



Transformer Valves Series



TRAFO VALVES

Transformer Valve Specialist

Contents

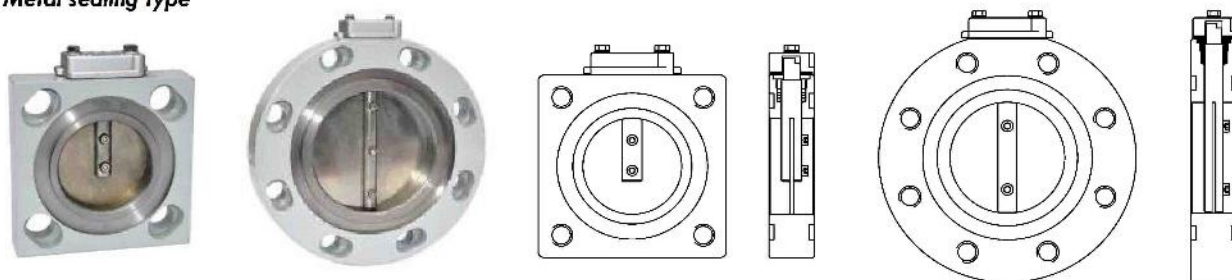
- 1. Radiator Butterfly Valve Series*
- 2. High Performance Butterfly Valves*
- 3. Ball Valves Series*
- 4. Globe Valves Series*
- 5. Gate Valves Series*
- 6. Drain Valve Series*
- 7. Sampling Devices*
- 8. Custom ized Valves*



Introduction

The butterfly valves, metal to metal sealing with thin blade (or full tightening type, with o-ring blade), are used on power transformer with the scope to allow the disconnection of a component of the circuit (ie buchholz relay or radiator) without having to lower the oil below the level of the component itself. This kind of valve are preferred to the conventional gate valves for their compact overall dimension in the direction of the oil flow.

Metal sealing type



Product information

EN/DIN Size: DN40, DN50, DN80, DN100, DN125, DN150, DN200, DN250, DN300

ANSI Size: 1.1/2", 2", 3", 4", 5", 6", 8", 10", 12"

Material: Carbon Steel, 304/316 Stainless Steel, Bronze

Bolting circle: EN-1092, ANSI, GOST or as per user's request.

Application: Oil immersed power transformer/ Reactor, Fluid: transformer Oil

Leakage test: 100% tested before packing. Testing and inspection as per EN-50216-8

Suitable temperature range: -30 to 120°C, -46 to 120°C, -60 to 120°C,

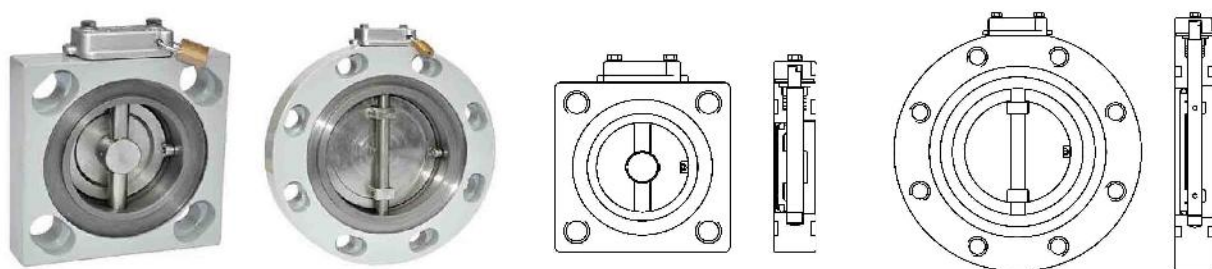
Coating: Fusion bonded coating ANSI 70 Gray or as per requirements of users

Locking: With pad lock or non-locking

Shape: Square or round

Bolting hole type: Non-rotation bolting hole, tapped holes

Full tightening type (Vacuum type)



Product information

EN/DIN Size: DN40, DN50, DN80, DN100, DN125, DN150, DN200

ANSI Size: 1.1/2", 2", 3", 4", 5", 6", 8"

Material: Carbon Steel, 304/316 Stainless Steel, Bronze

Bolting circle: EN-1092, ANSI, GOST or as per user's request.

Application: Oil immersed power transformer/ Reactor,

Fluid: transformer Oil Leakage test: 100% tested before packing. Testing and inspection as per EN-50216-8

Suitable temperature range: -30 to 120°C, -46 to 120°C, -60 to 120°C,

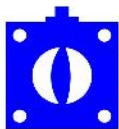
Coating: Fusion bonded coating ANSI 70 Gray or as per requirements of users

Locking: With pad lock or non-locking

Shape: Square or round

Bolting hole type: Non-rotation bolting hole, tapped holes

Blade Sealing Ring: NBR



PERMA VALVES

Permanent Reliable !

