SARASIN-RSBD®

SAFETY VALVES
STARECO™

TRILLIUM FLOW TECHNOLOGIES™

TRILLIUMFLOW.COM

INTRODUCTION

Trillium provides critical service and safety valves, specialized pumps, and service support to flow control and rotating equipment.
Our worldwide reputation is based on engineering excellence applied to a comprehensive range of specialized products and effective customer support. We have the capability to deliver complete valve solutions for major projects in the power generation, oil and gas exploration, and general industrial sectors. Our global network of service operations specializes in the maintenance, upgrade, and management of power and industrial assets at customer sites.

A Comprehensive Range of Premier Safety Valves

The Sarasin-RSBD® portfolio addresses a wide range of industrial applications in which protective action against overpressure is required. Sarasin-RSBD® products are recognized globally for their quality, innovative design, and durability. Today, our state-of-the-art facility in Vendin-le-Vieil, France, manufactures the following Sarasin- RSBD Pressure Relief Valves:

- Direct spring-loaded pressure relief valves
- Pilot operated pressure relief valves for general applications
- Safety valves for steam service
- Changeover valves

Safety Comes First, Always

End users who need safety valves that provide optimum performance, safety and reliability – turn to Sarasin-RSBD. We're especially focused on manufacturing the top safety valves and backup devices for your industry.

Applications

Stareco™(76E series) pilot operated pressure relief valve is designed using the concepts of safety, high integrity performance, interchangeability, and simplicity. This range is manufactured for use in power plants and especially Economizer application.

Due to the demanding nature of the Economizer application where a standard safety valves would have to relieve not only steam but also water, the ASME Code changed in 2010 to incorporate Code Case 2446.

From July 2013, Pilot Operated Safety Relief Valves Stareco™ (76E Series) are promoted for Economizer service applications and are dual certified for steam and liquid.

The Stareco™ (76E Series) satisfies all requirements of

ASME Section I PG-67 through PG-73 described hereto.

Boiler

Set Pressure test up to 90 barg "live" steam. For pressure above the production test equipment capabilities, PG-73.5.2.2 is followed.

A primary vessel
- Capacity: 1000L
- Design Pressure: 100 barg
- Design Temperature: 600°C

A secondary vessel
- Capacity: 1000L
- Design Pressure: 100 barg
- Design Temperature: 310°C

Fully equipped workshop facility

- Hydrostatic test benches up to 103.4 MPa [15,000 psig]
- Welding and overlay equipment
- Lapping and polishing machines
- Steam test bench online safety valve testing
- Painting and dye penetrant inspection

Quality assurance

Trillium operates quality programs to cover the full scope of its activities. Comprehensive quality systems have been developed to serve the power, oil and gas, and industrial. The company holds approvals to or complies with:

- ASME Section I 'V'
- ASME Section III 'N', 'NPT', 'NV'
- ASME Section VIII Division 1 'UV'
- ISO 9001: 2015
- ISO 14001: 2015
- ISO 45001: 2018
- API Q1 TO API LICENCES API 6D (6D-0182) AND API 6A (6A-0445)
- API STD 520/526/527/2000
- ISO 4126
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The quality systems have been approved for the supply of products to meet the requirements of the Pressure Equipment Directive (PED) and compliance modules A, D1, H, B+D have been applied in categories I through IV respectively. The company is committed to compliance with legislation and has an established environment and health and safety policy. An ongoing commitment to customer care is met through the process of continuous improvement and the further development of our systems and processes towards meeting ISO 9001:2015.

Table of Contents:

ASME has set the bar for steam safety with Section I code. Our products have been tested and approved to meet these standards...

ASME Code Section I—PG-67 Boiler

PG-67.1 Each boiler shall have at least one pressure relief valve. Boilers with more than 500 ft² (47m²) of bare tube water-heating surface shall have two or more pressure relief valves.

PG-67.2 The total combined relieving capacity for each boiler shall be such that all the steam that can be generated by the boiler is discharged without allowing the pressure to rise more than 6% above the highest pressure at which any valve is set and in no case to more than 6% above the maximum allowable working pressure (MAWP).

PG-67.2.1.1.2 The minimum required relieving capacity of the pressure relief valves shall not be less than the maximum designed steaming capacity at the MAWP of the boiler.

PG-67.2.1.6 Any economizer that may be shut off from the boiler, thereby permitting the economizer to become a fired pressure vessel, shall have one or more pressure relief valves.

PG-67.3 One or more pressure relief valves on the boiler proper shall be set at or below the MAWP. If additional valves are used the highest pressure setting shall not exceed the MAWP more than 3%. The complete range of pressure settings of all the saturated-steam pressure relief valves on a boiler shall not exceed 10% of the highest pressure to which any valve is set. Pressure setting of pressure relief valves on high-temperature water boilers* may exceed the 10% range. Economizer pressure relief devices required by PG-67.2.1.6 shall be set as above using the MAWP of the economizer.

ASME Code Section I—PG-68 Superheater and Reheater

PG-68.1 Every attached superheater shall have one or more pressure relief valves in the steam flow path between the superheater outlet and the first stop valve.

ASME Code Section I—PG-69 Certification of Capacity of PRVs

PG-69.1.1 For steam service, capacity certification tests shall be conducted using dry saturated steam.

PG-69.1.4 For steam service, capacity certification tests shall be conducted at a pressure that does not exceed the set pressure by 3% or 2 psi (15 kPa), whichever is greater. Pressure relief valves shall be adjusted so that the blowdown does not exceed 4% of the set pressure.

For liquid service, capacity certification tests shall be conducted at a pressure that does not exceed the set pressure by 10% or 3psi (20 kPa), whichever is greater.

PG-69.1-5 Capacity certification of pilot-operated pressure relief valves may be based on tests without the pilot valves installed, provided prior to capacity tests it has been demonstrated by test to the satisfaction of the Authorized Observer that the pilot valve will cause the main valve to open fully at a pressure which does not exceed the set pressure by more than the required overpressure per PG-69.1.4, and that the pilot valve in combination with the main valve will meet all of the requirements of this Section.

ASME Code Section I—PG-70 Capacity of PRVs

PG-70.1 Subject to the minimum number required by PG- 67.1, the number of pressure relief valves required shall be determined on the basis of the maximum designed steaming capacity, as determined by the boiler Manufacturer, and the relieving capacity marked on the valves by manufacturer.

ASME Code Section I—PG-71 Mounting

PG-71.1 When two or more pressure relief valves are used on a boiler, they may be mounted either separately or as a twin valves made by placing individual valves on Y-bases, or duplex valves having two valves in the same body casing.

When not more than two valves of different sizes are mounted singly on the same component (e.g., drum, economizer, superheater, etc.) the relieving capacity of the smaller valve shall be not less than 50% of that of the larger valve.

ASME Code Section I—PG-72 Operation of PRVs

PG-72.1 Pressure relief valves shall be designed and constructed to operate without chattering, with a minim blowdown of 2psi (15kPa) or 2% of the set pressure, whichever is greater, and to attain full lift at a pressure not greater

than 3% above the set pressure

PG-72.2 The set pressure tolerance plus or minus shall not exceed that specified in the following table

Set Pressure, psi (MPa)	Tolerance, Plus or Minus From Set Pressure
≤ 70 (0.5)	2 psi (15 kPa)
> 70 (0.5) and ≤ 300 (2.1)	3% of set pressure
> 300 (2.1) and ≤ 1,000 (7.0)	10 psi (70 kPa)
> 1,000 (7.0)	1 % of set pressure

… to provide you reassurance and peace of mind.

ASME Code Section I—PG-73 Minimum Requirement for PRVs

PG-73.1.1 Pressure relief valves shall be either direct spring-loaded safety valves, direct spring-loaded safety relief valves, or pilot-operated pressure relief valves.

PG-73.2.4 To provide a means for verifying whether it is free, each safety valve or safety relief valve shall have a substantial lifting device, which when activated will release the seating force on the disk when the valve is subjected to pressure of at least 75% of the set pressure.

Pilot-operated pressure relief valves shall be provided with either a lifting device as described above or means for connecting and applying pressure to the pilot adequate to verify that the moving parts critical to proper operations are free to move. For high-temperature water boilers, the lifting mechanism shall be sealed against leakage.

PG-73.2.5 The seat of a pressure relief valve shall be fastened to the body of the valve in such a way that there is no possibility of the seat lifting

PG-73.2.6 A body drain below seat level shall be provided in the valve and this drain shall not be plugged during or after field installation.

PG-73.2.9 Means shall be provided in the design of all valves for use under this Section, for sealing all external adjustments.

PG-73.2.10 Valve capacity may be restricted by restricting lift of a valve provided the following requirements are met:

(d) The lift restraining device shall be designed so that, if adjustable, the adjustable feature can be sealed. Seals shall be installed by the valve manufacturer or assembler at the time of initial adjustment.

(e) Valves shall not have their lifts restricted to a value less than 30% of full rated lift, or 0.080 in. (2 mm).

PG-73.2.11 A pressure relief valve over NPS 3 (DN80), used for pressure greater than 15 psig (100 kPa), shall have a flanged inlet connection or a welded inlet connection.

PG-73.2.12 The pilot sensing line of pilot-operated pressure relief valves shall be adequately protected from freezing.

** Pressure relief valves in hot water service are more susceptible to damage and subsequent leakage, than pressure relief valves relieving steam. It is recommended that the MAWP of the boiler and the pressure relief valve setting for high temperature water boilers be selected substantially higher than the desired operating pressure so as to minimize the times the pressure relief valve must lift*

ASME Code Section I—PG-73.5 Testing by Manufacturers or Assemblers

PG-73.5.1 Pressure Testing. Each pressure relief valve to which the Certification Mark is to be applied shall be subjected to the following tests by the manufacturer or assembler:

(a) The pressure-containing parts of each valve shall be hydrostatically tested at a pressure at least 1.5 times the design pressure of the parts.

PG-73.5.2 Every valve shall be tested by the manufacturer or assembler to demonstrate its set point and pressurecontaining integrity.

(a) Pressure relief valves for steam service shall be tested with steam. The blowdown control elements of the pressure relief valve shall be set to the manufacturer's specifications.

PG-73.5.2.2 When the valve is beyond the production test equipment capabilities, an alternative test method presented in PG-73.5.2.2.1 or PG-73.5.2.2.2 may be used, provided all of the following conditions are met:

(a) Testing the valve at full pressure may cause damage to the valve, or testing of the valve is impractical due to boiler system operational safety considerations

(b) The valve lift has been mechanically verified to meet or exceed the required lift

(c) The blowdown control elements of the safety valve are set to the valve manufacturer's specification

(d) The valve design is compatible with the alternative test method selected

PG-7.5.2.2.1 The valve, with its lift temporarily restricted during the test, if required to prevent valve damage, shall be tested on steam to demonstrate set pressure

PG-73.5.2.2.2 The valve may be fitted with an auxiliary lift assist device and tested on steam at a pressure less than the valve set pressure. The lift assist device and test procedure shall be calibrated to provide the set pressure setting within the tolerance of PG-72.2

PG-73.5.3 (a) After completion of the tests required by PG-73.5.2, a seat tightness test shall be conducted.

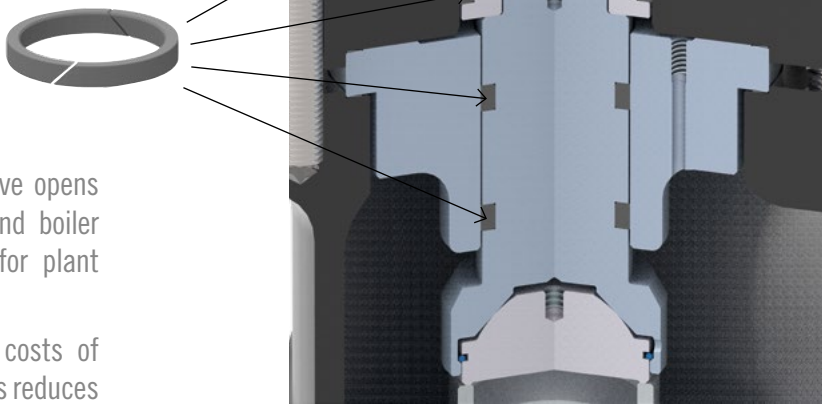
(1) For steam service pressure relief valves, the seat tightness shall be conducted using steam at the maximum expected operating pressure but at a pressure not exceeding the reseating pressure of the valve. When being tested, a valve exhibiting no sign of leakage shall be considered adequately tight.

Stareco (76E Series): Key Features & Benefits...

Anti-seizing design

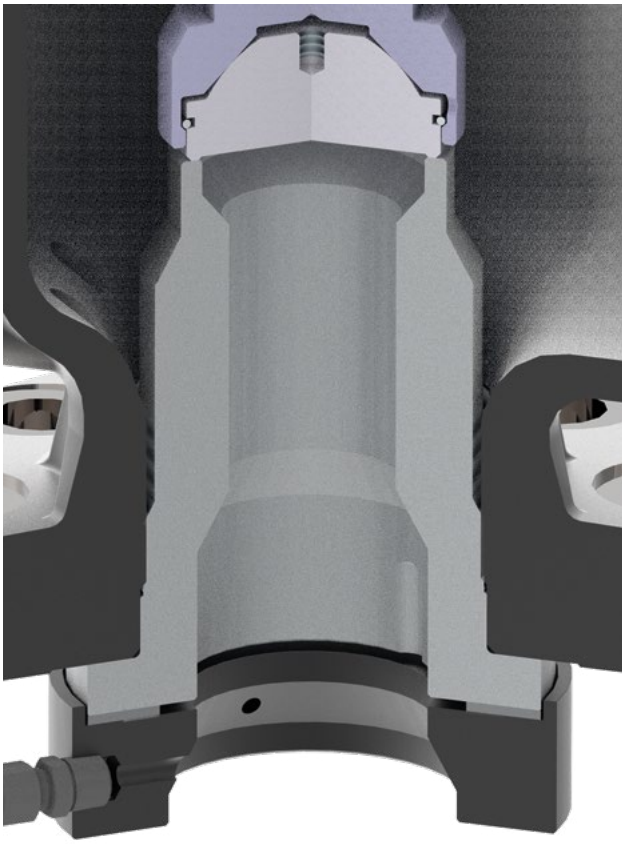
Stareco™ (76E Series) pilot operated pressure relief valves provide a unique use of special gliding rings named Thermoglide ™. This feature allows no metal contact between the disc-holder (piston) and the guide where seizing of similar materials normally occur.

"Hang-up" of guiding surfaces associated with comparable valves is simply eliminated with this unique feature; the first safety valve in the world to offer this technology to prevent such kind of failure. This new design and material is based on our extensive experience in nuclear applications where seizing is not allowed at any time.



Thermoglide™ design improves the gliding characteristics enabling the valve to quickly reach full lift and re-seat. The use of the Thermoglide™ rings improves valve response times when the valve opens and closes. Steam loss is significantly reduced and boiler efficiency is improved resulting in cost savings for plant operations.

It also reduces downtime, preventing unplanned costs of maintenance activities; gliding coefficient of the rings reduces friction and galling, extending the spare parts life cycle.



Leak-tight performances

A proven reliable disc design named Stardisc™ allow to achieve a tighness up to 96% of the set pressure. The lip of the disc guarantees perfect seat tightness due to its flexibility at high temperatures. Temperature differential between the steam process media and ambient temperature in the body bowl cause a downward axial deflection providing more contact stress on the nozzle seat, thus creating greater seat tightness at elevated temperature. The higher pressure and temperature, the better tightness.

Starsdisc™ is constructed in Alloy 718, a high durability material providing a long lifespan.

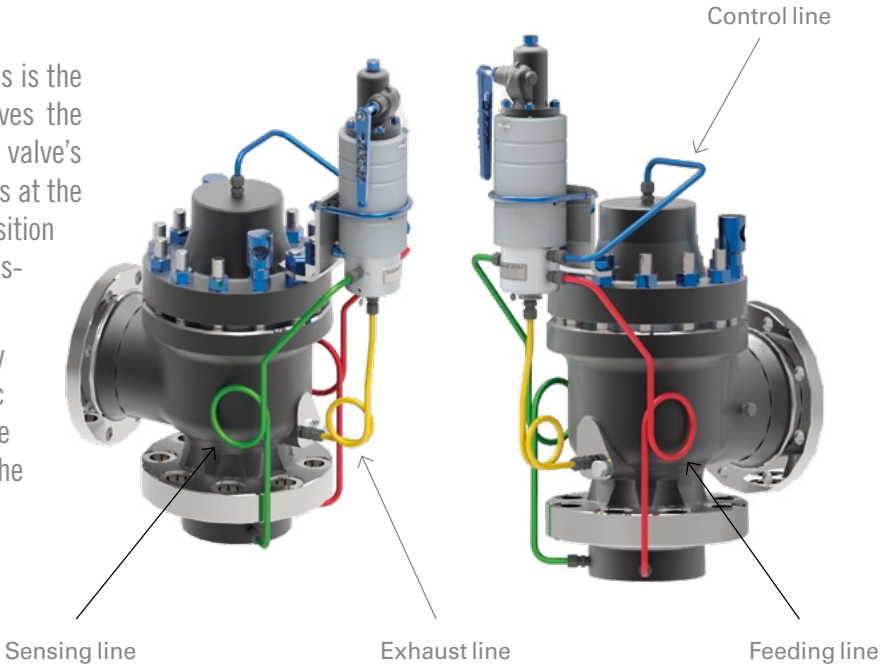
Full nozzle design

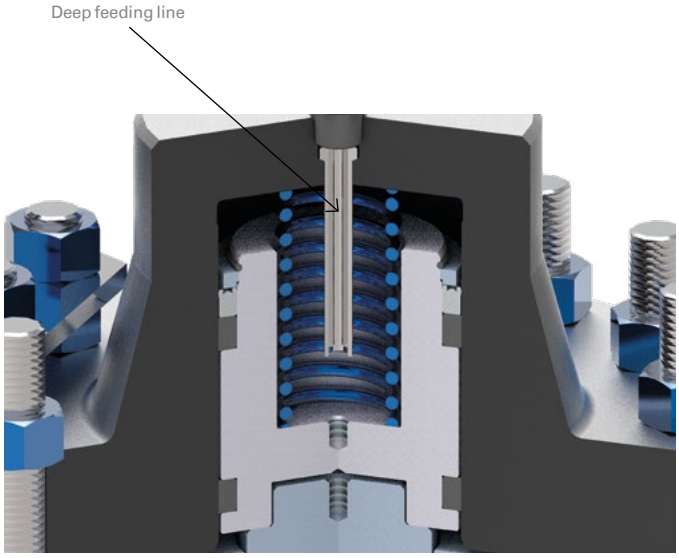
The Full-Nozzle offers the proven benefit of protecting the body against corrosive flowing media. This option enhances not only the premium performance and interchangeability of parts but also reduces the cost of the valve by eliminating the need to use an upgraded body material. This is the best option for easy lapping as well.

Both pressure lines

First, the GREEN LINE represents the sensing line. This is the main line where the residual static pressure improves the overall stability of the pilot valve and secures the main valve's balanced position. No matter the value of pressure loss at the inlet, the main valve piston maintains its balanced position between the dome and feeding pressure once the sensing line pressure is activated.

Next, the BLUE LINE and the RED LINE are respectively called the control and the feeding lines. The dynamic pressure in these lines charges the dome, adjusting the volume to meet operational requirements from the system.





Deep feeding line

Stareco™ (76E Series) pilot operated pressure relief valves utilize a deep feeding line to sense water that condensate on the dome

Cooling coil & buffer tank

Cooling coil and additional buffer tanks are used to protect against high temperature.

Buffer tank is mandatory as soon as the temperature (relieving/design or operating) exceed 260°C.

Non-flowing pilot

The DCS-E pilot is a non-flowing pilot.

This means there is no pilot flow when it is in a stable position. However, any fluid which might be localized within the dome must be discharged through the nozzle exhaust either to atmosphere or to the body bowl at the point when the pilot becomes unbalanced.

Stareco (76E Series) : Some figures

Stareco™ (76E Series) pilot operated pressure relief valves are designed to meet the rigorous process conditions which are essential for supercritical steam boilers. The valves are designed to provide repeatability particularly at high pressure and high temperatures.

A key benefit of this valve is a uniquely engineered internal design that provides a fast response for overpressure and blowdown requirements which are demanded by ASME BPVC Section I code of practice.

Stareco™ (76E Series) pilot operated pressure relief valves can be stamped according the ASME B&PV Code Section I (V). The valves have not only been capacity tested and certified by the National Board of Pressure Vessel Inspectors but also meet the requirements of ISO 4126 part 1.

The flow capacity tested by the US National Board and carrying the ASME "V" code stamp is valid for both : liquid and steam application.

Product Name	STARECO™
Inlet sizes	1" through 12"
Inlet ratings	ANSI Class 150 through 1500 FLANGED (B16.5)
Orifice sizes	Seventeen sizes - [D] to [W]
Set pressure range	Up to 461 barg
Temperature range	Up to 330°C
Materials	SA 216 Gr. WCC SA 217 Gr. WC6 SA 351 Gr. CF8M
NB Certificate	44031
Design STD	ASME BPVC section I

Stareco™ (76E Series) - Flanged Inlet Table

Outlet Size Combinations (in) - Orifice Area (cm^2 - in^2)																				
in^2	0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63	Rating ASME B16.5	
cm^2	0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612		
Orifice	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V (non certified)	W	Inlet	Outlet
	7E12D11	7E12E11	7E72F11	7E73G11	7E73H11	7E23J11	7E34K11	7E34L11	7E46M11	7E46N11	7E46P11	7E68Q11	7E68R11	7E89S11	7E89T11	7E9BU11	7E9BV11	7EAAW1	150	150
	1x2	1x2	1 1/2x2	1 1/2x3	1 1/2x3	2x3	3x4	3x4	4x6	4x6	4x6	6x8	6x8	8x10	8x10	10x14	10x14	12x12 (dual)		
	7E12D21	7E12E21	7E72F21	7E73G21	7E73H21 7E23H21	7E23J21 7E34J21	7E34K21	7E34L21 7E46L21	7E46M21	7E46N21	7E46P21	7E68Q21	7E68R21 7E69R21	7E89S21	7E89T21	7E9BU21	7E9BV21	7EAAW1	300	150/300
	1x2	1x2	1 1/2x2	1 1/2x3	1 1/2x3 2x3	2x3 3x4	3x4	3x4 4x6	4x6	4x6	4x6	6x8	6x8 6x10	8x10	8x10	10x14	10x14	12x12 (dual)		
	7E12D31	7E12E31	7E72F31	7E73G31	7E23H31	7E34J31	7E34K31	7E46L31	7E46M31	7E46N31	7E46P31	7E68Q31	7E69R31						600	150/300
	1x2	1x2	1 1/2x2	1 1/2x3	2x3	3x4	3x4	4x6	4x6	4x6	4x6	6x8	6x10		-		-	-		
	7E72D42	7E72E42	7E73F42	7E73G42	7E23H41	7E34J41 7E34J42	7E36K41 7E36K42	7E46L41 7E46L42	7E46M41 7E46M42	7E46N41 7E46N42	7E46P41 7E46P42								900	150 (from H Orifice) /300
	1 1/2x2	1 1/2x2	1 1/2x3	1 1/2x3	2x3	3x4	3x6	4x6	4x6	4x6	4x6	-	-		-		-	-		
	7E72D52	7E72E52	7E73F52	7E23G52	7E23H52	7E34J52	7E36K52	7E46L52											1500	300
	1 1/2x2	1 1/2x2	1 1/2x3	2x3	2x3	3x4	3x6	4x6	-	-	-	-	-		-		-	-		
	7E73D62	7E73E62	7E73F62	7E23G62	7E23H62	7E36J62	7E36K62												2500	300
	1 1/2x3	1 1/2x3	1 1/2x3	2x3	2x3	3x6	3x6	-	-	-	-	-	-		-		-	-		

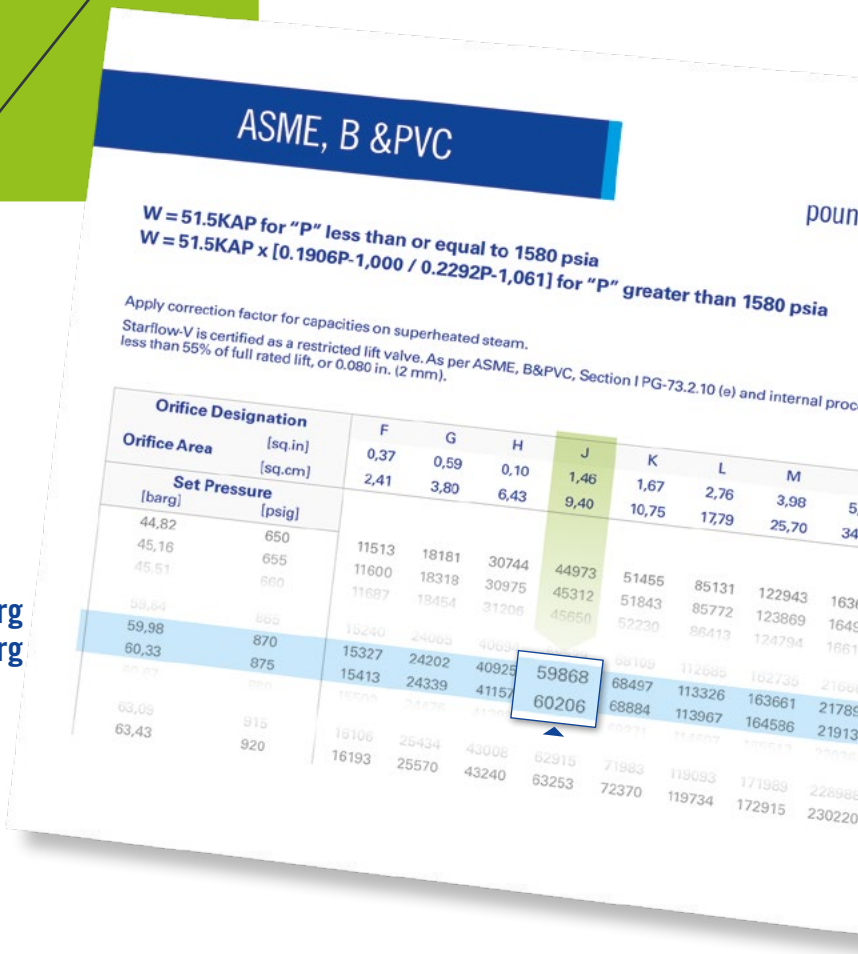
Valve Selection

To assist in reading and understanding the different chapters of this document, here is an example of valve selection based on standard input data, split into 4 detailed steps.

1 **Select valve orifice on saturated conditions**

Determine the required orifice designation by using the appropriate capacity table. Based on the set pressure value, select the next size orifice so that valve relieving capacity will be able to exceed the capacity requirement.

Orifice J can discharge 59868 lb/h @ 59.98 barg and 60206 lb/h @ 60.33 barg



ASME, B &PVC

W = 51.5KAP for "P" less than or equal to 1580 psia
W = 51.5KAP x [0.1906P-1,000 / 0.2292P-1,061] for "P" greater than 1580 psia

Apply correction factor for capacities on superheated steam.

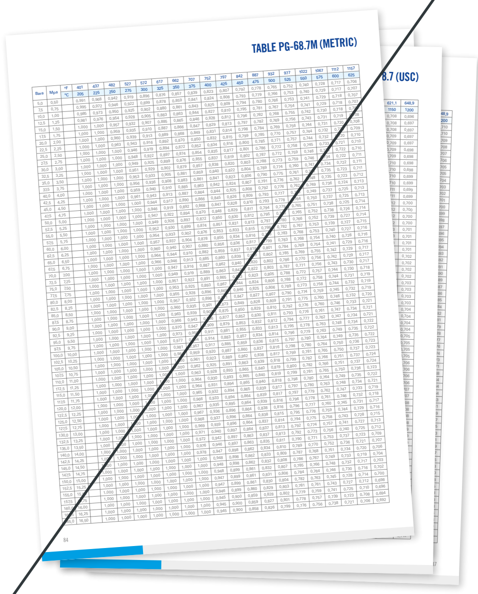
Starflow-V is certified as a restricted lift valve. As per ASME, B&PVC, Section I PG-73.2.10 (e) and internal proc

Orifice Designation		F	G	H	J	K	L	M
Orifice Area	[sq.in]	0,37	0,59	0,10	1,46	1,67	2,76	3,98
	[sq.cm]	2,41	3,80	6,43	9,40	10,75	17,79	25,70
Set Pressure [barg]	[psig]							
44,82	650	11513	18181	30744	44973	51455	85131	122943
45,16	655	11600	18318	30975	45312	51843	85772	123869
45,51	660	11687	18454	31206	45650	52230	86413	124794
59,98	870	15327	24202	40925	59868	68497	113326	163661
60,33	875	15413	24339	41157	60206	68884	113967	164586
63,09	915	16106	25434	43008	62915	71983	119093	171989
63,43	920	16193	25570	43240	63253	72370	119734	172915

WE ARE DEALING WITH A "SAFETY" PRODUCTS, THEREFORE WE ARE PROVIDING "SAFETY" and the linear interpolation method must be performed to define the accurate relieving capacity at the set pressure value; i.e 59887.314 lb/h @ 60 barg.

2 If applicable, apply superheat correction factor

If applicable, correct the valve capacity for superheat conditions. Multiply the saturated capacity by the correct superheat correction factor. The correct capacity must meet or exceed the capacity requirement. (Cf. ASME Code Section I § PG-68.7)



In this example :

P1 (Metric Units) = 60*1.03 (overpressure) + 1.013 (atmospheric pressure) = 62.813 bara

P1 (English Units) = 870.2264*1.03 (overpressure) + 14.7 (atmospheric pressure) = 911 psia

Based on the relieving pressure value, I select the superheat correction factor.

By the same, we are dealing with a safety products and then, the linear interpolation must be performed to define the accurate superheat correction factor; i.e. 0.740 à 62.813 bara

The correct flow capacity of the safety valve is reduced to only 44316.6 lb/h (59887*0.740).

This is insufficient compared to meet the capacity requirement of 50,000 lb/h and I'm now back to square one...

Orifice K can discharge 68497 lb/h @ 59.98 barg et 68884 lb/h @ 60.33 barg.

By linear interpolation method, the relieving capacity at the set pressure value is 68519.114 lb/h @ 60 barg on saturated steam conditions.

After applying the superheat correction factor, the correct relieving capacity at the set pressure value is 50704.1 lb/hr (68519.114*0.740) on this specific superheated steam conditions.

Kindly note the PRESSURE TEMPERATURE CLASS SECTION is based on the hypothesis that temperature at valve outlet is lower than the temperature at valve inlet. Otherwise, you can use the PRESSURE TEMPERATURE CLASS ALTERNATE SECTION.

Orifice Designation		F	G	H	J	K	L	M	N	P	Q	R	T	V
Orifice Area	[sq.in]	0,37	0,59	0,10	1,46	1,67	2,76	3,98	5,30	7,07	10,15	14,17	24,00	38,55
	[sq.cm]	2,41	3,80	6,43	9,40	10,75	17,79	25,70	34,21	45,61	65,47	91,44	154,82	248,70
Set Pressure [barg]	[psig]													
44,82	650	11513	18181	30744	44973	51455	85131	122943	163688	218199	313238	437478	740715	1189861
45,16	655	11600	18318	30975	45312	51843	85772	123869	164920	219841	315596	440771	746291	1198817
45,51	660	11687	18454	31206	45650	52230	86413	124794	166152	221484	317954	444064	751866	1207773
59,64	865	15240	24065	40694	5952[illegible]	[illegible]	112685	162735	216667	288822	414622	579073	-	-
59,98	870	15327	24202	40925	5986[illegible]	68497	113326	163661	217899	290464	416980	582366	-	-
60,33	875	15413	24339	41157	6020[illegible]	68884	113967	164586	219131	292106	419337	585659	-	-
63,09	915	16106	25434	43008	62915	71983	119093	171989	228988	305246	438199	612002	-	-
63,43	920	16193	25570	43240	63253	72370	119734	172915	230220	306888	440557	615295	-	-

3 Material & inlet rating selection

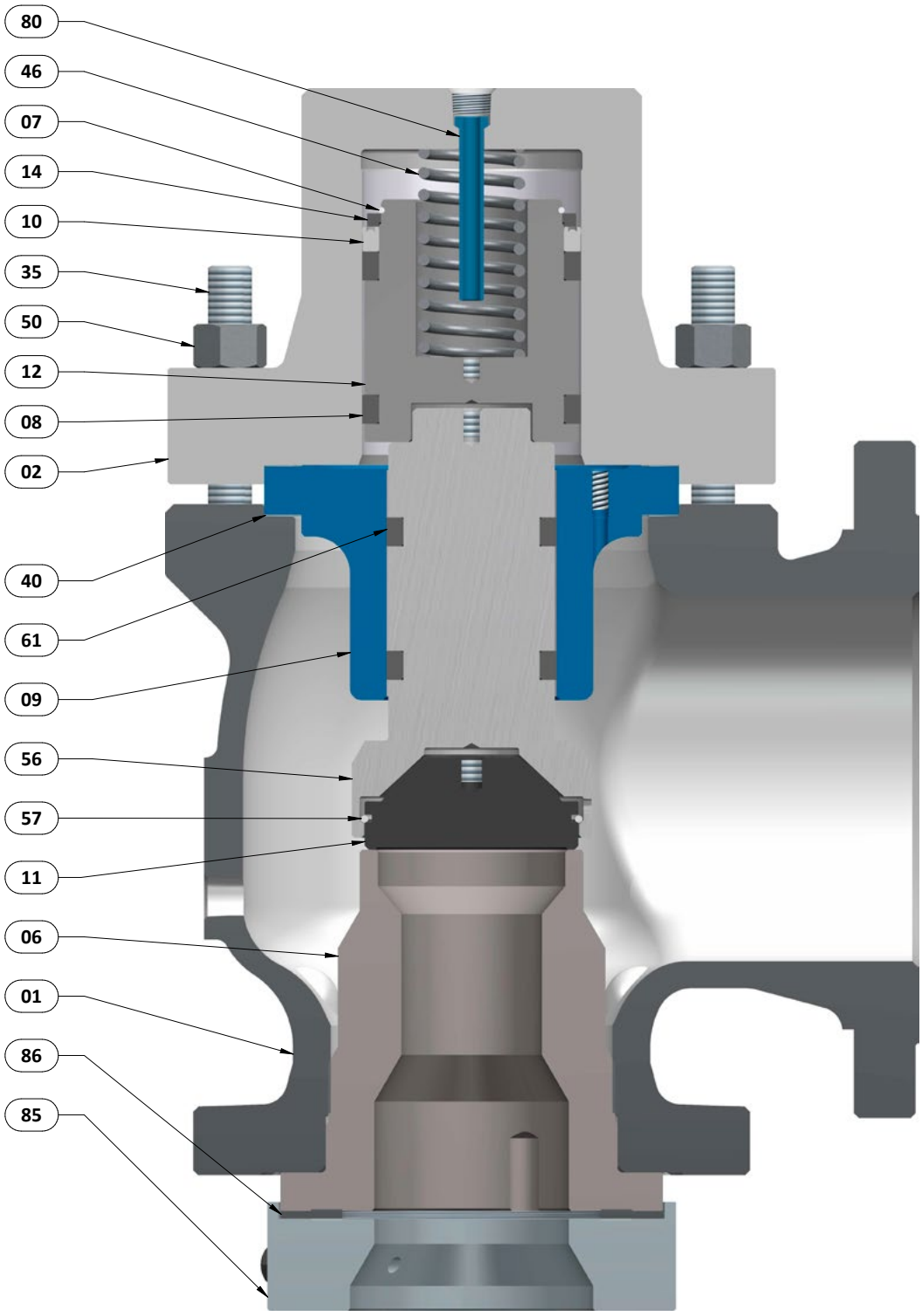
In the P/T table, select the table associated with the required orifice and select the valve type (class) which can withstand the set pressure and complete the valve selection.

4

Gather additional information (dimensions & weight, materials and connection) in the dedicated section.

1. Bill of material

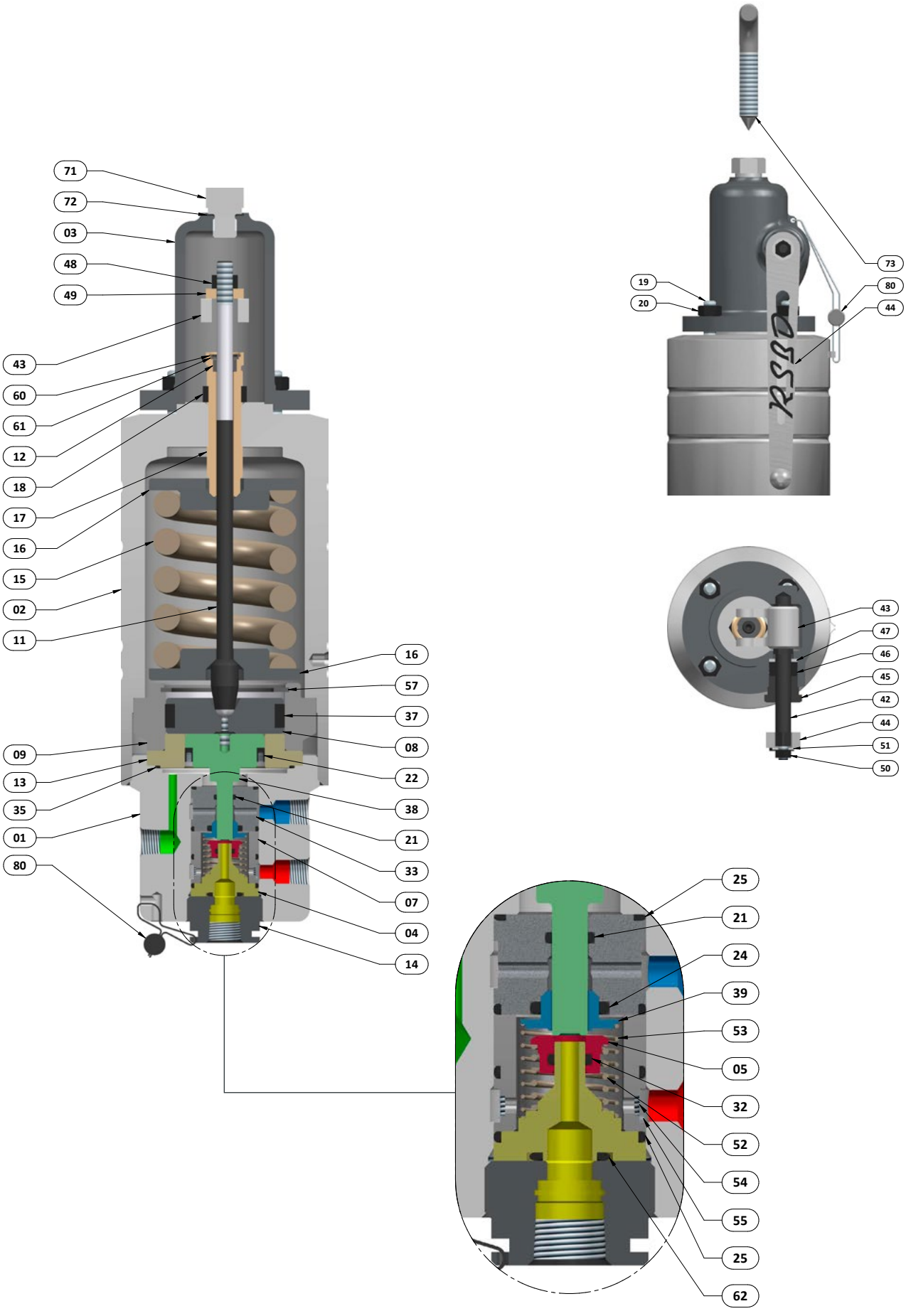
Main valve



BILL OF MATERIAL

86	1	GASKET	GRAPHITE/SST 18-8	GRAPHITE/SST 18-8	GRAPHITE/SST 18-8
85	1	CONNECTION RING	SA 479 Gr.316	SA 479 Gr.316	SA 479 Gr.316
80	1	PICK-UPTUBE	A 479 Gr.316L	A 479 Gr.316L	A 479 Gr.316L
61	2	GUIDE RING	THERMOGLIDE	THERMOGLIDE	THERMOGLIDE
57	1	RETAINER RING	INCONEL X750	INCONEL X750	INCONEL X750
56	1	DISC HOLDER	A 479 Gr.316L	A 479 Gr.316L	A 479 Gr.316L
50	8	BONNET NUT	SA 194 Gr.8	SA 194 Gr.8	SA 194 Gr.8
46	1	SPRING	INCONEL X750	INCONEL X750	INCONEL X750
40	2	GUIDE GASKET	SST 18-8	SST 18-8	SST 18-8
35	8	STUD	SA 193 Gr. B8	SA 193 Gr. B8	SA 193 Gr. B8
14	1	RETAINING RING	A 479 Gr.316L	A 479 Gr.316L	A 479 Gr.316L
12	1	PISTON	A 479 Gr.316L	A 479 Gr.316L	A 479 Gr.316L
11	1	DISC	INCONEL 718	INCONEL 718	INCONEL 718
10	1	PISTON SEAL	PTFE-GC/Elgiloy	PTFE-GC/Elgiloy	PTFE-GC/Elgiloy
09	1	GUIDE	A 479 Gr.316L	A 479 Gr.316L	A 479 Gr.316L
08	2	GUIDE RING	THERMOGLIDE	THERMOGLIDE	THERMOGLIDE
07	1	RETAINER RING	SST 18-8	SST 18-8	SST 18-8
06	1	NOZZLE	SA 479 Gr.316	SA 479 Gr.316	SA 479 Gr.316
02	1	BONNETw	SA 479 Gr.316L	SA 479 Gr.316L	SA 479 Gr.316L
01	1	BODY	SA 216 Gr.WCC	SA 217 GrWC6	SA 351 Gr CF8M
REP	**QTY**	**DESCRIPTION**	MATERIAL Code A	MATERIAL Code 32	MATERIAL Code X

DSC-E Pilot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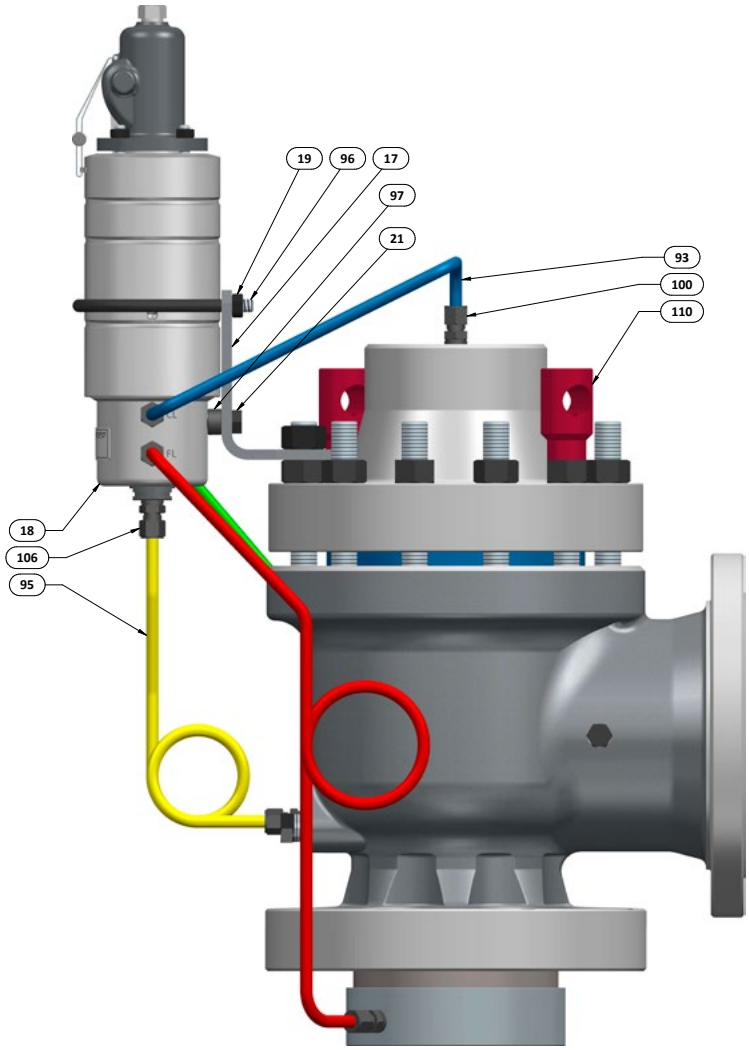
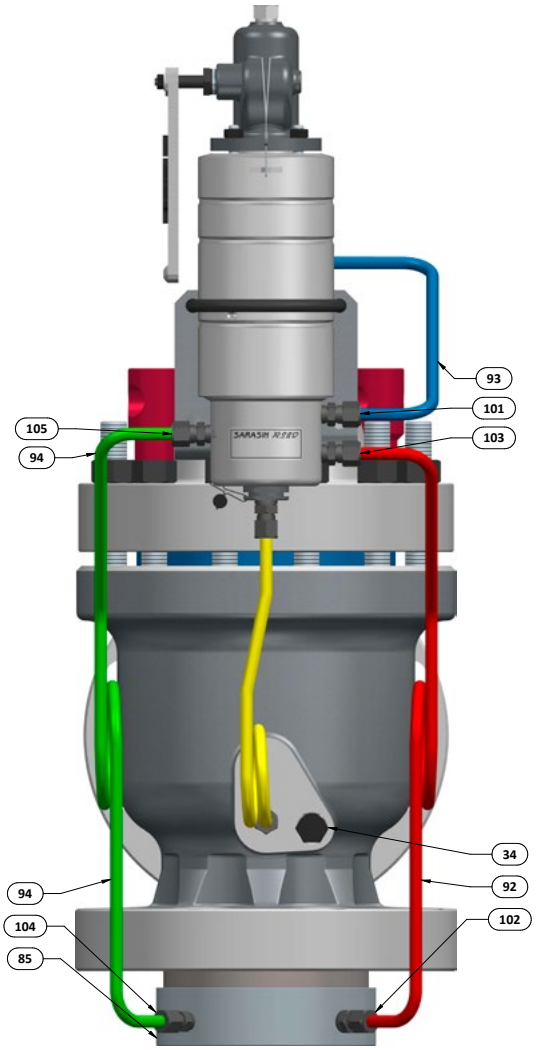
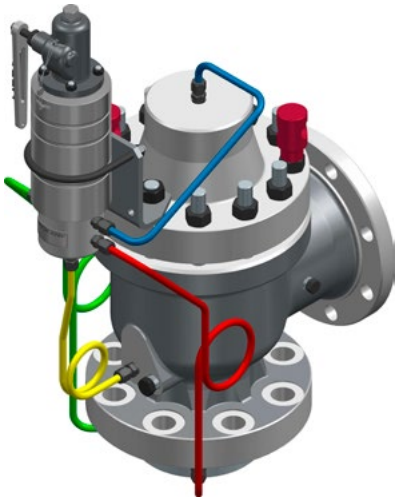
BILL OF MATERIAL

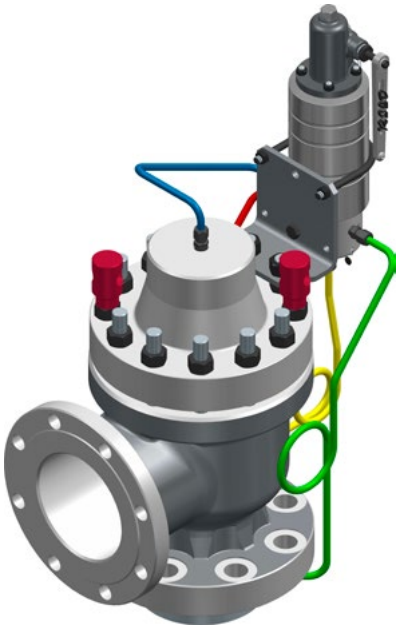
80	2	SEALING	
73	1	TEST GAG	SST 18-8
72	1	PLUG GASKET	SST 18-8
71	1	CAP PLUG	A 479 Gr.316L
62	1	NOZZLE O-RING	FKM
61	1	WASHER	A 479 Gr.316L
60	1	SPRING RING	SST 17-1
57	1	SPRING RING	SST 17-1
55	1	RETAINING RING	SST 18-8
54	1	STRAINER	SST 18-8
53	1	SPRING OF SEAT	INCONEL X750
52	1	SPRING OF DISC	INCONEL X750
51	1	WASHER	SST 18-8
50	1	NUT	SST 18-8
49	1	LIFTING NUT	A 479 Gr.316L
48	1	LOCKNUT	SST 18-8
47	1	PACKING RING	A 479 Gr.316L
46	4	PACKING	GRAPHITE
45	1	PACKING GLAND	A 479 Gr.316L
44	1	LEVER	A 351 Gr. CF3M
43	1	FORK	A 351 Gr. CF3M
42	1	FORK AXIS	A 479 Gr.316L
39	1	FEEDING SEAT	A 564 Gr.630
38	1	DRAIN SPINDLE	A 479 Gr.316L
37	1	GUIDE RING	THERMOGLIDE
35	1	BODY O-RING	FKM
33	1	POP ACTION BRACE	A 564 Gr.630
32	1	DISC O-RING	FKM (70 Shore)
25	4	O-RING	FKM
24	1	SEAT O-RING	FKM
22	1	PISTON SEAL	PTFE-GC/Elgiloy
21	1	DRAIN SPINDLE O-RING	FKM
20	4	CAP NUT	SST 18-8
19	4	CAP STUD	SST 18-8
18	1	LOCKNUT	A 479 Gr.316L
17	1	ADJUSTING BOLT	A 564 Gr.630
16	2	SPRINGWASHER	A 479 Gr.316L
15	1	SPRING	INCONEL X750
14	1	DRAIN PLUG	A 479 Gr.316L
13	1	DETECTION SLEEVE	A 479 Gr.316L
12	1	GUIDE RING	THERMOGLIDE
11	1	LIFTING ROD	A 479 Gr.316L
09	1	GUIDE	A 479 Gr.316L
08	1	PISTON	A 479 Gr.316L
07	1	FEEDING BRACE	A 479 Gr.316L
05	1	DISC	INCONEL 718
04	1	EXHAUST NOZZLE	A 479 Gr.316L
03	1	CAP	A 351 Gr.CF8M
02	1	BONNET	A 479 Gr.316L
01	1	BODY	A 479 Gr.316L
REP	**QTY**	**DESCRIPTION**	MATERIAL

76E Serie: assembly









BILL OF MATERIAL

ITEM	QTY	DESCRIPTION	MATERIAL	COMMENTS
110	2	LIFTING EYES	A 479 Gr.316L	
106	2	MALE CONNECTOR	AISI 316	
105	1	MALE CONNECTOR	AISI 316	PILOT/SL
104	1	MALE CONNECTOR	AISI 316	CR/SL
103	1	MALE CONNECTOR	AISI 316	PILOT/FL
102	1	MALE CONNECTOR	AISI 316	CR/FL
101	1	MALE CONNECTOR	AISI 316	PILOT/CL
100	1	MALE CONNECTOR	AISI 316	
97	1	SPACER	A 479 Gr.316L	
96	1	PILOT CLAMPING COLLAR	SST 18-8	
95	1	EXHAULT LINE PIPE	AISI 316	
94	1	SENSING LINE PIPE	AISI 316	SL
93	1	CONTROL LINE PIPE	AISI 316	CL
92	1	FEEDING LINE PIPE	AISI 316	FL
85	1	CONNECTION RING	SA 479 Gr.316	
34	1	DRAIN PLUG	SST 18-8	
21	1	SCREW	SST 18-8	
19	2	NUT	SST 18-8	
18	1	DCS-E PILOT		
17	1	PILOT BRACKET	SST 18-8	

2. Dimensons & Weight

DIMENSIONS & WEIGHTS

(metric)

FLANGE TYPE

Orifice D

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E12D11	1″	#150	2″	#150	10,1	4,8	0,80	149,3	114,3	245	286,3	77,8	21,1	30,0	124,3	140,0	16,0	30,0	40,0
7E12D21		#300															16,0	30,0	40,0
7E12D31		#600															16,0	30,0	40,0
7E72D42	1,5″	#900		#300		4,8		146,1	139,7	275	233,7	88,3	24,4	35,0	141,1	180,0	27,0	41,0	52,0
7E72D52		#1500															27,0	41,0	52,0
7E73D62		#2500	3″					181,0	177,8	296	337,3	100,3	30,6		166,0	203,0	37,0	51,0	63,0

