

## NGV Fueling Station Dryers

FSD-A, FSD-T, FSD-M AND MRS SERIES CATALOG





About SPX FLOW, Inc.: Based in Charlotte, North Carolina, SPX FLOW is a leading global supplier of highly engineered flow components, process equipment and turn-key systems, along with the related aftermarket parts and services, into the food and beverage, power and energy and industrial end markets. SPX FLOW has more than \$2 billion in annual revenues and approximately 8,000 employees with operations in over 35 countries and sales in over 150 countries around the world. To learn more about SPX FLOW, please visit our website at [www.spxflow.com](http://www.spxflow.com).

Since 1946, the world has turned to Pneumatic Products, a brand of SPX FLOW for the quality and service demanded by the most critical of applications. Global leaders of industry require durable components that deliver unquestionable reliability. Our precision engineered components and designs deliver outstanding service life and operational longevity. Invest in our experience and gain annuities that will grow for years.

# SPX FLOW Compressed Natural Gas Solutions

## FROM GROUND TO USE

Transporting natural gas from the wellhead to the final customer involves several physical transfers of custody. Throughout the entire process, Pneumatic Products dehydration and filtration products play a critical role in efficiently delivering the natural gas to point of use.

Natural gas utilization as a vehicular fuel is increasing globally at a rapid rate. Abundance in supply, lower price as compared to conventional fuels and less CO<sub>2</sub> emissions make natural gas the fuel of today and tomorrow. SPX FLOW provides dehydration and filtration technologies, to ensure compressed natural gas is properly treated at the fueling station.

The FSD series of compressed natural gas dryers removes water vapor, protecting critical downstream components, including gas compressors, storage vessels, distribution lines and dispensing equipment. High performance particle and coalescing filters remove submicron contaminants, further conditioning the natural gas for efficient use.

Through is Pneumatic Products brand SPX FLOW product line portfolio includes a wide array of compressed natural gas dryers and filters to efficiently remove water vapor and submicron contamination from compressed natural gas. There are three application-specific CNG dryers to choose from...for low, medium to high volume use.



# Single Tower Drying

## FSD-A SERIES

FSD-A Series dryers are designed to efficiently remove water vapor and extraneous contaminants from Compressed Natural Gas.

FSD-A Series dryers include a stationary regeneration package for convenience, eliminating rental costs and scheduling delays for third party regeneration.

**Standard Capacity Range:** 10 to 5000 scfm

(Other flows - consult factory)

**Min. Inlet Pressure:** 5 psig

**Max. Operating Pressure:** 180 psig

(Other operating pressures - consult factory)

**Inlet Temp. Range:** 40 to 100°F (4 - 38°C)

**Electricals:** 460 or 575V, 3Ph, 50 or 60Hz



## APPLICATIONS

The FSD-A Series dryers are an economical alternative to twin tower drying systems in CNG vehicular fueling stations. Coalescing and particulate filters are included for scale, liquid aerosol and desiccant fine removal, further enhancing drying performance and gas quality. Specifically engineered for NGV fleet refueling applications with low to medium flow.

## FEATURES & BENEFITS

- Certified Quality Assurance - ASME Section VIII designed pressure vessels and piping designed per ASME B31.3
- Dryer isolation during regeneration cycle - three-valve block and bypass piping
- Optimized footprint provides ease of service
- Superior Corrosion Resistance - stainless steel diffusers
- Downflow Drying - eliminates fluidization to extend desiccant life
- AMLOC® Energy Management - fast, accurate in bed moisture sensing, no calibration, lifetime probe warranty
- Energy Savings & Complete Diagnostics - microprocessor based
- Safe, Reliable & Dependable Operation -
  - Electrical Enclosures UL listed for Class 1, Division 2, Group D classifications (Optional Class 1, Division 1)
  - Heater Element and Over-Temperature Shutdowns
  - Blower and Heater Interlocks
- Air-cooled heat exchanger with TEFC fan motor, non-sparking fan blades, fan cycling control
- Heavy-Duty blower ensures reliable operation
- Incoloy sheathed, low watt density heater and insulated heater housing, dual set point temperature controller for monitoring and over-temperature protection
- Moisture separator and condensate collection vessel



