

KAVAC

DF Series

Material Conveying Vacuum Pump

Ø from 4 mm up to 100 mm

Features

- ◆ Parallel bore design eliminates blocking
- ◆ Application versatility
- ◆ High efficiency
- ◆ Low initial and operating cost
- ◆ Maintenance free operation
- ◆ Custom units available

Matérials

Body

- standard - anodised aluminium
- optional - hard chromed
- 316L stainless steel
- PVC, Peek, PTFE, Delrin

Seals - no seals

Description

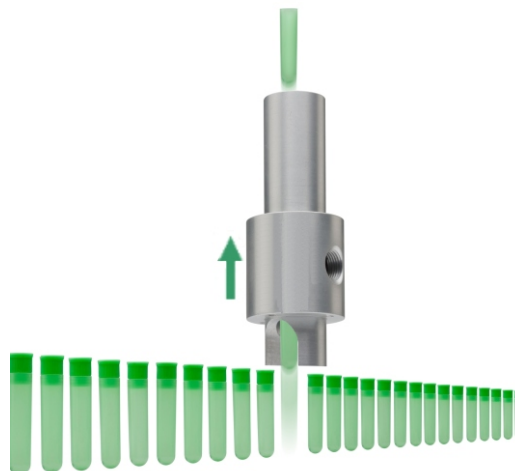
The DF series of high flow vacuum pumps provides a reliable and cost effective method of in-line transfer of complex shapes and bulk materials such as; small components (up to 100 mm in diameter), continuous strips and powders.

Vacuum flow rates can be infinitely controlled over the pumps entire range by regulating the input pressure at the air input port.

The pumps unique capability to create instantaneous vacuum flow and high air velocity combined with its straight through, smooth bore design allows material to pass directly through the unit at high speeds without interference or clogging.

The compact design facilitates placement close to the work area for maximum efficiency and ease of installation.

The pumps are available in 11 standard models with inside diameters from 4 to 100 mm. Modified and custom engineered units in a variety of materials are available to special order.



Description

Specially designed venturi pump for direct pneumatic conveying.

Technical specifications

Media	air comprimé
Pressure	0 to 8 bar
Consumption	see following page
Temperature range	- 50° to + 250°C

Principles of operation

Compressed air is fed into an exterior annular ring that has a number of orifices leading into the main tube. As the compressed air exits from the orifices, its velocity increases to supersonic speed. The air is forced into the centre of the tube and rotates with a spiral motion similar to a corkscrew. This cyclonic flow creates a powerful vacuum flow capable of drawing materials into, through, and out of the pump under force.

As a vacuum source the units are capable of rapid evacuation of large volumes of air to moderate levels of vacuum.

Safety

When exhaust is not piped, pay attention about projection of materials against people.

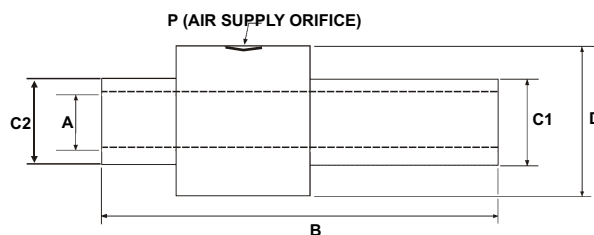
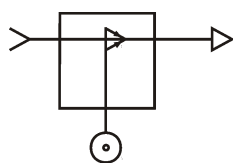
The unit must be electrically grounded to avoid generation of electrostatic charges when conveying materials as plastics or powders.

