

Nordson Diaphragm Pumps



A complete range of diaphragm pumps and accessories to accommodate a variety of liquid painting applications.

Nordson offers a complete line of liquid diaphragm pumps that are designed to maximize efficiency, compatibility and economy in many applications. Our diaphragm pumps are engineered for low-pressure applications and can handle even the most abrasive or shear-sensitive materials. These self-priming pumps run at variable flow rates controlled by air pressure or fluid back pressure regulation.

Available in various sizes and flow rates, Nordson diaphragm pumps provide high performance in a complete range of liquid applications – from manual spray guns to full paint kitchens.

Features and Benefits

- **Higher productivity** – the combination of maximized flow rates and minimized pulsation and air consumption optimize performance.
- **Highly versatile** – multiple porting capabilities allow pump customization to meet specific application needs.
- **Extreme reliability** – lube-free air valves provide worry-free operation.
- **Environmentally sound** – bolted construction in conjunction with wetted material options provides maximum chemical and leak resistance.
- **Easy serviceability** – modular construction, reduced parts count and repair kits minimize downtime and costs.

Coating Compatibility

- **Solvent-based**
- **Water-based**
- **High Solids**
- **UV Curable**
- **Abrasive Materials**
- **Plural Component**



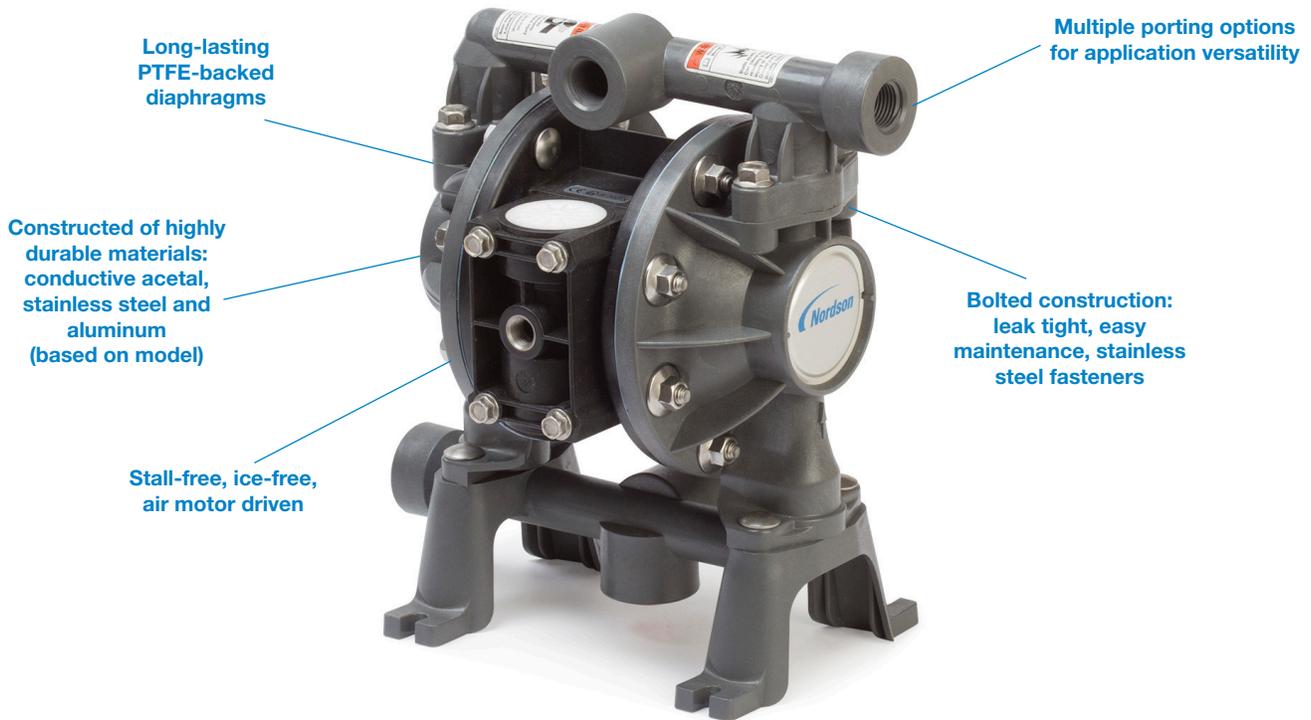
Nordson Diaphragm Pump Family

Application Versatility

Nordson diaphragm pumps can be used with a variety of application equipment:

- Air Spray Guns
- LVLP (low volume, low pressure) Guns
- HVLP (high volume, low pressure) Guns
- Trilogy™ Air Spray/HVLP Electrostatic Gun
- RA-20 Rotary Atomizer
- Optimix™ I Plural Component Dispensing System



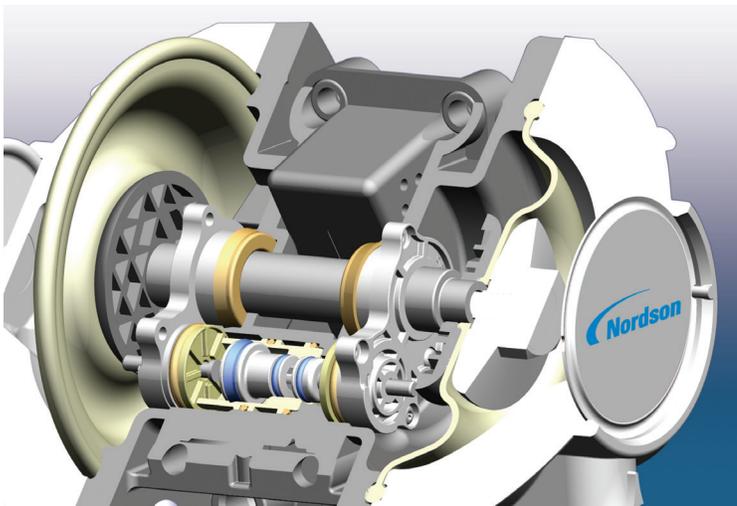


Designed for High-Performing, Reliable Operation

Nordson liquid diaphragm pumps incorporate design features that provide simple, reliable operation. Their unbalanced valve design eliminates valve centering and pump stall-out, even under low air inlet pressure. Other air valve benefits include:

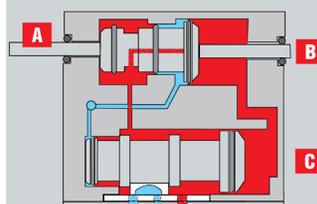
- Provides an ultra-positive, reliable shift signal that avoids stall-out
- Allows optimum energy efficiency while avoiding costly air leakage
- Ceramic construction enhances service life
- Fast valve shifting for minimal wink and superior material flow

Air Valve Operation



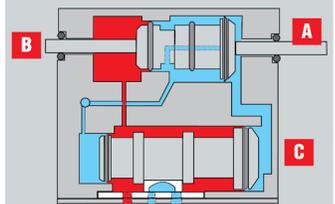
Cutaway of the 3/8" and 1/2" models

Diaphragm Moving Right to Left



- 1) The diaphragm pushes the right Actuator Pin (B) mechanically moving the SimulShift Valve (A) to the left.
- 2.) Compressed air flows to the large side of the SimulShift Valve, pneumatically moving the valve to the position shown.
- 3.) Compressed air also flows to the large end of the Major Air Valve (C),

Diaphragm Moving from Left to Right



At end of stroke:

- 1.) Diaphragm pushes Pin (B) and SimulShift Valve (A) to the right.
- 2.) Large ends of SimulShift Valve (A) and Major Valve (C) are vented to exhaust pilot signal.
- 3.) Constant compressed air supply acting on the smaller areas of the SimulShift Valve and Major Valve shifts both valves to the right and holds them in position until the next cycle begins