## Product Specifications

### FSD-A SERIES

MODEL	CAPACITY (MMSCF @ 7lbs H <sub>2</sub> O/MMSCF INLET MOISTURE)		MAX FLOW RATE (SCFM)		CONNECTION	DIMENSIONS					
	30 PSIG	100 PSIG	30 PSIG	100 PSIG	SIZE	H <sup>2</sup>		W		D	
					INCHES <sup>1</sup>	IN	MM	IN	MM	IN	MM
<b>FSD-A-6-2</b>	6	6.8	308	792	2 FLG	97	2463	90	2286	68	1727
<b>FSD-A-10-2</b>	10	11	353	905	2 FLG	97	2464	92	2337	62	1575
<b>FSD-A-10-3</b>	10	11	854	1,550	3 FLG	97	2464	92	2337	62	1575
<b>FSD-A-15-3</b>	15	16.8	854	1,700	3 FLG	98	2490	102	2592	70	1778
<b>FSD-A-15-4</b>	15	16.8	1,138	2,350	4 FLG	98	2490	102	2592	70	1778
<b>FSD-A-21-3</b>	21	23.5	854	1,800	3 FLG	100	2540	110	2794	77	1956
<b>FSD-A-21-4</b>	21	23.5	1,423	2,850	4 FLG	100	2540	110	2794	77	1956
<b>FSD-A-21-6</b>	21	23.5	2,277	4,300	6 FLG	100	2540	110	2794	77	1956

<sup>1</sup>ANSI Raised Face Flange

<sup>2</sup>Does not include the relief vent stack

# Twin Tower Drying

## FSD-T SERIES

FSD-T Series twin tower purification systems are completely self-contained, fully automatic, heat-reactivated, closed-loop blower purge desiccant dryers designed to remove water vapor from natural gas. Using molecular sieve as the drying media, these systems will continuously dry CNG down to an outlet moisture content of 0.5 lbs/MMscf, or lower.

**Capacity Range:** 200 to 10,000 scfm

**Min. Inlet Pressure:** 5 psig

**Max. Operating Pressure:** 180 psig

(Other pressures - consult factory)

**Inlet Temp. Range:** 40 to 100°F (4 - 38°C)

**Electricals:** 460 or 575V, 3Ph, 50 or 60Hz

## APPLICATIONS

Specifically engineered for large flow (>200 scfm) heavy-duty NGV fleet refueling applications, FSD-T Series Twin Tower systems provide dry CNG 24 hours a day.

## FEATURES & BENEFITS

- Certified Quality Assurance - ASME Section VIII designed pressure vessels and piping designed per ASME B31.3
- Three-valve block and bypass piping for dryer isolation
- Ease of Service & Superior Corrosion Resistance - Removable stainless steel diffusers
- Downflow Drying - eliminates fluidization to extend desiccant life
- No Gas Lost to Purge - closed loop convection regeneration
- AMLOC® Energy Management - fast, accurate in bed moisture sensing, no calibration, lifetime probe warranty
- Energy Savings & Complete Diagnostics - microprocessor based
- Safe, Reliable & Dependable Operation -
  - Electrical Enclosures UL listed for Class 1, Division 2, Group D classifications (Optional Class 1, Division 1)
  - Heater Element and Over-Temperature Shutdowns
  - Blower and Heater Interlocks
- Air-cooled heat exchanger with TEFC fan motor, non-sparking fan blades, fan cycling control
- Complete Purification System - Factory mounted and piped coalescing 0.0014 ppmw oil & aerosol removal prefilter and 0.9m absolute particulate removal afterfilter
- Moisture separator and condensate collection vessel
- Heavy-Duty blower ensures reliable operation
- Incoloy sheathed, low watt density heater and insulated heater housing, dual set point temperature controller for monitoring and over-temperature protection





