Marshall, MI • (269) 789-6700 • www.marshallexcelsior.com

Excela-Flo REGULATORS

FULL SIZE AND COMPACT REGULATORS

for domestic applications

Tested in the U.S.A

Bergquist

2018 Rev. B

MEC™

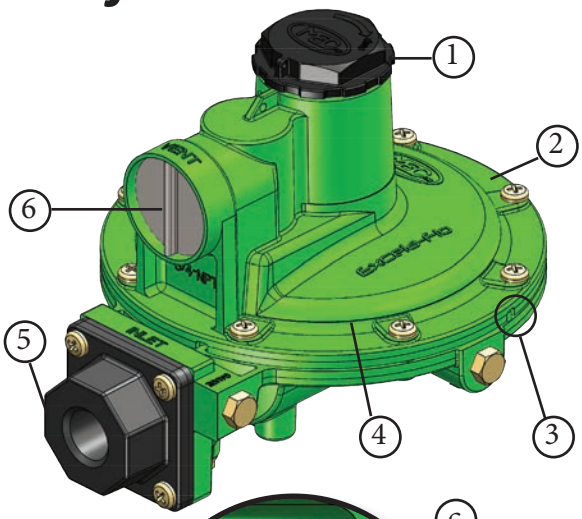
MARSHALLEXCELSIOR

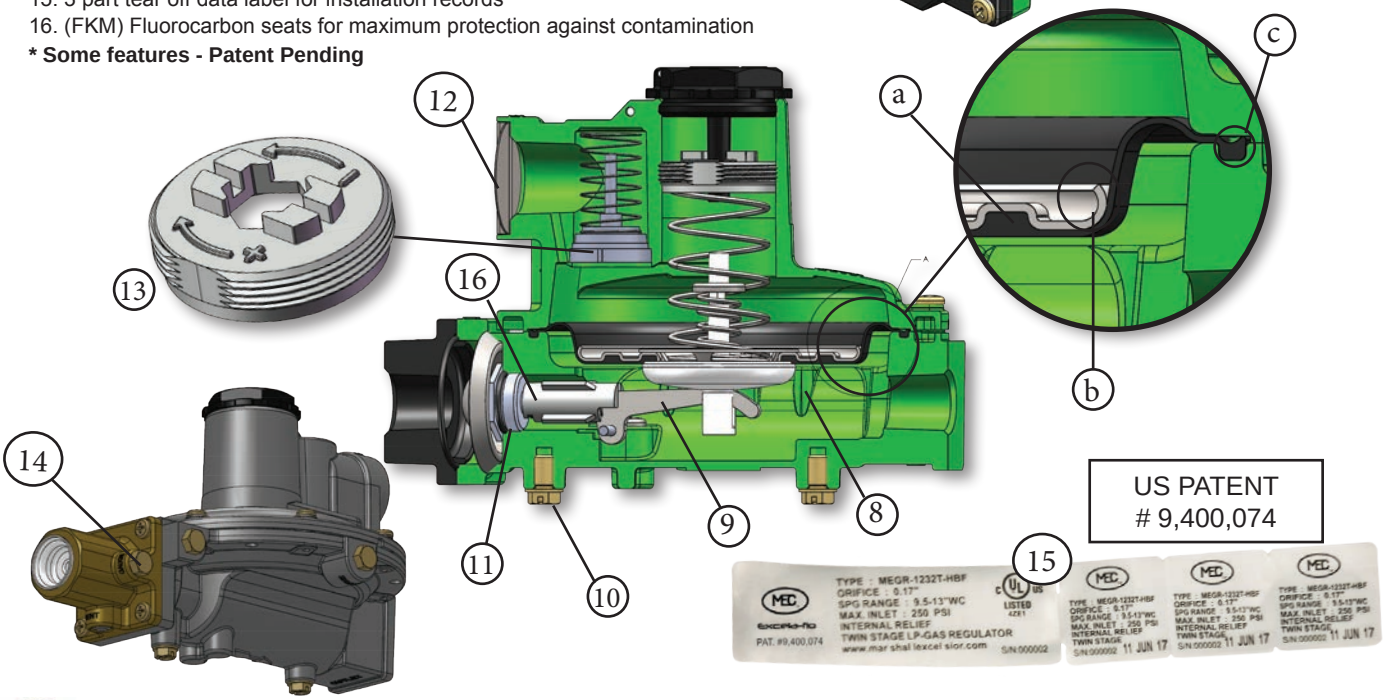
innovation made simple

Exclusive Features and Benefits

1. Dust cap with hex and finger grips
2. Full round flange for evenly distributed compression
3. Locating tabs
4. Premium powder coat inside and out
5. Large wrench flats
6. Ribbed vent screen for easy removal
7. Fabric reinforced molded diaphragm
   a. Interlocking diaphragm and diaphragm plate.
   b. Rounded edges on diaphragm plate
   c. Sealing and locating bead on diaphragm
8. Travel stops - to prevent damage to diaphragm
9. Stainless steel lever design
10. Pre-installed mounting screws for installation convenience
11. Large aluminum orifice
12. Large drip vent
13. Adjustment direction indicator
14. Plugged high pressure gauge port on all integral two stage regulators
15. 3 part tear off data label for installation records
16. (FKM) Fluorocarbon seats for maximum protection against contamination

*** Some features - Patent Pending**

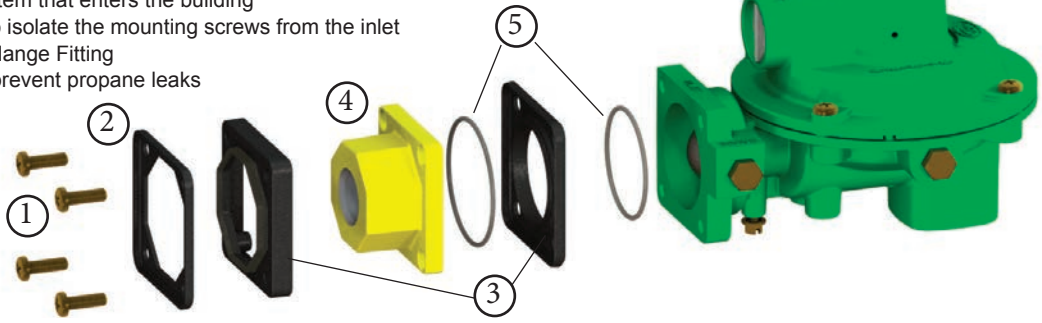




SENTINEL DIELECTRIC INLET CONSTRUCTION

1. Mounting Screws
2. Reinforcement Plate
   a. distibutes mounting screw loads across plate
   b. drip-lip to prevent water and condensation collection
3. Dielectric Isolator Plate and Cover
   a. plate and cover install over the inlet flange to electrically insulate the inlet piping from the piping system that enters the building
   b. plate is designed to isolate the mounting screws from the inlet
4. Dielectric 3/4" FNPT Flange Fitting
5. Double o-ring seal to prevent propane leaks

PATENT PENDING



TESTING DONE ON OVER
100 MEC REGULATORS
with propane at full cycle life
benchmarked against 50 additional competitor regulators
Over 30 year cycle with NO
lock-up, relief, or leakage failures

- Over 500,000 cycles at 20%-30% droop
- Over 15,000 gallons of LPG used
- 100% production tested in the USA
- Tested and exposed to all seasons
- Field trial across all regions of the USA
- Extensive UL testing to UL144 / UL144C

2018 New Products

Compact & Full Size
Second Stage Back Mount

MEGR-1252D-DFF

Excela-Flo™ SENTINEL SERIES

Second Stage Regulators
w/Dielectric Inlet

Full Size
Second Stage
2 PSI

MEGR-1622ED-DFH

Compact & Full Size
Inline Second Stage

MEGR-1622D-DFF

Excela-Flo™
Integral
Twin Stage/First Stage
Vent Guard

MEP1632

*regulator not included

Excela-Flo™
Compact First Stage
Back Mount Regulators

MEGR-1252H- BGF

Excela-Flo™
First Stage Regulator
Demonstration Kit

MEGR-1232-DEMO

FIRST AND SECOND STAGE REFERENCE GUIDE

LOAD BTU/HR.	DISTANCE Maximum distance from 1st Stage Regulator to 2nd Stage Regulator	PIPE SIZE Between 1st and 2nd Stage Regulator	MEC REGULATOR	MEC PIGTAILS	MEC DIELECTRIC UNIONS
400,000	80 Feet	1/2" CTS iron pipe or 1/2" OD copper tubing @ 10 PSI	1ST STAGE Compact **MEGR-1122H-AAJ** 1/4" x 1/2" **MEGR-1222H-BGF** F. POL x 1/2" 2ND STAGE Compact **MEGR-1222-BAF** 1/2" x 1/2" **MEGR-1222-CFF** 1/2" x 3/4" Backmounts **MEGR-1252-BAF** 1/2" x 1/2" **MEGR-1252-CFF** 1/2" x 3/4"	1/4" X POL / Length / Part No. 3/8" tube OD / 12" / ME1689-12 1/4" tube OD / 12" / ME1669-12 1/4" tube OD / 6" / ME1669-06 POL X POL / Length / Part No. 3/8" tube OD / 12" / ME1680-12 1/4" tube OD / 12" / ME1664-12 3/8" tube OD / 6" / ME1680-06	*See pg. 185 MNPT X M. FLARE / Part. No. 1/2" / 3/8" / ME690-4-6 1/2" / 1/2" / ME690-4-8 1/2" / 5/8" / ME690-4-10
600,000	40 Feet	1/2" CTS iron pipe or 1/2" OD copper tubing @ 10 PSI	1ST STAGE Compact **MEGR-1122H-AAJ** 1/4" x 1/2" **MEGR-1222H-BGF** F. POL x 1/2" **MEGR-1222H-BGJ** 1/2" x 3/4" 2ND STAGE Compact **MEGR-1222-BAF** 1/2" x 1/2" **MEGR-1222-CFF** 1/2" x 3/4" **MEGR-1222-DFF** 3/4" x 3/4" Backmounts **MEGR-1252-BAF** 1/2" x 1/2" **MEGR-1252-CFF** 1/2" x 3/4" **MEGR-1252-DFF** 3/4" x 3/4"	1/4" X POL / Length / Part No. 3/8" tube OD / 12" / ME1689-12 1/4" tube OD / 12" / ME1669-12 1/4" tube OD / 6" / ME1669-06 POL X POL / Length / Part No. 3/8" tube OD / 12" / ME1680-12 1/4" tube OD / 12" / ME1664-12 3/8" tube OD / 6" / ME1680-06	MNPT X M. FLARE / Part No. 1/2" / 3/8" / ME690-4-6 1/2" / 1/2" / ME690-4-8 1/2" / 5/8" / ME690-4-10 MNPT X M. FLARE / Part No. 3/4" / 3/8" / ME690-6-6 3/4" / 1/2" / ME690-6-8 3/4" / 5/8" / ME690-6-10
	100 Feet	5/8" OD copper tubing @ 10 PSI			
	1,000 Feet	3/4" IPS iron pipe @ 10 PSI			
800,000	20 Feet	1/2" OD copper tubing @ 10 PSI	1ST STAGE Compact **MEGR-1122H-AAJ** 1/4" x 1/2" **MEGR-1222H-BGF** F. POL x 1/2" **MEGR-1222H-BGJ** 1/2" x 3/4" 2ND STAGE Full Size - Straight Outlet **MEGR-1622-CFF** 1/2" x 3/4" **MEGR-1622-DFF** 3/4" x 3/4" Backmounts **MEGR-1652-CFF** 1/2" x 3/4" **MEGR-1652-DFF** 3/4" x 3/4"	1/4" X POL / Length / Part No. 3/8" tube OD / 12" / ME1689-12 1/4" tube OD / 12" / ME1669-12 1/4" tube OD / 6" / ME1669-06 POL X POL / Length / Part No. 3/8" tube OD / 12" / ME1680-12 1/4" tube OD / 12" / ME1664-12 3/8" tube OD / 6" / ME1680-06	MNPT X M. FLARE / Part No. 1/2" / 3/8" / ME690-4-6 1/2" / 1/2" / ME690-4-8 1/2" / 5/8" / ME690-4-10 MNPT X M. FLARE / Part No. 3/4" / 3/8" / ME690-6-6 3/4" / 1/2" / ME690-6-8 3/4" / 5/8" / ME690-6-10
	70 Feet	5/8" OD copper tubing @ 10 PSI			
	600 Feet	3/4" IPS iron pipe @ 10 PSI			
1,000,000	10 Feet	1/2" CTS iron pipe or copper tubing @ 10 PSI	1ST STAGE Full Size **MEGR-1222H-BGJ** 1/2" x 3/4" **MEGR-1622H-HGJ** F. POL x 1/2" **MEGR-1622H-JGJ** F. POL x 3/4" 2ND STAGE Full Size - Straight Outlet **MEGR-1622-DFF** 3/4" x 3/4" Backmounts **MEGR-1652-DFF** 3/4" x 3/4"	1/4" X POL / Length / Part No. 3/8" tube OD / 12" / ME1680-12 1/4" tube OD / 12" / ME1664-12 3/8" tube OD / 6" / ME1680-06	MNPT X M. FLARE / Part No. 3/4" / 3/8" / ME690-6-6 3/4" / 1/2" / ME690-6-8 3/4" / 5/8" / ME690-6-10
	50 Feet	5/8" OD copper tubing @ 10 PSI			
	400 Feet	3/4" IPS iron pipe @ 10 PSI			
2,000,000	10 Feet	5/8" copper tubing @ 10 PSI	1ST STAGE Full Size **MEGR-1622H-JGJ** F. POL x 3/4"	POL X POL / Length / Part No. 3/8" tube OD / 12" / ME1680-12 1/4" tube OD / 12" / ME1664-12 3/8" tube OD / 6" / ME1680-06	MNPT X M. FLARE / Part No. 3/4" / 3/8" / ME690-6-6 3/4" / 1/2" / ME690-6-8 3/4" / 5/8" / ME690-6-10
	100 Feet	3/4" IPS iron pipe @ 10 PSI	2ND STAGE **MEGR-1HSRL-BFC** 3/4"x 3/4" Straight Outlet		
2,500,000	80 Feet	3/4" IPS iron pipe @ 10 PSI	1ST STAGE **MEGR-1627/7710** 1" X 1"	2ND STAGE **MEGR-CS1200IR6EC6** 1-1/4" X 1-1/4"	
	225 Feet	1" iron pipe @ 10 PSI			

FIRST STAGE COMPACT

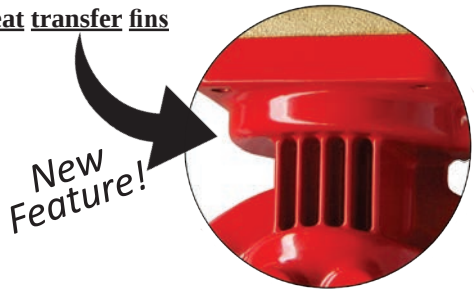
These first stage regulators are used to reduce LP gas tank pressures for a second stage regulator (normally 10 PSIG). All MEC first stage regulators are red indicating high outlet pressure. Compact First stage regulator vents have 3/8" FNPT tapped ports and E-Z Grip screens located over the outlet. The MEGR-1222H series offers optimal relief performance that well exceeds UL test requirements providing double failure overpressure protection when used with MEC MEGR-1622, MEGR-1642 & MEGR-1652 Series Second Stage regulators. All MEC Excela-Flo domestic regulators feature a 25 year recommended replacement life and our exclusive 3 part tear away leak check adhesive sticker.