Applications

- ◆ Unloading vibrator feeders
- ◆ Powder, bulk, tablets and pieces conveying
- ◆ Cleaning
- ◆ Increasing of vacuum flow on some point connected to a centralised vacuum collecting system
- ◆ Feeding
- ◆ Production ligne rejects evacuation
- ◆ Container emptying

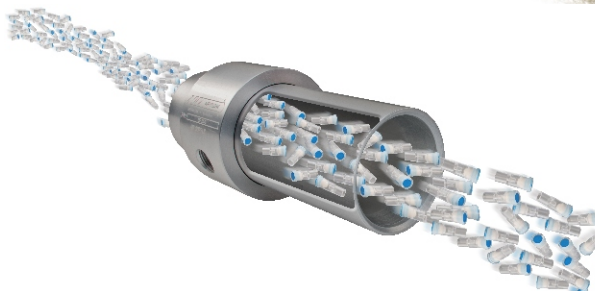
Dimensions and flow/vacuum specifications

Units in mm

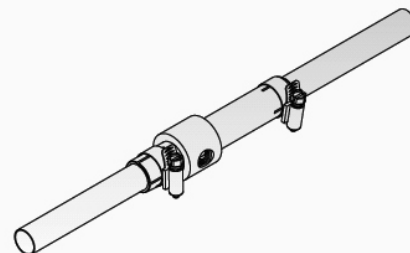
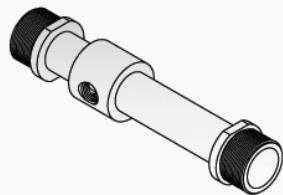
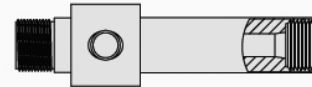
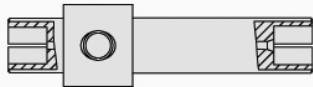
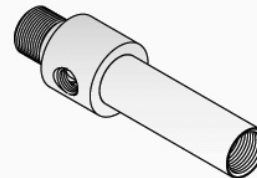
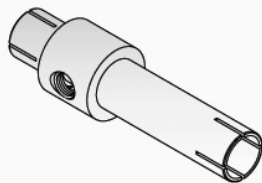
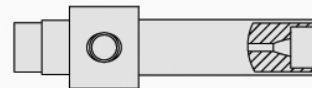
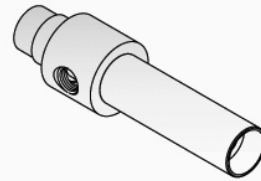
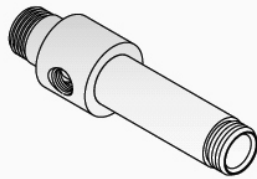
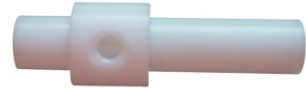
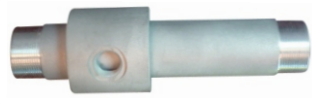


