

## PRESSURE RELIEF VALVE

### MODEL : T-3-LSM

#### 1.0 FEATURES :

The Pressure Relief Valve (PRV) is designed as a safety device to be used on an oil filled transformer or any similar electrical equipments. When pressure in tank rises beyond predetermined safe limit, the PRV operates & performs following functions.

- 1.1 Reduces the pressure in the tank by instantaneously by opening the port.
- 1.2 Operates switch / switches which initiates the precautionary electrical system.

#### 2.0 CONSTRUCTION AND WORKING :

For mounting PRV, four slots 12 diameter on 127 PCD are provided on the base. For the operation, a port of about 70 mm is provided. The port is sealed by a spring loaded stainless steel diaphragm. The diaphragm rests on 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 a switch. Therefore the first lift of diaphragm operates the switch. A red flag is attached to the switch lever to give visual indication of PRV operation. Once the PRV is operated, to prevent repeated On-Off cycles, the flag and switch lever are kept in operated condition until the switch is manually reset. Till then the diaphragm can continue to operate.

#### 3.0 TESTS :

Each PRV is tested for following routine tests,

- 3.1 Operating pressure test at specified value with compressed air.
- 3.2 Leakage test, at static head of 75% value of specified operating pressure, with transformer oil at room temperature for 24 hours.
- 3.3 Switch operation test as per wiring diagram by operating PRV with compressed air.
- 3.4 Breakdown test at 2 kV for one minute between live terminals and body.
- 3.5 Any other test as specified by customer.

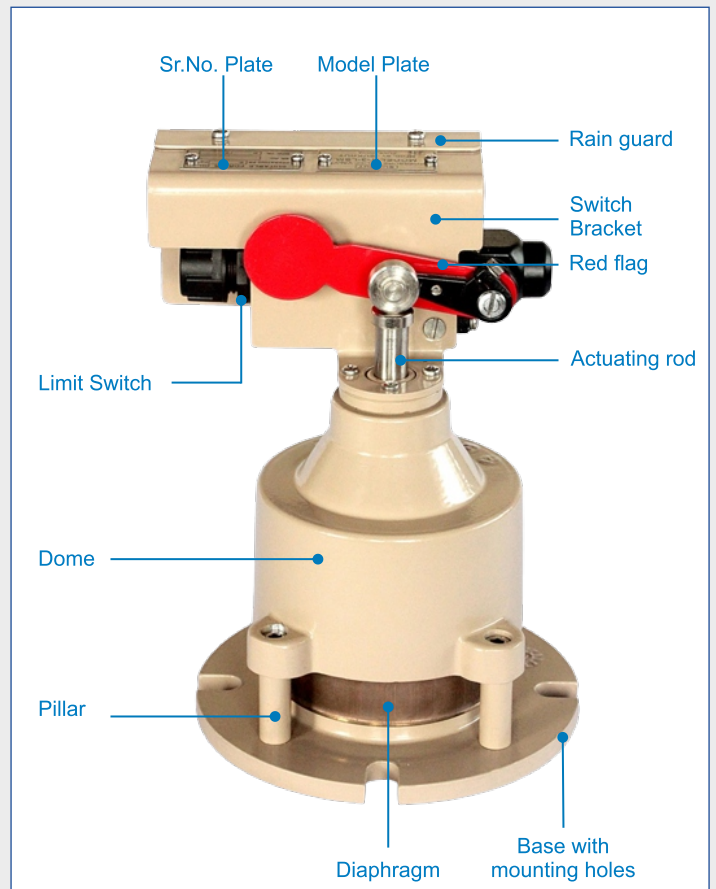
A test certificate is issued with each batch of PRV. All above tests are included in the test certificate.

#### 4.0 INSTALLATION :

For installation, user has to provide a mounting pad as per Fig.2 by welding it on top cover of the tank. The orientation and position of the mounting pad should be located in such a way that after installation of PRV, wiring can be done properly. At the same time the indicating lever of PRV can be seen easily as it needs to be reset manually after the operation of PRV. Wiring may be done as per wiring diagram by removing rain guard. After wiring, rain guard may be reinstated. Hardware for installation of PRV is to be provided by the user. While installing bolts should be tightened evenly. Un-even tightening may lead to cracking of aluminum base thus making the PRV totally unserviceable.

#### 5.0 FAULTS AND REMEDIES:

The PRV has rugged construction and it is not likely to get damaged easily. However the switch mechanism is delicate. Therefore it can get damaged. The switch mechanism can be repaired or replaced at site.



For breakage or damage of parts like diaphragm or base, the PRV should returned to sukrut as these faults/ damages can not be repaired at site. For leakage of oil through diaphragm also the PRV will have to be returned to us as this fault/damage can not be repaired at site. Serial number of PRV must be informed when any kind of product service communication is made.

#### 6.0 ROUTINE MAINTENANCE:

Periodically, every six months PRV should be tested by air to check its satisfactory working. The operation of switch also should be checked..