## Product Specifications

### FSD-T SERIES

MODEL	INLET CAPACITY @ 100 PSIG 70°F		INLET /OUTLET CONNECTIONS	DIMENSIONS					
	SCFM	NM <sup>3</sup> /H		H		W		D	
				IN	MM	IN	MM	IN	MM
<b>FSD-T340</b>	340	577	2.5 FLG	108	2743	66	1676	90	2286
<b>FSD-T540</b>	540	917	2 FLG	108	2743	66	1676	90	2286
<b>FSD-T770</b>	770	1308	2 FLG	114	2895	75	1905	96	2438
<b>FSD-T1210</b>	1210	2055	2 FLG	132	3353	72	1829	86	2184
<b>FSD-T1900</b>	1900	3228	3 FLG	130	3300	90	2286	102	2590
<b>FSD-T2770</b>	2770	4706	3 FLG	144	3658	96	2438	120	3048
<b>FSD-T4460</b>	4460	7577	4 FLG	150	3810	115	2921	170	4318
<b>FSD-T6410</b>	6410	10900	6 FLG	160	4064	130	3300	180	4572
<b>FSD-T8000</b>	8000	13600	6 FLG	180	4572	130	3300	198	5029
<b>FSD-T10000</b>	10000	17000	8 FLG	183	4648	154	3911	198	5029

<sup>1</sup>ANSI Raised Face Flange



## Single Tower Drying

### FSD-M SERIES

FSD-M Series dryers are designed to efficiently remove water vapor and extraneous contaminants from Compressed Natural Gas.

**Capacity Range:** 200 to 2450 scfm

(Other flows - consult factory)

**Min. Inlet Pressure:** 5 psig

**Max. Operating Pressure:** 180 psig

(Other operating pressures - consult factory)

### APPLICATIONS

FSD-M Series dryers are an economical alternative to a drying system with an on-board regeneration package. These dryers are suggested for use on CNG vehicular fueling stations which see intermittent or low gas flow rates. Coalescing and particulate filters are included for particulate, scale, liquid aerosol and desiccant fine removal, further enhancing drying performance and gas quality.

### FEATURES & BENEFITS

- Certified Quality Assurance - ASME Section VIII designed pressure vessels and piping, designed per ASME B31.3
- Dryer Isolation During Regeneration - three-valve block and bypass piping
- Ease of Service & Superior Corrosion Resistance - stainless steel diffusers
- Downflow Drying - eliminates fluidization to extend desiccant life
- Three Valve Block and Bypass Piping

### OPTIONAL EQUIPMENT

- AMLOC® Bed Monitoring System
- Cold Weather Package
- Mobile Regeneration Package



### Optional AMLOC Bed Monitoring System

- In bed moisture sensing provides advanced notification of regeneration requirements prior to dewpoint degradation provides advanced notification of regeneration requirements
- AMLOC® Probe proven in over 25,000 installations.
- Lifetime Warranty. No calibration required.
- Locally mounted bed condition indicating lights or integration into station PLC/DCS for remote monitoring





## Product Specifications

### FSD-M SERIES

MODEL	CAPACITY (MMSCF @ 7lbs H <sub>2</sub> O/MMSCF INLET MOISTURE)		MAX FLOW RATE  (SCFM)		CONNECTION  SIZE  INCHES <sup>1</sup>	DIMENSIONS					
	30 PSIG	100 PSIG	30 PSIG	100 PSIG		H <sup>2</sup>		W		D	
					IN	MM	IN	MM	IN	MM	
<b>FSD-M-6-2</b>	6	6.8	308	792	2 FLG	99	2215	74	1880	40	1016
<b>FSD-M-10-2</b>	10	11	353	905	2 FLG	96	2439	75	1905	40	1016
<b>FSD-M-10-3</b>	10	11	854	1,550	3 FLG	96	2439	92	2337	40	1016
<b>FSD-M-15-3</b>	15	16.8	854	1,700	3 FLG	94	2388	100	2540	43	1093
<b>FSD-M-15-4</b>	15	16.8	1,138	2,350	4 FLG	94	2388	100	2540	43	1093
<b>FSD-M-21-3</b>	21	23.5	854	1,800	3 FLG	98	2490	104	2642	49	1245
<b>FSD-M-21-4</b>	21	23.5	1,423	2,850	4 FLG	98	2490	104	2642	49	1245
<b>FSD-M-216</b>	21	23.5	2,277	4,300	6 FLG	98	2490	116	2947	49	1245

