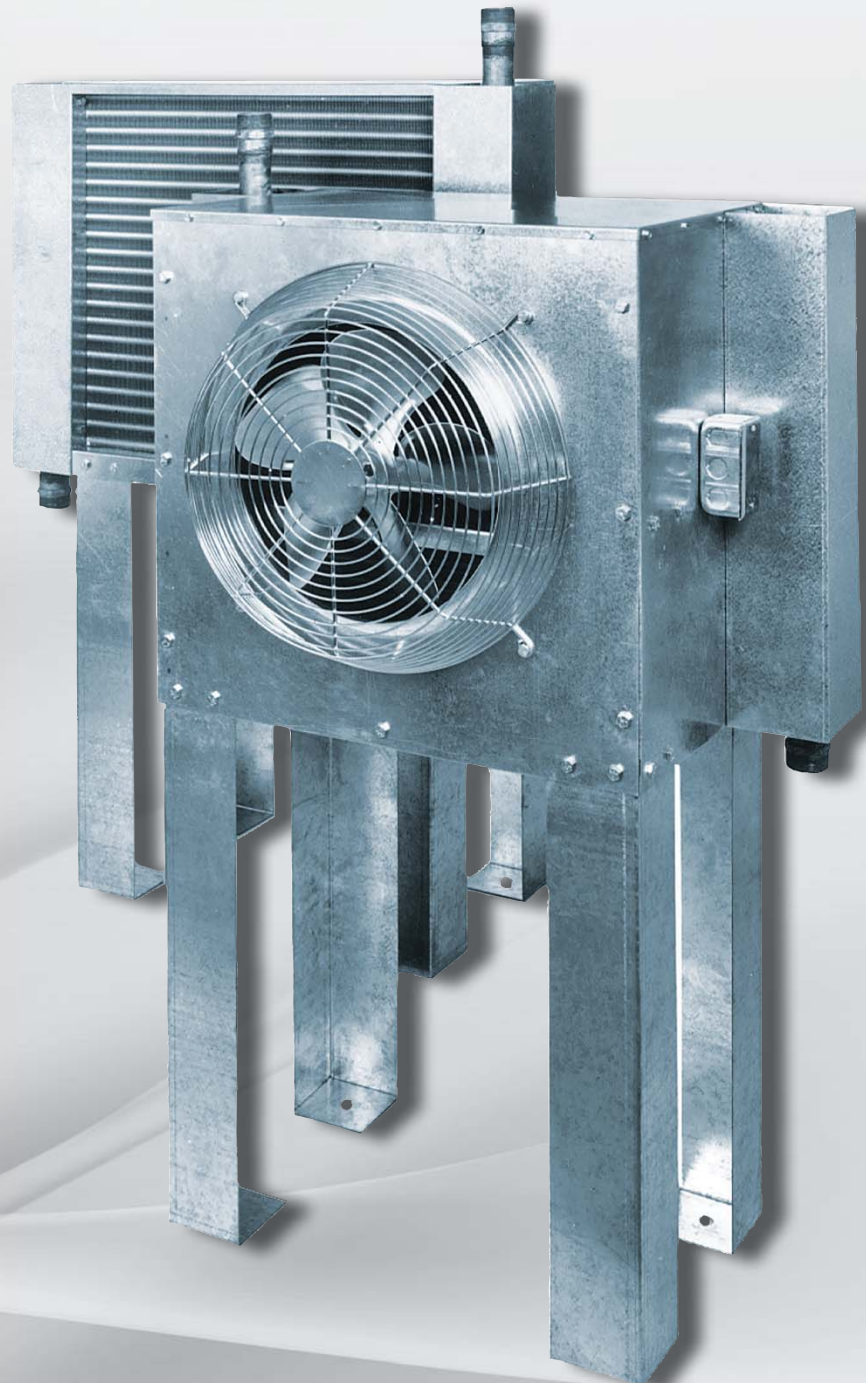


# Aftercoolers and Separators

## Air-Cooled Aftercoolers



# Air-Cooled Aftercoolers

## Cools air and removes moistures

Atmospheric air entering a compressor contains water vapor. The compression process concentrates these water vapors. Once the air travels downstream, the vapor cools and condenses into liquid. If not removed, it contaminates the entire compressed air system and causes corrosion. This corrosion in turn leads to air leaks, pressure drop, and scale formation. Products and processes are ruined, resulting in lost production time.