Orifice E

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E12E11	1"	#150	2"	#150	13,5	4,8	1,43	149,3	114,3	245	286,3	77,8	21,1	30,0	124,3	140,0	16,0	30,0	40,0
7E12E21		#300															16,0	30,0	40,0
7E12E31		#600															16,0	30,0	40,0
7E72E42	1,5"	#900		#300		4,8		146,1	139,7	275	233,7	88,3	24,4	35,0	141,1	180,0	27,0	41,0	52,0
7E72E52		#1500															27,0	41,0	52,0
7E73E62		#2500	3"					181,0	177,8	296	337,3	100,3	30,6		166,0	203,0	37,0	51,0	63,0

Orifice F

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E72F11	1,5"	#150	2"	#150	17	5,6	2,27	168,9	120,6	290,0	331,3	80,9	21,1	40,0	140,9	143,0	20,0	38,0	48,0
7E72F21		#300							152,4			81,9			156,0		21,0	39,0	49,0
7E72F31		#600													170,9		22,0	40,0	50,0
7E73F42		#900	3"	#300		5,8			165,1	305,0	346,3	91,9	30,6	35,0	158,9	178,0	35,0	50,0	62,0
7E73F52		#1500															35,0	50,0	62,0
7E73F62		#2500				6,8		181,0	177,8			99,9			167,9	203,0	40,0	55,0	67,0

Orifice G

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E73G11	1,5"	#150	3"	#150	21,6	5,6	3,66	168,9	120,6	290,0	331,3	72,9	25,6	35,0	141,9	143,0	21,0	35,0	47,0
7E73G21		#300							152,4			82,9				156,0	23,0	37,0	49,0
7E73G31		#600															23,0	37,0	49,0
7E73G42		#900		#300		6,8			165,1	305,0	346,3	91,9	30,6		158,9	178,0	35,0	50,0	63,0
7E23G52	2"	#1500				8,0		196,9	171,5	330,0	371,3	97,0	32,6	28,0	154,9	216,0	46,0	61,0	74,0
7E23G62		#2500								335,0	376,3	111,9		34,0	169,9	235,0	52,0	67,0	80,0

Orifice H

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E73H11	1,5"	#150	3"	#150	27	8,0	5,73	171,5	123,8	295,0	336,3	74,8	25,6	35,0	135,5	143,0	21,0	35,0	47,0
7E73H21		#300										78,3				156,0	23,0	37,0	49,0
7E23H21	2"	#300										79,8				165,0	24,0	38,0	50,0
7E23H31		#600						195,3	162,2	305,0	346,3	80,3		40,0		168,0	32,0	47,0	59,0
7E23H41		#900								330,0	371,3	97,3		28,0	153,3	216,0	44,0	59,0	71,0
7E23H52		#1500		#300								95,3	30,6				45,0	60,0	73,0
7E23H62		#2500						196,9	171,5	335,0	376,3	111,9	32,6	34,0	169,9	235,0	52,0	67,0	80,0

Orifice J

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E23J11	2"	#150	3"	#150	34,6	9,0	9,40	177,8	123,8	305,0	346,3	76,1	25,6	35,0	142,1	190,0	27,0	41,0	53,0
7E23J21		#300										79,1					28,0	42,0	54,0
7E34J21	3"	#300	4"			9,5		225,4	181,0	390,0	431,3	86,1	26,1		179,9	225,0	44,0	59,0	79,0
7E34J31		#600								395,0	436,3	89,1			151,1		53,0	68,0	88,0
7E34J41		#900								430,0	471,3	105,8		37,0	163,4	255,0	82,0	97,0	117,0
7E34J42		#900		#300								106,8	33,0			250,0	86,0	104,0	124,0
7E34J52		#1500														262,0	89,0	107,0	127,0
7E36J62		#2500	6"			10,4		219,3	264,0	470,0	511,3	114,3	38,6	0,0	158,3	358,0	185,0	205,0	277,0

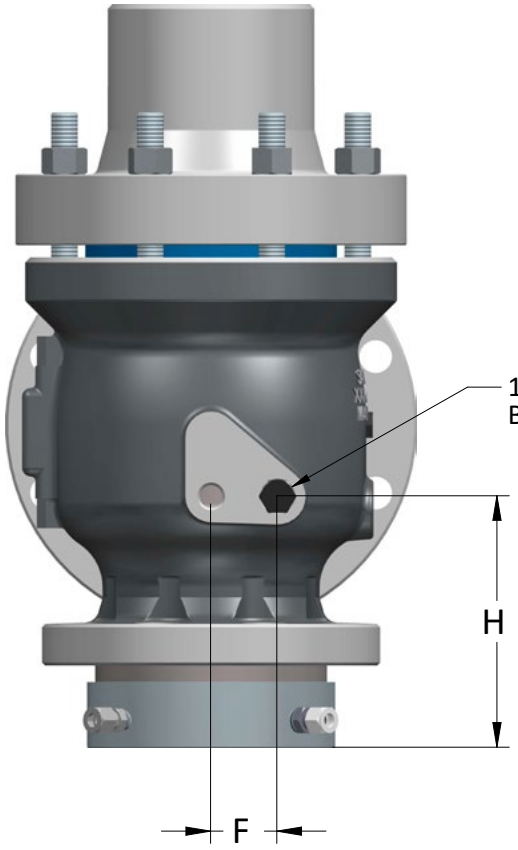
Orifice K

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E34K11	3"	#150	4"	#150	41,5	12,0	13,53	196,9	161,9	390,0	431,3	81,1	26,1	35,0	150,8	225,0	47,0	65,0	85,0
7E34K21		#300										86,1			151,4		51,0	69,0	89,0
7E34K31		#600						225,4	181,0	390,0	431,3	89,1					87,0	105,0	125,0
7E36K41		#900	6"					239,7	215,9	455,0	496,3	96,1	27,6		157,7	275,0	87,0	105,0	125,0
7E36K42		#900		#300								102,1	38,6		167,7	314,0	102,0	120,0	141,0
7E36K52		#1500										107,1					102,0	120,0	141,0
7E36K62		#2500						219,3	264,0	470,0	511,3	114,3		0,0	158,3	358,0	185,0	205,0	277,0

[1] Main valve only

[2] Main valve + DCS-E pilot *(Weight #1 + DCS-E Pilot)*

[3] Main valve + DCS-E pilot + BufferTank *(Weight #2 + BufferTank)*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Body Drain
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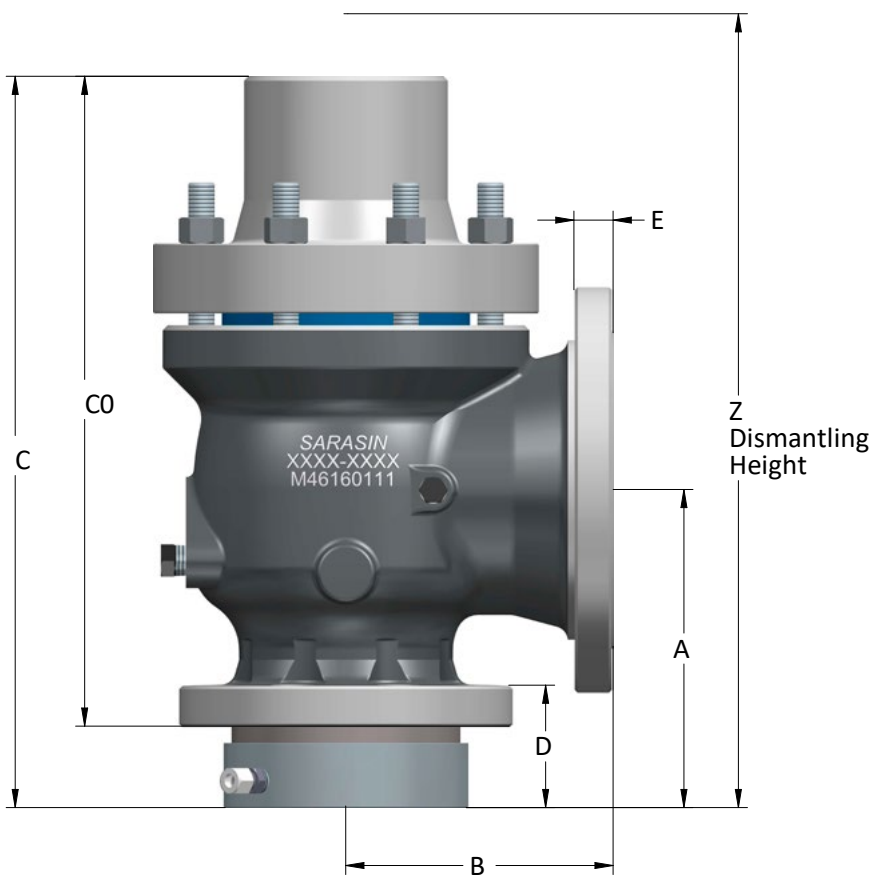
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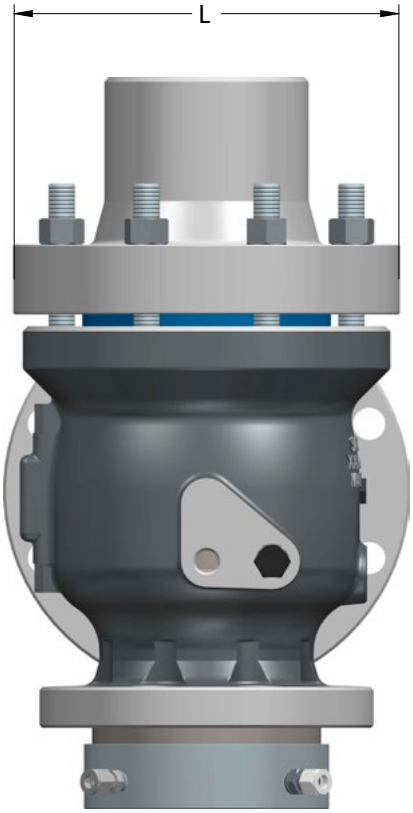
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DIMENSIONS & WEIGHTS

(metric)

FLANGE TYPE

Orifice L

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E34L11	3"	#150	4"	#150	51,5	13,0	20,83	196,9	165,1	390,0	431,3	82,1	26,1	35,0	150,9	225,0	48,0	68,0	88,0
7E34L21		#300										88,1		45,0	151,4	255,0	51,0	71,0	91,0
7E46L21	4"	#300	6"			14,8		220,7	184,15	445	486,3	90,7	27,6		172,2	275,0	82,0	102,0	122,0
7E46L31		#600							203,2			97,2					88,0	108,0	128,0
7E46L41		#900						238,2	222,2	490,0	531,3	104,7	38,6	35,0	167,2	288,0	119,0	139,0	159,0
7E46L42		#900		#300				252,4	233,4			116,4			181,4	314,0	129,0	149,0	170,0
7E46L52		#1500										124,4		50,0	194,4	314,0	155,0	175,0	196,0

Orifice M

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E46M11	4"	#150	6"	#150	56	16,6	24,63	219,1	184,15	465,0	506,3	83,1	27,6	45,0	170,6	275,0	92,0	114,0	134,0
7E46M21		#300										89,1					95,0	117,0	137,0
7E46M31		#600							203,2			95,6					101,0	123,0	143,0
7E46M41		#900						238,2	222,25	500,0	541,3	104,7		35,0	167,2	288,0	131,0	155,0	175,0
7E46M42		#900		#300				252,4	233,4	510,0	551,3	116,4	38,6		181,4	314,0	140,0	164,0	185,0

Orifice N

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E46N11	4"	#150	6"	#150	65	18,5	33,18	238,2	209,6	490,0	531,3	83,2	27,0	45,0	177,2	275,0	92,0	116,0	136,0
7E46N21		#300										88,2			175,2		95,0	119,0	139,0
7E46N31		#600							222,25	490,0	531,3	95,2			176,2		102,0	126,0	146,0
7E46N41		#900								500,0	541,3	104,7		35,0	167,2	288,0	130,0	154,0	174,0
7E46N42		#900		#300				252,4	233,4	510,0	551,3	116,4	38,6		181,4	314,0	139,0	163,0	184,0

Orifice P

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E46P11	4"	#150	6"	#150	76,2	21,5	45,60	222,3	228,6	475,0	516,3	83,2	27,0	45,0	167,3	275,0	93,0	118,0	138,0
7E46P21Z		#300										91,2					101,0	126,0	146,0
7E46P21		#300						266,7	254,0								99,0	124,0	144,0
7E46P31		#600										95,7					105,0	130,0	150,0
7E46P41		#900								530,0	571,3	103,2		35,0	174,7	288,0	140,0	165,0	185,0
7E46P42		#900		#300				252,4	233,4	510,0	551,3	116,4	38,2		181,4	314,0	140,0	165,0	186,0

Orifice Q

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E68Q11	6"	#150	8"	#150	103	28,0	83,32	281,0	241,3	590,0	631,3	87,9	30,0	45,0	188,0	337,0	169,0	196,0	223,0
7E68Q21		#300										98,3			184,0		178,0	205,0	232,0
7E68Q31		#600								595	636,3	108,8				350,0	219,0	246,0	273,0

Orifice R

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E68R11	6"	#150	8"	#150	114,3	33,6	102,61	281,0	241,3	590,0	631,3	87,9	30,0	45,0	188,0	337,0	167,0	189,0	217,0
7E68R21		#300										98,3			184,0		175,0	197,0	225,0
7E69R21		#300	10"						266,7			97,3	31,8			402,0	186,0	208,0	236,0
7E69R31		#600										110,3					224,0	246,0	274,0

Orifice T

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E89T11	8"	#150	10"	#150	152,4	40,0	182,41	317,5	279,4	715,0	756,3	91,3	31,8	45,0	196,5	402,0	277,0	299,0	329,0
7E89T21		#300										104,8					289,0	311,0	341,0

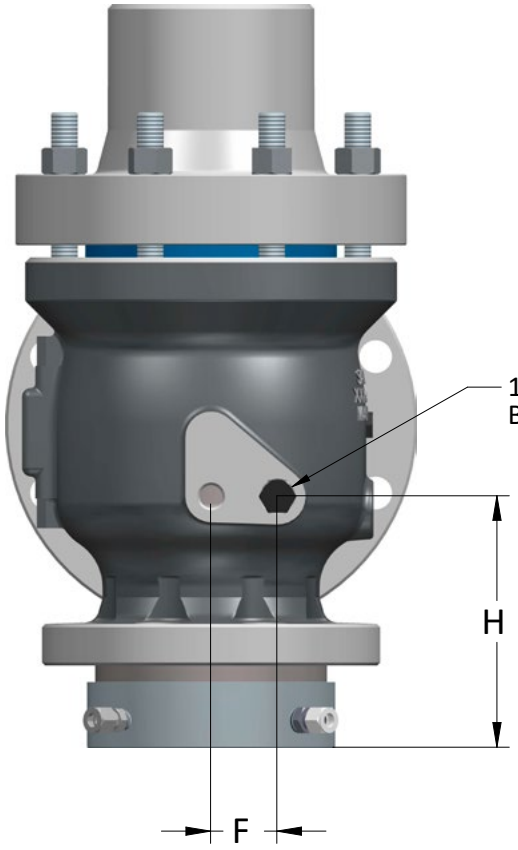
Orifice V

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	mm	mm	cm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg
7E9BV11	10"	#150	14"	#150	180	46,0	254,47	421,3	370,0	855,0	896,3	100,4	37,6	60,0	231,3	529,0	479,0	501,0	531,0
7E9BV21		#300										117,3					512,0	534,0	564,0

[1] Main valve only

[2] Main valve + DCS-E pilot *(Weight #1 + DCS-E Pilot)*

[3] Main valve + DCS-E pilot + BufferTank *(Weight #2 + BufferTank)*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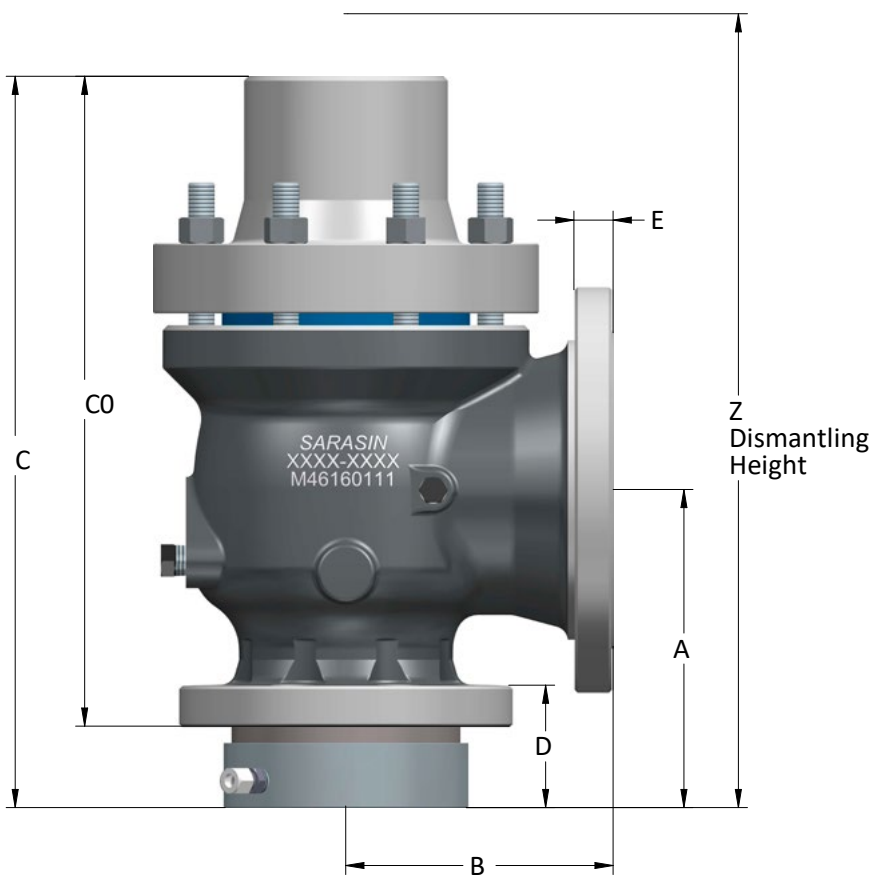
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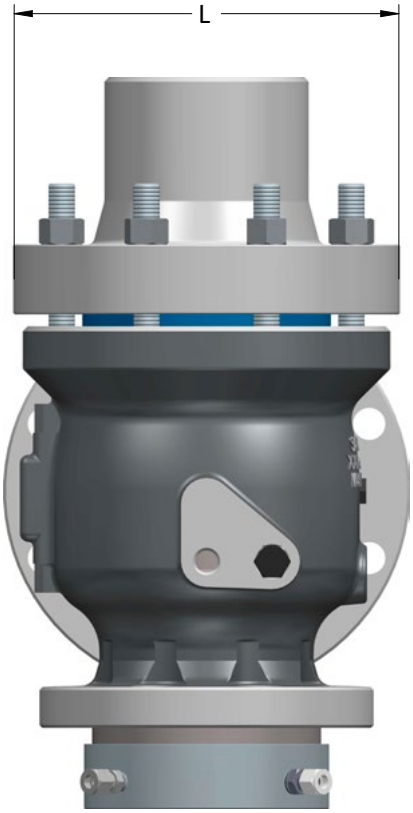
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DIMENSIONS & WEIGHTS

(USCS)

FLANGE TYPE

Orifice D

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E12D11	1"	#150	2"	#150	0,398	0,189	0,124	5 7/8	4 1/2	9 5/8	11 1/4	3 1/16	13/16	1 3/16	4 7/8	5 1/2	35,3	66,1	88,2
7E12D21		#300															35,3	66,1	88,2
7E12D31		#600															35,3	66,1	88,2
7E72D42	1,5"	#900	3"	#300		0,189		5 3/4	5 1/2	10 13/16	9 3/16	3 1/2	15/16	1 3/8	5 9/16	7 1/16	59,5	90,4	114,6
7E72D52		#1500															59,5	90,4	114,6
7E73D62		#2500						7 1/8	7	11 5/8	13 1/4	3 15/16	1 3/16		6 9/16	8	81,6	112,4	138,9

Orifice E

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E12E11	1"	#150	2"	#150	0,531	0,189	0,222	5 7/8	4 1/2	9 5/8	11 1/4	3 1/16	13/16	1 3/16	4 7/8	5 1/2	35,3	66,1	88,2
7E12E21		#300															35,3	66,1	88,2
7E12E31		#600															35,3	66,1	88,2
7E72E42	1,5"	#900	3"	#300		0,189		5 3/4	5 1/2	10 13/16	9 3/16	3 1/2	15/16	1 3/8	5 9/16	7 1/16	59,5	90,4	114,6
7E72E52		#1500															59,5	90,4	114,6
7E73E62		#2500						7 1/8	7	11 5/8	13 1/4	3 15/16	1 3/16		6 9/16	8	81,6	112,4	138,9

Orifice F

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E72F11	1,5"	#150	2"	#150	0,669	0,220	0,352	6 5/8	4 3/4	11 7/16	13 1/16	3 3/16	1 3/16	1 9/16	5 9/16	5 5/8	44,1	83,8	105,8
7E72F21		#300							6			3 1/4				6 1/8	46,3	86,0	108,0
7E72F31		#600													6 3/4		48,5	88,2	110,2
7E73F42		#900	3"	#300		0,228			6 1/2	12	13 5/8	3 5/8	1 3/16	1 3/8	6 1/4	7	77,2	110,2	136,7
7E73F52		#1500															77,2	110,2	136,7
7E73F62		#2500						7 1/8	7			3 15/16			6 5/8	8	88,2	121,3	147,7

Orifice G

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E73G11	1,5"	#150	3"	#150	0,850	0,220	0,568	6 5/8	4 3/4	11 7/16	13 1/16	2 7/8	1	1 3/8	5 5/8	5 5/8	46,3	77,2	103,6
7E73G21		#300							6			3 1/4				6 1/8	50,7	81,6	108,0
7E73G31		#600															50,7	81,6	108,0
7E73G42		#900		#300		0,268			6 2/4	12	13 5/8	3 5/8	1 3/16		6 1/4	7	77,2	110,2	138,9
7E23G52	2"	#1500				0,315		7 3/4	6 3/4	13	14 5/8	3 13/16	1 5/16	1 2/16	6 1/8	8 1/2	101,4	134,5	163,1
7E23G62		#2500								13 3/16	14 13/16	4 3/8		1 5/16	6 11/16	9 1/4	114,6	147,7	176,4

Orifice H

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E73H11	1,5"	#150	3"	#150	1,063	0,315	0,887	6 6/8	4 7/8	11 5/8	13 1/4	2 15/16	1	1 3/8	5 5/16	5 5/8	46,3	77,2	103,6
7E73H21		#300										3 1/16				6 1/8	50,7	81,6	108,0
7E23H21	2"	#300										3 1/8				6 4/8	52,9	83,8	110,2
7E23H31		#600								12	13 5/8	3 3/16		1 9/16		6 5/8	70,5	103,6	130,1
7E23H41		#900						7 11/16	6 3/8	13	14 5/8	3 13/16		1 1/8	6 1/16	8 1/2	97,0	130,1	156,5
7E23H52		#1500		#300								3 3/4	1 3/16				99,2	132,3	160,9
7E23H62		#2500						7 3/4	6 3/4	13 3/16	14 13/16	4 3/8	1 5/16	1 5/16	6 11/16	9 2/8	114,6	147,7	176,4

Orifice J

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E23J11	2"	#150	3"	#150	1,362	0,354	1,457	7	4 3/4	12	13 5/8	3	1	1 3/8	5 5/8	7 1/2	59,5	90,4	116,8
7E23J21		#300										3 2/16					61,7	92,6	119,0
7E34J21	3"	#300				0,374		8 3/4	7 1/8	15 3/8	17	3 6/16	1		7 1/16	8 7/8	97,0	130,1	174,2
7E34J31		#600	4"							15 9/16	17 3/16	3 8/16			5 15/16		116,8	149,9	194,0
7E34J41		#900								16 15/16	18 9/16	4 3/16		1 7/16	6 7/16	10 1/16	180,8	213,8	257,9
7E34J42		#900		#300								4 3/16	1 1/4			9 13/16	189,6	229,3	273,4
7E34J52		#1500														10 5/16	196,2	235,9	280,0
7E36J62		#2500	6"			0,409		8 10/16	10 3/8	18 1/2	20 1/8	4 4/8	1 8/16	0	6 1/4	14 1/8	407,9	451,9	610,7

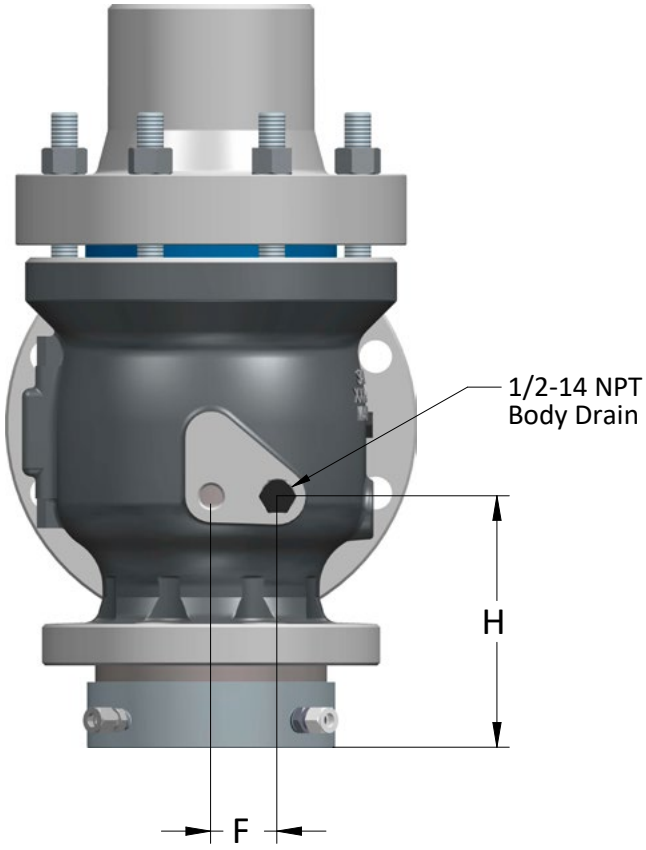
Orifice K

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E34K11	3"	#150	4"	#150	1,634	0,472	2,097	7 3/4	6 3/8	15 3/8	17	3 3/16	1	1 3/8	5 15/16	8 7/8	103,6	143,3	187,4
7E34K21		#300										3 6/16			5 15/16		112,4	152,1	196,2
7E34K31		#600						8 7/8	7 1/8	15 3/8	17	3 8/16					191,8	231,5	275,6
7E36K41		#900	6"					9 7/16	8 1/2	17 15/16	19 9/16	3 13/16	1 1/16		6 3/16	10 13/16	191,8	231,5	275,6
7E36K42		#900		#300								4	1 1/2		6 5/8	12 3/8	224,9	264,6	310,9
7E36K52		#1500										4 3/16					224,9	264,6	310,9
7E36K62		#2500						8 3/4	10 3/8	18 1/2	20 1/8	4 1/2		0	6 1/4	14 2/16	407,9	451,9	610,7

[1] Main valve only

[2] Main valve + DCS-E pilot *(Weight #1 + DCS-E Pilot)*

[3] Main valve + DCS-E pilot + BufferTank *(Weight #2 + BufferTank)*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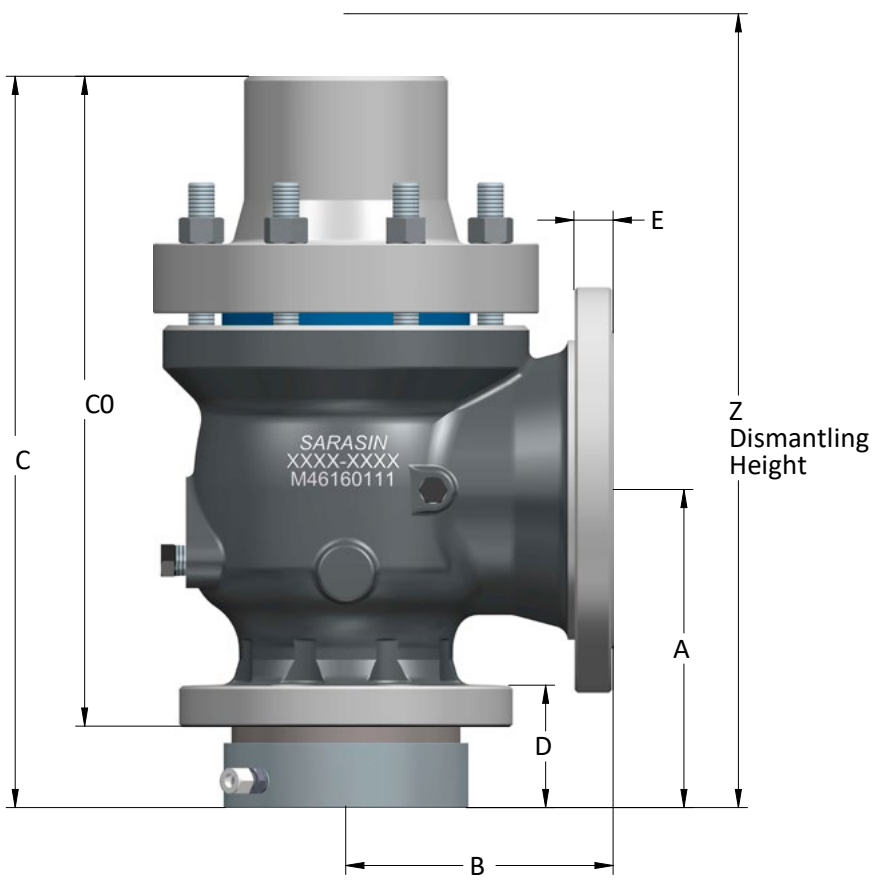
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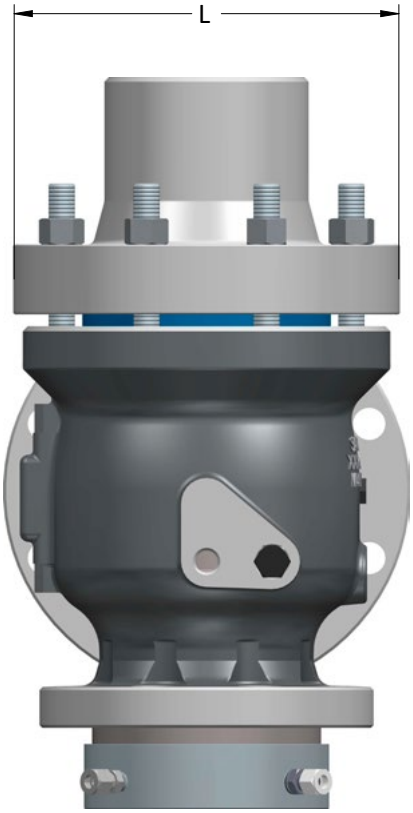

L

DIMENSIONS & WEIGHTS

(USCS)

FLANGE TYPE

Orifice L

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E34L11	3"	#150	4"	#150	2,028	0,512	3,229	7 3/4	6 1/2	15 3/8	17	3 4/16	1	1 3/8	5 15/16	8 14/16	105,8	149,9	194,0
7E34L21		#300										3 7/16		1 3/4	5 15/16	10 1/16	112,4	156,5	200,6
7E46L21	4"	#300	6"			0,583		8 11/16	7 1/4	17 1/2	19 1/8	3 9/16	1 1/16		6 3/4	10 13/16	180,8	224,9	269,0
7E46L31		#600							8			3 13/16					194,0	238,1	282,2
7E46L41		#900						9 1/2	8 3/4	19 5/16	20 15/16	4 2/16		1 3/8	6 9/16	11 5/16	262,3	306,4	350,5
7E46L42		#900		#300				9 15/16	9 1/4			4 9/16	1 1/2		7 2/16	12 6/16	284,4	328,5	374,8
7E46L52		#1500										4 14/16		1 15/16	7 10/16	12 6/16	341,7	385,8	432,1

Orifice M

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E46M11	4"	#150	6"	#150	2,205	0,654	3,818	8 5/8	7 1/4	18 5/16	19 15/16	3 4/16	1 1/16	1 3/4	6 11/16	10 13/16	202,8	251,3	295,4
7E46M21		#300										3 8/16					209,4	257,9	302,0
7E46M31		#600							8			3 12/16					222,7	271,2	315,3
7E46M41		#900						9 3/8	8 3/4	19 11/16	21 5/16	4 2/16		1 3/8	6 9/16	11 5/16	288,8	341,7	385,8
7E46M42		#900		#300				9 7/8	9 1/4	20 1/16	21 11/16	4 9/16	1 1/2		7 1/8	12 6/16	308,6	361,6	407,9

Orifice N

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E46N11	4"	#150	6"	#150	2,559	0,728	5,143	9 3/8	8 1/4	19 5/16	20 15/16	3 1/4	1 1/16	1 3/4	7	10 13/16	202,8	255,7	299,8
7E46N21		#300										3 1/2			6 7/8		209,4	262,3	306,4
7E46N31		#600							8 3/4	19 5/16	20 15/16	3 3/4			6 15/16		224,9	277,8	321,9
7E46N41		#900								19 11/16	21 5/16	4 1/8		1 3/8	6 9/16	11 5/16	286,6	339,5	383,6
7E46N42		#900		#300				9 7/8	9 1/4	20 1/16	21 11/16	4 9/16	1 8/16		7 1/8	12 6/16	306,4	359,4	405,7

Orifice P

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E46P11	4"	#150	6"	#150	3,000	0,846	7,069	8 12/16	9	18 11/16	20 5/16	3 4/16	1 1/16	1 3/4	6 9/16	10 13/16	205,0	260,1	304,2
7E46P21Z		#300										3 9/16					222,7	277,8	321,9
7E46P21		#300						10 8/16	10								218,3	273,4	317,5
7E46P31		#600										3 3/4					231,5	286,6	330,7
7E46P41		#900								20 7/8	22 8/16	4 1/16		1 3/8	6 7/8	11 5/16	308,6	363,8	407,9
7E46P42		#900		#300				9 15/16	9 1/4	20 1/16	21 11/16	4 9/16	1 8/16		7 2/16	12 3/8	308,6	363,8	410,1

Orifice Q

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E68Q11	6"	#150	8"	#150	4,055	1,102	12,915	11 1/16	9 1/2	23 1/4	24 7/8	3 7/16	1 3/16	1 3/4	7 6/16	13 1/4	372,6	432,1	491,6
7E68Q21		#300										3 7/8			7 1/4		392,4	451,9	511,5
7E68Q31		#600								23 7/16	25 1/16	4 5/16				13 3/4	482,8	542,3	601,9

Orifice R

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E68R11	6"	#150	8"	#150	4,500	1,323	15,904	11 1/16	9 1/2	23 1/4	24 7/8	3 7/16	1 3/16	1 3/4	7 3/8	13 1/4	368,2	416,7	478,4
7E68R21		#300										3 14/16			7 1/4		385,8	434,3	496,0
7E69R21		#300	10"						10 1/2			3 13/16	1 1/4			15 13/16	410,1	458,6	520,3
7E69R31		#600										4 5/16					493,8	542,3	604,1

Orifice T

Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E89T11	8"	#150	10"	#150	6,000	1,575	28,274	12 8/16	11	28 1/8	29 3/4	3 10/16	1 1/4	1 3/4	7 3/4	15 13/16	610,7	659,2	725,3
7E89T21		#300										4 2/16					637,1	685,6	751,8

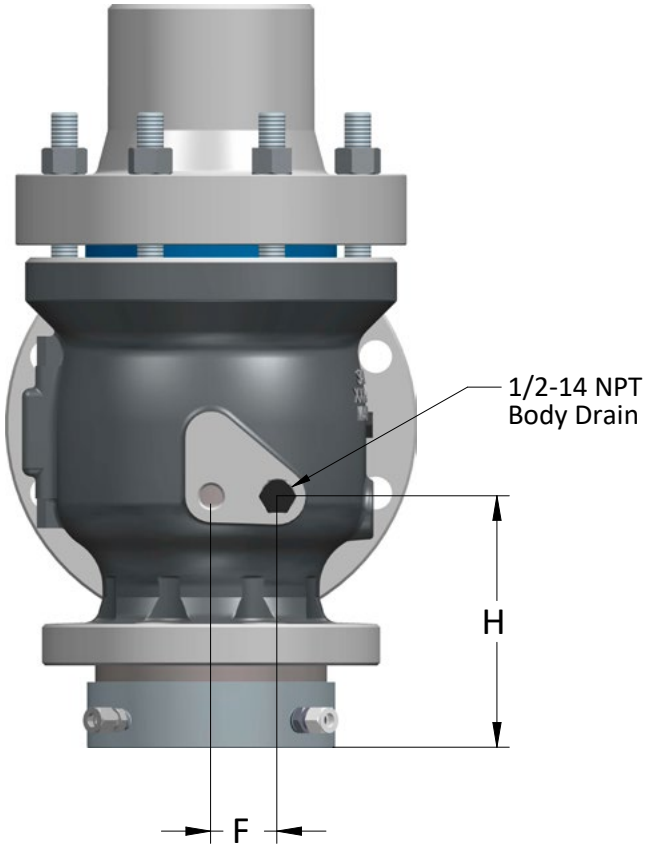
Orifice V

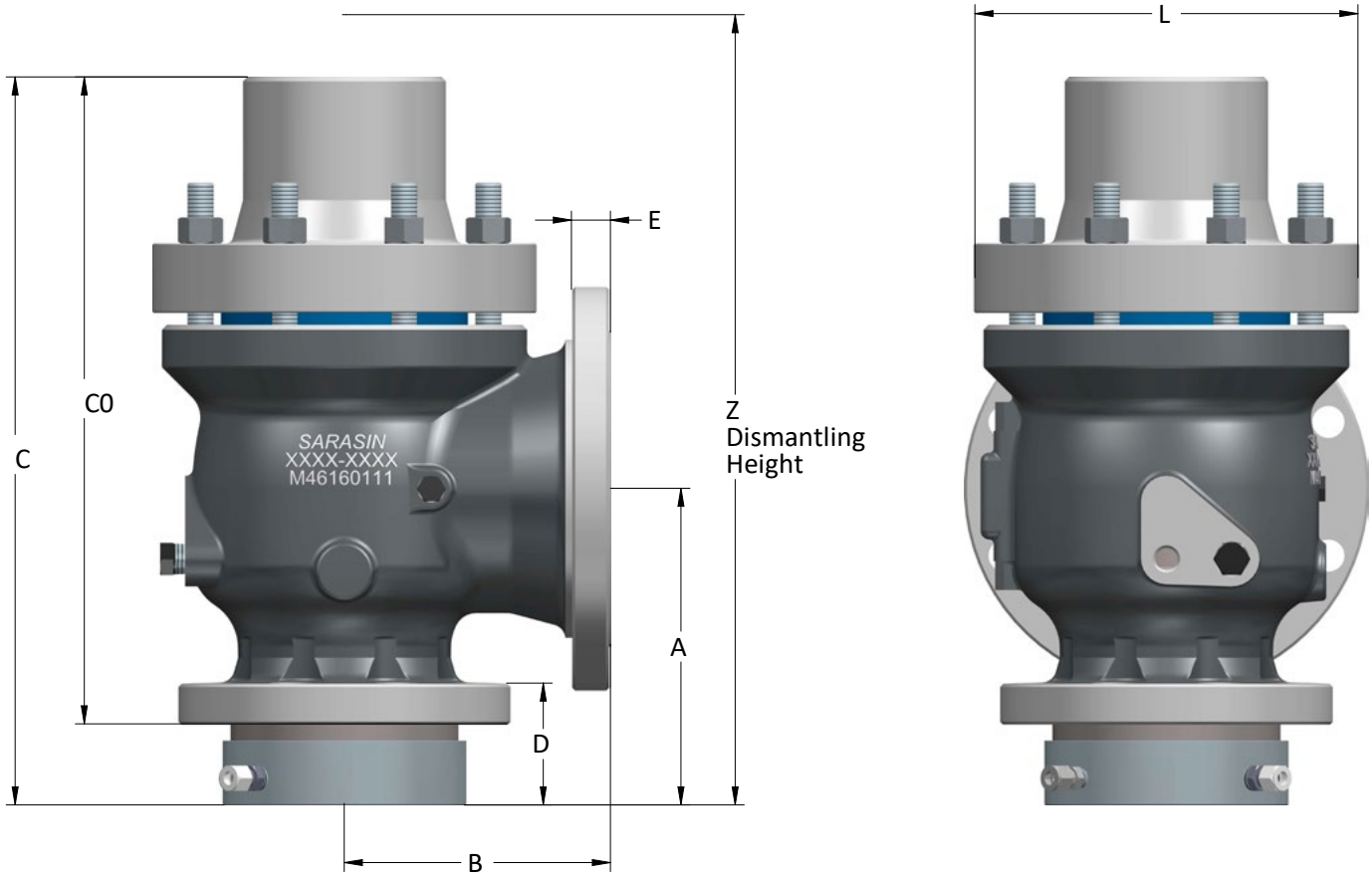
Valve code	Inlet		Outlet		Ø nozzle	Lift	Flow area	A	B	C0	C	D	E	F	H	L	Weight #1 [1]	Weight #2 [2]	Weight #3 [3]
	NPS	CLASS	NPS	CLASS	in	in	sq in	in	in	in	in	in	in	in	in	in	Lb	Lb	Lb
7E9BV11	10"	#150	14"	#150	7,087	1,811	39,443	16 9/16	14 9/16	33 11/16	35 5/16	3 15/16	1 1/2	2 3/8	9 1/8	20 13/16	1056,0	1104,5	1170,7
7E9BV21		#300										4 10/16					1128,8	1177,3	1243,4

[1] Main valve only

[2] Main valve + DCS-E pilot
(Weight #1 + DCS-E Pilot)

[3] Main valve + DCS-E pilot + BufferTank
(Weight #2 + BufferTank)


1/2-14 NPT
Body Drain
H
F


L
E
C0
C
Z
Dismantling
Height
SARASIN
XXXX-XXXX
M46160111
A
D
B

3. Pressure Temperature Class

PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice: D

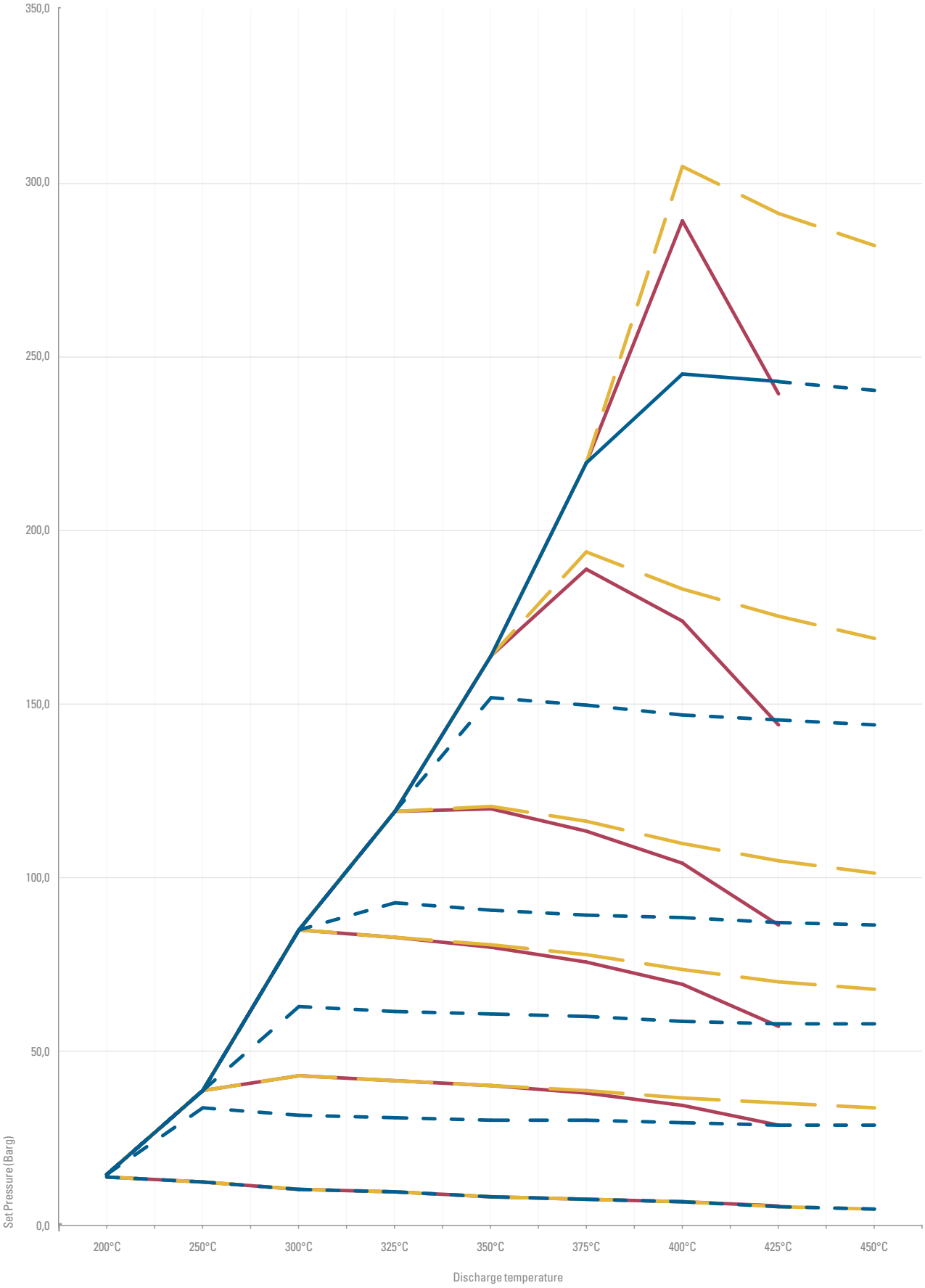
0,8 cm² / 0,124 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E12D11-30	1	D	2	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5		SA 216 gr. WCC
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*		
7E12D21-30	1	D	2	300	150	14,5	38,7	42,9	41,4	40,0	37,8	34,7	28,8		
						211	*561*	*622*	*600*	*580*	*548*	*503*	*418*		
7E12D31-30	1	D	2	600	150	14,5	38,7	84,8	82,6	80,0	75,7	69,4	57,5		
						211	*561*	*1230*	*1198*	*1160*	*1098*	*1007*	*834*		
7E72D42-30	1,5	D	2	900	300	14,5	38,7	84,8	119,5	120,1	113,5	104,2	86,3		
						211	*561*	*1230*	*1733*	*1742*	*1646*	*1511*	*1252*		
7E72D52-30	1,5	D	2	1500	300	14,5	38,7	84,8	119,5	164,3	189,2	173,6	143,8		
						211	*561*	*1230*	*1733*	*2383*	*2744*	*2518*	*2086*		
7E73D62-30	1,5	D	3	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	289,3	239,7		
						211	*561*	*1230*	*1733*	*2383*	*3185*	*4196*	*3477*		
7E12D11-32	1	D	2	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 217 gr. WC6 [1]
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E12D21-32	1	D	2	300	150	14,5	38,7	42,9	41,4	40,3	38,9	36,5	35,2	33,7	
						211	*561*	*622*	*600*	*585*	*564*	*529*	*511*	*489*	
7E12D31-32	1	D	2	600	150	14,5	38,7	84,8	82,6	80,4	77,6	73,3	70,0	67,7	
						211	*561*	*1230*	*1198*	*1166*	*1125*	*1063*	*1015*	*982*	
7E72D42-32	1,5	D	2	900	300	14,5	38,7	84,8	119,5	120,7	116,5	109,8	105,1	101,4	
						211	*561*	*1230*	*1733*	*1751*	*1690*	*1593*	*1524*	*1471*	
7E72D52-32	1,5	D	2	1500	300	14,5	38,7	84,8	119,5	164,3	194,1	183,1	175,1	169,0	
						211	*561*	*1230*	*1733*	*2383*	*2815*	*2656*	*2540*	*2451*	
7E73D62-32	1,5	D	3	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	304,9	291,6	281,8	
						211	*561*	*1230*	*1733*	*2383*	*3185*	*4422*	*4229*	*4087*	
7E12D11-16	1	D	2	150	150	13,7	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 351 gr. CF8M
						199	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E12D21-16	1	D	2	300	150	14,5	33,4	31,6	30,9	30,3	29,9	29,4	29,1	28,8	
						211	*484*	*458*	*448*	*439*	*434*	*426*	*422*	*418*	
7E12D31-16	1	D	2	600	150	14,5	38,7	63,2	61,8	60,7	59,8	58,9	58,3	57,7	
						211	*561*	*917*	*896*	*880*	*867*	*854*	*846*	*837*	
7E72D42-16	1,5	D	2	900	300	14,5	38,7	84,8	92,7	91,0	89,6	88,3	87,4	86,5	
						211	*561*	*1230*	*1345*	*1320*	*1300*	*1281*	*1268*	*1255*	
7E72D52-16	1,5	D	2	1500	300	14,5	38,7	84,8	119,5	151,6	149,4	147,2	145,7	144,2	
						211	*561*	*1230*	*1733*	*2199*	*2167*	*2135*	*2113*	*2091*	
7E73D62-16	1,5	D	3	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	245,3	242,9	240,4	
						211	*561*	*1230*	*1733*	*2383*	*3185*	*3558*	*3523*	*3487*	