Radiator Butterfly Valve Series

Introduction

The butterfly valves, metal to metal sealing with thin blade (or full tightening type, with o-ring blade), are used on power transformer with the scope to allow the disconnection of a component of the circuit (ie buchholz relay or radiator) without having to lower the oil below the level of the component itself. This kind of valve are preferred to the conventional gate valves for their compact overall dimension in the direction of th

Metal sealing type



Product information

EN/DIN Size: DN40, DN50, DN80, DN100, DN125, DN150, DN200, DN250, DN300

ANSI Size: 1.1/2", 2", 3", 4", 5", 6", 8", 10", 12"

Material: Carbon Steel, 304/316 Stainless Steel, Bronze

Bolting circle: EN-1092, ANSI, GOST or as per user's request.

Application: Oil immersed power transformer/ Reactor, Fluid: transformer Oil

Leakage test: 100% tested before packing. Testing and inspection as per EN-50216-8

Suitable temperature range: -30 to 120°C, -46 to 120°C, -60 to 120°C,

Coating: Fusion bonded coating ANSI 70 Gray or as per requirements of users

Locking: With pad lock or non-locking

Shape: Square or round

Bolting hole type: Non-rotation bolting hole, tapped holes

Full tightening type (Vacuum type)



Product information

EN/DIN Size: DN40, DN50, DN80, DN100, DN125, DN150, DN200

ANSI Size: 1.1/2", 2", 3", 4", 5", 6", 8"

Material: Carbon Steel, 304/316 Stainless Steel, Bronze

Bolting circle: EN-1092, ANSI, GOST or as per user's request.

Application: Oil immersed power transformer/ Reactor,

Fluid: transformer Oil Leakage test: 100% tested before packing. Testing and inspection as per EN-50216-8

Suitable temperature range: -30 to 120°C, -46 to 120°C, -60 to 120°C,

Coating: Fusion bonded coating ANSI 70 Gray or as per requirements of users

Locking: With pad lock or non-locking

Shape: Square or round

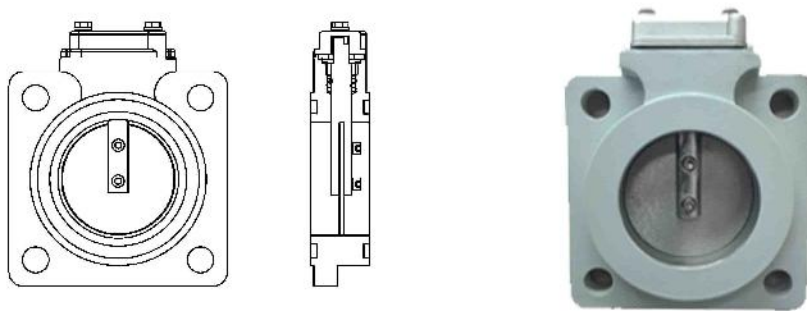
Bolting hole type: Non-rotation bolting hole, tapped holes

Blade Sealing Ring: NBR

Introduction

The butterfly valves, metal to metal sealing with thin blade (or full tightening type, with o-ring blade), are used on power transformer with the scope to allow the disconnection of a component of the circuit (ie buchholz relay or radiator) without having to lower the oil below the level of the component itself. This kind of valve are preferred to the conventional gate valves for their compact overall dimension in the direction of the oil flow.

DN80 Cast iron Butterfly Valve (Metal to metal seated)



Product information

Material: Cast Iron

Application: Oil immersed power transformer/ Reactor, **Fluid:** transformer Oil

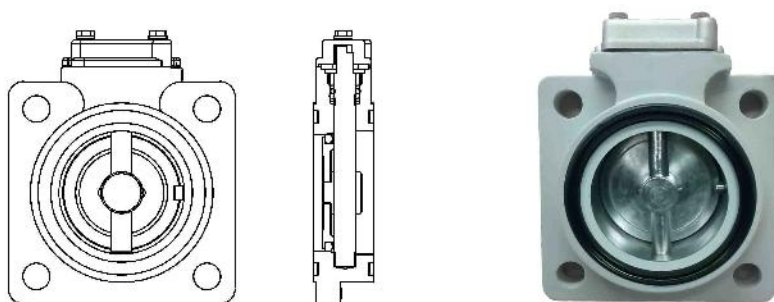
Leakage test: 100% tested before packing. Testing and inspection as per EN-50216-8

Suitable temperature range: -20 to 120°C,

Coating: Fusion bonded coating ANSI 70 Gray or as per requirements of users

Locking: With pad lock or non-locking

DN80 Cast iron Butterfly Valve (Vacuum type)



Product information

Material: Cast Iron

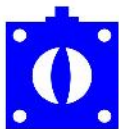
Application: Oil immersed power transformer/ Reactor, **Fluid:** transformer Oil

