
FLO


You have needs
We have solutions
Go with the flo...
Ease of Maintenanc
Reliable
No Lube
Long Life
Chemically Resistant
Blow-by

ENGINEERED
REVOLUTION

"Revolutionizing the way you solve your toughest pumping problems"

A product does not exist which meets the needs of all consumers worldwide. Wants and needs vary greatly depending on customer requirements and application parameters. Wilden understands these dynamics due to its problem-solving experience in a wide variety of industries ranging from semiconductor to waste treatment.

You require specific features and benefits depending on your pumping requirements and the mandates set by industry norms. You require success in applications where other pump types or brands fail. You require a total solution and are not willing to compromise. To this end, Wilden continues to refine air-operated, double-diaphragm pump technology by listening to what you need.

Your needs drive our product development effort. Wilden has revolutionized air distribution technology by developing four unique solutions. We give you a choice of air systems to ensure your satisfaction.

TURBO-FLO™

PROGRESSIVE PUMP TECHNOLOGY

HOW IT WORKS

The Turbo-Flo™ air distribution system operates on differential pressure only; there are no mechanical trip rods, bearings or springs to wear or repair. Its externally serviceable air valve body is attached to a center block, which houses specialized Glyd™ ring seals. The air valve piston within the air valve body routes the air supply to one of two air chambers as dictated by its position. As the air chamber fills with air, the diaphragm is displaced, thus pulling the connecting shaft and opposite diaphragm toward the center block. As the shaft moves, slots on the shaft break a seal created by center block Glyd™ rings. When this seal is broken, a low-pressure area is created at one end of the air valve body causing the piston to shift up or down vertically alternately supplying each air chamber with pressurized air to displace each diaphragm. Air valve tolerances allow for the passage of some moisture and air line particulates allowing free movement of the air valve.

Market Position

- Durability
- Low initial cost
- Ease of maintenance
- Low maintenance cost

Application Traits

- Utilitarian-type application
- Submersible
- Priority consideration=price

Features

- Design simplicity
- Breadth of size and material
- Largest installed base
- Fewest number of parts

	Inlet Size	Max. Flow Rate	Displacement Per Stroke (70/30)	Max. Suction Lift (Dry)	Max. Size Solids	Wetted Materials
T1 Metal	.5"(12.7 mm)	14.5 gpm(54.9 lpm)	.017 gal.(.06 l)	5'(1.59 m)	1/16"(1.59 mm)	A,H,S
T1 Plastic	.5"(12.7 mm)	14.1 gpm(53.37 lpm)	.019 gal.(.07 l)	13'(3.96 m)	1/16"(1.59 mm)	P,K,G,T
T2 Metal	1"(25.4 mm)	35 gpm(132.49 lpm)	.105 gal.(.41 l)	17'(5.18 m)	1/8"(3.18 mm)	A,H,S
T2R Plastic	1"(25.4 mm)	30 gpm(113.6 lpm)	.104 gal.(.39 l)	18'(5.5 m)	1/8"(3.18 mm)	P,K
T2 Metal 3A	1.5"(38.1mm)	33 gpm(124.9 lpm)	.065 gal.(.25 l)	3'(.91 m)	1/4"(6.35 mm)	S
T4 Metal	1 1/2"(25.4 mm)	81 gpm(306.6 lpm)	.31 gal.(1.17 l)	18'(5.5 m)	1/2"(12.7 mm)	A,H,W,S
T4 Plastic	1 1/2"(25.4 mm)	81 gpm(306.6 lpm)	.31 gal.(1.17 l)	18'(5.5 m)	3/16"(4.8 mm)	P,K,T
T8 Metal	2"(50.8 mm)	163 gpm(617 lpm)	.74 gal.(2.8 l)	21'(6.4 m)	3/4"(19.1 mm)	A,H,W,S
T8 Metal USDA	2"(50.8 mm)	153 gpm(579.2 lpm)	.55 gal.(.2.08 l)	9'(2.7 m)	3/4"(19.1 mm)	S
T8 Plastic	2"(50.8 mm)	156 gpm(54.9 lpm)	.77 gal.(2.91 l)	19'(5.8 m)	1/4"(6.35 mm)	P,K
T15 Metal	3"(71.2 mm)	232 gpm(878.2 lpm)	1.43 gal.(5.4 l)	19'(5.8 m)	1"(25.4 mm)	A,H,W,S
T20 Metal	4"(101.6 mm)	275 gpm(1,041 lpm)	1.22 gal.(4.62 l)	12'(3.66 m)	1 3/8"(35 mm)	W

