

# A100

Advanced™ Series **PLASTIC** Pumps

# EOM

Engineering  
Operation &  
Maintenance



Advance your process



[airpumping.co.uk](http://airpumping.co.uk)

*of 1979*

Unit 16, Upminster Trading Park, Watley St, Upminster, Essex, RM14 3PJ, ENGLAND

# WILDEN®

A **DOVER** COMPANY

**ACCUFLO™**  
SOLENOID PUMP TECHNOLOGY



WIL-11040-E-04  
REPLACES WIL-11040-E-03

**TABLE OF CONTENTS**

**SECTION 1 CAUTIONS—READ FIRST!** .....1

**SECTION 2 WILDEN PUMP DESIGNATION SYSTEM** .....2

**SECTION 3 DIMENSIONAL DRAWINGS**

    A100 Plastic .....3

    A100B Plastic .....3

**SECTION 4 PERFORMANCE**

    A100 Plastic Rubber-Fitted .....4

    A100 Plastic PTFE-Fitted .....4

    Suction Lift Curves .....5

**SECTION 5 EXPLODED VIEW & PARTS LISTING** .....6

**SECTION 6 ELASTOMER OPTIONS** .....8



**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.



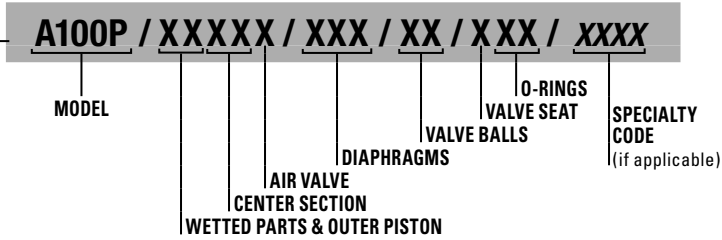
**CAUTION:** Only explosion proof (NEMA 7) solenoid valve should be used in areas where explosion proof equipment is required.

**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**

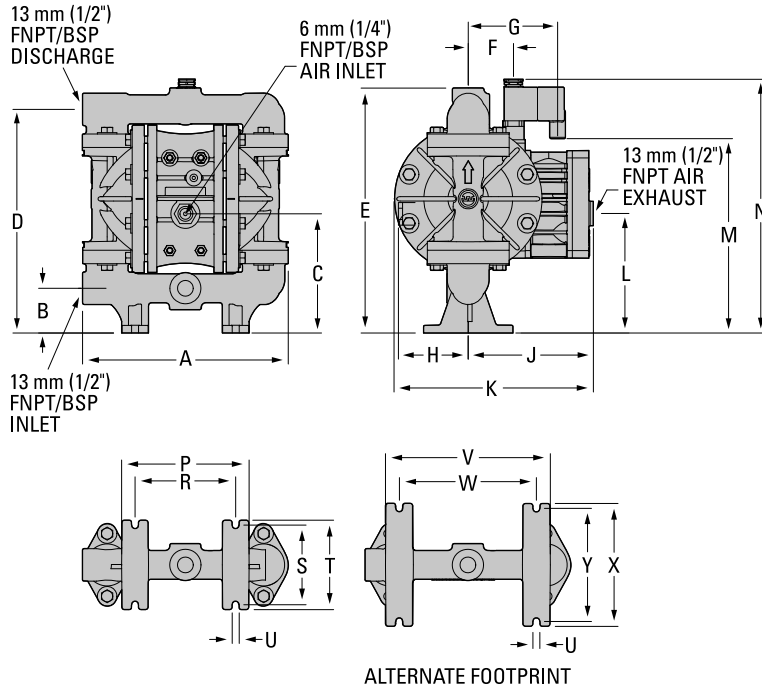
- 0150 Accu-Flo™, 24V DC coil
- 0151 Accu-Flo™, 24V AC / 12V DC coil
- 0155 Accu-Flo™, 110V AC coil
- 0160 Accu-Flo™, 24V DC coil, BSPT
- 0512 Adapter block, no muffler, Pro-Flo®, center section
- 0682 P100 with OEM manifold, Accu-Flo™ 24V DC Coil

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

Viton is a registered trademark of DuPont Dow Elastomers.

