aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

GL Series

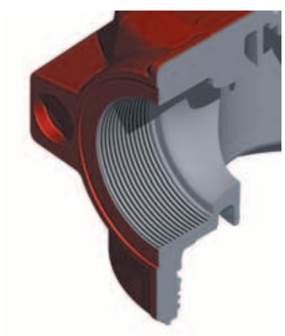
High performance filter

Parker Zander

ENGINEERING YOUR SUCCESS.

New GL Technology: lowest energy requirei

The perfect combination of innovative construction features illustrated in the form of cost saving air flow management and the choice of high performance filtration materials. The result: best compressed air treatment at the lowest pressure drop.



Conical “full flow” filter housing inlet

Free flow, turbulence-free transition of the air on entering the filter element – Inlet & outlet connections harmonized to meet those of the various compressor types.

Smooth 90° curve

No dead areas, no turbulence – Almost zero pressure drop, thanks to optimum air distribution.

Conical air disperser

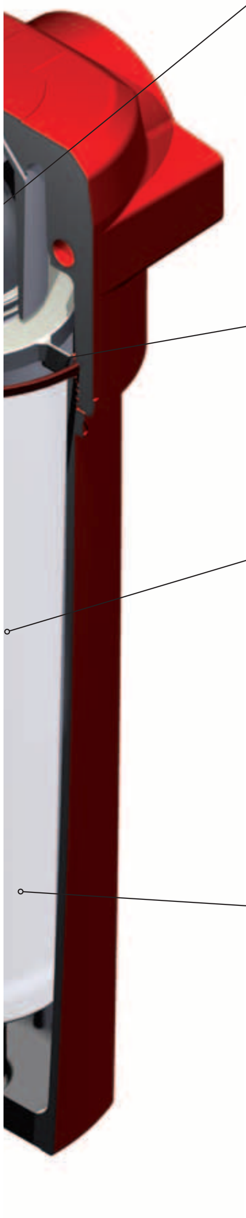
Soft air dispersion at the base of the element prevents turbulence.

No wet band providing longer turbulent free zone

No wet band, no extra turbulent free zone. Optimum drainage, shrouds the bottom end cap with drainage material and utilizes cast ribs in the filter housing bowl to compress the lower part of the filter element and encourage liquid coalescence via capillary forces.

Old technology | New technology

ment at highest, validated performance



Aerospace technology

Unrestricted, air flow guidance

Flow distribution

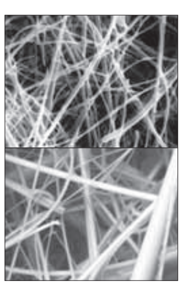
Optimum air distribution throughout the entire element

Air stabilizers

External air stabilizers located on the filter element top end cap ensure the even flow of compressed air exhausting the filter housing.

Deep bed pleating

Deep bed pleating techniques result in 4.5 times more effective filtration area than conventional filter elements – resulting in increased particulate retention, reduced space and lower operating costs.



High efficiency filter media

Utilizing high efficiency filter element media, manufactured from borosilicate nano-fibers with a voids volume of 96% and external drainage layer: VL - coarse particulate removal filter elements (3 µm), ZL - coalescing fine-filter elements (1 µm) and XL – high performance filter elements (0.01 µm) for droplet and aerosol removal. A – adsorption elements for high efficiency surface adsorption of oil vapors and odors.

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Compressed air must not only be clean, but also efficient

As well as the removal of contamination, the economics of using compressed air filters play an important role. Here, the requirement is one of minimizing costs and achieving a balance between the compressed air quality being sought and the amount of energy necessary to achieve it.

Compressed air quality in accordance with ISO 8573-1:2001

The required compressed air quality in a customary compressed air system is dependent on the application. When manufacturing pharmaceutical products or food, the demands placed on compressed air quality are far greater for example, than the operation of pneumatic tools on a production line. The international standard for compressed air quality provides a simple and clear system which classifies the three main sources of contamination present in all compressed air systems: Water, Oil and Particulate. Albeit ISO 8573-1 remains completely exposed when it comes to stipulating the inlet concentrations at which these purity classes are to be achieved. For a few years now, compulsory standards have existed which stipulate the inlet concentration and the test equipment to be met and referred to, when such performance levels are required and quoted.