Plant Engineering PRODUCT of the YEAR Finalist 1999

WIL-FLO™

PROGRESSIVE PUMP TECHNOLOGY

HOW IT WORKS

The Wil-Flo™ patent-pending air distribution system greatly improves the performance characteristics of air-operated, double-diaphragm pumps. This innovative design incorporates instantaneous shift mechanism and an enhanced exhaust configuration. Air supply pressure is alternately routed by the air valve piston to one of the power ports, through the spring-energized sliding check valve and directly behind one of the diaphragms. The air valve piston movement is initiated by inner piston contact with one of the pressure relief valves located on each side of the center block. This pressure relief valve contact bleeds air pressure from one end of the air valve piston creating a pressure differential in the air valve body and forcing the piston to shift vertically. Upon the shifting of the air valve piston, compressed air in the air chamber moves the sliding check assembly into its recess within the center block, thus exposing the exhaust channel. This channel vents exhaust air directly to atmosphere, bypassing the air valve and eliminating a major cause of freezing concern while maximizing flow rates and efficiency.

Market Position

- Superior anti-freezing
- ON / OFF reliability
- Most efficient (GPM / SCFM)
- Superior flow rate
- Lube-free operation

Application Traits

- Maximum reliability
- Very wet air supply
- NFPA / UV stabilized
- Priority consideration=efficiency

Features

- Metal C-block and A.V.
- Pressure relief valves
- Quick air exhaust
- Dbl. muffler configuration

	Inlet Size	Max. Flow Rate	Displacement Per Stroke (70/30)	Max. Suction Lift (Dry)	Max. Size Solids	Wetted Materials
W4 Metal	1.5"(38.1 mm)	89 gpm(336.9 lpm)	.25 gal.(.95 l)	17'(5.2 m)	3/16"(4.8 mm)	A,H,W,S
W4 Plastic	1.5"(38.1 mm)	99 gpm(374.8 lpm)	.28 gal.(1.06 l)	16'(4.9 m)	3/16"(4.8 mm)	P,K,T,
W8 Metal	2"(50.8 mm)	206 gpm(779 lpm)	.73 gal.(2.76 l)	23'(7.0 m)	1/4"(6.35 mm)	A,H,W,S
W8 Plastic	2"(50.8 mm)	182 gpm(688.9 lpm)	.74 gal.(2.8 l)	18'(5.5 m)	1/4"(6.35 mm)	P,K
W15 Metal	3"(76.2 mm)	293 gpm(1,109.0 lpm)	1.2 gal.(4.56 l)	19'(5.7 mm)	1/2"(12.7 mm)	A,H,W,S
W15 Plastic	3"(76.2 mm)	237 gpm(897.1 lpm)	.68 gal.(2.57 l)	10'(3.05 mm)	1/2"(12.7 mm)	P

Plastic Materials: Polypropylene(P), PVDF(K), Carbon-Filled Acetal(G), Teflon® PFA(T)

PRO-FLO™

PROGRESSIVE PUMP TECHNOLOGY

Market Position

- ON / OFF reliability
- Longest-lasting wear parts
- Lube-free operation
- Anti-freezing

