

Product Specifications

Type 21

HEROSE Safety Valve Type 21

Safety Valves, angle type, bronze
Type tested, 2014/68/EU DEKRA, Steam / Gas

Specification highlights

- Standard safety valve
- Soft seated
- Various sealing options
- Lifting device
- Inlet: male thread type G (BSPP) acc. to ISO 228/1 and M acc. to ISO 1502, various inlet connection sizes
- Outlet: Free discharge

Applications & branches

- #Pressure Vessels
- #Gas Cylinders
- #Food
- #Medical
- #Compressed Air
- #Steam
- #Chemical
- #General Industry
- #Pharma



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Working temperature

- FKM soft valve seal: -20°C (253K / -4°F) to +200°C (473K / 392°F)
- VMQ soft valve seal: -50°C (223K / -58°F) to +200°C (473K / 392°F)
- EPDM soft valve seal: -50°C (223K / -58°F) to +150°C (423K / 302°F)
- PTFE soft valve seal: -196°C (77K / -321°F) to +250°C (523K / 482°F)

Max. pressure | 2108

- All models
- (Pmax 47.0 bar) all sealing types

Certifications & Quality standards

- 2014/68/EU DEKRA.
Type tested Steam / Gas
- ISO 228/1
Inlet, male thread type G (BSPP)
- **Discharge capacity**
Calculation of flow rate acc. to AD2000-Merkblatt / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII



- 2014/68/EU (PED)
Standard marking acc. to Pressure Equipment Directive.
- ASME Code Section VIII



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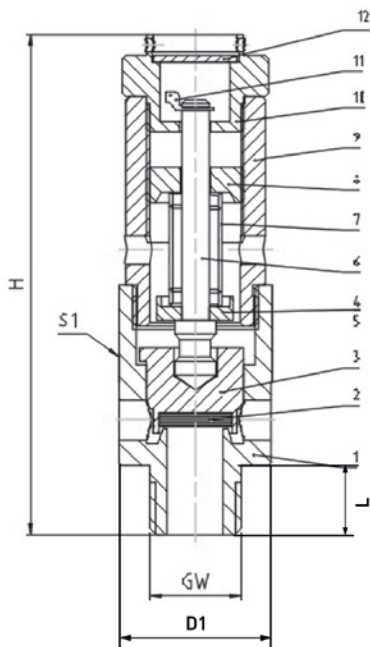
Materials and spare parts

Provided as safety device for protection against excessive pressure in gas cylinders and pressure vessels. Approved for gases and vapours.

Essentials

! Valves are delivered at a set pressure, therefore when ordering please confirm set pressure.

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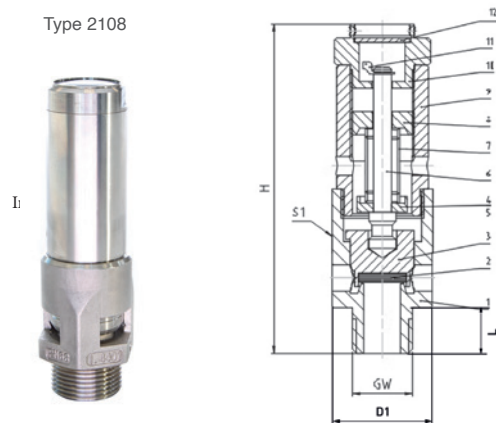


	Materials	DIN EN	ASME/ASTM
1	Body	1.4404 X2CrNi-Mo17-12-2 A4	A 276 Grade 316L
		1.4401 X5CrNi-Mo17-12-2 A4	A 351 Grade 316
2	Valve seal	FKM, EPDM, NBR, VMQ, PTFE FPM. PTFE or EPDM	
3	Disc	1.4301 X5CrNi10-10 A2	A 276 Grade 304
		1.4404 X2CrNi-Mo17-12-2 A4	A 276 Grade 316L
6	Stem	1.4301 X5CrNi10-10 A2	A 276 Grade 304
		1.4404 X2CrNi-Mo17-12-2 A4	A 276 Grade 316L
9	Bonnet	1.4301 X5CrNi10-10 A2	A 276 Grade 304
		1.4404 X2CrNi-Mo17-12-2 A4	A 276 Grade 316L
7	Spring	1.4310 X5CrNi10-10 A2	A 313 Grade 301
10	Lifting device	1.4301 X5CrNi10-10 A2	A 276 Grade 30
		1.4404 X2CrNi-Mo17-12-2 A4	A 276 Grade 316L
12	Closing cap	1.4301 X5CrNi10-10 A2	A 276 Grade 304
		1.4404 X2CrNi-Mo17-12-2 A4	A 276 Grade 316L

Also available as brass version.

