

Safety Relief Valves

Designed acc. API 526

Si 81/83

Si 84



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API-Safety Valve



NB

General

- Design acc. to API 526
- Manufactured in accordance with ASME code Sec. VIII
- NB (National Board of Boiler and Pressure Vessel Inspectors) certified capacities for air, steam, water
- Pressure range from 15 psig to 6000 psig (1 barg to 414 barg)
- With TÜV type test approval
- Materials acc. to ASME
- Upon request fulfillment of NACE MR 0175 requirement available
- Sizes from 1D2 to 8T10
- Full nozzle type with single nozzle ring

Features and Benefits

Positive lift-stop at full capacity 1)

One-trim-design, advantage e. g. a 2-phase flow

Optimized disc bearing for high seat-tightness 2)

High discharge coefficients for liquid service at 10% over-pressure due to optimized flowgeometry and high position full nozzle seat 3)

Easy maintenance because of design-

features, e.g. one-part spindle, disc retainer

Dismanteling of bonnet for lapping of seat and disc without change of the set-pressure 4)

Bellow in safe location, because outside the flowpath 5)

Nozzle-ring in low position, e.g. outside the flowpath. Adjusting of ring not required 6)



Example*

1 1/2 G 3	Si 84	03	.17	AB	00
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* Specifies a G orifice (0,503 in², 324 mm²) balanced bellows style valve, with CI 300 inlet, in standard carbon steel material class and packed lifting lever with test rod.

Type Coding

1 1/2 G 3
Size
Inlet x Orifice x Outlet

Si 84
Style
Si 81 Open Bonnet
Si 83 Conventional
Si 84 Balanced Bellows

03
Pressure Class / Inlet Flange Rating
01 150
02 300L
03 300
04 600 (except T orifice is 300 flange)
05 900
06 1500
07 2500

00
Material Code
00 standard -20 to 800 °F (-29 to 427 °C)
01 high temperature 801 to 1000 °F (428 to 538 °C)
02 low temperature -75 to -21 °F (-29 to -59 °C)
04 low temperature -450 to -76 °F (-60 to -268 °C)

AB
Cap Design
G gastight without lifting lever
A packed lifting lever
B with test rod

.17
Accessories / Available Options
.15 insulating section
.17 balancing piston
.59 stellited disc
.60 stellited nozzle
.18 heating jacket
other options available upon request

Note:

Refer to pages 8 through 35 to verify that the Si 81/83/84 model number specified is available in the size, style and pressure/temperature rating combination selected.

Sizing

The following formulas extracted from API Recommended Practice 520 are provided to enable the selection of effective discharge areas. The effective discharge areas will be less than the actual discharge areas, therefore these formulas must not be used for calculating certified discharge capacities.

Condition	U.S.C.S. Units	SI Units
Steam (critical flow)	$A = \frac{W}{51.5 \cdot P_1 \cdot K_d \cdot K_N \cdot K_{SH}}$	$A = \frac{W}{0.525 \cdot P_1 \cdot K_d \cdot K_N \cdot K_{SH}}$
Gases, Vapours (critical flow)	$A = \frac{W}{C \cdot K_d \cdot P_1 \cdot K_b} \cdot \sqrt{\frac{T \cdot Z}{M}}$ $A = \frac{V \cdot \sqrt{T \cdot Z \cdot M}}{6.32 \cdot C \cdot K_d \cdot P_1 \cdot K_b}$	$A = \frac{W}{0.00759 \cdot C \cdot K_d \cdot P_1 \cdot K_b} \cdot \sqrt{\frac{T \cdot Z}{M}}$ $A = \frac{333.027 \cdot V \cdot \sqrt{T \cdot Z \cdot M}}{C \cdot K_d \cdot P_1 \cdot K_b}$
Liquids	$A = \frac{Q}{38 \cdot K_d \cdot K_w \cdot K_v} \cdot \sqrt{\frac{G}{P_1 - P_2}}$	$A = \frac{0.621 \cdot W}{K_d \cdot K_w \cdot K_v \cdot \sqrt{(P_1 - P_2) \cdot \rho}}$

Symbol	USCS	SI	Description
A	in ²	mm ²	required effective discharge area of the valve
C	-	-	Coefficient determined from an expression of the ratio of the specific heats of the gas or vapour at standard conditions (see Table 3).
G	-	-	specific gravity of the liquid referred to water = 1 at 70 °F
M	-	-	molecular weight of the gas or vapour.
P1	psi	bar	relieving pressure: for steam, gases, vapours = set pressure + allowable overpressure + atmospheric pressure for liquids = set pressure + allowable overpressure
P2	psi	bar	back pressure
Q	USGM		flow rate (liquids), in US gallons per minute
T	°R	K	relieving temperature (K = °C + 273 or °R = °F + 460)
V	SCFM	Nm ³ /hr	flow rate (gases, vapours), at 14.7 psia and 60°F
W	lbs/hr	kg/hr	flow rate
Z	-	-	compressibility factor for the deviation of the actual gas from a perfect gas (Z = 1 for a perfect gas)
k	-	-	ratio of specific heats for an ideal gas
ρ	-	kg/m ³	density of a liquid

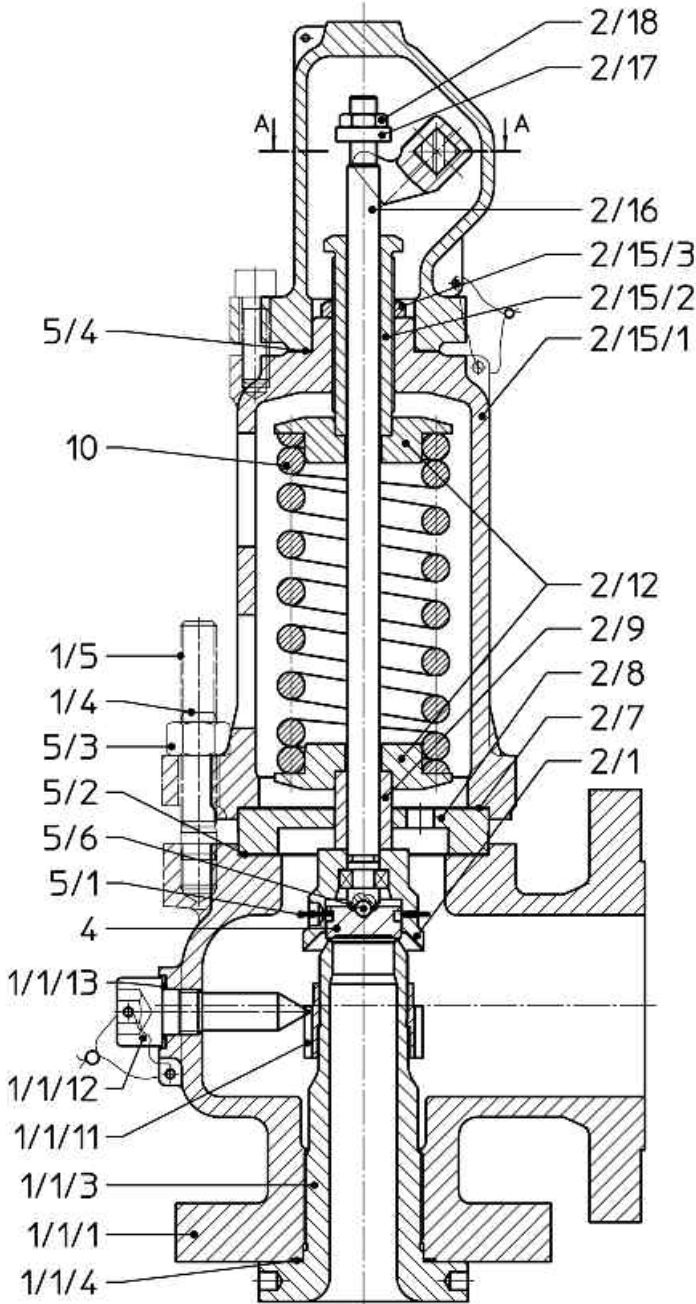
k	C
1.01	317
1.05	321
1.10	327
1.15	332
1.20	337
1.25	342
1.30	347
1.35	352
1.40	356
1.45	360
1.50	365
1.55	369
1.60	373
1.65	376
1.70	380
1.80	387
1.90	394
2.00	400

Symbol	Description	Values
K _b	capacity correction factor due to back pressure (for balanced bellows valves and gases/vapours only)	K _b = 1.0 with back pressure <20% P1
K _d	effective coefficient of discharge related to the effective flow	K _d = 0.975 for steam, gases & vapours K _d = 0.65 for liquids
K _d (actual)	actual coefficient of discharge related to the actual area and actual flow	K _d = 0.86 for steam/gases & vapours (0.53 for orifice D) K _d = 0.675 for liquids (0.41 for orifice D)
K _N	correction factor for Napier equation for pressures in excess of 105 bar (1515 psia)	K _N = 1.0 for P1 < 105 bar (1515 psia)
K _{SH}	superheated steam correction factor	K _{SH} = 1.0 for saturated steam
K _V	correction factor due to viscosity	K _V = 1.0 for a Reynolds number > 60000
K _W	capacity correction factor due to backpressure (for balanced bellows valves and liquid only)	K _W = 1.0 with back pressure <15% P1

Orifice	Effective Areas acc. API 526		Actual Areas acc. ASME	
	in ²	mm ²	in ²	mm ²
D	0,110	71	0,225	145
E	0,196	126	0,225	145
F	0,307	198	0,352	227
G	0,503	324	0,578	373
H	0,785	506	0,901	581
J	1,287	830	1,474	951
K	1,838	1185	2,106	1359
L	2,853	1840	3,266	2107
M	3,60	2322	4,123	2660
N	4,34	2800	4,971	3207
P	6,38	4116	7,311	4717
Q	11,05	7129	12,665	8171
R	16,00	10322	18,327	11824
T	26,00	16774	29,779	19212

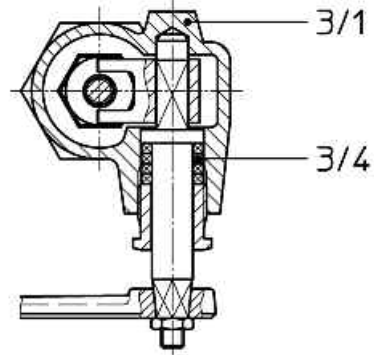
After determining the required effective area, select from Table 5 the orifice with an effective area equal to or greater than the required effective discharge area.

The actual area and the actual (rated) coefficient of discharge for the selected valve must be used to verify the rated capacity and to verify that the valve has sufficient capacity to satisfy the application.

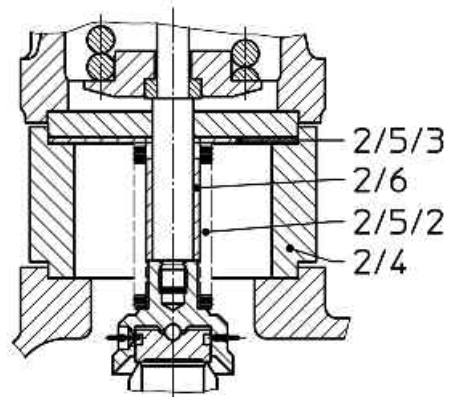


Type Si 81 / Type Si 83
Open Bonnet / Closed Bonnet
Conventional

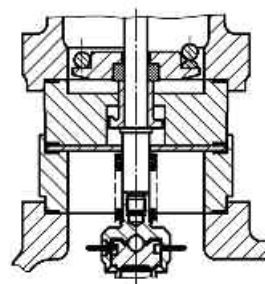
Sectional view A-A



Packed Lifting Lever
Option A



Balanced Bellows
Type Si 84



Bellows with
Balancing Piston
Option .17

Standard Material

Ref. No. on the drawing	Spares	Material Code Part Name	00		01		02		04	
			Standard		High temp.		Low temp.		Low temp.	
			-20 °F to 800 °F (-29 °C to 427 °C) ASTM DIN		801 °F to 1000 °F (428 °C to 538 °C) ASTM DIN		-21 °F to -75 °F (-29 °C to -59 °C) ASTM DIN		-76 °F to -450 °F (-60 °C to -268 °C) ASTM DIN	
1/1/1		Body	SA-216 WCB		SA-217 WC6		SA-351 CF8M		SA-351 CF8M	
1/1/3	*3	Nozzle	316L	1.4404	316L	1.4404	316L	1.4404	316L	1.4404
1/1/11		Nozzle Ring	SA-351 CF8M		SA-351 CF8M		SA-351 CF8M		SA-351 CF8M	
1/1/12		Set Screw	A4 – 70		A4 – 70		A4 – 70		A4 – 70	
1/1/13; 5/4	*1,2,3	Gasket	Soft Iron		Soft Iron		Soft Iron		Soft Iron	
1/4; 1/5		Bonnet Stud	B7		B7		B7		B8	
2/1		Lifting Bell	420	1.4021	420	1.4021	420	1.4021	316Ti	1.4571
2/4		Intermediate Bush	SA-216 WCB		SA-216 WCB		SA-216 WCB		SA-351 CF8M	
2/5/2	*3	Bellows	316Ti	1.4571	316Ti	1.4571	316Ti	1.4571	316Ti	1.4571
2/5/3		Top Plate	316Ti	1.4571	316Ti	1.4571	316Ti	1.4571	316Ti	1.4571
2/6		Lift Stop Bushing	316Ti	1.4571	316Ti	1.4571	316Ti	1.4571	316Ti	1.4571
2/8		Guide	MT 440 ¹⁾	1.4122	MT 440 ¹⁾	1.4122	316Ti	1.4571	316Ti	1.4571
2/9		Guide Bushing	MT 440 ¹⁾	1.4122	MT 440 ¹⁾	1.4122	316Ti	1.4571	316Ti	1.4571
2/12		Spring Washer	Carbon Steel		Carbon Steel		Carbon Steel		316Ti 1.4571	
2/15/1		Bonnet	SA-216 WCB		SA-217 WC6		SA-216 WCB		SA-351 CF8M	
2/15/2		Adjusting Screw	420	1.4021	420	1.4021	420	1.4021	316Ti	1.4571
2/15/3		Adj. Screw Nut	316L	1.4404	316L	1.4404	316L	1.4404	316L	1.4404
2/16		Spindle	420	1.4021	420	1.4021	420	1.4021	316Ti	1.4571
2/17		Spindle Nut	Carbon Steel		Steel		Steel		316Ti 1.4571	
2/18		Nut	5 – 2		5 – 2		5 – 2		A4 – 70	
3/1		Cap	Cast Iron		Cast Iron		Cast Iron		SA-351 CF8M	
3/4		Flat Gasket	Graphite Seal		Graphite Seal		Graphite Seal		Graphite Seal	
4	*2,3	Disc	316Ti	1.4571	316Ti	1.4571	316Ti	1.4571	316Ti	1.4571
5/1		Disc Retainer	316Ti	1.4571	316Ti	1.4571	316Ti	1.4571	316Ti	1.4571
5/2; 2/7; 1/1/4	*1,2,3	Flat Gasket	Graphite		Graphite		Graphite		Graphite	
5/3		Bonnet Nut	2H		2H		2H		8	
5/6		Ball	Stainless Steel		Stainless Steel		Stainless Steel		Ceramics	
10	*3	Spring	Alloy Steel		Alloy Steel		Alloy Steel		302 1.4310	

Notes Material Code 04 max temperature 800 °F (427 °C) if used for non corrosive conditions. Attention: Inlet Pressure Class has to be checked. Variations from standard materials are available upon request.

