

# Air Dryers for Gas Production Companies to Eliminate Digital Controller Valve Failures at Central Delivery Points

Market Application Publication



## Background:

Oil & Gas Exploration and Production companies have multiple locations utilizing compressed air for Valve and Analyzer applications that are exposed to outdoor winter elements. These locations are called Central Delivery Points (CDP) and act as a site to separate out the water and condensate from the natural gas coming from the wells. Compressed air is used to operate gas flow valves and instrumentation at the CDP's.



## Contact Information:

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## Features and benefits:

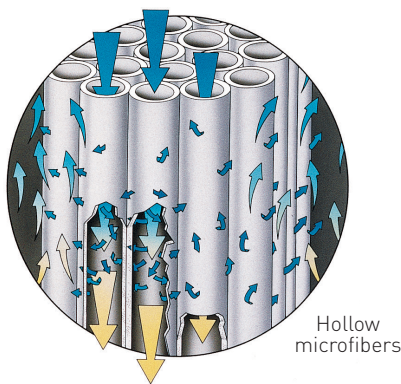
- Assures Instrument Grade Air
- Unattended 24 hour operation
- Compact
- Dewpoints as low as -40°F (-40°C)
- Quiet Operation
- Explosion proof - Class 1, Div. 2
- No desiccant to change
- Easy to install and operate
- Requires no electricity
- Low operating costs

# Application:

At an Encana Natural Gas CDP in Colorado, temperatures were dropping to -10°F/-23°C in the evenings. This was causing problems with their compressed air system. Their current system was composed of a small compressed air line offering 20 scfm supplied by a small desiccant dryer. The dryer was having small components break and crack during operation, which led to the dryer not operating properly. When the valves opened there was constant blowdown on the

lines and they would remain that way as the valves would instantly be coated with H<sub>2</sub>O, Oil and degraded desiccant. The CDP's have Digital Controller Valves(DSV Controllers) that become inoperable with the slightest amount of contaminant being ingested into them. These valves are what operate and control gas flow at each CDP. When these valves fail, the system automatically shut downs. When the units are shut down, the production company is losing money, as they are not pushing any gas down the pipe(their own gas stream or other producers paying them to use their pipeline). Each

DSV Controller costs them \$3500.00 per failure plus the going rate at the time per/cubic ft of gas not being sent down the pipeline. Encana had a total of 6 DSV failures during the winter before they heard about the Parker Balston 76 Series Dryers. They were attracted to the simple operation of the membrane dryer and that it used no electricity, so it posed no explosion hazard. A major concern for the production company is that during a failure shutdown, some locations are almost impossible to reach during severe winter seasons, due to high drifts and deep snow.



# Solution:

Encana was shown the Balston 76 Series Membrane Dryers to utilize for this specific application. Customer ordered 3 of the 76-20 dryers initially. These were installed just prior to the winter season setting in. Two years have passed without a single DSV failure, a huge improvement.

*"The Balston 76 Series Dryers have performed flawlessly over two years. We've totally eliminated valve failures and vastly improved system uptime at all our CDP's with this dryer"*

Lewis Murray, Field Operations Manager,  
Encana Natural Gas.

# Specifications:

Model	76-01	76-02	76-10	76-20	76-40
Max. Flow Rate At -40°F (-40°C) Dewpoint	1 SCFM (1.7 Nm <sup>3</sup> /Hr)(1)	2 SCFM (3.4 Nm <sup>3</sup> /Hr)(1)	10 SCFM (1.7 Nm <sup>3</sup> /Hr)(1)	20 SCFM (3.4 Nm <sup>3</sup> /Hr)(1)	40 SCFM (6.8 Nm <sup>3</sup> /Hr)(1)
Min/Max Inlet Air Temp.	40°F/120°F (4°C/49°C) (2) →				
Ambient Temp. Range	40°F - 120°F (4°C - 49°C) →				
Min/Max Inlet Pressure	60 psig (4.1 BAR)/150 psig (10.3 BAR) →				
Compressed Air Requirement	Total Air Consumption: Regeneration Flow + Outlet Flow Requirements (see tables in FNS Catalog)				
Max. Pressure Drop	5 psid (.34 bard) (3)	5 psid (.34 bard) (3)	5 psid (.34 bard) (3)	5 psid (.34 bard) (3)	5 psid (.34 bard) (3)
Wall Mountable	Yes	Yes	Yes	Yes	Yes
Prefilter (included) (5)	Yes (4)	Yes (4)	Yes (4)	Yes (4)	Yes (4)
Inlet/Outlet Port Size	1/4" NPT (female)	1/4" NPT (female)	1/2" NPT (female)	1" NPT (female)	1 1/2" NPT (female)/ 3/4" NPT (female)
Electrical Requirements	None				
Dimensions	6"W x 22"H x 5"D (15cm x 58cm x 13cm)	6"W x 23"H x 5"D (15cm x 58cm x 13cm)	6"W x 37"H x 5"D (15cm x 94cm x 13cm)	12"W x 37"H x 7"D (30cm x 94cm x 18cm)	19"W x 39"H x 8"D (48cm x 99cm x 21cm)
Shipping Weight	9 lbs. (4 kg)	10 lbs. (5 kg)	18 lbs. (9 kg)	20 lbs. (9 kg)	35 lbs. (16 kg)

- Notes:**
- 1 Atmospheric dewpoint specified for saturated inlet air at 100°F (38°C) and 100 psig (6.9 barg). Outlet flows will vary slightly for other inlet conditions.
  - 2 Inlet compressed air dewpoint must not exceed the ambient air temperature.
  - 3 5 psid (.34 bard) at -40°F (-40°) dewpoint operating parameters.
  - 4 If compressed air is extremely contaminated, a Balston Grade DX prefilter should be installed directly upstream from the membrane dryer.
  - 5 Filtration efficiency: 99.99% at 0.01 micron.

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