

# 6301 TYPE CAST IRON SAFETY VALVES

## FEATURES

The 6301 type safety valve is a device designed to protect installations against possible overpressure. It operates automatically and closes when pressure conditions return to normal. The 6301 safety valve is a spring loaded type safety valve, with offset orifices and instantaneous exhaust, made of cast iron of pressure class PN 16. As a standard, it is delivered sealed with a closed cover, a leak-tight plug, and a test lever. The seat and the disc are heat hardened providing high resistance to erosion. The 6301 safety valve is approved by TÜV and Veritas, and can be used with steam, gas and liquids. Calibration certificate and manufacturer dossier according to the 20<sup>th</sup> of November 2017 order concerning the monitoring of safety valve upon simple request.



## AVAILABLE MODELS

**6301:** DN 20 to DN 150.

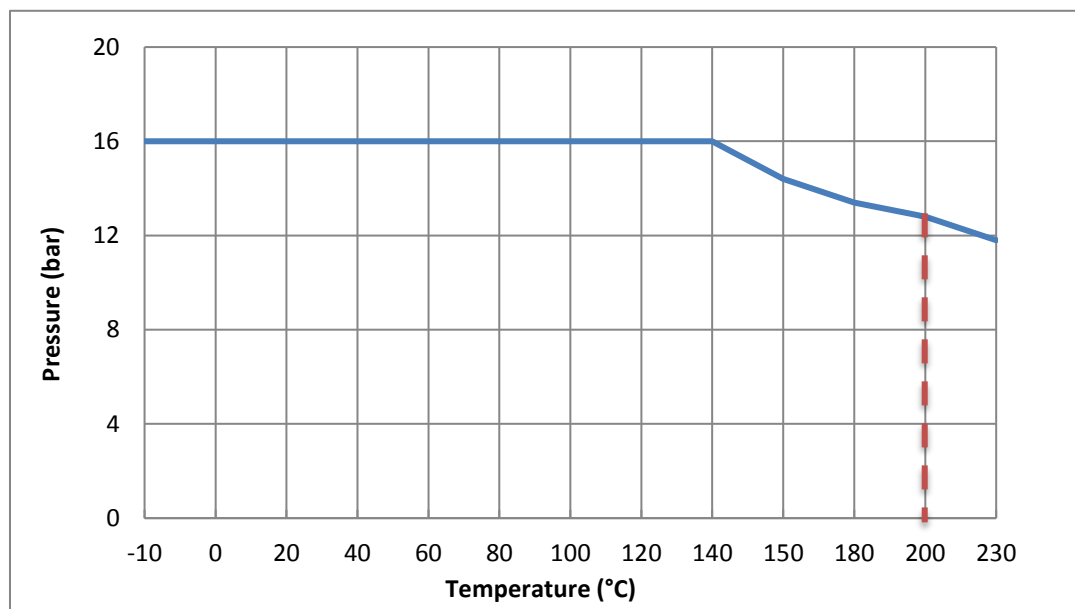
Connection with PN 16 flanges and PN 10/16 outlet flanges.

## LIMITS OF USE

Fluid WP:	16 bar
Test pressure	24 bar
Fluid WT°:	-10° / +200°



BUREAU  
VERITAS



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## HYDRAULIC FEATURES

<b>Inlet DN</b>	20	25	32	40	50	65	80	100	125	150
<b>Outlet DN</b>	32	40	50	65	80	100	125	150	200	250
<b>Do orifice (mm)</b>	16	20	25	32	40	50	63	77	93	110
<b>Calibration minimum (bar)</b>	0.5									
<b>Calibration maximum (bar)</b>	16	16	16	16	16	16	16	16	12.5	10
<b>Flow-rate coefficient</b>	<b>Fluid</b>		<b>Calibration pressure</b>				<b>Coefficient</b>			
	Gas and vapour		≤ 1.4 bar				0.72			
	Gas and vapour		> 1.4 bar				0.78			
	Liquids for b1= 10%		≤ 6 bar				0.01			
	Liquids for b1= 10%		> 6 bar				0.28			
	Liquids for b1= 25%		All pressures				0.28			
For usual fluids (water, compressed air and steam), please refer to our flow-rate graphs.										