1) X 39 Cr Mo 17-1

2) For Orifice Q; R; T nozzle material CF8M / 1.4408

Spares

*1) Startup, Installation

*2) 2 years operation

*3) Several years of operation

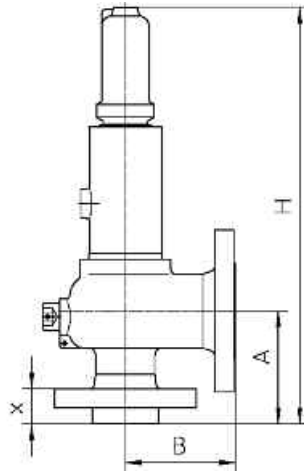
Orifice

D

Effective Area

0,110 in²

71 mm²



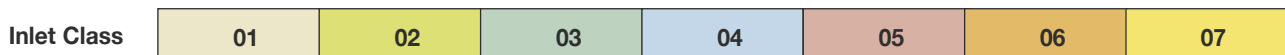
Inlet Class	01	02	03	04	05	06	07	Material Code	
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 300	1500 x 300	2500 x 300		
SIZE Inlet x Outlet	1" x 2"	1" x 2"	1" x 2"	1" x 2"	1 1/2" x 2"	1 1/2" x 2"	1 1/2" x 3"		
A Inch	4 1/8"	4 1/8"	4 1/8"	4 1/8"	4 1/8"	4 1/8"	5 1/2"		
B Inch	4 1/2"	4 1/2"	4 1/2"	4 1/2"	5 1/2"	5 1/2"	7"		
X Inch	1 23/32"	1 23/32"	1 23/32"	1 23/32"	2 1/4"	2 1/4"	2 27/32"		
H Inch Si 81/83	17 5/16"	17 5/16"	17 5/16"	17 5/16"	20 21/32"	20 21/32"	26 1/16"		
H Inch Si 84	19 3/32"	19 3/32"	19 3/32"	19 3/32"	22 5/8"	22 5/8"	28 3/4"		
Weight Lbs Si 81/83	34	36	36	36	62	62	106		
Weight Lbs Si 84	36	38	38	38	69	69	113		
Inlet Temperature									
Max. Set Pressure (psig)									
-450 to -76 °F	275	275	720	1440	2160	3600	4000	04	
-75 to -21 °F	275	275	720	1440	2160	3600	6000	02	
-20 to 100 °F	285	285	740	1480	2220	3705	6000	00	
450 °F	185	285	615	1235	1845	3080	5135		
800 °F	80	285	410	825	1235	2060	3430		
800 °F			510	1015	1525	2540	4230	01	
1000 °F			225	445	670	1115	1860		
Outlet Temperature									
Max. Outlet Pressure (psig)									
Si 81/83@100 °F	285	285	285	285	600	600	740		
Si 84@100 °F	230	230	230	230	500	500	500		

Inlet Class	01	02	03	04	05	06	07	Material Code	
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 300	1500 x 300	2500 x 300		
SIZE Inlet x Outlet	1" x 2"	1" x 2"	1" x 2"	1" x 2"	1 1/2" x 2"	1 1/2" x 2"	1 1/2" x 3"		
A mm	104,8	104,8	104,8	104,8	104,8	104,8	139,7		
B mm	114,3	114,3	114,3	114,3	139,7	139,7	177,8		
X mm	44	44	44	44	57	57	72		
H mm Si 81/83	440	440	440	440	525	525	675		
H mm Si 84	485	485	485	485	575	575	730		
Weight kg Si 81/83	15	16	16	16	28	28	48		
Weight kg Si 84	16	17	17	17	31	31	51		
Inlet Temperature									
Max. Set Pressure (barg)									
-268 to -60 °C	19,0	19,0	49,6	99,3	149	248	276	04	
-59 to -29 °C	19,0	19,0	49,6	99,3	149	248	414	02	
-28 to 38 °C	19,7	19,7	51,0	102	153	255	414	00	
232 °C	12,8	19,7	42,4	85,2	127	212	354		
427 °C	5,5	19,7	28,3	56,9	85,2	142	236		
427 °C			35,2	70,0	105	175	292	01	
538 °C			15,5	30,7	46,2	76,9	128		
Outlet Temperature									
Max. Outlet Pressure (barg)									
Si 81/83@38 °C	19,7	19,7	19,7	19,7	41,4	41,4	51,0		
Si 84@38 °C	15,9	15,9	15,9	15,9	34,5	34,5	34,5		

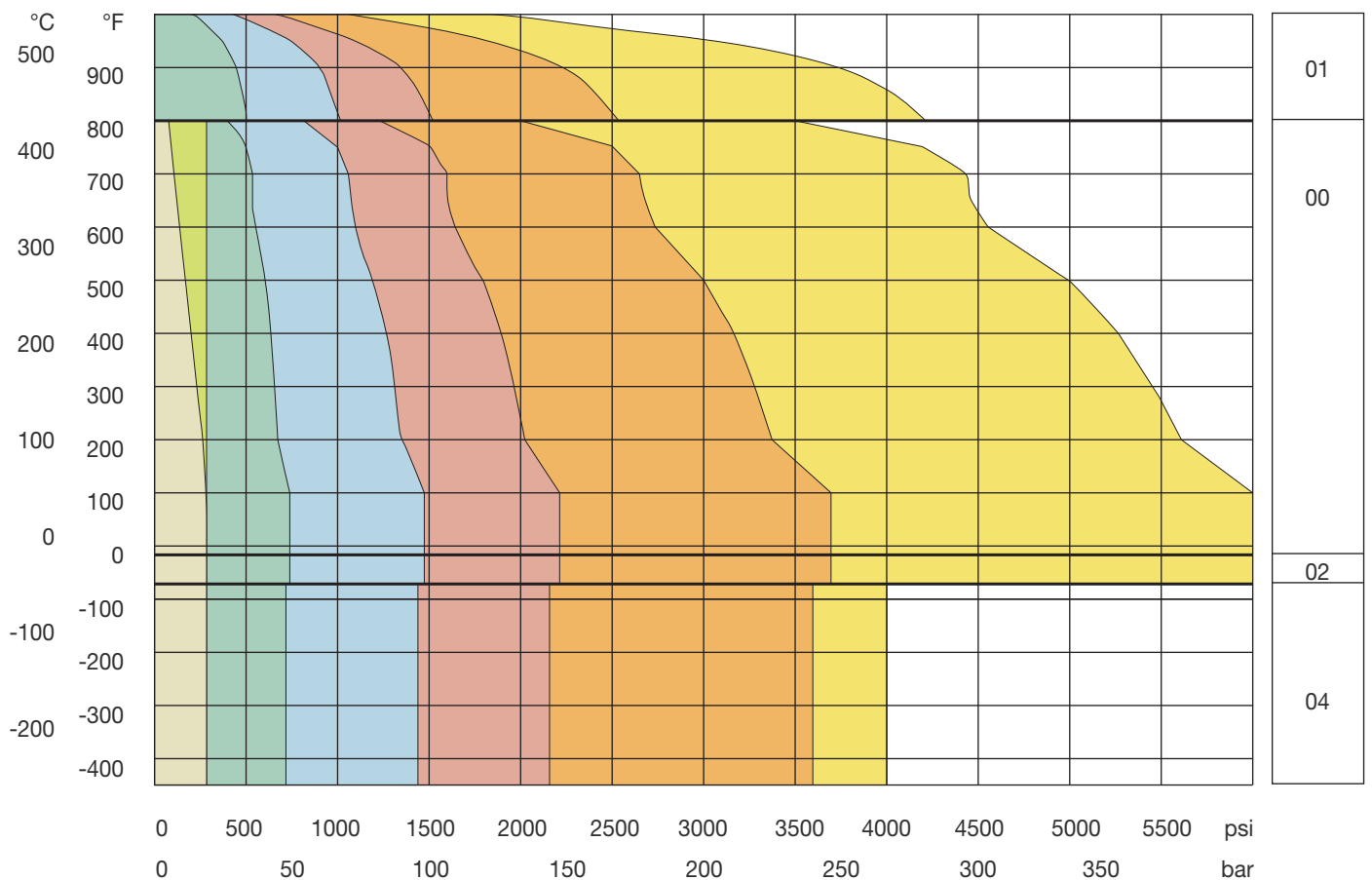
Orifice

D

Selection Chart



Inlet Temperature



Inlet Pressure

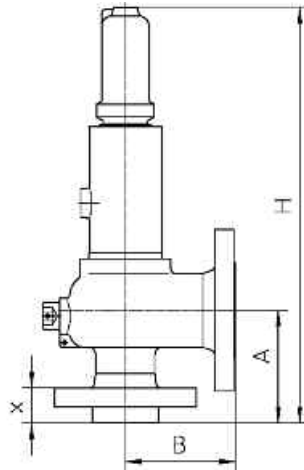
Orifice

E

Effective Area

0,196 in²

126 mm²

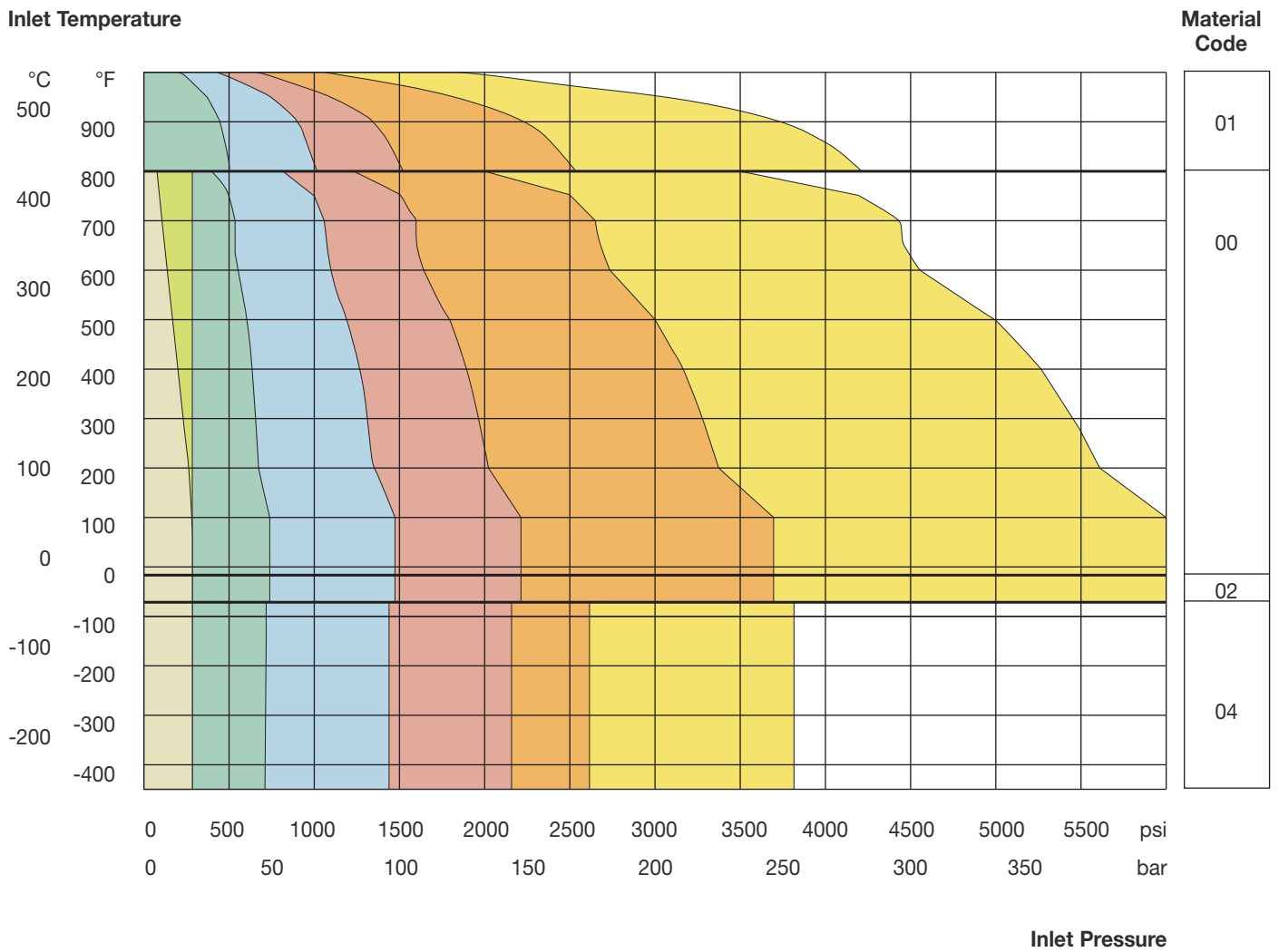
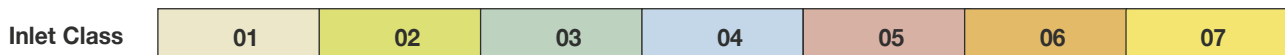


Inlet Class	01	02	03	04	05	06	07	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 300	1500 x 300	2500 x 300	
SIZE Inlet x Outlet	1" x 2"	1" x 2"	1" x 2"	1" x 2"	1 1/2" x 2"	1 1/2" x 2"	1 1/2" x 3"	
A Inch	4 1/8"	4 1/8"	4 1/8"	4 1/8"	4 1/8"	4 1/8"	5 1/2"	
B Inch	4 1/2"	4 1/2"	4 1/2"	4 1/2"	5 1/2"	5 1/2"	7"	
X Inch	1 23/32"	1 23/32"	1 23/32"	1 23/32"	2 1/4"	2 1/4"	2 27/32"	
H Inch Si 81/83	17 5/16"	17 5/16"	17 5/16"	17 5/16"	20 21/32"	20 21/32"	26 9/16"	
H Inch Si 84	19 3/32"	19 3/32"	19 3/32"	19 3/32"	22 5/8"	22 5/8"	28 3/4"	
Weight Lbs Si 81/83	34	36	36	36	62	62	106	
Weight Lbs Si 84	36	38	38	38	69	69	113	
Inlet Temperature								
Max. Set Pressure (psig)								
-450 to -76 °F	275	275	720	1440	2160	3600	4000	04
-75 to -21 °F	275	275	720	1440	2160	3600	6000	02
-20 to 100 °F	285	285	740	1480	2220	3705	6000	00
450 °F	185	285	615	1235	1845	3080	5135	01
800 °F	80	285	410	825	1235	2060	3430	
800 °F			510	1015	1525	2540	4230	
1000 °F			225	445	670	1115	1860	
Outlet Temperature								
Max. Outlet Pressure (psig)								
Si 81/83@100 °F	285	285	285	285	600	600	740	
Si 84@100 °F	230	230	230	230	500	500	500	

Inlet Class	01	02	03	04	05	06	07	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 300	1500 x 300	2500 x 300	
SIZE Inlet x Outlet	1" x 2"	1" x 2"	1" x 2"	1" x 2"	1 1/2" x 2"	1 1/2" x 2"	1 1/2" x 3"	
A mm	104,8	104,8	104,8	104,8	104,8	104,8	139,7	
B mm	114,3	114,3	114,3	114,3	139,7	139,7	177,8	
X mm	44	44	44	44	57	57	72	
H mm Si 81/83	440	440	440	440	525	525	675	
H mm Si 84	485	485	485	485	575	575	730	
Weight kg Si 81/83	15	16	16	16	28	28	48	
Weight kg Si 84	16	17	17	17	31	31	51	
Inlet Temperature								
Max. Set Pressure (barg)								
-268 to -60 °C	19,0	19,0	49,6	99,3	149	248	276	04
-59 to -29 °C	19,0	19,0	49,6	99,3	149	248	414	02
-28 to 38 °C	19,7	19,7	51,0	102	153	255	414	00
232 °C	12,8	19,7	42,4	85,2	127	212	354	01
427 °C	5,5	19,7	28,3	56,9	85,2	142	236	
427 °C			35,2	70,0	105	175	292	
538 °C			15,5	30,7	46,2	76,9	128	
Outlet Temperature								
Max. Outlet Pressure (barg)								
Si 81/83@38 °C	19,7	19,7	19,7	19,7	41,4	41,4	51,0	
Si 84@38 °C	15,9	15,9	15,9	15,9	34,5	34,5	34,5	

Orifice E

Selection Chart



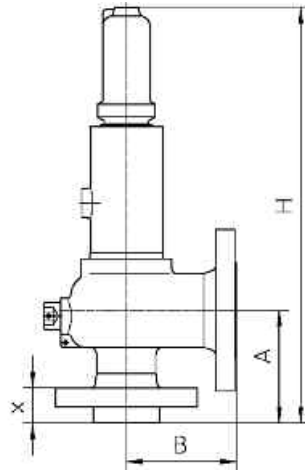
Orifice

F

Effective Area

0,307 in²

198 mm²

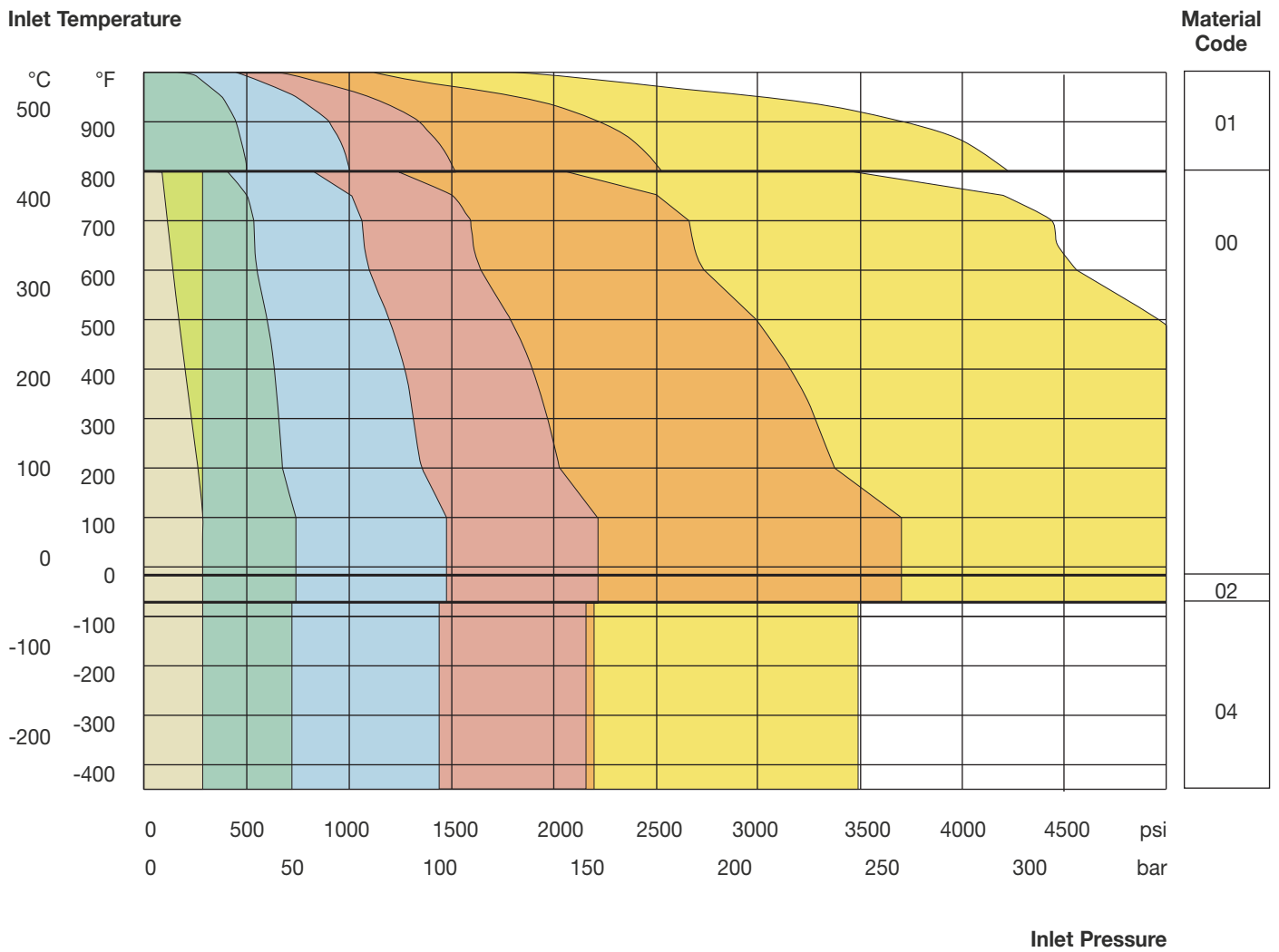
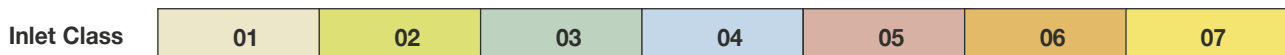


