

# Refrigerated Compressed Air Dryers

HG, HGE & HGN VALUE SERIES





### Reliable Operation...

Customers around the world have relied on Deltech for great value in air treatment solutions. Deltech Value Line Refrigerated Dryers offer a simple solution based on a long history of industry leading technology.



Efficient Smooth Copper Heat Exchangers



### HG5/10 - HG50 5/10 - 50 scfm

#### BETTER BY DESIGN

- Smooth bore, copper tube-on-tube heat exchangers deliver low pressure dew point performance
- Centrifugal separator efficiently captures liquid condensate at varying inlet loads
- Static condenser design provides trouble free , quiet operation

#### RELIABLE CONDENSATE MANAGEMENT

- Models 10-15 scfm: Pneumatically operated internal float drain
- Models 25-50 scfm: Electronic drain valve

#### **EASE OF MONITORING**

- Models 10-15 scfm: Lighted On/Off switch
- Models 25-50 scfm: Lighted On/Off switch and dew point temperature indicator

#### **OPTIONS**

- Air bypass valve allows ease of service
- Wall mount bracket enables flexible installation

#### SAFETY FIRST — ENVIRONMENTAL FRIENDLY

- CFC free R134a refrigerant
- CSA approved

### HGE75 - HGE500 75 - 500 scfm

#### TIME PROVEN DESIGN

- 316 stainless steel, brazed plate heat exchangers efficiently dry the air to the specified pressure dew point.
- Hot gas by-pass valve maintains constant evaporator temperature
- Replaceable ambient air filter protects the condenser from airborne contaminants
  - » Maintenance kits include ambient air filter

#### **CONDENSATE MANAGEMENT**

- Integral stainless demister/separator captures liquid condensate and solid particles
- Electronic drain valve automatically discharges condensate from the dryer

#### STAY IN CONTROL

- Model 75-150 scfm: Lighted On/Off switch and dew point indicator
- Models 200-500 scfm: Lighted On/Off switch, LED dew point temperature indicator, timer drain adjustment on the panel

### SAFETY FIRST — ENVIRONMENTAL FRIENDLY

- CFC free R134a refrigerant
- CSA approved

### Value at its finest...





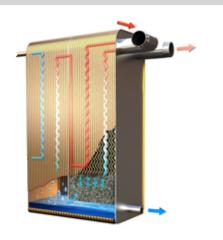
Adjustable Timed Electric Drain



Controls: Models 200-500 scfm

### Performance at its best...





Stainless Steel Demister/Separator



Controls: Models 200-500 scfm

### HGEN75 - HGEN500 75 - 500 scfm

#### **GLOBALLY PROVEN PERFORMANCE**

- Stainless steel, cross flow heat exchangers optimize heat transfer and service life
  - » ISO 8573-1 Air Quality: Class 4 pressure dew point
  - » Smooth, non-fouling channels promote low pressure drop
- Herringbone geometry stamped into the stainless steel plates creates turbulent flow, for a self-cleaning effect
  - » No pre-filter required for full 2 year warranty
  - » 5 year heat exchanger warranty
- · Stainless steel inlet and outlet connections promote corrosion free service
- Compact design saves floor space

#### **EFFICIENT CONDENSATE MANAGEMENT**

- Increased calming zone and integral demister/separator captures liquid condensate and solid particles
  - » Effectively removes condensate from 0 to 100% flow conditions without moisture carry-over
- Furnished with a timed electric condensate drain
  - » Includes a Y-strainer to protect the valve from rust and scale

#### **EASY TO MONITOR**

- Models 75-150: Illuminated On/Off Switch; dew point temperature display indicator to monitor inlet load conditions
- Models 200-500 scfm: Illuminated On/Off Switch; LED dew point temperature display; dry alarm contact
  - » Equipped with panel mounted drain timer control

### SAFETY FIRST — ENVIRONMENTAL FRIENDLY

- Models 75-125 scfm CFC free R134a
- Models 150-500 scfm R407c refrigerant
- CSA approved

### International Air Quality Class Standards

#### **ISO 8573-1 AIR QUALITY STANDARD**

ISO 8573-1, the international standard for compressed air quality, defines the amount of contamination permissible in compressed air.

The ISO standard identifies three primary forms of contamination in compressed air systems – solid particles, water and oil Contaminants are classified and assigned a quality class, ranging from Class 0, the highest purity level, to Class 6, the most relaxed.

