

# Air FRL Specifications



Interchangeable with SMC—NAC Series FRL											
Filter-Regulator-Lubricator (AC)		Stacking Filter-Regulator-Lubricator (AC)		Filter-Regulator (AW)		Regulator (AR)		Filters (AF)		Lubricators (AL)	
Model	Air Flow Rate* SCFM (LPM)	Model	Air Flow Rate* SCFM (LPM)	Model	Air Flow Rate* SCFM (LPM)	Model	Air Flow Rate* SCFM (LPM)	Model	Air Flow Rate* SCFM (LPM)	Model	Air Flow Rate* SCFM (LPM)
AC 1000-00	3 (90)	AC 1010-00	3 (90)	AW 1000-00	3 (90)	AR 1000-00	4 (100)	AF 1000-00	4 (110)	AL 1000-00	3 (90)
AC 2000-XX	18 (500)	AC 2010-XX	18 (500)	AW 2000-XX	19 (550)	AR 2000-XX	19 (550)	AF 2000-XX	26 (760)	AL 2000-XX	28 (800)
AC 3000-XX	70 (2000)	AC 3010-XX	60 (1700)	AW 3000-XX	70 (2000)	AR 3000-XX	88 (2500)	AF 3000-XX	70 (2000)	AL 3000-XX	60 (1700)
AC 4000-XX	140 (4000)	AC 4010-XX	105 (3000)	AW 4000-XX	140 (4000)	AR 4000-XX	210 (6000)	AF 4000-XX	140 (4000)	AL 4000-XX	180 (5000)
AC 4000-06	160 (4500)	AC 4010-06	105 (3000)	AW 4000-06	160 (4500)	AR 4000-06	210 (6000)	AF 4000-06	210 (6000)	AL 4000-06	220 (6300)
AC 5000-XX	180 (5000)	AC 5010-XX	140 (4000)	AW 5000-XX	195 (5500)	AR 5000-XX	280 (8000)	AF 5000-XX	245 (7000)	AL 5000-XX	245 (7000)

