

Enter the world of innovative technology for enhanced safety

Denovo[®]
Manufacturer & Exporter
Industrial Valves

Protecting the environment with world class products and providing excellent customer service since 2006

- SAFETY RELIEF VALVES
- PRESSURE SAFETY VALVES
- RELIEF VALVES
- THERMAL SAFETY / RELIEF VALVES



Darshan
VALVE MFG. CO.

AN ISO 9001 : 2008 COMPANY
  



About

We are one of the leading manufacturers & suppliers of industrial valves. Our range of industrial valves are perfectly designed to solve the numerous solutions of industries like, textiles, sugar, textiles and others.

Having a vast experience, our company is engaged in the manufacturing & supplying of industrial valves. Use of updated technology & the skill sets of our experienced workforce help us to mark a name in the competitive global market. We adapt to latest technologies, which helps in facing different business challenges. We are constantly dedicated to provide the most effective industrial valves solutions at most competitive prices.

MFGRS. OF : INDUSTRIAL VALVE

MFGRS. OF : INVESTMENT CASTING & BAR STOCK VALVES

Company Profile

We Darshan Valve Mfg Co. are one of the established name as a manufacturer of industrial valves, which provides solutions to various industries including chemical, oil, textiles and other related industries. The concern for delivering quality industrial valves has helped us to mark our name in this competitive business market.

Our company is constantly conceptualizing customers' ideas into reality by using our expertise with latest technology. We also emphasis on the regularly up gradation of our production system to adapt latest technical advancements. Our professionals are engaged in developing new and innovative production techniques. This helps in meeting our clients' expectations in terms of quality, variety, cost efficiency and others.

Our Infrastructure

Our company have a state-of-the-art manufacturing unit, which helps in delivering qualitative range of industrial valves. Our manufacturing unit is also helpful in product development and production. our company is committed to offer new age concept-to-application solutions to our esteemed clients, with continuous upgrades in our design, prototypic, testing, quality assurance and foundry operations. Our manufacturing unit also have in house latest state of the art equipments for manufacturing, measuring & testing in accordance to international standards.

Our Manufacturing Unit

Our company have a state-of-the-art manufacturing unit, which helps in delivering qualitative range of industrial valves. Our manufacturing unit is also helpful in product development and production. our company is committed to offer new age concept-to-application solutions to our esteemed clients, with continuous upgrades in our design, prototypic, testing, quality assurance and foundry operations. Our manufacturing unit also have in house latest state of the art equipments for manufacturing, measuring & testing in accordance to international standards.

Our Efficient Team

We have a team of self-motivated employees, who are dedicatedly engaged in the manufacturing of industrial valves. Our team is the most important strength of our company, who works towards meeting various operations of the company.

Further, our motivated team believes in teamwork and works on a singular goal of providing complete satisfaction to the customers. Our team includes experienced skilled & semi- skilled workers and other departmental related employees. Their expertise in efficiently handling the varied involved processes ensures the flawless production of processing equipment.

Warehousing & Packing Facility

- Wide range of industrial valves.
- International quality standards.
- Safe packaging.
- Dedicated work force.
- Use of advanced technology.
- Customization facilities.
- Offer market-leading prices.
- Use of qualitative raw material.
- Ethical business policies.
- Wide network areas.
- Prompt Delivery.
- R & D.

Our Quality Compliance

Our company follows strict quality standards that are in accordance with international quality standards. We follow stringent quality control, testing and inspection at every levels of the factory inputs and closely monitor the different assembly levels and manufacturing procedures. This assure trouble free performance of the valves.

Quality Control & Testing Facility

Our company also have testing facilities for hydraulic testing & pneumatic testing. All the valves are strictly tested as per the international standards. The industrial valves manufactured by us are Haskell U.S.A make, portable hydro - pneumatics pumps test hydraulic pressure of any fitting or valves up to 5000 PSI.

Media of Fluid : Pure Water

Air Compressors : to test any fitting of valves pneumatically up to 150 PSI or as per the requirement.



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Other Product Range	





DV & Denovo make Safety Valve Features & Benefits

Valves Specializes In :

• Safety Valves

- Model No: DVFL42
- Model No: DVFL421
- Model No: DVFL42-RUT
- Model No: DVSC33
- Model No: DVSC33-TRV

Features And Benefits

Design verification

All design options and the various effects of system conditions, back pressure etc. have been verified on Denovo's in-house.

Lighter and more compact construction

Continuous design improvements have created smaller and lighter valves to support current industry design trends, especially space and weight savings.

Interchangeable parts

valves can be modified from type to type, gas, liquid, conventional and bellows simply by changing only a few parts.

Simplified maintenance and service

Re-engineering has reduced the number of parts, making maintenance easier and more cost effective.

Material selection

A wide range of materials are offered including non-ferrous for low temperature and oxygen service, as well as exotic alloys specifically for the chemical and process industries.

Cryogenic and oxygen service

Denovo's state-of-the-art clean room and vapour degreasing facilities ensure compliance with the stringent demands of cryogenic and oxygen applications.

Wide range of accessories

Available to comply with international codes and to suit system requirements.

High performance springs

Safety relief valve springs are specifically designed to guarantee set point repeatability.

Bellows back-up piston

An optional auxiliary back-up piston for balanced bellows valves ensures fail-safe operation in the event of bellows failure.

Guiding surfaces

The material selection of guiding components, together with a self aligning disc and spindle pivot point, ensures correct alignment and no galling of guiding surfaces.

Trim

Specific gas and liquid trim designs give stable operation and eliminate the damaging effect of chatter.

Seat leakage integrity

Choice of nozzle and disc materials (coupled with superior lapping techniques) provides seat tightness to API 527/ASME VIII.

Adjustable blow down

The valve reseating pressure (blow down) can be simply adjusted to suit special or specific performance requirements.

Nozzle design

The method and location of attachment to the body avoids transmission of pipe stresses to the nozzle/disc mating surfaces.

API 526 dimensions

Standardised dimensions allows pipework layouts to be detailed confidently.



DV & Denovo make Safety Valve Introduction

The effects of exceeding safe pressure levels in an Unprotected pressure vessel or system can have Catastrophic effects on both plant and personnel.

Safety relief valves should be used to protect any Pressurized system from the effects of exceeding its design pressure limit.

A safety relief valve is designed to automatically discharge gas, steam, vapour or liquid from any pressure containing system, preventing a predetermined safe pressure being exceeded, and protecting plant.

The Darshan Valve Range of Safety Relief Valves Contains Five Distinct Valve Types :

DVFL-42 Series	- Pop action, safety relief valves
DVFL-421 Series	- Safety Relief valves.
DVSC-33 Series	- Safety and thermal relief valves
DVSC-33-HP Series	- High pressure relief valves
DVFL-42-RUT	- Thermal relief valves

All Types

All “Denovo” “DV” valves are available through our global agent distribution network supported by our dealers-distributors sales offices around the world. OR contact sales@darshanvalve.com

Applicable Standards :

ASME VIII	Unfired Pressure Vessel Application
API RP 520	Sizing Selection & Installation Part 1 & 2
API 526	Flange end Steel Pressure Relief Valves
API 527	Testing Standard
97/23/EC	Pressure Equipment Directive (CE)
ANSI B 16.5	Flanges Standard



Model No: DVFL 421

Application :

- Gas
- Vapour
- Air

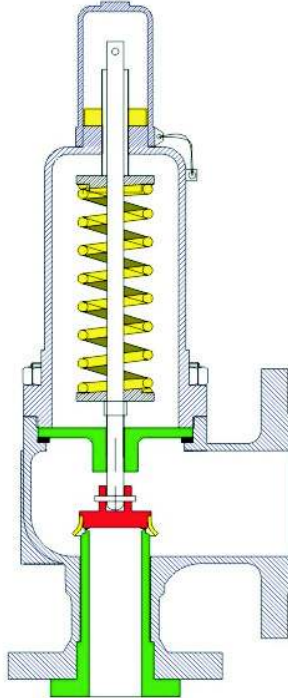
Size :

25 x 50 to 150 x 200

Class :

150 #

300 #



Model No: DVFL 42-RUT

Application :

- Gas & Liquid
- Thermal
- High Pressure
- Small Capacity

Size :

15 x 25 to 25 x 25

Class :

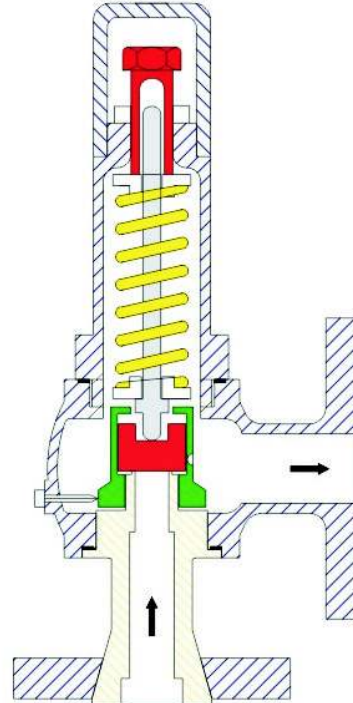
150 #

300 #

600 #

900 #

1500 #



Model No: DVFL 42

Application :

- Refineries
- Chemical Industry
- Oil & Gas
- Onshore & Offshore
- Blow-down Systems
- Vessels & Piping Systems

Size :

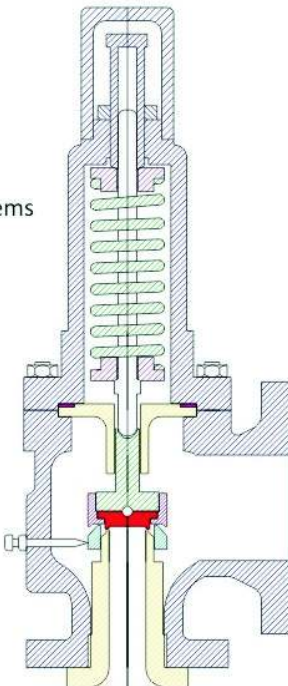
25 x 50 to 250 x 300

Class :

150 #

300 #

600 #



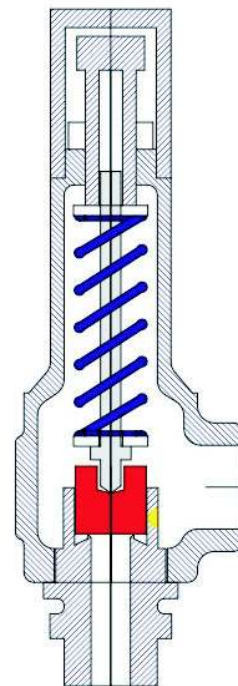
Model No: DVSC 33

Application :

- Air
- Gas
- Water
- Steam

Size :