Inlet Class	01	02	03	04	05	06	07	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 300	1500 x 300	2500 x 300	
SIZE Inlet x Outlet	1 1/2"x 2"	1 1/2"x 2"	1 1/2"x 2"	1 1/2"x 2"	1 1/2"x 3"	1 1/2"x 3"	1 1/2"x3"	
A Inch	4 7/8"	4 7/8"	4 7/8"	4 7/8"	4 7/8"	4 7/8"	5 1/2"	
B Inch	4 3/4"	4 3/4"	6"	6"	6 1/2"	6 1/2"	7"	
X Inch	1 21/32"	1 21/32"	1 13/16"	1 13/16"	2 3/32"	2 3/32"	2 27/32"	
H Inch Si 81/83	18 1/8"	18 1/8"	20 15/32"	20 15/32"	26 3/16"	26 3/16"	26 9/16"	
H Inch Si 84	20 1/2"	20 1/2"	22 1/4"	22 1/4"	29 1/8"	29 1/8"	29 1/2"	
Weight Lbs Si 81/83	38	40	55	55	70	70	110	
Weight Lbs Si 84	42	44	60	60	80	80	117	
Inlet Temperature								
Max. Set Pressure (psig)								
-450 to -76 °F	275	275	720	1440	2160	2200	3400	04
-75 to -21 °F	275	275	720	1440	2160	3600	5000	02
-20 to 100 °F	285	285	740	1480	2220	3705	5000	00
450 °F	185	285	615	1235	1845	3080	5000	01
800 °F	80	285	410	825	1235	2060	3430	
800 °F			510	1015	1525	2540	4230	
1000 °F			225	445	670	1115	1860	
Outlet Temperature								
Max. Outlet Pressure (psig)								
Si 81/83@100 °F	285	285	285	285	740	740	740	
Si 84@100 °F	230	230	230	230	500	500	500	

Inlet Class	01	02	03	04	05	06	07	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 300	1500 x 300	2500 x 300	
SIZE Inlet x Outlet	1 1/2"x 2"	1 1/2"x 2"	1 1/2"x 2"	1 1/2"x 2"	1 1/2"x 3"	1 1/2"x 3"	1 1/2"x3"	
A mm	123,8	123,8	123,8	123,8	123,8	123,8	139,7	
B mm	120,7	120,7	152,4	152,4	165,1	165,1	177,8	
X mm	42	42	46	46	53	53	72	
H mm Si 81/83	460	460	520	520	665	665	675	
H mm Si 84	520	520	565	565	740	740	750	
Weight kg Si 81/83	17	18	25	25	32	32	50	
Weight kg Si 84	19	20	27	27	36	36	53	
Inlet Temperature								
Max. Set Pressure (barg)								
-268 to -60 °C	19,0	19,0	49,6	99,3	149	152	234	04
-59 to -29 °C	19,0	19,0	49,6	99,3	149	248	345	02
-28 to 38 °C	19,7	19,7	51,0	102	153	255	345	00
232 °C	12,8	19,7	42,4	85,2	127	212	345	01
427 °C	5,5	19,7	28,3	56,9	85,2	142	236	
427 °C			35,2	70,0	105	175	292	
538 °C			15,5	30,7	46,2	76,9	128	
Outlet Temperature								
Max. Outlet Pressure (barg)								
Si 81/83@38 °C	19,7	19,7	19,7	19,7	51,0	51,0	51,0	
Si 84@38 °C	15,9	15,9	15,9	15,9	34,5	34,5	34,5	

Orifice F

Selection Chart



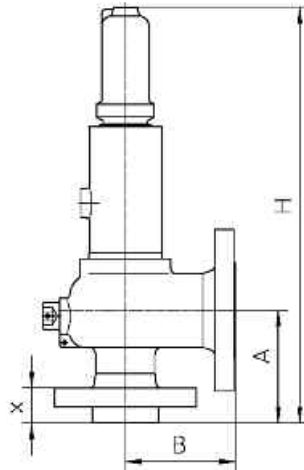
Orifice



Effective Area

0,503 in²

324 mm²



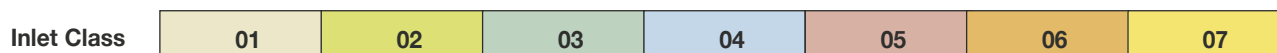
Inlet Class	01	02	03	04	05	06	07	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 300	1500 x 300	2500 x 300	
SIZE Inlet x Outlet	1 1/2"x 3"	1 1/2"x 3"	1 1/2"x 3"	1 1/2"x 3"	1 1/2"x 3"	2"x 3"	2" x 3"	
A Inch	4 7/8"	4 7/8"	4 7/8"	4 7/8"	4 7/8"	6 1/8"	6 1/8"	
B Inch	4 3/4"	4 3/4"	6"	6"	6 1/2"	6 3/4"	6 3/4"	
X Inch	1 21/32"	1 21/32"	1 13/16"	1 13/16"	2 3/32"	3 5/32"	3 5/32"	
H Inch Si 81/83	18 5/16"	18 5/16"	22 1/16"	22 1/16"	26 3/16"	27 15/16"	27 15/16"	
H Inch Si 84	20 1/16"	20 1/16"	23 13/16"	23 13/16"	29 1/8"	30 7/8"	30 7/8"	
Weight Lbs Si 81/83	40	42	67	67	89	100	115	
Weight Lbs Si 84	45	51	84	84	95	111	124	
Inlet Temperature								
Max. Set Pressure (psig)								
-450 to -76 °F	275	275	720	1440	1600	2450	2600	04
-75 to -21 °F	275	275	720	1440	2160	3600	3600	02
-20 to 100 °F	285	285	740	1480	2220	3705	3705	00
450 °F	185	285	615	1235	1845	3080	3705	01
800 °F	80	285	410	825	1235	2060	3430	
800 °F			510	1015	1525	2540	3705	
1000 °F			225	445	670	1115	1860	
Outlet Temperature								
Max. Outlet Pressure (psig)								
Si 81/83@100 °F	285	285	285	285	740	740	740	
Si 84@100 °F	230	230	230	230	470	470	470	

Inlet Class	01	02	03	04	05	06	07	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 300	1500 x 300	2500 x 300	
SIZE Inlet x Outlet	1 1/2"x 3"	1 1/2"x 3"	1 1/2" x 3"	1 1/2"x 3"	1 1/2" x 3"	2" x 3"	2" x 3"	
A mm	123,8	123,8	123,8	123,8	123,8	155,6	155,6	
B mm	120,7	120,7	152,4	152,4	165,1	171,5	171,5	
X mm	42	42	46	46	53	80	80	
H mm Si 81/83	465	465	560	560	665	710	710	
H mm Si 84	510	510	605	605	740	785	785	
Weight kg Si 81/83	18	19	30	30	40	45	52	
Weight kg Si 84	20	23	38	38	43	50	56	
Inlet Temperature								
Max. Set Pressure (barg)								
-268 to -60 °C	19,0	19,0	49,7	99,3	110	169	179	04
-59 to -29 °C	19,0	19,0	49,7	99,3	149	248	248	02
-28 to 38 °C	19,7	19,7	51,0	102	153	256	256	00
232 °C	12,8	19,7	42,4	85,2	127	212	256	01
427 °C	5,5	19,7	28,3	56,9	85,2	142	237	
427 °C			35,2	70,0	105	175	256	
538 °C			15,5	30,7	46,2	76,9	128	
Outlet Temperature								
Max. Outlet Pressure (barg)								
Si 81/83@38 °C	19,7	19,7	19,7	19,7	51,0	51,0	51,0	
Si 84@38 °C	15,9	15,9	15,9	15,9	32,4	32,4	32,4	

Orifice

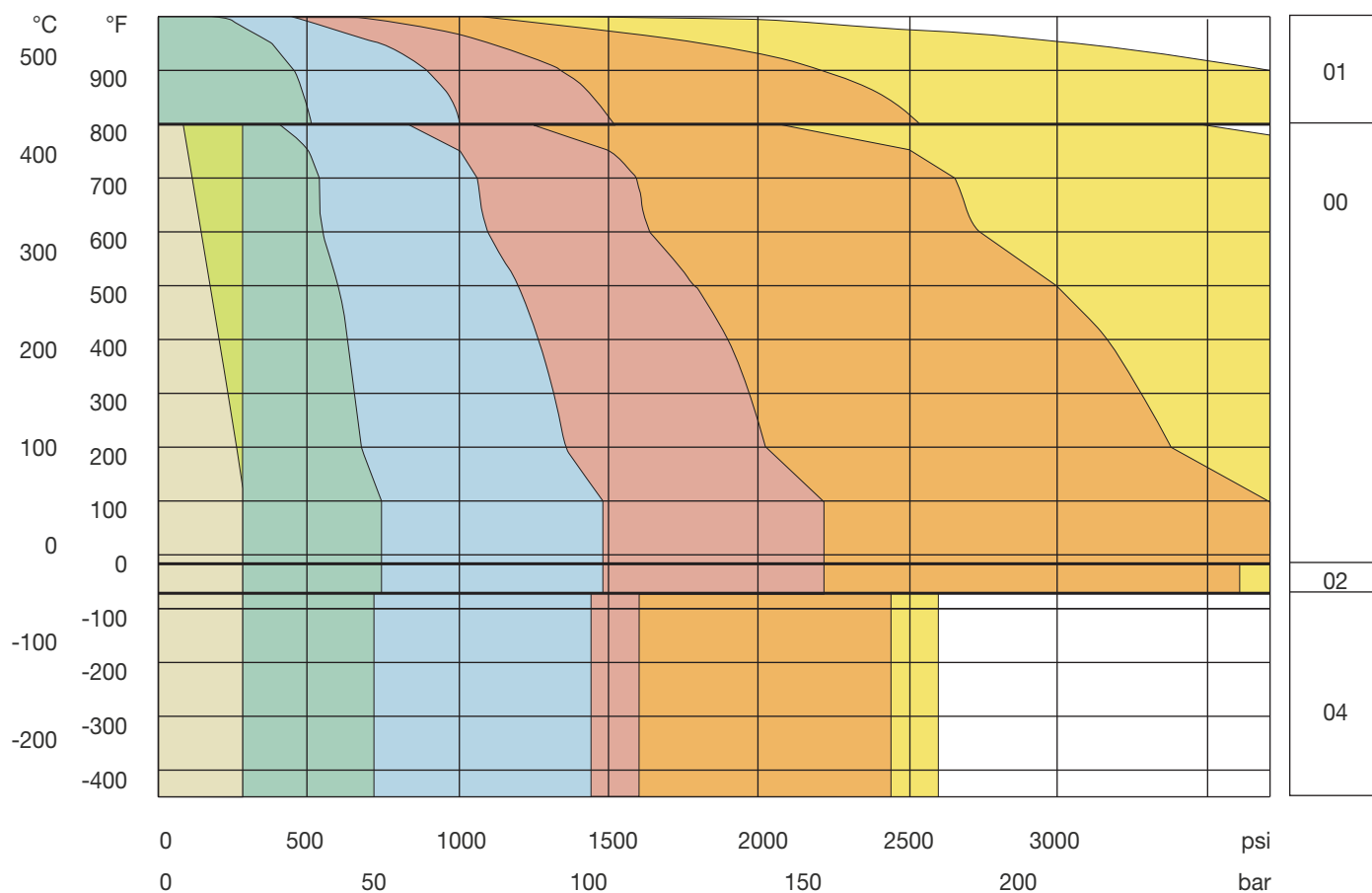


Selection Chart



Inlet Temperature

Material Code



Inlet Pressure

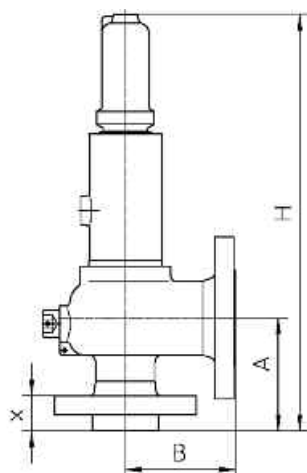
Orifice

H

Effective Area

0,785 in²

506 mm²



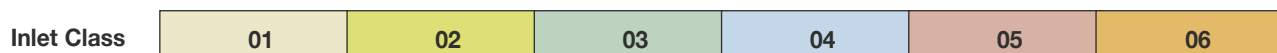
Inlet Class	01	02	03	04	05	06	Material Code	
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 150	1500 x 300		
SIZE Inlet x Outlet	1 1/2" x 3"	1 1/2" x 3"	2" x 3"	2" x 3"	2" x 3"	2" x 3"		
A Inch	5 1/8"	5 1/8"	5 1/8"	6 1/16"	6 1/16"	6 1/16"		
B Inch	4 7/8"	4 7/8"	4 7/8"	6 3/8"	6 3/8"	6 3/8"		
X Inch	1 23/32"	1 23/32"	1 7/8"	2 3/32"	2 5/8"	2 5/8"		
H Inch Si 81/83	21 1/4"	21 1/4"	22 5/8"	27 15/16"	27 15/16"	27 15/16"		
H Inch Si 84	23 1/32"	23 1/32"	24 13/16"	30 3/4"	30 3/4"	30 3/4"		
Weight Lbs Si 81/83	60	62	80	115	139	150		
Weight Lbs Si 84	64	67	86	133	150	164		
Inlet Temperature								
Max. Set Pressure (psig)								
-450 to -76 °F	275	275	720	1440	1485	1600	04	
-75 to -21 °F	275	275	720	1440	2160	2750	02	
-20 to 100 °F	285	285	740	1480	2220	2750	00	
450 °F	185	285	615	1235	1845	2750		
800 °F	80	285	410	825	1235	2060		
800 °F			510	815	1225	2040	01	
1000 °F			225	445	670	1115		
Outlet Temperature								
Max. Outlet Pressure (psig)								
Si 81/83@100 °F	285	285	285	285	285	740		
Si 84@100 °F	230	230	230	230	230	415		

Inlet Class	01	02	03	04	05	06	Material Code	
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 150	1500 x 300		
SIZE Inlet x Outlet	1 1/2" x 3"	1 1/2" x 3"	2" x 3"	2" x 3"	2" x 3"	2" x 3"		
A mm	130,2	130,2	130,2	154,0	154,0	154,0		
B mm	123,8	123,8	123,8	161,9	161,9	161,9		
X mm	44	44	48	53	67	67		
H mm Si 81/83	540	540	575	710	710	710		
H mm Si 84	585	585	630	780	780	780		
Weight kg Si 81/83	27	28	36	52	63	68		
Weight kg Si 84	29	30	39	60	68	74		
Inlet Temperature								
Max. Set Pressure (barg)								
-268 to -60 °C	19,0	19,0	49,7	99,3	102	110	04	
-59 to -29 °C	19,0	19,0	49,7	99,3	149	190	02	
-28 to 38 °C	19,7	19,7	51,0	102	153	190	00	
232 °C	12,8	19,7	42,4	85,2	127	190		
427 °C	5,5		28,3	56,9	85,2	142		
427 °C			35,2	56,2	84,5	141	01	
538 °C			15,5	30,7	46,2	76,9		
Outlet Temperature								
Max. Outlet Pressure (barg)								
Si 81/83@38 °C	19,7	19,7	19,7	19,7	19,7	51,0		
Si 84@38 °C	15,9	15,9	15,9	15,9	15,9	28,6		

