

**KAESER**  
**COMPRESSORS**

*Built for a lifetime.™*



# Compressed Air Filters

Particulate, Liquid, and Oil Removal

625 - 21,250 scfm

[kaeser.com](http://kaeser.com)

# Compressed Air Filters: 625 - 21,250 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 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 lubricants, condensed water droplets, and oil and hydrocarbon vapors.

Contaminated compressed air systems increase operating costs by reducing efficiency, damaging pneumatic equipment, increasing maintenance and repair costs, reducing production (due to downtime), and increasing 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.



# Key Features



## Modular Housings

for Flows from 625 to 780 scfm

- Manufactured from top quality aluminum and steel
- 250 psig maximum working pressure
- Powder coat painted (interior and exterior) for added durability and corrosion resistance
- All filter types fit same size housings
- Threaded connection
- Optimized air flow through housing minimizes pressure drop
- The tapered housing and non-turbulent lower filter zone prevent condensate from being picked up by the air flow
- Audible warning if disassembly attempted while housing under pressure
- Wall mounting brackets available



## Pressure Vessel Style

for Flows from 1000 - 21,250 scfm

- Holds up to 34 filter elements
- ASME pressure vessels, stamped and registered.
- CRN numbers for many vessels and many Provinces – consult factory to confirm model and Province.
- NPT(M) connections for 1000 to 1875 scfm models.
- Flange connections 2500-21,250 scfm
- ANSI pattern flanges for all models 2500 scfm and larger.
- 1 inch NPT(F) condensate drain port.
- Maximum Allowable Working Pressure of 225 psig (without condensate drain)
- Differential pressure indicator is standard.
- Vessel access via 4" x 6" handhole

# Filter Accessories

## Wall mounting bracket



Complete hardware for fast and easy installation. Available for housings up to 780 scfm.

## Differential pressure gauge



Includes volt-free contacts for remote alarm indication.

## Modular connector kit



Available for housings up to 780 scfm. (Threaded type head)

## Delta P gauge

Large, easy-to-read dual gauge faces allow housings to be mounted in any flow direction. Fitted as standard on filters (except KVF).

## Modular connection

Space-saving design allows housings to be connected in series without additional piping.

## Internal automatic drain

Reliably discharges collected condensate for flows from 625 to 780 scfm (excluding KVF and KFS).

## Color coded elements

Allows easy identification. Elements are designed using the latest media innovations and manufacturing technology.

## Enhanced Performance

- Enhanced filter media technology results in higher efficiencies and lower Delta P
- 150°F maximum inlet temperature
- Maximum working pressure: 250 psig for flows 625 to 780 scfm, 225 psig for flows from 1,000 - 21,250 scfm
- Stainless steel support sleeves, oil and acid resistant coated collars, and end caps
- 5-year warranty on filter head and housing

## Options

- Filter connection set quickly isolates condensate drain for easy maintenance without interrupting air supply
- Zero-loss automatic Eco-Drain reliably drains condensate without venting compressed air



# Filter Types

	<b>KLS</b> <i>Liquid Separator</i>	<b>KFS</b> <i>Filtered Separator</i>	<b>KPF</b> <i>Particulate Filter</i>	<b>KOR</b> <i>Oil Removal Filter</i>	<b>KOX</b> <i>Extra Fine Oil Removal Filter</i>	<b>KVF</b> <i>Vapor Filter</i>
<b>Liquid Removal (%)</b>	99+%	99+%	100% of water	99.99% of oil	99.999+% of oil	0%
<b>Max. Liquid Loading (ppm w/w)</b>	30,000	25,000	2,000	1,000	100	0
<b>Solid Particle Removal</b>	N/A	N/A	Meets ISO Class 3	Meets ISO Class 2	Meets ISO Class 1	Meets ISO Class 2
<b>Oil Carry-Over</b>	N/A	N/A	Meets ISO Class 4 for aerosols	Meets ISO Class 2 for aerosols	Meets ISO Class 2 for aerosols	Meets ISO Class 1 with KOR or KOX pre-filter
<b>Pressure Drop Wet (psi)</b>	< 0.8	1.5	2	3	6	N/A
<b>Pressure Drop Dry (psi)</b>	N/A	1	1	1	2	1

# Global Standards

ISO 8573.1:2010 was developed by ISO (International Organization for Standardization) as a reference to help facility engineers specify compressed air quality for solid particulates, humidity, and oil.

A typical pharmaceutical plant, for example, might have a compressed air specification of ISO Quality Class 1.2.1. as shown outlined in the specifications below.

