AIRMATE® TYPE AFG-2
AIR LOADERS AND PANELS

For Constant Air Pressure Loading

PANEL LOADERS

Basic air loader and flush gauges mounted on enameled aluminum plate suitable for flush or surface console mounting. Optional air filter available, connected to air loader inlet connection.

How AIRMATE'S Patented Dual Aspirator Control Gives You Controlled Performance Over the Entire Flow Range:

A comparison of capacity/regulation curves of other leading air loaders with those of Airmate clearly demonstrate Airmate's superior performance. Airmate produces a flatter curve and supplies and more accurate pressure regulation over a greater flow range during performance tests at flow rates from 0 to 40 scfm. From no flow to rated flow, deviations from the set point are insignificant. Override and droop problems, common to ordinary regulators, are eliminated.

MATERIALS OF CONSTRUCTION

Basic Air Loaders .....Die cast aluminum body and spring case
Filter .....Die Cast aluminum bowl with drain cock
Filter Material .....Phenolic resin-impregnated cellulose

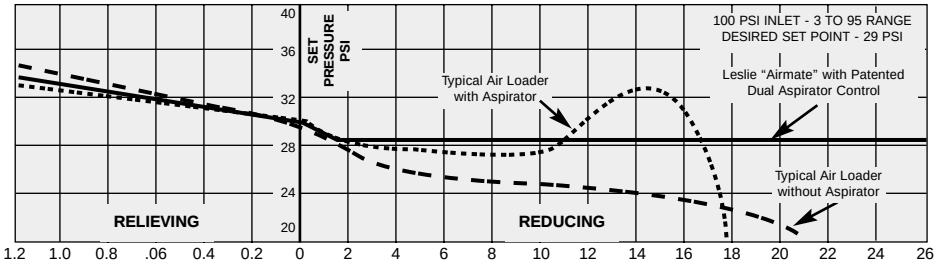
PRESSURE AND TEMPERATURE RANGES

BASIC AIR LOADERS

Maximum Inlet Pressure:	200 psi
Maximum Temperature:	150°F
Reduces Pressure Ranges:	2 to 30 psi 3 to 60 psi 30 to 150 psi[1]
Minimum Pressure Drop:	5 psi
Maximum Ambient Temperature:	150°F
Sympathetic Variations:	65:1[2]
Inlet and Outlet Connections:	1/4" NPT
	Continuous Bleed .04 SCFM

FILTER

Filtration:	Rated for 10 microns, maximum
Maximum Pressure Drop at 50% fouled:	1/4 psi
Filter Area:	4.3 sq. in.
Rating of Filter Area to Normal Flow Area:	88:1
Filter Bowl Capacity:	4.5 cu. in.



1. For applications where accuracy of regulation is not critical, range may be extended to 10 to 150 psi.

2. The change in reduced pressure for an inlet pressure variation is inverse. A 65 psi increase in inlet pressure will produce a 1 psi decrease in reduced pressure.

AIRMATE® AIR LOADERS AND PANELS

DESCRIPTION	CLASS DESIGNATION	ADJUSTABLE RANGES*	DESCRIPTION
 BASIC AIR LOADER**	**AP-2**	2-30 psi 3-60 psi 30-150 psi[1]	 AIR LOADER WITH GAUGE
	AG-2	2-30 psi 3-60 psi 30-150 psi[1]	
 AIR LOADER WITH FILTER**	**AFP-2**	2-30 psi 3-60 psi 30-150 psi[1]	 AIR LOADER WITH FILTER AND GAUGE
	AFG-2	2-30 psi 3-60 psi 30-150 psi	
 BASIC PANEL LOADER	**P-2**	2-30 psi 3-60 psi 30-150 psi[1]	 PANEL LOADER WITH AIR GAUGE AND FILTER
	PF-2	2-30 psi 3-60 psi 30-150 psi[1]	
 PANEL LOADER WITH AIR GAUGE AND PROCESS GAUGE	**30 PP-1**	2-30 psi	 PANEL LOADER WITH AIR AND PROCESS GAUGES AND AIR FILTER
	60 PP-1	3-60 psi	
	150 PP-1	30-150 psi[1]	
	30 PPF-1	2-30 psi	
	60 PPF-1	3-60 psi	
	150 PPF-1	30-150 psi[1]	

CHOICE OF FEATURES TO SUIT YOUR SYSTEM:

Airmate loaders offer a wide range of flexibility for selecting units to fit most system design requirements. The basic loader, protected by U.S. patents, offers several distinct benefits over ordinary air pressure regulators:

- High flow capacity with minimum droop — the result of Leslie-Airmate's exclusive dual aspirator.
- Reduced air waste — Leslie-Airmate has a minimum continuous bleed.
- Rugged construction for long service life.
- Accurate pressure regulation through the entire range — from no flow to maximum rated flow. The set point is not exceeded at high flow rates.
- No significant change of set point pressure when shifting from loading to unloading conditions.