HG, HGE and HGEN series refrigerated air dryers offer the perfect balance between technology and simplicity to dry compressed air systems to ISO 8573-1 Air Quality Class 4 to 5 – pressure dew points.



#### **OPTION PRE-FILTRATION**

300 series – PF grade filtration – removes solid and oil contaminants from the air stream before entering the dryer.

#### **ISO Air Quality Class:**

- Solids Class 2
- Remaining Oil Class 4
- Removes solids 1.0 micron and larger
- Remaining oil content 2.0. mg/m³

#### **OPTION AFTER-FILTRATION**

300 series – HF grade filtration – provides high efficiency oil removal protecting downstream equipment.

#### **ISO Air Quality Class:**

- Solids Class 1
- Remaining Oil Class1
- Removes 99.999+% of solids ≥ 0.01 micron
- Remaining oil content < 0.01 mg/m³</li>

## **Product Specifications**

|           | RATED | RATED        |             |          | POWER | INLET/OUTLET | DIMENSIONS (INCHES) |    |    | WEIGHT |
|-----------|-------|--------------|-------------|----------|-------|--------------|---------------------|----|----|--------|
| MODEL     | MODEL | FLOW<br>M³/H | REFRIGERANT | VOLTAGE  | KW    | CONNECTIONS  | Н                   | W  | D  | LBS    |
| HG5-10    | 5     | 17           | R 134a      | 115/1/60 | 0.2   | 3/8" OD      | 15                  | 13 | 13 | 64     |
| HG15      | 15    | 25           | R 134a      | 115/1/60 | 0.24  | 3/8" OD      | 15                  | 13 | 13 | 69     |
| HG25      | 25    | 42           | R 134a      | 115/1/60 | 0.41  | 3/4" NPT     | 22                  | 16 | 15 | 88     |
| HG35      | 35    | 59           | R 134a      | 115/1/60 | 0.46  | 3/4" NPT     | 22                  | 16 | 15 | 92     |
| HG50      | 50    | 85           | R 134a      | 115/1/60 | 0.57  | 3/4" NPT     | 22                  | 20 | 20 | 101    |
| HGEN75    | 75    | 127          | R 407c      | 115/1/60 | 0.52  | 1" NPT       | 24                  | 14 | 32 | 123    |
| HGE75     | 75    | 127          | R 134a      | 115/1/60 | 0.72  | 3/4" NPT     | 20                  | 19 | 20 | 110    |
| HGEN100   | 100   | 170          | R 134a      | 115/1/60 | 0.65  | 1" NPT       | 24                  | 14 | 32 | 129    |
| HGE100    | 100   | 170          | R 134a      | 115/1/60 | 0.74  | 1" NPT       | 21                  | 13 | 30 | 123    |
| HGEN125   | 125   | 212          | R 134a      | 115/1/60 | 0.68  | 1" NPT       | 24                  | 14 | 32 | 135    |
| HGE125    | 125   | 212          | R 134a      | 115/1/60 | 0.76  | 1" NPT       | 21                  | 13 | 30 | 161    |
| HGE150-1  | 150   | 255          | R 134a      | 115/1/60 | 1.11  | 1" NPT       | 21                  | 13 | 30 | 161    |
| HGEN150-2 | 150   | 255          | R 407c      | 230/1/60 | 0.91  | 1" NPT       | 24                  | 14 | 35 | 152    |
| HGEN200-2 | 200   | 340          | R 407c      | 230/1/60 | 1.53  | 2" NPT       | 30                  | 18 | 37 | 196    |
| HGE200-4  | 200   | 340          | R 134a      | 460/3/60 | 1.42  | 1 1/2" NPT   | 30                  | 17 | 36 | 183    |
| HGEN250-2 | 250   | 425          | R 407c      | 230/1/60 | 1.87  | 2" NPT       | 30                  | 18 | 37 | 181    |
| HGE250-4  | 250   | 425          | R 134a      | 460/3/60 | 1.98  | 1 1/2" NPT   | 30                  | 17 | 36 | 211    |
| HGEN300-2 | 300   | 510          | R 407c      | 230/1/60 | 2.09  | 2" NPT       | 32                  | 19 | 44 | 252    |
| HGE300-4  | 300   | 510          | R 134a      | 460/3/60 | 2.05  | 1 1/2" NPT   | 30                  | 20 | 38 | 219    |
| HGEN400-2 | 400   | 680          | R 407c      | 230/1/60 | 2.83  | 2" NPT       | 32                  | 19 | 48 | 270    |
| HGE400-4  | 400   | 680          | R 134a      | 460/3/60 | 2.5   | 2" NPT       | 30                  | 21 | 38 | 232    |
| HGEN500-4 | 500   | 850          | R 407c      | 460/3/60 | 3.18  | 2" NPT       | 32                  | 21 | 48 | 328    |