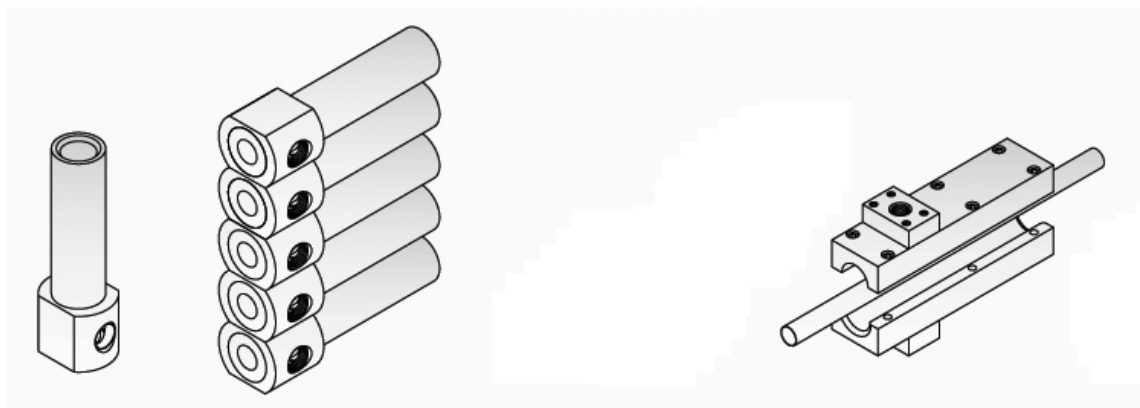
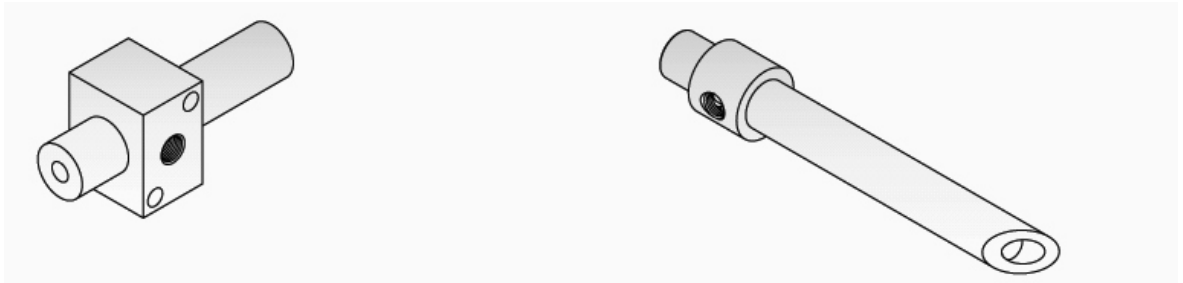
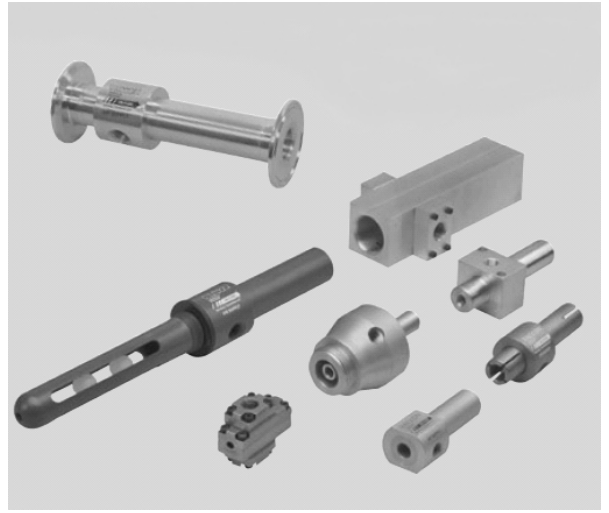
Reference	Ø A	B	Ø C1	Ø C2	Ø D	P
DF 1-3	3.8	76.2	12.7	12.2	25.2	G1/8"
DF 2-3	6.4	88.9	18.8	18.4	31.5	G1/8"
DF 3-6	9.7	88.9	18.8	18.4	31.5	G1/8"
DF 5-6	13	139.7	25.4	25	37.6	G1/4"
DF 7-6	19	190.5	31.8	31.4	50.3	G3/8"
DF 10-6	25	190.5	37.6	37.1	56.6	G3/8"
DF 12-6	32	190.5	43.9	43.4	62.7	G3/8"
DF 15-6	38	190.5	50.3	49.8	69.3	G3/8"
DF 20-6	50	190.5	63	62.5	82	G3/8"
DF 30-6	76	215.9	88.4	87.9	113.5	G1/2"
DF 40-12	100	241.3	125.7	124.2	151.1	G3/4"

Reference	Vacuum level (mbar)	Vacuum flow (NI/min)	Consumption (NI/min) @ 5,5 bar	recommended supply pipe Ø
DF 1-3	360	90	80	6 mm
DF 2-3	270	280	170	8 mm
DF 3-6	200	700	280	10 mm
DF 5-6	330	1200	620	10 mm
DF 7-6	310	3600	1400	13 mm
DF 10-6	200	5000	1400	13 mm
DF 12-6	135	6800	1400	13 mm
DF 15-6	85	7600	1400	13 mm
DF 20-6	50	8500	1400	13 mm
DF 30-6	26	10600	1400	13 mm
DF 40-12	17	17000	3400	19 mm