## DIRECTIVES AND MANUFACTURING STANDARDS

OBJECT	Standard	O.N.
Pressure Equipment Directive 2014/68/EC	Category IV	CE 0045
Construction standard	ISO 4126-1	
Approval for Russia	GOST-R	
TÜV approval	SV 96.894	
VERITAS (Use at sea and offshore)	22324592B00	
Flange connections:	EN 1092-1	
<b>CALIBRATION CERTIFICATE – TEST AND MATERIAL</b>		
EN 10 204 3.1 certificate for calibration and standard compliance, with the serial number engraved on the safety valve.		

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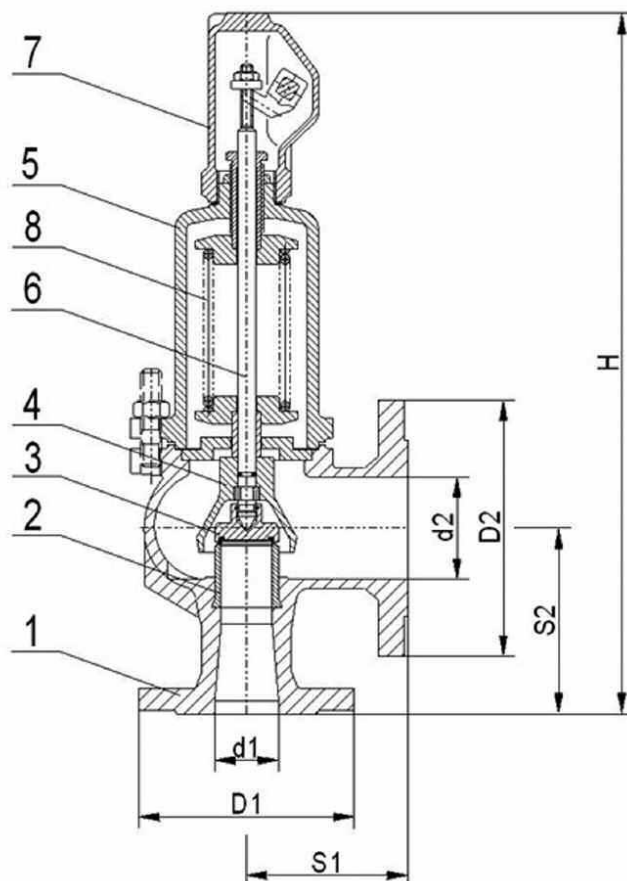
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## CONSTRUCTION

No.	Name	Material
1	Body	EN GLJ 250 cast iron
2	Seat	X39 Cr Mo 17-1
3	Disc	X39 Cr Mo 17-1
4	Deflector	EN GJS 400-15 cast iron
5	Bonnet	EN GJS 400-15 cast iron
6	Stem	X20 Cr13
7	Cap	EN GJS 400-15 cast iron
8	Spring	Alloy steel



## DIMENSIONS (mm) AND WEIGHT (kg)

DN	d1	d2	Fo (mm <sup>2</sup> )	D1 (∅ Flange between)		S1	S2	H	Weight (Kg)
				PN 16	PN 10 / PN 16				
20	20	32	201	105	140	85	95	345	7,5
25	25	40	314	115	150	95	105	395	9
32	32	50	491	140	165	100	110	420	13
40	40	65	804	150	185	115	130	495	19
50	50	80	1257	165	200	125	145	550	25
65	65	100	1964	185	220	140	150	660	37
80	80	125	3117	200	250	155	170	710	52
100	100	150	4657	220	285	175	180	810	77
125	125	200	6793	250	340	215	220	860	90
150	150	250	9503	285	395 / 405	225	245	990	140

