

Type YSF₈

**Series of pressure relief device for
transformers
User's Manual**

Application

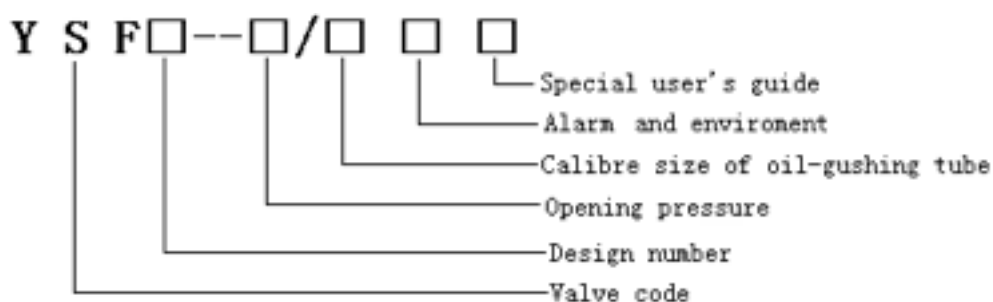
- The products comprise of directional oil-gushing to prevents contaminated from the transformer oil, and protect environment.
- The products that coupled with electrical alarm signal realize remote control.
- The products are apt for electrical equipments such as gas or liquid insulate transformer, instrument transformers, on-load tap-changer, high voltage switch etc.
- Once there's something wrong in such electrical equipments, valve open and relieve the pressure to avoid oil basin from metamorphose and blowout.
- With the pressure reduced the valve automatically closed to prevent water and impurity got in from outside.

Working conditions and install mode Model Specification

- Environment temperature
- 30°C ~ 40°C.

- Installation site

- Install in the oil basin to cover
- Install in the oil basin to sidepiece upside
- Install in lift pedestal



What the letter mean:

K: electrical alarm signal; J: machinery alarm signal; B: with locking devices;

TH: Humid Tropics ; TA: Dry Tropics ; T: Humid and Dry Tropics

For example 1: YSF₈-55/130KJBTH

Namely, fuel injection caliber Φ130 mm, opening pressure of 55 kPa, with machinery, electrical alarm signal, humid tropics applicable, with locking devices, 8th design , model II registered mark of the pressure release valve.

For example 2: YSF₈-55/80KJBTH

Namely, fuel injection caliber Φ80 mm, opening pressure of 55 kPa, with machinery, electrical alarm signal, with locking devices, humid tropics applicable, the 8th design directional injection pressure release valve.

The product specification and basic parameter

Effective caliber of oil-gushing (mm)	Opening pressure (k Pa)	Tolerance of Opening pressure (k Pa)	Closing Pressure (k Pa)	Sealed Pressure (k Pa)
Φ50 Φ80 Φ130	35	±5	19	21
	55		29.5	33
	70		37.5	42
	85		45.5	51
	135		72	80

Selection of pressure relief device

- selection of effective caliber

Total weight of oil (t)	∠1.5 ~ 4.5	4.5 ~ 11.5	11.5 ~ 23
Effective caliber of oil-gushing valve (mm)	Φ50	Φ80	Φ130

Attention: When total oil weight more than 23 tons,

The quantity of release valve that chooses should be:

