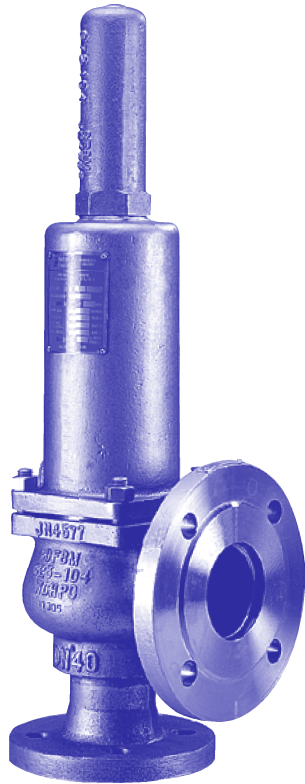


# 746 Safety Relief Valve



## DESIGN

The 746 Safety Relief Valve incorporates a freely pivoting disc, which ensures correct alignment with the nozzle. The combination of top guiding, unobstructed seat bore and full lift capability ensures the highest possible discharge rate thus maximum plant protection.

Due to the large flows available the inlet pipework must be sized to give a maximum inlet pressure drop of 3%

The 746 safety relief valve is available in both conventional and balanced bellows types, and features a special disc style for liquid application, which enhances valve performance.

The 'conventional' arrangement is suitable for applications where the built up pressure will not exceed 5%. The conventional valve can also be used in systems where the superimposed backpressure is at a constant level (up to 80%).

The 'balanced bellows' arrangement is for applications where several safety relief valves discharge into a common discharge manifold, or in any circumstances where a variable back pressure can occur, up to a maximum of 40%.

## TECHNICAL SPECIFICATION

### Approvals

BS6759 Pt 1, 2, & 3  
ASME VIII  
TUV-AD Merkblatt A2  
PED certified Category IV

### Materials

Body - Carbon St. gr WCB (-29 to 427°C)  
- Stainless St. gr CF8M (-46 to 427°C)  
Trim - Stainless Steel (-46 to 427°C)  
- Viton (-29 to 200°C)  
- PTFE (-46 to 220°C)  
- EPDM - Hot Water (-29 to 150°C)

### Size Range

Size	Orifice mm <sup>2</sup>	Min (Barg) Pressure**	Max (Barg) Pressure*
DN25 (1")	415	0.35	40
DN32 (1¼")	660	0.35	40
DN40 (1½")	1075	0.35	40
DN50 (2")	1662	0.35	40
DN65 (2½")	2827	0.35	35
DN80 (3")	4301	0.35	32
DN100 (4")	6648	0.35	25

\*Maximum pressure stated is reduced over 120°C

\*\* Minimum pressure is greater than stated for bellows valves

### Performance

	BS6759 Kdr	ASME VIII Kdr	Over pressure	Blow down
Steam	0.7	0.738	5%	15%*
Hot water	0.7	—	5%	15%*
Air / Gas	0.7	0.738	10%	10%*
Liquid	0.46	0.482	10%	20%†

\*or 0.3 Barg min †or 0.6 Barg min

### Performance (ASME)

	Kdr	Over pressure
Steam	0.82	10%
Air / Gas	0.82	10%
Liquids	0.535	10%

### Maximum Back Pressure

Barg	16
Constant	80%
Built-up	5%
Variable	40% (when bellows fitted)

(Total % must not exceed Barg shown)

### Connections

Flanged In x Flanged Out

### Construction

Top Guided / Full Lift

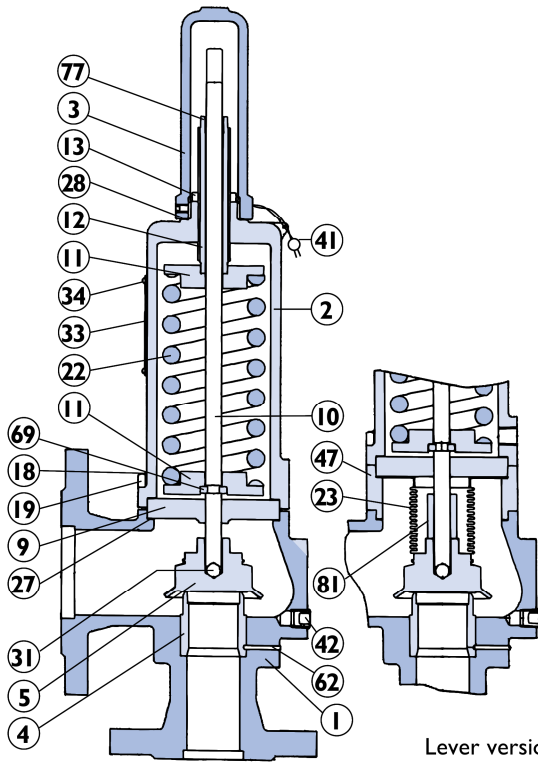
### Cap Options

Pressure tight dome  
Packed lever  
Open lever

### Sizing

Refer to Capacity Charts

## PARTS



Lever versions are available.

