



Compressed Air Filter
Electronic Drain Valve
Air Cooled Aftercooler



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NGF·JF·JED·JAC·JTF Series



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Some specifications in this bulletin may change without notice.



NGF Series

The New Generation of Compressed Air Filtration

Energy costs continue to escalate globally, having a negative impact on plant profitability and production costs. Sustainability initiatives in plant operations must be implemented to maintain a competitive advantage.

Air treatment manufacturers are challenged to design equipment that is cost effective, delivers optimum performance and consumes less energy. The Jemaco New Generation Filter Series is the ideal solution to remove contamination from compressed air systems and save energy.

The NGF Series employs technological advancements in filtration materials and design to ensure premium compressed air quality and low operational costs.

Features

A. Patented Venturi-Wave™ Element Design

- ▶ The venturi profile promotes a turbulent-free transition for compressed air entering the element
- ▶ Optimized flow distribution through the element minimizes pressure loss and reduces system operating cost
- ▶ Unique backside contour assists smooth movement of air exiting the filter housing

B. Deep Bed Pleated, High Performance Media

- ▶ Increases effective filtration surface area, reduces pressure drop by 50%
- ▶ 96% voids-volume ratio optimizes dirt loading capacity
- ▶ HEPA grade microfibrerglass media maximizes efficiency
- ▶ Thermally bonded polyester support layers minimize media migration
- ▶ Low wetted pressure drop for the life of the element
- ▶ Seam welded, stainless steel inner and outer support cores enhance dimensional stability of the element
- ▶ Chemically inert, non-aging polyester drain layer expedites removal of liquid
- ▶ All materials of construction are silicone free



Housing & Element – Materials of Construction

Filter Head	Aluminum
Filter Housing	Aluminum
Exterior Coating	Polyester Epoxy Powder
Filter Media	HEPA Grade Borosilicate Fiberglass
Inner/Outer Support Cores	Stainless Steel
End Caps	Fiberglass Reinforced Polyamide Resin
End Cap Seal	Nitrile

C. Element Grade Identification

- ▶ Color coded end caps promote ease of element grade identification
- ▶ Bottom end caps pad printed with genuine SPX filter element replacement part number

D. Sculpted Design

- ▶ Flanged inlet and outlet connections make installation easy
- ▶ Seven flow models, with multiple port sizes, 1/2" to 3" PT, allow for greater application flexibility
- ▶ Sculpted housing designs, with large unrestricted flow paths, reduce pressure drop

E. Safety Built-in

- ▶ Die cast aluminum housings provide a cost effective solution
- ▶ Chromated housings, with a polyester epoxy powder coating for corrosion resistance
- ▶ Internally ribbed bowls facilitate condensate draining
- ▶ Audible alarm when attempting bowl removal under pressure
- ▶ Drain Valve
 - S, P, H, U Grades are installed float drain.
 - PD, C Grades are installed manual drain.



Engineering Excellence

SPX is a place where innovation is valued, and the real needs of business are understood. We transform ideas into powerful solutions to help our customers meet their goals, overcome business challenges and thrive in a complex, always-changing marketplace.

Utilizing the latest technological advancements, NGF Series Compressed Air Filters offer a new way of thinking and innovative approach to efficiently clean compressed air.

About SPX

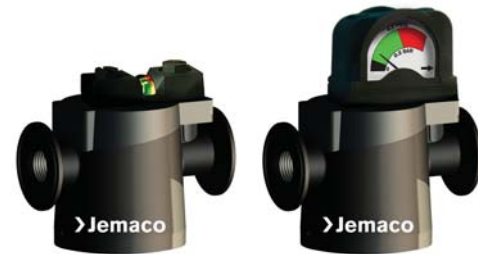
Based in Charlotte, NC, USA, SPX Corporation is a global Fortune 500 multi-industry manufacturing leader with over \$5 billion in annual revenue, operations in more than 35 countries and approximately 15,000 employees. The company's highly-specialized, engineered products and technologies are concentrated in Flow Technology and energy infrastructure.

