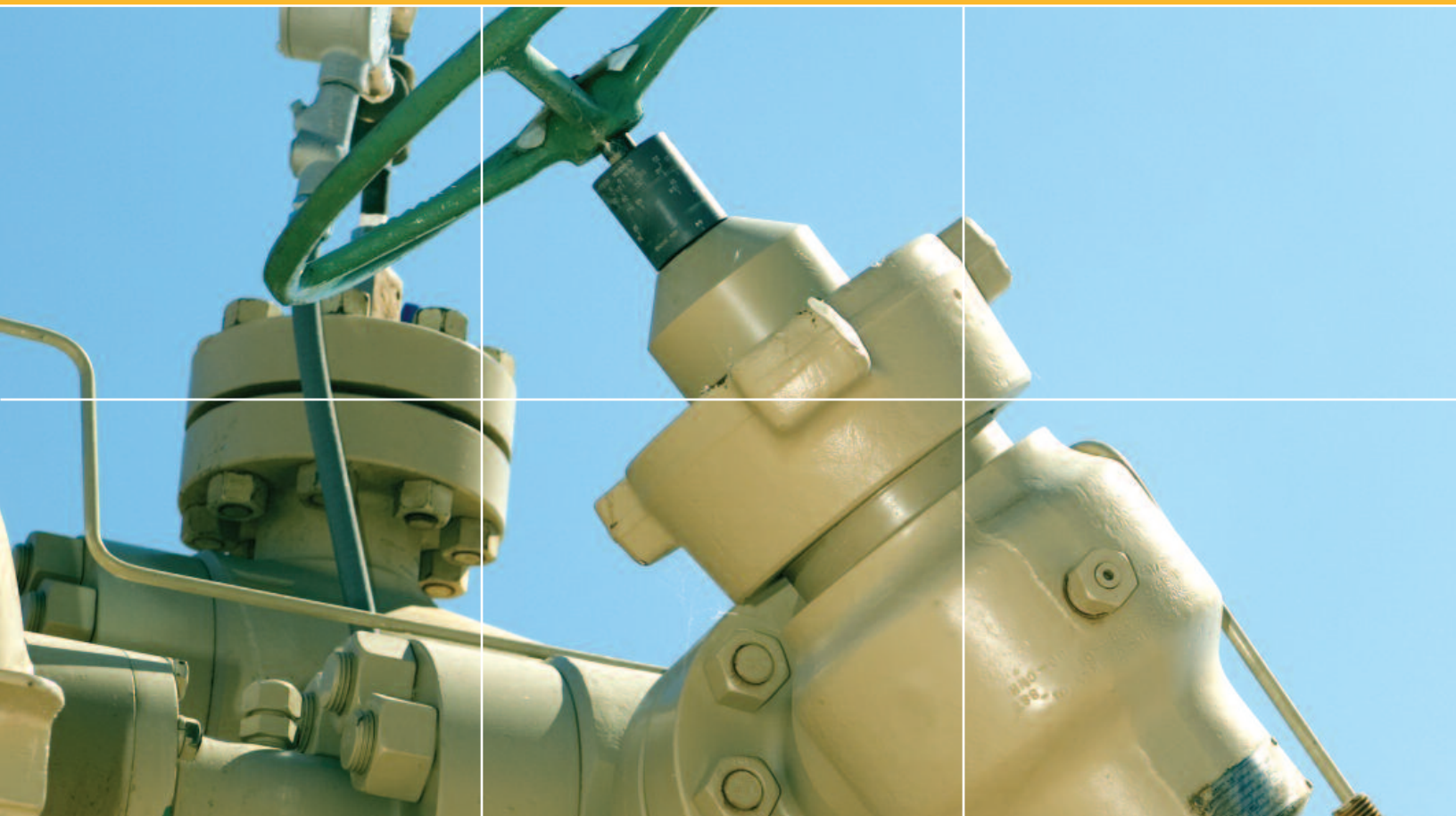
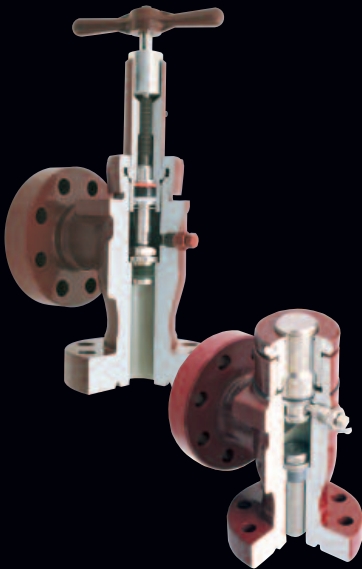


H2 Family of Chokes

For pressure and flow control





H2 Family of Chokes

TABLE OF CONTENTS

H2 Choke Applications and Service Criteria	2
Bonnet Closures for the H2 Family of Chokes	3
H2 Classic Externally Threaded Bonnet Closure (Disassembly Safety Features)	4
H2I Internally Threaded Bonnet Closure (Disassembly Safety Features)	4
H2 Classic Choke Features and Benefits	5
Adjustable Choke 10ksi Assembly	6
Adjustable Choke 15ksi Assembly	7
Positive Choke 10ksi Assembly	8
Positive Choke 15ksi Assembly	9
H2I Choke Features and Benefits	10
Adjustable Choke Assembly	11
Adjustable Bonnet Conversion Kit - H2IMS	11
Positive Choke Assembly	12
Positive Bonnet Conversion Kit - H2IMS	12
Safety Features of Bleed Screw Assembly	12
Choke Trim	13

H2 Choke Applications and Service Criteria

The family of H2 chokes is ideally suited for a broad range of choke applications, including wellhead, production manifolds, choke and kill manifolds, well testing and clean-up operations.

The H2 Classic is a needle and seat choke that handles standard, erosive and corrosive service in stride with pressure ratings up to 15,000 psi. Two configurations are available:

- **Positive choke** – provides a fixed flow condition with a large selection of available bean sizes and types.
- **Adjustable choke** – provides variable flow rates, but can be locked into position if a fixed flow rate is required.

An optional combination bean/seat converts the adjustable choke to a positive/adjustable choke for bringing on the well slowly with the adjustable feature. Once the desired flow rate is reached, the choke can then be operated as a positive choke. This reduces wear on the wing or master gate valves because they are not used to control flow.

In every application, the H2 Classic delivers long life and low maintenance.

