



## High Purity Nitrogen (HPN<sub>2</sub>) Pressure Control and Filtration Skid

**Application:** Pressure regulation and particle capture between large facility purifiers and semiconductor fab distribution.

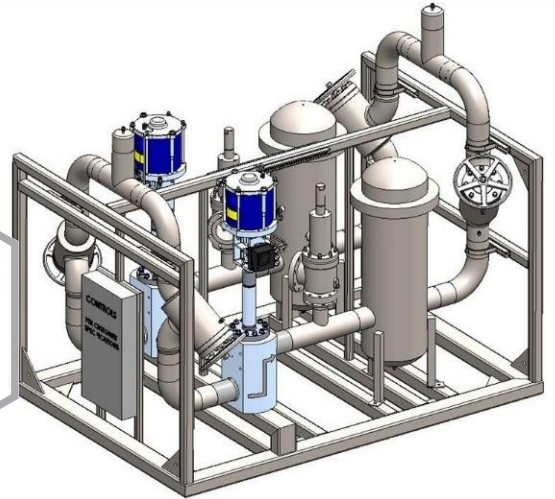
DFS Bulk Gas Equipment is delivered as a complete factory-tested packaged system. Compact design minimizes gas pad or purifier room space required, while preserving ergonomic operation and maintenance access. Pre-engineered options practically eliminate design time, minimize lead-times, and reduce installation cost and schedule. Systems are configurable to customer's needs from field-proven base designs.

### Standard Features

- ▶ Redundant flow path
- ▶ All-welded stainless skid frame
- ▶ I&C junction box
- ▶ Globe control valve, pneumatic actuation
- ▶ High purity filters, EP stainless housing
- ▶ Pressure transmitter

### Quality Assurance

- ▶ Designed, manufactured, and tested under our ISO9001:2015 certified quality management system, in accordance with ASME B31:3 Chap X
- ▶ Welded under high purity Argon purge, by AWS certified welders in a ISO-6 clean room
- ▶ 100% weld examination by ASNT-IIIs
- ▶ Pneumatic testing to 110% of MAWP
- ▶ Helium leak checked to 10<sup>-9</sup> atm.cc/s
- ▶ Particle testing optional
- ▶ Connections capped, shipped under dry N<sub>2</sub> positive pressure