www.spx.com

Options

Pressure Monitoring

- ▶ Differential Pressure Slide Indicator
 - Color indicator moves based on differential pressure
- ▶ Differential Pressure Gauge
 - Two color gauge face indicates element change-out based on differential pressure
- ▶ S, P, PD, H, U Grade



Electronic Drain Valve

- ▶ S, P, H, U Grade

Advanced Energy Saving Filtration Technology

The development of sustainable energy savings compressed air treatment solutions is the driving principle behind Jemaco product designs. The NGF Series provides the perfect balance high performance filtration and low pressure drop. Patented elements maintain low pressure drop and long service life.

Filters are tested and rated delivering certifiable performance according to ISO 8573.1:2009 air quality standards. NGF elements are performance validated to ISO 12500 ensuring air quality delivered is in accordance to ISO 8573.1:2009 classifications

NGF Series Filtration Performance

Element Grade	S	P / PD	H	U	C
Particle Retention Size (Per ISO 12500-3)	3.0µm	1.0µm	0.01µm	0.01µm	0.01µm
Particle Removal Efficiency (Per ISO 12500-3)	–	99.999+	99.999+	99.999+	99.999+
Oil Removal Efficiency (Per ISO 12500-1)	50%	80%	99.9+	99.99+	–
Remaining Oil Content (Per ISO 12500-1)	5.0mg/m ³	2.0mg/m ³	<0.01 mg/m ³	<0.001 mg/m ³	<0.004 mg/m ³ (as a vapor)

ISO 12500 International Standards for Test and Measurement

ISO 12500 defines a universal method for manufacturers to test and rate compressed air filters. Critical performance parameters are specified for inlet oil challenge and solid particulate size distribution.

- ▶ ISO 12500-1 : defines the testing of coalescing filters for oil aerosol removal performance.
- ▶ ISO 12500-2 : quantifies vapor removal capacity of adsorption filters.
- ▶ ISO 12500-3 : outlines requirements to test particulate filters for solid contaminant removal.

The NGF Series is tested to ISO 12500. Test results provide certifiable performance data based on defined challenge concentrations.



Element Grade	ISO Quality Class Solids	ISO Quality Class Oil
S	3	5
P / PD	2	4
H	1	1
U	1	1
C	1	1 (as a vapor)

ISO 8573.1: 2009 Air Quality Standard

ISO 8573, the international standard for compressed air quality, defines the amount of contamination permissible in compressed air.

- ▶ The standard identifies three primary forms of contamination in compressed air systems—solid particles, water and oil.
- ▶ Contaminants are classified and assigned a quality class, ranging from Class 0, the highest purity level, to Class 9, the most relaxed

NGF Series Pressure Drop Performance

Element Grade	Filter Description	Dry Δp		Wetted Δp	
		psig	bar	psig	bar
S	Bulk Liquid Separator/Filter	0.06	0.06	1.0	0.07
P / PD	General Purpose Filter	0.04	0.04	1.4	0.10
H	High Efficiency Oil Removal Filter	0.04	0.04	1.8	0.12
U	Ultra High Efficiency Oil Removal Filter	0.06	0.06	2.0	0.14
C	Oil Removal Filter	0.07	0.07	–	–

* Pressure differential in excess of 0.3 bar – pressure indicator in red area – indicates that the filter element should be replaced. Element should be changed annually or when indicator changes to red, whichever occurs first.

* Grade C : Adsorption capacity, 1,000 hours at rated capacity. Element life is exhausted when odor can be detected downstream of the filter.


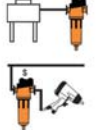



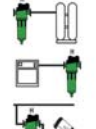



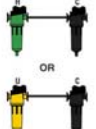

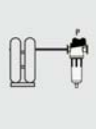
Total System Protection

The NGF Series provides protection for the entire compressed air system. A wide range of filters exceeds customer requirements for ISO Quality Class performance, service life and optimal energy savings.

