



Refrigerated Air Dryers

KRYOSEC® Series

12 - 159 cfm

kaeser.com

KRYOSEC Series

Exceptional reliability in a compact design

KRYOSEC refrigerated compressed air dryers feature the best in German engineering and quality. They provide dependable drying in a wide range of ambient temperatures and require minimal maintenance. The KRYOSEC's heat exchanger system minimizes pressure loss, ensuring optimized energy savings. With their compact footprint, KAESER's KRYOSEC dryers are the versatile, reliable solution for air treatment applications where space is at a premium.

Effective and efficient

For the vast majority of compressed air system moisture problems, refrigerated dryers are the most effective solution. KAESER's KRYOSEC series of refrigerated dryers efficiently removes liquids by cooling the air and condensing the water vapor. Water is then removed by the built-in separator and electronic demand drain.

KAESER reliability

The refrigeration circuit is designed for ambient temperatures up to 122°F. A premium quality refrigerant compressor and large condenser help deliver outstanding quality. These and other features reflect KAESER's commitment to building equipment that will provide years of trouble-free operation in even the most demanding industrial environments.

Compact design

With their low profile, KRYOSEC dryers can easily fit under machine platforms and in tight corners. These dryers also feature sturdy, tall feet to provide additional ground clearance and protect the dryer's internal components from dust and dirt. The TAH models can also be wall mounted for even greater convenience.

Exceptional value

KRYOSEC dryers are extremely cost effective. They are easy to install, require little maintenance, and consume little electricity. The combination of excellent efficiency features, high reliability, and easy maintenance makes the KRYOSEC series of refrigerated dryers an exceptional value.

Background image is a wall mounted KRYOSEC dryer

Quality and reliability

Dryer construction

All components such as heat exchangers, refrigerant circuit, condensate separator, and drain are conveniently accessible when the side panels are removed.



Heat exchangers

Combining the air-to-air and air-to-refrigerant heat exchangers with the condensate separator in a single assembly saves space and weight. Copper-brazed stainless steel plate heat exchangers provide excellent heat transfer characteristics with low pressure drop, assuring energy-efficient operation at all load conditions. The integral condensate separator provides efficient separation across the dryer's capacity range.



Hot gas bypass valve

The hot gas bypass valve adjusts the cooling capacity to match varying conditions and prevents the low pressure side of the refrigerant circuit from freezing in low load and no load conditions.



Simple controls

KRYOSEC dryers also include an on/off switch and color change indicator for evaporator temperature.



Electronic demand drain

Once condensate fills the collection chamber, a level sensor opens a diaphragm valve to drain the condensate. The valve then shuts before costly compressed air can escape.

Technical Specifications

| Model | Rated Capacity* (scfm) | Power Supply (V / Ph / Hz) | Inlet/Outlet Connection (in. NPTF) | Dimensions W x D x H (in.) | Weight (lbs.) |
|--------|---------------------------|-------------------------------|---------------------------------------|----------------------------------|------------------|
| TAH 5 | 12 | 115 / 1 / 60 ⁽¹⁾ | 1/2 | 15¼ x 18¾ x 17½ | 53 |
| TAH 7 | 20 | | | | 53 |
| TAH 10 | 28 | | | | 57 |
| TBH 14 | 42 | | | 18¼ x 20¾ x 21½ | 73 |
| TBH 16 | 57 | | | | 84 |
| TBH 23 | 78 | | 1 | 101 | |
| TCH 27 | 90 | | 1¼ | 26¼ x 26 x 24 | 123 |
| TCH 33 | 110 | | | | 146 |
| TCH 36 | 124 | | | | 152 |
| TCH 45 | 159 | | | | 165 |
| | | 230 / 1 / 60 | | | |

*Rated capacity: Based on compressed air saturated at 100°F and 100 psig and operation in a 100°F ambient.
• Maximum inlet temperature: 135°F • Maximum/minimum ambient air temperature: 122/38°F
• Maximum allowable working pressure: 232 psig ⁽¹⁾ 230/1/60 available by request

Table 1: Capacity correction factors for operating conditions

| Pressure (psig) | Temperature (°F) | | | | | | | | | | | |
|-----------------|------------------|----|----|----|------|------|------|------|------|------|------|------|
| | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 |
| 60 | 0.96 | | | | 0.86 | 0.77 | 0.67 | 0.60 | 0.53 | 0.47 | 0.41 | 0.37 |
| 80 | 1.11 | | | | 0.99 | 0.89 | 0.78 | 0.69 | 0.61 | 0.54 | 0.48 | 0.42 |
| 100 | 1.25 | | | | 1.12 | 1.00 | 0.88 | 0.78 | 0.69 | 0.61 | 0.53 | 0.48 |
| 115 | 1.32 | | | | 1.18 | 1.05 | 0.93 | 0.82 | 0.73 | 0.64 | 0.57 | 0.50 |
| 120 | 1.34 | | | | 1.19 | 1.06 | 0.94 | 0.83 | 0.73 | 0.65 | 0.57 | 0.51 |
| 125 | 1.35 | | | | 1.21 | 1.08 | 0.95 | 0.84 | 0.75 | 0.66 | 0.58 | 0.52 |
| 140 | 1.39 | | | | 1.25 | 1.11 | 0.98 | 0.87 | 0.77 | 0.68 | 0.60 | 0.53 |
| 160 | 1.46 | | | | 1.31 | 1.16 | 1.02 | 0.91 | 0.80 | 0.71 | 0.63 | 0.56 |
| 180 | 1.51 | | | | 1.35 | 1.21 | 1.06 | 0.94 | 0.83 | 0.73 | 0.65 | 0.58 |
| 200 | 1.55 | | | | 1.39 | 1.24 | 1.09 | 0.97 | 0.85 | 0.75 | 0.67 | 0.59 |
| 230 | 1.59 | | | | 1.43 | 1.27 | 1.12 | 0.99 | 0.88 | 0.77 | 0.68 | 0.61 |

Specifications are subject to change without notice.

Selecting the proper dryer

To correct rated capacity for actual operating conditions, refer to *Capacity Correction Factors* for Operating Conditions and *Capacity Correction Factors for Ambient Temperature*. Find the capacity correction factors corresponding to the inlet and ambient conditions. Multiply these factors to find the “overall” capacity correction factor, then multiply any dryer’s rated capacity by the overall correction factor to determine its capacity at your operating conditions. Capacity correction factors for conditions not shown may be interpolated.

Table 2: Capacity correction factors for ambient temperature

| Ambient Air Temp (°F) | Factor |
|-----------------------|--------|
| 75 | 1.09 |
| 80 | |
| 85 | |
| 90 | |
| 95 | 1.05 |
| 100 | 1.00 |
| 105 | 0.96 |
| 110 | 0.92 |

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