MEGR-1122H-AAJ

MEGR-1122H Series: Offers a compact fi rst stage regulator design perfect for tight applications such as underground tank domes. They feature an adjustment range from 9-12 PSIG (factory set @ 10 PSIG), stainless steel internal components, fl uorocarbon (FKM) seat discs, molded lip fabric reinforced diaphragms and large aluminum precision machined orifi ce to minimize freeze ups while providing superior downstream regulation and maximum corrosion resistance against weather or contaminated gas. Compact series regulators feature 3/8" FNPT drip lip vent openings.

MEGR-1222H Series: Offers a compact first stage regulator design perfect for tight applications such as underground tank domes. They feature an adjustment range from 9-12 PSIG (factory set @ 10 PSIG), stainless steel internal components, fluorocarbon (FKM) seat discs, molded lip fabric reinforced diaphragms and large aluminum precision machined orifice to minimize freeze ups while providing superior downstream regulation and maximum corrosion resistance against weather or contaminated gas.

- F. POL outlet version features **NEW** patent pending **anti-freeze heat transfer fins**



SPECIFICATIONS

Type: First Stage
Max. Inlet Pressure: 250 PSIG
Exterior Finish: Red Powder Coat
Orifice Size: 0.15"
Diaphragm: Fabric Reinforced NBR Molded Lip O-Ring Bonnet/Body Seal
Relief Type: Internal Relief - Spring Loaded
Bonnet / Body Material: Die Cast Aluminum
Seat Material: Fluorocarbon (FKM)
Listings: c UL us / UL 144
Mounting Holes: Standard 3-1/2" Center
Pressure Taps: #54 Orifice 1/8" FNPT Plugged (2)
Relief Travel Stop: Molded in Adjustment Cap - Grey
Patented Technology: Pat. #9,400,074 / Pat. #9,709,998

PATENT PENDING

MEGR-1222H-BGJ

Tested in the U.S.A

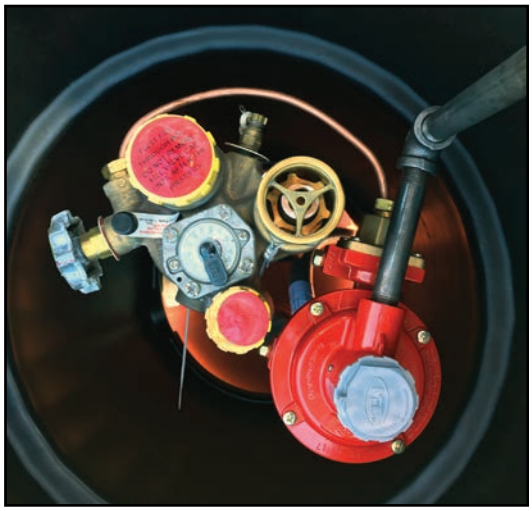
Part No.	Capacity in BTU/H LPG(1)	Inlet	Outlet	Vent Port	Outlet Adj. Range (PSI)	Outlet Set Point (PSI)
MEGR-1122H-AAJ	1,000,000	1/4" FNPT	1/2" FNPT	3/8" FNPT	8-12	10
MEGR-1122H-AAJXA(2)	1,000,000	1/4" FNPT	1/2" FNPT	3/8" FNPT	8-12	10
MEGR-1122H-AAJXB(3)	1,000,000	1/4" FNPT	1/2" FNPT	3/8" FNPT	8-12	10
MEGR-1222H-BGF	1,000,000	F. POL	1/2" FNPT	3/8" FNPT	9-12	10
MEGR-1222H-BGFXA(2)	1,000,000	F. POL	1/2" FNPT	3/8" FNPT	9-12	10
MEGR-1222H-BGFXB(3)	1,000,000	F. POL	1/2" FNPT	3/8" FNPT	9-12	10
MEGR-1222H-BGJ	1,700,000	F. POL	3/4" FNPT	3/8" FNPT	9-12	10
MEGR-1222H-BGJXA(2)	1,700,000	F. POL	3/4" FNPT	3/8" FNPT	9-12	10

(1) Based on 30 PSIG Inlet pressure and 20% droop
(2) Indicates regulator vent opposite pressure tap ports
(3) Indicates regulator vent over pressure taps

FIRST STAGE COMPACT BACK MOUNT

These first stage regulators are used to reduce LP gas tank pressures for a second stage regulator (normally 10 PSIG). All MEC first stage regulators are red indicating high outlet pressure. Compact First stage regulator vents have 3/8" FNPT tapped ports and E-Z Grip screens located over the outlet. The MEGR-1222H series offers optimal relief performance that well exceeds UL test requirements providing double failure overpressure protection when used with MEC MEGR-1622, MEGR-1642 & MEGR-1652 Series Second Stage regulators. All MEC Excela-Flo domestic regulators feature a 25 year recommended replacement life and our exclusive 3 part tear away leak check adhesive sticker.

- F. POL outlet version features NEW patent pending anti-freeze heat transfer fin



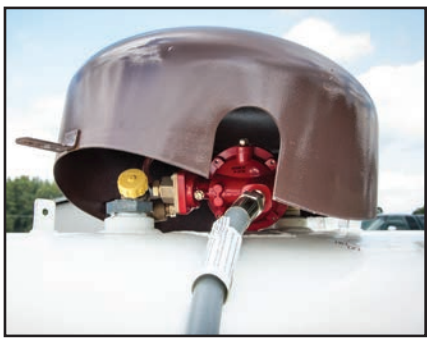
LEFT IMAGE: MEGR-1252H-BGF
w/ "snorkled" vent
("snorkled" vent not included)

MEGR-1252H Series: Offers a compact first stage regulator design perfect for tight applications such as underground tank domes. They feature an adjustment range from 9-12 PSIG (factory set @ 10 PSIG), stainless steel internal components, fluorocarbon (FKM) seat discs, molded lip fabric reinforced diaphragms and large aluminum precision machined orifice to minimize freeze ups while providing superior downstream regulation and maximum corrosion resistance against weather or contaminated gas. With the outlet located 90 degrees from the inlet this configuration is perfectly oriented to exit the protective shroud of both above and below ground tanks without additional elbow fittings or connections. The "XA" model locates the pressure tap ports opposite the vent so that the regulator can be mounted horizontally for easy access and proper downward positioning of the vent opening.

SPECIFICATIONS

Type: First Stage
Max. Inlet Pressure: 250 PSIG
Exterior Finish: Red Powder Coat
Interior Finish: Red Powder Coat
Orifice Size: 0.17"
Diaphragm: Fabric Reinforced NBR Molded Lip O-Ring
Bonnet/Body Seal
Relief Type: Internal Relief - Spring Loaded
Bonnet / Body Material: Die Cast Aluminum
Seat Material: Fluorocarbon (FKM)
Listings: c UL us / UL 144
Mounting Holes: Standard 3-1/2" Center
Pressure Taps: #54 Orifice 1/8" FNPT Plugged (2)
Relief Travel Stop: Molded in Adjustment Cap - Grey
Patented Technology: Pat. #9,400,074 / Pat. #9,709,998

LEFT IMAGE: MEGR-1252H-BGFXA
w/ ME690 Dielectric Union
BOTTOM IMAGE: MEGR-1252H-BGFXA
w/ flexible riser



Part No.	Capacity in BTU/H LPG(1)	Inlet	Outlet	Oulet Agj. Range (PSI)	Outlet Set Point (PSI)
MEGR-1252H-BGF	1,400,000	F. POL	1/2" FNPT	9-12	10
MEGR-1252H-BGFXA(2)	1,400,000	F. POL	1/2" FNPT	9-12	10
MEGR-1252H-BGJ	1,500,000	F. POL	3/4" FNPT	9-12	10
MEGR-1252H-BGJXA(2)	1,500,000	F. POL	3/4" FNPT	9-12	10

(1) Based on 30 PSIG Inlet pressure and 20% droop
(2) Indicates vent orientation over opposite taps

c UL us

Tested in the U.S.A

FIRST STAGE FULL SIZE

These first stage regulators are used to reduce LP gas tank pressures for a second stage regulator (normally 10 PSIG). All MEC first stage regulators are red indicating high outlet pressure. First stage full size regulator vents have 3/4" FNPT tapped ports and E-Z Grip screens located over the outlet. Both the MEGR-1122H and the MEGR-1622H series offer optimal relief performance that exceeds UL test requirements providing double failure overpressure protection when used with MEC MEGR-1622 & MEGR-1652 series second stage regulators. All MEC Excela-flo domestic regulators feature a 25 year recommended replacement life and the MEC exclusive tear away leak check adhesive sticker.

MEGR-1622H Series: Offers all of the same features as the compact MEGR-1122H Series in a full size version. Our full size MEGR-1622H Series has a large fabric reinforced diaphragm for superior downstream regulation, heavy duty wrench flats, and a large 3/4" FNPT tapped drip lip vent to help prevent relief vent blockage.

SPECIFICATIONS

Type: First Stage

Max. Inlet Pressure: 250 PSIG

Exterior Finish: Red Powder Coat

Interior Finish: Red Powder Coat

Orifice Size: 0.219"

Diaphragm: Fabric Reinforced NBR Molded Lip O-Ring Bonnet/Body Seal

Relief Type: Internal Relief - Spring Loaded

Bonnet / Body Material: Die Cast Aluminum

Seat Material: Fluorocarbon (FKM)

Listings: c UL us / UL 144

Mounting Holes: Standard 3-1/2" Center

Pressure Taps: #54 Orifice, 1/8" FNPT, Plugged (2)

Relief Travel Stop: Molded in Adjustment Cap - Black

Patented Technology: Pat. #9,400,074 / Pat. #9,709,998

PATENT PENDING

MEGR-1622H-JGJ

PATENT PENDING

MEGR-1622H-DGJ

Part No.	Capacity in BTU/H LPG(1)	Inlet	Outlet	Vent Port	Outlet Adj. Range (PSI)	Outlet Set Point (PSI)
MEGR-1622H-BGJ	2,200,000	1/2" FNPT	1/2" FNPT	3/4" FNPT	8-12	10
MEGR-1622H-DGJ	2,500,000	3/4" FNPT	3/4" FNPT	3/4" FNPT	8-12	10
MEGR-1622H-HGJ	2,300,000	F. POL	1/2" FNPT	3/4" FNPT	8-12	10
MEGR-1622H-JGJ	2,750,000	F. POL	3/4" FNPT	3/4" FNPT	8-12	10

(1) Based on 30 PSIG Inlet pressure and 20% droop

Tested in the U.S.A

FIRST STAGE 5 PSI OUTLET PRESSURE

These first stage regulators are used to reduce LP gas tank pressures for a second stage regulator (5 PSIG). All MEC first stage regulators are red indicating high outlet pressure. First stage regulator vents have 3/4" FNPT tapped ports and E-Z Grip screens located over the outlet. The MEGR-1622H series offer optimal relief performance that well exceeds UL test requirements providing double failure overpressure protection when used with MEC MEGR-1622, MEGR-1642 & MEGR-1652 Series Second Stage regulators. All MEC Excela-Flo domestic regulators feature a 25 year recommended replacement life and our exclusive tear away leak check adhesive sticker.

Part No.	Type	Capacity in BTU/H LPG(1)	Inlet	Outlet	Outlet Adj. Range (PSI)	Outlet Set Point (PSI)
MEGR-1622H-BGK	Full Size	2,100,000	1/2" FNPT	1/2" FNPT	4-6	5
MEGR-1622H-HGK	Full Size	2,200,000	F. POL	1/2" FNPT	4-6	5
MEGR-1622H-JGK	Full Size	2,650,000	F. POL	3/4" FNPT	4-6	5

(1) Based on 30 PSIG inlet pressure and 20% droop.

FIRST STAGE FEMALE POL TEE INLET

These first stage F. POL tee inlet regulators are used to reduce LP gas tank pressures for a second stage regulator (normally 10 PSIG) in a multiple tank manifold installation without adapters or tees. All MEC first stage regulators are red indicating high outlet pressure. Compact First stage regulator vents have 3/8" FNPT tapped ports and E-Z Grip screens located over the outlet. The MEGR-1222HT series offers optimal relief performance that well exceeds UL test requirements providing double failure overpressure protection when used with MEC MEGR-1622, MEGR-1642 & MEGR-1652 Series Second Stage regulators. All MEC Excela-Flo domestic regulators feature a 25 year recommended replacement life and our exclusive tear away leak check adhesive sticker.

PATENT PENDING

MEGR-1222HT
Compact Tee Inlet Series

SPECIFICATIONS

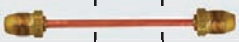
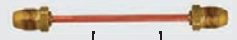
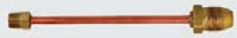
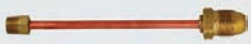
Type: First Stage
Max. Inlet Pressure: 250 PSIG
Exterior Finish: Red Powder Coat
Orifice Size: 0.15" (Compact) & 0.219" Full
Diaphragm: Fabric Reinforced NBR Molded Lip O-Ring Bonnet/Body Seal
Relief Type: Internal Relief - Spring Loaded
Bonnet / Body Material: Die Cast Aluminum
Seat Material: Fluorocarbon (FKM)
Listings: c UL us / UL 144
Mounting Holes: Standard 3-1/2" Center
Pressure Taps: #54 Orifice 1/8" FNPT Plugged (2)
Relief Travel Stop: Molded in Adjustment Cap -
Gray (Compact), Black (Full Size)
Patented Technology: Pat. #9,400,074 / Pat. #9,709,998

Part No.	Type	Capacity in BTU/H LPG(1)	Inlet	Outlet	Outlet Adj. Range (PSI)	Outlet Set Point (PSI)
MEGR-1222HT-BGF	Compact	1,000,000	F. POL/Tee	1/2" FNPT	9-12	10
MEGR-1622HT-HGJ	Full	2,300,000	F. POL/Tee	1/2" FNPT	9-12	10
MEGR-1622HT-JGJ	Full	2,750,000	F. POL/Tee	3/4" FNPT	9-12	10

