



BLENDERS

Deliver Accurate Turnkey Solutions

Blender

1

Supply

2

Point of
Use

3

Designing a gas blending solution with CONCOA equipment from supply to point of use guarantees precise gas blends with repeatable accuracy required for superior weld quality. With each component designed and manufactured under strict tolerances, CONCOA gas blending systems are made to ensure consistent supply and flow control at the point of use. Choosing a complete CONCOA solution with the technical support to ensure reliable performance that

exceeds customer
expectations is
as easy as 1...2...3!



655 Series Oxygen Blendmaster



650 Series
Autoblend



652 Series Blendmaster 1000

Step 1 Choose Blender

Option 1: CO₂ or He balance Ar blends



652 Series Blendmaster delivers 1,000 cfh of CO₂ or He binary blends by controlling the pressure drop across the mixing chamber.

- Inlet pressure equalization technology
 - Ensures constant pressure under fluctuating supply
- Gas piloted dual-dome technology
 - Eliminates pressure decay associated with spring loaded regulators
- Balanced-stem line regulator
 - Delivers constant pressure to the point of use

Option 2: O₂ balance Ar blends



655 Series Blendmaster delivers 850 cfh of O₂ binary blends with repeatable accuracy.

- Balanced-stem inlet regulator
 - Ensures constant pressure under fluctuating supply
- Dual metering valves
 - Allows precise blends between 0% and 10%
- Balanced-stem line regulator
 - Delivers constant pressure to the point of use

Option 3: CO₂ or He balance Ar blends



650 Series AutoBlend delivers 600 cfh of several common preset CO₂ or He binary blends precisely without the use of electricity.

- MAGNEFLOW non-electric cycling valve
 - Controls downstream pressure without the use of a pressure switch or solenoid valve
- Inlet pressure equalization technology
 - Ensures constant pressure under fluctuating supply
- Gas piloted dual-dome technology
 - Eliminates pressure decay associated with spring-loaded regulators

Gas Blending Solutions as Easy as Choosing 1...2...3

Step 1: Select the appropriate blender for the binary (two gas) mixture. If the desired shielding gas is a blend of Oxygen and Argon, use the 655 Series BlendMaster. For blends with minor components of Carbon Dioxide or Helium, select the 652 Series for flow rates up to 1000 cfh or the 650 series for preset blends with flows less than 600. To calculate the total shielding gas usage simply total the number of use points, and multiply each by the desired flow rate and duty cycle. As illustrated below, the gas supply to the blender may be delivered by bulk/microbulk tanks, liquid cylinders or high pressure cylinders.

Step 2: Select the gas source system that ensures adequate flow to the blender. The 6790 series regulator for bulk/microbulk, the 642 IntelliSwitch for liquid or the 632 for high pressure. Typically, a single liquid cylinder delivers 300-350 cfh Argon or Oxygen gas phase within the fill cycle, while a 50 or 100 lb Carbon Dioxide cylinder supplies 50-75 cfh.

Step 3: Choose the best point of use equipment for the application. The gas saver regulator-flowmeter eliminates gas surge offering a cost reduction in highly repetitive tack or stitch type weldments. The 700 series flowmeter is the proper choice for cost sensitive and accurate control applications. Flow adapters offer the lowest cost point but the least accuracy.



Application Shown:

Delivery system for an Ar/CO₂ short-arc application. A 632 Series pressure differential switchover and a 642 Series IntelliSwitch II supply CO₂ and Ar respectively to a 652 Series BlendMaster. A point of use station drop with gas saver regulator is utilized at each tack weld station.

Step 2 Choose Gas Source

Option 1: Bulk/microbulk 6790 Series Line Regulator



CONCOA's 6790 series line regulators with 1/2" F-NPT inlet and outlet connections deliver high flows enabling constant pressure from bulk or microbulk sources.

- Balanced-stem seat
 - Delivers constant pressure even with inlet pressure fluctuations
- Low cracking pressure
 - Minimizes pressure change from static to flowing conditions
- 3,000 psi maximum inlet
 - Enables installation flexibility

Option 2: Liquid 642 Series IntelliSwitch II



IntelliSwitch switchovers efficiently deliver a consistent supply of component gas from either liquid or high pressure cylinders.

- Proprietary pneumatic switching valve
 - Enables use of liquid or high pressure cylinders
- Intelligent software
 - Determines when liquid cylinder is empty in order to minimize residual return losses
- Electronic economizer
 - Prevents reserve vent loss

Option 3: High Pressure 632 Series Pressure Differential



The 632 series pressure differential switchover provides a cost effective solution for constant pressure in high flow applications. Switchover shown above configured for acetylene use.

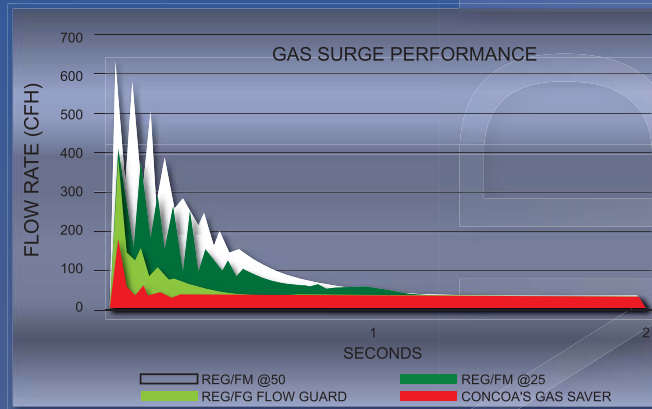
- Priority valve bank assignment
 - Simple operation
- Flexible supply mode
 - High pressure - High pressure
 - Liquid primary - High pressure reserve
- Balanced stem line regulator
 - Enables stable pressure control at high flows

Step 3 Choose Point-of-Use Equipment

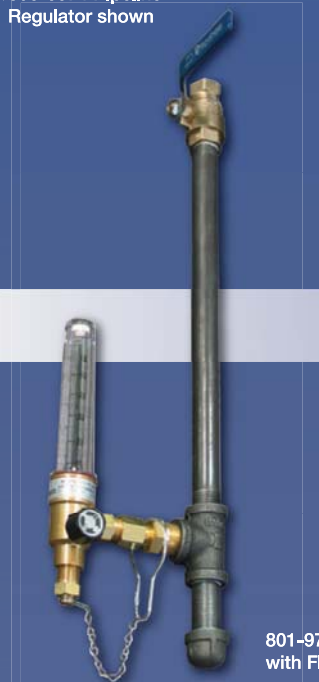
Option 1: Long Term Cost Savings

Gas Saver Regulator

CONCOA gas saver regulators reduce the shielding gas surge normally observed with pressure-compensated flowmeters. A minimum savings of 20% can be obtained in highly repetitive tack and stitch weldments. Models are available with key lockout and station drop for process integrity.



806-6574 Pipeline Regulator shown



801-9720 Station Drop with Flowmeter shown

Option 2: Precise Flow Control

Flowmeter

CONCOA station drops are available with regulator-flowmeter or just flowmeter point of use equipment. The 700 Series point of use flowmeters offer dual-scale calibration at 30 psi to ensure accurate flow. Additionally, the design incorporates a re-settable relief to provide optimum safety.

Option 3: Economical Solution

Flow Adapters

CONCOA flow adapters are designed to meter flow from a fixed pipeline pressure. Unlike the 700 Series regulator-flowmeter combination with viewable scale, the flow adapter requires a known inlet pressure to calculate flow and is subject to variations. The orifice inlet filter provides long life even in black iron pipe installations.



830-1975 Flow Adapter shown