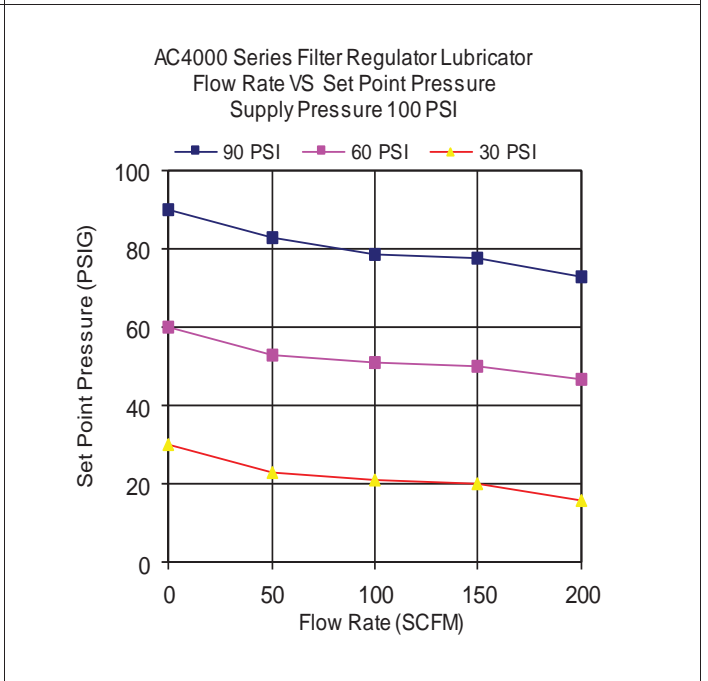
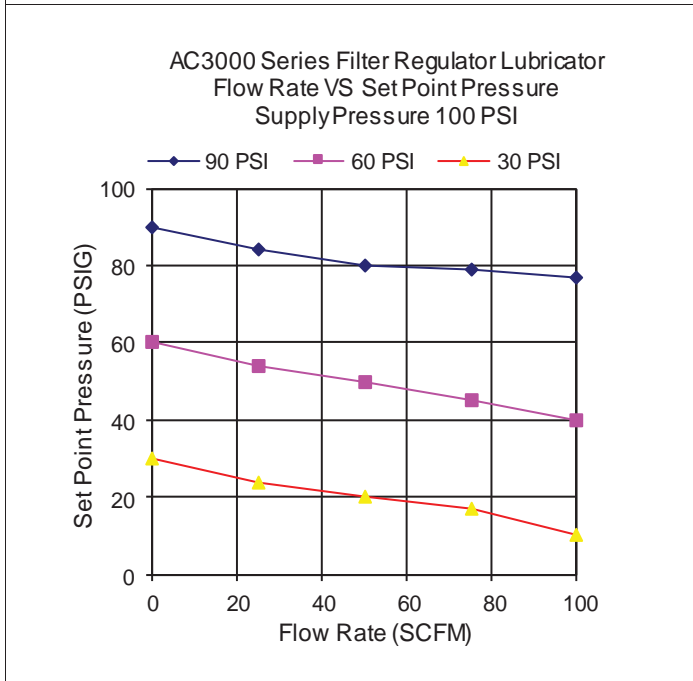
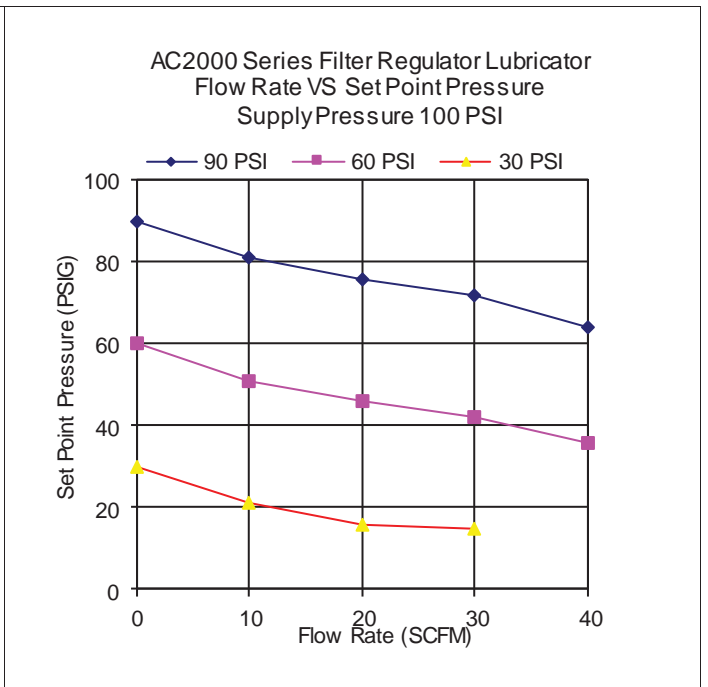
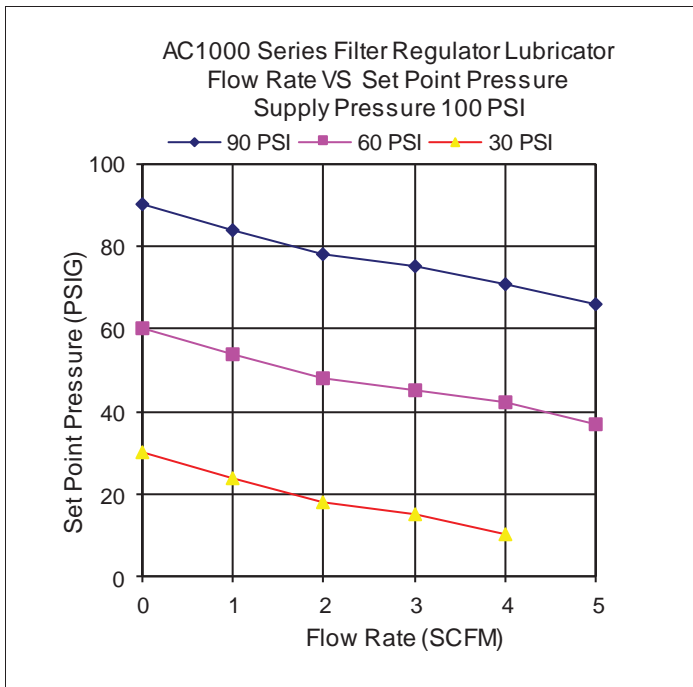
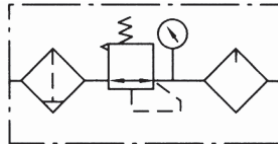
\*Measured with Supply Air Pressure @100PSI and Set Point Pressure @75PSI

