

## PRESSURE RELIEF DEVICE

### MODEL : RT-50-10 ( PRD WITH PROTECTION SHROUD )

#### 1.0 FEATURES :

- Avoids disaster of fire or injury to persons by providing Shroud.
- Strong Aluminium casted Shroud with louvers.
- Reliable operation of PRD.
- Weather proof terminal box & easy to connect terminals.
- Lightweight compact construction. Hence easy to handle.
- A Red coloured large circular Cap is provided for indication of operation.

#### 2.0 SCOPE:

When pressure in tank rises beyond predetermined safe limit, the PRD operates & performs following functions.

- 2.1 Reduces the pressure in the tank by instantaneously opening the port.
- 2.2 Initiates precautionary electrical system by operating Limit switch.

#### 3.0 CONSTRUCTION & WORKING :

For mounting PRD, four holes of 18 dia on 125 PCD are provided on the base. For the operation, a port to suit 70 mm dia opening in tank is provided. The port is sealed by a spring loaded diaphragm. The diaphragm rests on a rubber ring, thereby keeping the port sealed during normal pressure in the tank. As soon as the pressure in the tank rises above predetermined safe limit, the diaphragm gets lifted from its seat thereby opening the port. The diaphragm seals the port again after the pressure in the tank reduces to safe limit. A switch is provided for initiating electrical safety system. The lifting of diaphragm from its seat is linked to the switch. Therefore the first lift of diaphragm operates the switch. To avoid repeated on - off of contacts, manual resetting type switch is used. So even if the diaphragm operates repeatedly, the switch remains operated until it is reset manually.

#### 4.0 TESTS:

Each PRD is tested for following Routine Tests

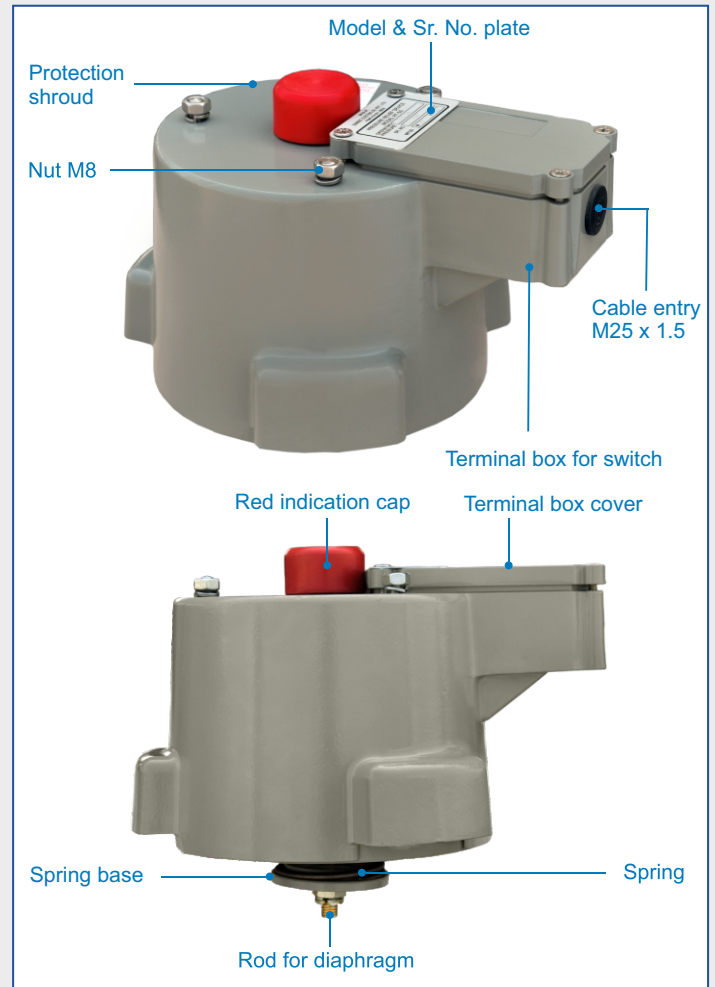
- 4.1 Operating Pressure test at specified value with compressed air.
- 4.2 Leakage test, at 75% value of specified operating pressure, with air at room temperature for 24 hours.
- 4.3 Switch operation test as per Wiring Diagram by operating PRD with compressed air.
- 4.4 Breakdown test at 2 kV for one minute between live terminals and body.