15 mm to 50 mm



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```

graph LR
    Inlet[Inlet  
1" to 10"] --> Orifice[Orifice Code  
D-T]
    Orifice --> Outlet[Outlet  
2" to 14"]
    Outlet --> Valve[Valve Type  
1. Liquid  
2. Air  
3. Gas  
4. Steam]
    Valve --> FlangeRating[Flange Rating (inlet x outlet)  
1. 150 x 150#  
2. 300 x 150#  
3. 600 x 150#  
4. 900 x 150#  
5. 1500 x 150#  
6. Special]
    FlangeRating --> FlangeFacing[Flange Facing  
1. ANSI RF X RF  
2. ANSI RTJ X RF  
3. Special]
    FlangeFacing --> BodyMaterial[Body Material  
1. Carbon Steel WCB  
2. Stainless Steel CF8  
3. Stainless Steel CF8M  
4. LCB  
5. Bronze  
6. WC6  
7. Hastalloy C  
8. Special]
    FlangeFacing --> Accessories[Accessories  
A. Bolted Cap  
B. Screwed Cap  
C. Test Gag  
D. Plain Lever  
E. Packed Lever  
F. Soft Seat  
G. Special]
    FlangeFacing --> TrimMaterial[Trim Material Nozzle & Disc  
1. 13% cr (SS 410)  
2. Stainless Steel 304  
3. Stainless Steel 316  
4. Hastalloy  
5. Stelited  
6. Special]
    FlangeFacing --> SpringMaterial[Spring Material  
1. Carbon Steel - Spring Steel  
2. Stainless Steel PH 17/4  
3. Stainless Steel 316  
4. Inconel]
  
```

Inlet
1" to 10"

Orifice Code
D-T

Outlet
2" to 14"

Valve Type
1. Liquid
2. Air
3. Gas
4. Steam

Flange Rating (inlet x outlet)
1. 150 x 150#
2. 300 x 150#
3. 600 x 150#
4. 900 x 150#
5. 1500 x 150#
6. Special

Flange Facing
1. ANSI RF X RF
2. ANSI RTJ X RF
3. Special

Body Material
1. Carbon Steel WCB
2. Stainless Steel CF8
3. Stainless Steel CF8M
4. LCB
5. Bronze
6. WC6
7. Hastalloy C
8. Special

Accessories
A. Bolted Cap
B. Screwed Cap
C. Test Gag
D. Plain Lever
E. Packed Lever
F. Soft Seat
G. Special

Trim Material Nozzle & Disc
1. 13% cr (SS 410)
2. Stainless Steel 304
3. Stainless Steel 316
4. Hastalloy
5. Stelited
6. Special

Spring Material
1. Carbon Steel - Spring Steel
2. Stainless Steel PH 17/4
3. Stainless Steel 316
4. Inconel

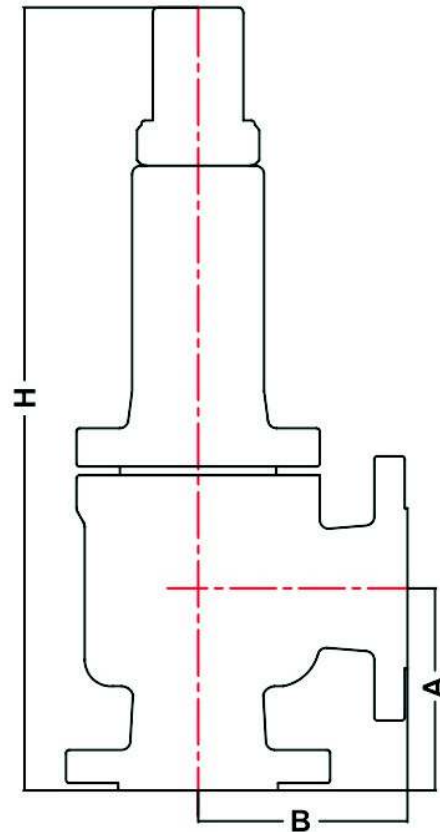
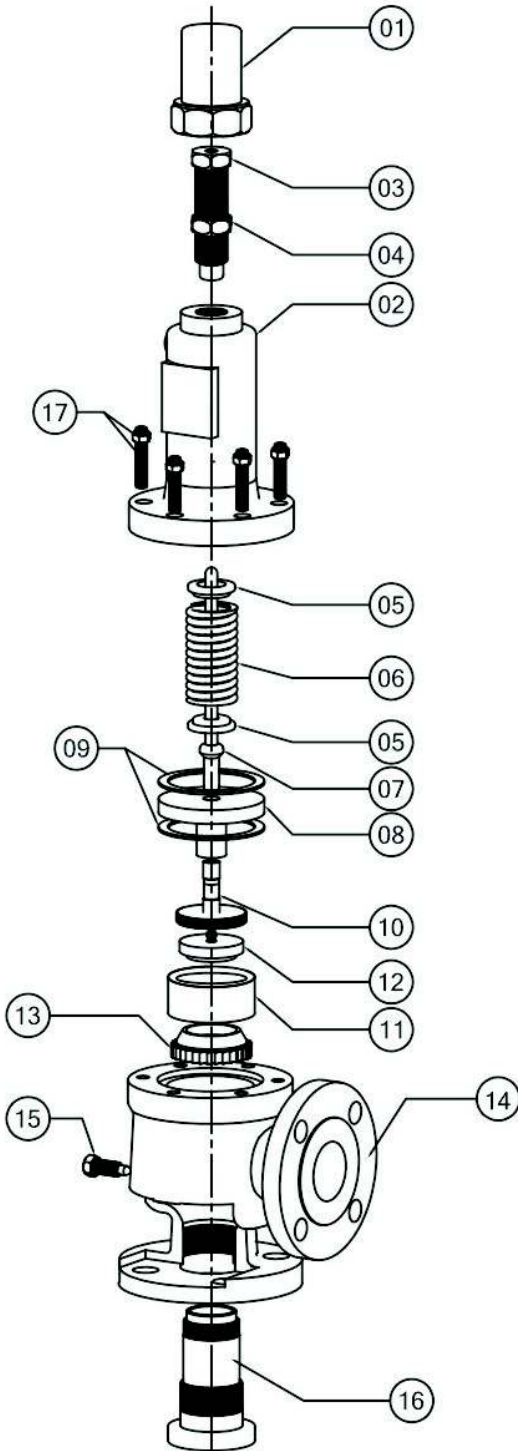
Valve Selection Example : DVFL 42 [1" D 2" 4111B21]

Table 1. Standard Effective Orifice Areas and Letter Designations as per API 526
Effective Orifice Area (Square in² & cm².)

ORIFICE CODE	in ²	cm ²
D	0.110	0.710
E	0.196	1.265
F	0.307	1.981
G	0.503	3.245
H	0.785	5.065
J	1.287	8.303
K	1.838	11.858
L	2.853	18.406
M	3.60	23.226
N	4.34	28.000
P	6.38	41.161
Q	11.05	71.290
R	16.00	103.226
T	26.00	167.742



Model No. : DVFL 42



No.	PART NAME	MATERIAL
1	CAP	CI TO IS 210 GR.FG200/CF8/CF8M
2	BONNET	ASTM A 216 GR.WCB/CF8/CF8M
3	ADJ. SCREW	304/316/ALLOY MATERIAL
4	LOCK NUT	304/316/ALLOY MATERIAL
5	SPRING WASHER	M.S./CARBON STEEL
6	SPRING	SPRING STEEL
7	SPINDLE	304/316
8	GUIDE	304/316
9	PACKING GASKET	CAF/ASBESTOS/PTFE
10	DISC HOLDER	304/316
11	REACTION HOOD	304/316
12	DISC	304/316/CF8/CF8M/ALLOY
13	NOZZLE RING	304/316
14	BODY	ASTM A 216 GR.WCB/CF8/CF8M
15	LOCK SCREW	304/316
16	NOZZLE	304/316/CF8/CF8M/ALLOY
17	STUD NUT	ASTM A 193 GR. B7/A194 2H



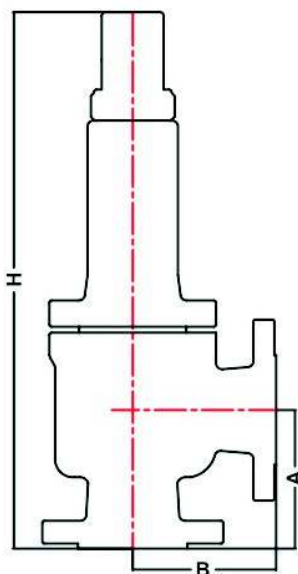
Model No. : DVFL-42 & 421

API 526 Orifice Based Valves

Sr No.	Inlet Size Inch	Outlet Size Inch	Orifice Detail				Dimensions			Wight "Aprox" kg.
			API Code Letter	Area sq. in	Area sq. mm	Dia "d" mm	Inlet "A" mm	Outlet "B" mm	Height "H" Aprox	
1	1	2	D	0.110	71.0	9.50	105	114	440	18
	1	2	E	0.196	126.5	12.70	105	114	440	18
2	1½	2	F	0.307	198.1	15.88	124	121	440	23
3	1½	3	G	0.503	324.5	20.33	124	121	545	28
4	1½	3	H	0.785	506.5	25.40	130	124	545	30
	2	3	H	0.785	506.5	25.40	137	124	545	30
5	2	3	J	1.287	830.3	32.51	137	124	545	32
	3	4	J	1.287	830.3	32.51	156	162	665	57
6	3	4	K	1.838	1185.8	38.86	156	162	665	60
7	3	4	L	2.853	1840.6	48.41	156	162	665	68
	4	6	L	2.853	1840.6	48.41	178	184	905	125
8	4	6	M	3.600	2322.6	54.38	178	184	905	109
9	4	6	N	4.340	2800.0	59.70	178	184	905	101
10	4	6	P	6.380	4116.1	72.40	178	184	905	123
11	6	8	Q	11.050	7129.0	95.30	240	241	1120	198
12	6	8	R	16.000	10322.0	114.60	240	241	1120	215
13	8	10	T	26.000	16774.0	141.72	276	279	1450	380

Note:

Flange ratings and center to face dimensions are according to API 526 as applicable for Full Nozzle Safety Valves of inlet size 1" (25mm) and above. For revised sizes due to higher pressure & Temp., For smaller sizes, refer to DVFL-42-RUT series.



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Model No. : DVSC - 33 Model Selection Chart

Orifice	Size : Inlet x Outlet	Connection	Material - Body - Trim	Accessories
1 - 0.074 2 - 0.110 3 - 0.196 4 - 0.307 5 - 0.503	1 - 15 x 15 2 - 15 x 20 3 - 20 x 20 4 - 20 x 25 5 - 25 x 25 6 - 25 x 40 7 - 40 x 40 8 - 50 x 50	1 - BSP N x F 2 - NPT M x F 3 - BSP F x F 4 - Socket Weld 5 - T.C. End	1 - C.S. WCB / 304 2 - C.S. WCB / 316 3 - C.S. WCB / 304 L 4 - C.S. WCB / 316 L 5 - Stainless Steel CF8 / 304 6 - Stainless Steel CF8N / 316	C - Closed Cap P - Packed Lever O - Open Lever G - Closed Cap with Test Gag

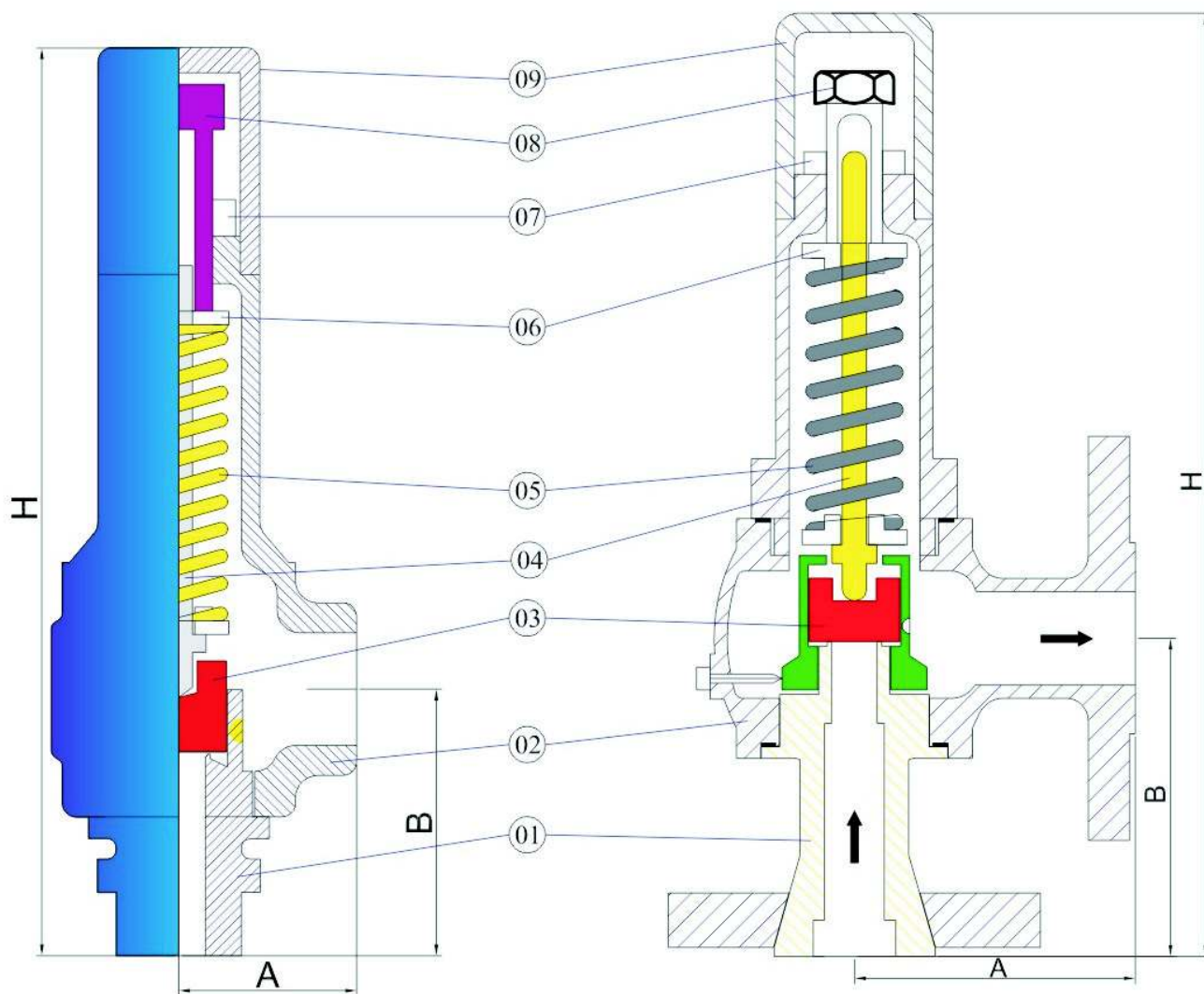
Valve Selection Example : DVSC - 33 [1222G]

Model No. : DVFL - 42 - RUT Model Selection Chart

Orifice	Size : Inlet x Outlet	Connection	Material - Body - Trim	Accessories
1 - 0.074 2 - 0.110 3 - 0.196	1 - 15 x 25 2 - 20 x 25 3 - 25 x 25	1 - 150 x 150 2 - 300 x 150 3 - 600 x 150 4 - 900 x 150	1 - C.S. / 304 2 - C.S. / 316 3 - C.S. / Duplex 4 - C.S. / Inconel 5 - S.S. / 304 6 - S.S. / 316	C - Closed Cap P - Packed Lever O - Open Lever G - Closed Cap with Test Gag

Valve Selection Example : DVFL - 42 - RUT [1222G]





Model No. : DVSC-33

Model No. : DVFL-42-RUT

No.	Part Name
01	Nozzle
02	Body
03	Disc with Disc Holder
04	Spindle
05	Spring
06	Spring Washer
07	Lock Nut
08	Pressure Adjusting Screw
09	Cap
10	Model no : DVFL-42-RUT-Inlet Flange



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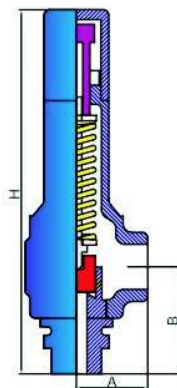
Model No. : DVSC - 33

"do" Based Valves (Modified Nozzle)

Sr No.	Inlet Size Inch	Outlet Size Inch	Orifice Detail				Dimensions			Wight "Aprox"
			Max. Set Pressure in psig	Area sq. in	Area sq. mm	Dia "do" mm	Inlet "A" mm	Outlet "B" mm	Height "H" Aprox	
1	½"	½"	300	0.110	71.0	9.50	37	53	180	
2	½"	¾"	700	0.110	71.0	9.50	38	59	210	
3	¾"	¾"	300	0.110	71.0	9.50	38	59	210	
4	¾"	1"	700	0.196	126.5	12.7	52	62	235	
5	1"	1"	300	0.307	198.1	15.88	52	75	245	
6	1"	1½"	1000	0.307	198.1	15.88	60	95	290	
7	1½"	1½"	300	0.307	198.1	15.88	60	95	290	
8	2"	2"	300	0.503	324.5	20.33	70	87	325	

GAS CONSTANT

K	C Imperial	C Metric	K	C Imperial	C Metric	K	C Imperial	C Metric
1.00	315	2.40	1.26	343	2.61	1.52	366	2.78
1.02	318	2.41	1.28	345	2.62	1.54	368	2.79
1.04	320	2.43	1.30	347	2.63	1.56	369	2.80
1.06	322	2.45	1.32	349	2.65	1.58	371	2.82