NOTE

[1] Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A

Extrapolation from saturated steam, ASME B16.34 inlet/oulet



PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice: E

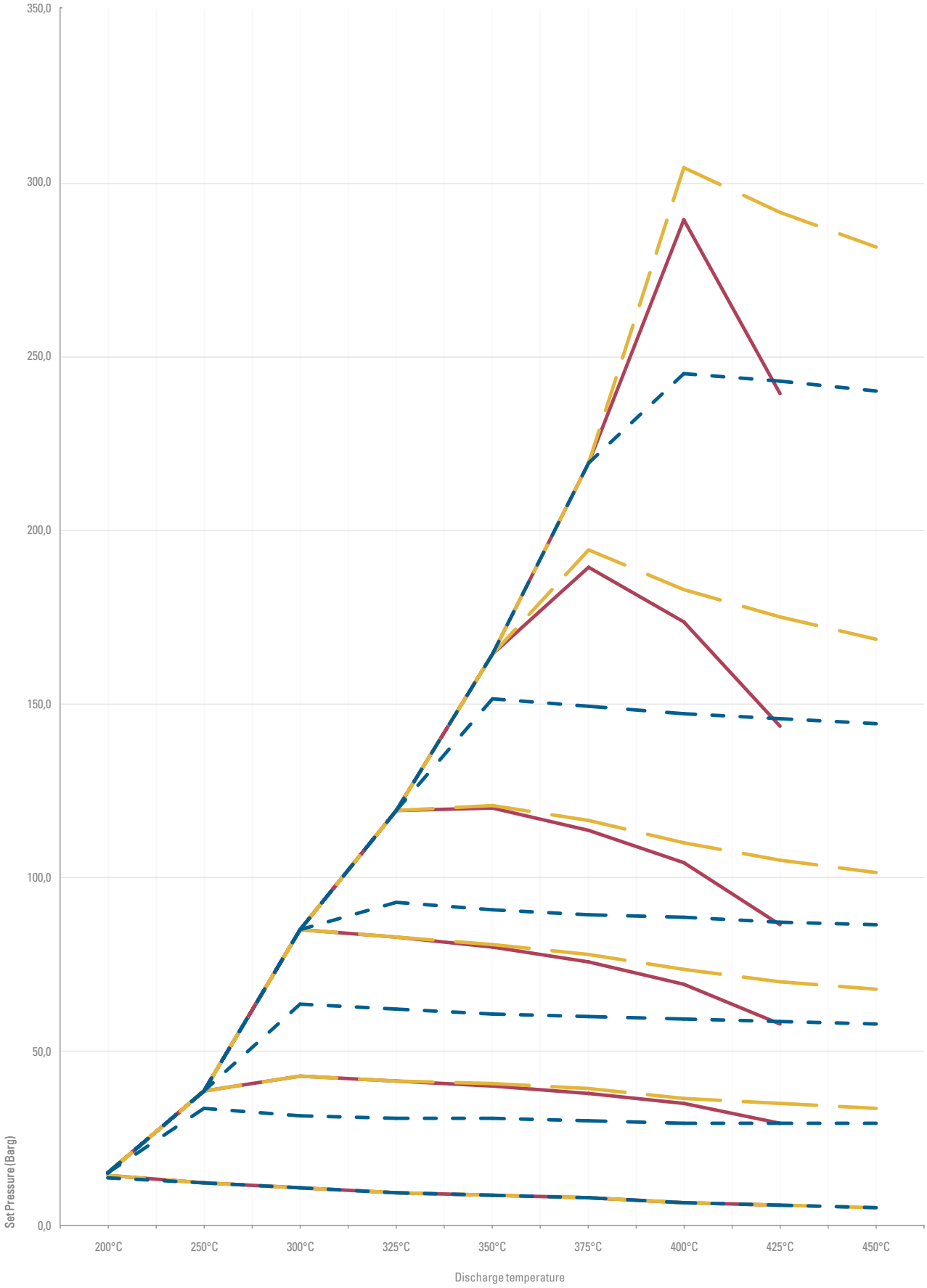
1,43 cm² / 0,222 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E12E11-30	1	E	2	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5		SA 216 gr. WCC
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*		
7E12E21-30	1	E	2	300	150	14,5	38,7	42,9	41,4	40,0	37,8	34,7	28,8		
						211	*561*	*622*	*600*	*580*	*548*	*503*	*418*		
7E12E31-30	1	E	2	600	150	14,5	38,7	84,8	82,6	80,0	75,7	69,4	57,5		
						211	*561*	*1230*	*1198*	*1160*	*1098*	*1007*	*834*		
7E72E42-30	1,5	E	2	900	300	14,5	38,7	84,8	119,5	120,1	113,5	104,2	86,3		
						211	*561*	*1230*	*1733*	*1742*	*1646*	*1511*	*1252*		
7E72E52-30	1,5	E	2	1500	300	14,5	38,7	84,8	119,5	164,3	189,2	173,6	143,8		
						211	*561*	*1230*	*1733*	*2383*	*2744*	*2518*	*2086*		
7E73E62-30	1,5	E	3	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	289,3	239,7		
						211	*561*	*1230*	*1733*	*2383*	*3185*	*4196*	*3477*		
7E12E11-32	1	E	2	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 217 gr. WC6 [1]
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E12E21-32	1	E	2	300	150	14,5	38,7	42,9	41,4	40,3	38,9	36,5	35,2	33,7	
						211	*561*	*622*	*600*	*585*	*564*	*529*	*511*	*489*	
7E12E31-32	1	E	2	600	150	14,5	38,7	84,8	82,6	80,4	77,6	73,3	70,0	67,7	
						211	*561*	*1230*	*1198*	*1166*	*1125*	*1063*	*1015*	*982*	
7E72E42-32	1,5	E	2	900	300	14,5	38,7	84,8	119,5	120,7	116,5	109,8	105,1	101,4	
						211	*561*	*1230*	*1733*	*1751*	*1690*	*1593*	*1524*	*1471*	
7E72E52-32	1,5	E	2	1500	300	14,5	38,7	84,8	119,5	164,3	194,1	183,1	175,1	169,0	
						211	*561*	*1230*	*1733*	*2383*	*2815*	*2656*	*2540*	*2451*	
7E73E62-32	1,5	E	3	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	304,9	291,6	281,8	
						211	*561*	*1230*	*1733*	*2383*	*3185*	*4422*	*4229*	*4087*	
7E12E11-16	1	E	2	150	150	13,7	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 351 gr. CF8M
						199	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E12E21-16	1	E	2	300	150	14,5	33,4	31,6	30,9	30,3	29,9	29,4	29,1	28,8	
						211	*484*	*458*	*448*	*439*	*434*	*426*	*422*	*418*	
7E12E31-16	1	E	2	600	150	14,5	38,7	63,2	61,8	60,7	59,8	58,9	58,3	57,7	
						211	*561*	*917*	*896*	*880*	*867*	*854*	*846*	*837*	
7E72E42-16	1,5	E	2	900	300	14,5	38,7	84,8	92,7	91,0	89,6	88,3	87,4	86,5	
						211	*561*	*1230*	*1345*	*1320*	*1300*	*1281*	*1268*	*1255*	
7E72E52-16	1,5	E	2	1500	300	14,5	38,7	84,8	119,5	151,6	149,4	147,2	145,7	144,2	
						211	*561*	*1230*	*1733*	*2199*	*2167*	*2135*	*2113*	*2091*	
7E73E62-16	1,5	E	3	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	245,3	242,9	240,4	
						211	*561*	*1230*	*1733*	*2383*	*3185*	*3558*	*3523*	*3487*	

NOTE

[1] Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A

Extrapolation from saturated steam, ASME B16.34 inlet/oulet



PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice: F

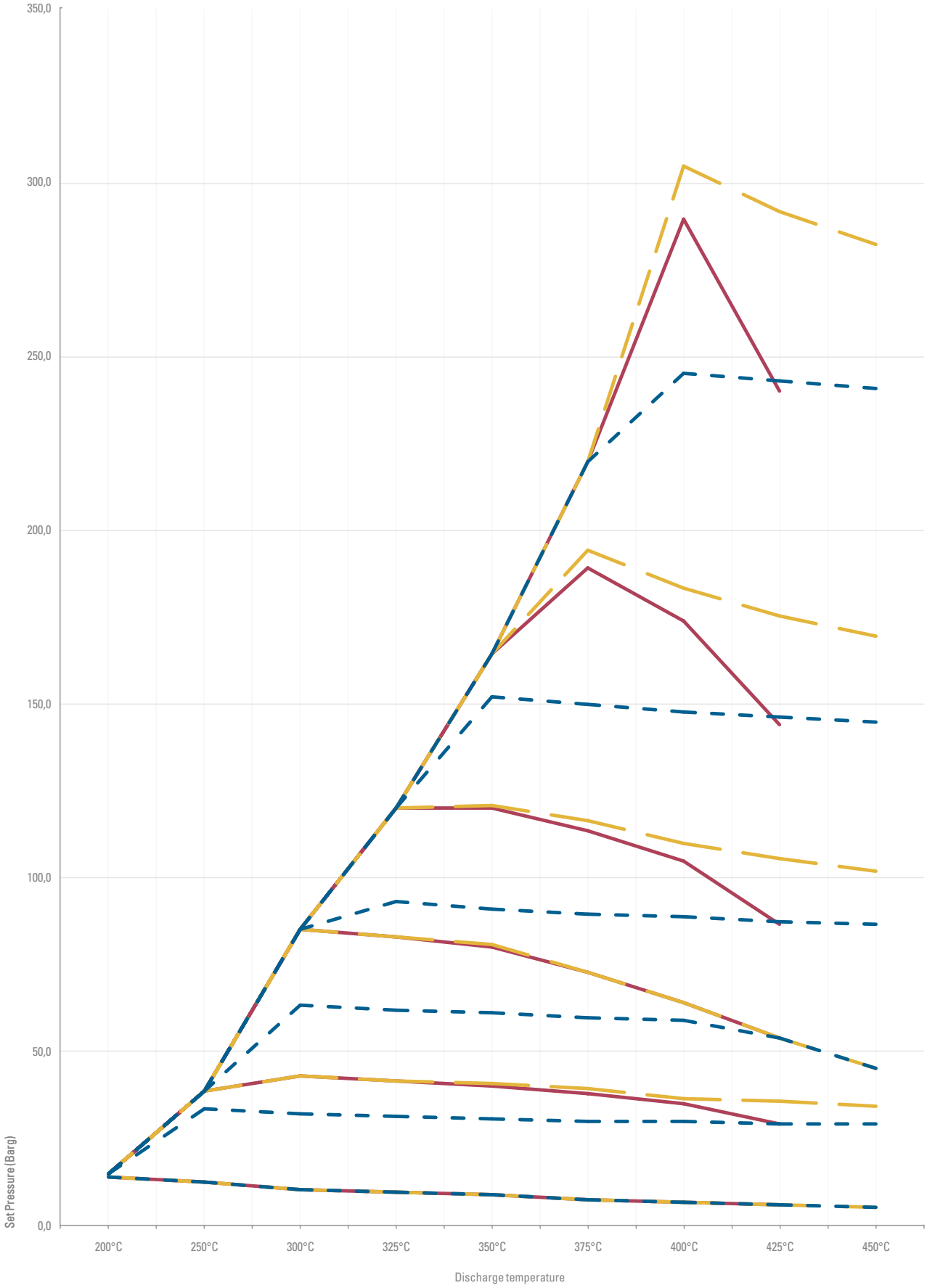
2,3 cm² / 0,356 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E72F11-30	1,5	F	2	150	150	13,8 *200*	12,1 *175*	10,2 *148*	9,3 *135*	8,4 *122*	7,4 *107*	6,5 *94*	5,5 *80*		SA 216 gr. WCC
7E72F21-30	1,5	F	2	300	150	14,5 *211*	38,7 *561*	42,9 *622*	41,4 *600*	40,0 *580*	37,8 *548*	34,7 *503*	28,8 *418*		
7E72F31-30	1,5	F	2	600	150	14,5 *211*	38,7 *561*	84,8 *1230*	82,6 *1198*	80,0 *1160*	72,6 *1052*	63,7 *924*	53,9 *782*		
7E73F42-30	1,5	F	3	900	300	14,5 *211*	38,7 *561*	84,8 *1230*	119,5 *1733*	120,1 *1742*	113,5 *1646*	104,2 *1511*	86,3 *1252*		
7E73F52-30	1,5	F	3	1500	300	14,5 *211*	38,7 *561*	84,8 *1230*	119,5 *1733*	164,3 *2383*	189,2 *2744*	173,6 *2518*	143,8 *2086*		
7E73F62-30	1,5	F	3	2500	300	14,5 *211*	38,7 *561*	84,8 *1230*	119,5 *1733*	164,3 *2383*	219,6 *3185*	289,3 *4196*	239,7 *3477*		
7E72F11-32	1,5	F	2	150	150	13,8 *200*	12,1 *175*	10,2 *148*	9,3 *135*	8,4 *122*	7,4 *107*	6,5 *94*	5,5 *80*	4,6 *67*	SA 217 gr. WC6 [1]
7E72F21-32	1,5	F	2	300	150	14,5 *211*	38,7 *561*	42,9 *622*	41,4 *600*	40,3 *585*	38,9 *564*	36,5 *529*	35,2 *511*	33,7 *489*	
7E72F31-32	1,5	F	2	600	150	14,5 *211*	38,7 *561*	84,8 *1230*	82,6 *1198*	80,4 *1166*	72,6 *1052*	63,7 *924*	53,9 *782*	45,1 *654*	
7E73F42-32	1,5	F	3	900	300	14,5 *211*	38,7 *561*	84,8 *1230*	119,5 *1733*	120,7 *1751*	116,5 *1690*	109,8 *1593*	105,1 *1524*	101,4 *1471*	
7E73F52-32	1,5	F	3	1500	300	14,5 *211*	38,7 *561*	84,8 *1230*	119,5 *1733*	164,3 *2383*	194,1 *2815*	183,1 *2656*	175,1 *2540*	169,0 *2451*	
7E73F62-32	1,5	F	3	2500	300	14,5 *211*	38,7 *561*	84,8 *1230*	119,5 *1733*	164,3 *2383*	219,6 *3185*	304,9 *4422*	291,6 *4229*	281,8 *4087*	
7E72F11-16	1,5	F	2	150	150	13,7 *199*	12,1 *175*	10,2 *148*	9,3 *135*	8,4 *122*	7,4 *107*	6,5 *94*	5,5 *80*	4,6 *67*	SA 351 gr. CF8M
7E72F21-16	1,5	F	2	300	150	14,5 *211*	33,4 *484*	31,6 *458*	30,9 *448*	30,3 *439*	29,9 *434*	29,4 *426*	29,1 *422*	28,8 *418*	
7E72F31-16	1,5	F	2	600	150	14,5 *211*	38,7 *561*	63,2 *917*	61,8 *896*	60,7 *880*	59,8 *867*	58,9 *854*	53,9 *782*	45,1 *654*	
7E73F42-16	1,5	F	3	900	300	14,5 *211*	38,7 *561*	84,8 *1230*	92,7 *1345*	91,0 *1320*	89,6 *1300*	88,3 *1281*	87,4 *1268*	86,5 *1255*	
7E73F52-16	1,5	F	3	1500	300	14,5 *211*	38,7 *561*	84,8 *1230*	119,5 *1733*	151,6 *2199*	149,4 *2167*	147,2 *2135*	145,7 *2113*	144,2 *2091*	
7E73F62-16	1,5	F	3	2500	300	14,5 *211*	38,7 *561*	84,8 *1230*	119,5 *1733*	164,3 *2383*	219,6 *3185*	245,3 *3558*	242,9 *3523*	240,4 *3487*	

NOTE

[1] Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A

Extrapolation from saturated steam, ASME B16.34 inlet/oulet



PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice: G

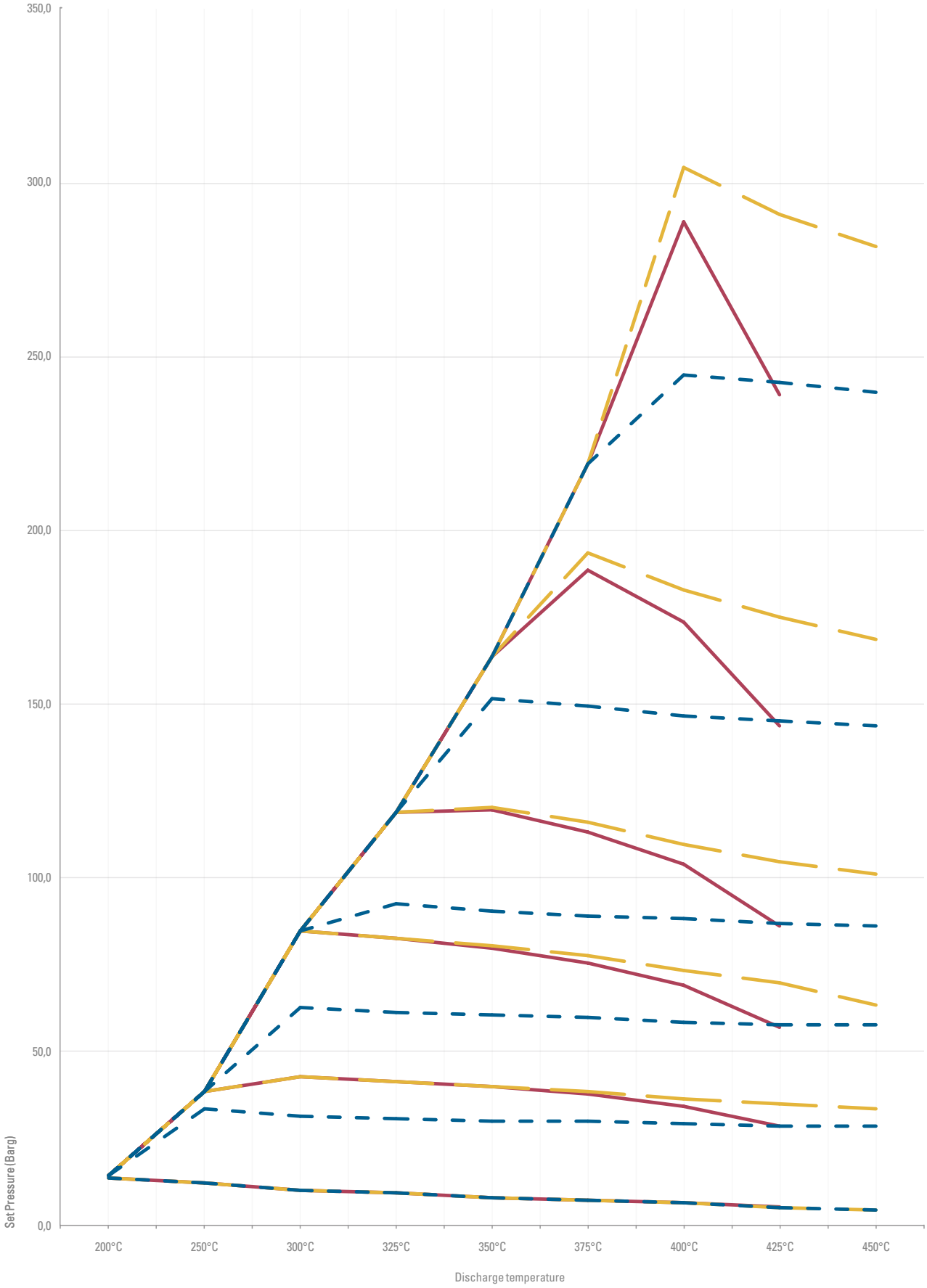
3,66 cm² / 0,568 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E73G11-30	1,5	G	3	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5		SA 216 gr. WCC
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*		
7E73G21-30	1,5	G	3	300	150	14,5	38,7	42,9	41,4	40,0	37,8	34,7	28,8		
						211	*561*	*622*	*600*	*580*	*548*	*503*	*418*		
7E73G31-30	1,5	G	3	600	150	14,5	38,7	84,8	82,6	80,0	75,7	69,4	57,5		
						211	*561*	*1230*	*1198*	*1160*	*1098*	*1007*	*834*		
7E73G42-30	1,5	G	3	900	300	14,5	38,7	84,8	119,5	120,1	113,5	104,2	86,3		
						211	*561*	*1230*	*1733*	*1742*	*1646*	*1511*	*1252*		
7E23G52-30	2	G	3	1500	300	14,5	38,7	84,8	119,5	164,3	189,2	173,6	143,8		
						211	*561*	*1230*	*1733*	*2383*	*2744*	*2518*	*2086*		
7E23G62-30	2	G	3	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	289,3	239,7		
						211	*561*	*1230*	*1733*	*2383*	*3185*	*4196*	*3477*		
7E73G11-32	1,5	G	3	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 217 gr. WC6 [1]
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E73G21-32	1,5	G	3	300	150	14,5	38,7	42,9	41,4	40,3	38,9	36,5	35,2	33,7	
						211	*561*	*622*	*600*	*585*	*564*	*529*	*511*	*489*	
7E73G31-32	1,5	G	3	600	150	14,5	38,7	84,8	82,6	80,4	77,6	73,3	70,0	63,6	
						211	*561*	*1230*	*1198*	*1166*	*1125*	*1063*	*1015*	*923*	
7E73G42-32	1,5	G	3	900	300	14,5	38,7	84,8	119,5	120,7	116,5	109,8	105,1	101,4	
						211	*561*	*1230*	*1733*	*1751*	*1690*	*1593*	*1524*	*1471*	
7E23G52-32	2	G	3	1500	300	14,5	38,7	84,8	119,5	164,3	194,1	183,1	175,1	169,0	
						211	*561*	*1230*	*1733*	*2383*	*2815*	*2656*	*2540*	*2451*	
7E23G62-32	2	G	3	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	304,9	291,6	281,8	
						211	*561*	*1230*	*1733*	*2383*	*3185*	*4422*	*4229*	*4087*	
7E73G11-16	1,5	G	3	150	150	13,7	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 351 gr. CF8M
						199	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E73G21-16	1,5	G	3	300	150	14,5	33,4	31,6	30,9	30,3	29,9	29,4	29,1	28,8	
						211	*484*	*458*	*448*	*439*	*434*	*426*	*422*	*418*	
7E73G31-16	1,5	G	3	600	150	14,5	38,7	63,2	61,8	60,7	59,8	58,9	58,3	57,7	
						211	*561*	*917*	*896*	*880*	*867*	*854*	*846*	*837*	
7E73G42-16	1,5	G	3	900	300	14,5	38,7	84,8	92,7	91,0	89,6	88,3	87,4	86,5	
						211	*561*	*1230*	*1345*	*1320*	*1300*	*1281*	*1268*	*1255*	
7E23G52-16	2	G	3	1500	300	14,5	38,7	84,8	119,5	151,6	149,4	147,2	145,7	144,2	
						211	*561*	*1230*	*1733*	*2199*	*2167*	*2135*	*2113*	*2091*	
7E23G62-16	2	G	3	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	245,3	242,9	240,4	
						211	*561*	*1230*	*1733*	*2383*	*3185*	*3558*	*3523*	*3487*	

NOTE

[1] Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A

Extrapolation from saturated steam, ASME B16.34 inlet/oulet & spring limit for carbon steel



PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice: H

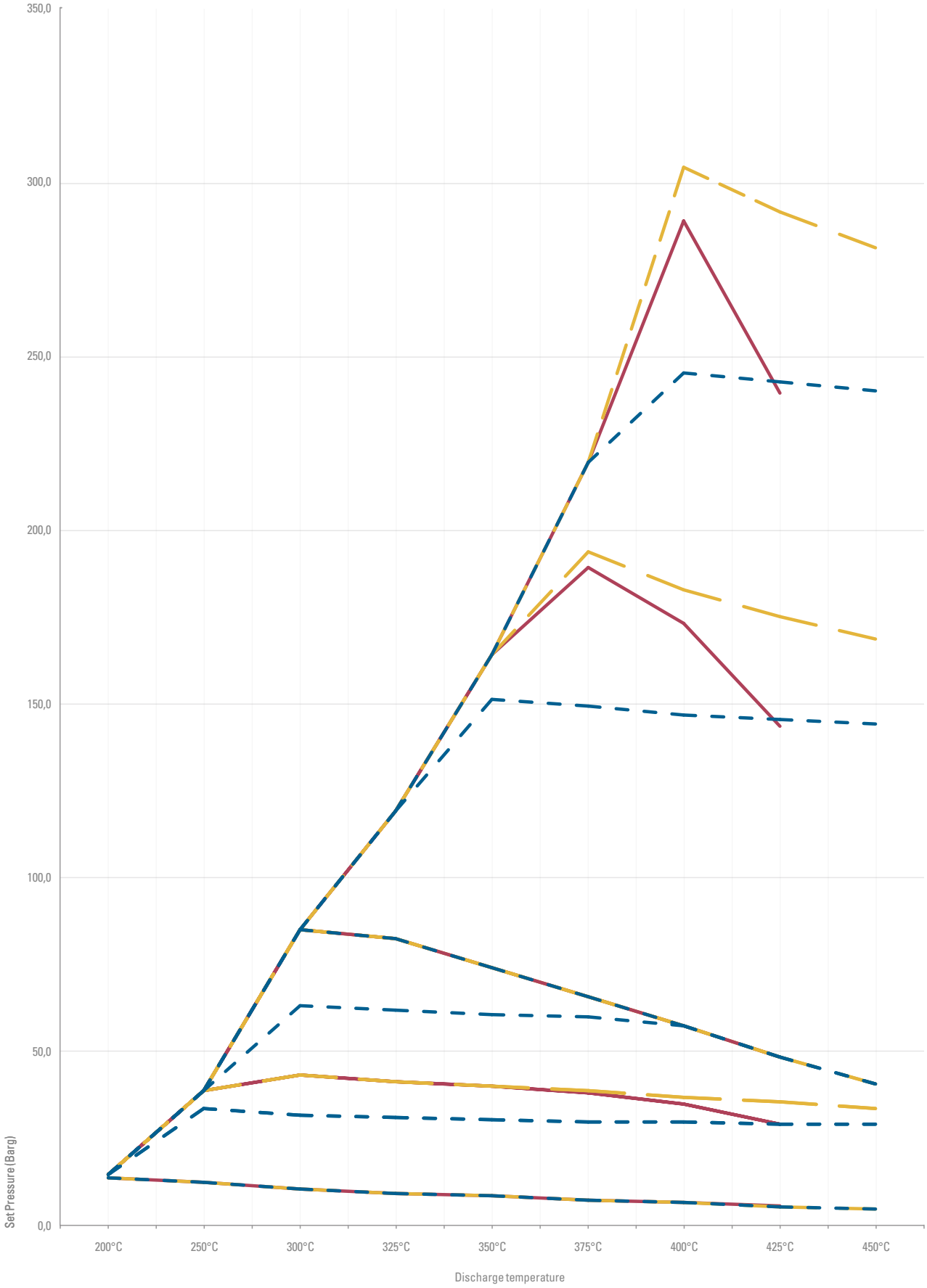
5,73 cm² / 0,887 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E73H11-30	1,5	H	3	150	150	13,8 *200*	12,1 *175*	10,2 *148*	9,3 *135*	8,4 *122*	7,4 *107*	6,5 *94*	5,5 *80*		SA 216 gr. WCC
7E73H21-30	1,5	H	3	300	150	14,5 *211*	38,7 *561*	42,9 *622*	41,4 *600*	40,0 *580*	37,8 *548*	34,7 *503*	28,8 *418*		
7E23H21-30	2	H	3	300	150	14,5 *211*	38,7 *561*	42,9 *622*	41,4 *600*	40,0 *580*	37,8 *548*	34,7 *503*	28,8 *418*		
7E23H31-30	2	H	3	600	150	14,5 *211*	38,7 *561*	84,8 *1230*	82,3 *1194*	74,3 *1078*	65,5 *950*	57,5 *834*	48,7 *706*		
7E23H41-30	2	H	3	900	150	14,5 *211*	38,7 *561*	84,8 *1230*	82,3 *1194*	74,3 *1078*	65,5 *950*	57,5 *834*	48,7 *706*		
7E23H52-30	2	H	3	1500	300	14,5 *211*	38,7 *561*	84,8 *1230*	119,5 *1733*	164,3 *2383*	189,2 *2744*	173,6 *2518*	143,8 *2086*		
7E23H62-30	2	H	3	2500	300	14,5 *211*	38,7 *561*	84,8 *1230*	119,5 *1733*	164,3 *2383*	219,6 *3185*	289,3 *4196*	239,7 *3477*		
7E73H11-32	1,5	H	3	150	150	13,8 *200*	12,1 *175*	10,2 *148*	9,3 *135*	8,4 *122*	7,4 *107*	6,5 *94*	5,5 *80*	4,6 *67*	SA 217 gr. WC6 [1]
7E73H21-32	1,5	H	3	300	150	14,5 *211*	38,7 *561*	42,9 *622*	41,4 *600*	40,3 *585*	38,9 *564*	36,5 *529*	35,2 *511*	33,7 *489*	
7E23H21-32	2	H	3	300	150	14,5 *211*	38,7 *561*	42,9 *622*	41,4 *600*	40,3 *585*	38,9 *564*	36,5 *529*	35,2 *511*	33,7 *489*	
7E23H31-32	2	H	3	600	150	14,5 *211*	38,7 *561*	84,8 *1230*	82,3 *1194*	74,3 *1078*	65,5 *950*	57,5 *834*	48,7 *706*	40,7 *590*	
7E23H41-32	2	H	3	900	150	14,5 *211*	38,7 *561*	84,8 *1230*	82,3 *1194*	74,3 *1078*	65,5 *950*	57,5 *834*	48,7 *706*	40,7 *590*	
7E23H52-32	2	H	3	1500	300	14,5 *211*	38,7 *561*	84,8 *1230*	119,5 *1733*	164,3 *2383*	194,1 *2815*	183,1 *2656*	175,1 *2540*	169,0 *2451*	
7E23H62-32	2	H	3	2500	300	14,5 *211*	38,7 *561*	84,8 *1230*	119,5 *1733*	164,3 *2383*	219,6 *3185*	304,9 *4422*	291,6 *4229*	281,8 *4087*	
7E73H11-16	1,5	H	3	150	150	13,7 *199*	12,1 *175*	10,2 *148*	9,3 *135*	8,4 *122*	7,4 *107*	6,5 *94*	5,5 *80*	4,6 *67*	SA 351 gr. CF8M
7E73H21-16	1,5	H	3	300	150	14,5 *211*	33,4 *484*	31,6 *458*	30,9 *448*	30,3 *439*	29,9 *434*	29,4 *426*	29,1 *422*	28,8 *418*	
7E23H21-16	2	H	3	300	150	14,5 *211*	33,4 *484*	31,6 *458*	30,9 *448*	30,3 *439*	29,9 *434*	29,4 *426*	29,1 *422*	28,8 *418*	
7E23H31-16	2	H	3	600	150	14,5 *211*	38,7 *561*	63,2 *917*	61,8 *896*	60,7 *880*	59,8 *867*	57,5 *834*	48,7 *706*	40,7 *590*	
7E23H41-16	2	H	3	900	150	14,5 *211*	38,7 *561*	84,8 *1230*	82,3 *1194*	74,3 *1078*	65,5 *950*	57,5 *834*	48,7 *706*	40,7 *590*	
7E23H52-16	2	H	3	1500	300	14,5 *211*	38,7 *561*	84,8 *1230*	119,5 *1733*	151,6 *2199*	149,4 *2167*	147,2 *2135*	145,7 *2113*	144,2 *2091*	
7E23H62-16	2	H	3	2500	300	14,5 *211*	38,7 *561*	84,8 *1230*	119,5 *1733*	164,3 *2383*	219,6 *3185*	245,3 *3558*	242,9 *3523*	240,4 *3487*	

NOTE

[1] Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A

Extrapolation from saturated steam, ASME B16.34 inlet/oulet



PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice: J

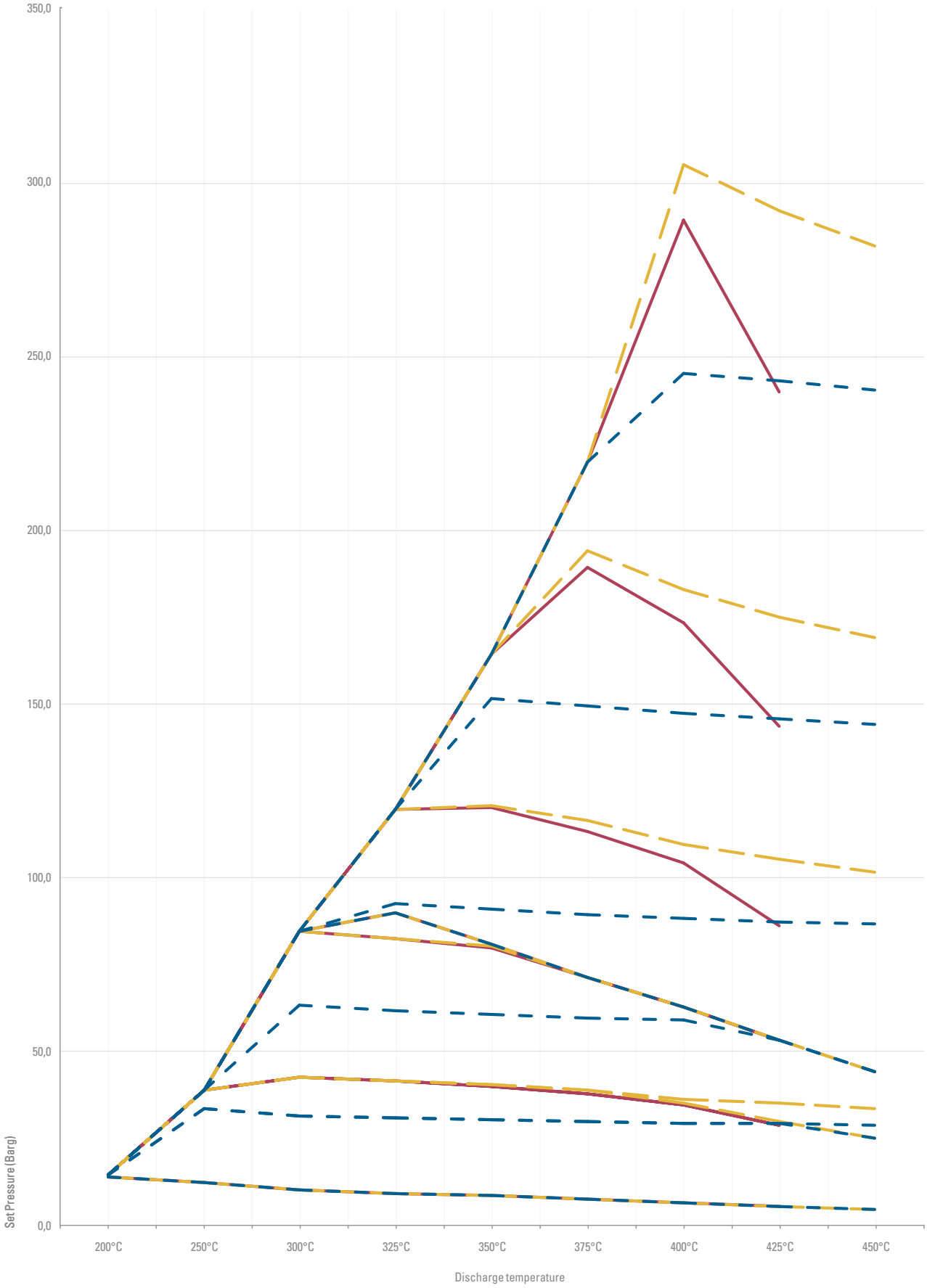
9,49 cm² / 1,471 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E23J11-30	2	J	3	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5		SA 216 gr. WCC
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*		
7E23J21-30	2	J	3	300	150	14,5	38,7	42,9	41,4	40,0	37,8	34,7	28,8		
						211	*561*	*622*	*600*	*580*	*548*	*503*	*418*		
7E34J21-30	3	J	4	300	150	14,5	38,7	42,9	41,4	40,0	37,8	34,7	28,8		
						211	*561*	*622*	*600*	*580*	*548*	*503*	*418*		
7E34J31-30	3	J	4	600	150	14,5	38,7	84,8	82,6	80,0	71,5	62,8	53,1		
						211	*561*	*1230*	*1198*	*1160*	*1037*	*911*	*770*		
7E34J41-30	3	J	4	900	150	14,5	38,7	84,8	89,8	81,1	71,5	62,8	53,1		
						211	*561*	*1230*	*1303*	*1177*	*1037*	*911*	*770*		
7E34J42-30	3	J	4	900	300	14,5	38,7	84,8	119,5	120,1	113,5	104,2	86,3		
						211	*561*	*1230*	*1733*	*1742*	*1646*	*1511*	*1252*		
7E34J52-30	3	J	4	1500	300	14,5	38,7	84,8	119,5	164,3	189,2	173,6	143,8		
						211	*561*	*1230*	*1733*	*2383*	*2744*	*2518*	*2086*		
7E36J62-30	3	J	6	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	289,3	239,7		
						211	*561*	*1230*	*1733*	*2383*	*3185*	*4196*	*3477*		
7E23J11-32	2	J	3	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 217 gr. WC6 [1]
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E23J21-32	2	J	3	300	150	14,5	38,7	42,9	41,4	40,3	38,9	35,3	29,9	25,0	
						211	*561*	*622*	*600*	*585*	*564*	*512*	*433*	*362*	
7E34J21-32	3	J	4	300	150	14,5	38,7	42,9	41,4	40,3	38,9	36,5	35,2	33,7	
						211	*561*	*622*	*600*	*585*	*564*	*529*	*511*	*489*	
7E34J31-32	3	J	4	600	150	14,5	38,7	84,8	82,6	80,4	71,5	62,8	53,1	44,4	
						211	*561*	*1230*	*1198*	*1166*	*1037*	*911*	*770*	*644*	
7E34J41-32	3	J	4	900	150	14,5	38,7	84,8	89,8	81,1	71,5	62,8	53,1	44,4	
						211	*561*	*1230*	*1303*	*1177*	*1037*	*911*	*770*	*644*	
7E34J42-32	3	J	4	900	300	14,5	38,7	84,8	119,5	120,7	116,5	109,8	105,1	101,4	
						211	*561*	*1230*	*1733*	*1751*	*1690*	*1593*	*1524*	*1471*	
7E34J52-32	3	J	4	1500	300	14,5	38,7	84,8	119,5	164,3	194,1	183,1	175,1	169,0	
						211	*561*	*1230*	*1733*	*2383*	*2815*	*2656*	*2540*	*2451*	
7E36J62-32	3	J	6	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	304,9	291,6	281,8	
						211	*561*	*1230*	*1733*	*2383*	*3185*	*4422*	*4229*	*4087*	
7E23J11-16	2	J	3	150	150	13,7	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 351 gr. CF8M
						199	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E23J21-16	2	J	3	300	150	14,5	33,4	31,6	30,9	30,3	29,9	29,4	29,1	25,0	
						211	*484*	*458*	*448*	*439*	*434*	*426*	*422*	*362*	
7E34J21-16	3	J	4	300	150	14,5	33,4	31,6	30,9	30,3	29,9	29,4	29,1	28,8	
						211	*484*	*458*	*448*	*439*	*434*	*426*	*422*	*418*	
7E34J31-16	3	J	4	600	150	14,5	38,7	63,2	61,8	60,7	59,8	58,9	53,1	44,4	
						211	*561*	*917*	*896*	*880*	*867*	*854*	*770*	*644*	
7E34J41-16	3	J	4	900	150	14,5	38,7	84,8	89,8	81,1	71,5	62,8	53,1	44,4	
						211	*561*	*1230*	*1303*	*1177*	*1037*	*911*	*770*	*644*	
7E34J42-16	3	J	4	900	300	14,5	38,7	84,8	92,7	91,0	89,6	88,3	87,4	86,5	
						211	*561*	*1230*	*1345*	*1320*	*1300*	*1281*	*1268*	*1255*	
7E34J52-16	3	J	4	1500	300	14,5	38,7	84,8	119,5	151,6	149,4	147,2	145,7	144,2	
						211	*561*	*1230*	*1733*	*2199*	*2167*	*2135*	*2113*	*2091*	
7E36J62-16	3	J	6	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	245,3	242,9	240,4	
						211	*561*	*1230*	*1733*	*2383*	*3185*	*3558*	*3523*	*3487*	

NOTE

[1] *Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A*

Extrapolation from saturated steam, ASME B16.34 inlet/oulet



PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice: K

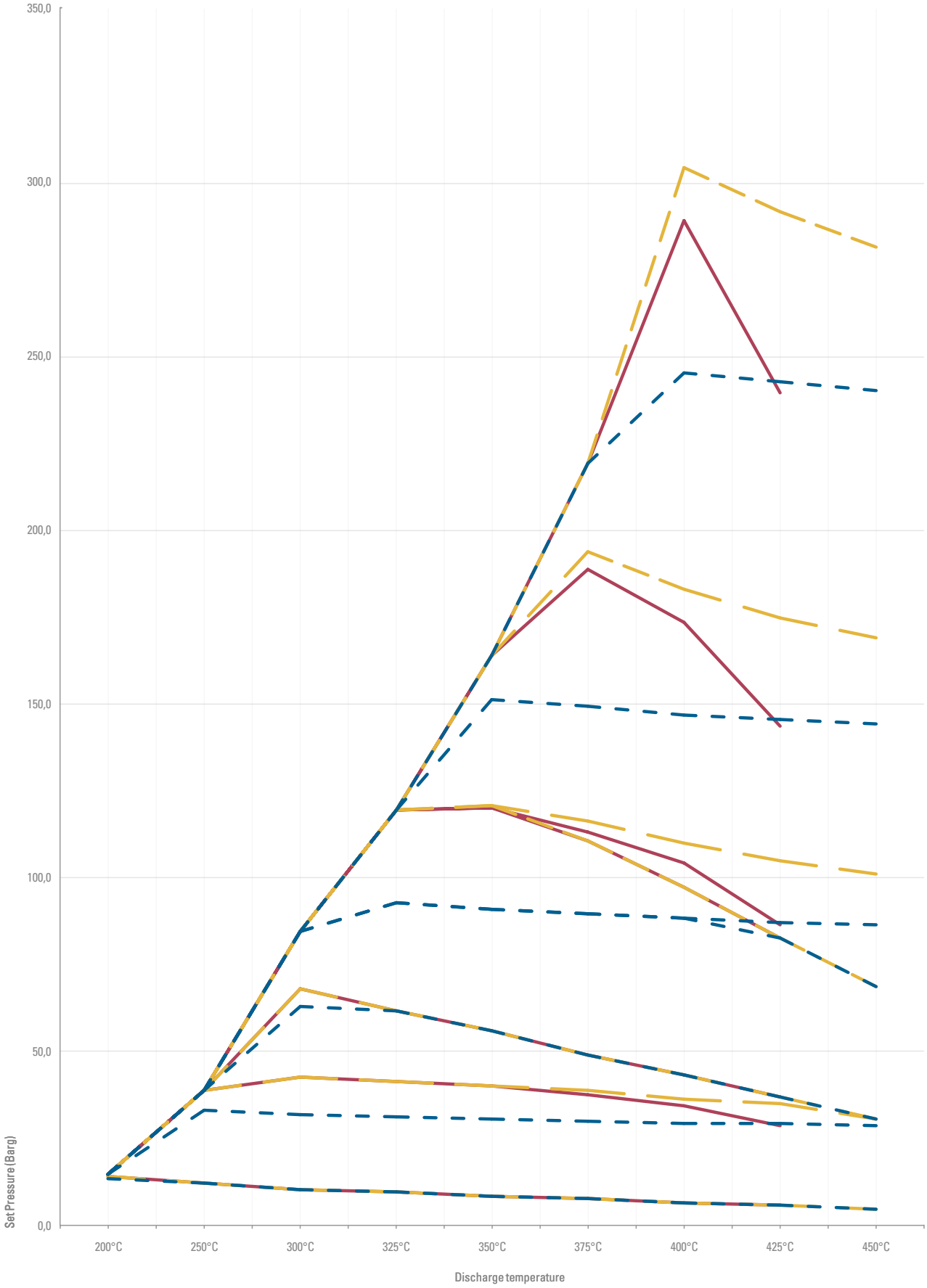
13,53 cm² / 2,097 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E34K11-30	3	K	4	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5		SA 216 gr. WCC
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*		
7E34K21-30	3	K	4	300	150	14,5	38,7	42,9	41,4	40,0	37,8	34,7	28,8		
						211	*561*	*622*	*600*	*580*	*548*	*503*	*418*		
7E34K31-30	3	K	4	600	150	14,5	38,7	67,9	61,9	55,9	49,3	43,3	36,6		
						211	*561*	*985*	*898*	*811*	*715*	*628*	*531*		
7E36K41-30	3	K	6	900	150	14,5	38,7	84,8	119,5	120,1	110,9	97,4	82,4		
						211	*561*	*1230*	*1733*	*1742*	*1608*	*1413*	*1195*		
7E36K42-30	3	K	6	900	300	14,5	38,7	84,8	119,5	120,1	113,5	104,2	86,3		
						211	*561*	*1230*	*1733*	*1742*	*1646*	*1511*	*1252*		
7E36K52-30	3	K	6	1500	300	14,5	38,7	84,8	119,5	164,3	189,2	173,6	143,8		
						211	*561*	*1230*	*1733*	*2383*	*2744*	*2518*	*2086*		
7E36K62-30	3	K	6	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	289,3	239,7		
						211	*561*	*1230*	*1733*	*2383*	*3185*	*4196*	*3477*		
7E34K11-32	3	K	4	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 217 gr. WC6 (1)
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E34K21-32	3	K	4	300	150	14,5	38,7	42,9	41,4	40,3	38,9	36,5	35,2	30,6	
						211	*561*	*622*	*600*	*585*	*564*	*529*	*511*	*444*	
7E34K31-32	3	K	4	600	150	14,5	38,7	67,9	61,9	55,9	49,3	43,3	36,6	30,6	
						211	*561*	*985*	*898*	*811*	*715*	*628*	*531*	*444*	
7E36K41-32	3	K	6	900	150	14,5	38,7	84,8	119,5	120,7	110,9	97,4	82,4	68,9	
						211	*561*	*1230*	*1733*	*1751*	*1608*	*1413*	*1195*	*1000*	
7E36K42-32	3	K	6	900	300	14,5	38,7	84,8	119,5	120,7	116,5	109,8	105,1	101,4	
						211	*561*	*1230*	*1733*	*1751*	*1690*	*1593*	*1524*	*1471*	
7E36K52-32	3	K	6	1500	300	14,5	38,7	84,8	119,5	164,3	194,1	183,1	175,1	169,0	
						211	*561*	*1230*	*1733*	*2383*	*2815*	*2656*	*2540*	*2451*	
7E36K62-32	3	K	6	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	304,9	291,6	281,8	
						211	*561*	*1230*	*1733*	*2383*	*3185*	*4422*	*4229*	*4087*	
7E34K11-16	3	K	4	150	150	13,7	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 351 gr. CF8M
						199	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E34K21-16	3	K	4	300	150	14,5	33,4	31,6	30,9	30,3	29,9	29,4	29,1	28,8	
						211	*484*	*458*	*448*	*439*	*434*	*426*	*422*	*418*	
7E34K31-16	3	K	4	600	150	14,5	38,7	63,2	61,8	55,9	49,3	43,3	36,6	30,6	
						211	*561*	*917*	*896*	*811*	*715*	*628*	*531*	*444*	
7E36K41-16	3	K	6	900	150	14,5	38,7	84,8	92,7	91,0	89,6	88,3	82,4	68,9	
						211	*561*	*1230*	*1345*	*1320*	*1300*	*1281*	*1195*	*1000*	
7E36K42-16	3	K	6	900	300	14,5	38,7	84,8	92,7	91,0	89,6	88,3	87,4	86,5	
						211	*561*	*1230*	*1345*	*1320*	*1300*	*1281*	*1268*	*1255*	
7E36K52-16	3	K	6	1500	300	14,5	38,7	84,8	119,5	151,6	149,4	147,2	145,7	144,2	
						211	*561*	*1230*	*1733*	*2199*	*2167*	*2135*	*2113*	*2091*	
7E36K62-16	3	K	6	2500	300	14,5	38,7	84,8	119,5	164,3	219,6	245,3	242,9	240,4	
						211	*561*	*1230*	*1733*	*2383*	*3185*	*3558*	*3523*	*3487*	

NOTE

(1) *Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A*

Extrapolation from saturated steam, ASME B16.34 inlet/oulet



PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice:L

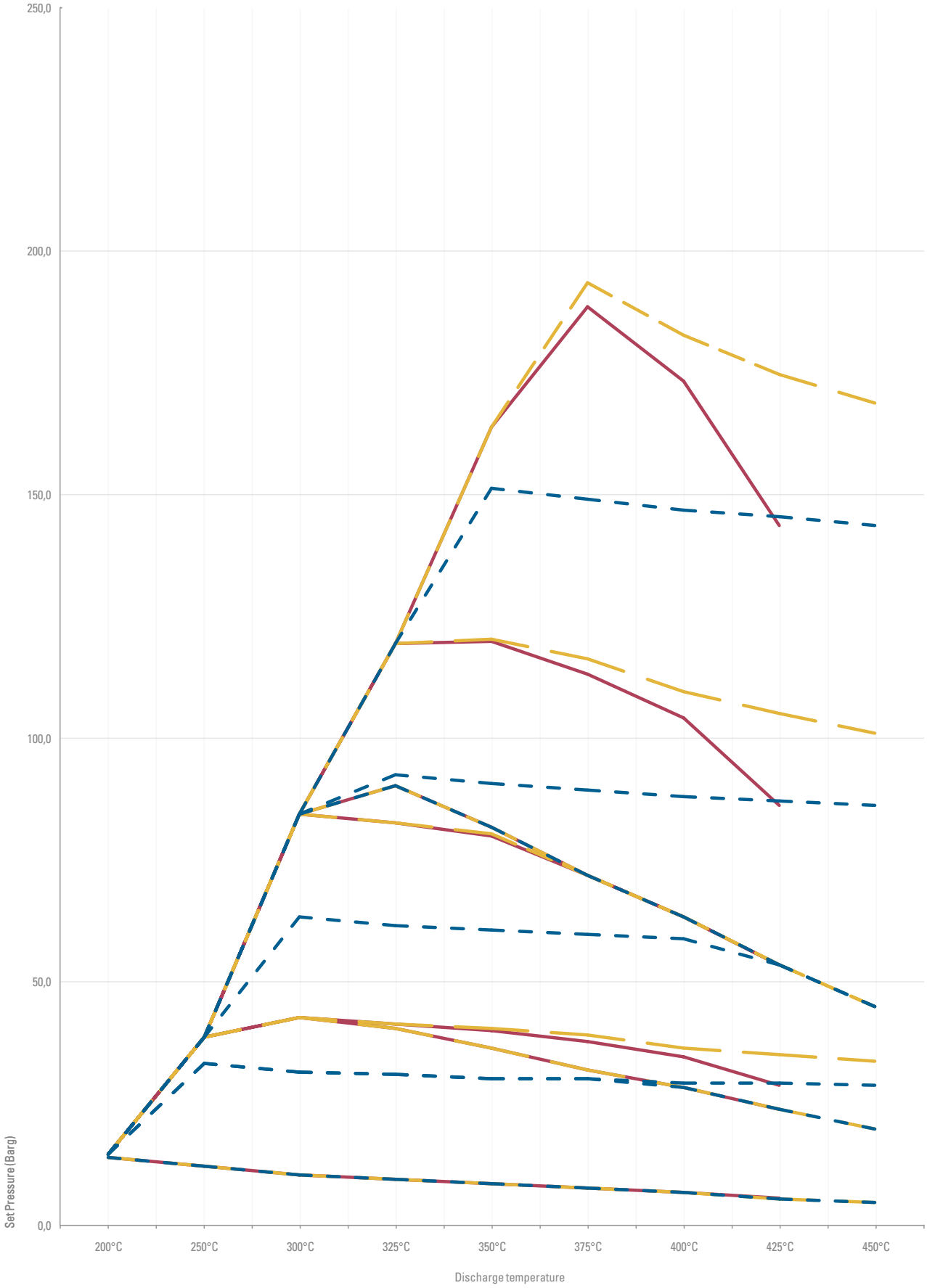
20,83 cm² / 3,229 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E34L11-30	3	L	4	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5		SA 216 gr. WCC
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*		
7E34L21-30	3	L	4	300	150	14,5	38,7	42,9	40,2	36,3	32,0	28,1	23,8		
						211	*561*	*622*	*583*	*527*	*464*	*408*	*345*		
7E46L21-30	4	L	6	300	150	14,5	38,7	42,9	41,4	40,0	37,8	34,7	28,8		
						211	*561*	*622*	*600*	*580*	*548*	*503*	*418*		
7E46L31-30	4	L	6	600	150	14,5	38,7	84,8	82,6	80,0	72,0	63,2	53,5		
						211	*561*	*1230*	*1198*	*1160*	*1044*	*917*	*776*		
7E46L41-30	4	L	6	900	150	14,5	38,7	84,8	90,5	81,7	72,0	63,2	53,5		
						211	*561*	*1230*	*1312*	*1185*	*1044*	*917*	*776*		
7E46L42-30	4	L	6	900	300	14,5	38,7	84,8	119,5	120,1	113,5	104,2	86,3		
						211	*561*	*1230*	*1733*	*1742*	*1646*	*1511*	*1252*		
7E46L52-30	4	L	6	1500	300	14,5	38,7	84,8	119,5	164,3	189,2	173,6	143,8		
						211	*561*	*1230*	*1733*	*2383*	*2744*	*2518*	*2086*		
7E34L11-32	3	L	4	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 217 gr. WC6 (1)
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E34L21-32	3	L	4	300	150	14,5	38,7	42,9	40,2	36,3	32,0	28,1	23,8	19,9	
						211	*561*	*622*	*583*	*527*	*464*	*408*	*345*	*289*	
7E46L21-32	4	L	6	300	150	14,5	38,7	42,9	41,4	40,3	38,9	36,5	35,2	33,7	
						211	*561*	*622*	*600*	*585*	*564*	*529*	*511*	*489*	
7E46L31-32	4	L	6	600	150	14,5	38,7	84,8	82,6	80,4	72,0	63,2	53,5	44,8	
						211	*561*	*1230*	*1198*	*1166*	*1044*	*917*	*776*	*649*	
7E46L41-32	4	L	6	900	150	14,5	38,7	84,8	90,5	81,7	72,0	63,2	53,5	44,8	
						211	*561*	*1230*	*1312*	*1185*	*1044*	*917*	*776*	*649*	
7E46L42-32	4	L	6	900	300	14,5	38,7	84,8	119,5	120,7	116,5	109,8	105,1	101,4	
						211	*561*	*1230*	*1733*	*1751*	*1690*	*1593*	*1524*	*1471*	
7E46L52-32	4	L	6	1500	300	14,5	38,7	84,8	119,5	164,3	194,1	183,1	175,1	169,0	
						211	*561*	*1230*	*1733*	*2383*	*2815*	*2656*	*2540*	*2451*	
7E34L11-16	3	L	4	150	150	13,7	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 351 gr. CF8M
						199	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E34L21-16	3	L	4	300	150	14,5	33,4	31,6	30,9	30,3	29,9	28,1	23,8	19,9	
						211	*484*	*458*	*448*	*439*	*434*	*408*	*345*	*289*	
7E46L21-16	4	L	6	300	150	14,5	33,4	31,6	30,9	30,3	29,9	29,4	29,1	28,8	
						211	*484*	*458*	*448*	*439*	*434*	*426*	*422*	*418*	
7E46L31-16	4	L	6	600	150	14,5	38,7	63,2	61,8	60,7	59,8	58,9	53,5	44,8	
						211	*561*	*917*	*896*	*880*	*867*	*854*	*776*	*649*	
7E46L41-16	4	L	6	900	150	14,5	38,7	84,8	90,5	81,7	72,0	63,2	53,5	44,8	
						211	*561*	*1230*	*1312*	*1185*	*1044*	*917*	*776*	*649*	
7E46L42-16	4	L	6	900	300	14,5	38,7	84,8	92,7	91,0	89,6	88,3	87,4	86,5	
						211	*561*	*1230*	*1345*	*1320*	*1300*	*1281*	*1268*	*1255*	
7E46L52-16	4	L	6	1500	300	14,5	38,7	84,8	119,5	151,6	149,4	147,2	145,7	144,2	
						211	*561*	*1230*	*1733*	*2199*	*2167*	*2135*	*2113*	*2091*	