<b>SOLID PARTICLES / DUST</b>			
Class	Max. particle count per m <sup>3</sup> of a particle size with d* (µm)		
	0.1 < d ≤ 0.5	0.5 < d ≤ 1.0	1.0 < d ≤ 5.0
0	Consult Kaeser		
1	≤ 20,000	≤ 400	≤ 10
2	≤ 400,000	≤ 6,000	≤ 100
3	not specified	≤ 90,000	≤ 1,000
4	not specified	not specified	≤ 10,000
5	not specified	not specified	≤ 100,000
Class	Particle concentration * C <sub>p</sub> (mg/m <sup>3</sup> )		
6	0 < C <sub>p</sub> ≤ 5		
7	5 < C <sub>p</sub> ≤ 10		
X	C <sub>p</sub> > 10		

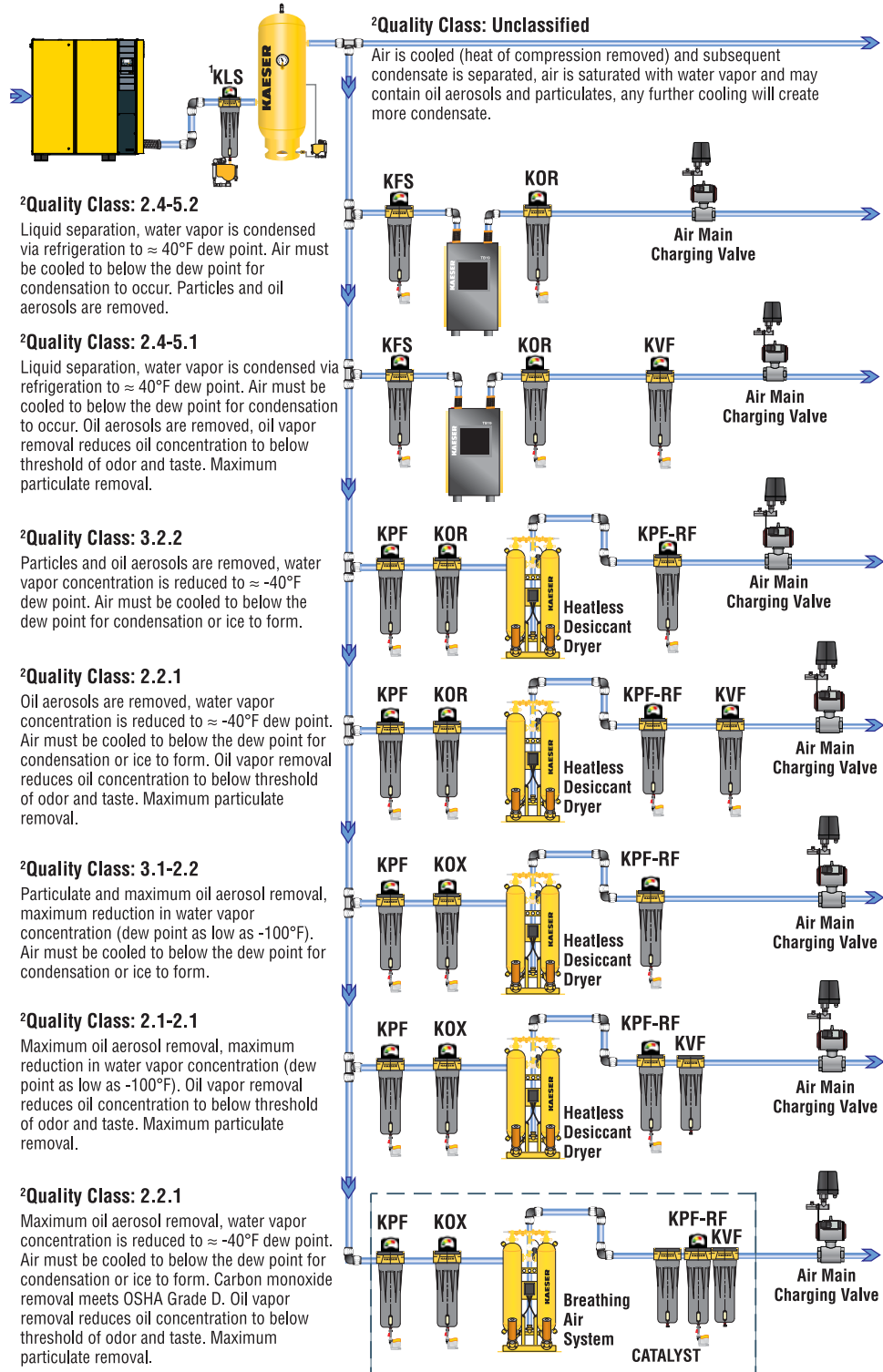
<b>HUMIDITY AND LIQUID WATER</b>		
Class	Pressure dew point	
0	Consult Kaeser	
1	≤ 70°C	≤ -94°F
2	≤ -40°C	≤ -40°F
3	≤ -20°C	≤ -4°F
4	≤ 3°C	≤ 38°F
5	≤ 7°C	≤ 45°F
6	≤ 10°C	≤ 50°F
Class	Concentration of liquid water* C <sub>w</sub> (g/m <sup>3</sup> )	
7	C <sub>w</sub> ≤ 0.5	
8	0.5 < C <sub>w</sub> ≤ 5	
9	5 < C <sub>w</sub> ≤ 10	
X	C <sub>w</sub> > 10	

