

Advanced Series

**BIOPHARM™**

**P1500**

Stainless Steel  
Alloy C

Engineering  
Operation &  
Maintenance



**WILDEN®**

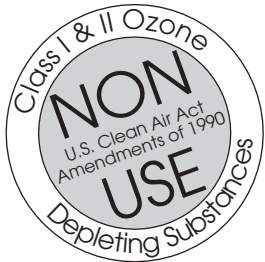
A DOVER COMPANY

**BOLTED  
SERIES**

# TABLE OF CONTENTS




---
















	PAGE #
<b>SECTION 1 – CAUTIONS - READ FIRST!</b> .....	1
<b>SECTION 2 – P1500 PERFORMANCE CURVES &amp; DRAWINGS</b> .....	2
<b>SECTION 3 – P1500 EXPLODED VIEW/PARTS LISTING</b> .....	4
<b>SECTION 4 – MATERIAL CODE DESIGNATIONS &amp; SPECIALTY CODES</b> .....	6



## SECTION 1

# CAUTIONS – READ FIRST!

-  **CAUTION:** Do not apply compressed air to the exhaust ports — pump will not function.
-  **CAUTION:** Do not over-lubricate air supply — excess lubrication will reduce pump performance. Pump is pre-lubed with NLGI Grade 2 molybdenum grease.
-  **TEMPERATURE LIMITS:**

Saniflex™	-28.9°C to 104.4°C	20°F to 220°F
PTFE	4.4°C to 104.4°C	40°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). Therefore the pump is rated to 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. Pump, valves, and containers must be properly grounded 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:** 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:** When installing PTFE diaphragms, it is important to tighten outer pistons simultaneously (turning in opposite directions) to ensure tight fit.
-  **WARNING:** Tighten all fasteners prior to installation. Fittings may loosen during transportation.
-  **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.
-  **NOTE:** To ensure reliable performance on the P1500 pump, the temperature of the air valve should not exceed 57° C (135° F). Hot air generators or other heating devices are not recommended.
-  **CAUTION:** Plastic mufflers are not recommended for use with the Wil-Flo™ and Pro-Flo® air distribution systems. Plastic mufflers may reduce pump performance.
-  **CAUTION:** Pump is not rated for U.L. 79 service. For U.L. 79 transfer use Wilden's U.L.-approved T Series pump.
-  **CAUTION:** Wil-Flo™ and Pro-Flo® pumps are not submersible. Use a T Series pump for submersible applications.

**WARNING:** Do not over-lubricate air supply.

## SECTION 2

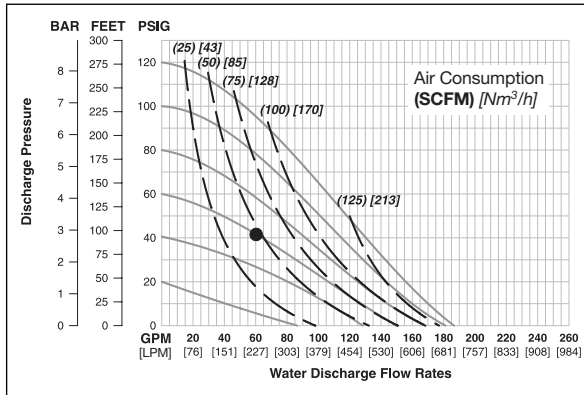
# PERFORMANCE CURVES

## WILDEN MODEL P1500 STAINLESS STEEL/ALLOY C

Height .....893 mm (35")  
 Width.....542 mm (21")  
 Depth .....536 mm (21")  
 Weight .....125 kg (275 lbs.)  
 Air Inlet.....19 mm (3/4")  
 Inlet.....76 mm (3")  
 Discharge.....76 mm (3")  
 Suction Lift .....PTFE Diaphragm 4.8 m (15.9') Dry  
 9.0 m (29.5') Wet  
 Displacement per Stroke.....PTFE 3.59 l (.95 gal.)  
 Max. Size Solids.....9.53 mm (3/8") Dia.  
 Max. Air Inlet Pressure.....8.6 bar (125 psig)

<sup>1</sup>Displacement per stroke was calculated at 4.8 bar (70 psig) air inlet pressure against a 2.8 bar (30 psig) head pressure.

### PTFE-FITTED P1500 PUMP



### P1500 Pump Flows up to 242 GPM

Maximum pump operating pressures should not exceed 8.62 bar (125 psig).