Available Sizes and Pressures

Nominal Size	Model Numbers	Available Needle/Max. Orifice Sizes	Pressure Range (psi)
2"	H2 Classic, H2I, H2IMS	1"	2000-10,000
2"	H2 Classic	1"	15,000
3"	H2 Classic, H2I, H2IMS	2"	2000-10,000
4"	H2 Classic	3"	2000-5000

For positive choke beans see trim selection page.

Material Recommendations

API Material Class	Body	Bonnet	Choke Trim (Stem, Seat, Bean)
AA & BB General Service	Alloy Steel	Alloy Steel	Stainless Steel or Stainless Steel & Tungsten Carbide
CC Non-Sour, High CO ₂	Stainless Steel	Stainless Steel	Stainless Steel or Stainless Steel & Tungsten Carbide
DD & EE-0.5 Sour, Low CO ₂ *	Alloy Steel	Alloy Steel	Stainless Steel & Tungsten Carbide
FF-0.5 Sour, High CO ₂ *	Stainless Steel	Stainless Steel	Stainless Steel & Tungsten Carbide
HH High H ₂ S, High CO ₂ *	Corrosion Resistant Alloy	Corrosion Resistant Alloy	Corrosion Resistant Alloy & Tungsten Carbide

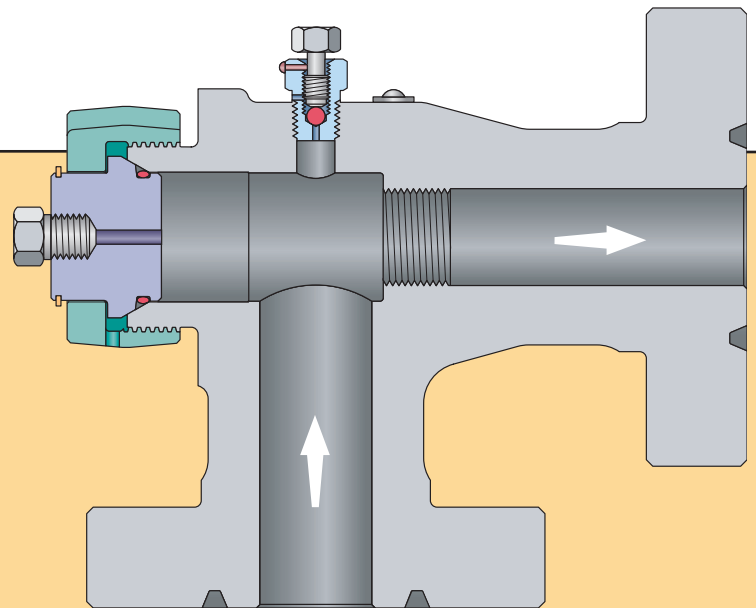
* In compliance with NACE Standard MR-01-75.



Bonnet Closures for the H2 Family of Chokes

The H2 Classic has an externally threaded body and is the industry standard for needle and seat chokes.

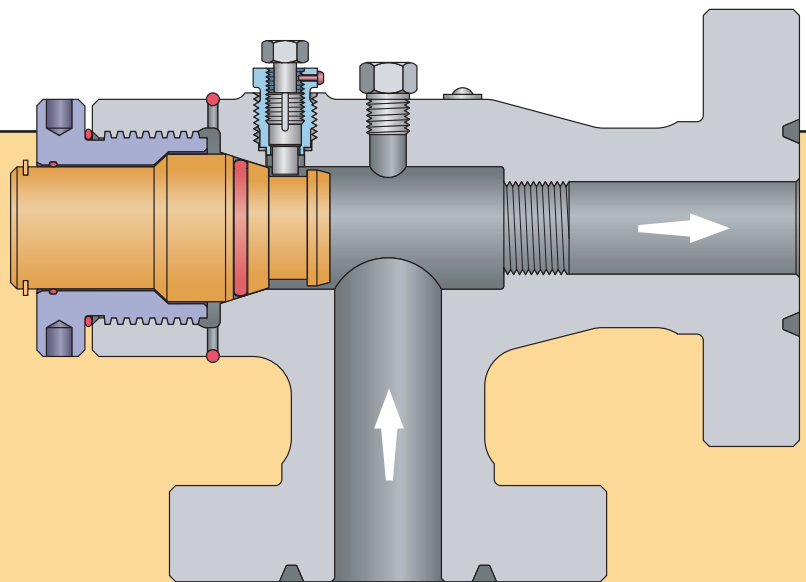
- Body pressure is automatically vented when the operator unscrews the bonnet nut one turn.
- Bleed valve allows the operator to safely vent the body cavity pressure prior to removal of the bonnet assembly.



H2 Classic Choke

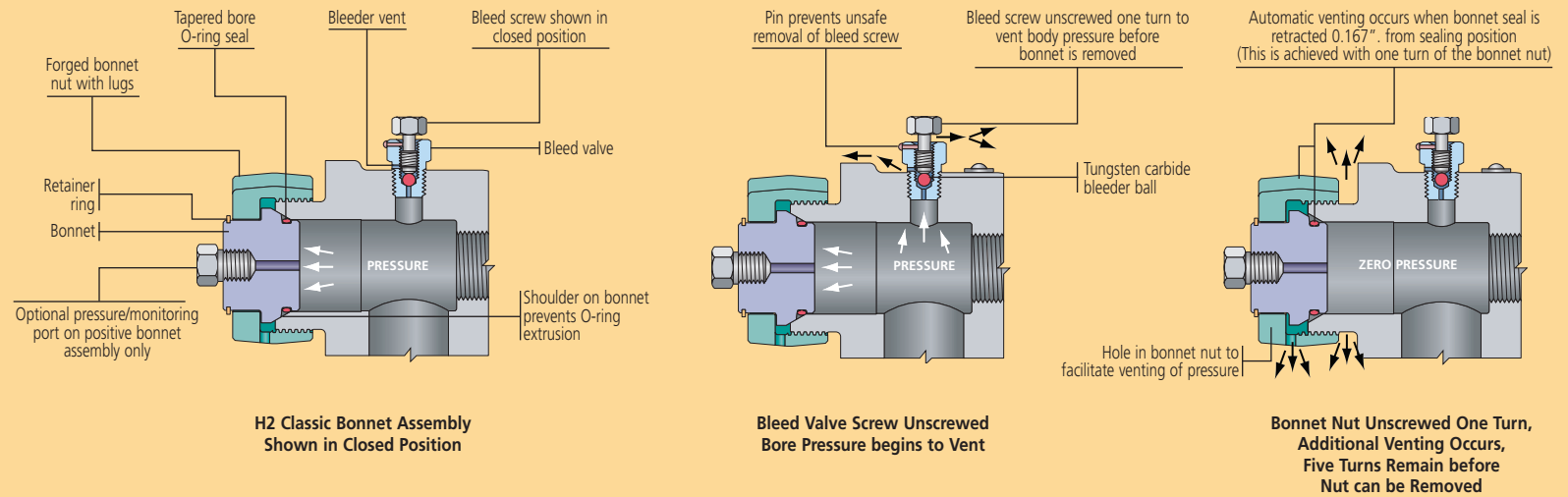
The H2I version has an internally threaded body and features a retained bonnet closure.