<b>OIL</b>		
Class	Total oil concentration* (liquid, aerosol, and vapor)	
	(mg/m <sup>3</sup> )	(ppm w/w)
0	Consult Kaeser	
1	≤ 0.01	≤ 0.008
2	≤ 0.1	≤ 0.08
3	≤ 1.0	≤ 0.8
4	≤ 5.0	≤ 4
X	> 5.0	> 4

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

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

The configurations below do not depict every possible dryer-filter combination. Your Kaeser representative can help select the appropriate air treatment products for your application.



<sup>1</sup> For compressors without an integrated moisture separator.

<sup>2</sup> Configuration meets ISO class when tested in an ISO 12500 certified facility per ISO 12500 testing directives.

# Technical Specifications

Model	Air Flow @ 100 psig (cfm)	Conn. Size (in.)	Standard Features of Filters*						Max. Working Pressure (psig)	Housing Dimensions W x H (in.)	Weight (lbs.)
			KLS	KFS	KPF	KOR	KOX	KVF			
<b>Modular Type Housing</b>											
(Filter Type) - 625	625	2½ NPTF	1	3	4	4	4	5	With Manual Drain: 300 With Auto Drain or LLI: 250	7 <sup>5</sup> / <sub>8</sub> x 36 <sup>3</sup> / <sub>8</sub>	24
(Filter Type) - 780	780	2½ NPTF								7 <sup>5</sup> / <sub>8</sub> x 42½	28
<b>Pressure Vessel</b>											
(Filter Type) - 1000P	1000	3 NPTM	2	2	2	2	2	6	225	16 x 48	90
(Filter Type) - 1250P	1250	3 NPTM								16 x 48	90
(Filter Type) - 1875P	1875	3 NPTM								16¼ x 49	118
(Filter Type) - 2500P	2500	4 Flange								20 x 52¼	178
(Filter Type) - 3125P	3125	4 Flange								20 x 52¼	180
(Filter Type) - 5000P	5000	6 Flange								24 x 54 <sup>5</sup> / <sub>8</sub>	271
(Filter Type) - 6875P	6875	6 Flange								28 x 62 <sup>9</sup> / <sub>16</sub>	518
(Filter Type) - 8750P	8750	6 Flange								28 x 62 <sup>9</sup> / <sub>16</sub>	525
(Filter Type) - 11875P	11,875	8 Flange								33 x 69 <sup>1</sup> / <sub>8</sub>	709
(Filter Type) - 16250P	16,250	8 Flange								39 x 68	918
(Filter Type) - 21250P	21,250	10 Flange	45 <sup>7</sup> / <sub>8</sub> x 71	1412							

Specifications are subject to change without notice.

## Correction Factors

Operating Pressure (psig)	30	40	60	80	100	120	140	160	180	200	220	230	250
Capacity Correction Factor	0.39	0.48	0.65	0.83	1.00	1.08	1.16	1.23	1.30	1.37	1.43	1.46	1.52

Note: Maximum inlet temperature is 150°F.

## \*Standard Features of Filters

- 1 - Manual Drain (Automatic drain trap is STRONGLY recommended)
- 2 - Plugged Drain Port, Delta P Gauge, (Automatic drain trap is STRONGLY recommended)
- 3 - Manual Drain, Delta P Gauge (Automatic drain trap is STRONGLY recommended)
- 4 - Internal Automatic Drain, Delta P Gauge
- 5 - Manual Drain (Automatic drain trap not required)
- 6 - Plugged Drain Port (Manual drain recommended, automatic drain trap not required)

## 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.



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