

LIQUID LEVEL INDICATORS

For Oil Filled Distribution Transformer



VIAT

INSTRUMENTS

VI-01(R0)

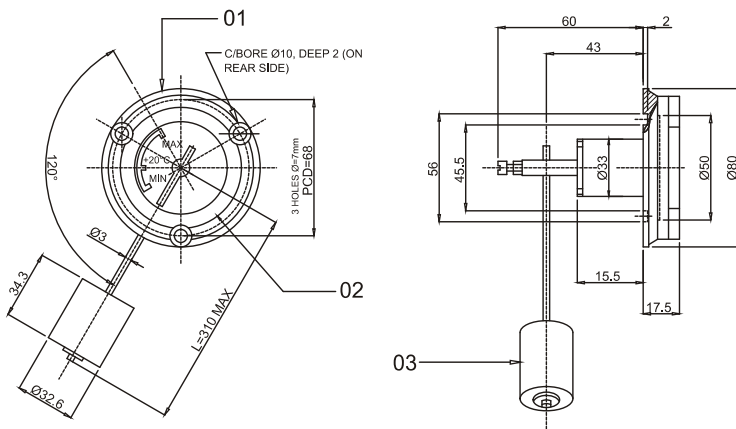


OIL LEVEL INDICATOR

Model 801, Dial Size 80mm.

FEATURES

- Each completely assembled unit, pressure tested.
- Nitrophyll® float suitable for transformer oil.
- Pressure die cast and vacuum impregnated body for zero leakage.
- Customized dial to individual requirement.
- Simple design, high reliability, low cost.
- Optional level marking on polycarbonate dial in front or Aluminium dial at the back.
- Floats have arm length of 310 mm as standard which can be adjusted during installation from 88mm (min) to 308mm (max).



MODEL NO.		
801-1	801-2	801-3
Dial No. 80104A	Dial No. 80104B	Dial No. 80104C

Materials

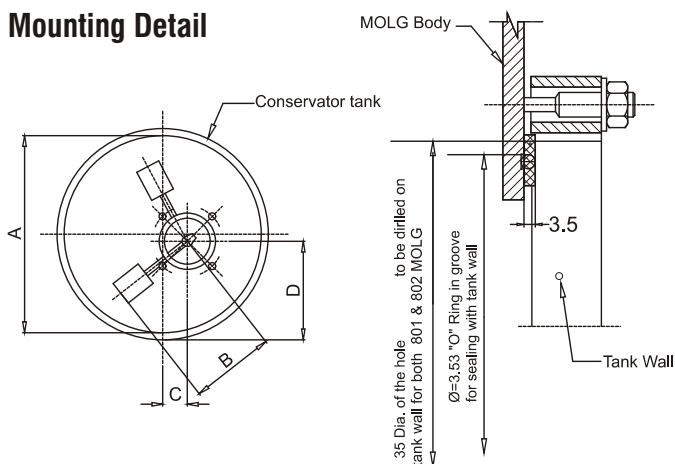
Sl. No.	Parts Name	Material
01.	Body	Pressure Die Cast Aluminium
02.	Dial Cover	UV Protected Polycarbonate
03.	Float	Nitrophyll

Conservator Tank Detail

CONSERVATOR TANK DIAMETER (A) (*)	160	200	250	315	400	500
Float Lever Length (B)	88	120	152	190	245	310
Eccentric deviation (C)	25	40	60	90	130	160
Installation height (D)	75	88	107	130	160	200

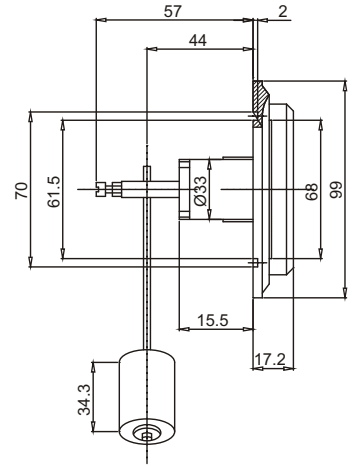
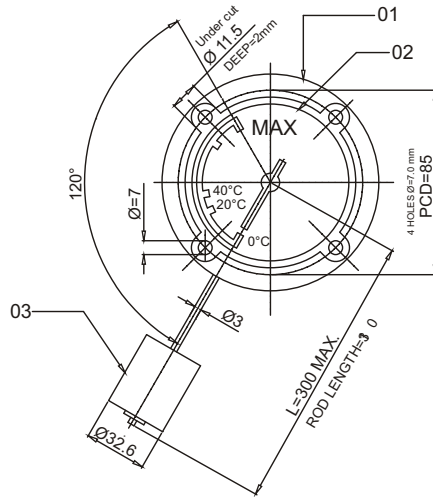
(*) Float levers are delivered with 310 mm length as standard. Their length can be freely adjusted by the customer during the installation from min. 88 mm. up to 310 mm.

