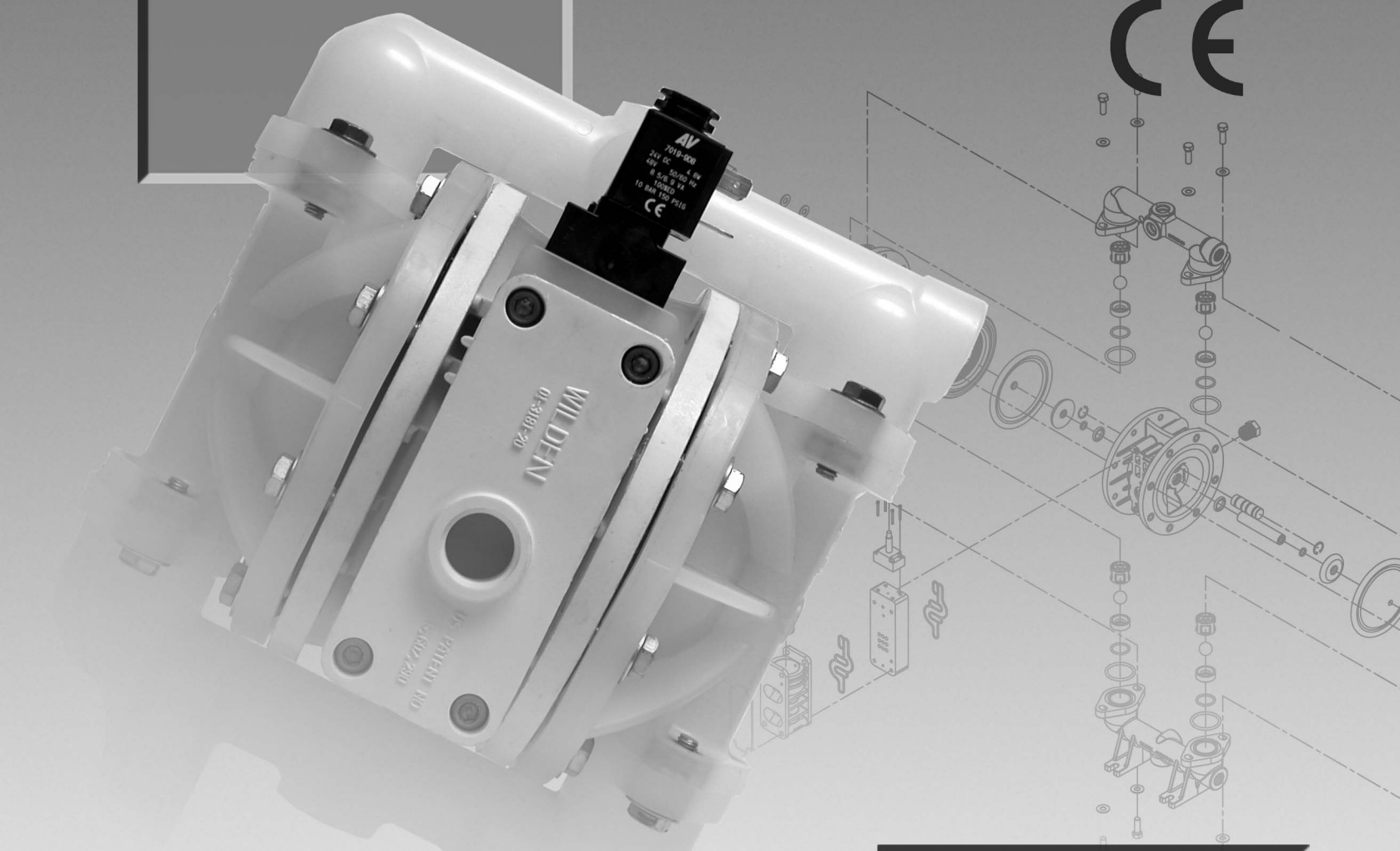
A100 ADVANCED™

Engineering Operation & Maintenance

CE



WILDEN®

A DOVER COMPANY

ACCU-FLO™

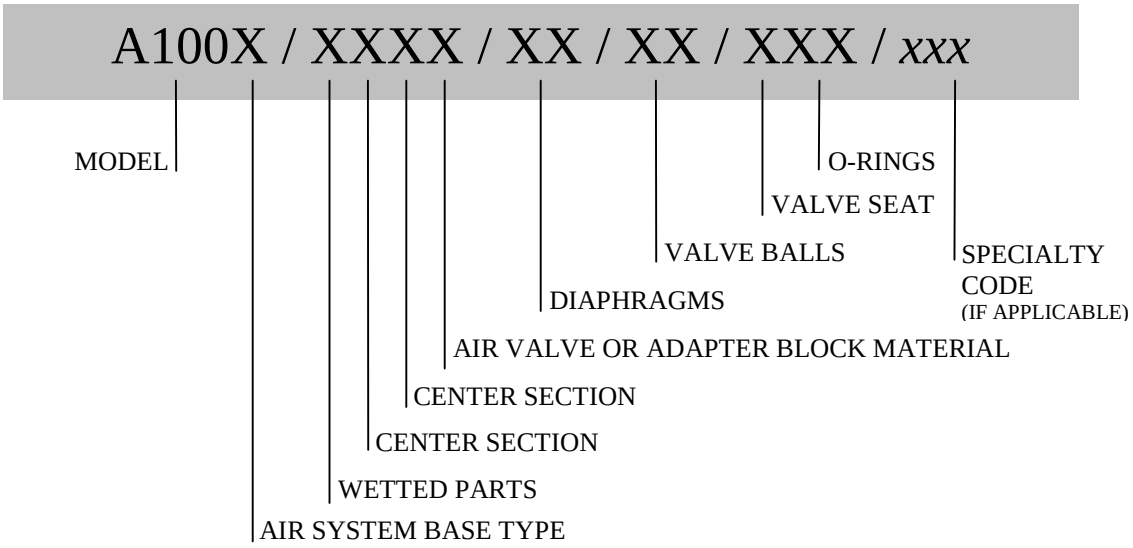
SOLENOID PUMP TECHNOLOGY

Plastic Advanced™ Pumps

TT3074

EOM-A100P 5/03
REPLACES 1/03

WILDEN PUMP DESIGNATION SYSTEM



MODEL A100 ADVANCED™ PLASTIC MATERIAL CODES

AIR SYSTEM BASE TYPE
P = PRO-FLO™
B = ADAPTER BLOCK

WETTED PARTS
K = PVDF
P = POLYPROPYLENE

CENTER SECTION
PP = POLYPROPYLENE

AIR VALVE OR ADAPTER BLOCK
P = POLYPROPYLENE
L = ACETAL

DIAPHRAGMS
BN = BUNA-N (Red Dot)
FG = SANIFLEX™ (Cream)
PU = POLYURETHANE (Clear)
TF = TEFLON® PTFE (White)
TX = TEFLON® PTFE with integral piston (White)
VT = VITON® (Silver or White Dot)

VALVE BALL
BN = BUNA-N (Red Dot)
FG = SANIFLEX™ (Cream)
PU = POLYURETHANE (Brown)
TF = TEFLON® PTFE (White)
VT = VITON® (Silver or White Dot)
WF = WIL-FLEX™ (Orange)

VALVE SEAT
K = PVDF
P = POLYPROPYLENE

VALVE SEAT O-RING
BN = BUNA-N (Red Dot)
FG = SANIFLEX™ (Cream)
PU = POLYURETHANE (Brown)
TV = TEFLON® ENCAP. VITON®
WF = WIL-FLEX™ (Orange)

NOTE: MOST ELASTOMERIC MATERIALS USE COLORED DOTS FOR IDENTIFICATION.

WILDEN MODEL A100 ADVANCED™ PLASTIC
CAUTIONS – READ FIRST!

TEMPERATURE LIMITS

Wetted Path

Polypropylene (PP)	0°C to 79.4°C	32°F to 175°F
Polyvinylidene (PVDF)	-12.2°C to 107.2°C	10°F to 225°F

Elastomers

Buna-N	-12.2°C to 82.2°C	10°F to 180°F
Viton®	-40°C to 176.6°C	-40°F to 350°F
Wil-Flex™	-40°C to 107.2°C	-40°F to 225°F
Polyurethane	-12.2°C to 65.6°C	10°F to 125°F
Polytetrafluoroethylene (PTFE)	4.4°C to 104.4°C	40°F to 220°F
Saniflex™	-28.9°C to 104.4°C	-20°F to 220°F

CAUTION: When choosing pump materials, be sure to check the temperature limits for all wetted components. Example: Viton® has a maximum limit of 176.7°C (350°F) but polypropylene has a maximum limit of only 79.4°C (175°F).

