

Grayledge Pump & Industrial
Ph: 603-635-3701
Fax: 866-373-8490
Web: www.AirOperatedDiaphragmPump.com

UNITEC™ SERIES



E n r i c h y o u r p r o c e s s

WILDEN®

A DOVER COMPANY

Handcrafted

PERFORMANCE



Type

- Positive displacement, reciprocating
- Air-operated, double-diaphragm

German Engineering and Craftsmanship

- Simplicity of design complements unique technology
- Reliable, leak-free, and quiet operation
- Validated and certified

World-Wide Service and Response

- Factory trained distributors in 64 countries
- Local service with local inventory
- Specialized knowledge and experience

UNITEC[™]
SERIES

Features

- Conductive plastic available
- No diaphragm piston plates
- Pneumatic operation
- Variable flow and pressure
- Ability to run dry and deadhead

Benefits

- Intrinsically safe
- Reliably transfers corrosive chemicals
- Simplicity of operation and maintenance
- Long MTBF and service life
- Succeeds where other pumps fail



Applications

- General chemical transfer
- Solvents, acids, and caustics
- Chemical batching and dosing
- Slurry & ceramic slip
- Paint, ink and resin
- Hazardous and toxic solutions
- High or low viscosity
- Hot or cold temperatures
- Shear sensitive emulsions
- Drum pumping



- Reliable, long-lasting operation
 - Lubrication free
- Plastic construction (polyethylene)
- Air valve and pilot spool in one assembly
- Replaceable air system cartridge for quick repair

The Uni-Flo™ air system requires clean, oil-free compressed air to ensure optimal results (see UNITEC™ EOM manuals)



Integral Piston Diaphragms

- No piston plates or two-piece diaphragm assemblies
- Two potential leak points are eliminated
- Large diameter and a short stroke length results in a long service life

Materials

- Teflon® PTFE / Nordel® composite (conductive)
- Nordel® (conductive)
- Buna-N (high pressure pump only)

Materials of Construction

- Polyethylene (unfilled or conductive)
- Teflon® PTFE (unfilled or conductive)
- Conductive versions have a surface resistance less than $10^5 \Omega$

Polyethylene (PE) Material Properties

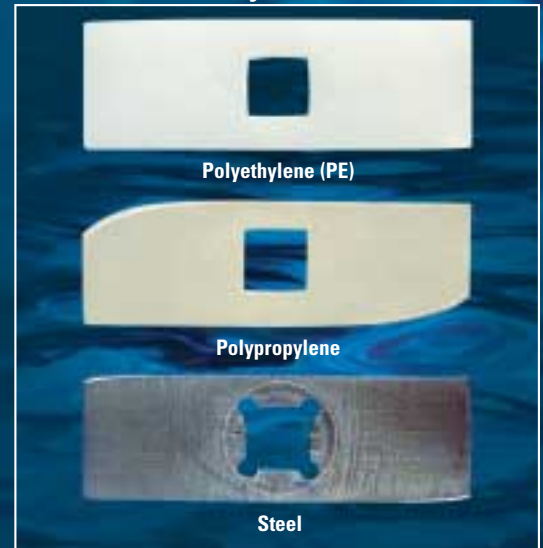
- Superior abrasion resistance (7 times more abrasion resistant than polypropylene and 1.6 times more abrasion resistant than steel)
 - See abrasion test results to the right
- Good chemical compatibility (see Wilden Chem. Guide)

Teflon® PTFE Material Properties

- Clean material with low particle count
- Universal resistance to chemicals
- High temperature limitations



Sand-Slurry Test Results



Samples of material after 24 hours in a mixture of quartz sand and water (ratio 3:2) at 1200 rpm

Connection Options

UNITEC™ Series pumps are equipped with a variety of fluid connection options:

- UA and UX available with FNPT/BSP
- UA and UH available with ANSI or DIN



UNITEC™

U X S E R I E S



UX Design Advantages

- Complies with the ATEX directive
- Surface resistance is less than $10^5 \Omega$
- Machined conductive PE wetted construction
- Machined conductive PE non-wetted construction
- Conductive diaphragms (Teflon® PTFE or Nordel®)
- Reliable Uni-Flo™ air distribution system
- Compact, space-saving design
- Multi-position porting options

