KAESER COMPRESSORS®

Built for a lifetime.

Compressed Air Filters

Particulate, Liquid, and Oil Removal

20 - 11,875 scfm

us.kaeser.com

Compressed Air Filters: 20 - 11,875 scfm

Superior filtration

Proper filtration is necessary to ensure consistent air quality, but with it comes pressure drop. Every 2 psi of pressure drop increases power costs by approximately 1%. KAESER filters remove more contaminants with less pressure drop for lower operating costs. With a complete selection of application-specific filter types, sizes, technical service, and support, KAESER offers a customized solution for all of your compressed air quality needs.

Why treat compressed air

Ambient air contains contaminants that are drawn into the compressor. These contaminants are concentrated during compression and can easily pass into the compressed air system. A typical compressed air system is contaminated with abrasive solid particles such as dirt, rust, and pipe scale. Compressor fluids, condensed moisture, and ambient hydrocarbon vapors also compromise air quality.

Contaminated compressed air systems increase operating costs by reducing efficiency. This results in damaged pneumatic equipment, higher maintenance and repair costs, reduced production (due to downtime), and increased product rejections.

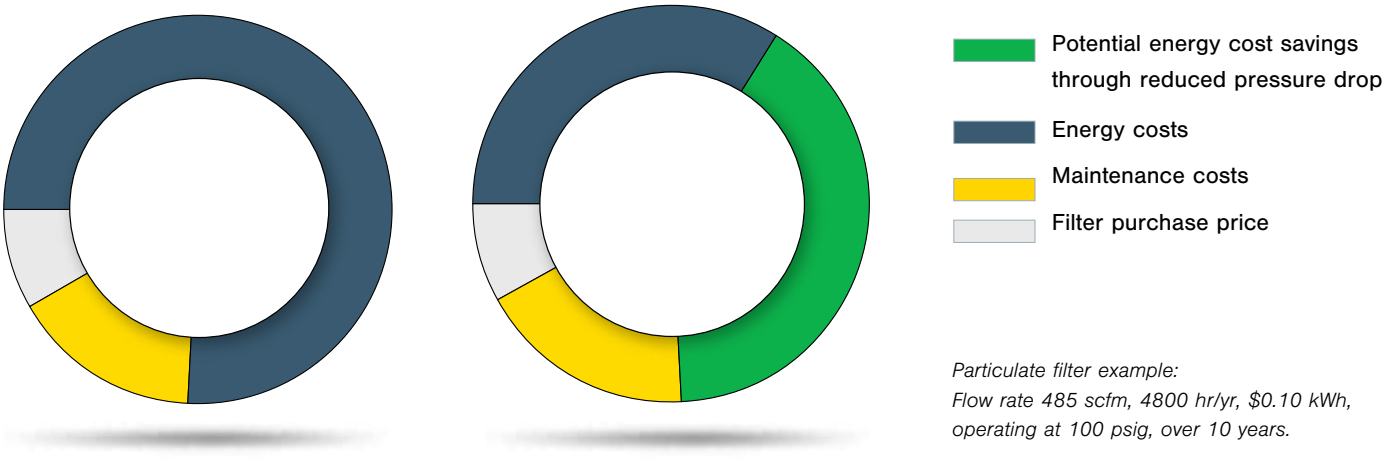
Meeting your air quality requirements

Properly sized and selected KAESER filters in conjunction with the appropriate dryer will remove harmful contaminants. This allows the compressed air system to deliver the quality of air required—whether it's plant, instrument, or breathing air.

High performance filters and separators

Engineered and developed using the latest innovations and manufacturing techniques, KAESER filter housings are designed with larger flow areas to ensure the lowest pressure drop and provide easier installation, operation, and maintenance. The result is consistent product quality with minimized operating costs.