1.08	324	2.46	1.34	350	2.66	1.60	372	2.83
1.10	326	2.48	1.36	353	2.68	1.62	374	2.84
1.12	329	2.50	1.38	354	2.69	1.64	376	2.85
1.14	331	2.51	1.40	356	2.70	1.66	377	2.86
1.16	333	2.53	1.42	358	2.72	1.68	378	2.87
1.18	335	2.55	1.44	359	2.73	1.70	380	2.89
1.20	337	2.56	1.46	361	2.74	2.00	400	3.04
1.22	339	2.58	1.48	363	2.76	2.20	412	3.13
1.24	341	2.59	1.50	364	2.77			



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Model No. : DVFL - 42 - RUT Pressure Relief Valve/Thermal Relief Valve

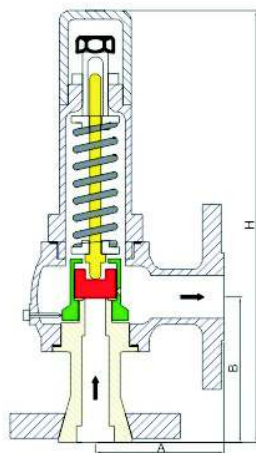
DVFL-42-RUT with (0.074 sq.in) Orifice - 01 - B

Sr No.	Connection Sizes		Flange sizes		Max Set pressure in (psig)	Diamansion		
	Inlet	Outlet	Inlet	Outlet		A	B	H
1	½"	1"	150#	150#	285	80	102	285
2	½"	1"	300#	150#	740	80	105	287
3	½"	1"	600#	150#	1480	80	110	293
4	¾"	1"	150#	150#	285	80	102	285
5	¾"	1"	300#	150#	740	80	105	287
6	¾"	1"	600#	150#	1480	80	110	293
7	1"	1"	150#	150#	285	80	102	285
8	1"	1"	300#	150#	740	80	105	287
9	1"	1"	600#	150#	1480	80	110	293

Model No. : DVFL - 42 - RUT Pressure Relief Valve/Thermal Relief Valve

DVFL-42-RUT with (0.110 sq.in) Orifice - 02 - D

Sr No.	Connection Sizes		Flange sizes		Max Set pressure in (psig)	Diamansion		
	Inlet	Outlet	Inlet	Outlet		A	B	H
1	½"	1"	150#	150#	285	80	102	285
2	½"	1"	300#	150#	740	80	105	287
3	½"	1"	600#	150#	1480	80	110	293
4	¾"	1"	150#	150#	285	80	102	285
5	¾"	1"	300#	150#	740	80	105	287
6	¾"	1"	600#	150#	1480	80	110	293
7	1"	1"	150#	150#	285	80	102	285
8	1"	1"	300#	150#	740	80	105	287
9	1"	1"	600#	150#	1480	80	110	293



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MODEL NO. DVSC - 33 - HP

FEATURES & BENEFITS

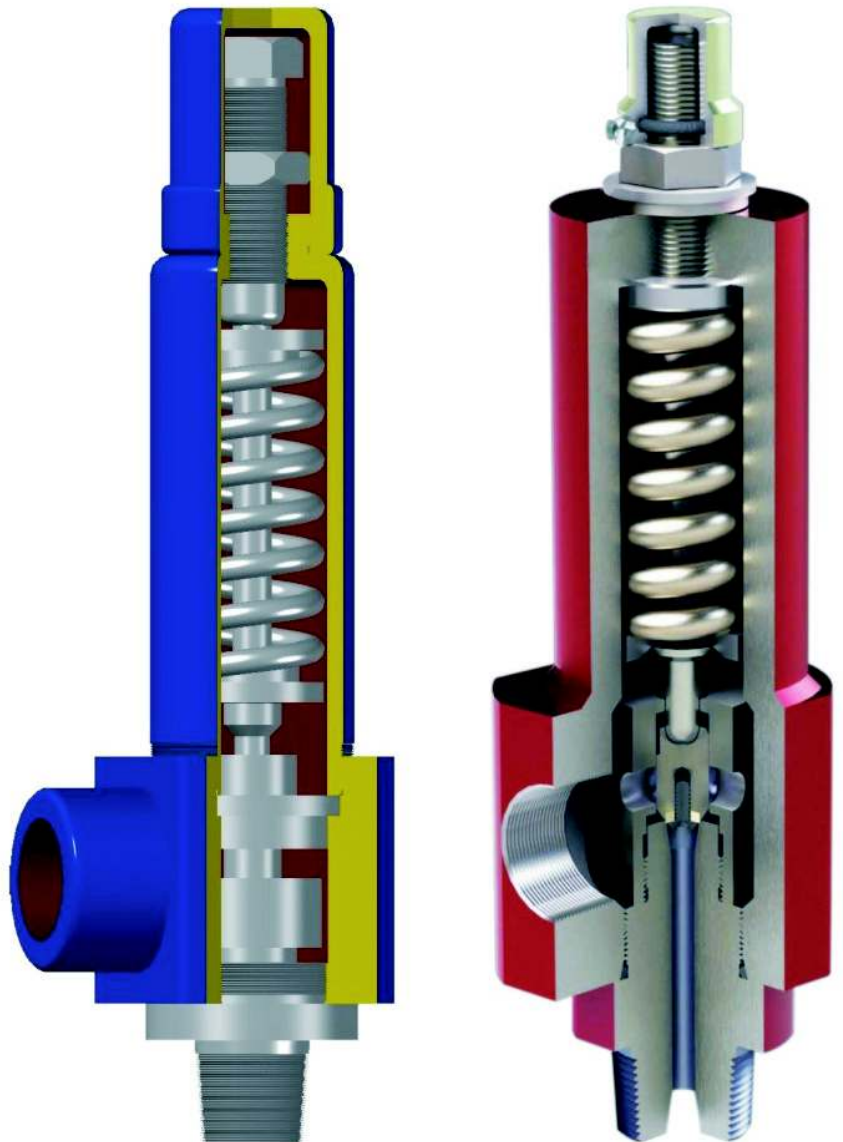
- Superior spring design and material enhance the performance of the product by providing consistent opening and closing pressures.
- Our Plug and Seat design fully guides the seating process and ensures a reliable reseal even under the most difficult conditions.
- High endurance soft seat supports repeated operation and a bubble-tight shutoff every time. Our soft seat technology consistently seals even after hundreds of "pops".

Danovo valve DVSC - 33 - HP Series Safety Relief Valves are engineered and manufactured to the highest standards and feature a soft plastic seat which ensures a bubble-tight seal even under the most difficult conditions.

Our DVSC - 33 - HP Series valves meet the requirements of the ASME Boiler and pressure vessel code Sec VIII, div. 1.

APPLICATION :

Our DVSC - 33 - HP valves address the high pressure needs of the market (pressures in excess of 5,000 PSI), as well as the CNG market.



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SAFETY VALVES ORIFICE AREAS

Acc, to ASME Sec. VIII, Div 1 / API RP - 520

Orifical Latter	Effective Area			Standerd Size* (Inlet x Outlet) in Inches
	in ²	cm ²	mm ²	
D	0.110	0.710	71.0	1 X 2
E	0.196	1.265	126.5	1 X 2
F	0.307	1.980	198.1	1½ X 2
G	0.503	3.245	324.5	1½ X 3
H	0.785	5.065	506.5	1½ X 3 & 2 X 3
J	1.287	8.303	830.3	2 X 3
K	1.838	11.858	1185.8	3 X 4
L	2.853	18.406	1840.6	3 X 4
M	3.600	23.226	2322.6	4 X 6
N	4.340	28.000	2800.0	4 X 6
P	6.380	41.160	4116.0	4 X 6
Q	11.050	71.290	7129.0	6 X 8
R	16.000	103.226	10322.6	6 X 8
T	26.000	167.742	16774.2	8 X 10

Note :

- Please refer page No. 07 also for any revision in size



MODEL NO. DVFL - ATOM - RV

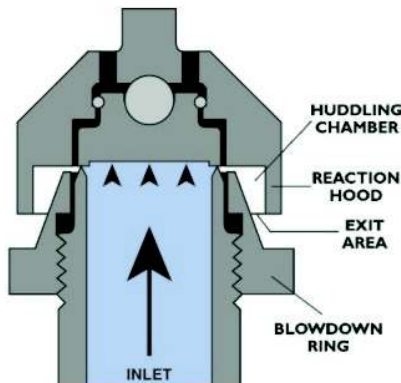


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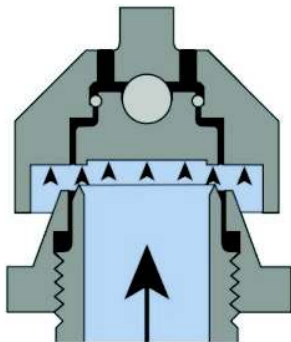
SAFETY VALVE WORKING LIFT CYCLE



Stage 1 – Closed

Inlet pressure < set pressure

Inlet pressure is below the set pressure. The valve is closed and there is no flow through the valve.

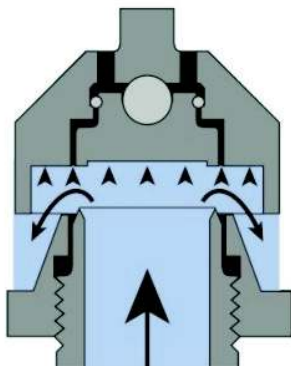


Stage 2 – Simmering

Inlet pressure is = > set pressure and < popping pressure

Inlet pressure increases to set pressure. At this point, the spring force and system pressure force are equal; a further rise in inlet pressure will then begin to lift the disc slightly. A small amount of fluid is released into the huddling chamber (the valve simmers).

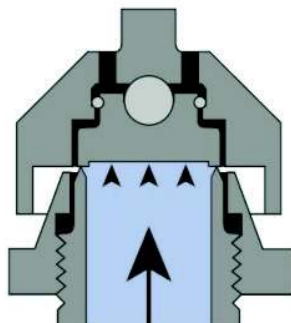
The system fluid is now acting on a larger area inside the huddling chamber.



Stage 3 – Popping and opening

Inlet pressure = > popping pressure, valve fully open

The inlet pressure acting on a larger area produces a significant force to accelerate the opening. A combination of this pressure force, the kinetic energy from the fluid within the nozzle and the deflection force of the fluid flow turning through the reaction hood, is transformed into disc lifting force. The valve pops open at < 5% overpressure and the valve reaches the full open position at 110% of set pressure, in accordance with international codes.



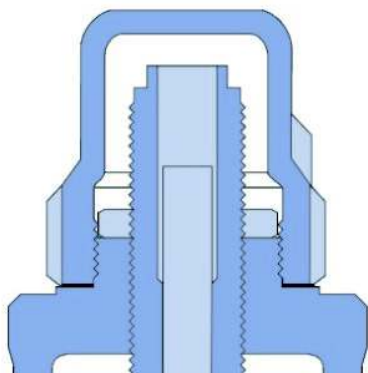
Stage 4 – Reseating

Inlet pressure falls to re-seating pressure

As system pressure starts to fall, the force from the spring begins to close the valve. Typically, the system pressure falls between 5-10% below the valve set pressure at which point the spring force accelerates the valve disc to re-seat the valve. The difference between the set pressure and the re-seating pressure is known as blowdown.

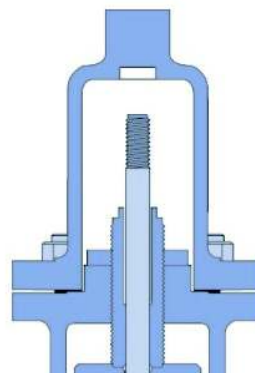


ACCESSORIES



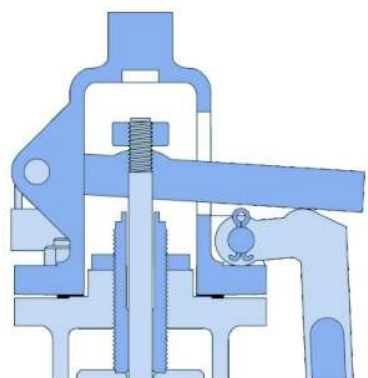
Screwed Cap

This is the standard option on all valves.



Bolted Cap

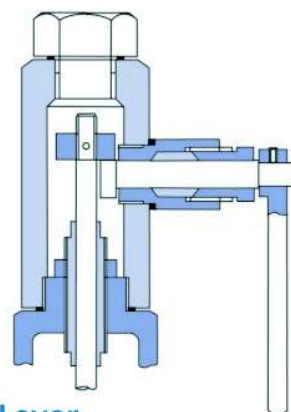
Option available on the DVFL - 42 & 421 after 3" Size when required by the customer or for critical service where fragile gaskets materials may be fitted.



Open Lever*

The open lever assembly is not pressure tight and is therefore only suitable where vapour can safely be allowed to escape to atmosphere.

Open lever design is not available on DVSC - 33.



Packed Lever

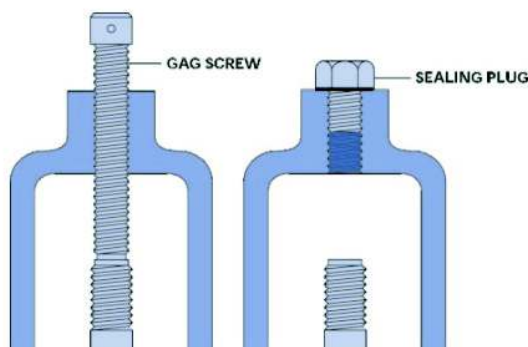
The design of the packed lever assembly ensures that leakage does not occur when the valve is open or when back pressure is present.

*A lift lever can be used to test for correct valve operation where corrosion or deposits could prevent the valve from opening. They can be used to release foreign particles trapped on the seat and must be fitted when codes dictate.

Test Gag

The test gag is used to prevent the safety valve from lifting. This is mainly used when carrying out a hydrostatic test on the system, during commissioning.

After testing, the test gag must be removed and replaced with the sealing plug.



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SUPERHEAT CORRECTION FACTOR Ksh FOR STEAM

Set Pressure (psig)	Pound/Inch units psi g Temperature in °F									
