

KELTEC
Technolab

The Technology
of Modern Filtration



KRAD

NON-CYCLING REFRIGERATED
COMPRESSED AIR DRYER
WITH INTEGRATED COMPRESSED AIR FILTERS



ABOUT US

KELTEC Technolab was founded in 1982 by Ed Kaiser, Sr., formerly an engineer of the Air Maze Corporation for 20 years. With initial production of air-oil separators, KELTEC Technolab eventually added air-intake filters, oil filters, coalescing filters and synthetic compressor lubricants. KELTEC acquired Technolab (a former division of Flair Corporation), another air-oil separator manufacturer making the new KELTEC Technolab the largest manufacturer and supplier of air-oil separators in North America.

Today, KELTEC Technolab provides their products as original equipment to most of the major manufacturers of air compressors in North America.

WHY TREAT COMPRESSED AIR?

The importance of compressed air as a provider of energy for modern industrial processes is widely known. What is often overlooked however is the need to provide quality treatment for this air.

In fact, the air entering the system contains moisture, in vapor form, along with environmental contaminants, which are concentrated during compression. When cooled, this moisture will turn into liquid water, causing extensive damage not only to

the compressed air network, but also to the finished product. Left alone, these materials would reduce the service life of downstream equipment and contribute to system corrosion. Keltec refrigerated dryers actively remove this condensate and particulate contamination, and achieves extremely dry and clean, compressed air.

The benefits are notable; less system down time, reduced maintenance costs and an improved, finish product.

HIGHLY ENGINEERED

With a pressure drop of less than 3 psi, energy costs are greatly reduced.

DESIGNED FOR TROPICAL CONDITIONS

Keltec-Technolab air dryers can effectively operate with 140 F inlet temperatures, due to their use of R134A refrigerant across the dryer range, and through the use of an over sized condenser.



REFRIGERATED COMPRESSED AIR DRYER



COMPACT DESIGN

Every square inch inside the dryer is utilized.

DIGITAL INTERFACE CONTROLLER,

with 8 temperature sensors, enabling complete system monitoring.



ALUMINUM PLATE HEAT EXCHANGER

Very Low Pressure Drop (2psi)
Very Efficient (38 F real pressure dew point)



SCROLL COMPRESSORS

The scroll compressors used are energy efficient and resistant to liquid shock.



INTEGRATED DUAL FILTER SYSTEM

which filters the compressed air to .01 micron



ELECTRICAL WIRES ARE SEPARATED FROM REFRIGERANT SIDE

There are no electrical wires inside the refrigerant side of the dryer. The electrical box has an external cover which has an access from the outside of the dryers.

There is no need to open the dryer panels to enter the electrical box.



ALL WIRES INSERTED INTO PLASTIC CABLE HOLDERS

Wires connected to the electrical box with conduits



EXTRA BALL VALVES

Extra ball valves are brazed in to the refrigerant circuit in order to simplify parts replacement, without the chance of releasing refrigerant gas from the system.



PRESSURE SWITCHES

Pressure switches are put in to the electrical box for easy access.





