

Air Treatment

## Activated Carbon Tower



Kaeser's Activated carbon Towers (KAT) are single tower pressure vessels filled with activated carbon adsorbent, that virtually eliminates 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 after the KAT will prevent carbon dust and other solid contaminants from going downstream and harming equipment.

### 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

## Engineering Data

### 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		63 x 20 x 20	201	1½ NPT	67
KAT 500	500	200	64 x 22 x 22	271	2 NPT	92
KAT 600	600		69 x 25 x 25	353	3 NPT	112
KAT 800	800		70 x 27 x 27	415	3 NPT	150
KAT 1000	1000		72 x 29 x 29	474	4 Flg	193
KAT 1250	1250		73 x 31 x 31	604	4 Flg	246
KAT 1500	1500	180	73 x 33 x 33	662	4 Flg	297
KAT 1800	1800		74 x 36 x 35	741	4 Flg	358
KAT 2100	2100		80 x 37 x 37	1136	4 Flg	457
KAT 2800	2800		79 x 42 x 42	1279	6 Flg	599
KAT 4000	4000		84 x 48 x 59	1840	6 Flg	879
KAT 5500	5500	180	88 x 54 x 65	2578	6 Flg	1240

**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

*Specifications are subject to change without notice.*



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