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How to compose your order code?

Select from the table below: **Type number** ① + **Size number** ② + - (dash) + **Sealing Type number** ③ + - (dash) + **Normal size (inlet)** ④

(For example: 2108-FKM-1/2")

*HEROSE made a preselection in material use, based on the Orifice and Nominal size of the inlet and outlet of the safety valves.

Type 21 ①		Size number ②											
Dimension code		08						10					
Sealing Type ③		Set pressure range (bar)											
FKM		0.3 - 21		21.1-47		0.3-16		16.1-42					
NBR		0.3 - 21		21.1-47		0.3-16		16.1-42					
VMQ		0.3 - 21		21.1-47		0.3-16		16.1-42					
EPDM		0.3 - 21		21.1-47		0.3-16		16.1-42					
PTFE		0.3 - 21		21.1-47		0.3-16		16.1-42					
Technical data													
Orifice	d ₀ in mm	8	8	8	8	8	8	10	10	10	10	10	10
Nominal Size (inlet)	GW - BSPP	1/4	3/8	1/2	1/4	3/8	1/2	3/8	1/2	3/4	3/8	1/2	3/4
Height	H in mm	72	81	88	73	82	90	72	74	74	89	91	91
Length	L in mm	10	10	12	10	10	12	10	12	12	10	12	12
Diameter	D ₁ in mm	21,8	21,8	23,8	26,8	26,8	26,8	21,8	26,8	30,0	23,8	26,8	30,0
Wrench size across flats	S ₁ in mm	22	22	27	24	24	27	22	27	30	22	27	30
Coeff. Of discharge	α	0,73	0,73	0,73	0,73	0,73	0,73	0,54 - 0,74	0,54 - 0,74	0,54 - 0,74	0,54 - 0,74	0,54 - 0,74	0,54 - 0,74

④

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Type 21 ①		Size number ②						
Dimension code		15		20		25		
Sealing Type ③		Set pressure range (bar)						
FKM		0.2-30		0.5-30		0.5-30		
NBR		0.2-30		0.5-30		0.5-30		
VMQ		0.2-30		0.5-30		0.5-30		
EPDM		0.2-30		0.5-30		0.5-30		
PTFE		0.2-30		0.5-30		0.5-30		
Technical data								
Orifice	d ₀ in mm	15	15	20	20	25	25	25
4 Nominal Size (inlet)	GW - BSPP	1/2	3/4	1	1 1/4	1	1 1/4	1 1/2
Height	H in mm	124	139	161	165	217	219	221
Length	L in mm	16	16	18	20	18	20	22
Diameter	D ₁ in mm	28	28	36	36	45	45	45
Wrench size across flats	S ₁ in mm	32	32	41	47	50	50	55
Coeff. Of discharge	α	0,82	0,82	0,79	0,79	0,8	0,8	0,8

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Discharge capacities

! Calculation of flow rate acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

The capacity indicated below is for a fully opened valve.