CAUTION: Maximum temperature limits are based upon mechanical stress only. Certain chemicals will significantly reduce maximum safe operating temperatures. Consult engineering guide for chemical compatibility and temperature limits.

CAUTION: Always wear safety glasses when operating pump. If diaphragm rupture occurs, material being pumped may be forced out air exhaust.

WARNING: Prevention of static sparking – If static sparking occurs, fire or explosion could result. Proper grounding of pump, valves, and containers is critical when handling flammable fluids or whenever discharge of static electricity is a hazard.

CAUTION: Do not exceed 8.6 bar (125 psig) air supply pressure.

CAUTION: Advanced™ series plastic pumps are made with plastic that is not UV stabilized. Direct sunlight for prolonged periods can cause deterioration of plastics.

CAUTION: Before any maintenance or repair is attempted, the compressed air line to the pump should be disconnected and all air pressure allowed to bleed from pump. Disconnect all intake, discharge and air lines. Drain the pump by turning it upside down and allowing any fluid to flow into a suitable container.

CAUTION: Blow out air line for 10 to 20 seconds before attaching to pump to make sure all pipe line debris is clear. Use an in-line air filter. A 5-µ (micron) air filter is recommended.

NOTE: Tighten all bolts prior to installation. Fasteners may loosen during transportation.

NOTE: When installing polytetrafluoroethylene (PTFE) diaphragms, it is important to tighten outer pistons simultaneously (turning in opposite directions) to ensure tight fit.

CAUTION: Verify the chemical compatibility of the process and cleaning fluid to the pump's component materials in the Chemical Resistance Guide (see E-4).