Leakage test: 100% tested before packing. Testing and inspection as per EN-50216-8

Suitable temperature range: -20 to 120°C,

Coating: Fusion bonded coating ANSI 70 Gray or as per requirements of users

Locking: With pad lock or non-locking

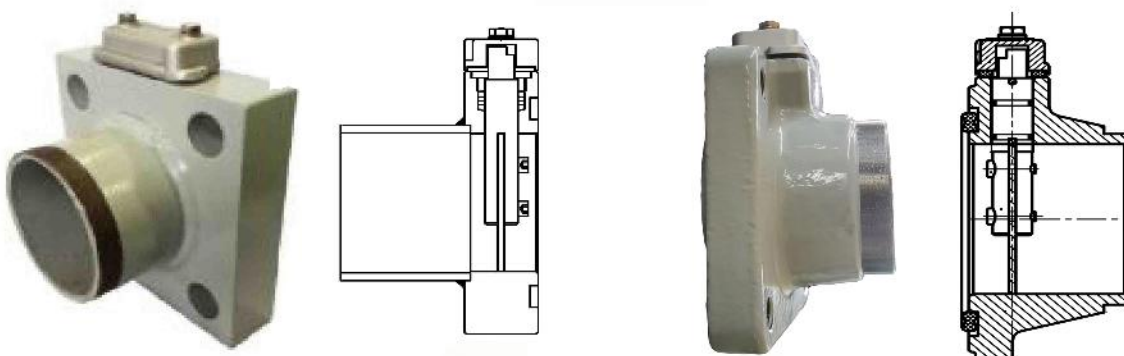


PERMA VALVES

Permanent Reliable !

Radiator Butterfly Valve Series

DN80 Butterfly Valve with weld on Neck



Material: Carbon Steel, Stainless Steel

Application: Oil immersed power transformer/ Reactor, **Fluid:** transformer Oil

Leakage test: 100% tested before packing. Testing and inspection as per EN-50216-8

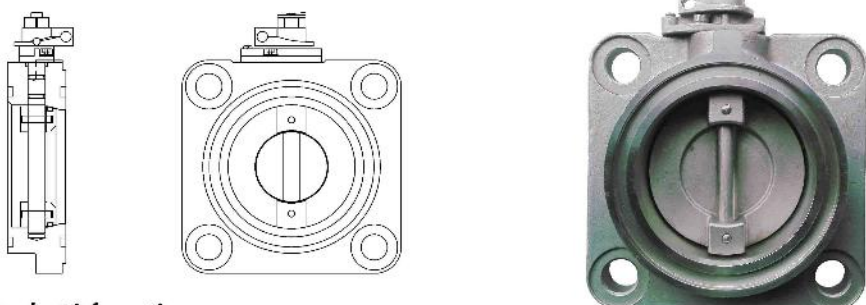
Suitable temperature range: -30 to 120°C,

Coating: Fusion bonded coating ANSI 70 Gray or as per requirements of users

Locking: With pad lock or non-locking

Weld on neck tube length to users

DN80 Cast Stainless Steel Butterfly Valve



Product information

Material: Cast Stainless Steel grade 304 or 316 or 316L

Application: Oil immersed power transformer/ Reactor,

Fluid: transformer oil

OilLeakage test: 100% tested before packing. Testing and inspection as per EN-50216-8

Suitable temperature range: -30 to 120°C,

MB Series Butterfly Valve Metal seated

Product information

EN/DIN Size: DN40,DN50,DN80,DN100,DN125,DN150,

Material: Carbon Steel,

Application: Oil immersed power transformer/ Reactor,

Fluid: transformer Oil

Leakage test: 100% tested before packing.

Testing and inspection as per EN-50216-8

Suitable temperature range: -30 to 120°C,

Coating: Fusion bonded coating ANSI 70 Gray or as per requirements of users



Our aluminum Butterfly valve WN80 including PCD 160 (Bolting circle 160mm) which is most popular and PCD 150. This type butterfly valve torque is very light, open and shut with the handle is easy no tool is needed. the sealing is zero leakage which is suitable for vacuum condition. compare with carbon steel type radiator butterfly valve, our aluminum butterfly valve is light easier and cheaper for transportation and easier for installation.

