

# 3016AL SERIES

Air Loaded, High Pressure, High Flow  
Pressure Reducing Regulators



Premier 3016AL Series regulators are high pressure, high flow, piston sensed, pressure reducing regulators rated for inlet pressures up to 10000 psig (*689.5 bar*) and Cv 1.0 or 2.0. This regulator features an air loader with a max inlet pressure of 110 PSIG (*7.58 bar*) and a balanced stem for increased outlet pressure stability.

The 3016AL regulator's captured venting allows potentially hazardous media to be safely piped away.

## FEATURES

- Captured venting
- High flow capacity (Cv): 1.0 or 2.0
- Balanced stem for increased outlet pressure stability
- 316 stainless steel construction
- Compatible with electro-pneumatic controllers
- Max inlet pressure:
  - 6000 PSIG (*413.7 bar*), Cv 2.0
  - 10000 PSIG (*689.48.7 bar*), Cv 2.0
- Machined bar stock body eliminates porosity found in castings

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

## SPECIFICATIONS

- **MAXIMUM INLET PRESSURE:**
  - **REGULATOR:**
    - 6000 PSIG (413.7 bar), Cv 2.0 (P/N: 30-10227)
    - 10000 PSIG (689.48 bar), Cv 1.0 (P/N: 30-10225AL)
  - AIR ACTUATOR: 110 PSIG (7.58 bar)
- **OUTLET PRESSURE:**
  - 10-1500 PSIG (0.69 - 103.42 bar)
    - Diameter: 1.000"
    - Area: 0.7854 in<sup>2</sup>
    - Ratio: 16/1 \*\*
  - 15-2500 PSIG (1.03 - 172.37 bar)
    - Diameter: 0.750"
    - Area: 0.4418 in<sup>2</sup>
    - Ratio: 28/1 \*\*
  - 50-6000 PSIG (3.45 - 413.69 bar)
    - Diameter: 0.500"
    - Area: 0.1964 in<sup>2</sup>
    - Ratio: 64/1 \*\*
  - 100-10000 PSIG (6.89-689.48 bar)
    - Diameter: 0.375"
    - Area: 0.1104 in<sup>2</sup>
    - Ratio: 114/1 \*\*

\*\* 4.0" diameter diaphragm  
Diaphragm area: 12.5664 in<sup>2</sup>

- **FLOW (Cv):**
  - **MAIN VALVE:**
    - 2.0 (P/N: 30-10227)
    - 1.0 (P/N: 30-10225AL)
  - **VENT VALVE:** 0.06
- **AMBIENT OPERATING TEMPERATURES:**
  - -4°F/-20°C to 212°F/100°C (Viton®)\*
  - -15°F/-26°C to 212°F/100°C (BUNA-N)\*
  - -65°F/-54°C to 212°F/100°C (EPDM)

\*lower temperature compounds available upon request

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

AFLAS® is a registered trademark of the Asahi Glass Co., Ltd.

\*\*SAE AS5202 supersedes MS33649 see part numbers for more porting options

Contact factory for material certifications. Fees may apply.

## MATERIALS OF CONSTRUCTION

- **BODY:** 316 Stainless Steel
- **HOUSING, AIR ACTUATOR :**
  - 6061-T6 Aluminum/clear anodized
- **DIAPHRAGM, AIR ACTUATOR :**
  - Neoprene, nylon fabric-reinforced
- **MAIN VALVE SEAT:**
  - PCTFE, Cv 2.0 (P/N:30-10227)
  - Vespel® SP-1, Cv 1.0 (P/N:30-10225AL)
- **VENT VALVE SEAT:**
  - Vespel® SP-1, Cv 2.0 (P/N:30-10227)
  - Vespel®SCP-5000, Cv 1.0 (P/N:30-10225AL)
- **ELASTOMER SEALS:**
  - BUNA-N
  - AFLAS®
  - Viton®
  - EPDM
  - FFKM (contact factory for pricing)
- **BACK-UP RING OPTIONS:**
  - PTFE
  - PCTFE
- **OTHER WETTED PARTS:**
  - 316 Stainless Steel
  - 17-4 Stainless Steel
- **STANDARD LUBRICANT:**
  - Krytox® GPL 206

## PORTING

- **INLET/OUTLET:**
  - See part number selection charts on pgs 5 & 6
- **AIR ACTUATOR:**
  - 1/4" FNPT (standard)
  - 1/4" SAE AS5202
  - 1/8" FNPT
  - 1/4" SAE J1926
- **VENT:** 1/4" (inlet/outlet port type)
- **GAUGE PORTS:** 1/4" FNPT

