



Mooney

a Baker Hughes business

Mooney™ Condensed Catalog

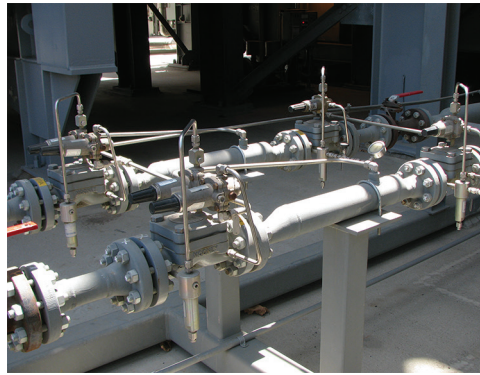
Accurately maintain pressure and flow control
of almost any gas or liquid.



NO SMOKING

Delivering exceptional performance...

Mooney regulators allow users to maintain pressure and flow control of almost any gas or liquid. The ability to control pressure and flow increases accuracy of use, responsiveness and stability while decreasing parts, noise levels, maintenance and energy costs. Mooney regulators add value for customers looking to produce energy more efficiently and reliably with less expense and greater awareness of environmental responsibility. As self-contained, pilot-operated devices, these advanced technology solutions can offer substantial energy savings when compared to conventional air-operated or electrically operated control valves.



Mooney Flowgrid

Product Overview

Mooney Flowgrid™ Regulator is an easy-to-maintain valve for self-contained pilot systems that allows users to maintain pressure and flow control of almost any gas or liquid. The Mooney Flowgrid Regulator is well-suited for pressure reducing (PRV), back pressure or relief (BPV) flow control and multi-function control applications where reliable regulation, simplicity and ease-of-maintenance are important. As a self-contained, pilot-operated device, this advanced technology solution can offer substantial energy savings when compared to conventional air-operated or electrically operated control valves.

Mooney Flowgrid regulators are designed to the international EN 334 standard, demonstrating our commitment to quality and safety. Baker Hughes has also secured; ISO 9001 and CRN certifications, along with others testifying to the safety and quality of the Mooney Flowgrid regulator.



General Data & Specifications

Sizes	1"-12" (DN 25-300)
Body Styles	Single Port: 1-8 in. (DN 25-200) Dual Port: 10 & 12 in. (DN 250 & DN 300)
ANSI/ASME Rating	CL 150-600
End Connections	Screwed, Socket Weld, Flanged, Flangeless
Outlet Pressures	5" w.c. - 900 psi (0.01 bar - 62 bar)
Maximum Operating Differential	800 psi (55 bar)
Maximum Emergency Differential⁽¹⁾	1000 psi (70 bar)
Cracking Differential	4 ± 1 psid (0.28 ± 0.07 bar)
Working Temperature	-20°F to 150°F (-29°C to 66°C)
Min/Max Temperature	-40°F to 175°F (-40°C to 79°C)
Flow Direction	Bi-Directional

1. Unless limited by body rating.

Materials of Construction

Body	Steel, Stainless Steel
Body & Spring Case	ASTM A 216 GR WCB Carbon Steel
Throttle Plate	17 - 4PH Stainless Steel or A515 Carbon Steel with ENC Coating
Diaphragm	Nitrile/Nylon (Optional FKM/Nylon)
O-Ring & Seals	Nitrile (Optional FKM)
Bolting	ASTM A 193 GR B-7 or Equal
Spring	301 Stainless Steel

Standard materials. See individual specifications for temperature ratings for alternative materials.

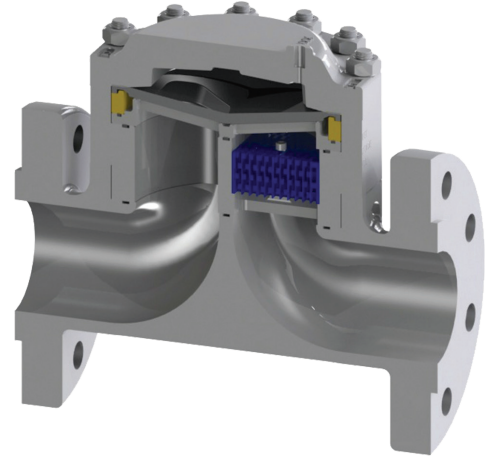
Mooney Flowgrid Noise Controller (FG-NC)

Product Overview

The FG-NC is a noise reducing device designed for use with the Mooney Flowgrid regulator. The FG-NC acts as an energy absorber that when used properly can reduce noise levels up to 25 dBA.

