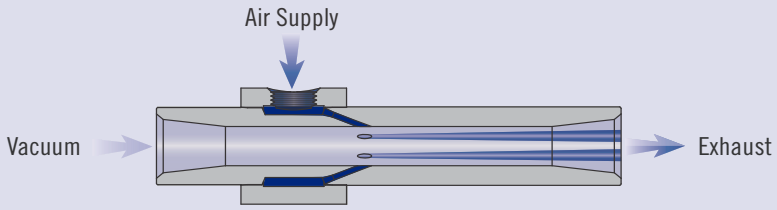
Operating / Installation Instructions:
DF Series Material Transfer Pump

Principles of Operation

Compressed air is fed into an exterior annular ring that has a number of orifices leading into the main tube of the pump. As the compressed air exits the orifices, its velocity increases to supersonic speed. The air forced into the center of the tube rotates with a twisting motion similar to a worm screw. This cyclonic flow creates a powerful vacuum capable of drawing materials into and through the pump. As a vacuum source, the DF Series are capable of rapid evacuation of a large volume of air to a low vacuum level.

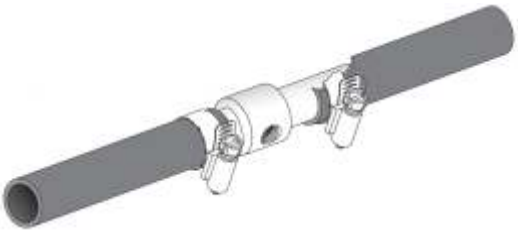


Installation Instructions:

1a. For simple applications, place the DF pump in the transfer line, slip the transfer hose over the outside diameter of the pump and secure in place with a hose clamp (see illustration).

1b. When this type of installation is not desired or appropriate for the application, Vaccon offers the option of adding threads to the O.D. (external) and the I.D. (internal). Please refer to page 3 for a list of threaded port options.

2: Attach air line to air supply port. See table 1 on page 2 for minimum recommended tubing sizes. Note that using narrower diameter tubing than the Vaccon recommended sizes will result in reduced pump performance.



3: Attach DF pump to your mounting hardware, extrusion, end-of-arm-tool, etc., if needed.

4. Turn on compressed air, DF will generate vacuum. Note, a pressure regulator will enable you to change vacuum levels, vacuum flows and air velocity.

Caution: When conveying materials through plastic transfer lines, you must ground the transfer line to dissipate the static charge that develops from the friction of the air and material flowing over the transfer line surface.

DF Series Material Transfer pumps with optional external (left) and internal (right). Standard unthreaded model shown in upper right.

Please note custom threaded DF pumps are not returnable

Vaccon Fun Fact: **Our first product developed was a vacuum conveying product, thus our name: *VAC*uum *CON*veying**

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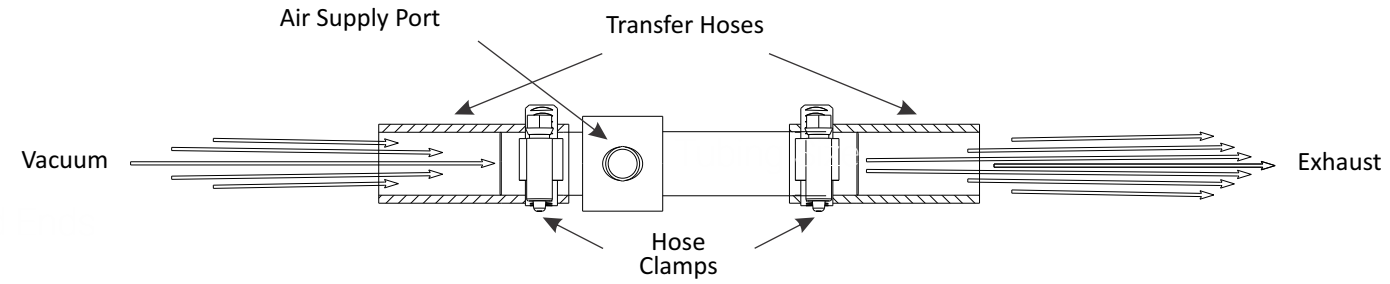
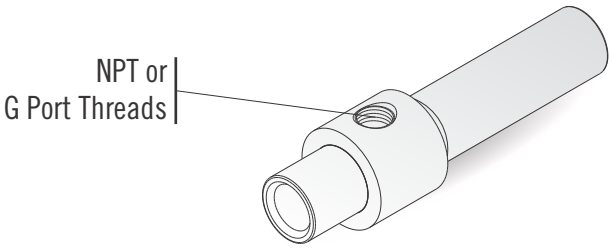
DF Series Material Conveying Pump Operating and Installation Requirements