Mounting Detail



OIL LEVEL INDICATOR

Model 802, Dial Size 100mm.



MODEL NO.				
802-1	802-2	802-3	802-4	802-6

802-7	802-8	802-9

Specification

Body : Pressure die cast Aluminium body powder coated to RAL 7033.

Indicator dial : Aluminium sheet white with black marking / black with yellow marking.

Indicator glass : UV protected polycarbonate can be printed for level marking.

Gasket : NBR "O" Ring with shore hardness 70.

Float : Nitrophenyl®

Operating Principle:

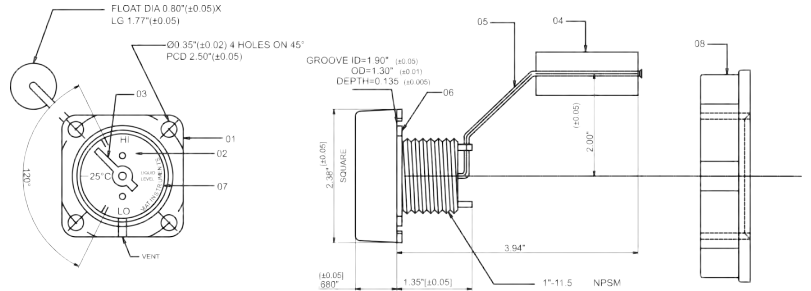
The radial movement of float is transmitted magnetically to the pointer. There are no electrical contacts in these gauges. The float arm length provided needs to be cut to size before installation to required length.

Application

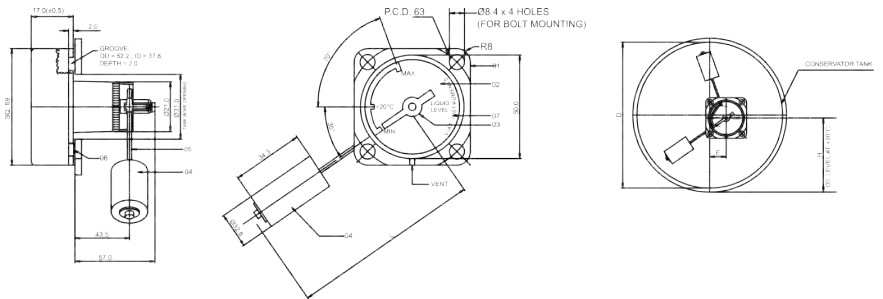
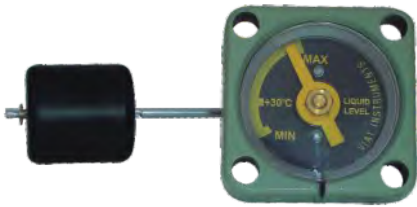
These level indicators are ideal for use on the conservator of oil filled transformers. They can also be mounted on the side wall of hermetically sealed transformer tanks.

SQUARE FLANGE TYPE LEVEL INDICATOR

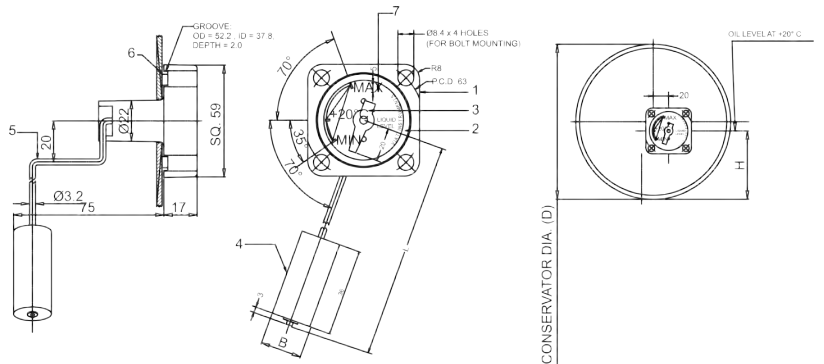
Model - 805 With Thread & Mounting Bolt Option