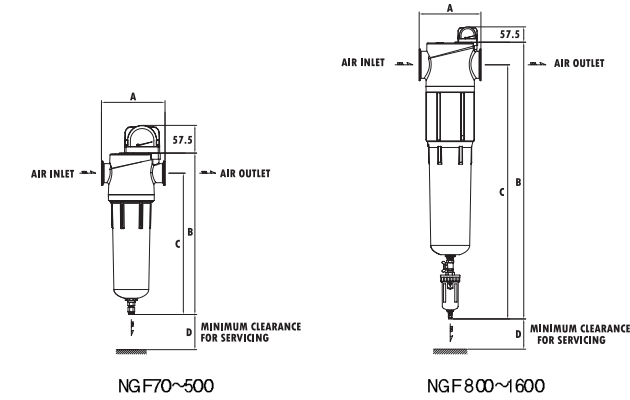
Compressed air contamination exists in three stages – solid, liquid and gaseous.

- ▶ Ingested contaminants appear in the form of water, hydrocarbons and particulates.
- ▶ The compression process introduces lubricant and wear particles into the system.
- ▶ Piping distribution and storage tanks foster contaminants in the form of rust, pipe scale and bacteria.

NGF Series Element Specifications

	Grade S Bulk Liquid Separator/Filter	Separator / filter removes bulk liquid and solids	<ol style="list-style-type: none"> 1. Downstream of aftercoolers 2. At point-of-use if no aftercooler /separator used upstream 	
	Grade P General Purpose Filter	General purpose filtration to protect pneumatically operated tools, motors and cylinders.	<ol style="list-style-type: none"> 1. Upstream of ultra high efficiency oil removal filters 2. At point-of-use if aftercooler /separator installed upstream 3. Downstream of heatless desiccant dryers 4. Upstream of refrigerated dryers 	
	Grade H High Efficiency Oil Removal Filter	Fine coalescer provides oil free air for industrial applications such as spray painting, injection molding, instrumentation and control valves.	<ol style="list-style-type: none"> 1. Upstream of desiccant dryers 2. Downstream of refrigerated dryers 3. At point-of-use if aftercooler /separator installed upstream 	
	Grade U Ultra High Efficiency Oil Removal Filter	Ultra fine coalescer delivers oil free air for critical applications including , conveying electronics manufacturing and nitrogen replacement.	<ol style="list-style-type: none"> 1. Upstream of desiccant dryers 2. Upstream of membrane dryers 3. Downstream of refrigerated dryers 	
	Grade C Oil Vapor Removal Filter	Activated carbon filter removes oil vapor and provides oil free air for food and drug manufacturing, breathing air and gas processing	<ol style="list-style-type: none"> 1. Downstream of high efficiency oil removal filters 	
	Grade PD Downstream of Desiccant Dryers	NGF PD will be provided as the same nomenclature with element 'Grade P.' Air flows in reverse direction.	<ol style="list-style-type: none"> 1. Downstream of desiccant dryers 	

NGF Series Specifications



Model	Flow Capacity (Nm ³ /min)	Dimensions(mm)				Connections (PT)	Weight (kg)
		A	B	C	D		
S/P/H/U/C70, P70D	1.98	114	260	226	102	1/2"	0.9
S/P/H/U/C150, P150D	4.25	132	271	229	127	3/4"	1.4
S/P/H/U/C200, P200D	5.66	132	335	293	127	1"	1.6
S/P/H/U/C300, P300D	8.49	200	346	285	178	1 1/2"	3.8
S/P/H/U/C500, P500D	14.14	200	575	514	178	2"	5.3
S/P/H/U/C800, P800D	22.65	231	852	767	204	3"	8.5
S/P/H/U/C1100, P1100D	31.15	231	1034	950	204	3"	12.6
S/P/H/U/C1600, P1600D	45.30	231	1302	1218	204	3"	18.7

* Max./Min. Operating Pressure : 16 barg / 1.4 barg, Max./Min. Temperature : 65°C / 2°C

* The above models are applied to the downstream of desiccant dryers only and flow from outside to inside the element.