Life cycle cost savings



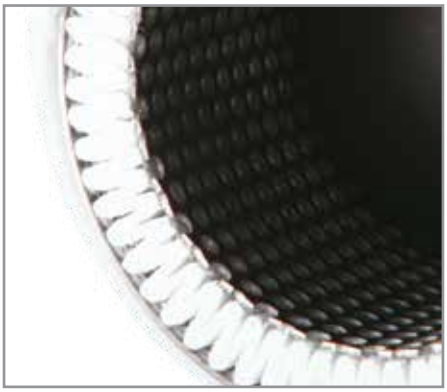
Conventional Filters

KAESER Filters

Particulate filter example:
Flow rate 485 scfm, 4800 hr/yr, $0.10 kWh, operating at 100 psig, over 10 years.


KAESER
KAESER
KAESER

Key Features



Deep pleated filter elements

KAESER's KB, KD, and KE dust and coalescing filter elements feature deep-pleated filter elements wrapped in stainless steel cages. The extra large surface area ensures superior filtration, increased efficiency, and reduced pressure drop.

High efficiency carbon matting

Unlike the granular material used in many other filters, KAESER's KA filters use carbon impregnated matting to prevent channeling while also reducing pressure drop. This highly absorptive matting is also effective at preventing particles from escaping.

Minimized pressure losses

The generous sized connections help keep pressure losses to an absolute minimum. Additionally, all particulate and coalescing filters (KB, KD, KE) come standard with a differential pressure gauge to check filter efficiency at a glance.

Filter Accessories

FDPS sensor

Filter differential pressure sensor with 4 to 20 mA output.

Installation kits

The modular connection kit is available in multiple sizes for installation flexibility. The wall mounting kit includes all the necessary hardware for fast and easy mounting.

Installation flexibility

The optional Eco-Drain can rotate 360° to fit any installation requirement. Drain access is never a problem even when installed in tight corners or against a wall.

Multiple NPT connection sizes

Multiple threaded connection options for easy, flexible installations

Compressed air inlet

Optimized for air flow through housing to minimize pressure drop

Filter element

Push-on element for easy maintenance

Pressure differential indicator

Standard on particulate and coalescing filters

Compressed air outlet

Filters maintain rated efficiency down to ten percent of flow capacity

Safety locking screw

Bleeds off pressure before allowing disassembly for increased safety

Condensate outlet

(Internal automatic condensate drain not shown)

Superior Quality and Durability

- Top quality castings
- Powder coated exterior for added durability and corrosion resistance
- Salt spray corrosion tested
- Treated interior
- Continuously-welded, stainless steel inner and outer cages for filter elements
- 5-year warranty on filter head and housing

Enhanced Performance

- Latest filter media technology results in higher efficiencies and lower Delta P
- 150°F maximum inlet temperature
- 232 psig maximum working pressure
- Stainless steel support sleeves, oil and acid resistant coated collars, and end caps
- The tapered housing and non-turbulent lower filter zone prevents condensate from being picked up by the air flow

Pressure Vessel Style

- ASME pressure vessels, stamped, and registered
- CRN numbers available - consult factory with filter model and Province
- Flange connections for models 1875 scfm (F530) and larger
- Flanges are ASME pattern, Class 150
- Full vessel diameter access for element replacement
- 232 psig maximum working pressure
- Differential pressure indicator standard for models KB, KE, and KD

Silicone-free certification

All KAESER filters are available silicone-free upon request and are certified under test standard PV-VW 3.10.7. Each filter undergoes an individual coating test to confirm compliance and the test certificate will be supplied with the filter.

Note: please specify this requirement prior to quotation.