When gas flow exits the standard Flowgrid throttle plate, it passes through a series of flow channels created by the Noise Plate Assembly of the FG-NC. As the gas passes through these channels, the noise energy is dissipated, causing an overall reduction in noise.

The FG-NC is integrated into the top entry design of the Mooney Flowgrid regulator and can either be factory installed or ordered as a retrofit kit.



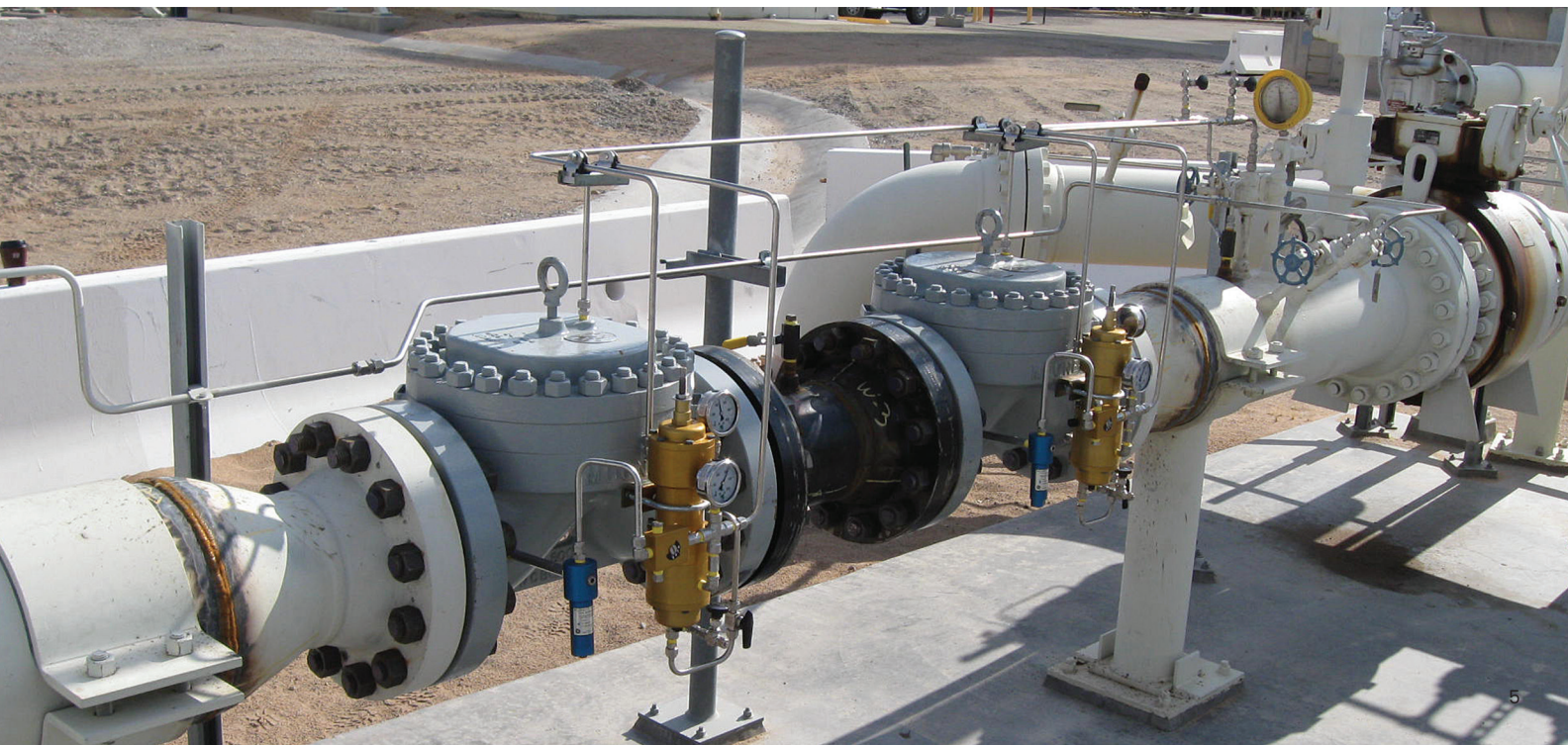
General Data

Sizes (in)	1"-12"
Sizes (DN)	25-300
ANSI/ASME Rating	CL 150-600
Working Temperature	-20°F to 150°F (-29°C to 66°C)
Min/Max Temperature	-40°F to 175°F (-40°C to 79°C)
Maximum Operating Differential	800 psi (55 bar) ⁽¹⁾
Maximum Emergency Differential	1000 psi (69 bar) ⁽¹⁾
Maximum Inlet Pressure	1480 psig (102 barg) ⁽¹⁾
Flow Direction	Unidirectional