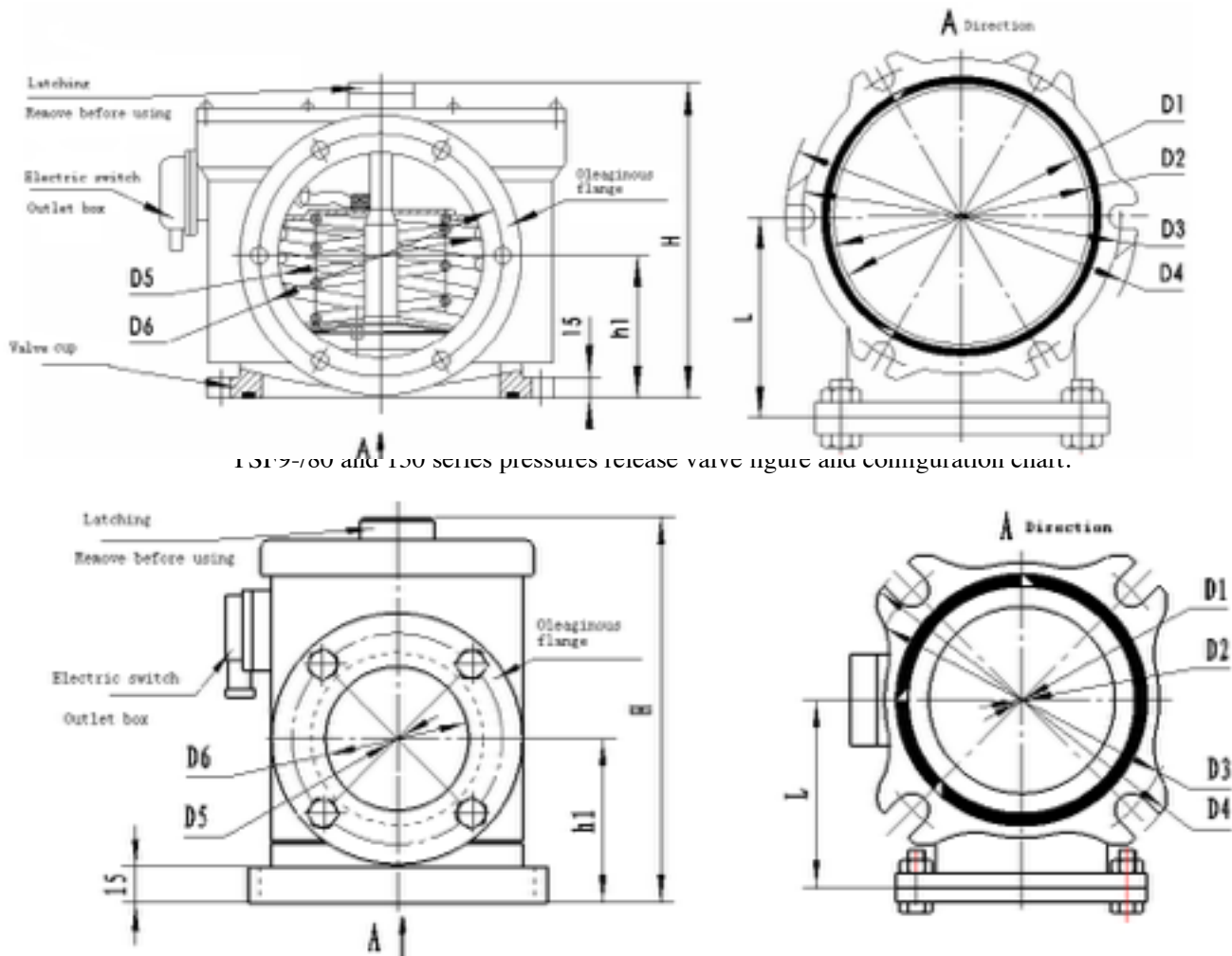
Total oil weight(tons) /23=Φ130 calibers of pressure release valve quantity(decimal fraction up to integer)

• selection of opening pressure

a) The opening pressure of pressure release valve should be equal to or slightly less than 0.6~0.7 safe pressure in oil tank;

b) Use product specification and basic parameter to assure the opening pressure.

Configuration and installation dimensions

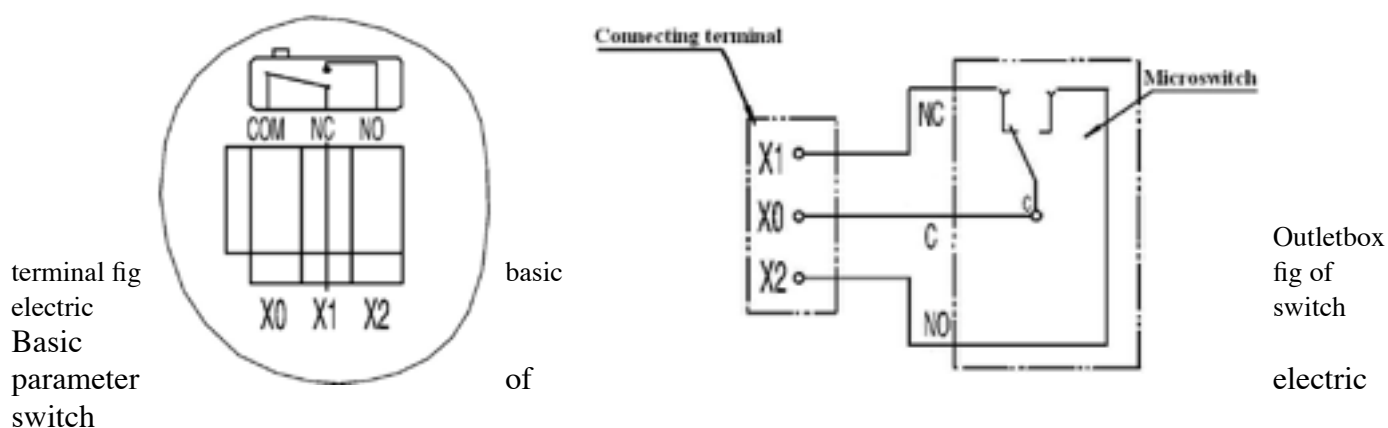


Shape and installation dimensions

Units: mm

Caliber of oil-Gushin g (mm)	D1	D2	D3	D4	D5	D6	H	h1	L	Valve pedestal install bolt Diameter × quantity	Definite direction bolt Diameter × quantity
φ50	φ74	φ83.5	φ130	φ150	φ56	φ88	178	70	84.5	M12×4	M6×4
φ80	φ122	φ133	φ170	φ200	φ100	φ144	210	104	140	M12×6	M10×6
φ130	φ172	φ181	φ235	φ260	φ148	φ200	253	134	179.5	M16×6	M10×6