Filter Types

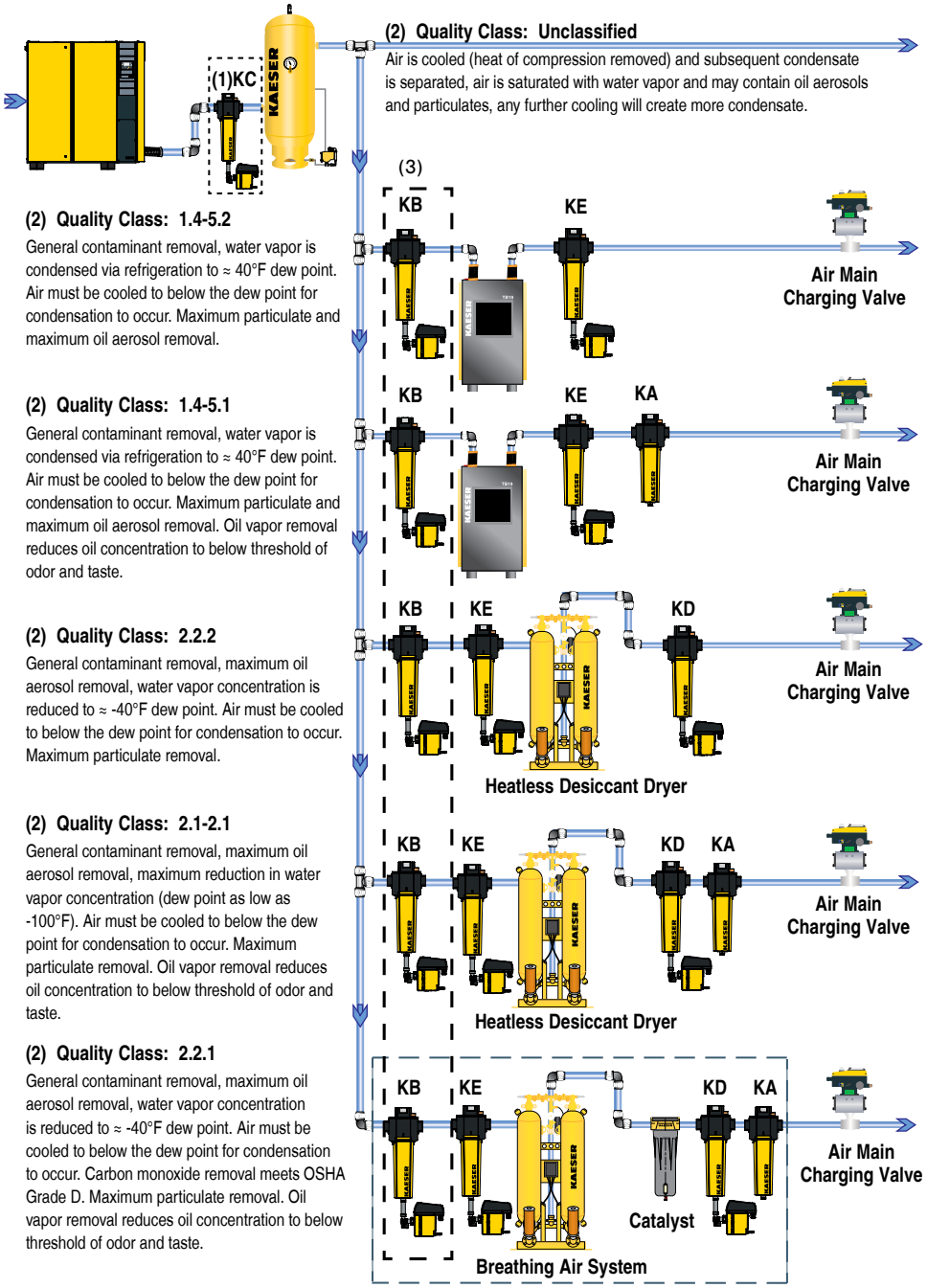
	KC [1] *(Cyclone)* **Moisture Separator**	KB [2] *(Basic)* **Coalescing and Particulate**	KE [2] *(Extra Fine)* **Extra Coalescing and Particulate**	KD *(Dust)* **Particulate (Afterfilter)**	KA *(Adsorb)* **Vapor**
Initial pressure differential at saturation	1.5 psi	2.0 psi	< 2.9 psi	< 0.5 psi (New, dry)	0.5 psi (New, dry)
Aerosol content at inlet	-/-	10 mg/m^3	10 mg/m^3	-/-	-/-
Remaining aerosol content at outlet as per ISO 12500-1:06-2007	-/-	< 0.1 mg/m^3	< 0.01 mg/m^3	-/-	-/-
Filter medium	-/-	Deep pleated with support structure and polyester drainage fiber		Deep pleated with support structure	High efficiency carbon fiber
Application	Bulk liquid separation	Filters solids, liquids, aerosols, and particulates	Same as KB, but for higher compressed air quality	Exclusively for filtering particulates	Exclusively for removing oil vapor