<sup>&</sup>lt;sup>1</sup> Rated Flow Capacity – Conditions for rating dryers are in accordance with ISO 7183 (Option A2). Compressed air at dryer inlet: 100 psig (6.7 barg) and 100°F (38°C); ambient air temperature: 100°F (38°C); operating on 60 Hz power supply.

At rated conditions, pressure drop is less than 5 psig.

<sup>&</sup>lt;sup>2</sup> 1 = 115V (HGE150-1); 2 = 230V (HGEN150-2); 4 = 460V (HGE200-4)

## **Operating Conditions**

| FLOW<br>MODEL | INLE | AX<br>T AIR<br>SSURE |      | IN<br>T AIR<br>SURE | INLE | AX<br>T AIR<br>RATURE |    | IN<br>T AIR<br>RATURE |     | AX<br>NT AIR<br>RATURE | AMBIE | IN<br>INT AIR<br>RATURE |
|---------------|------|----------------------|------|---------------------|------|-----------------------|----|-----------------------|-----|------------------------|-------|-------------------------|
| SCFM          | PSIG | BARG                 | PSIG | BARG                | °F   | °C                    | °F | °C                    | °F  | °C                     | °F    | °C                      |
| 5-10 to 50    | 250  | 17                   | 30   | 2                   | 120  | 49                    | 40 | 4                     | 110 | 43                     | 45    | 7                       |
| 75 to 500     | 232  | 16                   | 10   | 1                   | 120  | 49                    | 40 | 4                     | 110 | 43                     | 45    | 7                       |

## Capacity Correction Factors

To adjust the dryer capacity for non-standard conditions, use the Capacity Correction Factors (multipliers) from Tables 1 & 2.

#### **SIZING EXAMPLE:**

What is the capacity of an HGEN100 at 100F inlet air temperature, 150 psig working pressure, and 110F ambient air temperature?

#### **ANSWER:**

100 scfm (rated flow from product specification table)  $\times$  1.08 (correction factor for inlet air temperature, table 1)  $\times$  0.94 (correction factor for ambient air temperature, table 2) = 102 scfm

**Table 1 - Capacity Correction Factors** 

| INLET AIR | PRESSURE | INLET AIR TEMPERATURE |            |            |            |  |  |  |  |
|-----------|----------|-----------------------|------------|------------|------------|--|--|--|--|
| PSIG      | BARG     | 90°F/32°C             | 100°F/38°C | 110°F/43°C | 120°F/49°C |  |  |  |  |
| 80        | 5.6      | 1.19                  | 0.95       | 0.77       | 0.63       |  |  |  |  |
| 100       | 6.9      | 1.25                  | 1          | 0.82       | 0.68       |  |  |  |  |
| 125       | 8.6      | 1.3                   | 1.05       | 0.86       | 0.72       |  |  |  |  |
| 150       | 10.3     | 1.34                  | 1.08       | 0.9        | 0.75       |  |  |  |  |
| 175       | 12.1     | 1.37                  | 1.11       | 0.92       | 0.78       |  |  |  |  |
| 200       | 13.8     | 1.39                  | 1.14       | 0.95       | 0.8        |  |  |  |  |
| 250       | 17.2     | 1.43                  | 1.17       | 0.98       | 0.83       |  |  |  |  |

**Table 2 - Ambient Air Temperature** 

| AMBIENT AIR | 80°F/ | 90°F/ | 100°F/ | 110°F/ |
|-------------|-------|-------|--------|--------|
| TEMPERATURE | 27°C  | 32°C  | 38°C   | 43°C   |
| Multiplier  | 1.12  | 1.06  | 1      | 0.94   |

### HG, HGE & HGEN **VALUE SERIES**

10 to 500 SCFM (17 to 850 M3/H)



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