Type test approved atmospheric discharge safety valves for industrial applications

→ Series 410

410

Safety valves made of stainless steel, atmospheric discharge, with threaded connections

SUITABLE FOR

Air, gases and vapours	neutral	

EXAMPLES OF USE

For the protection of:
- pressure tanks and
- pressure systems

for air and other neutral, non-poisonous and non-flammable gases which can be freely discharged into the environment.
Please observe plant-specific regulations and use of appropriate valve version and sealing material.

- pneumatic control units
- pressure booster plants air-side
- waste water treatment plants
- transport- and railway applications
- pneumatic braking systems
- secondary areas in the food-, pharmaceutical- and cosmetics- industries

Safety valves are set and sealed at the factory.

MATERIAL

SPECIFICATION

1/4“ – 1“	– 60°C to + 225°C depending on version	0,2 – 50 bar

APPROVALS

TÜV Type test approval 2055	**D/G**
ASME	**G**
CRN	**G**
EC type examination	**S/G**
TSG ZF001-2006	**D/G (S/G)**
KGS	**G**
TR ZU 032/2013 -TR ZU 010/2011	**D/G (S/G)**

Requirements

AD 2000 Data sheet A2	ASME-Code Sec. VIII Div. 1
DIN EN ISO 4126-1	KGS AA 319
PED 2014/68/EU	

Classification society

DNVGL	DNVGL
Lloyd’s Register EMEA	LR EMEA
Bureau Veritas	BV
American Bureau of Shipping	ABS
Russian Maritime Register of Shipping	RS

MATERIALS

Component	Material	DIN EN	ASME
Inlet body	Stainless steel	1.4404	316 L
Outlet body	Stainless steel	1.4404	316 L
Internal parts	Stainless steel	1.4404	316 L
Spring	Stainless steel	1.4568	631

Series 410 ■ VALVE VERSION

s	Standard	cylindrical form, atmospheric discharge, for air and similar neutral, non-toxic and non-flammable gases that can be freely discharged into the atmosphere.

■ MEDIUM

G	gaseous	Air and similar neutral gases

■ TYPE OF LIFTING MECHANISM

K	Standard with twist-type lifting mechanism

■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

Nominal diameter DN	**8**	**10**	**15**	**20**	**25**
Inlet	1/4“ (8)	3/8“ (10)	1/2“ (15)	3/4“ (20)	1“ (25)
Atmospheric discharge via outlet apertures	■	■	■	■	■

■ TYPE OF CONNECTION INLET / OUTLET THREADED CONNECTIONS

m / –	Standard	Male thread BSP-P / –	DIN EN ISO 228-1 / –

■ SEALS

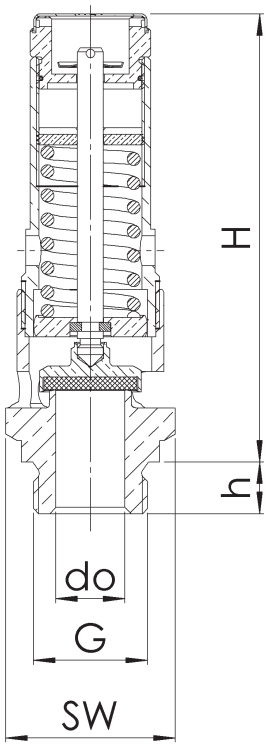
FKM	Fluorocarbon	Elastomere flat seal 0,2 – 25 bar	–20°C to +200°C
PTFE	Polytetrafluoroethylene	Flat seal 25,1 – 50 bar	–60°C to +225°C
NBR	Nitrile rubber	Elastomere flat seal 0,2 – 25 bar	–30°C to +130°C
PTFE	Polytetrafluoroethylene	Flat seal 0,2 – 25 bar	–60°C to +225°C

NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

Series 410: Connection, installation dimensions, ranges of adjustment

Nominal diameter	DN	8	10		15		20		25
Connection DIN EN ISO 228	G	1/4" (8)	3/8" (10)		1/2" (15)		3/4" (20)		1" (25)
Installation dimensions in mm	H	60	65	78	66	79	94	104	111
	h	10	10	10	12	12	12	12	14
	SW	19	24	24	27	27	36	36	41
	do	7,5	10	10	11	11	16	16	20
Weight	kg	0,1	0,14	0,16	0,17	0,19	0,35	0,4	0,6
Range of adjustment	bar	0,2-50	0,2-9	9,1-50	0,2-7	7,1-50	0,2-9	9,1-50	0,2-50
Range of adjustment ASME	psi	15-725	15-130	131-725	15-102	103-725	15-130	131-725	15-725

MAIN DIMENSIONS, INSTALLATION DIMENSIONS



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Series 410 ■ INDIVIDUAL SELECTION / VALVE CONFIGURATION

Series	Valve version	Medium	Lifting device	Nominal diameter DN	Connection type		Connection size		Seal	Options	Set pressure	Quantity
					Inlet	Outlet	Inlet	Outlet				
410	s	G	K	*8*	m	–	*8*	–	*FKM*		*10,0*	*5*
410	s	G	K		m	–		–				
410	s	G	K		m	–		–				
410	s	G	K		m	–		–				

■ PROPERTIES

GOX	Especially for gaseous O2 applications by employment of specific materials including oil- and grease free production process	☐			☐
P01	Oil- and grease-free production	☐			☐
		☐			☐

■ CERTIFICATES / APPROVALS

C01	Factory certificate acc. DIN EN 10204 2.2 (WKZ 2.2)	☐	**C06**	ATEX evaluation acc. to 2014/34/EU	☐
C02	Test certificate acc. DIN EN 10204 3.1 (WPZ 3.1)	☐	**C07**	SIL evaluation relating to IEC 61508-2	☐
C03	Material test certificate acc. DIN EN 10204 3.1 (MPZ 3.1) (pressure retaining part)	☐	**C09**	Seat tightness test with helium, leak detection method under vacuum incl. Factory Inspection Certificate 3.1 acc. to DIN EN 10204	☐
C04	TÜV/DEKRA individual inspection acc. EN 10204 3.2 (TÜV/DEKRA-APZ)	☐	**C10**	Certificate of oil- and grease free production	☐
C05	Manufacturer certification (FDA, USP 3, 3-A,…), Please indicate description of certificate:	☐	**C11**	Certification of the production process especially for gaseous oxygen applications by employment of specific materials	☐

■ ADMISSIONS / ACCREDITATIONS

AA1	EC Type examination acc. to Directive 2014/68/EU	☐	**AK1**	DNV-GL (DNVGL) type approval	☐
AA2	TÜV component test acc. to VdTÜV specification sheet SV 100	☐	**AK2**	Lloyd's Register (LR) type approval	☐
AA3	Certification acc. to ASME Boiler and Pressure Vessel Code, Section VIII.Div 1 (ASME)	☐	**AK3**	American Bureau of Shipping (ABS) type approval	☐
AA4	EAC - certificate/declaration with passport for the valve and laser marking of the valve	☐	**AK4**	Bureau Veritas (BV) type approval	☐
AA5	Manufacture License of Special Equipment People's Republic of China (ML)	☐	**AK5**	Russian Maritime Register of Shipping (RMRS) type approval	☐
AA6	Certification acc. to. Korean Gas Safety Corporation (KGS)[3]	☐	**AK6**	Registro Italiano Navale (RINA) type approval	☐
AA7	Registration according to Canadian Registration Number (CRN)[4]	☐	**AL**	Individual inspection by notified body inspector – (body to be indicated):	☐

[3]KGS only in combination with ASME | [4]CRN only in combination with ASME

■ ENQUIRY

Copy and send to: order@goetze-armaturen.de.

Order form easily to be found online under the section for each series.