1. May be limited by body rating.

Materials of Construction

Housing	Steel
Plates	Stainless Steel
Plate Screws	Stainless Steel
Seals	Nitrile
Housing Studs	ANSI B7



Mooney Flowgrid Slam Shut



Product Overview

The **Mooney Flowgrid Slam Shut** is a combination of a regulator and an automatic shut off device. In addition to pressure regulation, this pneumatically actuated device provides automatic downstream pressure protection. By separating the pneumatic controller and mechanical latching mechanism, shut off occurs only when designated set points are reached. The patent pending design prevents disruptive and costly “accidental shut offs”. Positive shut off is achieved instantly through the snap acting mechanism, and reset can be completed with common tools.

General Data

Sizes	1" and 2" NPT and SWE, 1"- 6" (DN 25-150) RF Flanged
Types	Stand alone or integrated into Flowgrid regulator
Body Styles	Large Port, Single Port
Pressure Protection	Standard: Over Pressure Optional: Over and/or Under
Working Temperature	-20°F to 150°F (-29°C to 66°C)
Maximum Operating Inlet Pressure	1480 psig (102 bar) ⁽¹⁾
Operating Sense Pressure	1-inch 5 to 450 psig (0.35 barg to 31 barg) 2-4 inch 10 to 900 psig (0.69 barg to 62 barg) ⁽¹⁾
Flow Direction	Unidirectional
Taps	Four ¼" – 18 NPT
Response Time	<0 .25 Seconds
Main Shut-off Valve	WCB Carbon Steel
Flapper and Shaft	17-4 PH Stainless Steel, A515 Carbon Steel w/ ENC Coating
Controller Housing	Aluminum
O-Ring and Seals	Nitrile
Bushings	Bronze

1. May be limited by body rating.

Materials of Construction

Main Shut-off Valve	WCB Carbon Steel
Flapper and Shaft	17-4 Ph Stainless Steel, A515 Carbon Steel w/ ENC Coating
Controller Housing	Aluminum
O-Ring and Seals	Nitrile
Bushings	Acetal

Mooney FlowMax

Product Overview

The **Mooney FlowMax™ regulator** is a pressure reducing regulator that offers bubble tight shut off at all pressure differentials and full capacity at very low differential pressures. It is an equally innovative design that complements the Flowgrid regulator. The FlowMax regulator maximizes capacity, speed of response, and accuracy while incorporating many of the same original maintenance and performance features for which the Flowgrid regulator is renowned.

Overpressure Protection

The Mooney FlowMax regulator has a full rating of 250 psi (17 bar) on the inlet and outlet connections as well as the actuator housing assembly. Overpressure protection is required only if the pressure can exceed the flange or body rating. Anytime the FlowMax regulator or pilot system is exposed to pressures in excess of its rating it should be inspected for damage.



General Data and Specifications

Sizes	2" – 6" (DN 50-150)
Body Style	Single Port
End Connections	NPT, RF Flanged, FF Flanged
Working Temperature	-20°F to 150°F (-29°C to 66°C)
Min/Max Temperature	-40°F to 175°F (-40°C to 79°C)
Max. Operating Differential	250 psi (17 bar)
Max. Casting Pressure	250 psig (17 barg)
Min. Differential	3–4 psi (0.21 bar)
Max. Inlet Pressure	250 psig (17 barg) ⁽¹⁾
Outlet Pressure Range	
Series 20L	5" w.c. to 8 psig (0.01 barg to 0.55 barg)
Series 20	3 psig to 250 psig (0.21 barg to 17 barg)
Pilot Supply Body Tap	One ¼" – 18 NPT
Sense Line Tap	One ½" – 14 NPT