Medium

Saturated steam in kg/h

Air in m³/h at 0°C and 1013,25 mbar

Set pressure in bar (g)	1/4 + 3/8 + 1/2		3/8 + 1/2 + 3/4		1/2 + 3/4		1 + 1 1/4		1 + 1 1/4 + 1 1/2	
	d ₀ in mm 8		d ₀ in mm 10		d ₀ in mm 15		d ₀ in mm 20		d ₀ in mm 25	
	A ₀ in mm ² 50,27		A ₀ in mm ² 78,5		A ₀ in mm ² 176,7		A ₀ in mm ² 314,2		A ₀ in mm ² 490,9	
0,5	40	31	46	35	128	97	255	194	345	262
0,6	43	33	50	38	137	105	273	208	370	282
0,8	49	38	57	43	155	119	310	238	419	322
1	55	42	67	51	174	133	346	265	468	358
1,5	69	52	84	63	203	165	437	329	590	444
2	83	63	107	81	330	248	563	425	892	673
2,5	98	73	125	94	387	289	660	495	1045	784
3	112	84	148	111	443	331	757	567	1198	897
3,5	126	94	168	125	500	373	854	638	1351	1010
4	141	105	190	141	557	413	951	708	1505	1120
4,5	155	115	209	156	613	455	1048	780	1658	1234
5	169	125	232	172	670	495	1145	848	1811	1342
5,5	184	136	252	186	727	537	1242	919	1965	1455
6	198	146	275	203	784	577	1338	988	2118	1563
6,5	212	156	295	218	840	618	1435	1058	2271	1674
7	226	167	318	235	898	658	1532	1127	2425	1783
7,5	241	177	340	250	954	698	1629	1196	2578	1892
8	255	187	362	264	1011	739	1726	1266	2731	2003
8,5	270	197	381	279	1067	779	1823	1334	2885	2111
9	284	208	406	298	1124	820	1920	1405	3038	2222
9,5	298	218	428	312	1181	860	2017	1473	3191	2330
10	313	228	450	327	1238	900	2114	1542	3345	2440
11	341	248	489	356	1351	981	2307	1680	3498	2658
12	371	269	539	391	1465	1061	2501	1817	3958	2875
13	399	289	580	421	1578	1141	2695	1955	4264	3093
14	428	309	629	457	1692	1222	2889	2092	4571	3311

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Discharge capacities

Calculation of flow rate acc. to ASME Code Sec. VIII

The capacity indicated below is for a fully opened valve.

Medium

Air in scfm

Set pressure in psi (g)	1/4 + 3/8 + 1/2	3/8 + 1/2 + 3/4	1/2 + 3/4	1 + 1 1/4	1 + 1 1/4 + 1 1/2	Set pressure in psi (g)	1/4 + 3/8 + 1/2	3/8 + 1/2 + 3/4	1/2 + 3/4	1 + 1 1/4	1 + 1 1/4 + 1 1/2
	d ₀ in inch 0.315	d ₀ in inch 0.394	d ₀ in inch 0.591	d ₀ in inch 0.787	d ₀ in inch 0.984		d ₀ in inch 0.315	d ₀ in inch 0.394	d ₀ in inch 0.591	d ₀ in inch 0.787	d ₀ in inch 0.984
	A ₀ in in ² 0.076	A ₀ in in ² 0.121	A ₀ in in ² 0.274	A ₀ in in ² 0.487	A ₀ in in ² 0.761		A ₀ in in ² 0.076	A ₀ in in ² 0.121	A ₀ in in ² 0.274	A ₀ in in ² 0.487	A ₀ in in ² 0.761
15	27	41	122	214	247	300	286	445	1308	2303	2657
30	40	63	184	324	374	319	304	471	1387	2442	2818
50	58	91	267	471	543	340	323	501	1475	2596	2995
60	68	105	309	544	628	363	344	534	1570	2765	3190
70	77	119	351	617	712	380	359	558	1641	2890	3333
80	86	133	392	691	797	400	377	586	1724	3036	3503
87	92	143	421	742	856	420	396	614	1808	3183	3672
90	95	147	434	764	881	435	409	636	1870	3293	3799
100	104	162	475	837	966	440	414	643			
120	122	190	559	984	1135	460	432	671			
123	125	194	571	1006	1160	480	450	699			
130	131	204	600	1057	1219	500	468	728			
140	140	218	642	1130	1304	520	487	756			
150	150	232	684	1204	1389	540	505	784			
160	159	247	725	1277	1473	550	514	798			
174	171	266	784	1380	1592	560	523	813			
180	177	275	808	1424	1642	580	541	841			
190	186	289	850	1497	1727	600	560	869			
200	195	303	892	1570	1811	609	568	882			
220	213	331	975	1717	1980	620	578				
229	222	344	1012	1783	2057	640	596				
232	224	348	1025	1805	2082	660	614				
240	232	360	1058	1863	2150	680	632				
260	250	388	1142	2010	2319	681	633				
280	268	416	1225	2157	2488	Rated slope	0.911	1.415	4.163	7.330	8.456