NOTE

(1) Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A

Extrapolation from saturated steam, ASME B16.34 inlet/oulet



PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice: M

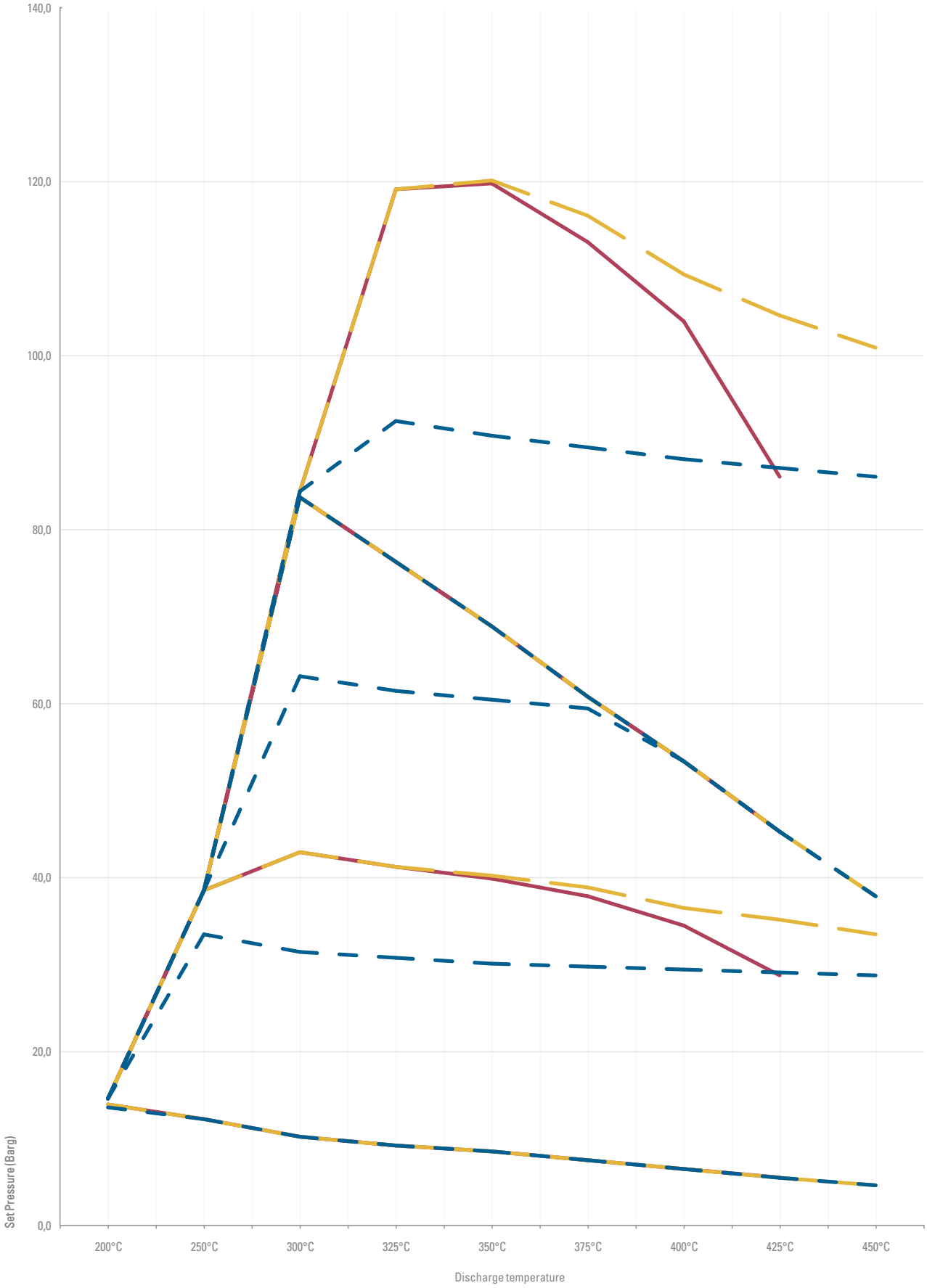
24,63 cm² / 3,818 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E46M11-30	4	M	6	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5		SA 216 gr.WCC
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*		
7E46M21-30	4	M	6	300	150	14,5	38,7	42,9	41,4	40,0	37,8	34,7	28,8		
						211	*561*	*622*	*600*	*580*	*548*	*503*	*418*		
7E46M31-30	4	M	6	600	150	14,5	38,7	83,9	76,5	69,1	60,9	53,5	45,3		
						211	*561*	*1217*	*1110*	*1003*	*883*	*776*	*656*		
7E46M41-30	4	M	6	900	150	14,5	38,7	83,9	76,5	69,1	60,9	53,5	45,3		
						211	*561*	*1217*	*1110*	*1003*	*883*	*776*	*656*		
7E46M42-30	4	M	6	900	300	14,5	38,7	84,8	119,5	120,1	113,5	104,2	86,3		
						211	*561*	*1230*	*1733*	*1742*	*1646*	*1511*	*1252*		
7E46M11-32	4	M	6	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 217 gr.WC6 [1]
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E46M21-32	4	M	6	300	150	14,5	38,7	42,9	41,4	40,3	38,9	36,5	35,2	33,7	
						211	*561*	*622*	*600*	*585*	*564*	*529*	*511*	*489*	
7E46M31-32	4	M	6	600	150	14,5	38,7	83,9	76,5	69,1	60,9	53,5	45,3	37,9	
						211	*561*	*1217*	*1110*	*1003*	*883*	*776*	*656*	*549*	
7E46M41-32	4	M	6	900	150	14,5	38,7	83,9	76,5	69,1	60,9	53,5	45,3	37,9	
						211	*561*	*1217*	*1110*	*1003*	*883*	*776*	*656*	*549*	
7E46M42-32	4	M	6	900	300	14,5	38,7	84,8	119,5	120,7	116,5	109,8	105,1	101,4	
						211	*561*	*1230*	*1733*	*1751*	*1690*	*1593*	*1524*	*1471*	
7E46M11-16	4	M	6	150	150	13,7	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 351 gr. CF8M
						199	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E46M21-16	4	M	6	300	150	14,5	33,4	31,6	30,9	30,3	29,9	29,4	29,1	28,8	
						211	*484*	*458*	*448*	*439*	*434*	*426*	*422*	*418*	
7E46M31-16	4	M	6	600	150	14,5	38,7	63,2	61,8	60,7	59,8	53,5	45,3	37,9	
						211	*561*	*917*	*896*	*880*	*867*	*776*	*656*	*549*	
7E46M41-16	4	M	6	900	150	14,5	38,7	83,9	76,5	69,1	60,9	53,5	45,3	37,9	
						211	*561*	*1217*	*1110*	*1003*	*883*	*776*	*656*	*549*	
7E46M42-16	4	M	6	900	300	14,5	38,7	84,8	92,7	91,0	89,6	88,3	87,4	86,5	
						211	*561*	*1230*	*1345*	*1320*	*1300*	*1281*	*1268*	*1255*	

NOTE

[1] Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A

Extrapolation from saturated steam, ASME B16.34 inlet/oulet



PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice: N

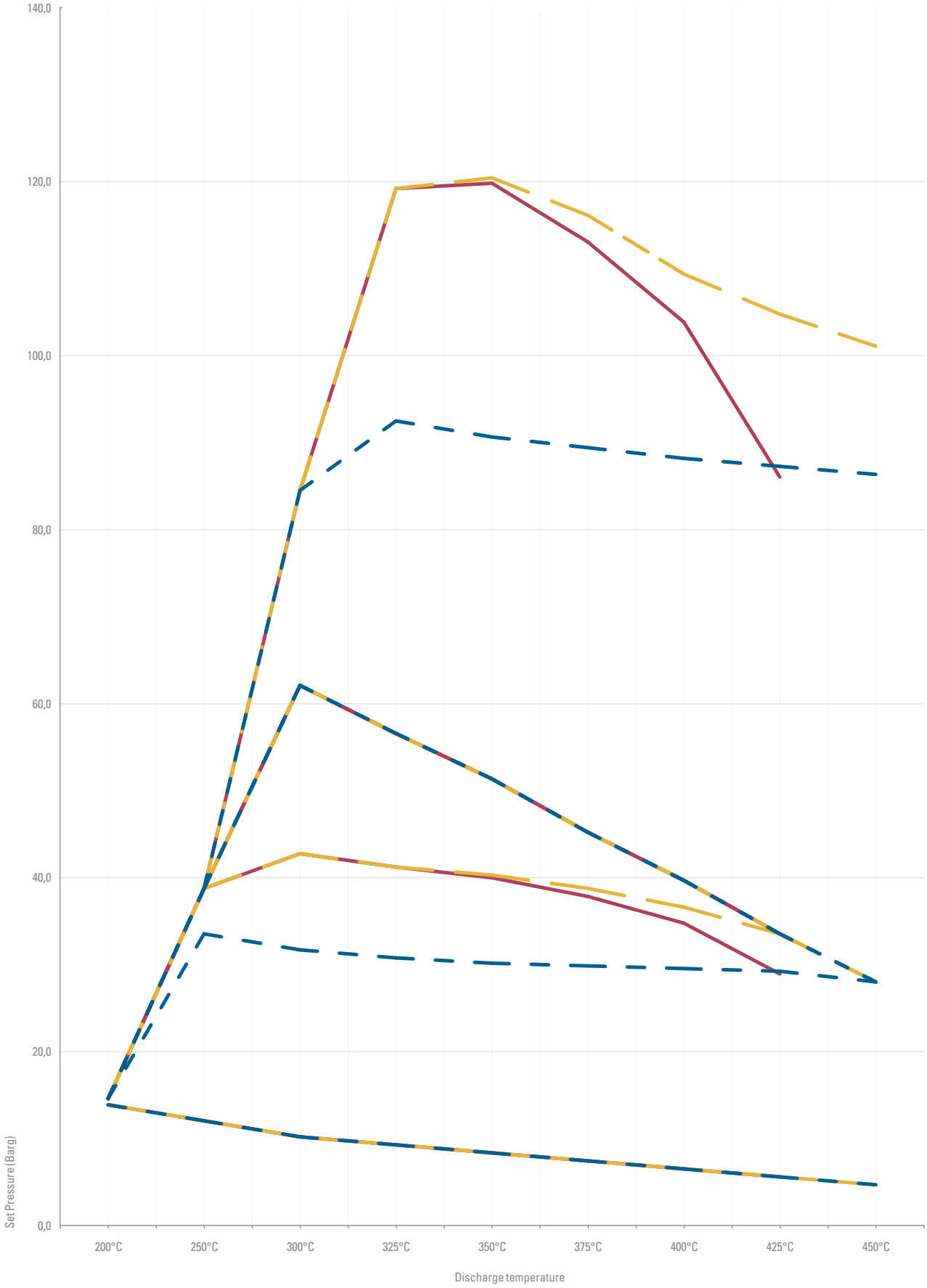
33,18 cm² / 5,143 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E46N11-30	4	N	6	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5		SA 216 gr.WCC
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*		
7E46N21-30	4	N	6	300	150	14,5	38,7	42,9	41,4	40,0	37,8	34,7	28,8		
						211	*561*	*622*	*600*	*580*	*548*	*503*	*418*		
7E46N31-30	4	N	6	600	150	14,5	38,7	62,3	56,8	51,3	45,2	39,7	33,6		
						211	*561*	*904*	*824*	*744*	*656*	*576*	*487*		
7E46N41-30	4	N	6	900	150	14,5	38,7	62,3	56,8	51,3	45,2	39,7	33,6		
						211	*561*	*904*	*824*	*744*	*656*	*576*	*487*		
7E46N42-30	4	N	6	900	300	14,5	38,7	84,8	119,5	120,1	113,5	104,2	86,3		
						211	*561*	*1230*	*1733*	*1742*	*1646*	*1511*	*1252*		
7E46N11-32	4	N	6	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 217 gr.WC6 [1]
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E46N21-32	4	N	6	300	150	14,5	38,7	42,9	41,4	40,3	38,9	36,5	33,6	28,1	
						211	*561*	*622*	*600*	*585*	*564*	*529*	*487*	*408*	
7E46N31-32	4	N	6	600	150	14,5	38,7	62,3	56,8	51,3	45,2	39,7	33,6	28,1	
						211	*561*	*904*	*824*	*744*	*656*	*576*	*487*	*408*	
7E46N41-32	4	N	6	900	150	14,5	38,7	62,3	56,8	51,3	45,2	39,7	33,6	28,1	
						211	*561*	*904*	*824*	*744*	*656*	*576*	*487*	*408*	
7E46N42-32	4	N	6	900	300	14,5	38,7	84,8	119,5	120,7	116,5	109,8	105,1	101,4	
						211	*561*	*1230*	*1733*	*1751*	*1690*	*1593*	*1524*	*1471*	
7E46N11-16	4	N	6	150	150	13,7	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 351 gr. CF8M
						199	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E46N21-16	4	N	6	300	150	14,5	33,4	31,6	30,9	30,3	29,9	29,4	29,1	28,1	
						211	*484*	*458*	*448*	*439*	*434*	*426*	*422*	*408*	
7E46N31-16	4	N	6	600	150	14,5	38,7	62,3	56,8	51,3	45,2	39,7	33,6	28,1	
						211	*561*	*904*	*824*	*744*	*656*	*576*	*487*	*408*	
7E46N41-16	4	N	6	900	150	14,5	38,7	62,3	56,8	51,3	45,2	39,7	33,6	28,1	
						211	*561*	*904*	*824*	*744*	*656*	*576*	*487*	*408*	
7E46N42-16	4	N	6	900	300	14,5	38,7	84,8	92,7	91,0	89,6	88,3	87,4	86,5	
						211	*561*	*1230*	*1345*	*1320*	*1300*	*1281*	*1268*	*1255*	

NOTE

[1] Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A

Extrapolation from saturated steam, ASME B16.34 inlet/oulet



PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice: P

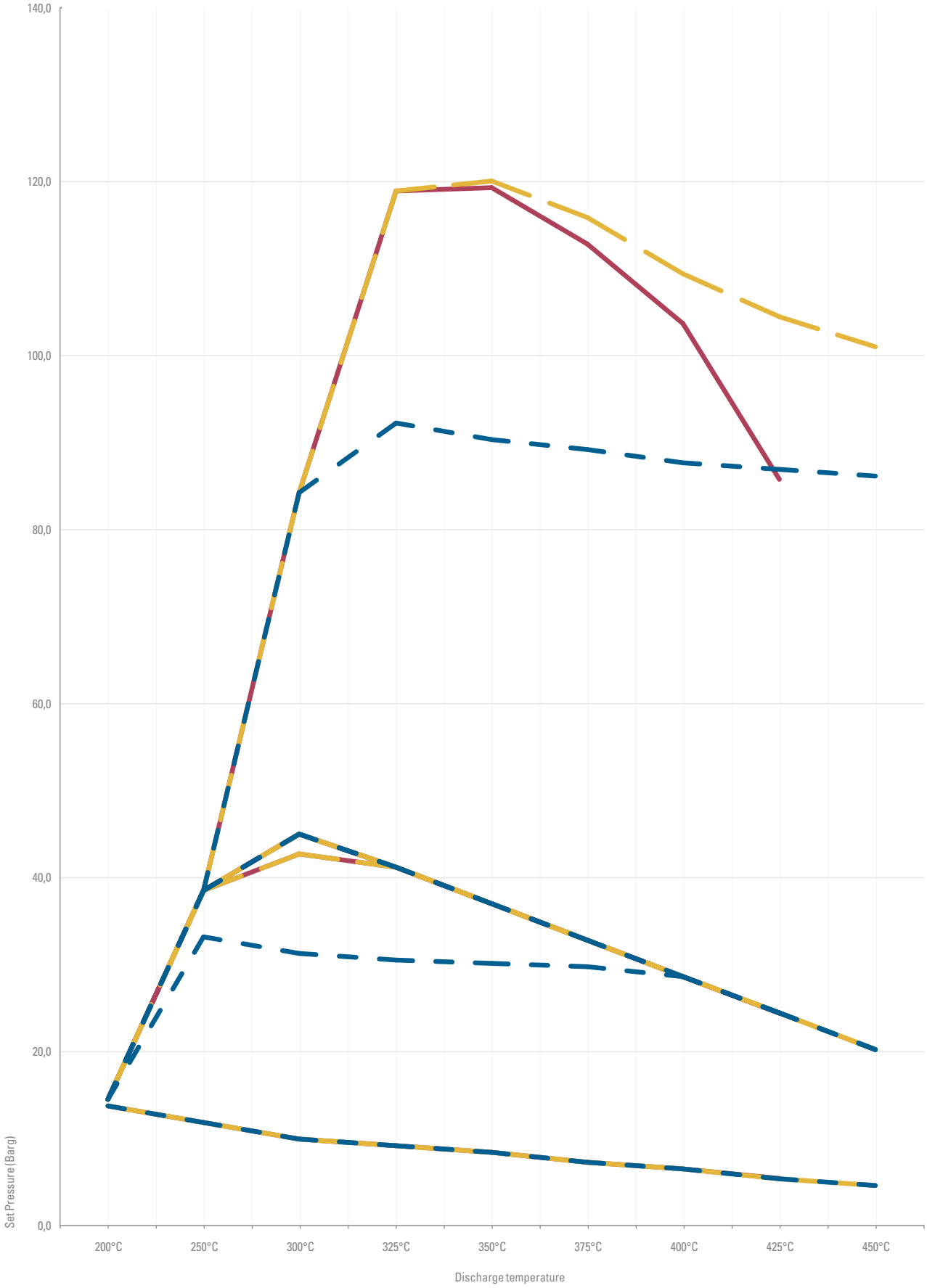
45,6 cm² / 7,069 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E46P11-30	4	P	6	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5		SA 216 gr.WCC
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*		
7E46P21-30	4	P	6	300	150	14,5	38,7	42,9	41,3	37,3	32,9	28,9	24,4		
						211	*561*	*622*	*599*	*541*	*477*	*419*	*355*		
7E46P31-30	4	P	6	600	150	14,5	38,7	45,3	41,3	37,3	32,9	28,9	24,4		
						211	*561*	*658*	*599*	*541*	*477*	*419*	*355*		
7E46P41-30	4	P	6	900	150	14,5	38,7	45,3	41,3	37,3	32,9	28,9	24,4		
						211	*561*	*658*	*599*	*541*	*477*	*419*	*355*		
7E46P42-30	4	P	6	900	300	14,5	38,7	84,8	119,5	120,1	113,5	104,2	86,3		
						211	*561*	*1230*	*1733*	*1742*	*1646*	*1511*	*1252*		
7E46P11-32	4	P	6	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 217 gr.WC6 [1]
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E46P21-32	4	P	6	300	150	14,5	38,7	42,9	41,3	37,3	32,9	28,9	24,4	20,4	
						211	*561*	*622*	*599*	*541*	*477*	*419*	*355*	*297*	
7E46P31-32	4	P	6	600	150	14,5	38,7	45,3	41,3	37,3	32,9	28,9	24,4	20,4	
						211	*561*	*658*	*599*	*541*	*477*	*419*	*355*	*297*	
7E46P41-32	4	P	6	900	150	14,5	38,7	45,3	41,3	37,3	32,9	28,9	24,4	20,4	
						211	*561*	*658*	*599*	*541*	*477*	*419*	*355*	*297*	
7E46P42-32	4	P	6	900	300	14,5	38,7	84,8	119,5	120,7	116,5	109,8	105,1	101,4	
						211	*561*	*1230*	*1733*	*1751*	*1690*	*1593*	*1524*	*1471*	
7E46P11-16	4	P	6	150	150	13,7	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 351 gr. CF8M
						199	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E46P21-16	4	P	6	300	150	14,5	33,4	31,6	30,9	30,3	29,9	28,9	24,4	20,4	
						211	*484*	*458*	*448*	*439*	*434*	*419*	*355*	*297*	
7E46P31-16	4	P	6	600	150	14,5	38,7	45,3	41,3	37,3	32,9	28,9	24,4	20,4	
						211	*561*	*658*	*599*	*541*	*477*	*419*	*355*	*297*	
7E46P41-16	4	P	6	900	150	14,5	38,7	45,3	41,3	37,3	32,9	28,9	24,4	20,4	
						211	*561*	*658*	*599*	*541*	*477*	*419*	*355*	*297*	
7E46P42-16	4	P	6	900	300	14,5	38,7	84,8	92,7	91,0	89,6	88,3	87,4	86,5	
						211	*561*	*1230*	*1345*	*1320*	*1300*	*1281*	*1268*	*1255*	

NOTE

[1] Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A

Extrapolation from saturated steam, ASME B16.34 inlet/oulet



PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice: Q

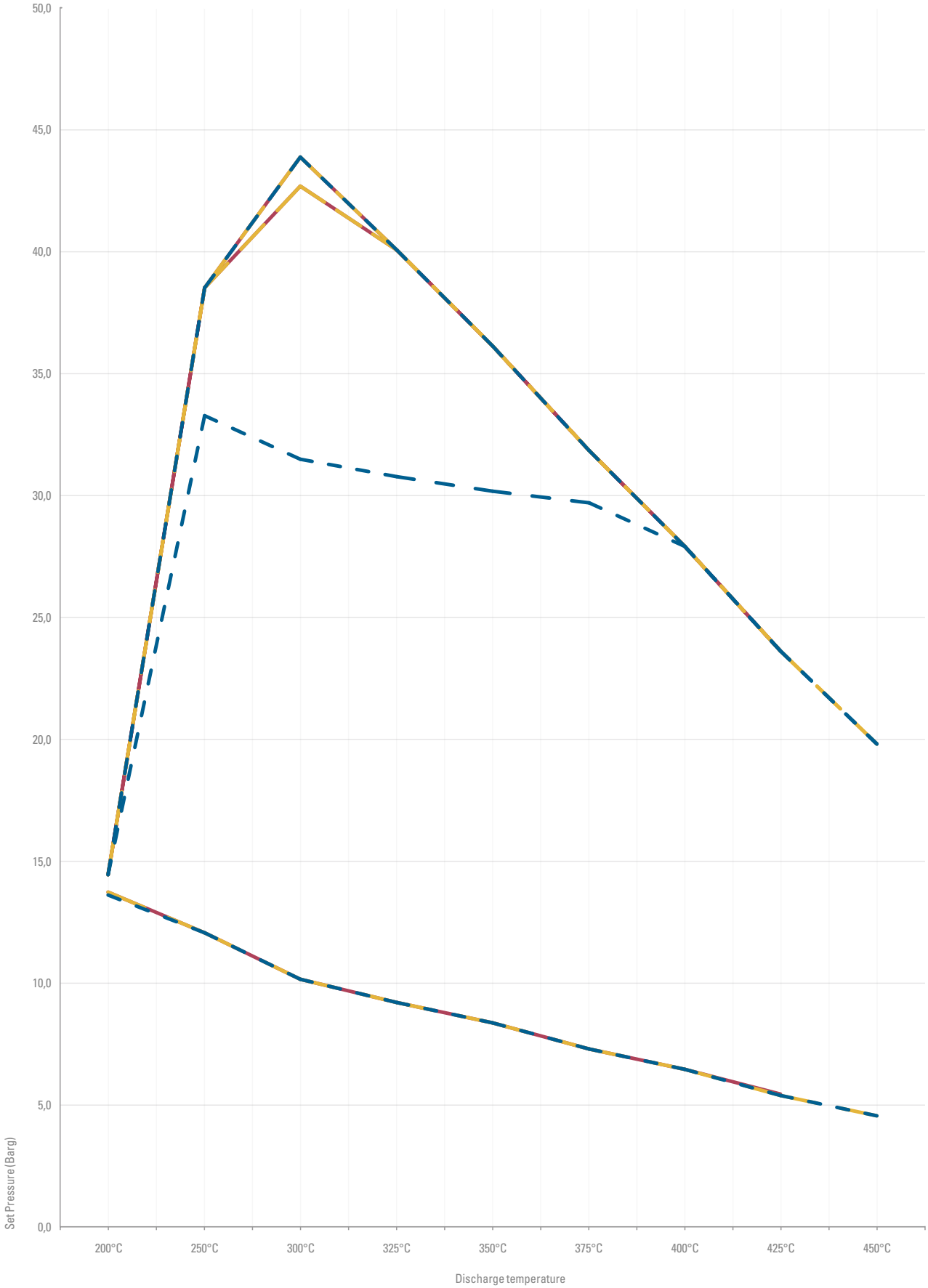
83,32 cm² / 12,91 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E68Q11-30	6	Q	8	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5		SA 216 gr. WCC
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*		
7E68Q21-30	6	Q	8	300	150	14,5	38,7	42,9	40,2	36,3	32,0	28,1	23,8		
						211	*561*	*622*	*583*	*527*	*464*	*408*	*345*		
7E68Q31-30	6	Q	8	600	150	14,5	38,7	44,1	40,2	36,3	32,0	28,1	23,8		
						211	*561*	*640*	*583*	*527*	*464*	*408*	*345*		
7E68Q11-32	6	Q	8	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 217 gr. WC6 [1]
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E68Q21-32	6	Q	8	300	150	14,5	38,7	42,9	40,2	36,3	32,0	28,1	23,8	19,9	
						211	*561*	*622*	*583*	*527*	*464*	*408*	*345*	*289*	
7E68Q31-32	6	Q	8	600	150	14,5	38,7	44,1	40,2	36,3	32,0	28,1	23,8	19,9	
						211	*561*	*640*	*583*	*527*	*464*	*408*	*345*	*289*	
7E68Q11-16	6	Q	8	150	150	13,7	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 351 gr. CF8M
						199	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E68Q21-16	6	Q	8	300	150	14,5	33,4	31,6	30,9	30,3	29,9	28,1	23,8	19,9	
						211	*484*	*458*	*448*	*439*	*434*	*408*	*345*	*289*	
7E68Q31-16	6	Q	8	600	150	14,5	38,7	44,1	40,2	36,3	32,0	28,1	23,8	19,9	
						211	*561*	*640*	*583*	*527*	*464*	*408*	*345*	*289*	

NOTE

[1] Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A

Extrapolation from saturated steam, ASME B16.34 inlet/oulet



PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice: R

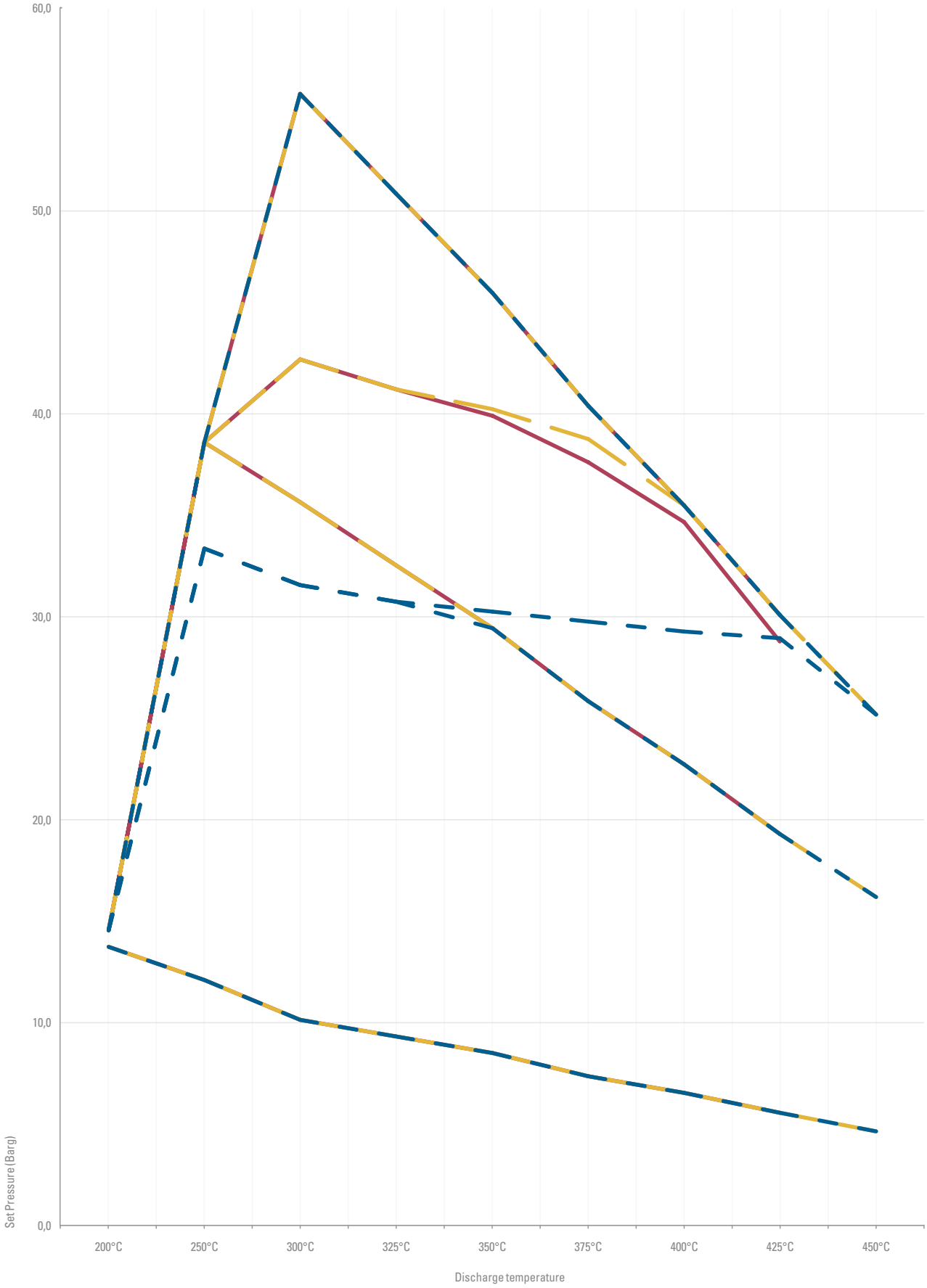
102,61 cm² / 15,9 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E68R11-30	6	R	8	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5		SA 216 gr. WCC
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*		
7E68R21-30	6	R	8	300	150	14,5	38,7	35,8	32,7	29,5	26,0	22,8	19,3		
						211	*561*	*520*	*474*	*428*	*377*	*331*	*280*		
7E69R21-30	6	R	10	300	150	14,5	38,7	42,9	41,4	40,0	37,8	34,7	28,8		
						211	*561*	*622*	*600*	*580*	*548*	*503*	*418*		
7E69R31-30	6	R	10	600	150	14,5	38,7	56,0	51,0	46,1	40,6	35,7	30,2		
						211	*561*	*812*	*740*	*668*	*589*	*517*	*438*		
7E68R11-32	6	R	8	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 217 gr. WC6 [1]
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E68R21-32	6	R	8	300	150	14,5	38,7	35,8	32,7	29,5	26,0	22,8	19,3	16,2	
						211	*561*	*520*	*474*	*428*	*377*	*331*	*280*	*234*	
7E69R21-32	6	R	10	300	150	14,5	38,7	42,9	41,4	40,3	38,9	35,7	30,2	25,2	
						211	*561*	*622*	*600*	*585*	*564*	*517*	*438*	*366*	
7E69R31-32	6	R	10	600	150	14,5	38,7	56,0	51,0	46,1	40,6	35,7	30,2	25,2	
						211	*561*	*812*	*740*	*668*	*589*	*517*	*438*	*366*	
7E68R11-16	6	R	8	150	150	13,7	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 351 gr. CF8M
						199	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E68R21-16	6	R	8	300	150	14,5	33,4	31,6	30,9	29,5	26,0	22,8	19,3	16,2	
						211	*484*	*458*	*448*	*428*	*377*	*331*	*280*	*234*	
7E69R21-16	6	R	10	300	150	14,5	33,4	31,6	30,9	30,3	29,9	29,4	29,1	25,2	
						211	*484*	*458*	*448*	*439*	*434*	*426*	*422*	*366*	
7E69R31-16	6	R	10	600	150	14,5	38,7	56,0	51,0	46,1	40,6	35,7	30,2	25,2	
						211	*561*	*812*	*740*	*668*	*589*	*517*	*438*	*366*	

NOTE

[1] Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A

Extrapolation from saturated steam, ASME B16.34 inlet/oulet



PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice: T

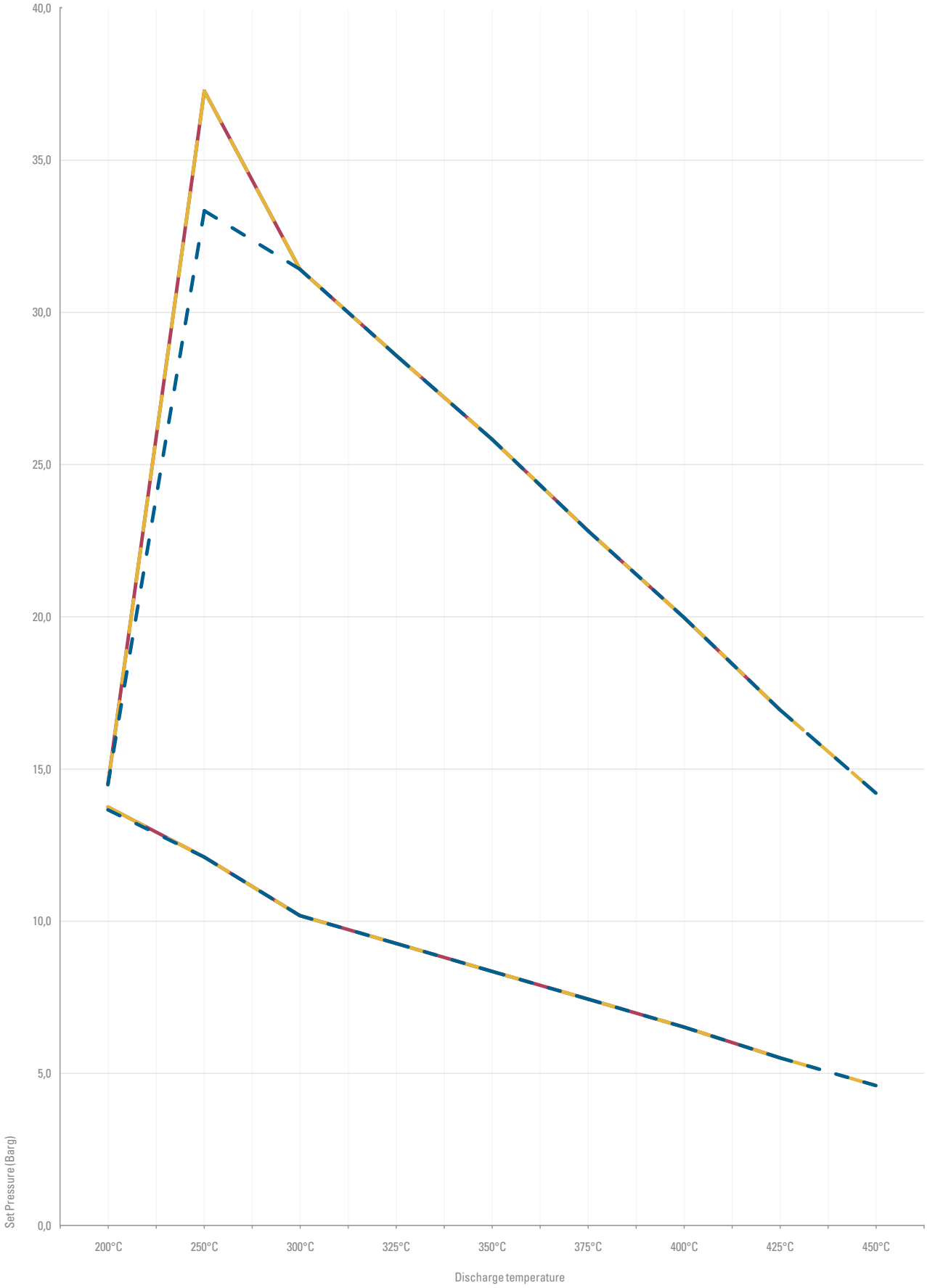
182,41 cm² / 28,27 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E89T11-30	8	T	10	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5		SA 216 gr. WCC
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*		
7E89T21-30	8	T	10	300	150	14,5	37,3	31,5	28,7	25,9	22,8	20,1	17,0		
						211	*542*	*457*	*416*	*376*	*331*	*291*	*246*		
7E89T11-32	8	T	10	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 217 gr. WC6 [1]
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E89T21-32	8	T	10	300	150	14,5	37,3	31,5	28,7	25,9	22,8	20,1	17,0	14,2	
						211	*542*	*457*	*416*	*376*	*331*	*291*	*246*	*206*	
7E89T11-16	8	T	10	150	150	13,7	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 351 gr. CF8M
						199	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E89T21-16	8	T	10	300	150	14,5	33,4	31,5	28,7	25,9	22,8	20,1	17,0	14,2	
						211	*484*	*457*	*416*	*376*	*331*	*291*	*246*	*206*	

NOTE

[1] Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A

Extrapolation from saturated steam, ASME B16.34 inlet/oulet



PRESSURE TEMPERATURE CLASS

Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

Orifice: U

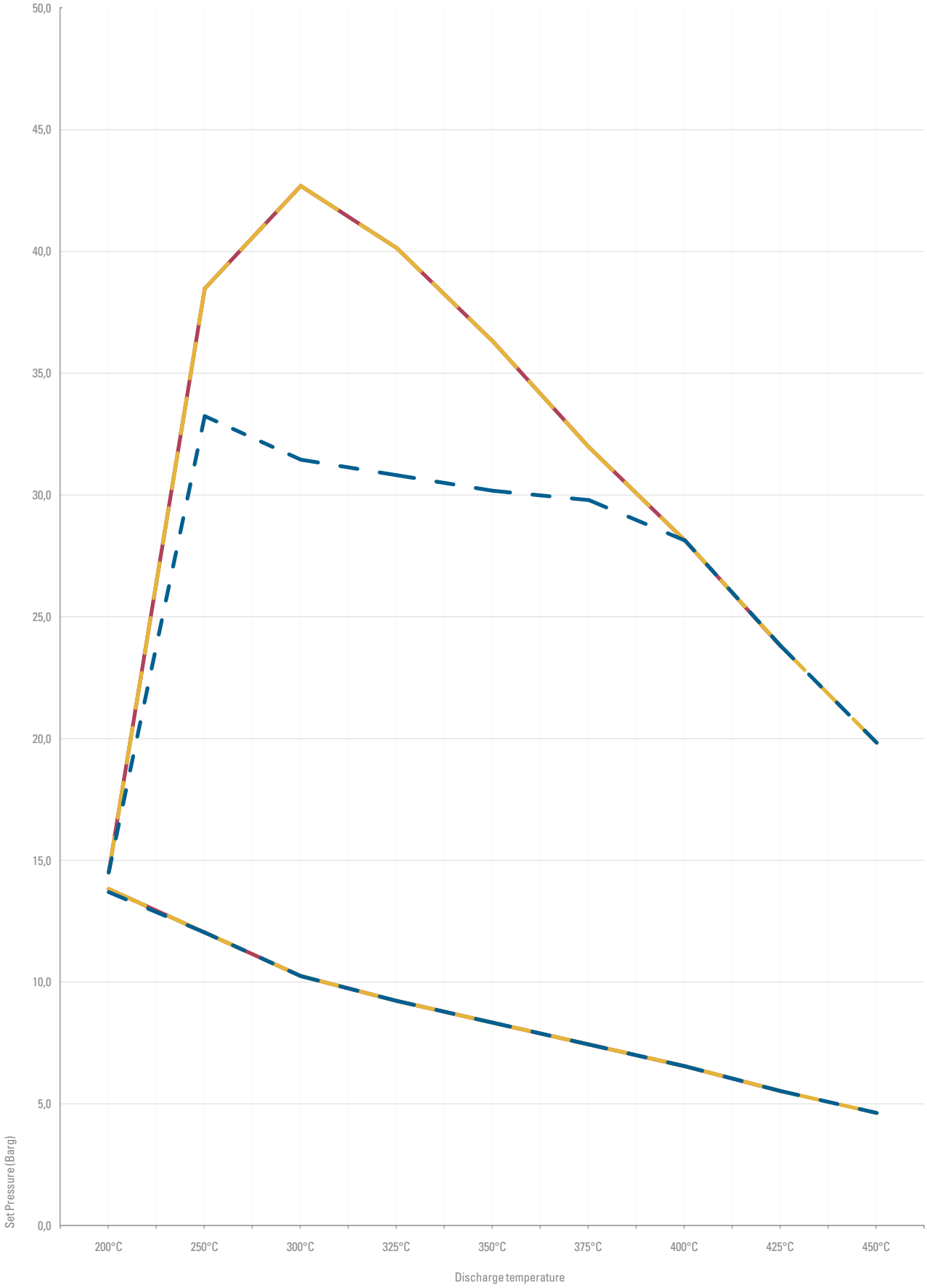
254,47 cm² / 39,44 in²

CODE	Inlet	Orifice	Outlet	ANSI FLANGE RATING		Max. SET PRESSURE barg / psig									BODY MAT.
				Inlet	Outlet	392°F	482°F	572°F	617°F	662°F	707°F	752°F	797°F	842°F	
						200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	400 °C	425 °C	450 °C	
7E9BU11-30	10	U	14	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5		SA 216 gr. WCC
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*		
7E9BU21-30	10	U	14	300	150	14,5	38,7	42,9	40,3	36,4	32,1	28,2	23,9		
						211	*561*	*622*	*585*	*528*	*465*	*409*	*346*		
7E9BU11-32	10	U	14	150	150	13,8	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 217 gr. WC6 [1]
						200	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E9BU21-32	10	U	14	300	150	14,5	38,7	42,9	40,3	36,4	32,1	28,2	23,9	19,9	
						211	*561*	*622*	*585*	*528*	*465*	*409*	*346*	*289*	
7E9BU11-16	10	U	14	150	150	13,7	12,1	10,2	9,3	8,4	7,4	6,5	5,5	4,6	SA 351 gr. CF8M
						199	*175*	*148*	*135*	*122*	*107*	*94*	*80*	*67*	
7E9BU21-16	10	U	14	300	150	14,5	33,4	31,6	30,9	30,3	29,9	28,2	23,9	19,9	
						211	*484*	*458*	*448*	*439*	*434*	*409*	*346*	*289*	

NOTE

[1] Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A

Extrapolation from saturated steam, ASME B16.34 inlet/oulet



WATER SERVICE CONDITIONS

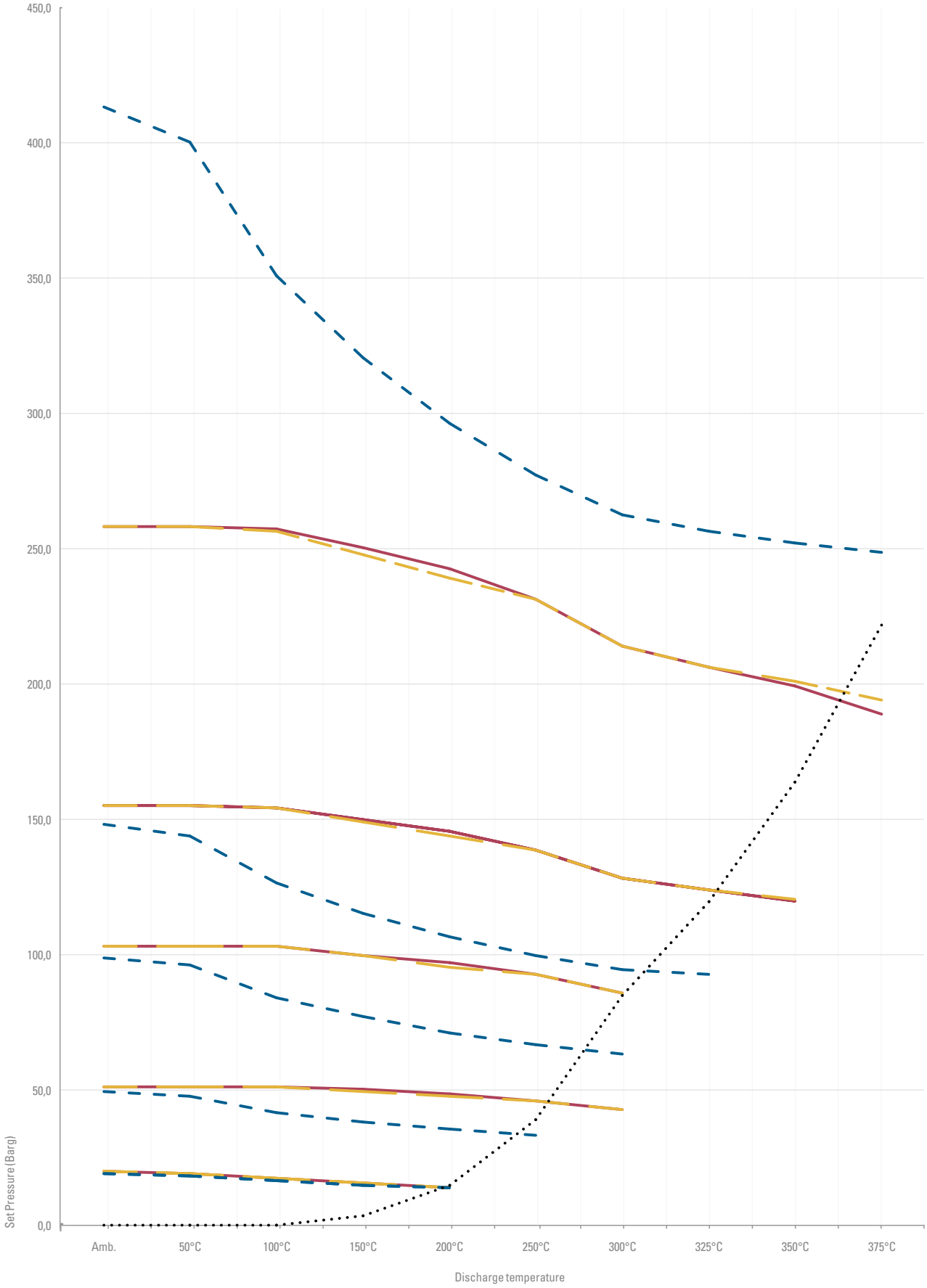
Set pressure limits (barg) for Stareco™ flanged safety valves at designated temperature (°C)

CODE	ANSI FLANGE RATING	Max. SET PRESSURE barg / psig									BODY MAT.
	Inlet	Amb.	122°F	212°F	302°F	392°F	482°F	572°F	617°F	662°F	707°F	
		Amb.	50 °C	100 °C	150 °C	200 °C	250 °C	300 °C	325 °C	350 °C	375 °C	
STARECO #150 WCC	150	19,8	19,5	17,7	15,8	13,8						SA 216 gr. WCC
		287	*283*	*257*	*229*	*200*						
STARECO #300 WCC	300	51,7	51,7	51,5	50,2	48,6	46,3	42,9				
		750	*750*	*747*	*728*	*705*	*672*	*622*				
STARECO #600 WCC	600	103,4	103,4	103	100,3	97,2	92,7	85,7				
		1500	*1500*	*1494*	*1455*	*1410*	*1345*	*1243*				
STARECO #900 WCC	900	155,1	155,1	154,6	150,5	145,8	139	128,6	124	120,1		
		2250	*2250*	*2242*	*2183*	*2115*	*2016*	*1865*	*1798*	*1742*		
STARECO #1500 WCC	1500	258,6	258,6	257,6	250,8	243,2	231,8	214,4	206,6	200,1	189,2	
		3751	*3751*	*3736*	*3638*	*3527*	*3362*	*3110*	*2996*	*2902*	*2744*	
STARECO #2500 WCC	2500	430,9	430,9	429,4	418,1	405,4	386,2	357,1	344,3	333,5	315,3	
		6250	*6250*	*6228*	*6064*	*5880*	*5601*	*5179*	*4994*	*4837*	*4573*	
STARECO #150 WC6	150	19,8	19,5	17,7	15,8	13,8						SA 217 gr. WC6 [1]
		287	*283*	*257*	*229*	*200*						
STARECO #300 WC6	300	51,7	51,7	51,5	49,7	48	46,3	42,9				
		750	*750*	*747*	*721*	*696*	*672*	*622*				
STARECO #600 WC6	600	103,4	103,4	103	99,5	95,9	92,7	85,7				
		1500	*1500*	*1494*	*1443*	*1391*	*1345*	*1243*				
STARECO #900 WC6	900	155,1	155,1	154,4	149,2	143,9	139	128,6	124	120,7		
		2250	*2250*	*2239*	*2164*	*2087*	*2016*	*1865*	*1798*	*1751*		
STARECO #1500 WC6	1500	258,6	258,6	257,4	248,7	239,8	231,8	214,4	206,6	201,1	194,1	
		3751	*3751*	*3733*	*3607*	*3478*	*3362*	*3110*	*2996*	*2917*	*2815*	
STARECO #2500 WC6	2500	430,9	430,9	429	414,5	399,6	386,2	357,1	344,3	335,3	323,2	
		6250	*6250*	*6222*	*6012*	*5796*	*5601*	*5179*	*4994*	*4863*	*4688*	
STARECO #150 CF8M	150	19	18,4	16,2	14,8	13,7						SA 351 gr. CF8M
		276	*267*	*235*	*215*	*199*						
STARECO #300 CF8M	300	49,6	48,1	42,2	38,5	35,7	33,4					
		719	*698*	*612*	*558*	*518*	*484*					
STARECO #600 CF8M	600	99,3	96,2	84,4	77	71,3	66,8	63,2				
		1440	*1395*	*1224*	*1117*	*1034*	*969*	*917*				
STARECO #900 CF8M	900	148,9	144,3	126,6	115,5	107	100,1	94,9	92,7			
		2160	*2093*	*1836*	*1675*	*1552*	*1452*	*1376*	*1345*			
STARECO #1500 CF8M	1500	248,2	240,6	211	192,5	178,3	166,9	158,1	154,4	151,6	149,4	
		3600	*3490*	*3060*	*2792*	*2586*	*2421*	*2293*	*2239*	*2199*	*2167*	
STARECO #2500 CF8M	2500	413,7	400,9	351,6	320,8	297,2	278,1	263,5	257,4	252,7	249	
		6000	*5815*	*5100*	*4653*	*4311*	*4034*	*3822*	*3733*	*3665*	*3611*	

NOTE

[1] Similar table is applicable for SA217 Gr. WC9 and SA217 Gr. C12A

Set pressure max on water service conditions



4. Capacity Chart

Section I Rating

pounds per hour saturated steam at 3% overpressure

W = 51.5KAP for "P" less than or equal to 1580 psia
W = 51.5KAP x [0.1906P-1,000 / 0.2292P-1,061] for "P" greater than 1580 psia