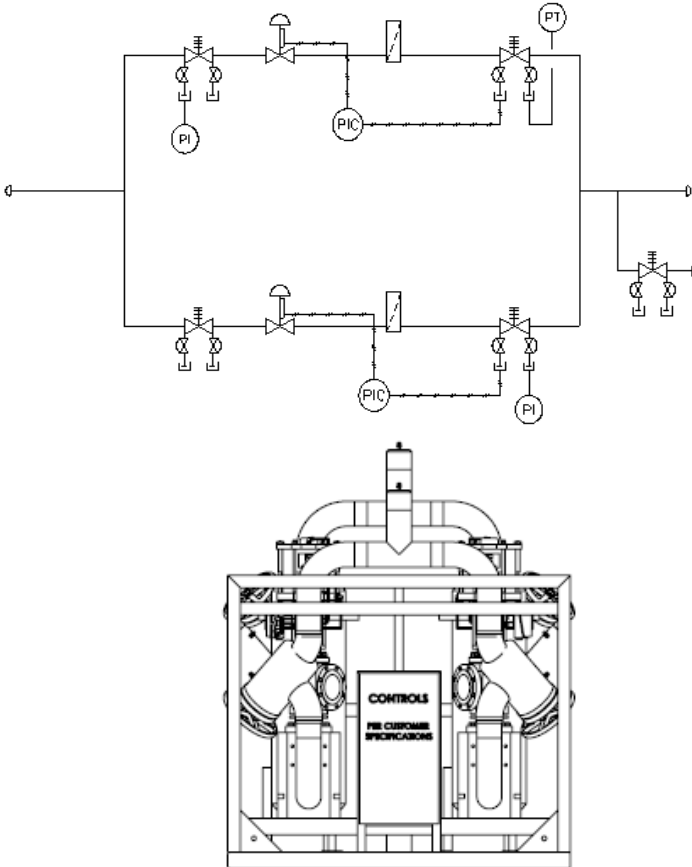
### Configurable Options

- ▶ Indoor or outdoor installation
- ▶ Customer preferred control strategy
- ▶ Valve positioning: pneumatic &/or electronic
- ▶ On-skid instrument N<sub>2</sub> distribution
- ▶ Choice of bellows-sealed isolation valves
- ▶ Choice of filter element types and housings
- ▶ Over-pressure protection for filters
- ▶ Blow-down/commissioning valves
- ▶ Future tie-in valves
- ▶ Analytical connection points
- ▶ Customer-specific material and component specification compliance
- ▶ Optionally EU Pressure Equipment Directive (2014/68/EU) compliant, CE marked

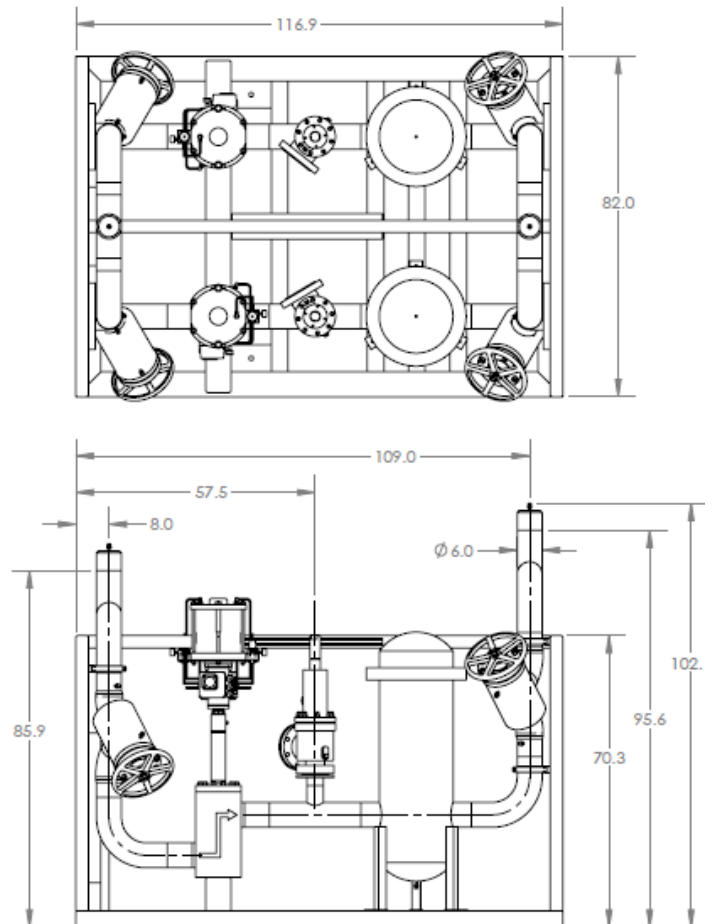


# DFS AcvFLO™ BULK GAS EQUIPMENT

Example Process Flow Diagram



Example Skid Dimensions



## Technical Specifications

Nominal Size	4-inch	6-inch	8-inch
Max Flow*: NM <sup>3</sup> /hr (SCFM)	6,400 (4,000)	14,400 (9,000)	22,500 (14,000)
MAWP psig	250	250	250
Process Lines	ASTM A269 316SS tube	ASTM A269 316SS tube	ASTM A312 316SS S10 pipe
Wetted Surface Finish	Electro-polished Ave. 15 Ra, < 20 Ra max	Electro-polished Ave. 15 Ra, < 20 Ra max	EP Ave. 20 Ra, < 25 Ra max
Filtration	PTFE High flow media, Removal rating > 3nm		
Isolation Valves	Bar-stock or forged 316 SS, Bellows sealed, <15 Ra		

\*Inlet/outlet pressures 130/115 psig  
 Flow limitation: Filter pressure drop <5 psid