	300	400	500	600	700	800	900	1000	1100	1200
15	1.00	0.98	0.93	0.88	0.84	0.80	0.77	0.74	0.72	0.70
20	1.00	0.98	0.93	0.88	0.84	0.80	0.77	0.74	0.72	0.70
40	1.00	0.99	0.93	0.88	0.84	0.81	0.77	0.74	0.72	0.70
60	1.00	0.99	0.93	0.88	0.84	0.81	0.77	0.75	0.72	0.70
80	1.00	0.99	0.93	0.88	0.84	0.81	0.77	0.75	0.72	0.70
100	1.00	0.99	0.94	0.89	0.84	0.81	0.77	0.75	0.72	0.70
120	1.00	0.99	0.94	0.89	0.84	0.81	0.78	0.75	0.72	0.70
140	1.00	0.99	0.94	0.89	0.85	0.81	0.78	0.75	0.72	0.70
160	1.00	0.99	0.94	0.89	0.85	0.81	0.78	0.75	0.72	0.70
180	1.00	0.99	0.94	0.89	0.85	0.81	0.78	0.75	0.72	0.70
200	1.00	0.99	0.95	0.89	0.85	0.81	0.78	0.75	0.72	0.70
220	1.00	0.99	0.95	0.89	0.85	0.81	0.78	0.75	0.72	0.70
240		1.00	0.95	0.90	0.85	0.81	0.78	0.75	0.72	0.70
260		1.00	0.95	0.90	0.85	0.81	0.78	0.75	0.72	0.70
280		1.00	0.96	0.90	0.85	0.81	0.78	0.75	0.72	0.70
300		1.00	0.96	0.90	0.85	0.81	0.78	0.75	0.72	0.70
350		1.00	0.96	0.90	0.86	0.82	0.78	0.75	0.72	0.70
400		1.00	0.96	0.91	0.86	0.82	0.78	0.75	0.72	0.70
500		1.00	0.96	0.92	0.86	0.82	0.78	0.75	0.73	0.70
600		1.00	0.97	0.92	0.87	0.82	0.79	0.75	0.73	0.70
800			1.00	0.95	0.88	0.83	0.79	0.76	0.73	0.70
1000			1.00	0.96	0.89	0.84	0.79	0.76	0.73	0.71
1250			1.00	0.97	0.91	0.85	0.80	0.77	0.74	0.71
1500				1.00	0.93	0.86	0.81	0.77	0.74	0.71
1750				1.00	0.94	0.86	0.81	0.77	0.73	0.70
2000				1.00	0.95	0.86	0.80	0.76	0.72	0.69
2500				1.00	0.95	0.85	0.78	0.73	0.69	0.66
3000					1.00	0.82	0.74	0.69	0.65	0.62



A : Sizing Calculation for Steam Service

- A** Calculated Orifice Area in in²
W Required Flow, lb/h, kg/h
P Absolute Pressure,
 psia = Set Pressure + Over Pressure + 14.7
Kd Coefficient of Discharge = 0.975
Ksh 1, for saturated steam.
 (Correction factor for Superheated steam: to be page 16)

$$A = \frac{W}{51.5 \times P \times K_d \times K_{SH}}$$

B : Sizing Calculation for Air Service

- W** Flow Capacity (scfm):
T Temperature of fluid (Kelvin)
Z Compressibility factor
P1 Reliving Pressure +Ov,P+Ba,P(kpa)
C Coefficient ratio of specific heat
Kb Atmospheric back pressure
M Molecular Wight
A Required Orifice Area in mm²

$$A = \frac{13160 W \sqrt{TZ}}{C K P_1 K_b \sqrt{M}}$$

C : Sizing Calculation for Gas Service.

- A** Calculated Orifice Area in in²
W Required relieving capacity, lb/h
Z Compressibility factor = 1, if unknown
T Absolute temperature
C Factor based on cp/cv(k)
Kd Coefficient of Discharge
Kb Back pressure correction factor
P Absolute Pressure, psia = Set Pressure + Over Pressure + 14.7
M Molecular Wight

$$A = \frac{W \times \sqrt{ZT}}{0.9 \times C \times K_d \times P \times \sqrt{M}}$$

D : Sizing Calculation for Liquid Service.

- A** = Calculated Orifice Area, in²
Wt = Required Relieving Capacity, lb/h
P = Absolute Pressure, psia = Set Pressure + Overpressure + 14.7
Pd = Back Pressure, psia
w = Specific Weight, lb/ft³
Kd = Coefficient of discharge

$$A = \frac{Wt}{2407 \sqrt{[(p-p_d) \times W] \times k_d}}$$

Note : Gas, Vapor, Air

- The derathing factor of 0.9 may be considered (as stated in ASME Sec.VIII, Div.1 UG-131) while arriving at the Orifice Area.
- Coefficient of discharge, "kd" to be considered as 0.975 as stated in ASME Sec.VIII, Div-1
- Over pressure to be considered as 10% or 3psig whichever is greater.
- The factor "C" is based on cp/cv (k) and the value can be obtained from the flowing table.

Note : Liquid

- The derathing factor of 0.9 may be considered (as stated in ASME Sec.VIII, Div.1 UG-131) while arriving at the Orifice Area.
- Coefficient of discharge, "kd" to be considered as 0.65 as stated in API RP- 520
- Over pressure to be considered as 10% or 3psig whichever is greater.





Denovo Valves Series DVSC - 33 & DVFL - 42 - RUT

Calculation of Mass Flow Acc, to ASME Sec. VIII Div.1 / API 520

Air capacity in scfm

Set Pressure (psig)	Effective Area (sq.in)					Set Pressure (psig)	Effective Area (sq.in)				
	B	D	E	F	G		B	D	E	F	G
	0.074	0.110	0.196	0.307	0.503		0.074	0.110	0.196	0.307	0.503
5	29.3	43.5				560	834	1241	2211	3463	5674
6	31	46.1	82.2			580	863	1284	2288	3584	5872
7	32.5	48.4	86.2	135	221	600	893	1327	2365	3705	6070
8	33.9	50.4	89.9	140	230	620	922	1370	2442	3826	6268
9	35.3	52.5	93.6	146	240	640	951	1414	2519	3946	6466
10	36.6	54.5	97.1	152	249	660	980	1457	2596	4067	6664
15	43.2	64	114	179	294	680	1009	1500	3674	4188	6862
20	49.9	74	132	207	339	700	1038	1544	2751	4309	7060
30	63.1	93	167	261	429	720	1067	1587	2828	4430	7258
40	77.7	115	205	322	528	740	1096	1630	2905	4550	7456
50	92.2	137	244	382	627	760	1126	1673	2982	4671	7654
60	106	158	282	443	726	780	1155	1717	3059	4792	7852
70	121	180	321	503	825	800	1184	1760	3136	4913	8050
80	135	202	360	563	924	820	1213	1803	3214	5034	8248
90	150	223	398	624	1023	840	1242	1847	3291	5155	8446
100	165	245	437	684	1122	860	1271	1890	3368	5275	8644
120	194	288	514	805	1319	880	1300	1933	3445	5396	8842
140	223	331	591	926	1517	900	1329	1976	3522	5517	9039
160	252	375	668	1047	1715	920	1359	2020	3599	5638	9237
180	281	418	745	1168	1913	940	1388	2063	3676	5759	9435
200	310	461	822	1288	2111	960	1417	2106	3753	5879	9633
220	339	505	900	1409	2309	980	1446	2150	3831	6000	9831
240	368	548	977	1530	2507	1000	1475	2193	3908	6121	10029
260	398	591	1054	1651	2705	1100	1621	2409	4293	6725	11019
280	427	634	1131	1772	2903	1200	1766	2626	4679	7329	12009
300	456	678	1208	1892	3101	1300	1912	2842	5065	7933	12998
320	485	721	1285	2013	3299	1400	2057	3059	5450	8567	13988
340	514	764	1362	2134	3497	1500	2203	3275	5836	9141	14978
360	543	808	1439	2255	3695	1600	2349	3492	6222		
380	572	851	1517	2376	3893	1700	2494	3708	6607		
400	601	894	1594	2497	4091	1800	2640	3924	6993		
420	631	937	1671	2617	4289	1900	2786	4141	7379		
440	660	981	1748	2728	4487	2000	2931	4357	7764		
460	689	1024	1825	2859	4685	2100	3077	4574	8150		
480	718	1067	1902	2980	4883	2200	3222	4790	8536		
500	747	1111	1979	3101	5081	2300	3368	5007	8921		
520	776	1154	2057	3221	5278	2400	3514	5223	9307		
540	805	1197	2134	3342	5476	2500	3659	5440	9693		

- Capacity in standard cubic feet per minute of air at 14°C and 10% over pressure valve discharging to atmospheric pressure.
- * Capacities shown here are indicative, for reference only, for detailed calculation, please provide the complete process data sheet
- Conversion : 1 psig=0.069 bar / 1 bar = 1.02 kg/cm²



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Denovo Valves Series DVSC - 33 & DVFL - 42 - RUT

Calculation of Mass Flow Acc, to ASME Sec. VIII Div.1 / API 520

Water capacity in U.S. gpm 14 °C

Set Pressure (psig)	Effective Area (sq.in)					Set Pressure (psig)	Effective Area (sq.in)				
	B	D	E	F	G		B	D	E	F	G
	0.074	0.110	0.196	0.307	0.503		0.074	0.110	0.196	0.307	0.503
