TÜV/CE atmospheric discharge safety valves for industrial applications

→ Series 412

412

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
- traffic- and railway technology
- pneumatic braking systems
- secondary areas in the food-, pharmaceutical- and cosmetics- industries

Safety valves are set and sealed at the factory.

MATERIAL

SPECIFICATION

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

APPROVALS

TÜV Type test approval 2003	**D/G**
ASME-Code	**Sec. VIII Div. 1**
EC type examination	**S/G**
GOST-R	**D/G (S/G)**

Requirements

AD 2000 Data sheet A2
DIN EN ISO 4126-1
PED 97/23/EC

Classification society

Germanischer Lloyd	GL
Lloyd's Register EMEA	LR EMEA
American Bureau of Shipping	ABS
Det Norske Veritas	DNV
Bureau Veritas	BV

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	1.4310	302
Sealing cap	Stainless steel	1.4301	304

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	**15**	**20**	**25**	**32**	**40**	**50**
Inlet	1/2“ (15)	3/4“ (20)	1“ (25)	1 1/4“ (32)	1 1/2“ (40)	2“ (50)
Atmospheric discharge via outlet apertures	■	■	■	■	■	■

TYPE OF CONNECTION INLET / OUTLET THREADED CONNECTIONS

m / –	Standard	Male thread BSP-P / –	DIN EN ISO 228-1 / –
Against surcharge			
BSP-Tm / –		Male thread BSP-T / –	DIN EN 10226, ISO 7-1 / –
NPT-m / –		Male thread NPT / –	ANSI B1.20.1 / –
Further connection types available on request			

SEALS

NBR	Nitrile rubber	Elastomere flat seal	–30°C to +130°C
On request			
FKM	Fluorocarbon	Elastomere flat seal	–20°C to +200°C
PTFE	Polytetrafluoroethylene	Flat seal from 1 bar	–60°C to +225°C

OPTIONS

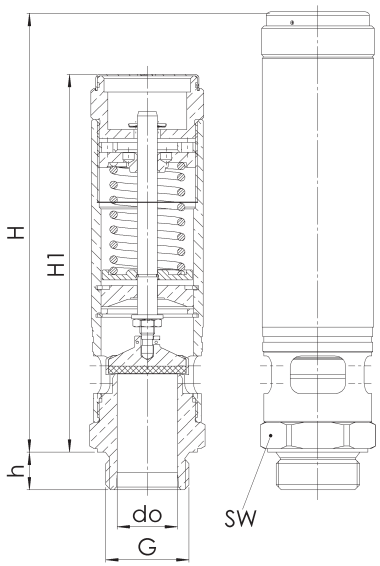
SHORT	short version for DN 32 and DN 40
Against surcharge	
Deflector made of stainless steel	Order code: **812 ABS-DN..**
Special versions on request.	

NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

Series 412: Connection, installation dimensions, ranges of adjustment							
Nominal diameter	**DN**	**15**	**20**	**25**	**32**	**40**	**50**
Connection DIN EN ISO 228	**G**	1/2" (15)	3/4" (20)	1" (25)	1 1/4" (32)	1 1/2" (40)	2" (50)
Installation dimensions in mm	**H (H1)**	144	177	177	215 (177[1])	215 (177[1])	282
	h	12	15	15	22,5	22,5	26
	SW	32	41	41	55	55	80
	do	14	20	24	31	31	48
Weight	**kg**	0,6	1,3	1,3	2,6	2,6	5,4
Range of adjustment	**bar**	0,2-50	0,2-50	0,2-50	0,2-50	0,2-50	0,2-30
Range of adjustment ASME	**psi**	14,5-725	14,5-725	14,5-725	14,5-725	14,5-725	-

[1]type 412 with the option SHORT for the pressure range 0,2 to 6 bar also available as short version

MAIN DIMENSIONS, INSTALLATION DIMENSIONS



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				
412	**s**	**G**	**K**	*20*	*NPT-m*	–	*20*	–	*FKM*		*4,5*	*2*
412	**s**	**G**	**K**	*40*	*NPT-m*	–	*40*	–	*PTFE*	*SHORT*	*5,0*	*5*
412	**s**	**G**	**K**			–		–				
412	**s**	**G**	**K**			–		–				

In this table you can configure a valve according to your individual requirements (similar to the *example* shown, which should be deleted before you enter your own data). Please complete the table by hand using the abbreviations in this datasheet and then fax it to: +49(0)7141.4889488
Please do not forget to add your personal data so that our sales team can contact you.

