

WILDEN[®]
A DOVER COMPANY

PUMP USER'S GUIDE



Diaphragm Assembly

6

Wilden has refined diaphragm technology and innovated major technological advancements through modern techniques, destructive testing, and critical analysis.

Rubber Diaphragms

Rubber diaphragms are molded with natural rubber and man-made additives to increase the diaphragms chemical resistance and/or flexing characteristics. A nylon fabric mesh is positioned within the rubber diaphragms during the molding process to strengthen the diaphragm while dispersing stress.

Thermoplastic (TPE) Diaphragms

Thermoplastic (TPE) diaphragms are manufactured by molding man-made compounds into net shaped parts. These TPE diaphragms have inherent tensile strength and do not need fabric reinforcement.

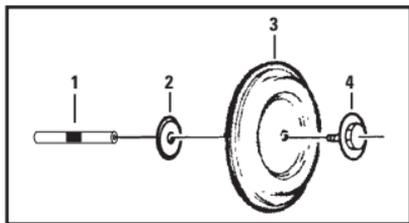
PTFE Diaphragms

PTFE is one of the most inert man-made compounds known. Wilden engineers patented PTFE diaphragms with concentric ribs to control the flex pattern of the diaphragm to extend life. This innovation made the use of PTFE diaphragms cost effective, greatly expanding the range of applications for diaphragm pumps. PTFE is not elastic and has no memory; therefore a back-up diaphragm is used to provide support and lengthen life. Wilden prides itself in having the longest lasting PTFE diaphragm in the industry.

Please verify the chemical resistance capability and temperature limitations of diaphragms and all other pump components prior to pump installation.

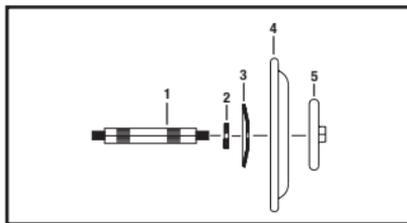
The following drawings represent generic diaphragm assemblies for a Wilden pump. Your specific diaphragm configuration might be different. Please consult your EOM for your pump's specific diaphragm assembly.

Rubber/TPE (Thermoplastic Elastomer) fitted pumps:

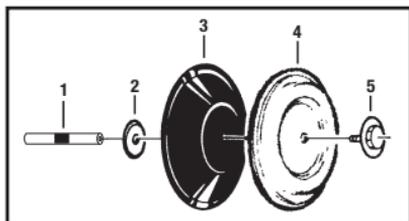


1. Main shaft
2. Inner piston
3. Primary diaphragm in contact with the process fluid
4. Outer piston holds the diaphragm to the shaft (in contact with process fluid)

Ultra-Flex™-fitted pumps:



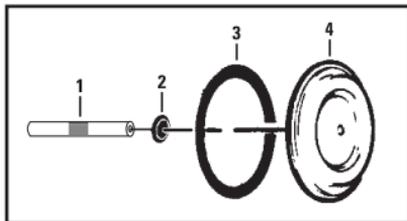
1. Main shaft
2. Spacer
3. Inner piston
4. Primary diaphragm — Ultra-Flex™
5. Outer piston

**PTFE-fitted pumps
(except A.025 and P.025):**


1. Main shaft
2. Inner piston
3. Back-up diaphragm not in contact with process fluid (employed with PTFE primary diaphragms, except 1/4" pumps)
4. Primary PTFE diaphragm in contact with process fluid on the outer piston side
5. Outer piston holds the diaphragm to the shaft (in contact with process fluid)

Note: Pro-Flo® (P4 & P8) models fitted with Ultra-Flex™ diaphragms do not use a spacer.

Note: 6 mm (1/4"), 13 mm (1/2"), and 25 mm (1") pump shaft assemblies utilize Bellville washers, installed between the shaft and inner piston and 242 Loctite.

**PTFE-fitted A.025 and P.025
pumps diaphragm assembly:**


1. Main shaft
2. Bellville washer
3. Back-up o-ring not in contact with process fluid (employed with PTFE primary diaphragms only)
4. PTFE diaphragm