

APPS 160

ADJUSTABLE PRESSURE PHASE SEPARATOR

The Adjustable Pressure Phase Separator (APPS 160) unit is used to lower the saturation point of liquid nitrogen, when supplied from a high pressure bulk storage tank. Liquid nitrogen saturated at a high pressure flows into the APPS 160, and exits at a much lower saturation pressure and temperature. Liquid nitrogen enters the APPS 160 unit through an automatic solenoid valve, and exits through a one-inch vacuum insulated female bayonet. A control panel maintains the liquid level in the cylinder.

An adjustable back pressure regulator is used to maintain tank pressure. During times of rapid pressure increases, such as a fill, a vent solenoid valve will open to rapidly vent the APPS 160 unit down to the desired pressure.

The APPS 160 is designed to be effective when placed directly next to the bulk tank supply. If planning to use the APPS away from the bulk tank, you must first consult a Chart engineer and have written approval of the design.



APPS-Tel digital control panel has replaced the Gen 3 analog control box

Generation 4 APPS 160

GENERATION 4 BENEFITS

- More stable digital control averages the liquid level
- More robust measurement of differential pressure
- Added safety circuit monitors muffler temperature. If liquid is sensed, a visual and audible alarm is enabled and a supervisory microprocessor shuts down the inlet valve.
- APPS-Tel Liquid Level Gauge
 - Standard on Gen 4 APPS Unit
 - Improved level accuracy
 - Telemetry option to remotely monitor tank level (low/high alarm)
 - LCD display of pressure and liquid level in English or Metric units
 - Simplified calibration
 - Internet option capable of sending email or text alert based on low/high level alarm

TECHNICAL FEATURES

- Allows low pressure liquid and high pressure gas from a single storage vessel
- More precise pressure control on liquid use
- Mini-bulk storage for under-sized vacuum insulated pipe lines
- Low cost alternative to two bulk tanks
- Two operating pressure ranges available for pressure adjustments from 10 – 85 psig
- Stainless steel plumbing



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System Specifications

Height	61 9/16"
Width	30 3/16" (20" OD cyl)
Weight (empty)	210 lbs
Capacity	160 liters / 42.27 gallons
Cryogenic Fluids *	Nitrogen
Inlet Connection	1/2" male 45° Flare
Outlet Connection	1" female MVE bayonet (MPT adapter option)
Vent Connection	1/2" female pipe thread
Max. Allowable Working Pressure	100 PSI
Operating Pressure Range Options	10-50 PSI or 40-85 PSI
Max. Inlet Pressure	235 PSI
Max. Withdrawal Rate	15 gallons per minute continuous
Steady State Noise	85-91 dB
Power Requirements	110 Volt / 60 Hz 100 watts or 220 Volt / 50 Hz Option
Applicable Codes	ASME Section 8, Division 1

* Oxygen and argon service available upon special request. Specifications subject to change at any time without notice.

FEATURES

	APPS-TEL
235 psi pressure rating	✓
Digital level readout	✓
Digital pressure readout	✓
One gauge for all APPS units	✓
One gauge for LN ₂	✓
Imperial Metric units	✓
User programmable	✓
Telemetry ready (no plumbing changes)	✓
Digital & 4-20 mA output signals	✓
NEMA 4 water and weather tight	✓
Equalization valve option	✓
Integrates with other alarm systems	✓

APPS 160 Gen 3 to Gen 4 Upgrade Kit Available

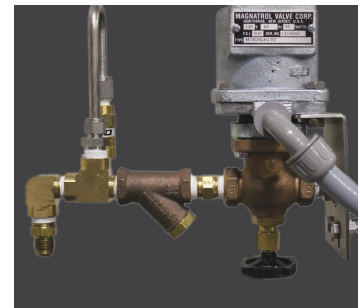
This economical kit gets you all the features of a Gen4 APPS 160 at about half the price of a new unit. The kit can either be installed in the Chart factory or in the field (field installation travel expenses will apply).



APPS-Tel Kit



Vent Kit



Fill Kit

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