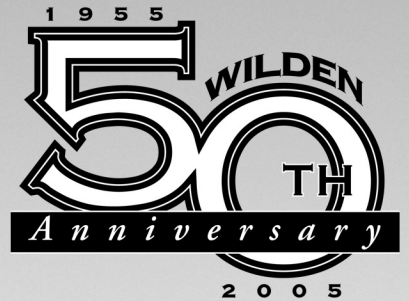
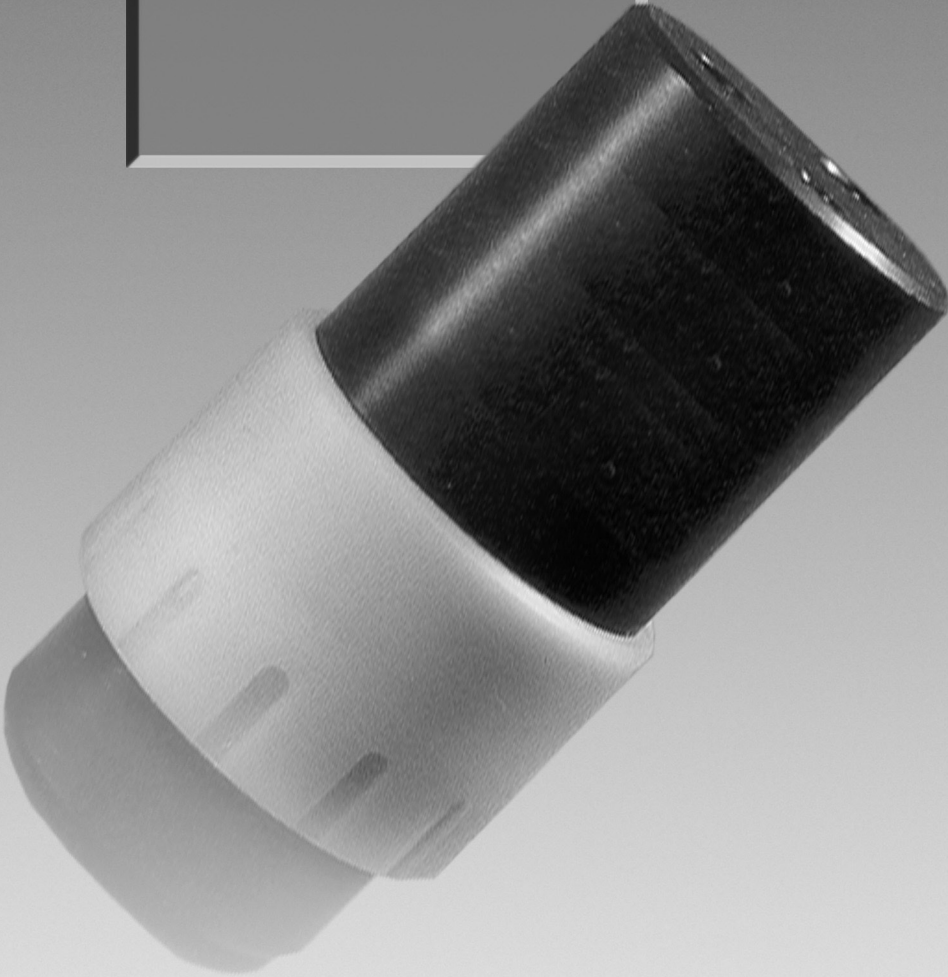


**UNITEC™**  
SERIES

*US SAMPLING  
PUMP*

# Engineering Operation & Maintenance



# WILDEN®

A **DOVER** COMPANY

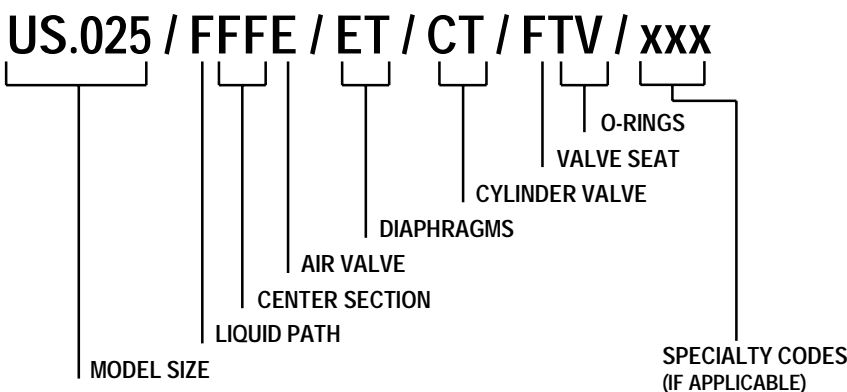
CALL 1-800-577-8111 FOR SALES AND SUPPORT

