

FIGURE 31 CAST IRON SERIES

SIZES 1½" - 6"

PRESSURES to 250 PSIG at 406°F



FIGURE 31 CAST IRON SERIES

- Meets ASME Section I & VIII Code for Steam, Air & Non-hazardous Gas Service
- "UV" National Board Certified
- Dual Ring Control
- Heavy Duty Construction
- Flanged or Threaded Connections
- SS Trim Design Available
- Heavy Duty Open Lever Assembly

OPTIONS

- SS Trim
- BSP Connections

MODELS

- 0031 - ASME Section I Steam, Bronze Trim
- 0041 - ASME Section VIII Steam, Bronze Trim
- 041A - ASME Section VIII Air, Bronze Trim
- 0032 - SS Base & Disc on 0031
- 0042 - SS Base & Disc on 0041
- 042A - SS Base & Disc on 041A

APPLICATION DATA

- Steam Boilers
- Pressure Reducing Stations
- Unfired Steam Pressure Vessels & Lines
- Air compressors, Cookers, Receivers
- Pneumatic Systems
- OEM Equipment

VALVE RATINGS *Capacity Charts*

Model	Pressure PSIG (bar)	Temperature °F (°C)
All	5 to 250 (.3 to 17.2)	-20 to 406 (-29 to 208)

[Sizing Guidelines](#)

[Testing Specifications](#)

[Installation/Maintenance](#)

APPLICABLE CODES

- ASME Section I "V" for Steam
- ASME Section VIII "UV" for Steam/Air/Gas
- API 527
- Canadian Registration # 0G0591.9C

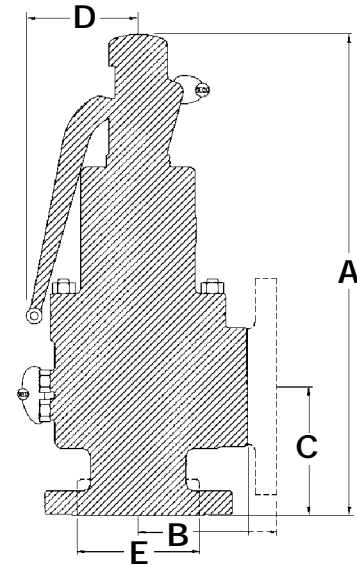
ORDERING CODE

MODEL NUMBER (Must be 4 Digits)	ORIFICE	INLET SIZE	CONNECTIONS	—	SET PRESSURE (Must be 3 Digits)
example: <u>041A</u>	<u>K</u>	<u>H</u>	<u>C</u>	—	<u>100</u>
0031 - ASME Section I Steam, Bronze Trim	J	G - 1½"	B - FPT x FPT		Set Pressure
0041 - ASME Section VIII Steam, Bronze Trim	K	H - 2"	C - 250# x FPT		LAS - Loosely Assembled†
041A - ASME Section VIII Air, Bronze Trim	L	J - 2½"	D - 250# x 125#		
0032 - SS Base & Disc on 0031	M	K - 3"	Z - Other		
0042 - SS Base & Disc on 0041	N	M - 4"			
042A - SS Base & Disc on 041A	P	P - 6"			
	Q				
	R				

†Spence Certified Assemblers Only (use 0031 or 0032 only)

FIGURE 31 CAST IRON SERIES SPECIFICATION

The valve shall meet the ASME Section VIII Code for steam, air and gas services. It shall be "UV" National Board Certified. The valve shall have dual blowdown ring to allow better adjustment of the pop and blowdown. The valve shall be top guided and shall have a semi nozzle for optimum flow performance. The valve shall have an open lever assembly.