CAPACITY TABLE ACC. TO ISO 4126-1 / AD2000 A2

Series 410: Blowing-off rates at 10% above set pressure

Nominal diameter DN		8	10	15	20	25
Set pressure bar						
	0,2	20	35	46	100	133
Air	0,3	25	45	54	119	144
Nm³/h	0,4	29	52	67	137	167
	0,5	32	58	74	158	185
	0,6	35	64	82	172	211
	0,7	37	70	87	187	235
	0,8	41	74	95	200	260
	0,9	43	80	101	213	282
	1	46	85	107	227	305
	1,5	60	108	137	286	408
	2	73	132	166	346	506
	3	100	182	222	465	699
	4	125	228	279	584	889
	5	151	274	336	703	1070
	6	176	321	393	821	1251
	7	201	367	450	940	1432
	8	227	414	507	1059	1613
	9	252	460	564	1178	1794
	10	278	507	621	1297	1975
	11	303	553	678	1416	2156
	12	329	599	735	1535	2337
	13	354	646	791	1654	2518
	14	380	692	848	1773	2700
	15	405	739	905	1891	2881
	16	431	785	962	2010	3062
	17	456	832	1019	2129	3243
	18	482	878	1076	2248	3424
	19	507	925	1133	2367	3605
	20	533	971	1190	2486	3786
	21	558	1017	1247	2605	3967
	22	584	1064	1304	2724	4148
	23	609	1110	1361	2843	4329
	24	635	1157	1417	2961	4510
	25	660	1203	1474	3080	4691
	26	685	1250	1531	3199	4872
	27	711	1296	1588	3318	5053
	28	736	1342	1645	3437	5234
	29	762	1389	1702	3556	5415
	30	787	1435	1759	3675	5597
	31	813	1482	1816	3794	5778
	32	838	1528	1873	3913	5959
	33	864	1575	1930	4031	6140
	34	889	1621	1986	4150	6321
	35	915	1667	2043	4269	6502
	36	940	1714	2100	4388	6683
	37	966	1760	2157	4507	6864
	38	991	1807	2214	4626	7045
	39	1017	1853	2271	4745	7226
	40	1042	1900	2328	4864	7407
	41	1068	1946	2385	4983	7588
	42	1093	1993	2442	5101	7769
	43	1119	2039	2499	5220	7950
	44	1144	2085	2556	5339	8131
	45	1170	2132	2612	5458	8313
	46	1195	2178	2669	5577	8494
	47	1220	2225	2726	5696	8675
	48	1246	2271	2783	5815	8856
	49	1271	2318	2840	5934	9037
	50	1297	2364	2897	6053	9218

CAPACITY TABLE ACC. TO ASME-CODE SEC. VIII DIV. 1

Series 410: Blowing-off rates at 10% above set pressure

Nominal diameter DN		8	10	15	20	25
Set pressure bar psi(g)						
	15	31	55	67	142	221
Air	30	45	81	98	207	323
SCFM	40	56	99	120	254	397
	50	66	118	143	302	472
	60	77	137	165	350	546
	70	87	155	188	397	621
	87	105	187	226	478	747
	90	108	192	233	493	770
	100	119	211	255	540	844
	110	129	230	278	588	919
	120	140	248	300	636	993
	130	150	267	323	683	1068
	140	161	286	345	731	1142
	150	171	304	368	779	1217
	160	182	323	391	826	1291
	170	192	341	413	874	1366
	180	203	360	436	922	1440
	190	213	379	458	969	1515
	200	223	397	481	1017	1589
	210	234	416	503	1065	1663
	220	244	434	526	1112	1738
	230	255	453	548	1160	1812
	240	265	472	571	1208	1887
	250	276	490	593	1255	1961
	260	286	509	616	1303	2036
	270	297	528	638	1351	2110
	280	307	546	661	1398	2185
	290	318	565	683	1446	2259
	300	328	583	706	1494	2334
	320	349	621	751	1589	2483
	340	370	658	796	1684	2632
	360	391	695	841	1780	2781
	380	412	732	886	1875	2929
	400	433	770	931	1970	3078
	420	454	807	976	2066	3227
	440	475	844	1021	2161	3376
	460	496	881	1066	2256	3525
	480	517	919	1111	2351	3674
	500	538	956	1157	2447	3823
	520	559	993	1202	2542	3972
	540	580	1030	1247	2637	4121
	560	600	1067	1292	2733	4270
	580	621	1105	1337	2828	4419
	600	642	1142	1382	2923	4568
	620	663	1179	1427	3019	4717
	640	684	1216	1472	3114	4866
	660	705	1254	1517	3209	5015
	680	726	1291	1562	3305	5164
	700	747	1328	1607	3400	5313
	725	773	1375	1663	3519	5499