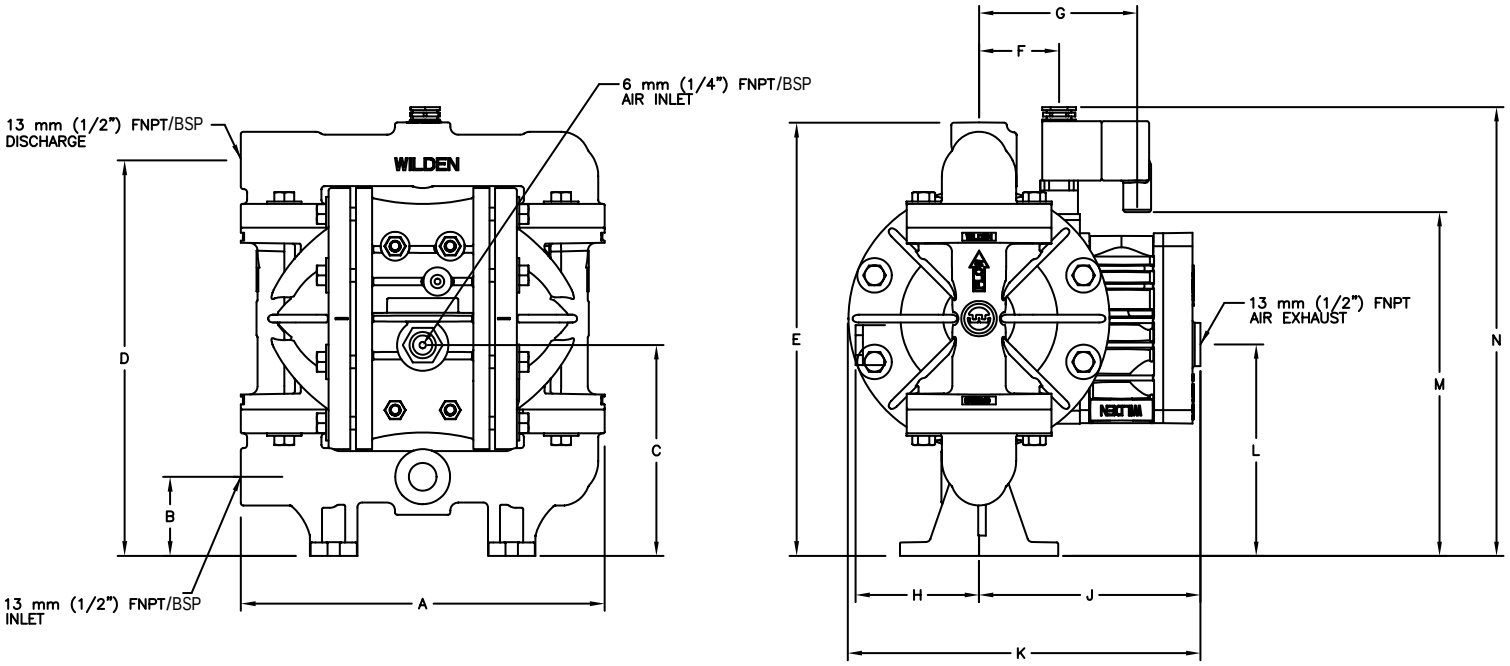
CAUTION: When removing the air valve end cap using compressed air, the air valve end cap may come out with considerable force. Hand protection such as a padded glove or rag should be used to capture the end cap.

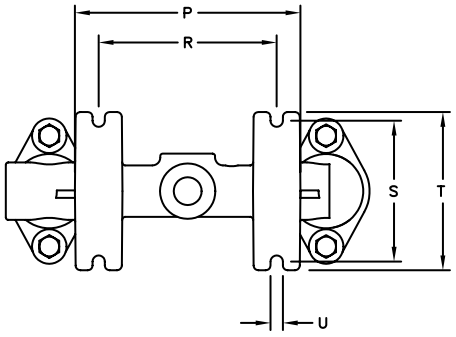
CAUTION: Do not over-tighten the air inlet reducer bushing. Additionally, too much torque on the muffler may damage the air valve muffler plate.

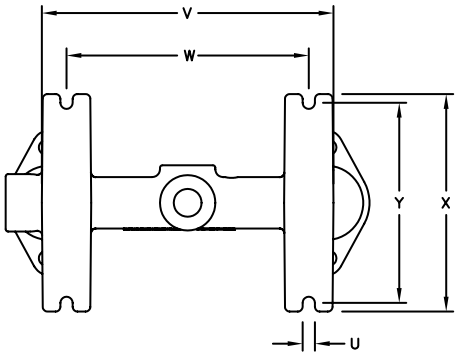
CAUTION: The A100 Advanced™ pump is not submersible.

CAUTION: Only explosion proof (NEMA 7) solenoid valve should be used in areas where explosion proof equipment is required.