Aluminum Butterfly Valve



Product information

Dimensions: out side dimension 150mm*150mm

Bolting circle: PCD150mm or PCD160mm

Material: Aluminum

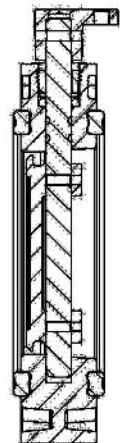
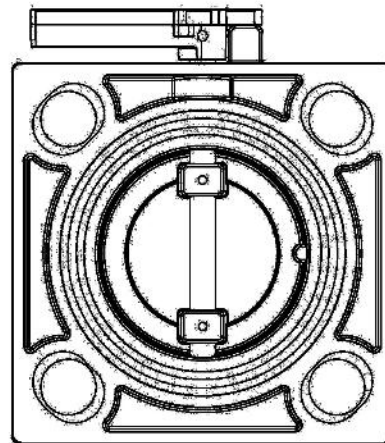
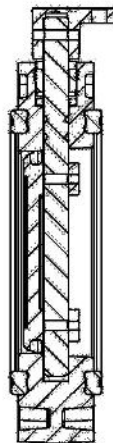
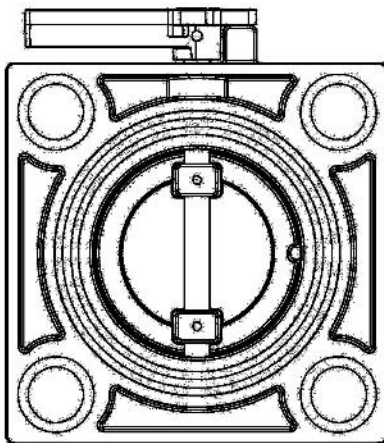
Sealing Rubber material: Nitrile Rubber, Viton, Fluorosilicone rubber, low temperature application rubber seals also available.

Application: Oil immersed transformer/ Reactor.

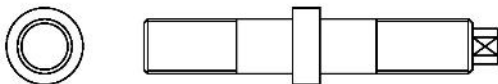
Suitable fluid: Transformer oil

Suitable Temperature: -30~120°C, -30~120°C, -30~120°C

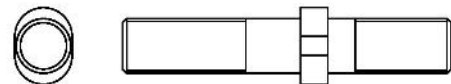
Bolts and nuts: carbon steel+Zinc



Bolting circle PCD 160



Bolting circle PCD 150

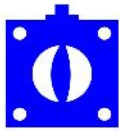


Characteristic of bolting

PCD160 type bolting hole is concentric circle, on the end of bolt there is a part prepared for wrench to screwing bolts. This type of bolting is able to install on the flange directly welded on the tank wall. PCD 150 type is non-rotation bolts the bolts are stuck in an oval hole and cannot rotate, it can be easy for installation.

Characteristic of Gaskets and blade seal

Our gasket is double O-ring, compare with normal o-ring our double o-ring gasket have double seals which is more reliable. the blade sealing ring is alien shape which is difficult to come out, the testing pressure is 6 bar (0.6Mpa) for the blade sealing ring.

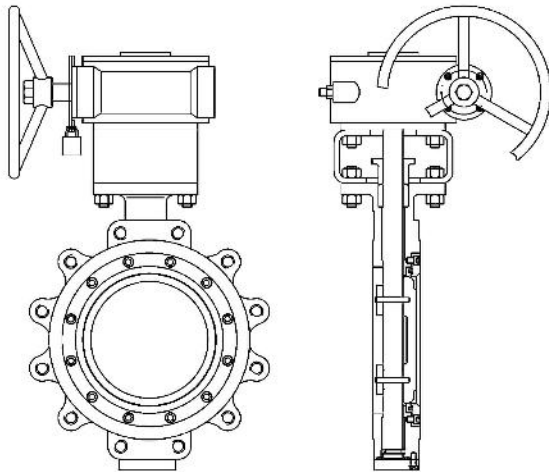


PERMA VALVES
Permanent Reliable !

High Performance Butterfly Valves

Introduction

The high performance butterfly valves is double eccentric design with PTFE seat ring fixed on valve body. It's durable and make sure zero leakage. PTFE is a perfect sealing material for high temperature transformer oil, temperature up to 160 C. Our high performance butterfly valve operation is very easy, with clear position indicator on gear box and pad locking is available to avoid mis-operation. With full tapped bolting holes, installation of this type of valve is very convenient.



Product information

EN/DIN Size: DN150,DN200,DN250,DN300,DN350,DN400

ANSI Size: 6", 8", 10", 12",14",16"

Material: Carbon Steel, 304/316 Stainless Steel, Bronze

Bolting circle: EN-1092, ANSI, GOST or as per user's request.