**DIMENSIONAL DRAWINGS**

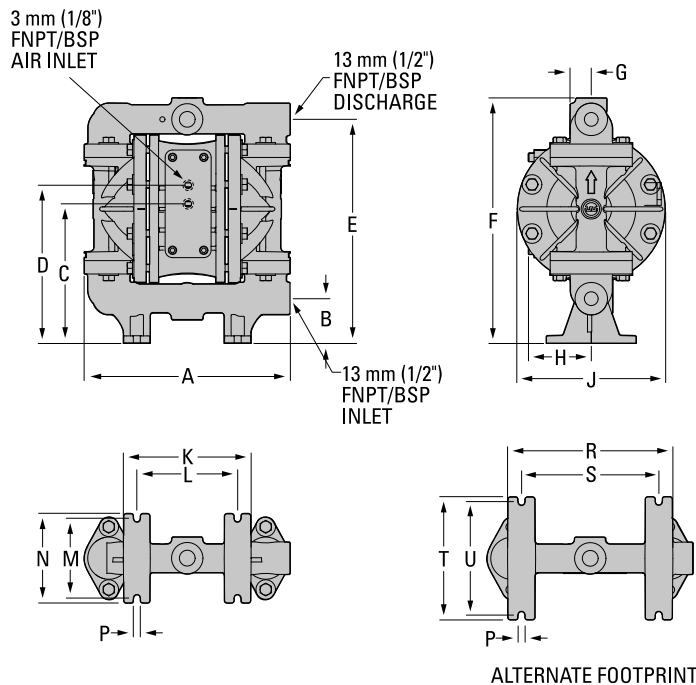
**A100 ADVANCED™ PLASTIC**



**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**



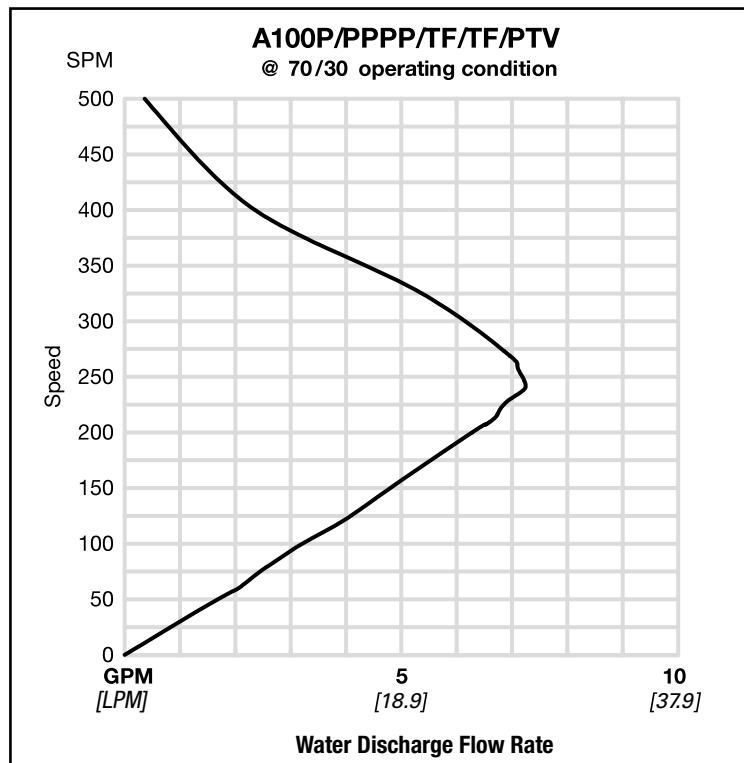
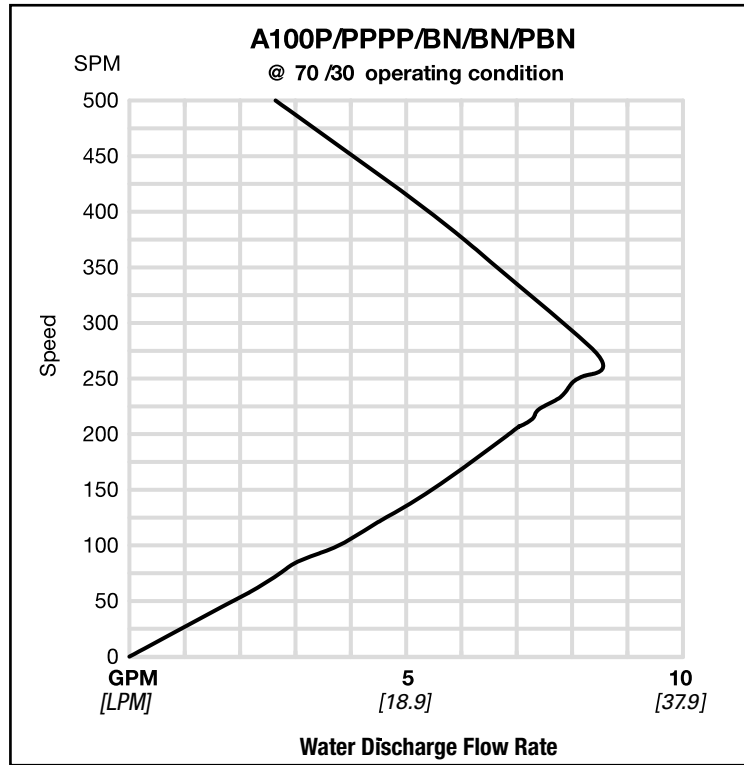
**DIMENSIONS**

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



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.

