

Green Control - Valve Model MICROFLOW/H Ratings ANSI 150-2500

Application

Control Valve Model MICROFLOW-H has been designed to be used in the field of energy and oil/gas for temperatures over 200°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

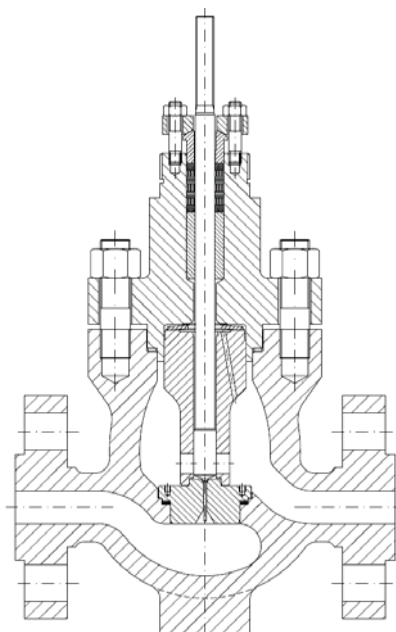
- Globe and angle body, cast or forged.
- Screwed-in seat trims or Quick-change.
- Trim type: Contoured and Cage.
- Inherently characterised trims available in Linear, Equal percentage, Quick opening.

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 Valve Model MICROFLOW-H Globe Valve
1" ANSI 2500 with pneumatic actuator.**



ENGINEERING DATA - CONTROL VALVE Model MICROFLOW/H Valves

General

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

The quick-change trim provides for easily accessible seat and trim components to minimise fitting and parts replacement times. Stem guided, in both balanced and unbalanced configuration, gives excellent rigidity and resistance to vibrations.

End Connection Sizes/Types:

1/2 in. (13 mm) – 3/4 in. (18 mm) - 1 in. (25 mm)

Integral Flanges, Butt or 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. 8.

Bonnet Styles:

Standard, Extended, Radiating fin.

For further information, contact the factory.

Standard Bonnet Packing:

Graphite.

Trim type:

Contoured and Cage.

Inherent Trim Characteristic:

Linear, Equal percentage, Quick opening.

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 GC 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: Positioners, Air-filter Regulators, Volume Boosters, Lock-up valves, 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 Control Valve Model MICROFLOW/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 Cast and Forged Globe Valve Body



Fig. 3 Cast and Forged Angle Valve Body

BONNET AND PACKING OPTIONS

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

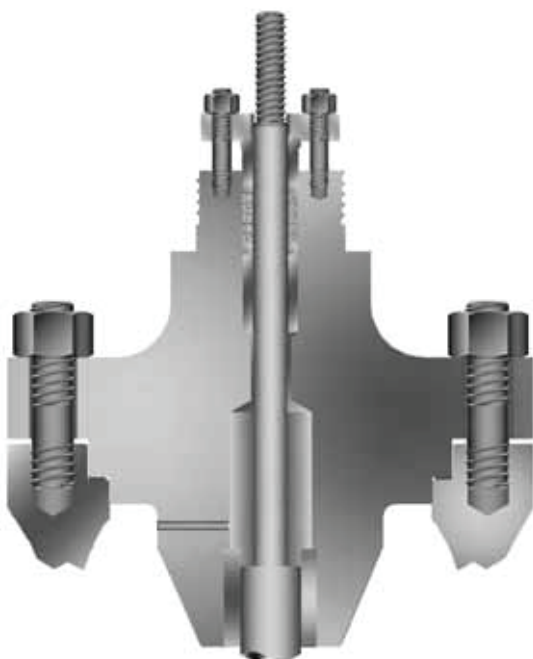


Fig. 4 Standard bonnet for Contoured Trim
(Seat Leakage Class IV)

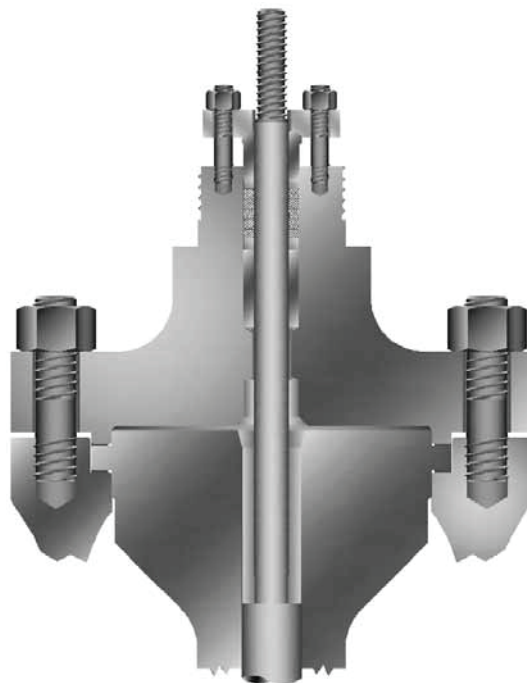


Fig. 5 Standard bonnet for Contoured Trim
(Seat Leakage Class V)

