Automated or Manual Changeover System

Dewar Changeover®

Pre-engineered, valve manifold station, easily expandable when the LGC demand increases. Vacuum insulated with lowest heat leak and lower liquid nitrogen losses compared to traditional foam insulated LGC manifold station. Also, its highest safety feature prevents operator from cold burns.

All Dewar Changeover System come with CSM renowned customer service, from conceptual design to implementation, and are backed by a one year warranty

How it Works

Uninterrupted liquid nitrogen supply with LGC is achievable with a dewar changeover system. The station consist of two sides, one active supply and one standby. When the active supply is depleted, the operator only need to manually switch over the supply to the standby tank. Automatic changeovers are available as option for unattended operation.

This dewar changeover system comes with necessary instruments to monitor liquid nitrogen pressure and level in the cylinder. This allows operator to verify the liquid nitrogen volume to avoid premature changeout and wastage.

CSM dewar changeover system is fully vacuum insulated, guarantees extremely low heat leak compared to foam-insulated station – at least 20 times reduction in liquid boil-off. This ensures consistent liquid supply quality to point-of-use. Lower boil-off translates to savings in LN2 consumption, equivalent to at least 6 months period of equipment capital payback.

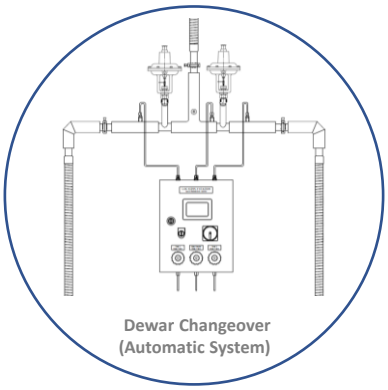
Typical Applications

- Liquid withdrawal applications using LGC, especially uninterrupted liquid supply is paramount to production need
- Suitable for of LIN, LAR or LOX

Features and Benefits

- Minimal liquid supply downtime for higher productivity
- Available in 1x1, 2x2, 4x4 liquid cylinder configurations
- Frost-free and condensation free operation with vacuum insulation system.
- Prevent premature liquid cylinder changeouts through proper monitoring
- Compact size enables ease of installation in limited spaces

Related Products:



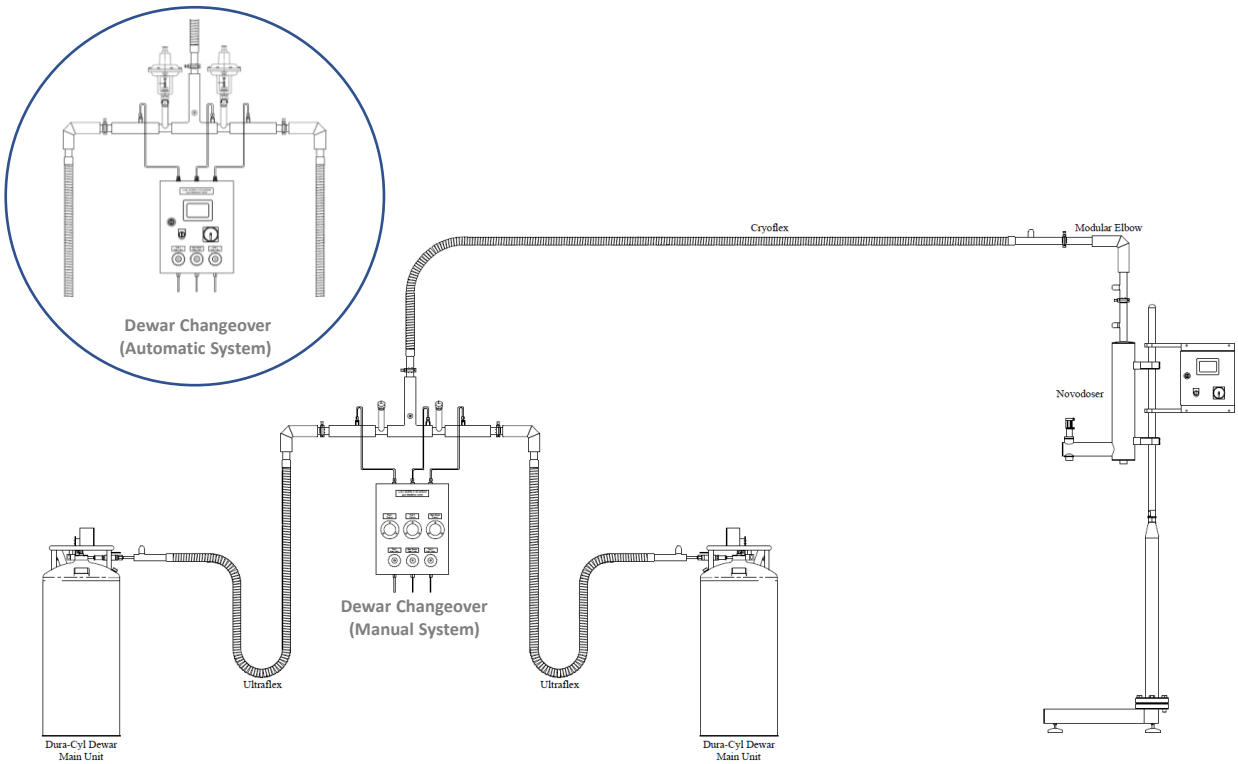
Dewar Changeover (Automatic System)

CSM CRYOGENIC
SPECIALTY MANUFACTURING
QUALITY WITH A DIFFERENCE

Dewar Changeover System® Specifications

Model	DC5	DC10
Inner Diameter	0.75" ODT (19.05 mm OD)	1.125" ODT (29 mm OD)
Outer Diameter	1.5" IPS (48.3 mm OD)	2.0" IPS (60.3 mm OD)
Steady State Heat Loss	1 btu/hr/ft (.96 watts/m)	2 btu/hr/ft (1.9 watts/m)
Bayonet Heat Loss	6.5 btu/hour (1.9 watts)	12 btu/hour (3.5 watts)
VJ Valve Heat Loss @20 K	2.4 btu/hour (0.7 watts)	4.5 btu/hour (1.4 watts)
Vacuum Insulation Type	Static Vacuum with MLI, Absorbent and Getters	
Maximum Operating Pressure	150 psig (10 bar)	
Material Construction	Stainless Steel Series 300	
Changeover Control Type	Manual or Automatic	
Monitoring System	Analog Gauge (Manual System) or Alarm Switch (Automatic System)	
Standard Testing	Dimensional Check He leak checked 1 x 1 0 - 9 cc/s	
Optional	Pneumatic pressure test, Vacuum retention testing, LN2 cold shock, pre-material certs., X-ray, ASME B31.3 certification, CFOS cleaning for O2 services	

Typical Dewar Changeover System® for LN2 Supply



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