K = 0,873
A = Orifice Area in sq.in
P = (1.03 x set pressure) + 14.7

Orifice Designation			D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]		0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]		0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure		P																		
[barg]	[psig]	[psia]																		
6,89	100	118	656	1175	1863	3006	4694	7710	11097	17087	20204	27215	37407	68369	84139	117424	149597	208706	203986	326130
7,24	105	123	685	1226	1944	3137	4899	8047	11582	17835	21088	28406	39044	71361	87820	122561	156143	217838	212911	340399
7,58	110	128	714	1278	2026	3269	5105	8385	12068	18582	21972	29597	40681	74352	91502	127699	162689	226970	221837	354669
7,93	115	133	742	1329	2107	3400	5310	8722	12553	19330	22856	30788	42318	77344	95183	132837	169234	236102	230762	368939
8,27	120	138	771	1380	2189	3532	5515	9059	13039	20078	23740	31979	43954	80335	98865	137975	175780	245234	239688	383209
8,62	125	143	800	1432	2270	3663	5721	9397	13524	20825	24624	33169	45591	83327	102546	143113	182326	254366	248613	397479
8,96	130	149	828	1483	2352	3795	5926	9734	14010	21573	25508	34360	47228	86318	106228	148251	188871	263498	257538	411749
9,31	135	154	857	1535	2433	3926	6131	10072	14496	22321	26392	35551	48865	89310	109909	153389	195417	272630	266464	426019
9,65	140	159	886	1586	2515	4058	6337	10409	14981	23068	27276	36742	50501	92301	113591	158527	201963	281762	275389	440289
10,00	145	164	915	1637	2596	4189	6542	10746	15467	23816	28160	37933	52138	95293	117272	163665	208508	290894	284315	454559
10,34	150	169	943	1689	2678	4321	6748	11084	15952	24563	29044	39124	53775	98284	120954	168803	215054	300026	293240	468828
10,69	155	174	972	1740	2759	4452	6953	11421	16438	25311	29928	40314	55412	101276	124635	173941	221600	309158	302166	483098
11,03	160	180	1001	1792	2841	4584	7158	11758	16923	26059	30812	41505	57048	104267	128317	179078	228145	318290	311091	497368
11,38	165	185	1029	1843	2922	4715	7364	12096	17409	26806	31696	42696	58685	107259	131998	184216	234691	327422	320017	511638
11,72	170	190	1058	1894	3004	4847	7569	12433	17894	27554	32580	43887	60322	110250	135680	189354	241237	336554	328942	525908
12,07	175	195	1087	1946	3085	4978	7774	12770	18380	28302	33464	45078	61959	113242	139361	194492	247782	345686	337868	540178
12,41	180	200	1116	1997	3167	5110	7980	13108	18865	29049	34348	46268	63596	116233	143043	199630	254328	354818	346793	554448
12,76	185	205	1144	2049	3248	5241	8185	13445	19351	29797	35232	47459	65232	119225	146724	204768	260874	363950	355719	568718
13,10	190	210	1173	2100	3330	5373	8391	13782	19837	30545	36116	48650	66869	122216	150406	209906	267419	373082	364644	582988
13,44	195	216	1202	2151	3411	5504	8596	14120	20322	31292	37000	49841	68506	125208	154087	215044	273965	382214	373569	597258
13,79	200	221	1230	2203	3493	5636	8801	14457	20808	32040	37884	51032	70143	128199	157769	220182	280511	391346	382495	611527
14,13	205	226	1259	2254	3574	5768	9007	14795	21293	32788	38768	52223	71779	131191	161450	225320	287056	400478	391420	625797
14,48	210	231	1288	2306	3656	5899	9212	15132	21779	33535	39652	53413	73416	134183	165132	230457	293602	409610	400346	640067
14,82	215	236	1317	2357	3737	6031	9417	15469	22264	34283	40536	54604	75053	137174	168813	235595	300148	418742	409271	654337
15,17	220	241	1345	2408	3819	6162	9623	15807	22750	35031	41420	55795	76690	140166	172495	240733	306694	427874	418197	668607
15,51	225	246	1374	2460	3900	6294	9828	16144	23235	35778	42304	56986	78326	143157	176176	245871	313239	437006	427122	682877
15,86	230	252	1403	2511	3982	6425	10034	16481	23721	36526	43188	58177	79963	146149	179858	251009	319785	446138	436048	697147
16,20	235	257	1431	2563	4063	6557	10239	16819	24206	37273	44073	59367	81600	149140	183539	256147	326331	455270	444973	711417
16,55	240	262	1460	2614	4145	6688	10444	17156	24692	38021	44957	60558	83237	152132	187221	261285	332876	464402	453899	725687
16,89	245	267	1489	2665	4226	6820	10650	17493	25177	38769	45841	61749	84873	155123	190902	266423	339422	473534	462824	739957
17,24	250	272	1518	2717	4308	6951	10855	17831	25663	39516	46725	62940	86510	158115	194584	271561	345968	482666	471749	754226
17,58	255	277	1546	2768	4389	7083	11060	18168	26149	40264	47609	64131	88147	161106	198265	276699	352513	491798	480675	768496
17,93	260	283	1575	2820	4471	7214	11266	18505	26634	41012	48493	65322	89784	164098	201947	281836	359059	500930	489600	782766
18,27	265	288	1604	2871	4552	7346	11471	18843	27120	41759	49377	66512	91421	167089	205628	286974	365605	510062	498526	797036
18,62	270	293	1632	2922	4634	7477	11677	19180	27605	42507	50261	67703	93057	170081	209310	292112	372150	519194	507451	811306
18,96	275	298	1661	2974	4715	7609	11882	19518	28091	43255	51145	68894	94694	173072	212991	297250	378696	528326	516377	825576
19,31	280	303	1690	3025	4797	7740	12087	19855	28576	44002	52029	70085	96331	176064	216673	302388	385242	537458	525302	839846
19,65	285	308	1718	3077	4878	7872	12293	20192	29062	44750	52913	71276	97968	179055	220354	307526	391787	546590	534228	854116
19,99	290	313	1747	3128	4960	8003	12498	20530	29547	45498	53797	72466	99604	182047	224036	312664	398333	555722	543153	868386
20,34	295	319	1776	3179	5041	8135	12703	20867	30033	46245	54681	73657	101241	185038	227717	317802	404879	564854	552079	882656
20,68	300	324	1805	3231	5123	8266	12909	21204	30518	46993	55565	74848	102878	188030	231399	322940	411424	573986	561004	896925
21,03	305	329	1833	3282	5204	8398	13114	21542	31004	47741	56449	76039	104515	191021	235080	328078	417970	583118	569930	911195
21,37	310	334	1862	3334	5286	8529	13320	21879	31490	48488	57333	77230	106151	194013	238762	333216	424516	592250	578855	925465
21,72	315	339	1891	3385	5367	8661	13525	22216	31975	49236	58217	78421	107788	197004	242443	338353	431061	601382	587780	939735
22,06	320	344	1919	3436	5449	8792	13730	22554	32461	49983	59101	79611	109425	199996	246125	343491	437607	610514	596706	954005
22,41	325	349	1948	3488	5530	8924	13936	22891	32946	50731	59985	80802	111062	202987	249806	348629	444153	619646	605631	968275
22,75	330	355	1977	3539	5612	9055	14141	23228	33432	51479	60869	81993	112699	205979	253488	353767	450698	628778	614557	982545
23,10	335	360	2006	3591	5693	9187	14346	23566	33917	52226	61753	83184	114335	208970	257169	358905	457244	637910	623482	996815
23,44	340	365	2034	3642	5775	9318	14552	23903	34403	52974	62637	84375	115972	211962	260851	364043	463790	647042	632408	1011085
23,79	345	370	2063	3693	5856	9450	14757	24240	34888	53722	63521	85565	117609	214953	264532	369181	470335	656174	641333	1025355
24,13	350	375	2092	3745	5938	9581	14963	24578	35374	54469	64405	86756	119246	217945	268214	374319	476881	665306	650259	1039624
24,48	355	380	2120	3796	6019	9713	15168	24915	35859	55217	65289	87947	120882	220936	271895	379457	483427	674438	659184	1053894
24,82	360	386	2149	3848	6101	9845	15373	25253	36345	55965	66173	89138	122519	223928	275577	384595	489972	683570	668110	1068164
25,17	365	391	2178	3899	6182	9976	15579	25590	36831	56712	67057	90329	124156	226919	279259	389732	496518	692702	677035	1082434
25,51	370	396	2207	3950	6264	10108	15784	25927	37316	57460	67941	91520	125793	229911	282940	394870	503064	701834	685961	1096704
25,86	375	401	2235	4002	6345	10239	15990	26265	37802	58208	68825	92710	127429	232903	286622	400008	509609	710966	694886	1110974
26,20	380	406	2264	4053	6427	10371	16195	26602	38287	58955	69709	93901	129066	235894	290303	405146	516155	720098	703811	1125244
26,54	385	411	2293	4105	6508	10502	16400	26939	38773	59703	70593	95092	130703	238886	293985	410284	522701	729230	712737	1139514
26,89	390	416	2321	4156	6590	10634	16606	27277	39258	60451	71477	96283	132340	241877	297666	415422	529247	738362	721662	1153784
27,23	395	422	2350	4207	6671	10765	16811	27614	39744	61198	72361	97474	133976	244869	301348	420560	535792	747494	730588	1168053
27,58	400	427	2379	4259	6753	10897	17016	27951	40229	61946	73245	98664	135613	247860	305029	425698	542338	756626	739513	1182323
27,92	405	432	2408	4310	6834	11028	17222	28289	40715	62693	74129	99855	137250	250852	308711	430836	548884	765758	748439	1196593
28,27	410	437	2436	4362	6916	11160	17427	28626	41200	63441	75013	101046	138887	253843	312392	435974	555429	774890	757364	1210863
28,61	415	442	2465	4413	6997	11291	17633	28963	41686	64189	75897	102237	140524	256835	316074	441112	561975	784022	766290	1225133
28,96	420	447	2494	4465	7079	11423	17838	29301	42171	64936	76781	103428	142160	259826	319755	446249	568521	793154	775215	1239403
29,30	425	452	2522	4516	7160	11554	18043	29638	42657	65684	77665	104619	143797	262818	323437	451387	575066	802286	784141	1253673
29,65	430	458	2551	4567	7242	11686	18249	29976	43143	66432	78549	105809	145434	265809	327118	456525	581612	811418	793066	1267943
29,99	435	463	2580	4619	7323	11817	18454	30313	43628	67179	79434	107000	147071	268801	330800	461663	588158	820550	801991	1282213
30,34	440	468	2609	4670	7405	11949	18659	30650	44114	67927	80318	108191	148707	271792	334481	466801	594703	829682	810917	1296483
30,68	445	473	2637	4722	7486	12080	18865	30988	44599	68675	81202	109382	150344	274784	338163	471939	601249	838814	819842	1310752

*V orifice cannot be certified as per ASME I

Section I Rating

pounds per hour saturated steam at 3% overpressure

Orifice Designation		D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]	0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]	0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure	P																		
[barg]	[psig]	[psia]																	
31,03	450	478	2666	4773	7568	12212	19070	31325	45085	69422	82086	110573	151981	277775	341844	477077	607795	847946	828768	1325022
31,37	455	483	2695	4824	7649	12343	19276	31662	45570	70170	82970	111763	153618	280767	345526	482215	614340	857078	837693	1339292
31,72	460	489	2723	4876	7731	12475	19481	32000	46056	70918	83854	112954	155254	283758	349207	487353	620886	866210	846619	1353562
32,06	465	494	2752	4927	7812	12606	19686	32337	46541	71665	84738	114145	156891	286750	352889	492491	627432	875342	855544	1367832
32,41	470	499	2781	4979	7894	12738	19892	32674	47027	72413	85622	115336	158528	289741	356570	497628	633977	884473	864470	1382102
32,75	475	504	2810	5030	7975	12869	20097	33012	47512	73161	86506	116527	160165	292733	360252	502766	640523	893605	873395	1396372
33,09	480	509	2838	5081	8057	13001	20302	33349	47998	73908	87390	117718	161802	295724	363933	507904	647069	902737	882321	1410642
33,44	485	514	2867	5133	8138	13132	20508	33686	48484	74656	88274	118908	163438	298716	367615	513042	653614	911869	891246	1424912
33,78	490	519	2896	5184	8220	13264	20713	34024	48969	75403	89158	120099	165075	301707	371296	518180	660160	921001	900172	1439182
34,13	495	525	2924	5236	8301	13395	20919	34361	49455	76151	90042	121290	166712	304699	374978	523318	666706	930133	909097	1453451
34,47	500	530	2953	5287	8383	13527	21124	34699	49940	76899	90926	122481	168349	307690	378659	528456	673251	939265	918022	1467721
34,82	505	535	2982	5338	8464	13658	21329	35036	50426	77646	91810	123672	169985	310682	382341	533594	679797	948397	926948	1481991
35,16	510	540	3010	5390	8546	13790	21535	35373	50911	78394	92694	124862	171622	313673	386022	538732	686343	957529	935873	1496261
35,51	515	545	3039	5441	8627	13921	21740	35711	51397	79142	93578	126053	173259	316665	389704	543870	692888	966661	944799	1510531
35,85	520	550	3068	5493	8709	14053	21945	36048	51882	79889	94462	127244	174896	319656	393385	549008	699434	975793	953724	1524801
36,20	525	555	3097	5544	8790	14185	22151	36385	52368	80637	95346	128435	176532	322648	397067	554145	705980	984925	962650	1539071
36,54	530	561	3125	5595	8872	14316	22356	36723	52853	81385	96230	129626	178169	325640	400748	559283	712525	994057	971575	1553341
36,89	535	566	3154	5647	8953	14448	22562	37060	53339	82132	97114	130817	179806	328631	404430	564421	719071	1003189	980501	1567611
37,23	540	571	3183	5698	9035	14579	22767	37397	53824	82880	97998	132007	181443	331623	408111	569559	725617	1012321	989426	1581881
37,58	545	576	3211	5750	9116	14711	22972	37735	54310	83628	98882	133198	183079	334614	411793	574697	732162	1021453	998352	1596150
37,92	550	581	3240	5801	9198	14842	23178	38072	54796	84375	99766	134389	184716	337606	415474	579835	738708	1030585	1007277	1610420
38,27	555	586	3269	5852	9279	14974	23383	38409	55281	85123	100650	135580	186353	340597	419156	584973	745254	1039717	1016202	1624690
38,61	560	592	3298	5904	9361	15105	23588	38747	55767	85871	101534	136771	187990	343589	422837	590111	751799	1048849	1025128	1638960
38,96	565	597	3326	5955	9442	15237	23794	39084	56252	86618	102418	137961	189627	346580	426519	595249	758345	1057981	1034053	1653230
39,30	570	602	3355	6007	9524	15368	23999	39422	56738	87366	103302	139152	191263	349572	430200	600387	764891	1067113	1042979	1667500
39,64	575	607	3384	6058	9605	15500	24205	39759	57223	88113	104186	140343	192900	352563	433882	605524	771437	1076245	1051904	1681770
39,99	580	612	3412	6109	9687	15631	24410	40096	57709	88861	105070	141534	194537	355555	437563	610662	777982	1085377	1060830	1696040
40,33	585	617	3441	6161	9768	15763	24615	40434	58194	89609	105954	142725	196174	358546	441245	615800	784528	1094509	1069755	1710310
40,68	590	622	3470	6212	9850	15894	24821	40771	58680	90356	106838	143916	197810	361538	444926	620938	791074	1103641	1078681	1724580
41,02	595	628	3499	6264	9931	16026	25026	41108	59165	91104	107722	145106	199447	364529	448608	626076	797619	1112773	1087606	1738849
41,37	600	633	3527	6315	10013	16157	25231	41446	59651	91852	108606	146297	201084	367521	452289	631214	804165	1121905	1096532	1753119
41,71	605	638	3556	6366	10094	16289	25437	41783	60137	92599	109490	147488	202721	370512	455971	636352	810711	1131037	1105457	1767389
42,06	610	643	3585	6418	10176	16420	25642	42120	60622	93347	110374	148679	204357	373504	459652	641490	817256	1140169	1114383	1781659
42,40	615	648	3613	6469	10257	16552	25848	42458	61108	94095	111258	149870	205994	376495	463334	646628	823802	1149301	1123308	1795929
42,75	620	653	3642	6521	10339	16683	26053	42795	61593	94842	112142	151060	207631	379487	467015	651766	830348	1158433	1132233	1810199
43,09	625	658	3671	6572	10420	16815	26258	43132	62079	95590	113026	152251	209268	382478	470697	656904	836893	1167565	1141159	1824469
43,44	630	664	3700	6623	10502	16946	26464	43470	62564	96338	113911	153442	210904	385470	474378	662041	843439	1176697	1150084	1838739
43,78	635	669	3728	6675	10583	17078	26669	43807	63050	97085	114795	154633	212541	388461	478060	667179	849985	1185829	1159010	1853009
44,13	640	674	3757	6726	10665	17209	26875	44144	63535	97833	115679	155824	214178	391453	481741	672317	856530	1194961	1167935	1867279
44,47	645	679	3786	6778	10746	17341	27080	44482	64021	98581	116563	157014	215815	394444	485423	677455	863076	1204093	1176861	1881548
44,82	650	684	3814	6829	10828	17472	27285	44819	64506	99328	117447	158205	217452	397436	489105	682593	869622	1213225	1185786	1895818
45,16	655	689	3843	6880	10909	17604	27491	45157	64992	100076	118331	159396	219088	400427	492786	687731	876167	1222357	1194712	1910088
45,51	660	695	3872	6932	10991	17735	27696	45494	65478	100823	119215	160587	220725	403419	496468	692869	882713	1231489	1203637	1924358
45,85	665	700	3901	6983	11072	17867	27901	45831	65963	101571	120099	161778	222362	406410	500149	698007	889259	1240621	1212563	1938628
46,19	670	705	3929	7035	11154	17998	28107	46169	66449	102319	120983	162969	223999	409402	503831	703145	895804	1249753	1221488	1952898
46,54	675	710	3958	7086	11235	18130	28312	46506	66934	103066	121867	164159	225635	412393	507512	708283	902350	1258885	1230413	1967168
46,88	680	715	3987	7137	11317	18262	28518	46843	67420	103814	122751	165350	227272	415385	511194	713420	908896	1268017	1239339	1981438
47,23	685	720	4015	7189	11398	18393	28723	47181	67905	104562	123635	166541	228909	418376	514875	718558	915441	1277149	1248264	1995708
47,57	690	725	4044	7240	11480	18525	28928	47518	68391	105309	124519	167732	230546	421368	518557	723696	921987	1286281	1257190	2009977
47,92	695	731	4073	7292	11561	18656	29134	47855	68876	106057	125403	168923	232182	424360	522238	728834	928533	1295413	1266115	2024247
48,26	700	736	4102	7343	11643	18788	29339	48193	69362	106805	126287	170113	233819	427351	525920	733972	935078	1304545	1275041	2038517
48,61	705	741	4130	7394	11725	18919	29544	48530	69847	107552	127171	171304	235456	430343	529601	739110	941624	1313677	1283966	2052787
48,95	710	746	4159	7446	11806	19051	29750	48867	70333	108300	128055	172495	237093	433334	533283	744248	948170	1322809	1292892	2067057
49,30	715	751	4188	7497	11888	19182	29955	49205	70818	109048	128939	173686	238730	436326	536964	749386	954715	1331941	1301817	2081327
49,64	720	756	4216	7549	11969	19314	30161	49542	71304	109795	129823	174877	240366	439317	540646	754524	961261	1341073	1310743	2095597
49,99	725	761	4245	7600	12051	19445	30366	49880	71790	110543	130707	176068	242003	442309	544327	759662	967807	1350205	1319668	2109867
50,33	730	767	4274	7651	12132	19577	30571	50217	72275	111291	131591	177258	243640	445300	548009	764799	974352	1359337	1328594	2124137
50,68	735	772	4302	7703	12214	19708	30777	50554	72761	112038	132475	178449	245277	448292	551690	769937	980898	1368469	1337519	2138407
51,02	740	777	4331	7754	12295	19840	30982	50892	73246	112786	133359	179640	246913	451283	555372	775075	987444	1377601	1346444	2152676
51,37	745	782	4360	7806	12377	19971	31187	51229	73732	113534	134243	180831	248550	454275	559053	780213	993990	1386733	1355370	2166946
51,71	750	787	4389	7857	12458	20103	31393	51566	74217	114281	135127	182022	250187	457266	562735	785351	1000535	1395865	1364295	2181216
52,06	755	792	4417	7908	12540	20234	31598	51904	74703	115029	136011	183212	251824	460258	566416	790489	1007081	-	-	-
52,40	760	798	4446	7960	12621	20366	31804	52241	75188	115776	136895	184403	253460	463249	570098	795627	1013627	-	-	-
52,74	765	803	4475	8011	12703	20497	32009	52578	75674	116524	137779	185594	255097	466241	573779	800765	1020172	-	-	-
53,09	770	808	4503	8063	12784	20629	32214	52916	76159	117272	138663	186785	256734	469232	577461	805903	1026718	-	-	-
53,43	775	813	4532	8114	12866	20760	32420	53253	76645	118019	139547	187976	258371	472224	581142	811041	1033264	-	-	-
53,78	780	818	4561	8165	12947	20892	32625	53590	77131	118767	140431	189167	260007	475215	584824	816179	1039809	-	-	-
54,12	785	823	4590	8217	13029	21023	32830	53928	77616	119515	141315	190357	261644	478207	588505	821316	1046355	-	-	-
54,47	790	828	4618	8268	13110	21155	33036	54265	78102	120262	142199	191548	263281	481198	592187	826454	1052901	-	-	-
54,81	795	834	4647	8320	13192	21286	33241	54603	78587	121010	143083	192739	264918	484190	595868	831592	1059446	-	-	-
55,16	800	839	4676	8371	13273	21418	33447	54940	79073	121758	143967	193930	266555	487181	599550	836730	1065992	-	-	-
55,50	805	844	4704	8422	13355	21549	33652	55277	79558	122505	144851	195121	268191	490173	603231	841868	1072538	-	-	-
55,85	810	849	4733	8474	13436	21681	33857	55615	80044	123253	145735	196311	269828	493164	606913	847006	1079083	-	-	-
56,19	815	854	4762	8525	13518	21812	34063	55952	80529	124001	146619	197502	271465	496156	610594	852144	1085629	-	-	-
56,54	820	859	4791	8577	13599	21944	34268	56289	81015	124748	147503	198693	273102	499147	614276	857282	1092175	-	-	-
56,88	825	864	4819	8628	13681	22075	34473	56627	81500	125496	148387	199884	274738	502139	617957	862420	1098720	-	-	-
57,23	830	870	4848	8679	13762	22207	34679	56964	81986	126244	149272	201075	276375	505130	621639	867558	1105266	-	-	-
57,57	835	875	4877	8731	13844	22338	34884	57301	82471	126991	150156	202266	278012	508122	625320	872695	1111812	-	-	-
57,92	840	880	4905	8782	13925	22470	35090	57639	82957	127739	151040	203456	279649	511113	629002	877833	1118357	-	-	-
58,26	845	885	4934	8834	14007	22602	35295	57976	83443	128486	151924	204647	281285	514105	632683	882971	1124903	-	-	-
58,61	850	890	4963	8885	14088	22733	35500	58313	83928	129234	152808	205838	282922	517096	636365	888109	1131449	-	-	-

Section I Rating

pounds per hour saturated steam at 3% overpressure

W = 51.5KAP for "P" less than or equal to 1580 psia
W = 51.5KAP x [0.1906P-1,000 / 0.2292P-1,061] for "P" greater than 1580 psia

K = 0,873
A = Orifice Area in sq.in
P = (1.03 x set pressure) + 14.7

Orifice Designation			D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]		0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]		0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure		P																		
[barg]	[psig]	[psia]																		
58,95	855	895	4992	8936	14170	22865	35706	58651	84414	129982	153692	207029	284559	520088	640046	893247	1137994	-	-	-
59,29	860	901	5020	8988	14251	22996	35911	58988	84899	130729	154576	208220	286196	523080	643728	898385	1144540	-	-	-
59,64	865	906	5049	9039	14333	23128	36116	59326	85385	131477	155460	209410	287833	526071	647409	903523	1151086	-	-	-
59,98	870	911	5078	9091	14414	23259	36322	59663	85870	132225	156344	210601	289469	529063	651091	908661	1157631	-	-	-
60,33	875	916	5106	9142	14496	23391	36527	60000	86356	132972	157228	211792	291106	532054	654772	913799	1164177	-	-	-
60,67	880	921	5135	9194	14577	23522	36733	60338	86841	133720	158112	212983	292743	535046	658454	918937	1170723	-	-	-
61,02	885	926	5164	9245	14659	23654	36938	60675	87327	134468	158996	214174	294380	538037	662135	924075	1177268	-	-	-
61,36	890	931	5193	9296	14740	23785	37143	61012	87812	135215	159880	215365	296016	541029	665817	929212	1183814	-	-	-
61,71	895	937	5221	9348	14822	23917	37349	61350	88298	135963	160764	216555	297653	544020	669498	934350	1190360	-	-	-
62,05	900	942	5250	9399	14903	24048	37554	61687	88784	136711	161648	217746	299290	547012	673180	939488	1196905	-	-	-
62,40	905	947	5279	9451	14985	24180	37760	62024	89269	137458	162532	218937	300927	550003	676861	944626	1203451	-	-	-
62,74	910	952	5307	9502	15066	24311	37965	62362	89755	138206	163416	220128	302563	552995	680543	949764	1209997	-	-	-
63,09	915	957	5336	9553	15148	24443	38170	62699	90240	138954	164300	221319	304200	555986	684224	954902	1216542	-	-	-
63,43	920	962	5365	9605	15229	24574	38376	63036	90726	139701	165184	222509	305837	558978	687906	960040	1223088	-	-	-
63,78	925	967	5394	9656	15311	24706	38581	63374	91211	140449	166068	223700	307474	561969	691587	965178	1229634	-	-	-
64,12	930	973	5422	9708	15392	24837	38786	63711	91697	141196	166952	224891	309110	564961	695269	970316	1236180	-	-	-
64,47	935	978	5451	9759	15474	24969	38992	64048	92182	141944	167836	226082	310747	567952	698951	975454	1242725	-	-	-
64,81	940	983	5480	9810	15555	25100	39197	64386	92668	142692	168720	227273	312384	570944	702632	980591	1249271	-	-	-
65,16	945	988	5508	9862	15637	25232	39403	64723	93153	143439	169604	228464	314021	573935	706314	985729	1255817	-	-	-
65,50	950	993	5537	9913	15718	25363	39608	65061	93639	144187	170488	229654	315658	576927	709995	990867	1262362	-	-	-
65,84	955	998	5566	9965	15800	25495	39813	65398	94125	144935	171372	230845	317294	579918	713677	996005	1268908	-	-	-
66,19	960	1004	5594	10016	15881	25626	40019	65735	94610	145682	172256	232036	318931	582910	717358	1001143	1275454	-	-	-
66,53	965	1009	5623	10067	15963	25758	40224	66073	95096	146430	173140	233227	320568	585901	721040	1006281	1281999	-	-	-
66,88	970	1014	5652	10119	16044	25889	40429	66410	95581	147178	174024	234418	322205	588893	724721	1011419	1288545	-	-	-
67,22	975	1019	5681	10170	16126	26021	40635	66747	96067	147925	174908	235608	323841	591884	728403	1016557	1295091	-	-	-
67,57	980	1024	5709	10222	16207	26152	40840	67085	96552	148673	175792	236799	325478	594876	732084	1021695	1301636	-	-	-
67,91	985	1029	5738	10273	16289	26284	41046	67422	97038	149421	176676	237990	327115	597867	735766	1026833	1308182	-	-	-
68,26	990	1034	5767	10324	16370	26415	41251	67759	97523	150168	177560	239181	328752	600859	739447	1031971	1314728	-	-	-
68,60	995	1040	5795	10376	16452	26547	41456	68097	98009	150916	178444	240372	330388	603850	743129	1037108	1321273	-	-	-
68,95	1000	1045	5824	10427	16533	26678	41662	68434	98494	151664	179328	241563	332025	606842	746810	1042246	1327819	-	-	-
69,29	1005	1050	5853	10479	16615	26810	41867	68771	98980	152411	180212	242753	333662	609833	750492	1047384	1334365	-	-	-
69,64	1010	1055	5882	10530	16696	26942	42072	69109	99465	153159	181096	243944	335299	612825	754173	1052522	1340910	-	-	-
69,98	1015	1060	5910	10581	16778	27073	42278	69446	99951	153906	181980	245135	336936	615816	757855	1057660	1347456	-	-	-
70,33	1020	1065	5939	10633	16859	27205	42483	69784	100437	154654	182864	246326	338572	618808	761536	1062798	1354002	-	-	-
70,67	1025	1070	5968	10684	16941	27336	42689	70121	100922	155402	183748	247517	340209	621800	765218	1067936	1360547	-	-	-
71,02	1030	1076	5996	10736	17022	27468	42894	70458	101408	156149	184633	248707	341846	624791	768899	1073074	1367093	-	-	-
71,36	1035	1081	6025	10787	17104	27599	43099	70796	101893	156897	185517	249898	343483	627783	772581	1078212	1373639	-	-	-
71,71	1040	1086	6054	10838	17185	27731	43305	71133	102379	157645	186401	251089	345119	630774	776262	1083350	1380184	-	-	-
72,05	1045	1091	6083	10890	17267	27862	43510	71470	102864	158392	187285	252280	346756	633766	779944	1088487	1386730	-	-	-
72,39	1050	1096	6111	10941	17348	27994	43715	71808	103350	159140	188169	253471	348393	636757	783625	1093625	1393276	-	-	-
72,74	1055	1101	6140	10993	17430	28125	43921	72145	103835	159888	189053	254662	350030	639749	787307	1098763	1399821	-	-	-
73,08	1060	1107	6169	11044	17511	28257	44126	72482	104321	160635	189937	255852	351666	642740	790988	1103901	1406367	-	-	-
73,43	1065	1112	6197	11095	17593	28388	44332	72820	104806	161383	190821	257043	353303	645732	794670	1109039	1412913	-	-	-
73,77	1070	1117	6226	11147	17674	28520	44537	73157	105292	162131	191705	258234	354940	648723	798351	1114177	1419458	-	-	-
74,12	1075	1122	6255	11198	17756	28651	44742	73494	105778	162878	192589	259425	356577	651715	802033	1119315	1426004	-	-	-
74,46	1080	1127	6284	11250	17837	28783	44948	73832	106263	163626	193473	260616	358213	654706	805714	1124453	1432550	-	-	-
74,81	1085	1132	6312	11301	17919	28914	45153	74169	106749	164374	194357	261806	359850	657698	809396	1129591	1439095	-	-	-
75,15	1090	1137	6341	11352	18000	29046	45358	74507	107234	165121	195241	262997	361487	660689	813077	1134729	1445641	-	-	-
75,50	1095	1143	6370	11404	18082	29177	45564	74844	107720	165869	196125	264188	363124	663681	816759	1139866	1452187	-	-	-
75,84	1100	1148	6398	11455	18163	29309	45769	75181	108205	166616	197009	265379	364761	666672	820440	1145004	1458733	-	-	-
76,19	1105	1153	6427	11507	18245	29440	45975	75519	108691	167364	197893	266570	366397	669664	824122	1150142	1465278	-	-	-
76,53	1110	1158	6456	11558	18326	29572	46180	75856	109176	168112	198777	267761	368034	672655	827803	1155280	1471824	-	-	-
76,88	1115	1163	6485	11609	18408	29703	46385	76193	109662	168859	199661	268951	369671	675647	831485	1160418	1478370	-	-	-
77,22	1120	1168	6513	11661	18489	29835	46591	76531	110147	169607	200545	270142	371308	678638	835166	1165556	1484915	-	-	-
77,57	1125	1173	6542	11712	18571	29966	46796	76868	110633	170355	201429	271333	372944	681630	838848	1170694	1491461	-	-	-
77,91	1130	1179	6571	11764	18652	30098	47001	77205	111118	171102	202313	272524	374581	684621	842529	1175832	1498007	-	-	-
78,26	1135	1184	6599	11815	18734	30229	47207	77543	111604	171850	203197	273715	376218	687613	846211	1180970	1504552	-	-	-
78,60	1140	1189	6628	11866	18815	30361	47412	77880	112090	172598	204081	274905	377855	690604	849892	1186108	1511098	-	-	-
78,94	1145	1194	6657	11918	18897	30492	47618	78217	112575	173345	204965	276096	379491	693596	853574	1191246	1517644	-	-	-
79,29	1150	1199	6686	11969	18978	30624	47823	78555	113061	174093	205849	277287	381128	696587	857255	1196383	1524189	-	-	-
79,63	1155	1204	6714	12021	19060	30755	48028	78892	113546	174841	206733	278478	382765	699579	860937	1201521	1530735	-	-	-
79,98	1160	1210	6743	12072	19141	30887	48234	79229	114032	175588	207617	279669	384402	702570	864618	1206659	1537281	-	-	-
80,32	1165	1215	6772	12123	19223	31019	48439	79567	114517	176336	208501	280860	386038	705562	868300	1211797	1543826	-	-	-
80,67	1170	1220	6800	12175	19304	31150	48644	79904	115003	177084	209385	282050	387675	708553	871981	1216935	1550372	-	-	-
81,01	1175	1225	6829	12226	19386	31282	48850	80242	115488	177831	210269	283241	389312	711545	875663	1222073	1556918	-	-	-
81,36	1180	1230	6858	12278	19467	31413	49055	80579	115974	178579	211153	284432	390949	714536	879344	1227211	1563463	-	-	-
81,70	1185	1235	6886	12329	19549	31545	49261	80916	116459	179326	212037	285623	392586	717528	883026	1232349	1570009	-	-	-
82,05	1190	1240	6915	12380	19630	31676	49466	81254	116945	180074	212921	286814	394222	720520	886707	1237487	1576555	-	-	-
82,39	1195	1246	6944	12432	19712	31808	49671	81591	117431	180822	213805	288004	395859	723511	890389	1242625	1583100	-	-	-
82,74	1200	1251	6973	12483	19793	31939	49877	81928	117916	181569	214689	289195	397496	726503	894070	1247762	1589646	-	-	-

*V orifice cannot be certified as per ASME I

Section I Rating

pounds per hour saturated steam at 3% overpressure

Orifice Designation			D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]		0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]		0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure		P																		
[barg]	[psig]	[psia]																		
83,08	1205	1256	7001	12535	19875	32071	50082	82266	118402	182317	215573	290386	399133	729494	897752	1252900	1596192	-	-	-
83,43	1210	1261	7030	12586	19956	32202	50288	82603	118887	183065	216457	291577	400769	732486	901433	1258038	1602737	-	-	-
83,77	1215	1266	7059	12637	20038	32334	50493	82940	119373	183812	217341	292768	402406	735477	905115	1263176	1609283	-	-	-
84,12	1220	1271	7087	12689	20119	32465	50698	83278	119858	184560	218225	293959	404043	738469	908796	1268314	1615829	-	-	-
84,46	1225	1276	7116	12740	20201	32597	50904	83615	120344	185308	219109	295149	405680	741460	912478	1273452	1622374	-	-	-
84,81	1230	1282	7145	12792	20282	32728	51109	83952	120829	186055	219994	296340	407316	744452	916160	1278590	1628920	-	-	-
85,15	1235	1287	7174	12843	20364	32860	51314	84290	121315	186803	220878	297531	408953	747443	919841	1283728	1635466	-	-	-
85,49	1240	1292	7202	12894	20445	32991	51520	84627	121800	187551	221762	298722	410590	750435	923523	1288866	1642011	-	-	-
85,84	1245	1297	7231	12946	20527	33123	51725	84965	122286	188298	222646	299913	412227	753426	927204	1294004	1648557	-	-	-
86,18	1250	1302	7260	12997	20608	33254	51931	85302	122772	189046	223530	301103	413864	756418	930886	1299142	1655103	-	-	-
86,53	1255	1307	7288	13049	20690	33386	52136	85639	123257	189794	224414	302294	415500	759409	934567	1304279	1661648	-	-	-
86,87	1260	1313	7317	13100	20771	33517	52341	85977	123743	190541	225298	303485	417137	762401	938249	1309417	1668194	-	-	-
87,22	1265	1318	7346	13151	20853	33649	52547	86314	124228	191289	226182	304676	418774	765392	941930	1314555	1674740	-	-	-
87,56	1270	1323	7375	13203	20934	33780	52752	86651	124714	192036	227066	305867	420411	768384	945612	1319693	1681285	-	-	-
87,91	1275	1328	7403	13254	21016	33912	52957	86989	125199	192784	227950	307058	422047	771375	949293	1324831	1687831	-	-	-
88,25	1280	1333	7432	13306	21097	34043	53163	87326	125685	193532	228834	308248	423684	774367	952975	1329969	1694377	-	-	-
88,60	1285	1338	7461	13357	21179	34175	53368	87663	126170	194279	229718	309439	425321	777358	956656	1335107	1700923	-	-	-
88,94	1290	1343	7489	13408	21260	34306	53574	88001	126656	195027	230602	310630	426958	780350	960338	1340245	1707468	-	-	-
89,29	1295	1349	7518	13460	21342	34438	53779	88338	127141	195775	231486	311821	428594	783341	964019	1345383	1714014	-	-	-
89,63	1300	1354	7547	13511	21423	34569	53984	88675	127627	196522	232370	313012	430231	786333	967701	1350521	1720560	-	-	-
89,98	1305	1359	7576	13563	21505	34701	54190	89013	128112	197270	233254	314202	431868	789324	971382	1355658	1727105	-	-	-
90,32	1310	1364	7604	13614	21586	34832	54395	89350	128598	198018	234138	315393	433505	792316	975064	1360796	1733651	-	-	-
90,67	1315	1369	7633	13665	21668	34964	54600	89688	129084	198765	235022	316584	435141	795307	978745	1365934	1740197	-	-	-
91,01	1320	1374	7662	13717	21749	35095	54806	90025	129569	199513	235906	317775	436778	798299	982427	1371072	1746742	-	-	-
91,36	1325	1379	7690	13768	21831	35227	55011	90362	130055	200261	236790	318966	438415	801290	986108	1376210	1753288	-	-	-
91,70	1330	1385	7719	13820	21912	35359	55217	90700	130540	201008	237674	320157	440052	804282	989790	1381348	1759834	-	-	-
92,05	1335	1390	7748	13871	21994	35490	55422	91037	131026	201756	238558	321347	441689	807273	993471	1386486	1766379	-	-	-
92,39	1340	1395	7777	13923	22075	35622	55627	91374	131511	202504	239442	322538	443325	810265	997153	1391624	1772925	-	-	-
92,73	1345	1400	7805	13974	22157	35753	55833	91712	131997	203251	240326	323729	444962	813256	1000834	1396762	1779471	-	-	-
93,08	1350	1405	7834	14025	22238	35885	56038	92049	132482	203999	241210	324920	446599	816248	1004516	1401900	1786016	-	-	-
93,42	1355	1410	7863	14077	22320	36016	56243	92386	132968	204746	242094	326111	448236	819240	1008197	1407038	1792562	-	-	-
93,77	1360	1416	7891	14128	22401	36148	56449	92724	133453	205494	242978	327301	449872	822231	1011879	1412175	1799108	-	-	-
94,11	1365	1421	7920	14180	22483	36279	56654	93061	133939	206242	243862	328492	451509	825223	1015560	1417313	1805653	-	-	-
94,46	1370	1426	7949	14231	22564	36411	56860	93398	134425	206989	244746	329683	453146	828214	1019242	1422451	1812199	-	-	-
94,80	1375	1431	7978	14282	22646	36542	57065	93736	134910	207737	245630	330874	454783	831206	1022923	1427589	1818745	-	-	-
95,15	1380	1436	8006	14334	22727	36674	57270	94073	135396	208485	246514	332065	456419	834197	1026605	1432727	1825290	-	-	-
95,49	1385	1441	8035	14385	22809	36805	57476	94411	135881	209232	247398	333255	458056	837189	1030286	1437865	1831836	-	-	-
95,84	1390	1446	8064	14437	22890	36937	57681	94748	136367	209980	248282	334446	459693	840180	1033968	1443003	1838382	-	-	-
96,18	1395	1452	8092	14488	22972	37068	57886	95085	136852	210728	249166	335637	461330	843172	1037649	1448141	1844927	-	-	-
96,53	1400	1457	8121	14539	23053	37200	58092	95423	137338	211475	250050	336828	462967	846163	1041331	1453279	1851473	-	-	-
96,87	1405	1462	8150	14591	23135	37331	58297	95760	137823	212223	250934	338019	464603	849155	1045012	1458417	1858019	-	-	-
97,22	1410	1467	8178	14642	23216	37463	58503	96097	138309	212971	251818	339210	466240	852146	1048694	1463554	1864564	-	-	-
97,56	1415	1472	8207	14694	23298	37594	58708	96435	138794	213718	252702	340400	467877	855138	1052375	1468692	1871110	-	-	-
97,91	1420	1477	8236	14745	23379	37726	58913	96772	139280	214466	253586	341591	469514	858129	1056057	1473830	1877656	-	-	-
98,25	1425	1482	8265	14796	23461	37857	59119	97109	139765	215214	254471	342782	471150	861121	1059738	1478968	1884201	-	-	-
98,60	1430	1488	8293	14848	23542	37989	59324	97447	140251	215961	255355	343973	472787	864112	1063420	1484106	1890747	-	-	-
98,94	1435	1493	8322	14899	23624	38120	59529	97784	140737	216709	256239	345164	474424	867104	1067101	1489244	1897293	-	-	-
99,28	1440	1498	8351	14951	23705	38252	59735	98121	141222	217456	257123	346354	476061	870095	1070783	1494382	1903838	-	-	-
99,63	1445	1503	8379	15002	23787	38383	59940	98459	141708	218204	258007	347545	477697	873087	1074464	1499520	1910384	-	-	-
99,97	1450	1508	8408	15053	23868	38515	60146	98796	142193	218952	258891	348736	479334	876078	1078146	1504658	1916930	-	-	-
100,32	1455	1513	8437	15105	23950	38646	60351	99133	142679	219699	259775	349927	480971	879070	1081827	1509796	1923476	-	-	-
100,66	1460	1519	8466	15156	24031	38778	60556	99471	143164	220447	260659	351118	482608	882061	1085509	1514934	1930021	-	-	-
101,01	1465	1524	8494	15208	24113	38909	60762	99808	143650	221195	261543	352309	484244	885053	1089190	1520071	1936567	-	-	-
101,35	1470	1529	8523	15259	24194	39041	60967	100146	144135	221942	262427	353499	485881	888044	1092872	1525209	1943113	-	-	-
101,70	1475	1534	8552	15310	24276	39172	61173	100483	144621	222690	263311	354690	487518	891036	1096553	1530347	1949658	-	-	-
102,04	1480	1539	8580	15362	24357	39304	61378	100820	145106	223438	264195	355881	489155	894027	1100235	1535485	1956204	-	-	-
102,39	1485	1544	8609	15413	24439	39436	61583	101158	145592	224185	265079	357072	490792	897019	1103916	1540623	1962750	-	-	-
102,73	1490	1549	8638	15465	24520	39567	61789	101495	146078	224933	265963	358263	492428	900010	1107598	1545761	1969295	-	-	-
103,08	1495	1555	8667	15516	24602	39699	61994	101832	146563	225681	266847	359453	494065	903002	1111279	1550899	1975841	-	-	-
103,42	1500	1560	8695	15567	24683	39830	62199	102170	147049	226428	267731	360644	495702	905993	1114961	1556037	1982387	-	-	-
103,77	1505	1565	8724	15619	24765	39962	62405	102507	147534	227176	268615	361835	497339	908985	1118642	-	-	-	-	-
104,11	1510	1570	8753	15670	24846	40093	62610	102844	148020	227924	269499	363026	498975	911976	1122324	-	-	-	-	-
104,46	1515	1575	8781	15722	24928	40225	62816	103182	148505	228671	270383	364217	500612	914968	1126006	-	-	-	-	-
104,80	1520	1580	8810	15773	25009	40356	63021	103519	148991	229419	271267	365408	502249	917960	1129687	-	-	-	-	-
105,15	1525	1585	8841	15829	25098	40499	63244	103886	149519	230232	272228	366703	504029	921213	1133691	-	-	-	-	-
105,49	1530	1591	8873	15885	25187	40642	63468	104253	150047	231046	273191	367999	505811	924469	1137698	-	-	-	-	-
105,83	1535	1596	8904	15941	25276	40786	63692	104621	150576	231860	274154	369296	507594	927729	1141709	-	-	-	-	-
106,18	1540	1601	8935	15997	25364	40929	63916	104989	151106	232676	275118	370595	509379	930990	1145723	-	-	-	-	-
106,52	1545	1606	8967	16053	25453	41073	64140	105357	151636	233491	276082	371894	511165	934255	1149741	-	-	-	-	-
106,87	1550	1611	8998	16109	25542	41216	64364	105725	152166	234308	277048	373195	512952	937522	1153761	-	-	-	-	-
107,21	1555	1616	9029	16165	25631	41360	64588	106094	152697	235125	278014	374496	514741	940792	1157785	-	-	-	-	-
107,56	1560	1622	9061	16222	25721	41504	64813	106463	153228	235943	278981	375799	516532	944064	1161812	-	-	-	-	-
107,90	1565	1627	9092	16278	25810	41648	65038	106832	153759	236761	279949	377103	518324	947339	1165843	-	-	-	-	-
108,25	1570	1632	9124	16334	25899	41792	65263	107202	154291	237581	280918	378407	520117	950617	1169877	-	-	-	-	-
108,59	1575	1637	9155	16390	25989	41936	65488	107572	154824	238401	281887	379713	521912	953897	1173914	-	-	-	-	-
108,94	1580	1642	9187	16447	26078	42080	65714	107942	155357	239221	282857	381020	523708	957181	1177955	-	-	-	-	-
109,28	1585	1647	9218	16503	26168	42225	65939	108313	155890	240042	283828	382328	525506	960467	1181998	-	-	-	-	-
109,63	1590	1652	9250	16560	26257	42369	66165	108684	156424	240864	284800	383637	527306	963755	1186046	-	-	-	-	-
109,97	1595	1658	9281	16616	26347	42514	66391	109055	156958	241687	285773	384948	529106	967047	1190097	-	-	-	-	-
110,32	1600	1663	9313	16673	26437	42659	66617	109426	157493	242510	286746	386259	530909	970341	1194151	-	-	-	-	-
110,66	1605	1668	9345	16730	26526	42804	66843	109798	158028	243334	287721	387571	532713	973638	1198208	-	-	-	-	-

Section I Rating

pounds per hour saturated steam at 3% overpressure

W = 51.5KAP for "P" less than or equal to 1580 psia
W = 51.5KAP x [0.1906P-1,000 / 0.2292P-1,061] for "P" greater than 1580 psia

K = 0,873
A = Orifice Area in sq.in
P = (1.03 x set pressure) + 14.7

Orifice Designation			D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]		0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]		0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure		P																		
[barg]	[psig]	[psia]																		
111,01	1610	1673	9376	16786	26616	42949	67070	110170	158563	244159	288696	388885	534518	976938	1202269	-	-	-	-	-
111,35	1615	1678	9408	16843	26706	43094	67297	110543	159100	244984	289672	390200	536325	980241	1206334	-	-	-	-	-
111,70	1620	1683	9440	16900	26796	43240	67524	110915	159636	245811	290649	391516	538134	983547	1210402	-	-	-	-	-
112,04	1625	1688	9471	16957	26886	43385	67751	111289	160173	246637	291626	392833	539944	986855	1214474	-	-	-	-	-
112,38	1630	1694	9503	17014	26977	43531	67978	111662	160711	247465	292605	394151	541756	990167	1218549	-	-	-	-	-
112,73	1635	1699	9535	17071	27067	43676	68206	112036	161248	248293	293584	395470	543569	993481	1222628	-	-	-	-	-
113,07	1640	1704	9567	17128	27157	43822	68433	112410	161787	249122	294565	396791	545384	996798	1226710	-	-	-	-	-
113,42	1645	1709	9599	17185	27248	43968	68661	112784	162326	249952	295546	398112	547201	1000118	1230796	-	-	-	-	-
113,76	1650	1714	9631	17242	27338	44114	68890	113159	162865	250783	296528	399435	549019	1003441	1234885	-	-	-	-	-
114,11	1655	1719	9662	17299	27429	44260	69118	113534	163405	251614	297511	400759	550839	1006767	1238979	-	-	-	-	-
114,45	1660	1725	9694	17356	27520	44407	69346	113909	163945	252446	298494	402084	552660	1010096	1243075	-	-	-	-	-
114,80	1665	1730	9726	17413	27610	44553	69575	114285	164486	253279	299479	403410	554483	1013428	1247176	-	-	-	-	-
115,14	1670	1735	9758	17471	27701	44700	69804	114661	165027	254112	300465	404738	556308	1016763	1251280	-	-	-	-	-
115,49	1675	1740	9790	17528	27792	44847	70033	115038	165569	254946	301451	406067	558134	1020101	1255388	-	-	-	-	-
115,83	1680	1745	9823	17585	27883	44993	70263	115415	166111	255781	302438	407397	559962	1023442	1259500	-	-	-	-	-
116,18	1685	1750	9855	17643	27974	45140	70492	115792	166654	256617	303427	408728	561792	1026787	1263615	-	-	-	-	-
116,52	1690	1755	9887	17700	28066	45288	70722	116169	167197	257454	304416	410060	563623	1030134	1267734	-	-	-	-	-
116,87	1695	1761	9919	17758	28157	45435	70952	116547	167741	258291	305406	411394	565457	1033484	1271857	-	-	-	-	-
117,21	1700	1766	9951	17816	28248	45582	71182	116925	168285	259129	306397	412729	567291	1036837	1275984	-	-	-	-	-
117,56	1705	1771	9983	17873	28340	45730	71413	117304	168830	259968	307389	414065	569128	1040194	1280115	-	-	-	-	-
117,90	1710	1776	10016	17931	28431	45878	71643	117682	169376	260808	308381	415402	570966	1043553	1284249	-	-	-	-	-
118,25	1715	1781	10048	17989	28523	46025	71874	118062	169921	261648	309375	416741	572806	1046916	1288388	-	-	-	-	-
118,59	1720	1786	10080	18047	28614	46173	72105	118441	170468	262489	310370	418081	574647	1050282	1292530	-	-	-	-	-
118,93	1725	1791	10112	18105	28706	46322	72337	118821	171014	263331	311365	419422	576491	1053651	1296676	-	-	-	-	-
119,28	1730	1797	10145	18162	28798	46470	72568	119201	171562	264174	312362	420764	578336	1057024	1300826	-	-	-	-	-
119,62	1735	1802	10177	18220	28890	46618	72800	119582	172110	265018	313359	422108	580183	1060399	1304980	-	-	-	-	-
119,97	1740	1807	10210	18279	28982	46767	73032	119963	172658	265862	314358	423453	582031	1063778	1309138	-	-	-	-	-
120,31	1745	1812	10242	18337	29074	46915	73264	120345	173207	266707	315357	424799	583882	1067160	1313301	-	-	-	-	-
120,66	1750	1817	10275	18395	29167	47064	73496	120726	173756	267553	316358	426147	585734	1070545	1317467	-	-	-	-	-
121,00	1755	1822	10307	18453	29259	47213	73729	121108	174306	268400	317359	427496	587588	1073934	1321637	-	-	-	-	-
121,35	1760	1828	10340	18511	29351	47362	73962	121491	174857	269248	318361	428846	589444	1077326	1325811	-	-	-	-	-
121,69	1765	1833	10372	18570	29444	47512	74195	121874	175408	270097	319365	430197	591302	1080721	1329990	-	-	-	-	-
122,04	1770	1838	10405	18628	29536	47661	74428	122257	175960	270946	320369	431550	593161	1084120	1334172	-	-	-	-	-
122,38	1775	1843	10438	18687	29629	47811	74662	122641	176512	271796	321374	432904	595022	1087522	1338359	-	-	-	-	-
122,73	1780	1848	10470	18745	29722	47960	74896	123025	177065	272647	322381	434260	596886	1090927	1342550	-	-	-	-	-
123,07	1785	1853	10503	18804	29815	48110	75130	123409	177618	273499	323388	435617	598751	1094336	1346745	-	-	-	-	-
123,42	1790	1858	10536	18862	29908	48260	75364	123794	178172	274352	324396	436975	600618	1097748	1350944	-	-	-	-	-
123,76	1795	1864	10568	18921	30001	48410	75598	124179	178726	275206	325406	438335	602487	1101164	1355147	-	-	-	-	-
124,11	1800	1869	10601	18980	30094	48561	75833	124565	179281	276060	326416	439696	604357	1104583	1359355	-	-	-	-	-
124,45	1805	1874	10634	19038	30187	48711	76068	124951	179836	276916	327428	441058	606230	1108005	1363567	-	-	-	-	-
124,80	1810	1879	10667	19097	30280	48862	76303	125337	180393	277772	328440	442422	608104	1111431	1367783	-	-	-	-	-
125,14	1815	1884	10700	19156	30374	49012	76539	125724	180949	278629	329454	443787	609981	1114861	1372004	-	-	-	-	-
125,48	1820	1889	10733	19215	30467	49163	76775	126111	181506	279487	330468	445154	611859	1118294	1376229	-	-	-	-	-
125,83	1825	1894	10766	19274	30561	49314	77010	126499	182064	280346	331484	446522	613740	1121731	1380458	-	-	-	-	-
126,17	1830	1900	10799	19333	30655	49466	77247	126887	182623	281206	332500	447891	615622	1125171	1384692	-	-	-	-	-
126,52	1835	1905	10832	19393	30749	49617	77483	127275	183182	282066	333518	449262	617506	1128615	1388930	-	-	-	-	-
126,86	1840	1910	10865	19452	30843	49769	77720	127664	183741	282928	334537	450634	619392	1132063	1393173	-	-	-	-	-
127,21	1845	1915	10898	19511	30937	49920	77957	128053	184301	283791	335557	452008	621281	1135514	1397420	-	-	-	-	-
127,55	1850	1920	10931	19571	31031	50072	78194	128442	184862	284654	336578	453384	623171	1138968	1401672	-	-	-	-	-
127,90	1855	1925	10964	19630	31125	50224	78431	128833	185423	285518	337600	454760	625063	1142427	1405928	-	-	-	-	-
128,24	1860	1931	10998	19689	31219	50377	78669	129223	185985	286384	338623	456138	626957	1145889	1410189	-	-	-	-	-
128,59	1865	1936	11031	19749	31314	50529	78907	129614	186548	287250	339647	457518	628854	1149355	1414454	-	-	-	-	-
128,93	1870	1941	11064	19809	31408	50681	79145	130005	187111	288117	340672	458899	630752	1152825	1418724	-	-	-	-	-
129,28	1875	1946	11098	19868	31503	50834	79384	130397	187675	288985	341699	460282	632653	1156298	1422999	-	-	-	-	-
129,62	1880	1951	11131	19928	31598	50987	79622	130789	188239	289854	342726	461666	634555	1159775	1427278	-	-	-	-	-
129,97	1885	1956	11164	19988	31692	51140	79861	131181	188804	290724	343755	463052	636460	1163257	1431562	-	-	-	-	-
130,31	1890	1961	11198	20048	31787	51293	80101	131574	189370	291595	344785	464439	638366	1166741	1435850	-	-	-	-	-
130,66	1895	1967	11231	20108	31882	51447	80340	131968	189936	292467	345816	465828	640275	1170230	1440144	-	-	-	-	-
131,00	1900	1972	11265	20168	31978	51600	80580	132362	190503	293340	346848	467218	642186	1173723	1444442	-	-	-	-	-
131,35	1905	1977	11298	20228	32073	51754	80820	132756	191070	294214	347881	468610	644099	1177219	1448745	-	-	-	-	-
131,69	1910	1982	11332	20288	32168	51908	81060	133151	191638	295089	348915	470003	646015	1180720	1453053	-	-	-	-	-
132,03	1915	1987	11366	20348	32264	52062	81301	133546	192207	295964	349951	471398	647932	1184224	1457366	-	-	-	-	-
132,38	1920	1992	11399	20408	32359	52216	81542	133942	192777	296841	350988	472795	649851	1187733	1461683	-	-	-	-	-
132,72	1925	1997	11433	20469	32455	52371	81783	134338	193347	297719	352026	474193	651773	1191245	1466006	-	-	-	-	-
133,07	1930	2003	11467	20529	32551	52525	82024	134734	193918	298598	353065	475593	653697	1194761	1470333	-	-	-	-	-
133,41	1935	2008	11501	20590	32647	52680	82266	135131	194489	299478	354105	476994	655623	1198282	1474666	-	-	-	-	-
133,76	1940	2013	11534	20650	32743	52835	82508	135529	195061	300359	355147	478397	657552	1201806	1479003	-	-	-	-	-
134,10	1945	2018	11568	20711	32839	52990	82750	135927	195634	301240	356189	479802	659482	1205335	1483345	-	-	-	-	-
134,45	1950	2023	11602	20772	32935	53145	82993	136325	196207	302123	357233	481208	661415	1208867	1487693	-	-	-	-	-
134,79	1955	2028	11636	20832	33031	53301	83235	136724	196781	303007	358279	482616	663350	1212404	1492046	-	-	-	-	-