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DN (Inlet/Outlet)		D	K	L	Qté	∅	ISO PN 10/16 flange dimensions
20	PN 10/16	105	75	14	4	M12	
25	PN 10/16	115	85	14	4	M12	
32	PN 10/16	140	100	19	4	M16	
40	PN 10/16	150	110	19	4	M16	
50	PN 10/16	165	125	19	4	M16	
65	PN 10/16	185	145	19	4	M16	
80	PN 10/16	200	160	19	8	M16	
100	PN 10/16	220	180	19	8	M16	
125	PN 10/16	250	210	19	8	M16	
150	PN 10/16	285	240	23	8	M20	
200	PN 10/16	340	295	23	8	M20	
250	PN 10	395	350	23	12	M20	
	PN 16	405	355	28	12	M24	

## INSTALLATION

The safety valve has to be positioned as close as possible to the volume to protect. It must always be installed, in the vertical position. No valve must be installed in-between the volume to protect and the safety valve. The outlet flange of the safety valve must not support the exhaust piping. No foreign body must block the discharge orifice of the safety valve. The exhaust has to be connected to piping without counter-pressure, discharging into a hazard free location. The safety valve installation and servicing have to be carried out according to state-of-the-art rules, following the instruction leaflet provided with the device.

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**SATURATED STEAM FLOW-RATE IN Kg/h** (According to the ISO 4126-1 standard)

P (bar)	DN									
	20	25	32	40	50	65	80	100	125	150
0,45	115	180	282	461	721	1127	1788	2672	3897	5452
0,5	120	187	293	479	749	1171	1858	2777	4050	5666
0,55	124	194	304	497	777	1214	1927	2879	4199	5875
0,6	129	201	314	514	804	1257	1994	2980	4347	6081
0,7	137	215	336	550	859	1343	2131	3184	4644	6497
0,8	147	230	359	588	919	1436	2280	3406	4968	6950
0,9	158	246	385	630	985	1540	2444	3651	5326	7450
1	164	256	401	656	1026	1603	2545	3802	5546	7758
1,1	171	268	419	686	1072	1675	2659	3972	5794	8106
1,2	179	280	437	716	1120	1749	2776	4148	6051	8465
1,3	187	292	457	748	1169	1826	2898	4330	6316	8836
1,4	195	305	476	780	1220	1906	3025	4519	6592	9221
1,6	230	360	562	921	1439	2249	3569	5332	7778	10881
1,8	251	392	613	1004	1569	2452	3891	5813	8480	11863
2	268	418	654	1071	1674	2615	4150	6201	9045	12654
2,2	285	445	695	1138	1780	2781	4413	6594	9618	13456
2,4	303	473	739	1210	1892	2956	4691	7009	10224	14303
2,6	322	502	786	1286	2011	3142	4987	7451	10868	15204
2,8	340	532	831	1361	2128	3326	5278	7885	11502	16091
3	357	558	872	1428	2233	3489	5537	8273	12067	16881
3,5	402	628	982	1609	2515	3929	6236	9317	13591	19012
4	446	697	1090	1784	2790	4359	6918	10336	15077	21092
4,5	492	768	1201	1967	3075	4805	7626	11393	16619	23249
5	535	835	1306	2139	3344	5225	8292	12389	18072	25282
5,5	580	906	1417	2320	3627	5667	8993	13437	19600	27419
6	623	973	1521	2491	3895	6086	9658	14430	21049	29446
6,5	667	1042	1630	2669	4173	6520	10348	15461	22553	31550
7	711	1110	1736	2843	4445	6945	11021	16467	24019	33602
8	798	1247	1950	3193	4993	7801	12381	18498	26982	37746
9	886	1384	2165	3545	5542	8659	13742	20531	29948	41896
10	974	1521	2378	3894	6089	9513	15098	22558	32904	46031

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## SATURATED STEAM FLOW-RATE IN kW (According to the ISO 4126-1 standard)