UX Flexibility

- Valve configuration can easily be changed from ball to cylinder valve for enhanced suction lift
- A variety of porting configurations are available depending upon the position of the central housing
- Valve assemblies (inlet and outlet) can easily be inspected and maintained via the top plugs

| | UX.038 | UX.050 | UX.075 | UX3 |
|--------------------------------|--------------------|--------------------|---------------------|------------------|
| Max. Flow Rate: | 10.0 lpm (2.6 gpm) | 20.0 lpm (5.3 gpm) | 50.0 lpm (13.2 gpm) | 130 lpm (34 gpm) |
| Max. Air Pressure: | 7 bar (100 psig) | 7 bar (100 psig) | 7 bar (100 psig) | 7 bar (100 psig) |
| Max. Temperature: | 70 °C (158 °F) | 70 °C (158 °F) | 70 °C (158 °F) | 70 °C (158 °F) |
| Max. Size Solids: | 1.5 mm (0.06") | 2.0 mm (0.08") | 3.0 mm (0.12") | 4.0 mm (0.16") |
| Max. Suction Lift (Dry) | | | | |
| Valve Ball (PTFE): | 0.5 m (1.6') | 0.5 m (1.6') | 1.5 m (4.9') | 2.5 m (8.2') |
| Cylinder Valve: | 1.5 m (4.9') | 2.0 m (6.6') | 3.0 m (9.8') | 4.0 m (13.1') |
| Liquid Inlet: | 10 mm (3/8") | 13 mm (1/2") | 19 mm (3/4") | 32 mm (1-1/4") |
| | FNPT/BSP | FNPT/BSP | FNPT/BSP | FNPT/BSP |
| Liquid Outlet: | 10 mm (3/8") | 13 mm (1/2") | 19 mm (3/4") | 32 mm (1-1/4") |
| | FNPT/BSP | FNPT/BSP | FNPT/BSP | FNPT/BSP |
| Height: | 96 mm (3.8") | 128 mm (5.0") | 173 mm (6.8") | 225 mm (8.9") |
| Width: | 137 mm (5.4") | 155 mm (6.1") | 206 mm (8.1") | 269 mm (10.6") |
| Depth: | 86 mm (3.2") | 124 mm (4.9") | 175 mm (6.9") | 240 mm (9.5") |
| Air Inlet: | 6 mm (1/4") | 6 mm (1/4") | 6 mm (1/4") | 6 mm (1/4") |
| | FNPT/BSP | FNPT/BSP | FNPT/BSP | FNPT/BSP |
| Est. Ship Weight: | 1 kg (2 lbs) | 2 kg (4 lbs) | 5 kg (11 lbs) | 10 kg (22 lbs) |
| Max. Viscosity: | 3,000 cP | 6,000 cP | 10,000 cP | 15,000 cP |



UA Design Advantages

- Machined plastic pumps
- Polyethylene
- Conductive polyethylene (ATEX compliant)
- Teflon® PTFE
- Conductive Teflon® PTFE (ATEX compliant)
- Wetted and center housing are the same material for superior chemical resistance
- Consistent pump design from 6 mm (1/4") to 51 mm (2") size

UA Flexibility

- A variety of porting configurations are available depending upon the position of the center section and location of plug
- 25 mm (1") and above UA pumps have both a flanged and threaded liquid connection (FNPT/BSP with ANSI or DIN)
- Many accessories and configurations are available to customize the pump for your application