*V orifice cannot be certified as per ASME I

Section I Rating

pounds per hour saturated steam at 3% overpressure

Orifice Designation			D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]		0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]		0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure		P																		
[barg]	[psig]	[psia]																		
135,14	1960	2034	11670	20893	33128	53456	83479	137123	197356	303892	359325	484025	665288	1215945	1496403	-	-	-	-	-
135,48	1965	2039	11704	20954	33225	53612	83722	137523	197931	304778	360373	485436	667227	1219490	1500766	-	-	-	-	-
135,83	1970	2044	11738	21015	33321	53768	83966	137923	198507	305665	361422	486849	669169	1223040	1505134	-	-	-	-	-
136,17	1975	2049	11772	21076	33418	53925	84210	138324	199084	306553	362472	488264	671114	1226593	1509507	-	-	-	-	-
136,52	1980	2054	11806	21137	33515	54081	84454	138725	199662	307443	363523	489680	673060	1230151	1513886	-	-	-	-	-
136,86	1985	2059	11841	21198	33612	54238	84698	139127	200240	308333	364576	491098	675009	1233714	1518270	-	-	-	-	-
137,21	1990	2064	11875	21260	33709	54394	84943	139529	200819	309224	365630	492518	676961	1237280	1522659	-	-	-	-	-
137,55	1995	2070	11909	21321	33806	54551	85188	139932	201398	310117	366685	493939	678914	1240851	1527053	-	-	-	-	-
137,90	2000	2075	11943	21383	33904	54709	85434	140335	201978	311010	367741	495363	680871	1244426	1531453	-	-	-	-	-
138,24	2005	2080	11978	21444	34001	54866	85680	140739	202559	311905	368799	496787	682829	1248006	1535858	-	-	-	-	-
138,58	2010	2085	12012	21506	34099	55023	85926	141143	203141	312801	369858	498214	684790	1251590	1540269	-	-	-	-	-
138,93	2015	2090	12047	21567	34197	55181	86172	141548	203724	313697	370919	499643	686753	1255178	1544685	-	-	-	-	-
139,27	2020	2095	12081	21629	34295	55339	86419	141953	204307	314595	371981	501073	688719	1258771	1549107	-	-	-	-	-
139,62	2025	2100	12116	21691	34393	55497	86666	142358	204891	315494	373044	502505	690688	1262369	1553534	-	-	-	-	-
139,96	2030	2106	12150	21753	34491	55656	86913	142765	205475	316395	374108	503939	692658	1265971	1557967	-	-	-	-	-
140,31	2035	2111	12185	21815	34589	55814	87161	143171	206061	317296	375174	505374	694632	1269577	1562405	-	-	-	-	-
140,65	2040	2116	12219	21877	34687	55973	87409	143579	206647	318199	376241	506812	696607	1273188	1566849	-	-	-	-	-
141,00	2045	2121	12254	21939	34786	56132	87657	143986	207234	319102	377309	508251	698586	1276804	1571299	-	-	-	-	-
141,34	2050	2126	12289	22001	34885	56291	87905	144395	207821	320007	378379	509692	700567	1280424	1575754	-	-	-	-	-
141,69	2055	2131	12324	22063	34983	56450	88154	144803	208410	320913	379451	511135	702550	1284049	1580216	-	-	-	-	-
142,03	2060	2137	12359	22126	35082	56610	88403	145213	208999	321820	380523	512580	704536	1287679	1584683	-	-	-	-	-
142,38	2065	2142	12393	22188	35181	56770	88653	145623	209589	322728	381597	514027	706524	1291314	1589155	-	-	-	-	-
142,72	2070	2147	12428	22251	35280	56930	88903	146033	210179	323638	382673	515475	708516	1294953	1593634	-	-	-	-	-
143,07	2075	2152	12463	22313	35380	57090	89153	146444	210771	324549	383749	516926	710509	1298597	1598119	-	-	-	-	-
143,41	2080	2157	12498	22376	35479	57250	89403	146855	211363	325461	384828	518378	712506	1302246	1602609	-	-	-	-	-
143,76	2085	2162	12533	22439	35579	57411	89654	147267	211956	326374	385907	519833	714505	1305899	1607105	-	-	-	-	-
144,10	2090	2167	12569	22502	35678	57572	89905	147680	212550	327288	386989	521289	716507	1309558	1611608	-	-	-	-	-
144,45	2095	2173	12604	22565	35778	57733	90157	148093	213144	328204	388071	522748	718511	1313222	1616116	-	-	-	-	-
144,79	2100	2178	12639	22628	35878	57894	90409	148507	213740	329121	389155	524208	720518	1316890	1620631	-	-	-	-	-
145,13	2105	2183	12674	22691	35978	58056	90661	148921	214336	330039	390241	525670	722528	1320563	1625151	-	-	-	-	-
145,48	2110	2188	12709	22754	36078	58217	90913	149336	214933	330958	391328	527134	724541	1324242	1629678	-	-	-	-	-
145,82	2115	2193	12745	22817	36179	58379	91166	149751	215531	331879	392416	528601	726556	1327925	1634211	-	-	-	-	-
146,17	2120	2198	12780	22881	36279	58542	91420	150167	216130	332800	393506	530069	728574	1331614	1638751	-	-	-	-	-
146,51	2125	2203	12816	22944	36380	58704	91673	150584	216729	333723	394598	531539	730595	1335307	1643296	-	-	-	-	-
146,86	2130	2209	12851	23008	36481	58867	91927	151001	217329	334648	395691	533011	732619	1339006	1647848	-	-	-	-	-
147,20	2135	2214	12887	23071	36582	59029	92181	151419	217931	335574	396785	534486	734645	1342710	1652406	-	-	-	-	-
147,55	2140	2219	12922	23135	36683	59192	92436	151837	218533	336501	397881	535962	736675	1346419	1656971	-	-	-	-	-
147,89	2145	2224	12958	23199	36784	59356	92691	152256	219135	337429	398979	537441	738707	1350133	1661542	-	-	-	-	-
148,24	2150	2229	12994	23263	36885	59519	92946	152675	219739	338358	400078	538921	740742	1353853	1666119	-	-	-	-	-
148,58	2155	2234	13029	23327	36987	59683	93202	153095	220344	339289	401179	540404	742780	1357578	1670703	-	-	-	-	-
148,93	2160	2240	13065	23391	37088	59847	93458	153516	220949	340222	402281	541889	744821	1361308	1675294	-	-	-	-	-
149,27	2165	2245	13101	23455	37190	60011	93715	153937	221555	341155	403385	543376	746865	1365043	1679891	-	-	-	-	-
149,62	2170	2250	13137	23519	37292	60176	93972	154359	222163	342090	404491	544865	748912	1368784	1684495	-	-	-	-	-
149,96	2175	2255	13173	23584	37394	60340	94229	154782	222771	343026	405598	546357	750961	1372531	1689105	-	-	-	-	-
150,31	2180	2260	13209	23648	37496	60505	94486	155205	223380	343964	406706	547850	753014	1376283	1693723	-	-	-	-	-
150,65	2185	2265	13245	23713	37599	60670	94744	155628	223989	344903	407817	549346	755070	1380040	1698347	-	-	-	-	-
151,00	2190	2270	13281	23777	37701	60836	95003	156053	224600	345844	408929	550844	757129	1383803	1702977	-	-	-	-	-
151,34	2195	2276	13317	23842	37804	61002	95261	156478	225212	346786	410042	552344	759191	1387572	1707615	-	-	-	-	-
151,68	2200	2281	13353	23907	37907	61168	95520	156903	225824	347729	411158	553846	761256	1391346	1712260	-	-	-	-	-
152,03	2205	2286	13390	23972	38010	61334	95780	157330	226438	348673	412275	555351	763324	1395126	1716911	-	-	-	-	-
152,37	2210	2291	13426	24037	38113	61500	96040	157756	227052	349619	413393	556858	765395	1398911	1721570	-	-	-	-	-
152,72	2215	2296	13462	24102	38216	61667	96300	158184	227668	350567	414514	558367	767469	1402702	1726236	-	-	-	-	-
153,06	2220	2301	13499	24167	38319	61834	96561	158612	228284	351516	415636	559878	769547	1406499	1730908	-	-	-	-	-
153,41	2225	2306	13535	24233	38423	62001	96822	159041	228901	352466	416760	561392	771627	1410302	1735588	-	-	-	-	-
153,75	2230	2312	13572	24298	38527	62168	97083	159471	229519	353418	417885	562908	773711	1414111	1740275	-	-	-	-	-
154,10	2235	2317	13609	24364	38631	62336	97345	159901	230138	354372	419012	564426	775798	1417925	1744970	-	-	-	-	-
154,44	2240	2322	13645	24429	38735	62504	97607	160332	230759	355326	420141	565947	777889	1421746	1749671	-	-	-	-	-
154,79	2245	2327	13682	24495	38839	62672	97870	160763	231380	356283	421272	567470	779982	1425572	1754380	-	-	-	-	-
155,13	2250	2332	13719	24561	38944	62841	98133	161195	232002	357240	422404	568996	782079	1429404	1759097	-	-	-	-	-
155,48	2255	2337	13756	24627	39048	63009	98397	161628	232625	358200	423539	570524	784179	1433243	1763821	-	-	-	-	-
155,82	2260	2343	13792	24693	39153	63178	98661	162062	233249	359161	424675	572054	786283	1437087	1768552	-	-	-	-	-
156,17	2265	2348	13829	24759	39258	63348	98925	162496	233874	360123	425813	573587	788389	1440938	1773291	-	-	-	-	-
156,51	2270	2353	13866	24825	39363	63517	99190	162931	234500	361087	426953	575122	790500	1444795	1778037	-	-	-	-	-
156,86	2275	2358	13904	24892	39468	63687	99455	163366	235127	362052	428094	576660	792613	1448658	1782791	-	-	-	-	-
157,20	2280	2363	13941	24958	39573	63857	99721	163803	235755	363019	429238	578200	794730	1452527	1787553	-	-	-	-	-
157,55	2285	2368	13978	25025	39679	64028	99987	164240	236384	363988	430383	579743	796851	1456403	1792322	-	-	-	-	-
157,89	2290	2373	14015	25092	39785	64198	100253	164678	237014	364958	431530	581288	798975	1460285	1797100	-	-	-	-	-
158,23	2295	2379	14052	25158	39891	64369	100520	165116	237645	365930	432679	582836	801102	1464173	1801885	-	-	-	-	-
158,58	2300	2384	14090	25225	39997	64540	100788	165555	238277	366903	433830	584386	803233	1468068	1806678	-	-	-	-	-
158,92	2305	2389	14127	25292	40103	64712	101055	165995	238910	367878	434983	585939	805368	1471969	1811479	-	-	-	-	-
159,27	2310	2394	14165	25359	40210	64884	101324	166436	239544	368855	436138	587495	807506	1475877	1816288	-	-	-	-	-
159,61	2315	2399	14202	25427	40316	65056	101592	166877	240180	369833	437294	589053	809647	1479791	1821105	-	-	-	-	-
159,96	2320	2404	14240	25494	40423	65228	101862	167320	240816	370813	438453	590614	811792	1483712	1825930	-	-	-	-	-
160,30	2325	2409	14278	25562	40530	65401	102131	167762	241454	371795	439614	592177	813941	1487639	1830764	-	-	-	-	-
160,65	2330	2415	14315	25629	40637	65574	102401	168206	242092	372778	440776	593743	816094	1491573	1835605	-	-	-	-	-
160,99	2335	2420	14353	25697	40745	65747	102672	168651	242732	373763	441941	595312	818250	1495514	1840455	-	-	-	-	-
161,34	2340	2425	14391	25765	40852	65921	102943	169096	243372	374749	443107	596883	820410	1499462	1845313	-	-	-	-	-
161,68	2345	2430	14429	25833	40960	66094	103214	169542	244014	375738	444276	598458	822574	1503417	1850180	-	-	-	-	-
162,03	2350	2435	14467	25901	41068	66269	103486	169988	244657	376728	445447	600035	824741	1507378	1855055	-	-	-	-	-
162,37	2355	2440	14505	25969	41176	66443	103759	170436	245301	377720	446619	601614	826913	1511347	1859939	-	-	-	-	-
162,72	2360	2446	14543	26037	41284	66618	104032	170884	245947	378713	447794	603197	829088	1515322	1864831	-	-	-	-	-

Section I Rating

pounds per hour saturated steam at 3% overpressure

W = 51.5KAP for "P" less than or equal to 1580 psia
W = 51.5KAP x [0.1906P-1,000 / 0.2292P-1,061] for "P" greater than 1580 psia

K = 0,873
A = Orifice Area in sq.in
P = (1.03 x set pressure) + 14.7

Orifice Designation			D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]		0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]		0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure		P																		
[barg]	[psig]	[psia]																		
163,06	2365	2451	14582	26106	41393	66793	104305	171333	246593	379709	448971	604782	831267	1519305	1869732	-	-	-	-	-
163,41	2370	2456	14620	26174	41502	66968	104579	171783	247241	380706	450150	606370	833449	1523294	1874642	-	-	-	-	-
163,75	2375	2461	14658	26243	41610	67144	104853	172234	247889	381704	451331	607961	835636	1527291	1879560	-	-	-	-	-
164,10	2380	2466	14697	26312	41719	67320	105128	172685	248539	382705	452514	609555	837827	1531294	1884488	-	-	-	-	-
164,44	2385	2471	14735	26381	41829	67496	105404	173138	249190	383708	453699	611151	840021	1535306	1889424	-	-	-	-	-
164,78	2390	2476	14774	26450	41938	67673	105680	173591	249842	384712	454887	612751	842220	1539324	1894369	-	-	-	-	-
165,13	2395	2482	14812	26519	42048	67850	105956	174045	250496	385718	456077	614353	844422	1543350	1899323	-	-	-	-	-
165,47	2400	2487	14851	26588	42158	68027	106233	174500	251150	386726	457268	615959	846629	1547383	1904287	-	-	-	-	-
165,82	2405	2492	14890	26658	42268	68205	106510	174955	251806	387736	458462	617567	848840	1551423	1909259	-	-	-	-	-
166,16	2410	2497	14929	26727	42378	68383	106788	175412	252463	388747	459659	619179	851055	1555471	1914241	-	-	-	-	-
166,51	2415	2502	14968	26797	42489	68561	107067	175869	253121	389761	460857	620793	853274	1559527	1919232	-	-	-	-	-
166,85	2420	2507	15007	26867	42599	68740	107346	176327	253781	390777	462058	622411	855497	1563590	1924232	-	-	-	-	-
167,20	2425	2512	15046	26937	42710	68919	107625	176787	254442	391794	463261	624031	857724	1567661	1929242	-	-	-	-	-
167,54	2430	2518	15085	27007	42821	69098	107905	177246	255104	392813	464466	625655	859956	1571740	1934262	-	-	-	-	-
167,89	2435	2523	15124	27077	42933	69278	108186	177707	255767	393835	465674	627281	862191	1575826	1939290	-	-	-	-	-
168,23	2440	2528	15163	27147	43044	69458	108467	178169	256431	394858	466884	628911	864432	1579920	1944329	-	-	-	-	-
168,58	2445	2533	15203	27218	43156	69638	108748	178632	257097	395883	468096	630544	866676	1584022	1949377	-	-	-	-	-
168,92	2450	2538	15242	27288	43268	69819	109030	179095	257764	396910	469310	632180	868925	1588132	1954435	-	-	-	-	-
169,27	2455	2543	15282	27359	43380	70000	109313	179560	258433	397939	470527	633819	871178	1592250	1959503	-	-	-	-	-
169,61	2460	2549	15321	27430	43493	70181	109596	180025	259102	398971	471747	635462	873435	1596377	1964581	-	-	-	-	-
169,96	2465	2554	15361	27501	43605	70363	109880	180491	259773	400004	472968	637107	875697	1600511	1969669	-	-	-	-	-
170,30	2470	2559	15401	27572	43718	70545	110165	180958	260446	401039	474192	638756	877964	1604653	1974767	-	-	-	-	-
170,65	2475	2564	15441	27644	43831	70728	110450	181426	261119	402076	475419	640409	880235	1608804	1979875	-	-	-	-	-
170,99	2480	2569	15480	27715	43945	70910	110735	181895	261794	403116	476648	642064	882511	1612963	1984993	-	-	-	-	-
171,33	2485	2574	15520	27787	44058	71094	111021	182365	262471	404157	477880	643723	884791	1617130	1990122	-	-	-	-	-
171,68	2490	2579	15561	27858	44172	71277	111308	182836	263149	405201	479114	645385	887075	1621306	1995261	-	-	-	-	-
172,02	2495	2585	15601	27930	44286	71461	111595	183308	263828	406247	480350	647051	889365	1625491	2000410	-	-	-	-	-
172,37	2500	2590	15641	28002	44400	71646	111883	183781	264508	407295	481589	648720	891659	1629684	2005570	-	-	-	-	-
172,71	2505	2595	15681	28074	44515	71830	112172	184255	265190	408345	482831	650393	893958	1633885	2010741	-	-	-	-	-
173,06	2510	2600	15722	28147	44629	72015	112461	184729	265874	409397	484075	652068	896261	1638095	2015922	-	-	-	-	-
173,40	2515	2605	15762	28219	44744	72201	112750	185205	266558	410451	485322	653748	898570	1642314	2021114	-	-	-	-	-
173,75	2520	2610	15803	28292	44859	72387	113040	185682	267245	411508	486571	655431	900883	1646542	2026317	-	-	-	-	-
174,09	2525	2615	15843	28365	44975	72573	113331	186160	267932	412567	487823	657117	903201	1650779	2031531	-	-	-	-	-
174,44	2530	2621	15884	28438	45090	72760	113623	186639	268621	413628	489078	658807	905524	1655025	2036756	-	-	-	-	-
174,78	2535	2626	15925	28511	45206	72947	113915	187118	269312	414691	490335	660501	907852	1659280	2041993	-	-	-	-	-
175,13	2540	2631	15966	28584	45323	73134	114208	187599	270004	415757	491595	662198	910185	1663543	2047240	-	-	-	-	-
175,47	2545	2636	16007	28658	45439	73322	114501	188081	270697	416825	492858	663899	912523	1667816	2052499	-	-	-	-	-
175,82	2550	2641	16048	28731	45556	73510	114795	188564	271392	417895	494123	665604	914866	1672099	2057769	-	-	-	-	-
176,16	2555	2646	16089	28805	45673	73699	115090	189048	272089	418968	495392	667312	917214	1676390	2063050	-	-	-	-	-
176,51	2560	2652	16130	28879	45790	73888	115385	189533	272787	420043	496663	669024	919567	1680691	2068343	-	-	-	-	-
176,85	2565	2657	16172	28953	45907	74077	115681	190019	273487	421120	497936	670740	921926	1685002	2073648	-	-	-	-	-
177,20	2570	2662	16213	29027	46025	74267	115977	190506	274188	422200	499213	672460	924289	1689322	2078964	-	-	-	-	-
177,54	2575	2667	16255	29101	46143	74458	116275	190995	274891	423282	500492	674183	926658	1693652	2084293	-	-	-	-	-
177,88	2580	2672	16297	29176	46261	74649	116573	191484	275595	424366	501775	675911	929032	1697991	2089633	-	-	-	-	-
178,23	2585	2677	16338	29251	46380	74840	116871	191974	276301	425453	503060	677642	931412	1702340	2094985	-	-	-	-	-
178,57	2590	2682	16380	29326	46498	75031	117170	192466	277008	426543	504348	679377	933797	1706699	2100349	-	-	-	-	-
178,92	2595	2688	16422	29401	46617	75223	117470	192959	277717	427635	505639	681116	936187	1711068	2105726	-	-	-	-	-
179,26	2600	2693	16464	29476	46737	75416	117771	193452	278428	428729	506933	682859	938583	1715447	2111115	-	-	-	-	-
179,61	2605	2698	16506	29551	46856	75609	118072	193947	279141	429826	508230	684606	940984	1719836	2116516	-	-	-	-	-
179,95	2610	2703	16548	29627	46976	75802	118374	194444	279855	430925	509530	686358	943391	1724235	2121930	-	-	-	-	-
180,30	2615	2708	16591	29703	47096	75996	118677	194941	280570	432027	510833	688113	945804	1728644	2127356	-	-	-	-	-
180,64	2620	2713	16633	29779	47217	76190	118980	195439	281288	433132	512139	689872	948222	1733064	2132796	-	-	-	-	-
180,99	2625	2718	16676	29855	47337	76385	119285	195939	282007	434239	513448	691636	950646	1737494	2138247	-	-	-	-	-
181,33	2630	2724	16718	29931	47458	76580	119589	196440	282727	435349	514761	693403	953076	1741935	2143712	-	-	-	-	-
181,68	2635	2729	16761	30008	47580	76776	119895	196942	283450	436461	516076	695175	955511	1746386	2149190	-	-	-	-	-
182,02	2640	2734	16804	30084	47701	76972	120201	197445	284174	437576	517395	696951	957952	1750848	2154681	-	-	-	-	-
182,37	2645	2739	16847	30161	47823	77169	120508	197949	284900	438694	518716	698732	960399	1755321	2160186	-	-	-	-	-
182,71	2650	2744	16890	30238	47945	77366	120816	198455	285628	439815	520041	700516	962853	1759804	2165703	-	-	-	-	-
183,06	2655	2749	16933	30315	48068	77564	121125	198962	286357	440938	521369	702306	965312	1764299	2171234	-	-	-	-	-
183,40	2660	2755	16976	30393	48190	77762	121434	199470	287088	442064	522701	704099	967777	1768804	2176779	-	-	-	-	-
183,75	2665	2760	17019	30470	48313	77960	121744	199979	287821	443193	524035	705897	970248	1773321	2182337	-	-	-	-	-
184,09	2670	2765	17063	30548	48437	78159	122055	200490	288556	444324	525373	707699	972725	1777848	2187909	-	-	-	-	-
184,43	2675	2770	17107	30626	48560	78359	122367	201001	289293	445459	526715	709506	975209	1782387	2193495	-	-	-	-	-
184,78	2680	2775	17150	30704	48684	78559	122679	201515	290032	446596	528060	711317	977698	1786938	2199095	-	-	-	-	-
185,12	2685	2780	17194	30783	48809	78759	122992	202029	290772	447736	529408	713133	980195	1791500	2204710	-	-	-	-	-
185,47	2690	2785	17238	30861	48933	78961	123306	202545	291514	448879	530759	714954	982697	1796074	2210338	-	-	-	-	-
185,81	2695	2791	17282	30940	49058	79162	123621	203062	292259	450025	532114	716779	985206	1800659	2215981	-	-	-	-	-
186,16	2700	2796	17326	31019	49183	79364	123937	203580	293005	451174	533473	718609	987721	1805256	2221638	-	-	-	-	-
186,50	2705	2801	17370	31098	49309	79567	124253	204100	293753	452326	534835	720444	990243	1809865	2227310	-	-	-	-	-
186,85	2710	2806	17415	31178	49435	79770	124570	204621	294503	453481	536200	722283	992771	1814486	2232997	-	-	-	-	-

*V orifice cannot be certified as per ASME I

Section I Rating

pounds per hour saturated steam at 3% overpressure

Orifice Designation			D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]		0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]		0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure		P																		
[barg]	[psig]	[psia]																		
187,19	2715	2811	17459	31257	49561	79974	124888	205144	295255	454639	537569	724127	995306	1819119	2238699	-	-	-	-	-
187,54	2720	2816	17504	31337	49688	80178	125207	205667	296009	455800	538942	725977	997847	1823764	2244415	-	-	-	-	-
187,88	2725	2821	17548	31417	49815	80383	125527	206193	296765	456964	540318	727831	1000396	1828421	2250147	-	-	-	-	-
188,23	2730	2827	17593	31497	49942	80588	125848	206719	297523	458131	541698	729689	1002951	1833091	2255894	-	-	-	-	-
188,57	2735	2832	17638	31578	50069	80794	126169	207247	298283	459301	543082	731553	1005512	1837774	2261656	-	-	-	-	-
188,92	2740	2837	17683	31659	50197	81000	126491	207777	299045	460475	544469	733422	1008081	1842469	2267434	-	-	-	-	-
189,26	2745	2842	17728	31739	50326	81207	126815	208308	299809	461651	545861	735296	1010657	1847176	2273228	-	-	-	-	-
189,61	2750	2847	17774	31821	50454	81415	127139	208840	300575	462831	547256	737175	1013240	1851897	2279037	-	-	-	-	-
189,95	2755	2852	17819	31902	50583	81623	127464	209374	301343	464014	548654	739060	1015830	1856630	2284862	-	-	-	-	-
190,30	2760	2858	17865	31983	50712	81831	127790	209909	302114	465200	550057	740949	1018427	1861377	2290704	-	-	-	-	-
190,64	2765	2863	17910	32065	50842	82041	128116	210446	302886	466390	551464	742844	1021031	1866137	2296561	-	-	-	-	-
190,98	2770	2868	17956	32147	50972	82251	128444	210984	303661	467583	552874	744744	1023642	1870910	2302435	-	-	-	-	-
191,33	2775	2873	18002	32229	51103	82461	128773	211524	304438	468779	554288	746649	1026261	1875696	2308325	-	-	-	-	-
191,67	2780	2878	18048	32312	51233	82672	129102	212065	305217	469978	555707	748560	1028887	1880496	2314233	-	-	-	-	-
192,02	2785	2883	18094	32395	51364	82884	129433	212608	305998	471181	557129	750476	1031521	1885309	2320156	-	-	-	-	-
192,36	2790	2888	18141	32478	51496	83096	129764	213152	306781	472388	558556	752397	1034162	1890137	2326097	-	-	-	-	-
192,71	2795	2894	18187	32561	51628	83309	130096	213698	307567	473598	559987	754324	1036811	1894978	2332055	-	-	-	-	-
193,05	2800	2899	18234	32644	51760	83522	130430	214246	308355	474811	561421	756257	1039468	1899833	2338030	-	-	-	-	-
193,40	2805	2904	18280	32728	51893	83736	130764	214795	309146	476028	562860	758195	1042132	1904703	2344022	-	-	-	-	-
193,74	2810	2909	18327	32812	52026	83951	131099	215346	309938	477249	564303	760139	1044804	1909586	2350033	-	-	-	-	-
194,09	2815	2914	18374	32896	52159	84166	131436	215898	310733	478473	565751	762089	1047484	1914484	2356060	-	-	-	-	-
194,43	2820	2919	18421	32980	52293	84382	131773	216452	311531	479701	567203	764045	1050171	1919397	2362106	-	-	-	-	-
194,78	2825	2924	18469	33065	52427	84599	132111	217008	312330	480932	568659	766006	1052867	1924324	2368169	-	-	-	-	-
195,12	2830	2930	18516	33150	52562	84816	132450	217565	313132	482167	570119	767973	1055571	1929266	2374251	-	-	-	-	-
195,47	2835	2935	18564	33235	52697	85034	132791	218124	313937	483406	571584	769946	1058283	1934223	2380351	-	-	-	-	-
195,81	2840	2940	18611	33321	52833	85253	133132	218685	314744	484649	573053	771926	1061004	1939195	2386470	-	-	-	-	-
196,16	2845	2945	18659	33406	52968	85472	133474	219247	315553	485895	574527	773911	1063732	1944182	2392608	-	-	-	-	-
196,50	2850	2950	18707	33492	53105	85692	133818	219811	316365	487145	576005	775902	1066469	1949184	2398764	-	-	-	-	-
196,85	2855	2955	18756	33578	53241	85912	134162	220377	317180	488399	577488	777900	1069215	1954202	2404939	-	-	-	-	-
197,19	2860	2961	18804	33665	53379	86134	134508	220945	317997	489657	578975	779903	1071969	1959236	2411134	-	-	-	-	-
197,53	2865	2966	18852	33752	53516	86356	134855	221514	318816	490919	580468	781913	1074732	1964285	2417348	-	-	-	-	-
197,88	2870	2971	18901	33839	53654	86578	135202	222085	319638	492185	581964	783929	1077503	1969350	2423581	-	-	-	-	-
198,22	2875	2976	18950	33926	53793	86802	135551	222658	320463	493455	583466	785952	1080283	1974432	2429835	-	-	-	-	-
198,57	2880	2981	18999	34014	53931	87026	135901	223233	321290	494729	584972	787981	1083072	1979529	2436108	-	-	-	-	-
198,91	2885	2986	19048	34101	54071	87251	136252	223810	322120	496007	586483	790017	1085870	1984643	2442401	-	-	-	-	-
199,26	2890	2991	19097	34190	54211	87476	136604	224389	322953	497289	588000	792059	1088677	1989773	2448715	-	-	-	-	-
199,60	2895	2997	19146	34278	54351	87702	136958	224969	323789	498576	589521	794108	1091493	1994920	2455049	-	-	-	-	-
199,95	2900	3002	19196	34367	54491	87929	137312	225551	324627	499866	591047	796164	1094319	2000084	2461404	-	-	-	-	-
200,29	2905	3007	19246	34456	54633	88157	137668	226136	325468	501161	592578	798226	1097153	2005265	2467780	-	-	-	-	-
200,64	2910	3012	19295	34545	54774	88386	138025	226722	326311	502460	594114	800295	1099997	2010463	2474177	-	-	-	-	-
200,98	2915	3017	19346	34635	54916	88615	138383	227310	327158	503764	595655	802371	1102851	2015678	2480595	-	-	-	-	-
201,33	2920	3022	19396	34725	55059	88845	138742	227900	328007	505071	597201	804454	1105714	2020911	2487035	-	-	-	-	-
201,67	2925	3027	19446	34815	55202	89076	139103	228492	328859	506384	598753	806544	1108586	2026162	2493496	-	-	-	-	-
202,02	2930	3033	19497	34905	55345	89307	139464	229086	329714	507700	600310	808641	1111469	2031430	2499980	-	-	-	-	-
202,36	2935	3038	19547	34996	55489	89540	139827	229682	330572	509021	601872	810746	1114361	2036716	2506485	-	-	-	-	-
202,71	2940	3043	19598	35087	55634	89773	140191	230281	331433	510347	603439	812857	1117264	2042021	2513013	-	-	-	-	-
203,05	2945	3048	19649	35179	55779	90007	140557	230881	332297	511677	605012	814976	1120176	2047344	2519564	-	-	-	-	-
203,40	2950	3053	19701	35271	55925	90242	140923	231483	333164	513012	606591	817102	1123098	2052685	2526137	-	-	-	-	-
203,74	2955	3058	19752	35363	56071	90478	141291	232088	334034	514352	608175	819236	1126031	2058045	2532733	-	-	-	-	-
204,08	2960	3064	19804	35455	56217	90714	141661	232694	334907	515696	609764	821377	1128974	2063424	2539353	-	-	-	-	-
204,43	2965	3069	19856	35548	56364	90951	142031	233303	335783	517045	611359	823526	1131927	2068822	2545996	-	-	-	-	-
204,77	2970	3074	19908	35641	56512	91189	142403	233914	336663	518399	612960	825682	1134892	2074239	2552663	-	-	-	-	-
205,12	2975	3079	19960	35734	56660	91428	142777	234527	337545	519758	614567	827846	1137866	2079676	2559354	-	-	-	-	-
205,46	2980	3084	20012	35828	56809	91668	143151	235142	338431	521122	616179	830018	1140852	2085133	2566069	-	-	-	-	-
205,81	2985	3089	20065	35922	56958	91909	143527	235760	339319	522490	617798	832198	1143848	2090609	2572808	-	-	-	-	-
206,15	2990	3094	20117	36017	57108	92151	143904	236380	340212	523864	619422	834386	1146855	2096105	2579572	-	-	-	-	-
206,50	2995	3100	20170	36111	57258	92393	144283	237002	341107	525243	621052	836582	1149873	2101622	2586361	-	-	-	-	-
206,84	3000	3105	20224	36207	57409	92637	144663	237626	342006	526627	622688	838786	1152903	2107159	2593175	-	-	-	-	-
207,19	3005	3110	20277	36302	57560	92881	145045	238253	342908	528016	624331	840999	1155944	2112717	2600015	-	-	-	-	-
207,53	3010	3115	20330	36398	57712	93126	145428	238882	343813	529410	625979	843219	1158996	2118295	2606880	-	-	-	-	-
207,88	3015	3120	20384	36494	57865	93372	145812	239514	344722	530809	627634	845448	1162060	2123895	2613772	-	-	-	-	-
208,22	3020	3125	20438	36591	58018	93620	146198	240147	345634	532214	629295	847686	1165135	2129516	2620689	-	-	-	-	-
208,57	3025	3130	20492	36688	58172	93868	146586	240784	346550	533624	630963	849932	1168223	2135159	2627633	-	-	-	-	-
208,91	3030	3136	20547	36785	58326	94117	146974	241423	347470	535040	632636	852187	1171322	2140823	2634604	-	-	-	-	-
209,26	3035	3141	20601	36883	58481	94367	147365	242064	348392	536461	634317	854450	1174433	2146509	2641602	-	-	-	-	-
209,60	3040	3146	20656	36981	58636	94618	147757	242708	349319	537888	636004	856723	1177556	2152218	2648627	-	-	-	-	-
209,95	3045	3151	20711	37079	58792	94870	148150	243354	350249	539320	637697	859004	1180692	2157949	2655680	-	-	-	-	-
210,29	3050	3156	20766	37178	58949	95123	148545	244003	351183	540758	639398	861294	1183840	2163703	2662761	-	-	-	-	-
210,63	3055	3161	20822	37277	59107	95376	148942	244654	352121	542202	641105	863594	1187001	2169479	2669870	-	-	-	-	-
210,98	3060	3167	20877	37377	59265	95631	149340	245308	353062	543651	642818	865902	1190174	2175279	2677007	-	-	-	-	-
211,32	3065	3172	20933	37477	59423	95887	149740	245965	354007	545107	644539	868220	1193360	2181102	2684174	-	-	-	-	-
211,67	3070	3177	20989	37578	59583	96144	150141	246624	354956	546568	646267	870548	1196559	2186949	2691369	-	-	-	-	-
212,01	3075	3182	21046	37678	59742	96403	150544	247286	355909	548035	648002	872885	1199771	2192820	2698594	-	-	-	-	-
212,36	3080	3187	21102	37780	59903	96662	150949	247951	356866	549508	649744	875231	1202996	2198714	2705848	-	-	-	-	-
212,70	3085	3192	21159	37881	60064	96922	151355	248619	357826	550988	651493	877588	1206235	2204634	2713133	-	-	-	-	-
213,05	3090	3197	21216	37984	60226	97183	151763	249289	358791	552473	653250	879954	1209487	2210578	2720448	-	-	-	-	-
213,39	3095	3203	21273	38086	60389	97446	152173	249962	359760	553965	655014	882330	1212753	2216547	2727793	-	-	-	-	-
213,74	3100	3208	21331	38189	60552	97709	152585	250638	360733	555463	656785	884716	1216033	2222541	2735170	-	-	-	-	-

Section I Rating

Water USGPM at 10% overpressure

W = 38.K.A.SQRT (P)

K = 0,85
A = Orifice Area in sq.in
P = (1.10 x set pressure)

Orifice Designation			D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]		0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]		0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure		P																		
[barg]	[psig]	[psig]																		
6,89	100	110	42	75	119	192	300	494	710	1094	1293	1742	2395	4377	5386	7517	9577	13361	13059	20878
7,24	105	116	43	77	122	197	308	506	728	1121	1325	1785	2454	4485	5519	7703	9813	13691	13381	21394
7,58	110	121	44	79	125	202	315	518	745	1147	1357	1827	2512	4590	5649	7884	10044	14013	13696	21897
7,93	115	127	45	81	128	206	322	529	762	1173	1387	1868	2568	4694	5776	8061	10270	14328	14004	22389
8,27	120	132	46	82	131	211	329	541	778	1198	1417	1909	2623	4795	5900	8235	10491	14636	14305	22871
8,62	125	138	47	84	133	215	336	552	794	1223	1446	1948	2677	4893	6022	8404	10707	14938	14600	23342
8,96	130	143	48	86	136	219	343	563	810	1247	1475	1986	2730	4990	6141	8571	10919	15234	14889	23805
9,31	135	149	49	87	139	224	349	573	825	1271	1503	2024	2782	5085	6258	8734	11127	15524	15173	24258
9,65	140	154	50	89	141	228	356	584	841	1294	1530	2061	2833	5179	6373	8894	11332	15809	15451	24703
10,00	145	160	51	91	144	232	362	594	855	1317	1557	2098	2884	5270	6486	9052	11532	16089	15725	25141
10,34	150	165	51	92	146	236	368	605	870	1340	1584	2134	2933	5361	6597	9207	11729	16364	15994	25570
10,69	155	171	52	94	148	240	374	615	884	1362	1610	2169	2981	5449	6706	9359	11923	16634	16258	25993
11,03	160	176	53	95	151	243	380	624	899	1384	1636	2204	3029	5536	6813	9509	12114	16900	16518	26409
11,38	165	182	54	97	153	247	386	634	913	1405	1661	2238	3076	5622	6919	9656	12302	17162	16774	26818
11,72	170	187	55	98	155	251	392	644	926	1426	1686	2272	3122	5707	7023	9801	12487	17420	17026	27222
12,07	175	193	56	99	158	255	398	653	940	1447	1711	2305	3168	5790	7125	9944	12669	17675	17275	27619
12,41	180	198	56	101	160	258	403	662	953	1468	1735	2338	3213	5872	7227	10085	12849	17926	17520	28011
12,76	185	204	57	102	162	262	409	671	966	1488	1759	2370	3257	5953	7326	10224	13026	18173	17762	28397
13,10	190	209	58	104	164	265	414	680	979	1508	1783	2402	3301	6033	7425	10362	13201	18417	18000	28778
13,44	195	215	59	105	167	269	420	689	992	1528	1806	2433	3344	6112	7522	10497	13373	18657	18236	29155
13,79	200	220	59	106	169	272	425	698	1005	1547	1829	2464	3387	6190	7617	10631	13544	18895	18468	29526
14,13	205	226	60	108	171	276	430	707	1017	1566	1852	2495	3429	6267	7712	10763	13712	19130	18697	29893
14,48	210	231	61	109	173	279	435	715	1029	1585	1874	2525	3470	6343	7806	10893	13878	19362	18924	30255
14,82	215	237	62	110	175	282	441	724	1042	1604	1897	2555	3511	6418	7898	11022	14042	19591	19148	30613
15,17	220	242	62	112	177	285	446	732	1054	1622	1918	2584	3552	6492	7989	11150	14205	19817	19369	30967
15,51	225	248	63	113	179	289	451	740	1066	1641	1940	2613	3592	6565	8080	11276	14365	20041	19588	31317
15,86	230	253	64	114	181	292	456	749	1077	1659	1962	2642	3632	6638	8169	11400	14524	20263	19805	31663
16,20	235	259	64	115	183	295	461	757	1089	1677	1983	2671	3671	6710	8257	11524	14681	20482	20019	32006
16,55	240	264	65	117	185	298	466	765	1101	1695	2004	2699	3710	6781	8345	11646	14836	20699	20230	32344
16,89	245	270	66	118	187	301	470	773	1112	1712	2025	2727	3748	6851	8431	11766	14990	20913	20440	32679
17,24	250	275	66	119	189	304	475	780	1123	1730	2045	2755	3786	6920	8517	11886	15142	21125	20648	33011
17,58	255	281	67	120	190	307	480	788	1134	1747	2065	2782	3824	6989	8601	12004	15293	21336	20853	33340
17,93	260	286	68	121	192	310	485	796	1145	1764	2086	2809	3861	7057	8685	12121	15442	21544	21057	33665
18,27	265	292	68	122	194	313	489	803	1156	1781	2106	2836	3898	7125	8768	12237	15590	21750	21258	33987
18,62	270	297	69	124	196	316	494	811	1167	1797	2125	2863	3935	7192	8851	12352	15736	21954	21458	34306
18,96	275	303	70	125	198	319	498	819	1178	1814	2145	2889	3971	7258	8932	12466	15881	22157	21655	34622
19,31	280	308	70	126	200	322	503	826	1189	1830	2164	2915	4007	7324	9013	12579	16025	22357	21851	34936
19,65	285	314	71	127	201	325	507	833	1199	1847	2184	2941	4043	7389	9093	12690	16168	22556	22046	35246
19,99	290	319	72	128	203	328	512	841	1210	1863	2203	2967	4078	7454	9173	12801	16309	22753	22238	35554
20,34	295	325	72	129	205	330	516	848	1220	1879	2221	2992	4113	7517	9251	12911	16449	22948	22429	35859
20,68	300	330	73	130	207	333	520	855	1230	1895	2240	3018	4148	7581	9329	13020	16588	23142	22618	36162
21,03	305	336	73	131	208	336	525	862	1241	1910	2259	3043	4182	7644	9407	13128	16725	23334	22806	36462
21,37	310	341	74	132	210	339	529	869	1251	1926	2277	3068	4216	7706	9484	13235	16862	23524	22992	36760
21,72	315	347	75	133	212	342	533	876	1261	1941	2296	3092	4250	7768	9560	13342	16997	23713	23177	37055
22,06	320	352	75	135	213	344	538	883	1271	1957	2314	3117	4284	7830	9635	13447	17132	23901	23360	37348
22,41	325	358	76	136	215	347	542	890	1281	1972	2332	3141	4317	7890	9710	13552	17265	24087	23542	37639
22,75	330	363	76	137	217	350	546	897	1290	1987	2350	3165	4350	7951	9785	13656	17397	24271	23722	37927
23,10	335	369	77	138	218	352	550	903	1300	2002	2367	3189	4383	8011	9859	13759	17529	24454	23901	38213
23,44	340	374	77	139	220	355	554	910	1310	2017	2385	3213	4416	8071	9932	13861	17659	24636	24079	38497
23,79	345	380	78	140	221	357	558	917	1319	2032	2402	3236	4448	8130	10005	13963	17788	24817	24256	38779
24,13	350	385	79	141	223	360	562	923	1329	2046	2420	3259	4480	8188	10077	14063	17917	24996	24431	39059
24,48	355	391	79	142	225	363	566	930	1338	2061	2437	3283	4512	8247	10149	14163	18044	25174	24605	39337
24,82	360	396	80	143	226	365	570	937	1348	2075	2454	3306	4544	8304	10220	14263	18171	25351	24777	39613
25,17	365	402	80	144	228	368	574	943	1357	2090	2471	3329	4575	8362	10291	14362	18297	25526	24949	39888
25,51	370	407	81	145	229	370	578	949	1366	2104	2488	3351	4606	8419	10361	14460	18422	25700	25119	40160
25,86	375	413	81	146	231	373	582	956	1376	2118	2505	3374	4637	8476	10431	14557	18546	25873	25288	40430
26,20	380	418	82	147	232	375	586	962	1385	2132	2521	3396	4668	8532	10500	14654	18669	26045	25456	40699
26,54	385	424	82	148	234	378	590	968	1394	2146	2538	3419	4699	8588	10569	14750	18791	26216	25623	40966
26,89	390	429	83	149	235	380	593	975	1403	2160	2554	3441	4729	8644	10637	14845	18913	26386	25789	41231
27,23	395	435	83	149	237	382	597	981	1412	2174	2571	3463	4759	8699	10705	14940	19034	26554	25954	41494
27,58	400	440	84	150	238	385	601	987	1421	2188	2587	3485	4789	8754	10773	15034	19154	26722	26117	41756
27,92	405	446	85	151	240	387	605	993	1430	2201	2603	3506	4819	8808	10840	15128	19273	26888	26280	42016
28,27	410	451	85	152	241	390	608	999	1438	2215	2619	3528	4849	8862	10907	15221	19392	27054	26442	42275
28,61	415	457	86	153	243	392	612	1006	1447	2228	2635	3549	4878	8916	10973	15314	19510	27218	26603	42532
28,96	420	462	86	154	244	394	616	1012	1456	2242	2651	3571	4908	8970	11039	15406	19627	27382	26762	42787
29,30	425	468	87	155	246	397	619	1018	1465	2255	2666	3592	4937	9023	11104	15497	19743	27544	26921	43041
29,65	430	473	87	156	247	399	623	1024	1473	2268	2682	3613	4966	9076	11169	15588	19859	27706	27079	43294
29,99	435	479	88	157	249	401	627	1029	1482	2281	2698	3634	4995	9129	11234	15678	19974	27866	27236	43545
30,34	440	484	88	158	250	404	630	1035	1490	2295	2713	3655	5023	9181	11299	15768	20089	28026	27392	43794
30,68	445	490	89	159	252	406	634	1041	1499	2308	2728	3675	5052	9233	11363	15858	20202	28185	27547	44042