(1) Based on 30 PSIG Inlet pressure and 20% droop

Tested in the U.S.A

SENTINEL DIELECTRIC INLET REFERENCE GUIDE

LOAD BTU/HR.	DISTANCE Maximum distance from 1st stage regulator to 2nd stage regulator	PIPE SIZE Between 1st and 2nd Stage Regulator	MEC REGULATOR	MEC PIGTAILS
400,000	80 Feet	1/2" CTS iron pipe or 1/2" OD copper tubing @ 10 PSI	1ST STAGE Compact **MEGR-1122H-AAJ** 1/4" x 1/2" **MEGR-1222H-BGF** F. POL x 1/2"  2ND STAGE Compact **MEGR-1222D-BAF** 1/2" x 1/2" **MEGR-1222D-CFF** 1/2" x 3/4" Backmounts **MEGR-1252D-BAF** 1/2" x 1/2" **MEGR-1252D-CFF** 1/2" x 3/4" 	 **1/4" X POL** / **Length** / **Part No.** 3/8" tube OD / 12" / ME1689-12 1/4" tube OD / 12" / ME1669-12 1/4" tube OD / 6" / ME1669-06  **POL X POL** / **Length** / **Part No.** 3/8" tube OD / 12" / ME1680-12 1/4" tube OD / 12" / ME1664-12 3/8" tube OD / 6" / ME1680-06
600,000	40 Feet	1/2" CTS iron pipe or 1/2" OD copper tubing @ 10 PSI	1ST STAGE Compact **MEGR-1122H-AAJ** 1/4" x 1/2" **MEGR-1222H-BGF** F. POL x 1/2" **MEGR-1222H-BGJ** F. POL x 3/4" 	 **1/4" X POL** / **Length** / **Part No.** 3/8" tube OD / 12" / ME1689-12 1/4" tube OD / 12" / ME1669-12 1/4" tube OD / 6" / ME1669-06  **POL X POL** / **Length** / **Part No.** 3/8" tube OD / 12" / ME1680-12 1/4" tube OD / 12" / ME1664-12 3/8" tube OD / 6" / ME1680-06
	100 Feet	5/8" OD copper tubing @ 10 PSI	2ND STAGE Compact **MEGR-1222D-BAF** 1/2" x 1/2" **MEGR-1222D-CFF** 1/2" x 3/4" **MEGR-1222D-DFF** 3/4" x 3/4" Backmounts **MEGR-1252D-BAF** 1/2" x 1/2" **MEGR-1252D-CFF** 1/2" x 3/4" **MEGR-1252D-DFF** 3/4" x 3/4" 	
	1,000 Feet	3/4" IPS iron pipe @ 10 PSI		
800,000	20 Feet	1/2" OD copper tubing @ 10 PSI	1ST STAGE Compact **MEGR-1122H-AAJ** 1/4" x 1/2" **MEGR-1222H-BGF** F. POL x 1/2" **MEGR-1222H-BGJ** F. POL x 3/4" 	 **1/4" X POL** / **Length** / **Part No.** 3/8" tube OD / 12" / ME1689-12 1/4" tube OD / 12" / ME1669-12 1/4" tube OD / 6" / ME1669-06  **POL X POL** / **Length** / **Part No.** 3/8" tube OD / 12" / ME1680-12 1/4" tube OD / 12" / ME1664-12 3/8" tube OD / 6" / ME1680-06
	70 Feet	5/8" OD copper tubing @ 10 PSI	2ND STAGE Full Size - Straight Outlet **MEGR-1622D-CFF** 1/2" x 3/4" **MEGR-1622D-DFF** 3/4" x 3/4" Backmounts **MEGR-1652D-CFF** 1/2" x 3/4" **MEGR-1652D-DFF** 3/4" x 3/4" 	
	600 Feet	3/4" IPS iron pipe @ 10 PSI		
1,000,000	10 Feet	1/2" CTS iron pipe or copper tubing @ 10 PSI	 1ST STAGE Compact **MEGR-1222H-BGJ** F. POL x 3/4" Full Size **MEGR-1622H-HGJ** F. POL x 1/2" **MEGR-1622H-JGJ** F. POL x 3/4"	 **POL X POL** / **Length** / **Part No.** 3/8" tube OD / 12" / ME1680-12 1/4" tube OD / 12" / ME1664-12 3/8" tube OD / 6" / ME1680-06
	50 Feet	5/8" OD copper tubing @ 10 PSI	2ND STAGE Full Size - Straight Outlet **MEGR-1622D-DFF** 3/4" x 3/4" Backmounts **MEGR-1652D-DFF** 3/4" x 3/4" 	
	400 Feet	3/4" IPS iron pipe @ 10 PSI		


MEGR-1122H
MAX BTU/H: 1,000,000


MEGR-1222H
MAX BTU/H: 1,700,000


MEGR-1622H
MAX BTU/H: 2,750,000


MEGR-1222D
MAX BTU/H 800,000


MEGR-1252D
MAX BTU/H 650,000


MEGR-1642D
MAX BTU/H: 900,000


MEGR-1652D
MAX BTU/H: 1,000,000

SENTINEL DIELECTRIC INLET

PATENT PENDING

MEGR-1222D/MEGR-1622D
Compact/Full Size Series

PATENT PENDING

MEGR-1252D
Compact Back Mount

PATENT PENDING

MEGR-1642D
Full Size Series

PATENT PENDING

MEGR-1652D
Back Mount Series

SENTINEL Series Second Stage Dielectric Regulators are used to reduce outlet pressures from first stage regulators (normally 10 PSI) to 11" WC in domestic installations. All MEC SENTINEL Series second stage regulators are green with yellow inlet connections indicating low outlet pressure and dielectric separation. Second stage regulator vents have FNPT drip lip tapped ports and our exclusive E-Z grip screens located over the inlet. All MEC Sentinel Series second stage domestic regulators feature an all stainless steel inlet filter screen to reduce debris from passing through the regulator. Both the MEGR-1622D and the MEGR-1652D Series regulators offer optimal relief performance that well exceeds UL test requirements providing double failure overpressure protection (no more than 2 PSI downstream pressure) when used with MEGR-1122H, MEGR-1222H and MEGR-1622H Series First Stage regulators. All MEC Excela-Flo™ domestic regulators feature a 25 year recommended replacement life and our exclusive tear away leak check adhesive sticker.

SENTINEL Series Second Stage Dielectric Regulators feature an integral dielectric inlet connection designed to isolate upstream metallic piping from electrical current prior to piping entering a building in complaince with NFPA58 - 2017 section 6.11.316. Since the FNPT inlet serves as the dielectric separation media, any standard MNPT threaded connector or valve can be installed without a separate dielectric union. Both compact and full size models feature the same basic footprint measurement from inlet to outlet, as all standard Excela-Flo™ second stage regulators, making it ideal for regulator change-outs.

MEGR-1622D & MEGR-1652D Series feature inlet and outlets that are inline, while the MEGR-1252D and MEGR-1652D offer a convenient rear back mount discharge outlet. The MEGR-1642D Series offers a side discharge located 90 degrees from the inlet making it ideal for installations with horizontal piping including those with vapor metering systems.

SPECIFICATIONS

Type: Second Stage
Max. Inlet Pressure: 10 PSIG
Exterior Finish: Green Powder Coat Body and Yellow Powder Coat Inlet
Interior Finish: Green Powder Coat
Orifice Size: Compact - .14" (BAF), 0.17" (CFF & DFF) / Full - 0.219"
Diaphragm: Fabric Reinforced (NBR) Molded Lip O-Ring Bonnet/Body Seal
Relief Type: Internal Relief - Spring Loaded
Bonnet / Body Material: Die Cast Aluminum
Seat Material: Fluorocarbon (FKM)
Listings: c UL us / UL 144
Mounting Holes: Standard 3-1/2" Center
Pressure Taps: #54 Orifice 1/8" FNPT Plugged (2)
Relief Travel Stop: Molded In Adjustment Cap - Black (Full Size), Gray (Compact)

Tested in the U.S.A

Patented Technology: Pat. #9,400,074 / Pat. #9,709,998

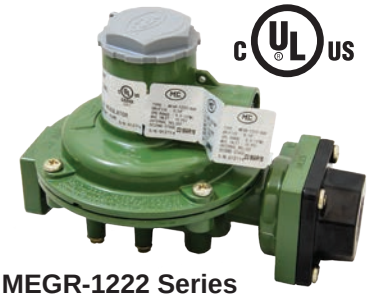
Part No.	Type	Capacity in BTU/H LPG(1)	Inlet	Outlet	Outlet Adj. Range ("WC)	Outlet Set Point ("WC)
MEGR-1222D-BAF	Compact	500,000	1/2" FNPT	1/2" FNPT	9.5-13	11
MEGR-1222D-CFF	Compact	800,000	1/2" FNPT	3/4" FNPT	9.5-13	11
MEGR-1222D-DFF	Compact	800,000	3/4" FNPT	3/4" FNPT	9.5-13	11
MEGR-1252D-BAF(2)	Compact Back Mount	500,000	1/2" FNPT	1/2" FNPT	9.5-13	11
MEGR-1252D-CFF(2)	Compact Back Mount	650,000	1/2" FNPT	3/4" FNPT	9.5-13	11
MEGR-1252D-DFF (2)	Compact Back Mount	700,000	3/4" FNPT	3/4" FNPT	9.5-13	11
MEGR-1622D-BCF	Full Size	710,000	1/2" FNPT	1/2" FNPT	9-13	11
MEGR-1622D-CFF	Full Size	1,300,000	1/2" FNPT	3/4" FNPT	9-13	11
MEGR-1622D-DFF	Full Size	1,300,000	3/4" FNPT	3/4" FNPT	9-13	11
MEGR-1642D-DFF (3)	Full Size	900,000	3/4" FNPT	3/4" FNPT	9-13	11
MEGR-1652D-CFF (2)	Full Size Back Mount	1,000,000	1/2" FNPT	3/4" FNPT	9-13	11
MEGR-1652D-DFF (2)	Full Size Back Mount	1,000,000	3/4" FNPT	3/4" FNPT	9-13	11

(1) Based on 10 PSIG inlet pressure and 20% droop (2) Indicates back mount configuration (3) Indicates side discharge configuration

SECOND STAGE COMPACT MODELS

These compact second stage regulators are used to reduce outlet pressures from first stage regulators (normally 10 PSI) to 11" WC in domestic installations. All MEC second stage regulators are green indicating low outlet pressure. Compact second stage regulator vents have 3/8" FNPT tapped ports and our exclusive E-Z grip screens located over the inlet. All MEC second stage domestic regulators feature a stainless steel inlet filter screen to reduce debris from passing through the regulator. All MEC Excela-Flo domestic regulators feature a 25 year recommended replacement life and our exclusive 3-part tear away leak check adhesive sticker.

PATENT PENDING



MEGR-1222 Series

MEGR-1222 & MEGR-1252 Series: Offers a compact second stage regulator design perfect for lower to intermediate BTU applications. They feature an adjustable range from 9.5-13" WC (factory set @ 11" WC), stainless steel internal components, fluorocarbon (FKM) seat discs, molded lip fabric reinforced diaphragms and large aluminum precision machined orifices providing superior downstream regulation and maximum corrosion resistance against weather or contaminated gas. The MEGR-1222 Series have both the inlet and outlet in line where the MEGR-1252 series have a rear discharge back mount outlet for convenient wall mount applications.

- **NEW** patent pending **anti-freeze heat transfer fins**

PATENT PENDING

SPECIFICATIONS

Type: Second Stage
Max. Inlet Pressure: 10 PSIG
Exterior Finish: Green Powder Coat
Interior Finish: Green Powder Coat
Orifice Size: 0.140"
Diaphragm: Fabric Reinforced (NBR) Molded Lip O-Ring Bonnet Body Seal
Relief Type: Internal Relief - Spring Loaded
Bonnet / Body Material: Die Cast Aluminum
Seat Material: Fluorocarbon (FKM)
Listings: c UL us / UL 144
Mounting Holes: Standard 3-1/2" Center
Pressure Taps: #54 Orifice 1/8" FNPT Plugged (2)
Relief Travel Stop: Molded In Adjustment Cap - Gray
Patented Technology: Pat. #9,400,074 / Pat. #9,709,998

PATENT PENDING

MEGR-1252
Back Mount

Part No.	Type	Capacity in BTU/H LPG(1)	Inlet	Outlet	Outlet Adj. Range ("WC)	Outlet Set Point ("WC)
MEGR-1222-BAF	Top Mount	450,000	1/2" FNPT	1/2" FNPT	9.5-13	11
MEGR-1222-CFF	Top Mount	800,000	1/2" FNPT	3/4" FNPT	9.5-13	11
MEGR-1222-DFF	Top Mount	800,000	3/4" FNPT	3/4" FNPT	9.5-13	11
MEGR-1252-BAF(2)	Back Mount	500,000	1/2" FNPT	1/2" FNPT	9.5-13	11
MEGR-1252-CFF(2)	Back Mount	650,000	1/2" FNPT	3/4" FNPT	9.5-13	11
MEGR-1252-DFF(2)	Back Mount	700,000	3/4" FNPT	3/4" FNPT	9.5-13	11

(1) Based on 10 PSIG inlet pressure and 20% droop
(2) Indicates back mount configuration
(3) Indicates vent over outlet

Tested in the U.S.A

SECOND STAGE FULL SIZE MODELS

These second stage regulators are used to reduce outlet pressures from first stage regulators (normally 10 PSI) to 11" WC in domestic installations. All MEC second stage regulators are green indicating low outlet pressure. Second stage full size regulator vents have 3/4"FNPT tapped ports and our exclusive E-Z grip screens located over the inlet. All MEC second stage domestic regulators feature a stainless steel inlet filter screen to reduce debris from passing through the regulator. Both the MEGR-1622 and the MEGR-1652 Series offer optimal relief performance that exceeds UL test requirements providing double failure overpressure protection (no more than 2 PSI downstream pressure) when used with MEGR-1122H and MEGR-1622H Series First Stage regulators. All MEC Excela-Flo domestic regulators feature a 25 year recommended replacement life and our exclusive tear away leak check adhesive sticker.

MEGR-1622 & MEGR-1652 Series:

Offers all of the same features as the compact MEGR-1122 Series but in a full size, high capacity version. Our full size second stage regulators have a large fabric reinforced diaphragm for superior downstream regulation, heavy duty wrench flats, and a large 3/4" FNPT tapped drip lip vent to help prevent relief valve blockage. The MEGR-1622 Series have both the inlet and outlet in line where the MEGR-1652 series have a rear discharge back mount outlet for convenient wall mount applications.

PATENT PENDING

MEGR-1622
Full Size Series

SPECIFICATIONS

Type: Second Stage
Max. Inlet Pressure: 10 PSIG
Exterior Finish: Green Powder Coat
Interior Finish: Green Powder Coat
Orifice Size: 0.219"
Diaphragm: Fabric Reinforced (NBR) Molded Lip O-Ring
Bonnet Body Seal
Relief Type: Internal Relief - Spring Loaded
Bonnet / Body Material: Die Cast Aluminum
Seat Material: Fluorocarbon (FKM)
Listings: c UL us / UL 144
Mounting Holes: Standard 3-1/2" Center
Pressure Taps: #54 Orifice 1/8" FNPT Plugged (2)
Relief Travel Stop: Molded In Adjustment Cap - Black
Patented Technology: Pat. #9,400,074 / Pat. #9,709,998

PATENT PENDING

MEGR-1652
Back Mount Series

Part No.	Type	Capacity in BTU/H LPG[1]	Inlet	Outlet	Outlet Adj. Range ("WC)	Outlet Set Point ("WC)
MEGR-1622-BCF	Top Mount	710,000	1/2" FNPT	1/2" FNPT	9-13	11
MEGR-1622-CFF	Top Mount	1,300,000	1/2" FNPT	3/4" FNPT	9-13	11
MEGR-1622-CFFXO[3]	Top Mount	1,300,000	1/2" FNPT	3/4" FNPT	9-13	11
MEGR-1622-DFF	Top Mount	1,300,000	3/4" FNPT	3/4" FNPT	9-13	11
MEGR-1622-DFFXO [3]	Top Mount	1,300,000	3/4" FNPT	3/4" FNPT	9-13	11
MEGR-1652-CFF [2]	Back Mount	1,000,000	1/2" FNPT	3/4" FNPT	9-13	11
MEGR-1652-DFF [2]	Back Mount	1,000,000	3/4" FNPT	3/4" FNPT	9-13	11

(1) Based on 10 PSIG inlet pressure and 20% droop
(2) Indicates back mount configuratio
(3) Indicates vent over outlet

Tested in the U.S.A

SECOND STAGE SIDE OUTLET

These second stage regulators are used to reduce outlet pressures from first stage regulators (normally 10 PSI) to 11" WC in domestic installations. All MEC second stage regulators are green indicating low outlet pressure. Second stage regulator vents have 3/4"FNPT tapped ports and our exclusive E-Z grip screens located over the inlet. All MEC second stage domestic regulators feature a stainless steel inlet filter screen to reduce debris from passing through the regulator. The MEGR-1642 Series offers optimal relief performance that well exceeds UL test requirements providing double failure overpressure protection (no more than 2 PSI downstream pressure) when used with MEGR-1122H, MEGR-1222H and MEGR-1622H Series First Stage regulators. All MEC Excela-Flo domestic regulators feature a 25 year recommended replacement life and our exclusive tear away leak check adhesive sticker.