1. Limited by pilot or flange rating.

Materials or Construction

Body	ASTM A 395 Ductile Iron
Actuator Housing	A 356-T6 Cast Aluminum
Spring Case	A 356-T6 Cast Aluminum
Plug	Nitrile
Diaphragm	Nitrile/Nylon
O-Ring & Seals	Nitrile
Bolting	ASTM B8 or equal
Spring	Music wire

Mooney FlowMax Low Flow Range Extender (LFRX)

Product Overview

Seasonal low flow demands on regulators in distribution networks can cause noisy vibrations and can send numerous high pressure waves downstream causing unstable flow conditions. The Mooney FlowMax regulator delivers high flow capacity with minimal pressure differential (2 psid - 4 psid) by design with a single top entry actuator. Our proprietary Flow Max Low Flow Range Extender (LFRX) improves the performance range of this regulator and allows it to deliver a smooth and accurate set point even when operating down to 1% of its top capacity.

Capacity Comparison

Flowmax Regulator Size inches (DN)	Standard P/N	Standard Max Cg	Standard Min Cg
2 (50)	132-055-01	2250	225
3 (80)	133-043-01	4200	420
4 (100)	134-043-01	7500	750
6 (150)	136-043-01	14500	1450
Flowmax Regulator Size inches (DN)	LFRX Kit ⁽¹⁾ P/N	LFRX Max Cg	LFRX Min Cg (mm)
2 (50)	132-053-01	1901	57
3 (80)	133-053-01	4074	122
4 (100)	134-053-01	6900	207
6 (150)	136-053-01	13630	408

1. LFRX is a full version kit that consists of a range extender, seat, O-rings, gasket and plug seal.

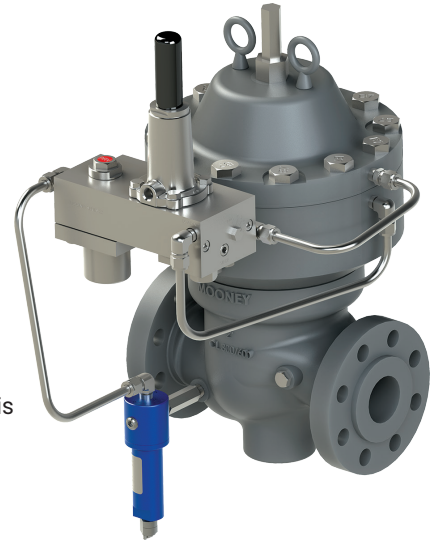


Mooney FlowMax HP

Product Overview

The **Mooney FlowMax HP regulator** is a high-pressure reducing regulator that offers a full Class 600 pressure rating, bubble tight shut-off at all pressure differentials and full capacity at differential pressures as low as 12 psi (0.83 bar). This innovative Baker Hughes design compliments the Mooney Flowgrid regulator and FlowMax regulators. The FlowMax HP regulator maximizes capacity, speed of response, providing accuracy up to 1%⁽¹⁾ and incorporating many of the same original maintenance and performance features for which the Flowgrid regulator is renowned.

1. Accuracy is rated in accordance with EN 334 requirements.



Noise Control Options

Where a regulator application is controlling a high-pressure differential or high mass flow rate, noise may be a concern. In some cases, resulting noise generated may be high enough to require control. The Mooney FlowMax HP has a Lo-dB noise reduction option that can be specified to provide noise attenuation of up to 20 dBA. The Lo-dB trim fits into the standard FlowMax HP without other modifications to allow field retrofit where required.

Overpressure Protection

The Mooney FlowMax HP regulator has a full rating of 1480 psig (102 barg), for the CL600 version, on both the inlet and outlet connections as well as the actuator housing assembly. Overpressure protection is only required if the pressure can exceed the flange or body rating. Any time the FlowMax HP regulator or pilot system is exposed to pressures in excess of its rating, it should be inspected for damage.