Aftercoolers are an economical way to remove up to 70% of water vapor by cooling the air to safe, usable levels for many applications. They also prepare the air for further filtration and drying.

Kaeser aftercoolers have a wide range of flow capacities from 10 to 4800 scfm and are suitable for pressures up to 250 psig. These models use ambient air to cool the compressed air down to 5°F above ambient temperature. In the aftercooler, cooler ambient air passes over the coils containing the warmer compressed air. As the compressed air cools, the majority of the water vapor present condenses to a liquid.

## Electrical Motor and Fan Data

Model	Fan (cfm)	Motor (hp)	Motor (ODP) 1 ph, 60 Hz		Motor (TEFC) 1 ph, 60 Hz		Motor (TEFC) 3 ph, 60 Hz		≈Shipping Wt. (lbs.)
			Voltage	Full Load Amps	Voltage	Full Load Amps	Voltage	Full Load Amps	
KAC 50	1375	1/4	115	7.2	115/208 230	5 2.6 - 2.5	208/230 460	1.4 - 1.3 0.65	110
KAC 80									120
KAC 120	140								
KAC 150	145								
KAC 240	4600	1/4x2	115	7.2	115/208 230	5 2.6 - 2.5	208/230 460	1.4 - 1.3 0.65	200
KAC 300	4700								300

Model	Fan (cfm)	Motor (hp)	Standard Motor (TEFC)						Thermal Over-load	≈Shipping Wt. (lbs.)
			Voltage	Phase	Full Load Amps 230V	Hz	rpm	Frame No.		
KAC 400	2200	1	115/208 or 230	1	6	60	3450	56C	No	120
	1825/2200		208 or 230/460	3	3.6 or 3.2	50/60	2850/3450			
KAC 725	3600	1.5	115/208 or 230	1	8.5	60	3450	56C	No	170
	3025/3600		208 or 230/460	3	4.8 or 4.2	50/60	2850-3450			
KAC 950	4700	1.5	115/208 or 230	1	8.6	60	1740	145TC	No	330
			208 or 230/460	3	4.6					
KAC 1200	7000	5	230	1	23	60	1740	184TC	No	450
		3	208 or 230/460	3	8.8					
KAC 1200	9700	5	208 or 230/460	3	13.4	60	1740	184TC	No	515
KAC 2000	11,000	7.5	230/460		19.6			213TC		600
KAC 2500	14,000			10	230/460	24.8	215TC	600	625	No
KAC 3000	17,500	230/460	3						19.6	
KAC 3500				17,500	10	230/460	24.8	215TC		750

## Features

### Cooling Coil

- Coils are designed for maximum heat transfer with minimal compressed air pressure losses.
- Heat transfer is maximized by heavy gauge corrugated aluminum fins that increase cooling air turbulence.
- The fin spacing allows even air distribution while resisting dirt accumulation.
- Die-formed collars on the fins provide even fin spacing and greater tube contact.
- Copper tubes and headers are used for models KAC 50 through KAC 300.
- KAC 400 through KAC 3500 utilize aluminum tubes and headers. Coils are self-draining, since condensate flows toward the separator. This prevents trapping of liquids in the coils.

### Fan

- Fan blades are heavy-gauge aluminum.
- They are balanced for vibration-free operation and operate at low speeds by direct-drive motor to minimize noise levels.
- The fan blade guard meets OSHA standards.

### Fan Motor

- Fan motors are chosen for extended service life and low maintenance requirements.
- Models KAC 50 through KAC 300 are equipped with either ODP or TEFC motors and are wired for single point external connection.
- Models KAC 400 through KAC 3500 are only available with TEFC motors.
- All aftercoolers are available in a wide range of voltages. (See Electrical Motor and Fan Data charts on page 2).

### Housing

- All models feature sturdy, corrosion-resistant housings with strong steel legs for floor mounting.
- Headers and return bends are protected from incidental damage.