P (bar)	DN Power (kW)									
	20	25	32	40	50	65	80	100	125	150
0,45	71,2	111,4	174,5	285,3	446,2	697,5	1106,6	1653,7	2411,8	3374,2
0,5	74,2	115,6	181,1	296	462,9	723,7	1148,3	1716,3	2503,1	3501,9
0,55	76,5	119,7	187,6	306,8	479,6	749,3	1189,4	1777	2591,7	3626,2
0,6	79,6	124	193,6	317	495,8	775,2	1229,6	1837,7	2680,7	3750
0,7	84,3	132,3	206,7	338,4	528,5	826,3	1311,2	1959	2857,4	3997,5
0,8	90,2	141,2	220,4	361	564,2	881,5	1399,7	2090,9	3049,8	4266,5
0,9	96,8	150,7	235,8	385,9	603,3	943,3	1497	2236,2	3262,2	4563,1
1	100,3	156,5	245,2	401,1	627,3	980,1	1556	2324,5	3390,8	4743,2
1,1	104,4	163,6	255,7	418,7	654,2	1022,2	1622,7	2424	3535,9	4946,9
1,2	109	170,5	266,1	436	682	1064,9	1690,3	2525,7	3684,4	5154,2
1,3	113,7	177,5	277,8	454,6	710,5	1109,8	1761,3	2631,7	3838,7	5370,3
1,4	118,3	185	288,8	473,2	740,1	1156,3	1835,2	2741,5	3999,1	5594,1
1,6	139,1	217,7	339,9	556,9	870,2	1360	2158,3	3224,4	4703,5	6580
1,8	151,3	236,3	369,5	605,2	945,8	1478	2345,4	3503,9	5111,6	7150,8
2	161	251,1	392,9	643,5	1005,8	1571,2	2493,5	3725,8	5434,5	7602,9
2,2	170,7	266,5	416,2	681,5	1066	1665,5	2642,9	3949,1	5760,1	8058,6
2,4	181	282,5	441,3	722,6	1129,9	1765,4	2801,6	4185,9	6106	8542,1
2,6	191,8	299	468,1	765,9	1197,7	1871,2	2970	4437,5	6472,5	9054,8
2,8	202	316,1	493,8	808,7	1264,4	1976,2	3136	4685	6834,1	9560,7
3	211,5	330,6	516,7	846,1	1323,1	2067,2	3280,7	4901,8	7149,7	10002
3,5	236,7	369,8	578,3	947,5	1481,1	2313,7	3672,3	5486,7	8003,6	11196
4	261,2	408,1	638,3	1044,6	1633,7	2552,4	4050,9	6052,3	8828,4	12350,5
4,5	286,5	447,1	699,2	1145,2	1790,3	2797,6	4440	6633,3	9676	13536,1
5	310	483,8	756,8	1239,4	1937,7	3027,6	4804,8	7178,7	10471,7	14649,5
5,5	336,1	525	821,1	1344,3	2101,6	3283,7	5210,9	7786	11357,1	15887,8
6	359,1	560,8	876,7	1435,8	2245	3507,9	5566,8	8317,3	12132,4	16972,3
6,5	380,9	595,1	930,9	1524,3	2383,2	3723,6	5909,9	8829,9	12880,3	18018,6
7	404,3	631,2	987,1	1616,6	2527,5	3949	6266,7	9363,3	13657,5	19106,5
8	450	703,2	1099,6	1800,5	2815,5	4398,9	6981,5	10430,8	15214,9	21284,6
9	495,9	774,7	1211,8	1984,2	3102	4846,6	7691,7	11491,7	16762,6	23450,1
10	543	848	1325,7	2170,9	3394,6	5303,5	8417,1	12576,1	18344	25562,3

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**WATER FLOW-RATE IN kg/h AT 20°C** (According to the ISO 4126-1 standard)

