

H2 3100AL SERIES

Air loaded, High Pressure, Hydrogen
Back Pressure Regulators



The Premier H2 3100AL Series Hydrogen, air loaded, piston sensed, single stage, high pressure, back pressure regulators feature control pressures up to 10000 PSIG (*689.48 bar*), and Cv 0.03, 0.06, 0.14, or 0.2. Premium H2 3100 series regulators are designed for use in Hydrogen applications; they are available with a wide range of outlet and inlet configurations.

FEATURES

- Compatible with electro pneumatic controllers
- Designed for use with Hydrogen
- Cv 0.03, 0.06, 0.14, or 0.2
- Control pressures up to 10000 PSIG (*689.48 bar*)
- Machined bar stock body, bonnet and piston eliminates porosity found in castings
- Numerous optional features are available

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

SPECIFICATIONS

- **MAXIMUM INLET PRESSURE:**
 - REGULATOR:
 - 10000 PSIG / 689.5 bar (316 Stainless Steel)
 - 6000 PSIG / 689.5 bar (SAE 360 Brass)
 - AIR ACTUATOR:
 - 100 PSIG (6.89 bar)
- **CONTROL PRESSURE RANGES:**
 - 10-1500 PSIG (0.69 - 103.42 bar)
 - Diameter: 1.000"
 - Area: 0.7854 in²
 - Ratio: 16/1 **
 - 15-2500 PSIG (1.03 - 172.37 bar)
 - Diameter: 0.750"
 - Area: 0.4418 in²
 - Ratio: 28/1 **
 - 50-6000 PSIG (3.45 - 413.69 bar)
 - Diameter: 0.500"
 - Area: 0.1964 in²
 - Ratio: 64/1 **
 - 100-10000 PSIG (6.89 - 689.5 bar)
 - Diameter: 0.375"
 - Area: 0.1104 in²
 - Ratio: 114/1 **
- ** 4.0" diameter diaphragm
Diaphragm area: 12.5664 in²
- **FLOW (Cv):** 0.03, 0.06, 0.14, or 0.20

MATERIALS OF CONSTRUCTION

- **BODY OPTIONS:**
 - SAE 360 brass
 - 316 Stainless Steel
- **HOUSING, AIR ACTUATOR :**
 - 6061-T6 Aluminum/clear anodized
- **DIAPHRAGM, AIR ACTUATOR :**
 - Neoprene, nylon fabric-reinforced
- **MAIN VALVE SEAT OPTIONS:**
 - Vespel®
 - PEEK®
 - PCTFE*** see table below

*** PCTFE SEATS	MAX CONTROL PRESSURE
Cv 0.03, 0.06	6000 PSIG
Cv 0.14	4000 PSIG
Cv 0.20	3000 PSIG

PCTFE SEAT MAXIMUM CONTROL PRESSURES SUPERCEDE BODY MATERIAL MAXIMUM CONTROL PRESSURES

- **ELASTOMER SEAL OPTIONS:**
 - BUNA-N
 - Viton-A®
 - EPDM
- **WETTED PARTS:**
 - 316 Stainless Steel
- **BACK-UP RINGS:**
 - PTFE
 - PCTFE

PORTING

- **INLET/OUTLET**
 - 1/4", 3/8", 1/2" FNPT
 - 1/4", 3/8", 1/2" SAE J1926
 - 1/4", 3/8", 1/2" SAE AS5202 (MS33649**)
 - 1/4", 3/8", 9/16" MEDIUM PRESSURE
 - 1/4", 3/8", 1/2" NPTF
- **AIR ACTUATOR:**
 - 1/4-18" FNPT (Standard)
 - 1/4" SAE AS5202 (mod)
 - 1/4" SAE J1926 (mod)
 - 1/8" FNPT (mod)