Classification	Solid particulate Maximum number of particles per m³ Particle size				Water (vapor state) Pressure dewpoint in °F (°C)	Oil (vapor, aerosols, liquids) Content in ppm
	≤ 0.1 µm	0.1 - 0.5 µm	0.5 - 1 µm	1 - 5 µm		
0	As specified between the supplier and equipment user (better than class 1)					
1	not agreed	< 100	1	0	≤ -100 (-70)	≤ 0.01
2	not agreed	100.000	1.000	10	≤ -40 (-40)	≤ 0.1
3	not agreed	not agreed	10.000	500	≤ -4 (-20)	≤ 1
4	not agreed	not agreed	not agreed	1.000	≤ +37.4 (+3)	≤ 5
5	not agreed	not agreed	not agreed	20.000	≤ +44.6 (+7)	not agreed
6	not applicable				≤ +50 (+10)	not agreed

Reference conditions 14.5 psi (a) (1 bar (a)), 68°F (20°C), 0 % relative humidity; Pressure dewpoint at compressor end-pressure of 116 psi (a) (8 bar (a)).

New release – ISO 8573-1:2010

A current new release of ISO 8573-1 has been published and establishes considerably higher limits for particulate contamination. At first glance, it would appear that there has been a worsening of the recommended purity classes .
In actual fact, we owe this new ISO 8573-1 release to the customary practices of industrial applications, which up until now have required an absolute rated filter (as already required by the pharmaceutical and food industry) to comply with purity class 1 in terms of particulate. For this reason, industrial users will benefit from the improved reference to customary practice which this new release now takes account of. It is nevertheless advisable to always state the year of publication in all agreements made in accordance with ISO 8573-1.

Classification	Maximum number of particles per m³ Particle size		
	0.1 - 0.5 µm	0.5 - 1 µm	1 - 5 µm
0	As specified between the supplier and equipment user (better than class 1)		
1	≤ 20.000	≤ 400	≤ 10
2	< 400.000	≤ 6.000	≤ 100
3	not agreed	≤ 90.000	≤ 1.000
4	not agreed	not agreed	≤ 10.000
5	not agreed	not agreed	≤ 100.000

Reference conditions 14.5 psi (a) (1 bar(a)), 68°F (20°C), 0 % relative humidity

Proof of performance: The bar is high – but we're raising it higher.

Test methods in accordance with ISO 12500 – finally, clear basic principles

Air purity classes in accordance with ISO 8573-1 have been around for many years. Standardization however on the establishment of inlet-concentrations has only existed since 2007. After a period of uncertainty, these basic principles were finally established and now govern how measurements are to be taken and how validation is to be carried out.

ISO 12500	Part 3	Part 2	Part 1
	Solid particulate 0.01 - 5 µm Inlet number[a)] per m³	Oil-vapors Inlet concentration mg n-Hexane/ kg Air	Oil-aerosols 0.15 - 0.4 µm Inlet concentration in ppm
	10^9 to 10^{12}	1.000	40
	–	–	or 10

[a)] Reference to EN 182-1

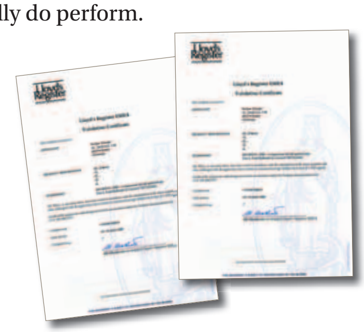
Reference conditions 14.5 psi (a) (1 bar (a)), 68°F (20°C), 0 % relative humidity

Taking a high performance filter for oil aerosol removal as an example, the effects can be observed:

Oil aerosols	ISO 12 500-1	Parker Zander	Competitor	Customary remaining oil content of compressors		
standardized inlet loading	40 ppm	40 ppm	—	30 ppm	Piston and mobile screw compressors	
	10 ppm	10 ppm	—	12 ppm	Stationary screw compressors	
other inlet loading	—	—	3 ppm	< 6 ppm	Rotary vane compressors	

Reference conditions 14.5 psi (a) (1 bar (a)), 68°F (20°C), 0 % relative humidity.

It all now becomes clear: Stated remaining oil content values, following a high performance filter are in actual fact limited in their meaningfulness. However, where account is taken of the validated inlet loading in accordance with ISO 12500-1, it becomes clear in what range high performance filters really do perform.



New GL Filtration technology delivers what it states and offers you an independent, validated statement of performance in accordance with ISO 12500.