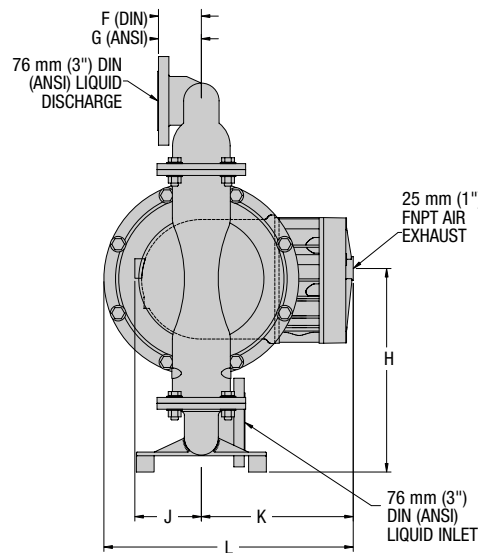
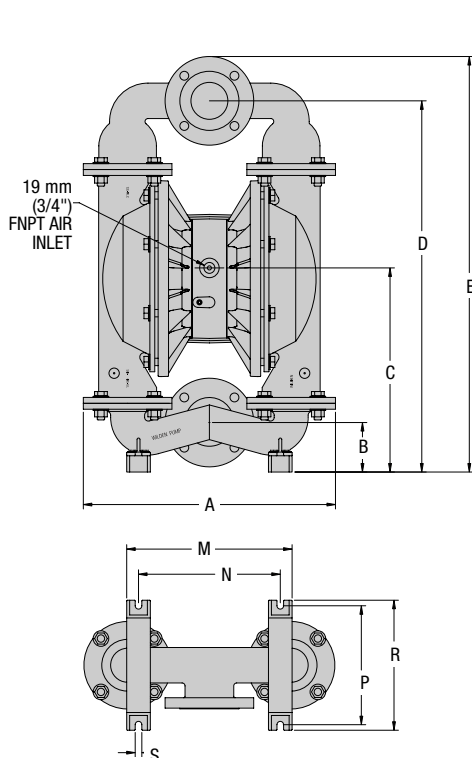
Volumes indicated on charts were determined by actually pumping water into calibrated tanks.

### Example:

To pump 227 lpm (60 gpm) against a discharge head of 2.83 bar (41 psig) requires 4.14 bar (60 psig) and 67.9 Nm³/h (40 scfm) air consumption. (See dot on PTFE-fitted chart.)

