

## Primary Isolation Valves

Integrally forged, one piece slimline Monoflange double block and bleed assemblies for primary isolation of pressure take-offs, where the valve is mounted directly to the vessel or process pipe

### General Application

Suitable for double block and bleed applications including pressure and flow measurement, sampling and chemical injection service. Instruments may be mounted directly to the valve outlet or remotely with gauge lines/ impulse pipe work.

### TECHNICAL DATA

**Materials**

CS, 316 SS, Duplex, other exotic materials

**Seats:**

Metal

**Connections**

**Inlet:**

ANSI flanged 1/2" to 2"  
API flanged to 2<sup>1/16</sup>"

**Outlet:**

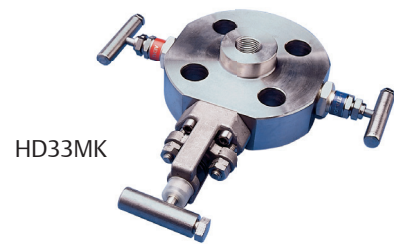
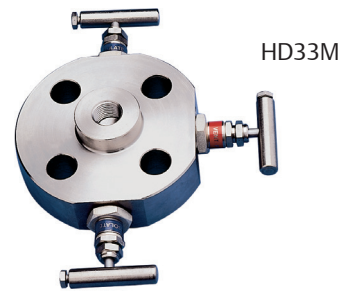
Threaded 1/2" NPT

**Pressure (max):**

10000 psig (690 barg)

**Temperature (max):**

1000°F (538°C)



### Features

- One-piece ultra-slim forged body combines a compact design with strength and reduced potential leak paths compared to conventional designs.
- Flanged inlet connections available in a choice of sizes and ratings to suit each application.
- Outside screw and yoke (OS&Y) needle type globe valve with investment cast yoke and bolted bonnet provide high mechanical strength and reliability on primary isolation service.
- Heavy duty needle type globe valve ensuring bubble-tight shut-off on isolation or venting service.
- Gauge adaptors allow flexible positioning of gauges and instruments with a choice of designs available (optional).
- Firesafe design to meet API 607, BS6755 Part 2 (optional).

# HD33M/HD33MK SERIES

## Primary Isolation Valves

### Product Overview

#### Monoflange HD33M

The HD33M features two 0.2" (5 mm) bore independently operable 'HD' globe style needle valves for isolation service with an intermediate 'HD' globe style needle valve for venting service.

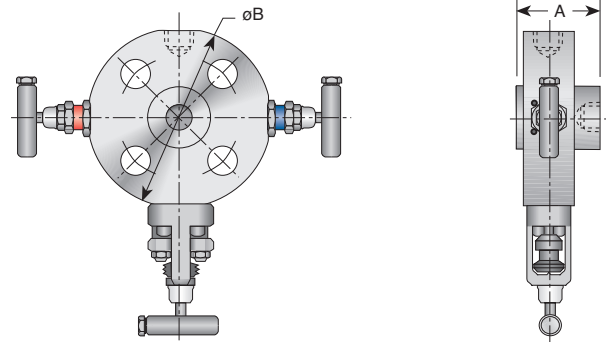
#### Monoflange HD33MK

The HD33MK features a 0.2" (5 mm) bore outside screw and yoke bolted bonnet (OS&Y) valve for first isolation service with 0.2" (5 mm) bore 'HD' globe style needle valves for second isolation and intermediate venting services.

Standard pressure testing to BS EN 12266-1.

Standard material traceability to EN 10204 3.1 (body only).

Material thickness to ANSI B16.34.



### Valve Body - Material Codes

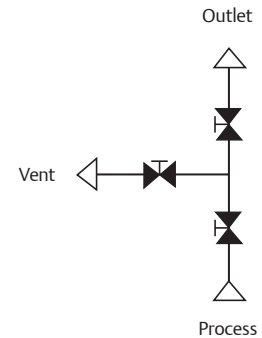
Description	C	L	S	D
Valve body	A105N	A350 LF2	A182 F316	A182 F51

#### NOTE:

Carbon steel valve bodies are zinc plated and passivated as standard.