A Test Certificate is issued with each PRD. All above tests are included in the Test Certificate.

#### 5.0 INSTALLATION:

**5.1 LOCATION FOR INSTALLATION** - For installation, user has to provide a leak proof Mounting Pad as per Fig. 2 of drawing at suitable place on top cover of the tank. The position should be selected in such a way that the indicating rod should be seen easily as it needs to be reset manually after the operation of PRD & at the same time wiring should be easy. Provide a leak proof Mounting Pad as per Fig.2 of drawing at suitable place on top cover of the tank. The position should be selected in such a way that the indicating Red Cap can be seen easily as it needs to be reset manually after the operation of PRD & at the same time wiring should be easy.

**5.2 PROCEDURE** - By removing 3 Nos M 8 Nuts, remove the Protection Shroud of PRD. Place the PRD in proper position with O Ring on Mounting Pad. Tighten 4 Nos M16 bolts with washers and Nuts to install the PRD. Always tighten opposite bolts carefully. Negligence in tightening the bolts may result in cracking of the Base of PRD thus making it unserviceable. Replace the Protection Shroud in proper position by tightening 3 nos. M8 nuts with washers. Now remove the Terminal Box Cover, and do the wiring / connections as per Fig. 3 & 4 Replace the Cover of Terminal Box. Check the operation of switch by manually lifting the cap. Reset the cap after checking the switch operation.



#### 6.0 SPECIFICATIONS :

- |  |                                   |
|--|-----------------------------------|
| 6.1 Liquid in tank                           | : Transformer oil - IS-335.       |
| 6.2 Degree of protection                     | : IP-65.                          |
| 6.3 Operating pressure (Order any one value) | : 0.28 to 0.84 kg/cm <sup>2</sup> |
| 6.4 Operating tolerance                      | : ±0.10 kg/cm <sup>2</sup>        |
| 6.5 Operating time                           | : Instantaneous.                  |
| 6.6 Switch resetting                         | : Manual.                         |
| 6.7 Operating temperature                    | : -10 to +100°C of Oil.           |
| 6.8 Environment                              | : Indoor or Outdoor.              |
| 6.9 Port opening                             | : Suitable for 70mm Port.         |
| 6.10 Corrosion Resistance                    | : Available in C4-M & C5-M.       |

#### 7.0 FAULTS AND REMEDIES :

Only the Limit Switch can be replaced if necessary. For all other faults, the PRD has to be returned to SECPL for repairs.

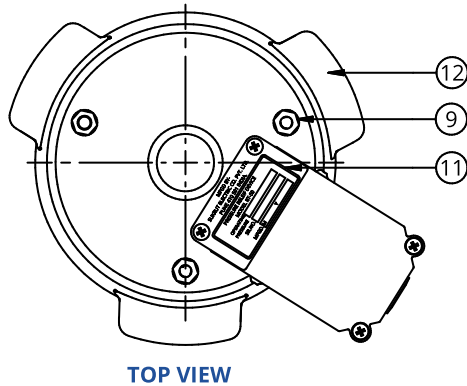
#### 8.0 HOW TO ORDER :

To make an offer, We need to know Model Number and Operating Pressure (any one value)