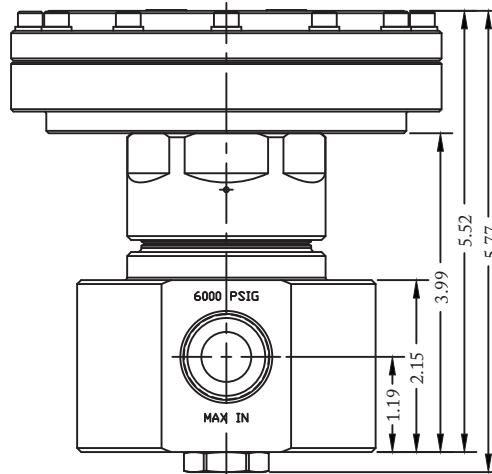
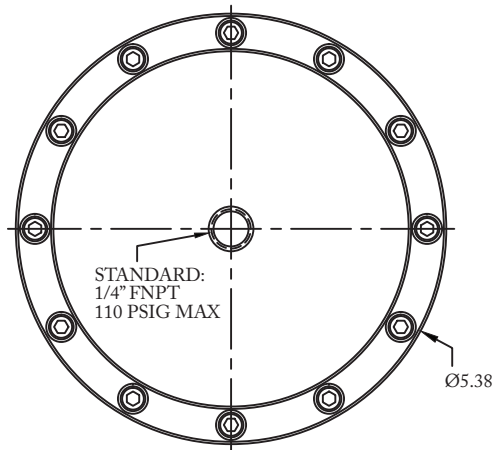
## OPTIONS

- Private Label

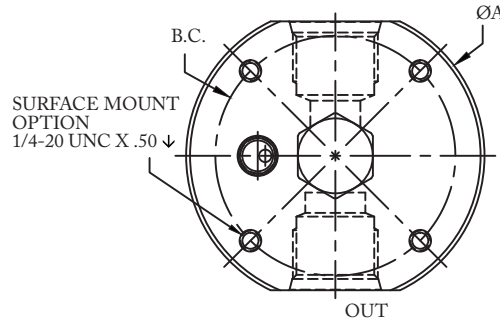
# 3016AL SERIES

Air Loaded, High Pressure, High Flow  
Pressure Reducing Regulators

PART NUMBER: 30-10227 Cv 2.0



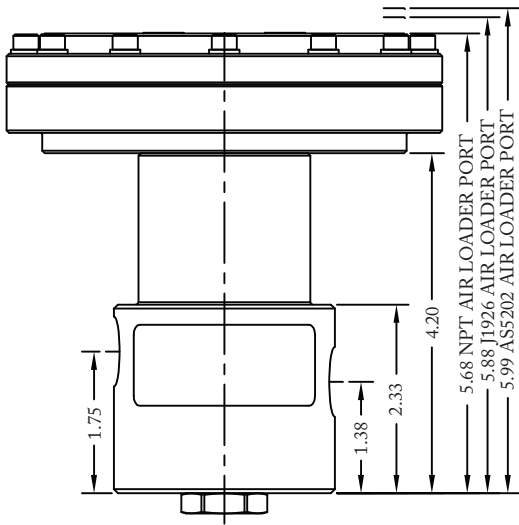
PORT TYPE	ØA	FLATS	B.C.
1/2" & 3/4" NPT	Ø2.98	—	Ø2.50
1/2" SAE	Ø3.23	3.05	Ø2.63
1" NPT	Ø3.48	—	Ø2.75
9/16" M.P.	Ø3.48	3.30	Ø2.75
3/4" J1926	Ø3.73	3.36	Ø3.00
3/4" AS5202	Ø3.98	3.72	Ø3.25
3/4" M.P.	Ø3.98	3.72	Ø3.25
1" SAE	Ø3.98	3.72	Ø3.25



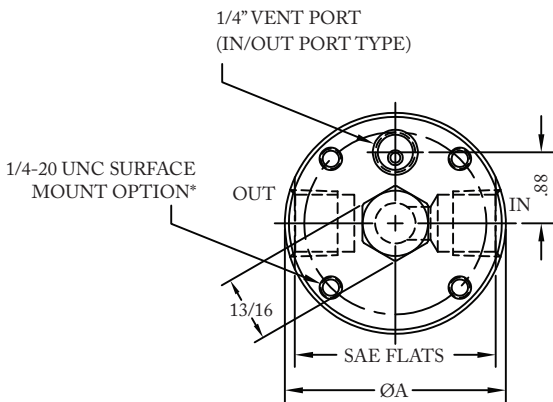
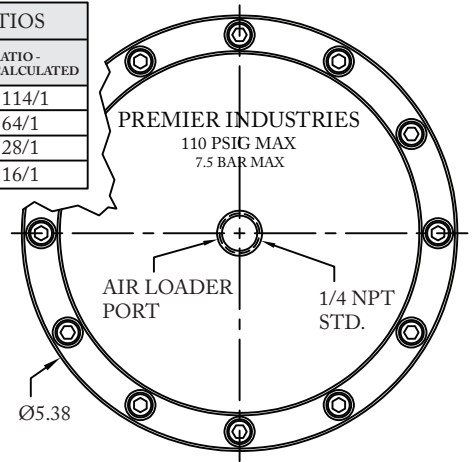
# 3016AL SERIES