5	4.6	6.9				720	55.8	83	147	231	379
10	6.5	9.7	17.4			740	56.6	84.2	150	235	385
15	8	11.9	21.3	33.4	54.8	760	57.4	85.3	152	238	390
20	9.3	13.8	24.6	38.6	63.3	780	58.1	86.4	154	241	395
40	13.1	19.5	34.8	54.6	89.5	800	58.8	87.5	156	244	400
60	16.1	23.9	42.7	66.9	109	820	59.6	88.6	157	247	405
80	18.6	27.6	49.3	77.2	126	840	60.3	89.7	159	250	410
100	20.8	30.9	55.1	86.3	141	860	61	90.7	161	253	415
120	22.8	33.9	60.4	94.6	155	880	61.7	91.8	163	256	419
140	24.6	36.6	65.2	102	167	900	62.4	92.8	165	259	424
160	26.3	39.1	69.7	109	179	920	63.1	93.8	167	262	429
180	27.9	41.5	73.9	115	189	940	63.8	94.9	169	264	433
200	29.4	43.7	78	122	200	960	64.5	95.9	170	267	438
220	30.8	45.9	81.8	128	209	980	65.1	96.9	172	270	443
240	32.2	47.9	85.4	133	219	1000	65.8	97.8	174	273	447
260	33.5	49.9	88.9	139	228	1100	69	102	182	286	469
280	34.8	51.7	92.2	144	236	1200	72.1	107	191	299	490
300	36	53.6	95.5	149	245	1300	75	111	198	311	510
320	37.2	55.3	98.5	154	253	1400	77.9	115	206	323	529
340	38.3	57	101	159	260	1500	80.6	119	213	334	548
360	39.5	58.7	104	163	268	1600	83.2	123	220	345	566
380	40.5	60.3	107	168	275	1700	85.8	127	227		
400	41.6	61.9	110	172	283	1800	88.3	121	234		
420	42.6	63.4	113	177	290	1900	90.7	134	240		
440	43.6	64.9	115	181	296	2000	93.1	138	246		
460	44.6	66.3	118	185	303	2100	95.4	141	252		
480	45.6	67.8	120	189	310	2200	97.6	145	258		
500	46.5	69.2	123	193	316	2300	99.8	148	264		
520	47.4	70.5	125	196	322	2400	102	151	270		
540	48.3	71.9	128	200	328	2500	104	154	275		
560	49.2	73.2	130	204	334						
580	50.1	74.5	132	208	340						
600	51	75.8	135	211	346						
620	51.8	77	137	215	352						
640	52.6	78.3	139	218	358						
660	53.4	79.5	141	221	363						
680	54.3	80.7	143	225	369						
700	55	81.8	145	228	374						

- Capacity in U.S. gallon per minute of water at 14°C and 10% over pressure .
- * Capacities shown hear are indicative, for reference only (specific gravity 1.45), for detailed calculation, please provide the complete process data sheet
- Conversation : 1 psig=0.069 bar / 1 bar = 1.02 kg/cm²



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Denovo Valves Series DVSC - 33 & DVFL - 42 - RUT

Calculation of Mass Flow Acc, to ASME Sec. VIII Div.1 / API 520

Saturated Steam capacity in lbs/hr

Set Pressure (psig)	Effective Area (sq.in)					Set Pressure (psig)	Effective Area (sq.in)				
	B	D	E	F	G		B	D	E	F	G
	0.074	0.110	0.196	0.307	0.503		0.074	0.110	0.196	0.307	0.503
5	82.3	122				330	1403	2086	3717	582	9539
6	87.1	129	230			340	1444	2146	3825	5991	9817
7	91.4	135	242			350	1485	2207	3933	6161	10095
8	95.3	141	252	395	647	360	1526	2268	4041	6331	10373
9	99.2	147	262	411	674	370	1566	2329	4150	6500	10650
10	102	152	272	427	699	380	1607	2389	4258	6670	10928
15	121	180	321	504	825	390	1648	2450	4366	6839	11206
20	140	208	371	581	952	400	1689	2511	4474	7009	11484
30	177	263	469	735	1204	410	1730	2572	4583	7178	11762
40	218	324	577	904	1482	420	1771	2632	4691	7348	12039
50	258	384	685	1074	1760	430	1812	2693	4799	7518	12317
60	299	445	794	1244	2038	440	1853	2754	4908	7687	12595
70	340	506	902	1413	2316	450	1893	2815	5016	7857	12873
80	381	567	1010	1583	2593	460	1934	2876	5124	8026	13151
90	422	628	1118	1752	2871	470	1975	2936	5232	8196	13429
100	463	688	1227	1922	3149	480	2016	2997	5341	8365	13706
110	504	749	1335	2091	3427	490	2057	3058	5449	8535	13984
120	545	810	1443	2261	3705	500	2098	3119	5557	8704	14262
130	585	871	1552	2430	3983	520	2180	3240	5774	9044	14818
140	626	931	1660	2600	4260	540	2261	3360	5990	9383	15373
150	667	992	1768	2770	4538	560	2343	3483	6207	9722	15929
160	708	1053	1876	2939	4816	580	2425	3605	6423	10061	16485
170	749	1114	1985	3109	5094	600	2506	3726	6640	10400	17040
180	790	1174	2093	3278	5372	620	2588	3848	6856	10739	17596
190	831	1235	2201	3448	5649	640	2670	3969	7073	11078	18152
200	872	1296	2309	3617	5927	660	2752	4091	7289	11418	18707
210	912	1357	2418	3787	6205	680	2833	4212	7506	11757	19263
220	953	1417	2526	3957	6483	700	2915	4334	7722	12096	19819
230	994	1478	2634	4126	6761	720	2997	4455	7939	12435	20374
240	1035	1539	2742	4296	7039	740	3079	4577	8155	12774	20930
250	1076	1600	2851	4465	7316	760	3160	4698	8372	13113	21486
260	1117	1660	2959	4635	7594	780	3242	4820	8588	13452	22041
270	1158	1721	3067	4804	7872	800	3324	4941	8805	13792	22597
280	1199	1782	3175	4974	8150	820	3406	5063	9021	14131	23152
290	1239	1843	3284	5144	8428	840	3487	5148	9238	14470	23708
300	1280	1903	3392	5313	8706	860	3569	5306	9454	14809	24264
310	1321	1964	3500	5483	8983	880	3651	5427	9671	15148	24819
320	1362	2025	3608	5652	9261	900	3733	5549	9887	15487	25375

- Capacity in pound per hour of steam at 10% over pressure. Valve Discharging to atmospheric pressure.
- * Capacities shown Here are indicative, for reference only, for detailed calculation ,please provide the complete process data sheet
- Conversation : 1 psig=0.069 bar / 1 bar = 1.02 kg/cm²



AIR

SAFETY RELIEF VALVES / PRESSURE SAFETY VALVE

DVFL - 42 Series Capacity Tables

Calculation according to API std, 520/ASME sec VIII Capacities at 10% over pressure scfm

Orifices sq.in	D 0.110	E 0.196	F 0.307	G 0.503	H 0.785	J 1.287	K 1.838	L 2.853	M 3.6	N 4.34	P 6.38	Q 11.05	R 16	T 26
Set pressure (psig)	Model no : DVFL-42													
10	52	92	145	237	370	606	866	1344	1696	2045	3006	5207	7540	12252
15	63	112	176	288	449	736	1051	1632	2059	2483	3650	6322	9153	14874
20	74	132	207	338	528	866	1237	1920	2423	2921	4293	7436	10767	17496
25	85	152	238	389	607	996	1422	2208	2786	3358	4937	8550	12380	20118
30	96	171	269	440	687	1126	1608	2495	3149	3796	5580	9665	13994	22740
35	107	191	299	491	766	1255	1793	2783	3512	4234	6224	10779	15608	25362
40	118	211	330	541	845	1385	1978	3071	3875	4671	6867	11893	17221	27984
45	129	231	361	592	924	1515	2164	3358	4238	5109	7510	13008	18835	30606
50	141	250	392	643	1003	1645	2349	3646	4601	5547	8154	14122	20448	33228
55	152	270	423	694	1082	1775	2534	3934	4964	5984	8797	15236	22062	35851
60	163	290	454	744	1162	1904	2720	4222	5327	6422	9441	16351	23675	38473
65	174	310	485	795	1241	2034	2905	4509	5690	6860	10084	17465	25289	41095
70	185	330	516	846	1320	2164	3090	4797	6053	7297	10727	18580	26903	43717
75	196	349	547	896	1399	2294	3276	5085	6416	7735	11371	19694	28516	46339
80	207	369	578	947	1478	2424	3461	5373	6779	8173	12014	20808	30130	48961
85	218	389	609	998	1557	2553	3647	5660	7142	8610	12658	21923	31743	51583
90	229	409	640	1049	1637	2683	3832	5948	7505	9048	13301	23037	33357	54205
95	240	428	671	1099	1716	2813	4017	6236	7868	9486	13944	24151	34970	56827
100	252	448	702	1150	1795	2943	4203	6523	8231	9923	14588	25266	36584	59449