DIMENSIONAL DRAWING
WILDEN MODEL A100P ADVANCED™ PLASTIC



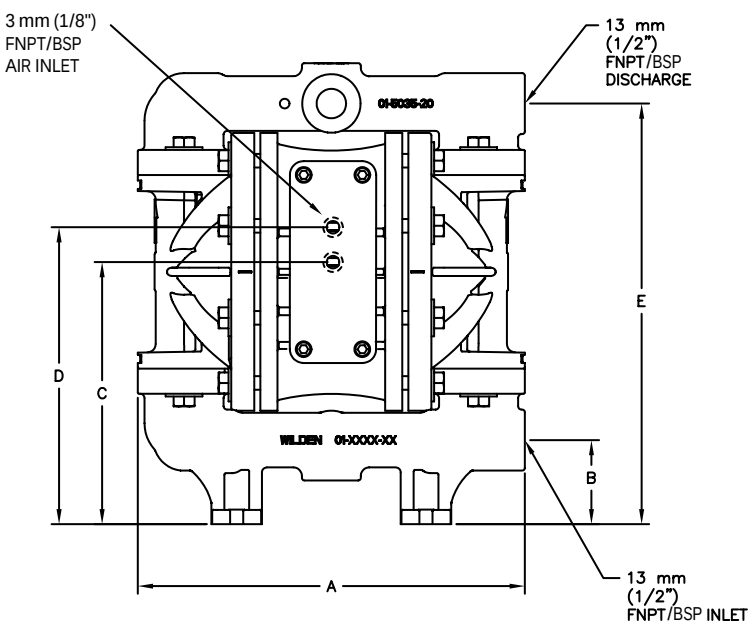


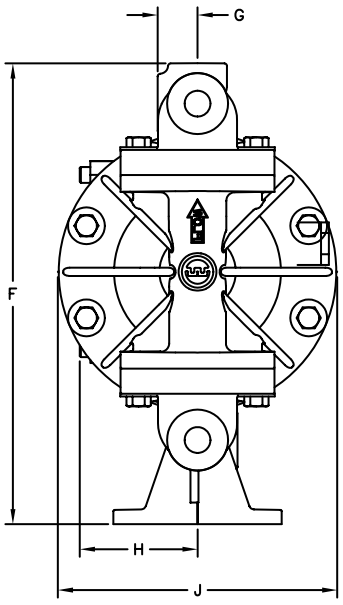


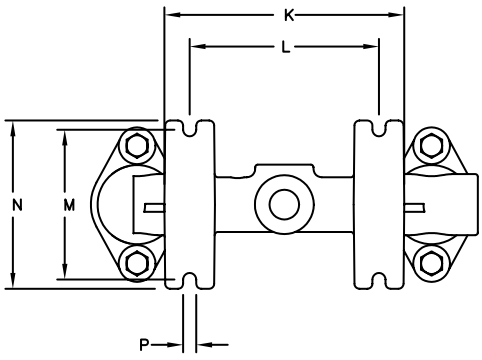
ALTERNATE FOOTPRINT

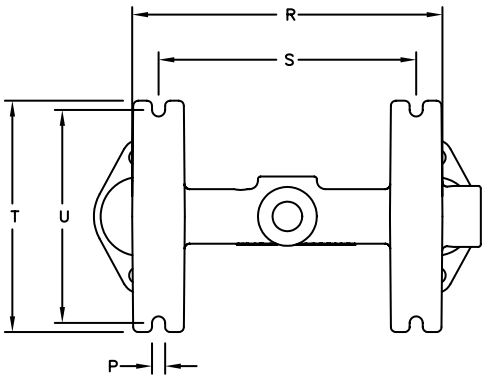
DIMENSIONAL – A100P ADVANCED™ PLASTIC W / SOLENOID SPACER		
ITEM	METRIC (mm)	STANDARD (inch)
A	234	9.2
B	51	2.0
C	135	5.3
D	254	10.0
E	279	11.0
F	51	2.0
G	102	4.0
H	79	3.1
J	142	5.6
K	226	8.9
L	137	5.4
M	224	8.8
N	277	10.9
P	145	5.7
R	114	4.5
S	91	3.6
T	102	4.0
U	8	0.3
V	188	7.4
W	155	6.1
X	140	5.5
Y	130	5.1

DIMENSIONAL DRAWING
WILDEN MODEL A100B ADVANCED™ PLASTIC









ALTERNATE FOOTPRINT

DIMENSIONAL – A100B ADVANCED™ PLASTIC W / ADAPTER BLOCK		
ITEM	METRIC (mm)	STANDARD (inch)
A	234	9.2
B	51	2.0
C	157	6.2
D	180	7.1
E	254	10.0
F	279	11.0
G	25	1.0
H	66	2.6
J	168	6.6
K	145	5.7
L	114	4.5
M	91	3.6
N	102	4.0
P	8	0.3
R	188	7.4
S	155	6.1
T	140	5.5
U	130	5.1