# Technical Specifications

## Flow Capacities

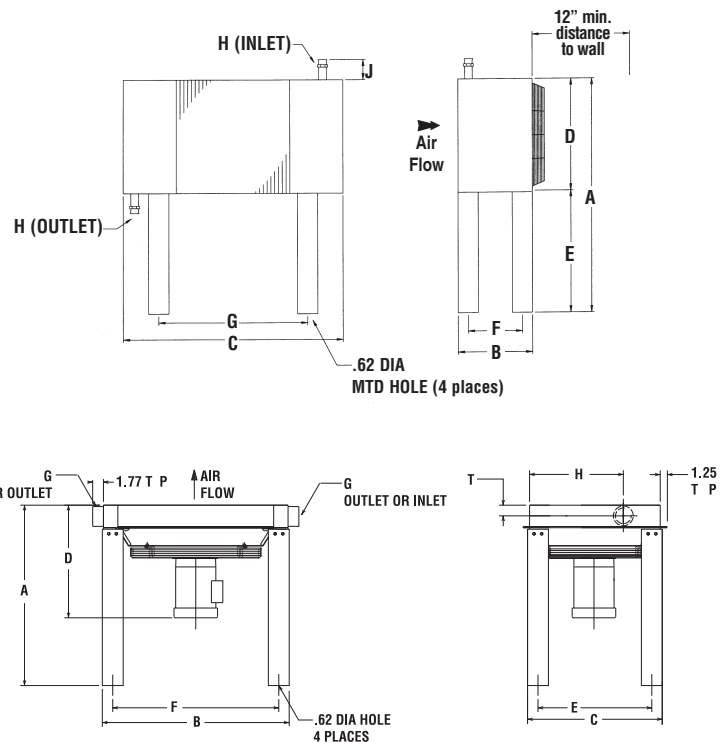
Inlet Temp (°F)	150				200				250				300				350				Rec. KFS or KLS Sep.
	5	10	15	20	5	10	15	20	5	10	15	20	5	10	15	20	5	10	15	20	
<b>KAC 50</b>	34	58	79	99	25	43	59	74	21	36	50	62	18	31	42	52	16	27	38	47	100
<b>KAC 80</b>	50	87	119	150	40	69	94	117	34	59	80	100	30	52	71	89	28	47	65	82	170
<b>KAC 120</b>	81	138	190	235	61	105	142	177	51	87	120	150	43	75	102	127	40	69	94	116	250
<b>KAC 150</b>	92	160	220	270	73	125	172	215	63	110	150	187	55	95	130	160	50	86	120	148	375
<b>KAC 240</b>	160	275	380	425*	120	207	285	355	100	175	240	300	84	145	204	250	78	135	185	231	485
<b>KAC 300</b>	184	318	440	480*	145	250	345	430	125	217	300	375	110	190	257	320	100	175	240	300	
<b>KAC 400</b>	210	384	520	605	175	375	430	500	160	300	400	464	135	250	340	396	125	235	305	355	625
<b>KAC 725</b>	355	650	890	1025	308	560	760	880	290	545	725	840	245	450	605	701	225	410	540	625	1250
<b>KAC 950</b>	480	871	1178	1360	415	754	1020	1180	390	712	950	1100	320	588	785	910	280	520	690	780	1875
<b>KAC 1200</b>	600	1090	1475	1710	520	950	1290	1460	490	900	1200	1380	405	735	980	1130	355	650	865	990	
<b>KAC 1600</b>	790	1440	1950	2260	710	1290	1720	1950	660	1200	1600	1860	530	965	1290	1480	460	840	1135	1300	2500
<b>KAC 2000</b>	980	1790	2420	2800	870	1580	2140	2460	820	1490	2000	2300	660	1210	1595	1840	572	1040	1400	1810	3125
<b>KAC 2500</b>	1220	2220	3000	3470	1090	1980	2680	3100	1035	1880	2500	2870	784	1426	1980	2270	705	1290	1725	1980	5000
<b>KAC 3000</b>	1450	2650	3580	4120	1295	2360	3200	3710	1243	2260	3000	3450	985	1794	2360	2715	840	1530	2040	2350	
<b>KAC 3500</b>	1680	3064	4140	4800	1530	2785	3760	4320	1460	2660	3500	4015	1150	2090	2760	3200	950	1740	2530	2700	

\*Maximum ratings restricted by pressure drop, actual thermal capacities are higher.  
 Above specifications based on 80 to 125 psig. Maximum pressure drop, less than 3 psi.