- Patented bleed screw assembly requires the operator to safely vent the body pressure before the bonnet assembly can be removed.
- Each body (positive or adjustable configuration) is equipped with a port for monitoring or venting pressure.
- Acme threads can be cleaned and inspected easily on both the bonnet assembly and body.
- Bleed screw assembly provides metal-to-metal sealing.
- H2IMS option adds a metal-to-metal bonnet seal in addition to the standard features of the H2I.

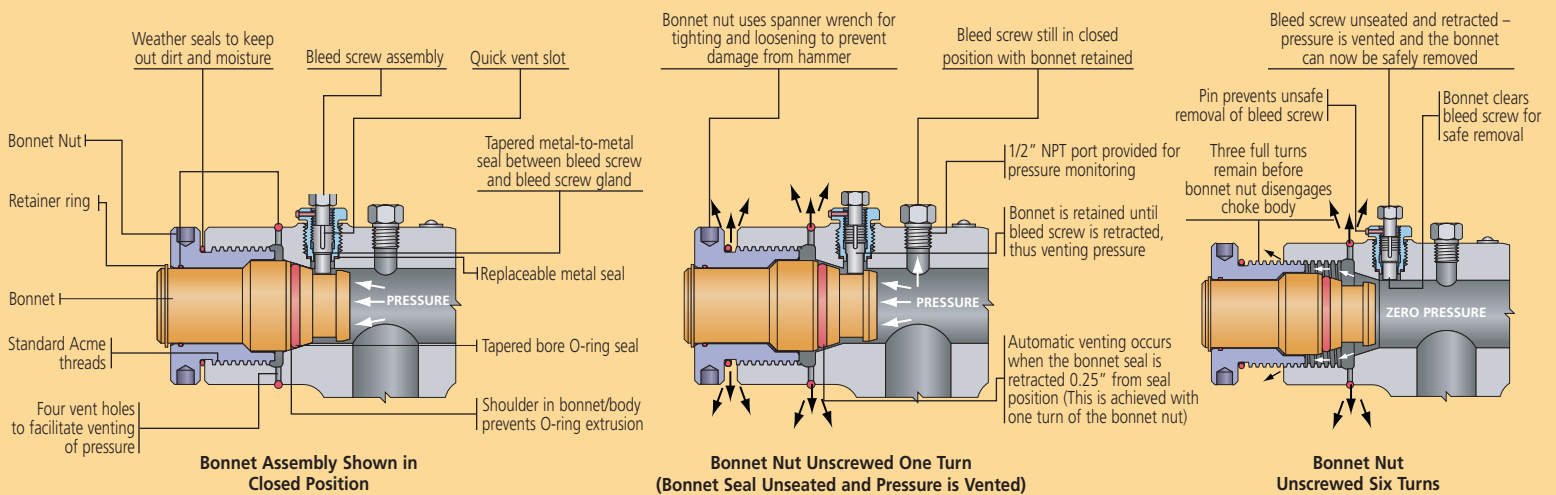


H2I Choke

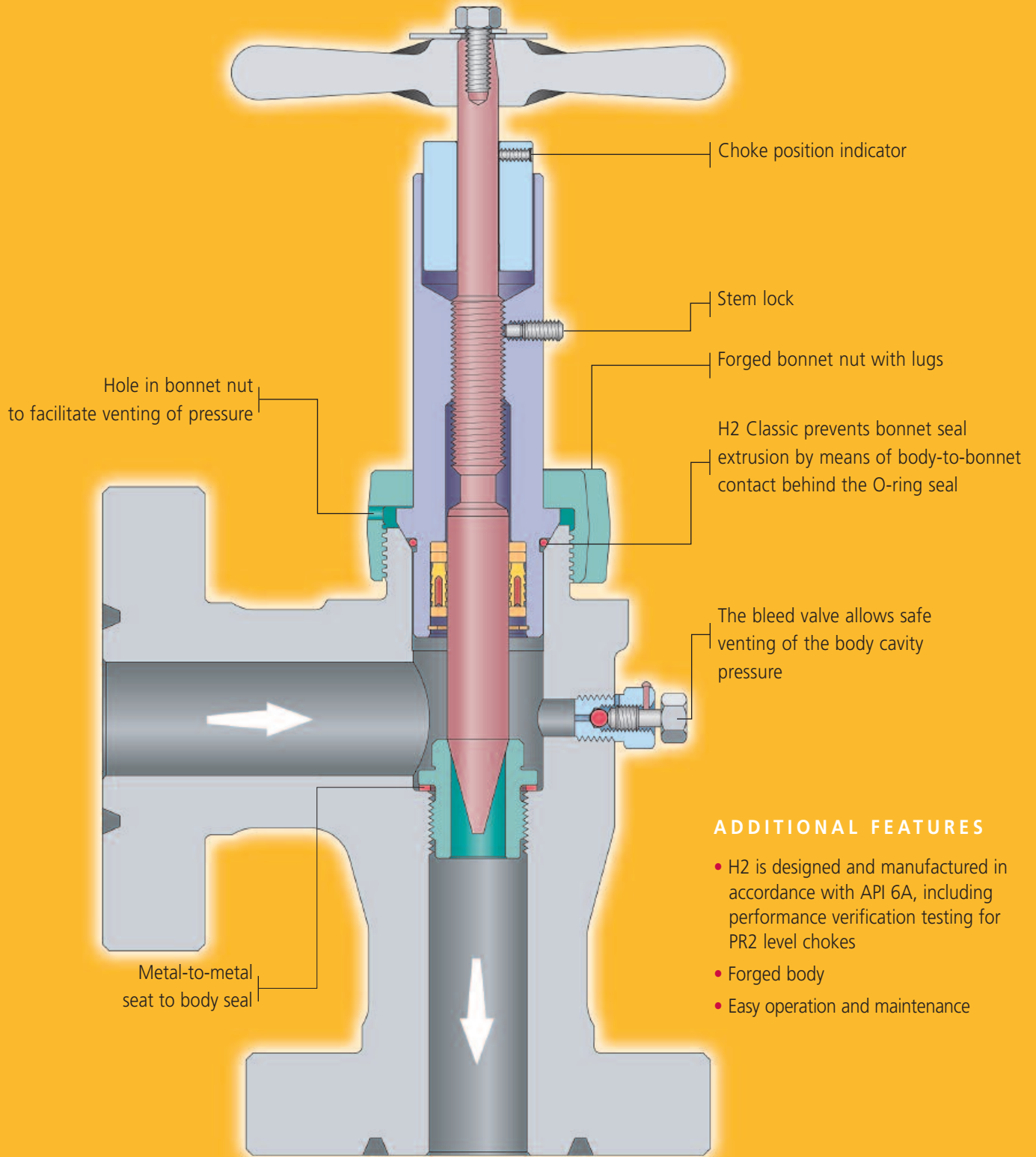
H2 Classic Externally Threaded Bonnet Closure Disassembly Safety Features



