

# APPS 160

## ADJUSTABLE PRESSURE PHASE SEPARATOR

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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.

### GENERATION 4 BENEFITS

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- 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



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

Generation 4 APPS 160

### TECHNICAL FEATURES

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- 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



Innovation. Experience. Performance.®

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### System Specifications

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

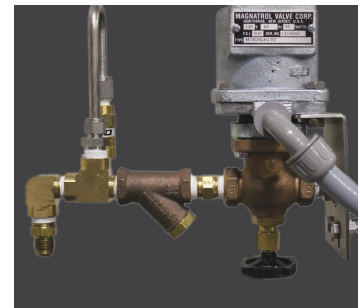
This economical kit gets you all the features of a Gen4 APPS 160 at about half the price of a new unit. The kit can either be installed in the Chart factory or in the field (field installation travel expenses will apply).



APPS-Tel Kit



Vent Kit



Fill Kit

Chart Inc.  
U.S. : 1-888-877-3093  
Worldwide: 1-952-758-4484



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