

ADVANCED

S E R I E S

W800 METAL



Pioneered by Wilden Pump & Engineering in 1955, the air-operated, double diaphragm pump has become the most reliable and versatile pump on the market. Wilden has provided solutions to difficult process and waste pumping applications in numerous industries for over 40 years.

The Advanced Pump, designed and manufactured for specialized service in critical processing applications, expands the range and scope of the Wilden Pump. Please contact your local Wilden Authorized distributor to learn how Wilden can Advance your process and solve your toughest pumping problems.

WILDEN®

A DOVER COMPANY

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W800 ADVANCED™ METAL CAUTIONS – READ FIRST!



TEMPERATURE LIMITS:

Neoprene	–17.8°C to 93.3°C	0°F to 200°F
Buna-N	–12.2°C to 82.2°C	10°F to 180°F
Nordel®	–51.1°C to 137.8°C	60°F to 280°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
Saniflex™	28.9°C to 104.4°C	20°F to 220°F
Teflon® PTFE	4.4°C to 148.9°C	40°F to 220°F*

*Teflon® PTFE upper temperature limit for UP Series with Hi-Temp Buna backup diaphragm. Standard Teflon® PTFE diaphragms with neoprene backup diaphragms are limited to 104.4°C (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. 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.



WARNING: Tighten all bolts prior to installation. Fittings may loosen during transportation. See Torque specifications.



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



NOTE: Before starting disassembly, mark a line from each liquid chamber to its corresponding air chamber. This line will assist in proper alignment during reassembly.



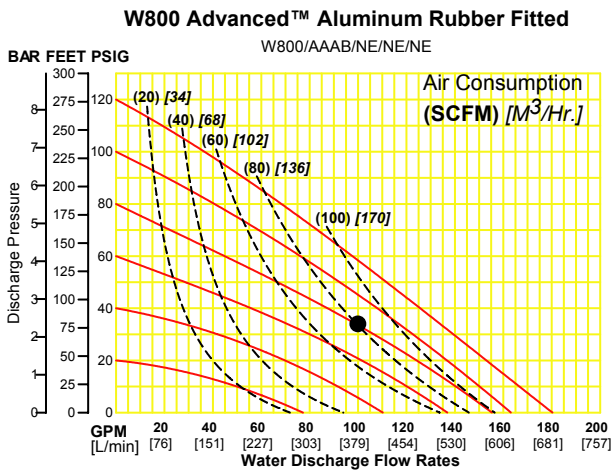
CAUTION: Verify the chemical compatibility of the process and cleaning fluid to the pump's component materials in the Chemical Resistance Guide.

W800 ADVANCED ALUMINUM PUMP

Height.....	669.2 mm (29 $\frac{7}{8}$ "
Width.....	404 mm (17 $\frac{1}{16}$ "
Depth.....	255.6 mm (12 $\frac{23}{32}$ "
Air Inlet.....	$\frac{1}{2}$ " Female NPT
Inlet.....	51 mm (2"
Discharge.....	51 mm (2"
Suction Lift.....Rubber/TPE Diaphragm 7.0 m (23') Dry	
	9.45 m (31') Wet
	Teflon [®] Diaphragm 3.96 m (13') Dry
	9.45 m (31') Wet
Displacement per Stroke.....Rubber/TPE 2.69 L (.71 gal.) ¹	
	Teflon [®] 1.59 L (.42 gal.) ¹
Max. Size Solids	$\frac{1}{4}$ " Dia.
Max. Air Inlet Pressure	8.62 Bar (125 psi)

MATERIAL	SHP. WT	MATERIAL	SHP. WT
Hastelloy	190 lbs.	316 Stainless Steel	175 lbs.
Aluminum	79 lbs.		