MEGR-1642 Series: Features an adjustable range from 9-13" WC (factory set @ 11" WC), stainless steel internal components, fluorocarbon (FKM) seat discs, molded lip fabric reinforced diaphragms and large aluminum precision machined orifices providing superior downstream regulation and maximum corrosion resistance against weather or contaminated gas.

Our full size second stage regulators feature a large fabric reinforced diaphragm for superior downstream regulation, heavy duty wrench flats, and a large 3/4" FNPT tapped drip lip vent to help prevent relief valve blockage. The MEGR-1642 Series has the outlet at 90 degrees from the inlet making it ideal for vapor meter installations.

SPECIFICATIONS

Tested in the U.S.A

Type: Second Stage
Max. Inlet Pressure: 10 PSIG
Exterior Finish: Green Powder Coat
Interior Finish: Green Powder Coat
Orifice Size: 0.219"
Diaphragm: Fabric Reinforced (NBR) Molded Lip O-Ring Bonnet / Body Seal
Relief Type: Internal Relief - Spring Loaded
Bonnet / Body Material: Die Cast Aluminum
Seat Material: Fluorocarbon (FKM)
Listings: c UL us / UL 144
Mounting Holes: Standard 3-1/2" Center
Pressure Taps: #54 Orifice 1/8" FNPT Plugged (2)
Relief Travel Stop: Molded In Adjustment Cap - Black
Patented Technology: Pat. #9,400,074 / Pat. #9,709,998

PATENT PENDING

MEGR-1642-DFF
Full Size

MEC Excela-Flo Second Stage Domestic Regulators						
Part No.	Type	Capacity in BTU/H LPG(1)	Inlet	Outlet	Outlet Adj. Range ("WC)	Outlet Set Point ("WC)
MEGR-1642-DFF (2)	Full Size Side Outlet	900,000	3/4" FNPT	3/4" FNPT	9-13	11

(1) Based on 10 PSIG inlet pressure and 20% droop
(2) Indicates side outlet configuration

UNIVERSAL REGULATOR BRACKET

Universal Slotted H Style Bracket for both full size and compact domestic regulators

FEATURES

- Anodized aluminum stamping for maximum strength and durability
- Slotted and elongated regulator mounting holes for quick, convenient and secure regulator retention
- Multiple screw holes for easy and reliable building/structure installation

MEGR-100C

SENTINEL 2 PSI DIELECTRIC INLET

SENTINEL Series 2 PSI Second Stage Dielectric Regulators are used to reduce outlet pressures from first stage regulators (normally 10 PSI) to nominal 2 PSI in domestic installations. 2 PSI service regulators are used in conjunction with an LPG line regulator either at the indoor appliance or a remote manifold distribution header inlet. All MEC SENTINEL 2 PSI Series second stage regulators are white with yellow inlet connections indicating 2 PSI outlet pressure and dielectric separation. 2 PSI service regulators have 3/4" FNPT tapped vents and our exclusive E-Z grip screens located over the inlet. All MEC SENTINEL Series 2 PSI SERVICE regulators feature an all stainless steel inlet filter screen to reduce debris from passing through the regulator. Both the **MEGR-1622ED** and the **MEGR-1652ED** Series regulators offer optimal relief performance that well exceeds UL test requirements. All MEC Excela-Flo™ domestic regulators feature a 25 year recommended replacement life and our exclusive tear away leak check adhesive sticker.

SENTINEL Series 2 PSI Second Stage Dielectric Regulators feature an integral dielectric inlet connection designed to isolate upstream metallic piping from electrical current prior to piping entering a building in complaince with NFPA58 - 2017 section 6.11.316. Since the FNPT inlet serves as the dielectric separation media, any standard MNPT threaded connector or valve can be installed without a separate dielectric union. All models feature the same basic footprint measurement from inlet to outlet as standard Excela-Flo™ Second Stage regulators, making it ideal for regulator change-outs.

PATENT PENDING

MEGR-1622ED Series
features an inline inlet and outlet orientation.

PATENT PENDING

MEGR-1652ED-DFH
Features a rear discharge back mount outlet for convenient wall mount applications.

SPECIFICATIONS

Type: 2 PSI
Max. Inlet Pressure: 10 PSIG
Exterior Finish: White Coat Body and Yellow Powder Coat Inlet
Interior Finish: White Powder Coat
Orifice Size: 0.219"
Diaphragm: Fabric Reinforced (NBR) Molded Lip O-Ring Bonnet/Body Seal
Relief Type: Internal Relief - Spring Loaded
Bonnet / Body Material: Die Cast Aluminum
Seat Material: Fluorocarbon (FKM)
Listings: c UL us / UL 144
Mounting Holes: Standard 3-1/2" Center
Pressure Taps: #54 Orifice 1/8" FNPT Plugged (2)
Relief Travel Stop: Molded In Adjustment Cap - Black
Patented Technology: Pat. #9,400,074 / Pat. #9,709,998

Tested in the U.S.A

Part No.	Type	Capacity in BTU/H LPG(1)	Inlet	Outlet	Vent Port	Outlet Adj. Range (PSI)	Outlet Set Point (PSI)
MEGR-1622ED-BCH	Full Size	1,100,000	1/2" FNPT	1/2" FNPT	3/4" FNPT	1.0 - 2.2	2
MEGR-1622ED-DCH	Full Size	1,400,000	3/4" FNPT	3/4" FNPT	3/4" FNPT	1.0 - 2.2	2
MEGR-1652ED-DFH (2)	Full Size Back Mount	1,300,000	3/4" FNPT	3/4" FNPT	3/4" FNPT	1.0 - 2.2	2

(1) Based on 10 PSIG inlet pressure and 20% droop
(2) Indicates back mount configuration

SECOND STAGE 2 PSI OUTLET

These 2 PSI service regulators are used to reduce outlet pressures from first stage regulators (normally 10 PSI) to a nominal 2 PSI. 2 PSI service regulators are used in conjunction with an LPG line regulator either at the indoor appliance or a remote manifold distribution header inlet. All MEC 2 PSI service regulators are white with black adjustment caps. The full size 2 PSI service regulators have 3/4" FNPT tapped vents and our exclusive E-Z grip screens located over the inlet. All MEC 2 PSI service regulators feature a stainless steel inlet filter screen to reduce debris from passing through the regulator. Both the MEGR-1622E and MEGR-1652E series offer optimal relief performance that exceeds UL test requirements. All MEC Excela-Flo domestic regulators feature a 25 year recommended replacement life and our exclusive tear away leak check adhesive sticker.

SPECIFICATIONS

Type: Second Stage 2 PSI
Max. Inlet Pressure: 10 PSI
Exterior Finish: White Powder Coat
Interior Finish: White Powder Coat
Orifice Size: 0.219"
Seat Material: Fluorocarbon (FKM)
Diaphragm: Fabric Reinforced (NBR) / Molded Lip O-Ring Bonnet/Body Seal
Relief Type: Internal Relief - Spring Loaded
Bonnet / Body Material: Die Cast Aluminum
Listings: c UL us / UL 144
Mounting Holes: Standard 3-1/2" Center
Pressure Taps: #54 Orifice, 1/8" FNPT, Plugged (2)
Relief Travel Stop: Molded in Adjustment Cap - Black
Patented Technology: Pat. #9,400,074 / Pat. #9,709,998

MEGR-1622E Series:

Offers a full size high capacity molded lip fabric reinforced diaphragm, stainless steel internal components, fluorocarbon (FKM) seat discs, precision machined aluminum orifices, and an adjustment range from 1.0-2.2 PSI (factory set @ 2 PSI) providing superior downstream regulation and maximum corrosion resistance against weather or contaminated gas.

MEGR-1652E Series:

Offers all of the same features as the MEGR-1622E Series but with a rear discharge back mount outlet for convenient wall mount applications.

Part No.	Type	Capacity in BTU/H LPG(1)	Inlet	Outlet	Vent Port	Outlet Adj. Range (PSI)	Outlet Set Point (PSI)
MEGR-1622E-BCH	Full Size	1,100,000	1/2" FNPT	1/2" FNPT	3/4" FNPT	1.0-2.2	2
MEGR-1622E-DCH	Full Size	1,400,000	3/4" FNPT	3/4" FNPT	3/4" FNPT	1.0-2.2	2
MEGR-1652E-DFH(2)	Back Mount	1,300,000	3/4" FNPT	3/4" FNPT	3/4" FNPT	1.0-2.2	2

(1) Based on 10 PSIG inlet pressure and 20% droop.
(2) Indicates back mount configuration.

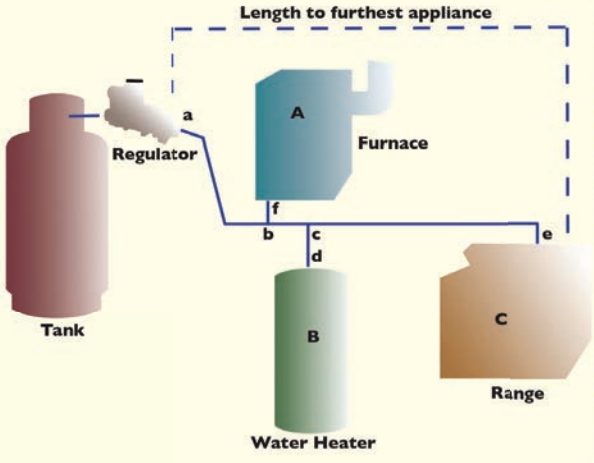
Tested in the U.S.A

INTEGRAL TWO STAGE REFERENCE GUIDE

LOAD BTU/HR.	DISTANCE maximum distance from regulator outlet to furthest appliance	PIPE TO APPLIANCE	MEC REGULATOR	MEC PIGTAILS
100,000	10 Feet	1/2" CTS Iron Pipe or copper tubing @ 11" water column regulator set pressure	 **MEGR-1232-HBF** F. POL X 1/2" **MEGR-1232-HFF** F. POL X 3/4" **MEGR-1232-BBF** 1/4" X 1/2"	POL X POL / Length / Part. No. 3/8" tube OD / 12" / ME1680-12 1/4" tube OD / 12" / ME1664-12 3/8" tube OD / 6" / ME1680-06 
	35 Feet	5/8" copper tubing @ 11" water column regulator set pressure		
	100 Feet	3/4" IPS Iron pipe @ 11" water column regulator set pressure		
200,000	10 Feet	5/8" copper tubing @ 11" water column regulator set pressure	 **MEGR-1232-HBF** F. POL X 1/2" **MEGR-1232-HFF** F. POL X 3/4" **MEGR-1232-BBF** 1/4" X 1/2"	POL X POL / Length / Part. No. 3/8" tube OD / 12" / ME1680-12 1/4" tube OD / 12" / ME1664-12 3/8" tube OD / 6" / ME1680-06 
	50 Feet	3/4" IPS Iron pipe @ 11" water column regulator set pressure		
300,000	30 Feet	3/4" IPS Iron pipe @ 11" water column regulator set pressure	 **MEGR-1232-HFF** F. POL X 3/4" **MEGR-1632-HCF** F. POL X 1/2" **MEGR-1632-BCF** 1/4" X 1/2"	POL X POL / Length / Part. No. 3/8" tube OD / 12" / ME1680-12 1/4" tube OD / 12" / ME1664-12 3/8" tube OD / 6" / ME1680-06 
	70 Feet	1" IPS Iron pipe @ 11" water column regulator set pressure		
400,000	20 Feet	3/4" IPS Iron pipe @ 11" water column regulator set pressure	 **MEGR-1232-HFF** F. POL X 3/4" **MEGR-1632-JFF** F. POL X 3/4" **MEGR-1632-CFF** 1/4" X 3/4"	POL X POL / Length / Part. No. 3/8" tube OD / 12" / ME1680-12 1/4" tube OD / 12" / ME1664-12 3/8" tube OD / 6" / ME1680-06 
	60 Feet	1" IPS Iron pipe @ 11" water column regulator set pressure		

Instructions:

1. Determine the total gas demand for the system by adding up the BTU/hr input from the appliance nameplates and adding demand as appropriate for future appliances.
2. For second stage or integral twin stage piping:
   A. Measure length of piping required from outlet of regulator to the appliance furthest away. No other length is necessary to do the sizing.
   B. Make a simple sketch of the piping, as shown.
   C. Determine the capacity to be handled by each section of piping. For example, the capacity of the line between a and b must handle the total demand of appliances A, B, and C; the capacity of the line from c to d must handle only appliance B, etc.
   D. Using one of the above Tables, select proper size of tubing or pipe for each section of piping, using values in BTU/hr for the length determined from step #2-A. If exact length is not on chart, use next longer length. Do not use any other length for this purpose! Simply select the size that shows at least as much capacity as needed for each piping section.
3. For piping between first and second stage regulators
   A. For a simple system with only one second stage regulator, merely measure length of piping required between outlet of first stage regulator and inlet of second stage regulator. Select piping or tubing required from one of the Tables.
   B. For systems with multiple second stage regulators, measure length of piping required to reach the second stage regulator that is furthest away. Make a simple sketch, and size each leg of piping using Table 1, 2, or 3 using values shown in column corresponding to the length as measured above, same as when handling second stage piping.



INTEGRAL TWO-STAGE COMPACT MODELS

These integral two-stage regulators combine the first and second stage regulator set-up into one convenient unit converting tank pressure to 11" WC. All MEC integral two-stage domestic regulators are gray indicating low outlet pressure. Integral two-stage regulators are recommended for installations with short piping distances, but provide the same advantages of two-stage regulation with a single unit. All MEC integral two-stage regulator vent have tapped ports (7/16 -24-First Stage) (3/8" FNPT - Second Stage) and our exclusive E-Z Grip screens located over the outlet. The MEGR-1232 series offer optimal relief performance that well exceeds UL test requirements providing over pressure protection of no more than 2 PSI downstream pressure. MEC Excela-Flo integral two-stage domestic regulators feature a 25 year recommended replacement life, our exclusive Tri-Tap™ (tank, 10 PSI, 11" WC) pressure port system and our exclusive 3-part tear away leak check adhesive sticker.