Application: Oil immersed power transformer/ Reactor,

Fluid: transformer Oil

Leakage test: 100% tested , Zero Leakage

Suitable temperature range: -30 to 120°C,-46 to 120°C,-60 to 120°C,

Coating: Factory standard or as per requirements of users

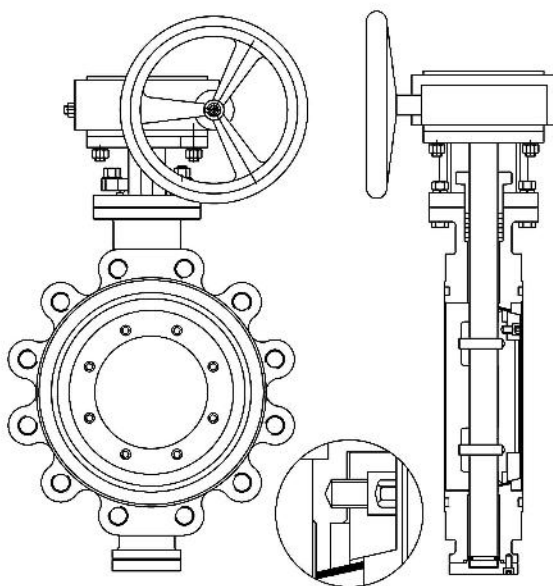
Locking: pad lock

Fluid direction: bi-directional

Disadvantage: one side groove for rubber gasket have to be on the mating flanges, the valve have to be flat face. and the rubber gasket dimensions have to escape the allen screw of the retainer.

Triple offset Butterfly Valve

The triple offset butterfly valves is triple eccentric design with PTFE seat ring fixed on the blade /disc. It's durable and make sure zero leakage. PTFE is a perfect sealing material for high temperature transformer oil, temperature up to 160 C. Our triple offset butterfly valve operation is very easy, with clear position indicator on gear box and pad locking is available to avoid mis-operation. With full tapped bolting holes, installation of this type of valve is very convenient. Due to the seat ring is fixed on the disc, the groove of rubber gaskets of both sides can be make on the valve body.



Product information

EN/DIN Size: DN150,DN200,DN250,DN300,DN350,DN400

ANSI Size: 6", 8", 10", 12",14",16"

Material: Carbon Steel, 304/316 Stainless Steel, Bronze

Bolting circle: EN-1092, ANSI, GOST or as per user's request.

Application: Oil immersed power transformer/ Reactor,

Fluid: transformer Oil

Leakage test: 100% tested , Zero Leakage

Suitable temperature range: - 30 to 120°C, - 46 to 120°C, -46 to 120°C,

Coating: Factory standard or as per requirements of users

Locking: pad lock

Fluid direction: Single directional

Introduction

Ball valves are widely used in power transformer making industry, due to the good performance, easy to operate, good sealing (zero leakage). the PTFE seat suits hot transformer oil so well, normally the valve service life is longer than the transformer. Hengyang Perma Valves have developed several types of ball valves for power transformers.

Flanged ball valve (Bronze, Brass, Stainless Steel)



Product information

EN/DIN Size: DN25,DN40,DN50,DN65,DN80,DN100,

ANSI Size: 1", 1.1/2",2",1.1/2", 3", 4"

Material: Bronze, Brass, 304/316 Stainless Steel

Bolting circle: EN-1092, ANSI, GOST or as per user's request.

Application: Oil immersed power transformer/ Reactor,

Fluid: transformer Oil

Leakage test: 100% tested , Zero Leakage

Suitable temperature range: -30 to 120°C, -46 to 120°C, -60 to 120°C, (Please inform us the ambient temperature before quotation)

Painting: none, Locking: pad lock or non locking

Flange face: Flat face or Gasket groove

3 way ball valve

Product information

EN/DIN Size: DN15,DN20,DN25,DN40,DN50,DN80,DN100
DN125,DN150

ANSI Size: 1/2", 3/4", 1", 1.1/2", 2", 3", 4", 5", 6"

Material: 304/316 Stainless Steel, CS

Bolting circle: EN- 1092, ANSI, GOST or as per user's request.

Application: Oil immersed power transformer/ Reactor,

Fluid: transformer Oil

Leakage test: 100% tested , Zero Leakage

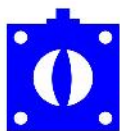
Suitable temperature range: -30 to 120°C, -46 to 120°C, -60 to 120°C, (Please inform us the ambient temperature before quotation)

Painting: none,

Locking: pad lock or non locking

Flange face: Flat face or Gasket groove





PERMA VALVES

Permanent Reliable !

Ball Valve Series

Introduction

Trunnion type Flanged ball valve (Big size Ball Valve)



Product information

EN/DIN Size: DN150, DN200, DN250, DN300, DN350

ANSI Size: 6", 8", 10", 12", 14"

Material: Carbon Steel, Stainless Steel,

Bolting circle: EN-1092, ANSI, GOST or as per user's request.

