

# PRESSURE RELIEF DEVICE

FOR OIL FILLED TRANSFORMER

Size : 6" Model 305 Series



## FEATURES

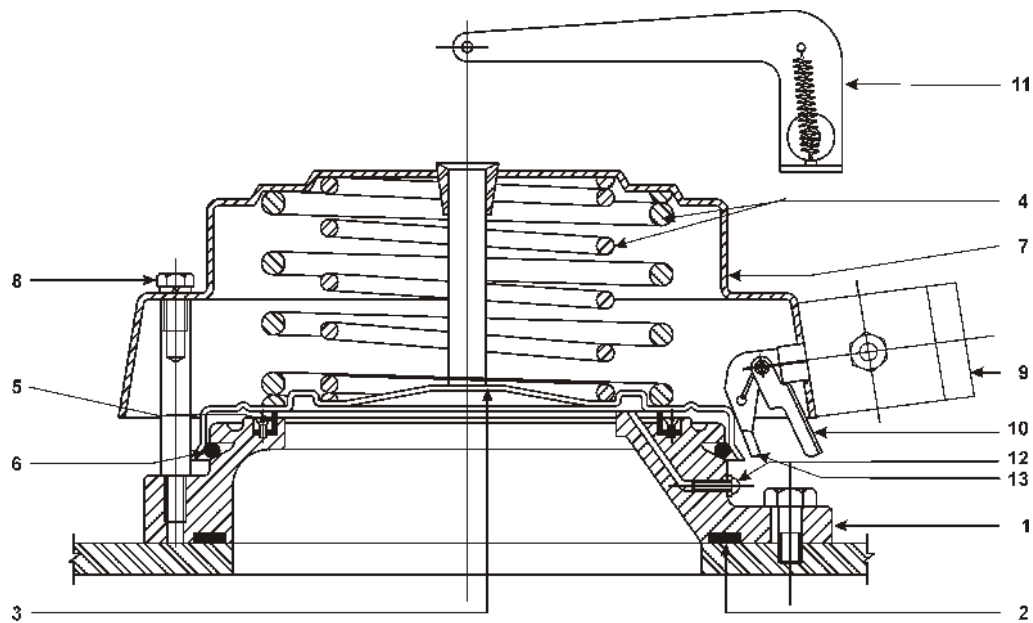
- Gas bleed system standard in all models.
- An additional test arm provided to check operation of switch.
- Teflon coated stainless steel operating disc with deep drawn spring locator.
- Pressure die cast, vacuum impregnated and pure polyester powder coated mounting flange.
- All stainless steel hardware.
- Springs made out of oil hardened and tempered spring steel wire to provide uniform loading and to prevent fatigue failure.
- Spring specially treated and coated to prevent rust and corrosion due to harsh environment.
- Inner and outer springs reverse wound and paired for consistent operating pressure.
- Paint to shade Light Grey ASA 70.
- Computerised on-line test certificate for each individual unit.

# VIAT

**INSTRUMENTS**

CA305R2





## CONSTRUCTION

The Pressure Relief Device consists of pressure die cast Aluminium flange (1) with gasket (2) for mounting on transformer. The operating disc (3) is loaded with two reverse wound calibrated springs (4) and seals the 150 mm port against the top and side gasket (5 & 6). The deep drawn cover (7) retains and compresses the spring and is held in place by six screws (8). The cover and the operating disc has specially designed retainers to prevent the dislocation of springs during repeated operations.

The switch assembly (9) is optional and includes a single pole, double throw switch. It has a three conductor cable for connection to an alarm or signal device. The switch is activated by the upward movement of disc and has to be manually reset using the arm (10). The operation of the switch can be tested using the

test arm (13). An optional long armed coloured flag (11) type arrangement can be provided for visual indication from greater distances. Gas bleed system (12) is provided on all models as standard.

## WORKING

When pressure in the tank rises, the total force on the area defined by the top gasket on the operating disc also increases. As soon as this force exceeds the load applied by the springs, the operating disc moves slightly upwards. This exposes the transformer pressure to a greater area corresponding to the diameter of side gasket, resulting in sudden increase of force. The disk lifts instantaneously and vents out the excess pressure in the transformer. When the pressure falls to allowable values, the spring forces the disc back to its original position.