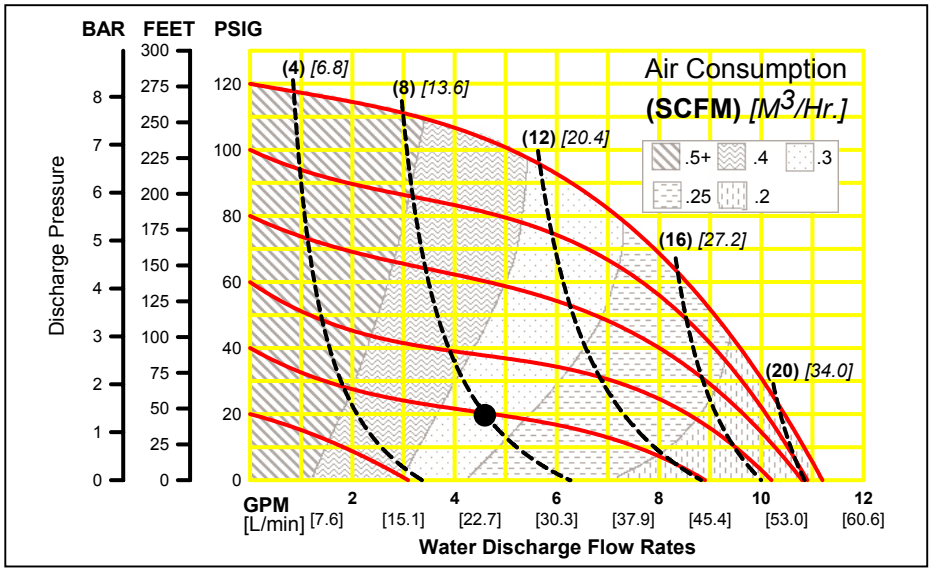
PERFORMANCE CURVES

MODEL A100P ADVANCED™ PLASTIC RUBBER-FITTED

Height……277 mm (10.9”)
Width……..…..234 mm (9.2”)
Depth……....226 mm (8.9”)
Ship Weight……PP 4 kg (8 lbs)
PVDF 5 kg (10 lbs)
Air Inlet……..…..6 mm (1/4”)
Inlet……13 mm (1/2”)
Outlet……..13 mm (1/2”)
Suction Lift……...Dry 6.6 m (21.5’)
Wet 9.0 m (29.5’)
Displacement per
Stroke……..…0.11 l (0.03 gal)
Max. Flow Rate.. 42.4 lpm (11.2 gal)
Max. Size Solids……1.6 mm (1/16”)
Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.0 bar (30 psig) head pressure.

Example: To pump 17.4 lpm (4.6 gpm) against a discharge head pressure of 1.4 bar (20 psig) requires 2.8 bar (40 psig) and 13.6 Nm^3/hr (8 scfm) air consumption. (See dot on chart)

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.



Flow rates indicated on chart were determined by pumping water.

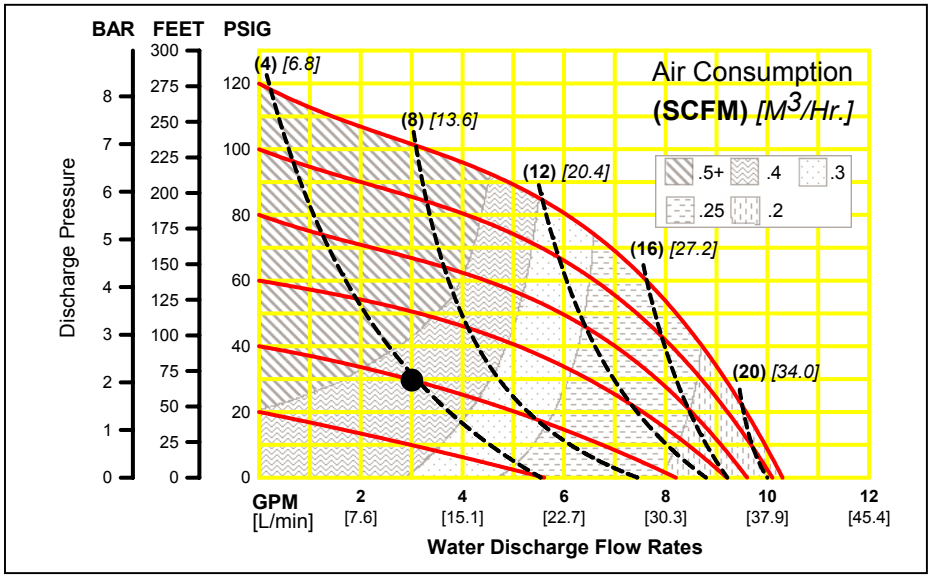
For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

MODEL A100P ADVANCED™ PLASTIC TEFLON-FITTED

Height……277 mm (10.9”)
Width……..…..234 mm (9.2”)
Depth……....226 mm (8.9”)
Ship Weight……PP 4 kg (8 lbs)
PVDF 5 kg (10 lbs)
Air Inlet……..…..6 mm (1/4”)
Inlet……13 mm (1/2”)
Outlet……..13 mm (1/2”)
Suction Lift……...Dry 5.7 m (18.7’)
Wet 9.3 m (30.6’)
Displacement per
Stroke……..…0.11 l (0.03 gal)
Max. Flow Rate...38.2 lpm (10.1 gal)
Max. Size Solids……1.6 mm (1/16”)
Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.0 bar (30 psig) head pressure.

Example: To pump 11.4 lpm (3.0 gpm) against a discharge head pressure of 2.1 bar (30 psig) requires 2.8 bar (40 psig) and 6.8 Nm^3/hr (4 scfm) air consumption. (See dot on chart)

Caution: Do not exceed 8.6 bar (125 psig) air supply pressure.