Application: Oil immersed power transformer/ Reactor,

Fluid: transformer Oil

Leakage test: 100% tested , Zero Leakage

Suitable temperature range: -30 to 120°C, -46 to 120°C, -60 to 120°C, (Please inform us the ambient temperature before quotation)

Painting: factory standard, Locking: pad lock or non locking

Flange face: Flat face or Gasket groove

Threaded / welding ball valves (Bronze, brass, Stainless steel, Duplex)



Product information

EN/DIN Size: DN15, DN20, DN25, DN40, DN50

ANSI Size: 1/2", 3/4", 1", 1.1/2", 2",

Material: Carbon steel, stainless steel 304/ 316/ 316L, Duplex Brass, forging/casting

Application: Oil immersed power transformer/ Reactor,

Fluid: transformer Oil

Leakage test: 100% tested , Zero Leakage

Suitable temperature range: -30 to 120°C, -46 to 120°C, -60 to 120°C, (Please inform us the ambient temperature before quotation)

Painting: none,

Ends: NPT thread, BSP, BSPT thread, Socket welding



Introduction

Globe valves are widely used in power transformer making industry. Hengyang Perma Valves have developed several types of globe valves for power transformers.

Non-rising stem Globe valve

Product information

EN/DIN Size: DN25, DN50, DN80, DN100,

ANSI Size: 1", 2", 3", 4"

Material: Stainless Steel

Bolting circle: EN-1092, ANSI, GOST or as per user's request.

Application: Oil immersed power transformer/ Reactor,

Fluid: transformer Oil Leakage test: 100% tested, Zero

Leakage Suitable temperature range: -30 to 120°C, -46 to 120°C, -60 to 120°C, (Please inform us the ambient temperature before quotation)

Flange face: Flat face or Gasket groove



Rising Stem globe valve (Carbon Steel, Stainless steel, Duplex)

Product information

EN/DIN Size: DN15, DN20, DN25, DN40, DN50, DN65, DN80, DN100, DN150

ANSI Size: 1/2", 3/4", 1", 1 1/2", 2", 3", 4", 5", 6"

Material: Carbon Steel, Stainless Steel

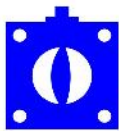
Bolting circle: EN-1092, ANSI, GOST or as per user's request.

Application: Oil immersed power transformer/ Reactor, Fluid: transformer Oil Leakage test: 100% tested, Zero Leakage Suitable

temperature range: -30 to 120°C, -46 to 120°C, -60 to 120°C, (Please inform us the ambient temperature before quotation)

Painting: none, Locking: pad lock or non locking Flange face: Flat face or Gasket groove





PERMA VALVES

Permanent Reliable !

Gate Valve Series

Introduction

Gate valves are widely used in power transformer making industry. Hengyang Perma Valves have developed several types of gate valves for power transformers.

Non-rising stem Gate valve (Bronze, Brass, Stainless steel)

Product information

EN/DIN Size: DN25, DN50, DN80, DN100, DN150

ANSI Size: 1", 2", 3", 4", 6"

Material: Bronze, Brass, Stainless Steel

Bolting circle: EN-1092, ANSI, GOST or as per user's request.

Application: Oil immersed power transformer/ Reactor,

Fluid: transformer Oil

Leakage test: 100% tested, Zero Leakage

Suitable temperature range: -30 to 120°C, -46 to 120°C, -60 to 120°C, (Please inform us the ambient temperature before quotation)

Flange face: Flat face or Gasket groove



gate valve (Carbon Steel, Stainless steel, Duplex)

Product information

EN/DIN Size: DN15, DN20, DN25, DN40, DN50, DN65, DN80, DN100, DN150, DN200, DN250, DN300

ANSI Size: 1/2", 3/4", 1", 1 1/2", 2", 3", 4", 5", 6", 8", 10", 12"

Material: Carbon Steel, Stainless Steel

Bolting circle: EN- 1092, ANSI, GOST or as per user's request.

Application: Oil immersed power transformer/ Reactor,

Fluid: transformer Oil Leakage test: 100% tested, Zero Leakage

Suitable temperature range: -30 to 120 C, -46 to 120 C, -60 to 120 C, (Please inform us the ambient temperature before quotation)

Flange face: Flat face or Gasket groove



Introduction

DIN 42568 Oil drain valve for transformer (Bronze, Brass)

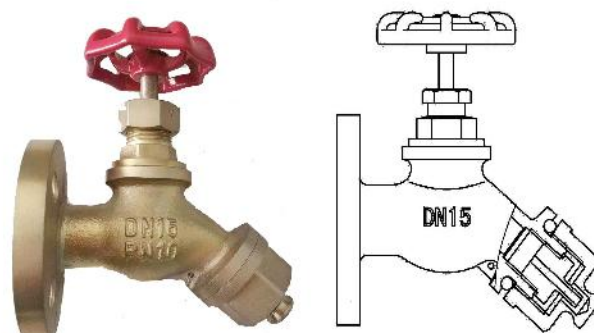
Product information

Flange Bolting circle: EN-1092, ANSI, GOST or as per user's request.