**UNI-FLO™**  
PROGRESSIVE PUMP TECHNOLOGY

*Plastic  
Pump*

**SECTION 1**

**WILDEN PUMP DESIGNATION SYSTEM**



<b>MODEL SIZE:</b>	US.025 = 1/4"
<b>LIQUID PATH:</b>	TEFLON® PTFE
<b>CENTER SECTION:</b>	TEFLON® PTFE
<b>AIR VALVE:</b>	POLYETHYLENE
<b>DIAPHRAGMS:</b>	TEFLON® PTFE
<b>CYLINDER VALVES:</b>	TEFLON® PTFE
<b>VALVE SEATS:</b>	TEFLON® PTFE
<b>O-RINGS:</b>	TEFLON® PTFE VITON®

**SPECIALTY CODES**

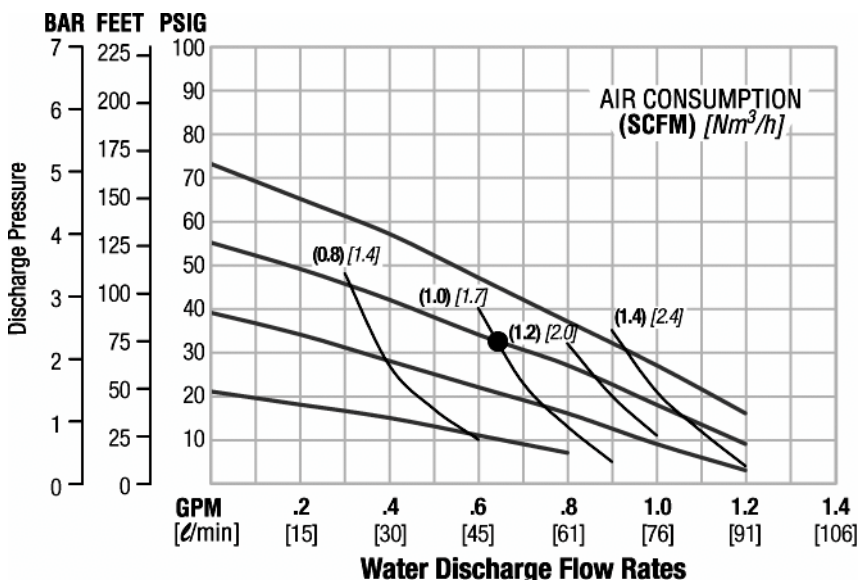
- 805 Connection kit, laboratory
- 806 Connection kit, sample pulling

**SECTION 2**

**PERFORMANCE CURVE - US.025 PLASTIC TEFLON® FITTED**

Height - with strainer	193 mm (7.6")
Height - without strainer	150 mm (5.9")
Diameter	78 mm (3.1")
Ship Weight - Teflon PTFE	1.2 kg (2.6 lbs)
Air Inlet	3 mm (1/8")
Inlet	13 mm (1/2")
Discharge	6 mm (1/4")
Suction Lift	3.0 m Dry (9.8') 9.0 m Wet (29.5')
Max. Flow Rate	4.2 lpm (1.1 gpm)
Max. Size Solids	1.0 mm (1/32")

**CAUTION: Do not exceed 7 bar (100 psig) air supply pressure**



**SECTION 3**

**WILDEN MODEL US.025 PLASTIC - CAUTIONS - READ FIRST!**

**CAUTION:** This pump is designed to run only on clean-dry air at all times. If oil and water may migrate into pump from air supply, a desiccant dryer must be installed.

**CAUTION:** Do not lubricate air supply — excess lubrication will reduce pump performance.

**TEMPERATURE LIMITS:**

Teflon® PTFE 4.4°C to 104.4°C 40°F to 220°F

**CAUTION:** Maximum temperature limits are based upon mechanical stress only. Certain chemicals will significantly reduce maximum safe operating temperatures. Consult Wilden Chemical Guide for chemical compatibility and temperature limits.

**WARNING:** Prevention of static sparking — If static sparking occurs, fire or explosion could result. Pump, valves, and containers must be grounded when handling flammable fluids and whenever discharge of static electricity is a hazard. To ground a UA series pump, utilize the marked grounding point on the pump and connect to suitable grounding location. As each application has different requirement, please consult the local, regional or government regulatory agency for details on proper grounding for the application.

**CAUTION:** Do not exceed 7 Bar (100 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. Before disassembly of the pump, or removal from process lines, all pressure must also be bled from the liquid side of the pump and all fluid drained into a suitable container. Failure to do so may result in product under pressure being sprayed from system.

**CAUTION:** Blow out air line for 10 to 20 seconds before attaching to pump to make sure all pipeline debris is clear. A 5µ (micron) in-line air filter is recommended.

**CAUTION:** Pump should be flushed thoroughly with water before installation into process line.

**CAUTION:** Confirm all fluid and air connections are secure before insertion into process fluid.

**CAUTION:** Always wear safety glasses when operating pump. If diaphragm rupture occurs, material being pumped may be forced out air exhaust.