Model Series	Port Size	Port Size (Pressure Gauge)	Regulating Range	Max. Operating Pressure	Operating Temperature	Filtration	Bowl Material	Bowl Guard	Body Material	Construction/Regulator	Seals	Filter Drain	Service
1000-00	10-32 (M5)	1/16 Rc (PT)	7 - 100 PSI	150 PSI (9.9 kgf/cm <sup>2</sup> )	40 - 140°F (5 - 60°C)	5 Micron Filter (Option); 25 Micron (Standard Sintered Brass Filter)	Polycarbonate (standard) or Aluminum Metal (Option)	N/A	Die-Casting Aluminum	Relieving Type	NBR	Semi-Auto Differential Drain	For Air Only
1010-00								N/A				Semi-Auto Differential Drain (Standard) or Automatic Drain	
2000-XX	1/8 or 1/4 NPT	1/8 NPT	7 - 125 PSI (0.5 - 8.5 kgf/cm <sup>2</sup> )	150 PSI (9.9 kgf/cm <sup>2</sup> )	40 - 140°F (5 - 60°C)	5 Micron Filter (Option); 25 Micron (Standard Sintered Brass Filter)	Polycarbonate (standard) or Aluminum Metal (Option)	Steel Bowl Guard	Die-Casting Aluminum	Relieving Type	NBR	Semi-Auto Differential Drain (Standard) or Automatic Drain	For Air Only
2010-XX													
3000-XX	1/4 or 3/8 NPT	1/8 NPT	7 - 125 PSI (0.5 - 8.5 kgf/cm <sup>2</sup> )	150 PSI (9.9 kgf/cm <sup>2</sup> )	40 - 140°F (5 - 60°C)	5 Micron Filter (Option); 25 Micron (Standard Sintered Brass Filter)	Polycarbonate (standard) or Aluminum Metal (Option)	Steel Bowl Guard	Die-Casting Aluminum	Relieving Type	NBR	Semi-Auto Differential Drain (Standard) or Automatic Drain	For Air Only
3010-XX													
4000-XX	3/8 or 1/2 NPT	1/4 NPT	7 - 125 PSI (0.5 - 8.5 kgf/cm <sup>2</sup> )	150 PSI (9.9 kgf/cm <sup>2</sup> )	40 - 140°F (5 - 60°C)	5 Micron Filter (Option); 25 Micron (Standard Sintered Brass Filter)	Polycarbonate (standard) or Aluminum Metal (Option)	Steel Bowl Guard	Die-Casting Aluminum	Relieving Type	NBR	Semi-Auto Differential Drain (Standard) or Automatic Drain	For Air Only
4010-XX													
4000-06	3/4 NPT	1/4 NPT	7 - 125 PSI (0.5 - 8.5 kgf/cm <sup>2</sup> )	150 PSI (9.9 kgf/cm <sup>2</sup> )	40 - 140°F (5 - 60°C)	5 Micron Filter (Option); 25 Micron (Standard Sintered Brass Filter)	Polycarbonate (standard) or Aluminum Metal (Option)	Steel Bowl Guard	Die-Casting Aluminum	Relieving Type	NBR	Semi-Auto Differential Drain (Standard) or Automatic Drain	For Air Only
4010-06													
5000-XX	3/4 or 1 NPT	1/4 NPT	7 - 125 PSI (0.5 - 8.5 kgf/cm <sup>2</sup> )	150 PSI (9.9 kgf/cm <sup>2</sup> )	40 - 140°F (5 - 60°C)	5 Micron Filter (Option); 25 Micron (Standard Sintered Brass Filter)	Polycarbonate (standard) or Aluminum Metal (Option)	Steel Bowl Guard	Die-Casting Aluminum	Relieving Type	NBR	Semi-Auto Differential Drain (Standard) or Automatic Drain	For Air Only
5010-XX													

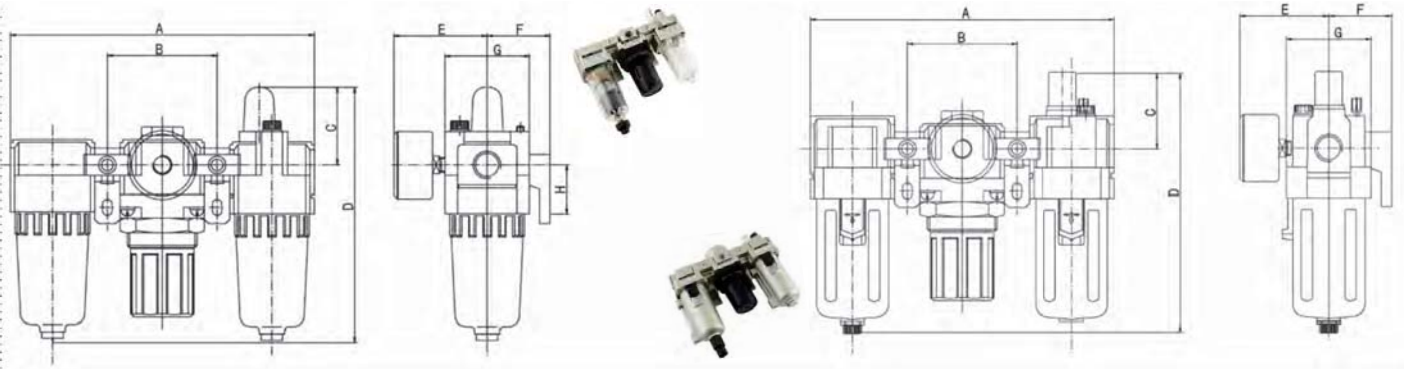
These FRL components are of modular design with joiner clamps. The joiner clamps allow easy connection and disconnection of FRL components for simple installation and maintenance.