P (bar)	DN									
	20	25	32	40	50	65	80	100	125	150
0,45	70,7	111	176	290	456	716	1141	1711	2504	3511
0,5	74	117	184	303	477	748	1193	1789	2617	3669
0,55	77,2	122	191	316	496	779	1243	1863	2725	3821
0,6	80,2	126	199	328	516	810	1290	1934	2830	3967
0,7	86	135	213	351	552	867	1381	2070	3028	4245
0,8	91,4	144	226	373	586	920	1466	2198	3214	4506
0,9	96,5	152	239	394	619	971	1547	2318	3390	4752
1	101	160	251	413	650	1019	1624	2433	3558	4987
1,1	106	168	264	434	682	1070	1704	2553	3734	5234
1,2	111	175	276	454	713	1118	1781	2668	3902	5469
1,3	116	183	287	473	742	1165	1855	2779	4063	5695
1,4	121	190	298	491	771	1209	1926	2885	4218	5912
1,6	129	203	319	526	825	1294	2061	3087	4513	6325
1,8	137	216	339	558	876	1374	2188	3277	4790	6712
2	145	228	358	589	924	1449	2307	3456	5052	7079
2,2	152	239	376	618	970	1521	2422	3627	5301	7428
2,4	159	250	393	646	1014	1590	2531	3790	5539	7761
2,6	166	260	409	673	1056	1656	2635	3946	5768	8081
2,8	172	270	425	699	1097	1719	2736	4097	5987	8389
3	178	280	440	724	1136	1780	2833	4242	6200	8686
3,5	193	303	476	783	1228	1925	3063	4586	6701	9388
4	207	324	510	838	1314	2059	3277	4906	7168	10042
4,5	220	345	541	889	1395	2186	3478	5206	7607	10656
5	232	364	571	938	1471	2305	3668	5490	8022	11237
5,5	243	382	599	985	1544	2419	3849	5761	8417	11790
6	254	399	626	1029	1614	2528	4021	6019	8794	12318
6,5	7654	11957	18698	30617	47867	74790	118697	177341	258681	361879
7	7943	12409	19403	31772	49674	77613	123177	184035	268446	375539
8	8492	13265	20743	33966	53104	82972	131682	196742	286980	401468
9	9007	14070	22001	36027	56325	88005	139670	208676	304389	425821
10	9494	14831	23191	37975	59372	92766	147225	219964	320854	448855
11	9957	15555	24323	39829	62270	97293	154411	230700	336514	470763
12	10400	16247	25405	41600	65039	101620	161277	240959	351478	491696
14	11233	17548	27440	44933	70250	109762	174199	260265	379639	531093
16	12009	18760	29335	48035	75100	117340	186227	278235	405851	567762

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**COMPRESSED AIR FLOW-RATE IN kg/h AT 20°C** (According to the ISO 4126-1 standard)

P (bar)	DN									
	20	25	32	40	50	65	80	100	125	150
0,45	185	289	451	739	1156	1806	2866	4281	6245	8737
0,5	193	301	471	771	1205	1883	2988	4464	6512	9110
0,55	200	313	489	801	1252	1956	3105	4639	6766	9466
0,6	207	324	507	830	1297	2027	3217	4806	7010	9807
0,7	221	345	540	884	1382	2160	3428	5121	7470	10450
0,8	234	365	571	935	1461	2283	3624	5414	7898	11049
0,9	246	384	601	984	1538	2404	3815	5699	8314	11630
1	258	404	631	1033	1615	2524	4005	5984	8729	12212
1,1	272	425	664	1087	1700	2656	4215	6298	9186	12851
1,2	285	446	697	1141	1785	2788	4425	6611	9644	13491
1,3	299	467	730	1196	1869	2920	4635	6925	10101	14131
1,4	312	488	763	1250	1954	3053	4845	7238	10558	14770
1,6	368	575	898	1471	2300	3593	5703	8521	12429	17387
1,8	397	620	970	1588	2483	3880	6158	9200	13419	18773
2	426	666	1042	1706	2667	4166	6612	9879	14410	20159
2,2	456	712	1113	1823	2850	4453	7067	10558	15401	21545
2,4	485	758	1185	1940	3033	4739	7521	11237	16392	22931
2,6	514	803	1256	2057	3216	5026	7976	11917	17382	24317
2,8	544	849	1328	2175	3400	5312	8431	12596	18373	25703
3	573	895	1400	2292	3583	5598	8885	13275	19364	27089
3,5	646	1010	1579	2585	4041	6315	10022	14973	21840	30553
4	720	1124	1758	2878	4500	7031	11158	16671	24317	34018
4,5	793	1239	1937	3171	4958	7747	12295	18369	26794	37483
5	866	1353	2116	3464	5416	8463	13431	20067	29271	40948
5,5	939	1467	2295	3758	5875	9179	14567	21765	31747	44413
6	1013	1582	2474	4051	6333	9895	15704	23463	34224	47878
6,5	1086	1696	2653	4344	6791	10611	16840	25161	36701	51342
7	1159	1811	2832	4637	7250	11327	17977	26859	39178	54807
8	1306	2040	3190	5223	8166	12759	20250	30254	44131	61737
9	1452	2269	3548	5810	9083	14191	22523	33650	49085	68666
10	1599	2498	3906	6396	9999	15624	24796	37046	54038	75596
11	1746	2727	4264	6982	10916	17056	27069	40442	58992	82526
12	1892	2956	4622	7568	11833	18488	29342	43838	63945	89455
14	2185	3414	5338	8741	13666	21352	33887	50630	73852	103315
16	2478	3872	6054	9913	15499	24217	38433	57422	83759	117174

