

Tecnoil Valve Model ON-OFF/H Ratings ANSI 150-2500

Application

Tecnoil Valve Model ON-OFF/H has been designed to be used in the field of energy and oil/gas for temperatures over 220°C. A wide range of materials offers a choice to suit the individual application. The smooth body flowpath reduces turbulence, minimising the effects of erosion and noise.

Design Features

- Globe and angle body, cast or forged.
- Screwed-in seat trims or Quick-change.
- Trim type: ON-OFF
- The valve is normally supplied with plug type disc.
- Both balanced and unbalanced trim designs available.

Benefits

- Top-entry servicing with immediate access to plug and seat.
- Reduced inspection and maintenance costs.
- Trims compact and easy to install.
- Excellent flow capacity and control rangeability.
- Reduces potential erosion and noise problems.



Fig. 1 Tecnoil Valve Model ON-OFF/H

ENGINEERING DATA - TECNOIL VALVE Model ON-OFF/H Valves

General

The Model ON-OFF/H range of valves has been developed to provide a cost effective, reliable and easily maintained control valve capable of working in rigorous environments.

Quick-change trim provides for easily accessible seat and trim components to minimize fitting and parts replacement times. Stem guided ON-OFF trim gives excellent rigidity and resistance to vibrations.

End Connection Sizes/Types:

1 in. (25 mm) – 24 in. (600 mm)

Integral Flanges, Socket weld ends.

For further information, contact the factory.

Design Standard:

ANSI B16.34.

Valve Body Ratings:

ANSI 150 - ANSI 2500.

Body Configurations:

Globe, Angle.

Body Face to Face Dimensions:

See table page. 9.

Bonnet Styles:

Standard, Extended, Radiating fin.

For further information, contact the factory.

Standard Bonnet Packing:

Graphite.

Trim type:

ON-OFF

Inherent Trim Characteristic:

Quick opening.

Plug Options:

Balanced, Unbalanced.

Plug/Seat Leakage Class:

Class IV ANSI/FCI 70.2 as standard.

Options:

- Class V

Paint:

A wide range of paint finishes are available.

Inspection and Testing:

Inspection & Testing to Tecnoil Valve's standard as well as to almost all international standards / customer's requirements.

Actuation:

Various types of actuation are available, including: pneumatic piston and diaphragm spring, direct and reverse action. In addition electric and hydraulic actuators are available.

Instruments:

A wide range of control instruments are available, including: Air-filter Regulators, Solenoid valves, Limit Switches etc...

Main Materials:

Body / Bonnet:

| Material Group or Common Name | Nominal Type | UNS | Forging Spec | Casting Spec. Equivalent | DIN W. No |
|-------------------------------|-----------------------|--------|--------------|--------------------------|-----------|
| Carbon steel | C-Mn-Fe | K03504 | A105N | A216-WCB; A216 WCC | 1.0460 |
| Low Alloy Steel | 1.1/4Cr-1/2Mo | K11572 | A182-F11 cl2 | A217-WC6 | 1.7335 |
| | 2.1/4Cr-1Mo | K21590 | A182-F22 cl3 | A217-WC9 | 1.7380 |
| | 9Cr-1Mo | K90941 | A182-F9 | A217-C12 | 1.7386 |
| | 9Cr-1Mo-V | - | A182-F91 | A217-C12A | 1.4903 |
| Stainless Steel | 304: 18Cr-8Ni | S30400 | A182-F304 | A351-CF8 | 1.4301 |
| | 316: 16Cr-12Ni-2Mo | S31600 | A182-F316 | A351-CF8M | 1.4401 |
| | 347: 18Cr-10Ni-Cb(Nb) | S34700 | A182-F347 | A351-CF8C | 1.4550 |

Trim:

- 17-4 PH
- SS 316
- SS 316 + Stellite
- SS 410
- SS 410 + Stellite
- SS 420
- SS 304
- SS 304 + Stellite
- A182 F91
- A182 F91 + Stellite
- A182 F347
- A182 F347 + Stellite
- A182 F22
- A182 F44
- AISI 440C
- INCONEL 625
- MONEL

For further information, contact the factory.