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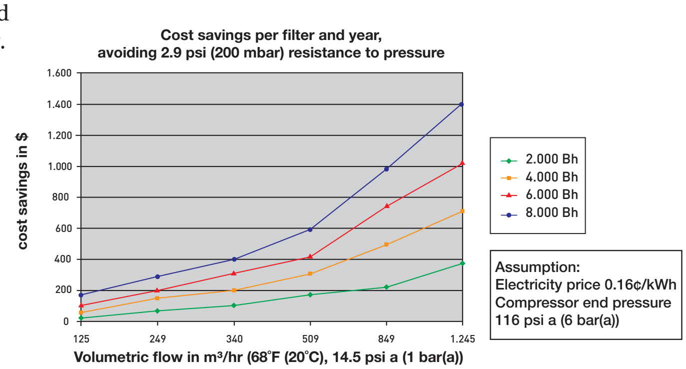
Putting on the pressure – but not at all cost!

Basically, filter media can be manufactured to be so impenetrable that it is capable of removing all contamination. However, this is only possible at the expense of operating pressure. In order to maintain the operating pressure required for the application, any resistance to pressure in the system must be compensated for by increased compressor performance.
The result is a high energy requirement, premature compressor wear and increasing costs. The optimum balance between filtration performance and the lowest possible energy requirement is the key.

Resistance to pressure, otherwise known as Differential pressure (pre- and post equipment)



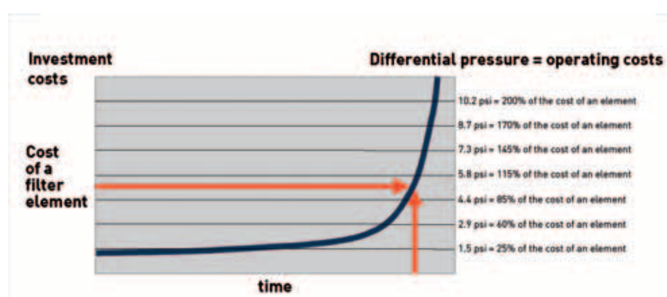
Out dated technology costs money – every day!

Conventional filters cause an average increase in differential pressure within the first year of operation up to 2.9 psi (200 mbar): Depending upon the operating parameters – 5-day week, with one shift (2000 working hours), two shifts (4000 working hours), three shifts (6000 working hours) or continuous, 365 days per year (8000 working hours), the increase in compressor inlet performance results in a considerable increase in the energy requirement.

The solution is simple: Avoid experiencing unnecessary pressure drop in the first place by refraining from the use of old filters and trust in modern GL technology from the outset!

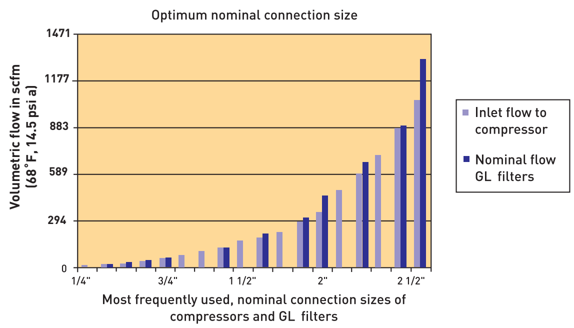
Dirty filters can end up costing you a lot!

Every filter element has a limited lifetime. The dirt particle removal capacity becomes exhausted and the materials of construction age – the result is an ever increasing resistance to pressure in the filter. Compare the investment costs of a new filter element to the energy costs necessary to compensate for the resistance to pressure of a dirty filter element.



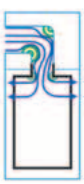
Optimum fit – no “bottle-necks”

GL Series filters have nominal inlet & outlet connections which have been matched to meet those of the most popular compressor flow rates:

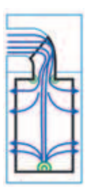


A well rounded package: Air Flow Management

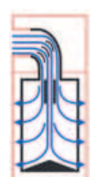
Where air flows over a sharp edge, turbulence occurs. This leads to increased resistance to flow and insufficient distribution of the air stream. Air Flow Management, incorporated into the GL Series, avoids this problem by guiding the air through a smooth bend with the aid of aerospace deflector vanes into the heart of the filter element in a turbulence free manner.



To date: The incoming air is forced to change direction through 90°. The result is turbulence, pressure drop and insufficient distribution of the air throughout the filter media.



An improvement: Rounded corners reduce turbulence however do not allow the air stream to penetrate the filter media in optimum fashion.