Model - 807.2 With Detachable & Adjustable Float Arm



Model - 807.1 With Integrated Fixed Float Arm



Materials

PART NO	DESCRIPTION	MATERIAL
01	BODY	ALUMINIUM (RAL 7033 PAINT OPTIONAL)
02	DIAL COVER	UV PROTECTED POLYCARBONATE
03	POINTER	ALUMINIUM POWDER COATED YELLOW
04	FLOAT	NITROPHYL
05	FLOAT SHAFT	ALUMINIUM ALLOY
06	MOUNTING GASKET	NITRILE BUTADIENE RUBBER
07	DIAL	ALUMINIUM (BACKGROUND BLACK WITH YELLOW/WHITE MARKING)
08	NUT	FORGED AL NUT

MODEL NO.	D (Ø)	FLOATING LENGTH	INSTALLATION HEIGHT	FLOAT DIA (B)
807.68	158	68	79	22.86
807.80	200	80	88	22.86
807.102	250	102	107	22.86
807.124	315	124	130	22.86
807.156	400	156	160	22.86
807.195	500	195	200	22.86

Description

The VIAT 805-7 series oil level indicator consists of a square flanged Aluminium die-cast body. The float shaft is magnetically coupled with the pointer on the dial. The dial has yellow markings on a black background, thereby providing excellent visibility.

It is mounted externally by using 4 bolts on the flange surface. The 805 model can also be mounted with threads on the back side.

The mounting gasket is supplied. These level indicator is interchangeable with leading brands available in the market.

Operation & Principle

Any movement of fluid in the tank is transferred to the float and shaft. This movement through the magnetic coupling moves the pointer on the dial.

This indicator is ideal for use with oil filled transformers and is mounted horizontally on the tank or conservator.

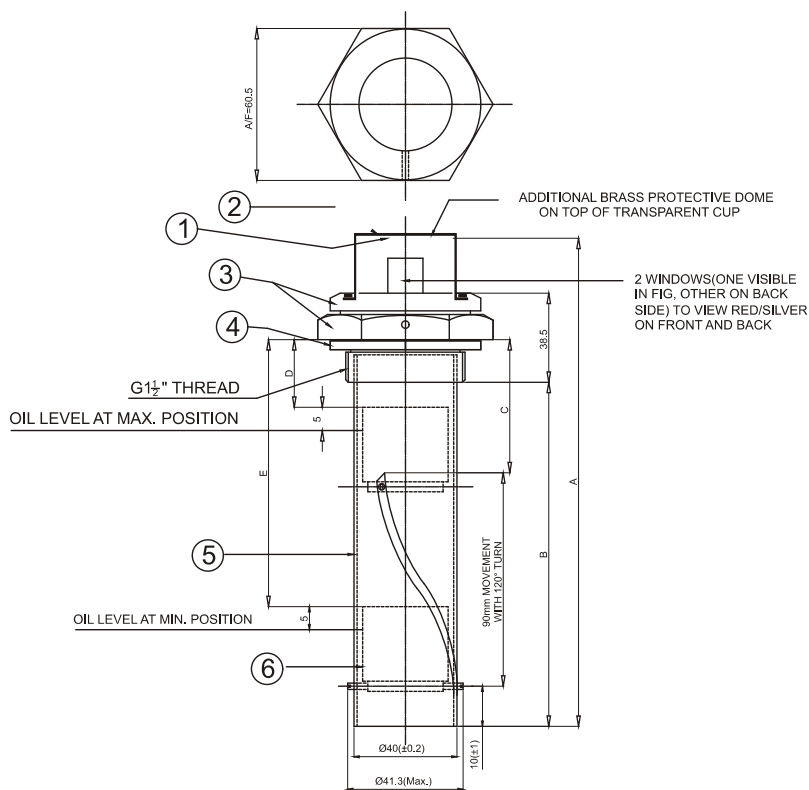
OIL LEVEL INDICATOR (Magnetic Type)

Mounting Thread - G1.5" For Hermetically Sealed Transformer



FEATURES

- Complete isolation of transformer tank from visual dome.
- Seamless brass pipe.
- Free movement of float.
- High power rare earth magnetic coupling to prevent interference of transformer magnetic field.
- Use of Nitrophyll® float suitable for transformer oil.
- Additional brass protection of transparent dome.
- Twin windows placed 180° apart to provide view of oil level from all sides.