Orifice

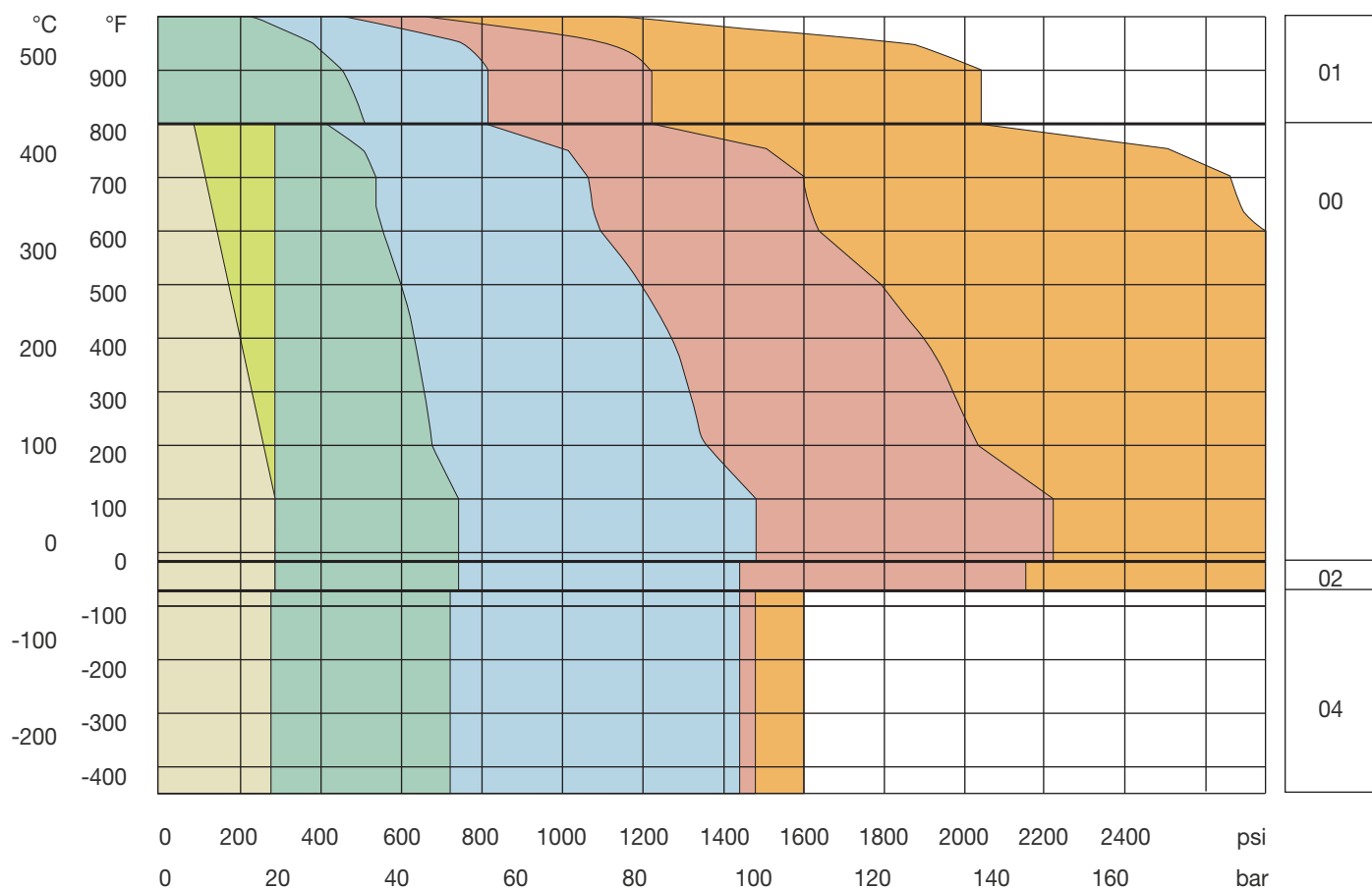
H

Selection Chart



Inlet Temperature

Material Code



Inlet Pressure

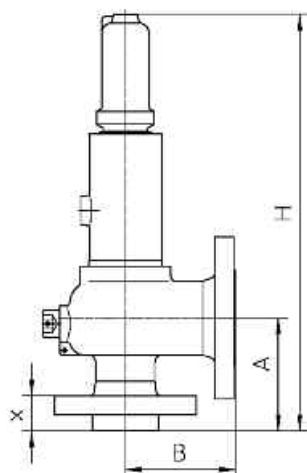
Orifice

J

Effective Area

1,287 in²

830 mm²



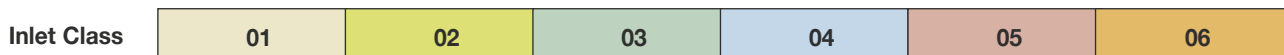
Inlet Class	01	02	03	04	05	06	Material Code	
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 150	1500 x 300		
SIZE Inlet x Outlet	2" x 3"	2" x 3"	3" x 4"	3" x 4"	3" x 4"	3" x 4"		
A Inch	5 3/8"	5 3/8"	7 1/4"	7 1/4"	7 1/4"	7 1/4"		
B Inch	4 7/8"	4 7/8"	7 1/8"	7 1/8"	7 1/8"	7 1/8"		
X Inch	1 9/16"	1 9/16"	2 5/8"	2 5/8"	3 7/32"	3 7/32"		
H Inch Si 81/83	22 5/8"	22 5/8"	29 2/16"	29 1/2"	32 11/16"	32 11/16"		
H Inch Si 84	24 13/16"	24 13/16"	31 7/8"	31 7/8"	35 5/8"	35 5/8"		
Weight Lbs Si 81/83	69	73	102	117	155	166		
Weight Lbs Si 84	78	82	111	127	170	181		
Inlet Temperature								
Max. Set Pressure (psig)								
-450 to -76 °F	275	275	500	625	800	800	04	
-75 to -21 °F	275	275	720	1440	2160	2700	02	
-20 to 100 °F	285	285	740	1480	2220	2700	00	
450 °F	185	285	615	1235	1845	2700		
800 °F	80	285	410	825	1235	2060		
800 °F			510	815	1225	2040	01	
1000 °F			225	445	670	1115		
Outlet Temperature								
Max. Outlet Pressure (psig)								
Si 81/83@100 °F	285	285	285	285	285	600		
Si 84@100 °F	230	230	230	230	230	230		

Inlet Class	01	02	03	04	05	06	Material Code	
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 150	1500 x 300		
SIZE Inlet x Outlet	2" x 3"	2" x 3"	3" x 4"	3" x 4"	3" x 4"	3" x 4"		
A mm	136,5	136,5	184,2	184,2	184,2	184,2		
B mm	123,8	123,8	181,0	181,0	181,0	181,0		
X mm	40	40	67	67	82	82		
H mm Si 81/83	575	575	740	750	830	830		
H mm Si 84	630	630	810	810	905	905		
Weight kg Si 81/83	31	33	46	53	70	75		
Weight kg Si 84	35	37	50	58	77	82		
Inlet Temperature								
Max. Set Pressure (barg)								
-268 to -60 °C	19,0	19,0	34,5	43,1	55,2	55,2	04	
-59 to -29 °C	19,0	19,0	49,7	99,3	149	186	02	
-28 to 38 °C	19,7	19,7	51,0	102	153	186	00	
232 °C	12,8	19,7	42,4	85,2	127	186		
427 °C	5,5	19,7	28,3	56,9	85,2	142		
427 °C			35,2	56,2	84,5	141	01	
538 °C			15,5	30,7	46,2	76,9		
Outlet Temperature								
Max. Outlet Pressure (barg)								
Si 81/83@38 °C	19,7	19,7	19,7	19,7	19,7	41,4		
Si 84@38 °C	15,9	15,9	15,9	15,9	15,9	15,9		

Orifice

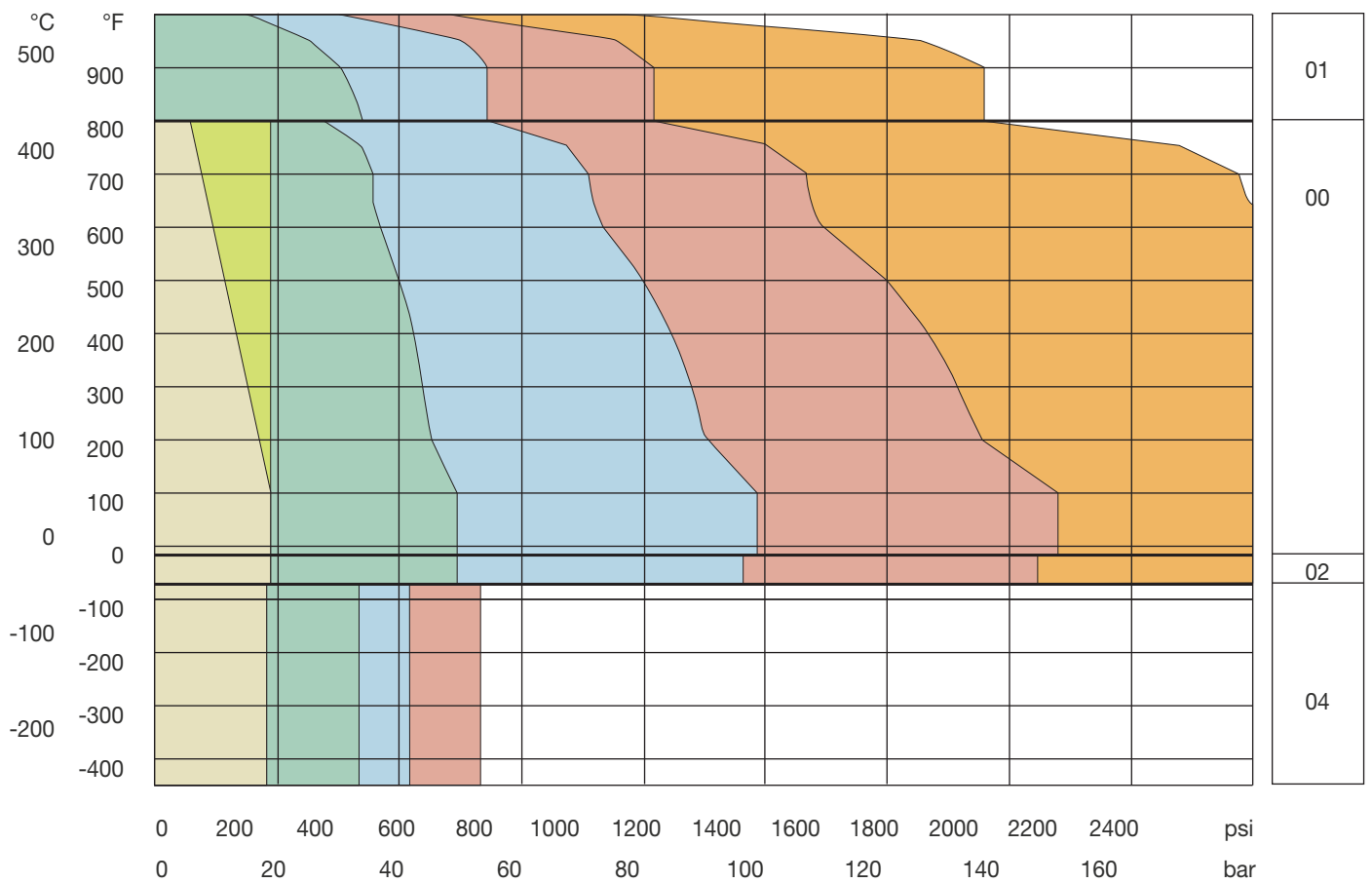


Selection Chart



Inlet Temperature

Material Code



Inlet Pressure

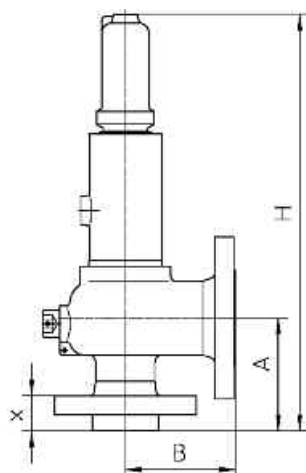
Orifice

K

Effective Area

1,838 in²

1185 mm²

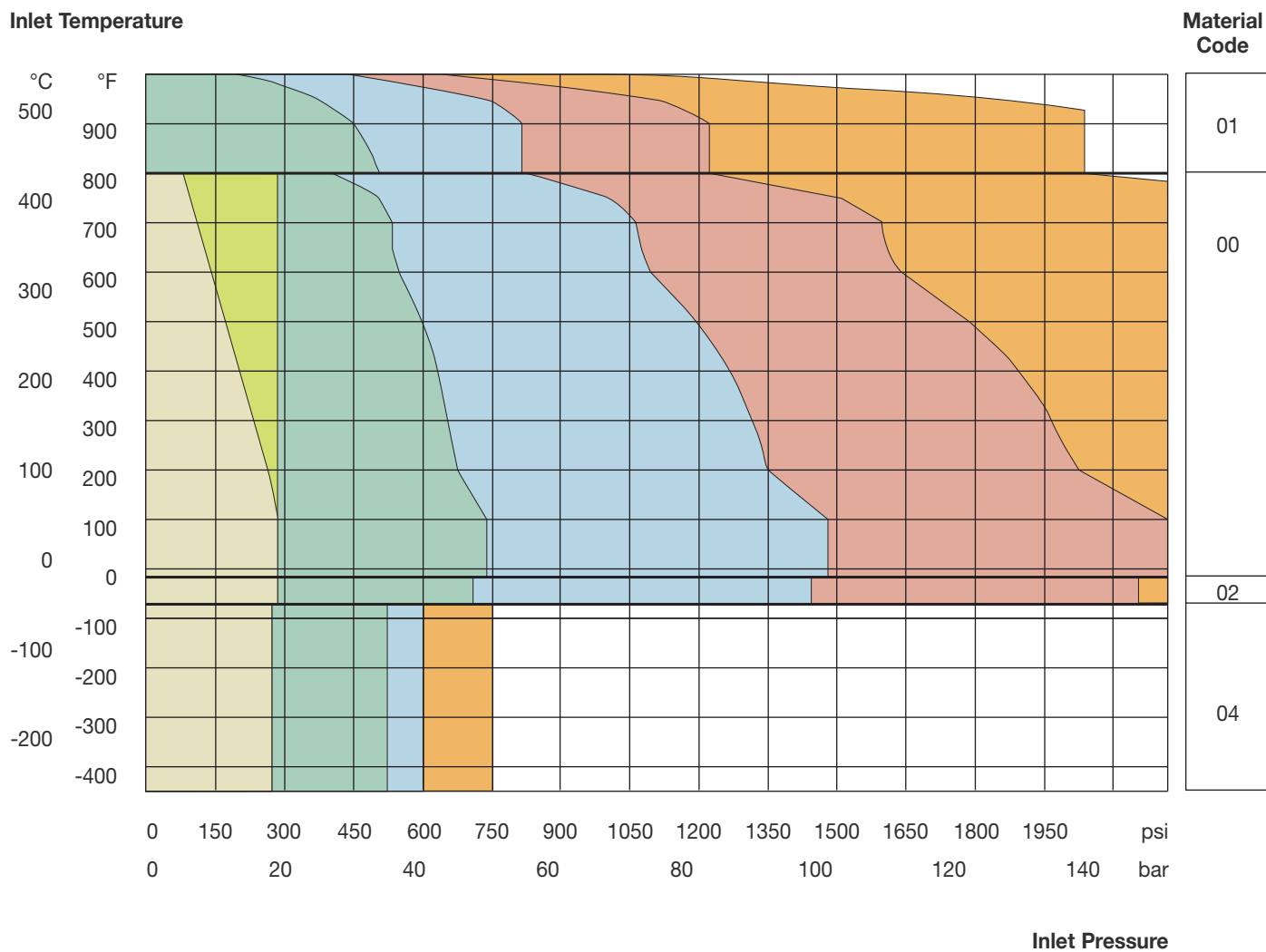
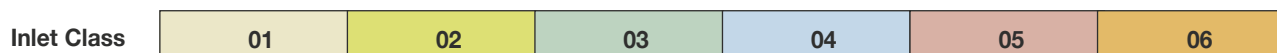


Inlet Class	01	02	03	04	04	05	06	Material Code
ASME Flange Rating	150 x 150	300 Lx 150	300 x 150	600 x 150	600 x 150	900 x 150	1500 x 300	
SIZE Inlet x Outlet	3"x 4"	3"x 4"	3"x 4"	3"x 4"	3"x 4"	3"x 6"	3"x 6"	
A Inch	6 1/8"	6 1/8"	6 1/8"	6 1/8"	7 1/4"	7 13/16"	7 3/4"	
B Inch	6 3/8"	6 3/8"	6 3/8"	6 3/8"	7 1/8"	8 1/2"	8 1/2"	
X Inch	2 5/16"	2 5/16"	2 5/16"	2 5/16"	2 5/8"	3"	3"	
H Inch Si 81/83	28 11/32"	28 11/32"	28 11/32"	28 11/32"	32 11/16"	38 15/16"	38 15/16"	
H Inch Si 84	31 1/8"	31 1/8"	31 1/8"	31 1/8"	35 13/16"	42 5/16"	42 5/16"	
Weight Lbs Si 81/83	137	144	144	144	164	177	188	
Weight Lbs Si 84	148	156	156	156	172	198	210	
Inlet Temperature								
Max. Set Pressure (psig)								
-450 to -76 °F	275	275	525		600	600	750	04
-75 to -21 °F	275	275	720		1440	2160	2220	02
-20 to 100 °F	285	285	740		1480	2220	2220	00
450 °F	185	285	615		1235	1845	2220	
800 °F	80	285	410		825	1235	2060	
800 °F			510	815		1225	2040	01
1000 °F			225	445		670	1115	
Outlet Temperature								
Max. Outlet Pressure (psig)								
Si 81/83@100 °F	285	285	285	285	285	285	600	
Si 84@100 °F	150	150	150	200	200	200	200	

Inlet Class	01	02	03	04	04	05	06	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	600 x 150	900 x 150	1500 x 300	
SIZE Inlet x Outlet	3"x 4"	3"x 4"	3"x 4"	3"x 4"	3"x 4"	3"x 6"	3"x 6"	
A mm	155,6	155,6	155,6	155,6	184,2	198,4	196,9	
B mm	161,9	161,9	161,9	161,9	181,0	215,9	215,9	
X mm	59	59	59	59	67	76	76	
H mm Si 81x/83	720	720	720	720	830	990	990	
H mm Si 84	790	790	790	790	910	1075	1075	
Weight kg Si 81/83	62	65	65	65	74	80	85	
Weight kg Si 84	67	71	71	71	78	90	95	
Inlet Temperature								
Max. Set Pressure (barg)								
-268 to -60 °C	19,0	19,0	36,2		41,4	41,4	51,7	04
-59 to -29 °C	19,0	19,0	49,7		99,3	149	153	02
-28 to 38 °C	19,7	19,7	51,0		102	153	153	00
232 °C	12,8	19,7	42,4		85,2	127	153	
427 °C	5,5	19,7	28,3		56,9	85,2	142	
427 °C			35,2	56,2		84,5	141	01
538 °C			15,5	30,7		46,2	76,9	
Outlet Temperature								
Max. Outlet Pressure (barg)								
Si 81/83@38 °C	19,7	19,7	19,7	19,7	19,7	19,7	41,4	
Si 84@38 °C	10,3	10,3	10,3	13,8	13,8	13,8	13,8	