<sup>1</sup>ANSI Raised Face Flange

<sup>2</sup>Does not include the relief vent stack

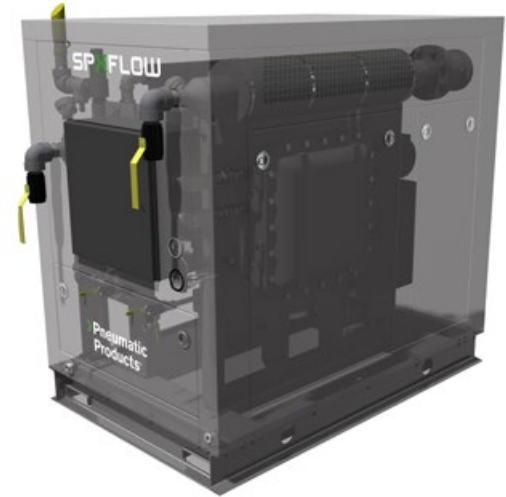
# Mobile Field Regeneration of Adsorbers

## MRS SERIES

The Mobile Regeneration System (MRS) is used to regenerate the FSD-M Series tower once the drying capacity has been exhausted.

### FEATURES & BENEFITS

- Adsorbent media can be regenerated numerous times (5 year minimum life with proper maintenance)
- Minimizes disposal of potentially hazardous solid waste
- Guarantees restoration of throughput capacity and dew point performance capability
- Closed loop convection heating of desiccant via nitrogen gas circulation
- Removal of desorbed moisture via an air cooled condenser, separator and trap
- Closed loop convection cooling of desiccant to eliminate risk of heat and dew point bumps during initial phase of drying
- Optional Weatherproof Enclosure
- Designed for optional truck or trailer mounting



### REGENERATION SKID COMPONENTS

MODEL	CONNECTIONS		WEIGHT LBS	DIMENSIONS					
	INCHES			H		W		D	
	FPT			IN	MM	IN	MM	IN	MM
<b>MRS17</b>	1.5		1650	62	1575	43	1092	65	1651

**Cooler:** Fin & tube air-cooled cooler with TEFC fan motor, non-sparking fan blades, fan cycling control and coalescing moisture separator

**Blower:** Gas tight, heavy duty, positive displacement rotary lobe blower, direct drive with TEFC motor

**Heater:** Incoloy sheathed low watt density heater with insulated heater housing, dual set point temp indicating controller to monitor heater temperature & provide over-temp protection

### EQUIPMENT

- Two 20' long high temp insulated flexible gas hoses with quick disconnects
- One 20' long power cable with IEC pin and sleeve connectors

### CONTROL & PROTECTION:

- The regeneration skid is equipped w/controls to automatically heat and cool the adsorber. The unit will continuously monitor all important parameters, sense operational difficulties and shut down automatically before damage can occur.

### OPTIONAL EQUIPMENT:

- Dual voltage
- Cold Weather Package

# Maintain Dryer Performance with SPX FLOW Genuine Parts

**SPX FLOW Performance Support Team** – Assuring the continued performance, reliability and safety engineered into every Pneumatic Products compressed natural gas drying system.

SPX FLOW support doesn't stop with the sale of the equipment or the equipment warranty. A global team of aftermarket specialists, field support technicians and factory trained local service are working to assure that the reliability and performance engineered into every Pneumatic Products compressed natural gas drying system is maintained for the life of the equipment.

A dedicated Aftermarket Fulfillment Center (AFC) stocks genuine SPX FLOW replacement parts and performance service kits to further assure that you experience the quality and performance of your dryer for years to come.

We look forward to offering your team "an ownership experience" that only SPX FLOW can provide.



Dryer Manufacturing Facility, Ocala, FL



Aftermarket Fulfillment Center, Ocala, FL



Genuine SPX FLOW Replacement Parts & Performance Service Kits



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