ITEM	PART	MATERIALS	
		Carbon Steel	St.St
1	Body	Carbon St	St.St
2	Bonnet	Carbon St.	St.St
3	Cap	Carbon St.	St.St
4	Seat	St.St	St.St
5*	Disc#	St.St	St.St
9	Guide Plate	St.St	St.St
10 (H)	Spindle	St.St	St.St
11	Spring Plate	St.St	St.St
12	Adjusting Screw	St.St	St.St
13	Locknut	St.St	St.St
18 (H)	Body Stud	Carbon St	St.St
19	Body Nut	Carbon St	St.St
22 (H)	Spring**	C.V	St.St
23 (B)*	Bellows Unit	St.St	St.St
27*	Body/Bonnet Gasket	Garlock	Garlock
28*	Cap Gasket	Garlock	Garlock
31*	Ball	St.St	St.St
33	Nameplate	St.St	St.St
34	Nameplate Pin	Carbon St	St.St
41	Warranty Seal	Lead/wire	Lead/wire
42	Drain Plug	Carbon St	St.St
47(BH)	Spacing Piece	St.St	St.St
62	Seat Pin	St.St	St.St
69	Split Collar	St.St	St.St
77	Adjusting Screw Bush	PTFE	PTFE
81(B)	Lift Stop	St.St	St.St

Note:

B - Denotes used on Bellows type valves.

H - High Pressure type valves; and spacer and larger studs, spring and spindle.

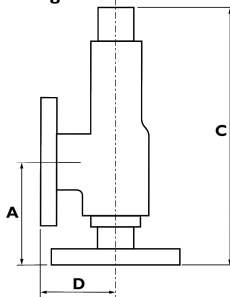
# Resilient trims are available.

\* Recommended spares.

\*\* Other spring material options are available dependent on duty.

## DIMENSIONS

Flanged x Flanged



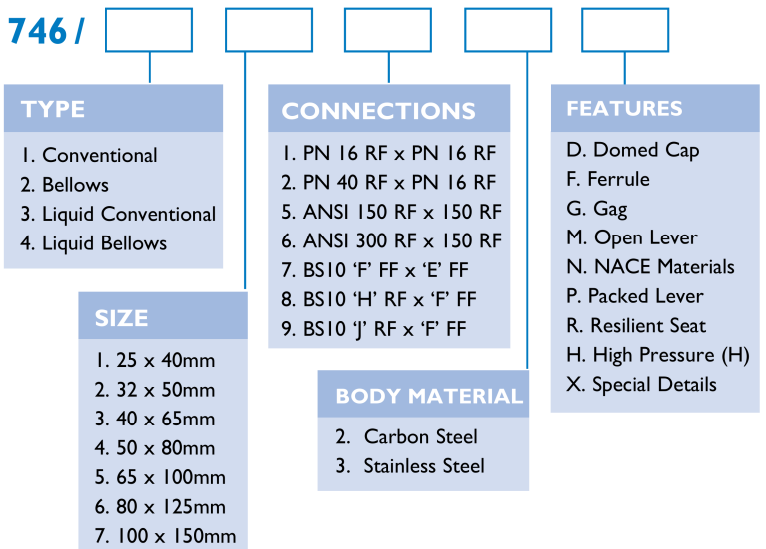
Valve Type	Valve Size	Inlet	Outlet	'C' A	'C' Dome	'C' Lever	'C' Bellows	Weight (kg)
Flanged	DN25	1"	1 1/2"	105	410	410	445	100 8.5
	DN32	1 1/4"	2"	115	455	455	490	110 14.0
	DN40	1 1/2"	2 1/2"	140	570	570	605	115 20.0
	DN50	2"	3"	150	615	615	665	120 30.0
	DN65	2 1/2"	4"	170	725	725	785	140 42.5
	DN80	3"	5"	195	825/925H	825/925H	865/965H	160 64.5
	DN100	4"	6"	220	925/1030H	925/1030H	955/1060H	180 86.0

Flange sizes listed are for:  
Cast Steel Flanges PN 40x16  
Others available on request.

All dimensions in mm

## FIGURE NUMBERING

746/



Notes:

A. Any special requirements will be indicated by the letter X which will be agreed with the sales office. For example, paint specification or spring material.

B. Any combination of features can be called up eg. DG, PR, DFRN etc.

C. (H) for '746' 80 and 100mm valves only.