The optimum solution: By incorporating deflector vanes into the inlet of the filter element and an air dispenser in the base, turbulence is prevented, flow distribution is optimized and pressure drops are kept to an absolute minimum. Hard to believe, but just compare a conventional 90° angle and the savings of up to 75% to be gained from turbulence free flow management:

Resistance to flow	Nominal pipe-size based on identical pipe-length		
	⅜"	½"	¾"
90°- Angle	100%	100%	100%
90°- Bend	25%	30%	30%

In short: As much as necessary, as little as possible.

- Different applications call for different compressed air quality.
- The more filter media, the higher the resistance to pressure – the differential pressure.
- The higher the differential pressure, the higher the energy requirement and wear on the compressor.

The result:

- The grade of filtration must be matched to the application in question.
- Filter media, meeting current technology standards serve to keep differential pressure low.
- Regular replacement of filter elements keeps operating costs under control.
- Only the combination of removal rate and the efficient utilization of energy renders compressed air economical for use.

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Simple and reliable maintenance

Clear marking removes the danger of confusion

The compressed air inlet to the filter housing is clearly recognizable and marked by a slightly raised metal step above the inlet port of the filter head. In this way, confusion regarding the correct direction of flow when installing or re-installing the filter is avoided. The replacement of filter elements requires no time consuming checking to ascertain the clean and dirty side of the filter: Filter elements are simply placed into the housing bowl and during the process of housing closure, the correct direction of flow is automatically achieved.

Light and compact construction – a minimum of space required below the housing

Ease of opening and the avoidance of incorrect element replacement, by simply placing the filter element into the housing bowl serves to limit maintenance to a minimum.
Safe housing closure, recognizable by the external mating of a mark on the filter head and bowl, prevent the housing from being incorrectly screwed together. The efficient sealing of the filter element at the inlet to the filter housing avoids any unwanted by-pass of flow (i.e. short circuiting between the dirty and the clean side).

Regular maintenance – avoids unexpected events

A compressed air filter in operation is subject to a great deal of stress. A high frequency of pressure and temperature variation, bombardment with dirt, oil and water particulate, not to mention general wear, leads to element blinding and reduces the retention capacity during the period of use. This results in an inevitable increase in the differential pressure. For this reason, filter elements should be replaced in accordance with the manufacturers´ recommendations. Even though a filter is fitted with a differential pressure gauge and the needle remains in the green area, this does not necessarily mean that filter element replacement is avoidable. Even the smallest of holes can result in penetration of the filter media. This renders the differential pressure gauge useless – the needle continually remaining in the green area. Applications downstream, even after element replacement, can remain contaminated for a long period of time. The consequences of such an event would be far more serious and costly than any timely replacement of a filter element.

The GL filter series offers you a one year lifetime performance guarantee in accordance with ISO 12500-1 and ISO 8573-1:2001.

Complete corrosion protection - guaranteed

In comparison with ordinary filter housings, the GL series is alocromed and externally protected with a tough, durable dry powder epoxy-coating against corrosion. We are so confident of this protection treatment that our housings carry a 10 year guarantee, where recommended operating parameters are maintained.

Carbon steel fabricated filters

- Low pressure drop when compared to traditional wrapped filter elements.
- Drainage layer is suitable for use up to 212˚F (100˚C) and is compatible with all compressor oils.
- Available in floor and in-line designs.
- US approval in accordance with ASME VII Div1.
  Canadian approval in accordance with CRN.
- Parker Zander fabricated range uses tie-rod design elements (see Filtration Grade table on page 11.)

We have thought of everything: Technical Data and Filtration Grades

Filter selection and correction factors

Stated flows are for an assumed compression of 100 psi (g) (7 bar (g)).
For flows at other minimum pressures the corresponding correction factors should be used.

Model	Nominal pipe size[1]	Flow rate[2] cfm	Flow rate[2] m^3/h	Replacement kit
GL2_[3]	¼"	21	36	CP1008_[3]
GL3_[3]	⅜"	32	55	CP2010_[3]
GL5_[3]	½"	42	72	CP2010_[3]
GL7_[3]	¾"	64	108	CP2020_[3]
GL9_[3]	1"	127	216	CP3025_[3]
GL11_[3]	1 ½"	233	396	CP3040_[3]
GL12_[3]	1 ½"	339	576	CP4040_[3]
GL13_[3]	2"	466	792	CP4050_[3]
GL14_[3]	2 ½"	699	1188	CP4065_[3]
GL17_[3]	2 ½"	911	1548	CP5065_[3]
GL19_[3]	3"	1314	2232	CP5080_[3]

[1] in accordance with ANSI B 1.20.1 (NPT-F) or DIN ISO 228 (BSP-P), [2] with reference to 68°F (20°C), 14.5 psi (a) (1 bar (a)), 0 % relative humidity. [3] _replace underscale with filtration grade VL, ZL, XL or A.