*V orifice cannot be certified as per ASME I

Section VIII Rating

pounds per hour saturated steam at 10% overpressure

Orifice Designation		D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]	0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]	0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure	P																		
[barg]	[psig]	[psig]																	
31,03	450	495	89	160	253	408	637	1047	1507	2320	2744	3696	5080	9285	11426	15946	20316	28343	27702	44289
31,37	455	501	90	160	254	410	641	1053	1515	2333	2759	3716	5108	9336	11490	16035	20428	28500	27855	44535
31,72	460	506	90	161	256	413	644	1059	1524	2346	2774	3737	5136	9387	11552	16123	20540	28656	28008	44779
32,06	465	512	91	162	257	415	648	1064	1532	2359	2789	3757	5164	9438	11615	16210	20651	28811	28160	45021
32,41	470	517	91	163	259	417	651	1070	1540	2371	2804	3777	5192	9489	11677	16297	20762	28966	28311	45263
32,75	475	523	92	164	260	419	655	1076	1548	2384	2819	3797	5219	9539	11739	16383	20872	29119	28461	45503
33,09	480	528	92	165	261	422	658	1081	1556	2397	2834	3817	5247	9589	11801	16469	20982	29272	28610	45742
33,44	485	534	93	166	263	424	662	1087	1564	2409	2848	3837	5274	9639	11862	16555	21091	29424	28759	45979
33,78	490	539	93	166	264	426	665	1093	1573	2421	2863	3857	5301	9689	11923	16640	21199	29576	28907	46216
34,13	495	545	93	167	265	428	669	1098	1581	2434	2878	3876	5328	9738	11984	16725	21307	29726	29054	46451
34,47	500	550	94	168	267	430	672	1104	1588	2446	2892	3896	5355	9787	12044	16809	21415	29876	29200	46685
34,82	505	556	94	169	268	432	675	1109	1596	2458	2907	3915	5381	9836	12104	16893	21521	30025	29346	46918
35,16	510	561	95	170	269	435	679	1115	1604	2470	2921	3935	5408	9884	12164	16976	21628	30173	29491	47149
35,51	515	567	95	171	271	437	682	1120	1612	2482	2935	3954	5435	9933	12224	17059	21733	30321	29635	47380
35,85	520	572	96	171	272	439	685	1126	1620	2494	2949	3973	5461	9981	12283	17142	21839	30468	29778	47609
36,20	525	578	96	172	273	441	688	1131	1628	2506	2964	3992	5487	10029	12342	17224	21943	30614	29921	47838
36,54	530	583	97	173	275	443	692	1136	1635	2518	2978	4011	5513	10076	12400	17306	22048	30759	30063	48065
36,89	535	589	97	174	276	445	695	1142	1643	2530	2992	4030	5539	10124	12459	17387	22151	30904	30205	48291
37,23	540	594	98	175	277	447	698	1147	1651	2542	3006	4049	5565	10171	12517	17468	22255	31048	30346	48516
37,58	545	600	98	176	278	449	701	1152	1658	2554	3019	4067	5591	10218	12575	17549	22357	31191	30486	48740
37,92	550	605	99	176	280	451	705	1158	1666	2565	3033	4086	5616	10265	12632	17629	22460	31334	30625	48963
38,27	555	611	99	177	281	453	708	1163	1674	2577	3047	4105	5642	10311	12689	17709	22562	31476	30764	49186
38,61	560	616	99	178	282	455	711	1168	1681	2589	3061	4123	5667	10358	12746	17789	22663	31618	30903	49407
38,96	565	622	100	179	283	457	714	1173	1689	2600	3074	4141	5692	10404	12803	17868	22764	31759	31040	49627
39,30	570	627	100	180	285	459	717	1178	1696	2612	3088	4160	5717	10450	12860	17947	22865	31899	31177	49846
39,64	575	633	101	180	286	461	721	1184	1703	2623	3101	4178	5742	10495	12916	18026	22965	32038	31314	50064
39,99	580	638	101	181	287	463	724	1189	1711	2634	3115	4196	5767	10541	12972	18104	23064	32177	31450	50281
40,33	585	644	102	182	288	465	727	1194	1718	2646	3128	4214	5792	10586	13028	18182	23163	32316	31585	50497
40,68	590	649	102	183	290	467	730	1199	1726	2657	3142	4232	5817	10631	13083	18259	23262	32454	31720	50713
41,02	595	655	102	183	291	469	733	1204	1733	2668	3155	4250	5841	10676	13139	18336	23361	32591	31854	50927
41,37	600	660	103	184	292	471	736	1209	1740	2679	3168	4268	5866	10721	13194	18413	23459	32727	31987	51141
41,71	605	666	103	185	293	473	739	1214	1747	2691	3181	4285	5890	10766	13249	18490	23556	32863	32120	51353
42,06	610	671	104	186	295	475	742	1219	1755	2702	3194	4303	5915	10810	13303	18566	23653	32999	32253	51565
42,40	615	677	104	187	296	477	745	1224	1762	2713	3208	4321	5939	10854	13358	18642	23750	33134	32385	51776
42,75	620	682	105	187	297	479	748	1229	1769	2724	3221	4338	5963	10898	13412	18718	23846	33268	32516	51986
43,09	625	688	105	188	298	481	751	1234	1776	2735	3234	4356	5987	10942	13466	18793	23942	33402	32647	52195
43,44	630	693	105	189	299	483	754	1239	1783	2746	3246	4373	6011	10986	13520	18868	24038	33536	32777	52404
43,78	635	699	106	190	300	485	757	1244	1790	2756	3259	4390	6035	11029	13573	18943	24133	33668	32907	52611
44,13	640	704	106	190	302	487	760	1249	1797	2767	3272	4408	6058	11073	13627	19017	24228	33801	33036	52818
44,47	645	710	107	191	303	489	763	1254	1804	2778	3285	4425	6082	11116	13680	19091	24322	33932	33165	53024
44,82	650	715	107	192	304	491	766	1258	1811	2789	3298	4442	6105	11159	13733	19165	24416	34064	33293	53229
45,16	655	721	108	192	305	492	769	1263	1818	2800	3310	4459	6129	11202	13785	19239	24510	34195	33421	53433
45,51	660	726	108	193	306	494	772	1268	1825	2810	3323	4476	6152	11244	13838	19312	24603	34325	33548	53637
45,85	665	732	108	194	308	496	775	1273	1832	2821	3335	4493	6175	11287	13890	19385	24697	34455	33675	53840
46,19	670	737	109	195	309	498	778	1278	1839	2831	3348	4510	6199	11329	13942	19458	24789	34584	33802	54042
46,54	675	743	109	195	310	500	781	1282	1846	2842	3360	4527	6222	11371	13994	19530	24882	34713	33928	54243
46,88	680	748	110	196	311	502	784	1287	1852	2852	3373	4543	6245	11413	14046	19602	24973	34841	34053	54443
47,23	685	754	110	197	312	504	786	1292	1859	2863	3385	4560	6268	11455	14097	19674	25065	34969	34178	54643
47,57	690	759	110	198	313	505	789	1297	1866	2873	3397	4577	6290	11497	14149	19746	25156	35096	34302	54842
47,92	695	765	111	198	314	507	792	1301	1873	2884	3410	4593	6313	11539	14200	19817	25247	35223	34427	55041
48,26	700	770	111	199	315	509	795	1306	1880	2894	3422	4610	6336	11580	14251	19889	25338	35350	34550	55238
48,61	705	776	112	200	317	511	798	1311	1886	2904	3434	4626	6358	11621	14302	19960	25428	35476	34673	55435
48,95	710	781	112	200	318	513	801	1315	1893	2915	3446	4642	6381	11662	14352	20030	25518	35601	34796	55631
49,30	715	787	112	201	319	515	803	1320	1900	2925	3459	4659	6403	11703	14403	20101	25608	35726	34918	55827
49,64	720	792	113	202	320	516	806	1324	1906	2935	3471	4675	6426	11744	14453	20171	25698	35851	35040	56022
49,99	725	798	113	202	321	518	809	1329	1913	2945	3483	4691	6448	11785	14503	20241	25787	35975	35162	56216
50,33	730	803	113	203	322	520	812	1334	1919	2955	3495	4707	6470	11826	14553	20310	25875	36099	35283	56410
50,68	735	809	114	204	323	522	815	1338	1926	2966	3507	4723	6492	11866	14603	20380	25964	36223	35403	56602
51,02	740	814	114	205	324	523	817	1343	1932	2976	3518	4739	6514	11906	14653	20449	26052	36346	35524	56795
51,37	745	820	115	205	325	525	820	1347	1939	2986	3530	4755	6536	11946	14702	20518	26140	36468	35643	56986
51,71	750	825	115	206	327	527	823	1352	1945	2996	3542	4771	6558	11986	14751	20587	26227	36590	35763	57177
52,06	755	831	115	207	328	529	826	1356	1952	3006	3554	4787	6580	12026	14800	20655	26315	-	-	-
52,40	760	836	116	207	329	530	828	1361	1958	3016	3566	4803	6602	12066	14849	20723	26402	-	-	-
52,74	765	842	116	208	330	532	831	1365	1965	3026	3577	4819	6624	12106	14898	20792	26488	-	-	-
53,09	770	847	117	209	331	534	834	1370	1971	3035	3589	4835	6645	12145	14947	20859	26575	-	-	-
53,43	775	853	117	209	332	536	837	1374	1978	3045	3601	4850	6667	12185	14995	20927	26661	-	-	-
53,78	780	858	117	210	333	537	839	1378	1984	3055	3612	4866	6688	12224	15043	20994	26747	-	-	-
54,12	785	864	118	211	334	539	842	1383	1990	3065	3624	4881	6710	12263	15091	21062	26832	-	-	-
54,47	790	869	118	211	335	541	845	1387	1997	3075	3635	4897	6731	12302	15139	21129	26918	-	-	-
54,81	795	875	118	212	336	543	847	1392	2003	3084	3647	4912	6752	12341	15187	21195	27003	-	-	-
55,16	800	880	119	213	337	544	850	1396	2009	3094	3658	4928	6773	12380	15235	21262	27088	-	-	-
55,50	805	886	119	213	338	546	853	1400	2016	3104	3670	4943	6794	12418	15282	21328	27172	-	-	-
55,85	810	891	120	214	339	548	855	1405	2022	3113	3681	4959	6816	12457	15330	21394	27256	-	-	-
56,19	815	897	120	215	340	549	858	1409	2028	3123	3692	4974	6837	12495	15377	21460	27340	-	-	-
56,54	820	902	120	215	341	551	860	1413	2034	3132	3704	4989	6857	12533	15424	21526	27424	-	-	-
56,88	825	908	121	216	343	553	863	1418	2040	3142	3715	5004	6878	12572	15471	21592	27508	-	-	-
57,23	830	913	121	217	344	554	866	1422	2047	3151	3726	5019	6899	12610	15518	21657	27591	-	-	-
57,57	835	919	121	217	345	556	868	1426	2053	3161	3737	5035	6920	12647	15565	21722	27674	-	-	-
57,92	840	924	122	218	346	558	871	1431	2059	3170	3749	5050	6941	12685	15611	21787	27756	-	-	-
58,26	845	930	122	219	347	559	873	1435	2065	3180	3760	5065	6961	12723	15658	21852	27839	-	-	-
58,61	850	935	122	219	348	561	876	1439	2071	3189	3771	5080	6982	12761	15704	21916	27921	-	-	-

Section I Rating

Water USGPM at 10% overpressure

W = 38.K.A.SQRT (P)

K = 0,85
A = Orifice Area in sq.in
P = (1.10 x set pressure)

Orifice Designation		D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]	0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]	0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure	P																		
[barg]	[psig]	[psig]																	
58,95	855	941	123	220	349	563	879	1443	2077	3199	3782	5094	7002	12798	15750	21981	28003	-	-	-
59,29	860	946	123	221	350	564	881	1447	2083	3208	3793	5109	7023	12835	15796	22045	28085	-	-	-
59,64	865	952	124	221	351	566	884	1452	2089	3217	3804	5124	7043	12873	15842	22109	28166	-	-	-
59,98	870	957	124	222	352	568	886	1456	2095	3226	3815	5139	7063	12910	15888	22173	28248	-	-	-
60,33	875	963	124	222	353	569	889	1460	2101	3236	3826	5154	7084	12947	15933	22236	28329	-	-	-
60,67	880	968	125	223	354	571	891	1464	2107	3245	3837	5168	7104	12984	15979	22300	28410	-	-	-
61,02	885	974	125	224	355	572	894	1468	2113	3254	3848	5183	7124	13021	16024	22363	28490	-	-	-
61,36	890	979	125	224	356	574	896	1472	2119	3263	3859	5198	7144	13057	16069	22426	28571	-	-	-
61,71	895	985	126	225	357	576	899	1477	2125	3272	3869	5212	7164	13094	16114	22489	28651	-	-	-
62,05	900	990	126	226	358	577	901	1481	2131	3282	3880	5227	7184	13131	16159	22552	28731	-	-	-
62,40	905	996	126	226	359	579	904	1485	2137	3291	3891	5241	7204	13167	16204	22614	28810	-	-	-
62,74	910	1001	127	227	360	580	906	1489	2143	3300	3902	5256	7224	13203	16249	22677	28890	-	-	-
63,09	915	1007	127	227	361	582	909	1493	2149	3309	3912	5270	7244	13240	16293	22739	28969	-	-	-
63,43	920	1012	127	228	362	584	911	1497	2155	3318	3923	5285	7264	13276	16338	22801	29048	-	-	-
63,78	925	1018	128	229	363	585	914	1501	2161	3327	3934	5299	7283	13312	16382	22863	29127	-	-	-
64,12	930	1023	128	229	364	587	916	1505	2166	3336	3944	5313	7303	13348	16426	22924	29206	-	-	-
64,47	935	1029	128	230	365	588	919	1509	2172	3345	3955	5327	7323	13383	16470	22986	29284	-	-	-
64,81	940	1034	129	231	366	590	921	1513	2178	3354	3966	5342	7342	13419	16514	23047	29362	-	-	-
65,16	945	1040	129	231	367	592	924	1517	2184	3363	3976	5356	7362	13455	16558	23109	29440	-	-	-
65,50	950	1045	129	232	368	593	926	1521	2190	3372	3987	5370	7381	13490	16602	23170	29518	-	-	-
65,84	955	1051	130	232	369	595	929	1525	2195	3380	3997	5384	7400	13526	16646	23230	29596	-	-	-
66,19	960	1056	130	233	369	596	931	1529	2201	3389	4007	5398	7420	13561	16689	23291	29673	-	-	-
66,53	965	1062	130	234	370	598	933	1533	2207	3398	4018	5412	7439	13596	16732	23352	29750	-	-	-
66,88	970	1067	131	234	371	599	936	1537	2212	3407	4028	5426	7458	13632	16776	23412	29827	-	-	-
67,22	975	1073	131	235	372	601	938	1541	2218	3416	4039	5440	7478	13667	16819	23472	29904	-	-	-
67,57	980	1078	132	235	373	602	941	1545	2224	3424	4049	5454	7497	13702	16862	23533	29980	-	-	-
67,91	985	1084	132	236	374	604	943	1549	2230	3433	4059	5468	7516	13737	16905	23593	30057	-	-	-
68,26	990	1089	132	237	375	605	945	1553	2235	3442	4070	5482	7535	13771	16948	23652	30133	-	-	-
68,60	995	1095	133	237	376	607	948	1557	2241	3450	4080	5496	7554	13806	16991	23712	30209	-	-	-
68,95	1000	1100	133	238	377	608	950	1561	2246	3459	4090	5510	7573	13841	17033	23771	30285	-	-	-
69,29	1005	1106	133	238	378	610	953	1565	2252	3468	4100	5523	7592	13875	17076	23831	30360	-	-	-
69,64	1010	1111	133	239	379	612	955	1569	2258	3476	4111	5537	7611	13910	17118	23890	30436	-	-	-
69,98	1015	1117	134	240	380	613	957	1573	2263	3485	4121	5551	7629	13944	17160	23949	30511	-	-	-
70,33	1020	1122	134	240	381	615	960	1576	2269	3494	4131	5564	7648	13979	17203	24008	30586	-	-	-
70,67	1025	1128	134	241	382	616	962	1580	2274	3502	4141	5578	7667	14013	17245	24067	30661	-	-	-
71,02	1030	1133	135	241	383	618	964	1584	2280	3511	4151	5592	7686	14047	17287	24125	30736	-	-	-
71,36	1035	1139	135	242	384	619	967	1588	2285	3519	4161	5605	7704	14081	17329	24184	30810	-	-	-
71,71	1040	1144	135	243	385	621	969	1592	2291	3528	4171	5619	7723	14115	17371	24242	30885	-	-	-
72,05	1045	1150	136	243	385	622	971	1596	2296	3536	4181	5632	7741	14149	17412	24300	30959	-	-	-
72,39	1050	1155	136	244	386	624	974	1599	2302	3545	4191	5646	7760	14183	17454	24359	31033	-	-	-
72,74	1055	1161	136	244	387	625	976	1603	2307	3553	4201	5659	7778	14216	17495	24416	31106	-	-	-
73,08	1060	1166	137	245	388	626	978	1607	2313	3561	4211	5672	7797	14250	17537	24474	31180	-	-	-
73,43	1065	1172	137	245	389	628	981	1611	2318	3570	4221	5686	7815	14284	17578	24532	31254	-	-	-
73,77	1070	1177	137	246	390	629	983	1615	2324	3578	4231	5699	7833	14317	17619	24589	31327	-	-	-
74,12	1075	1183	138	247	391	631	985	1618	2329	3587	4241	5712	7852	14350	17660	24647	31400	-	-	-
74,46	1080	1188	138	247	392	632	987	1622	2335	3595	4251	5726	7870	14384	17701	24704	31473	-	-	-
74,81	1085	1194	138	248	393	634	990	1626	2340	3603	4260	5739	7888	14417	17742	24761	31546	-	-	-
75,15	1090	1199	139	248	394	635	992	1630	2345	3611	4270	5752	7906	14450	17783	24818	31618	-	-	-
75,50	1095	1205	139	249	395	637	994	1633	2351	3620	4280	5765	7924	14483	17824	24875	31691	-	-	-
75,84	1100	1210	139	249	395	638	997	1637	2356	3628	4290	5778	7942	14516	17865	24932	31763	-	-	-
76,19	1105	1216	140	250	396	640	999	1641	2361	3636	4299	5792	7960	14549	17905	24988	31835	-	-	-
76,53	1110	1221	140	251	397	641	1001	1644	2367	3644	4309	5805	7978	14582	17946	25045	31907	-	-	-
76,88	1115	1227	140	251	398	643	1003	1648	2372	3653	4319	5818	7996	14615	17986	25101	31979	-	-	-
77,22	1120	1232	141	252	399	644	1006	1652	2377	3661	4329	5831	8014	14648	18026	25157	32050	-	-	-
77,57	1125	1238	141	252	400	645	1008	1656	2383	3669	4338	5844	8032	14680	18066	25213	32122	-	-	-
77,91	1130	1243	141	253	401	647	1010	1659	2388	3677	4348	5857	8050	14713	18107	25269	32193	-	-	-
78,26	1135	1249	142	253	402	648	1012	1663	2393	3685	4357	5870	8068	14745	18147	25325	32264	-	-	-
78,60	1140	1254	142	254	403	650	1015	1667	2399	3693	4367	5883	8086	14778	18186	25381	32335	-	-	-
78,94	1145	1260	142	254	404	651	1017	1670	2404	3701	4377	5895	8103	14810	18226	25437	32406	-	-	-
79,29	1150	1265	142	255	404	653	1019	1674	2409	3710	4386	5908	8121	14843	18266	25492	32477	-	-	-
79,63	1155	1271	143	256	405	654	1021	1677	2414	3718	4396	5921	8139	14875	18306	25547	32547	-	-	-
79,98	1160	1276	143	256	406	655	1023	1681	2420	3726	4405	5934	8156	14907	18345	25603	32618	-	-	-
80,32	1165	1282	143	257	407	657	1026	1685	2425	3734	4415	5947	8174	14939	18385	25658	32688	-	-	-
80,67	1170	1287	144	257	408	658	1028	1688	2430	3742	4424	5959	8191	14971	18424	25713	32758	-	-	-
81,01	1175	1293	144	258	409	660	1030	1692	2435	3750	4434	5972	8209	15003	18464	25768	32828	-	-	-
81,36	1180	1298	144	258	410	661	1032	1696	2440	3758	4443	5985	8226	15035	18503	25822	32898	-	-	-
81,70	1185	1304	145	259	410	662	1034	1699	2445	3766	4452	5998	8244	15067	18542	25877	32967	-	-	-
82,05	1190	1309	145	259	411	664	1037	1703	2451	3773	4462	6010	8261	15099	18581	25932	33037	-	-	-
82,39	1195	1315	145	260	412	665	1039	1706	2456	3781	4471	6023	8278	15130	18620	25986	33106	-	-	-
82,74	1200	1320	146	261	413	667	1041	1710	2461	3789	4480	6035	8296	15162	18659	26040	33175	-	-	-

*V orifice cannot be certified as per ASME I

Section VIII Rating

pounds per hour saturated steam at 10% overpressure

Orifice Designation			D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]		0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]		0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure		P																		
[barg]	[psig]	[psig]																		
83,08	1205	1326	146	261	414	668	1043	1713	2466	3797	4490	6048	8313	15193	18698	26095	33244	-	-	-
83,43	1210	1331	146	262	415	669	1045	1717	2471	3805	4499	6060	8330	15225	18737	26149	33313	-	-	-
83,77	1215	1337	146	262	416	671	1047	1720	2476	3813	4508	6073	8347	15256	18775	26203	33382	-	-	-
84,12	1220	1342	147	263	417	672	1050	1724	2481	3821	4518	6085	8364	15288	18814	26256	33451	-	-	-
84,46	1225	1348	147	263	417	673	1052	1728	2486	3829	4527	6098	8382	15319	18852	26310	33519	-	-	-
84,81	1230	1353	147	264	418	675	1054	1731	2491	3836	4536	6110	8399	15350	18891	26364	33587	-	-	-
85,15	1235	1359	148	264	419	676	1056	1735	2496	3844	4545	6123	8416	15381	18929	26417	33656	-	-	-
85,49	1240	1364	148	265	420	678	1058	1738	2502	3852	4555	6135	8433	15412	18967	26471	33724	-	-	-
85,84	1245	1370	148	265	421	679	1060	1742	2507	3860	4564	6148	8450	15444	19006	26524	33792	-	-	-
86,18	1250	1375	149	266	422	680	1062	1745	2512	3867	4573	6160	8467	15474	19044	26577	33859	-	-	-
86,53	1255	1381	149	266	422	682	1064	1749	2517	3875	4582	6172	8484	15505	19082	26630	33927	-	-	-
86,87	1260	1386	149	267	423	683	1067	1752	2522	3883	4591	6184	8500	15536	19120	26683	33995	-	-	-
87,22	1265	1392	149	267	424	684	1069	1756	2527	3891	4600	6197	8517	15567	19158	26736	34062	-	-	-
87,56	1270	1397	150	268	425	686	1071	1759	2532	3898	4609	6209	8534	15598	19195	26789	34129	-	-	-
87,91	1275	1403	150	269	426	687	1073	1762	2537	3906	4618	6221	8551	15628	19233	26842	34196	-	-	-
88,25	1280	1408	150	269	427	688	1075	1766	2542	3914	4627	6233	8568	15659	19271	26894	34263	-	-	-
88,60	1285	1414	151	270	427	690	1077	1769	2547	3921	4636	6245	8584	15690	19308	26947	34330	-	-	-
88,94	1290	1419	151	270	428	691	1079	1773	2551	3929	4645	6258	8601	15720	19346	26999	34397	-	-	-
89,29	1295	1425	151	271	429	692	1081	1776	2556	3936	4654	6270	8618	15751	19383	27051	34464	-	-	-
89,63	1300	1430	151	271	430	694	1083	1780	2561	3944	4663	6282	8634	15781	19421	27104	34530	-	-	-
89,98	1305	1436	152	272	431	695	1085	1783	2566	3952	4672	6294	8651	15811	19458	27156	34596	-	-	-
90,32	1310	1441	152	272	432	696	1088	1786	2571	3959	4681	6306	8667	15842	19495	27208	34663	-	-	-
90,67	1315	1447	152	273	432	698	1090	1790	2576	3967	4690	6318	8684	15872	19533	27260	34729	-	-	-
91,01	1320	1452	153	273	433	699	1092	1793	2581	3974	4699	6330	8700	15902	19570	27311	34795	-	-	-
91,36	1325	1458	153	274	434	700	1094	1797	2586	3982	4708	6342	8717	15932	19607	27363	34860	-	-	-
91,70	1330	1463	153	274	435	702	1096	1800	2591	3989	4717	6354	8733	15962	19644	27415	34926	-	-	-
92,05	1335	1469	153	275	436	703	1098	1803	2596	3997	4726	6366	8750	15992	19681	27466	34992	-	-	-
92,39	1340	1474	154	275	437	704	1100	1807	2600	4004	4735	6378	8766	16022	19717	27517	35057	-	-	-
92,73	1345	1480	154	276	437	706	1102	1810	2605	4012	4743	6390	8782	16052	19754	27569	35123	-	-	-
93,08	1350	1485	154	276	438	707	1104	1814	2610	4019	4752	6402	8799	16082	19791	27620	35188	-	-	-
93,42	1355	1491	155	277	439	708	1106	1817	2615	4027	4761	6413	8815	16111	19827	27671	35253	-	-	-
93,77	1360	1496	155	277	440	710	1108	1820	2620	4034	4770	6425	8831	16141	19864	27722	35318	-	-	-
94,11	1365	1502	155	278	441	711	1110	1824	2625	4041	4779	6437	8848	16171	19900	27773	35383	-	-	-
94,46	1370	1507	155	278	441	712	1112	1827	2629	4049	4787	6449	8864	16200	19937	27824	35447	-	-	-
94,80	1375	1513	156	279	442	714	1114	1830	2634	4056	4796	6461	8880	16230	19973	27875	35512	-	-	-
95,15	1380	1518	156	279	443	715	1116	1834	2639	4064	4805	6472	8896	16259	20009	27925	35577	-	-	-
95,49	1385	1524	156	280	444	716	1118	1837	2644	4071	4813	6484	8912	16289	20046	27976	35641	-	-	-
95,84	1390	1529	157	280	445	717	1120	1840	2649	4078	4822	6496	8928	16318	20082	28026	35705	-	-	-
96,18	1395	1535	157	281	445	719	1122	1844	2653	4086	4831	6507	8944	16347	20118	28077	35769	-	-	-
96,53	1400	1540	157	281	446	720	1124	1847	2658	4093	4839	6519	8960	16377	20154	28127	35833	-	-	-
96,87	1405	1546	157	282	447	721	1126	1850	2663	4100	4848	6531	8976	16406	20190	28177	35897	-	-	-
97,22	1410	1551	158	282	448	723	1128	1853	2668	4107	4857	6542	8992	16435	20226	28227	35961	-	-	-
97,56	1415	1557	158	283	449	724	1130	1857	2672	4115	4865	6554	9008	16464	20262	28277	36025	-	-	-
97,91	1420	1562	158	283	449	725	1132	1860	2677	4122	4874	6565	9024	16493	20297	28327	36089	-	-	-
98,25	1425	1568	159	284	450	726	1134	1863	2682	4129	4882	6577	9040	16522	20333	28377	36152	-	-	-
98,60	1430	1573	159	284	451	728	1136	1866	2686	4137	4891	6588	9056	16551	20369	28427	36215	-	-	-
98,94	1435	1579	159	285	452	729	1138	1870	2691	4144	4900	6600	9072	16580	20404	28476	36279	-	-	-
99,28	1440	1584	159	285	453	730	1140	1873	2696	4151	4908	6611	9087	16609	20440	28526	36342	-	-	-
99,63	1445	1590	160	286	453	731	1142	1876	2700	4158	4917	6623	9103	16638	20475	28575	36405	-	-	-
99,97	1450	1595	160	286	454	733	1144	1880	2705	4165	4925	6634	9119	16667	20511	28625	36468	-	-	-
100,32	1455	1601	160	287	455	734	1146	1883	2710	4173	4934	6646	9135	16695	20546	28674	36531	-	-	-
100,66	1460	1606	161	287	456	735	1148	1886	2714	4180	4942	6657	9150	16724	20581	28723	36593	-	-	-
101,01	1465	1612	161	288	456	736	1150	1889	2719	4187	4951	6669	9166	16753	20616	28772	36656	-	-	-
101,35	1470	1617	161	288	457	738	1152	1892	2724	4194	4959	6680	9182	16781	20652	28821	36718	-	-	-
101,70	1475	1623	161	289	458	739	1154	1896	2728	4201	4967	6691	9197	16810	20687	28870	36781	-	-	-
102,04	1480	1628	162	289	459	740	1156	1899	2733	4208	4976	6703	9213	16838	20722	28919	36843	-	-	-
102,39	1485	1634	162	290	460	741	1158	1902	2738	4215	4984	6714	9228	16866	20757	28968	36905	-	-	-
102,73	1490	1639	162	290	460	743	1160	1905	2742	4222	4993	6725	9244	16895	20792	29017	36967	-	-	-
103,08	1495	1645	162	291	461	744	1162	1908	2747	4229	5001	6737	9259	16923	20827	29065	37029	-	-	-
103,42	1500	1650	163	291	462	745	1164	1912	2751	4237	5009	6748	9275	16951	20861	29114	37091	-	-	-
103,77	1505	1656	163	292	463	746	1166	1915	2756	4244	5018	6759	9290	16980	20896	-	-	-	-	-
104,11	1510	1661	163	292	463	748	1168	1918	2760	4251	5026	6770	9306	17008	20931	-	-	-	-	-
104,46	1515	1667	164	293	464	749	1170	1921	2765	4258	5034	6781	9321	17036	20965	-	-	-	-	-
104,80	1520	1672	164	293	465	750	1172	1924	2770	4265	5043	6793	9336	17064	21000	-	-	-	-	-
105,15	1525	1678	164	294	466	751	1173	1927	2774	4272	5051	6804	9352	17092	21034	-	-	-	-	-
105,49	1530	1683	164	294	466	753	1175	1931	2779	4279	5059	6815	9367	17120	21069	-	-	-	-	-
105,83	1535	1689	165	295	467	754	1177	1934	2783	4286	5067	6826	9382	17148	21103	-	-	-	-	-
106,18	1540	1694	165	295	468	755	1179	1937	2788	4293	5076	6837	9398	17176	21138	-	-	-	-	-
106,52	1545	1700	165	296	469	756	1181	1940	2792	4300	5084	6848	9413	17204	21172	-	-	-	-	-
106,87	1550	1705	165	296	469	758	1183	1943	2797	4307	5092	6859	9428	17232	21206	-	-	-	-	-
107,21	1555	1711	166	297	470	759	1185	1946	2801	4314	5100	6870	9443	17259	21240	-	-	-	-	-
107,56	1560	1716	166	297	471	760	1187	1949	2806	4320	5109	6881	9458	17287	21274	-	-	-	-	-
107,90	1565	1722	166	298	472	761	1189	1953	2810	4327	5117	6892	9474	17315	21309	-	-	-	-	-
108,25	1570	1727	166	298	472	762	1191	1956	2815	4334	5125	6903	9489	17342	21343	-	-	-	-	-
108,59	1575	1733	167	298	473	764	1193	1959	2819	4341	5133	6914	9504	17370	21376	-	-	-	-	-
108,94	1580	1738	167	299	474	765	1194	1962	2824	4348	5141	6925	9519	17398	21410	-	-	-	-	-
109,28	1585	1744	167	299	475	766	1196	1965	2828	4355	5149	6936	9534	17425	21444	-	-	-	-	-
109,63	1590	1749	168	300	475	767	1198	1968	2833	4362	5157	6947	9549	17453	21478	-	-	-	-	-
109,97	1595	1755	168	300	476	768	1200	1971	2837	4369	5166	6958	9564	17480	21512	-	-	-	-	-
110,32	1600	1760	168	301	477	770	1202	1974	2842	4375	5174	6969	9579	17507	21545	-	-	-	-	-
110,66	1605	1766	168	301	478	771	1204	1977	2846	4382	5182	6980	9594	17535	21579	-	-	-	-	-

Section I Rating

Water USGPM at 10% overpressure

W = 38.K.A.SQRT (P)

K = 0,85
A = Orifice Area in sq.in
P = (1.10 x set pressure)

Orifice Designation			D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]		0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]		0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure		P																		
[barg]	[psig]	[psig]																		
111,01	1610	1771	169	302	478	772	1206	1980	2850	4389	5190	6991	9609	17562	21613	-	-	-	-	-
111,35	1615	1777	169	302	479	773	1208	1984	2855	4396	5198	7002	9624	17589	21646	-	-	-	-	-
111,70	1620	1782	169	303	480	774	1209	1987	2859	4403	5206	7013	9639	17616	21680	-	-	-	-	-
112,04	1625	1788	169	303	481	776	1211	1990	2864	4410	5214	7023	9653	17644	21713	-	-	-	-	-
112,38	1630	1793	170	304	481	777	1213	1993	2868	4416	5222	7034	9668	17671	21747	-	-	-	-	-
112,73	1635	1799	170	304	482	778	1215	1996	2872	4423	5230	7045	9683	17698	21780	-	-	-	-	-
113,07	1640	1804	170	305	483	779	1217	1999	2877	4430	5238	7056	9698	17725	21813	-	-	-	-	-
113,42	1645	1810	170	305	484	780	1219	2002	2881	4437	5246	7066	9713	17752	21846	-	-	-	-	-
113,76	1650	1815	171	305	484	782	1221	2005	2886	4443	5254	7077	9727	17779	21880	-	-	-	-	-
114,11	1655	1821	171	306	485	783	1222	2008	2890	4450	5262	7088	9742	17806	21913	-	-	-	-	-
114,45	1660	1826	171	306	486	784	1224	2011	2894	4457	5270	7099	9757	17833	21946	-	-	-	-	-
114,80	1665	1832	171	307	487	785	1226	2014	2899	4463	5278	7109	9772	17859	21979	-	-	-	-	-
115,14	1670	1837	172	307	487	786	1228	2017	2903	4470	5286	7120	9786	17886	22012	-	-	-	-	-
115,49	1675	1843	172	308	488	788	1230	2020	2907	4477	5293	7131	9801	17913	22045	-	-	-	-	-
115,83	1680	1848	172	308	489	789	1232	2023	2912	4484	5301	7141	9815	17940	22078	-	-	-	-	-
116,18	1685	1854	172	309	489	790	1233	2026	2916	4490	5309	7152	9830	17966	22110	-	-	-	-	-
116,52	1690	1859	173	309	490	791	1235	2029	2920	4497	5317	7162	9845	17993	22143	-	-	-	-	-
116,87	1695	1865	173	310	491	792	1237	2032	2925	4504	5325	7173	9859	18020	22176	-	-	-	-	-
117,21	1700	1870	173	310	492	793	1239	2035	2929	4510	5333	7184	9874	18046	22209	-	-	-	-	-
117,56	1705	1876	173	311	492	795	1241	2038	2933	4517	5341	7194	9888	18073	22241	-	-	-	-	-
117,90	1710	1881	174	311	493	796	1243	2041	2938	4523	5349	7205	9903	18099	22274	-	-	-	-	-
118,25	1715	1887	174	311	494	797	1244	2044	2942	4530	5356	7215	9917	18126	22306	-	-	-	-	-
118,59	1720	1892	174	312	495	798	1246	2047	2946	4537	5364	7226	9932	18152	22339	-	-	-	-	-
118,93	1725	1898	174	312	495	799	1248	2050	2950	4543	5372	7236	9946	18178	22371	-	-	-	-	-
119,28	1730	1903	175	313	496	800	1250	2053	2955	4550	5380	7247	9960	18205	22404	-	-	-	-	-
119,62	1735	1909	175	313	497	801	1252	2056	2959	4556	5387	7257	9975	18231	22436	-	-	-	-	-
119,97	1740	1914	175	314	497	803	1253	2059	2963	4563	5395	7268	9989	18257	22468	-	-	-	-	-
120,31	1745	1920	175	314	498	804	1255	2062	2968	4569	5403	7278	10004	18283	22501	-	-	-	-	-
120,66	1750	1925	176	315	499	805	1257	2065	2972	4576	5411	7288	10018	18310	22533	-	-	-	-	-
121,00	1755	1931	176	315	500	806	1259	2068	2976	4583	5418	7299	10032	18336	22565	-	-	-	-	-
121,35	1760	1936	176	316	500	807	1261	2071	2980	4589	5426	7309	10046	18362	22597	-	-	-	-	-
121,69	1765	1942	176	316	501	808	1262	2074	2984	4596	5434	7320	10061	18388	22629	-	-	-	-	-
122,04	1770	1947	177	316	502	810	1264	2077	2989	4602	5442	7330	10075	18414	22661	-	-	-	-	-
122,38	1775	1953	177	317	502	811	1266	2079	2993	4609	5449	7340	10089	18440	22693	-	-	-	-	-
122,73	1780	1958	177	317	503	812	1268	2082	2997	4615	5457	7351	10103	18466	22725	-	-	-	-	-
123,07	1785	1964	177	318	504	813	1270	2085	3001	4622	5465	7361	10118	18492	22757	-	-	-	-	-
123,42	1790	1969	178	318	505	814	1271	2088	3006	4628	5472	7371	10132	18518	22789	-	-	-	-	-
123,76	1795	1975	178	319	505	815	1273	2091	3010	4634	5480	7382	10146	18544	22821	-	-	-	-	-
124,11	1800	1980	178	319	506	816	1275	2094	3014	4641	5487	7392	10160	18569	22852	-	-	-	-	-
124,45	1805	1986	178	320	507	817	1277	2097	3018	4647	5495	7402	10174	18595	22884	-	-	-	-	-
124,80	1810	1991	179	320	507	819	1278	2100	3022	4654	5503	7412	10188	18621	22916	-	-	-	-	-
125,14	1815	1997	179	320	508	820	1280	2103	3026	4660	5510	7423	10202	18647	22947	-	-	-	-	-
125,48	1820	2002	179	321	509	821	1282	2106	3031	4667	5518	7433	10216	18672	22979	-	-	-	-	-
125,83	1825	2008	179	321	509	822	1284	2109	3035	4673	5525	7443	10230	18698	23011	-	-	-	-	-
126,17	1830	2013	180	322	510	823	1285	2111	3039	4679	5533	7453	10244	18723	23042	-	-	-	-	-
126,52	1835	2019	180	322	511	824	1287	2114	3043	4686	5541	7463	10258	18749	23074	-	-	-	-	-
126,86	1840	2024	180	323	512	825	1289	2117	3047	4692	5548	7474	10272	18775	23105	-	-	-	-	-
127,21	1845	2030	180	323	512	827	1291	2120	3051	4699	5556	7484	10286	18800	23136	-	-	-	-	-
127,55	1850	2035	181	323	513	828	1292	2123	3056	4705	5563	7494	10300	18826	23168	-	-	-	-	-
127,90	1855	2041	181	324	514	829	1294	2126	3060	4711	5571	7504	10314	18851	23199	-	-	-	-	-
128,24	1860	2046	181	324	514	830	1296	2129	3064	4718	5578	7514	10328	18876	23230	-	-	-	-	-
128,59	1865	2052	181	325	515	831	1298	2132	3068	4724	5586	7524	10342	18902	23261	-	-	-	-	-
128,93	1870	2057	182	325	516	832	1299	2134	3072	4730	5593	7534	10356	18927	23293	-	-	-	-	-
129,28	1875	2063	182	326	516	833	1301	2137	3076	4737	5601	7544	10369	18952	23324	-	-	-	-	-
129,62	1880	2068	182	326	517	834	1303	2140	3080	4743	5608	7554	10383	18978	23355	-	-	-	-	-
129,97	1885	2074	182	327	518	835	1305	2143	3084	4749	5616	7564	10397	19003	23386	-	-	-	-	-
130,31	1890	2079	183	327	518	837	1306	2146	3088	4756	5623	7574	10411	19028	23417	-	-	-	-	-
130,66	1895	2085	183	327	519	838	1308	2149	3092	4762	5630	7584	10425	19053	23448	-	-	-	-	-
131,00	1900	2090	183	328	520	839	1310	2151	3097	4768	5638	7594	10438	19078	23479	-	-	-	-	-
131,35	1905	2096	183	328	520	840	1312	2154	3101	4774	5645	7604	10452	19103	23510	-	-	-	-	-
131,69	1910	2101	184	329	521	841	1313	2157	3105	4781	5653	7614	10466	19128	23540	-	-	-	-	-
132,03	1915	2107	184	329	522	842	1315	2160	3109	4787	5660	7624	10480	19153	23571	-	-	-	-	-
132,38	1920	2112	184	330	523	843	1317	2163	3113	4793	5667	7634	10493	19178	23602	-	-	-	-	-
132,72	1925	2118	184	330	523	844	1318	2166	3117	4799	5675	7644	10507	19203	23633	-	-	-	-	-
133,07	1930	2123	185	330	524	845	1320	2168	3121	4806	5682	7654	10520	19228	23663	-	-	-	-	-
133,41	1935	2129	185	331	525	846	1322	2171	3125	4812	5690	7664	10534	19253	23694	-	-	-	-	-
133,76	1940	2134	185	331	525	848	1323	2174	3129	4818	5697	7674	10548	19278	23724	-	-	-	-	-
134,10	1945	2140	185	332	526	849	1325	2177	3133	4824	5704	7684	10561	19303	23755	-	-	-	-	-
134,45	1950	2145	185	332	527	850	1327	2180	3137	4830	5712	7694	10575	19328	23786	-	-	-	-	-
134,79	1955	2151	186	333	527	851	1329	2182	3141	4837	5719	7704	10588	19352	23816	-	-	-	-	-

*V orifice cannot be certified as per ASME I

Section VIII Rating

pounds per hour saturated steam at 10% overpressure

Orifice Designation			D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]		0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]		0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure		P																		
[barg]	[psig]	[psig]																		
135,14	1960	2156	186	333	528	852	1330	2185	3145	4843	5726	7713	10602	19377	23846	-	-	-	-	-
135,48	1965	2162	186	333	529	853	1332	2188	3149	4849	5733	7723	10615	19402	23877	-	-	-	-	-
135,83	1970	2167	186	334	529	854	1334	2191	3153	4855	5741	7733	10629	19426	23907	-	-	-	-	-
136,17	1975	2173	187	334	530	855	1335	2194	3157	4861	5748	7743	10642	19451	23938	-	-	-	-	-
136,52	1980	2178	187	335	531	856	1337	2196	3161	4867	5755	7753	10656	19476	23968	-	-	-	-	-
136,86	1985	2184	187	335	531	857	1339	2199	3165	4874	5763	7762	10669	19500	23998	-	-	-	-	-
137,21	1990	2189	187	335	532	858	1340	2202	3169	4880	5770	7772	10683	19525	24028	-	-	-	-	-
137,55	1995	2195	188	336	533	859	1342	2205	3173	4886	5777	7782	10696	19549	24058	-	-	-	-	-
137,90	2000	2200	188	336	533	861	1344	2207	3177	4892	5784	7792	10710	19574	24089	-	-	-	-	-
138,24	2005	2206	188	337	534	862	1345	2210	3181	4898	5792	7801	10723	19598	24119	-	-	-	-	-
138,58	2010	2211	188	337	535	863	1347	2213	3185	4904	5799	7811	10736	19623	24149	-	-	-	-	-
138,93	2015	2217	189	338	535	864	1349	2216	3189	4910	5806	7821	10750	19647	24179	-	-	-	-	-
139,27	2020	2222	189	338	536	865	1351	2218	3193	4916	5813	7831	10763	19671	24209	-	-	-	-	-
139,62	2025	2228	189	338	537	866	1352	2221	3197	4922	5820	7840	10776	19696	24239	-	-	-	-	-
139,96	2030	2233	189	339	537	867	1354	2224	3201	4929	5828	7850	10790	19720	24269	-	-	-	-	-
140,31	2035	2239	189	339	538	868	1356	2227	3205	4935	5835	7860	10803	19744	24298	-	-	-	-	-
140,65	2040	2244	190	340	539	869	1357	2229	3209	4941	5842	7869	10816	19769	24328	-	-	-	-	-
141,00	2045	2250	190	340	539	870	1359	2232	3213	4947	5849	7879	10829	19793	24358	-	-	-	-	-
141,34	2050	2255	190	341	540	871	1361	2235	3216	4953	5856	7888	10843	19817	24388	-	-	-	-	-
141,69	2055	2261	190	341	541	872	1362	2238	3220	4959	5863	7898	10856	19841	24418	-	-	-	-	-
142,03	2060	2266	191	341	541	873	1364	2240	3224	4965	5870	7908	10869	19865	24447	-	-	-	-	-
142,38	2065	2272	191	342	542	874	1365	2243	3228	4971	5878	7917	10882	19889	24477	-	-	-	-	-
142,72	2070	2277	191	342	543	875	1367	2246	3232	4977	5885	7927	10895	19913	24506	-	-	-	-	-
143,07	2075	2283	191	343	543	877	1369	2248	3236	4983	5892	7936	10909	19937	24536	-	-	-	-	-
143,41	2080	2288	192	343	544	878	1370	2251	3240	4989	5899	7946	10922	19961	24566	-	-	-	-	-
143,76	2085	2294	192	343	544	879	1372	2254	3244	4995	5906	7956	10935	19985	24595	-	-	-	-	-
144,10	2090	2299	192	344	545	880	1374	2256	3248	5001	5913	7965	10948	20009	24625	-	-	-	-	-
144,45	2095	2305	192	344	546	881	1375	2259	3252	5007	5920	7975	10961	20033	24654	-	-	-	-	-
144,79	2100	2310	192	345	546	882	1377	2262	3255	5013	5927	7984	10974	20057	24683	-	-	-	-	-
145,13	2105	2316	193	345	547	883	1379	2265	3259	5019	5934	7994	10987	20081	24713	-	-	-	-	-
145,48	2110	2321	193	345	548	884	1380	2267	3263	5025	5941	8003	11000	20105	24742	-	-	-	-	-
145,82	2115	2327	193	346	548	885	1382	2270	3267	5031	5948	8013	11013	20129	24771	-	-	-	-	-
146,17	2120	2332	193	346	549	886	1384	2273	3271	5037	5955	8022	11026	20153	24801	-	-	-	-	-
146,51	2125	2338	194	347	550	887	1385	2275	3275	5043	5962	8031	11039	20176	24830	-	-	-	-	-
146,86	2130	2343	194	347	550	888	1387	2278	3279	5048	5969	8041	11052	20200	24859	-	-	-	-	-
147,20	2135	2349	194	347	551	889	1388	2281	3282	5054	5976	8050	11065	20224	24888	-	-	-	-	-
147,55	2140	2354	194	348	552	890	1390	2283	3286	5060	5983	8060	11078	20247	24917	-	-	-	-	-
147,89	2145	2360	195	348	552	891	1392	2286	3290	5066	5990	8069	11091	20271	24947	-	-	-	-	-
148,24	2150	2365	195	349	553	892	1393	2289	3294	5072	5997	8079	11104	20295	24976	-	-	-	-	-
148,58	2155	2371	195	349	554	893	1395	2291	3298	5078	6004	8088	11117	20318	25005	-	-	-	-	-
148,93	2160	2376	195	350	554	894	1397	2294	3302	5084	6011	8097	11130	20342	25034	-	-	-	-	-
149,27	2165	2382	195	350	555	895	1398	2297	3305	5090	6018	8107	11143	20365	25063	-	-	-	-	-
149,62	2170	2387	196	350	555	896	1400	2299	3309	5096	6025	8116	11155	20389	25091	-	-	-	-	-
149,96	2175	2393	196	351	556	897	1401	2302	3313	5101	6032	8125	11168	20412	25120	-	-	-	-	-
150,31	2180	2398	196	351	557	898	1403	2305	3317	5107	6039	8135	11181	20436	25149	-	-	-	-	-
150,65	2185	2404	196	352	557	899	1405	2307	3321	5113	6046	8144	11194	20459	25178	-	-	-	-	-
151,00	2190	2409	197	352	558	900	1406	2310	3324	5119	6053	8153	11207	20483	25207	-	-	-	-	-
151,34	2195	2415	197	352	559	901	1408	2312	3328	5125	6060	8163	11220	20506	25236	-	-	-	-	-
151,68	2200	2420	197	353	559	903	1409	2315	3332	5131	6067	8172	11232	20529	25264	-	-	-	-	-
152,03	2205	2426	197	353	560	904	1411	2318	3336	5137	6074	8181	11245	20553	25293	-	-	-	-	-
152,37	2210	2431	197	354	561	905	1413	2320	3340	5142	6080	8191	11258	20576	25322	-	-	-	-	-
152,72	2215	2437	198	354	561	906	1414	2323	3343	5148	6087	8200	11271	20599	25350	-	-	-	-	-
153,06	2220	2442	198	354	562	907	1416	2326	3347	5154	6094	8209	11283	20622	25379	-	-	-	-	-
153,41	2225	2448	198	355	562	908	1417	2328	3351	5160	6101	8218	11296	20646	25407	-	-	-	-	-
153,75	2230	2453	198	355	563	909	1419	2331	3355	5166	6108	8227	11309	20669	25436	-	-	-	-	-
154,10	2235	2459	199	356	564	910	1421	2333	3358	5171	6115	8237	11321	20692	25464	-	-	-	-	-
154,44	2240	2464	199	356	564	911	1422	2336	3362	5177	6122	8246	11334	20715	25493	-	-	-	-	-
154,79	2245	2470	199	356	565	912	1424	2339	3366	5183	6128	8255	11347	20738	25521	-	-	-	-	-
155,13	2250	2475	199	357	566	913	1425	2341	3370	5189	6135	8264	11359	20761	25550	-	-	-	-	-
155,48	2255	2481	199	357	566	914	1427	2344	3373	5194	6142	8273	11372	20784	25578	-	-	-	-	-
155,82	2260	2486	200	358	567	915	1428	2346	3377	5200	6149	8283	11384	20807	25606	-	-	-	-	-
156,17	2265	2492	200	358	568	916	1430	2349	3381	5206	6156	8292	11397	20830	25635	-	-	-	-	-
156,51	2270	2497	200	358	568	917	1432	2352	3385	5212	6162	8301	11410	20853	25663	-	-	-	-	-
156,86	2275	2503	200	359	569	918	1433	2354	3388	5217	6169	8310	11422	20876	25691	-	-	-	-	-
157,20	2280	2508	201	359	569	919	1435	2357	3392	5223	6176	8319	11435	20899	25720	-	-	-	-	-
157,55	2285	2514	201	359	570	920	1436	2359	3396	5229	6183	8328	11447	20922	25748	-	-	-	-	-
157,89	2290	2519	201	360	571	921	1438	2362	3399	5235	6189	8337	11460	20945	25776	-	-	-	-	-
158,23	2295	2525	201	360	571	922	1440	2365	3403	5240	6196	8347	11472	20968	25804	-	-	-	-	-
158,58	2300	2530	201	361	572	923	1441	2367	3407	5246	6203	8356	11485	20991	25832	-	-	-	-	-
158,92	2305	2536	202	361	573	924	1443	2370	3411	5252	6210	8365	11497	21013	25860	-	-	-	-	-
159,27	2310	2541	202	361	573	925	1444	2372	3414	5257	6216	8374	11510	21036	25888	-	-	-	-	-
159,61	2315	2547	202	362	574	926	1446	2375	3418	5263	6223	8383	11522	21059	25916	-	-	-	-	-
159,96	2320	2552	202	362	574	927	1447	2377	3422	5269	6230	8392	11535	21082	25944	-	-	-	-	-
160,30	2325	2558	203	363	575	928	1449	2380	3425	5274	6237	8401	11547	21104	25972	-	-	-	-	-
160,65	2330	2563	203	363	576	929	1450	2383	3429	5280	6243	8410	11559	21127	26000	-	-	-	-	-
160,99	2335	2569	203	363	576	930	1452	2385	3433	5286	6250	8419	11572	21150	26028	-	-	-	-	-
161,34	2340	2574	203	364	577	931	1454	2388	3436	5291	6257	8428	11584	21172	26056	-	-	-	-	-
161,68	2345	2580	203	364	577	932	1455	2390	3440	5297	6263	8437	11597	21195	26084	-	-	-	-	-
162,03	2350	2585	204	365	578	933	1457	2393	3444	5303	6270	8446	11609	21218	26111	-	-	-	-	-
162,37	2355	2591	204	365	579	934	1458	2395	3447	5308	6277	8455	11621	21240	26139	-	-	-	-	-
162,72	2360	2596	204	365	579	935	1460	2398	3451	5314	6283	8464	11634	21263	26167	-	-	-	-	-

Section I Rating

Water USGPM at 10% overpressure

W = 38.K.A.SQRT (P)

K = 0,85
A = Orifice Area in sq.in
P = (1.10 x set pressure)