0031, 0041, 041A
0032, 0042, 042A

DIMENSIONS* inches (mm) AND WEIGHTS pounds (kg)

Model	Inlet	Orifice	Outlet	A	B	C	D ⁽¹⁾	E	Weight
****JGB	1½" FPT (40)	J	2½" FPT (65)	15½ (384.2)	3½ (88.9)	4¼ (108)	3 (76.2)	¾ (82.6)	29 (13.2)
****JGC	1½" 250# (40)	J	2½" FPT (65)	15½ (384.2)	3½ (88.9)	4¼ (108)	3 (76.2)	—	36 (16.3)
****JHC	2" 250# (50)	J	3" FPT (80)	15¾ (400.1)	4 (101.6)	45/8 (117.5)	3½ (88.9)	—	42 (19.1)
****KHB	2" FPT (50)	K	3" FPT (80)	15¾ (400.1)	4 (101.6)	4½ (117.5)	3½ (88.9)	¾ (92.1)	36 (16.3)
****KHC	2" 250# (50)	K	3" FPT (80)	15¾ (400.1)	4 (101.6)	4½ (117.5)	3½ (88.9)	—	42 (19.1)
****KJC	2½" 250# (65)	K	3" FPT (80)	15¾ (400.1)	4 (101.6)	4¼ (120.7)	3½ (88.9)	—	45 (20.4)
****LJB	2½" FPT (65)	L	4" FPT (100)	23 ⁽²⁾ (584.2)	5½ (130.2)	5½ (139.7)	6 (152.4)	4½ (114.3)	97 (44.0)
****LJC	2½" 250# (65)	L	4" FPT (100)	23 ⁽²⁾ (584.2)	5½ (130.2)	5½ (139.7)	6 (152.4)	—	105 (47.6)
****KKC	3" 250# (80)	K	3" FPT (80)	15¾ (400.1)	4 (101.6)	5 (127)	3½ (88.9)	—	48 (21.8)
****LKC	3" 250# (80)	L	4" FPT (100)	23 ⁽²⁾ (584.2)	5½ (130.2)	5½ (139.7)	6 (152.4)	—	107 (48.5)
****MKB	3" FPT (80)	M	4" FPT (100)	23½ ⁽²⁾ (587.4)	5½ (130.2)	55/8 (142.9)	6 (152.4)	4½ (114.3)	99 (44.9)
****MKC	3" 250# (80)	M	4" FPT (100)	23 ⁽²⁾ (584.2)	5½ (130.2)	5½ (139.7)	6 (152.4)	—	107 (48.5)
****NMD	4" 250# (100)	N	6" 125# (150)	28½ ⁽²⁾ (723.9)	7¼ (184.2)	6¾ (171.5)	6 (152.4)	—	212 (96.2)
****PMD	4" 250# (100)	P	6" 125# (150)	28½ ⁽²⁾ (723.9)	7¼ (184.2)	6¾ (171.5)	6 (152.4)	—	212 (96.2)
****QPD ⁽²⁾	6" 250# (150)	Q	8" 125# (200)	45⅝ ⁽²⁾ (1150.9)	10 (254)	9¼ (235)	10½ (266.7)	—	675 (306.2)
****RPD ⁽²⁾	6" 250# (150)	R	8" 125# (200)	45⅝ ⁽²⁾ (1150.9)	10 (254)	9¼ (235)	10½ (266.7)	—	675 (306.2)

*Accurate to ±1/8".

**** Use appropriate Model Number.

⁽¹⁾ Add 50% to D Dimension when lever is pulled out to manually operate valve.

⁽²⁾ Dimensions are current as of printing, consult factory for updated dimensions as they may change.

FIGURE 31 CAST IRON SERIES MATERIALS OF CONSTRUCTION

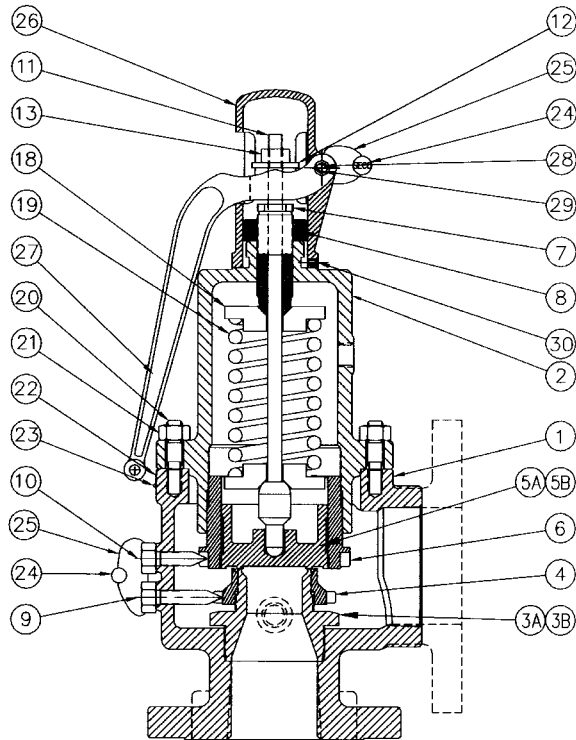
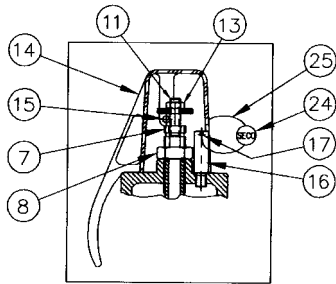


