

3100AL SERIES

Air loaded, High Pressure
Back pressure regulators



Premier 3100AL Series air loaded, 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 3100AL Series regulators are used to regulate 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 0.2
- 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
- Hydraulic design 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

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PEEK® is a registered trademark of Victrex PLC

*Krytox® is a registered trademark of The Chemours
Company FC, LLC.*

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®
 - PEEK®
 - PCTFE (*See page 4 for special instructions*)
- **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

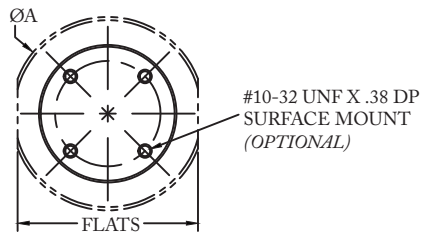
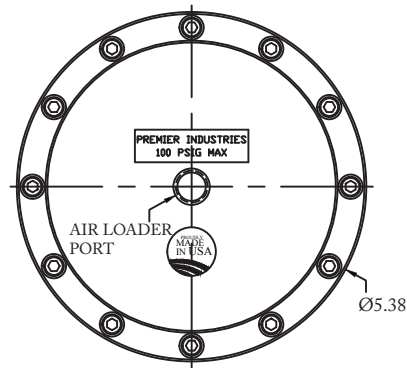
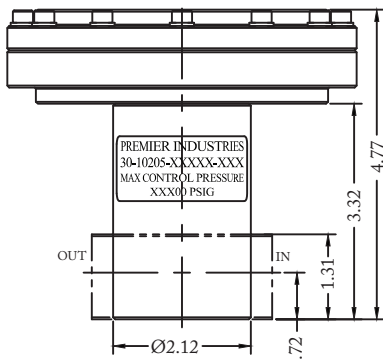
PORTING

- **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
- **SAE AS5202 supersedes MS33649*
- **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

PART NUMBER: 30-10205G



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
30-10205G	-						-				-	

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 ² Ratio: 16/1 **
4	15-2500 psig (1.0-172.4 bar)	Diameter: 0.750" Area: 0.4418 in ² Ratio: 28/1 **
6	50-6000 psig (3.4-413.7 bar)	Diameter: 0.500" Area: 0.1964 in ² Ratio: 64/1 **
7	100-10000 psig (6.9-689.5 bar) (stainless steel only)	Diameter: 0.375" Area: 0.1104 in ² Ratio: 114/1 **
** 4.0" diameter diaphragm - Diaphragm area: 12.5664 in ²		
3	FLOW (Cv)	
A	Cv 0.03	
0	Cv 0.06	
1	Cv 0.14	
2	Cv 0.2	

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.

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Contact factory for material certifications.
Fees may apply.

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		
VALVE SEAT		
1	Vespel®	
2	PEEK®	
3	PCTFE*	
*** 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		

6	VALVE SEAT
0	Vespel®
3	PEEK®
7 8	O-RING MATERIAL
00	BUNA-N
02	VITON-A®
05	EPDM
11	FFKM (Contact Premier 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 COMPLIANT
SM	SURFACE MOUNT