Orifice Designation			D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]		0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]		0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure		P																		
[barg]	[psig]	[psig]																		
163,06	2365	2602	204	366	580	936	1461	2400	3455	5320	6290	8473	11646	21285	26195	-	-	-	-	-
163,41	2370	2607	205	366	581	937	1463	2403	3458	5325	6297	8482	11658	21308	26222	-	-	-	-	-
163,75	2375	2613	205	367	581	938	1464	2405	3462	5331	6303	8491	11670	21330	26250	-	-	-	-	-
164,10	2380	2618	205	367	582	939	1466	2408	3466	5336	6310	8500	11683	21353	26278	-	-	-	-	-
164,44	2385	2624	205	367	582	940	1467	2410	3469	5342	6317	8509	11695	21375	26305	-	-	-	-	-
164,78	2390	2629	205	368	583	941	1469	2413	3473	5348	6323	8518	11707	21397	26333	-	-	-	-	-
165,13	2395	2635	206	368	584	942	1471	2416	3477	5353	6330	8526	11720	21420	26360	-	-	-	-	-
165,47	2400	2640	206	368	584	943	1472	2418	3480	5359	6336	8535	11732	21442	26388	-	-	-	-	-
165,82	2405	2646	206	369	585	944	1474	2421	3484	5364	6343	8544	11744	21464	26415	-	-	-	-	-
166,16	2410	2651	206	369	585	945	1475	2423	3487	5370	6350	8553	11756	21487	26443	-	-	-	-	-
166,51	2415	2657	206	370	586	946	1477	2426	3491	5376	6356	8562	11768	21509	26470	-	-	-	-	-
166,85	2420	2662	207	370	587	947	1478	2428	3495	5381	6363	8571	11781	21531	26497	-	-	-	-	-
167,20	2425	2668	207	370	587	948	1480	2431	3498	5387	6369	8580	11793	21553	26525	-	-	-	-	-
167,54	2430	2673	207	371	588	949	1481	2433	3502	5392	6376	8589	11805	21576	26552	-	-	-	-	-
167,89	2435	2679	207	371	588	950	1483	2436	3505	5398	6382	8597	11817	21598	26579	-	-	-	-	-
168,23	2440	2684	207	371	589	950	1484	2438	3509	5403	6389	8606	11829	21620	26607	-	-	-	-	-
168,58	2445	2690	208	372	590	951	1486	2441	3513	5409	6395	8615	11841	21642	26634	-	-	-	-	-
168,92	2450	2695	208	372	590	952	1487	2443	3516	5414	6402	8624	11853	21664	26661	-	-	-	-	-
169,27	2455	2701	208	373	591	953	1489	2446	3520	5420	6409	8633	11865	21686	26688	-	-	-	-	-
169,61	2460	2706	208	373	591	954	1490	2448	3523	5425	6415	8641	11877	21708	26716	-	-	-	-	-
169,96	2465	2712	209	373	592	955	1492	2451	3527	5431	6422	8650	11890	21731	26743	-	-	-	-	-
170,30	2470	2717	209	374	593	956	1493	2453	3531	5436	6428	8659	11902	21753	26770	-	-	-	-	-
170,65	2475	2723	209	374	593	957	1495	2456	3534	5442	6435	8668	11914	21775	26797	-	-	-	-	-
170,99	2480	2728	209	375	594	958	1496	2458	3538	5447	6441	8676	11926	21797	26824	-	-	-	-	-
171,33	2485	2734	209	375	594	959	1498	2460	3541	5453	6448	8685	11938	21818	26851	-	-	-	-	-
171,68	2490	2739	210	375	595	960	1499	2463	3545	5458	6454	8694	11950	21840	26878	-	-	-	-	-
172,02	2495	2745	210	376	596	961	1501	2465	3548	5464	6461	8703	11962	21862	26905	-	-	-	-	-
172,37	2500	2750	210	376	596	962	1502	2468	3552	5469	6467	8711	11974	21884	26932	-	-	-	-	-
172,71	2505	2756	210	376	597	963	1504	2470	3556	5475	6473	8720	11986	21906	26959	-	-	-	-	-
173,06	2510	2761	210	377	597	964	1505	2473	3559	5480	6480	8729	11998	21928	26986	-	-	-	-	-
173,40	2515	2767	211	377	598	965	1507	2475	3563	5486	6486	8737	12010	21950	27013	-	-	-	-	-
173,75	2520	2772	211	378	599	966	1508	2478	3566	5491	6493	8746	12021	21972	27039	-	-	-	-	-
174,09	2525	2778	211	378	599	967	1510	2480	3570	5497	6499	8755	12033	21993	27066	-	-	-	-	-
174,44	2530	2783	211	378	600	968	1511	2483	3573	5502	6506	8763	12045	22015	27093	-	-	-	-	-
174,78	2535	2789	211	379	600	969	1513	2485	3577	5508	6512	8772	12057	22037	27120	-	-	-	-	-
175,13	2540	2794	212	379	601	970	1514	2488	3580	5513	6519	8781	12069	22059	27146	-	-	-	-	-
175,47	2545	2800	212	379	602	971	1516	2490	3584	5518	6525	8789	12081	22080	27173	-	-	-	-	-
175,82	2550	2805	212	380	602	972	1517	2492	3587	5524	6531	8798	12093	22102	27200	-	-	-	-	-
176,16	2555	2811	212	380	603	973	1519	2495	3591	5529	6538	8807	12105	22124	27226	-	-	-	-	-
176,51	2560	2816	213	381	603	974	1520	2497	3594	5535	6544	8815	12116	22145	27253	-	-	-	-	-
176,85	2565	2822	213	381	604	975	1522	2500	3598	5540	6551	8824	12128	22167	27280	-	-	-	-	-
177,20	2570	2827	213	381	605	975	1523	2502	3601	5545	6557	8832	12140	22188	27306	-	-	-	-	-
177,54	2575	2833	213	382	605	976	1525	2505	3605	5551	6563	8841	12152	22210	27333	-	-	-	-	-
177,88	2580	2838	213	382	606	977	1526	2507	3608	5556	6570	8850	12164	22232	27359	-	-	-	-	-
178,23	2585	2844	214	382	606	978	1528	2510	3612	5562	6576	8858	12176	22253	27386	-	-	-	-	-
178,57	2590	2849	214	383	607	979	1529	2512	3615	5567	6582	8867	12187	22275	27412	-	-	-	-	-
178,92	2595	2855	214	383	607	980	1531	2514	3619	5572	6589	8875	12199	22296	27439	-	-	-	-	-
179,26	2600	2860	214	383	608	981	1532	2517	3622	5578	6595	8884	12211	22318	27465	-	-	-	-	-
179,61	2605	2866	214	384	609	982	1534	2519	3626	5583	6601	8892	12223	22339	27492	-	-	-	-	-
179,95	2610	2871	215	384	609	983	1535	2522	3629	5588	6608	8901	12234	22361	27518	-	-	-	-	-
180,30	2615	2877	215	385	610	984	1537	2524	3633	5594	6614	8909	12246	22382	27544	-	-	-	-	-
180,64	2620	2882	215	385	610	985	1538	2526	3636	5599	6620	8918	12258	22403	27571	-	-	-	-	-
180,99	2625	2888	215	385	611	986	1540	2529	3640	5604	6627	8926	12269	22425	27597	-	-	-	-	-
181,33	2630	2893	215	386	612	987	1541	2531	3643	5610	6633	8935	12281	22446	27623	-	-	-	-	-
181,68	2635	2899	216	386	612	988	1542	2534	3647	5615	6639	8943	12293	22467	27649	-	-	-	-	-
182,02	2640	2904	216	386	613	989	1544	2536	3650	5620	6646	8952	12304	22489	27676	-	-	-	-	-
182,37	2645	2910	216	387	613	990	1545	2538	3654	5626	6652	8960	12316	22510	27702	-	-	-	-	-
182,71	2650	2915	216	387	614	991	1547	2541	3657	5631	6658	8969	12328	22531	27728	-	-	-	-	-
183,06	2655	2921	216	388	614	991	1548	2543	3660	5636	6664	8977	12339	22552	27754	-	-	-	-	-
183,40	2660	2926	217	388	615	992	1550	2546	3664	5642	6671	8986	12351	22574	27780	-	-	-	-	-
183,75	2665	2932	217	388	616	993	1551	2548	3667	5647	6677	8994	12362	22595	27806	-	-	-	-	-
184,09	2670	2937	217	389	616	994	1553	2550	3671	5652	6683	9003	12374	22616	27832	-	-	-	-	-
184,43	2675	2943	217	389	617	995	1554	2553	3674	5658	6690	9011	12386	22637	27859	-	-	-	-	-
184,78	2680	2948	217	389	617	996	1556	2555	3678	5663	6696	9020	12397	22658	27885	-	-	-	-	-
185,12	2685	2954	218	390	618	997	1557	2558	3681	5668	6702	9028	12409	22680	27911	-	-	-	-	-
185,47	2690	2959	218	390	618	998	1558	2560	3684	5673	6708	9036	12420	22701	27937	-	-	-	-	-
185,81	2695	2965	218	390	619	999	1560	2562	3688	5679	6715	9045	12432	22722	27962	-	-	-	-	-
186,16	2700	2970	218	391	620	1000	1561	2565	3691	5684	6721	9053	12443	22743	27988	-	-	-	-	-
186,50	2705	2976	218	391	620	1001	1563	2567	3695	5689	6727	9061	12455	22764	28014	-	-	-	-	-
186,85	2710	2981	219	392	621	1002	1564	2569	3698	5694	6733	9070	12466	22785	28040	-	-	-	-	-

*V orifice cannot be certified as per ASME I

Section VIII Rating

pounds per hour saturated steam at 10% overpressure

Orifice Designation			D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V*	W
Orifice Area	[sq.in]		0,124	0,222	0,352	0,568	0,887	1,457	2,097	3,229	3,818	5,143	7,069	12,92	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]		0,800	1,432	2,271	3,665	5,723	9,400	13,529	20,832	24,632	33,181	45,606	83,355	102,580	143,161	182,387	254,451	248,696	397,612
Set Pressure		P																		
[barg]	[psig]	[psig]																		
187,19	2715	2987	219	392	621	1003	1566	2572	3702	5700	6739	9078	12478	22806	28066	-	-	-	-	-
187,54	2720	2992	219	392	622	1004	1567	2574	3705	5705	6746	9087	12489	22827	28092	-	-	-	-	-
187,88	2725	2998	219	393	622	1004	1569	2577	3708	5710	6752	9095	12501	22848	28118	-	-	-	-	-
188,23	2730	3003	219	393	623	1005	1570	2579	3712	5715	6758	9103	12512	22869	28143	-	-	-	-	-
188,57	2735	3009	220	393	624	1006	1571	2581	3715	5721	6764	9112	12524	22890	28169	-	-	-	-	-
188,92	2740	3014	220	394	624	1007	1573	2584	3719	5726	6770	9120	12535	22911	28195	-	-	-	-	-
189,26	2745	3020	220	394	625	1008	1574	2586	3722	5731	6777	9128	12547	22932	28221	-	-	-	-	-
189,61	2750	3025	220	394	625	1009	1576	2588	3725	5736	6783	9137	12558	22952	28246	-	-	-	-	-
189,95	2755	3031	220	395	626	1010	1577	2591	3729	5742	6789	9145	12569	22973	28272	-	-	-	-	-
190,30	2760	3036	221	395	626	1011	1579	2593	3732	5747	6795	9153	12581	22994	28298	-	-	-	-	-
190,64	2765	3042	221	395	627	1012	1580	2595	3735	5752	6801	9161	12592	23015	28323	-	-	-	-	-
190,98	2770	3047	221	396	628	1013	1581	2598	3739	5757	6807	9170	12604	23036	28349	-	-	-	-	-
191,33	2775	3053	221	396	628	1014	1583	2600	3742	5762	6813	9178	12615	23056	28374	-	-	-	-	-
191,67	2780	3058	221	397	629	1015	1584	2602	3746	5768	6820	9186	12626	23077	28400	-	-	-	-	-
192,02	2785	3064	222	397	629	1015	1586	2605	3749	5773	6826	9194	12638	23098	28426	-	-	-	-	-
192,36	2790	3069	222	397	630	1016	1587	2607	3752	5778	6832	9203	12649	23119	28451	-	-	-	-	-
192,71	2795	3075	222	398	630	1017	1589	2609	3756	5783	6838	9211	12660	23139	28477	-	-	-	-	-
193,05	2800	3080	222	398	631	1018	1590	2612	3759	5788	6844	9219	12672	23160	28502	-	-	-	-	-
193,40	2805	3086	222	398	632	1019	1591	2614	3762	5793	6850	9227	12683	23181	28527	-	-	-	-	-
193,74	2810	3091	223	399	632	1020	1593	2616	3766	5799	6856	9236	12694	23201	28553	-	-	-	-	-
194,09	2815	3097	223	399	633	1021	1594	2619	3769	5804	6862	9244	12706	23222	28578	-	-	-	-	-
194,43	2820	3102	223	399	633	1022	1596	2621	3772	5809	6868	9252	12717	23243	28604	-	-	-	-	-
194,78	2825	3108	223	400	634	1023	1597	2623	3776	5814	6875	9260	12728	23263	28629	-	-	-	-	-
195,12	2830	3113	223	400	634	1024	1599	2626	3779	5819	6881	9268	12739	23284	28654	-	-	-	-	-
195,47	2835	3119	224	400	635	1025	1600	2628	3782	5824	6887	9277	12751	23304	28680	-	-	-	-	-
195,81	2840	3124	224	401	635	1025	1601	2630	3786	5829	6893	9285	12762	23325	28705	-	-	-	-	-
196,16	2845	3130	224	401	636	1026	1603	2633	3789	5835	6899	9293	12773	23345	28730	-	-	-	-	-
196,50	2850	3135	224	401	637	1027	1604	2635	3792	5840	6905	9301	12784	23366	28755	-	-	-	-	-
196,85	2855	3141	224	402	637	1028	1606	2637	3796	5845	6911	9309	12796	23386	28781	-	-	-	-	-
197,19	2860	3146	225	402	638	1029	1607	2640	3799	5850	6917	9317	12807	23407	28806	-	-	-	-	-
197,53	2865	3152	225	403	638	1030	1608	2642	3802	5855	6923	9326	12818	23427	28831	-	-	-	-	-
197,88	2870	3157	225	403	639	1031	1610	2644	3806	5860	6929	9334	12829	23448	28856	-	-	-	-	-
198,22	2875	3163	225	403	639	1032	1611	2647	3809	5865	6935	9342	12840	23468	28881	-	-	-	-	-
198,57	2880	3168	225	404	640	1033	1613	2649	3812	5870	6941	9350	12851	23489	28906	-	-	-	-	-
198,91	2885	3174	226	404	640	1034	1614	2651	3816	5875	6947	9358	12863	23509	28931	-	-	-	-	-
199,26	2890	3179	226	404	641	1034	1615	2653	3819	5881	6953	9366	12874	23529	28956	-	-	-	-	-
199,60	2895	3185	226	405	642	1035	1617	2656	3822	5886	6959	9374	12885	23550	28981	-	-	-	-	-
199,95	2900	3190	226	405	642	1036	1618	2658	3826	5891	6965	9382	12896	23570	29006	-	-	-	-	-
200,29	2905	3196	226	405	643	1037	1620	2660	3829	5896	6971	9390	12907	23590	29031	-	-	-	-	-
200,64	2910	3201	227	406	643	1038	1621	2663	3832	5901	6977	9399	12918	23611	29056	-	-	-	-	-
200,98	2915	3207	227	406	644	1039	1622	2665	3835	5906	6983	9407	12929	23631	29081	-	-	-	-	-
201,33	2920	3212	227	406	644	1040	1624	2667	3839	5911	6989	9415	12940	23651	29106	-	-	-	-	-
201,67	2925	3218	227	407	645	1041	1625	2669	3842	5916	6995	9423	12951	23671	29131	-	-	-	-	-
202,02	2930	3223	227	407	645	1042	1627	2672	3845	5921	7001	9431	12963	23692	29156	-	-	-	-	-
202,36	2935	3229	228	407	646	1042	1628	2674	3849	5926	7007	9439	12974	23712	29181	-	-	-	-	-
202,71	2940	3234	228	408	647	1043	1629	2676	3852	5931	7013	9447	12985	23732	29206	-	-	-	-	-
203,05	2945	3240	228	408	647	1044	1631	2679	3855	5936	7019	9455	12996	23752	29231	-	-	-	-	-
203,40	2950	3245	228	408	648	1045	1632	2681	3858	5941	7025	9463	13007	23772	29255	-	-	-	-	-
203,74	2955	3251	228	409	648	1046	1633	2683	3862	5946	7031	9471	13018	23793	29280	-	-	-	-	-
204,08	2960	3256	229	409	649	1047	1635	2685	3865	5951	7037	9479	13029	23813	29305	-	-	-	-	-
204,43	2965	3262	229	410	649	1048	1636	2688	3868	5956	7043	9487	13040	23833	29330	-	-	-	-	-
204,77	2970	3267	229	410	650	1049	1638	2690	3871	5961	7049	9495	13051	23853	29354	-	-	-	-	-
205,12	2975	3273	229	410	650	1050	1639	2692	3875	5966	7055	9503	13062	23873	29379	-	-	-	-	-
205,46	2980	3278	229	411	651	1050	1640	2694	3878	5971	7061	9511	13073	23893	29404	-	-	-	-	-
205,81	2985	3284	230	411	651	1051	1642	2697	3881	5976	7067	9519	13084	23913	29429	-	-	-	-	-
206,15	2990	3289	230	411	652	1052	1643	2699	3884	5981	7072	9527	13095	23933	29453	-	-	-	-	-
206,50	2995	3295	230	412	653	1053	1644	2701	3888	5986	7078	9535	13106	23953	29478	-	-	-	-	-
206,84	3000	3300	230	412	653	1054	1646	2703	3891	5991	7084	9543	13116	23973	29502	-	-	-	-	-
207,19	3005	3306	230	412	654	1055	1647	2706	3894	5996	7090	9551	13127	23993	29527	-	-	-	-	-
207,53	3010	3311	230	413	654	1056	1649	2708	3897	6001	7096	9559	13138	24013	29551	-	-	-	-	-
207,88	3015	3317	231	413	655	1057	1650	2710	3901	6006	7102	9567	13149	24033	29576	-	-	-	-	-
208,22	3020	3322	231	413	655	1057	1651	2712	3904	6011	7108	9575	13160	24053	29601	-	-	-	-	-
208,57	3025	3328	231	414	656	1058	1653	2715	3907	6016	7114	9582	13171	24073	29625	-	-	-	-	-
208,91	3030	3333	231	414	656	1059	1654	2717	3910	6021	7120	9590	13182	24093	29649	-	-	-	-	-
209,26	3035	3339	231	414	657	1060	1655	2719	3914	6026	7125	9598	13193	24112	29674	-	-	-	-	-
209,60	3040	3344	232	415	657	1061	1657	2721	3917	6031	7131	9606	13204	24132	29698	-	-	-	-	-
209,95	3045	3350	232	415	658	1062	1658	2724	3920	6036	7137	9614	13214	24152	29723	-	-	-	-	-
210,29	3050	3355	232	415	659	1063	1659	2726	3923	6041	7143	9622	13225	24172	29747	-	-	-	-	-
210,63	3055	3361	232	416	659	1064	1661	2728	3926	6046	7149	9630	13236	24192	29772	-	-	-	-	-
210,98	3060	3366	232	416	660	1064	1662	2730	3930	6051	7155	9638	13247	24212	29796	-	-	-	-	-
211,32	3065	3372	233	416	660	1065	1664	2733	3933	6056	7161	9646	13258	24231	29820	-	-	-	-	-
211,67	3070	3377	233	417	661	1066	1665	2735	3936	6061	7166	9653	13269	24251	29845	-	-	-	-	-
212,01	3075	3383	233	417	661	1067	1666	2737	3939	6066	7172	9661	13279	24271	29869	-	-	-	-	-
212,36	3080	3388	233	417	662	1068	1668	2739	3943	6071	7178	9669	13290	24291	29893	-	-	-	-	-
212,70	3085	3394	233	418	662	1069	1669	2741	3946	6076	7184	9677	13301	24310	29917	-	-	-	-	-
213,05	3090	3399	234	418	663	1070	1670	2744	3949	6081	7190	9685	13312	24330	29942	-	-	-	-	-
213,39	3095	3405	234	418	663	1070	1672	2746	3952	6086	7196	9693	13323	24350	29966	-	-	-	-	-
213,74	3100	3410	234	419	664	1071	1673	2748	3955	6090	7201	9701	13333	24369	29990	-	-	-	-	-

5. Reaction Force

REACTION FORCE

API STD 520 Part II Sizing
METRIC Units (decaNewton)

"The following formula is based on API 520 Part II, considering a critical steady state flow of a compressible fluid that discharges to the atmosphere through an elbow and a vertical discharge pipe.The reaction force (F) includes the effects of both momentum and static pressure; thus, for any gas, vapor, or steam.

The below formula is for USC units where capacity of saturated steam at 3% overpressure has been considered"

$$FR=129W\sqrt{kT/(k+1)M}+0,1(AP)$$

Orifice Designation		D		E		F		G	H	J			K	
Orifice Area [inlet]	[sq.in]	0,124	0,124	0,222	0,222	0,352	0,352	0,568	0,887	1,457	1,457	1,457	2,097	2,097
	[sq.cm]	0,800	0,800	1,432	1,432	2,271	2,271	3,665	5,723	9,400	9,400	9,400	13,529	13,529
		2" [DN50]	3" [DN80]	2" [DN50]	3" [DN80]	2" [DN50]	3" [DN80]	3" [DN80]	3" [DN80]	3" [DN80]	4" [DN100]	6" [DN150]	4" [DN100]	6" [DN150]
Orifice Area [outlet]	[sq.in]	3,043	7,791	3,043	7,791	3,043	7,791	7,791	7,791	7,791	12,174	27,391	12,174	27,391
	[sq.cm]	19,635	50,265	19,635	50,265	19,635	50,265	50,265	50,265	50,265	78,540	176,715	78,540	176,715
Set Pressure														
[barg]	[psig]													
6,89	100	4	4	8	8	12	12	20	31	71	52	52	96	74
10,34	150	6	6	12	12	23	18	29	56	128	97	76	177	109
13,79	200	8	8	15	15	36	24	39	91	185	154	100	260	151
17,24	250	11	11	24	19	50	30	61	126	243	212	124	343	234
20,68	300	13	13	33	23	64	36	83	161	301	270	160	426	317
24,13	350	15	15	41	27	78	44	106	197	359	328	218	510	401
27,58	400	18	17	50	30	93	58	129	232	418	386	277	594	485
31,03	450	23	19	59	34	107	73	151	268	476	445	335	678	569
34,47	500	28	21	68	38	121	87	174	304	535	503	394	763	654
37,92	550	33	24	77	43	135	101	197	340	594	562	453	848	738
41,37	600	38	26	86	52	149	115	220	376	653	621	512	933	823
44,82	650	43	28	95	61	164	130	243	412	712	680	571	1018	908
48,26	700	49	30	104	70	178	144	267	448	771	740	630	1103	994
51,71	750	54	32	113	79	192	158	290	484	831	799	690	1189	1079
55,16	800	59	35	122	88	207	173	313	520	890	859	749	1274	1165
58,61	850	64	37	131	97	221	187	336	556	950	918	809	1360	1251
62,05	900	69	39	140	106	236	201	359	593	1010	978	869	1446	1337
65,50	950	74	42	150	115	250	216	383	629	1070	1038	929	1532	1423
68,95	1000	79	45	159	125	265	230	406	666	1129	1098	989	1619	1509
72,39	1050	84	50	168	134	279	245	430	702	1189	1158	1049	1705	1596
75,84	1100	89	55	177	143	294	259	453	739	1250	1218	1109	1792	1682
79,29	1150	94	60	186	152	308	274	476	775	1310	1278	1169	1878	1769
82,74	1200	99	65	195	161	323	289	500	812	1370	1339	1229	1965	1856
86,18	1250	105	70	205	170	337	303	523	849	1430	1399	1289	2052	1942
89,63	1300	110	76	214	180	352	318	547	886	1491	1459	1350	2139	2029
93,08	1350	115	81	223	189	366	332	571	923	1551	1520	1410	2226	2117
96,53	1400	120	86	232	198	381	347	594	959	1612	1580	1471	2313	2204
100,32	1455	126	92	242	208	397	363	620	1000	1678	1647	1537	2408	2299
100,66	1460	126	92	243	209	399	364	622	1003	1684	1653	1543	2417	2308
101,01	1465	127	93	244	210	400	366	625	1007	1690	1659	1549	2426	2316
101,35	1470	127	93	245	211	401	367	627	1011	1696	1665	1555	2435	2325
101,70	1475	128	94	246	212	403	369	629	1014	1702	1671	1561	2443	2334
102,04	1480	128	94	247	213	404	370	632	1018	1708	1677	1568	2452	2343
102,39	1485	129	95	248	214	406	372	634	1022	1715	1683	1574	2461	2351
102,73	1490	129	95	249	215	407	373	637	1026	1721	1689	1580	2470	2360
103,08	1495	130	96	250	216	409	375	639	1030	1727	1696	1586	2479	2370
103,42	1500	130	96	251	217	410	376	642	1033	1733	1702	1592	2488	2378
106,87	1550	136	102	260	226	425	391	666	1071	1795	1764	1655	2577	2468
110,32	1600	141	107	270	236	441	407	690	1110	1859	1827	1718	2668	2559
113,76	1650	146	112	280	245	456	422	715	1148	1922	1891	1782	2760	2651
117,21	1700	152	118	289	255	472	437	740	1187	1986	1955	1846	2852	2743
120,66	1750	157	123	299	265	487	453	765	1227	2051	2019	1910	2945	2835
124,11	1800	163	129	309	275	503	469	791	1266	2116	2084	1975	3038	2929
127,55	1850	168	134	319	285	518	484	816	1306	2181	2149	2040	3131	3022
131,00	1900	174	140	329	295	534	500	841	1345	2246	2215	2105	3226	3116
134,45	1950	180	146	339	305	550	516	867	1386	2312	2280	2171	3321	3211
137,90	2000	185	151	349	315	566	532	893	1426	2378	2347	2237	3416	3307
141,34	2050	191	157	359	325	582	548	919	1467	2445	2413	2304	3512	3403
144,79	2100	197	163	369	335	599	564	945	1508	2512	2481	2371	3609	3499
148,24	2150	202	168	380	346	615	581	972	1549	2580	2549	2439	3706	3597
151,68	2200	208	174	390	356	631	597	998	1590	2648	2617	2507	3805	3695
155,13	2250	214	180	401	367	648	614	1025	1632	2717	2686	2576	3904	3794
158,58	2300	220	186	411	377	665	631	1052	1675	2787	2755	2646	4004	3894
162,03	2350	226	192	422	388	682	648	1079	1717	2857	2825	2716	4105	3995
165,47	2400	232	198	433	399	699	665	1107	1760	2928	2896	2787	4207	4097
168,92	2450	238	204	444	409	716	682	1135	1804	2999	2967	2858	4309	4200
172,37	2500	244	210	455	420	734	700	1163	1848	3071	3040	2930	4413	4304
175,82	2550	250	216	466	432	751	717	1192	1892	3144	3113	3004	4519	4409
179,26	2600	257	223	477	443	769	735	1221	1937	3218	3187	3078	4625	4516
182,71	2650	263	229	488	454	787	753	1250	1983	3293	3262	3153	4733	4624
186,16	2700	270	236	500	466	806	772	1279	2029	3370	3338	3229	4843	4733
189,61	2750	276	242	512	478	824	790	1310	2076	3447	3415	3306	4954	4844
193,05	2800	283	249	524	490	843	809	1340	2124	3525	3494	3384	5067	4957
196,50	2850	290	256	536	502	863	828	1371	2173	3605	3573	3464	5182	5072
199,95	2900	297	262	548	514	882	848	1403	2222	3686	3655	3545	5299	5189
203,40	2950	304	270	561	527	902	868	1435	2273	3769	3738	3628	5418	5308
206,84	3000	311	277	574	540	923	889	1468	2324	3854	3822	3713	5540	5430
210,29	3050	318	284	587	553	944	909	1502	2377	3940	3909	3799	5664	5555
213,74	3100	326	292	601	566	965	931	1536	2431	4029	3997	3888	5792	5682

Orifice Designation		L		M	N	P	Q	R		S	T	U	V	W
Orifice Area [inlet]	[sq.in]	3,229	3,229	3,818	5,143	7,069	12,92	15,9	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]	20,832	20,832	24,632	33,181	45,606	83,355	102,580	102,580	143,161	182,387	254,451	248,696	397,612
		4" [DN100]	6" [DN150]	6" [DN150]	6" [DN150]	6" [DN150]	8" [DN200]	8" [DN200]	10" [DN250]	10" [DN250]	10" [DN250]	14" [DN350]	14" [DN350]	NA
Orifice Area [outlet]	[sq.in]	12,174	27,391	27,391	27,391	27,391	48,695	48,695	76,086	76,086	76,086	149,128	149,128	dual
	[sq.cm]	78,540	176,715	176,715	176,715	176,715	314,159	314,159	490,874	490,874	490,874	962,113	962,113	dual
Set Pressure														
[barg]	[psig]													
6,89	100	194	114	136	252	420	778	1038	841	1390	1920	2370	2292	0
10,34	150	320	211	285	453	696	1282	1659	1462	2257	3025	3911	3799	0
13,79	200	448	338	436	655	975	1791	2285	2088	3130	4138	5464	5316	0
17,24	250	575	466	587	859	1254	2302	2914	2717	4008	5256	7024	6841	0
20,68	300	704	594	739	1063	1535	2816	3546	3349	4891	6380	8593	8374	0
24,13	350	833	723	891	1269	1818	3332	4181	3984	5777	7510	10168	9914	0
27,58	400	962	853	1044	1475	2101	3850	4819	4622	6666	8643	11749	11459	0
31,03	450	1092	982	1198	1681	2385	4369	5457	5260	7557	9778	13333	13007	0
34,47	500	1222	1113	1352	1889	2670	4890	6098	5901	8452	10918	14923	14561	0
37,92	550	1353	1243	1506	2097	2956	5412	6741	6544	9350	12061	16518	16120	0
41,37	600	1484	1374	1661	2305	3242	5936	7386	7189	10249	13207	18117	17683	0
44,82	650	1615	1505	1816	2514	3529	6460	8031	7834	11150	14354	19717	19247	0
48,26	700	1746	1637	1971	2723	3817	6986	8678	8481	12053	15506	21323	20817	0
51,71	750	1878	1768	2127	2933	4105	7513	9327	9130	12958	16659	22932	22389	0
55,16	800	2010	1900	2283	3143	4394	8042	9977	9780	13866	17815	-	-	-
58,61	850	2142	2032	2439	3354	4684	8570	10627	10430	14773	18971	-	-	-
62,05	900	2274	2165	2596	3565	4974	9100	11280	11083	15683	20130	-	-	-
65,50	950	2407	2298	2753	3776	5264	9631	11933	11736	16595	21292	-	-	-
68,95	1000	2540	2430	2910	3988	5555	10162	12587	12390	17508	22455	-	-	-
72,39	1050	2673	2563	3067	4199	5846	10694	13242	13045	18421	23619	-	-	-
75,84	1100	2806	2697	3224	4412	6138	11227	13898	13701	19337	24785	-	-	-
79,29	1150	2939	2830	3382	4624	6430	11761	14555	14358	20254	25954	-	-	-
82,74	1200	3073	2964	3540	4837	6722	12296	15213	15016	21173	27124	-	-	-
86,18	1250	3207	3097	3698	5050	7015	12831	15871	15674	22091	28294	-	-	-
89,63	1300	3341	3231	3857	5263	7308	13367	16530	16334	23011	29466	-	-	-
93,08	1350	3475	3365	4015	5477	7602	13903	17191	16994	23933	30641	-	-	-
96,53	1400	3609	3500	4174	5691	7896	14441	17852	17655	24856	31816	-	-	-
100,32	1455	3756	3646	4347	5924	8217	15027	18574	18377	25864	33100	-	-	-
100,66	1460	3769	3660	4363	5946	8246	15081	18641	18444	25957	33218	-	-	-
101,01	1465	3783	3673	4379	5967	8276	15135	18707	18510	26049	33337	-	-	-
101,35	1470	3796	3687	4395	5989	8305	15189	18773	18576	26141	33453	-	-	-
101,70	1475	3809	3700	4411	6010	8334	15243	18839	18642	26233	33571	-	-	-
102,04	1480	3823	3714	4427	6032	8364	15297	18906	18709	26326	33689	-	-	-
102,39	1485	3836	3727	4443	6053	8394	15351	18972	18775	26419	33808	-	-	-
102,73	1490	3850	3741	4459	6075	8423	15405	19039	18842	26512	33926	-	-	-
103,08	1495	3864	3755	4476	6097	8454	15462	19109	18912	26610	34051	-	-	-
103,42	1500	3878	3768	4492	6119	8484	15516	19176	18979	26703	34170	-	-	-
106,87	1550	4016	3906	4655	6338	8786	16068	19854	19657	-	-	-	-	-
110,32	1600	4156	4047	4821	6562	9093	16630	20546	20349	-	-	-	-	-
113,76	1650	4297	4188	4987	6787	9402	17194	21240	21043	-	-	-	-	-
117,21	1700	4439	4330	5155	7013	9713	17762	21939	21742	-	-	-	-	-
120,66	1750	4582	4472	5324	7240	10025	18332	22642	22445	-	-	-	-	-
124,11	1800	4725	4616	5494	7468	10339	18906	23348	23151	-	-	-	-	-
127,55	1850	4869	4760	5664	7698	10654	19483	24057	23860	-	-	-	-	-
131,00	1900	5014	4905	5836	7929	10972	20064	24772	24575	-	-	-	-	-
134,45	1950	5160	5051	6008	8162	11292	20648	25491	25294	-	-	-	-	-
137,90	2000	5307	5198	6182	8396	11614	21236	26215	26018	-	-	-	-	-
141,34	2050	5455	5346	6357	8631	11937	21828	26943	26746	-	-	-	-	-
144,79	2100	5604	5495	6533	8869	12264	22424	27677	27480	-	-	-	-	-
148,24	2150	5754	5645	6711	9108	12592	23025	28417	28220	-	-	-	-	-
151,68	2200	5906	5796	6890	9349	12924	23631	29162	28965	-	-	-	-	-
155,13	2250	6058	5949	7070	9592	13258	24241	29912	29716	-	-	-	-	-
158,58	2300	6212	6103	7252	9837	13595	24857	30671	30474	-	-	-	-	-
162,03	2350	6368	6258	7436	10085	13935	25479	31436	31239	-	-	-	-	-
165,47	2400	6525	6415	7621	10334	14278	26106	32209	32012	-	-	-	-	-
168,92	2450	6683	6573	7808	10587	14625	26740	32988	32791	-	-	-	-	-
172,37	2500	6843	6734	7998	10842	14976	27381	33777	33580	-	-	-	-	-
175,82	2550	7005	6896	8190	11100	15331	28030	34576	34379	-	-	-	-	-
179,26	2600	7169	7060	8384	11362	15690	28687	35384	35187	-	-	-	-	-
182,71	2650	7335	7226	8580	11626	16054	29351	36202	36005	-	-	-	-	-
186,16	2700	7504	7395	8779	11895	16423	30026	37032	36835	-	-	-	-	-
189,61	2750	7675	7566	8982	12167	16798	30711	37875	37678	-	-	-	-	-
193,05	2800	7849	7740	9188	12444	17178	31407	38731	38534	-	-	-	-	-
196,50	2850	8026	7916	9396	12726	17565	32113	39601	39404	-	-	-	-	-
199,95	2900	8206	8097	9609	13013	17959	32834	40488	40291	-	-	-	-	-
203,40	2950	8390	8280	9827	13305	18362	33569	41393	41196	-	-	-	-	-
206,84	3000	8577	8468	10049	13604	18772	34320	42317	42120	-	-	-	-	-
210,29	3050	8769	8660	10275	13909	19192	35087	43260	43063	-	-	-	-	-
213,74	3100	8965	8856	10507	14222	19621	35872	44226	44030	-	-	-	-	-

API STD 520 Part II Sizing

USC Units (pounds force)

The following formula is based on API 520 Part II, considering a critical steady state flow of a compressible fluid that discharges to the atmosphere through an elbow and a vertical discharge pipe. The reaction force (F) includes the effects of both momentum and static pressure; thus, for any gas, vapor, or steam.

The below formula is for USC units where capacity of saturated steam at 3% overpressure has been considered

$$F = \frac{W}{366}\sqrt{\frac{kT}{(k+1)M}} + (AP)$$

Orifice Designation		D		E		F		G	H	J			K	
Orifice Area [inlet]	[sq.in]	0,124	0,124	0,222	0,222	0,352	0,352	0,568	0,887	1,457	1,457	1,457	2,097	2,097
	[sq.cm]	0,800	0,800	1,432	1,432	2,271	2,271	3,665	5,723	9,400	9,400	9,400	13,529	13,529
		2" [DN50]	3" [DN80]	2" [DN50]	3" [DN80]	2" [DN50]	3" [DN80]	3" [DN80]	3" [DN80]	3" [DN80]	4" [DN100]	6" [DN150]	4" [DN100]	6" [DN150]
Orifice Area [outlet]	[sq.in]	3,043	7,791	3,043	7,791	3,043	7,791	7,791	7,791	7,791	12,174	27,391	12,174	27,391
	[sq.cm]	19,635	50,265	19,635	50,265	19,635	50,265	50,265	50,265	50,265	78,540	176,715	78,540	176,715
Set Pressure														
[barg]	[psig]													
6,89	100	10	10	18	18	28	28	45	71	162	116	116	218	168
10,34	150	14	14	26	26	52	41	66	128	290	220	170	402	245
13,79	200	19	19	34	34	83	54	88	207	419	349	225	588	345
17,24	250	24	24	54	43	114	68	138	286	549	479	281	775	532
20,68	300	29	29	74	51	146	81	189	365	679	610	367	963	720
24,13	350	33	33	94	60	177	102	240	445	810	741	498	1151	908
27,58	400	42	38	114	69	209	133	291	525	942	872	629	1340	1098
31,03	450	53	43	134	77	241	165	343	605	1074	1004	761	1530	1287
34,47	500	65	48	154	86	273	197	394	686	1206	1136	893	1720	1478
37,92	550	76	53	174	99	305	229	446	766	1339	1269	1026	1911	1669
41,37	600	87	58	195	119	337	261	498	847	1472	1402	1159	2103	1860
44,82	650	99	63	215	139	369	293	550	928	1605	1535	1292	2294	2051
48,26	700	110	68	235	160	401	326	602	1010	1738	1668	1426	2486	2244
51,71	750	121	73	256	180	434	358	654	1091	1872	1802	1559	2679	2436
55,16	800	133	78	276	200	466	390	706	1173	2006	1936	1694	2872	2629
58,61	850	144	83	296	221	499	423	759	1254	2140	2070	1828	3065	2822
62,05	900	156	89	317	241	531	455	811	1336	2275	2205	1962	3259	3016
65,50	950	167	94	338	262	564	488	864	1418	2410	2340	2097	3453	3210
68,95	1000	179	103	358	282	596	521	916	1500	2545	2475	2232	3647	3404
72,39	1050	190	114	379	303	629	553	969	1583	2680	2610	2367	3841	3599
75,84	1100	202	126	399	324	662	586	1022	1665	2815	2745	2502	4036	3793
79,29	1150	213	137	420	344	694	619	1074	1748	2951	2881	2638	4231	3989
82,74	1200	225	149	441	365	727	651	1127	1830	3086	3016	2774	4427	4184
86,18	1250	236	161	461	386	760	684	1180	1913	3222	3152	2909	4622	4379
89,63	1300	248	172	482	406	793	717	1233	1996	3358	3288	3045	4818	4575
93,08	1350	259	184	503	427	826	750	1286	2079	3494	3424	3182	5014	4771
96,53	1400	271	195	524	448	859	783	1340	2162	3631	3561	3318	5210	4968
100,32	1455	284	208	546	471	895	819	1398	2252	3780	3710	3467	5425	5182
100,66	1460	285	209	548	473	898	822	1403	2261	3793	3724	3481	5444	5202
101,01	1465	286	210	550	475	901	826	1408	2269	3807	3737	3495	5464	5221
101,35	1470	287	211	553	477	905	829	1414	2277	3821	3751	3508	5484	5241
101,70	1475	288	213	555	479	908	832	1419	2286	3834	3764	3522	5503	5261
102,04	1480	290	214	557	481	911	835	1424	2294	3848	3778	3535	5523	5280
102,39	1485	291	215	559	483	914	839	1430	2302	3862	3792	3549	5543	5300
102,73	1490	292	216	561	485	918	842	1435	2311	3876	3806	3563	5563	5320
103,08	1495	293	217	563	487	921	846	1441	2320	3890	3820	3577	5584	5341
103,42	1500	294	219	565	489	925	849	1446	2328	3904	3834	3591	5603	5361
106,87	1550	306	230	587	511	958	883	1501	2413	4044	3974	3731	5805	5562
110,32	1600	318	243	608	533	993	917	1556	2500	4187	4117	3874	6010	5768
113,76	1650	331	255	630	554	1028	952	1612	2587	4330	4260	4017	6216	5974
117,21	1700	343	267	652	576	1062	987	1668	2675	4474	4404	4161	6424	6181
120,66	1750	355	279	674	598	1097	1022	1725	2763	4619	4549	4306	6632	6390
124,11	1800	368	292	696	621	1133	1057	1782	2852	4765	4695	4452	6842	6600
127,55	1850	380	304	719	643	1168	1092	1839	2941	4911	4841	4598	7053	6810
131,00	1900	393	317	741	665	1204	1128	1896	3031	5058	4989	4746	7265	7022
134,45	1950	405	329	764	688	1239	1164	1954	3121	5207	5137	4894	7479	7236
137,90	2000	418	342	787	711	1276	1200	2012	3212	5356	5286	5044	7694	7451
141,34	2050	431	355	809	734	1312	1236	2071	3304	5506	5437	5194	7910	7667
144,79	2100	444	368	832	757	1348	1273	2130	3396	5658	5588	5345	8128	7885
148,24	2150	457	381	856	780	1385	1310	2189	3489	5810	5741	5498	8347	8105
151,68	2200	470	394	879	803	1422	1347	2249	3582	5964	5894	5652	8569	8326
155,13	2250	483	407	903	827	1460	1384	2310	3677	6119	6049	5807	8792	8549
158,58	2300	496	420	927	851	1498	1422	2371	3772	6276	6206	5963	9017	8774
162,03	2350	510	434	951	875	1536	1460	2432	3868	6434	6364	6121	9244	9001
165,47	2400	523	447	975	899	1574	1499	2494	3965	6593	6523	6280	9474	9231
168,92	2450	537	461	999	924	1613	1537	2557	4063	6754	6684	6441	9705	9462
172,37	2500	551	475	1024	949	1653	1577	2621	4162	6917	6847	6604	9940	9697
175,82	2550	565	489	1049	974	1692	1617	2685	4262	7081	7012	6769	10177	9934
179,26	2600	579	503	1075	999	1733	1657	2750	4364	7248	7178	6936	10417	10174
182,71	2650	593	518	1101	1025	1773	1698	2816	4467	7417	7347	7104	10660	10417
186,16	2700	608	532	1127	1051	1815	1739	2882	4571	7588	7518	7276	10906	10664
189,61	2750	623	547	1153	1077	1857	1781	2950	4677	7762	7692	7450	11157	10914
193,05	2800	638	562	1180	1104	1899	1824	3019	4785	7939	7869	7626	11411	11168
196,50	2850	653	577	1207	1132	1943	1867	3089	4894	8119	8049	7806	11669	11427
199,95	2900	669	593	1235	1160	1987	1911	3161	5005	8302	8232	7989	11933	11690
203,40	2950	684	609	1264	1188	2032	1956	3233	5119	8488	8419	8176	12202	11959
206,84	3000	701	625	1293	1217	2078	2003	3308	5235	8679	8609	8367	12476	12234
210,29	3050	717	642	1322	1247	2125	2050	3384	5354	8874	8804	8561	12756	12514
213,74	3100	734	659	1353	1277	2174	2098	3461	5475	9073	9003	8761	13044	12801

Orifice Designation		L		M	N	P	Q	R		S	T	U	V	W
Orifice Area [inlet]	[sq.in]	3,229	3,229	3,818	5,143	7,069	12,92	15,9	15,9	22,19	28,27	39,44	38,548	61,63
	[sq.cm]	20,832	20,832	24,632	33,181	45,606	83,355	102,580	102,580	143,161	182,387	254,451	248,696	397,612
		4" [DN100]	6" [DN150]	6" [DN150]	6" [DN150]	6" [DN150]	8" [DN200]	8" [DN200]	10" [DN250]	10" [DN250]	10" [DN250]	14" [DN350]	14" [DN350]	NA
Orifice Area [outlet]	[sq.in]	12,174	27,391	27,391	27,391	27,391	48,695	48,695	76,086	76,086	76,086	149,128	149,128	dual
	[sq.cm]	78,540	176,715	176,715	176,715	176,715	314,159	314,159	490,874	490,874	490,874	962,113	962,113	dual
Set Pressure														
[barg]	[psig]													
6,89	100	440	258	313	574	952	1762	2347	1910	3146	4341	5370	5195	0
10,34	150	724	482	649	1026	1574	2898	3746	3309	5098	6827	8839	8586	0
13,79	200	1010	768	987	1482	2200	4043	5155	4718	7065	9333	12335	12002	0
17,24	250	1298	1055	1327	1940	2830	5193	6570	6134	9040	11850	15846	15434	0
20,68	300	1587	1344	1669	2400	3463	6350	7994	7557	11027	14381	19378	18886	0
24,13	350	1877	1635	2013	2863	4098	7512	9424	8987	13022	16923	22924	22352	0
27,58	400	2169	1926	2357	3327	4736	8678	10859	10422	15025	19474	26483	25830	0
31,03	450	2461	2218	2702	3792	5375	9846	12296	11859	17031	22030	30049	29315	0
34,47	500	2754	2511	3049	4259	6017	11019	13740	13303	19046	24597	33630	32815	0
37,92	550	3048	2805	3396	4727	6661	12195	15187	14750	21066	27170	37220	36324	0
41,37	600	3342	3100	3745	5196	7306	13374	16638	16201	23091	29750	40819	39842	0
44,82	650	3637	3395	4094	5666	7951	14555	18091	17654	25118	32332	44422	43364	0
48,26	700	3933	3691	4444	6137	8599	15739	19548	19111	27152	34924	48037	46897	0
51,71	750	4230	3987	4794	6610	9249	16926	21009	20572	29190	37520	51660	50438	0
55,16	800	4527	4284	5146	7083	9899	18115	22472	22035	31232	40122	-	-	-
58,61	850	4824	4582	5497	7557	10550	19304	23936	23499	33275	42725	-	-	-
62,05	900	5123	4880	5850	8032	11203	20497	25404	24967	35324	45336	-	-	-
65,50	950	5421	5179	6203	8507	11857	21692	26875	26438	37377	47951	-	-	-
68,95	1000	5721	5478	6557	8984	12512	22889	28348	27911	39433	50570	-	-	-
72,39	1050	6020	5777	6910	9460	13167	24086	29821	29384	41489	53189	-	-	-
75,84	1100	6320	6077	7265	9938	13824	25287	31299	30862	43551	55816	-	-	-
79,29	1150	6620	6377	7620	10417	14481	26489	32778	32341	45615	58446	-	-	-
82,74	1200	6921	6678	7976	10896	15140	27693	34260	33823	47683	61080	-	-	-
86,18	1250	7222	6979	8332	11375	15798	28896	35741	35304	49750	63714	-	-	-
89,63	1300	7523	7281	8688	11855	16459	30103	37226	36789	51823	66354	-	-	-
93,08	1350	7825	7583	9046	12336	17120	31311	38713	38276	53898	68998	-	-	-
96,53	1400	8128	7885	9403	12818	17782	32521	40201	39764	55975	71645	-	-	-
100,32	1455	8458	8215	9793	13344	18504	33842	41827	41390	58244	74536	-	-	-
100,66	1460	8488	8246	9829	13392	18571	33964	41977	41540	58453	74802	-	-	-
101,01	1465	8519	8276	9865	13441	18637	34085	42126	41690	58662	75068	-	-	-
101,35	1470	8549	8306	9901	13488	18703	34205	42274	41837	58867	75330	-	-	-
101,70	1475	8579	8336	9937	13537	18769	34327	42423	41986	59076	75596	-	-	-
102,04	1480	8609	8367	9972	13585	18836	34448	42573	42136	59285	75862	-	-	-
102,39	1485	8640	8397	10008	13633	18903	34570	42723	42286	59494	76128	-	-	-
102,73	1490	8670	8427	10044	13682	18969	34692	42872	42435	59703	76394	-	-	-
103,08	1495	8702	8460	10083	13733	19040	34821	43031	42595	59925	76677	-	-	-
103,42	1500	8733	8490	10119	13782	19106	34942	43181	42744	60134	76943	-	-	-
106,87	1550	9043	8800	10485	14276	19786	36184	44709	44272	-	-	-	-	-
110,32	1600	9359	9117	10859	14780	20478	37450	46267	45830	-	-	-	-	-
113,76	1650	9677	9434	11235	15285	21173	38720	47830	47393	-	-	-	-	-
117,21	1700	9996	9754	11613	15794	21873	39998	49403	48966	-	-	-	-	-
120,66	1750	10318	10075	11992	16306	22576	41283	50985	50548	-	-	-	-	-
124,11	1800	10641	10398	12374	16820	23283	42576	52575	52138	-	-	-	-	-
127,55	1850	10965	10722	12758	17337	23993	43874	54172	53736	-	-	-	-	-
131,00	1900	11292	11049	13144	17857	24709	45181	55782	55345	-	-	-	-	-
134,45	1950	11621	11378	13533	18381	25428	46497	57401	56964	-	-	-	-	-
137,90	2000	11952	11709	13925	18909	26153	47822	59031	58594	-	-	-	-	-
141,34	2050	12285	12042	14318	19439	26882	49154	60670	60233	-	-	-	-	-
144,79	2100	12620	12377	14715	19973	27617	50497	62323	61886	-	-	-	-	-
148,24	2150	12958	12716	15115	20512	28357	51850	63988	63551	-	-	-	-	-
151,68	2200	13299	13057	15518	21055	29103	53214	65667	65230	-	-	-	-	-
155,13	2250	13643	13400	15924	21602	29855	54587	67357	66920	-	-	-	-	-
158,58	2300	13989	13747	16334	22154	30614	55975	69064	68627	-	-	-	-	-
162,03	2350	14339	14096	16748	22711	31380	57375	70787	70351	-	-	-	-	-
165,47	2400	14693	14450	17165	23274	32154	58789	72527	72091	-	-	-	-	-
168,92	2450	15049	14806	17587	23842	32934	60215	74283	73846	-	-	-	-	-
172,37	2500	15410	15167	18014	24417	33724	61659	76060	75623	-	-	-	-	-
175,82	2550	15775	15532	18445	24998	34524	63120	77858	77421	-	-	-	-	-
179,26	2600	16145	15902	18882	25587	35333	64599	79679	79242	-	-	-	-	-
182,71	2650	16519	16276	19325	26183	36152	66096	81520	81083	-	-	-	-	-
186,16	2700	16899	16656	19774	26788	36983	67616	83390	82953	-	-	-	-	-
189,61	2750	17284	17041	20230	27402	37827	69158	85288	84852	-	-	-	-	-
193,05	2800	17676	17433	20693	28026	38684	70725	87217	86780	-	-	-	-	-
196,50	2850	18074	17831	21163	28659	39555	72317	89176	88739	-	-	-	-	-
199,95	2900	18479	18237	21643	29306	40444	73941	91174	90738	-	-	-	-	-
203,40	2950	18893	18651	22132	29965	41350	75597	93212	92775	-	-	-	-	-
206,84	3000	19316	19073	22632	30638	42275	77288	95294	94857	-	-	-	-	-
210,29	3050	19747	19505	23142	31325	43220	79015	97418	96982	-	-	-	-	-
213,74	3100	20189	19947	23665	32029	44187	80783	99595	99158	-	-	-	-	-

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6. Option

ACCESSORIES

Field Test Connection

From a cost analysis perspective, the field test connection is one accessory that significantly reduces maintenance cost.

Unlike the spring-loaded type, the Field Test Connection allows an easy valve stroking with an auxiliary media, i.e. air or nitrogen bottle.

Like the backflow preventer this accessory is an internal 3/2-way valve that can be offered in both cast and forged versions, actuating the pilot to open the main valve in the event of a system overpressure.

Back Flow Preventer

Integrated. . The Backflow Preventer is directly integrated inside the main valve. Here, the piston and disc are simply disconnected. Movement from the piston doesn't affect the valve tightness. As the downstream backpressure supersedes the inlet pressure, there will be an upward force acting against the piston. However the disc will remain in its seated position.

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7. Identification

CODIFICATION

76E	G	A	5	A	-	U1	E	V	/	DSC	E	FV

Type : 76E

Full nozzle pilot-operated
Stardisc™
Thermoglide™ rings

Orifice Designation

Available with V stamp:
D-E-F-G-H-J-K-L-M-N-P-Q-R-S-T-U-W
Available without V stamp:
V

Material of Construction (body)

A : SA 216 Grade WCC
32 : SA 217 Grade WC6
X : SA 351 Grade CF8M
Z : Other

Valve Rating (ASME)

1 : 150#
2 : 300#
3 : 600#
4 : 900#
5 : 1500#
6 : 2500#

Flange Finish Type (inlet) :

ASME B16.5 and EN 1759-1
A : RF Smooth finish / B type
J : Ring Tool Joint / J Type
E2 : SM (Small Male) face/ ES type
E1 : LM (Large Male) face / EL type
E : Male face / E Type
F2 : SF (Small Female) face / FS type
F1 : LF (Large Female) face / FL type
F : Female face / F type
C2 : ST (Small Tongue) face / CS Type
C1 : LT (Large Tongue) face / CL type
C : Tongue face / C type
D2 : SG (Small Groove) face / DS Type
D1 : LG (Large Groove) face / DL Type
D : Groove face
Z : Other flange finish (including outlet)

EN 1092.1
P : C Form (RF)
P1 : N Form (Inlet)
T1 : N Form (Outlet)
Q1 : N Form (I/O)
P2 : F Form (Inlet)
T2 : F Form (Outlet)
Q2 : F Form (I/O)
P3 : R13 Form (Inlet)
T3 : R13 Form (Outlet)
Q3 : R13 Form (I/O)
P4 : V13 Form (Inlet)
T4 : V13 Form (Outlet)
Q4 : V13 Form (I/O)

H : Hub Connection Option :

Option :

A : No option
E : Remote Sensing Line
O : Pilot vented to Body Bowl
T : Field Test Connector
V : Condenser (buffer) tank
W : « Stareco » design
Y1 : Remote Control
Y3 : Pigtail Tubing on hot fluid
Z : Special

CERTIFICATION
U1 : ASME (« V » stamp)
X1 : CRN
X2 : SELO (« TS » stamp)
X3 : TR CU 032 (« EAC » marking)
X4 : PED 2014/68/UE (« CE » marking)
X5 : UKCA

DCS-E Pilot Option

F : Packed Lever
V : Test Gag

IDENTIFICATION NAME PLATE

The data shown on the identification plate should be referenced with all requests for work, or for the supply of spare parts.

The identification plate bears the following information:

- Serial number (also stamped on the edge of the outlet flange)
- Safety valve type (model number)
- Inlet dimension - pressure class (rating)
- Outlet dimension - pressure class (rating)
- Orifice
- Set pressure with units
- Backpressure with units
- Identification number
- Spring identification number

SEALING

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