

PRESSURE RELIEF VALVES

For Oil Filled Distribution Transformer



VIAT

INSTRUMENTS

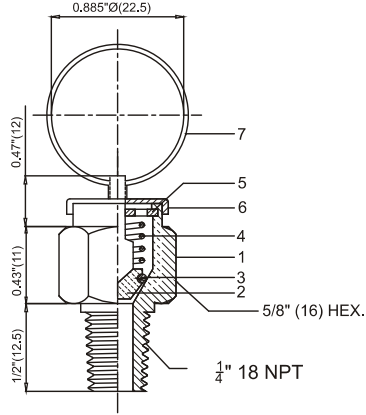
VI-02 (R0)



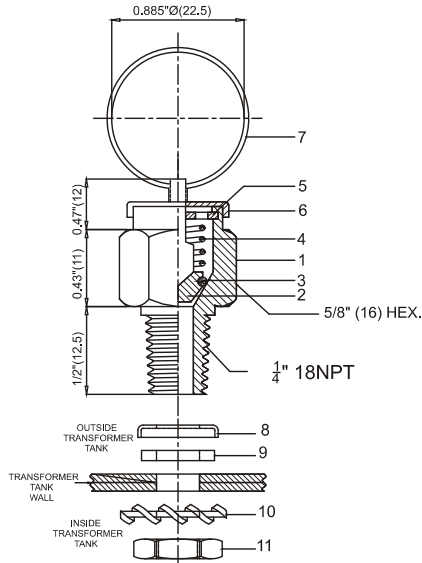
PRESSURE RELIEF VALVES 301-3 SERIES

Flow Rate : > 35 SCFM at 15 PSIG | Indicator : None | Size : 1/4" NPT/BSP

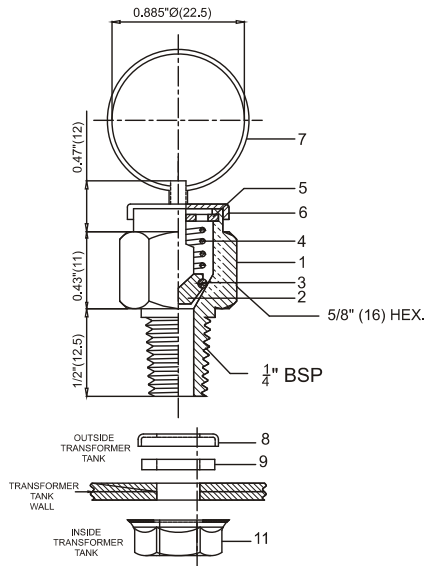
301-1 Series
1/4" NPT Without accessories



301-3 Series
1/4" NPT With accessories



301-2 Series
1/4" BSP With accessories



FEATURES

- Factory preset pressure for automatic venting and resealing.
- All brass and stainless steel construction.
- Viton 'O' ring for long trouble free service.
- Stainless steel pull ring for manual bleeding.
- Meets or exceeds ANSI and REA standards.
- Rugged design provides trouble free over pressure protection.
- Each unit individually tested for cracking and resealing.

Specifications

Series	Model No.	Cracking Pressure		Resealing Pressure		Discharge Rate at 15 PSIG
		PSIG	KPA	PSIG	KPA	
301.1	301-010-02N	5±2	34.5±14	3±2	20.7±14	>35 SCFM
	301-010-04N	8±2	55±14	6±2	41.4±14	>35 SCFM
	301-010-01N	10±2	69±14	8±2	55±14	>35 SCFM
	301-010-03N	15±2	103.5±14	13±2	89.7±14	>35 SCFM
301.2	301-010-05N	8±2	55±14	6±2	41.4±14	>35 SCFM
301.3	301-010-01N	10±2	69±14	8±2	55±14	>35 SCFM
	301-010-04N	8±2	55±14	6±2	41.4±14	>35 SCFM

