

Air Treatment

Activated Carbon Tower



Kaeser's Activated carbon Towers (KAT) are single tower pressure vessels filled with activated carbon adsorbent, that virtually eliminate oil vapor in compressed air. Other hydrocarbon vapors normally adsorbable by activated carbon are also removed.

KAT's are used where oil vapor and odor contaminate end products such as food and drugs, or when the odor makes the environment uncomfortable.

Activated carbon works by adsorbing contaminants onto the surface of its

internal pores. This process continues until it is saturated. When this occurs, the spent activated carbon should be removed and replaced.

Easy Installation

The KAT only requires piping connection for complete installation. For best performance, the KAT should be installed after a refrigerated air dryer. Using a Kaeser coalescing oil removal filter as a prefilter will greatly extend the life of the carbon bed. A Kaeser particulate filter installed

Tower Features:

- Long life when facing high inlet oil vapor concentrations
- Removes oil vapor and the oily smell associated with compressed air
- Provides outlet oil vapor concentrations of less than 0.01 ppm w/w
- Carbon bed lasts in excess of 8,800 hours*
- Tower design prevents bed movement and carbon degradation (dusting) at maximum flow
- Large beds ensure sufficient contact time to produce the rated (0.01 ppm w/w) oil vapor outlet concentration
- Separate fill and drain ports allow easy carbon replacement - no piping to disconnect
- ASME coded vessels (6" and larger)
- Stainless steel support screens and flow diffusers prevent channeling
- Lifting lugs provide easy transport

**at rated flow and 100°F inlet air saturated with oil vapor*

after the KAT will prevent carbon dust and other solid contaminants from going downstream and harming equipment.

Engineering Data

Technical Specifications

Maximum Inlet Flow Capacities

Table 1 lists the maximum inlet flow capacity at 100 psig. To determine maximum inlet flows at inlet pressures other than 100 psig, multiply the maximum flow from Table 1 by the multiplier from Table 2 that corresponds to the KAT inlet pressure.

Tower Sizing

At an inlet oil vapor concentration of 0.1 ppm w/w, the adsorber tower has a life of 30,000 hours at rated flow conditions. This concentration corresponds to air saturated with typical mineral oil at 75°F and 100 psig.

At an inlet oil vapor concentration of 6 ppm w/w, the adsorber tower has a life of 8,800 hours at rated flow conditions. This concentration corresponds to air saturated with typical mineral oil of 100°F and 100 psig.

Table 1 - Specifications

| Model | Maximum Flow @ 100 psig (scfm) | Maximum Working Pressure (psig) | Dimensions* H x W x D (in.) | Weight (lb.) | Inlet & Outlet Conn. (in.) | Replacement Activated Carbon (lb.) | |
|----------|--------------------------------|---------------------------------|-----------------------------|--------------|----------------------------|------------------------------------|-----|
| KAT 60 | 60 | 250 | 70 x 10 x 24 | 68 | ½ NPT | 14 | |
| KAT 80 | 80 | | 72 x 11 x 24 | 89 | ¾ NPT | 19 | |
| KAT 120 | 120 | | 78 x 15 x 16 | 157 | 1 NPT | 30 | |
| KAT 190 | 190 | | 60 x 17 x 18 | 176 | 1½ NPT | 39 | |
| KAT 350 | 350 | 200 | 63 x 20 x 20 | 201 | 2 NPT | 67 | |
| KAT 500 | 500 | | 64 x 22 x 22 | 271 | | 92 | |
| KAT 600 | 600 | | 69 x 25 x 25 | 353 | 3 NPT | 112 | |
| KAT 800 | 800 | | 70 x 27 x 27 | 415 | | 150 | |
| KAT 1000 | 1000 | | 72 x 29 x 29 | 474 | 4 Flg | 193 | |
| KAT 1250 | 1250 | | 73 x 31 x 31 | 604 | | 246 | |
| KAT 1500 | 1500 | | 73 x 33 x 33 | 662 | | 297 | |
| KAT 1800 | 1800 | | 180 | 74 x 36 x 35 | | 741 | 358 |
| KAT 2100 | 2100 | | 200 | 80 x 37 x 37 | 1136 | 6 Flg | 457 |
| KAT 2800 | 2800 | | | 79 x 42 x 42 | 1279 | | 599 |
| KAT 4000 | 4000 | 180 | | 84 x 48 x 59 | 1840 | 879 | |
| KAT 5500 | 5500 | 180 | 88 x 54 x 65 | 2578 | 6 Flg | 1240 | |

Specifications are subject to change without notice.

Table 2 - Inlet Pressure Correction Factor

| Inlet Pressure (psig) | 60 | 80 | 90 | 100 | 110 | 125 | 145 | 150 | 160 | 175 | 190 | 215 | 230 | 250 |
|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Multiplier | 0.65 | 0.83 | 0.91 | 1.00 | 1.09 | 1.22 | 1.39 | 1.44 | 1.52 | 1.65 | 1.78 | 2.00 | 2.13 | 2.31 |

Maximum operating temperature: 120°F



Built for a lifetime.™

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