Correction Factors

Inlet Pressure (barg)	1.4	2.1	2.8	4.1	5.5	7.0	8.3	10.3	13.8	16.0
Factor	0.30	0.39	0.48	0.65	0.82	1.00	1.17	1.43	1.87	2.15

JF Series

Compressed Air Filter

The JF Series features filters to fill every need. Choose one of the five filters or link them together for specialized application.



- ▲ 1. Compressed air system contaminated with water and solid particles
- ▲ 2. Contaminants in the compressed air after particulate filters applied

Features

Operational reliability : high quality components

Energy saving : low pressure drop

Problem free application : silicone free

High Efficiency Coalescing (Grade HF)
HF provides high efficiency for removal of liquid and aerosol mists.

Coarse Coalescing (Grade PF)
PF is designed for applications, which do not require high efficiency filtration. Also recommended as a pre-filter to prolong the life spans of high efficiency coalescing.

Fine Particulate (Grade DF)
DF removes fine particulate material from the air stream. Particularly suited for use as a desiccant dryer after-filter.

Coarse Particulate (Grade GF)
GF filters remove coarse particulate material from the air stream. Particularly suited for use as a pre-filter to coalesce.

Vapor (Grade CF)
CF incorporate activated carbon to remove hydrocarbon vapors and trace organic contaminants and their associated smells and tastes.

Optional

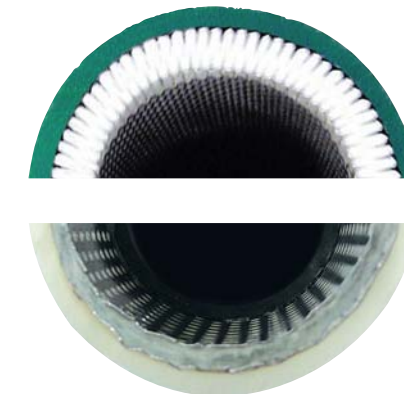
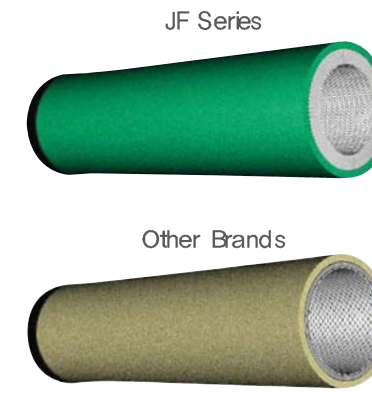
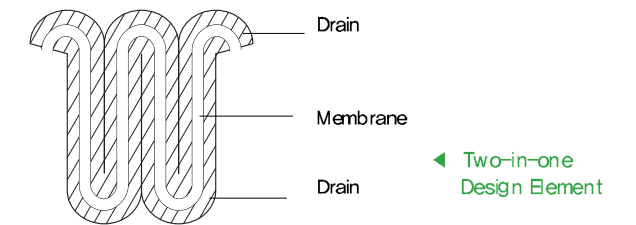
Auto Drain Valve (A Option)

- ▶ GF, PF, HF (JED38A, JED210A)



Element

Multiple layer design removes virtually all liquids or mists. Unique element and housing design ensures contaminants are not allowed to re-entrain into the air stream.



Technical Data

Oil, dust, dirt and water, alone or in combination, these are the enemies that attack any compressed air system. These can plug orifices of sensitive pneumatic instruments, wear out seals, erode system components, reduce efficiency of air-operated tools, damage finished products and otherwise contribute to product rejects, lost production hours and rising maintenance costs. Although the best defense against oil and dirt is effective filtration, this fact is often overlooked until problems arise.

JF Series coarse coalescing filter removes oil droplets and aerosol mist by combining multiple types of media into one element. Grade HF/PF filters remove liquid and aerosol mists from the air stream through multiple layers of filtration media. Each layer removes progressively smaller contaminants while maintaining low pressure drop. The unique design of the element and housing create an area of higher-velocity air.

Grade DF filter is designed for use primarily as an after-filter in desiccant dryer systems, the particulate filter may also be effectively used to remove rust or particulate from compressed air. The Grade GF is also ideal for use as a pre-filter to coalesce.