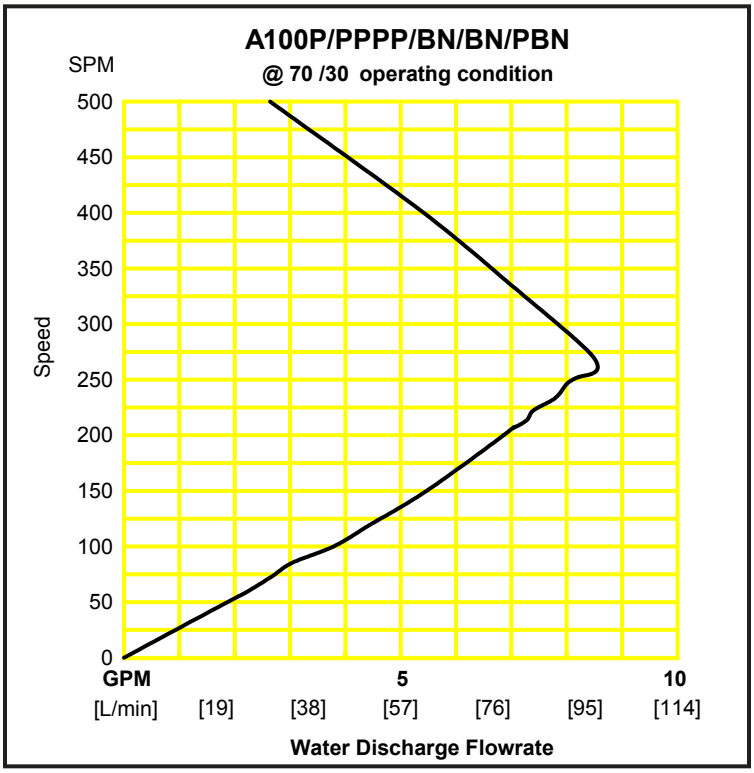


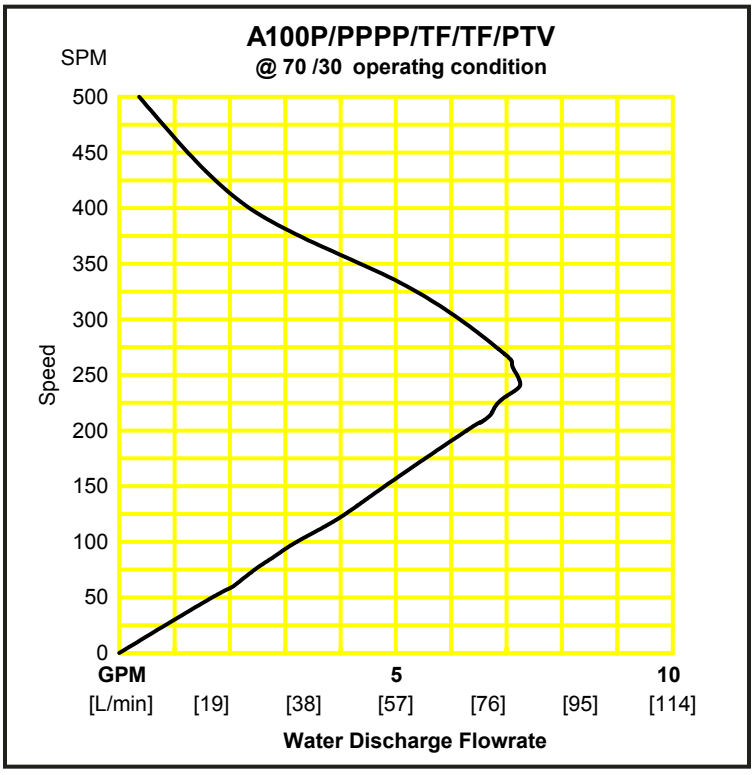
Flow rates indicated on chart were determined by pumping water.

For optimum life and performance, pumps should be specified so that daily operation parameters will fall in the center of the pump performance curve.