**Air Loaded, High Pressure, High Flow**  
Pressure Reducing Regulators

**PART NUMBER: 30-10225AL Cv 1.0**



DIAPHRAGM TO SENSOR RATIOS		
DIAPHRAGM Ø4.0"	AREA	RATIO - CALCULATED
SENSOR Ø.375	0.1104 IN <sup>2</sup>	114/1
SENSOR Ø.500	0.1964 IN <sup>2</sup>	64/1
SENSOR Ø.750	0.4418 IN <sup>2</sup>	28/1
SENSOR Ø1.000	0.7854 IN <sup>2</sup>	16/1



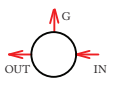
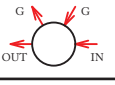
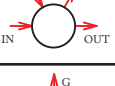
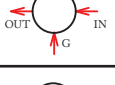

PORT TYPE	ØA	FLATS	BODY
NPT	Ø2.73	—	
SAE J1926	Ø3.23	3.05	
3/8 SAE AS5202	Ø3.23	3.05	
1/2 SAE AS5202	Ø3.48	3.30	

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PART #	-	1	2	3	4	-	5 6	-	MODS
30-10227	-					-		-	

**Cv 2.0 MODEL**

1	OUTLET PRESSURE
3	10-1500 PSIG (0.69 - 103.42 bar) <i>Diameter: 1.000"</i> <i>Area: 0.7854 in<sup>2</sup></i> <i>Ratio: 1<sup>6</sup>/<sub>1</sub> **</i>
4	15-2500 PSIG (1.03 - 172.37 bar) <i>Diameter: 0.750"</i> <i>Area: 0.4418 in<sup>2</sup></i> <i>Ratio: 2<sup>8</sup>/<sub>1</sub> **</i>
6	50-6000 PSIG (3.45 - 413.69 bar) <i>Diameter: 0.500"</i> <i>Area: 0.1964 in<sup>2</sup></i> <i>Ratio: 6<sup>4</sup>/<sub>1</sub> **</i>
<i>** 4.0" diameter diaphragm</i> <i>Diaphragm area: 12.5664 in<sup>2</sup></i>	
2	PORTING CONFIGURATIONS
A	
C	
D	
L	
S	

3	PORT SIZE
8	1/2"
9	9/16"
T	3/4"
W	1"
<i>*1/2" ports not available in medium pressure</i> <i>**9/16" ports only available in medium pressure</i>	
<b>GAUGE PORTS: 1/4" FNPT</b>	
<b>VENT PORT: 1/4" inlet/outlet port type</b>	
4	PORT TYPE (IN/OUT/VENT)
N	NPT
J	SAE J1926
A	SAE AS5202**
M	MEDIUM PRESSURE
<i>**SAE AS5202 supersedes MS33649</i>	

5 6	O-RING MATERIAL
00	BUNA-N
01	AFLAS®
02	VITON-A®
05	EPDM
11	FFKM <i>(contact Premier for pricing)</i>
MODIFICATIONS	
<i>Separate multiple mods with a dash</i>	
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
NV	Non-venting
SM	Surface mount
PTU	Port type uniform

### 6000 PSIG MAX INLET

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

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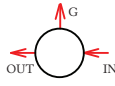
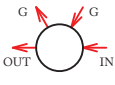
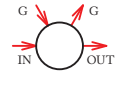
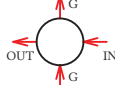
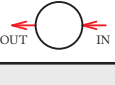
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*Contact factory for material certifications. Fees may apply.*

PART #	-	1	2	3	4	-	5 6	-	MODS
30-10225AL	-					-		-	

**Cv 1.0 MODEL**

1	OUTLET PRESSURE
3	10-1500 PSIG (0.69 - 103.42 bar) Diameter: 1.000" Area: 0.7854 in <sup>2</sup> Ratio: 16/1 **
4	15-2500 PSIG (1.03 - 172.37 bar) Diameter: 0.750" Area: 0.4418 in <sup>2</sup> Ratio: 28/1 **
6	50-6000 PSIG (3.45 - 413.69 bar) Diameter: 0.500" Area: 0.1964 in <sup>2</sup> Ratio: 64/1 **
7	100-10000 PSIG (6.89-689.48 bar) Diameter: 0.375" Area: 0.1104 in <sup>2</sup> Ratio: 114/1 **
** 4.0" diameter diaphragm Diaphragm area: 12.5664 in <sup>2</sup>	

2	PORTING CONFIGURATIONS
A	
C	
D	
L	
S	
3	PORT SIZE
6	3/8"
8	1/2"
9	9/16"
GAUGE PORTS: 1/4" FNPT VENT PORT: 1/4" inlet/outlet port type	
NOTE: *3/8" and 1/2" not available in medium pressure **9/16 only available in medium pressure	

4	PORT TYPE (IN/OUT/VENT)
N	NPT
J	SAE J1926
A	SAE AS5202** **SAE AS5202 supersedes MS33649
M	MEDIUM PRESSURE
5 6	O-RING MATERIAL
00	BUNA-N
01	AFLAS®
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
NV	Non-venting
PTU	Port type uniform
SM	Surface mount

### 10000 PSIG MAX INLET

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

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