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**COMPRESSED AIR FLOW-RATE IN Nm<sup>3</sup>/h AT 20°C** (According to the ISO 4126-1 standard)

P (bar)	DN									
	20	25	32	40	50	65	80	100	125	150
0,45	44,4	69,3	108,2	177,3	277,3	433,3	687,5	1027	1498,1	2096
0,5	49,7	77,6	121,4	198,7	310,5	485,2	769,9	1150,2	1677,9	2347,3
0,55	54,9	85,9	134,1	219,7	343,4	536,5	851,7	1272,4	1855,8	2596,4
0,6	60	93,9	147	240,6	376	587,6	932,5	1393,1	2032	2842,8
0,7	70,3	109,8	171,9	281,4	439,9	687,5	1091,1	1630	2377,6	3326,2
0,8	80,4	125,4	196,2	321,2	501,9	784,3	1245	1860	2713,4	3795,9
0,9	90,1	140,6	220,1	360,3	563,1	880,2	1396,9	2086,7	3044,2	4258,4
1	99,7	156,1	243,9	399,3	624,2	975,5	1547,9	2312,8	3373,7	4719,9
1,1	110,1	172,1	268,9	440,1	688,3	1075,4	1706,7	2550,1	3719,4	5203,4
1,2	120,2	188	293,9	481,1	752,3	1175,5	1865,7	2787,4	4066,2	5688,3
1,3	130,6	204	318,9	522,5	816,6	1275,8	2025,1	3025,6	4413,2	6174
1,4	140,7	220	344	563,6	881,1	1376,6	2184,7	3263,7	4760,7	6660
1,6	175,1	273,5	427,2	699,7	1094,1	1709,2	2712,9	4053,3	5912,3	8270,8
1,8	197,3	308,1	482	789,1	1233,9	1928,1	3060,1	4571,7	6668,2	9328,8
2	219,5	343,1	537	879,2	1374,4	2146,9	3407,4	5090,9	7425,9	10388,5
2,2	242,3	378,4	591,5	968,8	1514,6	2366,5	3755,6	5610,9	8184,6	11449,7
2,4	264,6	413,6	646,6	1058,5	1654,9	2885,8	4103,8	6131,4	8944,2	12512,1
2,6	287	448,3	701,2	1148,4	1795,4	2805,9	4452,8	6653	9703,9	13575,5
2,8	309,8	483,6	756,4	1238,8	1936,6	3025,6	4802,1	7174,4	10464,8	14639,8
3	332,2	518,9	811,6	1328,8	2077,2	3245,4	5151	7696,1	11226,2	15704,7
3,5	388,4	607,2	949,3	1554,1	2429,5	3796,7	6025,4	9002	13130,6	18369
4	445,2	695,1	1087,1	1779,7	2782,8	4347,9	6900,1	10309,3	15037,5	21036,6
4,5	501,5	783,6	1225,1	2005,5	3135,7	4899,6	7776	11617,5	16945,9	23706,1
5	557,8	871,6	1363	2231,4	3488,8	5451,5	8651,7	12926,4	18855,3	26377,2
5,5	614,2	959,5	1501,1	2458	3842,7	6003,7	9527,9	14235,9	20764,8	29049,3
6	671,2	1048,2	1639,2	2684,1	4196	6556,1	10405	15545,8	22675,7	31722,4
6,5	727,5	1136,2	1777,3	2910,2	4549,5	7108,6	11281,6	16856,1	24587,1	34395,5
7	783,9	1224,9	1915,5	3136,3	4903,7	7661,2	12159,1	18166,6	26498,8	37069,8
8	897,4	1401,7	2191,9	3588,8	5610,9	8766,8	13913,9	20787,7	30322,7	42419,9
9	1010,1	1578,5	2468,3	4042	6319	9872,6	15669,1	23410,1	34148,2	47770,6
10	1123,7	1755,4	2744,8	4494,6	7026,5	10979,3	17424,7	26033,1	37973,7	53123
11	1237,2	1932,3	3021,4	4947,3	7734,8	12085,5	19180,5	28656,3	41800,5	58476,2
12	1350	2109,2	3298	5400	8443,2	13191,8	20936,5	31279,9	45626,9	63829,2
14	1576,4	2463,1	3851,2	6306,3	9859,5	15404,7	24448,2	36527,6	53281,4	74537,8
16	1802,8	2817	4404,4	7212	11275,9	17618,5	27961	41775,9	60936,7	85247