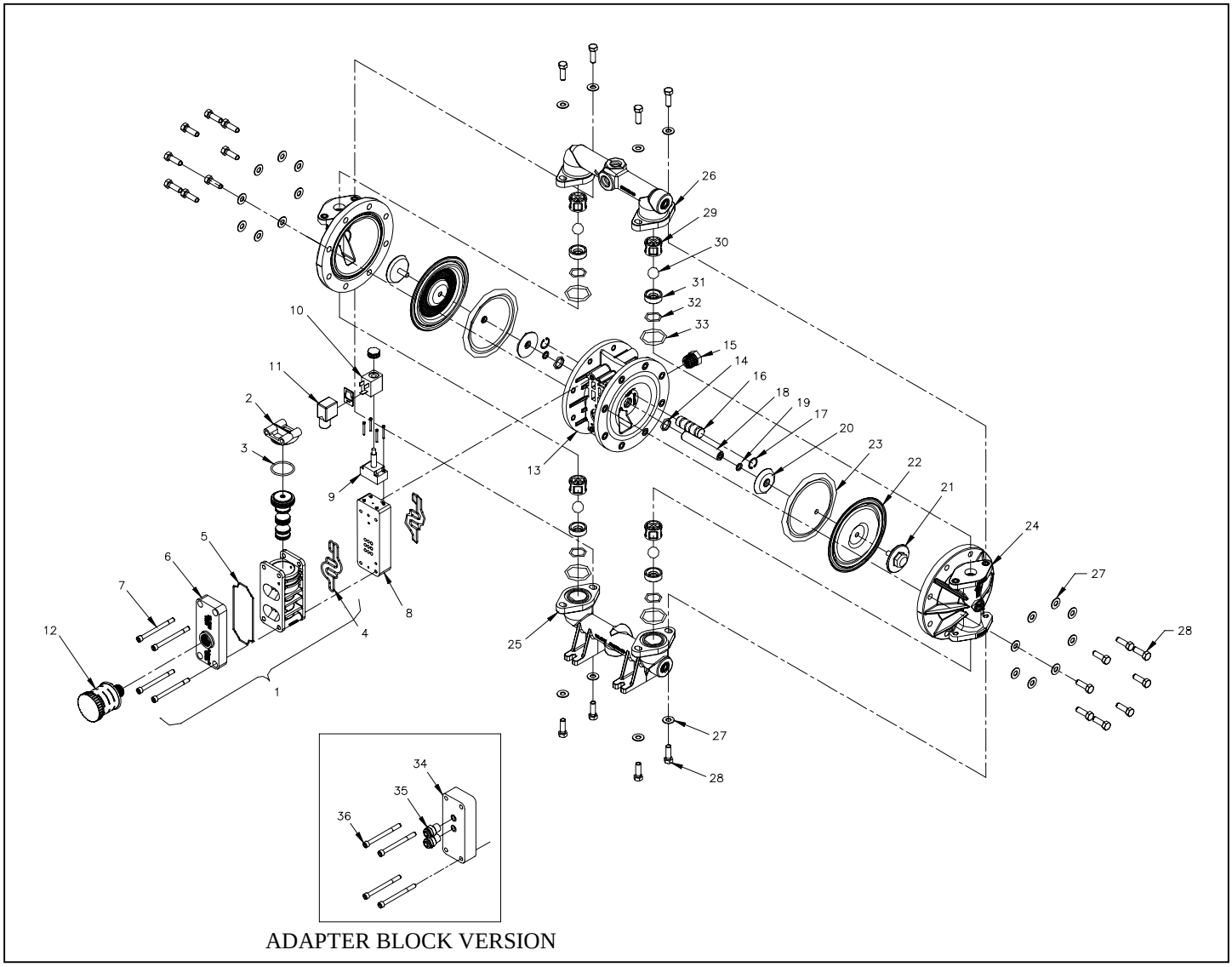
70/30 OPERATING CONDITION
MODEL A100P ADVANCED™ PLASTIC

These curves demonstrate the flow created when the stroke rate is modified under static air and fluid pressure condition. This curve can be applied to different pressure conditions to estimate the change in flow due to stroke rate.





EXPLODED VIEW / PARTS LISTING



ADAPTER BLOCK VERSION

EXPLODED VIEW / PARTS LISTING

A100P & A100B ADVANCED PLASTIC TEFLON-FITTED				
			A100P/PPPP/151	A100P/KPPP/151
Item	Description	Qty.	Part No.	Part No.
1	Air Valve Assembly [1]	1	01-2010-20	01-2010-20
2	End Cap	1	01-2332-20	01-2332-20
3	O-Ring, (.103 X1.362)	1	01-2395-52	01-2395-52
4	Gasket, Air Valve	2	01-2615-52	01-2615-52
5	Gasket, Muffler Plate	1	01-3505-52	01-3505-52
6	Muffler Plate	1	01-3181-20	01-3181-20
7	Air Valve Screws, SHC, 1/4-20 x 4.5	4	01-6000-03	01-6000-03
8	Solenoid Spacer Plate	1	01-2160-20	01-2160-20
9	Operator, Solenoid, Nema 4	1	00-2120-99	00-2120-99
10	Coil	1	00-2110-99-151	00-2110-99-151
11	Terminal Connector	1	00-2130-99	00-2130-99
12	Muffler, 1/2"	1	02-3510-99	02-3510-99
13	Center Section	1	01-3141-20	01-3141-20
14	**Glyd-Ring II, (.618 X.136)**	**2**	**01-3220-55**	**01-3220-55**
15	Reducer Bushing	1	01-6950-20	01-6950-20
16	Pilot Plug Assy	1	01-2285-99	01-2285-99
17	Retaining Ring	2	00-2650-03	00-2650-03
18	Shaft	1	01-3810-03	01-3810-03
19	Disc Spring (.331 X.512)	2	01-6802-08	01-6802-08
20	Piston, Inner, (Combo)	2	01-3711-08	01-3711-08
21	Piston, Outer, (Combo)	2	01-4570-21-500	01-4570-21-500
22	**Diaphragm, Primary, PTFE**	**2**	**01-1010-55**	**01-1010-55**
23	**Diaphragm, Back-Up, Neoprene**	**2**	**01-1060-51**	**01-1060-51**
24	Liquid Chamber	2	01-5005-20	01-5005-21
25	Inlet Manifold	1	01-5095-20	01-5095-21
26	Discharge Manifold	1	01-5035-20	01-5035-21
27	Washer (.343 X .750 X .05)	24	01-6732-03	01-6732-03
28	Screw, HHC, 5/16-18 X 1.13	24	01-6191-03	01-6191-03
29	Ball Cage	4	01-5355-20	01-5355-21
30	**Valve Ball**	**4**	**01-1080-55**	**01-1080-55**
31	**Valve Seat**	**4**	**01-1125-20**	**01-1125-21**
32	**Valve Seat O-Ring (.924 X .103)**	**4**	**01-1205-60**	**01-1205-60**
33	**Manifold O-Ring (1.484 X .139)**	**4**	**05-1370-60**	**05-1370-60**
34	Adapter Block	1	01-2155-20	01-2155-20
35	Adapter Block Air Fittings	2	00-2170-20	00-2170-20
36	Air Valve Screws, SHC, 1/4-20 x 2	4	04-6000-03	04-6000-03
	Alternate OEM Manifold (not shown)	1	01-5097-20	01-5097-21
	Drum Pump Manifold (not shown)	1	01-5094-20	01-5094-21
	Pipe Plug (not shown)	1	01-7010-20	01-7010-21