FIGURE 31 CAST IRON SERIES



**CAP & LEVER CONFIGURATION
FOR J & K ORIFICES**

Materials		
Ref	Part Name	Material
1	Body	Cast Iron ASTM A126-B
2	Bonnet	Cast Iron ASTM A126-B
3A	Nozzle - Bronze	Brass or Bronze ASTM B16 or B62
3B	Nozzle - SST	SST ASME SA351, CF8M or ASME SA479, S31600
4	Nozzle Ring	Bronze ASTM B584-C84400
5A	Disc - Bronze	Brass or Bronze ASTM B16 or B62
5B	Disc - SST	SST ASTM A479, S31600
6	Guide Ring	ASTM B584-C84400
7	Adjusting Bolt	Brass ASTM B16
8	Adjusting Bolt Locknut	Steel, Zinc Plated
9	Nozzle Ring Set Screw	Brass ASTM B16
10	Guide Ring Set Screw	Brass ASTM B16
11	Spindle	Steel ASTM A108 Grade 1212
12	Spindle Nut	Steel ASTM A108 Grade 1212
13	Spindle Nut Locknut	Steel, Zinc Plated
14	Lifting Cap	Zinc Alloy Zamac #3
15	Lifting Cap Pins	Steel, Zinc Plated AISI 1020
16	Pivot Post	Steel AISI 1020
17	Post Pin	Steel, Zinc Plated AISI 1070
18	Spring Washer	Steel AISI 1212
19	Spring	Steel Zinc Plated
20	Stud	Steel, Chrome-Moly ASTM A193 B7
21	Stud Nut	Steel, Chrome-Moly ASTM A194 2H
22	Nameplate	SST AISI 304
23	Nameplate Screws	SST Commercial 18-8
24	Lead Seal	Lead
25	Seal Wire	SST AISI 304
26	Lifting Cap	Cast Iron A126-B
27	Lifting Lever	Cast Iron ASTM A126-B
28	Clevis Pin	Steel, Zinc Plated
29	Cotter Pin	Steel
30	Liftcap Lockscrew	Steel

SATURATED STEAM CAPACITY CHART

CAST IRON MODELS 0031 & 0032

ASME Section I "V" 90% rated at 3% Overpressure LBS/HR (KGS/HR)