#### 7.0 SPECIFICATIONS:

- |                          |   |
|--------------------------|---|
| 6.1 Liquid in tank       | : Transformer oil.  |
| 6.2 Degree of protection | : IP-67   |
| 6.3 Corrosion Class      | : Available in C4-M & C5-M                                  |
| 6.4 Operating pressure   | : 0.42 to 0.56 kg/cm <sup>2</sup><br>(Order any one value)  |
| 6.5 Operating tolerance  | : ±0.1 kg/cm <sup>2</sup>                                   |
| 6.6 Operating time       | : Instantaneous   |
| 6.7 Switch resetting     | : Manual  |
| 6.8 Operating Temp.      | : -10 <sup>0</sup> to +115 <sup>0</sup> C of liquid in tank |
| 6.9 Environment          | : Indoor or Outdoor   |
| 7.0 Port operating       | : Suitable for 70 mm opening in tank                        |

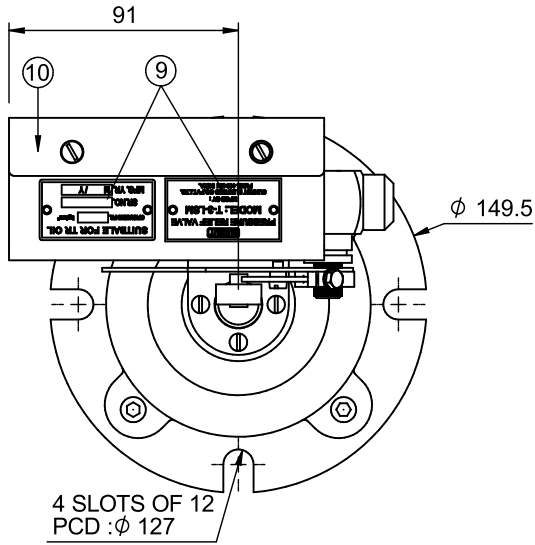
#### 8.0 HOW TO ORDER:

To make an offer, we need to know the operating pressure (Any one value).  
Eg: PRV-T-3-LSM with 0.56 kg/cm<sup>2</sup>

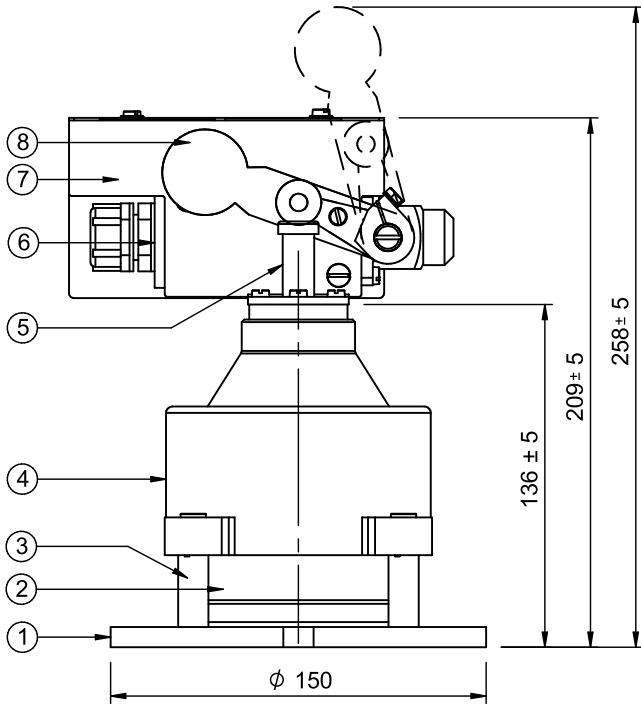


# PRESSURE RELIEF VALVE MODEL : T-3-LSM

**FIG 1. PRV-T-3-LSM**

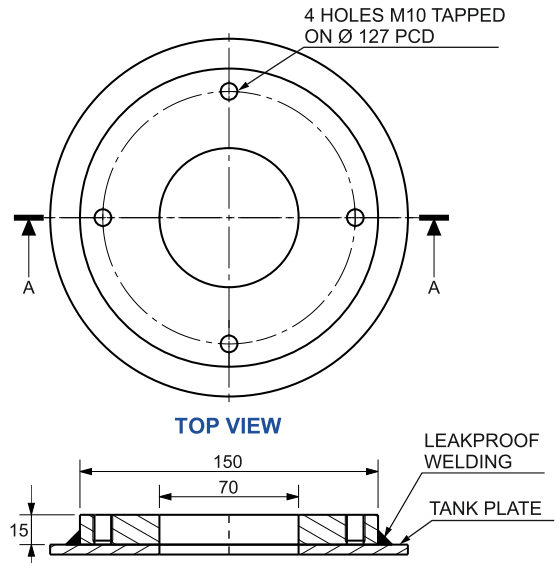


**TOP VIEW**



**FRONT VIEW**

**FIG 2. MOUNTING PAD**



**TOP VIEW**

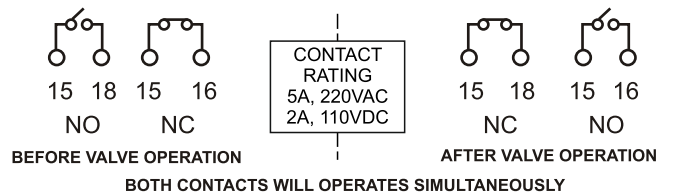
**SECTION A-A**

( Mounting pad is not in scope of Sukrut )

**PART LIST FOR FIG. 1**

SR NO.	DESCRIPTION	MATERIAL	QTY.
1.	BASE WITH MOUNTING HOLES	ALUMINIUM	1
2.	DIAPHRAGM	S.S	1
3.	PILLAR	M.S	4
4.	DOME	M.S	1
5.	SWITCH ACTUATING ROD	S.S	1
6.	LIMIT SWITCH	—	1
7.	SWITCH MOUNTING BRACKET	M.S	1
8.	RED INDICATING FLAG	AL.	1
9.	MODEL & SR.NO. PLATE	S.S	1
10.	RAIN GUARD	M.S	1

**FIG. 3 WIRING DIAGRAM**



**GENERAL NOTES :**

1. The operating pressure of PRV is not adjustable at site. Hence care should be taken at the time of specifying operating pressure.
2. The value of operating pressure should be worked out carefully considering strength of tank and existing static head of oil on PRV
3. It is important to handle PRV cautiously. Particles or small fragments may enter the PRV's tank side & may get caught underneath the diaphragm's spring-loaded mechanism. Due to which even when the tank's pressure is normal, oil will continue to flow.



**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

