

# 6100AL SERIES

Air Loaded, Hydraulic, High Pressure  
Back Pressure Regulator



Premier 6100AL Series air loaded, hydraulic, piston sensed, single stage, high pressure, back pressure regulators are rated for control pressures up to 10000 PSIG (*689.48 bar*), and Cv 0.03, 0.06, 0.14, or 0.2.

Premier 6100AL Series regulators are used to regulate to a broad range of non-corrosive and corrosive media (*based on materials of construction*).

## FEATURES

- Compatible with electro pneumatic controllers
- Cv 0.03, 0.06, 0.14, or 0.20
- 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 / 413.7 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 in<sup>2</sup>*
      - Ratio: 1<sup>6</sup>/<sub>1</sub> \*\**
    - 15-2500 PSIG (1.03 - 172.37 bar)
      - Diameter: 0.750"*
      - Area: 0.4418 in<sup>2</sup>*
      - Ratio: 2<sup>8</sup>/<sub>1</sub> \*\**
    - 50-6000 PSIG (3.45 - 413.69 bar)
      - Diameter: 0.500"*
      - Area: 0.1964 in<sup>2</sup>*
      - Ratio: 6<sup>4</sup>/<sub>1</sub> \*\**
    - 100-10000 PSIG (6.89 - 689.5 bar)
      - Diameter: 0.375"*
      - Area: 0.1104 in<sup>2</sup>*
      - Ratio: 11<sup>4</sup>/<sub>1</sub> \*\**
- \*\* 4.0" diameter diaphragm  
Diaphragm area: 12.5664 in<sup>2</sup>*
- **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 STEM:** 316 Stainless Steel
- **MAIN VALVE SEAT OPTIONS:**
  - Vespel®
  - 17-4 Stainless Steel
  - 316 Stainless Steel
  - PEEK®
- **ELASTOMER SEAL OPTIONS:**
  - BUNA-N
  - Viton-A®
  - EPDM
  - FFKM (*Contact Premier for pricing*)
- **WETTED PARTS:**
  - 316 Stainless Steel
  - 17-4 Stainless Steel
- **BACK-UP RINGS:**
  - PTFE
  - PCTFE
- **STANDARD LUBRICANT:**
  - Krytox® GPL 206

## 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
- **AIR ACTUATOR:**
  - 1/4-18" FNPT (*Standard*)
  - 1/4" SAE AS5202 (*mod*)
  - 1/4" SAE J1926 (*mod*)
  - 1/8" FNPT (*mod*)

*\*\*SAE AS5202 supersedes MS33649*

## OPTIONAL ITEMS

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

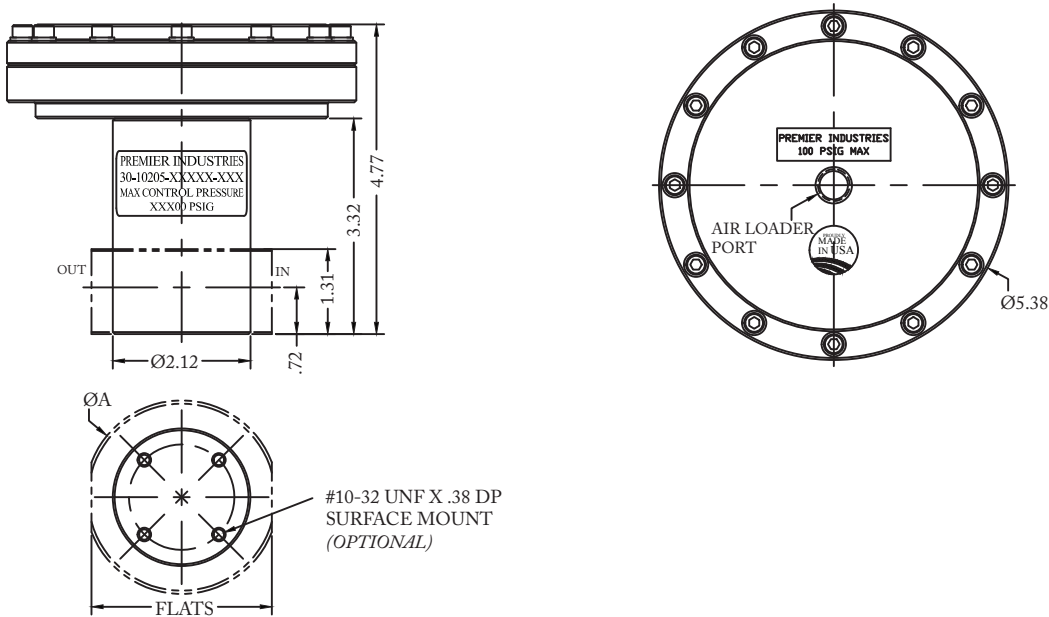
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*PEEK® is a registered trademark of Victrex PLC*

**PART NUMBER: 30-10205**



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

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PART #	-	1	2	3	4	5	-	6	7	8	-	MODS
30-10205	-						-				-	

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)	Diameter: 1.000" Area: 0.7854 in <sup>2</sup> Ratio: 1 <sup>6</sup> / <sub>1</sub> **
4	15-2500 psig (1.0-172.4 bar)	Diameter: 0.750" Area: 0.4418 in <sup>2</sup> Ratio: 2 <sup>8</sup> / <sub>1</sub> **
6	50-6000 psig (3.4-413.7 bar)	Diameter: 0.500" Area: 0.1964 in <sup>2</sup> Ratio: 6 <sup>4</sup> / <sub>1</sub> **
7	100-10000 psig (6.9-689.5 bar) (stainless steel only)	Diameter: 0.375" Area: 0.1104 in <sup>2</sup> Ratio: 1 <sup>14</sup> / <sub>1</sub> **
** 4.0" DIAMETER DIAPHRAGM DIAPHRAGM AREA: 12.5664 IN <sup>2</sup>		
3	FLOW (Cv)	
A	Cv 0.03	
0	Cv 0.06	
1	Cv 0.14	
2	Cv 0.20	

4	PORT SIZE	
4	1/4"	
6	3/8"	
8	1/2"*	
9	9/16"***	
*1/2" NOT AVAILABLE IN MEDIUM PRESSURE **9/16" ONLY AVAILABLE IN MEDIUM PRESSURE		
5	PORT TYPE	
1	FNPT	
2	SAE J1926	
3	SAE AS5202 (MS33649**)	
4	MEDIUM PRESSURE	
**SAE AS5202 supersedes MS33649		

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PEEK® is a registered trademark of Victrex PLC  
Krytox® is a registered trademark of The Chemours Company FC, LLC.  
Contact factory for material certifications.  
Fees may apply.

6	VALVE SEAT	
0	VESPEL®	
1	17-4 H900 STAINLESS STEEL	
2	316 STAINLESS STEEL	
3	PEEK®	
7 8	O-RING MATERIAL	
00	BUNA-N	
02	VITON®	
05	EPDM	
11	FFKM (Contact factory for pricing)	
MODIFICATIONS SEPARATE MULTIPLE MODS WITH A DASH		
BLANK	NONE	
AC	KRYTOX 240AC	
AS	1/4" SAE AS5202 LOADER PORT	
E	1/8" NPT AIR LOADER PORT	
J	1/4" SAE J1926 LOADER PORT	
N	NACE MR0175 COMPATIBLE	
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.