Diaphragm Pumps

																
Part Number	1604628	1604629	1604630	1604631	1610584	1604635	1604633	1610585	1604637	1610586	1604587	1604589	1604588	1604590	1610587	
Ratio	1:1														3:1	
Stroke	Normal	Normal	Normal	Normal	Short	Normal	Normal	Short	Normal							
Size	1/4"	3/8"			1/2"						1"				1"	
Fluid Inlet/Outlet Thread Size	1/4 NPTF/BSPT Hybrid	3/8 NPT	3/8 BSP	1/2 NPT	1/2 NPT	1/2 BSP	1/2 NPT	1/2 NPT	1/2 BSP	1/2 NPT	1 NPT	1 BSP	1 NPT	1 BSP	1 NPT	
Wetted Parts	Conductive Acetal						Stainless Steel			Aluminum			Stainless Steel			
Ball Material	PTFE	Stainless Steel														
Seat Material	Acetal	Stainless Steel														
Diaphragm Material	PTFE faced Santoprene															
Maximum Flow gpm (lpm)	5.3 (20)	10.6 (40.1)		14.4 (54.5)		7 (26.5)	14.4 (54.5)		12 (45.4)	7 (26.5)	12 (45.4)	13 (49.2)	35 (133)		26 (98.4)	
Displacement per Cycle gal (ltr)	.019 (0.72)	.022 (.083)		.039 (.15)		0.022 (0.08)	.039 (.15)		.039 (.15)	0.022 (0.08)	.039 (.15)	0.04 (0.15)	.16 (.60)		0.006 (0.23)	
Air Inlet	1/4 NPT														3/8 NPT	
Maximum Operating Pressure psi (bar)	125 (8.6)	100 (6.9)			100 (6.9)		100 (6.9)			100 (6.9)	120 (8.3)			300 (20.4)		
Weight lbs (kgs)	3.52 (1.6)	4.26 (1.93)			6.67 (3.03)		14.25 (6.46)			8.04 (3.65)	19 (8.6)	36 (16.3)		94.7 (43)		
Maximum Dry Suction Lift ft (m)	--	9.25 (2.8)		15.0 (4.5)		8.0 (2.4)	15.0 (4.5)		15.0 (4.5)	8.0 (2.4)	15.0 (4.5)		15.0 (4.5)		20 (6.1)	6 (1.8)
Air Line Kit	1604726														--	
Wall Mount Kit	1604729	1604730			1604729						1604732			--		
Wall Mount Siphon Hose Kit - Pail	1604731	1604772			1604735						--			--		
Wall Mount Siphon Hose Kit - Drum	1604736	1604737			1604738						1604739			1604739		
Air Section Service Kit	1604580	1604567		1604567		1611126	1604567		1604567	1611126	1604567		1604567		1604586	1610589
Fluid Section Service Kit	1604582	1604584		1604579		1610591	1604579		1604579	1610591	1604579		1604579		1604577	1610588
Ball and Seat Service Kit	1604581	1604583		1604578		1610592	1604578		1604578	1610592	1604578		1604578		1604576	1604576



Fluid Regulators

Part Number	Description	Type	Port size (NPT)	Base Housing Material	Seat Material	Regulated Pressure Range PSI (bar)	MAX Inlet Pressure PSI (bar)	Gauge Pressure Range	Rebuild Kit PN	Diaphragm Kit PN	Ball and Seat Kit PN
1604640	REG, 3/8, 30-200PSI, DWNSTRM	Downstream	3/8"	Stainless Steel	Tungsten Carbide	30-200 (2-14)	1250 (86)	0-300 (0-20)	1604642	1604638	1604643
1604752	REG, 1/4IN, 5-125, DWNSTRM	Downstream	1/4"	Zinc	Tungsten Carbide	5-125 (.3-8.5)	750 (51.7)	---	1604759	--	--
1604748	REG, 3/8IN, 0-200PSI, BKPRS	Backpressure	3/8"	Stainless Steel	Tungsten Carbide	0-200 (0-13.8)	1250 (86)	0-300 (0-20)	1604757	1604638	1604636
1604750	REG, 3/8IN, 0-800PSI, BKPRS	Backpressure	3/8"	Stainless Steel	Tungsten Carbide	0-800 (0-55.2)	1250 (86)	0-1000 (0-70)	1604757	1604638	1604636
1604751	REG, 1.25, 0-200PSI, BKPRS	Backpressure	1-1/4"	Stainless Steel	Tungsten Carbide	0-200 (0-13.8)	200 (13.8)	0-300 (0-20)	1604758	1604638	1604754

Fluid regulators provide consistent pressure regulation, even during significant fluctuations in line pressure. An easy turn adjustment is used to set pressure.

