

Compressed Air Filters



Superior Filtration for Increased Productivity

Kaeser Gives You the Air Quality You Require

Ambient air contains contaminants that are drawn into the compressor. These contaminants are concentrated during compression and find their way 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 robbing the air system of useful power. This results in reduced efficiency, damaged air-operated equipment, higher maintenance and repair costs, reduced production caused by downtime, and increased product rejections.

The properly sized and selected Kaeser filter(s) in conjunction with the appropriate dryer will remove these contaminants. This will allow the compressed air system to deliver the quality of air required for the particular application whether it's plant air, instrument air, or breathing air.

High Performance Filters and Separators

Designed and developed using the latest innovations and manufacturing techniques, Kaeser filter housings are designed with larger flow areas to ensure low pressure drop and to provide easier installation, operation, and maintenance. The result is consistent product quality while minimizing operating costs.

Kaeser Reduces the Cost of Compressed Air

Kaeser filters remove more contaminants with less pressure drop. Compare the operating pressure drop of competitive brand filters and remember, for every extra 2 psi of pressure drop, power requirements increase by 1%.

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.

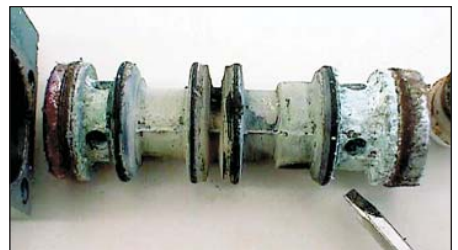
What happens when you don't use an air filter?



All ambient air contains harmful particulates and contaminants



Any contaminants that are not filtered from the compressor will eventually wind up in the machinery or end product



Contaminants corrode and damage air-operated equipment

Standard Features and Benefits



1 Delta P Slide Indicator

Ensures economical operation by changing color when filter element requires replacement. Fitted as standard on filters up to 60 scfm (excluding KVF).

2 Color Coded Elements

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

3 Internal Automatic Drain

Reliably discharges collected condensate (excluding KVF and KFS 250 and above).

4 Delta P Gauge

Large, easy-to-read dual gauge faces allow housings to be mounted in any flow direction. Fitted as standard on filters from 100 scfm and up (except KVF).

5 Modular Connections

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

6 Liquid Level Indicator

Visually monitor liquid level and verify drain operation.

Modular Housings for Flows up to 780 scfm

- Manufactured from top quality aluminum and steel
- Powder coat painted (interior and exterior) for added durability and corrosion resistance
- All filter types fit same size housings
- 1/8 turn bayonet head to bowl connections for easy access (20 to 170 scfm)
- Threaded connection for 250 scfm and up
- Optimized air flow through housing minimizes pressure drop

- The tapered housing and non-turbulent lower filter zone prevents condensate from being picked up by the air flow
- Audible warning if disassembly attempted while housing under pressure
- Wall mounting brackets available

Enhanced Performance

- Latest filter media technology results in higher efficiencies and lower Delta P
- Additional filter types for extra critical applications
- 150°F maximum inlet temperature

- 250 psig maximum working pressure (pressure vessels, 225 psig)
- Push-on element for quick, reliable replacement
- Filters maintain rated efficiency down to ten percent of flow capacity
- Filter element seals to filter head
- Stainless steel support sleeves, oil and acid resistant coated collars, and end caps

Premium Options



1 Filter Monitor

- Microprocessor control and LCD display
- Indicates optimum element replacement based on:
 - operating time
 - differential pressure
 - filter type
- Filter replacement “warning”
- Continuously measures differential pressure

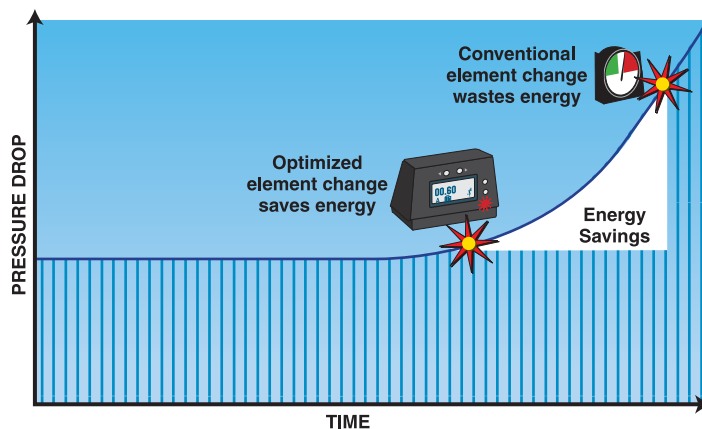
2 Filter Connection Set

Quickly isolates condensate drain for easy maintenance without interrupting air supply.