The vapor removal filters remove gaseous hydrocarbon and organic vapors, for final cleaning of air used in critical applications. Grade CF filters will remove gaseous hydrocarbons that affect the smell and taste of compressed air.

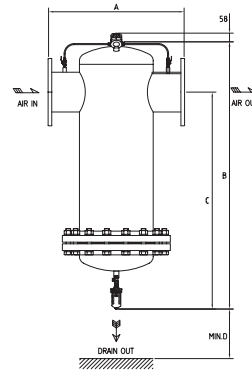
Filtration Efficiency

Model	Efficiency
GF	10 μ , 99.9%
PF	1 μ , 99.999%
HF	0.01 μ , 99.999%
DF	1 μ , 99.999%
CF	0.003ppm

Performance Guarantee Working Temperature

Model	Minimum	Maximum
GF, PF, HF, CF	2°C	55°C
DF	2°C	70°C

JF Series Specifications



GF/HF/PF 1080K~6000K

Model	Flow Capacity (Nm ³ /min)	Dimensions(mm)				Connection (FLG)	Weight (kg)
		A	B	C	D		
GF/PF/HF/DF/CF1080K	60.00	510	1163	982	280	4"	155.0
GF/PF/HF/DF/CF1500K	83.33	580	1342	1125	380	6"	195.0
GF/PF/HF/DF/CF2250K	125.00	800	1501	1219	380	8"	203.0
GF/PF/HF/DF/CF3000K	166.66	800	1501	1219	380	8"	206.0
GF/PF/HF/DF/CF4500K	250.00	1000	1610	1281	380	10"	302.0
GF/PF/HF/DF/CF6000K	333.33	1091	1798	1569	380	12"	405.0

* Max./Min. Operating Pressure : 10.3 barg/2 barg

Correction Factors

Inlet Pressure (barg)	2.0	2.9	3.9	4.9	5.9	6.9	7.8	8.8
Factor	0.40	0.50	0.62	0.75	0.87	1.00	1.11	1.22

Inlet Pressure (barg)	9.8	10.8	11.8	12.7	13.7	14.7	15.7
Factor	1.34	1.47	1.58	1.71	1.83	1.95	2.07

JED Series

Electronic Drain Valve

All compressed air systems produce internal condensate which must be drained away. Inadequately drained oil and water can cause equipment damage, down time and product failure. Jemaco JED Series is the electronic drain valves automatically discharging accumulated fluids from compressors, filters, driplegs, receivers, separators and other collection points.



Features

No operator attention and minimal routine servicing

LEDs signal power on and drain open

Dual adjustments precisely match contaminant load:select drain cycle and drain duration

Discharges accumulated fluids with minimum air loss with only 19 watts electric power

High capacity discharge, more than 90 per drain cycle at 7 barg

Operating pressure from 0 barg to 16 barg

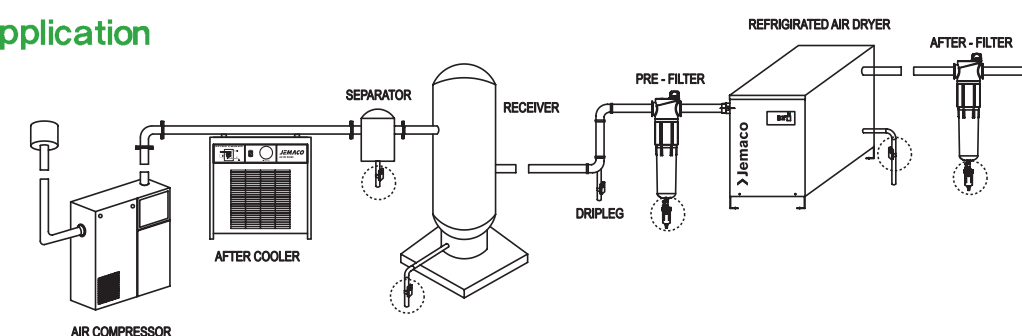
Internal seals compatible with all major compressor lubricants