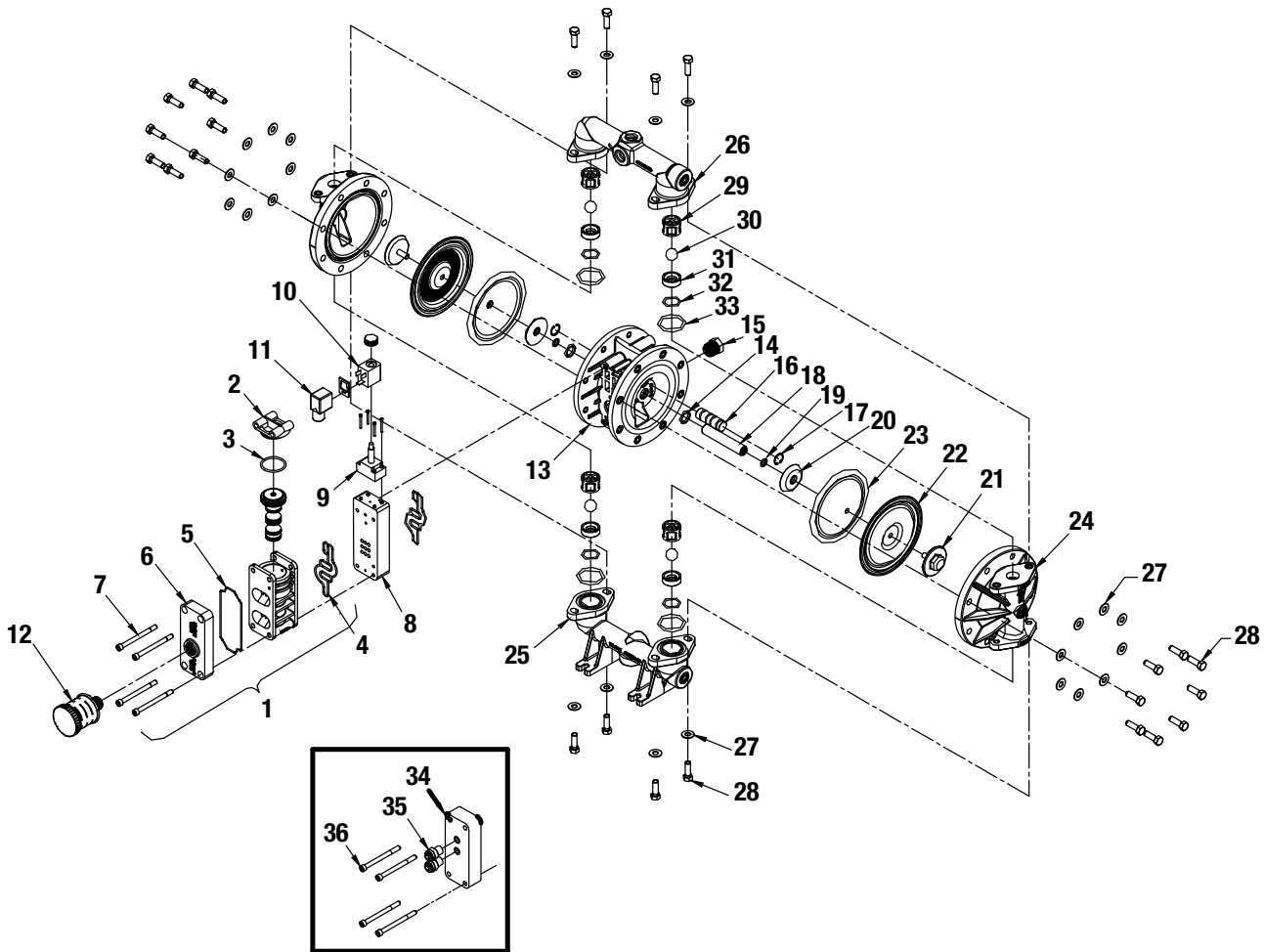
**A100 PLASTIC**



**EXPLODED VIEW & PARTS LISTING**

**A100 ADVANCED PLASTIC**

**EXPLODED VIEW**



**ADAPTER BLOCK VERSION**



**EXPLODED VIEW & PARTS LISTING**

**A100P & A100B ADVANCED PLASTIC PTFE-FITTED PARTS LISTING**

Item	Description	Qty.	A100P/PKPPP/0151 P/N	A100P/KKPPP/0151 P/N
1	Air Valve Assembly <sup>1</sup>	1	01-2010-20	01-2010-20
2	End Cap	1	01-2332-20	01-2332-20
3	O-ring, (.103 x 1.362)	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
<b>14</b>	<b>Glyd-Ring II, (.618 x .136)</b>	<b>2</b>	<b>01-3220-55</b>	<b>01-3220-55</b>
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
<b>22</b>	<b>Diaphragm, Primary, PTFE</b>	<b>2</b>	<b>01-1010-55</b>	<b>01-1010-55</b>
<b>23</b>	<b>Diaphragm, Back-Up, Neoprene</b>	<b>2</b>	<b>01-1060-51</b>	<b>01-1060-51</b>
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
<b>30</b>	<b>Valve Ball</b>	<b>4</b>	<b>01-1080-55</b>	<b>01-1080-55</b>
<b>31</b>	<b>Valve Seat</b>	<b>4</b>	<b>01-1125-20</b>	<b>01-1125-21</b>
<b>32</b>	<b>Valve Seat O-ring (.924 x .103)</b>	<b>4</b>	<b>01-1205-60</b>	<b>01-1205-60</b>
<b>33</b>	<b>Manifold O-ring (1.484 x .139)</b>	<b>4</b>	<b>05-1370-60</b>	<b>05-1370-60</b>
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	01-7101-20	01-7101-21

<sup>1</sup>Air Valve Assembly includes items 2 & 3

All Boldface items are primary wear parts

## A100P &amp; 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
PTFE	01-1010-55	01-1080-55	N/A	N/A	N/A
PTFE with Integral Piston	01-1030-55	N/A	N/A	N/A	N/A
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

**WARRANTY**

Each and every product manufactured by Wilden Pump and Engineering, LLC is built to meet the highest standards of quality. Every pump is functionally tested to insure integrity of operation.

Wilden Pump and Engineering, LLC warrants that pumps, accessories and parts manufactured or supplied by it to be free from defects in material and workmanship for a period of five (5) years from date of installation or six (6) years from date of manufacture, whichever comes first. Failure due to normal wear, misapplication, or abuse is, of course, excluded from this warranty.