The conjunction and basic parameter of the electric switch



electrical source sort	W o r k i n g voltage	Working current	
		Resistance	Reactance (A)
Alternating current (AC)	220 (V)	5 (A)	3 ($\cos\Phi=0.4$)
Direct current. (DC)		0.3 (A)	0.05 (T=7ms)

Install 、 Using、 Debugging

- Install: Pressure releasing valve and tank connect with the stud bolt

Attention:

- 1) The bottom of pressure releasing valve assemble to seal well;
- 2) When connect the pressure releasing valve and tank, tighten the bolts equality, avoid that valve pedestal rupture.

- Using: With latching that must be removed before equipment circulate, insure the normal work of the pressure releases valve.

- Debugging: Electric alarm switch, should manual debug deferent signal of switch whether exactitude, sensitive, before the equipments circulate .

Method : 1) Measure export signal of switch when pressure releasing valve actionless by multimeter to see whether in accordance with the signal mark of the switch.

Viz.: (a) “Common” towards “Normal open” normal open.

(b) “Common” towards “Normal closed” normal closed.

2) Experiment of simulate releasing valve’s action, checkout whether inching switch accurate export behavioural signal.

Method: Raise the small red hat of the pressure releasing valve, then releasing valve turn on, check

whether the switch measure of the electric signal change.

Viz.: (a) “Common” of switch towards “Normal open”: “Normal open” should turn to “Normal closed”;

(b) “Common” of switch towards “Normal closed”: “Normal closed” should turn to “Normal open”;

(c) Examine the signal switch and control circuit connect whether right and good.

Attention: The small red hat must be replacement after test over, insure that the pressure releasing valve normal working and warning.

Product malfunction analysis

malfunction phenomena	Reason	Solution method
(1) Valve oil leak	a) The pressure of oil basin between the pressurize -pressure and open-pressure of valve a long time, then leaking , but this instance is very rarely.	Check badness phenomena of transformers, eliminate hidden trouble.
	b) Valve working time long, sealing member aging and invalidation.	Make use of the power-off time maintain、change sealing member.
	c) Eyewinker stay at the sealing plane of the sealing member.	Make use of the power-off time eliminate eyewinker.
	d) Accessory、parts metamorphose or wear off.	Make use of the power-off time maintain、change.
(2) The signal switch export behavioural signal naught	a) Control circuitry connect abnormity or contact badness and circuit interruption.	1、According to the hookup of signal switch accurately connect; 2、Use multimeter measure circuitry joints contact good or not.
	b) The signal switch be block 、stop up.	Pull the small red hat of valve , checking switch whether operate sensitive , at the same time measure switch whether out-put signal.
(3) valve no working	a) Latching of vavle dose not be backout.	Backout latching.
	b) The pressure in oil basin is smaller than the open-pressure.	Use manometer check that whether the pressure in oil basin reaches the open-pressure of the valve.
	c) Oil basin and valve have leaky place.	Check oil basin and valve whether pressurize good.

Crucial hint

●Latching should operate strictly according to caution requirement, insure that the pressure releasing valve normal working.

●When install, accessory、parts of the pressure releasing valve shouldn't be arbitrium teardown.

●When equipment run, as if releasing valve turn on result in the instruction pole up, replace the instruction pole by hand before find out reason, unchain warning alarm.

Maintenance and Inspection

Make use of the power-off time during maintenance of the pressure releasing valve:

- If turn on action sensitive? If there is block or stop up should eliminate.
- If the sealing gaskets are aged or deformed or damaged?
- If accessory、 parts whether metamorphose or wear off?
- If the signal switch whether operate sensitive?

How to Make Order

- The customer should be appropriate prepare several pressure releasing valve to switchover during maintenance.
 - Product every examine and repair, after teardown should change new sealing element,the sealing after teardown do not suitable continue to use.
 - Please specify the model, opening pressure, caliber of oil-gushing, mode of signal, using environment, quantity and switch down-lead length(If no indication, then no down-lead.)
- Spare parts and maintenance are available, also special designs asked and manufactures.