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# 6301 TYPE CAST IRON SAFETY VALVES

## INSTALLATION AND SERVICING REGULATION

### 1 - DESCRIPTION

**1.1** The SERIE 6300 spring loaded safety valves are designed for steam, gas, and liquids. They provide ultimate protection to devices under pressure. They are able to guarantee that the internal pressure does not exceed the authorised maximum, even if other safety systems installed upstream are faulty, insofar as they have been sized correctly.

**1.2** The SERIE 6300 safety valves are made of cast iron, carbon steel or stainless steel. All safety valves are calibrated and lead sealed by us, for maximum safety and minimum maintenance.

**1.3** As a standard solution, the 6300 safety valves are delivered with closed bonnet, leaktight plug and test lever. Other models are available upon request. The operation of the 6300 safety valves is of the “instantaneous exhaust” type which is particularly recommended on steam generators or gas containing enclosures. A model with progressive exhaust is available upon request.

**1.4** The safety valve body has a boss which can be pierced to create a purging orifice for the downstream pipe.

### 2 - GUARANTEE

**2.1** Before any contact with our services, please identify the type of safety valve and the individual number engraved on the safety valve body.

**2.2** SERIE 6300 safety valves have a 12-month guarantee, as of the delivery date. Parts admitted as faulty by an assessment at our factory, will be replaced at our expense. Complaints resulting from the incorrect use, modification of the safety valve, a leak following the passage of impurities, shall not be accepted.

### 3 - TRANSPORT, INSPECTION AT ACCEPTANCE AND STORAGE

**3.1 CAUTION:** The safety valve can be damaged by vibrations, impacts and the contact with impurities. For this reason, the safety valve has to be handled with precaution, without removing the protective plugs before installation, and without manoeuvring the test lever.

**3.2** At acceptance, check that:

- the packaging is in good condition,
- the delivered safety valve is as ordered,
- the equipment has not been damaged,
- the safety valve is delivered with a calibration certificate whose number must match that engraved on the safety valve body.

**3.3** It is recommended to install the safety valve as of acceptance and not to leave it unused. If the equipment has to be stored, it must be in a dry place protected from the weather.

### 4 - PRECAUTIONS FOR OPERATION

**4.1** Before installing, make sure that the installation is completely depressurized and brought to ambient temperature.

**4.2** Any adjustment or any modification can only be made by technicians qualified for safety valves.

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# 6301 TYPE CAST IRON SAFETY VALVES

## 4.3 CAUTION WITH TOXIC GASES

If the safety valve is installed on an acid tank, wear gloves and safety glasses, and any other personal protection needed.

**4.4** The safety valve cannot be commissioned unless it has been calibrated, lead sealed and certified by SECTORIEL or a body specially authorized to this end. The calibration certificate bears the indication of the exact pressure of its calibration.