Since the use of Wilden pumps and parts is beyond our control, we cannot guarantee the suitability of any pump or part for a particular application and Wilden Pump and Engineering, LLC shall not be liable for any consequential damage or expense arising from the use or misuse of its products on any application. Responsibility is limited solely to replacement or repair of defective Wilden pumps and parts.

All decisions as to the cause of failure are the sole determination of Wilden Pump and Engineering, LLC.

Prior approval must be obtained from Wilden for return of any items for warranty consideration and must be accompanied by the appropriate MSDS for the product(s) involved. A Return Goods Tag, obtained from an authorized Wilden distributor, must be included with the items which must be shipped freight prepaid.

The foregoing warranty is exclusive and in lieu of all other warranties expressed or implied (whether written or oral) including all implied warranties of merchantability and fitness for any particular purpose. No distributor or other person is authorized to assume any liability or obligation for Wilden Pump and Engineering, LLC other than expressly provided herein.

**PLEASE PRINT OR TYPE AND FAX TO WILDEN**

PUMP INFORMATION			
Item # _____		Serial # _____	
Company Where Purchased _____			
YOUR INFORMATION			
Company Name _____			
Industry _____			
Name _____		Title _____	
Street Address _____			
City _____		State _____	Postal Code _____
Country _____			
Telephone _____		Fax _____	Web Address _____
E-mail _____			
Number of pumps in facility? _____		Number of Wilden pumps? _____	
Types of pumps in facility (check all that apply): <input type="checkbox"/> Diaphragm <input type="checkbox"/> Centrifugal <input type="checkbox"/> Gear <input type="checkbox"/> Submersible <input type="checkbox"/> Lobe			
<input type="checkbox"/> Other _____			
Media being pumped? _____			
How did you hear of Wilden Pump? <input type="checkbox"/> Trade Journal <input type="checkbox"/> Trade Show <input type="checkbox"/> Internet/E-mail <input type="checkbox"/> Distributor			
<input type="checkbox"/> Other _____			

**ONCE COMPLETE, FAX TO (909) 783-3440**

NOTE: WARRANTY VOID IF PAGE IS NOT FAXED TO WILDEN

WILDEN PUMP & ENGINEERING, LLC