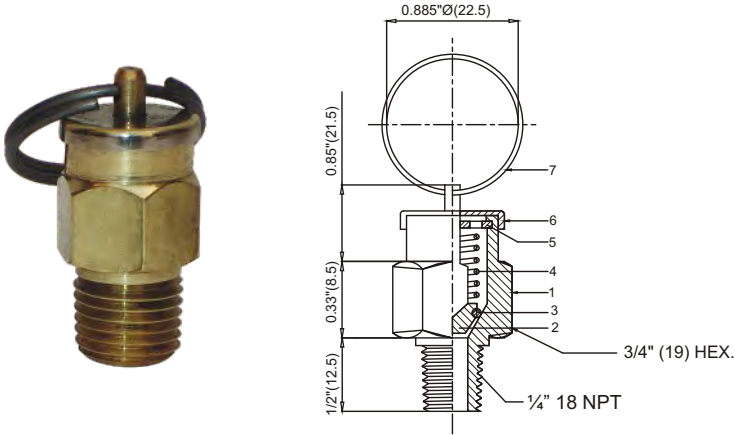
Materials

Part No.	Descriptions	301.1	301.2/301.3
01.	Body	Brass	Brass
02.	Poppet	Brass	Brass
03.	"O" Ring Seal	Viton	Viton
04.	Spring	SS	SS
05.	Guide	SS	SS
06.	Bug Out Disk	Brass	Brass
07.	Pull Ring	SS	SS
08.	Mounting Cup	-	Brass
09.	Mounting Washer	-	NBR
10.	Serotted Washer	-	MS
11.	Nut	-	MS