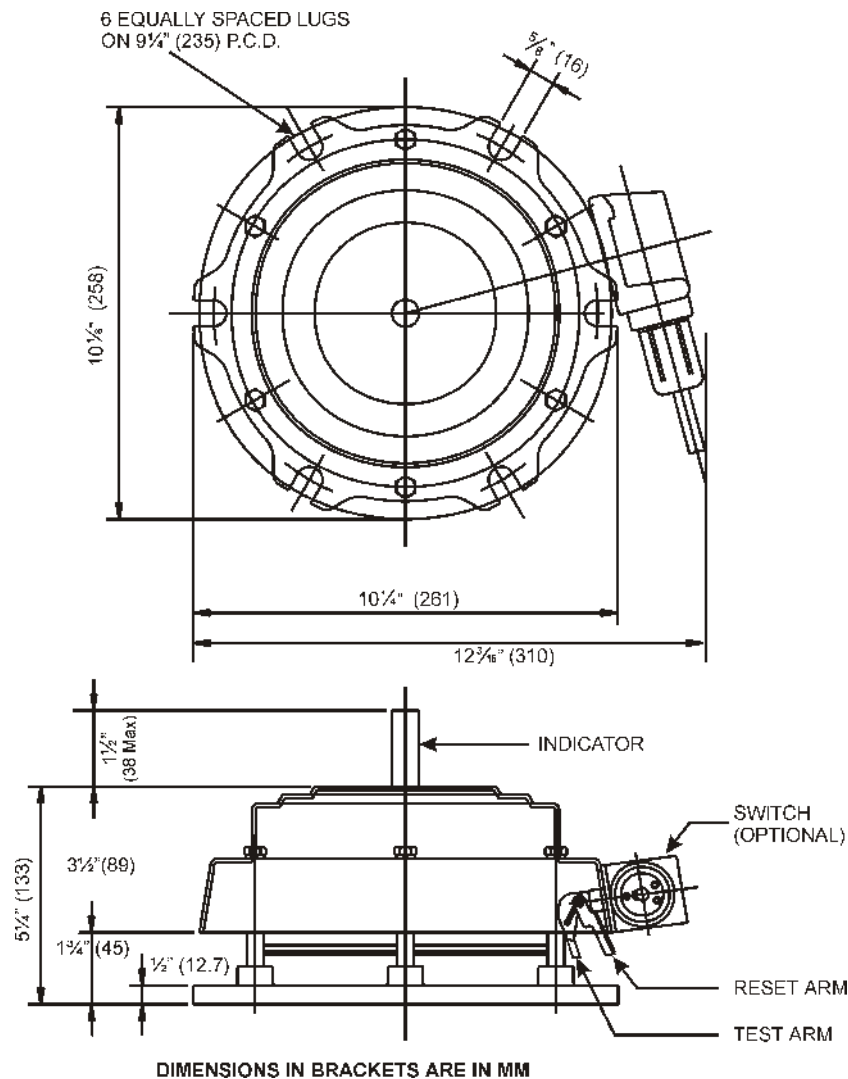
## APPLICATION

These Pressure Relief Devices are recommended to be used on all sizes of transformers ranging from distribution transformers to large power transformers. For very large power transformers, it is usual to use multiple devices. Normally one device is used for every 10,000 gallons (35000 litres approx.) of cooling liquid.

## MOUNTING & MAINTENANCE

These Pressure Relief devices should be preferably mounted in the horizontal position, top side up.

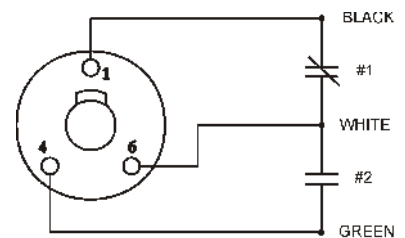
The device has rugged construction and does not require maintenance. The operating pressure is factory preset and cannot be changed at site. It is strongly recommended that the compression screws on the cover be never removed without use of extreme caution.



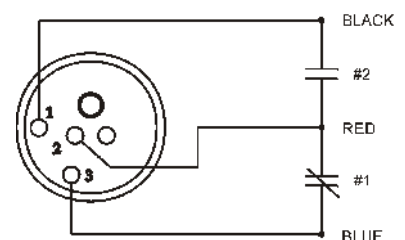
## OPTIONS

1. Number of switch : One
2. Operation : Automatic
3. Number of Contacts : 1 NO + 1 NC
5. Switch resetting : Manual
4. Contact rating : 15 Amps. @ 125, 250 and 480V AC.  
0.5 Amps. @ 125V DC  
(non inductive)
5. Switch Operation :
- a) Before device operation : Contact 1 NC  
Contact 2 NO
- b) After device operates : Contact 1 opens  
Contact 2 closes

## WIRING DIAGRAM



WIRING DIAGRAM (STANDARD)



WIRING DIAGRAM (ANSI)

# SWITCH TYPE

## ORDERING INFORMATION

CHARACTERISTICS	AVAILABLE OPTIONS
Operating pressure in PSI	4 / 5 / 8 / 10 / 12 / 20 / 25
Alarm Switch	YES / NO
Connector	Standard with 1-4-6 terminals and Black-White-Green Conductors. OR ANSI with 1-2-3 terminals and Black-Red-Blue Conductors.
Long armed Yellow Semaphore	YES/NO
Gaskets	Standard - Nitrile (NBR) Optional - Fluorocarbon (Viton)
Cable length in inches	Standard - 48'' Non standard - As required.

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All devices are supplied with one NBR rubber mounting gasket.

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### FOR MODEL NUMBER CALL FOR FOLLOWING DRAWINGS

Specification	Drawing no.
PRD without switch	305.1
PRD with standard alarm switch, without connector	305.2
PRD with ANSI alarm switch, without connector	305.4
PRD with two ANSI switch, without connector	305.7
PRD with two standard switch, without connector	305.8

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

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