

## P3397-Helium Boosting & Decanting With Hydro Test Machine

### About

A helium boosting and decanting system is typically used in various industrial applications, particularly in the production and handling of gases, including helium including leak test of reciprocating cylinder. Here's a brief overview of its components and functions:

#### **Components**

1. **Helium Storage Tanks:** High-pressure tanks that store helium@ 150 bars.
2. **Boosting Pumps:** Designed to boost helium pressure up to **150 bar**, ensuring efficient flow throughout the system.
3. **Decanting Unit:** Separates liquid helium from gas, facilitating decanting at pressures of up to **2 bars**.
4. **Pressure Regulators:** Maintain and control the pressure of helium during transport.
5. **Control Valves:** automatic control valve is provided for the flow and direction of helium through the system.
6. **Piping and Fittings:** High-quality, corrosion-resistant materials for safe transport.

#### **Functions**

- **Boosting Pressure:** The system boosts helium pressure up to **150 bar** for various applications.
- **Decanting:** Safely decants helium, separating liquid from gas at pressures of up to **2 bar**.
- **Safety Measures:** Equipped with relief valves and emergency shut-off systems to handle high pressures safely.
- **Monitoring and Control:** Sensors and automated controls monitor pressure and flow rates.

### Technical Details

SrNo	Item description	ITEM SPECIFICATIONS
1	Ball valve	Working Pressure : 10 bar , working Media : air ,
2	Pressure Gauge	Dial size: 2.5" Pressure range: 0-16 bar Scale: Both Bar and PSI Measuring System:SS316L Movement: Stainless steel Dial: White aluminium Pointer: Black Aluminium Accuracy:1%of FS Connection: 1/2"BSP(M) back with 3 hole front flange Glycerine filling: Yes Operating Medium: Air
3	Air filter	Grid dimension 62 mm , End connection: 1 " BSP Female Working Pressure: 10 Bar Operating Medium : Air
4	Pressure Regulator	End connection: 1"Bsp Female Regulating range: 0- 10 Bar Working Pressure: 10 Bar Operating Medium: Air
5	Pressure Transmitter	Size : 1/2" BSPM, Range: 0-16 Bar, Output Rating : 4-20 mAmp, Accuracy : 0.25% Of FS, Body & Wetted Parts : SS316; Medium Temp. : (-)30 To (+) 100 Deg. C, 2 Wire;Power Supply : 14- 30V DC
6	Ball valve	Working Pressure : 10 bar , working Media : air , line size : 1/2 inch
7	Solenoid valve	1. working pressure : 10 bar , 3/2 way solenoid operated valve , with silencer & magnetic coil 2. solenoid coil with standard plug : 4527
8	Safety Relief valve	MOC : Brass , Set Pressure : 2 - 10 bar , Working Media : Air

9	Check Valves	<p>Body Material: Stainless Steel 316</p> <p>Connection Type: Let-Lok® Tube Fitting</p> <p>Connection Size: 1"</p> <p>Max Pressure: 150 psi (10 bar)</p> <p>CV: 0.47</p>
10	5 Liters Storage	<p>Material : SS , Working Pressure : 16 Bar , Pneumatic connection : 1" BSPF , Material of air reservoir : High alloy steel, non-corrosive</p>
11	SOV Valve manifold assembly	<p>(i) Manifold <span style="float: right;">Model no - VABML1-L4S-G14-6</span>  specification - 1/4 " end connection, Max. Working Pressure 10 bar, NO type, air/spring type , for six valve , QTY - 1</p> <p>(ii) Solenoid valve <span style="float: right;">Model No - VUVGLK14M52-AT-G18-1H2LS</span>  Specification - 5/2 way ,monostable ,valve size -14mm ,pneumatic port -G 1/8 , operating voltage -0-24 V DC , operating pressure -2.5 -7 bar , QTY - 6</p> <p>(iii) Plug Socket  Specification - Model no - NEBV-H1G2-P2.5N-LE2</p> <p>(iv) Seal <span style="float: right;">Model no - VABD-L1-14XKS-G18-S , QTY -6</span>  model no - QS-1/8-6 , QTY -12</p> <p>(V) Push fitting  (VI) Silencer  Model no - AMTE-M-LH-G14 , QTY -2</p> <p>(VII) Plug - Model no - NPQH-BK-G14-P10 , QTY -3</p>
12	Filter	<p>Micron rating : 2 Micron ,Body Material: Stainless Steel 316</p> <p>Connection Type: Let-Lok® Tube Fitting</p> <p>Connection Size: 1/4"</p>

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## Fluid Systems

	Pressure Gauge	Dial size: 4" Pressure range: 0-160Bar Scale: Both Bar and PSI Measuring system:SS316L Movement: Stainless steel Dial: White Aluminium Pointer: Black Aluminium Accuracy:1%of FS Connection: 1/2"BSP(M) back with 3 hole front flange/panel mount Glycerin filling: Yes Operating Medium: Helium
	Pressure Transmitter	Size : 1/2" BSPM, Range: 0-160 Bar, Output Rating : 4-20 mAmp, Accuracy : 0.25% Of FS, Body & Wetted Parts : SS316; Medium Temp. : (-)30 To (+) 100 Deg. C, 2 Wire;Power Supply : 14- 30V DC
	Pneumatic Actuated Ball Valve High Pressure	Connection: 1/4" tube OD Working Pressure: 6000 PSI Operating Medium: Air, working media : He
	Low Pressure Gas Booster	Ratio: 7:1 Min GAS supply pressure: 25 psi Max GAS supply pressure: 2500 psi Max rated GAS outlet pressure: 2500 psi Static outlet stall pressure formula: $7 P_a + P_s$ ( $P_a$ = air drive pressure, $P_s$ = GAS supply pressure) Min AIR drive pressure: 20 psi Max AIR drive pressure: 150 psi

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## Application

- **Cryogenics:** Cooling superconducting magnets in MRI machines and particle accelerators.
- **Welding:** Used as a shielding gas in welding processes.
- **Research:** Crucial for various scientific applications, including laboratories and space exploration.

## **Key Features**

- Helium Storage & Boosting System
- Decanting System
- Pressure Regulation & Monitoring
- Valves & Flow Control
- Filtration & Safety Components
- Structural & Material Specifications
- Automation & Electrical Components