Orifice K

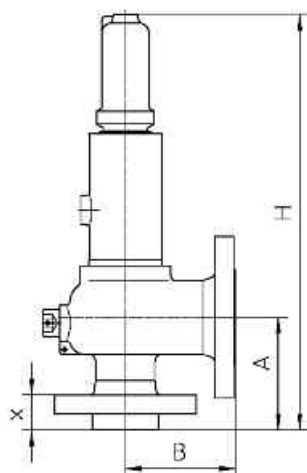
Selection Chart



Orifice



Effective Area
2,853 in²
1840 mm²



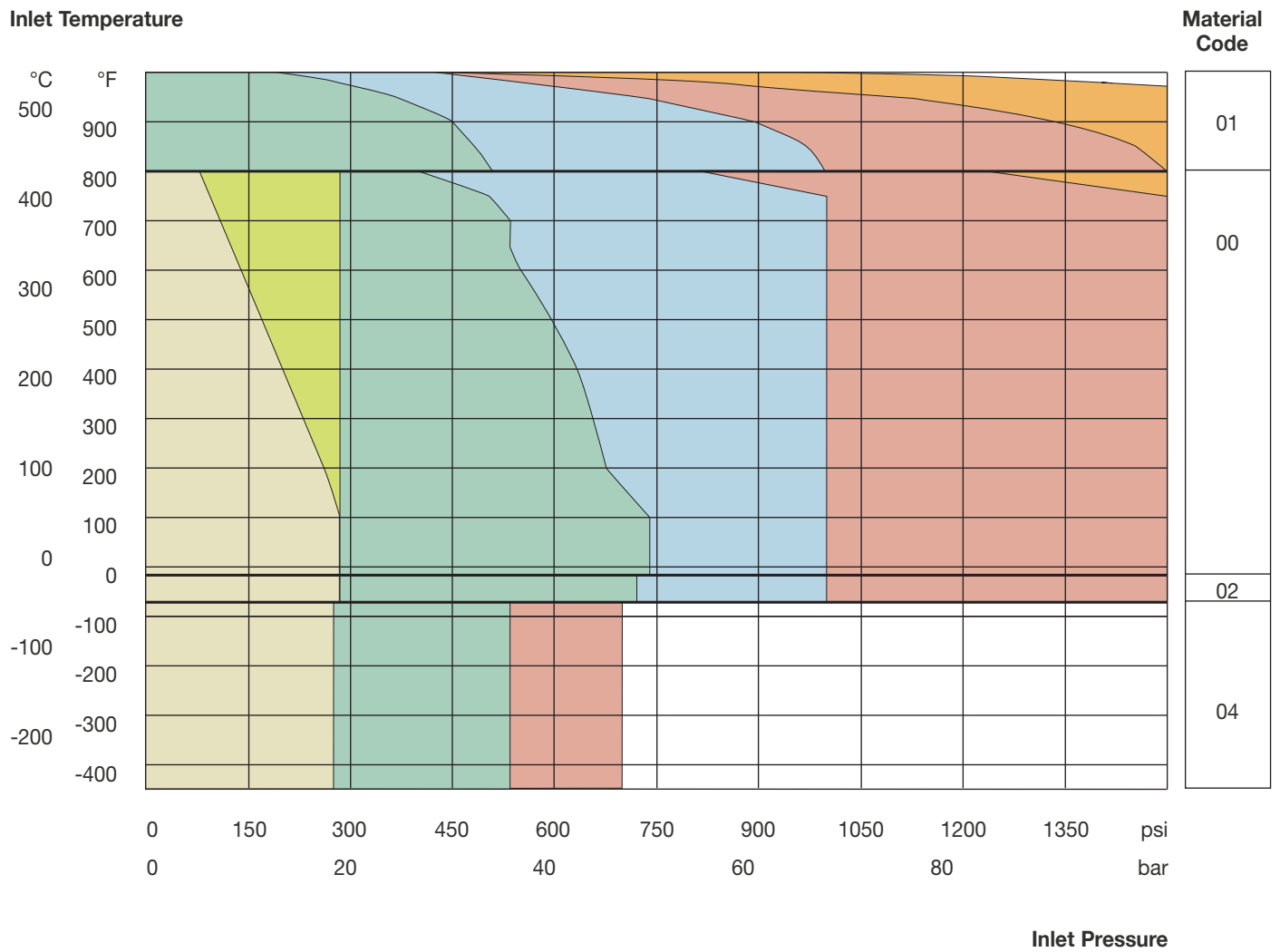
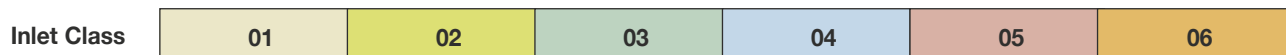
Inlet Class	01	02	03	04	05	06	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 150	1500 x 150	
SIZE Inlet x Outlet	3"x 4"	3"x 4"	4"x 6"	4"x 6"	4"x 6"	4"x 6"	
A Inch	6 1/8"	6 1/8"	7 1/16"	7 1/16"	7 3/4"	7 3/4"	
B Inch	6 1/2"	6 1/2"	7 1/8"	8"	8 3/4"	8 3/4"	
X Inch	2 5/16"	2 5/16"	2 5/16"	2 3/8"	3 7/32"	3 7/32"	
H Inch Si 81/83	28 11/32"	28 11/32"	33 15/32"	38 3/4"	38 3/4"	38 3/4"	
H Inch Si 84	31 1/8"	31 1/8"	36 5/8"	42 1/2"	42 1/2"	42 1/2"	
Weight Lbs Si 81/83	137	144	221	232	336	353	
Weight Lbs Si 84	148	155	221	265	362	371	
Inlet Temperature							
Max. Set Pressure (psig)							
-450 to -76 °F	275	275	535	535	700		04
-75 to -21 °F	275	275	720	1000	1500		02
-20 to 100 °F	285	285	740	1000	1500		00
450 °F	185	285	615	1000	1500	1500	
800 °F	80	285	410	825	1235	1500	
800 °F			510	1000	1500	1500	01
1000 °F			225	445	670	1115	
Outlet Temperature							
Max. Outlet Pressure (psig)							
Si 81/83@100 °F	285	285	285	285	285	285	
Si 84@100 °F	100	100	170	170	170	170	

Inlet Class	01	02	03	04	05	06	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 150	1500 x 150	
SIZE Inlet x Outlet	3"x 4"	3"x 4"	4"x 6"	4"x 6"	4"x 6"	4"x 6"	
A mm	155,6	155,6	179,4	179,4	196,9	196,9	
B mm	165,1	165,1	181,0	203,2	222,3	222,3	
X mm	59	59	59	60	82	82	
H mm Si 81/83	720	720	850	985	985	985	
H mm Si 84	790	790	930	1080	1080	1080	
Weight kg Si 81/83	62	65	100	105	152	160	
Weight kg Si 84	67	70	100	120	164	168	
Inlet Temperature							
Max. Set Pressure (barg)							
-268 to -60 °C	19,0	19,0	36,9	36,9	48,3		04
-59 to -29 °C	19,0	19,0	49,7	69,0	103		02
28 to 38 °C	19,7	19,7	51,0	69,0	103		00
232 °C	12,8	19,7	42,4	69,0	103	103	
427 °C	5,5	19,7	28,3	56,9	85,2	103	
427 °C			35,2	69,0	103	103	01
538 °C			15,5	30,7	46,2	76,9	
Outlet Temperature							
Max. Outlet Pressure (barg)							
Si 81/83@38 °C	19,7	19,7	19,7	19,7	19,7	19,7	
Si 84@38 °C	6,9	6,9	11,7	11,7	11,7	11,7	

Orifice

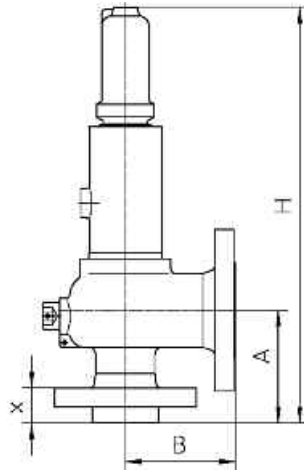


Selection Chart



Orifice M

Effective Area
3,60 in²
2322 mm²

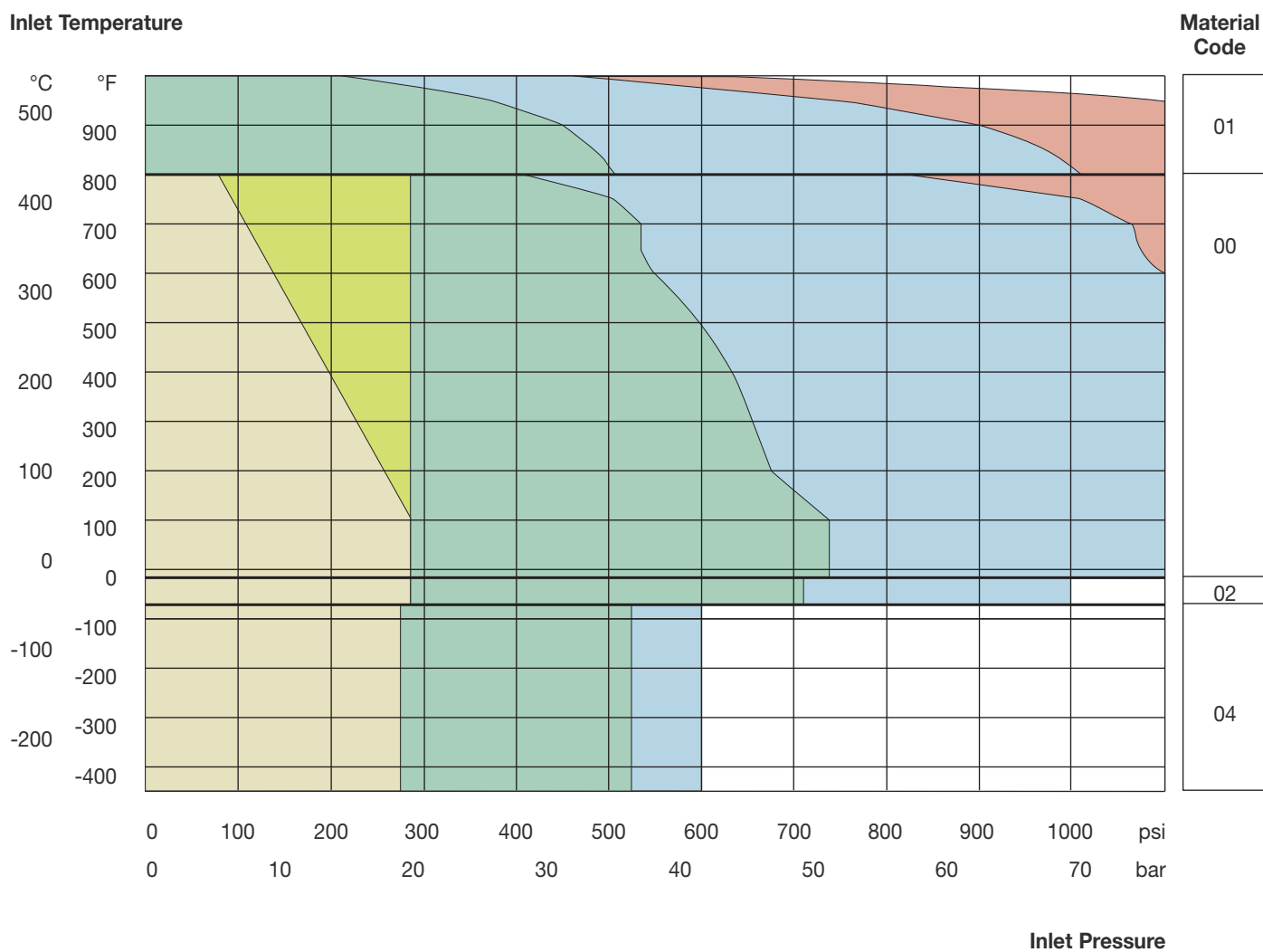


Inlet Class	01	02	03	04	05	Material Code	
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 150		
SIZE Inlet x Outlet	4" x 6"	4" x 6"	4" x 6"	4" x 6"	4" x 6"		
A Inch	7"	7"	7"	7"	7 3/4"		
B Inch	7 1/4"	7 1/4"	7 1/4"	8"	8 3/4"		
X Inch	2 3/16"	2 3/16"	2 3/16"	2 7/16"	3 7/32"		
H Inch Si 81/83	33 15/32"	33 15/32"	33 15/32"	38 3/4"	39 9/16"		
H Inch Si 84	36 3/8"	36 3/8"	36 3/8"	41 1/8"	41 11/16"		
Weight Lbs Si 81/83	212	221	221	336	353		
Weight Lbs Si 84	239	247	247	362	375		
Inlet Temperature							
Max. Set Pressure (psig)							
-450 to -76 °F	275	275	525	600		04	
-75 to -21 °F	275	275	720	1000		02	
-20 to 100 °F	285	285	740	1100		00	
450 °F	185	285	615	1100	1100		
800 °F	80	285	410	825	1100		
800 °F			510	1015	1100	01	
1000 °F			225	445	670		
Outlet Temperature							
Max. Outlet Pressure (psig)							
Si 81/83@100°F	285	285	285	285	285		
Si 84@100 °F	80	80	160	160	160		

Inlet Class	01	02	03	04	05	Material Code	
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 150		
SIZE Inlet x Outlet	4" x 6"	4" x 6"	4" x 6"	4" x 6"	4" x 6"		
A mm	177,8	177,8	177,8	177,8	196,9		
B mm	184,2	184,2	184,2	203,2	222,3		
X mm	56	56	56	62	82		
H mm Si 81/83	850	850	850	985	1005		
H mm Si 84	925	925	925	1045	1060		
Weight kg Si 81/83	96	100	100	152	160		
Weight kg Si 84	108	112	112	164	170		
Inlet Temperature							
Max. Set Pressure (barg)							
-268 to -60 °C	19,0	19,0	36,2	41,4		04	
-59 to -29 °C	19,0	19,0	49,7	69,0		02	
-28 to 38 °C	19,7	19,7	51,0	75,9		00	
232 °C	12,8	19,7	42,4	75,9	75,9		
427 °C	5,5	19,7	28,3	56,9	75,9		
427 °C			35,2	70,0	75,9	01	
538 °C			15,5	30,7	46,2		
Outlet Temperature							
Max. Outlet Pressure (barg)							
Si 81/83@38 °C	19,7	19,7	19,7	19,7	19,7		
Si 84@38 °C	5,5	5,5	11,0	11,0	11,0		