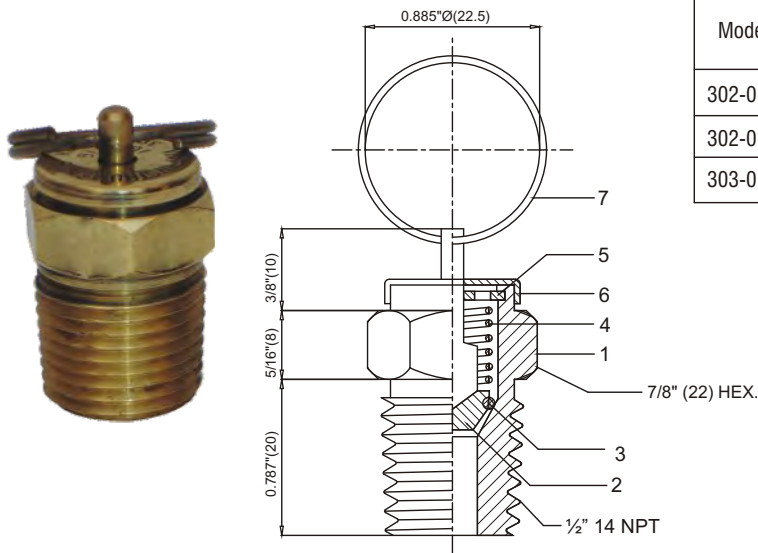
PRESSURE RELIEF VALVES 301-3 SERIES

Flow Rate : 50/60 SCFM | Indicator : None | Size : 1/4" & 1/2" NPT

Model No- 302-010-01N



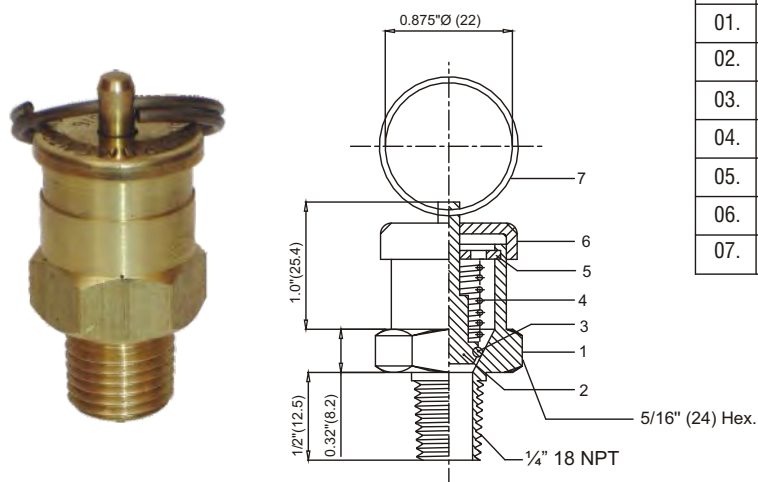
Model No- 302-010-02N



Specifications

Model No.	Cracking Pressure		Resealing Pressure		Discharge Rate at 15 PSIG	Thread Size
	PSIG	KPA	PSIG	KPA		
302-010-01N	10±2	69±14	8±2	55±14	>50 SCFM	1/4" 18 NPT
302-010-02N	10±2	69±14	8±2	55±14	>50 SCFM	1/2" 14 NPT
303-010-01N	10±2	69±14	8±2	55±14	>60 SCFM	1/4" 18 NPT

Model No- 303-010-01N



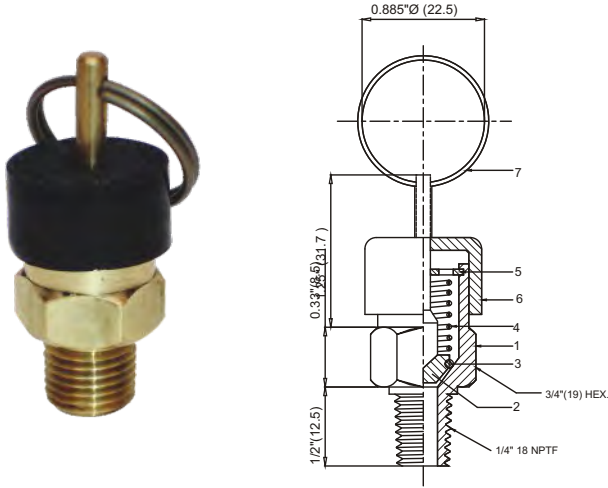
Materials

Part No.	Descriptions	Material
01.	Body	Brass
02.	Poppet	Brass
03.	"O" Ring Seal	Viton
04.	Spring	SS
05.	Guide	SS
06.	Bug Out Disk	Brass
07.	Pull Ring	SS

PRESSURE RELIEF VALVES 301-3 SERIES

Flow Rate : 50 SCFM At 15 PSIG | Indicator : Yes | Size : 1/4" NPT

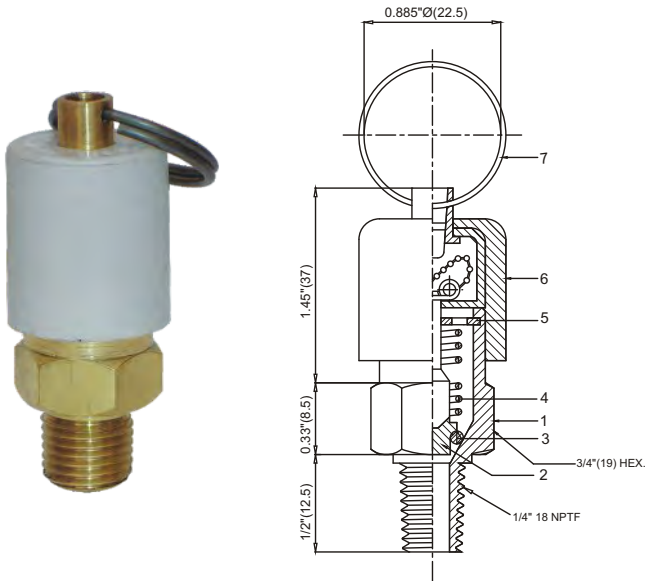
Model No- 302-020-011



Specifications

Model No.	Cracking Pressure		Resealing Pressure		Discharge Rate at 15 PSIG	Indicator
	PSIG	KPA	PSIG	KPA		
302-020-011	10±2	69±14	8±2	55±14	>50 SCFM	Red Band
302-030-011	10±2	69±14	8±2	55±14	>50 SCFM	Red Disc