MEGR-1232 Compact Series: Offers a compact integral two-stage regulator design perfect for lower BTU applications and confined spaces. They feature an adjustment range from 9-13" WC (factory set @ 11" WC). Stainless steel integral components, fluorocarbon (FKM) seat discs, molded lip fabric reinforced diaphragms, and large precision machined aluminum orifices providing superior downstream regulation and maximum corrosion resistance against weather or contaminated gas.

MEGR-1632-HFF

- **NEW** patent pending **anti-freeze heat transfer fins**

SPECIFICATIONS

Type: Integral Two-Stage
Max. Inlet Pressure: 250 PSIG
Exterior Finish: Gray Powder Coat
Interior Finish: Gray Powder Coat
Orifice Size: 0.170"
Seat Material: Fluorocarbon (FKM)
Diaphragm: Fabric Reinforced NBR/Molded Lip O-Ring Bonnet Body Seal
Relief Type: Internal Relief - Spring Loaded
Bonnet / Body Material: Die Cast Aluminum
Listings: c UL us / UL 144
Mounting Holes: Standard 3-1/2" Center
Pressure Taps: #54 Orifice, 1/8" FNPT, Plugged (3)
Relief Travel Stop: Molded in Adjustment Cap - Gray
Patented Technology: Pat. #9,400,074 / Pat. #9,709,998

PATENT PENDING

Part No.	Capacity in BTU/H LPG(1)	Inlet	Outlet	Outlet Adj. Range ("WC)	Outlet Set Point ("WC)
MEGR-1232-BBF	450,000	1/4" FNPT	1/2" FNPT	9.5-13	11
MEGR-1232-BBFXA(2)	450,000	1/4" FNPT	1/2" FNPT	9.5-13	11
MEGR-1232-HBF	450,000	F. POL	1/2" FNPT	9.5-13	11
MEGR-1232-HBFXA(2)	450,000	F. POL	1/2" FNPT	9.5-13	11
MEGR-1232-HFF	625,000	F. POL	3/4" FNPT	9.5-13	11
MEGR-1232-HFFXA(2)	625,000	F. POL	3/4" FNPT	9.5-13	11
MEGR-1232-HFFXB(3)	625,000	F. POL	3/4" FNPT	9.5-13	11

(1) Based on 30 PSIG inlet pressure and 20% droop
(2) Indicates regulator vents opposite pressure tap ports
(3) Indicates regulator vents over pressure tap ports

Accessories	
Part No.	**Description**
MEP1632	MEC Excela-Flo™ Integral Twin Stage - First Stage Vent Guard
ME2130	First Stage Pipe Away Elbow 1/4" M. Inverted Flare x 1/4" F. Inverted Flare

Tested in the U.S.A

INTEGRAL TWO-STAGE FULL SIZE MODELS

These integral two-stage regulators combine the first and second stage regulator set-up into one convenient unit converting full tank pressure to 11" WC. All MEC integral two-stage domestic regulators are gray indicating low outlet pressure. Integral two-stage regulators are recommended for installations with short piping distances, but provide the same advantages of two-stage regulation with a single unit. All MEC integral two-stage regulator vent have tapped ports (7/16 -24-First Stage) (3/8" FNPT Second Stage Compact / 3/4" FNPT Second Stage Full Size) and our exclusive E-Z Grip screens located over the outlet. Both the MEGR-1232 and MEGR-1632 series offer optimal relief performance that exceeds UL test requirements providing over pressure protection of no more than 2 PSI downstream pressure. MEC Excela-Flo integral two-stage domestic regulators feature a 25 year recommended replacement life, our exclusive Tri-Tap™ (Tank, 10 PSI, 11" WC) pressure port system and tear away leak check adhesive sticker.

MEGR-1632 Series: Offers all of the same features as the compact MEGR-1232 series in a full size high capacity version. The full size MEGR-1632 diaphragm provides superior downstream regulation, has heavy duty wrench flats and a large 3/4" FNPT tapped drip lip vent to help prevent relief vent blockage.

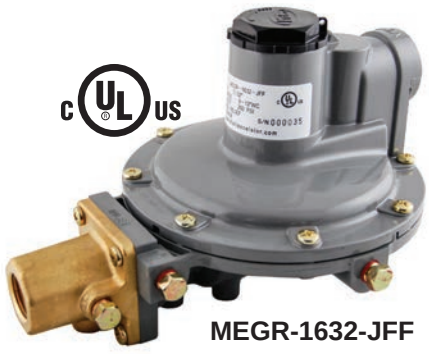
PATENT PENDING

MEGR-1632-CFF

SPECIFICATIONS

Type: Integral Two-Stage
Max. Inlet Pressure: 250 PSIG
Exterior Finish: Gray Powder Coat
Interior Finish: Gray Powder Coat
Orifice Size: 0.219"
Seat Material: Fluorocarbon (FKM)
Diaphragm: Fabric Reinforced NBR/Molded Lip O-Ring Bonnet Body Seal
Relief Type: Internal Relief - Spring Loaded
Bonnet / Body Material: Die Cast Aluminum
Listings: c UL us / UL 144
Mounting Holes: Standard 3-1/2" Center
Pressure Taps: #54 Orifice, 1/8" FNPT, Plugged (3)
Relief Travel Stop: Molded in Adjustment Cap - Black
Patented Technology: Pat. #9,400,074 / Pat. #9,709,998

PATENT PENDING



MEGR-1632-JFF

Part No.	Capacity in BTU/H LPG(1)	Inlet	Outlet	Vent Port	Outlet Adj. Range ("WC)	Outlet Set Point ("WC)
MEGR-1632-BCF	700,000	1/4" FNPT	1/2" FNPT	3/4" FNPT	9-13	11
MEGR-1632-BCFXA(2)	700,000	1/4" FNPT	1/2" FNPT	3/4" FNPT	9-13	11
MEGR-1632-CFF	950,000	1/4" FNPT	3/4" FNPT	3/4" FNPT	9-13	11
MEGR-1632-CFFXA(2)	950,000	1/4" FNPT	3/4" FNPT	3/4" FNPT	9-13	11
MEGR-1632-HCF	700,000	F. POL	1/2" FNPT	3/4" FNPT	9-13	11
MEGR-1632-HCFXA(2)	700,000	F. POL	1/2" FNPT	3/4" FNPT	9-13	11
MEGR-1632-JFF	900,000	F. POL	3/4" FNPT	3/4" FNPT	9-13	11
MEGR-1632-JFFXA(2)	900,000	F. POL	3/4" FNPT	3/4" FNPT	9-13	11
MEGR-1632-JFFXB(3)	900,000	F. POL	3/4" FNPT	3/4" FNPT	9-13	11

(1) Based on 30 PSIG inlet pressure and 20% droop
(2) Indicates regulator vents opposite pressure tap ports
(3) Indicates regulator vents over pressure tap ports

Accessories	
Part No.	**Description**
MEP1632	MEC Excela-Flo™ Integral Twin Stage - First Stage Vent Guard
ME2130	First Stage Pipe Away Elbow 1/4" M. Inverted Flare x 1/4" F. Inverted Flare

Tested in the U.S.A

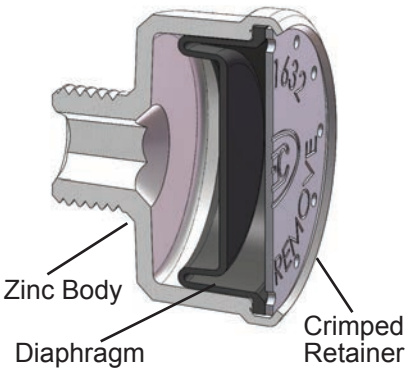
FIRST STAGE VENT GUARD

The MEP1632, when installed properly into the first stage vent opening of any MEC™ MEGR-1232 or MEGR-1632 Series Integral Two Stage Excela-Flo™ regulator, completely seals this port making it weather proof by preventing moisture from entering the vent portion of the regulator. Installing the MEP1632 meets all NFPA58 requirements for vent protection from elements on all MEC Excela-Flo™ integral twin stage first stage regulator vent openings no matter whether it is exposed or under a cover. Orientation of the second stage regulator vent opening must stay facing vertically down or piped away per MEC™ regulator installation and operating instructions.

MEP1632 - Installed in MEGR-1632 Series
Full Size Twin-Stage Regulator

MEP1632 Kit w/ instructions

*Regulator not included



Part No.	Description
MEP1632	MEC Excela-Flo™ Integral Twin Stage - First Stage Vent Guard

SPECIFICATIONS

- 7/16-24 UN threaded connection
- Anodized zinc die-cast body for maximum strength and durability
- Convenient wrenching flats for easy installation
- Supplied with sealing o-ring and installation instructions
- Sealed and crimped vulcanized diaphragm for leak & worry free service
- Does not restrict flow or impact regulator performance when installed properly

Flex-Vent™ REGULATOR KIT

The MEC *Flex-Vent*™ provides a safe and easy solution to vent LP Gas regulators away from open sources of ignition or other potential fire hazards. Meets all requirements of the new flexible material allowance in the 2011 NFPA-58, section 5.8.3.1 (3).

FEATURES

- Durable, UV stable flexible PVC hose material suitable for use with LP Gas vapor
- 3/4" NPT swivel inlet for easy installation
- Standard 90° vent assembly with screen
- Mounting clamps and coated masonry screws supplied
- Crimped ends for maximum durability
- Available in 3, 4, 6 & 10 ft. lengths*

ME900-6

Part No.	Description	Accessories
ME960-36	MEC *Flex-Vent* Kit - Fixed Ends - 3 ft.	90° Regulator Vent Assembly ME900-6
ME960-48	MEC *Flex-Vent* Kit - Fixed Ends - 4 ft.	
ME960-72	MEC *Flex-Vent* Kit - Fixed Ends - 6 ft.	
ME960-120	MEC *Flex-Vent* Kit - Universal Outlet (not crimped) - 10 ft.	
ME960-120C	MEC *Flex-Vent* Kit - Universal Outlet (crimped) - 10 ft.	

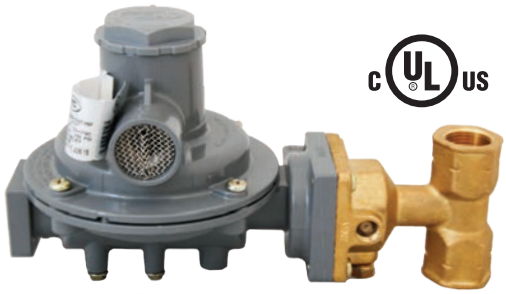
INTEGRAL TWO STAGE TEE INLET

These integral two-stage regulators combine the first and second stage regulator set-up into one convenient unit converting tank pressure to 11" WC with the convenience of a F. POL Tee inlet for multiple tank applications. All MEC integral two-stage domestic regulators are gray indicating low outlet pressure. Integral two-stage regulators are recommended for installations with short piping distances, but provide the same advantages of two-stage regulation with a single unit. All MEC integral two-stage regulator vent have tapped ports (7/16 -24-First Stage) (3/4" FNPT - Second Stage) and our exclusive E-Z Grip screens located over the outlet. Both the MEGR-1232T and MEGR-1632T series offer optimal relief performance that well exceeds UL test requirements providing over pressure protection of no more than 2 PSI downstream pressure. MEC Excela-Flo integral two-stage domestic regulators feature a 25 year recommended replacement life, our exclusive Tri-Tap™ (tank, 10 PSI, 11" WC) pressure port system and tear away leak check adhesive sticker.

NOTE: All models available in "XA" configuration with both first & second stage vents located opposite pressure taps and tee inlets perpendicular to vents specifically for horizontal installation.

SPECIFICATIONS

Type: Integral Two-Stage
Max. Inlet Pressure: 250 PSIG
Exterior Finish: Gray Powder Coat
Interior Finish: Gray Powder Coat
Orifice Size: 0.17" (Compact) & 0.219" (Full)
Seat Material: Fluorocarbon (FKM)
Diaphragm: Fabric Reinforced NBR/Molded Lip O-Ring Bonnet/Body Seal
Relief Type: Internal Relief - Spring Loaded
Bonnet / Body Material: Die Cast Aluminum
Listings: c UL us / UL 144
Mounting Holes: Standard 3-1/2" Center
Pressure Taps: #54 Orifice 1/8" FNPT Plugged (3)
Relief Travel Stop: Molded in Adjustment Cap - Gray (Compact), Black (Full Size)
Patented Technology: Pat. #9,400,074 / Pat. #9,709,998



MEGR-1232T Compact Series: Offers a compact integral two-stage regulator design perfect for lower BTU applications and confined spaces. They feature an adjustment range from 9-13" WC (factory set @ 11" WC). Stainless steel integral components, fluorocarbon (FKM) seat discs, molded lip fabric reinforced diaphragms, and large precision machined aluminum orifices providing superior downstream regulation and maximum corrosion resistance against weather or contaminated gas.

MEGR-1632 Full Size Series: Offers all of the same features as the compact MEGR-1232 series in a full size high capacity version. The full size MEGR-1632 diaphragm provides superior downstream regulation, has heavy duty wrench flats and a large 3/4" FNPT tapped drip lip vent to help prevent relief vent blockage.

Part No.	Type	Capacity in BTU/H LPG(1)	Inlet	Outlet	Outlet Adj. Range ("WC)	Outlet Set Point ("WC)
MEGR-1232T-HBF	Compact	450,000	F. POL Tee	1/2" FNPT	9.5-13	11
MEGR-1232T-HBFXA(2)	Compact	450,000	F. POL Tee	1/2" FNPT	9.5-13	11
MEGR-1232T-HFF	Compact	625,000	F. POL Tee	3/4" FNPT	9.5-13	11
MEGR-1232T-HFFXA(2)	Compact	625,000	F. POL Tee	3/4" FNPT	9.5-13	11
MEGR-1632T-HCF	Full Size	700,000	F. POL Tee	1/2" FNPT	9-13	11
MEGR-1632T-HCFXA(2)	Full Size	700,000	F. POL Tee	1/2" FNPT	9-13	11
MEGR-1632T-JFF	Full Size	900,000	F. POL Tee	3/4" FNPT	9-13	11
MEGR-1632T-JFFXA(2)	Full Size	900,000	F. POL Tee	3/4" FNPT	9-13	11

(1) Based on 30 PSIG inlet pressure and 20% droop
(2) Indicates regulator vents opposite pressure tap ports

Accessories	
Part No.	**Description**
MEP1632	MEC Excela-Flo™ Integral Twin Stage - First Stage Vent Guard
ME2130	First Stage Pipe Away Elbow 1/4" M. Inverted Flare x 1/4" F. Inverted Flare

Tested in the U.S.A

INTEGRAL TWO STAGE 2 PSI OUTLET PRESSURE

MEC Excela-Flo integral two-stage regulators combine the first and second stage regulator set-up into one convenient unit converting tank pressure to 2 PSI. All MEC integral two-stage 2 PSI regulators are white indicating 2 PSI outlet pressure. Integral two-stage 2 PSI regulators are recommended for installations with short piping distances, but provide the same advantages of two-stage regulation with a single unit. 2 PSI service regulators are used in conjunction with an LPG line regulator either at the indoor appliance or a remote manifold distribution header inlet. All MEC integral two-stage regulator vent have tapped ports (7/16 -24 - First Stage) (3/8" FNPT or 3/4" FNPT - Second Stage) and our exclusive E-Z Grip screens located over the outlet. Both the MEGR-1232E and MEGR-1632E series offer optimal relief performance that well exceeds UL test requirements providing over pressure protection of no more than 4 PSI downstream pressure.