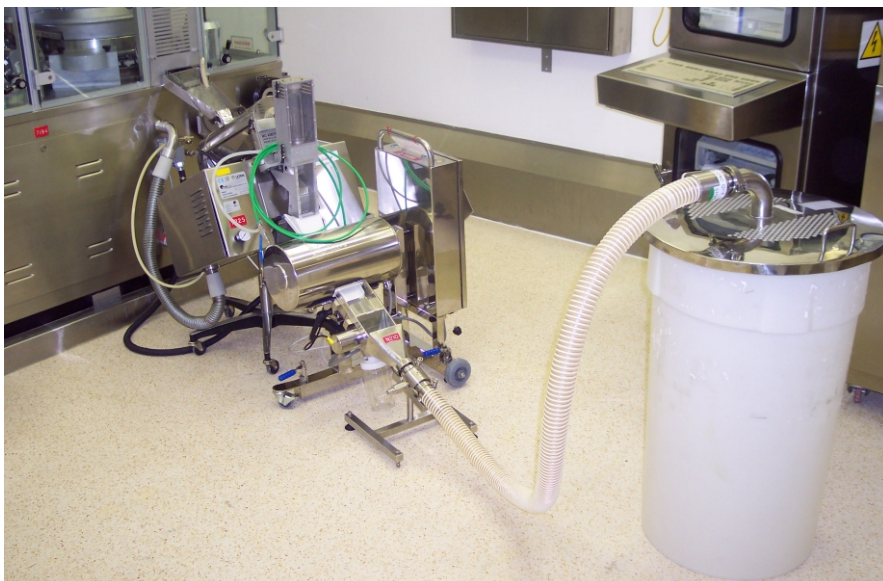
DF series
Custom design





50 microns hard chromed
Internal bore

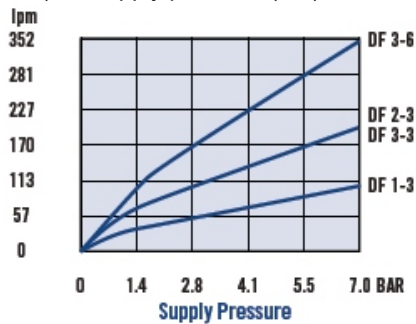
DF series
Stainless steel versions



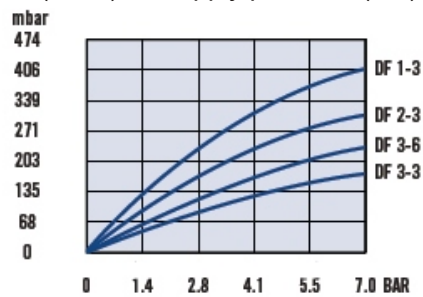
DF Series Performance Data

DF 1-3, DF 2-3, DF 3-3, DF 3-6

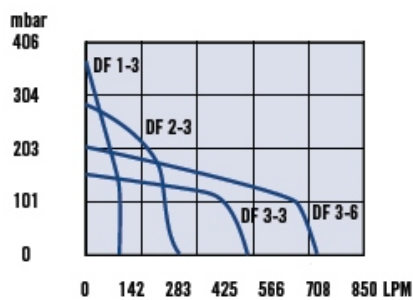
Consumption (l/min) vs Supply pressure (bar)



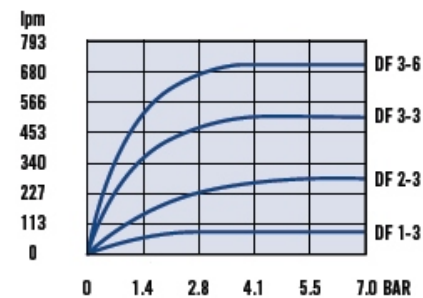
Vacuum level (mbar) vs Supply pressure (bar)