Application: Oil immersed power transformer/Reactor,
Fluid: transformer Oil

Leakage test: 100% tested , Zero Leakage Suitable
 temperature range: -30 to 120□, -46 to 120□, -60
 to 120□, (Please inform us the ambient temperature
 before quotation)

Flange face: Flat face or Gasket groove



Ball type drain valve (Carbon Steel, Stainless steel, Brass,)

Product information

EN/DIN Size: DN15, DN20, DN25, DN40, DN50,

ANSI Size: 1/2", 3/4", 1", 1.1/2", 2"

Material: Carbon Steel, Stainless Steel, Brass,

Bolting circle: EN- 1092, ANSI, GOST or as per
 user's request.

Application : Oil immersed power transformer/
 Reactor,

Fluid : transformer Oil Leakage test : 100 %
 tested ,Zero Leakage

Suitable temperature range: -30 to 120 C, - 46
 to 120 C , -60 to 120 C, (Please inform us the
 ambient temperature before quotation)

Flange face: Flat face or Gasket groove



Double flanged globe valve with drain Plug (Cast Iron)

Product information

EN/DIN Size: DN25, DN50, DN80,

ANSI Size: 1", 2", 3"

Material: Cast Iron

Bolting circle: EN-1092, ANSI, GOST

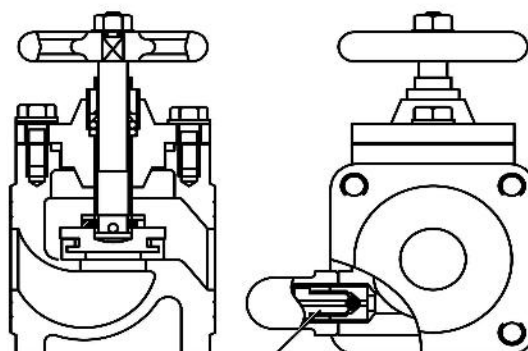
Application: Oil immersed power transformer/ Reactor,
Fluid: transformer Oil

Leakage test: 100% tested , Zero Leakage

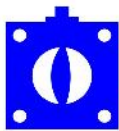
Suitable temperature range: -30 to 120□,

(Please inform us the ambient temperature before quotation)

Flange face: Flat face or Gasket groove



Oil Sampling Device



PERMA VALVES

Permanent Reliable !

Drain Valve Series

Globe valve for transformer tank oil drain (Brass)

Product information

EN/DIN Size: DN15, DN20, DN25, DN40, DN50,

ANSI Size: 1/2", 3/4", 1", 1.1/2", 2"

Material: Stainless Steel, Brass,

Application: Oil immersed power transformer/
Reactor,

Fluid: transformer Oil Leakage test: 100 %
tested, Zero Leakage

Suitable temperature range: -30 to 120 C, - 46
to 120 C, -60 to 120 C, (Please inform us the
ambient temperature before quotation)



Globe Valve 1" & 2" with Oil sampling Device

Material: Brass,

The advantage of our oil sampling device:

1. installed with the globe drain valve, take oil sample convenient.
2. with protection cover, clean and safe.
3. avoid air into the transformer during take oil sample.
4. take oil sample totally isolated from air, make sure oil sample testing accurate.

(Notice: Please make sure the transformer tank is under positive pressure before you take oil samples, or the air may get into the transformer)

Single Flange Drain Valve with sampler. (Globe type, Brass Material)

Material: Casting brass

Inlet: Square flange, outlet thread ends

Oil sampling device: forged brass

End plug: forged brass

Rating 300 W.O.G. Max. Working Pressure: 0.5Mpa



Single Flange Drain Valve with sampler. (Gate type, Stainless steel Material)

Material: Stainless steel Grade 304 or Grade 316

Inlet: Round flange, outlet thread ends

Oil sampling device: forged brass

End plug: stainless steel

Rating: 200 W.O.G. Max. working pressure: 1Mpa.



Oil sampling Device

Introduction

There are manifold function in the device, such as lubricate and washing, waste oil discharge, air discharge and sampling. the application result shows that: the new type of full sealed transfo-rmer oil sampling device has the advantages of flexible operati-on, easy to use, safe and reliable, it radically solves the problem of full sealed transformer oil sampling difficulty in power system, and greatly improves the work efficiency of full sealed transfor-mer oil sampling.