110	274	488	764	1252	1953	3202	4573	7099	8958	10799	15875	27495	39811	64693
120	296	527	826	1353	2112	3462	4944	7674	9684	11674	17162	29723	43038	69937
130	318	567	888	1454	2270	3721	5315	8250	10410	12549	18448	31952	46265	75181
140	340	606	950	1556	2428	3981	5685	8825	11136	13425	19735	34181	49493	80425
150	362	646	1012	1657	2587	4241	6056	9401	11862	14300	21022	36410	52720	85669
160	385	685	1073	1759	2745	4500	6427	9976	12588	15176	22309	38638	55947	90914
180	429	764	1197	1962	3062	5019	7168	11127	14040	16926	24882	43096	62401	101402
200	473	843	1321	2165	3378	5539	7910	12278	15492	18677	27456	47553	68855	111890
220	518	923	1445	2368	3695	6058	8651	13429	16945	20428	30030	52011	75310	122378
240	562	1002	1569	2570	4012	6577	9393	14580	18397	22178	32603	56468	81764	132866
260	606	1081	1693	2773	4328	7096	10134	15730	19849	23929	35177	60926	88218	143355
280	651	1160	1817	2976	4645	7615	10875	16881	21301	25680	37751	65383	94672	153843
300	695	1239	1940	3179	4962	8134	11617	18032	22754	27431	40324	69841	101127	164331
320	740	1318	2064	3382	5278	8654	12358	19183	24206	29181	42898	74298		
340	784	1397	2188	3585	5595	9173	13100	20334	25658	30932	45472	78756		
360	828	1476	2312	3788	5912	9692	13841	21485	27110	32683	48045	83213		
380	873	1555	2436	3991	6228	10211	14583	22636	28562	34434	50619	87671		
400	917	1634	2560	4194	6545	10730	15324	23787	30015	36184	53192	92128		
420	961	1713	2683	4397	6862	11249	16066	24937	31467	37935	55766	96586		
440	1006	1792	2807	4600	7178	11769	16807	26088	32919	39686	58340	101043		
460	1050	1871	2931	4802	7495	12288	17548	27239	34371	41436	60913	105500		
480	1095	1950	3055	5005	7811	12807	18290	28390	35823	43187	63487	109958		
500	1139	2029	3179	5208	8128	13326	19031	29541	37276	44938	66061	114415		
520	1183	2109	3303	5411	8445	13845	19773	30692	38728	46689	68634	118873		
540	1228	2188	3426	5614	8761	14364	20514	31843	40180	48439	71208	123330		
560	1272	2267	3550	5817	9078	14884	21256	32994	41632	50190	73782	127788		
580	1316	2346	3674	6020	9395	15403	21997	34144	43084	51941	76355	132245		
600	1361	2425	3798	6223	9711	15922	22738	35295	44537	53691	78929	136703		
650	1472	2622	4108	6730	10503	17220	24592	38173	48167	58068	85363			
700	1583	2820	4417	7237	11295	18518	26446	41050	51798	62445	91797			
750	1694	3018	4727	7745	12086	19816	28299	43927	55428	66822	98231			
800	1805	3215	5036	8252	12878	21114	30153	46804	59059	71199	104665			
850	1916	3413	5346	8759	13670	22411	32006	49681	62689	75575	111099			
900	2026	3611	5656	9266	14461	23709	33860	52558	66320	79952	117534			
950	2137	3808	5965	9774	15253	25007	35714	55436	69950	84329	123968			
1000	2248	4006	6275	10281	16045	26305	37567	58313	73581	88706	130402			
1100	2470	4401	6894	11295	17628	28901	41274	64067	80842					
1200	2692	4797	7513	12310	19211	31497	44981	69822						
1300	2914	5192	8132	13324	20795	34093	48689	75576						
1400	3136	5587	8752	14339	22378	36688	52396	81330						
1500	3358	5983	9371	15354	23961	39284	56103	87085						
1600	3579	6378	9990	16368	25545	41880	59810							
1700	3801	6773	10609	17383	27128	44476	63517							
1800	4023	7169	11228	18397	28711	47072	67225							
1900	4245	7564	11848	19412	30295	49668	70932							
2000	4467	7959	12467	20426	31878	52263	74639							
2200	4911	8750	13705	22455	35044	57455	82053							
2400	5354	9541	14944	24484	38211	62647								
2600	5798	10331	16182	26513	41378	67838								
2800	6242	11122	17421	28542										
3000	6686	11913	18659	30572										
3200	7129	12703	19897	32601										
3400	7573	13494	21136	34630										
3600	8017	14284	22374	36659										
3800	8461	15075	23613											

- Capacity in standard cubic feet per minute of air at 14°C and 10% over pressure valve discharging to atmospheric pressure.
- * Capacities shown here are indicative, for reference only, for detailed calculation, please provide the complete process data sheet
- Conversion : 1 psig=0.069 bar / 1 bar = 1.02 kg/cm²



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STEAM

SAFETY RELIEF VALVES

DVFL - 42 Series Capacity Tables

Calculation according to API std, 520/ASME sec VIII, Capacities lb/hr at 10% over pressure

Orifices sq.in	D 0.110	E 0.196	F 0.307	G 0.503	H 0.785	J 1.287	K 1.838	L 2.853	M 3.6	N 4.34	P 6.38	Q 11.05	R 16	T 26
Set pressure (psig)	Model no : DVFL-42													
10	142	252	395	648	1011	1657	2367	3674	4636	5589	8216	14230	20605	33483
15	172	306	480	786	1227	2012	2874	4460	5628	6785	9975	17276	25014	40648
20	202	360	565	925	1444	2367	3380	5247	6620	7981	11733	20321	29424	47814
25	233	414	649	1064	1660	2721	3887	6033	7613	9177	13491	23366	33834	54980
30	263	468	734	1202	1876	3076	4393	6819	8605	10373	15249	26412	38243	62145
35	293	522	818	1341	2093	3431	4900	7606	9597	11570	17008	29457	42653	69311
40	324	577	903	1480	2309	3786	5406	8392	10589	12766	18766	32502	47062	76476
45	354	631	988	1618	2525	4140	5913	9178	11581	13962	20524	35548	51472	83642
50	384	685	1072	1757	2742	4495	6419	9964	12573	15158	22283	38593	55882	90808
55	415	739	1157	1895	2958	4850	6926	10751	13566	16354	24041	41639	60291	97973
60	445	793	1241	2034	3174	5204	7433	11537	14558	17550	25799	44684	64701	105139
65	475	847	1326	2173	3391	5559	7939	12323	15550	18746	27558	47729	69110	112304
70	505	901	1411	2311	3607	5914	8446	13110	16542	19942	29316	50775	73520	119470
75	536	955	1495	2450	3823	6268	8952	13896	17534	21138	31074	53820	77930	126636
80	566	1009	1580	2589	4040	6623	9459	14682	18526	22335	32833	56866	82339	133801
85	596	1063	1664	2727	4256	6978	9965	15468	19518	23531	34591	59911	86749	140967
90	627	1117	1749	2866	4472	7333	10472	16255	20511	24727	36349	62956	91158	148132
95	657	1171	1834	3004	4689	7687	10978	17041	21503	25923	38108	66002	95568	155298
100	687	1225	1918	3143	4905	8042	11485	17827	22495	27119	39866	69047	99978	162464
110	748	1333	2088	3420	5338	8751	12498	19400	24479	29511	43383	75138	108797	176795
120	809	1441	2257	3698	5771	9461	13511	20972	26464	31903	46899	81229	117616	191126
130	869	1549	2426	3975	6203	10170	14524	22545	28448	34296	50416	87319	126435	205457
140	930	1657	2595	4252	6636	10880	15537	24118	30432	36688	53933	93410	135254	219788
150	991	1765	2764	4529	7069	11589	16550	25690	32417	39080	57449	99501	144074	234120
160	1051	1873	2934	4807	7501	12298	17564	27263	34401	41472	60966	105592	152893	248451
180	1172	2089	3272	5361	8367	13717	19590	30408	38370	46257	67999	117773	170531	277113
200	1294	2305	3611	5916	9232	15136	21616	33553	42338	51041	75033	129955	188170	305775
220	1415	2521	3949	6470	10097	16555	23642	36698	46307	55825	82066	142136	205808	334438
240	1536	2737	4287	7025	10963	17973	25668	39843	50275	60610	89099	154318	223446	363100