MEC Excela-Flo integral two-stage domestic regulators feature a 25 year recommended replacement life, our exclusive Tri-Tap™ (tank, 10 PSI, 2 PSI) pressure port system and tear away leak check adhesive sticker.

SPECIFICATIONS

Type: Integral Two-Stage 2 PSI

Max. Inlet Pressure: 250 PSIG

Exterior Finish: White Powder Coat

Interior Finish: White Powder Coat

Orifice Size: 0.17" (Compact) & 0.219 (Full)

Seat Material: Fluorocarbon (FKM)

Diaphragm: Fabric Reinforced NBR/Molded Lip O-Ring Bonnet/Body Seal

Relief Type: Internal Relief - Spring Loaded

Bonnet / Body Material: Die Cast Aluminum

Listings: c UL us / UL 144

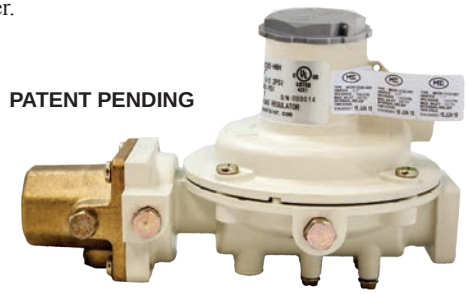
Mounting Holes: Standard 3-1/2" Center

Pressure Taps: #54 Orifice 1/8" FNPT Plugged (3)

Relief Travel Stop: Molded in Adjustment Cap - Gray (Compact), White (Full Size)

Patented Technology: Pat. #9,400,074 / Pat. #9,709,998

PATENT PENDING



c UL us

MEGR-1232E Compact Series: Offers a compact integral two-stage 2 PSI regulator design perfect for lower BTU applications and confined spaces. They feature an adjustment range from 1-2.2 PSI (factory set @ 2 PSI). Stainless steel integral components, fluorocarbon (FKM) seat discs, molded lip fabric reinforced diaphragms, and large precision machined aluminum orifices providing superior downstream regulation and maximum corrosion resistance against weather or contaminated gas.

c UL us

MEGR-1632E Full Size Series: Offers all of the same features as the compact MEGR-1232E series in a full size high capacity version. The full size MEGR-1632E diaphragm provides superior downstream regulation, has heavy duty wrench flats and a large 3/4" FNPT tapped drip lip vent to help prevent relief vent blockage.

Tested in the U.S.A

Part No.	Type	Capacity in BTU/H LPG(1)	Inlet	Outlet	Outlet Adj. Range (PSI)	Outlet Set Point (PSI)
MEGR-1232E-BBH	Compact	500,000	1/4" FNPT	1/2" FNPT	1-2.2	2
MEGR-1232E-BBHXA(2)	Compact	500,000	1/4" FNPT	1/2" FNPT	1-2.2	2
MEGR-1232E-HBH	Compact	500,000	F. POL	1/2" FNPT	1-2.2	2
MEGR-1232E-HBHXA(2)	Compact	500,000	F. POL	1/2" FNPT	1-2.2	2
MEGR-1632E-BCH	Full Size	850,000	1/4" FNPT	1/2" FNPT	1-2.2	2
MEGR-1632E-BCHXA(2)	Full Size	850,000	1/4" FNPT	1/2" FNPT	1-2.2	2
MEGR-1632E-CFH	Full Size	850,000	1/4" FNPT	3/4" FNPT	1-2.2	2
MEGR-1632E-CFHXA(2)	Full Size	850,000	1/4" FNPT	3/4" FNPT	1-2.2	2
MEGR-1632E-HCH	Full Size	900,000	F. POL	1/2" FNPT	1-2.2	2
MEGR-1632E-HCHXA(2)	Full Size	900,000	F. POL	1/2" FNPT	1-2.2	2
MEGR-1632E-JFH	Full Size	850,000	F. POL	3/4" FNPT	1-2.2	2
MEGR-1632E-JFHXA(2)	Full Size	850,000	F. POL	3/4" FNPT	1-2.2	2

(1) Based on 30 PSIG inlet pressure and 20% droop
(2) Indicates regulator vents opposite pressure tap ports

Accessories	
Part No.	**Description**
MEP1632	MEC Excela-Flo™ Integral Twin Stage - First Stage Vent Guard
ME2130	First Stage Pipe Away Elbow 1/4" M. Inverted Flare x 1/4" F. Inverted Flare

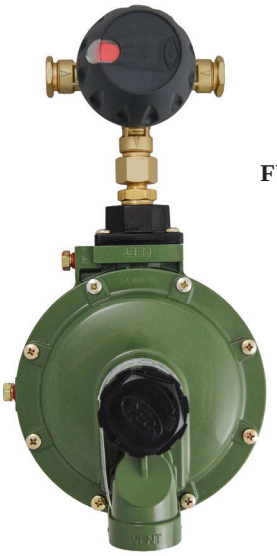
AUTOMATIC CHANGEOVER

COMPACT

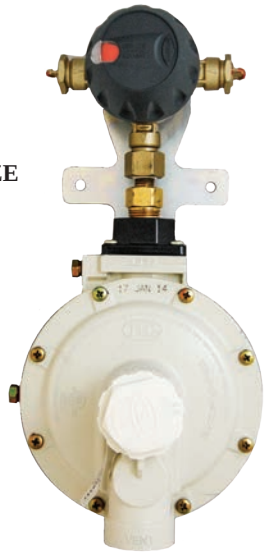
MEGR-175CS61222-BAF

Tested in the U.S.A

FULL SIZE



MEGR-175CS61622-BCF



MEGR-175CS61622E-BCH

These Two Stage Automatic Changeover regulators combine the first and second stage regulator into one unit converting full tank pressure to 11" WC. MEC Excela-Flo Automatic Changeover regulators prevent gas outages by switching supply cylinders over to the reserve cylinder automatically when the primary cylinder is near empty. When the primary cylinder is depleted causing the changeover to occur a red indicator will appear signifying the reserve cylinder in now in use and the primary cylinder can be refilled without loss of service

SPECIFICATIONS

Type: Automatic Changeover Two-Stage
Max. Inlet Pressure: 250 PSIG
Exterior Finish: Gold / Green Powder Coat
Orifice Size: .140" (Compact) & .219" (Full)
Seat Material: (NBR) 1st Stage, Fluorocarbon (FKM) 2nd Stage
Diaphragm: Fabric Reinforced (NBR) / Molded Lip O-Ring Bonnet/Body Seal
Relief Type: Internal Relief - Spring Loaded
Bonnet / Body Material: Die Cast Zinc/Plastic 1st Stage, Die Cast Aluminum 2nd Stage
Listings: $_{C}$(UL)$_{US}$ / UL 144 2nd Stage
Mounting Holes: Standard 3-1/2" Center
Pressure Taps: #54 Orifice, 1/8" FNPT, Plugged (1)
Relief Travel Stop: Molded in Adjustment Cap - Gray (Compact), Black (Full Size)
Patented Technology: Pat. #9,400,074 / Pat. #9,709,998

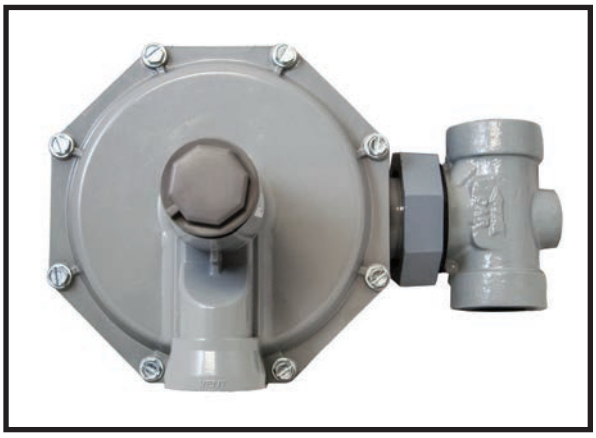
MEGR-175CS61622-BCF Series: Offers all of the same features as the compact MEGR-175S61222 series but with a full size high capacity second stage regulator option. The full size second stage diaphragm provides superior downstream regulation and features heavy duty wrench flats and a large 3/4" FNPT tapped drip lip vent to help prevent relief vent blockage. This regulator is perfect for manifolding larger tanks together such as 420 LB cylinders.

MEGR-175CS61222-BAF Series: Offers a compact two stage regulator option for lower BTU applications such as mobile or seasonal homes. They feature a second stage adjustment from 8-14" WC (factory set @ 11" WC), stainless steel internal components, fluorocarbon (FKM) seat discs, molded lip fabric reinforced diaphragms, and large precision machined aluminum orifices providing superior downstream regulation and maximum resistance against weather or contaminated gas. The compact second stage features a 3/8" FNPT drip lip vent.

Part No.	Type	Primary Cylinder Capacity in BTU/H LPG(1)	Auxilary Cylinder Capacity in BTU/H LPG(1)	Inlet	Outlet	Outlet Adj. Range ("WC)	Outlet Set Point ("WC)
MEGR-175CS61222-BAF	Compact	400,000	340,000	1/4" IF (2)	1/2" FNPT	9.5-13	11
MEGR-175CS61622-BCF	Full Size	650,000	570,000	1/4" IF (2)	1/2" FNPT	9-13	11
MEGR-175CS61622E-BCH	Full Size	625,000	525,000	1/4" IF (2)	1/2" FNPT	1.0-2.2 PSI	2 PSI

(1) Based on 30 PSIG inlet pressure and 20% droop

LIGHT COMMERCIAL SECOND STAGE



MEGR-1HSRL Series

MEGR-1HSRL Series: These light commercial second stage regulators are used to reduce outlet pressures from first stage regulators (normally 10 PSI) to 11" WC. Full size high capacity light commercial type regulator with an adjustment range from 6-14" WC (factory set @ 11" WC), a heavy duty cast iron body with a universal body to bonnet union for fast relocation of inlet to outlet vent location. Ideal for standby generators.

SPECIFICATIONS

Type: Second Stage
Max. Inlet Pressure: 40 PSIG
Exterior Finish: Gray Powder Coat
Diaphragm: Fabric Reinforced - NBR
Relief Type: Internal Relief - Spring Loaded
Bonnet/Body Material: Die Cast Aluminum/Cast Iron
Orifice Size: 3/8"

MEC Excela-Flo Light Commercial Second Stage Regulators					
Part No.	Capacity in BTU/H LPG(1)	Inlet	Outlet	Outlet Adj. Range ("WC)	Outlet Set Point ("WC)
MEGR-1HSRL-BFC	2,000,000	3/4" FNPT	3/4" FNPT	6-14	11
MEGR-1HSRL-CFC	2,500,000	1" FNPT	1" FNPT	6-14	11

(1) Based on 10 PSIG inlet pressure and 20% droop

Made in the U.S.A.

!WARNING!

Failure to follow these instructions or to properly install and maintain this equipment could result in an explosion and/or fire causing property damage and personal injury or death.

Marshall Excelsior equipment must be installed, operated and maintained in accordance with federal, state and local codes and MEC instructions. The installation in most states must also comply with NFPA 54 and NFPA 58 standards.

Only personnel trained in the proper procedures, codes, standards and regulations of the LP-Gas industry shall install and service this equipment.

Things to tell the gas customer:

1. Show the customer the vent, vent assembly or vent line. Stress that this opening must remain unobstructed at all times. Tell the customer to check the vent opening after a freezing rain, sleet storm, or snow to make sure ice has not formed in the vent.
2. Show the customer the shutoff valve on the container. The customer should close this valve immediately if gas is smelled, appliance pilot lights fail to stay on or appear higher than usual or any other abnormal situation occurs.
3. Tell the customer to call your company to service the regulator if the regulator vents gas or a leak develops in the system. **Only a qualified gas service person shall install or service the regulators.**

Scope of the Manual

This instruction manual covers installation and maintenance for the first stage, second stage, and integral two-stage regulators used on LP-Gas vapor service applications. **They are not to be used on liquid service.**

Description

25 Year Recommended Replacement Life: The MEC Regulator Series is designed using rugged time-proven design concepts and constructed of corrosion resistant materials, both internally and externally. With proper installation and periodic inspection and maintenance, they will meet a 25 Year Recommended Replacement Life.

Screened Drip-Lip: Screened Drip-Lip is oriented either over the inlet, outlet, or at 90° depending on the configuration.

Pressure Tap Size Restrictions: 1/8" NPT / #54 (0.055") orifice on all pressure points.

Temperature Capabilities: -40°F to 160°F (-40°C to 71°C)

Contact the factory if the regulator is to be used on any service other than LP-Gas. The following information is located on the spring case: The Part Number, orifice size, spring range and date code.

2nd Stage Low Pressure Regulator - UL Listed:

MEGR-1222 MEGR-1252 MEGR-1622 MEGR-1642 MEGR-1652

FIGURE 1: SECOND STAGE REGULATOR

The second stage regulator is designed to reduce the outlet pressure from a first-stage regulator (usually 10 psig (0,69 bar)) to an outlet pressure of 11 -inches water column (27 bar).

The combination of a high capacity relief valve and large vent provide overpressure protection which exceeds UL standards and is capable of limiting the downstream pressure to 2 psig (0,14 bar) even in a double failure situation when used with a first-stage regulator.

Integral Two-Stage Regulator - UL Listed:

MEGR-1232 MEGR-1632

FIGURE 2: INTEGRAL TWO-STAGE REGULATOR

The integral two-stage regulator contains a non-adjustable first stage regulator on the inlet of the second stage portion of the regulator. It is designed to reduce the tank pressure to an outlet pressure of 11 inches water column. The second stage portion has a high capacity internal relief valve construction. The first stage does not have an internal relief valve.

First Stage Regulator - UL Listed:

MEGR-1222H MEGR-1622H

FIGURE 3: FIRST STAGE REGULATOR

The first stage regulators are designed for high pressure (pounds per square inch) vapor service. These regulators have high capacity internal relief valves. The outlet pressure setting is factory set at a nominal 10 psig (0,69 bar).

2 PSI Service Regulator - UL Listed:

MEGR-1622E MEGR-1652E

FIGURE 4: 2 PSI SERVICE REGULATOR

The 2 PSI service regulator is designed to reduce the outlet pressure from a first-stage regulator (usually 10 psig (0.69 bar)) to a nominal outlet pressure of 2 psig (0,14 bar).

The combination of high capacity relief valve and large vent provide overpressure protection which exceeds UL standards and is capable of limiting the downstream pressure in a double failure situation when used with a first-stage regulator.

2-PSI Integral Two Stage Regulator - UL Listed:

MEGR-1232E MEGR-1632E

FIGURE 5: 2 PSI INTEGRAL TWO-STAGE REGULATOR

The integral two-stage 2 PSI regulator contains a non-adjustable first stage regulator on the inlet of the second stage portion of the regulator. It is designed to reduce the tank pressure to a nominal outlet pressure of 2 psig (0,14 bar). The second stage portion has a high capacity internal relief valve construction. The first stage does not have an internal relief valve.

Installation

!WARNING!

