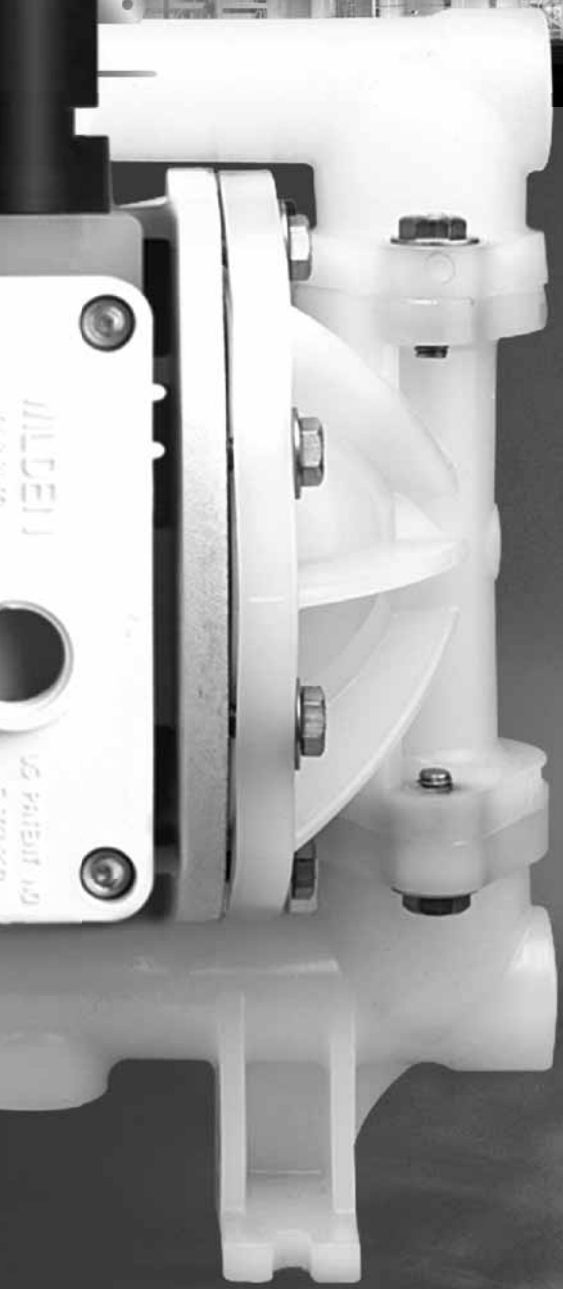


# A100

Advanced™ Series **PLASTIC** Pumps

# EOM

Engineering  
Operation &  
Maintenance



Advance your process

**ACCUFLO™**  
SOLENOID PUMP TECHNOLOGY

# WILDEN®

A **DOVER** COMPANY



WIL11040-E-03  
REPLACES WIL11040-E-01

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**CAUTION—READ FIRST!**

**TEMPERATURE LIMITS:**
**Wetted Path**

Polypropylene	0°C to 79.4°C	32°F to 175°F
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 176.7°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 150°F
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°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 and 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 5μ (micron) air filter is recommended.



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



**NOTE:** When installing 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 E4).



**CAUTION:** When removing the 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.



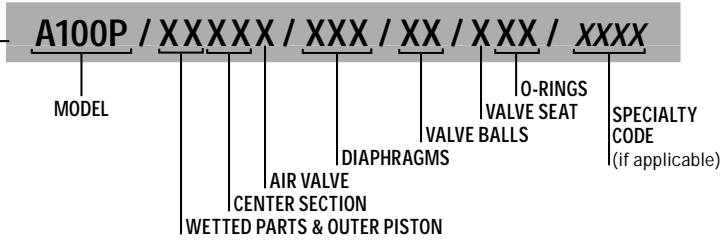
**CAUTION:** Only explosion proof (NEMA 7) solenoid valve should be used in areas where explosion proof equipment is required.