VALVE BODY STYLE OPTIONS

The Tecnoil Valve Model ON-OFF/H provides two basic body styles: globe and angle. Many parts are interchangeable, with the exception of the valve bodies. The angle type has an optional venturi seat which may be specified in order to provide additional protection to the valve outlet.



Fig. 2 Globe Valve Body with Flanged Connections



Fig. 3 Angle Valve Body with Butt Welded Connections

BONNET AND PACKING OPTIONS

Only forged, usually constructed in the same material as the valve body.

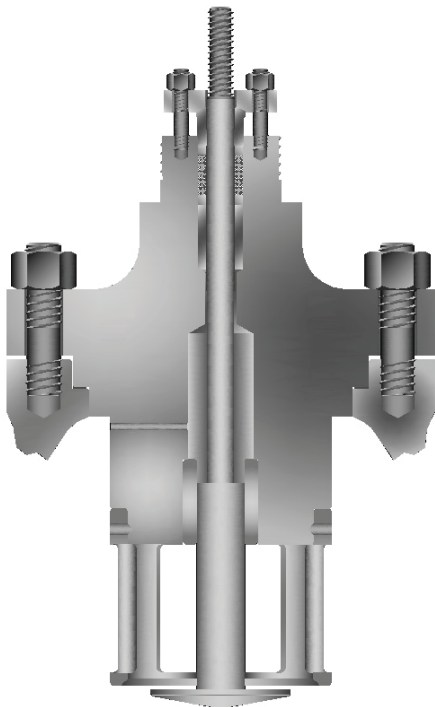


Fig. 4 Standard bonnet with retainer

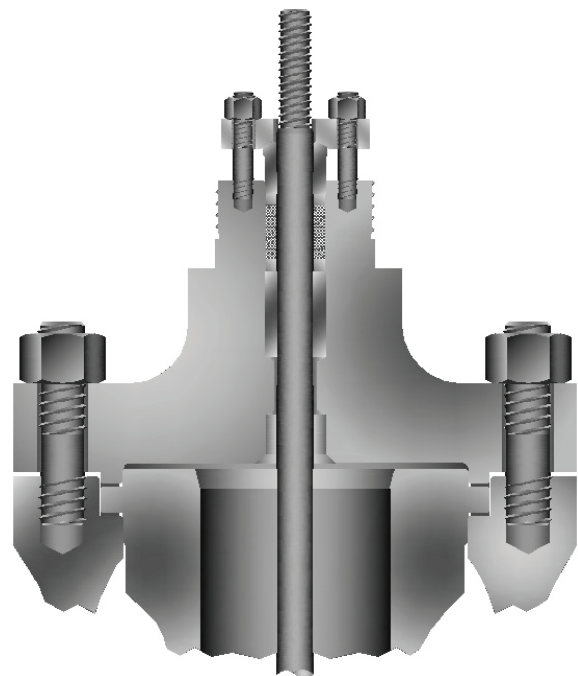


Fig. 5 Standard bonnet with cylinder guide

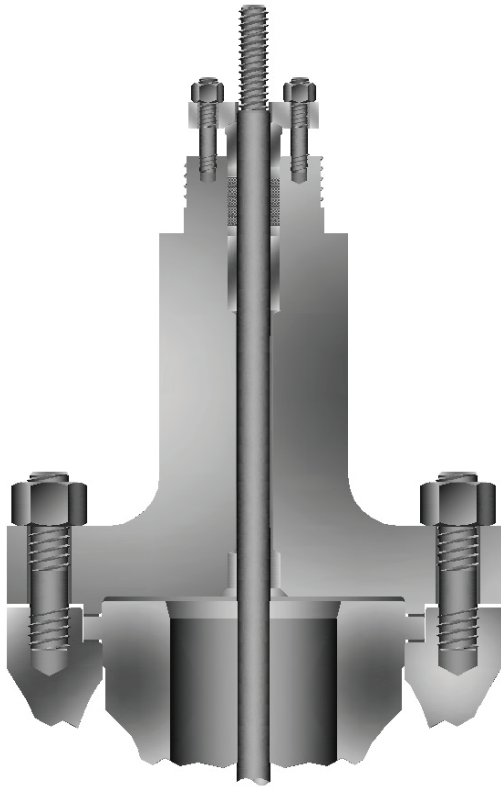


Fig. 6 Extended Bonnet with cylinder guide