Material: Forged Brass

Parts: Body, Trim, Cover, Seat, Chain

Sizes: 1/2" 3/8"

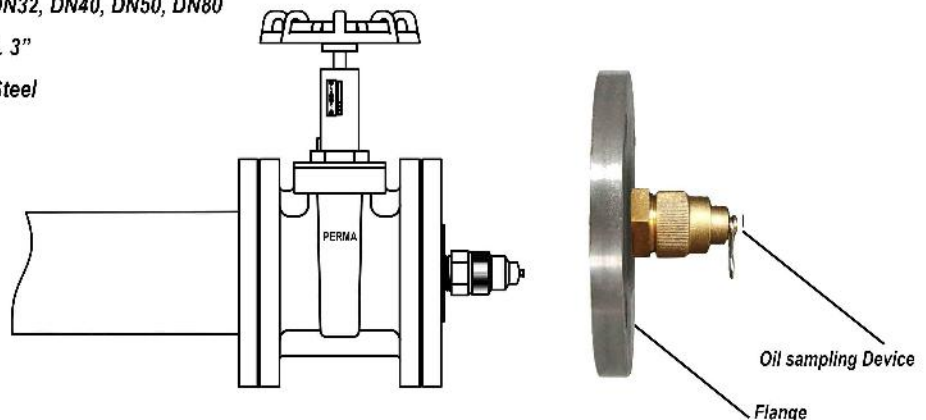
Application: as Oil sampling device , fixed with Globe drain valve Ball Drain valve, Flange, or NPT female thread pipe.

Oil sampling Device with flange

Size: EN/ DIN DN15, DN20, DN25, DN32, DN40, DN50, DN80

Size: ANSI 1/2", 3/4", 1", 1.1/2", 2", 3"

Flange material: Brass, Stainless Steel



Oil sampling device with welding end

Welding connector material: carbon steel/Stainless steel

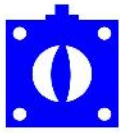
Welding ends: Socket welding or butt welding

Oil sampler Material: forged brass

Sampler sealing material: NBR,Viton,PTFE



Above Flanged or welding type oil sampling devices customized service is available.



Valve Customized Service

Perma Valves provide customized services for some of our products. In many transformer repair or refurbishment projects, the valves need to replace. while the original manufacturer of the valve is no longer able to provide the same products. especially some transformers have already run for several decades. In this case, you can send the information of the old valve to us. with the information like valve material, dimensions of flange, working temperature and environments. Our engineers will workout a solution and provide a drawing of new valve which can be replace the old valve. and our sales person will make quotation for the customized valve.

Following photos are some of the cases and examples.

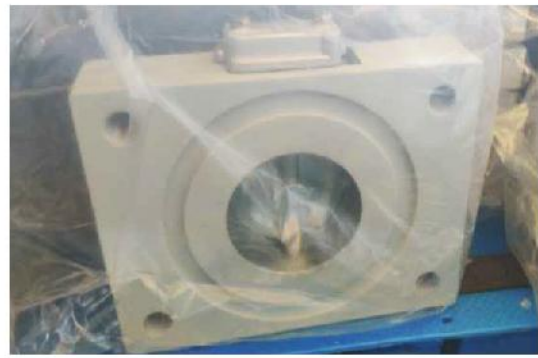
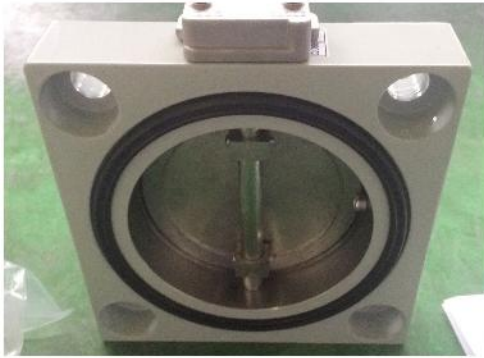


Round butterfly valve with special bolting holes, for buchholz relay.



Welding type butterfly valves





6" GE Square BFV & rectangle shape BFV.



Special Bolting Holes



with stainless steel locking device.



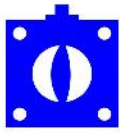
Handlever type

Bronze material



Reliable design for transformer

Disc sealing ring is fixed by retainer and locked by screws.

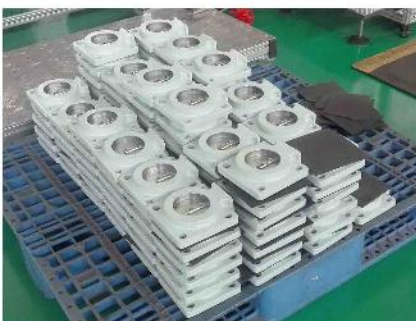


PERMA VALVES
Permanent Reliable !

Our transformer valves on service



Workshop



International Markets





Hengyang Perma Valves Co.,Ltd

Factory address 1: Daxianping, 1-47 A Block, Yanfeng District, Hengyang, Hunan ,P.R.China

Factory address 2: Anfeng Industrial Zone,Oubei,Wenzhou,Zhejiang, P.R. China

Telephone: +86 135 75297259

E-mail: sales@perma-valves.com

Web site: www.perma-valves.com