REFRIGERATED COMPRESSED AIR DRYER



| MODEL | Capacity (acfm) | Connection Size | Voltage | Length (in) | Width (in) | Height (in) | Weight (lb) | Refrigerant gas | Pressure drop (psi) | Maximum working pressure (psi) | Maximum ambient TEMP (°F) | Maximum inlet TEMP (°F) | replacement filter kit number* |
|-----------|-----------------|-----------------|----------|-------------|------------|-------------|-------------|-----------------|---------------------|--------------------------------|---------------------------|-------------------------|--------------------------------|
| KRAD-10 | 10 | 1/2"NPT | 115/1/60 | 16.26 | 14.29 | 21.92 | 70.54 | R134a | <3 | 230 | 122 | 140 | ADFK1 |
| KRAD-15 | 15 | 1/2"NPT | 115/1/60 | 16.26 | 14.29 | 21.92 | 70.54 | R134a | <3 | 230 | 122 | 140 | ADFK1 |
| KRAD-25 | 25 | 1/2"NPT | 115/1/60 | 16.26 | 14.29 | 21.92 | 70.54 | R134a | <3 | 230 | 122 | 140 | ADFK1 |
| KRAD-40 | 40 | 3/4"NPT | 115/1/60 | 18.62 | 17.83 | 32.75 | 112.43 | R134a | <3 | 230 | 122 | 140 | ADFK2 |
| KRAD-60 | 60 | 3/4"NPT | 115/1/60 | 18.62 | 17.83 | 32.75 | 116.84 | R134a | <3 | 230 | 122 | 140 | ADFK2 |
| KRAD-80 | 80 | 3/4"NPT | 115/1/60 | 18.62 | 17.83 | 32.75 | 121.25 | R134a | <3 | 230 | 122 | 140 | ADFK2 |
| KRAD-100 | 100 | 1 1/2"NPT | 115/1/60 | 21.77 | 19.80 | 34.40 | 171.96 | R134a | <3 | 230 | 122 | 140 | ADFK3 |
| KRAD-125 | 125 | 1 1/2"NPT | 115/1/60 | 21.77 | 19.80 | 34.40 | 182.98 | R134a | <3 | 230 | 122 | 140 | ADFK3 |
| KRAD-150 | 150 | 1 1/2"NPT | 230/1/60 | 21.77 | 19.80 | 34.40 | 189.59 | R134a | <3 | 230 | 122 | 140 | ADFK3 |
| KRAD-200 | 200 | 2"NPT | 230/1/60 | 26.69 | 25.51 | 45.55 | 352.74 | R134a | <3 | 230 | 122 | 140 | ADFK4 |
| KRAD-250 | 250 | 2"NPT | 230/1/60 | 26.69 | 25.51 | 45.55 | 363.76 | R134a | <3 | 230 | 122 | 140 | ADFK5 |
| KRAD-350 | 350 | 2"NPT | 230/1/60 | 37.32 | 28.66 | 53.93 | 485.01 | R134a | <3 | 230 | 122 | 140 | ADFK5 |
| KRAD-500 | 500 | 2"NPT | 230/1/60 | 37.32 | 28.66 | 53.93 | 507.06 | R134a | <3 | 230 | 122 | 140 | ADFK5 |
| KRAD-600 | 600 | 3"NPT | 460/3/60 | 37.32 | 31.41 | 57.48 | 595.24 | R134a | <3 | 230 | 122 | 140 | ADFK6 |
| KRAD-750 | 750 | 3"NPT | 460/3/60 | 37.32 | 31.41 | 57.48 | 628.31 | R134a | <3 | 230 | 122 | 140 | ADFK6 |
| KRAD-1000 | 1000 | 3"NPT | 460/3/60 | 45.78 | 30.63 | 67.91 | 864.21 | R134a | <3 | 230 | 122 | 140 | ADFK7 |
| KRAD-1200 | 1200 | 3"NPT | 460/3/60 | 45.78 | 30.63 | 67.91 | 903.89 | R134a | <3 | 230 | 122 | 140 | ADFK7 |
| KRAD-1500 | 1500 | 4"NPT | 460/3/60 | 55 | 33.34 | 69.68 | 1,084.67 | R134a | <3 | 230 | 122 | 140 | |
| KRAD-1750 | 1750 | 4"NPT | 460/3/60 | 55 | 33.34 | 69.68 | 1,146.40 | R134a | <3 | 230 | 122 | 140 | |
| KRAD-2250 | 2250 | 4"NPT | 460/3/60 | 57.75 | 42.40 | 68.11 | 1,534.41 | R134a | <3 | 230 | 122 | 140 | |
| KRAD-2600 | 2600 | 4"NPT | 460/3/60 | 57.75 | 42.40 | 68.11 | 1,582.92 | R134a | <3 | 230 | 122 | 140 | |
| KRAD-3000 | 3000 | 6"NPT | 460/3/60 | 86.14 | 41.81 | 75.78 | 1,984.16 | R134a | <3 | 230 | 122 | 140 | |
| KRAD-3500 | 3500 | 6"NPT | 460/3/60 | 86.14 | 41.81 | 75.78 | | R134a | <3 | 230 | 122 | 140 | |
| KRAD-4000 | 4000 | 6"-NPT | 460/3/60 | 106.18 | 35.31 | 77.75 | | R134a | <3 | 230 | 122 | 140 | |
| KRAD-4500 | 4500 | 8"-NPT | 460/3/60 | 106.18 | 35.31 | 77.75 | | R134a | <3 | 230 | 122 | 140 | |
| KRAD-5500 | 5500 | 8"-NPT | 460/3/60 | 100.39 | 61.02 | 82.67 | 3,527.39 | R134a | <3 | 230 | 122 | 140 | |