## Filter Regulator Lubricator Selection:

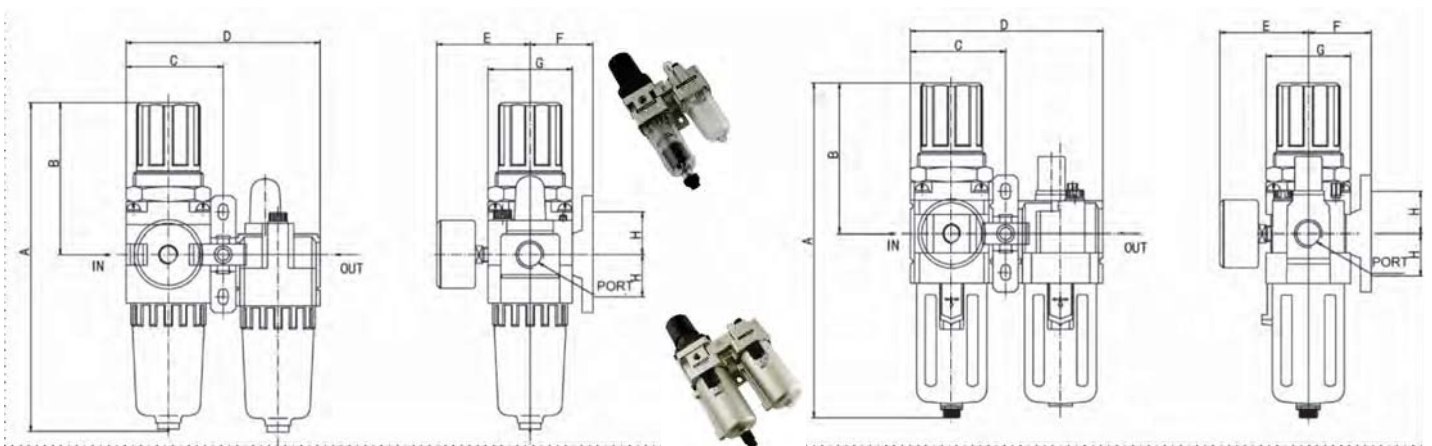
1. Determine flow rate requirements.
2. Determine required set point pressure and allowable pressure drop.
3. Locate the FRL graph with set point pressure that provides the flow rate with acceptable pressure drop.



# Air Filter-Regulator-Lubricator Dimensions



Model	Flow Rate (lpm/scfm)	Port	Gauge Port	A (mm/in)	B (mm/in)	C (mm/in)	D (mm/in)	E (mm/in)	F (mm/in)	G (mm/in)	H (mm/in)	Bracket	Weight (kg/lb)	Gauge
AC1000 -00	90	10-32 (M5)	1/16 Rc	91	33	25.5	84.5	26	25	25	20	Y10L	0.26	GE-1-160-00
	3			3.58	1.30	1.00	3.33	1.02	0.98	0.98	0.79		0.57	
AC2000 -01	500	1/8 NPT	1/8 NPT	140	50	38	125	56.8	30	40	24	Y20L	0.74	GE-1 1/2-160-01
AC2000 -02	18	1/4 NPT		5.51	1.97	1.50	4.92	2.24	1.18	1.57	0.94		1.63	
AC3000 -02	2000	1/4 NPT	1/8 NPT	181	64	38	156.5	60.8	41	53	35	Y30L	1.18	GE-1 1/2-160-01
AC3000 -03	70	3/8 NPT		7.13	2.52	1.50	6.16	2.39	1.69	2.09	1.38		2.60	
AC4000 -03	4000	3/8 NPT	1/4 NPT	238	84	41	191.5	65.5	50	70	40	Y40L	2.14	GE-2-160-02
AC4000 -04	140	1/2 NPT		9.37	3.31	1.61	7.54	2.58	1.97	2.76	1.57		4.71	
AC4000 -06	4500	3/4 NPT	1/4 NPT	253	89	41	193	69.5	50	70	40	Y50L	2.47	GE-2-160-02
	160			9.96	3.50	1.61	7.60	2.74	1.97	2.76	1.57		5.43	
AC5000 -06	5000	3/4 NPT	1/4 NPT	300	105	48	271.5	75.5	69.8	90	50	Y60L	3.82	GE-2-160-02
AC5000 -10	180	1 NPT		11.81	4.13	1.89	10.69	2.97	2.75	3.54	1.97		8.40	