Vacuum level (mbar) vs vacuum flow (l/min) - P = 5.5 bar

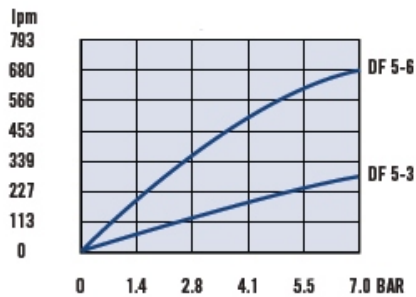


Vacuum flow (l/min) vs Supply pressure (bar)

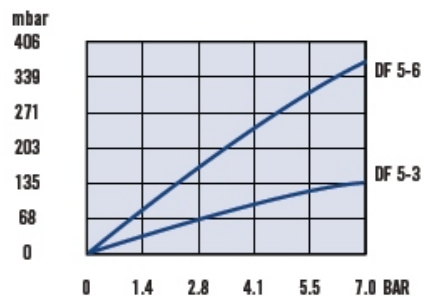


DF 5-3, DF 5-6

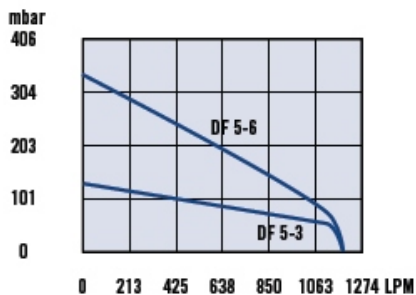
Consumption (l/min) vs Supply pressure (bar)



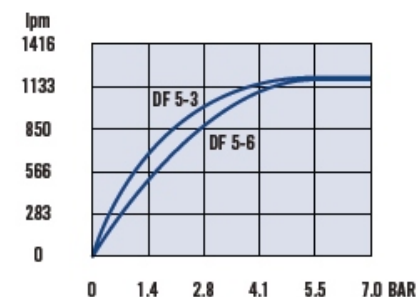
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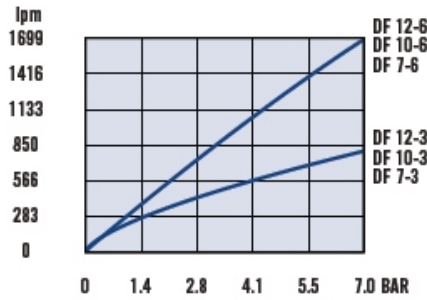
Vacuum flow (l/min) vs Supply pressure (bar)



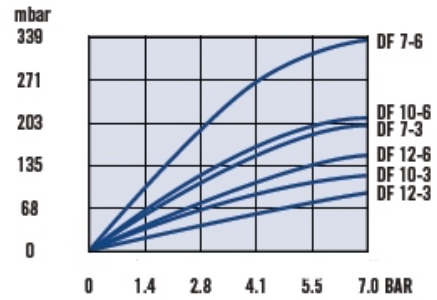
DF Series Performance Data

DF 7-3, DF 7-6, DF 10-3, DF 10-6, DF 12-3, DF 12-6

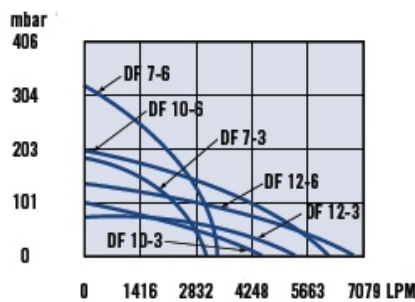
Consumption (l/min) vs Supply pressure (bar)



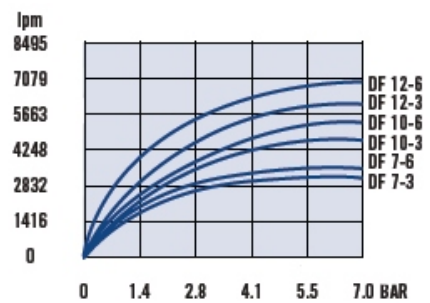
Vacuum level (mbar) vs Supply pressure (bar)