Model No- 302-030-011



Materials

Part No.	Descriptions	302-020-011	302-030-011
01.	Body	Brass	Brass
02.	Poppet	Brass	Brass
03.	"O" Ring Seal	Viton	Viton
04.	Spring	SS	SS
05.	Guide	SS	SS
06.	Indicator Cap	PVC	PVC
07.	Pull Ring	SS	SS

Construction

The 301 to 303 series pressure relief valves comprise of single piece brass body housing the complete assembly.

The stainless steel spring is factory selected to the desired rating and compressed to a pre-determined level. One end of the spring being fixed, the other end forces the brass poppet against the body. A Viton "O" ring between the poppet and body ensures leak proof sealing. The valve also features a cap which covers the exhaust port to prevent ingress of insects, dirt or external element. In indicating models the cap moves along the poppet/ falls down and hangs with a chain thus exposing a red indicator when valve operates.

A stainless steel pull ring allows for manual operations of the valve.

Installation

The NPT thread has to be prepped with few layers of teflon tape, sealant to ensure leak proof installation. For 301.2 and 301.3 series, permanent thread seal must be used on the nut.

Operation

The operation of the valve is automatic. When the fluid pressure in the tank exceeds the specified limit, the valve opens and releases the pressure. When pressure falls to safe valve, the valve reseals itself.

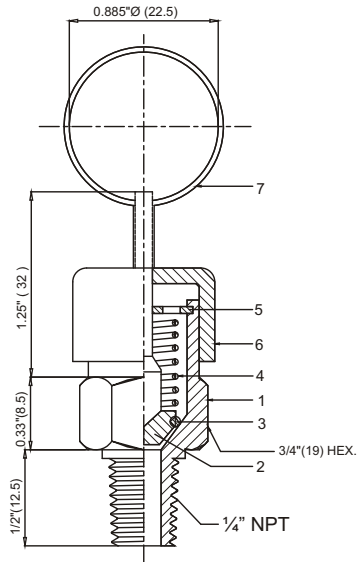
Maintenance

Under the standard operating conditions these valves do not require any maintenance.

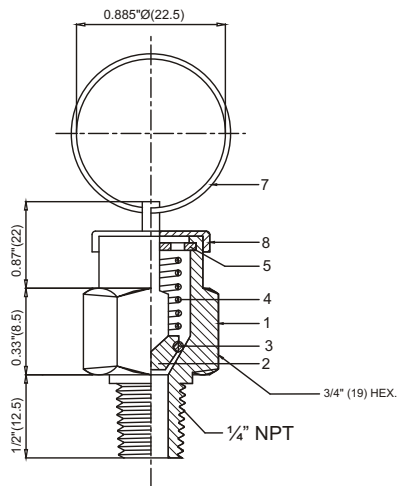
KRYTOX LUBRICATED FOR TRANSFORMERS USING FR3 OIL

Size : 1/4" NPT Thread

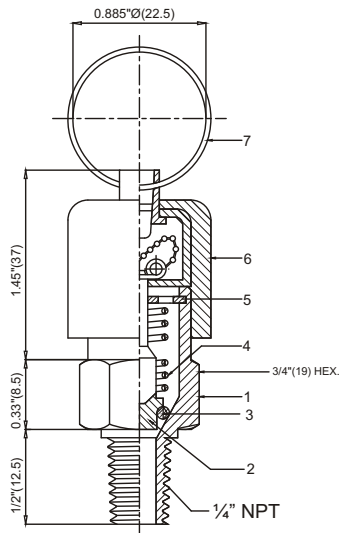
Series- 302.5



Series- 302.6



Series- 302.7



FEATURES

- Every valve individually lubricated with Krytox grease for easy operation and resealing in FR3 oil.
- Indicating and non indicating model.
- All moving parts lubricated with krytox grease.
- Factory preset pressure for automatic venting and resealing.
- All brass and stainless steel construction for use in extreme outdoor conditions.
- Viton "O" ring for long trouble free service.
- Stainless steel pull ring for manual bleeding on all models.
- Device meets or exceeds REA and ANSI standard for distribution transformers.
- Approved and meets all specifications of manufacturer of FR3 oil.

