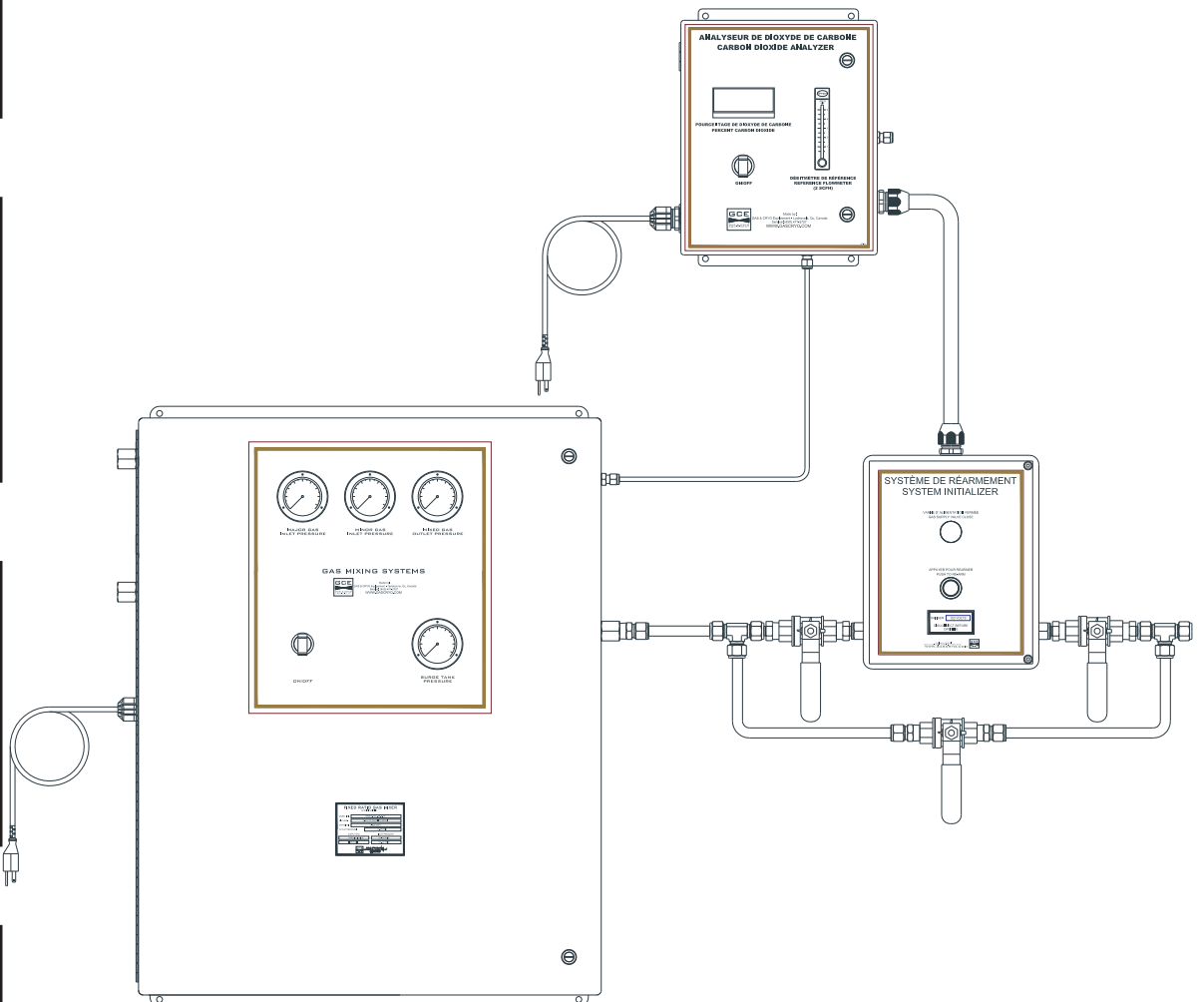


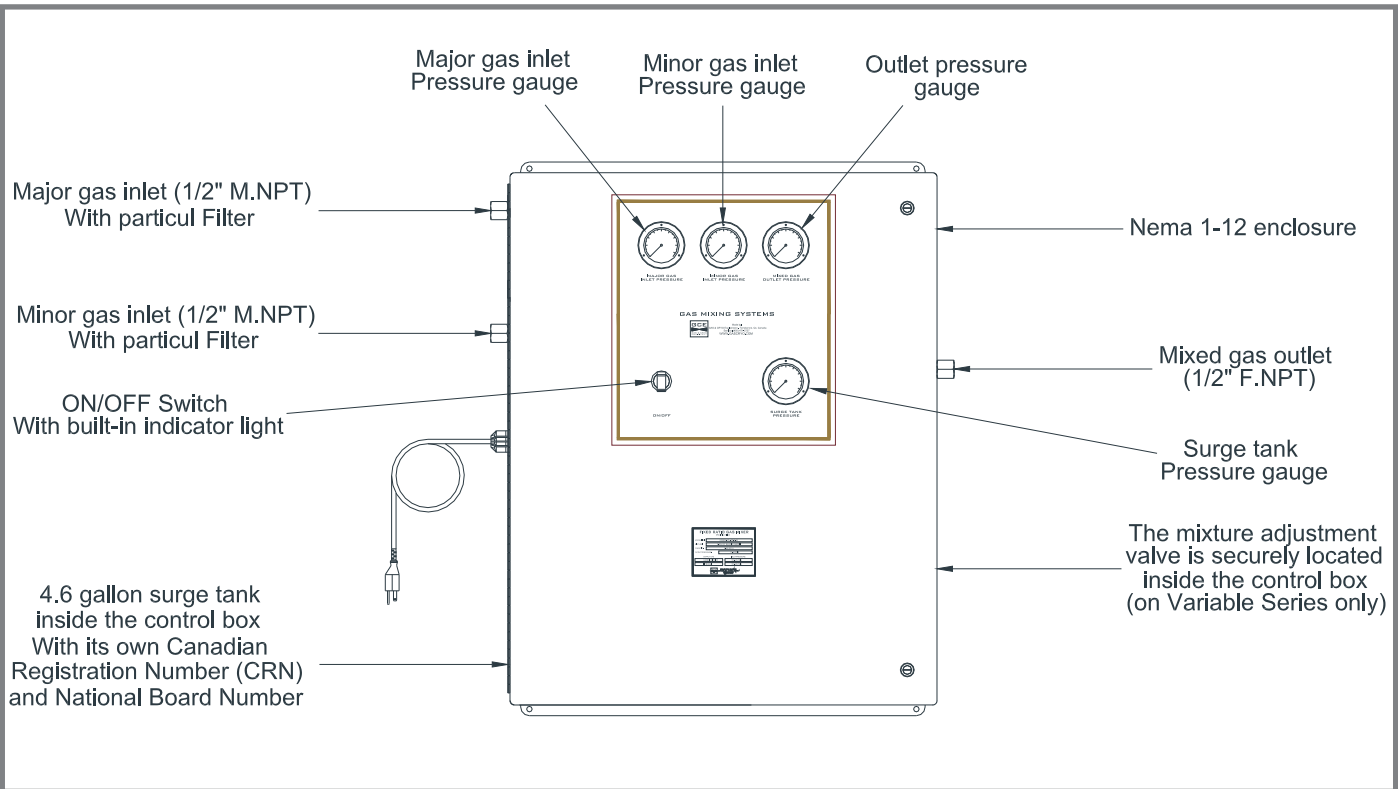
EQUIPMENT BROCHURE

*Fixed & Variable Ratio
Gas Mixing Systems*

800 scfh



*Helping our customers
to become more effective*



DESCRIPTION

The 800 Series gas mixers are commonly used for argon, carbon dioxide, helium, nitrogen and oxygen. The mixer is suitable for different applications such as welding, modified atmosphere packaging, process control and other similar applications.

Fixed ratio mixers:

The gas mixture is preset at the factory.

Variable ratio mixers:

The gas mixture can be adjusted by the end user. The mixture adjustment knob is located inside the lockable control box.