Name

First Name

Company

Telephone

E-Mail

CAPACITY TABLE

Series 412: Blowing-off rates at 10% above set pressure

Nominal diameter DN		15	20	25	32	40	50
	Set pressure bar						
	0,2	61	167	240	401	401	768
Air	0,3	76	189	272	453	453	827
Nm³/h	0,4	88	205	296	493	493	887
	0,5	99	222	320	534	534	946
	0,6	110	240	345	576	576	1005
	0,7	121	262	377	629	629	1064
	0,8	129	280	404	673	673	1123
	0,9	138	299	431	719	719	1182
	1	147	319	459	766	766	1370
	1,5	194	419	604	1007	1007	1827
	2	245	520	749	1249	1249	2325
	3	338	717	1032	1723	1723	3177
	4	436	923	1330	2219	2219	4056
	5	524	1112	1601	2671	2671	4962
	6	613	1300	1872	3123	3123	5802
	7	702	1488	2143	3575	3575	6642
	8	790	1676	2413	4027	4027	6034
	9	879	1864	2684	4478	4478	6711
	10	968	2052	2955	4930	4930	7388
	11	1057	2240	3226	5382	5382	8065
	12	1145	2428	3497	5834	5834	8742
	13	1234	2617	3768	6286	6286	9420
	14	1323	2805	4039	6738	6738	10097
	15	1412	2993	4310	7190	7190	10774
	16	1500	3181	4581	7642	7642	11451
	17	1589	3369	4851	8094	8094	12129
	18	1678	3557	5122	8546	8546	12806
	19	1766	3745	5393	8998	8998	13483
	20	1855	3933	5664	9450	9450	14160
	21	1944	4122	5935	9902	9902	14838
	22	2033	4310	6206	10354	10354	15515
	23	2121	4498	6477	10806	10806	16192
	24	2210	4686	6748	11258	11258	16869
	25	2299	4874	7019	11710	11710	17546
	26	2387	5062	7289	12162	12162	18224
	27	2476	5250	7560	12614	12614	18901
	28	2565	5438	7831	13066	13066	19578
	29	2654	5626	8102	13518	13518	20255
	30	2742	5815	8373	13970	13970	20933
	31	2831	6003	8644	14422	14422	-
	32	2920	6191	8915	14874	14874	-
	33	3009	6379	9186	15325	15325	-
	34	3097	6567	9457	15777	15777	-
	35	3186	6755	9727	16229	16229	-
	36	3275	6943	9998	16681	16681	-
	37	3363	7131	10269	17133	17133	-
	38	3452	7320	10540	17585	17585	-
	39	3541	7508	10811	18037	18037	-
	40	3630	7696	11082	18489	18489	-
	41	3718	7884	11353	18941	18941	-
	42	3807	8072	11624	19393	19393	-
	43	3896	8260	11895	19845	19845	-
	44	3984	8448	12166	20297	20297	-
	45	4073	8636	12436	20749	20749	-
	46	4162	8825	12707	21201	21201	-
	47	4251	9013	12978	21653	21653	-
	48	4339	9201	13249	22105	22105	-
	49	4428	9389	13520	22557	22557	-
	50	4517	9577	13791	23009	23009	-

CAPACITY TABLE ASME

Series 412: Blowing-off rates at 10% above set pressure						
	Nominal diameter DN	15	20	25	32	40
	Set pressure psi					
	14,5	109	222	320	534	534
Air	20	128	260	375	626	626
SCFM	30	161	330	475	792	792
	40	195	399	574	958	958
	50	236	482	693	1157	1157
	60	273	558	803	1340	1340
	70	310	634	912	1522	1522
	80	348	710	1022	1705	1705
	90	385	786	1131	1887	1887
	100	422	862	1241	2070	2070
	110	459	938	1350	2252	2252
	120	497	1014	1459	2435	2435
	130	534	1090	1569	2618	2618
	140	571	1166	1678	2800	2800
	150	608	1242	1788	2983	2983
	160	646	1318	1897	3165	3165
	170	683	1394	2007	3348	3348
	180	720	1470	2116	3531	3531
	190	757	1546	2226	3713	3713
	200	795	1622	2335	3896	3896
	210	832	1698	2444	4078	4078
	220	869	1774	2554	4261	4261
	230	906	1850	2663	4443	4443
	240	944	1926	2773	4626	4626
	250	981	2002	2882	4809	4809
	260	1018	2078	2992	4991	4991
	270	1055	2154	3101	5174	5174
	280	1092	2230	3210	5356	5356
	290	1130	2306	3320	5539	5539
	300	1167	2382	3429	5722	5722
	320	1241	2533	3648	6087	6087
	340	1316	2685	3867	6452	6452
	360	1390	2837	4086	6817	6817
	380	1465	2989	4305	7182	7182
	400	1539	3141	4524	7547	7547
	420	1614	3293	4743	7913	7913
	440	1688	3445	4961	8278	8278
	460	1763	3597	5180	8643	8643
	480	1837	3749	5399	9008	9008
	500	1912	3901	5618	9373	9373
	520	1986	4053	5837	9738	9738
	540	2061	4205	6056	10104	10104
	560	2135	4357	6275	10469	10469
	580	2210	4509	6494	10834	10834
	600	2284	4661	6712	11199	11199
	620	2359	4813	6931	11564	11564
	640	2433	4965	7150	11929	11929
	660	2508	5117	7369	12295	12295
	680	2582	5269	7588	12660	12660
	700	2656	5421	7807	13025	13025
	720	2731	5573	8026	13390	13390
	725	2750	5611	8080	13481	13481