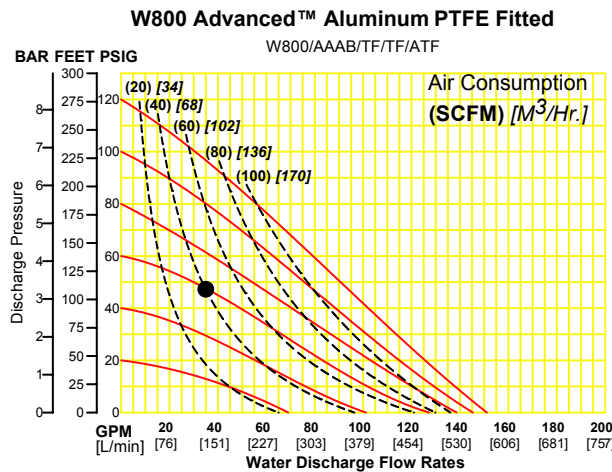
¹Displacement per stroke was calculated at 70 psig air inlet pressure against a 30 psig head pressure.



**W800 Aluminum
Pump Flows up
to 180 G.P.M.**

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

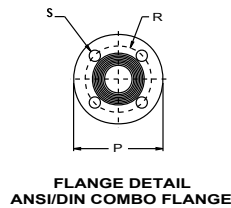
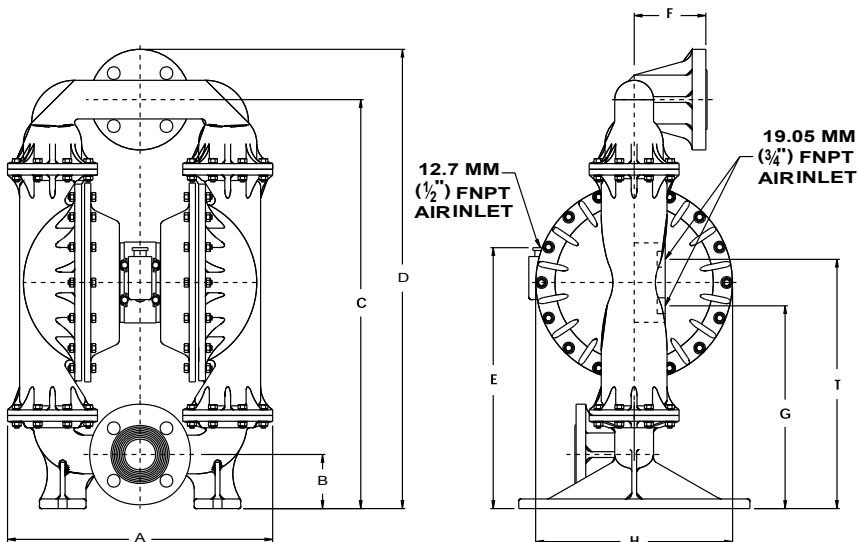
Volumes indicated on charts were determined by actually pumping water into calibrated tanks.



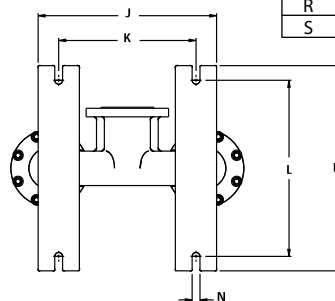
EXAMPLE:

To pump 189.3 lpm (50 gpm) against a discharge head of 2.8 Bar (40 psig) requires 4.1 Bar (60 psig) and 67.6 Nm³/h (40 scfm) air consumption. (See dot on Teflon[®]-fitted chart.)