Application Traits

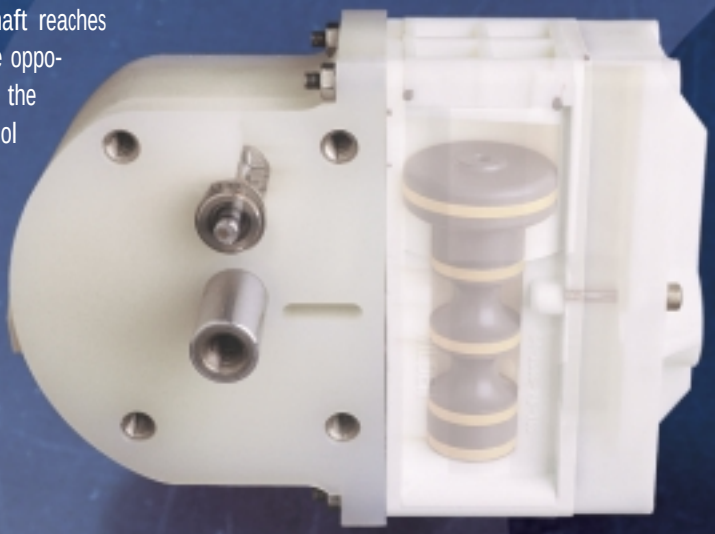
- Maximum reliability
- Process applications
- Max. mean time between failures
- Plastic air system required

Features

- Plastic C-block and A.V.
- Non-stalling unbalanced spool
- Few replaceable parts

HOW IT WORKS

The Pro-Flo™ patented air distribution system incorporates three moving parts: the unbalanced air valve spool, the pilot spool, and the main shaft/diaphragm assembly. The air valve spool location directs pressurized air to one air chamber while exhausting the other. The pressurized air chamber causes the main shaft/diaphragm assembly to shift outward discharging liquid on that side and pulling liquid in on the other side. When the shaft reaches the end of its stroke, the opposite inner piston actuates the pilot spool. The pilot spool location either pressurizes or exhausts the large end of the unbalanced air valve spool. When the large end is pressurized, the piston is forced up so that the air supply is routed through the air valve spool to the right side of the pump. When the large end is exhausted, the piston is forced down so that the air supply is routed through the air valve spool to the left side of the pump. Note: As shown below, this valve design incorporates an unbalanced spool with the smaller end of the spool pressurized continuously.



	Inlet Size	Max. Flow Rate	Displacement Per Stroke (70/30)	Max. Suction Lift (Dry)	Max. Size Solids	Wetted Materials
P.025 Plastic	.25"(6.35 mm)	4.8 gpm(18.2 lpm)	.005 gal.(.002 l)	10'(3 m)	1/64"(.4 mm)	P,K,G
P1 Metal	.5"(12.7 mm)	15.5 gpm(58.7 lpm)	.029 gal.(.11 l)	19'(5.8 m)	1/16"(1.59 mm)	A,H,S
P1 Plastic	.5"(12.7 mm)	15.0 gpm(56.8 lpm)	.030 gal.(.11 l)	20'(6.1 m)	1/16"(1.59 mm)	P,K,G,T
P2 Metal	1"(25.4 mm)	45 gpm(170 lpm)	.091 gal.(.34 l)	19'(5.8 m)	1/8"(3.18 mm)	A,H,S
P2R Plastic	1"(25.4 mm)	37 gpm(140.1 lpm)	.082 gal.(.31 l)	18'(5.5 m)	1/8"(3.18 mm)	P,K
P4 Metal	1.5"(25.4 mm)	81 gpm(306.6 lpm)	.29 gal.(1.1 l)	19'(5.5 m)	3/16"(4.8 mm)	A,H,W,S
P4 Plastic	1.5"(38.1 mm)	93 gpm(352.0 lpm)	.31 gal.(1.2 l)	17'(5 m)	3/16"(4.8 mm)	P,K,T,
P8 Metal	2"(50.8 mm)	156 gpm(590.5 lpm)	.79 gal.(2.99 l)	24'(7.3 m)	1/4"(6.35 mm)	A,H,W,S
P8 Plastic	2"(50.8 mm)	155 gpm(586.7 lpm)	.77 gal.(2.91 l)	23'(7.0 m)	1/4"(6.35 mm)	P,K

