

# H2 3100 SERIES

Hydrogen, High Pressure, Piston Sensed  
Back Pressure Regulators



Premier H2 3100 Series Hydrogen regulators are piston-sensed, variable-control pressure, back pressure regulators rated for inlet/control pressures up to 10000 PSIG (689.5 bar), with Cv of 0.03, 0.06, 0.14, 0.20. Premium H2 3100 series regulators are designed for use in Hydrogen applications.

## FEATURES

- Inlet/control pressures up to 10000 PSIG (689.48 bar) max
- Designed for use with Hydrogen
- Cv: 0.03, 0.06, 0.14, or 0.20
- Economical pricing
- Multiple mounting options (*bracket / panel nuts*)
- Machined bar stock body, bonnet and piston eliminates porosity found in castings
- Numerous materials & optional features available.

**SOME APPLICATIONS WILL REQUIRE A CUSTOM SOLUTION.**  
CONTACT PREMIER INDUSTRIES TO REQUEST A MODIFICATION  
OR A CUSTOM DESIGN.

## SPECIFICATIONS

- **MAXIMUM INLET PRESSURE (brass):**
  - 6000 PSIG (413.69 bar)
- **MAXIMUM INLET PRESSURE (SS):**
  - 10000 PSIG (689.48 bar)
- **CONTROL PRESSURE RANGES:**
  - 5-500 PSIG (0.34 - 34.5 bar)
  - 5-800 PSIG (0.34 - 55.16 bar)
  - 10-1500 PSIG (0.69 - 103.42 bar)
  - 15-2500 PSIG (1.03 - 172.37 bar)
  - 25-4000 PSIG (1.72 - 275.79 bar)
  - 50-6000 PSIG (3.45 - 413.69 bar)
  - 100-10000 PSIG (6.89 - 689.48 bar)
- **FLOW (Cv):** 0.03, 0.06, 0.14 or 0.2
- **AMBIENT OPERATING TEMP \*\*:**
  - -15°F/-26°C to 165°F/74°C (BUNA-N)
  - -4°F/-20°C to 165°F/74°C (Viton®)
  - -65°F/-54°C to 165°F/74°C (EPDM)

## MATERIALS OF CONSTRUCTION

- **BODY OPTIONS:**
  - 316 Stainless Steel
  - SAE 360 Brass
- **BONNET (NON-WETTED):**
  - 17-4 Stainless Steel
- **VALVE SEAT OPTIONS:**
  - Vespel®
  - PEEK®
  - PCTFE *see page 3 for special instructions*
- **MAIN VALVE STEM:**
  - 316 Stainless Steel
- **SEALS:**
  - Viton®
  - BUNA-N
  - EPDM
- **BACK-UP RINGS:**
  - PTFE
  - PCTFE
- **WETTED, OTHER:**
  - 316 Stainless Steel

## PORTING

- **INLET & OUTLET PORT OPTIONS:**
  - 1/4" FNPT, SAE J1926, SAE AS5202\*\*, medium pressure
  - 3/8" FNPT, SAE J1926, SAE AS5202\*\*, medium pressure
  - 1/2" FNPT, SAE J1926, SAE AS5202\*\*
  - 9/16" medium pressure
  - 3/4" FNPT, SAE J1926, SAE AS5202\*\*, medium pressure
- **GAUGE PORTS:** 1/4" FNPT

## OPTIONS

- Gauges
- Private label
- Surface mount
- Panel mounting bracket: P/N: 30-10059  
(Ø2.15 panel hole)
- Panel mounting nuts: P/N: 30-10189  
(Ø2.28 panel hole)

### **NOTE MAXIMUM CONTROL PRESSURE:**

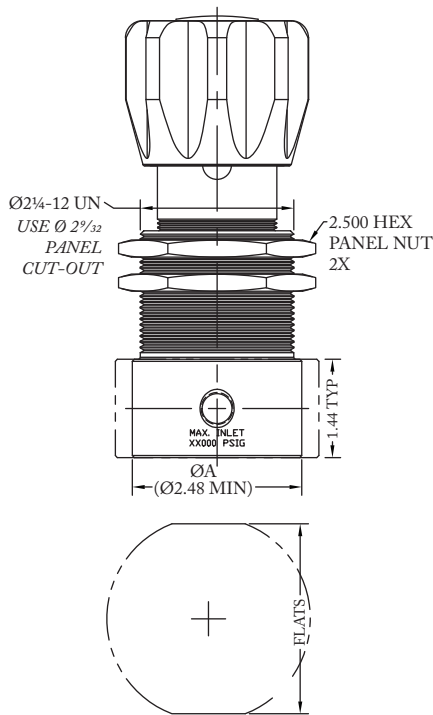
*The end user is responsible to ensure adequate fittings are used to connect regulator to plumbing.*

*Viton® and Vespel® are registered trademarks of E.I. duPont de Nemours and Company. PEEK® is a registered trademark of Victrex PLC*