Orifice M

Selection Chart



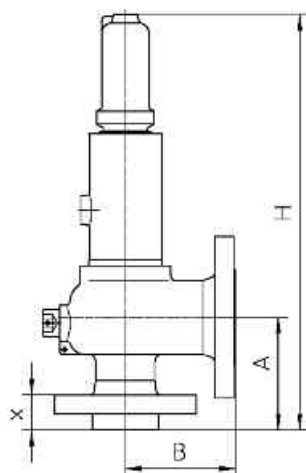
Orifice

N

Effective Area

4,34 in²

2800 mm²

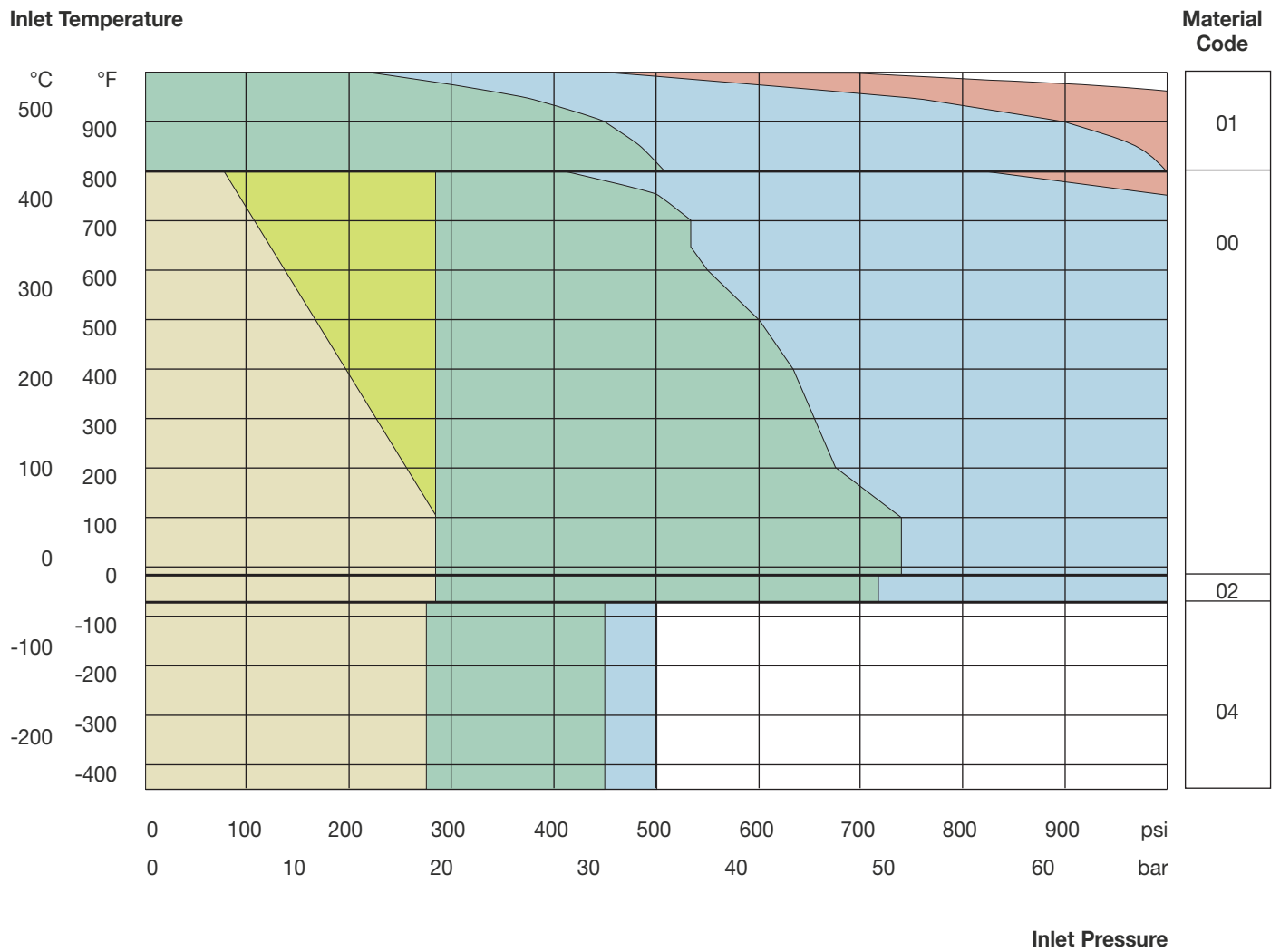


Inlet Class	01	02	03	04	05	Material Code	
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 150		
SIZE Inlet x Outlet	4" x 6"	4" x 6"	4" x 6"	4" x 6"	4" x 6"		
A Inch	7 3/4"	7 3/4"	7 3/4"	7 3/4"	7 3/4"		
B Inch	8 1/4"	8 1/4"	8 1/4"	8 3/4"	8 3/4"		
X Inch	2 5/32"	2 5/32"	2 5/32"	3 7/32"	3 7/32"		
H Inch Si 81/83	38 15/16"	38 15/16"	38 15/16"	38 15/16"	38 15/16"		
H Inch Si 84	43 1/8"	43 1/8"	43 1/8"	43 1/8"	43 1/8"		
Weight Lbs Si 81/83	305	316	316	349	355		
Weight Lbs Si 84	336	347	347	375	397		
Inlet Temperature							
Max. Set Pressure (psig)							
-450 to -76 °F	275	275	450	500		04	
-75 to -21 °F	275	275	720	1000		02	
-20 to 100 °F	285	285	740	1000		00	
450 °F	185	285	615	1000	1000		
800 °F	80	285	410	825	1000		
800 °F			510	1000	1000	01	
1000 °F			225	445	670		
Outlet Temperature							
Max. Outlet Pressure (psig)							
Si 81/83@100 °F	285	285	285	285	285		
Si 84@100 °F	80	80	160	160	160		

Inlet Class	01	02	03	04	05	Material Code	
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 150		
SIZE Inlet x Outlet	4" x 6"	4" x 6"	4" x 6"	4" x 6"	4" x 6"		
A mm	196,9	196,9	196,9	196,9	196,9		
B mm	209,6	209,6	209,6	222,3	222,3		
X mm	55	55	55	82	82		
H mm Si 81/83	990	990	990	990	990		
H mm Si 84	1095	1095	1095	1095	1095		
Weight kg Si 81/83	138	143	143	158	161		
Weight kg Si 84	152	157	157	170	180		
Inlet Temperature							
Max. Set Pressure (barg)							
-268 to -60 °C	19,0	19,0	31,0	34,5		04	
-29 to -59 °C	19,0	19,0	49,7	69,0		02	
-28 to 38 °C	19,7	19,7	51,0	69,0		00	
232 °C	12,8	19,7	42,4	69,0	69,0		
427 °C	5,5	19,7	28,3	56,9	69,0		
427 °C			35,2	69,0	69,0	01	
538 °C			15,5	30,7	46,2		
Outlet Temperature							
Max. Outlet Pressure (barg)							
Si 81/83@38 °C	19,7	19,7	19,7	19,7	19,7		
Si 84 / 38°C	5,5	5,5	11,0	11,0	11,0		

Orifice N

Selection Chart



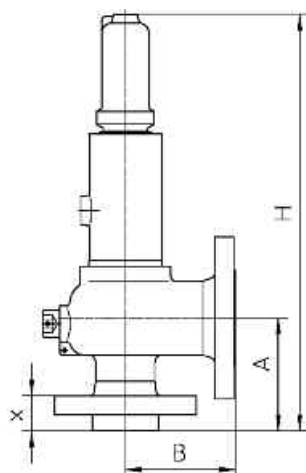
Orifice

P

Effective Area

6,38 in²

4116 mm²

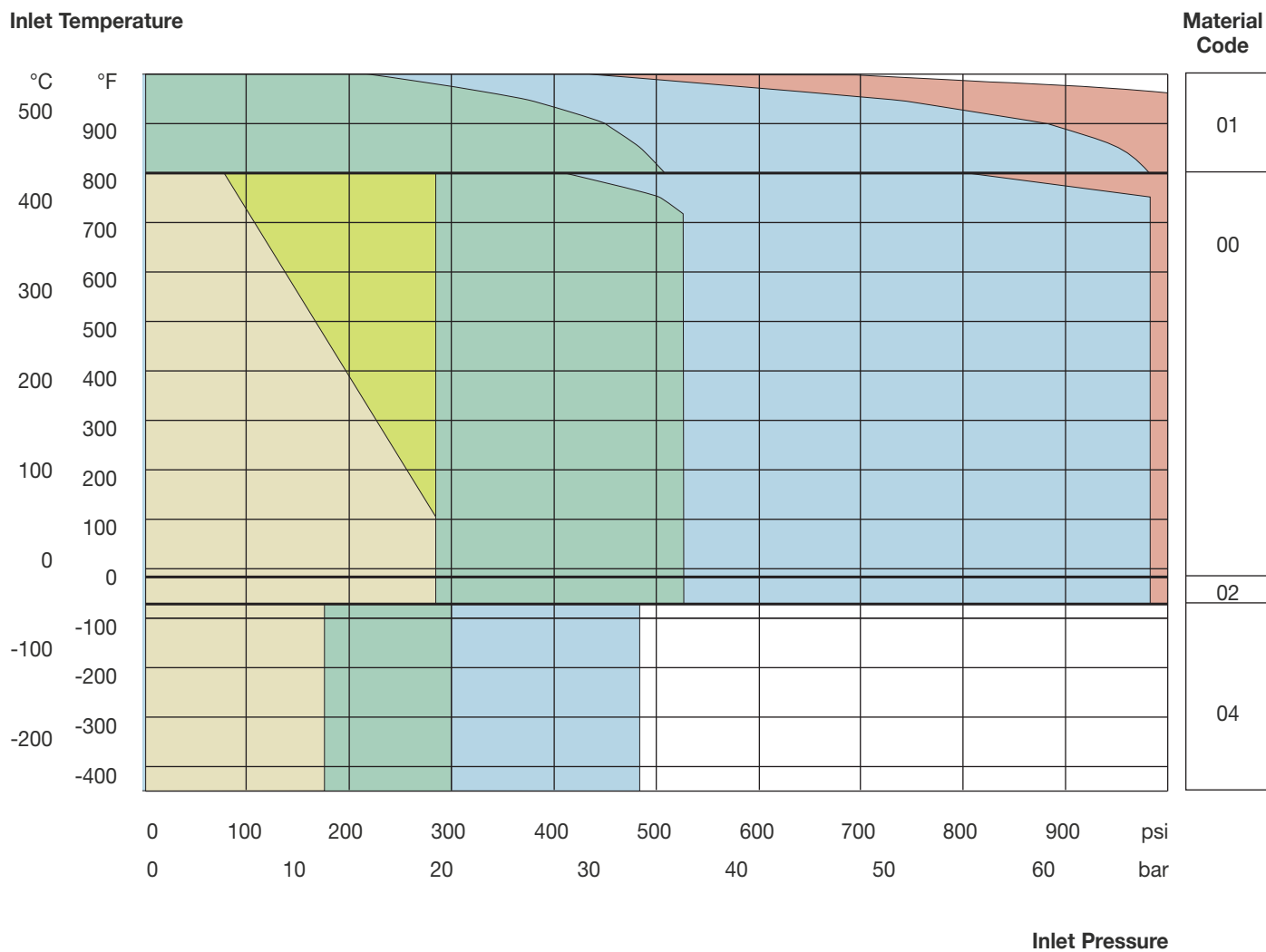


Inlet Class	01	02	03	04	05	Material Code	
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 150		
SIZE Inlet x Outlet	4" x 6"	4" x 6"	4" x 6"	4" x 6"	4" x 6"		
A Inch	7 1/8"	7 1/8"	8 7/8"	8 7/8"	8 7/8"		
B Inch	9"	9"	10"	10"	10"		
X Inch	2 1/8"	2 1/8"	2 23/32"	2 23/32"	2 23/32"		
H Inch Si 81/83	38 19/32"	38 19/32"	46"	46"	46"		
H Inch Si 84	42 11/16"	42 11/16"	49 7/16"	49 7/16"	49 7/16"		
Weight Lbs Si 81/83	314	325	386	393	530		
Weight Lbs Si 84	344	355	424	463	574		
Inlet Temperature							
Max. Set Pressure (psig)							
-450 to -76 °F	175	175	300	480		04	
-75 to -21 °F	275	275	525	1000		02	
-20 to 100 °F	285	285	525	1000		00	
450 °F	185	285	525	1000	1000		
800 °F	80	285	410	825	1000		
800 °F			510	1000	1000	01	
1000°F			225	445	670		
Outlet Temperature							
Max. Outlet Pressure (psig)							
Si 81/83@100 °F	285	285	285	285	285		
Si 84@100 °F	80	80	150	150	15		

Inlet Class	01	02	03	04	05	Material Code	
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	900 x 150		
SIZE Inlet x Outlet	4" x 6"	4" x 6"	4" x 6"	4" x 6"	4" x 6"		
A mm	181,0	181,0	225,4	225,4	225,4		
B mm	228,6	228,6	254,0	254,0	254,0		
X mm	54	54	69	69	69		
H mm Si 81/83	980	980	1170	1170	1170		
H mm Si 84	1085	1085	1255	1255	1255		
Weight kg Si 81/83	142	147	175	178	240		
Weight kg Si 84	156	161	192	210	260		
Inlet Temperature							
Max. Set Pressure (barg)							
-268 to -60 °C	12,1	12,1	20,7	33,1		04	
-59 to -29 °C	19,0	19,0	36,2	69,0		02	
-28 to 38 °C	19,7	19,7	36,2	69,0		00	
232 °C	12,8	19,7	36,2	69,0	69,0		
427 °C	5,5	19,7	28,3	56,9	69,0		
427 °C			35,2	69,0	69,0	01	
538 °C			15,5	30,7	46,2		
Outlet Temperature							
Max. Outlet Pressure (barg)							
Si 81/83@38 °C	19,7	19,7	19,7	19,7	19,7		
Si 84@38 °C	5,5	5,5	10,3	10,3	10,3		

Orifice P

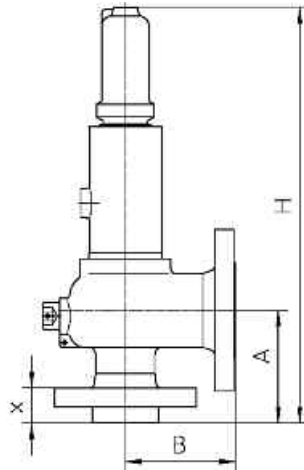
Selection Chart



Orifice



Effective Area
11,05 in²
7129 mm²



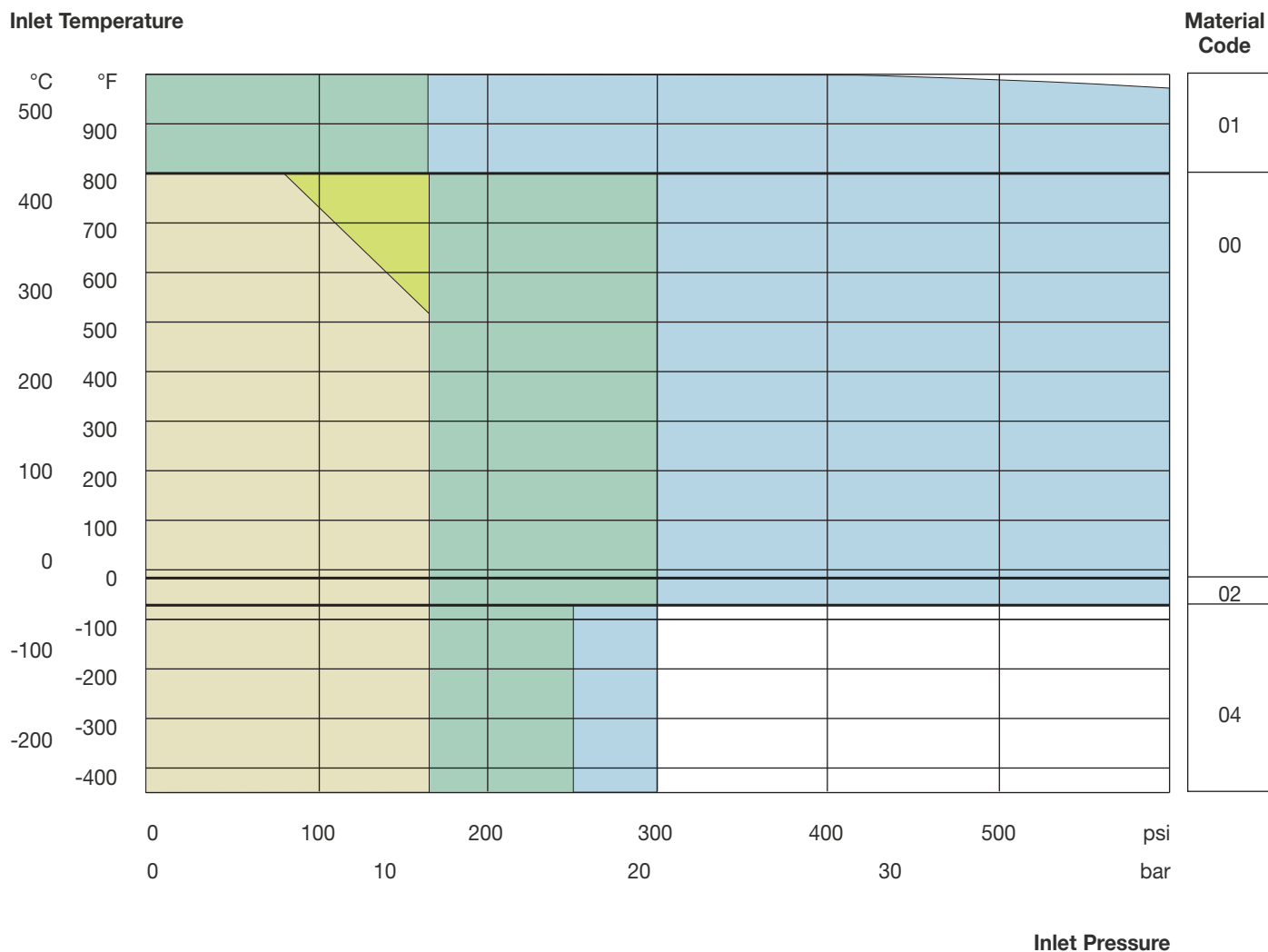
Inlet Class	01	02	03	04	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	
SIZE Inlet x Outlet	6" x 8"	6" x 8"	6" x 8"	6" x 8"	
A Inch	9 7/16"	9 7/16"	9 7/16"	9 7/16"	
B Inch	9 1/2"	9 1/2"	9 1/2"	9 1/2"	
X Inch	2 3/8"	2 3/8"	2 3/8"	3 1/16"	
H Inch Si 81/83	46 1/4"	46 1/4"	46 1/4"	46 27/32"	
H Inch Si 84	51 3/8"	51 3/8"	51 3/8"	52 1/8"	
Weight Lbs Si 81/83	463	486	486	640	
Weight Lbs Si 84	497	508	508	684	
Inlet Temperature					
Max. Set Pressure (psig)					
-450 to -76 °F	165	165	250	300	04
-75to -21 °F	165	165	300	600	02
-20 to 100 °F	165	165	300	600	00
450 °F	165	165	300	600	
800 °F	80	165	300	600	
800 °F			165	600	01
1000 °F			165	445	
Outlet Temperature					
Max. Outlet Pressure (psig)					
Si 81/83@100 °F	115	115	115	115	
Si 84@100 °F	70	70	115	115	

Inlet Class	01	02	03	04	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	
SIZE Inlet x Outlet	6" x 8"	6" x 8"	6" x 8"	6" x 8"	
A mm	239,7	239,7	239,7	239,7	
B mm	241,3	241,3	241,3	241,3	
X mm	60	60	60	78	
H mm Si 81/83	1175	1175	1175	1190	
H mm Si 84	1305	1305	1305	1325	
Weight kg Si 81/83	210	220	220	290	
Weight kg Si 84	225	230	230	310	
Inlet Temperature					
Max. Set Pressure (barg)					
-268 to -60 °C	11,4	11,4	17,2	20,7	04
-59 to -29 °C	11,4	11,4	20,7	41,4	02
-28 to 38 °C	11,4	11,4	20,7	41,4	00
232 °C	11,4	11,4	20,7	41,4	
427 °C	5,5	11,4	20,7	41,4	
427 °C			11,4	41,4	01
538 °C			11,4	30,7	
Outlet Temperature					
Max. Outlet Pressure (barg)					
Si 81/83@38 °C	7,9	7,9	7,9	7,9	
Si 84@38 °C	4,8	4,8	7,9	7,9	