Model - 803.1

Materials

SL. NO.	PART NAME	MATERIAL
1	TRANSPARENT CUP	POLYCARBONATE
2	BRASS CUP	DD2 BRASS SHEET
3	BODY & RING	FORGED BRASS
4	MOUNTING GASKET	CORK
5	PIPE	BRASS
6	FLOAT	NITROPHYL

Model No

MODEL NO.	A (±1)	B (±1)	C (±1)	Float At Max. Oil Level 'D' (±1)	Float At Min. Oil Level 'E' (±1)
MOLI 803 - 1	198	140	54	96	7
MOLI 803 - 2	268	210	124	166	77

Mounting & Installation

The twin window on the dome will ensure that one of the two windows is always visible from the required direction.

It is important to note that the calibration of the gauge is done by the factory and should not be tampered at site.

Do not remove the locking screw or nut or rotate the dome during installation.

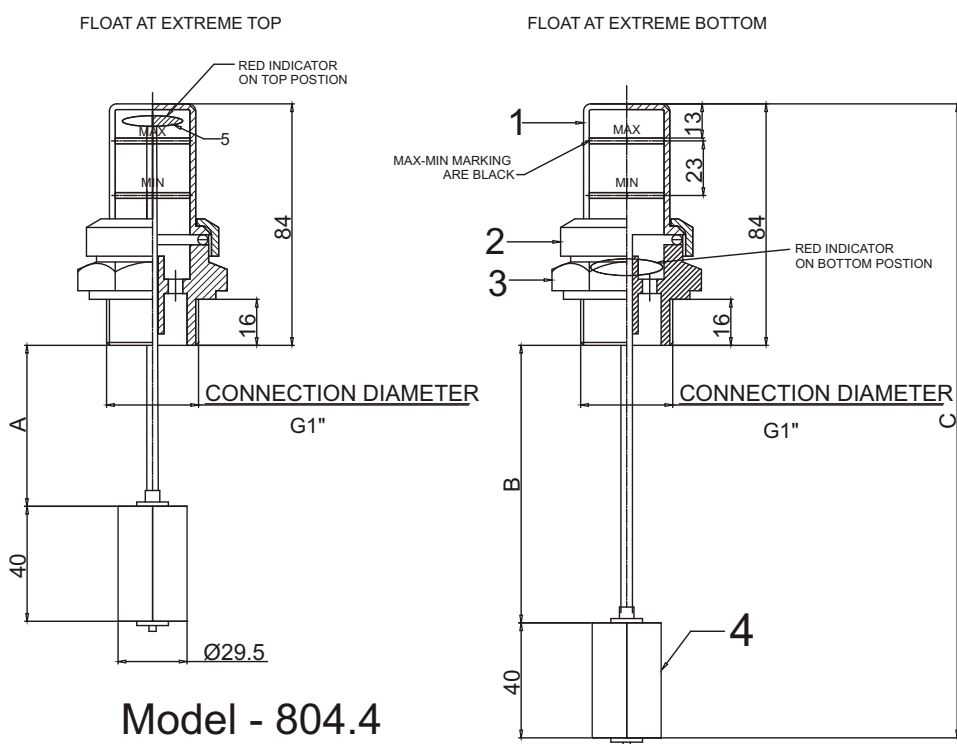
OIL LEVEL INDICATOR

Mounting Thread - G1" For Hermetically Sealed Transformer



FEATURES

- Highly visible red indicator for oil level.
- Each completely assembled unit, pressure tested.
- Use of UV protected unbreakable & transparent polycarbonate dome.
- Optional additional brass dome protection for polycarbonate cup.
- Use of Nitrophenyl® float suitable for transformer oil.



Model No

MODEL NO.	CONNECTION DIAMETER	DIMENSIONS		
		A(±2)	B(±2)	C(±2)
OLI 804-200	G1"	25	71	195
OLI 804-227	G1"	57	103	227
OLI 804-232	G1"	62	108	232
OLI 804-247	G1"	77	123	247
OLI 804-267	G1"	97	143	267
OLI 804-272	G1"	102	148	272
OLI 804-277	G1"	107	153	277

Materials

ITEM NO.	PART NAME	MATERIAL
1.	OUTER CUP TRANSPARENT	UV PROTECTED POLYCARBONATE
2.	LOCK RING	FORGED BRASS
3.	BASE	FORGED BRASS
4.	FLOAT	NITROPHYL
5.	INDICATOR RED	NYLON

Application

This type of oil level indicator is used in hermetically sealed transformer. The oil level gauge is screwed into the tank without gas cushion. It shows the level of the oil in the filling pipe and thus offers the possibility to monitor for:

- Gas formation in the transformer.
- Accumulation of air pockets in the tank.
- Indicator of large leaks from the tank.