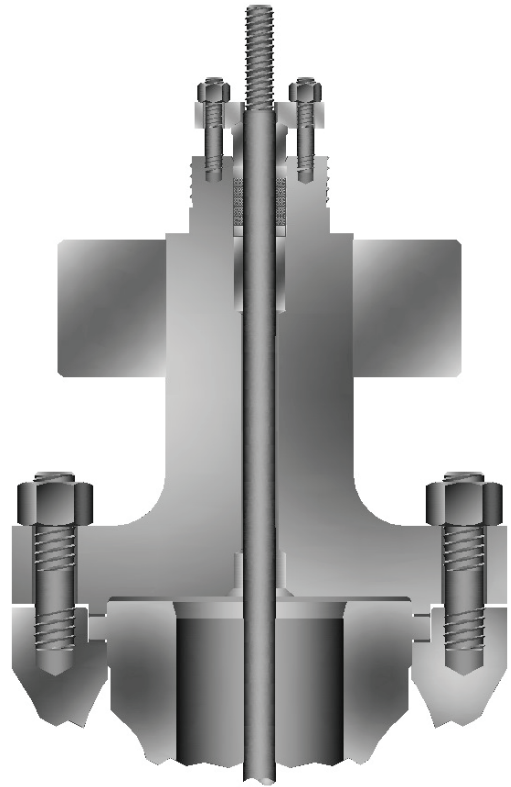


Fig. 7 Radiating fin bonnet with cylinder guide

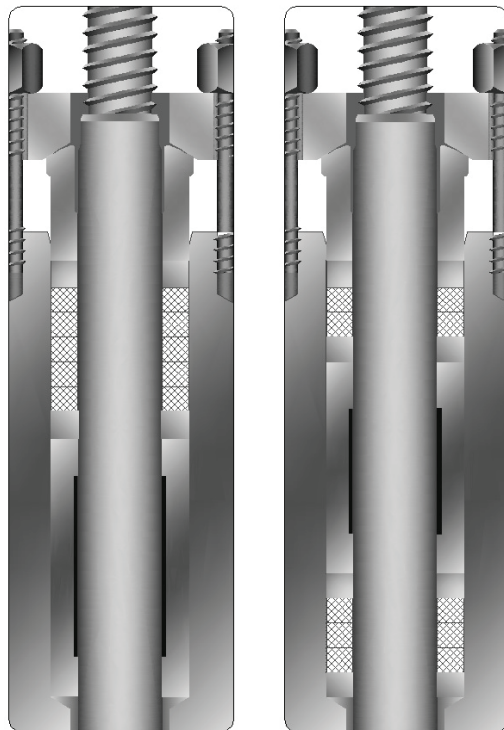


Fig. 8 Graphoil Packing Options: Single and Double type

STANDARD TRIM AVAILABLE

ON-OFF Trim

ON-OFF trims are available in balanced and unbalanced configurations, used for modulating and ON/OFF service.

- **Valve Size Options**
Up to 24 in. ANSI 150-2500.
For larger sizes, consult the factory.
- **Plug Options**
Balanced and Unbalanced, with metal to metal seating faces.
- **Characteristics Available**
Quick opening.
- **Direction of flow**
Either direction, dependent upon application.
- **Hard Trim Options**
 - Heat hardening.
 - Stellite coating on seat and/or plug.
 - Solid stellite seat and plug.