### HD33M and HD33MK Series Flanged x Threaded

Size in	Rating lb	Dimensions, inches (mm)						Weight	
		A - RF		A - RTJ		B		lb	(kg)
½	150	2.50	(63.50)	-	-	3.88	(98.55)	4.3	(2.0)
½	300	2.50	(63.50)	2.66	(67.56)	3.88	(98.55)	4.3	(2.0)
½	600	2.69	(68.35)	2.66	(67.56)	3.88	(98.55)	4.3	(2.0)
½	900/1500	2.69	(68.35)	2.69	(68.35)	5.25	(133.35)	7.4	(3.4)
½	2500	2.69	(68.35)	2.69	(68.35)	5.25	(133.35)	7.4	(3.4)
¾	150	2.50	(63.50)	-	-	3.88	(98.55)	4.3	(2.0)
¾	300	2.50	(63.50)	2.69	(68.35)	5.25	(133.35)	7.4	(3.4)
¾	600	2.69	(68.35)	2.69	(68.35)	5.25	(133.35)	7.4	(3.4)
¾	900/1500	2.69	(68.35)	2.69	(68.35)	5.25	(133.35)	7.4	(3.4)
¾	2500	2.88	(73.35)	2.88	(73.35)	6.25	(158.75)	12.1	(5.5)
1	150	2.50	(63.50)	2.69	(68.35)	5.25	(133.35)	5.4	(2.4)
1	300	2.50	(63.50)	2.69	(68.35)	5.25	(133.35)	7.4	(3.4)
1	600	2.69	(68.35)	2.69	(68.35)	5.25	(133.35)	7.4	(3.4)
1	900/1500	2.88	(73.35)	2.88	(73.35)	6.25	(158.75)	12.1	(5.5)
1	2500	2.88	(73.35)	2.88	(73.35)	6.25	(158.75)	12.1	(5.5)
1½	150	2.50	(63.50)	2.69	(68.35)	5.00	(127.00)	7.0	(3.2)
1½	300	2.70	(68.52)	2.70	(68.52)	6.25	(158.75)	12.1	(5.5)
1½	600	2.88	(73.35)	2.88	(73.35)	6.25	(158.75)	12.1	(5.5)
1½	900/1500	2.88	(73.35)	2.88	(73.35)	7.00	(177.80)	17.3	(7.8)
1½	2500	3.23	(82.15)	3.29	(83.72)	9.25	(235.00)	25.2	(11.4)
2	150	2.70	(68.52)	2.88	(73.35)	6.25	(158.75)	12.1	(5.5)
2	300	2.70	(68.52)	2.95	(74.92)	7.00	(177.80)	17.3	(7.8)
2	600	2.88	(73.35)	2.95	(74.92)	7.00	(177.80)	17.3	(7.8)
2	900/1500	3.23	(82.15)	3.29	(83.72)	9.25	(235.00)	25.2	(11.4)
2	2500	3.23	(82.15)	3.29	(83.72)	9.25	(235.00)	25.2	(11.4)