## Dimensions

Model	A	B	C	D (app)	E	F	G	H (NPTF)	J
<b>KAC 50</b>	46.5	14.75	30.5	22.5	24.0	10.75	19.09	1	4.0
<b>KAC 80</b>			43.5				32.09	1.5	
<b>KAC 120</b>			47.63				36.09	2	
<b>KAC 150</b>			51.68						
<b>KAC 300</b>			55.5						

Model	A	B	C	D (app)	E	F	G (NPTF)	H (in.)	
<b>KAC 400</b>	34.2	22.68	17.96	18.01	13.96	18.68	2	10.92	
<b>KAC 725</b>		30.56	22.37	18.37	26.56	15.34			
<b>KAC 950</b>	36.01	37.24	26.78	22.76	22.78	33.24	3	19.76	
<b>KAC 1200</b>		41.19	34.89	25.07	37.19	25.85			
<b>KAC 1600</b>		51.04	37.88	27.57	33.88	47.04		4	28.86
<b>KAC 2500</b>		49.07	43.7	28.01	39.7	45.07			34.68
<b>KAC 3000</b>		51.04	52.52	29.17	48.52	47.04	43.5		
<b>KAC 3500</b>		56.3	52.3	47.04	47.28				



Specifications are subject to change without notice.

## Purpose of Aftercooler

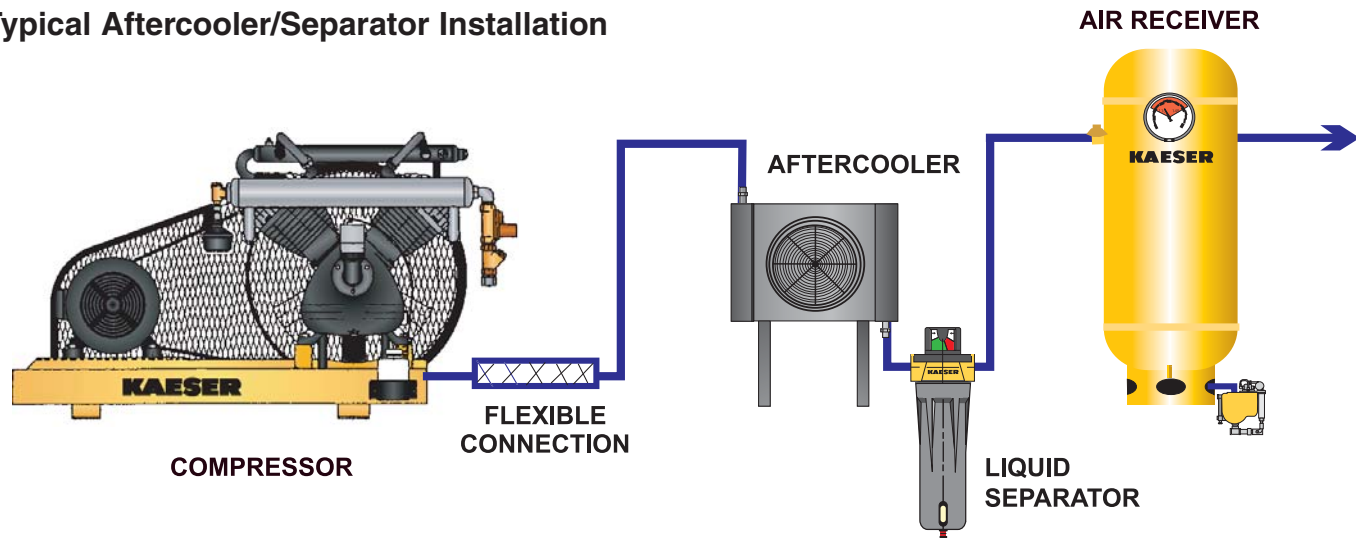
The aftercooler is the very first “air treatment” component in a compressed air system. It may be integral to the compressor package, or free-standing. Nevertheless the aftercooler performs the very first step in “air treatment” and that is to rid the compressed air of the heat generated by the compression process (called the “heat-of-compression”). The aftercooler cools

the compressed air to a temperature allowing further treatment by other equipment (filters and dryers).

During the “aftercooling” process much of the water vapor ingested by the compressor will be condensed – there is normally a large volume of condensate produced at an aftercooler. Hence a suitable liquid separator and condensate drain will be required at the discharge

of an aftercooler. The compressed air then exiting the separator is saturated with water vapor therefore any additional cooling of this air will create more condensate. For this reason “aftercooling” alone is not suitable “air treatment”, and while it is necessary it cannot replace filtration and dehydration equipment.

## Typical Aftercooler/Separator Installation



## Installation

Kaeser aftercoolers can be installed indoors or outdoors in ambient temperatures from 33°F to 130°F. For operation at temperatures below 32°F, consult factory.

A weatherproof junction box is available for outdoor installations. A flexible hose is also available for connecting the compressor to the aftercooler to absorb compressor vibration. A flexible hose connection is required to validate aftercooler warranty.

# KAESER COMPRESSORS

*Built for a lifetime.™*

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