The basic unit is a rugged, all-aluminum, die cast body and spring case to which gauges, filters and panel mountings are added to meet system requirements. The table at left show frequently used combinations, most of which are in stock.

When ordering, specify reduced pressure range required. Units fitted with gauges have these gauge ranges:

Loader Adjustable Range	Gauge Range
2-30 psi 3-60 psi 30-150 psi[1]	0-30 psi 0-60 psi 0-160 psi

AFP-2 is AFG-2 less gauge, with plugged gauge taps for future gauge. (AP-2, AFP-2).

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AIRMATE® AIR LOADERS AND PANELS

HOW IT OPERATES:

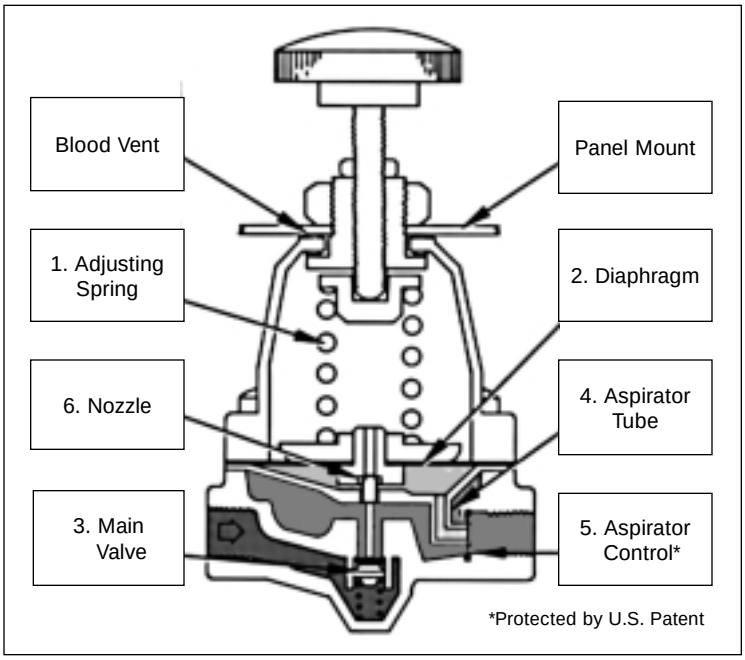
During pressure reduction, the main valve (3) is opened by the adjusting spring (1) acting on the diaphragm (2) allowing air to flow to the reduced pressure side. The adjusting spring force on the diaphragm is opposed by the aspirated outlet pressure, sensed through the aspirator tube (4), positioning the main valve (3).

The patented dual aspirator control gives you the high accuracy of regulation that is exclusive to Airmate. The signal transmitted through the aspirator tube (4) is self-regulated with respect to changing flows by means of the aspirator control disc (5). The function of this control disc is to maintain a properly varied aspirator signal, regardless of the volume of flow.

When an increased demand occurs, the flow past the aspirator tube (4) increases. The aspiration reduces the pressure under the diaphragm (2) creating an "artificial droop" in the diaphragm chamber. This drop in pressure immediately upsets the balance with the adjusting spring (1), repositioning the main valve (3) to maintain the set pressure with increased flow rate.

Under steady flow conditions, the regulated flow through the aspirator tube (4) maintains the balance between the adjusting spring (1) and the pressure under the diaphragm to hold the set loading pressure.

During the relief cycle, the excess outlet pressure is transmitted through aspirator tube (4) increasing the pressure under the diaphragm. This allows the main valve (3) to close and the excess pressure raises the diaphragm (2). The excess is vented though the nozzle (6) and out the top of the spring case to atmosphere. The valve will relieve until a balance is achieved, when the outlet pressure reaches the set point and is maintained.



LOADING CAPACITY DATA:

2-30 psi RANGE

Classes A-2, AG-2, P-2 etc.

INLET PRESSURE (psi)	OUTLET PRESSURE (psi)	FLOW SCFM[1]
30	2 8	10.4 9.7
100	8 20 30	12.8 27.5 28

3-60 psi RANGE

Classes A-2, AG-2, P-2 etc.

INLET PRESSURE (psi)	OUTLET PRESSURE (psi)	FLOW SCFM[1]
60	10 20 30	16 16 12
100	20 30 60	27.5 28 24
140	30 40 60	32.5 35 34

1. Based on 95% Accuracy of Regulation