Operating pressure psi (g)	Operating pressure bar (g)	Correction factor
15	1	2.65
22	1.5	2.16
29	2	1.87
37	2.5	1.67
44	3	1.53
51	3.5	1.41
58	4	1.32
66	4.5	1.25
73	5	1.18
89	5.5	1.13
87	6	1.08
95	6.5	1.04
100	7	1.00
110	7.5	0.97
116	8	0.94
124	8.5	0.91
131	9	0.88
139	9.5	0.86
145	10	0.84
153	10.5	0.82
160	11	0.80
168	11.5	0.78
174	12	0.76
183	12.5	0.75
189	13	0.73
197	13.5	0.72
203	14	0.71
212	14.5	0.69
218	15	0.68
226	15.5	0.67
232	16	0.66
241	16.5	0.65
248	17	0.64
256	17.5	0.63
263	18	0.62
270	18.5	0.62
277	19	0.61
285	19.5	0.60
290	20	0.59

Example – Product selection

The correct sizing of a filter is dependent on the following:

- the minimum operating pressure of the system and
- the maximum volumetric flow of the system

Procedure:

1. Choose the correction factor in accordance with the minimum operating pressure (if necessary choose the next level down).
2. Multiply the correction factor by the maximum volumetric flow to arrive at a nominal comparative value.
3. Using the table, take the nominal comparative value and compare this with the size of the filter in the table and choose the same or larger flow.

Example calculation:

Maximum inlet volumetric flow of the system: 168 cfm (285 m^3/h)
Minimum operating pressure of the system: 62.4 psi (g) (4.3 bar (g))
168 cfm (285 m^3)/h x 1.32 = 221.4 cfm (376.2 m^3/h), corresponds to filter size GL11.

Filtration Grades

Filtration Grade	VL	ZL	XL	A
Filtration Grade suitability	Solid particulate	Aerosols (Oil, Water)	Aerosols (Oil, Water)	Vapors
Recommended pre-filter	n. a.	WS (wall flow)	ZL	XL+XL
Recommended after-filter	–	–	–	ZL
Suitability in accordance with ISO 8573-1:2010	[3:–:–]	[2:–:3]	[1:–:2]	[1:–:1]
Particulate retention down to	≥ 3 µm	≥ 1 µm	≥ 0.01 µm	n. a.
Aerosol content acc. to ISO 12500-1	n.a.	40 ppm	10 ppm	n.a.
Remaining oil Content	n. a.	0.6 ppm	0.01 ppm	0.003 ppm
Filtration efficiency	99.95 %	99.925 %	99.9999 %	n. a.
Differential pressure (dry)	< 1 psi < 70 mbar	< 1 psi < 70 mbar	< 2 psi < 140 mbar	< 1 psi < 70 mbar
Differential pressure (saturated)	n.d.	< 2 psi < 140 mbar	< 3 psi < 200 mbar	n.d.
Element replacement	12 months	12 months	12 months	50-650 Oh

n. a. - not applicable; n.d. - no details; Oh - Operating hours

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Operating parameters

Filter size from/to	Filtration element grade	Differential pressure gauge	Drain	Min. operating temperature °F	°C	Max. operating temperature °F	°C	Max. operating pressure psi (g)	bar (g)
GL2 - GL19	VL	-	+	35	1.5	176	80	232	16
GL2 - GL19	VL	-	H	35	1.5	212	100	290	20
GL2 - GL19	VL	D	+	35	1.5	176	80	232	16
GL2 - GL19	VL	D	H	35	1.5	176	80	232	16
GL2 - GL19	VL	-	OA	35	1.5	212	100	290	20
GL2 - GL19	ZL	-	+	35	1.5	176	80	232	16
GL2 - GL19	ZL	-	H	35	1.5	212	100	290	20
GL2 - GL19	ZL	D	+	35	1.5	176	80	232	16
GL2 - GL19	ZL	D	H	35	1.5	176	80	232	16
GL2 - GL19	ZL	-	OA	35	1.5	212	100	290	20
GL2 - GL19	XL	-	+	35	1.5	176	80	232	16
GL2 - GL19	XL	-	H	35	1.5	212	100	290	20
GL2 - GL19	XL	D	+	35	1.5	176	80	232	16
GL2 - GL19	XL	D	H	35	1.5	176	80	232	16
GL2 - GL19	XL	-	OA	35	1.5	212	100	290	20
GL2 - GL19	A	-	+	35	1.5	122	50	290	20
GL2 - GL19	A	-	OA	35	1.5	122	50	290	20

