



IMI NORGREN®

NDF Series Material Transfer Pump

Installation & Maintenance Instructions

Engineering
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Solutions



IMI Precision
Engineering

Installation & Maintenance Instructions
NDF Series Material Transfer Pump

Installation Instructions

- 1a. For standard (unthreaded) NDF Series pumps: Slip transfer hose over vacuum and exhaust ports and secure with hose clamps
- 1b. For internal threaded vacuum and exhaust port NDF Series pumps: Attach threaded fitting of transfer tube hosing into vacuum and exhaust ports.
- 1c. For external threaded vacuum and exhaust port NDF Series pumps: Attach threaded fitting of transfer tube hosing onto vacuum and exhaust ports.
2. Attach air line to air supply port. Note that using narrower diameter tubing than the IMI Norgren recommended sizes will result in reduced pump performance.
3. Attach NDF pump to your mounting hardware, extrusion, end-of-arm tool, etc., if needed.
4. Turn on compressed air, NDF 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.

NDF Standard Series Pumps – Bore Diameter, Port Thread Sizes, Transfer Tube Diameter and Minimum Recommended Air Supply Tubing Size Data

NDF Model	Material Transfer Bore Diameter (pump inner diameter)	Air Supply Port Thread Sizes	Transfer Hose Size (inner diameter)	Recommended Air Supply Line (inner diameter)
NDF13	0.15"	1/8 NPT	1/2"	1/4"
NDF23	0.25"	1/8 NPT	3/4"	1/4"
NDF36	0.38"	1/8 NPT	3/4"	3/8"
NDF56	0.50"	1/4 NPT	1"	3/8"
NDF76	0.75"	3/8 NPT	1 1/4"	1/2"
NDF106	1.00"	3/8 NPT	1 1/2"	1/2"
NDF126	1.25"	3/8 NPT	1 3/4"	1/2"
NDF156	1.50"	3/8 NPT	2"	1/2"
NDF206	2.00"	3/8 NPT	2 1/2"	1/2"
NDF306	3.00"	1/2 NPT	3 1/2"	3/4"
NDF4012	4.00"	3/4 NPT	5"	3/4"

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

NDF Internal Threaded Pumps – Bore Diameter, Port Thread Sizes, and Minimum Recommended Air Supply Tubing Size Data

NDF Model	Material Transfer Bore diameter (pump inner diameter)	Air Supply Port Thread Sizes	Vacuum and Exhaust Port Thread Sizes	Recommended Air Supply Line (inner diameter)
NDF13-VFEF	0.15"	1/8 NPT	1/8 NPT	1/4"
NDF23-VFEF	0.25"	1/8 NPT	3/8 NPT	1/4"
NDF36-VFEF	0.38"	1/8 NPT	3/8 NPT	3/8"
NDF56-VFEF	0.50"	1/4 NPT	1/2 NPT	3/8"
NDF76-VFEF	0.75"	3/8 NPT	3/4 NPT	1/2"
NDF106-VFEF	1.00"	3/8 NPT	1 NPT	1/2"
NDF 126	1.25"	3/8 NPT	Consult Factory	1/2"
NDF156-VFEF	1.50"	3/8 NPT	1 1/2 NPT	1/2"
NDF206-VFEF	2.00"	3/8 NPT	2 NPT	1/2"
NDF 306	3.00"	1/2 NPT	Not Available	3/4"
NDF 4012	4.00"	3/4 NPT	Not Available	3/4"

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

NDF External Threaded Pumps – Bore Diameter, Port Thread Sizes, and Minimum Recommended Air Supply Tubing Size Data

NDF Model	Material Transfer Bore Diameter (pump inner diameter)	Air Supply Port Thread Sizes	Vacuum and Exhaust Port Thread Sizes	Recommended Air Supply Line (inner diameter)
NDF13-VMEM	0.15"	1/8 NPT	1/8 NPT	1/4"
NDF23-VMEM	0.25"	1/8 NPT	3/8 NPT	1/4"
NDF36-VMEM	0.38"	1/8 NPT	3/8 NPT	3/8"
NDF56-VMEM	0.50"	1/4 NPT	1/2 NPT	3/8"
NDF76-VMEM	0.75"	3/8 NPT	3/4 NPT	1/2"
NDF106-VMEM	1.00"	3/8 NPT	1 NPT	1/2"
NDF126	1.25"	3/8 NPT	Consult Factory	1/2"
NDF156-VMEM	1.50"	3/8 NPT	1 1/2 NPT	1/2"
NDF206-VMEM	2.00"	3/8 NPT	2 NPT	1/2"
NDF306	3.00"	1/2 NPT	Not Available	3/4"
NDF4012	4.00"	1/2 NPT	Not Available	3/4"

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

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Warning

These products are intended for use in industrial systems only. Do not use these products where pressures and temperatures can exceed those listed under Specifications.

Before using these products with fluids other than those specified, for nonindustrial applications, life-support systems, or other applications not within published specifications, consult Norgren.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure modes.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided. System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products. System designers should also provide for all OSHA requirements including Title 29 CFR 1910.147 Lockout/Tagout.

It should be recognized that warnings are valid for any product, regardless of manufacturer, and are not restricted to products manufactured by Norgren. Norgren's reputation for product quality and performance is well established. We feel we have the additional obligation to provide information or warnings to customers to assist them in applying our products in a reasonable and safe manner.

Warranty

Items sold by Norgren are warranted to be free from defects in materials and workmanship for a period of two year from the date of manufacture, provided said items are used according to Norgren's recommended usages. Norgren's liability is limited to the repair of, refund of purchase price paid for, or replacement in kind of, at Norgren's sole option, any items proved defective, provided the allegedly defective items are returned to Norgren prepaid. The warranties expressed above are in lieu of and exclusive of all other warranties. There are no other warranties, expressed or implied, except as stated herein.

 **WARNING:** Cancer and Reproductive Harm - www.p65warnings.ca.gov.

Our policy is one of continued research and development. We therefore reserve the right to amend, without notice, the specifications given in this document.

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