General Data and Specifications

Body Size	2" (DN 50)	3" (DN 80)	4" (DN 100)	6" (DN 150)
End Connection	CL 300 RF CL 600 RF	CL 300 RF CL 600 RF	CL 300 RF CL 600 RF	CL 300 RF CL 600 RF
Body Material	Steel	Steel	Steel	Steel
Maximum Inlet Pressure⁽¹⁾				
CL 300 RF ⁽¹⁾	740 psig (51 barg)	740 psig (51 barg)	740 psig (51 barg)	740 psig (51 barg)
CL 600 RF ⁽¹⁾	1480 psig (102 barg)	1480 psig (102 barg)	1480 psig (102 barg)	1480 psig (102 barg)
Maximum Outlet Pressure⁽¹⁾⁽²⁾				
Maximum Outlet Pressure ⁽¹⁾⁽²⁾	1480 psig (102 barg)	1480 psig (102 barg)	1480 psig (102 barg)	1480 psig (102 barg)
Maximum Operating Differential ⁽¹⁾	1480 psi (102 bar)	1480 psi (102 bar)	1480 psi (102 bar)	1480 psi (102 bar)
Minimum Differential (fully open)	12 psi (0.83 bar)	12 psi (0.83 bar)	12 psi (0.83 bar)	12 psi (0.83 bar)
Maximum Casing Pressure				
CL 300 RF ⁽¹⁾	740 psig (51 barg)	740 psig (51 barg)	740 psig (51 barg)	740 psig (51 barg)
CL 600 RF ⁽¹⁾	1480 psig (102 barg)	1480 psig (102 barg)	1480 psig (102 barg)	1480 psig (102 barg)
Outlet Pressure Range				
Series 22 Pilot	3-900 psig (0.21-62 barg)	3-900 psig (0.21-62 barg)	3-900 psig (0.21-62 barg)	3-900 psig (0.21-62 barg)
FEP-1500-CH Pilot ⁽²⁾	800-1300 psig (55-90 barg)	800-1300 psig (55-90 barg)	800-1300 psig (55-90 barg)	800-1300 psig (55-90 barg)
Maximum Operating Differential Pressure				
Main Valve	1480 psid (102 barg)			
Series 22 Pilot	1000 psid (69 barg) between loading pressure in pilot and sense pressure			
Temperature				
Operating Temperature	-20°F to 150°F (-29°C to 66°C)	-20°F to 150°F (-29°C to 66°C)	-20°F to 150°F (-29°C to 66°C)	-20°F to 150°F (-29°C to 66°C)
Emergency Temperature	-40°F to 175°F (-40°C to 79°C)	-20°F to 150°F (-29°C to 66°C)	-20°F to 150°F (-29°C to 66°C)	-20°F to 150°F (-29°C to 66°C)

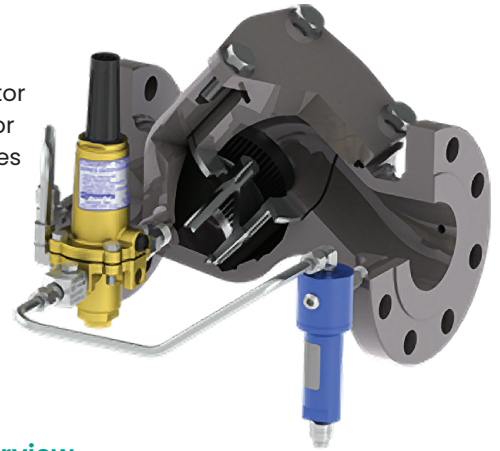
1. Do not exceed the pressure and temperature limits for the pressure class and body material as defined in ASME B16.34.

2. Consult factory for outlet pressures (set pressure) above 900 psi (62 bar).

Mooney Model 900TE

The **Model 900TE Regulator** is a self-contained, pilot-operated pressure regulator that may be used in both gas and liquid applications. The Model 900TE Regulator features a simple, top-entry design for easy inline maintenance and incorporates a cast steel body with integral flanged end connections. Multiple trim configurations are available to match a variety of applications. The Model 900TE Regulator typically is used with a pilot for pressure control applications.

The environmentally friendly design of the Model 900TE Regulator eliminates all atmospheric emissions by maintaining all gas/ liquids within the piping system.



General Data Overview

Sizes	2" - 6" (DN 50-150)
End Connections	150, 300, 600 CL RF Flanged
Working Temperature	-20°F to 150°F (-29°C to 66°C) ⁽¹⁾
Min/Max Temperature	-40°F to 212°F (-40°C to 100°C) ⁽¹⁾
Maximum Differential	1200 psid ⁽¹⁾
Maximum Inlet Pressure	1480 psig ⁽¹⁾
Outlet Pressure Range	1480 psig ⁽²⁾