3 Eco-Drain

- Non-wearing electronic probe does not have moving parts
- Reliably discharges condensate, but not costly compressed air
- Self-checking electronics with automatic alarm test button, and voltage free alarm contact
- LEDs for power supply and alarm

Potential Energy Savings with Filter Monitor



Filter Accessories



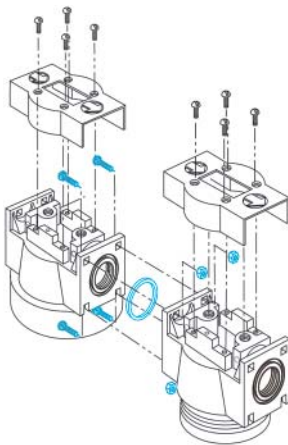
Wall mounting bracket

Available for housings from 20 through 780 scfm



Differential pressure gauge with volt-free contacts for remote alarm indication

Available for housings from 20 through 780 scfm



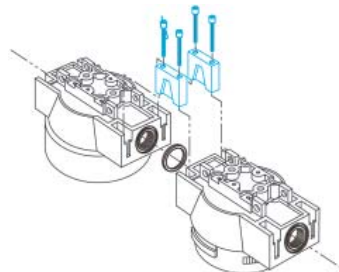
Manifold connector kit

Available for housings from 250 through 780 scfm (Threaded-type head)



Manual drain and external drain adapter

Available for housings from 20 through 170 scfm



Modular connector kit

Available for housings from 20 through 170 scfm (Bayonet-type head)



Oil Mist Eliminators (OME)

Oil Mist Eliminators (OME) are large oil removal filters with a very low pressure drop. Not only do they remove both oil aerosols and water, but they can handle large slugs of liquid. The cartridge life is normally 8 to 15 years, requiring virtually no maintenance.

Sizes: 125 – 3000 scfm

Other Air Treatment Products



Drain Traps

Kaeser's Automatic Drains like the Automatic

Magnetic Drain (AMD) (shown, left) and the award-winning Eco-Drain (shown, right) provide reliability and reduce maintenance. Timed Electric Traps and Automatic Drain Traps complete our compressed air treatment product line.



Condensate Management

Kaeser's Condensate Filters (KCF) auto-

matically remove oil from compressor condensate. This allows for easy and economical disposal of compressed air condensate in an environmentally responsible way. The low maintenance system requires no electricity for operation.



High Pressure Filters (HP)

High Pressure filters (HP) are available for applications requiring pressures up to 1000 psig. They include seam welded stainless steel

cores for greater durability and corrosion resistance.



Membrane Dryers (KMM)

Kaeser Modular Membrane Dryers (KMM) provide dew point suppression without requiring any external power or regular

maintenance. These dryers are well-suited for point of use applications and are easy to install with simple piping connections.

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.

SOLID PARTICLES / DUST			
Class	Max. particle count per m ³ 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* Cp (mg/m ³)		
6	0 < Cp ≤ 5		
7	5 < Cp ≤ 10		
X	Cp > 10		