## DIMENSIONAL DRAWING

### MODEL P1500 STAINLESS STEEL/ALLOY C



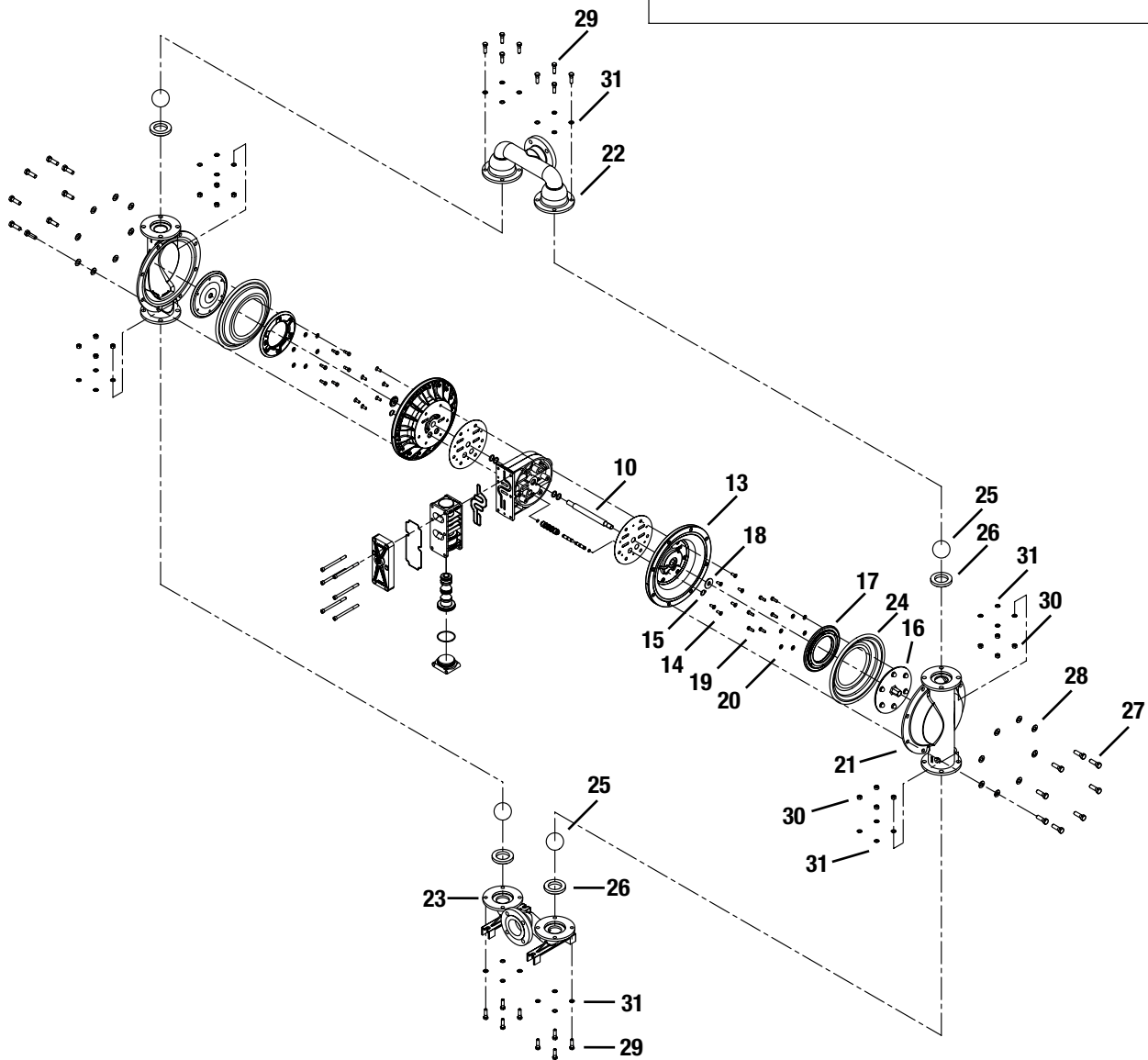
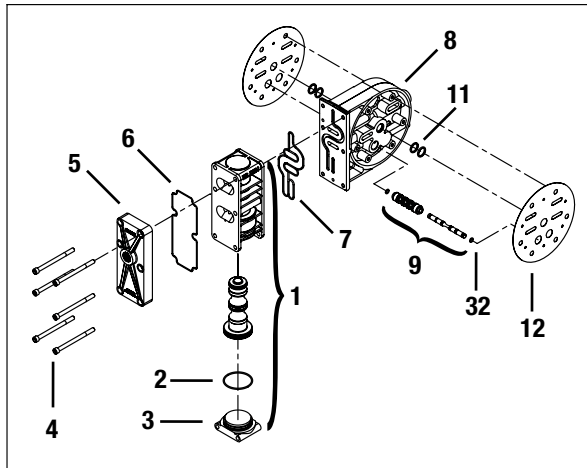
DIMENSIONS – P1500 ADVANCED™ STAINLESS STEEL		
ITEM	METRIC (mm)	STANDARD (inch)
A	542	21.3
B	106	4.2
C	439	17.3
D	798	31.4
E	893	35.2
F	88	3.5
G	92	3.6
H	437	17.2
J	143	5.6
K	327	12.9
L	536	21.1
M	356	14.0
N	305	12.0
P	256	10.1
R	279	11.0
S	14	0.6
	DIN (mm)	ANSI (inch)
T	200 DIA.	7.5 DIA.
U	160 DIA.	6.0 DIA.
V	18 DIA.	0.8 DIA.