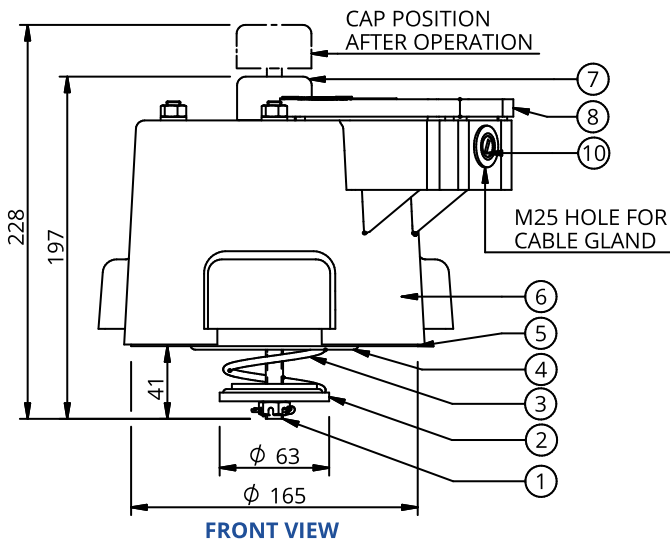


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**FIG 1. MODEL : RT-50**



**TOP VIEW**

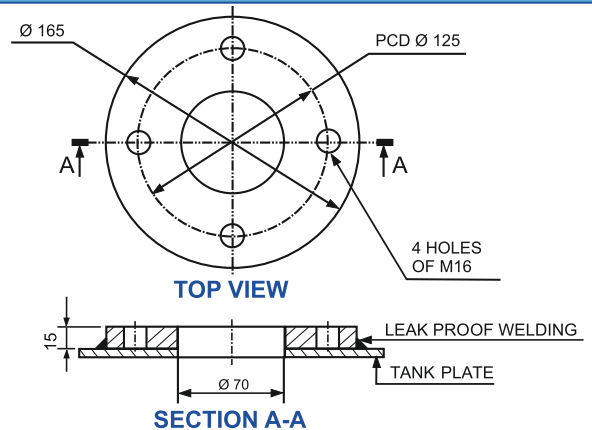


**FRONT VIEW**

**NOTES :**

1. All dimensions are in 'MM'.
2. Except mounting dimension, all other dimensions are given for reference only.
3. Cable gland is not supplied by Sukrut.

**FIG. 2 : MOUNTING PAD**



**TOP VIEW**

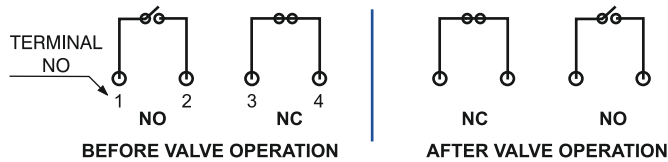
**SECTION A-A**

TAPPING TO BE DONE BEFORE WELDING  
MOUNTING PAD IS NOT SUPPLIED BY SUKRUT

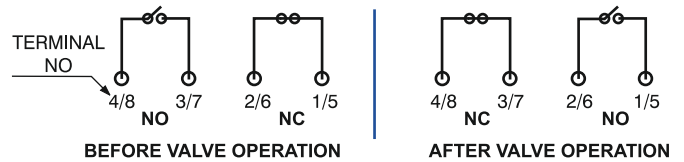
**PART LIST FOR FIG. 1**

S/N	DESCRIPTION	MATERIAL	QTY
1.	ROD FOR DIAPHRAGM	BRASS	1
2.	SPRING BASE	CAST AL	1
3.	SPRING	S. S.	1
4.	BOTTOM O-RING	NBR	1
5.	BASE	CAST AL	1
6.	PROTECTION SHROUD	CAST AL	1
7.	PROTECTION CAP	PLASTIC	1
8.	TERMINAL BOX COVER	CAST AL	1
9.	NUT M8	S.S	3
10.	PLUG M20	PLASTIC	1
11.	LABEL - SR.NO. & MODEL PLATE	ALUMINUM	1
12.	VENT FOR OIL DRAIN	-	3

**FIG.3 : STANDARD WIRING DIAGRAM FOR 1 NO + 1 NC CONTACT**



**FIG.4 STANDARD WIRING DIAGRAM FOR 2NO + 2NC CONTACT**



1. In case of 2NO+2NC contacts two different switches of 1NO+1NC contacts will be provided
2. Switch resetting has to be done manually.

**GENERAL NOTES :**

1. Purchase Order should be placed with detailed specifications of PRD.
2. For any assistance, correspondence should be made giving reference of Sr. No. of PRD.



**SUKRUT ELECTRIC CO. PVT. LTD.**

Plot No. Pap-B-63, MIDC Chakan Industrial Area Phase - II, Village Bhamboli, Taluka Khed District Pune 410 501, Maharashtra, India.

Mobile : +91 75077 78841 / 75077 78842

Email : marketing@sukrutelectric.com

Web : www.sukrutelectric.com