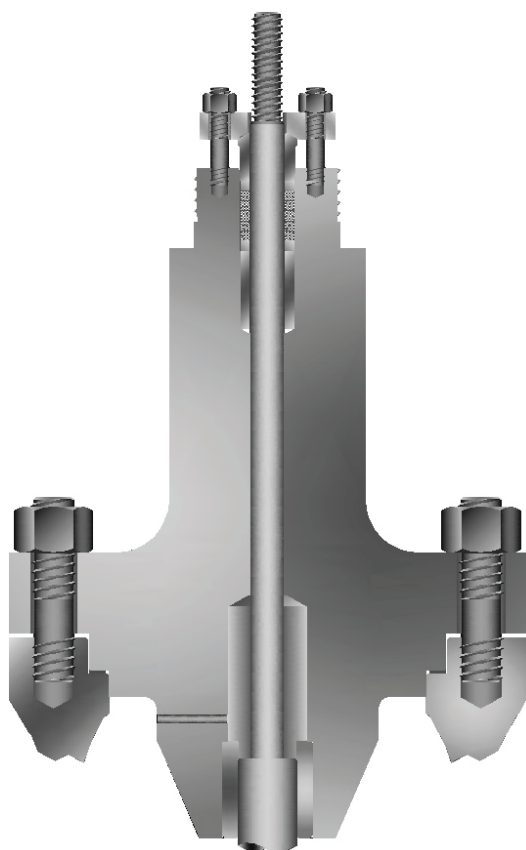


Fig. 6 Extended bonnet

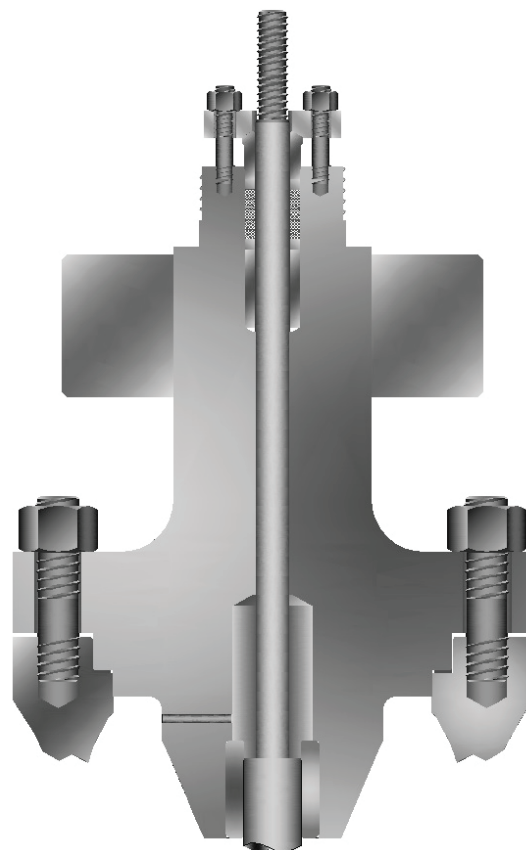


Fig. 7 Radiating fin bonnet

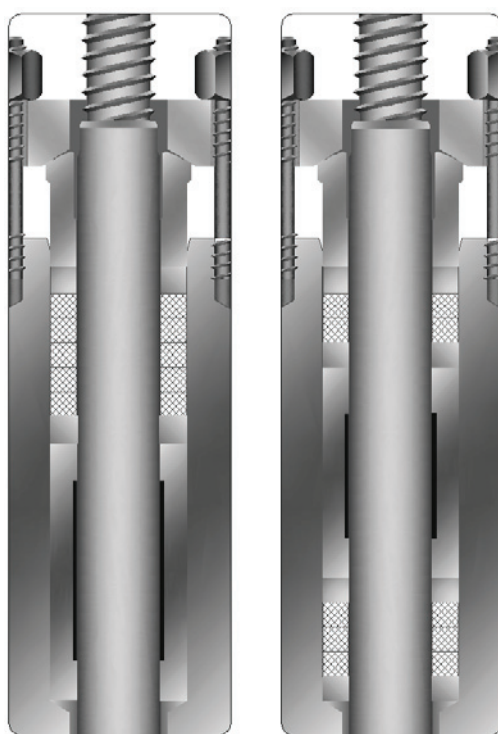


Fig. 8 Graphoil Packing Options: Single and Double type

STANDARD TRIM AVAILABLE

Contoured, Cage and Multicage trims are available in unbalanced configurations, used for modulating and ON/OFF service.

- **Valve Size Options**

1/2 in. (13 mm) – 3/4 in. (18 mm) – 1 in. (25 mm).