Explanation of terms

D = optional differential pressure gauge ZD90GL fully-installed; **+** = Standard drain installed: Float drain ZK15NO/KN with filtration grades VL,ZL or XL, manual drain for filter grade A; **H** = Manual drain HV15, optionally installed on filter grades VL,ZL or XL; **OA** = Optional – no drain installed: Drain outlet open

Product Key

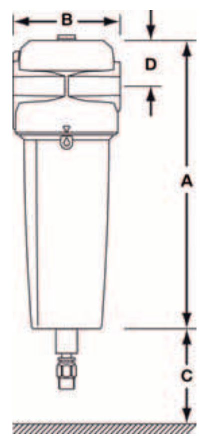
Series	Size	Filtration element grade	Options (if deviating from standard)	Connection (only for NPT-F)
☒	☒	☒	☒	☒
GL	2 to 19	VL, ZL, XL or A	D, H or OA	-N

Examples:

GL3VLH-N ->Filter NPT ⅜", 3µm solid particulate element, with manual drain HV15 installed
GL9XLDH ->Filter 1" (BSP-P), 0,01 µm high-performance filter element, with differential pressure gauge installed ZD90GL and manual drain HV15
GL5ZLOA ->Filter ½" (BSP-P), 1 µm fine-filter element, drain outlet open

Weights and Dimensions

Model	Nominal pipe size[1)]	Height (A) ins	mm	Width (B) ins	mm	Space required to remove element (C) ins	mm	Installation height (D) ins	mm	Depth ins	mm	Weight lbs	kg
GL2_	¼"	7.2	182	2.6	67	≥ 1.6	≥ 40	0.9	23	2.6	65	1.3	0.6
GL3_	⅜"	9.6	244	3.5	89	≥ 2.0	≥ 50	1.5	38	3.3	85	2.9	1.3
GL5_	½"	9.6	244	3.5	89	≥ 2.0	≥ 50	1.5	38	3.3	85	2.9	1.3
GL7_	¾"	9.6	244	3.5	89	≥ 2.0	≥ 50	1.5	38	3.3	85	2.9	1.3
GL9_	1"	11.1	281	5.1	130	≥ 2.8	≥ 70	1.8	46	4.6	116	6.6	3
GL11_	1 ½"	14.7	373	5.1	130	≥ 2.8	≥ 70	1.8	46	4.6	116	7.1	3.2
GL12_	1 ½"	17.5	445	6.5	164	≥ 3.9	≥ 100	2.2	57	6.1	156	15.2	6.9
GL13_	2"	21.1	537	6.5	164	≥ 3.9	≥ 100	2.2	57	6.1	156	16.1	7.3
GL14_	2 ½"	21.1	537	6.5	164	≥ 3.9	≥ 100	2.2	57	6.1	156	15.7	7.1
GL17_	2 ½"	25.9	659	7.6	192	≥ 4.7	≥ 120	2.8	72	7.2	182	22.7	10.3
GL19_	3"	33.4	849	7.6	192	≥ 4.7	≥ 120	2.8	72	7.2	182	33.7	15.3



1) In accordance with ANSI B 1.20.1 (NPT-F) or DIN ISO 228 (BSP-P).

You have the choice: further accessories

Wall mounting brackets
For filters, if necessary incl. combination accessories

Model	Suitable for
BF/GL2	GL2, single stage
BF/GL2/2	GL2, dual stage
BF/GL2/3	GL2, triple stage
BF/GL3 - GL7	GL3 - GL7, single stage
BF/GL3 - GL7/2	GL3 - GL7, dual stage
BF/GL3 - GL7/3	GL3 - GL7, triple stage
BF/GL9-GL11	GL9 - GL11, single stage
BF/GL9-GL11/2	GL9 - GL11, dual stage
BF/GL9-GL11/3	GL9 - GL11, triple stage
BF/GL12-GL14	GL12 - GL14, single stage
BF/GL12-GL14/2	GL12 - GL14, dual stage
BF/GL12-GL14/3	GL12 - GL14, triple stage
BF/GL17-GL19	GL17 - GL19, single stage
BF/GL17-GL19/2	GL17 - GL19, dual stage
BF/GL17-GL19/3	GL17 - GL19, triple stage