1. Limited by Flexflo tube selection.
2. Limited by Flexflo pilot selection.

Specifications Overview

Size inches (DN)	End Connections	Face to Face inches (mm)	Valve Weight lbs. (Kg)
2 (50)	150 CL RF FLG	10 (250)	40 (18)
	300 CL RF FLG	10.5 (267)	45 (20)
	600 CL RF FLG	11.25 (286)	49 (22)
3 (80)	150 CL RF FLG	11.75 (298)	96 (44)
	300 CL RF FLG	12.5 (318)	103 (47)
	600 CL RF FLG	13.25 (337)	119 (54)
4 (100)	150 CL RF FLG	13.98 (352)	124 (56)
	300 CL RF FLG	14.5 (368)	144 (65)
	600 CL RF FLG	15.5 (394)	164 (74)
6 (150)	150 CL RF FLG	17.75 (451)	294 (133)
	300 CL RF FLG	18.63 (473)	338 (153)
	600 CL RF FLG	20 (500)	373 (169)

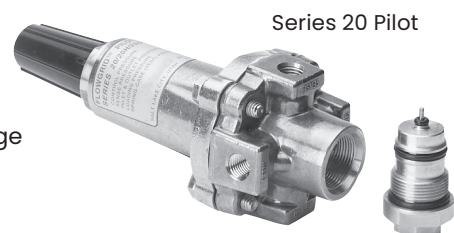
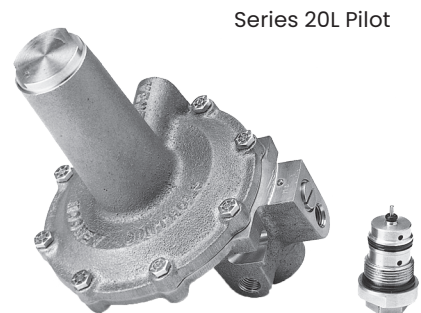


Pilots and Accessories

Mooney Series 20, 20H, 20L
















The **Series 20 Flowgrid pilot** is a reversible pressure-control regulator designed primarily for use as a control pilot for pressure-reducing (PRV), backpressure (BPV or Relief), and differential-pressure (DPV) applications. The Series 20 pilot is designed for both gas and liquid applications.

- Series 20 Brass construction with 3 to 450 psig control pressure range
- Series 20H High pressure brass construction with a 200 to 900 psig control pressure range
- Series 20S Stainless steel construction with a 3 to 450 psig control pressure range
- Series 20HS High pressure, stainless steel construction with a 200 to 900 psig control pressure range.
- Series 20L-B Bronze construction with 5 i.w.c. to 8 psig control pressure range
- Series 20L-A Aluminum construction with 5 i.w.c. to 8 psig control pressure range



Other features include:

- Easy removal of the cartridge permits quick disassembly and assembly which is universal to all pilots.
- Reversing valve stem converts pressure reducing to back pressure
- Pressure boost feature
- Ease of spring change
- Cap cover protects adjusting screw
- Sealed spring case
- Flexibility with six different springs to cover pressure settings from 3 psi to 900 psi (0.21 to 62 bar)
- Convert Series 20 to 20H with a high pressure diaphragm kit

		Spring Color	Series 20 Pilot	Outlet Pressure Range
		White	20L	5 - 15 i.w.c. (12 - 37 barg)
		Brown	20L	10 - 40 i.w.c. (25 - 100 barg)
		Yellow	20L	1 - 3 psig (0.07 - 0.21 barg)
		Orange	20L	2 - 5 psig (0.14 - 0.34 barg)
		Gray	20L	4 - 8 psig (0.28 - 0.55 barg)
		Red	20	3 - 12 psig (0.21 - 0.83 barg)
		Silver	20	10 - 40 psig (0.69 - 2.8 barg)
		Blue	20	25 - 90 psig (1.7 - 6.2 barg)
		Purple	20	60 - 200 psig (4.1 - 13.8 barg)
		Black	20	100 - 260 psig (6.9 - 18 barg)
		White/Green	20	200 - 450 psig (13.8 - 31 barg)
		Black	20HP	200 - 520 psig (13.8 - 37 barg)
	White/Green	20HP	400 - 900 psig (28 - 62 barg)	

Note:

Pilots are available in:

- 20L: Aluminum & Bronze
- 20 & 20HP: Brass & Stainless Steel

Mooney Series 20, and 20H Pilot









Specifications

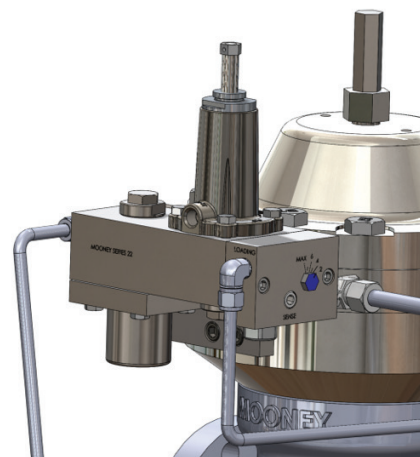
20 & 20H Pilot		
Max Inlet Pressure	1500 psig (103 barg)	
Max Loading Connection Pressure	1500 psig (103 barg)	
Max Outlet Pressure	1500 psig (103 barg)	
Set Pressure Range		
Standard Pilot	3 – 450 psig (.21–31 barg)	
HP Pilot	200 – 900 psig (13.79 – 62 barg)	
Max Emergency Sensing Pressure	1000 psig (69 barg)	
Max Spring Housing Pressure	1000 psig (69 barg)	
Port Size		
Standard	0.15 in. (3.8 mm)	
Large	0.17 in. (4.3 mm)	
Working Temperature	-20°F to 150°F (-29°C to 66°C)	
Min/Max Temperature	-40°F to 175°F (-40°C to 79°C)	
Capacity	0.170 Orifice	0.150 Orifice
C _g max	11.2	9.6
C _v max	0.29	0.25
C ₁	38	38



Mooney Series 22, 22H

The **Mooney Series 22 Pilot** is a stainless steel, modular design which provides multiple regulating systems; pressure relieving, back pressure, standby monitor, and working monitor mode for the Flowmax HP. The Series 22 Pilot must be paired with the Type 27 variable restrictor which provides adjustable system gain, stability, and response. The Type 27 variable restrictor features a built-in check valve to prevent damage to diaphragm if the regulator sees high back pressure.

Spring Color	Series 22 Pilot	Outlet Pressure Range
 Red	22	3 - 12 psig (0.21 - 0.83 barg)
 Silver	22	10 - 40 psig (0.69 - 2.8 barg)
 Blue	22	25 - 90 psig (1.7 - 6.2 barg)
 Purple	22	60 - 200 psig (4.1 - 13.8 barg)
 Black	22	100 - 260 psig (6.9 - 18 barg)
 White/Green	22	200 - 450 psig (13.8 - 31 barg)
 Black	22H	200 - 520 psig (13.8 - 37 barg)
 White/Green	22H	400 - 900 psig (28 - 62 barg)



Specifications

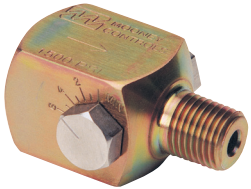
22 & 22H Pilot	
Max Inlet Pressure	1480 psig (102 barg)
Max Loading Connection Pressure	1480 psig (102 barg)
Max Outlet Pressure	1480 psig (102 barg)
Set Pressure Range	
Standard Pilot	3 - 450 psig (0.2 - 31 barg)
HP Pilot	200 - 900 psig (13.8 - 62 barg)
Max Sensing Pressure	1000 psig (69 barg)
Max Spring Housing Pressure	1000 psig (69 barg)
Orifice Size	
Standard	0.15 in. (3.8 mm)
Large	0.17 in. (4.3 mm)
Working Temperature	-20°F to 150°F (-29°C to 66°C)
Min/Max Temperature	-40°F to 175°F (-40°C to 79°C)

Mooney Filters



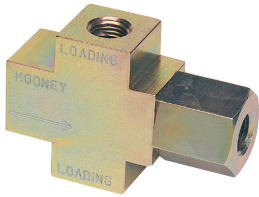
Type 30A and 30S

The **Type 30A and 30S Mooney Filters** are designed to limit dirt and other debris particulates from entering the pilot supply which could affect the function of the restrictor or variable orifice in the pilot. Both Filters can be used in a variety of gas and liquid applications.



Restrictor Type 24, 24S and 25

The **Mooney Restrictor** is an integral part of the Mooney Regulator Pilot System. It is usually located in the pilot supply and affects the response rate, stability, and sensitivity of the regulator. The Restrictor is available in both steel and stainless steel construction with a stainless steel rotor. The Type 24, 24S and 25 Restrictors can be used in many liquid and gas applications.