Can be installed indoors or outdoors(drain line may require heat tracing)

Specifications

Model	Connection	Electrical Power	Maximum Temperature	Operating Pressure	Timer Interval/ Drain Cycle	Certification	Insulation	Enclosure Grade	Power Consumption
JED38A	3/8"	230V/1Ph/ 50/60Hz	40°C(Fluid)	0-16bar	0.5-45 Minutes/ 0.5-10 Seconds	UL, CE, CSA	Class H	IP 65 NEMA 4	19W
JED210A	1/2"								19W
JED410A	1/4"								19W

Application



JAC Series

Air Cooled Aftercooler

If there is moisture in the compressed air, this leads various industrial pneumatic devices to lower qualities and shorter durability. Therefore, the compressed air should be dried and chilled before using it. JAC series after cooler, an essential supplementary device to supply lower temperature compressed air, condensate the water vapor and remove it with cooling down high temperature and saturated air initially.

Features

Easy maintenance and installation

Electronic Auto Drain Valve (Option)

Maximize the chilling efficiency with high purity of aluminum pins and copper tube

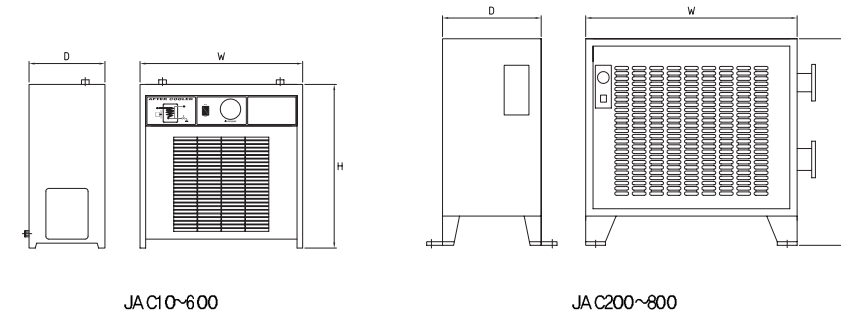
Minimize the pressure drop with Multi-Circuit design

Special Steel for strong cases and high temperature treated embossing painting

Small and strong power self lubrication motor integrated



Specifications



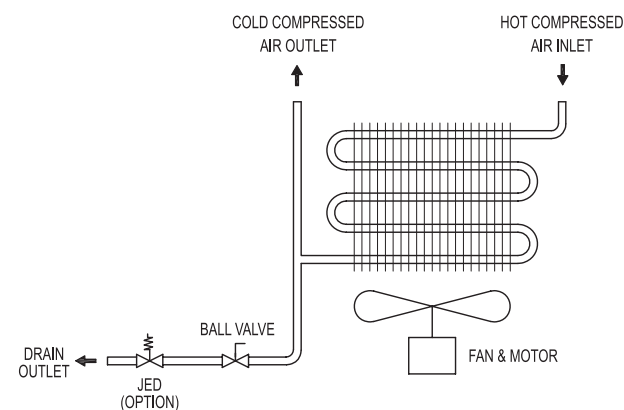
Model	Flow Capacity (Nm ³ /min)	Standard Voltage	Connection	Dimensions (mm)			Weight (kg)
				H	W	D	
JAC10	2.2	220/1/60	20A	545	490	270	23
JAC20	3.3		25A	582	578	300	25
JAC30	5.2		40A	692	738	300	35
JAC50	8.0		50A	765	1070	350	69
JAC75	12.7		65A	840	1270	400	103
JAC100	17.5	380/3/60	80A	990	1450	400	128
JAC150	21.5		80A	1235	1750	540	228
JAC200	31.0		100A	1235	1750	540	248
JAC300	47.5		100A	1385	1830	540	273
JAC400	62.0		125A	1226	2440	650	323
JAC500	77.0		150A	1650	2440	760	378
JAC600	95.0		150A	1380	2440	800	393
JAC700	105.0		150A	1500	2440	800	425
JAC800	120.0		150A	1660	2440	800	470

*Rating condition is 70°C inlet temperature, 7 barg inlet pressure, 20°C ambient temperature.