When incorporated in hermetically sealed transformers with nitrogen gas cushioning it is only possible to monitor for large leaks from the tank.

Mounting

Please select the correct model number based on your requirement of length 'B' of the float arm. Sufficient margin should be left for the height of gas cushion and that of threaded coupling on the tank cover.

LIQUID LEVEL INDICATOR

Thread - G1"

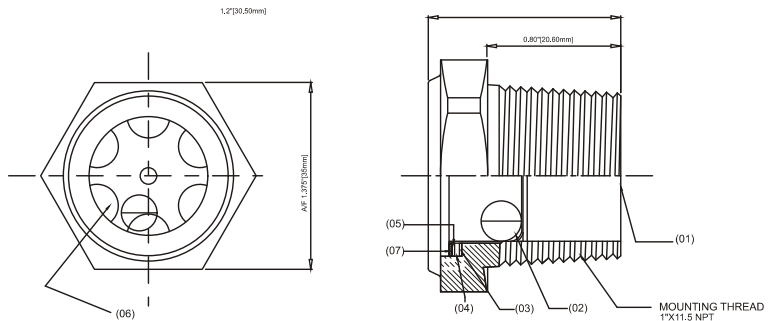
FEATURES

- Single piece brass / aluminium body construction.
- Dual rubber sealing provides leak proof assembly.
- Crystal clear, tempered glass lens.
- Highly visible expanded PU red solid float.
- Stainless steel retainer for float.
- Each level gauge pressure tested after assembly.
- Ideally suited for transformer tank application.

Materials

PART NO	QTY	DESCRIPTION	MATERIAL
01	1	BODY	BRASS EXTRUDED
02	1	FLOAT	EXPANDED PU RED
03	1	INNER RUBBER RING	NITRILE BUTADIENE RUBBER
04	1	LENS	TOUGHENED GLASS
05	1	OUTER RUBBER RING	NITRILE BUTADIENE RUBBER
06	1	RETAINER	STAINLESS STEEL
07	1	PROTECTIVE RING	BRASS

MODEL NO. 806 Thread Size - 1" NPT



Operation & Application

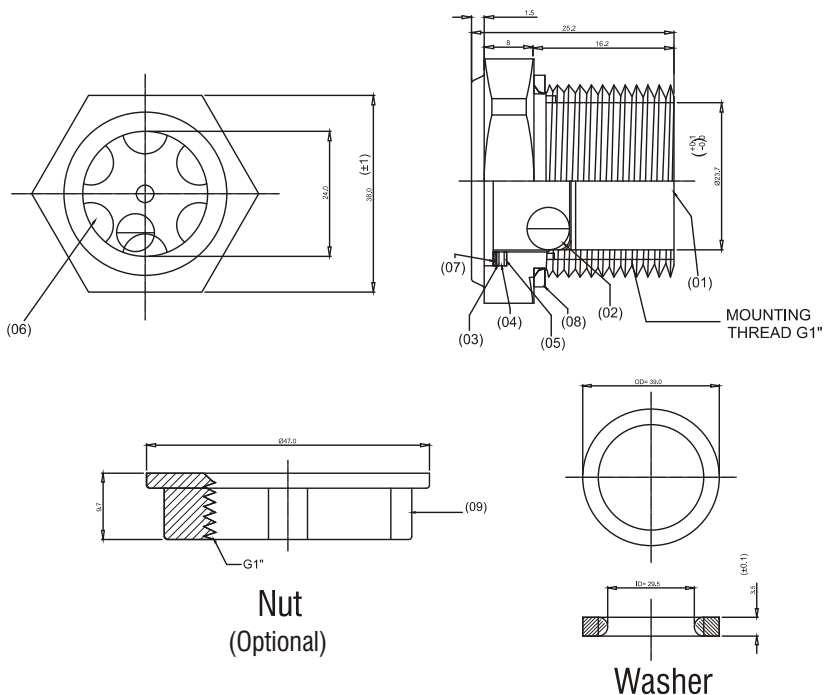
Most oil used in electrical equipments is colourless and the level is difficult to see without aid. The 806/808 series level indicator provides a red float which indicates the level of oil in the tank. The highly reflective stainless steel retainer provides enhanced visibility of the highly contrasting float.

For higher span of levels in a tank, multiple units at different levels may be used. The gauges are recommended for use with fluids having a specific gravity of 0.80 or higher.