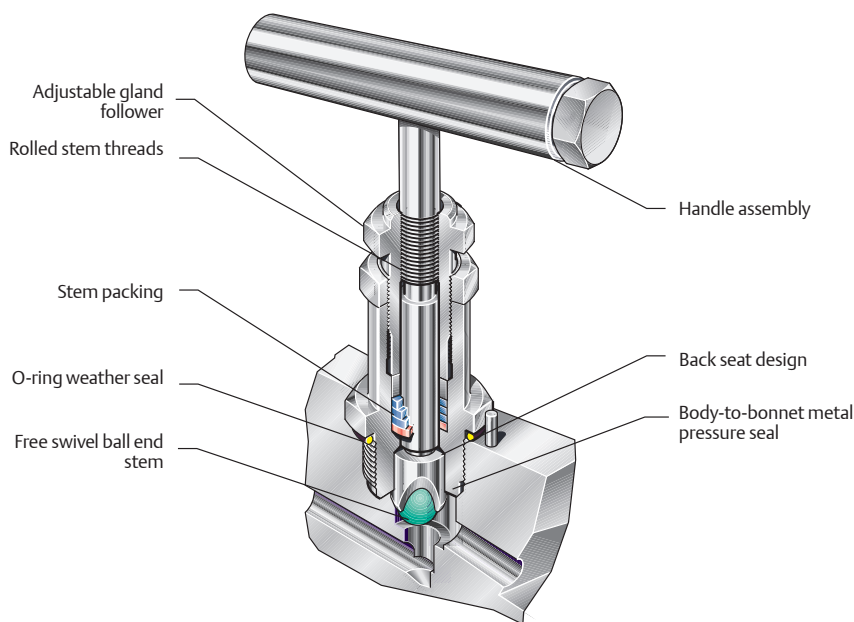


## Primary Isolation Valves

### 'HD' Needle-Type Globe Valve

The HD needle-type globe valve has a rotating stem with a free-swivel ball-end seat for repetitive bubble-tight shut-off and rolled threads for low operating torque, located above the spindle packing and isolated from the process. The stem seal is either graphite or PTFE rings and a backseat design provides secondary stem sealing and prevents stem blowout. A body-to-bonnet metal pressure seal below the threads prevents corrosion and ensures the bonnet threads are in loaded compression for additional strength and an O-ring weather seal protects bonnet retention threads from harsh environments. An adjustable gland follower allows easy access to adjust the packing gland and the valve features a lockable T-bar handle with locking bolt to secure it firmly on the stem.

- Pressure rating: up to 10000 psig (690 barg)
- Temperature rating: -71°F to 1000°F (-57°C to +538°C)

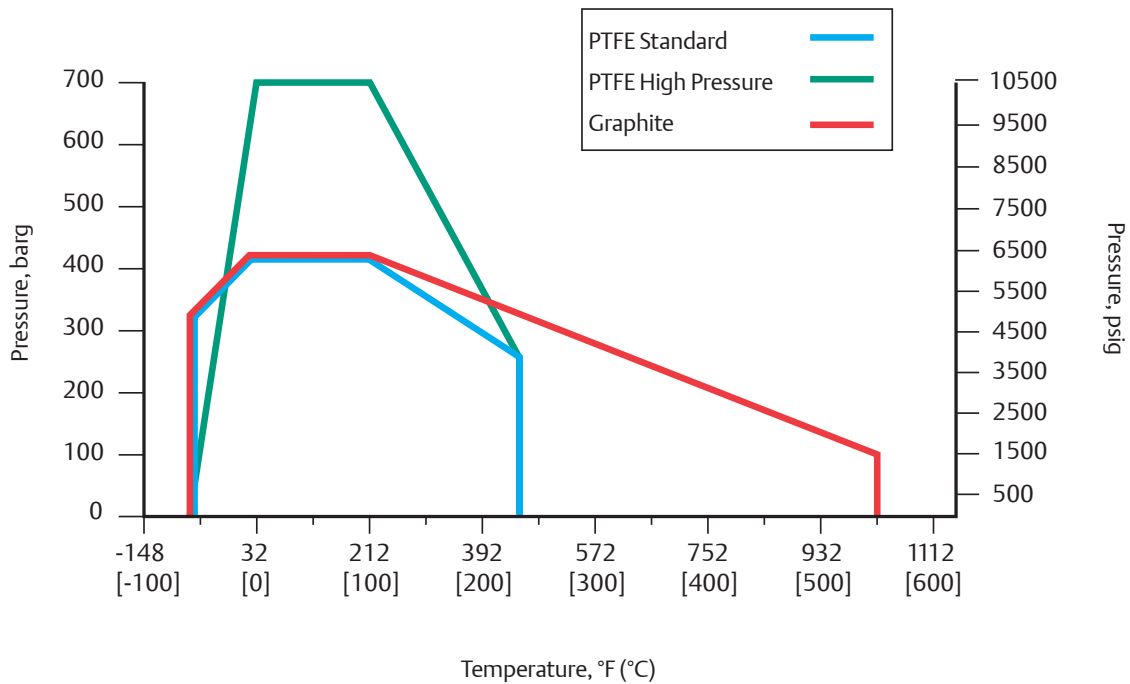


# HD33M/HD33MK SERIES

## Primary Isolation Valves

### Pressure and Temperature Ratings

'HD' Needle Type Globe Valve



### 'HD' Needle Type Globe Valve Components - Trim Codes

Item	Description	S	D
1	Gland follower	Austenitic SS	A276-31803
2	Stem	A479-316	A479-31803
3	Locknut	Austenitic SS	Austenitic SS
4	Stem packing	PTFE or graphite	PTFE or graphite
5	O-ring weather seal	Buna-N Nitrile	Buna-N Nitrile
6	Ball (stem tip)	316 SS	Ceramic
7	Bonnet locking pin	Austenitic SS	Austenitic SS
8	Handle assembly	Austenitic SS	Austenitic SS

### Standard Trim Combinations

Body	Trim
C	S
L	S
S	S
D	S
D	D (optional)