For larger sizes consult factory.

- **Plug Options**

Unbalanced, with metal to metal seating faces.

- **Characteristics Available**

Equal percentage, Linear, 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.

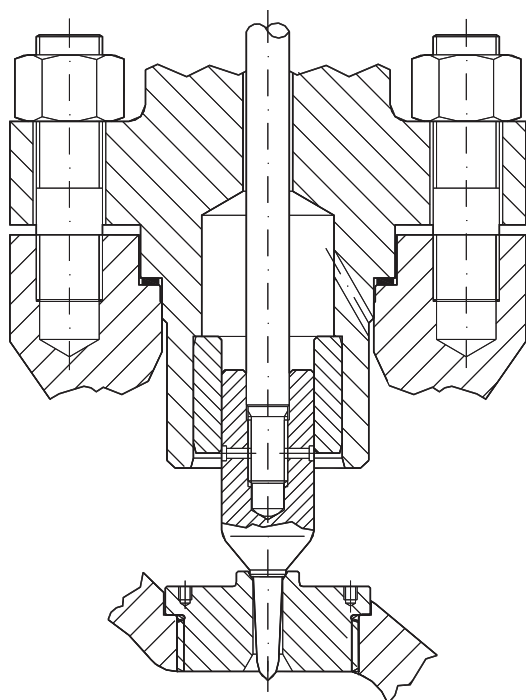
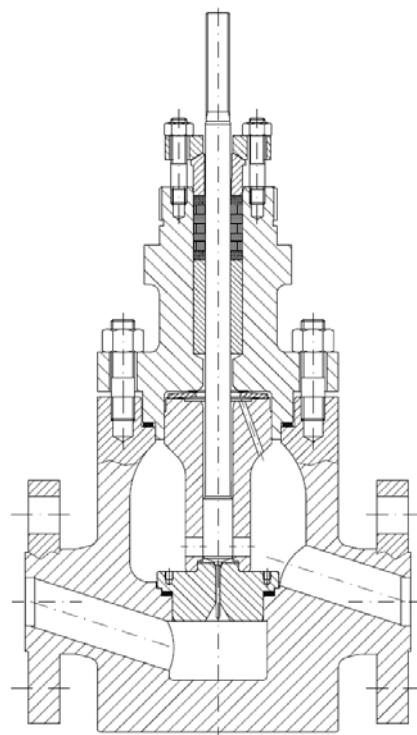


Fig. 9 Threaded seat - (Seat Leakage Class IV)

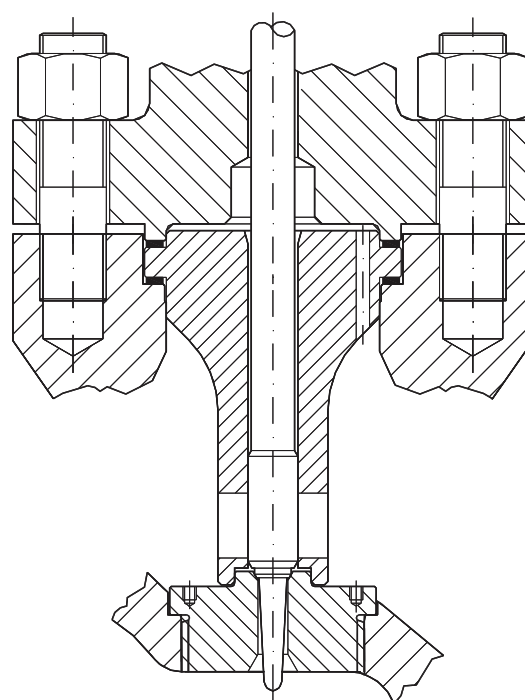


Fig. 10 Threaded seat – Cage Trim (Seat Leakage Class V)

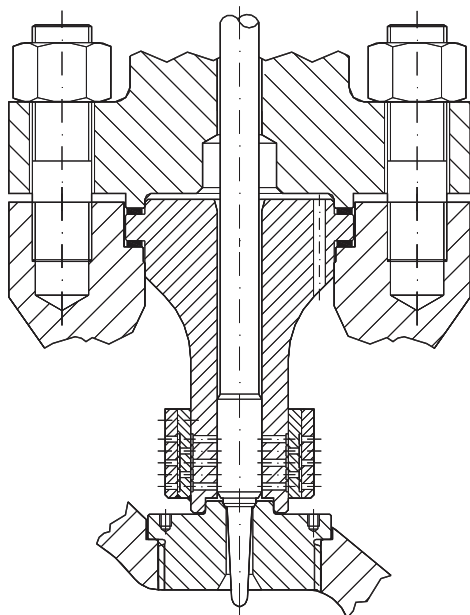


Fig. 11 Threaded seat – Multicage Trim
(Seat Leakage Class V)