Orifice



Selection Chart



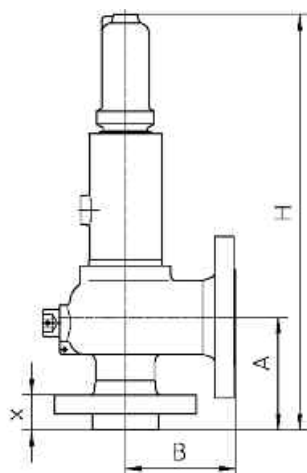
Orifice

R

Effective Area

16,00 in²

10322 mm²

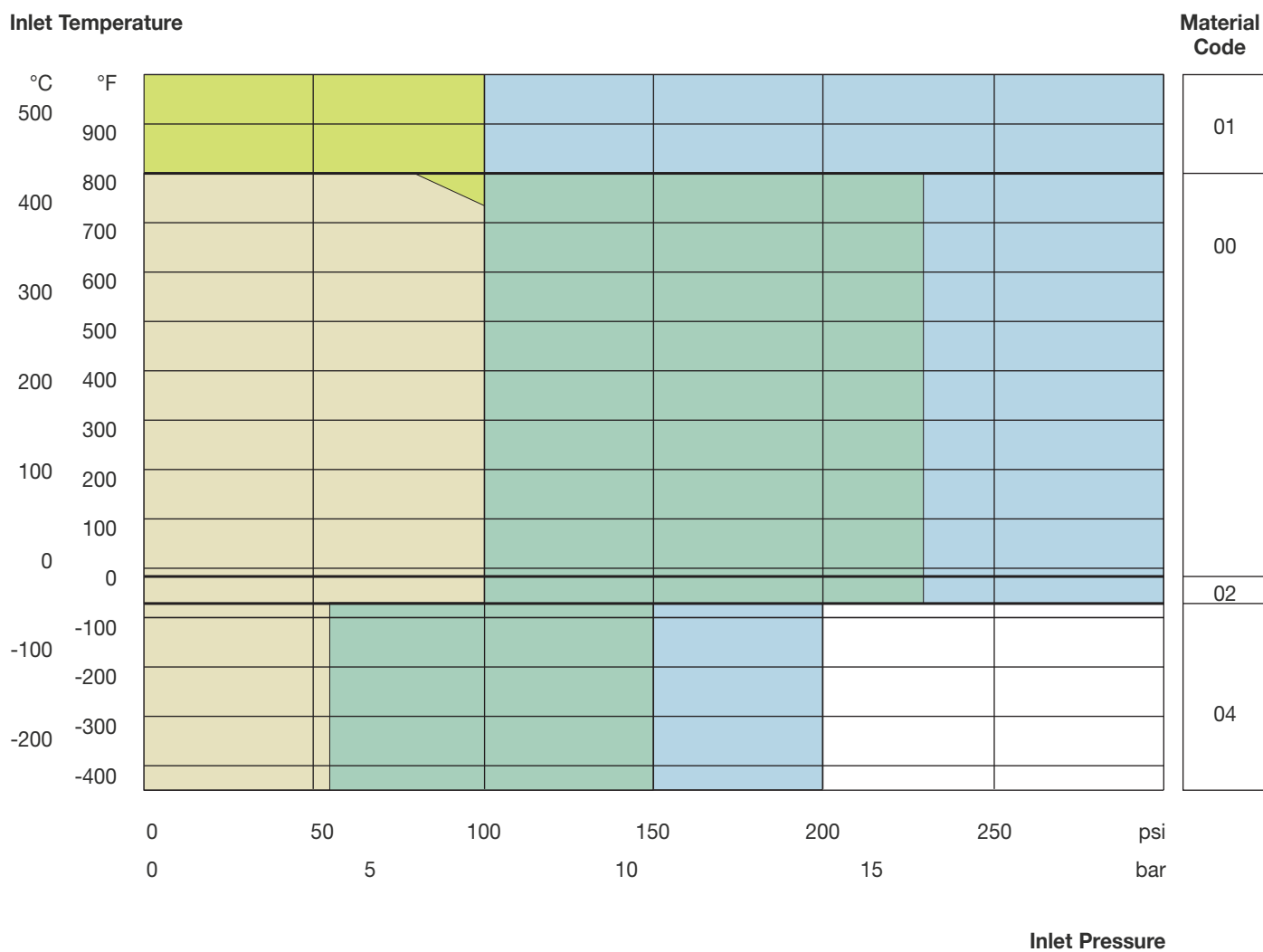
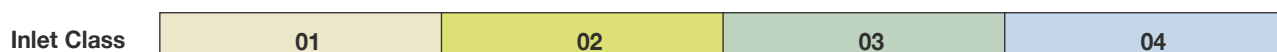


Inlet Class	01	02	03	04	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	
SIZE Inlet x Outlet	6" x 8"	6" x 8"	6" x 10"	6" x 10"	
A Inch	9 7/16"	9 7/16"	9 7/16"	9 7/16"	
B Inch	9 1/2"	9 1/2"	10 1/2"	10 1/2"	
X Inch	2 3/8"	2 3/8"	3"	3"	
H Inch Si 81/83	46 1/4"	46 1/4"	48 13/16"	48 13/16"	
H Inch Si 84	51 3/8"	51 3/8"	55 11/16"	55 11/16"	
Weight Lbs Si 81/83	470	492	631	662	
Weight Lbs Si 84	503	530	735	757	
Inlet Temperature					
Max. Set Pressure (psig)					
-450 to -76 °F	55	55	150	200	04
-75 to -21 °F	100	100	230	300	02
-20 to 100 °F	100	100	230	300	00
450 °F	100	100	230	300	
800 °F	80	100	230	300	
800 °F		100		300	01
1000 °F		100		300	
Outlet Temperature					
Max. Outlet Pressure (psig)					
Si 81/83@100 °F	60	60	100	100	
Si 84@100 °F	60	60	100	100	

Inlet Class	01	02	03	04	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	600 x 150	
SIZE Inlet x Outlet	6" x 8"	6" x 8"	6" x 10"	6" x 10"	
A mm	239,7	239,7	239,7	239,7	
B mm	241,3	241,3	266,7	266,7	
X mm	60	60	76	76	
H mm Si 81/83	1175	1175	1240	1240	
H mm Si 84	1305	1305	1415	1415	
Weight kg Si 81/83	213	223	286	300	
Weight kg Si 84	228	240	333	343	
Inlet Temperature					
Max. Set Pressure (barg)					
-268 to -60 °C	3,8	3,8	10,3	13,8	04
-59 to -29 °C	6,9	6,9	15,9	20,7	02
-28 to 38 °C	6,9	6,9	15,9	20,7	00
232 °C	6,9	6,9	15,9	20,7	
427 °C	5,5	6,9	15,9	20,7	
427 °C		6,9		20,7	01
538 °C		6,9		20,7	
Outlet Temperature					
Max. Outlet Pressure (barg)					
Si 81/83@38 °C	4,1	4,1	6,9	6,9	
Si 84@38 °C	4,1	4,1	6,9	6,9	

Orifice R

Selection Chart



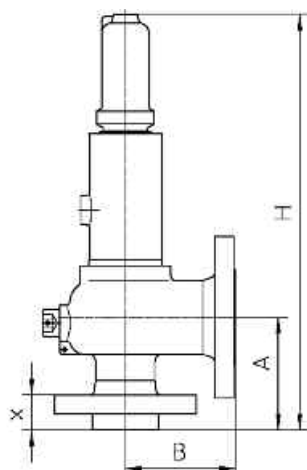
Orifice

T

Effective Area

26,00 in²

16774 mm²



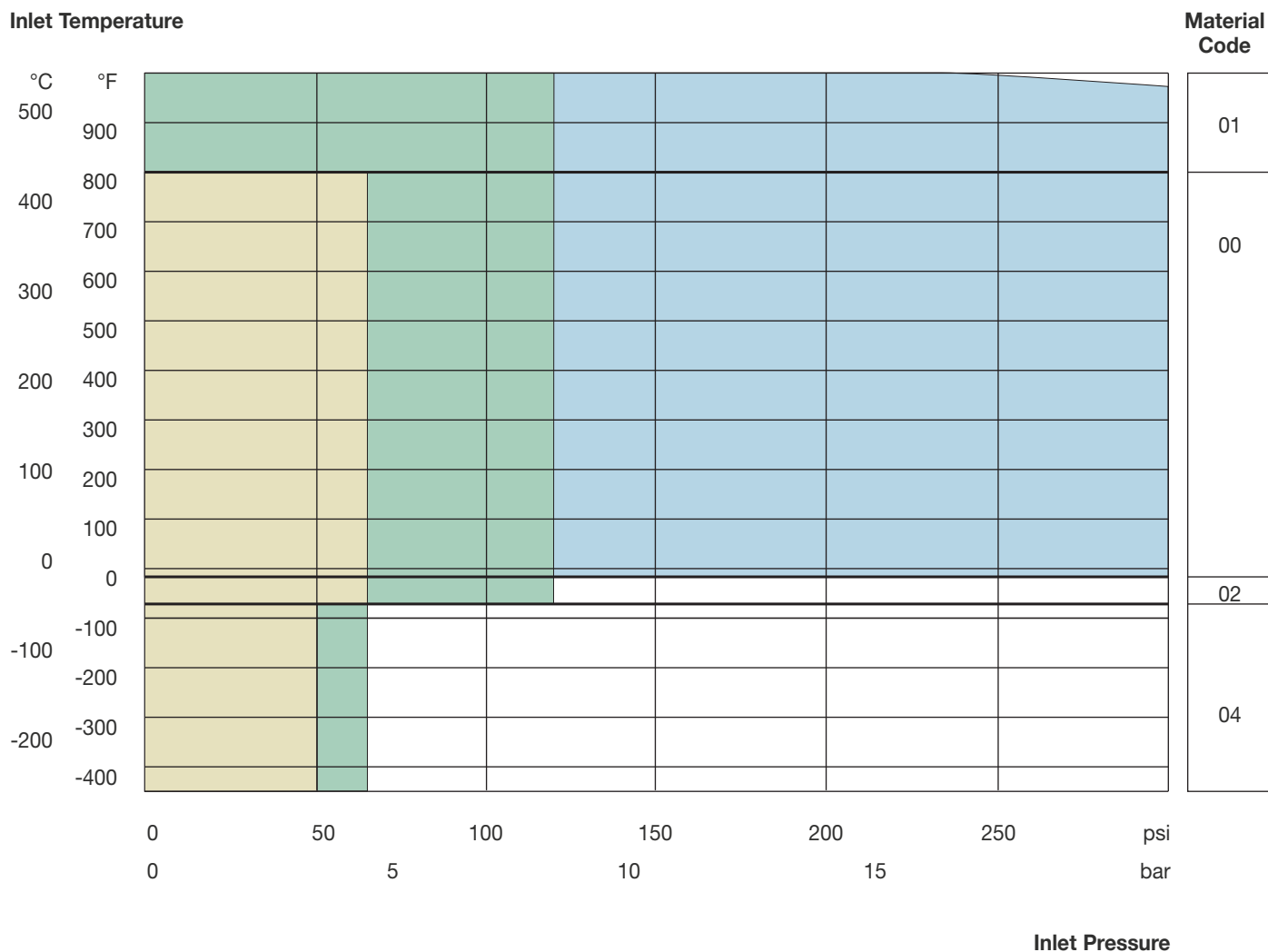
Inlet Class	01	02	03	04	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	300 x 150	
SIZE Inlet x Outlet	8" x 10"	8" x 10"	8" x 10"	8" x 10"	
A Inch	10 7/8"	10 7/8"	10 7/8"	10 7/8"	
B Inch	11"	11"	11"	11"	
X Inch	2 11/16"	2 11/16"	2 11/16"	2 11/16"	
H Inch Si 81/83	50 31/32"	50 31/32"	50 31/32"	53 15/16"	
H Inch Si 84	57 7/8"	57 7/8"	57 7/8"	60 13/16"	
Weight Lbs Si 81/83	704	730	730	858	
Weight Lbs Si 84	836	836	836	971	
Inlet Temperature					
Max. Set Pressure (psig)					
-450 to -76 °F	50	50	65		04
-75 to -21 °F	65	65	120		02
-20 to 100 °F	65	65	120	300	00
450 °F	65	65	120	300	
800 °F	65	65	120	300	
800 °F			120	300	01
1000 °F			120	225	
Outlet Temperature					
Max. Outlet Pressure (psig)					
Si 81/83@100 °F	30	30	60	100	
Si 84@100 °F	30	30	60	100	

Inlet Class	01	02	03	04	Material Code
ASME Flange Rating	150 x 150	300L x 150	300 x 150	300 x 150	
SIZE Inlet x Outlet	8" x 10"	8" x 10"	8" x 10"	8" x 10"	
A mm	276,2	276,2	276,2	276,2	
B mm	279,4	279,4	279,4	279,4	
X mm	68	68	68	68	
H mm Si 81/83	1295	1295	1295	1370	
H mm Si 84	1470	1470	1470	1545	
Weight kg Si 81/83	319	331	331	389	
Weight kg Si 84	379	379	379	440	
Inlet Temperature					
Max. Set Pressure (barg)					
-268 to -60 °C	3,4	3,4	4,5		04
-59 to -29 °C	4,5	4,5	8,3		02
-28 to 38 °C	4,5	4,5	8,3	20,7	00
232 °C	4,5	4,5	8,3	20,7	
427 °C	4,5	4,5	8,3	20,7	
427 °C			8,3	20,7	01
538 °C			8,3	15,5	
Outlet Temperature					
Max. Outlet Pressure (barg)					
Si 81/83@38 °C	2,1	2,1	4,1	6,9	
Si 84@38 °C	2,1	2,1	4,1	6,9	

Orifice



Selection Chart



Air Capacities

USCS Units

Capacity in standard cubic feet per minute of air at 60F and 10% overpressure. Valve discharging to atmospheric pressure.*

Capacities certified by National Board of Boiler and Pressure Vessel Inspectors and in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII

Set Pressure (psig)	Orifice letter													
	D	E	F	G	H	J	K	L	M	N	P	Q	R	T
2050	4993	8055	12586	20697	32220	52741	75367							
2100	5114	8250	12891	21198	33001	54019	77193							
2150	5235	8445	13196	21700	33782	55297	79019							
2200	5356	8641	13501	22202	34563	56576	80846							
2250	5477	8836	13806	22703	35343	57854								
2300	5598	9031	14111	23205	36124	59132								
2350	5719	9226	14416	23706	36905	60410								
2400	5840	9421	14721	24208	37686	61688								
2450	5961	9617	15026	24709	38467	62966								
2500	6082	9812	15331	25211	39247	64244								
2550	6203	10007	15636	25712	40028	65522								
2600	6324	10202	15941	26214	40809	66800								
2650	6445	10397	16246	26715	41590	68078								
2700	6566	10593	16551	27217	42370	69356								
2750	6687	10788	16856	27718	43151									
2800	6808	10983	17161	28220										
2850	6929	11178	17466	28721										
2900	7050	11373	17771	29223										
2950	7171	11569	18076	29725										
3000	7292	11764	18381	30226										
3050	7413	11959	18686	30728										
3100	7534	12154	18991	31229										
3150	7655	12349	19296	31731										
3200	7776	12545	19601	32232										
3250	7897	12740	19906	32734										
3300	8018	12935	20211	33235										
3350	8139	13130	20516	33737										
3400	8260	13325	20821	34238										
3450	8381	13521	21126	34740										
3500	8502	13716	21431	35241										
3550	8623	13911	21736	35743										
3600	8744	14106	22041	36244										
3650	8865	14301	22346	36746										
3700	8986	14496	22651	37248										
3750	9107	14692	22956											
3800	9228	14887	23261											
3850	9349	15082	23566											
3900	9470	15277	23871											
3950	9591	15472	24176											
4000	9712	15668	24481											
4050	9833	15863	24786											
4100	9954	16058	25091											
4150	10075	16253	25396											
4200	10196	16448	25701											
4250	10317	16644	26006											
4300	10438	16839	26311											
4350	10559	17034	26616											
4400	10680	17229	26921											
4450	10801	17424	27226											
4500	10922	17620	27531											
4550	11043	17815	27836											
4600	11164	18010	28141											
4650	11285	18205	28446											
4700	11406	18400	28751											
4750	11527	18596	29056											
4800	11648	18791	29361											
4850	11769	18986	29666											
4900	11890	19181	29971											
4950	12011	19376	30276											
5000	12132	19572	30580											
5100	12374	19962												
5200	12616	20352												
5300	12858	20743												
5400	13100	21133												
5500	13342	21523												
5600	13584	21914												
5700	13826	22304												
5800	14068	22695												
5900	14310	23085												
6000	14552	23475												

Saturated Steam Capacities

USCS Units

Capacity in pounds per hour of steam at 10% over-pressure. Valve discharging to atmospheric pressure.*

Capacities certified by National Board of Boiler and Pressure Vessel Inspectors and in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII

Set Pressure (psig)	Orifice letter														
	D	E	F	G	H	J	K	L	M	N	P	Q	R	T	
1420	9745	15721	24563	40393	62882	102932	147088	228061							
1440	9893	15959	24937	41006	63838	104495	149323	231525							
1460	10042	16199	25311	41622	64796	106065	151565	235002							
1480	10191	16440	25687	42240	65758	107639	153815	238491							
1500	10340	16681	26064	42860	66724	109219	156073	241992							
1520	10491	16923	26442	43483	67692	110805	158339								
1540	10641	17166	26822	44107	68665	112397	160614								
1560	10793	17410	27204	44734	69641	113995	162898								
1580	10944	17655	27586	45364	70621	115599	165190								
1600	11097	17901	27971	45996	71605	117210	167491								
1620	11250	18148	28357	46630	72593	118827	169802								
1640	11404	18396	28744	47267	73585	120450	172122								
1660	11558	18645	29133	47907	74581	122081	174451								
1680	11713	18895	29524	48550	75581	123718	176791								
1700	11869	19146	29916	49195	76585	125362	179141								
1720	12025	19399	30310	49843	77594	127014	181501								
1740	12182	19652	30706	50494	78608	128673	183871								
1760	12340	19906	31104	51148	79626	130339	186253								
1780	12499	20162	31503	51805	80649	132014	188646								
1800	12658	20419	31905	52465	81677	133696	191050								
1820	12818	20677	32308	53129	82710	135387	193466								
1840	12979	20937	32714	53796	83748	137086	195894								
1860	13140	21198	33121	54466	84791	138794	198335								
1880	13303	21460	33531	55140	85840	140510	200788								
1900	13466	21723	33943	55817	86894	142236	203254								
1920	13631	21988	34357	56498	87954	143971	205733								
1940	13796	22255	34773	57182	89020	145716	208226								
1960	13962	22523	35192	57871	90092	147470	210733								
1980	14129	22792	35613	58563	91170	149235	213255								
2000	14297	23064	36037	59260	92254	151010	215791								
2020	14466	23336	36463	59961	93345	152796	218343								
2040	14636	23611	36892	60666	94443	154592	220910								
2060	14807	23887	37323	61375	95547	156400	223494								
2080	14980	24165	37757	62089	96659	158220	226094								
2100	15153	24444	38194	62808	97777	160051	228711								
2120	15328	24726	38634	63531	98904	161895	231346								
2140	15503	25009	39077	64260	100038	163751	233999								
2160	15680	25295	39523	64993	101180	165621	236670								
2180	15859	25583	39973	65732	102330	167504	239360								
2200	16038	25872	40425	66477	103489	169400	242071								
2220	16219	26164	40881	67226	104656	171311	244801								
2240	16401	26458	41341	67982	105832	173236									
2260	16585	26754	41804	68744	107018	175177									
2280	16770	27053	42271	69511	108213	177133									
2300	16957	27354	42741	70285	109418	179105									
2320	17145	27658	43216	71066	110633	181094									
2340	17335	27965	43695	71853	111858	183100									
2360	17527	28274	44178	72647	113095	185124									
2380	17720	28585	44665	73448	114342	187166									
2400	17915	28900	45157	74257	115601	189226									
2420	18112	29218	45653	75073	116872	191307									
2440	18311	29539	46154	75897	118155	193407									
2460	18512	29863	46661	76730	119451	195529									
2480	18715	30190	47172	77571	120760	197672									
2500	18920	30521	47689	78421	122083	199837									
2520	19127	30855	48211	79279	123420	202026									
2540	19336	31193	48739	80148	124772	204238									
2560	19548	31535	49273	81026	126139	206476									
2580	19763	31880	49813	81914	127521	208739									
2600	19979	32230	50360	82813	128920	211029									
2620	20199	32584	50913	83722	130336	213347									
2640	20421	32943	51473	84643	131770	215694									
2660	20646	33306	52040	85576	133222	218071									
2680	20874	33673	52615	86521	134693	220479									
2700	21105	34046	53197	87479	136184	222919									
2720	21339	34424	53787	88450	137696										
2740	21577	34807	54386	89434	139229										
2760	21818	35196	54994	90434											
2780	22063	35591	55611	91448											
2800	22311	35992	56237	92478											
2820	22564	36399	56873	93524											
2840	22820	36813	57520	94587											
2860	23081	37233	58177	95668											
2880	23346	37661	58846	96768											
2900	23616	38097	59526	97887											

Water Capacities

USCS Units

Capacity in U. S. gallons per minute of water at 10% over-pressure. Valve discharging to atmospheric pressure.*

Capacities certified by National Board of Boiler and Pressure Vessel Inspectors and in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII

Set Pressure (psig)	Orifice letter													
	D	E	F	G	H	J	K	L	M	N	P	Q	R	T
1500	143	235	367	603	939	1538	2197	3407						
1550	145	239	373	613	955	1563	2233	3463						
1600	147	243	379	623	970	1588	2269	3518						
1650	150	246	385	633	985	1613	2304							
1700	152	250	391	642	1000	1637	2339							
1750	154	254	396	652	1015	1661	2373							
1800	156	257	402	661	1029	1684	2407							
1850	158	261	407	670	1043	1708	2440							
1900	160	264	413	679	1057	1730	2473							
1950	163	268	418	688	1071	1753	2505							
2000	165	271	424	697	1085	1775	2537							
2050	167	275	429	705	1098	1797	2569							
2100	169	278	434	714	1111	1819	2600							
2150	171	281	439	722	1125	1841	2630							
2200	173	284	444	731	1138	1862	2661							
2250	175	288	449	739	1150	1883	2691							
2300	177	291	454	747	1163	1904	2721							
2350	178	294	459	755	1176	1924	2750							
2400	180	297	464	763	1188	1945	2779							
2450	182	300	469	771	1200	1965								
2500	184	303	474	779	1213	1985								
2550	186	306	478	787	1225	2005								
2600	188	309	483	794	1237	2024								
2650	190	312	488	802	1248	2044								
2700	191	315	492	809	1260	2063								
2750	193	318	497	817	1272	2082								
2800	195	321	501	824	1283	2101								
2850	197	324	506	832	1295									
2900	198	327	510	839	1306									
2950	200	329	515	846	1317									
3000	202	332	519	853	1328									
3050	203	335	523	860										
3100	205	338	527	867										
3150	207	340	532	874										
3200	208	343	536	881										
3250	210	346	540	888										
3300	211	348	544	895										
3350	213	351	548	902										
3400	215	354	552	908										
3450	216	356	556	915										
3500	218	359	560	922										
3550	219	361	564	928										
3600	221	364	568	935										
3650	222	366	572	941										
3700	224	369	576	948										
3750	225	371	580	954										
3800	227	374	584	960										
3850	228	376	588	967										
3900	230	379	592	973										
3950	231	381	595	979										
4000	233	383	599	985										
4050	234	386	603											
4100	236	388	607											
4150	237	391	610											
4200	239	393	614											
4250	240	395	618											
4300	241	398	621											
4350	243	400	625											
4400	244	402	628											
4450	246	404	632											
4500	247	407	636											
4550	248	409	639											
4600	250	411	643											
4650	251	413	646											
4700	252	416	649											
4750	254	418	653											
4800	255	420	656											
5000	260	429	670											
5200	265	437	683											
5400	271	446	696											
5600	275	454												
5800	280	462												
6000	285	470												

Air Capacities

SI Units

Capacity in standard cubic meter of air per minute at 16 °C and 10% overpressure. Valve discharging to atmospheric pressure.*

Capacities certified by National Board of Boiler and Pressure Vessel Inspectors and in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII

Set Pressure (barg)	Orifice letter													
	D	E	F	G	H	J	K	L	M	N	P	Q	R	T
150	150,0	241,9	378,0	621,6	967,7	1584,0	2263,5							
152	152,0	245,1	383,0	629,8	980,5	1605,0	2293,5							
154	153,9	248,3	388,0	638,1	993,3	1626,0								
156	155,9	251,5	393,0	646,3	1006,1	1646,9								
158	157,9	254,7	398,0	654,5	1019,0	1667,9								
160	159,9	257,9	403,0	662,8	1031,8	1688,9								
162	161,9	261,2	408,1	671,0	1044,6	1709,9								
164	163,9	264,4	413,1	679,2	1057,4	1730,9								
166	165,9	267,6	418,1	687,5	1070,3	1751,9								
168	167,8	270,8	423,1	695,7	1083,1	1772,9								
170	169,8	274,0	428,1	704,0	1095,9	1793,9								
172	171,8	277,2	433,1	712,2	1108,7	1814,9								
174	173,8	280,4	438,1	720,4	1121,6	1835,9								
176	175,8	283,6	443,1	728,7	1134,4	1856,9								
178	177,8	286,8	448,1	736,9	1147,2	1877,8								
180	179,8	290,0	453,1	745,1	1160,0	1898,8								
182	181,8	293,2	458,1	753,4	1172,8	1919,8								
184	183,7	296,4	463,2	761,6	1185,7	1940,8								
186	185,7	299,6	468,2	769,9	1198,5	1961,8								
188	187,7	302,8	473,2	778,1	1211,3									
190	189,7	306,0	478,2	786,3										
192	191,7	309,2	483,2	794,6										
194	193,7	312,4	488,2	802,8										
196	195,7	315,7	493,2	811,0										
198	197,7	318,9	498,2	819,3										
200	199,6	322,1	503,2	827,5										
205	204,6	330,1	515,7	848,1										
210	209,6	338,1	528,3	868,7										
215	214,6	346,1	540,8	889,3										
220	219,5	354,1	553,3	909,9										
225	224,5	362,1	565,8	930,5										
230	229,5	370,2	578,4	951,1										
235	234,4	378,2	590,9	971,7										
240	239,4	386,2	603,4	992,3										
245	244,4	394,2	615,9	1012,9										
250	249,3	402,2	628,5	1033,4										
255	254,3	410,2	641,0	1054,0										
260	259,3	418,2	653,5											
265	264,2	426,3	666,0											
270	269,2	434,3	678,5											
275	274,2	442,3	691,1											
280	279,1	450,3	703,6											
285	284,1	458,3	716,1											
290	289,1	466,3	728,6											
295	294,0	474,3	741,2											
300	299,0	482,4	753,7											
305	304,0	490,4	766,2											
310	308,9	498,4	778,7											
315	313,9	506,4	791,3											
320	318,9	514,4	803,8											
325	323,9	522,4	816,3											
330	328,8	530,4	828,8											
335	333,8	538,5	841,3											
340	338,8	546,5	853,9											
345	343,7	554,5												
350	348,7	562,5												
355	353,7	570,5												
360	358,6	578,5												
365	363,6	586,5												
370	368,6	594,6												
375	373,5	602,6												
380	378,5	610,6												
385	383,5	618,6												
390	388,4	626,6												
400	398,4	642,7												

Saturated Steam Capacities

SI Units

Capacity in kilograms per hour of steam at 10% over-pressure. Valve discharging to atmospheric pressure.*

Capacities certified by National Board of Boiler and Pressure Vessel Inspectors and in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII

Set Pressure (barg)	Orifice letter													
	D	E	F	G	H	J	K	L	M	N	P	Q	R	T
76	3441	5551	8674	14264	22205	36348	51941	80534						
77	3486	5624	8787	14449	22494	36821	52616	81581						
78	3531	5696	8900	14635	22783	37293	53291	82628						
79	3575	5768	9012	14820	23071	37766	53967	83675						
80	3620	5840	9125	15006	23360	38238	54642	84722						
81	3665	5912	9238	15191	23649	38711	55317	85769						
82	3710	5984	9351	15376	23938	39183	55992	86816						
83	3754	6057	9463	15562	24226	39656	56668	87863						
84	3799	6129	9576	15747	24515	40128	57343	88910						
85	3844	6201	9689	15933	24804	40601	58018	89957						
86	3889	6273	9802	16118	25092	41073	58693	91004						
87	3933	6345	9914	16304	25381	41546	59369	92051						
88	3978	6417	10027	16489	25670	42018	60044	93098						
89	4023	6490	10140	16674	25958	42491	60719	94145						
90	4068	6562	10253	16860	26247	42963	61394	95192						
91	4112	6634	10365	17045	26536	43436	62069	96239						
92	4157	6706	10478	17231	26824	43909	62745	97286						
93	4202	6778	10591	17416	27113	44381	63420	98333						
94	4231	6826	10666	17539	27304	44694	63867	99026						
95	4280	6904	10787	17739	27615	45203	64595	100154						
96	4328	6982	10909	17939	27927	45714	65324	101285						
97	4376	7060	11031	18140	28240	46225	66055	102419						
98	4425	7138	11154	18341	28553	46738	66788	103556						
99	4474	7217	11276	18543	28867	47253	67523	104695						
100	4522	7296	11399	18745	29182	47768	68260	105837						
102	4620	7454	11646	19151	29814	48803	69739	108131						
104	4719	7613	11895	19560	30450	49843	71226							
106	4818	7772	12144	19970	31089	50889	72720							
108	4918	7933	12395	20383	31731	51941	74223							
110	5018	8094	12647	20798	32378	52999	75734							
112	5118	8257	12901	21215	33027	54062	77254							
114	5220	8420	13157	21635	33681	55132	78784							
116	5322	8585	13414	22058	34339	56209	80322							
118	5424	8750	13672	22483	35001	57293	81870							
120	5527	8917	13932	22911	35667	58383	83429							
122	5631	9084	14194	23342	36338	59481	84997							
124	5736	9253	14458	23775	37013	60586	86577							
126	5841	9423	14724	24212	37693	61699	88167							
128	5948	9594	14991	24652	38378	62820	89769							
130	6055	9767	15261	25095	39068	63950	91384							
132	6162	9941	15533	25542	39763	65088	93011							
134	6271	10116	15806	25993	40464	66236	94650							
136	6380	10293	16082	26447	41171	67393	96303							
138	6491	10471	16361	26904	41884	68560	97971							
140	6602	10651	16642	27366	42603	69737	99653							
142	6715	10832	16925	27832	43328	70924	101350							
144	6828	11015	17211	28303	44061	72123	103062							
146	6943	11200	17500	28778	44800	73333	104792							
148	7059	11387	17792	29257	45547	74555	106538							
150	7175	11575	18086	29742	46301	75790	108303							
152	7294	11766	18384	30231	47063	77038	110086							
154	7413	11958	18685	30726	47834	78299								
156	7534	12153	18990	31227	48613	79575								
158	7656	12350	19298	31733	49402	80865								
160	7780	12550	19609	32246	50200	82172								
162	7905	12752	19925	32765	51008	83494								
164	8032	12957	20245	33291	51826	84834								
166	8160	13164	20569	33824	52656	86192								
168	8291	13374	20897	34364	53497	87569								
170	8423	13587	21230	34912	54350	88965								
172	8557	13804	21569	35468	55216	90382								
174	8693	14024	21912	36033	56095	91821								
176	8832	14247	22261	36607	56988	93284								
178	8972	14474	22616	37190	57896	94770								
180	9116	14705	22977	37784	58820	96283								
182	9261	14940	23344	38388	59761	97822								
184	9410	15180	23718	39003	60719	99390								
186	9561	15424	24100	39630	61695	100988								
188	9716	15673	24489	40270	62691									
190	9873	15927	24886	40923										
192	10034	16187	25292	41590										
194	10199	16452	25707	42273										
196	10367	16724	26131	42971										
198	10540	17003	26567	43687										
200	10717	17288	27013	44421										

Water Capacities

SI Units

Capacity in liters per minute of water at 10% overpressure. Valve discharging to atmospheric pressure.*

Capacities certified by National Board of Boiler and Pressure Vessel Inspectors and in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII

Set Pressure (barg)	Orifice letter													
	D	E	F	G	H	J	K	L	M	N	P	Q	R	T
150	650	1070	1673	2750	4282	7009	10015							
152	654	1078	1684	2769	4310	7055	10082							
154	659	1085	1695	2787	4338	7101	10148							
156	663	1092	1706	2805	4366	7147	10214							
158	667	1099	1717	2823	4394	7193	10279							
160	671	1106	1727	2841	4422	7238	10344							
162	675	1112	1738	2858	4450	7284	10408							
164	680	1119	1749	2876	4477	7328	10472							
166	684	1126	1759	2893	4504	7373								
168	688	1133	1770	2911	4531	7417								
170	692	1140	1781	2928	4558	7461								
172	696	1146	1791	2945	4585	7505								
174	700	1153	1801	2962	4611	7549								
176	704	1159	1812	2979	4638	7592								
178	708	1166	1822	2996	4664	7635								
180	712	1173	1832	3013	4690	7678								
182	716	1179	1842	3030	4716	7720								
184	720	1186	1852	3046	4742	7762								
186	724	1192	1862	3063	4768	7804								
188	728	1198	1872	3079	4793	7846								
190	731	1205	1882	3095	4819	7888								
192	735	1211	1892	3112	4844	7929								
194	739	1217	1902	3128	4869									
196	743	1224	1912	3144	4894									
198	747	1230	1922	3160	4919									
200	750	1236	1931	3176	4944									
202	754	1242	1941	3192	4969									
204	758	1248	1950	3207	4993									
206	762	1254	1960	3223	5018									
208	765	1260	1970	3239										
210	769	1267	1979	3254										
212	773	1273	1988	3270										
214	776	1279	1998	3285										
216	780	1284	2007	3300										
218	783	1290	2016	3316										
220	787	1296	2026	3331										
222	791	1302	2035	3346										
224	794	1308	2044	3361										
226	798	1314	2053	3376										
228	801	1320	2062	3391										
230	805	1325	2071	3406										
232	808	1331	2080	3420										
234	812	1337	2089	3435										
236	815	1343	2098	3450										
238	819	1348	2107	3464										
240	822	1354	2116	3479										
245	831	1368	2138	3515										
250	839	1382	2159	3551										
255	847	1396	2181	3586										
260	856	1409	2202	3621										
265	864	1423	2223	3656										
270	872	1436	2244	3690										
275	880	1449	2265	3724										
280	888	1462	2285											
285	896	1475	2305											
290	904	1488	2326											
295	911	1501	2346											
300	919	1514	2365											
305	927	1526	2385											
310	934	1539	2404											
315	942	1551	2424											
320	949	1563	2443											
325	957	1576	2462											
330	964	1588	2481											
335	971	1600	2499											
340	978	1612	2518											
345	986	1623	2537											
350	993	1635	2555											
355	1000	1647	2573											
360	1007	1658	2591											
365	1014	1670	2609											
370	1021	1681	2627											
380	1034	1704												
390	1048	1726												
400	1061	1748												