*Contact factory for material certifications. Fees may apply.*

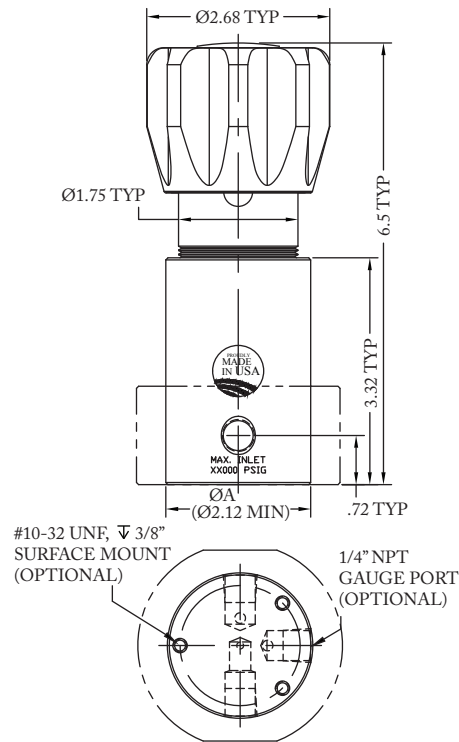
PART NUMBER: H30-10066

## PANEL NUT STYLE



PANEL NUT BODY		
PORT TYPE	ØA	FLATS
NPT	Ø2.48	—
1/4" OTHER	Ø2.48	2.36
3/8" M.P.	Ø2.48	2.36
3/8" SAE	Ø2.73	2.58
1/2" SAE	Ø2.98	2.78
9/16" M.P.	Ø2.98	2.78

## PANEL MOUNTING BRACKET STYLE



MOUNTING BRACKET BODY		
PORT TYPE	ØA	FLATS
1/4 & 3/8 NPT	Ø2.12	—
1/4" M.P.	Ø2.12	1.98
1/2" NPT	Ø2.48	—
1/4" SAE	Ø2.48	2.36
3/8" M.P.	Ø2.48	2.36
3/8" SAE	Ø2.73	2.58
1/2" SAE	Ø2.98	2.81
9/16" M.P.	Ø2.98	2.81
3/4" NPT	Ø2.98	—



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PART #	-	1	2	3	4	5	-	8	9	10	-	MODS
H30-10066	-						-				-	

316 Stainless Steel body and  
17-4 Stainless Steel bonnet standard

1	CONTROL PRESSURE
1	5-500 PSIG (0.34-34.5 Bar)
2	5-800 PSIG (0.34-55.2 Bar)
3	10-1500 PSIG (0.69-103.4 Bar)
4	15-2500 PSIG (1.0-172.4 Bar)
5	25-4000 PSIG (1.7-275.8 Bar)
6	50-6000 PSIG (3.4-413.7 Bar)
7	100-10000 PSIG (6.9-689.5 Bar) <i>(stainless steel only)</i>
2	MAIN VALVE Cv
A	Cv 0.03
0	Cv 0.06
1	Cv 0.14
2	Cv 0.20

3	PORTING CONFIG.
H	
S	 <i>(standard)</i>
4	PORT SIZE
4	1/4"
6	3/8"
8	1/2"*
9	9/16"*
T	3/4"

*\*1/2" ports not available in medium pressure  
\*\*9/16" ports only available in medium pressure  
Gauge ports: 1/4" FNPT*

5	PORT TYPE IN/OUT								
1	NPT								
2	SAE J1926								
3	SAE AS5202 (MS33649**)								
4	MEDIUM PRESSURE								
<i>**SAE AS5202 supersedes MS33649</i>									
8	VALVE SEAT								
0	Vespel®								
3	PEEK®								
4	PCTFE*** <i>see table below</i>								
<table border="1"> <thead> <tr> <th>***PCTFE SEATS</th> <th>MAX CONTROL PRESSURE</th> </tr> </thead> <tbody> <tr> <td><i>Cv 0.03, 0.06</i></td> <td><b>6000 PSIG</b></td> </tr> <tr> <td><i>Cv 0.14</i></td> <td><b>4000 PSIG</b></td> </tr> <tr> <td><i>Cv 0.20</i></td> <td><b>3000 PSIG</b></td> </tr> </tbody> </table>		***PCTFE SEATS	MAX CONTROL PRESSURE	<i>Cv 0.03, 0.06</i>	<b>6000 PSIG</b>	<i>Cv 0.14</i>	<b>4000 PSIG</b>	<i>Cv 0.20</i>	<b>3000 PSIG</b>
***PCTFE SEATS	MAX CONTROL PRESSURE								
<i>Cv 0.03, 0.06</i>	<b>6000 PSIG</b>								
<i>Cv 0.14</i>	<b>4000 PSIG</b>								
<i>Cv 0.20</i>	<b>3000 PSIG</b>								
<b>PCTFE SEAT MAXIMUM CONTROL PRESSURES SUPERCEDE BODY MATERIAL MAXIMUM CONTROL PRESSURES</b>									

9 10	O-RINGS
00	BUNA-N
02	VITON®
05	EPDM
MODIFICATIONS <i>Separate multiple mods with a dash</i>	
BLANK	None
B	SAE 360 Brass body & bonnet (6000 psig / 413.69 bar max)
PN	Panel nut style body (panel nuts included)
SM	Surface mount <i>Surface mounting holes: pattern dependant on port type &amp; configuration</i>

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