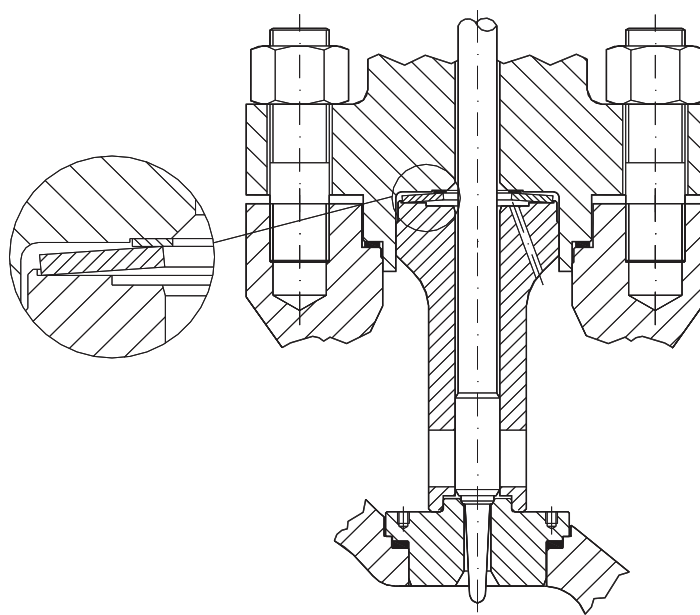


Fig. 12 Quick-change seat – Cage Trim (Seat Leakage Class V)

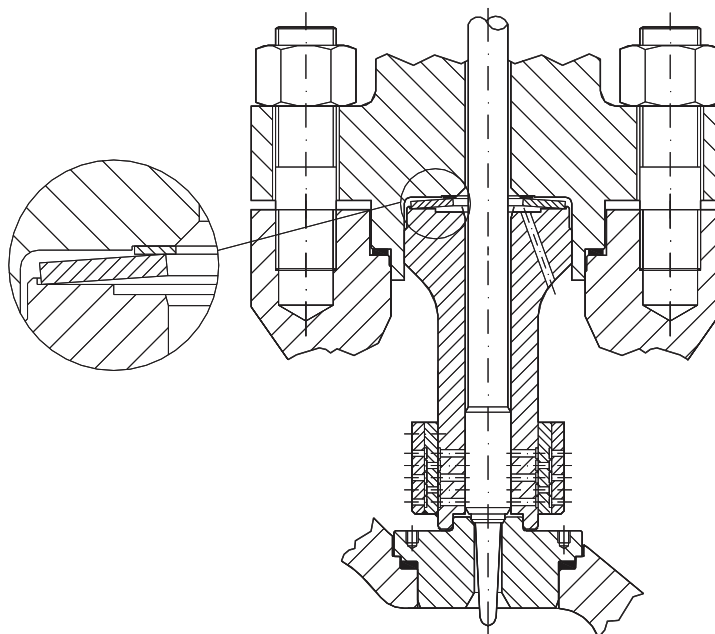


Fig. 13 Quick-change seat – Multicage Trim (Seat Leakage Class V)

CONTROL VALVE Model MICROFLOW/H – DESIGN Cv Values

Flow Coefficient Cv

The Cv values for 1/2 in. (13 mm) – 3/4 in. (18 mm) - 1 in. (25 mm):

0.025; 0.04; 0.06; 0.08; 0.10; 0.15; 0.25; 0.30; 0.50; 0.60; 1; 1.70; 2.50

* Values for specific customer applications can be designed into the valve - consult factory.

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 MICROFLOW/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 dependent on application.	0,0005 ml/min per inch of orifice diameter per psi differential.

CONTROL VALVE Model MICROFLOW/H - DIMENSIONS

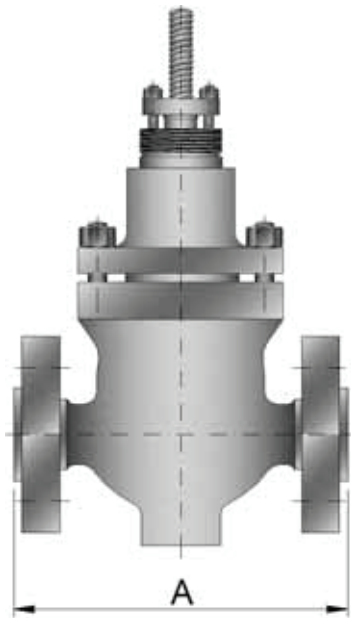


Fig. 14 Face to face dimensions

Valve size		A (mm) - 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
1/2	13	184	184	190	203	203	203	-	-	216	216	264	264
3/4	18	184	184	194	206	206	206	-	-	229	229	273	273
1	25	184	197	197	210	210	210	-	-	254	254	308	308



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