[1] *Eco-Drain 31 is standard.*

[2] *Float-type drain is standard up to 500 sdfm. Available with optional zero-loss Eco-Drain 30 or 31 to save energy and prevent compressed air loss.*

Examples of Air Treatment Configurations with ISO 8573.1: 2010 Quality Classes Shown

These configurations don't depict every possible dryer-filter combination. Your KAESER representative can help select the appropriate air treatment products for your application.



(2) Quality Class: 1.4-5.2

General contaminant removal, water vapor is condensed via refrigeration to ≈ 40°F dew point. Air must be cooled to below the dew point for condensation to occur. Maximum particulate and maximum oil aerosol removal.

(2) Quality Class: 1.4-5.1

General contaminant removal, water vapor is condensed via refrigeration to ≈ 40°F dew point. Air must be cooled to below the dew point for condensation to occur. Maximum particulate and maximum oil aerosol removal. Oil vapor removal reduces oil concentration to below threshold of odor and taste.

(2) Quality Class: 2.2.2

General contaminant removal, maximum oil aerosol removal, water vapor concentration is reduced to ≈ -40°F dew point. Air must be cooled to below the dew point for condensation to occur. Maximum particulate removal.

(2) Quality Class: 2.1-2.1

General contaminant removal, maximum oil aerosol removal, maximum reduction in water vapor concentration (dew point as low as -100°F). Air must be cooled to below the dew point for condensation to occur. Maximum particulate removal. Oil vapor removal reduces oil concentration to below threshold of odor and taste.

(2) Quality Class: 2.2.1

General contaminant removal, maximum oil aerosol removal, water vapor concentration is reduced to ≈ -40°F dew point. Air must be cooled to below the dew point for condensation to occur. Carbon monoxide removal meets OSHA Grade D. Maximum particulate removal. Oil vapor removal reduces oil concentration to below threshold of odor and taste.

(1) For compressors without an integrated moisture separator.

(2) Configuration meets ISO class when tested in an ISO 12500 certified facility per ISO 12500 testing directives.

(3) KB not needed if non-corrosive tank and piping are used before dryer.

SOLID PARTICLES / DUST

If particles greater than 5µm have been measured, class 0-5 cannot be applied

Class	Maximum particle count per cubic meter of a particle size with d* (µm)		
	0.1 - 0.5 µm	0.5 - 1 µm	1 - 5 µm
0	As specified and more stringent than Class 1		
1	≤ 20,000	≤ 400	≤ 10
2	≤ 400,000	≤ 6000	≤ 100
3	---	≤ 90,000	≤ 1000
4	---	---	≤ 10,000
5	---	---	≤ 100,000
6	0 - ≤ 5 mg/m³		
7	5 - ≤ 10 mg/m³		
8			
9			
X	> 10 mg/m³		

HUMIDITY AND LIQUID WATER

Class	Pressure Dew Point	
0	As specified and more stringent than Class 1	
1	≤ -70°C	≤ -94°F
2	≤ -40°C	≤ -40°F
3	≤ -20°C	≤ -4°F
4	≤ 3°C	≤ 37°F
5	≤ 7°C	≤ 45°F
6	≤ 10°C	≤ 50°F
Class	**Concentration of liquid water**	
7	≤ 0.5 g/m³	
8	0.5 - ≤ 5 g/m³	
9	5 - ≤ 10 g/m³	
X	> 10 g/m³	

TOTAL OIL

Liquid, aerosol, and vapor

Class	mg/m³	ppm w/w
0	As specified and more stringent than Class 1	
1	≤ 0.01	≤ 0.008
2	≤ 0.1	≤ 0.08
3	≤ 1.0	≤ 0.8
4	≤ 5.0	≤ 4
5		
6		
7		
8		
9		
X	> 5.0	> 4