Mounting kits
For filter combinations

Model	Suitable for
BFS/GL2/2	GL2, dual stage
BFS/GL2/3	GL2, triple stage
BFS/GL3 - GL7/2	GL3 - GL7, dual stage
BFS/GL3 - GL7/3	GL3 - GL7, triple stage
BFS/GL9 - GL11/2	GL9 - GL11, dual stage
BFS/GL9 - GL11/3	GL9 - GL11, triple stage
BFS/GL12 - GL14/2	GL12 - GL14, dual stage
BFS/GL12 - GL14/3	GL12 - GL14, triple stage
BFS/GL17 - GL19/2	GL17 - GL19, dual stage
BFS/GL17 - GL19/3	GL17 - GL19, triple stage

Differential pressure gauges
for all filter sizes GL - GL19

Model	Type
ZD90GL	Analogue
ZDE120GL	Electronic

Electronic differential pressure gauge ZDE120G

Drain

Model	Type	Filter size
HV15	Manual	GL2 - GL19
ZK15NO/KN	Float	GL2 - GL19

Electronic drain series ED3000 und ED2000 – see individual product brochure

Mounting kits
For filter combinations GL - GL19

Model	Connection Filter	Drain	Suitable for drain type
MK-G15-G10	G½ a	G⅜ a	Trap 22
MK-G15-G10I	G½ a	G⅜ i	ED3002
MK-G15-G15	G½ a	G½ a	ED2010, ED3004 - 3100
MK-G15-G20	G½ a	G¾ a	ED2020 - 2060

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In-line

Model	Nominal pipe size[1)]	Flow rate[2)] cfm	Flow rate[2)] m^3/h	Qty/ Replacement kit	Height (A) ins	mm	Width (B) ins	mm	Space required to remove element (C) ins	mm	Installation height (D) ins	mm	Weight lbs	kg	Maximum Pressure psi	bar
TF17_[3)]DF	2″ Flg	853	1449	1/3075_[3)]	54.0	1371.6	17.9	454.7	26.0	660.4	12.0	304.8	115	52	260	17
TF19_[3)]DF	3″ Flg	1410	2396	1/5075_[3)]	54.0	1371.6	17.9	454.7	26.0	660.4	12.0	304.8	140	64	260	17
TF20_[3)]DF	4″ Flg	1700	2888	2/3075_[3)]	55.9	1419.9	21.1	535.9	26.0	660.4	13.0	330.2	330	150	260	17
TF30_[3)]DF	4″ Flg	2560	4350	3/3075_[3)]	55.9	1419.9	21.1	535.9	26.0	660.4	13.0	330.2	330	150	260	17
TF40_[3)]DF	6″ Flg	3413	5799	4/3075_[3)]	56.6	1437.6	23.8	604.5	26.0	660.4	14.4	365.8	360	163	260	17
TF50_[3)]DF	6″ Flg	4265	7246	5/3075_[3)]	59.9	1521.5	27.5	698.5	28.5	723.9	18.0	457.2	400	181	260	17
TF60_[3)]DF	6″ Flg	5120	8699	6/3075_[3)]	59.9	1521.5	27.5	698.5	28.5	723.9	18.0	457.2	450	204	260	17
TF80_[3)]DF	8″ Flg	6827	11599	8/3075_[3)]	66.0	1676.4	28.8	731.5	30.0	762.0	19.0	482.6	600	272	260	17
TF100_[3)]DF	8″ Flg	8533	14498	10/3075_[3)]	68.4	1737.4	29.1	739.1	30.0	762.0	18.0	457.2	500	227	260	17
TF120_[3)]DF	10″ Flg	10240	17398	12/3075_[3)]	72.0	1828.8	37.0	939.8	30.0	762.0	18.0	457.2	625	284	260	17
TF160_[3)]DF	10″ Flg	13650	23192	16/3075_[3)]	72.0	1828.8	37.0	939.8	30.0	762.0	18.0	457.2	640	290	260	17
TF200_[3)]DF	12″ Flg	17065	28994	20/3075_[3)]	72.0	1828.8	37.0	939.8	30.0	762.0	18.0	457.2	875	397	260	17