Description

The VIAT 806 series oil level indicator consists of a machined brass body with 1"-11½" NPT thread. The highly visible red float is held in the oil compartment between the stainless steel retainer and tempered glass. The float provides the indication of oil level in the tank.

MODEL NO. 808 Thread Size - G1"



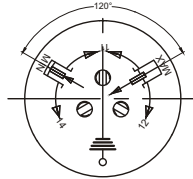
Description

The VIAT 808 series oil level gauge consists of a machined brass/aluminium body with G1" BSP thread. The highly visible red float is held in the oil compartment between the stainless steel retainer and tempered glass. The float provides the indication of oil level in the tank.

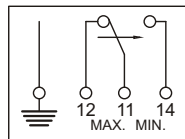
VERTICAL PROTECTION RELAY

For Hermetically Sealed Oil filled Transformers
Switch protection for falling oil level

Model - 811
Thread Size - G1½"



Switch Connection



Wiring Diagram

MODEL	X	Y
811-1	156	204
811-2	191	239

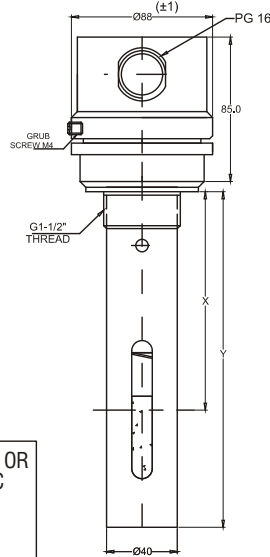
Technical Data

SWITCH RATING	: 5A ; 250V AC OR 0.2A ; 250V DC
MAX. AMBIENT TEMPERATURE	: -20 to +85° C
MAX. OPERATING PRESSURE	: 0.5 bar.

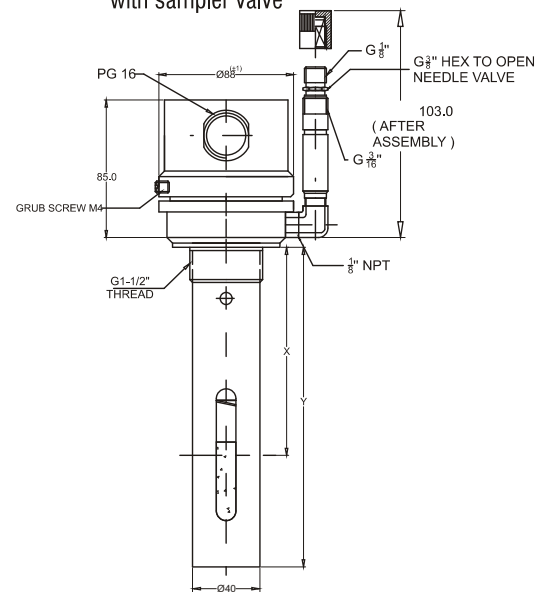
FEATURES

- Monitors oil level in Hermetically sealed transformers.
- Precise switch operation on falling oil level.
- Available in two standard sizes.
- Gas collection valve optional.
- All Aluminium and Brass construction suitable for extreme weather conditions.

Model - 811.1
without sampler valve



Model - 811.2
with sampler valve



Application

Vertical Protection Relay (VPR) monitors the oil level in Hermetically Sealed Transformers (further referred as HST) eventually protecting the transformer. Falling level of oil in the fill pipe of HST operates a switch contact. In a transformer VPR may replace the G1½" pipe plug.

Operation

The float is at its uppermost level when the transformer is filled with transformer oil to the correct level. With the fall in oil level, the float also comes down. At a pre-determined height the switch contact closes and operates the alarm. On rising oil level the switch resets at approximately 20mm above the alarm point.

Installation

The installation of VPR should be done on a pipe that is vertical to the top face of a transformer. The pipe should be located near one of the corners of a transformer. This is to avoid trapping of gas in transformer corners during the process of oil filling in the transformer. The VPR displaces approximate 100cc of oil during installation. Due care may be taken while installation in fully oil filed transformer without gas cushions.

Construction

The robust Aluminium alloy VPR provides a positive metal sealing that can withstand pressure up to 1.0 bars. A snap action switch is triggered by the vertical movement of a float. The terminal connections are moulded into a block of Glass filled Nylon. A needle valve assembly (optional) provides a facility of sampling gases for testing. A cap seals the gas collection opening and is also chained to the body to prevent its loss at site.

NOTE : Nitrophyll® is a registered trademark of Rogers Corporation, USA.

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

VIAT
INSTRUMENTS

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