H2I Internally Threaded Bonnet Closure Disassembly Safety Features



H2 Classic Choke Features and Benefits



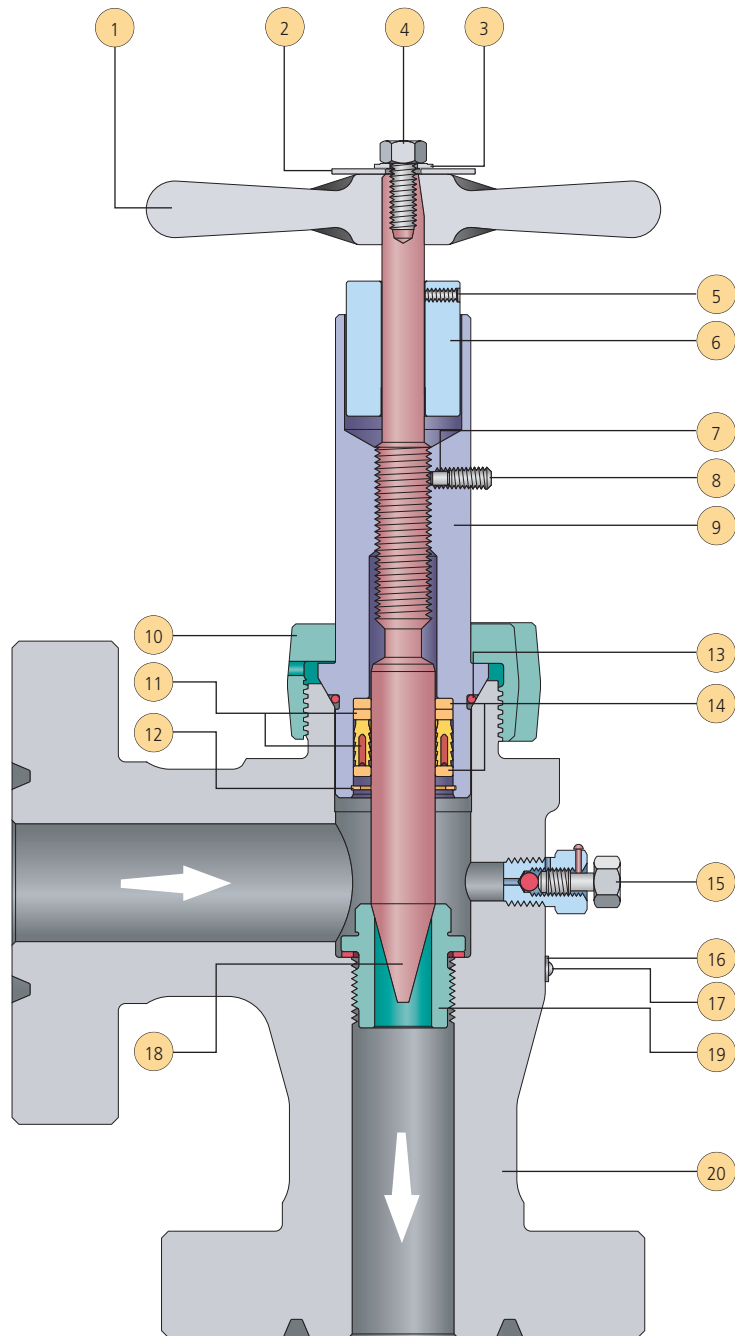
ADDITIONAL FEATURES

- H2 is designed and manufactured in accordance with API 6A, including performance verification testing for PR2 level chokes
- Forged body
- Easy operation and maintenance

COMPONENTS

H2 Classic Adjustable Choke 10ksi Assembly

2" Nominal (1" Maximum Orifice) and
3" Nominal (2" Maximum Orifice)
2000 - 10,000 psi Working Pressure



Item No.	Description	Qty.
1	Handwheel	1
2	Instruction Plate	1
3	Flat Washer	1
4	Hex Bolt	1
5	Set Screw	1
6	Indicator	1
7	Plug*	1
8	Set Screw	1
9	Bonnet	1
10	Bonnet Nut	1
11	Packing Assembly*	1
12	Retainer Ring	1
13	O-Ring*	1
14	Junk Ring	2
15	Bleed Valve	1
16	Name Plate	1
17	Drive Screw	2
18	Needle Assembly*▲	1
19	Seat Assembly*	1
20	Body	1

* Recommended spare parts

▲ H2 Classic needle assemblies are not interchangeable with H2I and H2IMS.

NOTE: Routine cleaning and inspection of the bonnet closure threads are recommended for longer service life.