Flow Coefficient = .9 x .975 = .878

LBS/HR

KGS/HR

Set Pressure PSIG	Orifice Area, in ²							
	J	K	L	M	N	P	Q	R
	1.391	1.892	2.935	3.715	4.468	6.564	11.365	16.475
5 *	1363	1854	2875	3640	4377	6431	11134	16141
10 *	1465	2281	3538	4478	5386	7912	13700	19860
15	1991	2708	4200	5318	6394	9394	16265	23579
20	2305	3135	4863	6157	7403	10876	18831	27298
25	2619	3562	5526	6996	8412	12358	21396	31017
30	2983	3989	6188	7835	9420	13839	23962	34736
35	3247	4416	6851	8674	10429	15321	26527	38455
40	3561	4843	7513	9512	11437	16803	29093	42174
45	3875	5270	8176	10351	12446	18285	31658	45893
50	4189	5697	8838	11190	13455	19766	34224	49612
55	4503	6125	9501	12029	14463	21248	36789	53331
60	4817	6552	10163	12868	15472	22730	39355	57050
65	5131	6979	10826	13707	16480	24212	41920	60769
70	5451	7414	11502	14562	17509	25723	44537	64562
75	5774	7854	12184	15426	18548	27249	47180	68393
80	6098	8294	12866	16290	19587	28775	49822	72223
85	6421	8734	13549	17154	20626	30302	52464	76054
90	6745	9174	14231	18018	21665	31828	55107	79884
95	7068	9614	14914	18882	22703	33354	57749	83715
100	7392	10054	15596	19746	23742	34880	60392	87546
105	7715	10494	16279	20610	24781	36406	63034	91376
110	8038	10934	16961	21474	25820	37932	65677	95207
115	8362	11374	17643	22338	26859	39459	68319	99037
120	8685	11813	18326	23202	27898	40985	70962	102868
125	9009	12253	19008	24066	28937	42511	73604	106699
130	9332	12693	19691	24930	29975	44037	76247	110529
135	9655	13133	20373	25794	31014	45563	78889	114360
140	9979	13573	21055	26658	32053	47090	81532	118190
145	10302	14013	21738	27522	33092	48616	84174	122021
150	10626	14453	22420	28386	34131	50142	86817	125851
155	10949	14893	23103	29250	35170	51668	89459	129682
160	11273	15333	23785	30114	36208	53194	92101	133513
165	11596	15773	24468	30978	37247	54721	94744	137343
170	11919	16212	25150	31842	38286	56247	97386	141174
175	12243	16652	25832	32706	39325	57773	100029	145004
180	12566	17092	26515	33570	40364	59299	102671	148835
185	12890	17532	27197	34434	41403	60825	105314	152666
190	13213	17972	27880	35298	42442	62351	107956	156496
195	13537	18412	28562	36162	43480	63878	110599	160327
200	13860	18852	29244	37026	44519	65404	113241	164157
205	14183	19292	29927	37890	45558	66930	115884	167988
210	14507	19732	30609	38754	46597	68456	118526	171818
215	14830	20172	31292	39618	47636	69982	121169	175649
220	15154	20612	31974	40482	48675	71509	123811	179480
225	15477	21051	32656	41346	49714	73035	126453	183310
230	15800	21491	33339	42210	50752	74561	129096	187141
235	16124	21931	34021	43074	51791	76087	131738	190971
240	16447	22371	34704	43938	52830	77613	134381	194802
245	16771	22811	35386	44802	53869	79140	137023	198633
250	17094	23251	36069	45666	54908	80666	139666	202463
1.0	64.6	88.0	136.4	172.8	207.8	305.2	528.4	766.0

Set Pressure Barg	Orifice Area, cm ²							
	J	K	L	M	N	P	Q	R
	8.97	12.21	18.94	23.97	28.83	42.35	73.32	106.29
0.4*	641	872	1352	1712	2059	3025	5237	7591
0.6*	724	984	1527	1932	2324	3414	5912	8570
0.8*	806	1097	1701	2153	2589	3804	6587	9548
1*	889	1209	1875	2374	2855	4194	7262	10527
1.2	971	1321	2050	2594	3120	4584	7937	11505
1.4	1054	1434	2224	2815	3385	4974	8611	12483
1.6	1137	1546	2398	3036	3651	5363	9286	13462
1.8	1219	1658	2573	3256	3916	5753	9961	14440
2	1302	1771	2747	3477	4182	6143	10636	15419
2.2	1384	1883	2921	3697	4447	6533	11311	16397
2.4	1467	1995	3095	3918	4712	6923	11986	17376
2.6	1550	2108	3270	4139	4978	7313	12661	18354
2.8	1632	2220	3444	4359	5243	7702	13336	19332
3	1715	2333	3618	4580	5508	8092	14011	20311
3.2	1797	2445	3793	4801	5774	8482	14686	21289
3.4	1880	2557	3967	5021	6039	8872	15361	22268
3.6	1963	2670	4141	5242	6304	9262	16036	23246
3.8	2045	2782	4316	5462	6570	9652	16711	24225
4	2128	2894	4490	5683	6835	10041	17386	25203
4.2	2211	3007	4664	5904	7100	10431	18061	26181
4.4	2293	3119	4838	6124	7366	10821	18736	27160
4.6	2376	3231	5013	6345	7631	11211	19411	28139
4.8	2461	3347	5192	6572	7904	11613	20106	29146
5	2546	3463	5372	6800	8178	12014	20801	30154
5.2	2631	3579	5551	7027	8451	12416	21497	31162
5.4	2716	3694	5731	7254	8724	12817	22192	32170
5.6	2801	3810	5911	7481	8998	13219	22887	33177
6	2971	4042	6270	7936	9544	14022	24277	35193
6.5	3184	4331	6718	8504	10228	15025	26015	37713
7	3397	4620	7167	9072	10911	16029	27753	40232
7.5	3610	4910	7616	9640	11594	17033	29491	42751
8	3822	5199	8065	10208	12277	18037	31229	45271
8.5	4035	5488	8514	10776	12961	19041	32967	47790
9	4248	5778	8963	11345	13644	20045	34705	50310
9.5	4460	6067	9411	11913	14327	21048	36443	52829
10	4673	6356	9860	12481	15010	22052	38181	55349
10.5	4886	6646	10309	13049	15694	23056	39919	57868
11	5099	6935	10758	13617	16377	24060	41657	60388
11.5	5311	7224	11207	14185	17060	25064	43395	62907
12	5524	7514	11656	14753	17744	26067	45133	65426
12.5	5737	7803	12104	15321	18427	27071	46871	67946
13	5949	8092	12553	15889	19110	28075	48609	70465
13.5	6162	8382	13002	16458	19793	29079	50347	72985
14	6375	8671	13451	17026	20477	30083	52085	75504
14.5	6588	8960	13900	17594	21160	31086	53823	78024
15	6800	9250	14349	18162	21843	32090	55561	80543
15.5	7013	9539	14798	18730	22526	33094	57299	83063
16	7226	9828	15246	19298	23210	34098	59037	85582
16.5	7438	10118	15695	19866	23893	35102	60775	88102
17	7651	10407	16144	20434	24576	36105	62513	90621
0.1	42.5	57.9	89.8	113.6	136.6	200.8	347.6	503.9