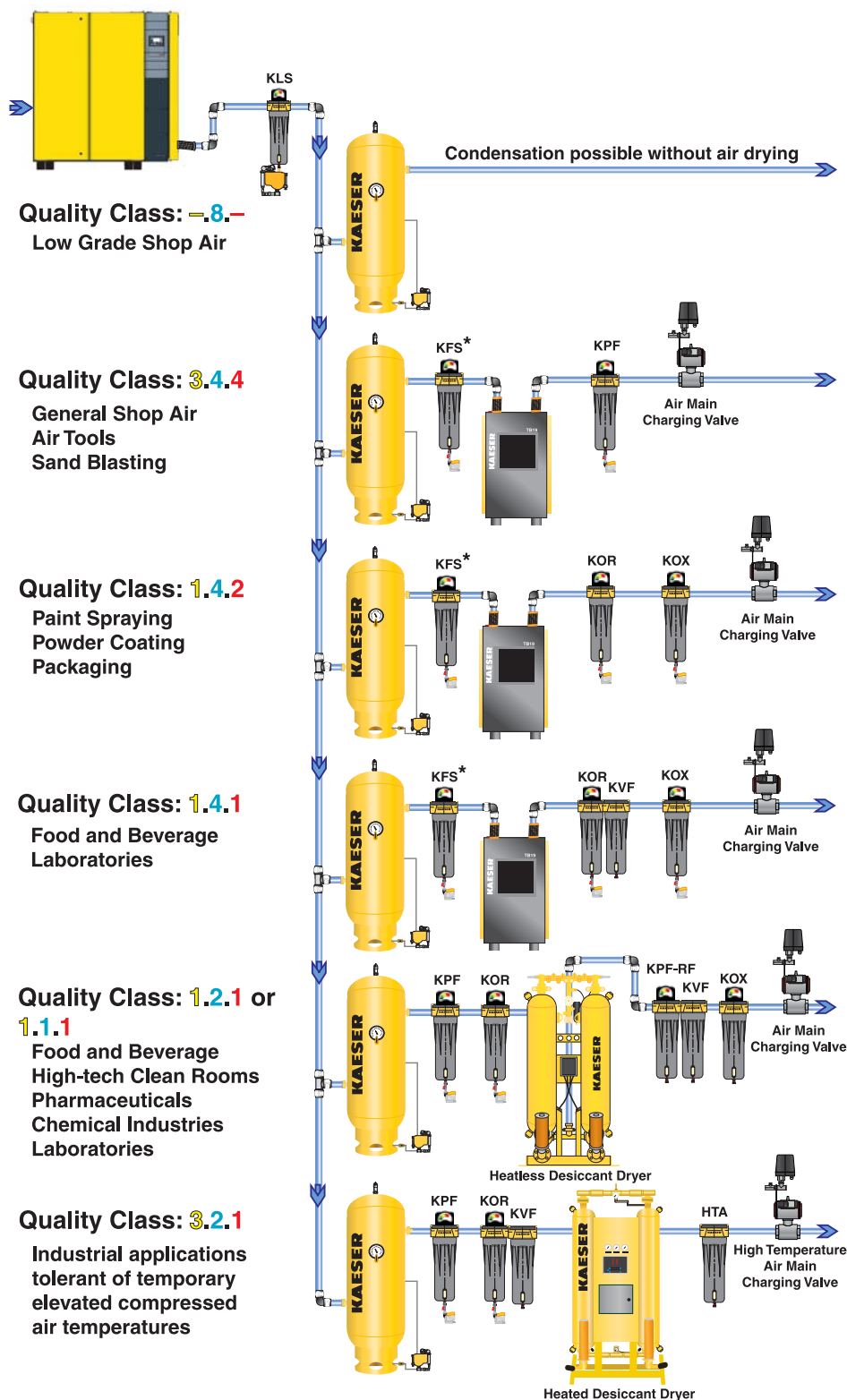
HUMIDITY AND LIQUID WATER		
Class	Pressure dew point	
0	Consult Kaeser	
1	≤ -70°C	≤ -94°F
2	≤ -40°C	≤ -40°F
3	≤ -20°C	≤ -4°F
4	≤ 3°C	≤ 38°F
5	≤ 7°C	≤ 45°F
6	≤ 10°C	≤ 50°F
Class	Concentration of liquid water* Cw (g/m ³)	
7	Cw ≤ 0.5	
8	0.5 < Cw ≤ 5	
9	5 < Cw ≤ 10	
X	Cw > 10	

OIL		
Class	Total oil concentration* (liquid, aerosol, and vapor)	
	(mg/m ³)	(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

Example Air Treatment Configurations

with ISO 8573.1: 2010 quality classes shown



* To remove particulate created by corroding tanks and piping, use a KFS upstream of air treatment

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

Specifications

KLS - Kaeser Liquid Separator

- Liquid Removal: 99+% of water
- Max. Liquid Loading: 30,000 ppm w/w
- Oil Carry-Over: N/A
- Pressure Drop: Wet: 0.8 psi



KFS - Kaeser Filtered Separator

- Liquid Removal: 99+% of water
- Max. Liquid Loading: 25,000 ppm w/w
- Solid Particle Removal: Meets ISO Class 5
- Oil Carry-Over: Meets ISO Class X for aerosols
- Pressure Drop: Dry-1 psi; Wet: 1.5 psi



KPF - Kaeser Particulate Filter

- Liquid Removal: 100% of water
- Max. Liquid Loading: 2,000 ppm w/w
- Solid Particle Removal: Meets ISO Class 4
- Oil Carry-Over: Meets ISO Class 4 for aerosols
- Pressure Drop: Dry: 1 psi; Wet: 2 psi



KOR - Kaeser Oil Removal Filter

- Liquid Removal: 99.99+% of oil
- Max. Liquid Loading: 1,000 ppm w/w
- Solid Particle Removal: Meets ISO Class 2
- Oil Carry-Over: Meets ISO Class 2 for aerosols
- Pressure Drop: Dry: 1 psi; Wet: 3 psi



KOX - Kaeser Oil Removal eXtra Fine Filter

- Liquid Removal: 99.999+% of oil
- Max. Liquid Loading: 100 ppm w/w
- Solid Particle Removal: Meets ISO Class 1
- Oil Carry-Over: Meets ISO Class 2 for aerosols
- Pressure Drop: Dry: 2 psi; Wet: 6 psi