COMPONENTS

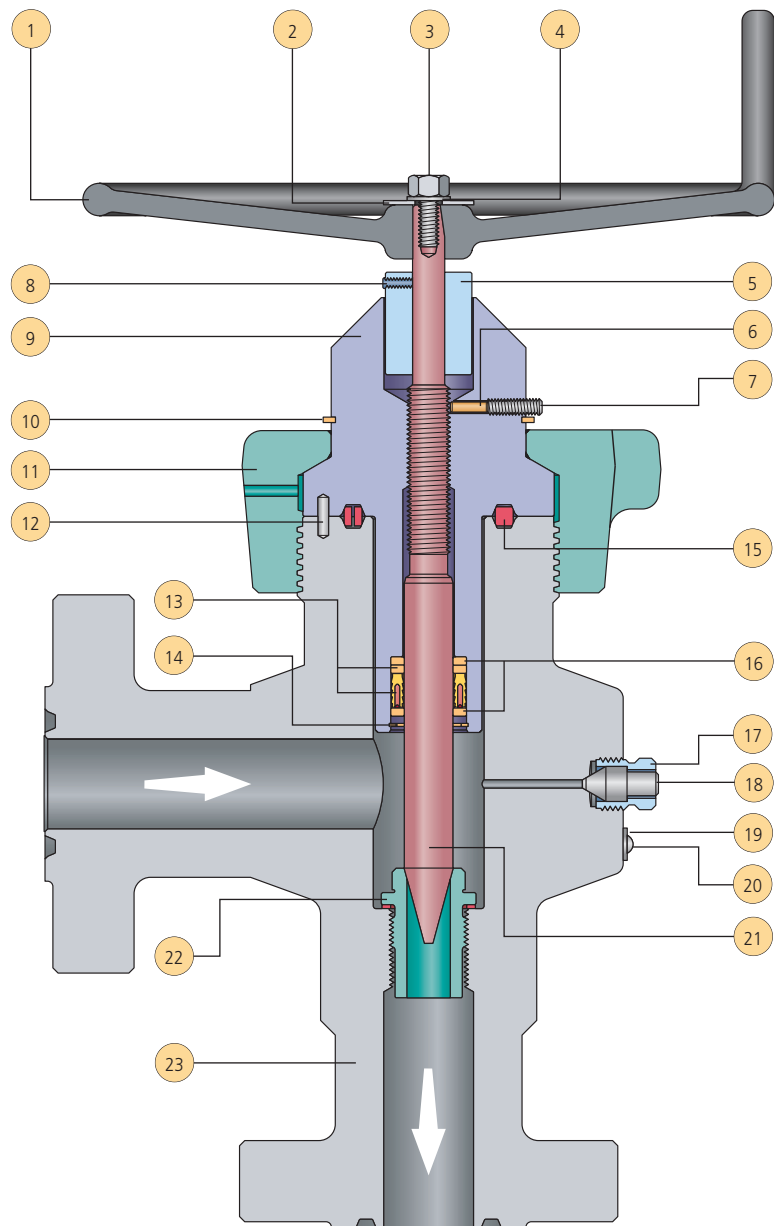
Item No.	Description	Qty.
1	Handwheel	1
2	Instruction Plate	1
3	Hex Bolt	1
4	Flat Washer	1
5	Indicator	1
6	Plug*	1
7	Set Screw	1
8	Set Screw	1
9	Bonnet	1
10	Retainer Ring	1
11	Bonnet Nut	1
12	Roll Pin	1
13	Packing Assembly*	1
14	Retainer Ring	1
15	Bonnet Gasket*	1
16	Junk Ring	2
17	Gland	1
18	Blind Plug	1
19	Name Plate	1
20	Drive Screw	2
21	Needle Assembly*	1
22	Seat Assembly*	1
23	Body	1

* Recommended spare parts

H2 Classic Adjustable Choke 15ksi Assembly

2" Nominal (1" Maximum Orifice)

15,000 psi Working Pressure



NOTE: Routine cleaning and inspection of the bonnet closure threads are recommended for longer service life.

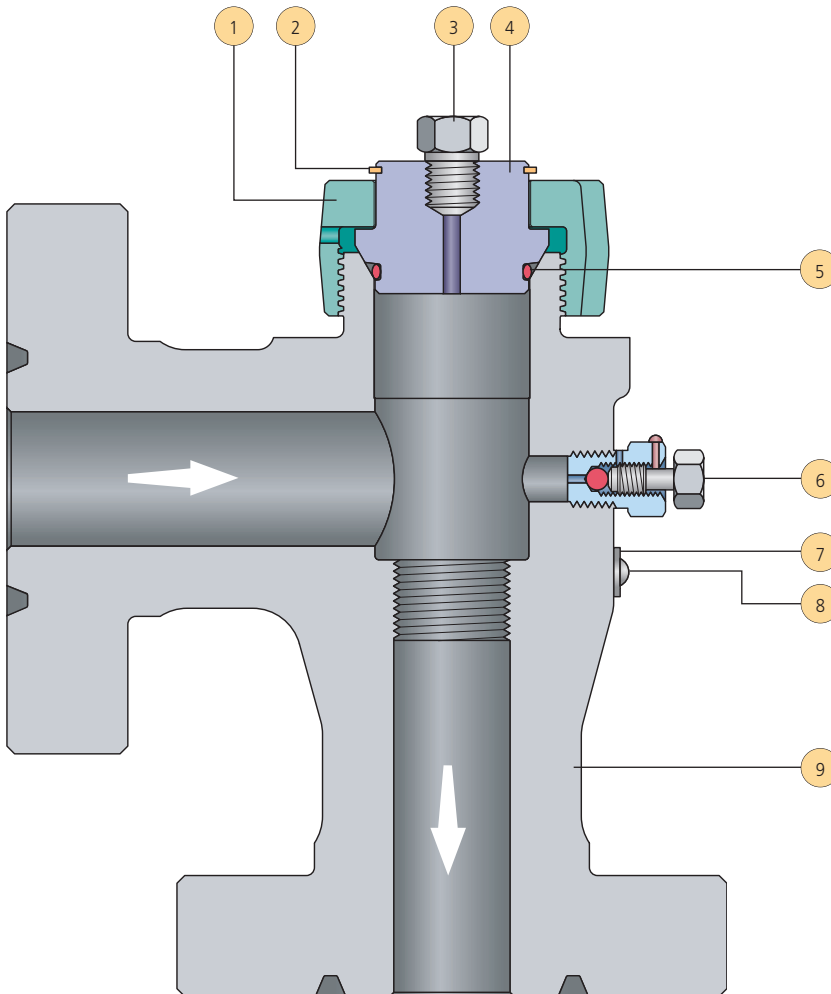
COMPONENTS

H2 Classic Positive Choke 10ksi Assembly

2" Nominal (1" Maximum Orifice) and
 3" Nominal (2" Maximum Orifice)
 2000 - 10,000 psi Working Pressure

Item No.	Description	Qty.
1	Bonnet Nut	1
2	Retainer Ring	1
3	Pipe Plug	1
4	Bonnet	1
5	O-Ring*	1
6	Bleed Valve	1
7	Name Plate	1
8	Drive Screw	2
9	Body	1

* Recommended spare parts



NOTES: Flow beans are sold separately.