Specifications

Series	Model No.	Cracking Pressure	Resealing Pressure	Indicator	Discharge Rate at 15 PSIG
		PSIG	PSIG		
302.5	302-050-011	5±2	3±2	Red Band	>50 SCFM
	302-070-011	10±2	8±2	Red Disk	>50 SCFM
302.6	302-040-01N	5±2	3±2	None	>50 SCFM
	302-060-01N	10±2	8±2	None	>50 SCFM
302.7	302-080-011	10±2	8±2	Red Disk	>50 SCFM

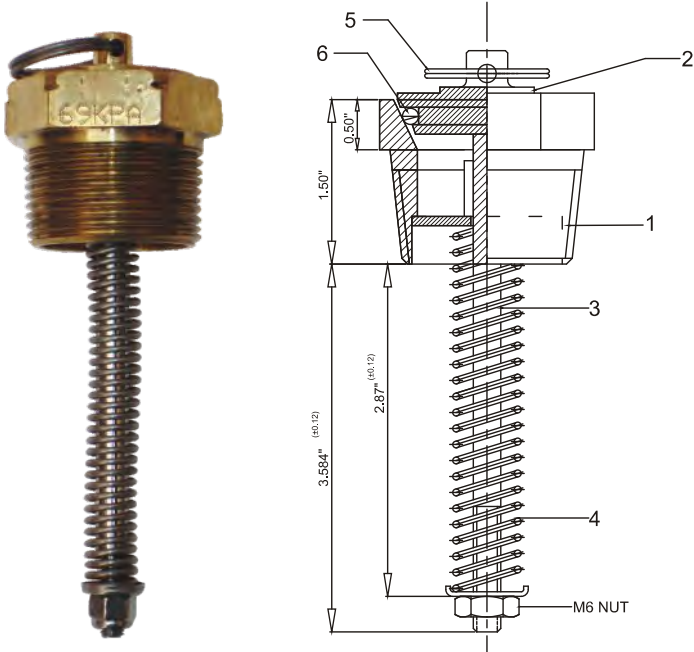
Materials

Part No.	Descriptions	302.5 / 302.7	302.6
01.	Body	Brass	Brass
02.	Poppet	Brass	Brass
03.	"O" Ring Seal	Viton	Viton
04.	Spring	SS	SS
05.	Guide	SS	SS
06.	Indicator Cap	PVC (Green)	-
07.	Pull Ring	SS	SS
08.	Bug Out Disk	-	Brass (Green)

HIGH FLOW PRESSURE RELIEF VALVE

Flow Rate : 200 SCFM At 15 PSIG | Size : 1.25" - 11.5 NPT

310 Series



FEATURES

- All forged brass, stainless steel components for use in extreme outdoor conditions.
- Viton 'O' Ring for long trouble free service.
- Operating pressure standard range available 5.8 psi and 10 psi.
- Flow rate upto 200 scfm @ 15 psig.
- 100% valve tested for operating pressure and resealing.
- Operating pressure options from 2 to 10 psi for special application.