W800 ADVANCED DIMENSIONAL DRAWINGS

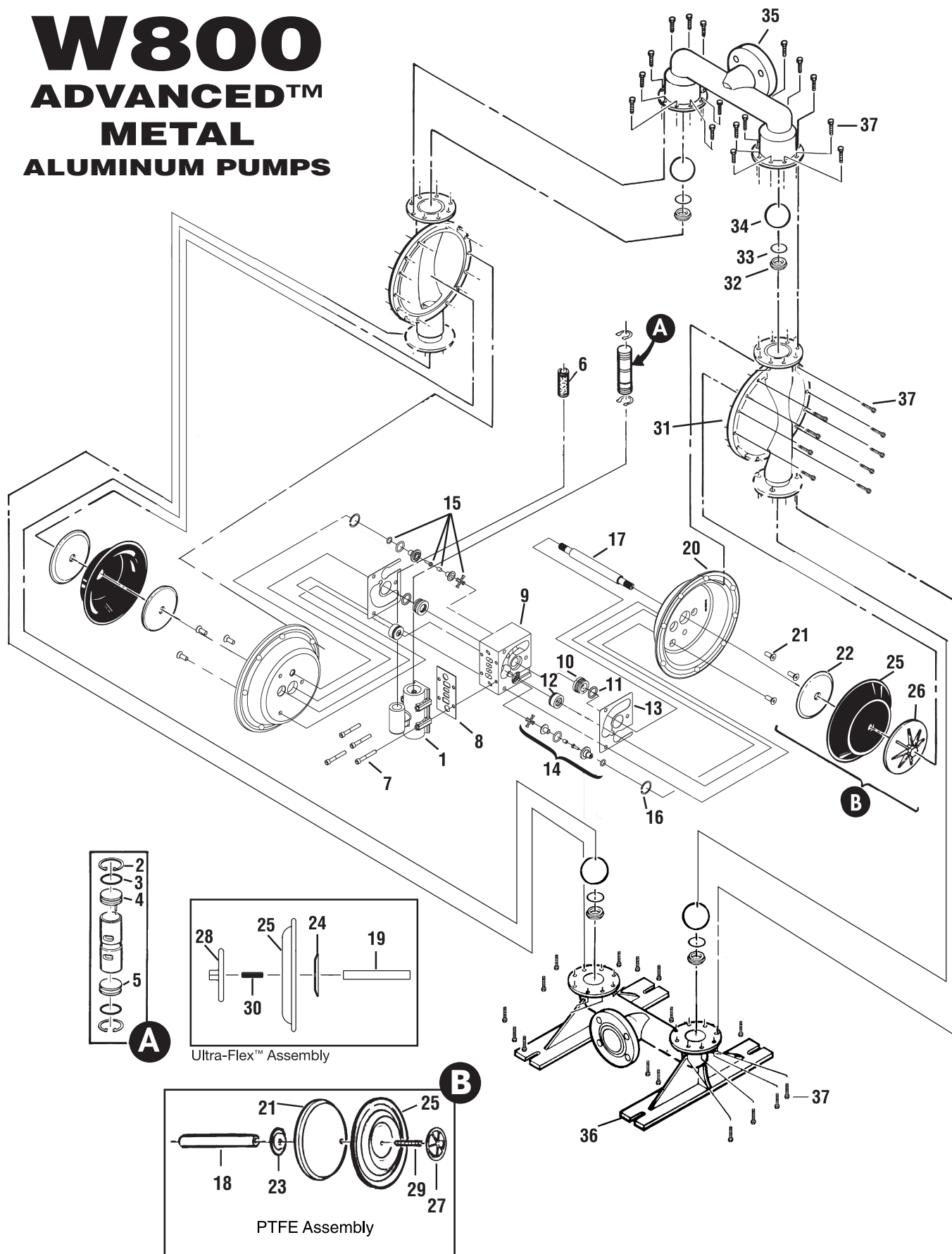


DIMENSIONS W800 ADVANCED METAL		
	ALUMINUM	
ITEM	METRIC (mm)	STANDARD (inch)
A	439.7	17 5/16
B	88.9	3 1/2
C	676.3	26 5/8
D	758.8	29 7/8
E	433.4	17 1/16
F	117.5	4 5/8
G	338.1	13 5/16
H	323.9	12 3/4
J	330.2	13
K	254.0	10
L	325.4	12 13/16
M	379.4	14 15/16
N	14.3	9/16
T	414.3	16 5/16
	DIN (mm)	ANSI (inch)
	DN 50	150#
P	165.1 DIA.	6 1/2 DIA.
R	122.2 DIA.	4 13/16 DIA.
S	20.6 DIA.	13/16 DIA.