Routine cleaning and inspection of the bonnet closure threads are recommended for longer service life.

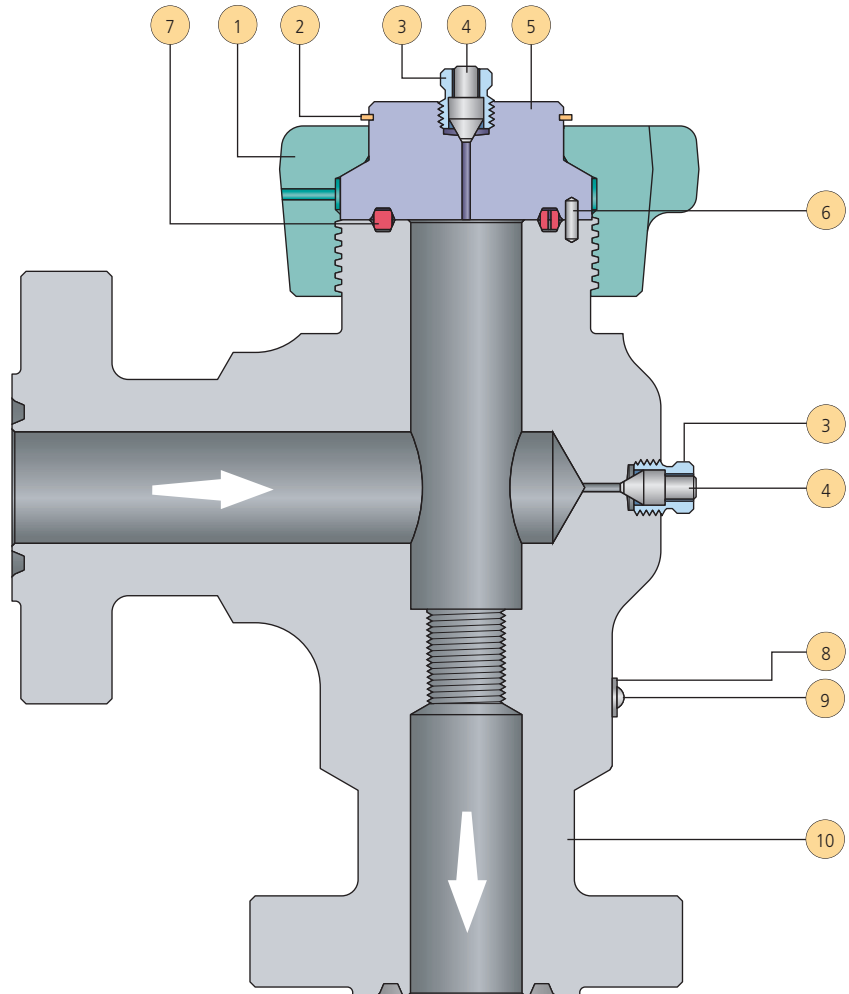
COMPONENTS

Item No.	Description	Qty.
1	Bonnet Nut	1
2	Retainer Ring	1
3	Gland	2
4	Blind Plug	2
5	Bonnet	1
6	Roll Pin	1
7	Bonnet Gasket*	1
8	Name Plate	1
9	Drive Screw	2
10	Body	1

* Recommended spare parts

H2 Classic Positive Choke 15ksi Assembly

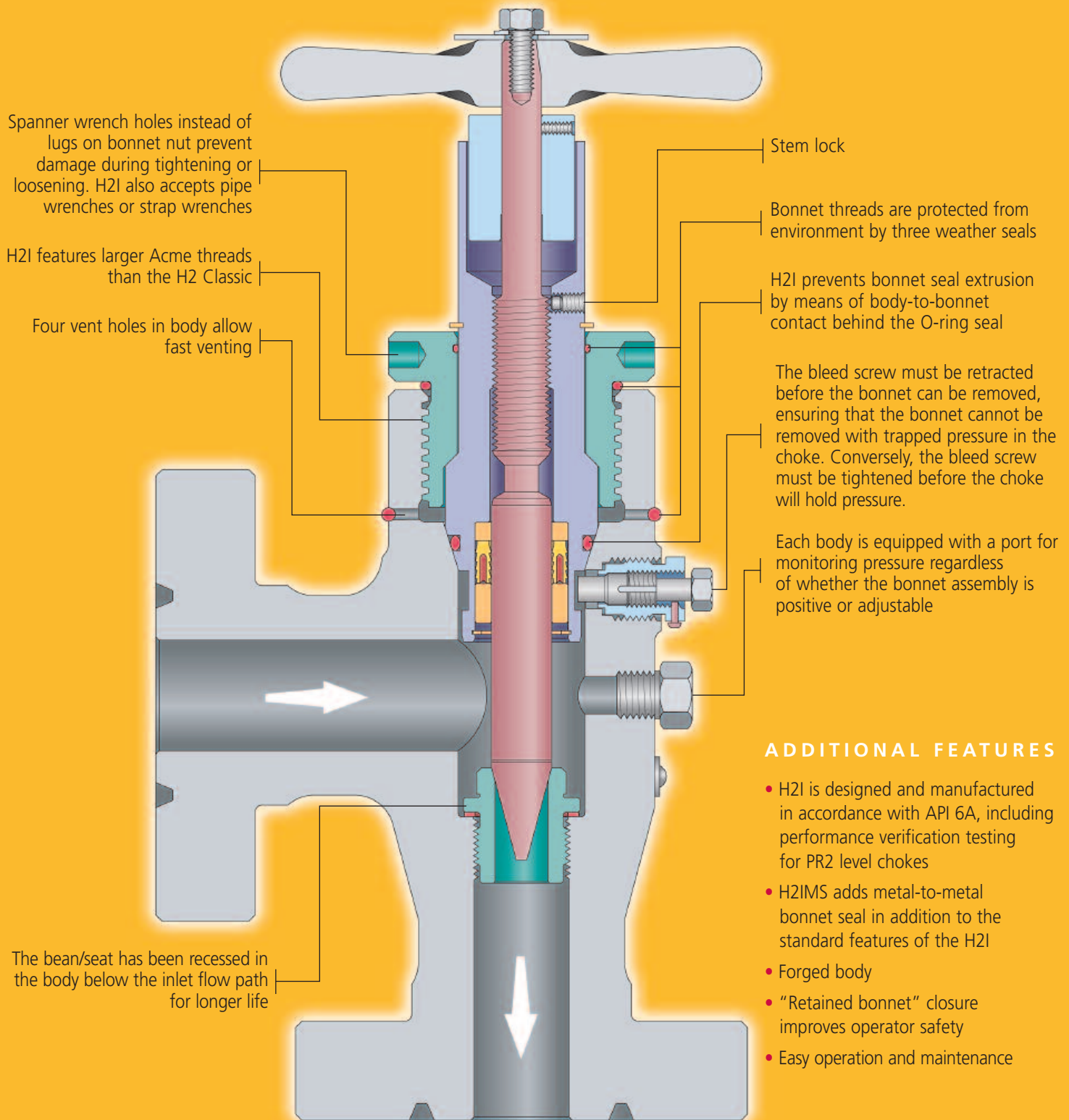
2" Nominal (1" Maximum Orifice)
15,000 psi Working Pressure