[1] Air Valve Assembly includes Items 2 & 3

All boldface items are primary wear parts

ELASTOMER OPTIONS

ELASTOMER OPTIONS FOR A100P & A100B ADVANCED PLASTIC PUMPS

Material	Diaphragm P/N	Valve Ball P/N	Valve Seat P/N	Valve Seat O-ring P/N	Manifold O-ring P/N
Polyurethane	01-1010-50	01-1080-50	N/A	01-1200-50	02-1230-50
Buna-N	01-1010-52	01-1080-52	N/A	00-1260-52	02-1230-52
Viton	01-1010-53	01-1080-53	N/A	N/A	N/A
Wil-flex	01-1010-58	01-1080-58	N/A	00-1260-58	01-1370-58
Saniflex	01-1010-56	01-1080-56	N/A	01-1200-56	01-1370-56
Teflon PTFE	01-1010-55	01-1080-55	N/A	N/A	N/A
Teflon PTFE with Integral Piston	01-1030-55	N/A	N/A	N/A	N/A
Teflon Encapsulated/Viton	N/A	N/A	N/A	01-1205-60	05-1370-60
PVDF	N/A	N/A	01-1125-21	N/A	N/A
Polypropylene	N/A	N/A	01-1125-20	N/A	N/A

COIL OPTIONS

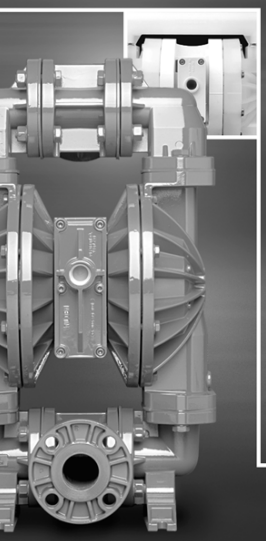
Specialty Code	Part Number	Description
150	01-2110-99-150	24V DC
154	01-2110-99-154	24V DC, NEMA 7
157	01-2110-99-157	24V DC, International
151	01-2110-99-151	24V AC/12V DC
153	01-2110-99-153	24V AC/12V DC, NEMA 7
155	01-2110-99-155	110V AC
156	01-2110-99-156	110V AC, NEMA 7

ADAPTER BLOCK OPTIONS

Part Number	Description
01-2155-13	Acetal
01-2155-20	Polypropylene

OPERATOR OPTIONS

Part Number	Description
00-2120-99	Nema 4
00-2121-99	Nema 7



ADVANCED SERIES

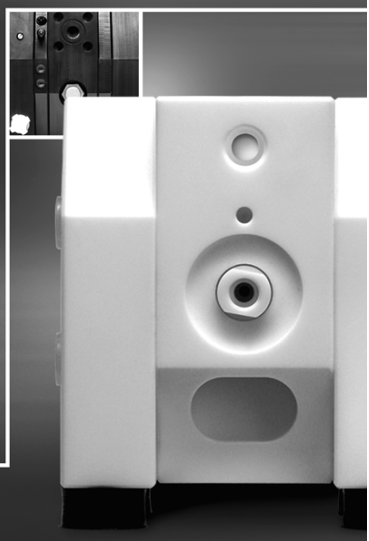
Advance Your Process

Advanced wetted path designs
Lower the cost of operation
Maximize product containment
Longer MTBF (Mean Time Between Failures)
Enhanced internal clearance
The result of advanced thought

UNITEC™ SERIES

Enrich Your Process

Simplicity of design
Unique Technology
Reliable, leak-free & quiet
Validated & certified
Intrinsically safe
The result of unique thought



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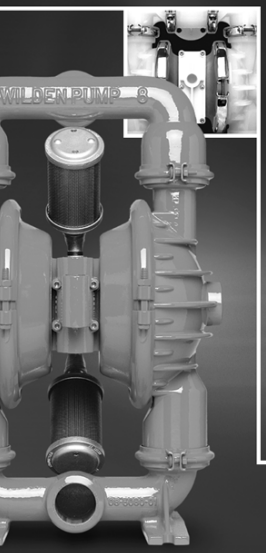
Refine Your Process

Designed for sanitary applications
Minimize product degradation
Improved production yields
Easy to inspect, clean & assemble
Minimized water requirements
The result of progressive thought

ULTRAPURE® TEFLON® PROCESS PUMPS

Optimize Your Process

Validated & certified
Clean room assembled
Low particle count
Compact, efficient & quiet
Runs on clean-dry air
The result of pure thought



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Solutions since 1955
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