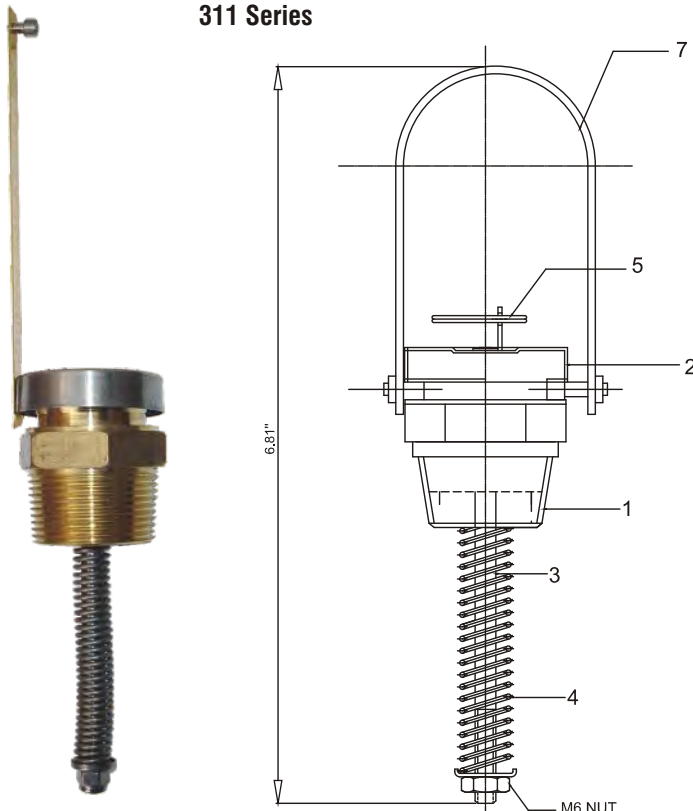
Specifications

SERIES	MODEL NO.	OPERATING PRESSURE IN psig	OPERATING PRESSURE IN KPA	INDICATOR
310	310-1	10±2	69±14	NO
	310-2	5.8±1	40±7	NO
311	311-1	10±2	69±14	YES
	311-2	5.8±1	40±7	YES

Materials

PART NO.	DESCRIPTION	310	311
01.	Body	Brass	Brass
02.	Shutter	Brass	SS
03.	Shaft	SS	SS
04.	Spring	SS	SS
05.	Pull Ring	SS	SS
06.	'O' Ring Seal	Viton	Viton
07.	Yellow Flag	N.A	Powder Coated Spring Steel

311 Series



Construction

The Pressure Relief Valve consists of a Extruded Brass body suitable for 1.25"-11.5 NPT thread mounting on the transformer tank. The valve shutter is spring loaded using shaft and lock nuts and seals against the body with Viton "O" Ring.

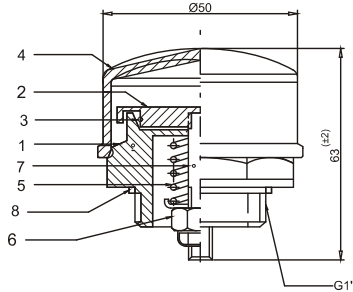
Working Principle

When pressure in the tank rises beyond the preset limit, the shutter moves up with the "O" Ring, thus releasing the excess pressure. When the pressure falls to allowable values, the spring forces the shutter back to its position.

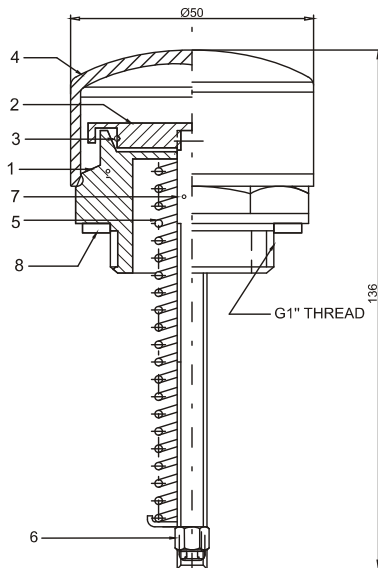
PRESSURE RELIEF VALVES

Size: G1" & G2" to ISO 228 (BSP Thread)