NOTES: Flow beans are sold separately.

Routine cleaning and inspection of the bonnet closure threads are recommended for longer service life.

H2I Choke Features and Benefits



ADDITIONAL FEATURES

- H2I is designed and manufactured in accordance with API 6A, including performance verification testing for PR2 level chokes
- H2IMS adds metal-to-metal bonnet seal in addition to the standard features of the H2I
- Forged body
- "Retained bonnet" closure improves operator safety
- Easy operation and maintenance

COMPONENTS

Item No.	Description	Qty.
1	Handwheel	1
2	Instruction Plate	1
3	Flat Washer	1
4	Hex Bolt	1
5	Set Screw	1
6	Indicator	1
7	Plug*	1
8	Set Screw	1
9	Retaining Ring	1
10	Bonnet	1
11	O-Ring*	1
12	Bonnet Nut	1
13	O-Ring*	1
14	O-Ring*	1
15	Guide Bushing	1
16	Junk Ring	1
17	Packing Assembly*	1
18	O-Ring*	1
19	Metal Seal*	1
20	Bleed Screw Assembly	1
21	Retainer Ring	1
22	Pipe Plug	1
23	Name Plate	1
24	Drive Screw	2
25	Needle Assembly*	1
26	Seat Assembly*	1
27	Body	1

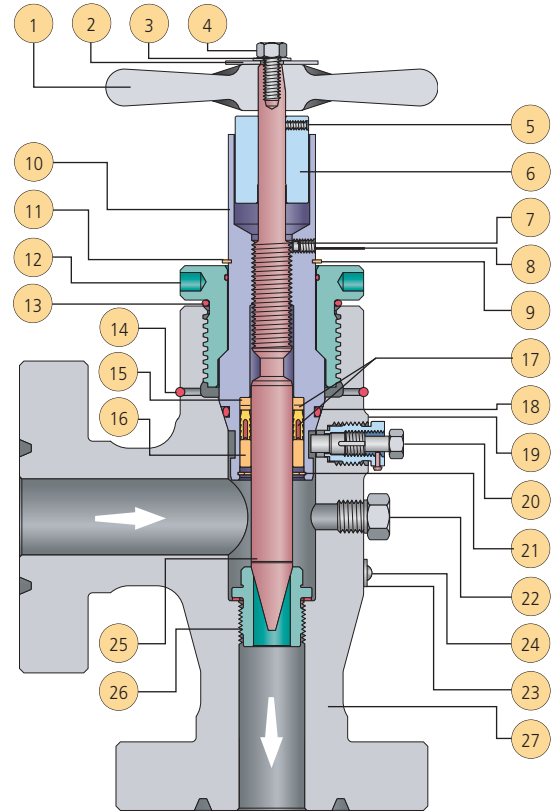
* Recommended spare parts

Item No.	Description	Qty.
28	Bonnet	1
29	Metal Seal*	1
30	Retainer Ring*	1

* Recommended spare parts

H2I Adjustable Choke Assembly

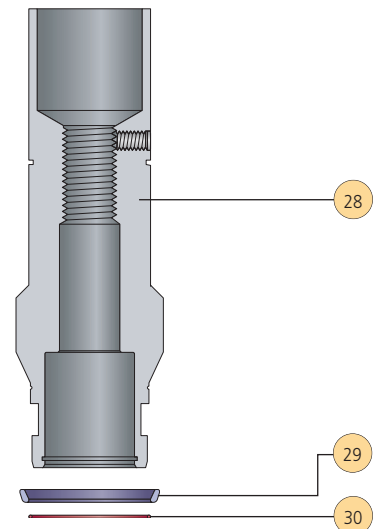
2" Nominal (1" Maximum Orifice) and
3" Nominal (2" Maximum Orifice)
2000 - 10,000 psi Working Pressure



NOTES: H2 Classic needle assemblies are not interchangeable with H2I and H2IMS chokes.
Routine cleaning and inspection of the bonnet closure threads are recommended for longer service life.
See "Cameron H2I Chokes Service and Maintenance Procedures."

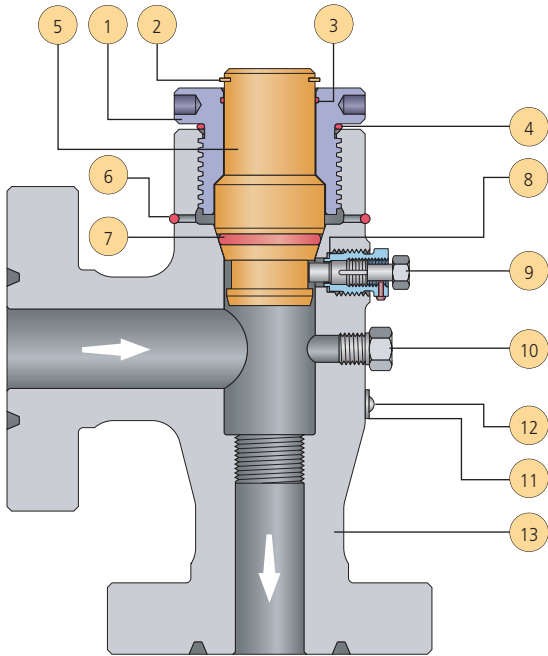
H2IMS Adjustable Choke

Bonnet Conversion Kit



NOTE: The parts list for the H2IMS adjustable is the same as the H2I adjustable with the exception of items 28, 29 and 30. Those items replace items 10 and 18 of the H2I. Field conversion of the H2I is simple.