# SECTION 3

# EXPLODED VIEW/PARTS LISTING

# P1500 ADVANCED™ METAL



## MODEL P1500 ADVANCED™ METAL

			PTFE Fitted	
			P1500/SAAP	P1500/HAAP
Item	Description	Qty.	P/N	P/N
<b>1</b>	<b>Pro-Flo® Air Valve Assy</b>	<b>1</b>	<b>15-2010-20</b>	<b>15-2010-20</b>
2	End Cap O-Ring (-235)	1	71-1280-52	71-1280-52
3	End Cap	1	15-2332-20	15-2332-20
4	Air Valve Screw, 7/16-14 X 5 7/8"	6	15-6001-03	15-6001-03
5	Muffler Plate	1	15-3181-20	15-3181-20
6	Gasket, Muffler Plate	1	15-3505-52	15-3505-52
7	Gasket, Air Valve	1	15-2615-52	15-2615-52
8	Center Block	1	15-3110-01	15-3110-01
9	Removable Pilot Sleeve Assy	1	15-3880-99	15-3880-99
10	Shaft, Sol,Combo	1	15-3805-09	15-3805-09
<b>11</b>	<b>Center Block Glyd-Ring</b>	<b>4</b>	<b>15-3210-55-225</b>	<b>15-3210-55-225</b>
12	Gasket, Center Block	2	15-3525-52	15-3525-52
13	Air Chamber, Pro-Flo®	2	15-3681-01	15-3681-01
14	Air Chamber Screw, 3/8-16 X 1	12	71-6250-08	71-6250-08
15	Retaining Ring,Removble Sleeve	2	15-2651-03	15-2651-03
16	Piston, Outer, (Non-PTFE)	2	N/R	N/R
	Piston, Outer, (Ultra-flex)	2	N/R	N/R
	Piston, Outer, (PTFE)	2	15-4600-03	15-4600-04
17	Piston, Inner, (Non-PTFE)	2	N/R	N/R
	Piston, Inner, (Ultra-flex)	2	N/R	N/R
	Piston, Inner, (PTFE)	2	15-3750-03	15-3750-03
18	Washer, Inner Piston Back-up	2	N/R	N/R
19	Outer Piston Bolt 3/8-16 X 1 1/8"	12	15-6130-08	15-6130-08
20	Outer Piston Washer (.408 X.812 X.065)	12	15-6740-08-50	15-6740-08-50
21	Chamber, Liquid	2	15-5005-03	15-5005-04
22	Manifold, Discharge <sup>2</sup>	1	15-5030-03	15-5030-04
23	Manifold, Inlet <sup>2</sup>	1	15-5090-03	15-5090-04
<b>24</b>	<b>Diaphragm, Primary</b>	<b>2</b>	<b>15-1010-55</b>	<b>15-1010-55</b>
	<b>Diaphragm, Back-up (Not Shown)</b>	<b>2</b>	<b>15-1060-56</b>	<b>15-1060-56</b>
<b>25</b>	<b>Ball, Valve</b>	<b>4</b>	<b>15-1080-55</b>	<b>15-1080-55</b>
<b>26</b>	<b>Seat, Valve</b>	<b>4</b>	<b>15-1121-03</b>	<b>15-1121-04</b>
	<b>O-ring, Valve Seat (Not Shown)</b>	<b>4</b>	<b>15-1200-55</b>	<b>15-1200-55</b>
27	Screw, HHC, 5/8-11 X 2"	16	15-6180-03	15-6180-03
28	Washer, Flat (.656 X1.312 X.095)	16	15-6732-03	15-6732-03
29	Screw, HHC, 1/2-13 x 1 3/4"	16	15-6182-03	15-6182-03
30	Nut, Hex, 1/2-13	16	15-6420-03	15-6420-03
31	Washer, Flat (.516 X.875 X.063)	32	08-6840-03-60	08-6840-03-60
	Muffler, 1" (Not Shown)	1	15-3510-99	15-3510-99
32	Pilot Seal Retaining Ring	1	15-2650-49	15-2650-49

\*Refer to corresponding elastomer chart in Section 6.

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

<sup>2</sup>DIN Flanges Available

**All boldface items are primary wear parts.**

## SECTION 3B

# MATERIAL CODE DESIGNATIONS

Material Code	Material Description	Material Code	Material Description
01	Aluminum	51	Neoprene
02	Cast Iron	52	Buna-N / Nitrile
03	Stainless Steel	53	Viton® / FKM
04	Alloy C	54	Nordel® / EPDM
05	PTFE coated	55	PTFE
06	Electroless, nickel plated	56	Saniflex™ / Hytrel
07	Brass	57	FDA Wil-Flex™
08	Alloy Steel	58	Wil-Flex™
09	Mild steel, chrome plated	59	PTFE encapsulated silicone
10	Stainless steel, polished	60	PTFE encapsulated Viton®
11	Aluminum, anodized	61	Buna-N high temp.
12	Cardboard	62	Polyurethane - ether
13	Acetal	63	50/50 Wil-Flex™
14	Plexiglass®	64	PTFE/Neoprene laminate
16	Acetal, carbon filled	65	Isoplast®
17	Polyvinyl Chloride (PVC)	66	Delrin® AF
20	Polypropylene	67	R.T.P.
21	Kynar®/PVDF	68	FDA Viton®
22	PTFE/PFA	69	FDA Buna-N
23	Nylon	70	Isoplast®, SS filled
24	Phenolic	71	Verton®
26	Polyethylene	72	PTFE/EPDM laminate
28	Nylon, graphite filled	73	HALAR® coated aluminum
29	Nylon, clear	74	FDA EPDM
30	Cellulose fiber	75	Polyetheretherketone (PEEK), carbon filled
31	Armstrong N8090	76	Polyetherimide (PEI)
32	UHMW Polyethylene	77	Polyphenylene sulfide (PPS), glass filled
33	Chemraz®	78	Vinyl ester, glass filled
34	Fluoro-Seal™	79	G-10 fiberglass
37	Turcite®	81	EPDM/PTFE laminate
48	Expanded PTFE	82	Viton/PTFE laminate
49	Polyurethane	99	Multiple materials/Assemblies
50	Polyurethane - ester		