* Pressure settings below 15 PSIG (1.034 barg) are non code.

SATURATED STEAM CAPACITY CHART

CAST IRON MODELS 0041 & 0042

ASME Section VIII "UV" 90% rated at 10% Overpressure LBS/HR (KGS/HR)
Flow Coefficient = .9 x .975 = .878

LBS/HR									KGS/HR								
Set Pressure PSIG	Orifice Area, in ²								Set Pressure Barg	Orifice Area, cm ²							
	J	K	L	M	N	P	Q	R		J	K	L	M	N	P	Q	R
	1.391	1.892	2.935	3.715	4.468	6.564	11.365	16.475		8.97	12.21	18.94	23.97	28.83	42.35	73.32	106.29
5 *	1428	1845	3013	3813	4586	6737	11665	16910	0.4*	670	912	1414	1790	2153	3163	5477	7939
10 *	1742	2251	3676	4653	5596	8221	14235	20635	0.6*	753	1024	1589	2011	2419	3554	6153	8919
15	2057	2798	4340	5494	6606	9706	16804	24360	0.8*	836	1137	1763	2232	2685	3944	6829	9899
20	2371	3225	5003	6335	7617	11190	19374	28085	1*	918	1249	1938	2453	2950	4334	7504	10879
25	2686	3653	5667	7175	8627	12674	21943	31809	1.2	1001	1362	2113	2674	3216	4725	8180	11858
30	3000	4081	6330	8015	9637	14158	24513	35534	1.4	1084	1474	2287	2895	3482	5115	8856	12838
35	3346	4551	7060	8939	10748	15790	27339	39631	1.6	1167	1587	2462	3116	3747	5505	9532	13818
40	3692	5022	7790	9863	11859	17422	30165	43729	1.8	1249	1699	2636	3337	4013	5896	10208	14798
45	4038	5492	8520	10787	12970	19055	32992	47826	2	1332	1812	2811	3558	4279	6286	10884	15777
50	4384	5963	9250	11711	14081	20687	35818	51923	2.2	1420	1932	2997	3793	4562	6702	11604	16821
55	4730	6433	9980	12636	15193	22320	38645	56020	2.4	1511	2056	3189	4036	4854	7131	12347	17899
60	5076	6904	10710	13560	16304	23952	41471	60117	2.6	1602	2179	3381	4279	5146	7561	13091	18977
65	5422	7374	11440	14484	17415	25585	44297	64215	2.8	1693	2303	3573	4522	5439	7990	13834	20055
70	5768	7845	12170	15408	18526	27217	47124	68312	3	1784	2427	3765	4765	5731	8420	14578	21132
75	6114	8316	12900	16332	19637	28849	49950	72409	3.2	1875	2551	3957	5008	6023	8849	15321	22210
80	6460	8786	13630	17256	20748	30482	52777	76506	3.4	1966	2674	4149	5251	6316	9278	16065	23288
85	6805	9257	14359	18180	21860	32114	55603	80604	3.6	2057	2798	4341	5494	6608	9708	16808	24365
90	7151	9727	15089	19105	22971	33747	58429	84701	3.8	2148	2922	4533	5737	6900	10137	17552	25443
95	7497	10198	15819	20029	24082	35379	61256	88798	4	2239	3046	4725	5980	7192	10567	18295	26521
100	7843	10668	16549	20953	25193	37012	64082	92895	4.2	2330	3169	4917	6223	7485	10996	19038	27599
105	8189	11139	17279	21877	26304	38644	66909	96992	4.4	2421	3293	5109	6466	7777	11425	19782	28676
110	8538	11609	18009	22801	27415	40276	69735	101090	4.6	2512	3417	5301	6709	8069	11855	20525	29754
115	8881	12080	18739	23725	28527	41909	72561	105187	4.8	2603	3541	5493	6952	8362	12284	21269	30832
120	9227	12550	19469	24649	29638	43541	75388	109284	5	2694	3665	5685	7195	8654	12713	22012	31910
