

SERIES AK M80 CROSSOVER MANIFOLD ASSURES CONTINUOUS GAS SUPPLY

- ◆ Automatically switches from one cylinder to another when the primary cylinder empties
- ◆ Allows changing of cylinders during operation
- ◆ Simple, worry free, pressure based system
- ◆ Vacuum to 3,500 psig (241 bar) inlet, 250 psig (17 bar) outlet
- ◆ Flow capacity* to 50 slpm (1.8 scfm)
- ◆ Stainless Steel or Brass construction
- ◆ Diffusion resistant 316 SS diaphragm
- ◆ Hastelloy® C-22 Internals option, 'SH' for added corrosion resistance
- ◆ Designed for ease of operation
- ◆ Cleaned for O2 service
- ◆ Mounting bracket standard
- ◆ Two inlet and one outlet gauges standard



ENGINEERING DATA

Operating Parameters

Source pressure	Vacuum to 3,500 psig (241 bar)
Delivery pressure	1 to 30 psig (0.07 to 2 bar) M80 02 10 to 100 psig (0.7 to 7 bar) M80 10 15 to 150 psig (1 to 10 bar) M80 15 25 to 250 psig (1.7 to 17 bar) M80 25
Proof pressure	4,500 psig (307 bar)
Burst pressure	10,000 psig (690 bar)

Other Parameters

Inlet /outlet ports	1/4" NPT
Flow coefficient, Cv	0.05
Operating temperature	-40 to +160F (-40 to +71C)
Leak rate	1 x 10 ⁻⁹ sccs
Delivery pressure rise	0.05 psig per 100 psig source pressure drop
Weight	9.1 lb

MATERIALS OF CONSTRUCTION

	AK M80 B
Body	brass
Poppet and diaphragm	SS 316
Seat	PCTFE**
Bonnet	SS 303

AK M80 S
SS 316
SS 316
PCTFE**
SS 303

AK M80 SH
SS 316
Hastelloy C-22
PCTFE**
SS 303

* Flow rating based upon N2 @ 200 psig inlet, varying gas type and, or inlet/outlet pressures may effect rating.

** Optional seat materials available, Vespel® and PEEK.

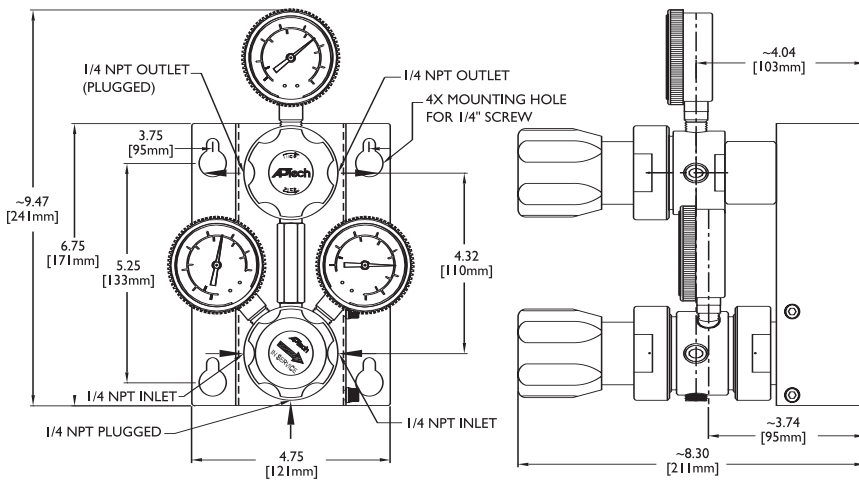
All specifications subject to change without notice.
Hastelloy C-22® Haynes
Vespel® DuPont

M80 ASSURES PEACE OF MIND THROUGH CONSTANT GAS DELIVERY

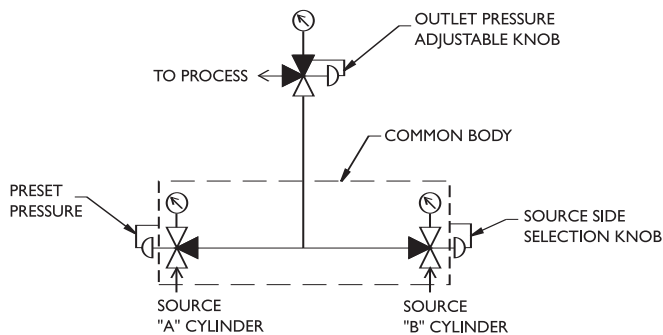
Operations Overview

The M80 crossover manifold system is comprised of three pressure regulators – two separate first stage regulators housed in a common body and a second stage regulator. The two first stage regulators are each attached to separate source cylinders. The second stage is attached to a common outlet of the two first stage regulators. One of the first stage regulators has an adjustment knob that rotates 270 degrees to enable source side selection. The other first stage is preset to an appropriate setting for the system outlet range. The source selection knob adjusts the intermediate outlet pressure to be either 15 psig above or below the preset side. An arrow on the selection knob points to the cylinder side delivering gas and away from the standby cylinder. The intermediate outlet pressure of the first stage delivery side is approximately 15 psig (1 bar) higher than the standby side. Rotating the knob to point to the standby side, changes the pressure differential such that the standby side now becomes the delivery side. The process delivery pressure outlet is adjusted with the knob of the second stage regulator.

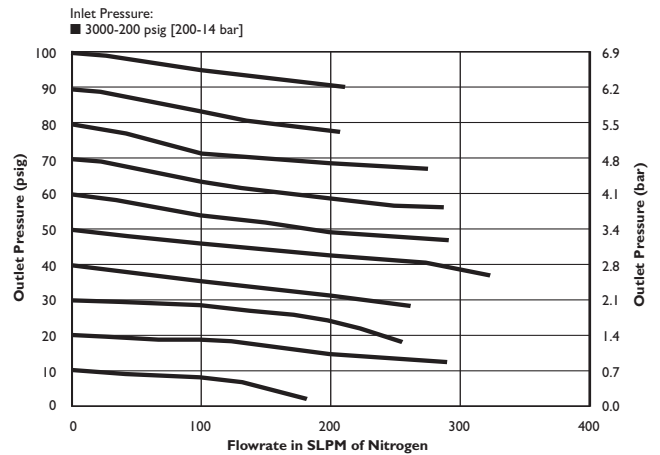
As the delivery side cylinder becomes empty and the pressure drops below the pressure of the standby side, gas begins to flow from the standby side. The source selection knob is then turned to what was the standby side and the empty cylinder may now be replaced without interrupting process flow.



All dimensions in inches (mm). Metric dimensions are for reference only.



AK M80



ORDERING INFORMATION

Series AK M80 10	S Material	40 Inlet Gauges	VS Options
AK M80 02 = 1 - 30 psig (.07 to 2 bar) AK M80 10 = 2 - 100 psig (.7 to 7 bar) AK M80 15 = 15 - 150 psig (1 to 10 bar) AK M80 25 = 25 - 250 psig (1.7 to 17 bar)	S = Stainless steel 316 (SS) SH = SS with Hastelloy internals B = Brass	4 = 0-400 psig K = 0-600 psig 10 = 0-1,000 psig 20 = 0-2,000 psig 30 = 0-3,000 psig 40 = 0-4,000 psig Outlet Gauge, will be supplied to match outlet range, do not specify in part number	PK = PEEK seat VS = Vespel seat