KVF - Kaeser Vapor Filter

- Liquid Removal: 0%
- Max. Liquid Loading: 0 ppm w/w
- Solid Particle Removal: Meets ISO Class 2
- Oil Carry-Over: Meets ISO Class 1 for vapor
- Pressure Drop: Dry: 1 psi; Wet: N/A



Model	Air Flow @ 100 psig (cfm)	Connection Size (in.)	Standard Features of Filters*						Max. Working Pressure (psig)	Housing Dimensions W x H (in.)	Weight (lbs.)		
			KLS	KFS	KPF	KOR	KOX	KVF					
Modular Type Housing													
(Filter Type) - 20	20	1/2 NPTF	1	4	4	4	4	9	With Manual Drain: 300	4 1/8 x 9	4		
(Filter Type) - 35	35	1/2 NPTF								4 1/8 x 11 1/8	4		
(Filter Type) - 60	60	1/2 NPTF								4 1/8 x 13 1/2	5		
(Filter Type) - 100	100	1 NPTF		5	5	5	5			5 1/4 x 14 3/8	6		
(Filter Type) - 170	170	1 NPTF								5 1/4 x 18 5/8	7		
(Filter Type) - 250	250	1 1/2 NPTF		6	6	6	6		With Auto Drain or LLI: 250	6 1/2 x 22 3/4	9		
(Filter Type) - 375	375	1 1/2 NPTF								6 1/2 x 27 1/4	10		
(Filter Type) - 485.2	485	2 NPTF	2	7	8	8	8			7 5/8 x 30 5/8	21		
(Filter Type) - 485.2.5	485	2 1/2 NPTF								7 5/8 x 30 5/8	21		
(Filter Type) - 625	625	2 1/2 NPTF								7 5/8 x 36 3/8	24		
(Filter Type) - 780	780	2 1/2 NPTF								7 5/8 x 42 1/2	28		
Pressure Vessel													
(Filter Type) - 1000P	1000	3 NPTM	3	3	3	3	3	10	225	16 x 48	90		
(Filter Type) - 1250P	1250	3 NPTM								16 x 48	90		
(Filter Type) - 1875P	1875	3 NPTM								16 1/4 x 49	118		
(Filter Type) - 2500P	2500	4 Flange								20 x 52 1/4	178		
(Filter Type) - 3125P	3125	4 Flange								20 x 52 1/4	180		
(Filter Type) - 5000P	5000	6 Flange								24 x 54 5/8	271		
(Filter Type) - 6875P	6875	6 Flange								28 x 62 9/16	518		
(Filter Type) - 8750P	8750	6 Flange								28 x 62 9/16	525		
(Filter Type) - 11875P	11,875	8 Flange								33 x 69 1/8	709		
(Filter Type) - 16250P	16,250	8 Flange								39 x 68	918		
(Filter Type) - 21250P	21,250	10 Flange								45 7/8 x 71	1412		

*Standard Features of Filters

- 1 - Manual Drain, Liquid Level Indicator (Automatic drain trap is **STRONGLY** recommended)
- 2 - Manual Drain (Automatic drain trap is **STRONGLY** recommended)
- 3 - Plugged Drain Port (Automatic drain trap is **STRONGLY** recommended), Delta P Gauge
- 4 - Internal Automatic Drain, Delta P Slide Indicator, Liquid Level Indicator
- 5 - Internal Automatic Drain, Delta P Gauge, Liquid Level Indicator
- 6 - Manual Drain, Delta P Gauge, Liquid Level Indicator (Automatic drain trap is **STRONGLY** recommended)
- 7 - Manual Drain, Delta P Gauge (Automatic drain trap is **STRONGLY** recommended)
- 8 - Internal Automatic Drain, Delta P Gauge
- 9 - Manual Drain (Automatic drain trap not required)
- 10-Plugged Drain Port (Manual drain recommended, automatic drain trap not required)

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.

Operating Pressure (psig)	60	80	90	100	110	125	145	150	160	175	190	215	230	250
Capacity Correction Factor	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

Note: Maximum inlet temperature is 150°F.

Specifications are subject to change without notice.

The Air Systems Specialist

We strive to earn our customers' trust by supplying superior quality equipment and services. Our products are designed for reliable performance, easy maintenance, and energy efficiency. Prompt and dependable customer service, quality assurance, training, and engineering support contribute to the value our customers have come to expect from Kaeser. Our employees are committed to implementing and maintaining the highest standards of quality to merit customer satisfaction. We aim for excellence in everything we do.

Our engineers continue to refine manufacturing techniques and take full advantage of the newest machining innovations. Extensive commitment to research and development keeps our products on the leading edge of technology to benefit our customers. With over 90 years of experience, Kaeser is the air systems specialist.

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