*ADFK replacement filter kits contain 2 filter elements, 4 seal o rings and 2 auto drains
(Weights can vary a few lb)

EASY TO ACCESS

The cooling components can be easily reached in seconds via the removable panels.

EASY DUCTING

Condensers are located at the top for easy ducting





In order to properly size your dryer to the required task, you must take into account the specific conditions under which the dryer will be operating. CFM ratings of Keltec-Technolab dryers assume the following "Standard Conditions":

- a. 100 psi / 7 bar operating pressure,
- b. max ambient temperature 100 F / 38 C
- c. max inlet temperature 100 F / 38 C

For conditions OTHER than the above, please use the provided correction factors to properly size your dryer.

| PRESSURE | | | | | | | | | |
|---------------------|------|------|------|------|------|------|------|------|------|
| Psig | 50 | 60 | 75 | 100 | 115 | 125 | 150 | 175 | 200 |
| Bar | 3.5 | 4.1 | 5 | 7 | 7.9 | 8.5 | 10 | 12 | 14 |
| FACTOR PRESSURE: F1 | 0.75 | 0.77 | 0.85 | 1.00 | 1.06 | 1.10 | 1.16 | 1.25 | 1.30 |

| AMBIENT TEMPERATURE FACTORS | | | | | | | | | |
|-----------------------------|------|------|------|------|------|------|------|------|--|
| F | 60 | 80 | 90 | 100 | 105 | 110 | 115 | 120 | |
| C | 16 | 26 | 32 | 38 | 40 | 43 | 46 | 49 | |
| FACTOR AMBIENT: F2 | 1.12 | 1.08 | 1.06 | 1.00 | 0.96 | 0.90 | 0.80 | 0.65 | |

| INLET TEMPERATURE FACTORS | | | | | | | | | |
|---------------------------|------|------|------|------|------|------|------|------|------|
| F | 85 | 90 | 95 | 100 | 110 | 120 | 130 | 140 | 150 |
| C | 29 | 32 | 35 | 38 | 43 | 49 | 54 | 60 | 65 |
| FACTOR INLET: F3 | 1.20 | 1.14 | 1.08 | 1.00 | 0.75 | 0.60 | 0.50 | 0.45 | 0.35 |

By way of example, let's assume that your customer requires a flow of 500 CFM, at an operating pressure of 75 psi, with an ambient temperature of 110 F, and an inlet temperature of 120 F.

Pressure Correction factor for 75psi is 0.85
 Ambient temperature Correction factor for 110F is 0.90
 Inlet temperature correction factor for 120F is 0.60

Required dryer capacity = $500\text{CFM} / 0.85 / 0.90 / 0.60 = 1089\text{CFM}$
 We need to choose the dryer that has a capacity that is nearest to 1089 cfm. In this case, we would chose the KRAD-1200 (1200 cfm dryer) so as to ensure that we would not have any difficulties during the hottest portion of the year.



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KELTEC Technolab guarantees that its filters will meet or exceed the specifications and performance of the OEM, and further, that customers replacing OEM filters with KELTEC Technolab filters will experience no filter-related difficulty.



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