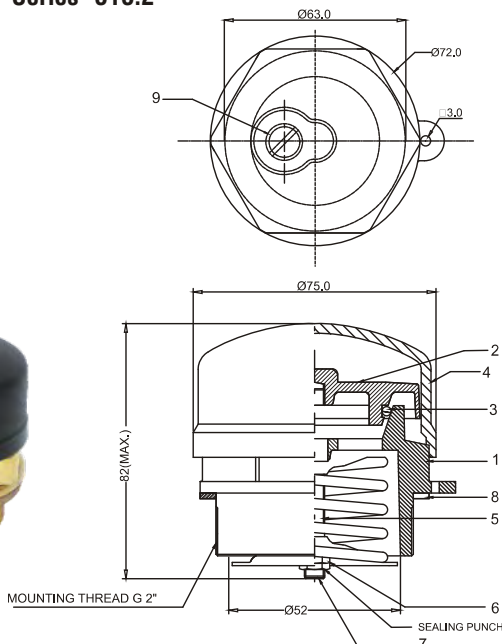
Series- 308.1



Series- 309.1



Series- 313.2



FEATURES

- All forged brass, stainless steel components for use in extreme outdoor conditions.
- Viton 'O' Ring for long trouble free service.
- Operating pressure range available from 20 Kpa to 70 Kpa (0.2 to 0.7 bar)
- Thread size G1" & G2" to ISO 228.
- Valve supplied with mounting gasket.
- 100% valve tested for operating pressure.
- Additional protection cap to prevent ingress of dust, insects.

Specifications

SERIES NO.			OPERATING PRESSURE
308.1	309.1	313.2	KPA
308-20	309-20	313-20	20
308-25	309-25	313-25	25
308-30	309-30	313-30	30
308-35	309-35	313-35	35
308-40	309-40	313-40	40
308-45	309-45	313-45	45
308-50	309-50	313-50	50
308-70	309-70	313-70	70

Materials

PART NO.	DESCRIPTION	MATERIAL
01.	Body	Brass
02.	Shutter	Brass
03.	'O' Ring	Viton
04.	Protective Cap	Polypropylene
05.	Spring	Stainless Steel
06.	Lock Nut	Stainless Steel
07.	Tie Rod	Stainless Steel
08.	Mounting Gasket	NBR / Cork
09.	Bleed Screw (Optional)	Brass

Construction

The Pressure Relief Valve consists of a forged body suitable for thread mounting on the transformer tank. The shutter is spring loaded using tie rod and lock nuts and seals against the body with Viton "O" Ring. The Protective Cap prevents ingress of insects, dust. All Pressure Relief Valves are supplied with NBR/Cork Gasket.

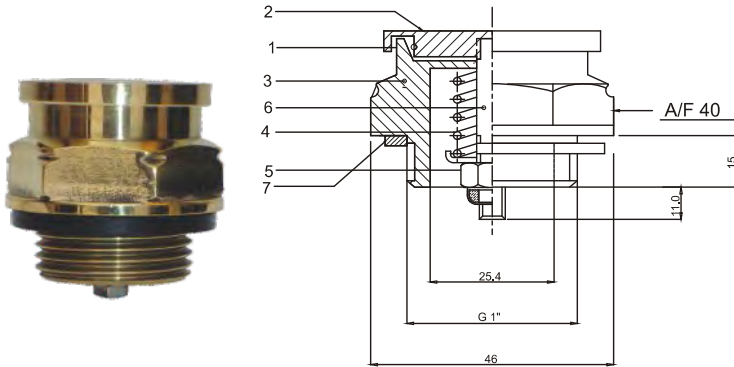
Working Principle

When pressure in the tank rises beyond the permissible limit, the shutter moves up with the "O" ring, thus releasing the excess pressure. When the pressure falls to allowable values, the spring forces the shutter back to its position. The Pressure Relief Valves are available from operating pressure of 20kpa (0.2 bar) to 70kpa (0.7 bar). Non standard pressure setting can also be provided on request.