** At reference conditions: 68°F (20°C), 14.5 psia (1 bar), 0% relative humidity*

Technical Specifications

Housing	Housing Type	Filter Grades	Rated Flow (scfm)	Connection Size/ Type (in.)	Max. Working Pressure and Temperature	*Dimensions W x D x H (in.)	Weight (lbs.)
F6	Bowl Style with Bayonet Connection	KB, KE, KD, KA	20	1/2 or 3/4 NPT (F)	232 psig 150°F	4.75 x 3.625 x 10.75	7.9
F9		KC**, KB, KE, KD, KA	30	1/2 or 3/4 NPT (F)			
F16		KB, KE, KD, KA	55	3/4 or 1 NPT (F)		5.25 x 4 x 12	9.3
F22			80	3/4 or 1 NPT(F)		5.25 x 4 x 14	9.9
F26		KC**, KB, KE ,KD, KA	90				
F46			160	1-1/4, 1-1/2, or 2 NPT(F)		7.75 x 6 x 14.75	18.5
F83			295			7.75 x 6 x 18.125	20.5
F110		KB, KE, KD, KA	390			7.75 x 6 x 26	24.5
F142		KC**, KB, KE KD, KA	500				
F184		KB, KE, KD, KA	650	2-1/2 or 3 NPT(F)		9.5 x 7.75 x 28.125	37
F250		KB, KE, KD, KA	885			9.5 x 7.75 x 33.25	40.8
F320		KB, KE, KD, KA	1130			9.5 x 7.75 x 38.75	45.2
F185	Pressure Vessel with Full Access	KC	625	3 NPT(M)		16.4 x 6.6 x 44.0	84
F283			1000			16.4 x 8.5 x 43.6	106
F350		KC, KB, KE, KD, KA	1250			16.4 x 8.5 x 43.6	108
F530			1875	4 FLG		19.6 x 10.6 x 45.4	168
F700			2500	6 FLG		22.6 x 12.6 x 48.5	234
F880			3125				238
F1060			3750			26.0 x 15.8 x 49.9	375
F1410			5000	8 FLG		31.5 x 19.9 x 53.3	580
F1940			6875				593
F2470			8750	10 FLG		36.3 x 23.8 x 53.4	816
F3360			11,875				830

**Dimensions vary based on accessories*
***Consult factory for dimensions*

Specifications are subject to change without notice.

Proper Filter Sizing

To find the maximum flow for a filter size at pressures other than 100 psig, multiply the rated flow by the Correction Factor corresponding to the minimum pressure at the inlet of the filter. Do not select filters by pipe size. Use flow rate and operating pressure.

Correction Factors

Operating Pressure (psig)	30	40	60	80	100	115	120	125	140	160	180	200	220	230
Capacity Correction Factor	0.39	0.48	0.65	0.83	1.00	1.06	1.08	1.10	1.16	1.23	1.30	1.37	1.43	1.46

KAESER COMPRESSORS®

Built for a lifetime.

www.kaeser.com

Kaeser Compressors, Inc.
511 Sigma Drive
Fredericksburg, VA 22408 USA
Telephone: 540-898-5500
Toll Free: 800-777-7873
info.usa@kaeser.com

Kaeser Compressors Canada Inc.
3760 La Verendrye Street
Boisbriand, QC J7H 1R5 CANADA
Telephone: (450) 971-1414
Toll free: (800) 477-1416
info.canada@kaeser.com

Kaeser Compresores de México S de RL de CV
Calle 2 #123
Parque Industrial Jurica
76100 Querétaro, Qro.
Telephone: 01 (442) 218 64 48
sales.mexico@kaeser.com

Kaeser Compresores de Guatemala y Cia. Ltda.
3a calle 6-51, zona 13
Colonia Pamplona
01013–Guatemala City
Telephone: +502 2412-6000
info.guatemala@kaeser.com