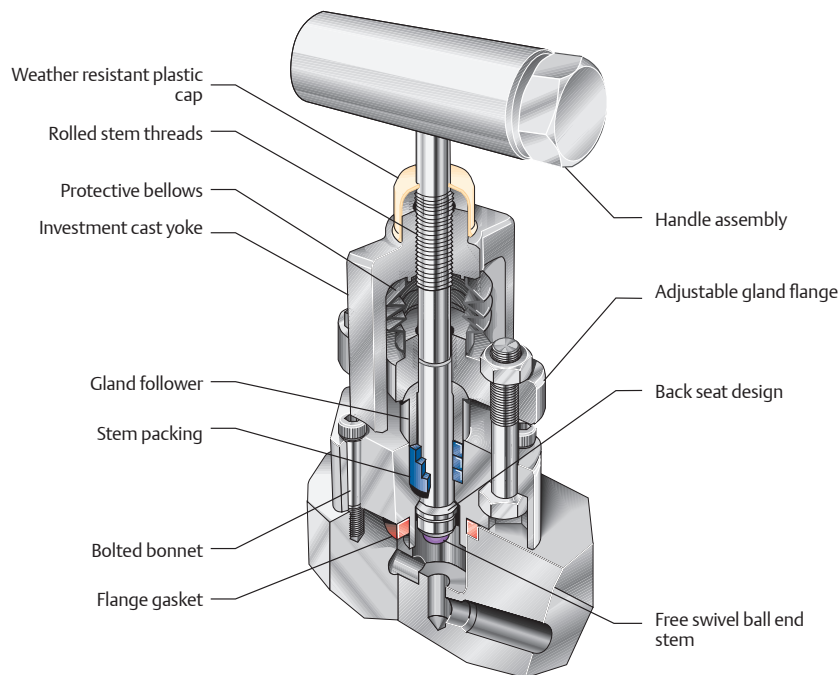


## Primary Isolation Valves

### OS&Y Needle-Type Globe Valve

The OS&Y needle-type globe valve has a bolted bonnet for strength and reliability and a precision cast yoke which assures perfect stem alignment. The rotating stem has a free-swivel ball-end seat for repetitive bubble-tight shut-off and rolled threads to prevent galling that are completely isolated from the process with protective bellows that protect against atmospheric contamination. The stem seal is either graphite or PTFE rings and a backseat design provides secondary sealing and prevents blowout. A flange gasket ring ensures a bubble-tight body-to bonnet seal and an adjustable gland flange/follower allows easy access to adjust the packing gland. A weather-resistant plastic bonnet cap prevents stem lubricant contamination and the valve features a T-bar handle.

- Pressure rating: up to 6000 psig (414 barg)
- Temperature rating: -71°F to 1000°F (-57°C to +538°C)