125	9573	13021	20199	25574	30749	45174	78214	113381	5.2	2785	3788	5877	7438	8946	13143	22756	32987
130	9919	13491	20929	26498	31860	46806	81041	117479	5.4	2876	3912	6069	7681	9238	13572	23499	34065
135	10265	13962	21659	27422	32971	46438	83867	121576	5.6	2967	4036	6261	7924	9531	14002	24243	35143
140	10611	14432	22388	28346	34082	50071	86693	125673	6	3149	4283	6645	8410	10115	14860	25730	37298
145	10957	14903	23118	29270	35194	51703	89520	129770	6.5	3377	4593	7125	9018	10846	15934	27588	39993
150	11303	15373	23848	30194	36305	53336	92346	133868	7	3604	4902	7605	9626	11577	17007	29447	42687
155	11648	15844	24578	31118	37416	54968	95173	137965	7.5	3832	5212	8085	10233	12307	18081	31305	45381
160	11994	16314	25308	32043	38527	56601	97999	142062	8	4059	5521	8565	10841	13038	19154	33164	48075
165	12340	16785	26038	32967	39638	58233	100825	146159	8.5	4287	5830	9045	11448	13769	20228	35023	50770
170	12686	17256	26768	33891	40749	59865	103652	150256	9	4514	6140	9525	12056	14499	21301	36881	53464
175	13032	17726	27498	34815	41861	61498	106478	154354	9.5	4742	6449	10005	12663	15230	22375	38740	56158
180	13378	18197	28228	35739	42972	63130	109305	158451	10	4969	6759	10485	13271	15961	23448	40599	58853
185	13724	18667	28958	36663	44083	64763	112131	162548	10.5	5196	7068	10965	13878	16691	24522	42457	61547
190	14070	19138	29688	37587	45194	66395	114957	166645	11	5424	7378	11445	14486	17422	25595	44316	64241
195	14416	19608	30418	38512	46305	68028	117784	170743	11.5	5651	7687	11925	15094	18153	26669	46174	66936
200	14762	20079	31147	39436	47416	69660	120610	174840	12	5879	7996	12404	15701	18884	27742	48033	69630
205	15108	20549	31877	40360	48527	71292	123437	178937	12.5	6106	8306	12884	16309	19614	28816	49892	72324
210	15454	21020	32607	41284	49639	72925	126263	183034	13	6334	8615	13364	16916	20345	29889	51750	75019
215	15800	21490	33337	42208	50750	74557	129089	187131	13.5	6561	8925	13844	17524	21076	30963	53609	77713
220	16146	21961	34067	43132	51861	76190	131916	191229	14	6789	9234	14324	18131	21806	32036	55468	80407
225	16492	22431	34797	44057	52972	77822	134742	195326	14.5	7016	9543	14804	18739	22537	33110	57326	83102
230	16837	22902	35527	44981	54083	79455	137569	199423	15	7244	9853	15284	19346	23268	34183	59185	85796
235	17183	23372	36257	45905	55194	81087	140395	203520	15.5	7471	10162	15764	19954	23998	35256	61044	88490
240	17529	23843	36987	46829	56306	82719	143221	207618	16	7699	10472	16244	20562	24729	36330	62902	91185
245	17875	24313	37717	47753	57417	84352	146048	211715	16.5	7926	10781	16724	21169	25460	37403	64761	93879
250	18221	24784	38447	48677	58528	85984	148874	215812	17	8154	11091	17204	21777	26191	38477	66619	96573
1.0	69.2	94.0	146.0	184.8	222.2	326.4	565.2	819.4	0.1	45.5	61.9	96	121.5	146.1	214.7	371.7	538.9