All vents should be kept open to permit free flow of air in and out of the regulator. Protect vent openings against the entrance of rain, snow, ice formation, paint, mud, insects or any other foreign material that could plug the vent or vent line.

LP-Gas may discharge to the atmosphere through the vent. An obstructed vent which limits air or gas flow can cause abnormally high pressure that could result in personal injury or property damage.

Installation (Continued)

!WARNING!

The first stage and integral two-stage regulators are not suitable for indoor installations. Never use them on low pressure (inches of water column) service because personal injury or property damage could occur.

Before installation:

- Check for damage, which may have occurred in shipment.
- Check for and remove any dirt or foreign material that may have accumulated in the regulator body.
- Replace old pigtails. Blow out any debris, dirt or copper sulfate in the copper tubing and the pipeline.
- Apply pipe compound to the male threads of the pipe before installing the regulator.
- Make sure gas flow through the regulator is in the same direction as the arrow on the body. "Inlet" and "Outlet" connections are clearly marked.

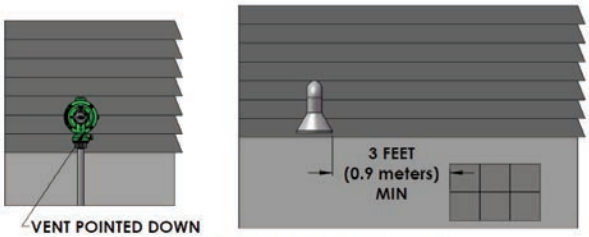


Figure 2: Regulator with Vent Pointed Down

Installation Location, see Figure 2:

- The installed regulator should be adequately protected from vehicular traffic and damage from other external sources.
- **Install the regulator with the vent pointed vertically down.** If the vent cannot be installed in a vertically down position, the regulator must be installed under a separate protective cover. Installing the regulator with the vent down allows condensation to drain, minimizes the entry of water or other debris from entering the vent, and minimizes vent blockage from freezing precipitation.
- **Do not install the regulator in a location where there can be excessive water accumulation or ice formation,** such as directly beneath a down spout, gutter or roof line of building. Even a protective hood may not provide adequate protection in these instances.
- Install the regulator so that any gas discharge though the vent or vent assembly is over 3 -feet (0,9 meters) horizontally from any building opening below the level of discharge and not less than 5-feet in any direction away from any source of ignition, openings into direct vent appliances, or mechanical ventilation air intakes.
- Install the regulator high enough above ground level - at least 24-inches (60 cm) - so that rain splatter cannot freeze in the vent.
- Some installations, such as in areas with heavy snowfall, may require a hood or enclosure to protect the regulator from snow load and vent freeze over.

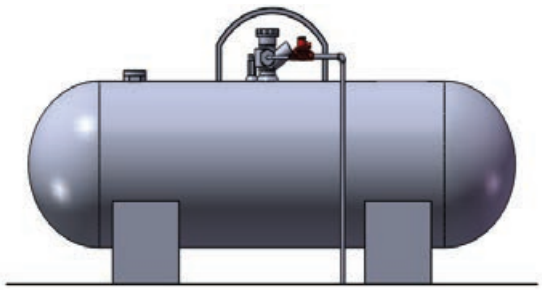


Figure 3: Tank Installation

Horizontally Installed Regulators, see Figure 3:

Horizontally mounted regulators, such as found in single cylinder installations and ASME tanks, must be installed beneath a protective cover or under the ASME tank dome. If possible, slope or turn the vent down sufficiently to allow any condensation to drain out of the spring case. Be careful that the slot in the tank dome or protective cover for the regulator's outlet piping does not expose the vent to the elements. The first stage vent on the integral two-stage regulator should be pointed down.

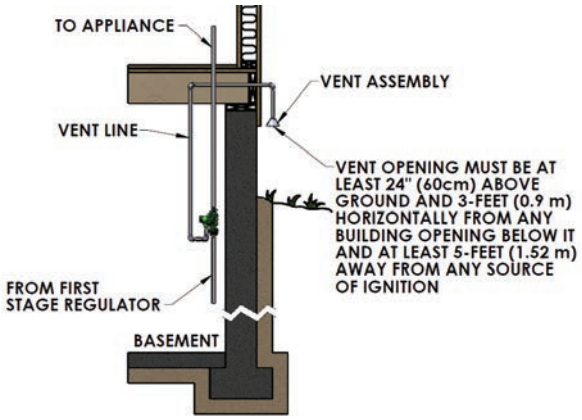


Figure 4: Basement Installation

Indoor Installations, see Figure 4:

The first stage and integral regulators are not recommended for indoor installations. The second stage regulator may be installed indoors as follows.

By code, regulators installed indoors have limited inlet pressure, and they **require** a vent line to the outside of the building. A vent assembly, such as MEC ME960 or at least 3/4" NPT pipe, Gray PVC Schedule 40 Rigid Non-Metallic Electrical Conduit for above Ground Service, per UL 651, should be used. The same installation precautions, previously discussed throughout this manual for the regulator vent, apply to the end of the vent tube assembly. Vent lines must not restrict the gas flow from the regulator's internal relief valve. To install the vent line, remove the vent screen and apply a good grade of pipe compound to the male threads of the line. Vent lines should be as straight as possible with a minimum number of bends.

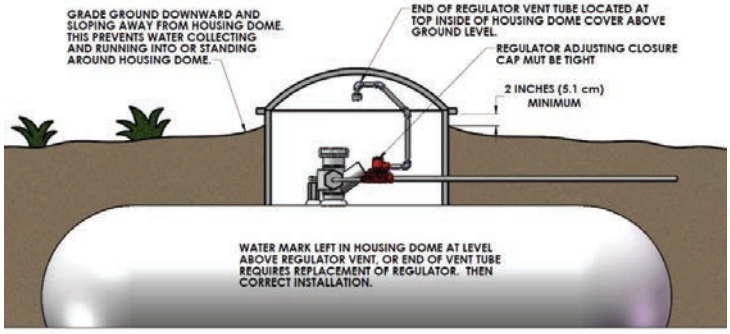


Figure 5: Underground Installation

Underground Installations, see Figure 5:

!WARNING!

The integral two-stage regulators require 2 vent lines, one for the first stage vent (1/4" OD copper tube inverted flare connection: 7/16-24 UN thread) and the other for the second stage vent (3/8" NPT) of the regulator. Failure to use 2 separate vent tubes can result in early regulator failure and / or over pressuring the second stage that could result in fire or personal injury.

A regulator installed in the dome of an underground container requires a vent line to prevent water from entering the regulator spring case. Remove the vent screen(s) and install a vent line(s). The vent line must be run from the regulator vent(s) to above the maximum water table. The vent line opening(s) must terminate at the extreme top inside of the dome cover. Make sure the regulator's closing cap is on tightly, and maintain drainage away from the dome at all times.

Adjustment

Each regulator is factory set. If it becomes necessary to increase the outlet pressure, remove the closing cap and turn the adjustment screw clockwise. Turn the adjusting screw counterclockwise to decrease the outlet pressure.

The inlet and outlet pressure tap plugs may be removed using a 7/16" wrench. The pressure tap is restricted with a #54 orifice, so the plug can be removed with pressure in the regulator. Install a pressure gauge to determine the regulator's inlet pressure and outlet setting during adjustment. Actual pressure at the second stage regulator may be less due to line loss. After setting, add thread sealant to the pipe plug and reinstall it. Replace the closing cap. Check the plug for leakage.

Overpressure Protection

!WARNING!

Some type of overpressure protection is needed if actual inlet pressure can exceed the inlet pressure rating. Overpressuring any portion of this equipment above the limits shown in the Specifications may cause damage to regulator parts, leaks in the regulator, or personal injury due to bursting of pressure-containing parts or explosion of accumulated gas.

If any portion of the regulator is exposed to an overpressure condition that exceeds the limits in the Specifications, it must be inspected for damage that may have occurred.

Large volumes of gas may discharge though the regulator vent during internal relief valve operation, which can, if not controlled, result in fire or explosion from accumulated gas.

The first stage, integral two-stage, and second stage series regulator, **except for the first stage of the integral two-stage,** contain internal relief valves. The internal relief valve in all units will give overpressure protection against excessive build-up resulting from seat leakage due to worn parts, chips or foreign material on the orifice. The amount of internal relief protection provided varies with the regulator type and the cause for the overpressure relief valve operation. When the internal relief valve opens, gas escapes to the atmosphere through the regulator's vent.

Some type of additional external overpressure protection must be provided if the outlet pressure in an overpressure condition exceeds the inlet pressure rating of the gas system or downstream equipment. Common methods of external overpressure protection include relief valves, monitoring regulators, shutoff devices, and series regulation.

Maintenance

!WARNING!

To avoid personal injury or equipment damage, do not attempt any maintenance or disassembly without first isolating the regulator from system pressure and relieving all internal pressure.

Regulators that have been disassembled for repair must be tested for proper operation before being returned to service. Only parts manufactured by MEC should be used for repairing MEC regulators. Relight pilot lights according to normal startup procedures found in the appliance manufacturers' instructions.

Due to normal wear or damage that may occur from external sources, these regulators must be inspected and maintained periodically. The frequency of inspection and replacement of the regulators depends upon the severity of service conditions or the requirements of local, state and federal regulations. Even under ideal conditions, these regulators should be replaced after 25 years from date of manufacture or sooner should inspection reveal the need.

Visually inspect the regulator each time a gas delivery is made for:

- Improper installation; such as vent not pointed vertically down or under a cover, no vent line on underground systems
- Plugged or frozen vent
- Wrong regulator or no regulator in the system
- External corrosion
- Flooded Regulator; water in spring case, regulator submersed on underground tanks
- Regulator age
- Any other condition that could cause the uncontrolled escape of gas

Failure to do the above could result in personal injury or property damage.

Vent Opening

Make sure the regulator vent, vent assembly, or vent line does not become plugged by mud, insects, ice, snow, paint, etc. The vent screen aids in keeping the vent from becoming plugged; the screen should be clean and properly installed.

Water inside Regulators from Floods, Weather or Water Table on Underground Systems

Replace any regulator that has been flooded or has been submersed below the water, has water in the spring case or shows evidence of external or internal corrosion. Checking for internal corrosion on the first stage and integral two-stage of the second stage portion, can be done by removing the closing cap and with the aid of a flashlight observing the condition of the relief valve spring, main spring and internal spring barrel area. A more detailed examination will require shutting down the gas system and the complete removal of the adjusting screw. The second stage regulator must be completely disassembled by a qualified person to look for internal corrosion. Closely examine regulators installed with their vent horizontal for signs of corrosion. Correct any improper installations.

Regulator Replacement

Older regulators are more likely to fail catastrophically because of worn or corroded parts. Replace all regulators over 25 years of age. Other service or environmental conditions may dictate replacement of the regulator before the end of its 25 year service life.

Regulators that are installed on underground systems and in areas that are subject to sea salt (coastal) atmospheres should be inspected annually for external and internal corrosion and may require replacement sooner.

Regulator Repair

Only personnel trained in the proper procedures, codes, standards and regulations of the LP-Gas industry shall install and service this equipment.

Regulators that have been disassembled for repair must be tested for proper operation before being returned to service. Only parts manufactured by MEC should be used to repair MEC regulators. Be sure to give the complete Part Number of the regulator when corresponding with the factory.

The part number, orifice size, and spring range are on a label attached to the spring barrel. The date of manufacture is stamped on the regulator. Always provide this information in any correspondence with your MEC Distributor regarding replacement parts or technical assistance. **If construction changes are made in the field, be sure that the regulator marking is also changed to reflect the most recent construction.**

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TABLE 1: 1100 AND 1200 SERIES SPECIFICATIONS

REGULATOR APPLICATION	PART NUMBER	CAPACITY BTU/HR PROPANE (1)	INLET CONNECTION	OUTLET CONNECTION	3/8-INCH FNPT SCREENED VENT STANDARD LOCATION	NOMINAL RELIEF VALVE START-TO-DISCHARGE	MAX OUTLET PRESSURE WITH DISC REMOVED		ORIFICE SIZE	MAX ALLOWABLE INLET PRESSURE	MAX EMERGENCY INLET PRESSURE	OUTLET PRESSURE STANDARD SETPOINT	OUTLET PRESSURE SPRING RANGE	REGULATOR COLOR
							INLET PRESSURE	MAX OUTLET PRESSURE						
Second Stage	MEGR-1222-BAF	450,000	1/2-in FNPT (7)	1/2-in FNPT	Over Inlet	1 psi (0,07 bar)	30 psig (2,07 bar)	2 psig (0,14 bar)	0.14-in (3,6 mm)	10 psig (0,69 bar)	75 psig (5,2 bar)	11-in w.c. (27 mbar)	9.5 to 13- in w.c. (24 to 32 mbar)	Green
	MEGR-1222-CFF	800,000		3/4-in FNPT					0.17-in (4,3 mm)					
	MEGR-1222-DFF		3/4-in FNPT (7)											
	MEGR-1252-BAF	500,000	1/2-in FNPT (7)	1/2-in FNPT (6)					0.14-in (3,6 mm)					
	MEGR-1252-CFF	650,000		3/4-in FNPT (6)					0.17-in (4,3 mm)					
	MEGR-1252-DFF	700,000	3/4-in FNPT (7)											
Integral Two-Stage	MEGR-1232-BBF (3)	450,000	1/4-in FNPT	1/2-in FNPT	First Stage (2): Down Second Stage: Over Outlet		250 psig (17,2 bar)		0.17-in (4,3 mm)	250 psig (17,2 bar)	250 psig (17,2 bar)	First Stage: ≈10 psi (0,69 bar) Second Stage: 11-in w.c. (27 mbar)	First Stage: non-adjustable Second Stage: 9.5 to 13-in w.c. (24 to 32 mbar)	Gray
	MEGR-1232-HBF (3)		FPOL											
	MEGR-1232T-HBF (4)		FPOL Tee											
	MEGR-1232-HFF (3)(5)	625,000	FPOL	3/4-in FNPT										
	MEGR-1232T-HFF (4)		FPOL Tee											
2 PSI (0,14 bar) Service	MEGR-1232E-BBH (3)	500,000	1/4-in FNPT	1/2-in FNPT	First Stage (2): Down Second Stage: Over Outlet	4 psi (0,28 bar)	50 psig (3,4 bar)	5 psig (0,34 bar)	0.17-in (4,3 mm)	250 psig (17,2 bar)	250 psig (17,2 bar)	2 psig (0,14 bar)	1.0 to 2.2 psi (0,069 to 0,15 bar)	White
	MEGR-1232E-HBH (3)		FPOL											
First Stage	MEGR-1122H-AAJ (3)(5)	1,000,000	1/4-in FNPT	1/2-in FNPT	Over Outlet	16 psi (1,10 bar)	Not Applicable		0.15-in (3,8mm)	250 psig (17,2 bar)	250 psig (17,2 bar)	10 psi (0,69 bar)	8 to 12 psi (0,55 to 0,83 bar)	Red
	MEGR-1222H-BGF (3)(5)		FPOL						0.14-in (3,6 mm)				9 to 12 psi (0,62 to 0,83 bar)	
	MEGR-1222HT-BGF		FPOL Tee											
	MEGR-1222H-BGJ (3)	1,700,000	FPOL	3/4-in FNPT					0.17-in (4,3 mm)					
	MEGR-1222HT-BGJ		FPOL Tee											
	MEGR-1252H-BGF (3)	1,400,000	FPOL	1/2-in FNPT (6)										
	MEGR-1252H-BGJ (3)	1,500,000		3/4-in FNPT (6)										

(1): Capacities Based on:
- Second Stage: 10 psig (0,69 bar) inlet pressure with 2-inches w.c. (5 mbar) droop.
- Integral Second Stage: 30 psig (2,07 bar) inlet pressure and 2-inches w.c. (5 mbar) droop.
- First Stage: 30 psig (2,07 bar) inlet pressure and 20% droop.