Model	Flow Rate (lpm/scfm)	Port	Gauge Port	A (mm/in)	B (mm/in)	C (mm/in)	D (mm/in)	E (mm/in)	F (mm/in)	G (mm/in)	H (mm/in)	Bracket	Weight (kg/lb)	Gauge
AC1010 -00	90	10-32 (M5)	1/16 Rc	109.5	50.5	29	58	26	25	25	20	Y10T	0.22	GE-1-160-00
	3			4.31	1.99	1.14	2.28	1.02	0.98	0.98	0.79		0.48	
AC2010 -01	500	1/8 NPT	1/8 NPT	164.5	78	45	90	56.8	30	40	24	Y20T	0.66	GE-1 1/2-160-01
AC2010 -02	18	1/4 NPT		6.48	3.07	1.77	3.54	2.24	1.18	1.57	0.94		1.45	
AC3010 -02	1700	1/4 NPT	1/8 NPT	211	92.5	58.5	117	60.8	41	53	35	Y30T	0.98	GE-1 1/2-160-01
AC3010 -03	60	3/8 NPT		8.31	3.64	2.30	4.61	2.39	1.61	2.09	1.38		2.16	
AC4010 -03	3000	3/8 NPT	1/4 NPT	262	112	77	154	65.5	50	70	40	Y40T	1.93	GE-2-160-02
AC4010 -04	105	1/2 NPT		10.31	4.41	3.03	6.06	2.58	1.97	2.76	1.57		4.25	
AC4010 -06	3000	3/4 NPT	1/4 NPT	267	114	82	164	69.5	50	70	40	Y50T	1.99	GE-2-160-02
	105			10.51	4.49	3.23	6.46	2.74	1.97	2.76	1.57		4.38	
AC5010 -06	4000	3/4 NPT	1/4 NPT	338	116	97.5	195	75.5	69.8	90	50	Y60T	3.2	GE-2-160-02
AC5010 -10	140	1 NPT		13.31	4.57	3.84	7.68	2.97	2.75	3.54	1.97		7.04	



# FRL Numbering System

Ordering Part No. =  
(e.g., **AC 1000-00-D**)



Model	
<b>A Series</b>	
Filter-Regulator-Lubricator	<b>AC</b>
Stacking Filter-Regulator-Lubricator	<b>AC</b>
Filter	<b>AF</b>
Lubricator	<b>AL</b>
Regulator	<b>AR</b>
Stacking Filter-Regulator	<b>AW</b>
Relieving Shut-off/Lockout Valve	<b>VHS</b>

Body Size		
<b>A Series</b>		
AC / AF / AL / AR / AW / VHS	<b>1000</b>	
	<b>2000</b>	
	<b>3000</b>	
	<b>4000</b>	
	<b>5000</b>	
AC— Stacking Filter- Regulator- Lubricator	<b>1010</b>	
	<b>2010</b>	
	<b>3010</b>	
	<b>4010</b>	
	<b>5010</b>	

Tube OD	
10-32 (M5)	<b>00</b>
1/8 NPT	<b>01</b>
1/4 NPT	<b>02</b>
3/8 NPT	<b>03</b>
1/2 NPT	<b>04</b>
3/4 NPT	<b>06</b>
1 NPT	<b>10</b>

Options	
Automatic Drain	<b>D</b>
Drain Cock (with manual shut off valve)	<b>DC</b>
Metal Bowl (with sight glass)	<b>M</b>
30PSI Regulating Range	<b>P30</b>
60PSI Regulating Range	<b>P60</b>
5 Micron Filter	<b>F5</b>
Without	<b>N</b>
Bracket	<b>B</b>
Pressure Gauge	<b>G</b>

- | Standard Features  |
|--|
| • Polycarbonate Bowl (3000-5000 Series with Steel Bowl Shield) |
| • 125 PSI Regulating Range                                     |
| • Semi-auto Differential Drain                                 |
| • 25 Micron Sintered Brass Filter                              |