* Pressure settings below 15 PSIG (1.034 barg) are non code.



AIR CAPACITY CHART

CAST IRON MODELS 041A & 042A

ASME Section VIII "UV" 90% rated at 10% Overpressure SCFM (M³/HR)
Flow Coefficient = .9 x .975 = .878

SCFM

M³/HR

Set Pressure PSIG	Orifice Area, in ²							
	J	K	L	M	N	P	Q	R
	1.391	1.892	2.935	3.715	4.468	6.564	11.365	16.475
5 *	508	691	1072	1357	1632	2398	4152	6019
10 *	620	843	1308	1656	1992	2926	5067	7345
15	732	996	1545	1956	2351	3455	5981	8671
20	844	1148	1781	2255	2711	3983	6896	9996
25	956	1300	2017	2554	3071	4511	7810	11322
30	1068	1453	2253	2853	3430	5039	8725	12648
35	1191	1620	2513	3182	3826	5620	9731	14106
40	1314	1787	2773	3511	4221	6201	10737	15565
45	1437	1955	3033	3840	4617	6782	11743	17023
50	1560	2122	3292	4169	5012	7363	12749	18482
55	1684	2290	3552	4498	5408	7945	13755	19940
60	1807	2457	3812	4826	5803	8526	14761	21398
65	1930	2625	4072	5155	6199	9107	15767	22857
70	2053	2792	4332	5484	6594	9688	16773	24315
75	2176	2960	4592	5813	6990	10269	17779	25773
80	2299	3127	4851	6142	7385	10850	18785	27232
85	2422	3295	5111	6471	7781	11431	19791	28690
90	2545	3462	5371	6800	8176	12012	20797	30149
95	2669	3630	5631	7129	8572	12593	21804	31607
100	2792	3797	5891	7458	8967	13174	22810	33065
105	2915	3965	6150	7787	9363	13755	23816	34524
110	3038	4132	6410	8116	9758	14336	24822	35982
115	3161	4300	6670	8445	10154	14917	25828	37440
120	3284	4467	6930	8774	10549	15498	26834	38899
125	3407	4635	7190	9103	10945	16079	27840	40357
130	3531	4802	7449	9432	11340	16660	28846	41816
135	3654	4970	7709	9761	11736	17241	29852	43274
140	3777	5137	7969	10090	12131	17822	30858	44732
145	3900	5305	8229	10418	12527	18403	31864	46191
150	4023	5472	8489	10747	12922	18984	32870	47649
155	4146	5640	8748	11076	13318	19565	33876	49107
160	4269	5807	9008	11405	13713	20147	34882	50566
165	4392	5974	9268	11734	14109	20728	35888	52024
170	4516	6142	9528	12063	14504	21309	36894	53483
175	4639	6309	9788	12392	14900	21890	37900	54941
180	4762	6477	10047	12721	15295	22471	38906	56399
185	4885	6644	10307	13050	15691	23052	39912	57858
190	5008	6812	10567	13379	16086	23633	40918	59316
195	5131	6979	10827	13708	16482	24214	41924	60774
200	5254	7147	11087	14037	16877	24795	42930	62233
205	5378	7314	11346	14366	17273	25376	43936	63691
210	5501	7482	11606	14695	17668	25957	44942	65150
215	5624	7649	11866	15024	18064	26538	45948	66608
220	5747	7817	12126	15353	18459	27119	46954	68066
225	5870	7984	12386	15682	18855	27700	47960	69525
230	5993	8152	12646	16010	19251	28281	48966	70983
235	6116	8319	12905	16339	19646	28862	49972	72441
240	6239	8487	13165	16668	20042	29443	50979	73900
245	6363	8654	13425	16997	20437	30024	51985	75358
250	6486	8822	13685	17326	20833	30605	52991	76817
1.0	24.6	33.6	52.0	65.8	79.2	116.2	201.2	291.8