COMPONENTS



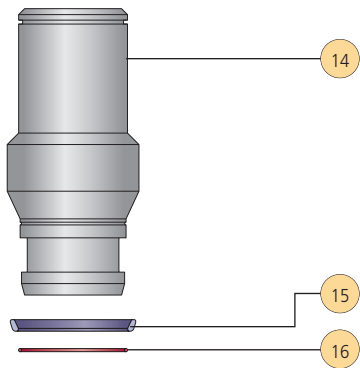
H2I Positive Choke Assembly

2" Nominal (1" Maximum Orifice) and
3" Nominal (2" Maximum Orifice)
2000 - 10,000 psi Working Pressure

Item No.	Description	Qty.
1	Bonnet Nut	1
2	Retainer Ring	1
3	O-Ring*	1
4	O-Ring*	1
5	Bonnet	1
6	O-Ring*	1
7	O-Ring*	1
8	Metal Seal	1
9	Bleed Screw Assembly	1
10	Pipe Plug	1
11	Name Plate	1
12	Drive Screw	2
13	Body	1

* Recommended spare parts

NOTES: Flow beans are sold separately.
Routine cleaning and inspection of the bonnet closure threads are recommended for longer service life.



H2IMS Positive Choke

Bonnet Conversion Kit

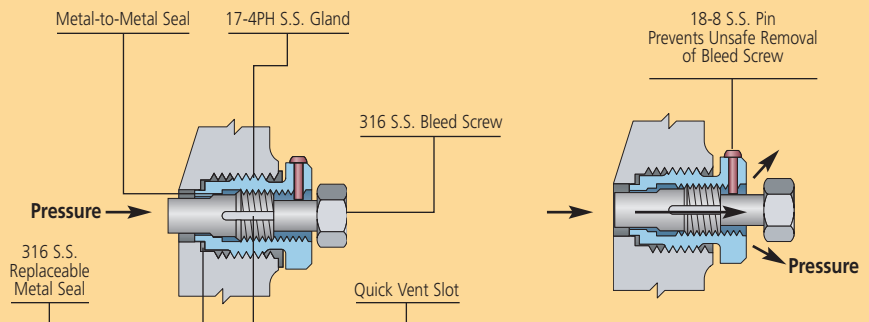
Item No.	Description	Qty.
14	Bonnet	1
15	Metal Seal*	1
16	Retainer Ring*	1

* Recommended spare parts

NOTES: The parts list for the H2IMS adjustable is the same as the H2I adjustable with the exception of items 14, 15 and 16. Those items replace items 5 and 7 of the H2I. Field conversion of the H2I is simple.

Safety Features of Bleed Screw Assembly

- The gland is secured in the body with thread locking compound to prevent inadvertent removal.
- The bleed screw is the only moving part of the assembly.
- A reseatable metal-to-metal seal between the bleed screw and gland allows venting past the slot in the bleed screw.
- The gland and replaceable metal seal protect the choke body threads from wear.
- The pin prevents the bleed screw from being removed from the gland, thus reducing the chance of unsafe removal or losing the bleed screw.



Bleed Screw Assembly in Closed Position

Bleed Screw Unseated and Retracted, Pressure is Vented, and Choke Bonnet can now be Safely Removed

CHOKE TRIM



Choke Beans



**Honest John
Bean Adapter**



**Honest John
Bean**



**Big John
Flow Bean**



**Big John
Combination Bean**

Bean	2" Positive	3" Positive
Honest John Stainless Steel (to be used with HJC adapter)	From 2/64" to 40/64"	From 2/64" to 40/64"
Honest John Ceramic or Tungsten Carbide Lined to be used with HJC adapter	From 2/64" to 24/64"	From 2/64" to 24/64"
Big John	From 2/64" to 64/64"	From 2/64" to 128/64"
Combination Bean	2" Combination	3" Combination
Big John Combination Bean and Seat-Standard	From 6/64" to 64/64"	From 6/64" to 128/64"

Beans are available in increments of 1/64".

Beans & seats are available with ceramic or tungsten carbide lining.

- All beans and seats are interchangeable with the H2 Classic, H2I and H2IMS.
- The H2I and H2IMS utilize the same longer stem/needle assembly to fit the recessed seat feature.
- The H2 Classic stem/needle assembly is shorter and therefore not interchangeable with the H2I and H2IMS needle assemblies.
- Two wear resistant trims are available:
 - Standard trim: Induction hardened stainless steel.
 - Super trim: Stainless steel with tungsten carbide wear surfaces.

Flow Coefficient, Cv (Max.) for the Adjustable Chokes

Type of Trim and Size	2" Nominal Body Size 1" Max. Orifice	3" Nominal Body Size 2" Max. Orifice	4" Nominal Body Size 3" Max. Orifice
Standard Trim (Maximum Cv)	26.0	86	212

Cv values given in table are subject to variation depending on valve geometry and options such as wear sleeves and back pressure beans.

Required Tools

Choke Size	Bean Types	Bean Wrench P/N	Spanner Wrench P/N
All Sizes	Honest John	627586-01	N/A
2" Nom. 1" Orifice	Big John	626964-01	*712377
3" Nom. 2" Orifice	Big John	626963-01	*172092-01
4" Nom. 3" Orifice	Big John	19892	N/A

* For H2I and H2IMS bonnet nut removal/assembly.

The H2 Choke utilizes a simple needle & seat-type trim to control the flow and/or pressure and is used in many applications. The H2 Choke is a development of the 'Classic' H2 that incorporates a device which positively stops the choke from being dismantled without pressure being first vented from the body. The needle and seat chokes features positive or adjustable trims, hardened steel and tungsten carbide trims, and a lockable trim position for manual chokes.

FLOW CONTROL

11311 Tanner Road
Houston, TX 77041-6901
USA
Tel 1.713.280.3000
Fax 1.713.280.3056

Aghafad, Longford
Republic of Ireland
Tel 353.43.50600
Fax 353.43.41560

5003 93rd Street
Edmonton, Alberta T6E 5S9
Tel 1.780.434.3476
Fax 1.780.437.7397

No. 2 Gul Circle, Jurong Industrial Est
Locked Bag Service No. 3
Jurong Town Post Office
Singapore 629560
Republic of Singapore
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