**WILDEN PUMP DESIGNATION SYSTEM**

**A100 ADVANCED™  
PLASTIC**

13 mm (1/2") Pump  
Maximum Flow Rate:  
42.4 LPM (11.2 GPM)

**LEGEND**



**MATERIAL CODES**

**AIR SYSTEM BASE TYPE**

- P = PRO-FLO®
- B = ADAPTER BLOCK

**WETTED PARTS & OUTER PISTON**

- KK = PVDF / PVDF
- PP = POLYPROPYLENE / POLYPROPYLENE

**CENTER SECTION**

- PP = POLYPROPYLENE

**AIR VALVE**

- P = POLYPROPYLENE

**DIAPHRAGMS**

- BNS = BUNA-N (Red Dot)
- FSS = SANIFLEX™ [Hytre!® (Cream)]
- PUS = POLYURETHANE (Clear)
- THU = PTFE W/HIGH-TEMP BUNA-N BACK-UP (White)
- TNU = PTFE W/NEOPRENE BACK-UP (White)
- TNL = PTFE W/NEOPRENE BACK-UP O-RING, IPD (White)
- VTS = VITON® (White Dot)
- WFS = WIL-FLEX™ [Santoprene® (Orange Dot)]

**VALVE BALL**

- BN = BUNA-N (Red Dot)
- FS = SANIFLEX™ [Hytre!® (Cream)]
- PU = POLYURETHANE (Brown)
- TF = PTFE (White)
- VT = VITON® (White Dot)
- WF = WIL-FLEX™ [Santoprene® (Orange Dot)]

**VALVE SEAT**

- K = PVDF
- P = POLYPROPYLENE

**VALVE SEAT O-RING**

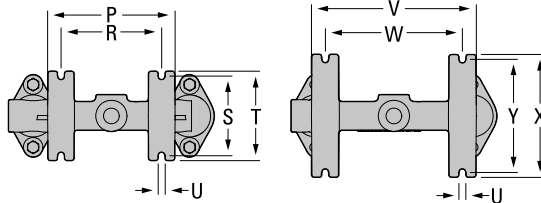
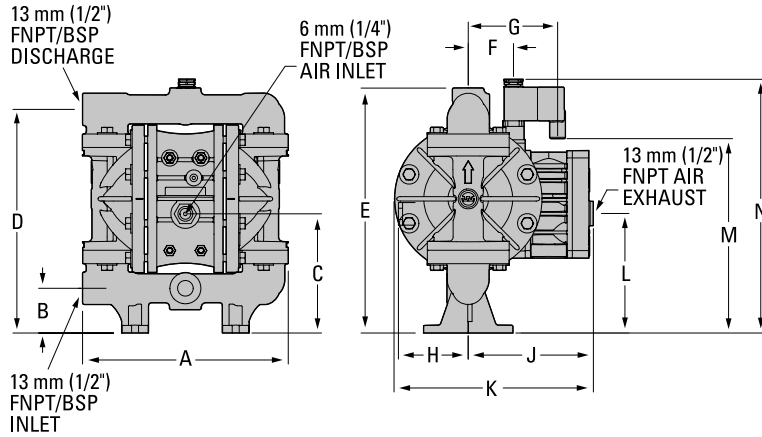
- BN = BUNA-N
- FS = SANIFLEX™ [Hytre!® (Cream)]
- PU = POLYURETHANE (Brown)
- TV = PTFE ENCAP. VITON®
- WF = WIL-FLEX™ (Santoprene®)

**SPECIALTY CODES**

- 0150 Accu-Flo™, 24V DC coil
- 0151 Accu-Flo™, 24V AC / 12V DC coil
- 0155 Accu-Flo™, 110V AC coil
- 0160 Accu-Flo™, 24V DC coil, BSPT
- 0512 Adapter block, no muffler, Pro-Flo®, center section
- 0682 P100 with OEM manifold, Accu-Flo™ 24V DC Coil

**NOTE: MOST ELASTOMERIC MATERIALS USE COLORED DOTS FOR IDENTIFICATION.**

**A100 ADVANCED™ PLASTIC**

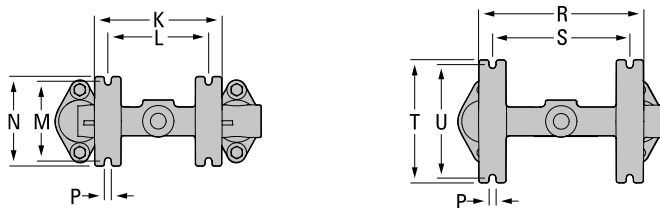
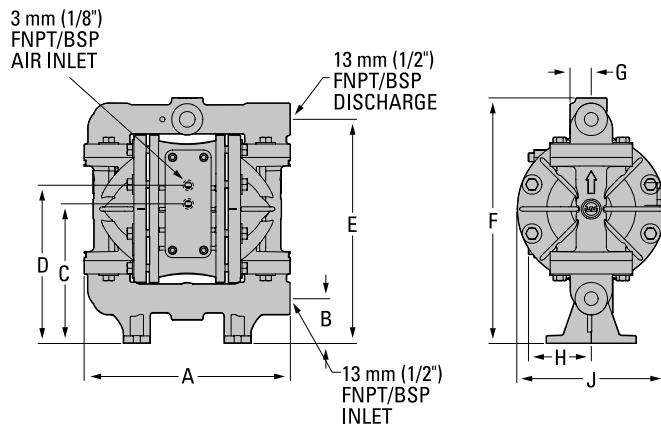