Inspirator Type 26

Use of the **Type 26 Inspirator** in place of a Mooney Restrictor maximizes flow through the regulator at times when the pressure differential across the valve falls below the published valve minimum differential pressure for full capacity.

The Type 26 Inspirator incorporates a special nozzle design that reduces the loading (spring case) pressure to a value below the outlet pressure, allowing the valve to fully open even when the pressure differential is very small.

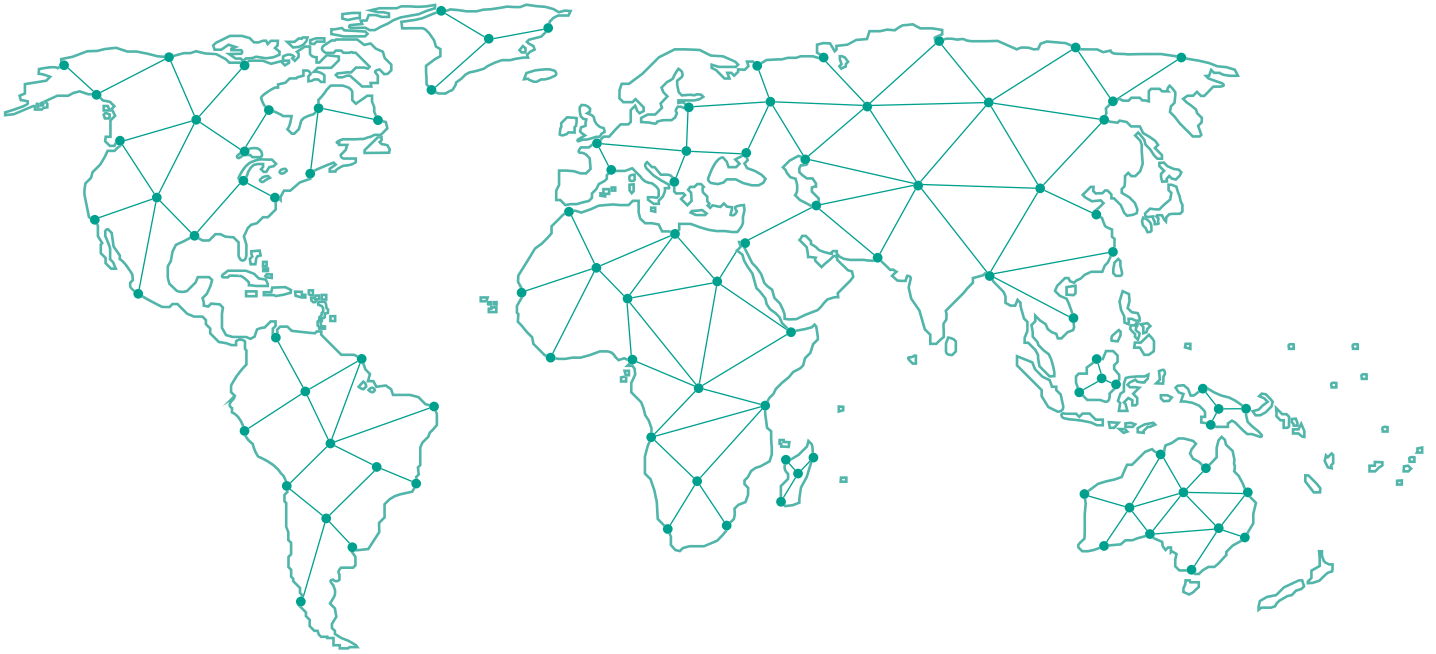
The Inspirator acts like a differential amplifier with a gain of approximately 3.

	Type 24 & 24S Restrictor		Type 30A and 30S Filter	Type 26 Inspirator
Pressure Rating	1,500 psig (103.4 barg)		1,500 psig (103.4 barg)	1,500 psig (103.4 barg)
Working Temperature	-20°F to 150°F (-29°C to 66°C)		-40°F to 175°F (-40°C to 79°C)	-20°F to 150°F (-29°C to 66°C)
Flow Coefficient	Large	Std.		
C _g min	1.60	0.75		4
C _g max	7.3	5.8		
C _g			19	
C _i			35	
C _v	0.18		0.54	
Filter Element			10 Micron	
Material	Steel & Stainless Steel		Aluminum, Stainless Steel	Steel



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