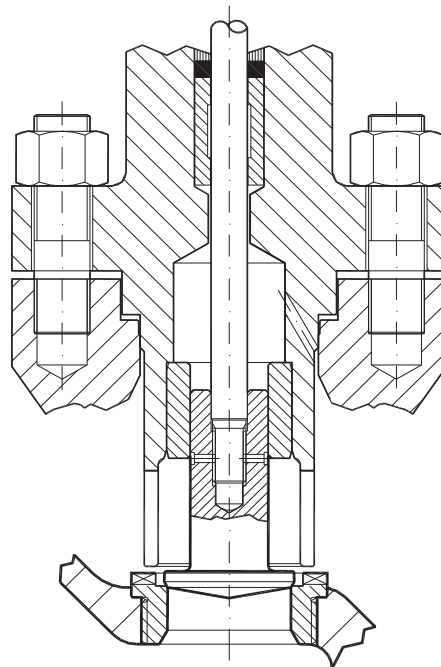


Fig. 9 Threaded seat

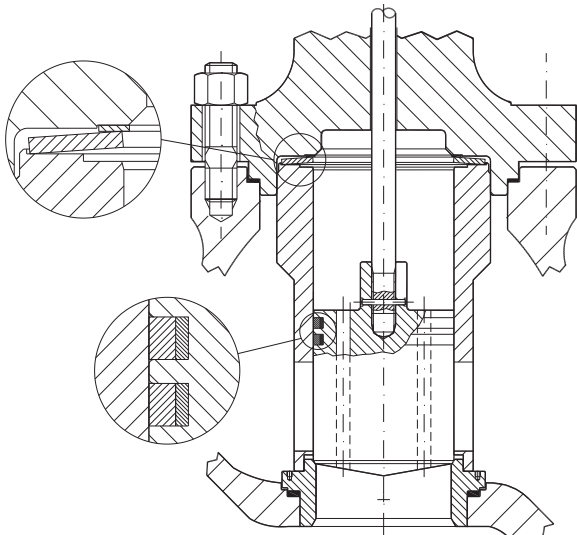


Fig. 10 Quick-change seat – Piston ring – Balanced trim

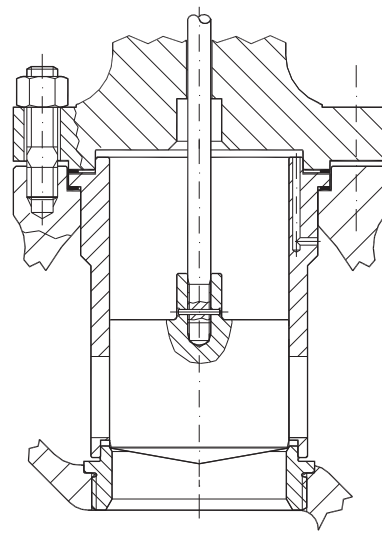


Fig. 11 Threaded seat – Unbalanced trim

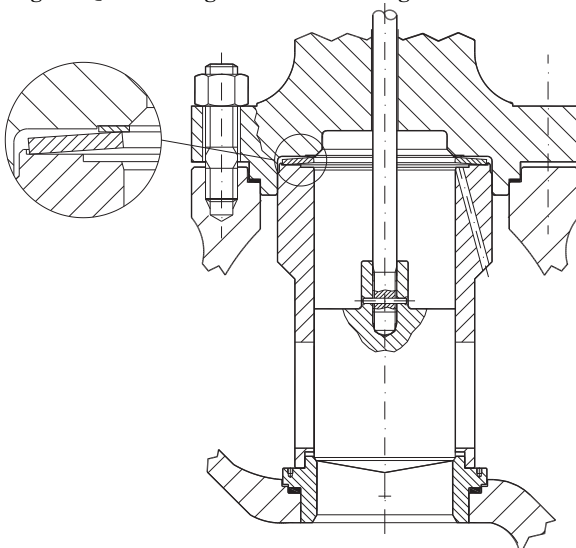


Fig. 12 Quick-change seat - Unbalanced trim

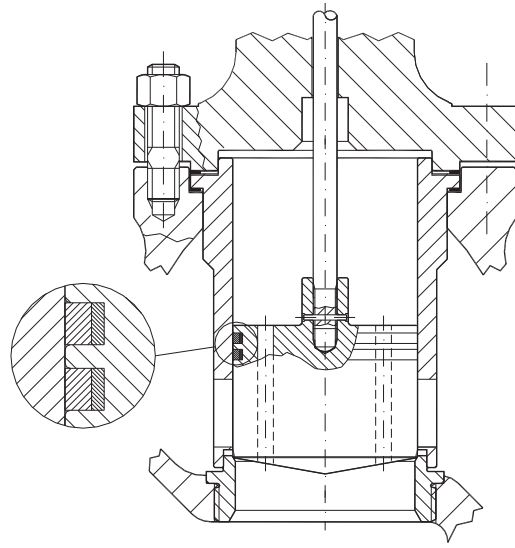


Fig. 13 Threaded seat - Balanced trim

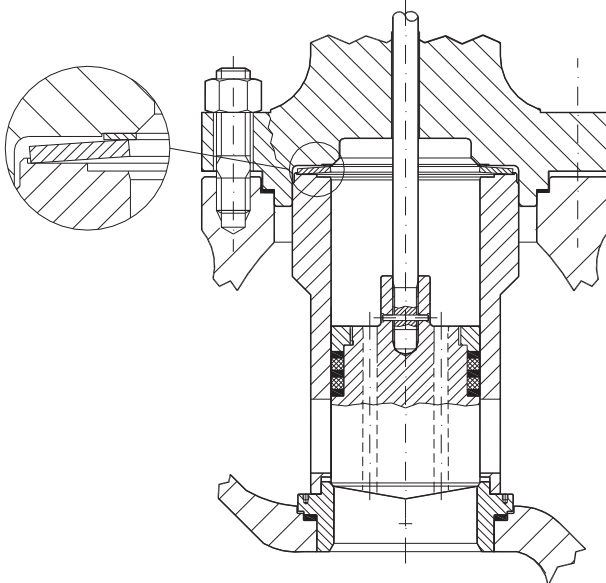


Fig. 14 Quick-change seat - Balanced trim for class V

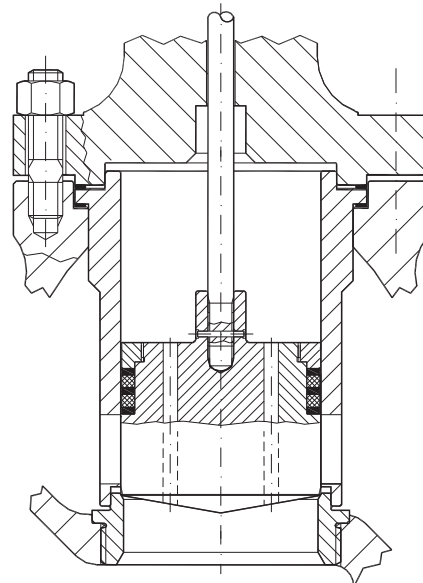


Fig. 15 Threaded seat - Balanced trim for class V

TECNOIL VALVE Model ON-OFF/H – DESIGN Cv Values

Flow Coefficient Cv

The Cv values detailed in the table are at the maximum rated valve travel.

| Valve Size | | Travel mm | Cv * | | |
|------------|-----|--------------|--------------|---------------|-----------|
| inches | mm | | ANSI 150-600 | ANSI 900-1500 | ANSI 2500 |
| 1 | 25 | 25 | 14.5 | 13 | 9 |
| 1 ½ | 40 | 25 | 30 | 25 | 16 |
| 2 | 50 | 25 | 55 | 50 | 32 |
| 3 | 80 | 40 | 120 | 102 | 70 |
| 4 | 100 | 50 | 210 | 175 | 110 |
| 6 | 150 | 60 | 440 | 362 | 240 |
| 8 | 200 | 80 | 700 | 555 | 375 |
| 10 | 250 | 100 | 1100 | 850 | 595 |
| 12 | 300 | 100 | 1450 | 1000 | 810 |
| 14 | 350 | 130 | 2050 | 1270 | - |
| 16 | 400 | 130 | 2450 | 1850 | - |
| 18 | 450 | 150 | 3250 | 2000 | - |
| 20 | 500 | 170 | 3800 | 2800 | - |
| 24 | 600 | 200 | 5400 | 4500 | - |

* Different values can be given / Cv values are excluded from the table in case multicage trims have been selected.