ALTERNATE FOOTPRINT

**DIMENSIONS**

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

**A100B ADVANCED™ PLASTIC**



ALTERNATE FOOTPRINT

**DIMENSIONS**

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**

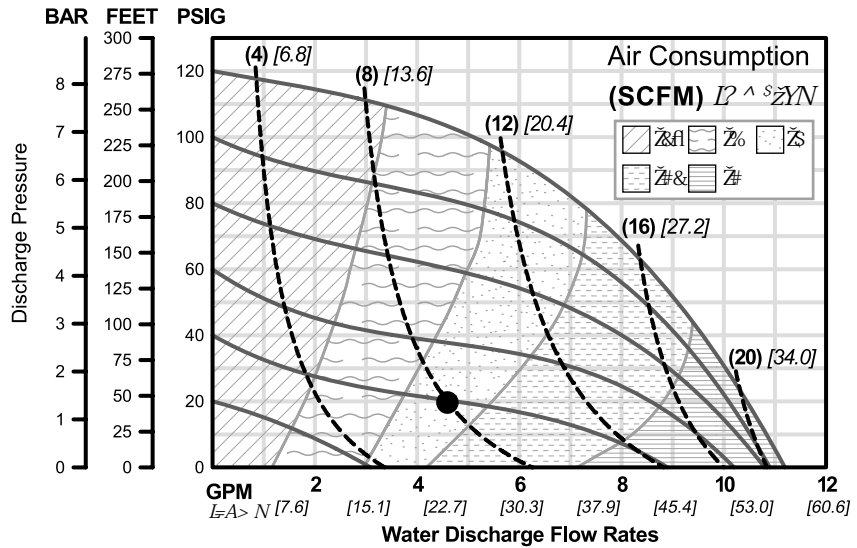
**A100 PLASTIC RUBBER-FITTED**

Height.....277 mm (10.9")  
 Width.....234 mm (9.2")  
 Depth.....226 mm (8.9")  
 Est. Ship Weight..... Polypropylene 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 / 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<sup>3</sup>/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.

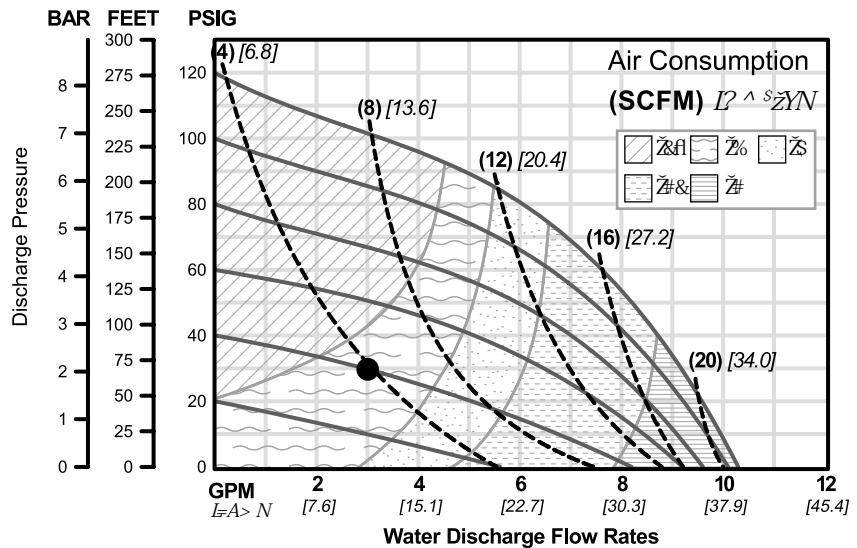
**A100 PLASTIC PTFE-FITTED**

Height.....277 mm (10.9")  
 Width.....234 mm (9.2")  
 Depth.....226 mm (8.9")  
 Est. Ship Weight..... Polypropylene 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 / 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<sup>3</sup>/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.