Floor Mounted

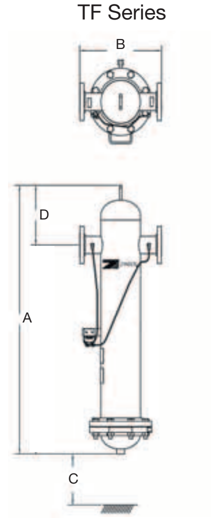
Model	Nominal pipe size[1)]	Flow rate[2)] cfm	Flow rate[2)] m^3/h	Qty/ Replacement kit	Height (A) ins	mm	Width (B) ins	mm	Space required to remove element (C) ins	mm	Installation height (D) ins	mm	Weight lbs	kg	Maximum Pressure psi	bar
ZF17_[3)]DF	2″ Flg	853	1449	1/3075_[3)]	56.9	1445.3	15.0	381.0	29.0	736.6	48.9	1242.1	CF	CF	260	17
ZF19_[3)]DF	3″ Flg	1410	2396	1/5075_[3)]	59.1	1501.1	16.3	414.0	29.0	736.6	49.5	1257.3	CF	CF	260	17
ZF20_[3)]DF	4″ Flg	1700	2888	2/3075_[3)]	62.8	1595.1	19.1	485.1	29.0	736.6	52.5	1333.5	CF	CF	260	17
ZF30_[3)]DF	4″ Flg	2560	4350	3/3075_[3)]	62.6	1590.0	19.1	485.1	29.0	736.6	52.5	1333.5	CF	CF	260	17
ZF40_[3)]DF	6″ Flg	3413	5799	4/3075_[3)]	72.5	1841.5	25.6	650.2	29.0	736.6	61.5	1562.1	CF	CF	260	17
ZF50_[3)]DF	6″ Flg	4265	7246	5/3075_[3)]	72.5	1841.5	25.6	650.2	29.0	736.6	61.5	1562.1	CF	CF	260	17
ZF60_[3)]DF	6″ Flg	5120	8699	6/3075_[3)]	72.5	1841.5	25.6	650.2	29.0	736.6	61.5	1562.1	CF	CF	260	17
ZF80_[3)]DF	8″ Flg	6827	11599	8/3075_[3)]	77.6	1971.0	32.0	812.8	29.0	736.6	63.8	1620.5	CF	CF	260	17
ZF100_[3)]DF	8″ Flg	8533	14498	10/3075_[3)]	77.6	1971.0	32.0	812.8	29.0	736.6	63.8	1620.5	CF	CF	260	17
ZF120_[3)]DF	10″ Flg	10240	17398	12/3075_[3)]	86.0	2184.4	36.0	914.4	30.0	762.0	70.0	1778.0	CF	CF	260	17
ZF160_[3)]DF	10″ Flg	13650	23192	16/3075_[3)]	86.0	2184.4	36.0	914.4	30.0	762.0	70.0	1778.0	CF	CF	260	17
ZF200_[3)]DF	12″ Flg	17065	28994	20/3075_[3)]	97.0	2463.8	34.5	876.3	29.0	736.6	71.3	1811.0	CF	CF	260	17

[1)] in accordance with ANSI B 1.20.1 (NPT-F) or DIN ISO 228 (BSP-P), [2)] with reference to 68°F (20°C), 14.5 psi (a) (1 bar (a)), 0 % relative humidity. [3)] _replace underscale with filtration grade V, ZP, XP, XP4 or A.

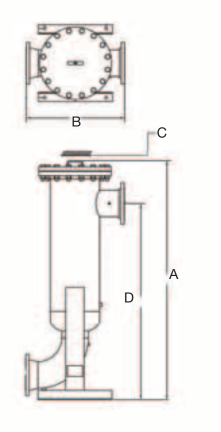
*Filtration Grades for Fabricated Range

Filtration Grade	Description
V	Prefilter (Solid Particulate) 0.29 psi (dry) - 1.02 psi (saturated) - 99.99% (3μ)
ZP	General Purpose Filter (Aerosols (Oil, Water)) 0.44 psi (dry) - 1.45 psi (saturated) - 99.9999% (1μ) ≤0.5 ppm (14.5 psi and 68°F (20°C))
XP	Oil Removal Filter (Aerosols (Oil, Water)) 0.87 psi (dry) - 2.18 psi (saturated) - 99.99999% (0.01μ) ≤0.01 ppm (14.5 psi and 68°F (20°C))
XP4	Super Fine Filter (Aerosols (Oil, Water)) 1.74 psi (dry) - 4.06 psi (saturated) - ≥99.99999% (0.01μ) ≤0.001 ppm (14.5 psi and 68°F (20°C))
A	Activated Carbon Filter (Vapor Removal) 0.44 psi - ≤0.003 ppm (14.5 psi and 68°F (20°C)) with an inlet concentration of ≤0.01 ppm

TF Series



ZF Series



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