Set Pressure Barg	Orifice Area, cm ²							
	J	K	L	M	N	P	Q	R
	8.97	12.21	18.94	23.97	28.83	42.35	73.32	106.29
0.4*	894	1216	1886	2387	2871	4218	7303	10587
0.6*	1004	1366	2119	2682	3225	4739	8205	11893
0.8*	1114	1516	2352	2976	3580	5259	9106	13200
1*	1225	1666	2584	3271	3934	5780	10007	14506
1.2	1335	1816	2817	3566	4288	6300	10908	15813
1.4	1445	1966	3050	3860	4643	6821	11810	17119
1.6	1556	2116	3283	4155	4997	7341	12711	18426
1.8	1666	2266	3515	4450	5351	7862	13612	19732
2	1776	2416	3748	4744	5706	8382	14513	21039
2.2	1894	2576	3996	5058	6083	8937	15474	22431
2.4	2015	2741	4252	5382	6473	9510	16465	23868
2.6	2137	2906	4508	5706	6863	10082	17456	25305
2.8	2258	3071	4764	6030	7252	10655	18448	26742
3	2379	3236	5020	6354	7642	11227	19439	28179
3.2	2501	3401	5276	6678	8032	11800	20430	29617
3.4	2622	3566	5532	7002	8422	12372	21422	31054
3.6	2743	3731	5788	7326	8811	12945	22413	32491
3.8	2865	3896	6044	7651	9201	13518	23405	33928
4	2986	4061	6300	7975	9591	14090	24396	35365
4.2	3107	4226	6556	8299	9981	14663	25387	36802
4.4	3229	4391	6812	8623	10370	15235	26379	38239
4.6	3350	4556	7068	8947	10760	15808	27370	39676
4.8	3471	4722	7324	9271	11150	16381	28361	41114
5	3593	4887	7580	9595	11540	16953	29353	42551
5.2	3714	5052	7836	9919	11929	17526	30344	43988
5.4	3835	5217	8092	10243	12319	18098	31336	45425
5.6	3957	5382	8348	10567	12709	18671	32327	46862
6	4199	5712	8860	11215	13488	19816	34310	49736
6.5	4503	6124	9501	12025	14463	21247	36788	53329
7	4806	6537	10141	12836	15437	22679	39267	56922
7.5	5109	6950	10781	13646	16412	24110	41745	60515
8	5413	7362	11421	14456	17386	25542	44224	64108
8.5	5716	7775	12061	15266	18360	26973	46702	67700
9	6019	8187	12701	16076	19335	28405	49180	71293
9.5	6323	8600	13341	16886	20309	29836	51659	74886
10	6626	9013	13981	17696	21283	31268	54137	78479
10.5	6929	9425	14621	18507	22258	32699	56616	82072
11	7233	9838	15261	19317	23232	34131	59094	85665
11.5	7536	10250	15901	20127	24206	35562	61573	89257
12	7839	10663	16541	20937	25181	36994	64051	92850
12.5	8143	11076	17181	21747	26155	38425	66530	96443
13	8446	11488	17821	22557	27130	39856	69008	100036
13.5	8749	11901	18461	23368	28104	41288	71486	103629
14	9053	12313	19101	24178	29078	42719	73965	107221
14.5	9356	12726	19741	24988	30053	44151	76443	110814
15	9659	13139	20381	25798	31027	45582	78922	114407
15.5	9963	13551	21022	26608	32001	47014	81400	118000
16	10266	13964	21662	27418	32976	48445	83879	121593
16.5	10570	14376	22302	28228	33950	49877	86357	125186
17	10873	14789	22942	29039	34925	51308	88836	128778
0.1	60.7	82.5	128	162	194.9	286.3	495.7	718.6

* Pressure settings below 15 PSIG (1.034 barg) are non code.