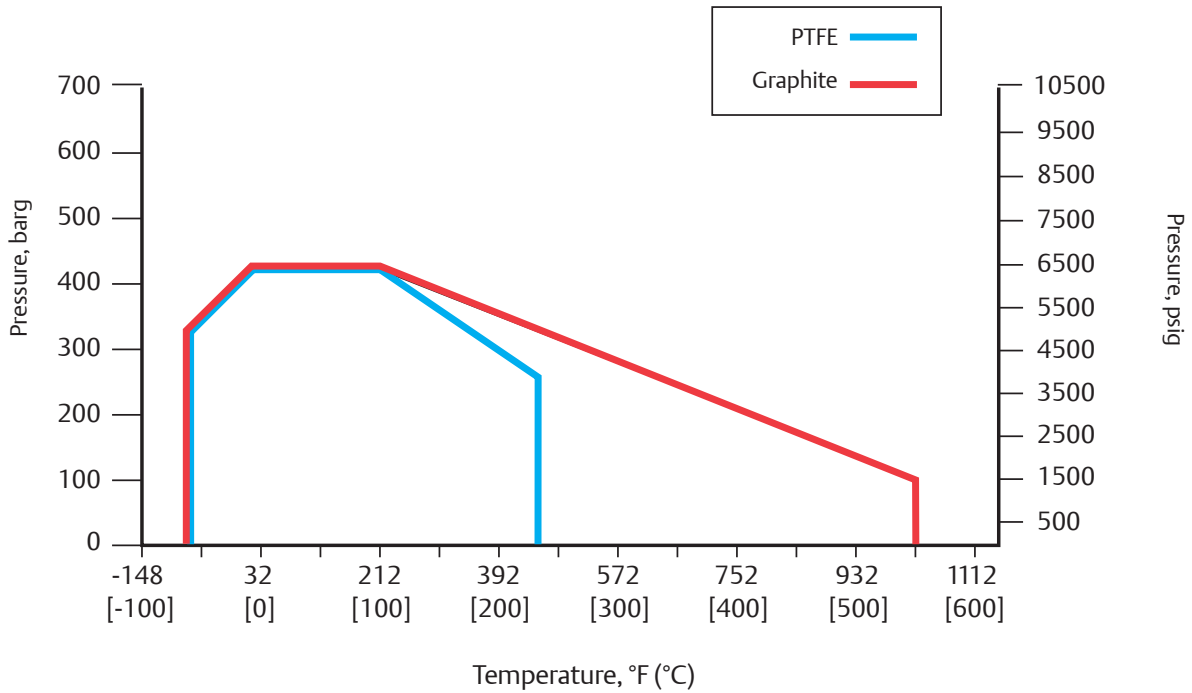


# HD33M/HD33MK SERIES

## Primary Isolation Valves

### Pressure and Temperature Ratings

OS&Y Needle Type Globe Valve



### 'OS&Y' Needle Type Globe Valve Components - Trim Codes

Item	Description	S	D
1	Cap	Plastic	Plastic
2	Stem	A479-316	A479-31803
3	Protective bellows	Polyurethane	Polyurethane
4	Yoke	A351-CF8M	A890-4A
5	Gland follower	B783-SS-316-N2-33	A276-31803
6	Stem packing	PTFE or graphite	PTFE or graphite
7	Body/bonnet - bolts	ASTM A453	ASTM A453
8	Flange gasket	Graphite	Graphite
9	Ball (stem tip)	316 SS	Ceramic
10	Gland flange - bolts	Austenitic SS	Austenitic SS
11	Handle assembly	Austenitic SS	Austenitic SS
12	Gland flange	A351 CF8M	A351 CF8M



## Primary Isolation Valves

### Selection Guide

HD33M		V	S	S	061L					
BASIC SERIES		NEEDLE VALVE PACKING	BODY MATERIAL	TRIM MATERIAL	INLET CONNECTION					
<b>Monoflange double block and bleed valves</b>										
<b>HD33M</b>	Monoflange with HD type needle valve	V PTFE	C A105N	S 316 SS	<b>04</b>	1/2"	<b>1</b>	RF	<b>A</b>	150 lb (ANSI B16.5)
<b>HD33MK</b>	Monoflange with OS&Y bolted bonnet/HD needle valve	H Graphite	L A350 LF2	D Duplex UNS S31803	<b>06</b>	3/4"	<b>3</b>	RTJ	<b>J</b>	300 lb (ANSI B16.5)
			S A182 F316		<b>08</b>	1"	<b>4</b>	BX	<b>K</b>	600 lb (ANSI B16.5)
			D A182 F51		<b>12</b>	1 1/2"	<b>5</b>	RX	<b>T</b>	900 lb (ANSI B16.5)
					<b>16</b>	2"	<b>9</b>	FF	<b>L</b>	1500 lb (ANSI B16.5)
					<b>17</b>	1 13/16"			<b>M</b>	2500 lb (ANSI B16.5)
					<b>18</b>	2 1/16"			<b>N</b>	5000 lb (API 6A)
					<b>24</b>	3"			<b>P</b>	10000 lb (API 6A)
									<b>V</b>	3000 lb (API 6A)

**Standard trim combinations**  
 C, L and S Body = S Trim,  
 D body = S Trim  
 (option: D Trim)

### 047B

### SG

OUTLET CONNECTION <sup>(1)</sup>				OPTIONS	
<b>04</b>	1/2"	<b>2</b> Male	<b>B</b> NPT	<b>ICV</b>	Integral check valve (injection)
		<b>7</b> Female	<b>D</b> Socket weld (XXS)	<b>IQ(--)</b>	Integral quill (required length)
			<b>E</b> BSPP (G 1/2")	<b>AT</b>	Anti-tamper (HD type only)
				<b>SG</b>	NACE MR0175 latest revision
				<b>LAT</b>	Lockable tamper-proof bonnet (HD type)
				<b>PD</b>	Padlock for - LAT
				<b>PO</b>	Plugged outlet
				<b>SS</b>	Full 316 SS trim
				<b>CB</b>	Ceramic ball tip
				<b>ST</b>	Stellite ball tip

**NOTE**

1. For other connection sizes, consult factory.