Vacuum level (mbar) vs vacuum flow (l/min) - P = 5.5 bar

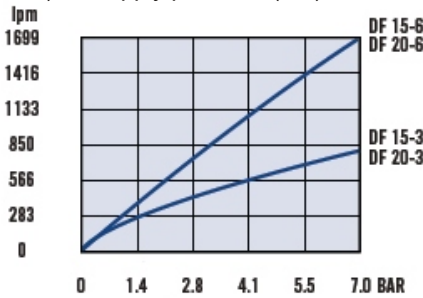


Vacuum flow (l/min) vs Supply pressure (bar)

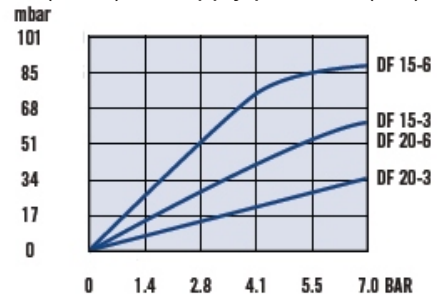


DF 15-3, DF 15-6, DF 20-3, DF 20-6

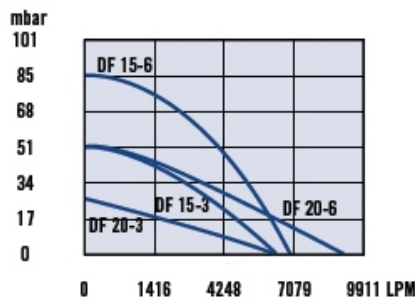
Consumption (l/min) vs Supply pressure (bar)



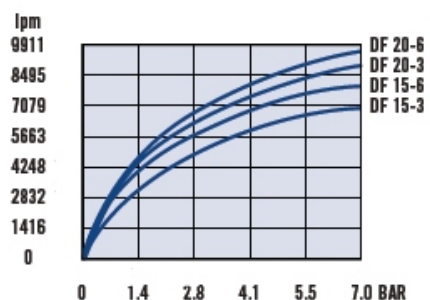
Vacuum level (mbar) vs Supply pressure (bar)



Vacuum level (mbar) vs vacuum flow (l/min) - P = 5.5 bar



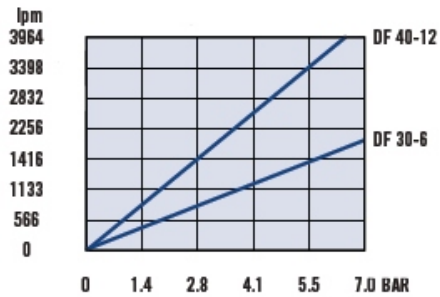
Vacuum flow (l/min) vs Supply pressure (bar)



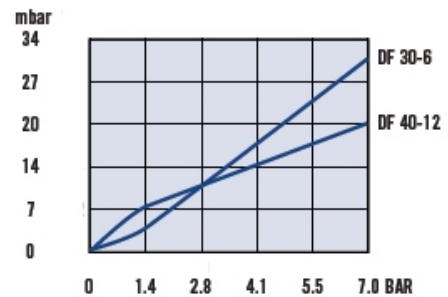
DF Series Performance Data

DF 30-6, DF 40-12

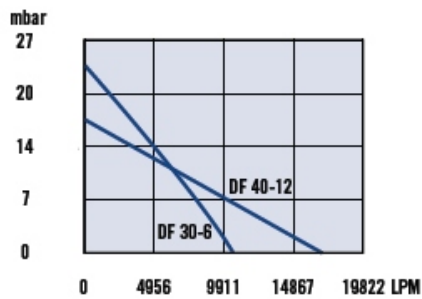
Consumption (l/min) vs Supply pressure (bar)



Vacuum level (mbar) vs Supply pressure (bar)



Vacuum level (mbar) vs vacuum flow (l/min) - P = 5.5 bar



Vacuum flow (l/min) vs Supply pressure (bar)