### SPECIALTY CODE (AVAILABILITY VARIES BY MODEL.)

900	BioPharm	911	BioPharm, FDA, Accu-Flo, 24V AC / 12V DC x-proof coil
901	BioPharm, BSP	912	BioPharm, FDA, Accu-Flo, 110V AC coil
902	BioPharm, DIN	913	BioPharm, FDA, Accu-Flo, 110V AC x-proof coil
903	BioPharm, FDA (Tri-Clover® flanges & wing nuts)	914	BioPharm, Accu-Flo, 24V DC coil
904	BioPharm, USDA (Food Master)	915	BioPharm, Accu-Flo, 24V DC x-proof coil
905	BioPharm, 3A (CIP), Wil-Gard 110V	916	BioPharm, Accu-Flo, 24V AC / 12V DC coil
906	BioPharm, 3A (CIP), Wil-Gard 220V	917	BioPharm, Accu-Flo, 24V AC / 12V DC x-proof coil
907	BioPharm, LSH, side ported	918	BioPharm, Accu-Flo, 110V AC coil
908	BioPharm, FDA, Accu-Flo, 24V DC coil	919	BioPharm, Accu-Flo, 110V AC x-proof coil
909	BioPharm, FDA, Accu-Flo, 24V DC x-proof coil		
910	BioPharm, FDA, Accu-Flo, 24V AC / 12V DC coil		







# 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.

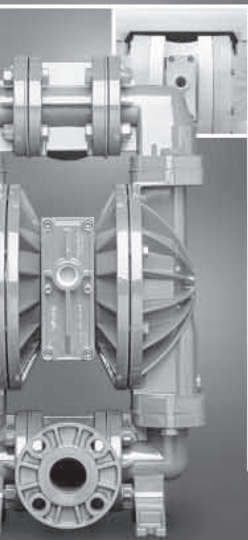
The foregoing warranty is exclusive and in lieu of all other warranties expressed or implied (whether written or oral) including all implied warranties of merchantability and fitness for any particular purpose. No distributor or other person is authorized to assume any liability or obligation for Wilden 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 _____	E-mail _____	Web Address _____
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



## ADVANCED S E R I E S

### 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™ S E R I E S

### Enrich Your Process

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



## SANIFLO™ SANITARY PUMP TECHNOLOGY

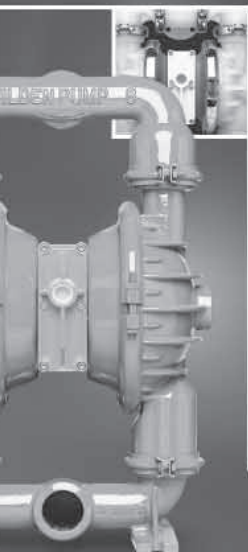
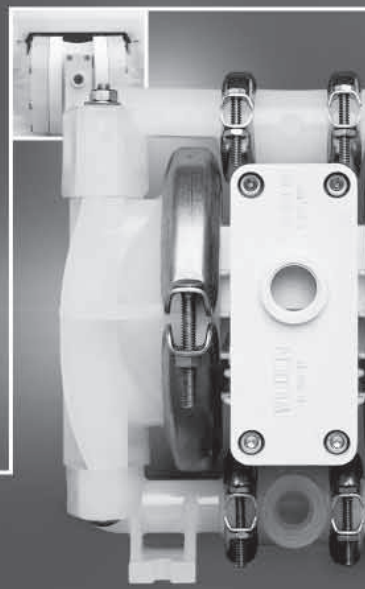
### Refine Your Process

- 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



## ORIGINAL S E R I E S

### Simplify Your Process

- Long standing design simplicity
- Portable & submersible
- Variable connection options
- Fewest parts in industry
- Solutions since 1955
- The result of original thought

## ACCESSORIES

### Maximize Your Process

- Electronic control & monitoring
- Level control & containment
- Pulsation dampening
- Drum unloading systems
- Complete system solutions
- The result of innovative thought



Your Local Authorized Distributor:

# WILDEN®

A DOVER COMPANY

22069 VAN BUREN STREET • GRAND TERRACE, CA 92313-5607  
(909) 422-1730 • FAX (909) 783-3440  
www.wildenpump.com

Printed in the U.S.A.

Copyright 2005, Wilden Pump & Engineering, LLC