(2): Integral First Stage Vent size: 7/16-24 UN thread for 1/4-inch OD copper tube inverted flare fitting.
(3): "XA" option available; First Stage Vent (2) Down, Second Stage Vent opposite Gauge Taps
(4): "XA" option available; First Stage Vent (2) opposite Gauge Taps, Second Stage Vent opposite Gauge Taps
(5): "XB" option available; Vent over Gauge Taps
(6): Back mount outlet port
(7): Sentinel™ Dielectric inlet port option available

TABLE 2: 1600 SERIES SPECIFICATIONS

REGULATOR APPLICATION	PART NUMBER	CAPACITY BTU/HR PROPANE (1)	INLET CONNECTION	OUTLET CONNECTION	3/4-INCH FNPT SCREENED VENT STANDARD LOCATION	NOMINAL RELIEF VALVE START-TO-DISCHARGE	MAX OUTLET PRESSURE WITH DISC REMOVED		ORIFICE SIZE	MAX ALLOWABLE INLET PRESSURE	MAX EMERGENCY INLET PRESSURE	OUTLET PRESSURE STANDARD SETPOINT	OUTLET PRESSURE SPRING RANGE	REGULATOR COLOR
							INLET PRESSURE	MAX OUTLET PRESSURE						
Second Stage	MEGR-1622-BCF	710,000	1/2-in FNPT (9)	1/2-in FNPT	Over Inlet	1 psi (0,07 bar)	50 psig (3,4 bar)	2 psig (0,14 bar)	7/32-in (5,6 mm)	10 psig (0,69 bar)	15 psig (1,03 bar)	11-in w.c. (27 mbar)	9 to 13-in w.c. (22 to 32 mbar)	Green
	MEGR-1622-CFF (6)	1,300,000		3/4-in FNPT										
	MEGR-1622-DFF (6)		3/4-in FNPT (9)											
	MEGR-1642-DFF	900,000		3/4-in FNPT (7)										
	MEGR-1652-CFF	1,000,000	1/2-in FNPT (9)	3/4-in FNPT (8)										
	MEGR-1652-DFF		3/4-in FNPT (9)											
Integral Two-Stage	MEGR-1632-BCF (3)	700,000	1/4-in FNPT	1/2-in FNPT	First Stage (2): Down Second Stage: Over Outlet		250 psig (17,2 bar)			250 psig (17,2 bar)	250 psig (17,2 bar)	First Stage: ≈10 psi (0,69 bar) Second Stage: 11-in w.c. (27 mbar)	First Stage: non-adjustable Second Stage: 9 to 13-in w.c. (22 to 32 mbar)	Gray
	MEGR-1632-HCF (3)		FPOL											
	MEGR-1632T-HCF (4)		FPOL Tee											
	MEGR-1632-CFF (3)	950,000	1/4-in FNPT	3/4-in FNPT										
	MEGR-1632-JFF (3)(5)	900,000	FPOL											
	MEGR-1632T-JFF (4)		FPOL Tee											
2 Psi (0,14 bar) Service	MEGR-1622E-BCH	1,100,000	1/2-in FNPT (9)	1/2-in FNPT	Over Inlet	4 psi (0,28 bar)	50 psig (3,4 bar)	5 psig (0,34 bar)		10 psig (0,69 bar)	15 psig (1,03 bar)	2 psig (0,14 bar)	1.0 to 2.2 psi (0,069 to 0,15 bar)	White
	MEGR-1622E-DCH	1,400,000	3/4-in FNPT (9)	3/4-in FNPT										
	MEGR-1652E-DFH	1,300,000		3/4-in FNPT (8)										
	MEGR-1632E-BCH (3)	850,000	1/4-in FNPT	1/2-in FNPT	First Stage (2): Down Second Stage: Over Outlet		250 psig (17,2 bar)			250 psig (17,2 bar)	250 psig (17,2 bar)			
	MEGR-1632E-CFH (3)			3/4-in FNPT										
	MEGR-1632E-HCH (3)	900,000	FPOL	1/2-in FNPT										
	MEGR-1632E-JFH (3)	850,000		3/4-in FNPT										
First Stage	MEGR-1622H-BGJ	2,200,000	1/2-in FNPT	1/2-in FNPT	Over Outlet	18 psi (1,24 bar)	Not Applicable			250 psig (17,2 bar)	250 psig (17,2 bar)	10 psi (0,69 bar)	8 to 12 psi (0,55 to 0,83 bar)	Red
	MEGR-1622H-DGJ	2,500,000	3/4-in FNPT	3/4-in FNPT										
	MEGR-1622H-HGJ	2,300,000	FPOL	1/2-in FNPT										
	MEGR-1622HT-HGJ		FPOL Tee											
	MEGR-1622H-JGJ	2,750,000	FPOL	3/4-in FNPT										
	MEGR-1622HT-JGJ		FPOL Tee											
	MEGR-1622H-BGK	2,100,000	1/2-in FNPT	1/2-in FNPT								5 psi (0.34 bar)	4-6 psi (0,34 bar)	
	MEGR-1622H-HGK	2,200,000	FPOL											
	MEGR-1622H-JGK	2,650,000		3/4-in FNPT										

(1): Capacities Based on:
Second Stage: 10 psig (0,69 bar) inlet pressure with 2-inches w.c. (5 mbar) droop.
Integral Second Stage: 30 psig (2,07 bar) inlet pressure and 2-inches w.c. (5 mbar) droop.
First Stage: 30 psig (2,07 bar) inlet pressure and 20% droop.
(2): Integral First Stage Vent size: 7/16-24 UN thread for 1/4-inch OD copper tube inverted flare fitting.
(3): "XA" option available; First Stage Vent (2) Down, Second Stage Vent opposite Gauge Taps
(4): "XA" option available; First Stage Vent (2) opposite Gauge Taps, Second Stage Vent opposite Gauge Taps
(5): "XB" option available; Vent over Gauge Taps
(6): "XO" option available, Vent over outlet
(7): Side discharge outlet port
(8): Back mount outlet port
(9): Sentinel™ Dielectric inlet port option available

Tested in the U.S.A

WARRANTY INFORMATION

WARNING

Marshall Excelsior's products are mechanical devices made of materials such as rubber and metal, and are subject to wear, the effects of contaminants, corrosion, and aging, and these devices will eventually become inoperative. **Regular inspection and maintenance is essential**. Marshall Excelsior's products have a long record of quality and service, and therefore LP-Gas dealers may forget hazards that can arise from using aging devices that have outlived their safe service life. The safe service life of these products will be affected by the environment and the conditions of their use. The LP-Gas dealer knows better than anyone what this environment and the conditions of use are.

There are developing trends in state legislation and proposed national legislation making the owner of products responsible for replacing products before they outlive their safe service life. LP-Gas dealers should be aware of such legislation as it affects them.

All Marshall Excelsior products must be installed, inspected and maintained by a trained and experienced professional adhering to all installation instructions, product and safety warnings, local, state, and federal regulations, codes and standards and any other standards set by, but not limited to, NFPA, DOT or ANSI.

LP-Gas is a highly explosive and flammable gas that should never be vented near a possible ignition source.

LIMITED WARRANTY

THIS WARRANTY for Marshall Excelsior manufactured products is provided by Marshall Excelsior, Inc., 1506 George Brown Drive, Marshall, MI 49068. Marshall Excelsior, unless otherwise specified in writing, warrants to the original buyer that for a period of five (5) years from the date of manufacture its products and repair kits will be free from defects in material and workmanship under normal service and use. This warranty covers manufacturing defects only, and does not cover defects and product non-compliance due to, misuse, alteration, neglect, accident, fire, or other external causes, alterations, or repairs. This limited warranty also does not cover normal wear and tear. During this warranty period, if a defect arises in the product, and you follow the instructions for returning the product, Marshall Excelsior will, at its option, to the extent permitted by law, either (i) repair the product using either new or refurbished parts, (ii) replace the product with a new or refurbished product that is equivalent to the product that is to be replaced, or (iii) refund to you all or part of the purchase price of the product. This limited warranty applies to the extent permitted by law, to any repair, replacement part or replacement device for the remainder of the original warranty period or for ninety (90) days whichever period is longer. All replaced parts and products for which a refund is given shall become the property of Marshall Excelsior. This is the only warranty or representation made by Marshall Excelsior, and the sole basis for liability respecting quality, performance, defects, repair, delivery, and replacement of products and repair kits. The foregoing shall constitute Marshall Excelsior's sole liability.

Marshall Excelsior does not warrant any product or part that has been altered, accidentally damaged, disassembled, modified, misused, neglected, not properly maintained or installed. Marshall Excelsior does not warrant cosmetic issues including but not limited to dents, scratches, product discoloration, color fading or any other imperfection that does not affect the functionality of the product. Marshall Excelsior does not warranty any product or part not installed according to Marshall Excelsior's installation instructions or installed in violation of any regulation or warning by state, local, or federal regulators, or in violation of any standard or code set by, but not limited to, NFPA, DOT or ANSI requirements. The foregoing shall constitute Marshall Excelsior's sole liability to distributors, vendees and end users.

LIMITATIONS

TO THE EXTENT PERMITTED BY LAW, THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND REMEDIES, AND MARSHALL EXCELSIOR SPECIFICALLY DISCLAIMS ALL STATUTORY OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND AGAINST HIDDEN OR LATENT DEFECTS. IF MARSHALL EXCELSIOR CANNOT LAWFULLY DISCLAIM STATUTORY OR IMPLIED WARRANTIES, THEN TO THE EXTENT PERMITTED BY LAW, ALL SUCH WARRANTIES SHALL BE LIMITED IN DURATION TO THE DURATION OF THIS EXPRESS LIMITED WARRANTY AND TO REPAIR OR REPLACEMENT AND SERVICE.

MARSHALL EXCELSIOR IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR UNDER ANY OTHER LEGAL THEORY.

MARSHALL EXCELSIOR'S LIABILITY (EXCEPT AS TO TITLE) ARISING OUT OF THE SALE, USE OR OPERATION OF PRODUCTS OR REPAIR KITS, WHETHER ON CLAIMS FOR BREACH OF WARRANTY, CONTRACT, NEGLIGENCE OR OTHERWISE (INCLUDING CLAIMS OF CONSEQUENTIAL OR INCIDENTAL DAMAGES) SHALL NOT IN ANY EVENT EXCEED THE COST OF FURNISHING OR REPLACEMENT OF THE DEFECTIVE PRODUCT OR REPAIR KIT.

WARRANTY CLAIMS AND NOTICE

Warranty claims shall be made in writing to Marshall Excelsior's Home Office at 1506 George Brown Drive, Marshall, Michigan 49068 by the distributor, vendee or end user within twenty (20) days of discovery of the defect and the product must be postmarked and shipped F.O.B. origin to Marshall Excelsior's Home Office within thirty (30) days of the discovery of the defect. Marshall Excelsior will not accept any products or repair kits that does not have a Return Material Authorization (RMA) number from the Home Office in Marshall, Michigan. After Marshall Excelsior has inspected the product and deemed the product to be defective, at its discretion, Marshall Excelsior will repair, replace or refund the purchase price of the defective product or repair kit. If the buyer does not comply with the above stated requirements the buyer will waive unconditionally and absolutely any and all claims arising out of the alleged defect.

COMPLIANCE

Marshall Excelsior manufactures all of our products to the highest industry standards. All of our products meet or exceed the requirements of the Compressed Gas Association (CGA), the National Fire Protection Association (NFPA), American National Standards Institute (ANSI), American Society of Mechanical Engineers (ASME) or Underwriters Laboratories, Inc. (UL) where indicated.

PRODUCT CHANGES

Marshall Excelsior reserves the right to change product specifications at any time. We are constantly evaluating our products and incorporating engineering advances to ensure our products perform and comply with changes in market conditions, government mandates, and code changes. Marshall Excelsior shall not be required to modify any equipment already sold or in service.

FILTERS

Marshall Excelsior develops products to be used in a debris, dirt and contamination free system. Installing an in-line filter may be necessary in a system that contains unclean product or when the system contains debris, dirt, scale, rust or other contaminates.

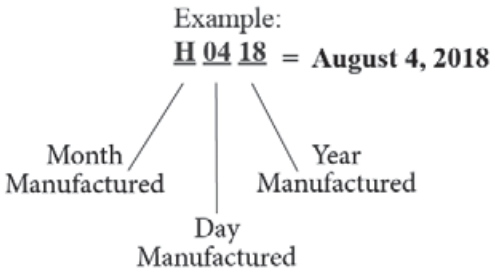
PRODUCT AGE

Marshall Excelsior products are mechanical devices that are subject to wear, contaminants, corrosion, and aging of components made of materials such as rubber and metal. Over time these devices will eventually become inoperative. The safe service life of these products will reflect the environment and conditions of use that they are subjected to. **Regular inspection and maintenance is essential**. Marshall Excelsior products have a long record of quality and service, so LP-Gas dealers may forget hazards that can arise from using aging devices that have outlived their safe service life. The length of a device's life is determined by the environment in which it is used, and the LP-Gas dealer knows better than anyone about this environment.

There are developing trends in state legislation and proposed national legislation making the owner of products responsible for replacing products before they outlive their safe service life. LP-Gas dealers should be aware of such legislation as it affects them.

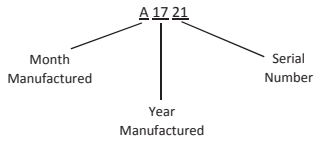
To determine the product's age, check the product for a date code consisting of a series of letters and numbers.

A = January	B = February	C = March
D = April	E = May	F = June
G = July	H = August	I = September
J = October	K = November	L = December

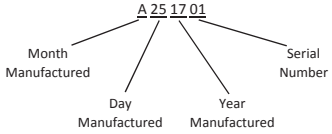


NOTE: Internal relief valves feature a different date code system.

FIR



SIR/ EXTERNAL RELIEF VALVES



MEC TEST FACILITIES

The industry's first LPG flow test laboratory. Located at our headquarters facility in Marshall, Michigan this laboratory employs state-of-the-art technology to allow our engineering group to conduct flow and product validation testing on-site utilizing liquid propane. This allows us to ensure every product we design and manufacture is validated on propane before being launched into service. We are proud to reinvest in our industry with the construction of the first test facility of its kind in the world as a continuation of our commitment to providing the industry with the best equipment designs possible.

Over the course of time Marshall Excelsior Co. has become a name that our customers can rely on not only for high-quality products and service, but as a partner in building their business. It is through this personal touch that our family-owned and -operated business has become the organization that it is today, and we look forward to becoming your partner for the future!

For more information please visit www.marshallexcelsior.com
Tel: 269.789.6700

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Bergquist