FEATURES

- Mixer is still cycling at 800 scfh (see table on back page for maximum flow rates)
- Optional remote alarm for low supply gas pressure
- Provides an economical supply of mixed gases
- Accurate mixing of two gases
- Simple and reliable construction
- Fabricated in accordance with the following standards: CGA, CSA, CRN, NFPA, ASME
- Compact design
- Require gas cylinder supply

HOW TO ORDER - PART NUMBER MATRIX

GMS800



Fixed / Variable

- F = Fixed
- V = Variable

Major gas

See gas selection table

Minor gas

Minor gas concentration set point

Option

- GA = Gas analyser
- SI = System initializer (Leave blank if none)

Gas selection table

- Argon
- Carbon dioxide
- Helium
- Nitrogen
- Oxygen

Refer to specification section for available gases and related concentrations



**FIXED & VARIABLE RATIO GAS MIXING SYSTEMS
800 SCFH - GMS800 SERIES
TECHNICAL SPECIFICATIONS**

PRINCIPLE OF OPERATION

The supply gases are individually filtered at the inlet of the mixer to remove particulates. The pressure of each gas is then regulated at the exact same pressure before entering their respective flow restrictors. The flow restrictors are adjusted to ensure the requested gas mixture. The gases are blended in a mixing tee before entering the surge tank. The tank is constantly monitored by a pressure switch which actuates the solenoid valve on & off to allow the mixture to fill the surge tank at a constant pressure and flow. The mixture pressure is controlled by a line regulator before entering into the pipeline.

MATERIALS OF CONSTRUCTIONS		FIXED vs VARIABLE	
Description		Fixed	Variable
Tank	Steel (Prime painted)	<ul style="list-style-type: none"> • Greater mixture accuracy (+/- 2% of minor gas) • Wide range of mixtures. • Prevents operators from changing mixture concentrations. 	<ul style="list-style-type: none"> • Field adjustable mixture. • For applications where mixture accuracy is not critical. • Possibility of changing mixture concentrations by operators.
Enclosure	16 gauge steel (Gray powder coating)		
Fittings	Brass (CDA 36000 & CDA 37700)		
Tubing	Copper (ASTM B280, B819) and Nylon		
Regulator	Bonnet: Nickel Plated Aluminum Seat disc: EPDM Diaphragm: Nitrile with PTFE liner Body: Forged Brass		
Filter	Body: Brass Element: Porous Sintered Bronze		

TECHNICAL SPECIFICATIONS

Description	Fixed - GMS800	Variable - GMS800
Available mixtures	0-100% CO ₂ in Argon 0-100% Oxygen in Argon 0-100% Helium in Argon 0-100% Nitrogen in Argon 0-100% CO ₂ in Nitrogen 0-100% Oxygen in Nitrogen 0-100% Helium in Nitrogen	0-35% CO ₂ in Argon 0-35% Oxygen in Argon 0-35% Helium in Argon 0-35% CO ₂ in Nitrogen Other ranges availables

For both Fixed & Variable mixers

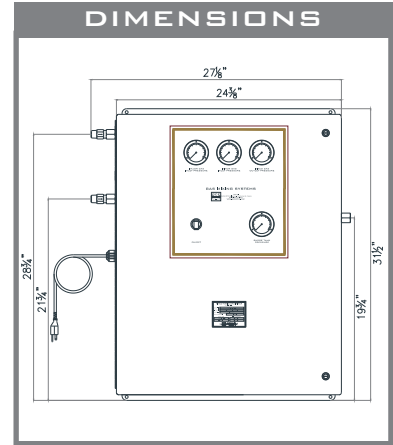
Flow capacity (still cycling)	800 scfh
Operating temperature	-28.9°C to 37.8°C (-20°F to + 100°F)
Maximum inlet pressure	250 psig
Factory set inlet pressure	125-150 psig
Maximum outlet pressure	50 psig
Size of pressure gauges	2"
Surge tank pressure relief valve	150 psig
Outlet connection	1/2" F.NPT
Inlet connections	1/2" M.NPT
Filtering element	90 micron
Tank capacity	4.6 gallons
Analyser with alarm	Optional
Power requirement	110 VAC, 50/60 Hz, 3 Amp
Mixture accuracy	+/- 2% of minor gas