260	1657	2953	4626	7579	11828	19392	27695	42988	54244	65394	96133	166499	241085	391763
280	1779	3169	4964	8134	12694	20811	29721	46134	58213	70179	103166	178681	258723	
300	1900	3385	5303	8688	13559	22230	31747	49279	62181	74963	110199	190862	276361	
320	2021	3601	5641	9243	14424	23649	33773	52424	66150	79747	117232	203044		
340	2143	3818	5980	9797	15290	25067	35799	55569	70119	84532	124266	215225		
360	2264	4034	6318	10352	16155	26486	37826	58714	74087	89316	131299	227407		
380	2385	4250	6656	10906	17021	27905	39852	61859	78056	94101	138332	239588		
400	2506	4466	6995	11461	17886	29324	41878	65004	82025	98885	145366	251770		
420	2628	4682	7333	12015	18751	30743	43904	68150	85993	103670	152399	263951		
440	2749	4898	7672	12570	19617	32161	45930	71295	89962	108454	159432	276133		
460	2870	5114	8010	13124	20482	33580	47957	74440	93930	113238	166466	288314		
480	2991	5330	8349	13679	21347	34999	49983	77585	97899	118023	173499	300496		
500	3113	5546	8687	14233	22213	36418	52009	80730	101868	122807	180532	312677		
520	3234	5762	9025	14788	23078	37836	54035	83875	105836	127592	187565	324859		
540	3355	5978	9364	15342	23944	39255	56062	87020	109805	132376	194599	337040		
560	3476	6194	9702	15897	24809	40674	58088	90166	113774	137160	201632	349222		
580	3598	6410	10041	16451	25674	42093	60114	93311	117742	141945	208665	361403		
600	3719	6626	10379	17006	26540	43512	62140	96456	121711	146729	215699	373585		
650	4022	7167	11225	18392	28703	47059	67206	104319	131632	158690	233282			
700	4325	7707	12071	19778	30867	50606	72271	112182	141554	170651	250865			
750	4628	8247	12918	21165	33030	54153	77337	120044	151476	182612	268449			
800	4932	8787	13764	22551	35194	57700	82402	127907	161397	194573	286032			
850	5235	9327	14610	23937	37357	61246	87468	135770	171319	206534	303615			
900	5538	9868	15456	25323	39520	64793	92533	143633	181240	218495	321198			
950	5841	10408	16302	26710	41684	68340	97599	151496	191162	230456	338782			
1000	6144	10948	17148	28096	43847	71887	102664	159359	201084	242417	356365			
1100	6751	12028	18840	30868	48174	78981	112795	175084	220927					
1200	7357	13109	20532	33641	52501	86075	122926	190810						
1300	7963	14189	22225	36413	56828	93169	133057	206536						
1400	8569	15269	23917	39186	61155	100263	143189	222262						
1500	9176	16350	25609	41959	65482	107357	153320	237987						
1600	9782	17430	27301	44731	69809	114451	163451							
1700	10388	18510	28993	47504	74136	121545	173582							
1800	10995	19591	30685	50276	78463	128639	183713							
1900	11601	20671	32378	53049	82790	135733	193844							
2000	12207	21751	34070	55821	87117	142827	203975							
2200	13420	23912	37454	61366	95770	157015	224237							
2400	14633	26073	40839	66911	104424	171203								
2600	15845	28234	44223	72456	113078	185390								
2800	17058	30394	47607	78001										

- Capacity in pound per hour of steam at 10% over pressure. Valve Discharging to atmospheric pressure
- * Capacities shown hear are indicative, for reference only, for detailed calculation, please provide the complete process data sheet
- Conversation : 1 psig=0.069 bar / 1 bar = 1.02 kg/cm²



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WATER

SAFETY RELIEF VALVES

DVFL - 42 Series Capacity Tables
Capacities in US GPM at 10% over pressure

Orifices sq.in	D 0.110	E 0.196	F 0.307	G 0.503	H 0.785	J 1.287	K 1.838	L 2.853	M 3.6	N 4.34	P 6.38	Q 11.05	R 16	T 26
Set pressure (psig)	Model no : DVFL-42													
5	6.9	12.3	19.3	31.6	49.3	80.9	115	179	226	273	401	695	1006	1635
10	9.7	17.4	27.3	44.7	69.8	114	163	253	320	386	567	983	1423	2313
15	11.9	21.3	33.4	54.8	85.5	140	200	310	392	472	695	1204	1743	2833
20	13.8	24.6	38.6	63.3	98.7	161	231	359	453	546	802	1390	2013	3271
40	19.5	34.8	54.6	89.5	139	229	327	507	640	772	1135	1966	2847	4627
60	23.9	42.7	66.9	109	171	280	400	621	784	945	1390	2408	3487	5667
80	27.6	49.3	77.2	126	197	323	462	718	906	1092	1605	2781	4027	6543
100	30.9	55.1	86.3	141	220	362	517	802	1013	1221	1795	3109	4502	7316
120	33.9	60.4	94.6	155	241	396	566	879	1109	1337	1966	3406	4932	8014
140	36.6	65.2	102	167	261	428	611	949	1198	1445	2124	3679	5327	8656
160	39.1	69.7	109	179	279	458	654	1015	1281	1544	2270	3933	5695	9254
180	41.5	73.9	115	189	296	485	693	1077	1359	1638	2408	4171	6040	9815
200	43.7	78	122	200	312	512	731	1135	1432	1727	2538	4397	6367	10346
220	45.9	81.8	128	209	327	537	767	1190	1502	1811	2662	4612	6678	10851
240	47.9	85.4	133	219	342	561	801	1243	1569	1891	2781	4817	6975	11334
260	49.9	88.9	139	228	356	583	833	1294	1633	1969	2894	5013	7259	11797
280	51.7	92.2	144	236	369	606	865	1343	1695	2043	3004	5203	7533	12242
300	53.6	95.5	149	245	382	627	895	1390	1754	2115	3109	5385	7798	12672
320	55.3	98.5	154	253	395	647	925	1436	1812	2184	3211	5562	8054	13087
340	57	101	159	260	407	667	953	1480	1867	2251	3310	5733		
360	58.7	104	163	268	419	687	981	1523	1922	2317	3406	5899		
380	60.3	107	168	275	430	705	1008	1565	1974	2380	3499	6060		
400	61.9	110	172	283	441	724	1034	1605	2026	2442	3590	6218		
420	63.4	113	177	290	452	742	1059	1645	2076	2502	3679	6372		
440	64.9	115	181	296	463	759	1084	1684	2124	2561	3765	6522		
460	66.3	118	185	303	473	776	1109	1721	2172	2619	3850	6669		
480	67.8	120	189	310	483	793	1133	1758	2219	2675	3933	6812		
500	69.2	123	193	316	493	809	1156	1795	2265	2730	4014	6952		
520	70.5	125	196	322	503	825	1179	1830	2310	2784	4093	7090		
540	71.9	128	200	328	513	841	1201	1865	2354	2837	4171	7225		
560	73.2	130	204	334	522	857	1223	1899	2397	2890	4248	7358		
580	74.5	132	208	340	531	872	1245	1933	2439	2941	4323	7488		
600	75.8	135	211	346	541	887	1266	1966	2481	2991	4397	7616		
620	77	137	215	352	550	901	1287	1999	2522	3040	4470	7742		
640	78.3	139	218	358	558	916	1308	2031	2562	3089	4541	7866		
660	79.5	141	221	363	567	930	1328	2062	2602	3137	4612	7988		
680	80.7	143	225	369	576	944	1348	2093	2641	3184	4681			
700	81.8	145	228	374	584	958	1368	2124	2680	3231	4750			
720	83	147	231	379	592	971	1387	2154	2718	3277	4817			
740	84.2	150	235	385	600	985	1406	2183	2755	3322	4883			
760	85.3	152	238	390	608	998	1425	2213	2792	3366	4949			
780	86.4	154	241	395	616	1011	1444	2242	2829	3410	5014			
800	87.5	156	244	400	624	1024	1462	2270	2865	3454	5077			
820	88.6	157	247	405	632	1037	1481	2298	2900	3497	5141			
840	89.7	159	250	410	640	1049	1499	2326	2926	3539	5203			
860	90.7	161	253	415	647	1062	1516	2354	2970	3581	5264			
880	91.8	163	256	419	655	1074	1534	2381	3005	3622	5325			
900	92.8	165	259	424	662	1086	1551	2408	3039	3663	5385			
920	93.8	167	262	429	670	1098	1568	2435	3072	3704	5445			
940	94.9	169	264	433	677	1110	1585	2461	3105	3744	5504			