EXPLODED VIEW/PARTS LISTING

W800 ADVANCED™ METAL ALUMINUM PUMPS



W800 ADVANCED™ ALUMINUM PUMPS

Item No.	Description	Qty.	W800/AAAB Part Number
1	Air Valve Assembly ¹	1	08-2015-07
2	Air Valve Retaining Snap Ring	2	08-2650-03
3	Air Valve Cap O-Ring	2	08-2390-52
4	Air Valve End Cap w/Guide (Top)	1	08-2300-23
5	Air Valve End Cap w/o Guide (Bottom)	1	08-2330-23
6	Air Valve Screen	1	08-2500-07
7	Air Valve Cap Screw	4	08-6000-08
8	Air Valve Gasket Ñ Buna-N	1	08-2604-52
9	Center Block	1	08-3115-01
10	Shaft Bushing Assembly	2	08-3305-99
11	Glyd™ Ring	2	08-3210-55-225
12	Sliding Check Assembly	2	08-2800-99
13	Center Block Gasket™	2	08-3527-52
14	Pressure Relief Assembly ²	2	08-2745-99
15	Pressure Relief Seal Kit ³	1	99-9345-99
16	Snap Ring (Pressure Relief)	2	04-2650-03
17	Shaft, Rubber/TPE	1	08-3810-09
18	Shaft, Teflon®	1	08-3840-09
19	Shaft, Ultra-Flex™	1	08-3841-08
20	Air Chamber	2	08-3682-01
21	Air Chamber Screw Ñ HSFS, 3/8"-16 x 1	6	71-6250-08
22	Inner Piston, Rubber/TPE	2	08-3700-01
23	Inner Piston, Teflon®	2	08-3750-01
24	Inner Piston, Ultra-Flex™	2	04-3700-01-700
25	Diaphragm	2	*
26	Outer Piston, Rubber/TPE	2	08-4550-01
27	Outer Piston, Teflon®	2	08-4600-01
28	Outer Piston, Ultra-Flex™	2	04-4552-01
29	Shaft Stud, Teflon®	2	08-6152-08
30	Shaft Stud, Ultra-Flex™	2	08-6150-08
31	Liquid Chamber	2	08-5000-01-42
32	Valve Seat	4	*
33	Valve Seat O-Ring	4	*
34	Valve Ball	4	*
35	Discharge Manifold	1	08-5020-01-42
36	Inlet Manifold	1	08-5080-01-42
37	HHCS, Stainless Steel Bolt	60	08-6185-08

¹Air Valve Assembly includes items 2 –6.

²Pressure Relief Assembly (P/N 08-2745-99) includes Pressure Relief Seal Kit (P/N 99-9345-99).

³Pressure Relief Seal Kit (P/N 99-9345-99) contains all parts necessary to rebuild *both* pressure relief valves.

* Please review the elastomer chart below.

Specialty Code -040 = Bolted

All boldface items are primary wear parts.

Assembly Notes:

Alignment marks are provided on the center block, air chambers, liquid chambers, and manifolds to assure proper assembly. Please verify alignment prior to assembly.

ELASTOMER OPTIONS

Material	Diaphragm (2)	Ultra-Flex™ Diaphragm P/N (2)	Valve Balls O-Ring P/N (4)	Valve Seats O-Ring P/N (4)	Valve Seat O-Rings P/N (4)
Polyurethane	08-1010-50	N/A	08-1080-50	08-1120-50	N/A
Neoprene	08-1010-51	08-1020-51	08-1080-51	08-1120-51	N/A
Buna-N	08-1010-52	08-1020-52	08-1080-52	08-1120-52	N/A
Nordel® (EPDM)	08-1010-54	08-1020-54	08-1080-54	08-1120-54	N/A
Viton®	08-1010-53	08-1020-53	08-1080-53	08-1120-53	N/A
Saniflex™	08-1010-56	N/A	08-1080-56	08-1120-56	N/A
Teflon® PTFE	08-1010-55-42	N/A	08-1080-55	N/A	08-1200-55 ²
Neoprene Backup ¹	08-1060-51 ¹	N/A	N/A	N/A	N/A
Wil-Flex™	08-1010-58	N/A	08-1080-58	08-1120-58	N/A
Fluoro-Seal™	N/A	N/A	N/A	N/A	08-1200-34 ²

¹Teflon primary diaphragms utilize a Neoprene back-up diaphragm on the air side. These back-up diaphragms must be replaced when the primary diaphragms are replaced.

²Utilized in conjunction with metallic seat.