## **SECTION 4**

# **INSTALLATION**

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The US conductive plastic pumps are manufactured with wetted parts of conductive Teflon® PTFE.

The suction pipe size for all installations should be as large as the pump inlet or larger if highly viscous material is being pumped. A suction strainer is supplied with the pump for submerged applications. The suction hose must be non-collapsible, reinforced type as the US pump is capable of pulling a high vacuum. Discharge piping should be as large as the pump discharge, however, larger diameter pipe may be used to reduce friction losses. It is critical that all fittings and connections are airtight or a reduction or loss of pump suction capability will result. For all US models, Wilden offers NPT/BSP liquid and air connections.

**INSTALLATION:** Months of careful planning, study, and selection efforts can result in unsatisfactory pump performance if installation details are left to chance. Premature failure and long term dissatisfaction can be avoided if reasonable care is exercised throughout the installation process.

**LOCATION:** Noise, safety, and other logistical factors usually dictate where equipment be situated on the production floor. Multiple installations with conflicting requirements can result in congestion of utility areas, leaving few choices for additional pumps. Within the framework of these and other existing conditions, every pump should be located in such a way that five key factors are balanced against each other to maximum advantage.

**ACCESS:** First of all, the location should be accessible. If it's easy to reach the pump, maintenance personnel will have an easier time carrying out routine inspections and adjustments. Should major repairs become necessary, ease of access can play a key role in speeding the repair process and reducing total downtime.

**AIR SUPPLY:** Every pump location should have an air line large enough to supply the volume of air necessary to achieve the desired pumping rate (see Section 2). Use air pressure up to a maximum of 7 Bar (100 psi) depending on pumping requirements. For best results, the pumps should use a 5µ (micron) air filter, needle valve and regulator. The pumps should also be run on clean-dry air only at all times. If this is not possible, a desiccant dryer must be installed and continually maintained on the air inlet to prevent migration of condensation or air line oil into the air system. The use of an air filter before the pump will insure that the majority of any pipeline contaminants will be eliminated. Sound levels are reduced below OSHA specifications using the standard Wilden muffler element.

**ELEVATION:** Selecting a site that is well within the pump's dynamic lift capability will assure that loss-of-prime troubles will be eliminated. In addition, pump efficiency can be adversely affected if proper attention is not given to site location.

**PIPING:** Final determination of the pump site should not be made until the piping problems of each possible location have been evaluated. The impact of current and future installations should be considered ahead of time to make sure that inadvertent restrictions are not created for any remaining sites.

The best choice possible will be a site involving the shortest and straightest hook-up of suction and discharge piping. Unnecessary elbows, bends, and fittings should be avoided. Pipe sizes should be selected so as to keep friction losses within practical limits. All piping should be supported independently of the pump. In addition, the piping should be aligned so as to avoid placing stresses on the pump fittings.

Flexible hose can be installed to aid in absorbing the forces created by the natural reciprocating action of the pump. Flexible connections between the pump and rigid piping will also assist in minimizing pump vibration. If quick-closing valves are installed at any point in the discharge system, or if pulsation within a system becomes a problem, a surge suppressor should be installed to protect the pump, piping and gauges from surges and water hammer.

When pumps are installed in applications involving flooded suction or suction head pressures, a gate valve should be installed in the suction line to permit closing of the line for pump service. If no valve is utilized the media being pumped may flow back into the pump and out any loosened connections and may cause harm to anyone nearby. Note: Even when inlet and discharge valves are used, once they are closed use caution when performing any service on the pump. Closure of these valve may have trapped line pressure in the pump which can force product out of any loosened connection. Be sure to properly drain all air and liquid pressure from the pump before servicing.

All US models have a combination NPT/BSP air inlet and liquid inlet and discharge connection ports. Proper care should always be taken to ensure a tight liquid and air seal for all installations. If the pump is to be used in a self-priming application, be sure that all connections are airtight and that the suction lift is within the model's ability. Note: Materials of construction and elastomer material have an effect on suction lift parameters. Please consult Wilden distributors for specifics.

Pumps in service with a positive suction head are most efficient when inlet pressure is limited to .5–7 Bar (7–10 psig). Premature diaphragm failure may occur if positive suction is 10 psig and higher.

**THE MODEL US SERIES PUMPS HAVE A LIMITED SOLIDS PASSAGE CAPABILITY. WHENEVER THE POSSIBILITY EXISTS THAT LARGER SOLID OBJECTS MAY BE SUCKED INTO THE PUMP, OR THE PUMP WILL BE SUBMERGED IN THE PROCESS MEDIA, THE STRAINER SUPPLIED WITH THE PUMP SHOULD BE USED ON THE SUCTION LINE. (See Section-2 for Max. Size Solids.)**

**CAUTION: DO NOT EXCEED 7 BAR (100 PSIG) AIR SUPPLY PRESSURE.**

## 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 _____			