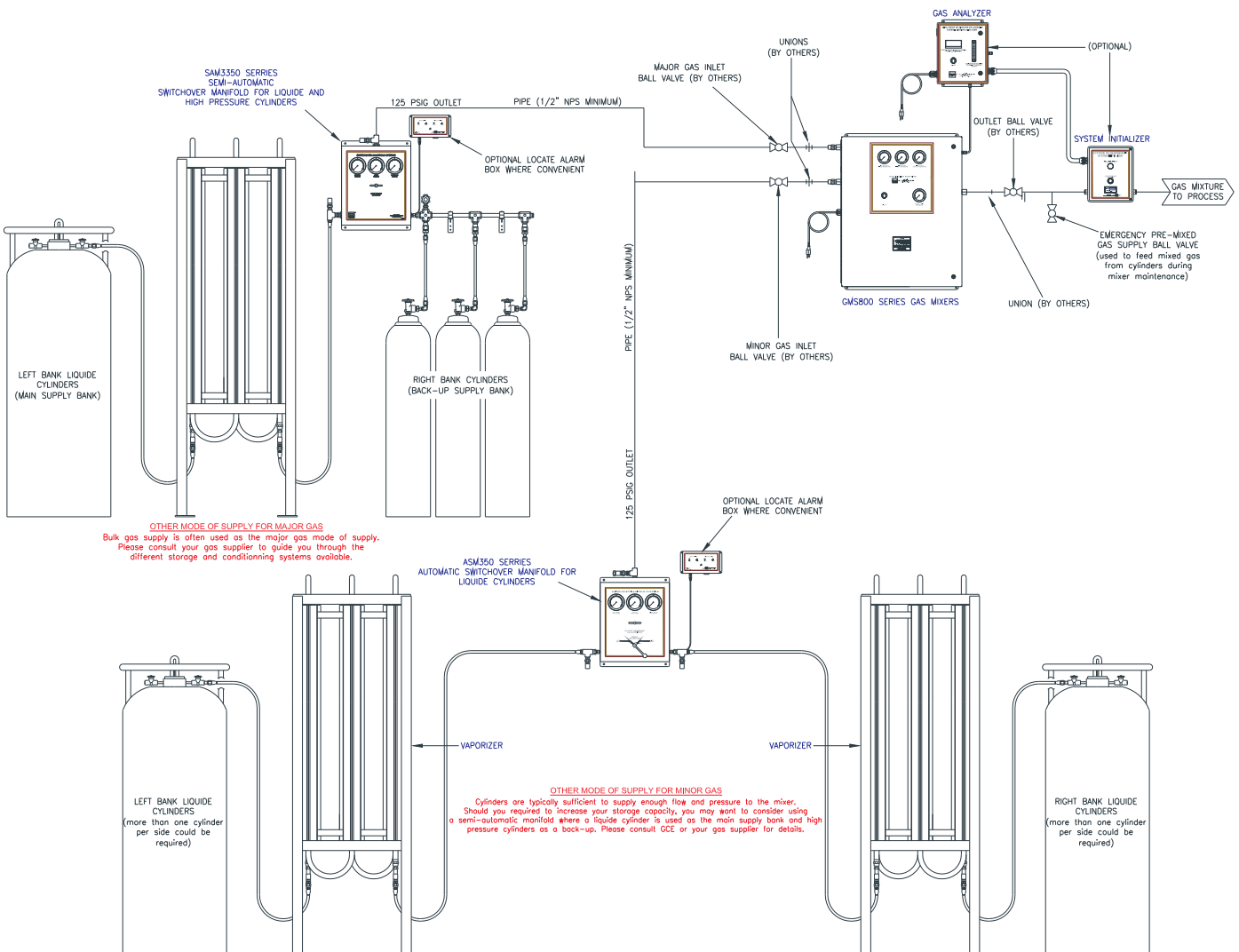
FLOW RATES

GAS MIXTURE	Flow Rates		Total Flow	No. of welders Suggested
	Argon	CO ₂		
Carbon Dioxide in Argon Mix	Argon 800 scfh	CO ₂ (25% CO ₂ bal. Argon)	1066 scfh	26
	Argon 800 scfh	CO ₂ (15% CO ₂ bal. Argon)	941 scfh	23
	Argon 800 scfh	CO ₂ (8% CO ₂ bal. Argon)	869 scfh	21
Oxygen in Argon Mix	Argon 800 scfh	O ₂ (2% O ₂ bal. Argon)	816 scfh	20
Helium in Argon Mix	Argon 800 scfh	He (10% He bal. Argon)	888 scfh	22

DIMENSIONS



TYPICAL INSTALLATION



Typical Installation GMS800 Gas Mixer