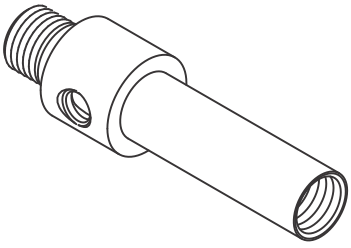
Part Number			Optional Thread Ends				Tubing Size	
Imperial	Metric	Minimum Bore	Internal Vacuum Port	Internal Exhaust Port	External Vacuum Port	External Exhaust Port	Airline Supply	Transfer Hose*
DF 1-3	I-DF 1-3	0.15"	TV25	TE25	N/A	N/A	1/4"	1/2"
DF 2-3	I-DF 2-3	0.25"	TV25	TE25	MTV38	MTE38	1/4"	3/4"
DF 3-6	I-DF 3-6	0.38"	TV25	TE25	MTV38	MTE38	1/4"	3/4"
DF 5-6	I-DF 5-6	0.50"	TV50	TE50	MTV50	MTE50	3/8"	1"
DF 7-6	I-DF 7-6	0.75"	TV75	TE75	MTV75	MTE75	1/2"	1 1/4"
DF 10-6	I-DF 10-6	1.00"	TV100	TE100	MTV100	MTE100	1/2"	1 1/2"
DF 12-6	I-DF 12-6	1.25"	N/A	N/A	N/A	N/A	1/2"	1 3/4"
DF 15-6	I-DF 15-6	1.50"	TV125	TE125	MTV125	MTE125	1/2"	2"
DF 20-6	I-DF20-6	2.00"	TV200	TE200	MTV200	MTE200	1/2"	2 1/2"
DF 30-6	I-DF 30-6	3.00"	N/A	N/A	N/A	N/A	3/4"	3 1/2"
DF 40-12	I-DF 40-12	4.00"	N/A	N/A	N/A	N/A	3/4"	5"

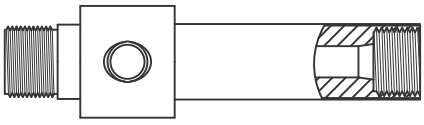
The recommended tubing sizes are based on polyethylene or polyurethane tubing with 0.062" [1/16", 1.5 mm] wall thickness
Note: Vaccon discourages the use of quick disconnect fittings on all connections.

DF Series Standard Pump Diagrams









Optional Threaded Ports: Optional internal or external vacuum and/or exhaust ports

Supply Port Fittings			
Model	Fitting	Model	Fitting
DF 1-3	1/8 NPT F	I-DF 1-3	G 1/8
DF 2-3	1/8 NPT F	I-DF 2-3	G 1/8
DF 3-6	1/8 NPT F	I-DF 3-6	G 1/8
DF 5-6	1/4 NPT F	I-DF 5-6	G 1/4
DF 7-6	3/8 NPT F	I-DF 7-6	G 3/8
DF 10-6	3/8 NPT F	I-DF 10-6	G 3/8
DF 12-6	3/8 NPT F	I-DF 12-6	G 3/8
DF 15-6	3/8 NPT F	I-DF 15-6	G 3/8
DF 20-6	3/8 NPT F	I-DF 20-6	G 3/8
DF 30-6	1/2 NPT F	I-DF 30-6	G 1/2
DF 40-12	3/4 NPT F	I-DF 40-12	G 3/4