**4.5** When a safety valve with free exhaust in operation, has to be tested, make sure beforehand that nobody stays in the way of the exhaust. Do not let toxic, explosive or flammable products discharge into the atmosphere. Before testing, schedule a controlled degassing procedure in a confined volume.

**4.6** Do not perform work on the safety valve, do not break its lead seal, and do not modify its calibration pressure.

**4.7** Do not subject the safety valve to a hot or cold shock.

**4.8** In case of malfunctioning, contact SECTORIEL immediately.

**4.9 CAUTION:** ONLY STAINLESS STEEL SAFETY VALVES MUST BE INSTALLED IN A CORROSIVE ENVIRONMENT.

**4.10** The type of connection has to match the piping class of the installation.

**4.11** If the safety valve discharges directly into the atmosphere, direct the exhaust so as not to cause any damage to equipment or persons.

## 5 - INSTALLATION

**5.1** Check that the lead seal has not been damaged.

**5.2** 6300 safety valves have to be installed in the vertical position with the bonnet upwards, as close as possible to the volume to protect.

**5.3** The inlet piping has to be as short as possible, with a diameter equal to or greater than that of the inlet flange of the safety valve, and with a length which cannot cause any pressure drop of more than 3% of the initial opening pressure, considering the maximum flow-rate to discharge.

**5.4** 6300 safety valves have metal-metal sealing which can be damaged by the entry of impurities between the seat and the disc. Pipes and tanks must be cleaned beforehand with the utmost care.

**5.5** Be careful not to damage the seats, remove the protective plugs and install the safety valve on the installation according to its type of connection.

**5.6** No isolation valve shall be placed in-between the volume to protect and the safety valve.

**5.7** No fitting with a DN smaller than the DN of the inlet of the safety valve, shall be placed in-between the safety valve and the volume to protect.

**5.8** Make sure that the discharge piping discharges into a location free of hazards for personnel and the environment.

**5.9** If the safety valve exhaust has to be connected to a piping, make sure that the latter is as short as possible so as to create just a minimum counter-pressure.

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**5.10** The piping connected to a channelled exhaust safety valve should not be supported by the safety valve itself. Otherwise, leaks may occur.

**5.11** If a hydrostatic test of the installation has to be carried out after the safety valve is installed, it is preferable to remove it and replace it with a blind flange. Otherwise, close the safety valve disc with a mechanical stop. Do not forget to remove this stop after the test.

## **6 - CLEANING AND LUBRICATION**

**6.1** SERIE 6300 safety valves are designed not to require any lubrication.

**6.2** Keep the safety valve clean and in running order. Check, in particular, that the exhaust stays clear and that no foreign body blocks the discharge piping.

## **7 - USUAL MAINTENANCE**

**7.1** The safety valve is a sensitive safety element which has to be checked periodically. In case of reported malfunctioning, please contact SECTORIEL.

**7.2 CAUTION:** SECTORIEL is no longer responsible for the proper operation of a safety valve which has been disassembled, modified or re-calibrated by a person not authorised by SECTORIEL.

## **8 - PERIODIC INSPECTION**

**8.1** To make sure that the safety valve is still operating, it has to be tested periodically. To carry out this test, the lever can be manually actuated, briefly. To protect the installation during this test, the test pressure must stay between 80 and 90% of the calibration pressure. The safety valve has to be wide open to allow a significant flow-rate to circulate.

At re-closing, make sure that the seat is again leak-tight. Caution, never manoeuvre the test lever under no-load.

**8.2** If the safety valve has to be removed, the servicing and, if needed, the re-calibration of the safety valve have to be entrusted exclusively to a workshop qualified for this operation. The safety valve re-calibration has to be carried out on a test bench equipped with an inspected pressure gauge. In case of a leaking seat, grinding may be necessary. Please contact us.

**8.3** For use on gas or steam on installations located on the French territory, comply with the prescriptions of the order of 20<sup>th</sup> November 2017 concerning the monitoring of safety valves.

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