# DRYPOINT<sup>®</sup> M Standard Series Membrane Air Dryers

Features and Benefits

**TWIST 45 TECHNOLOGY:** highest possible performance from a membrane with 45° wound fiber

MAXIMUM RELIABILITY: provides consistent dew point suppression and lasting performance even in the most demanding environments

HIGHEST PERFOMANCE: saves energy with zero electricity required and achieves dew point in a minimal amount of time with minimum purge







MAINTENANCE FREE: with no moving parts or electrical components trouble-free operation is achieved even in mobile applications

### **PERFECT DESIGN:**

the small footprint combined with the variety of configurations possible make an ideal choice for all types of applications

# Operating Principle

**1** The compressed air flows into the core tube of the membrane dryer.

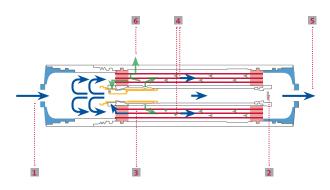
**2** In the filter element, it is diverted; filtered compressed air enters the hollow fibres of the membrane element.

**3** The purge air required for drying is continuously diverted in the outlet zone of the membrane element and is atmospherically expanded through a defined nozzle opening. This purge air is significantly drier due to the expansion, as the humidity contained in the compressed air is now distributed to a multiple of volume. The dry purge air is led via the outside of the membrane fibres.

**4** Two air flows with different moisture contents move in a reverse current through the membrane element, only separated by the membrane wall. The humid compressed air flows in the hollow-fibre membranes, and the dry purge air flows outside. As a result of the different moisture contents, the humidity diffuses from the compressed air into the purge air. The drying process is highly efficient thanks to the controlled winding of the membrane fibres, the TWIST 45 technology.

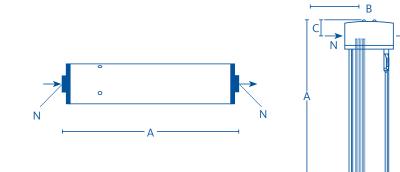
**5** The dry compressed air leaves the membrane element.

**6** The humid purge air is released into the environment.



**DRYPOINT® M Membrane Dryers** standard series membrane air dryers without integrated pre-filtration

| Max. standard operating conditions | +140 °F / 100 psig |
|------------------------------------|--------------------|
| Max. optional operating conditions | +120 °F / 180 psig |
| Differential pressure              | 1.45 to 4.35 psid  |
| Required pre-filtration            | .01 µm             |



