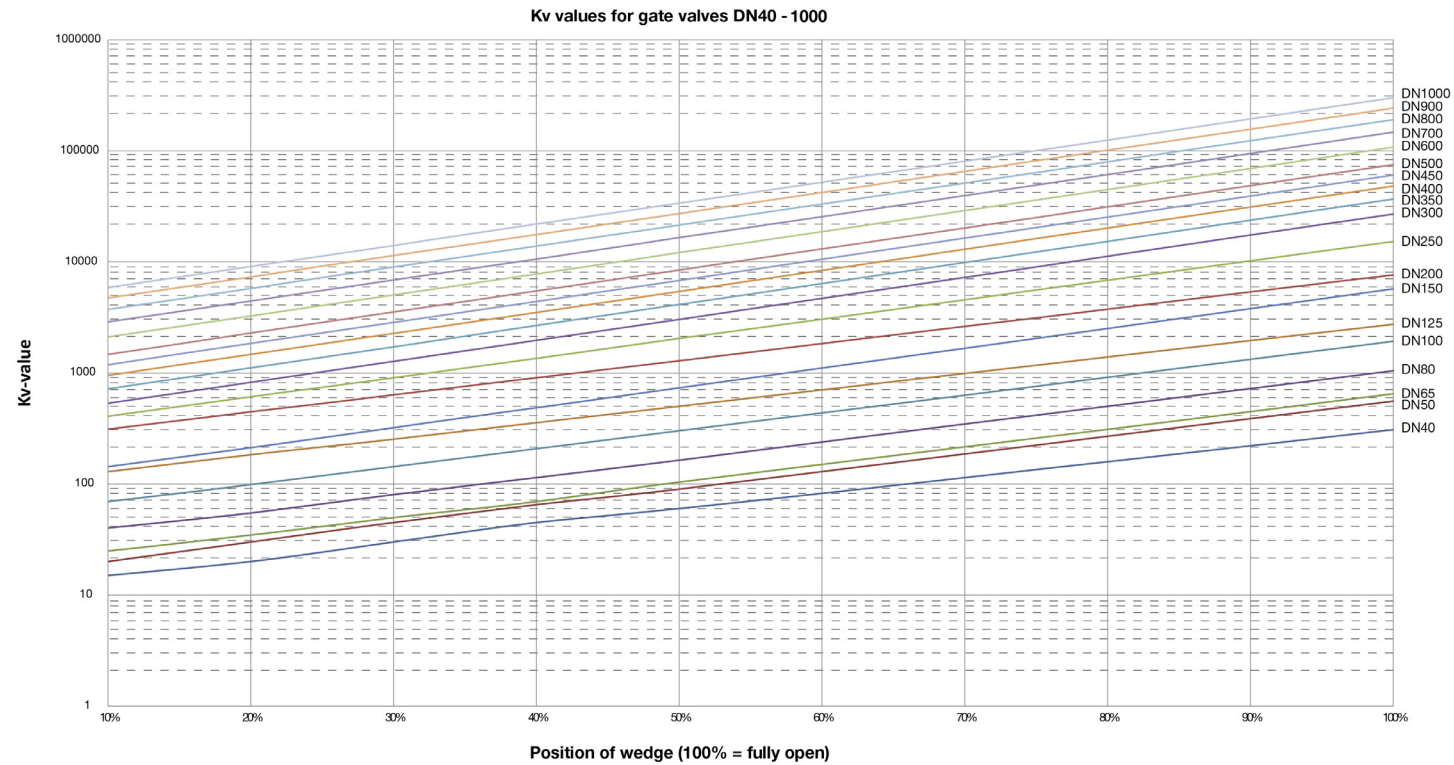
Actual diff pressure (bar) = (Q / Kv)²

Q: Actual water flow (m³/hr)

Kv values, valve in semi-open position. Percentage, based on turns of stem, from closed to fully open valve.

Opening of valve	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400	DN450	DN500	DN600	DN700	DN800	DN900	DN1000
10%	15	20	25	40	70	130	145	315	410	535	725	950	1200	1480	2135	2905	3790	4485	5538
20%	20	30	35	55	100	185	215	450	615	825	1125	1470	1860	2295	3305	4495	5870	9930	12259
30%	30	45	50	80	145	255	325	640	915	1280	1740	2275	2875	3550	5115	6960	9095	15497	19132
40%	45	65	70	115	210	360	490	915	1370	1980	2695	3520	4455	5500	7920	10780	14080	22703	28029
50%	60	90	105	165	305	505	740	1305	2055	3065	4175	5450	6900	8515	12265	16690	21800	30812	38040
75%	135	225	260	420	770	1185	2055	3180	5625	9150	12450	16260	20580	25410	36590	49805	65050	63740	78692
100%	310	555	650	1050	1945	2770	5715	7755	15405	27295	37150	48520	61410	75815	109175	148600	194090	229572	283422

NOTE: Hydraulic figures are based on tests or calculations, depending on size. Value uncertainty as per ref EN1267



Zeta (K) values, valve in semi-open positions. Percentage, is based on turns of stem, from closed to fully open valve.

Opening of valve	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400	DN450	DN500	DN600	DN700	DN800	DN900	DN1000
10%	18	25	46	41	33	23	39	26	37	45	46	45	46	46	46	46	46	52.09	52.09
20%	10	11	23	22	16	11	18	13	17	19	19	19	19	19	19	19	19	10.63	10.63
30%	5	5	11	10	8	6	8	6	7	8	8	8	8	8	8	8	8	4.36	4.36
40%	2	2	6	5	4	3	3	3	3	3	3	3	3	3	3	3	3	2.03	2.03
50%	1	1	3	2	2	2	1	2	1	1	1	1	1	1	1	1	1	1.10	1.10
75%	0.23	0.20	0.42	0.37	0.27	0.28	0.19	0.25	0.20	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.26	0.26
100%	0.04	0.03	0.07	0.06	0.04	0.05	0.02	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

NOTE: Hydraulic figures are based on both tests and calculations, depending on size. Value uncertainty, ref EN1267

Zeta (K) for gate valves DN40 - 1000