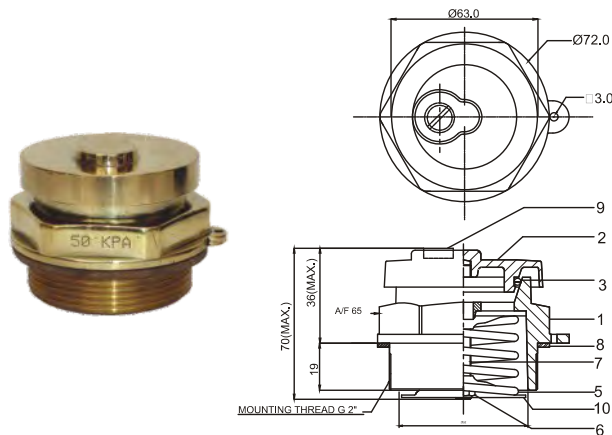
PRESSURE RELIEF VALVE (Economy Model In Aluminium Body)

Size: 3/4", 1" & 2" Thread

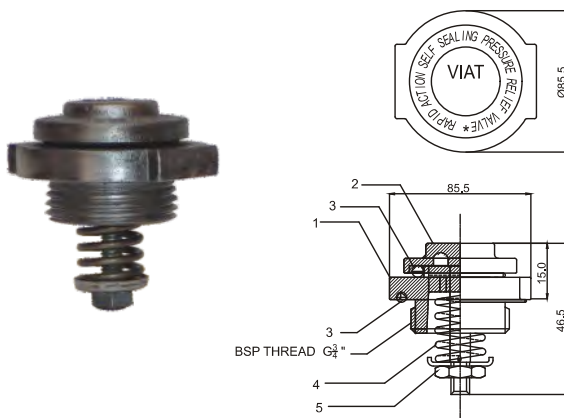
Series- 308.5



Series- 313.1



Series- 314



FEATURES

- Replaces the obsolete explosion vent in conservator type transformer.
- Automatic venting & resealing.
- Maintenance free.
- More cost efficient than explosion vent.
- Each valve tested for operating pressure and resealing pressure.
- Ideal for transformers from 5Kva to 1000Kva, conservator type, or hermetically sealed.

Pressure Setting

The operating pressure of the PRV should be set below the safe pressure of the tank. For hermetically sealed transformers the pressure setting may vary from 0.20 bar (20Kpa) to 0.35 bar (35Kpa). For transformers with conservator, the operating pressure may vary from 0.40 bar (40Kpa) to 0.70 bar (70Kpa).

Size:

There are no international standards for linking the size of PRV with the transformer tank size or rating. A broad based recommendation from us would be as follows :
 | upto 100 Kva - 3/4" size | upto 500 Kva - 1" size | upto 1000 Kva - 2" size

These recommendations are only indicative and transformer manufacturers may follow their own technical requirements based on design and customer requirement.

Operating Pressure

OPERATING PRESSURE		MODEL NO. FOR 308.5	MODEL NO. FOR 313.1	MODEL NO. FOR 314
Kpa	Psig			
20	2.9	308A-20	313A-20	N.A
25	3.6	308A-25	313A-25	N.A
30	4.3	308A-30	313A-30	N.A
35	5.0	308A-35	313A-35	314-35
40	5.8	308A-40	313A-40	N.A
42	6.0	N.A	N.A	314-42
45	6.5	308A-45	313A-45	N.A
49	7.1	N.A	N.A	314-49
50	7.2	308A-50	313A-50	N.A
56	8.1	N.A	N.A	314-56
70	10.1	308A-70	313A-70	314-70

Materials

Part No.	Descriptions	308.5	313.1	314.1
01.	Body	Aluminium	Aluminium	Aluminium
02.	Shutter	Aluminium	Aluminium	Aluminium
03.	"O" Ring	NBR	NBR	NBR
04.	Spring	SS	Spring Steel	SS
05.	Nut	SS	SS	SS
06.	Tie Rod	SS	SS	-
07.	Mounting Gasket	NBR	Cork	NBR
09.	Bleed Screw (optional)	-	Aluminium	-
10.	Spring Holder	-	SS 304	-

Due to our policy of continuous product improvement, dimensions and designs are subject to change.