

Flanged Filter Series FL17VL-FL140VL

High efficiency, coarse particulate for larger compressed air systems



Brief description

Parker Zander, high-performance FL-series filters, containing VL grade filter elements are designed as depth-filters for the reliable removal of 3 µm solid particulate, whilst achieving a filtration performance of 99.95 % in compressed air or compressed nitrogen gas.

The innovative filter housing and filter element design achieve optimum flow characteristics at minimum pressure drop resulting in considerable cost savings throughout the entire operating lifetime of the filter element. These filters are equipped as standard with a manual drain.

Highly-efficient, borosilicate nano-fibre media with a voids volume of 96 % ensures high dirt-holding capacity at constantly low differential pressure. This efficiency is supported by deep-pleating technology enabling 4.5 times more filtration surface area to be incorporated into the element, when compared with conventional filter elements.

The filter-housing design has been designed for ease of maintenance: The deep-seated service-flange, supported by a pivoting hinge-joint, enables element replacement to be undertaken by a single individual.

The patented “lock-in place” filter elements, referred to as “Sure-Fit”, provide a secure and noticeable seal to avoid any possibility of contamination by-passing the element.



Performance overview:

Order no.	Port size ¹	Nominal ²
FL17VLH	DN80	2232
FL20VLH	DN100	4464
FL30VLH	DN150	6696
FL40VLH	DN150	8928
FL60VLH	DN200	13392
FL100VLH	DN250	22320
FL140VLH	DN300	31248

1: Port size as per EN 1092-1

2: Flow rates in m³/h related to 1 bar_a und 20 °C, compressed to 7 bar_e.

Where the minimum operating pressure deviates, the actual flow rate must be multiplied with the respective correction factor f (see the respective table) to determine the required nominal flow rate and the appropriately required filter model.

Scope of supply

Ready-to install filter, complete with filter element(s) and manual drain. Optionally available with differential pressure gauge.

Product-Specification

Flanged filter series FL - element grade VL

Area of application Filter

Standard filter	Compressed air and gaseous Nitrogen	
Max. operating pressure	16 bar _e	
Operating temperature	1.5 up to 80 °C	with manual drain and with differential pressure gauge
	1.5 up to 100 °C	with manual drain, without differential pressure gauge

Performance data Element

Removal	Solid particulate
Flow direction	from inside to outside
Upstream filter required	no data
Particle removal size	3 µm
Filtration efficiency	99.95 %
Differential pressure, dry	< 70 mbar _e
Diff. pressure, saturated	no data

Scope of supply Standard filter

Order no.	Port size ¹	Nominal ²	Quantity filter elements	Order no. filter element
FL17VLH	DN80	2232	1	CPS4060VL
FL20VLH	DN100	4464	2	CPS4060VL
FL30VLH	DN150	6696	3	CPS4060VL
FL40VLH	DN150	8928	4	CPS4060VL
FL60VLH	DN200	13392	6	CPS4060VL
FL100VLH	DN250	22320	10	CPS4060VL
FL140VLH	DN300	31248	14	CPS4060VL

Correction factor f according to actual minimum operating pressure in bar_e

Min. operating pressure in bar _e	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8
correction factor f	2,65	2,16	1,87	1,67	1,53	1,41	1,32	1,25	1,18	1,13	1,08	1,04	1,00	0,97	0,94
Min. operating pressure in bar _e	8,5	9	9,5	10	10,5	11	11,5	12	12,5	13	13,5	14	14,5	15	16
correction factor f	0,91	0,88	0,86	0,84	0,82	0,80	0,78	0,76	0,75	0,73	0,72	0,71	0,69	0,68	0,66

Example for a maximal flow rate of 3000 m³/h for a minimum operating pressure of 4,3 bar_e:
 3000 m³/h x 1.32 = 3960 m³/h – select size FL20 (see Table *Performance overview*).

Product-Specification

Flanged filter series FL - element grade VL

Product key

Series	Size	Element grade	Options
FL	17 up to 140	VL	D, H

Examples

FL	30	VL	D, H	Design with differential pressure gauge and with manual drain
FL	100	VL	H	Standard design with manual drain

Approvals for pressure equipment

EU	Approval for fluid group 2 acc. to Pressure Equipment Directive 97/23/EC
GUS	TR (previous GOST-R)

Materials Housing

Housing body	Steel acc. to AD2000 leaflets
Surface treatment	Sandblasted RA2.5, 2-component acrylic enamel
Gaskets	Aramid fibers with NBR binder
Fittings	Nickel plated brass, brass, galvanized steel

Materials Element

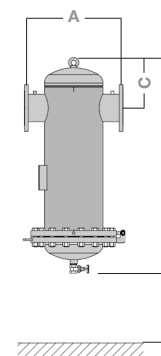
Filter fleece	Borosilicate nanofibre, surface coated
Support net	Polypropylene
Outer sleeve	Polyester fibre, surface coated
Support screens	Stainless steel
End caps	Glass fibre reinforced polyamide
Adhesive	Epoxy resin
Sealing materials	NBR

Quality assurance and warranty

R&D, Manufacturing	DIN EN ISO 9001, DIN EN ISO 14001
Validation	ISO 8573-1:2010 [3:-:-], ISO 8573-4
Element	12 months guaranteed filtration performance in line with filter element service life.
Housing	Corrosion warranty limited to the maximum housing lifetime of 10 years.

Dimensions [mm] and weights [kg]

Filter model	A	B	C	D	Weight
FL17VLH	440	1120	230	650	71
FL20VLH	500	1215	260	650	98
FL30VLH	600	1320	310	650	149
FL40VLH	650	1395	350	650	188
FL60VLH	750	1475	390	650	242
FL100VLH	1000	1665	510	850	472
FL140VLH	1050	1770	540	920	582



Product-Specification

Flanged filter series FL - element grade VL

Wear parts

Order no.	Scope of supply
CPS4060VL	Filter element (required quantity see Table <i>Scope of Supply</i>)
398H240245	Flat gasket DN200 PN16 for filter model FL17
398H240270	Flat gasket DN250 PN16 for filter model FL20
398H240292	Flat gasket DN350 PN16 for filter model FL30
398H240293	Flat gasket DN400 PN16 for filter model FL40
398H240295	Flat gasket DN450 PN16 for filter model FL60
398H240296	Flat gasket DN600 PN16 for filter model FL100
398H240297	Flat gasket DN700 PN16 for filter model FL140

Accessories

Differential pressure gauge mounted			
Order no.	Function	Suitable for filter	Product key
ZD95FL	calibrated analogue differential	FL17 up to FL140	D

Differential pressure gauge loose, incl. mounting set			
Order no.	Function	Suitable for filter	Product key
ZDE95FL	calibrated analogue differential pressure gauge with Reed contact	FL17 up to FL140	-
ZDE125FL	electronic differential pressure gauge	FL17 up to FL140	-

Drain mounted			
Order no.	Function	Suitable for filter	Product key
398H473471	manual drain kit G 1/2	FL17	H
398H473472	manual drain kit G 1	FL20 up to FL140	H

Other drains available as loose accessories.

Gaskets for filter combination, loose			
Order no.	Function	Suitable for filter	Product key
398H240150	Flat gasket pipe flange DN80 PN16	FL17	-
398H240170	Flat gasket pipe flange DN100 PN16	FL20	-
398H240222	Flat gasket pipe flange DN150 PN16	FL30 up to FL40	-
398H240245	Flat gasket pipe flange DN200 PN16	FL60	-
398H240270	Flat gasket pipe flange DN250 PN16	FL100	-
398H240310	Flat gasket pipe flange DN300 PN16	FL140	-