SEAT LEAKAGE

Seat leakage rates are normally measured in accordance with the ANSI/FCI 70-2 specification, using the leakage class designation. The following table defines the achievable leakage class with the plug/seat design available in the Model ON-OFF/H.

| American National Standard Control valve seat leakage ANSI/FCI 70-2 | | |
|---|---|--|
| Leakage class | Valve type | Maximum seat leakage. |
| Class IV | Single seat control valve with metal to metal seats. | 0,01% of rated valve capacity. |
| Class V | Single seat control valve with metal to metal seats having exceptional seat tightness or resilient seat dependant on application. | 0,0005 ml/min per inch of orifice diameter per psi differential. |

TECNOIL VALVE Model ON-OFF/H - DIMENSIONS

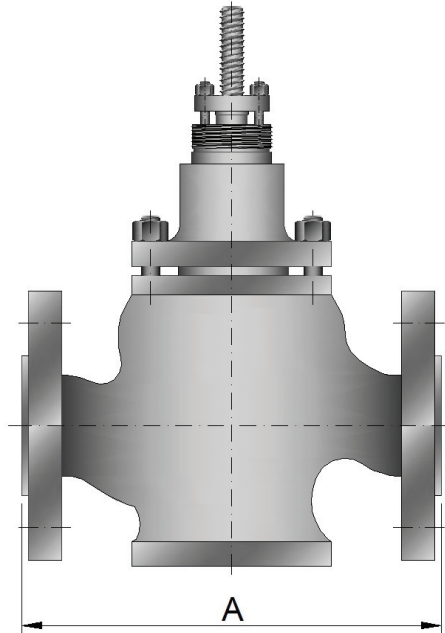


Fig. 16 Face to face dimensions

| Valve size | | A - Face to Face | | | | | | | | | | | |
|------------|-----|------------------|------|----------|------|----------|------|----------|------|-----------|------|-----------|------|
| inches | mm | ANSI 150 | | ANSI 300 | | ANSI 600 | | ANSI 900 | | ANSI 1500 | | ANSI 2500 | |
| | | RF | RJ | RF | RJ | RF | RJ | RF | RJ | RF | RJ | RF | RJ |
| 1" | 25 | 184 | 197 | 197 | 210 | 210 | 210 | - | - | 254 | 254 | 308 | 308 |
| 1 1/2" | 40 | 222 | 235 | 235 | 248 | 251 | 251 | - | - | 305 | 305 | 384 | 387 |
| 2" | 50 | 254 | 267 | 267 | 283 | 286 | 289 | - | - | 368 | 371 | 451 | 454 |
| 3" | 80 | 298 | 311 | 318 | 334 | 337 | 340 | 381 | 384 | 470 | 473 | 578 | 584 |
| 4" | 100 | 352 | 365 | 368 | 384 | 394 | 397 | 457 | 460 | 546 | 549 | 673 | 683 |
| 6" | 150 | 451 | 464 | 473 | 489 | 508 | 511 | 610 | 613 | 705 | 711 | 914 | 927 |
| 8" | 200 | 543 | 556 | 568 | 584 | 610 | 613 | 737 | 740 | 832 | 842 | 1022 | 1038 |
| 10" | 250 | 673 | 686 | 708 | 724 | 752 | 755 | 838 | 841 | 991 | 1001 | 1270 | 1292 |
| 12" | 300 | 737 | 750 | 775 | 791 | 819 | 822 | 965 | 968 | 1130 | 1146 | 1422 | 1444 |
| 14" | 350 | 889 | 902 | 927 | 943 | 972 | 975 | 1029 | 1039 | 1257 | 1276 | - | - |
| 16" | 400 | 1016 | 1029 | 1057 | 1073 | 1108 | 1111 | 1130 | 1140 | 1384 | 1406 | - | - |
| 18" | 450 | 1096 | 1109 | 1143 | 1159 | 1202 | 1205 | 1219 | 1232 | 1537 | 1559 | - | - |
| 20" | 500 | 1202 | 1215 | 1254 | 1273 | 1318 | 1324 | 1321 | 1334 | 1664 | 1686 | - | - |
| 24" | 600 | 1416 | 1429 | 1475 | 1497 | 1550 | 1560 | 1549 | 1568 | 1943 | 1971 | - | - |