Metal Materials: Aluminum(A), Hastelloy(H), Cast Iron(W), 316 Stainless Steel(S)

ACCU-FLO™

SOLENOID PUMP TECHNOLOGY

Market Position

- Direct electrical interface
- Superior ON / OFF reliability
- Reduced system costs
- Lube-free operation

Application Traits

- System automation
- 4-20 mA (pH adjusting)
- Batching applications
- OEM accounts

Features

- Externally controlled
- Various voltage and currents
- Nema 4, Nema 7, or Cenelec
- Simple installation
- Wilden accessory interface

HOW IT WORKS

Accu-Flo™ pump technology employs a two-position, four-way solenoid valve that has a single operator and spring return. The valve is internally air piloted for longer coil and operator life. Air pressure is utilized to fill air chambers and displace the diaphragms, but electrical impulses dictate stroke rate. When the solenoid is unpowered, the air valve piston is held by a spring to the top of the air valve body. In this position, the air supply is directed to the right side of the pump while the left air chamber is exhausted. When the solenoid is powered by electricity, air presssure is routed to the top of the air valve piston which overcomes the tension of the spring and forces the piston down. In this position, the air valve piston directs the air supply to the left side of the pump and exhausts the right side. By alternately applying and removing electrical power, the Accu-Flo™ pump reciprocates back and forth similar to standard air-operated pumps.

	Inlet Size	Max. Flow Rate	Displacement Per Stroke (70/30)	Max. Suction Lift (Dry)	Max. Size Solids	Wetted Materials
A.025 Plastic	.25"(3.18 mm)	4.5 gpm(17.03 lpm)	.004 gal.(.002 l)	11'(3.53 m)	1/64"(.4 mm)	P,K,G
A1 Metal	.5"(12.7 mm)	8.5 gpm(32.18 lpm)	.017 gal.(.06 l)	5'(1.59 m)	1/16"(1.59 mm)	A,H,S
A1 Plastic	.5"(12.7 mm)	8.5 gpm(32.18 lpm)	.019 gal.(.07 l)	13'(3.96 m)	1/16"(1.59 mm)	P,K,G,T
A2 Metal	1"(25.4 mm)	35 gpm(132.49 lpm)	.105 gal.(.41 l)	17'(5.18 m)	1/8"(3.18 mm)	A,H,S
A2R Plastic	1"(25.4 mm)	24.5 gpm(92.7 lpm)	.104 gal.(.39 l)	18'(5.5 m)	1/8"(3.18 mm)	P,K
A4 Metal	1.5"(38.1 mm)	52 gpm(196.8 lpm)	.26 gal.(.98 l)	22'(6.7 m)	3/16"(4.8 mm)	A,H,W,S
A4 Plastic	1.5"(38.1 mm)	62 gpm(234.7 lpm)	.23 gal.(.87 l)	12'(3.66 m)	3/16"(4.8 mm)	P,K,T
A8 Metal	2"(50.8 mm)	102 gpm(386.1 lpm)	.55 gal.(2.08 l)	20'(6.1 m)	1/4"(6.35 mm)	A,H,W,S
A8 Plastic	2"(50.8 mm)	111 gpm(420.18 lpm)	.55 gal.(2.08 l)	20'(6.1 m)	1/4"(6.35 mm)	P,K
A15 Metal	3"(71.2 mm)	169 gpm(639.7 lpm)	1.0 gal.(3.8 l)	11'(3.53 m)	3/8"(9.53 mm)	A,H,W,S

GO WITH THE FLO...

WILDEN®
A DOVER COMPANY

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