960	95.9	170	267	438	684	1122	1602	2487	3138	3783	5562			
980	96.9	172	270	443	691	1133	1619	2513	3171	3823	5620			
1000	97.8	174	273	447	698	1145	1635	2538	3203	3862	5677			
1100	102	182	286	469	732	1201	1715	2662	3359	4050	5954			
1200	107	191	299	490	765	1254	1791	2781	3509					
1300	111	198	311	510	796	1305	1864	2894						
1400	115	206	323	529	826	1355	1935	3003						
1500	119	213	334	548	855	1402	2003	3109						
1600	123	220	345	566	883	1448	2068	3211						
1700	127	227	356	583	910	1493	2132							
1800	121	234	366	600	937	1536	2194							
1900	134	240	376	616	962	1578	2254							
2000	138	246	386	633	987	1619	2313							
2100	141	252	395	648	1012	1659	2370							
2200	145	258	405	663	1036	1698	2425							
2300	148	264	414	678	1059	1736	2480							
2400	151	270	423	693	1082	1774	2533							
2500	154	275	431	707	1104	1810								

- Capacity in pound per hour of steam at 10% over pressure. Valve Discharging to atmospheric pressure
- * Capacities shown hear are indicative, for reference only, for detailed calculation, please provide the complete process data sheet
- Conversation : 1 psig=0.069 bar / 1 bar = 1.02 kg/cm²



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SATURATED STEAM SAFETY RELIEF VALVES

DVFL - 42 Series Capacity Tables

Calculation according to API rp - 520/ASME, Capacities kg/hr at 10% over pressure

Orifices cm ²	D 0.710	E 1.265	F 1.980	G 3.245	H 5.065	J 8.300	K 11.860	L 18.410	M 23.225	N 28.000	P 41.160	Q 71.200	R 103.200	T 168.000
Set pressure (barg)	Model no : DVFL-42													
1	80	140	210	350	550	900	1280	1990	2510	3020	4450	7690	11.14	18130
1.5	100	170	270	440	690	1130	1610	2500	3160	3810	5600	9690	14.04	22850
2	120	210	320	530	830	1360	1950	3020	3810	4600	6760	11690	16.94	27570
2.5	140	240	380	620	970	1600	2280	3540	4460	5380	7920	13690	19.84	32290
3	160	280	440	710	1110	1830	2610	4060	5120	6170	9080	15690	22.74	37010
3.5	180	310	490	800	1260	2060	2950	4570	5770	6960	10230	17690	25.64	41730
4	200	350	550	900	1400	2300	3280	5090	6420	7740	11390	19690	28.54	51170
4.5	220	380	600	990	1540	2530	3610	5610	7070	8530	12550	21690	31.44	51170
5	240	420	660	1080	1680	2760	3950	6130	7730	9320	13710	23690	34.34	55890
5.5	260	450	710	1170	1830	2990	4280	6640	8380	1010	14860	25690	37.23	60610
6	2800	490	770	1260	1970	3230	4610	7160	9030	10890	16020	27690	40.13	65330
6.5	300	530	830	1350	2110	3460	4950	7680	9680	11680	17180	29690	43.03	70050
7	320	560	880	1440	2250	3690	5280	8190	10330	12460	18340	31690	45.93	74770
8	360	630	990	1620	2540	4160	5950	9230	11640	14400	20650	35690	51.73	84210
8.5	380	670	1050	1720	2680	4390	6280	9750	12290	14820	21810	37690	54.63	88930
9	400	700	1100	1810	2820	4630	6610	10260	12940	15640	22970	39690	57.53	93650
9.5	420	740	1160	1900	2960	4860	6940	10780	13600	16400	24130	41690	60.43	98370
10	440	770	1220	1990	3110	5090	7280	11300	14250	17180	25280	43690	63.33	103090
11	480	840	1330	2170	3390	5560	7940	12330	15550	18760	27600	47690	69.13	
12	520	910	1440	2350	3670	6030	8610	13370	16860	20330	29910	51690	74.93	
13	560	990	1550	2530	3960	6490	9280	14400	18160	21900	32230	55700	80.73	
14	600	1060	1660	2720	4240	6960	9940	15440	19470	23480	34540	59700	86.53	
15	640	1130	1770	2900	4530	7430	10610	16470	20770	25050	36860	63700	92.32	
16	680	1200	1880	3080	4810	7890	11280	17500	22080	26620	39170	67700	98.12	
18	750	1340	2100	3440	5380	8820	12610	19570	24690	29770	43800	75700	109.72	
20	830	1480	2300	3810	5950	9760	13940	21640	27300	32920	48430	83700		
22	910	1620	2550	4170	6520	10690	15280	23710	29910	36060	53060	91700		
24	990	1760	2770	4540	7090	11620	16610	25780	32520	39210	57690	99700		
26	1070	1910	3000	4900	7650	12560	17940	27850	35130	42360	62320	107710		
28	1150	2050	3220	5270	8220	13490	19270	29920	37730	45500	66950			
30	1230	2190	3400	5630	8790	14420	20610	31990	40340	48650	71580			
32	1310	2330	3600	5990	9360	15350	21940	34060	42950	51800	76210			
34	1390	2470	3890	6360	9930	16290	23270	36130	45560	54940	80840			
36	1470	2610	4110	6720	10500	17220	24610	38190	48170	58090	85470			
38	1550	2760	4330	7090	11070	18150	25940	40260	50780	61240	90110			
40	1630	2900	4550	7450	11630	19090	27270	42330	53390	64380	94740			
42	1710	3040	4780	780	12200	20020	28600	44400	56000	67530	99370			
44	1790	3180	5000	8180	12700	20950	29940	46470	58610	70680	104000			
46	1870	3320	5220	8540	13340	21880	31270	48540	61220	73820	108630			
48	1950	3460	5440	8910	13910	22820	32600	50610	63830	76970				
50	2030	3610	5670	9270	14480	23750	33940	52680	66440	80120				
52	2110	3750	5890	9630	15050	24680	35700	54750	69050	83260				
54	2190	3890	6110	10000	15620	25610	36600	56810	71600	86410				
56	2270	4030	6330	10360	16180	26550	37930	58880	74270	89560				
58	2350	4170	6560	10730	16750	27480	39270	60950	76880	92700				
60	2430	4310	6780	11090	17320	28410	40600	63020	79490	95850				
65	2630	4670	7330	12000	18740	30740	43930	68190	86010	103720				
70	2830	5020	7890	12900	20160	33080	47260	73370	92530					
75	3030	5380	8450	13820	21590	35410	50600	78540	99060					
80	3230	5730	9000	14730	23010	37740	53930	83710						
85	3430	6080	9560	15640	24430	40070	57260	88880						
90	3630	6440	10120	16500	25850	42400	60590	94060						
95	3830	6790	10670	17460	27270	44740	63920	99230						
100	4030	7150	11230	18370	28690	47070	67260	104400						
110	4430	7850	12340	20190	31540	51730	73920							
120	4820	8560	13450	22010	34380	56400	80590							
130	5220	9270	14570	23840	37220	61060	87250							
140	5620	9980	15680	25660	40070	65720	93910							
150	6020	10690	16780	27480	42910	70390	100580							
160	6420	11390	17900	29300	45750	75050								
170	6820	12100	19020	31120	48600	79520								
180	7200	12800	20130	32940	51400	84380								
190	7620	13520	21240	34760	54280	89040								
200	8020	14230	22350	36580										

- Capacity in kg per hour of steam at 10% over pressure. Valve Discharging to atmospheric pressure
- * Capacities shown hear are indicative, for reference only, for detailed calculation, please provide the complete process data sheet
- Conversation : 1 bar = 1.02 kg/cm² / 1 bar = 14.504 psig



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OTHER PRODUCTS...

BRETHHER VALVE



SAFETY VALVE



BALL VALVE

150# - 300# - 600#



POSRV



DEAD WIGHT RELIEF VALVE



FORGED STEEL VALVES

150# to 1500#



GATE VALVE

150# - 300# - 600#



GLOBE VALVE

150# - 300# - 600#



BUTTERFLY VALVE

PN 10 - PN 16



**LOW PRESSURE
SAFETY VALVE**



SAFETY RELIEF VALVE

Screwed & Flange end



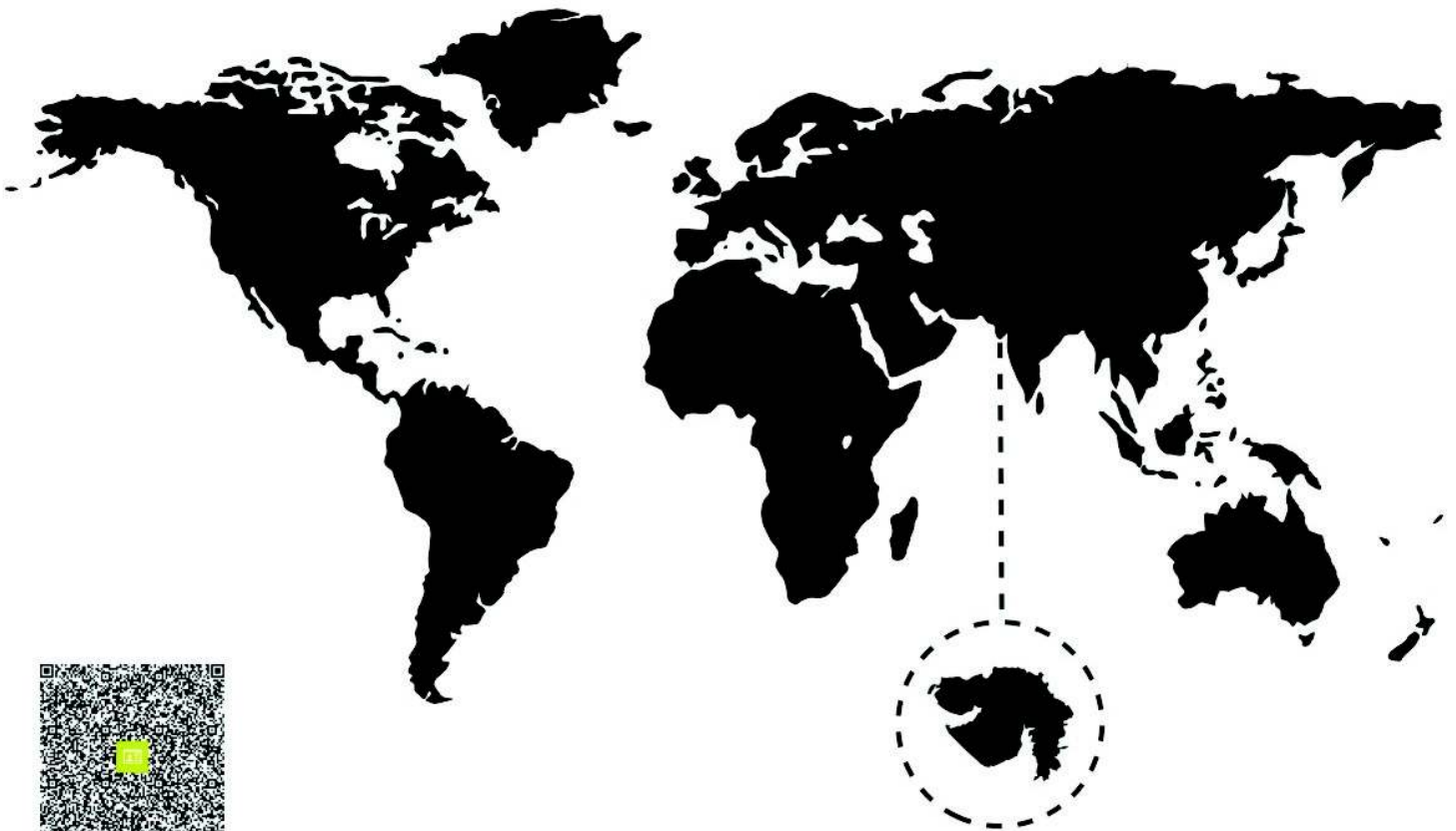
RELIEF VALVE

6" to 18"





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