A Variety of Accessories to Meet Any Application

Air Line Kit

Part No. Description

1604726	KIT, 1/4IN NPT AIR LINE
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The air line kit is used with all diaphragm pump sizes to provide regulated and filtered air. The kit includes: 5 feet of air hose with 1/4" NPT male connector, an industrial style quick disconnect coupling, filter/regulator, and pipe nipple.



Wall Mount Siphon Hose

Part No. Description

1604731	HOSE, SIPHON, 5G, 1/4 AODD
1604772	HOSE, SIPHON, 5G, 3/8 AODD
1604735	HOSE, SIPHON, 5G, 1/2 AODD
1604736	HOSE, SIPHON, 55G, 1/4 AODD
1604737	HOSE, SIPHON, 55G, 3/8 AODD
1604738	HOSE, SIPHON, 55G, 1/2 AODD
1604739	HOSE, SIPHON, 55G, 1 AODD

Siphon Hoses are used when pumping from an open container or a day tank cover. Includes intake screen and 5 feet of hose. Threads are NPT, and are the size shown in the description.



Container Mount Siphon Tube

Part No. Description

1604733	TUBE, SIPHON, 5G, 1/4 AODD
1604734	TUBE, SIPHON, 5G, 3/8 AODD
1604771	TUBE, SIPHON, 5G, 1/2 AODD
1604767	TUBE, SIPHON, 55G, 3/8 AODD
1604768	TUBE, SIPHON, 55G, 1/2 AODD
1604769	TUBE, SIPHON, 55G, 1 AODD

Siphon tubes are stainless steel, and are used with container mounted configurations. Threads are NPT, and are the size shown in the description.



Single Post Lift

Part No. Description

1604723	LIFT, SINGLE POST
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The single post lift provides an easy solution to perform a drum change. The lift is mounted to the floor. Compressed air is used to raise and lower the drum cover during a container change.



Tank Mount Adapter

Part No. Description

1604747	ADAPTER, TANK MNT1/2 AODD
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The tank adapter allows a 1/2" pump to be mounted on any type of material container. It requires a bulkhead type mounting. Nuts and bolts included. Siphon tube is not included.



Wall Mount Brackets

Part No. Description

1604729	BRKT, WALL MNT, 1/4,1/2 AODD
1604730	BRKT, WALL MNT, 3/8 AODD
1604732	BRKT, WALL MNT, 1 AODD

Wall mount brackets are made of heavy gage coated steel. Pump mounting hardware included. Use for pump size shown in the description.



Container Covers

Part No. Description

1604740	COVER, 5G, 1/4 AODD
1604741	COVER, 5G, 3/8 AODD
1604742	COVER, 5G, 1/2 AODD
1604727	COVER, 5G, DAY TANK
1604744	COVER, 55G, 3/8 AODD
1604745	COVER, 55G, 1/2 AODD
1604746	COVER, 55G, 1 AODD
1604728	COVER, 55G, DAY TANK

Container covers are stainless steel and will accommodate both diaphragm pump, siphon tube, and agitator mounting. Mounting fasteners are included; siphon tube is ordered separately. Day tank covers include a port to insert a siphon hose, and do not have a pump mount. 5G covers have a diameter of 12" (305 mm). 55G covers have a diameter of 24 7/8" (632 mm). Use for pump size shown in the description.



Material Agitators

Part No. Description

1604724	AGITATOR, 5-GALLON
1604725	AGITATOR, 55-GALLON

Each agitator is provided complete with propellers and a pneumatic needle valve for speed adjustment. Pail agitators operate at 500-1000 rpm, drum agitators operate at 300-3000 rpm. Agitator shafts and propellers are made of 316 stainless steel.



Bung Mount Adapter

Part No. Description

1604749	MOUNT, 55G BUNG, 1/2 AODD
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The drum adapter allows a 1/2" diaphragm pump to mount directly to and siphon from the 2" NPSM drum bung. Supplied with siphon tube and mounting nuts and bolts.

Diaphragm Pump Pail System

Part No. Description

1604623	SYSTEM, PAIL, 3/8NPT, AODD
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The pail system comes complete with a 3/8" diaphragm pump, agitator, fluid filter, pump air regulator, atomizing air regulator, and pail. Fluid outlet is 3/8" NPT, air inlet is 1/4 NPT.



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