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| Inlet PDP                            |         | Desired Outlet PDP Result Based on Nearest Inlet PDP Parameter |       |               |       |               |       |               |  |  |
|--------------------------------------|---------|--|-------|---------------|-------|---------------|-------|---------------|--|--|
| +40 °F (with refrigerant drying)     | +22     | 2°F  | 0 °F  |               | -30°F |               | -40°F |               |  |  |
| +100 °F (without refrigerant drying) | +65     | +65 °F   |       | +35 °F        |       | -4°F          |       | -20°F         |  |  |
|                                      |         |  |       | Flow Ra       |       |               |       |               |  |  |
| Model Selector                       | Inlet   | Outlet   | Inlet | Outlet        | Inlet | Outlet        | Inlet | Outlet        |  |  |
| DM 08-14 RA                          | 1.83    | 1.65   | .98   | .81           | .64   | .48           | .58   | .42           |  |  |
| DM 08-19 RA                          | 3.66    | 3.29   | 2.07  | 1.72          | 1.44  | 1.08          | 1.33  | .96           |  |  |
| DM 08-23 RA                          | 5.49    | 4.94   | 3.10  | 2.57          | 2.15  | 1.61          | 2.00  | 1.44          |  |  |
| DM 08-29 RA                          | 7.32    | 6.59   | 4.13  | 3.43          | 2.87  | 2.15          | 2.63  | 1.89          |  |  |
| DM 10-34 CA                          | 9.80    | 8.82   | 5.70  | 4.73          | 4.10  | 3.08          | 3.85  | 2.77          |  |  |
| DM 10-41 CA                          | 11.00   | 9.90   | 6.20  | 5.15          | 4.31  | 3.23          | 3.90  | 2.81          |  |  |
| DM 10-47 CA                          | 14.60   | 13.14  | 8.25  | 6.85          | 5.75  | 4.31          | 5.20  | 3.74          |  |  |
| DM 20-48 CA                          | 22.00   | 19.80  | 12.40 | 10.29         | 8.63  | 6.47          | 7.90  | 5.69          |  |  |
| DM 20-53 CA                          | 29.30   | 26.37  | 16.50 | 13.70         | 11.50 | 8.63          | 10.50 | 7.56          |  |  |
| DM 20-60 CA                          | 38.30   | 34.47  | 24.20 | 20.09         | 17.30 | 12.98         | 16.00 | 11.52         |  |  |
| DM 20-67 CA                          | 49.30   | 44.37  | 28.90 | 23.99         | 20.26 | 15.20         | 19.00 | 13.68         |  |  |
| DM 40-61 CA                          | 59.80   | 53.82  | 35.50 | 29.47         | 25.20 | 18.90         | 23.50 | 16.92         |  |  |
| DM 40-75 CA                          | 89.50   | 80.55  | 53.30 | 44.24         | 37.90 | 28.43         | 35.30 | 25.42         |  |  |
| DM 40-90 CA                          | 119.30  | 107.37   | 71.00 | 58.93         | 50.50 | 37.88         | 46.80 | 33.70         |  |  |
|                                      | Purge A | Purge Air 10%  |       | Purge Air 17% |       | Purge Air 25% |       | Purge Air 28% |  |  |

| DRYPOINT <sup>®</sup> M | DM08N19RA | DM08N24RA | DM08N28RA | DM08N34RA | DM10N34CA | DM10N41CA | DM10N47CA |
|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Connection Size (NPT)   | 1/4"      | 1⁄4"      | 1⁄4"      | 1/4"      | 3/8"      | 3/8"      | 3/8"      |
| Dimension data          |           |           |           |           |           |           |           |
| A (inches)              | 5.51      | 7.48      | 9.06      | 11.42     | 17.00     | 16.10     | 18.46     |
| B (inches)              | -         | -         | -         | -         | 2.95      | 2.95      | 2.95      |
| C (inches)              | -         | -         | -         | -         | 1.10      | 1.10      | 1.10      |
| Diameter                | ø1.77     | ø1.77     | ø1.77     | ø1.77     | -         | -         | -         |
| Weight (lbs)            | .60       | .77       | .90       | 1.08      | 4.13      | 4.58      | 4.97      |
| DRYPOINT®M              | DM20N48CA | DM20N53CA | DM20N60CA | DM20N67CA | DM40N61CA | DM40N75CA | DM40N90CA |
| Connection Size (NPT)   | 3/11      | 3/4"      | 3/4"      | 3⁄4"      | 1½"       | 1½"       | 1½"       |
| Dimension data          | ·····     |           |           |           |           |           | ·····     |
| A (in inches)           | 18.98     | 20.95     | 23.70     | 26.46     | 23.20     | 28.30     | 34.60     |
| B (inches)              | 3.94      | 3.94      | 3.94      | 3.94      | 5.74      | 5.74      | 5.74      |
| C (inches)              | 1.34      | 1.34      | 1.34      | 1.34      | 1.89      | 1.89      | 1.89      |
| D (inches)              | -         | -         | -         | -         | -         | -         | -         |
|                         |           | 8.38      |           |           |           |           |           |

## **Correction Factor**

| Operating Pressure (psig) | 60  | 75  | 90  | 100  | 115  | 130  | 145  | 160  | 175  |
|---------------------------|-----|-----|-----|------|------|------|------|------|------|
| Correction Factor         | .39 | .57 | .78 | 1.00 | 1.19 | 1.40 | 1.62 | 1.87 | 2.11 |

Subject to technical errors, changes, omissions and/or corrections without prior notice.