OPTIONAL ITEMS

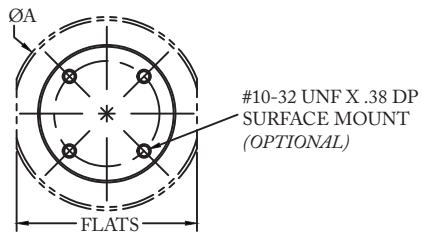
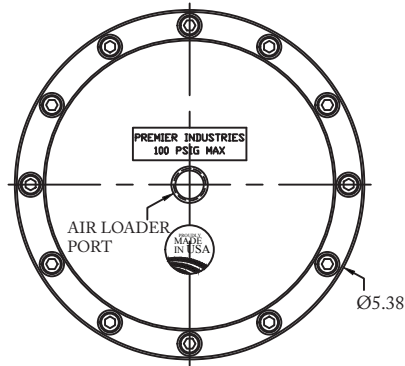
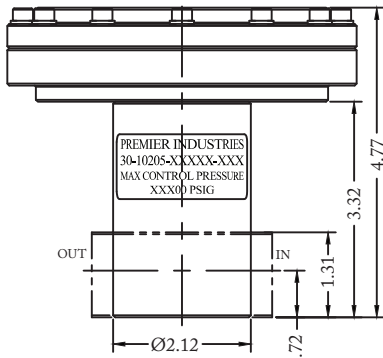
- Panel mounting bracket: P/N: 30-10059
(Ø2.15 panel hole)
- Surface mount
- Private label

**SAE AS5202 supersedes MS33649

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PEEK® is a registered trademark of Victrex PLC

PART NUMBER: H30-10205



BODY DIMENSIONS		
PORT TYPE	ØA	FLATS
1/4 & 3/8 NPT	Ø2.12	—
1/4" M.P.	Ø2.12	1.98
1/2" NPT, NPTF	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

PART #	-	1	2	3	4	5	-	6	7	8	-	MODS
H30-10205	-						-				-	

1	BODY MATERIALS (MAX. INLET PRESSURE)	
1	SAE 360 Brass (6000 psig / 413.7 bar)	
2	316 Stainless Steel (10000 psig / 689.5 bar)	
2	CONTROL PRESSURE	
3	10-1500 psig (0.69-103.4 bar)	<i>Diameter: 1.000" Area: 0.7854 in² Ratio: 16/1 **</i>
4	15-2500 psig (1.0-172.4 bar)	<i>Diameter: 0.750" Area: 0.4418 in² Ratio: 28/1 **</i>
6	50-6000 psig (3.4-413.7 bar)	<i>Diameter: 0.500" Area: 0.1964 in² Ratio: 64/1 **</i>
7	100-10000 psig (6.9-689.5 bar) (stainless steel only)	<i>Diameter: 0.375" Area: 0.1104 in² Ratio: 114/1 **</i>
<i>** 4.0" diameter diaphragm - Diaphragm area: 12.5664 in²</i>		
3	FLOW (Cv)	
A	Cv 0.03	
0	Cv 0.06	
1	Cv 0.14	
2	Cv 0.2	

4	PORT SIZE									
4	1/4"									
6	3/8"									
8	1/2"*									
9	9/16"***									
<i>*1/2" not available in medium pressure **9/16" only available in medium pressure</i>										
5	PORT TYPE									
1	FNPT									
2	SAE J1926									
3	SAE AS5202 (MS33649**)									
4	MEDIUM PRESSURE									
<i>**SAE AS5202 supersedes MS33649</i>										
6	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>Cv 0.03, 0.06</td> <td>6000 PSIG</td> </tr> <tr> <td>Cv 0.14</td> <td>4000 PSIG</td> </tr> <tr> <td>Cv 0.20</td> <td>3000 PSIG</td> </tr> </tbody> </table>			*** PCTFE SEATS	MAX CONTROL PRESSURE	Cv 0.03, 0.06	6000 PSIG	Cv 0.14	4000 PSIG	Cv 0.20	3000 PSIG
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PCTFE SEAT MAXIMUM CONTROL PRESSURES SUPERCEDE BODY MATERIAL MAXIMUM CONTROL PRESSURES										

7 8	O-RING MATERIAL	
00	BUNA-N	
02	VITON-A®	
05	EPDM	
MODIFICATIONS <i>Separate multiple mods with a dash</i>		
BLANK	NONE	
AS	1/4" SAE AS5202 LOADER PORT	
E	1/8" NPT AIR LOADER PORT	
J	1/4" SAE J1926 LOADER PORT	
SM	SURFACE MOUNT	

*10000 PSIG MAX INLET (Stainless Steel)
6000 PSIG MAX INLET (Brass)
The end user is responsible to ensure adequate fittings are used to connect regulator to plumbing.*

Viton-A® and Vespel® are registered trademarks of E.I. duPont de Nemours and Company

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