*Maximum inlet air temperature : 95°C, Maximum ambient air temperature : 45°C, Maximum pressure : 20 barg.

How It Works

The high temperature of heat exchanger outside is chilled with the fan, and the moisture of compressed air is condensed and drained during being cooled through copper tube inside (Option : Separator). As JAC is continuously cooling down the temperature of the compressed air, the lower the temperature is, the more condensate is removed.



JAC10~600

JAC Series Flow Diagram

JTF Series

High Temperature Afterfilters

Jemaco's JTF Series high temperature afterfilters are designed to hold a large amount of desiccant fines without plugging. The result is long cartridge life, even when installed downstream of heated type dryers using highly friable desiccant.

Features

High dust loading capacity – long cartridge life

Good for temperatures to 232°C (450°F)

Removes all solid particles one micron and larger

Operation

Three filtration techniques maximize cartridge life

Gravitational Setting

- Compressed air leaves a desiccant dryer containing dust concentrations typically in the range of up to 0.05 ppm by weight in heatless type dryers and up to 5 ppm by weight in heated type dryers. Particle size ranges from 200 microns to about 1 micron. This desiccant laden compressed air enters the filter housing where a reduction in air velocity and a sharp change of direction cause particles in the range of 200 to 20 microns to drop to the bottom of the housing.

Surface Filtration

- The air stream then enters the outside of the filter cartridge and flows through a layer of glass fabric cloth. Small diameter fibers, which form a web in the openings between thread strands, cause a dust layer to form as dust bridges the pores. Dust continues to collect on the outside of the cloth as separate loose particles. The voids between these particles form pores and flow-passages and become an efficient filter in itself.
- As the dust bed continues to thicken it reaches a point where outer layers of dust shed off the cartridge into the bottom of the housing.

In-Depth Fibrous Filtration

- Air next travels through a multi-layer graded in-depth filter media where all remaining fines one micron and larger are captured.
- A final wrap of glass fabric cloth prevents fiber migration.



JTF Series Specifications

Model	Flow Capacity (Nm ³ /min)	Housing Type	Inlet/Outlet Connections	Dimensions (mm)		Weight (kg)	Replacement Element(5)	
				A	B		Model	QTY
JTF 600	15.8	Die Casting	PT 3"	207	658	43	PCC600HT	1
JTF 1200	31.6		PT 3"	207	1050	72	PCC1200HT	1
JTF 2400	63.3	Pressure Vessel	4" FLG	468	1383	166	PCC1200HT	2
JTF 3600	94.9		4" FLG	468	1383	168	PCC1200HT	3
JTF 4800	126.6		6" FLG	559	1475	253	PCC1200HT	4
JTF 6000	58.2		6" FLG	610	1503	336	PCC1200HT	5
JTF 7200	189.9		6" FLG	610	1503	338	PCC1200HT	6
JTF 8400	221.5		6" FLG	661	1552	441	PCC1200HT	7
JTF 12000	316.5		8" FLG	796	1602	539	PCC1200HT	10

*Units with higher maximum working pressure are available; contact factory.

*Model JTF 31.6 and larger models are ASME code constructed and stamped.

*Pressure drop: at rated flow conditions pressure drop will be less than 0.07 barg. Pressure drop will increase only as the filter cartridges become loaded with solid particles.

*Filter cartridge replacement: filter cartridges should be replaced when pressure drop across the cartridge exceeds 0.7 barg.

*Maximum operating pressure is 10.3 barg, and maximum temperature is 232°C.

Sizing

To find the maximum flow at pressures other than 6.9 barg, multiply the flow (from table above) 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

Minimum Inlet Pressure (barg)	1.4	2.1	2.8	4.1	5.5	6.9	8.3	10.3	13.8	17.2
Factor	0.30	0.39	0.48	0.65	0.82	1.00	1.17	1.43	1.87	2.31