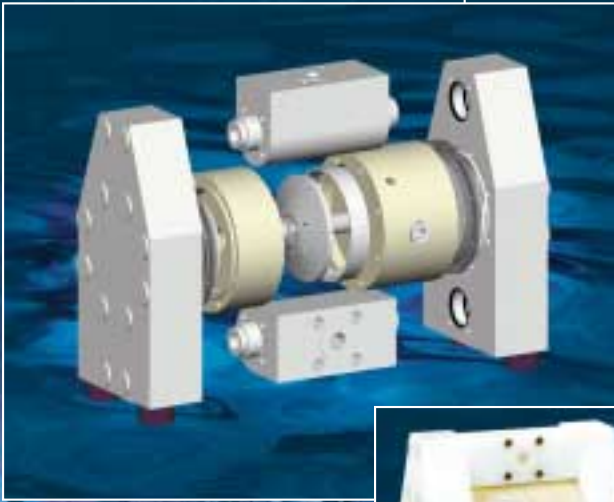


| | UA .025 | UA .038 | UA .050 | UA 2 | UA 4 | UA 8 |
|--------------------------------|--------------------|--------------------|---------------------|---------------------------------|---------------------------------|---------------------------------|
| Max. Flow Rate: | 10.0 lpm (2.6 gpm) | 20.0 lpm (5.3 gpm) | 50.0 lpm (13.2 gpm) | 100 lpm (26 gpm) | 300 lpm (79 gpm) | 530 lpm (140 gpm) |
| Max. Air Pressure: | 7 bar (100 psig) | 7 bar (100 psig) | 7 bar (100 psig) | 7 bar (100 psig) | 7 bar (100 psig) | 7 bar (100 psig) |
| Max. Temperature | | | | | | |
| Polyethylene: | NA | NA | 70 °C (158 °F) | 70 °C (158 °F) | 70 °C (158 °F) | 70 °C (158 °F) |
| PTFE: | 100 °C (212 °F) | 100 °C (212 °F) | 120 °C (248 °F) | 120 °C (248 °F) | 120 °C (248 °F) | 120 °C (248 °F) |
| Max. Size Solids: | 2.0 mm (0.08") | 3.0 mm (0.12") | 4.0 mm (0.16") | 6.0 mm (0.24") | 9.0 mm (0.35") | 11.0 mm (0.43") |
| Max. Suction Lift (Dry) | | | | | | |
| Valve Ball (PTFE): | 0.5 m (1.6') | 1.5 m (4.9') | 2.0 m (6.6') | 3.0 m (9.8') | 4.0 m (13.1') | 4.0 m (13.1') |
| Cylinder Valve: | 1.0 m (3.3') | 2.0 m (6.6') | 3.0 m (9.8') | 4.0 m (13.1') | 5.0 m (16.4') | 5.0 m (16.4') |
| Liquid Inlet: | 6 mm (1/4") | 10 mm (3/8") | 13 mm (1/2") | 25 mm (1") | 38 mm (1-1/2") | 51 mm (2") |
| | FNPT/BSP | FNPT/BSP | FNPT/BSP | FNPT/BSP with ANSI or DIN 25 | FNPT/BSP with ANSI or DIN 40 | FNPT/BSP with ANSI or DIN 50 |
| Liquid Outlet: | 6 mm (1/4") | 10 mm (3/8") | 13 mm (1/2") | 25 mm (1") | 38 mm (1-1/2") | 51 mm (2") |
| | FNPT/BSP | FNPT/BSP | FNPT/BSP | FNPT/BSP with ANSI or DIN 25 | FNPT/BSP with ANSI or DIN 40 | FNPT/BSP with ANSI or DIN 50 |
| Height: | 129 mm (5.1") | 169 mm (6.7") | 240 mm (9.4") | 320 mm (12.6") | 432 mm (17.0") | 552 mm (21.7") |
| Width: | 113 mm (4.5") | 127 mm (5.0") | 176 mm (6.9") | 231 mm (9.1") | 326 mm (12.8") | 396 mm (15.6") |
| Depth: | 90 mm (3.5") | 110 mm (4.3") | 166 mm (6.5") | 220 mm (8.7") | 280 mm (11.0") | 360 mm (14.2") |
| Air Inlet: | 3 mm (1/8") | 3 mm (1/8") | 6 mm (1/4") | 6 mm (1/4") | 13 mm (1/2") | 13 mm (1/2") |
| | FNPT/BSP | FNPT/BSP | FNPT/BSP | FNPT/BSP | FNPT/BSP | FNPT/BSP |
| Est. Ship Weight | | | | | | |
| Polyethylene: | NA | NA | 5 kg (11 lbs) | 13 kg (29 lbs) | 29 kg (64 lbs) | 58 kg (128 lbs) |
| PTFE: | 2 kg (4 lbs) | 4 kg (9 lbs) | 10 kg (22 lbs) | 20 kg (44 lbs) | 60 kg (132 lbs) | 120 kg (265 lbs) |



UNITEC™

U H S E R I E S



UH Design Advantages

- All plastic pump with discharge pressures to 16 bar (230 psig)
- Machined ultra-high molecular weight polyethylene
- Machined nylon center section
- Teflon® PTFE, Nordel®, or Buna-N diaphragm options
- Reliable Uni-Flo™ air distribution system
- No external boosters required to achieve amplified output

UH Flexibility

- Variable speed and pressure
- Adjustable manifold connections
- 3 Compact and robust pump sizes
- Pre-process, process, and waste applications

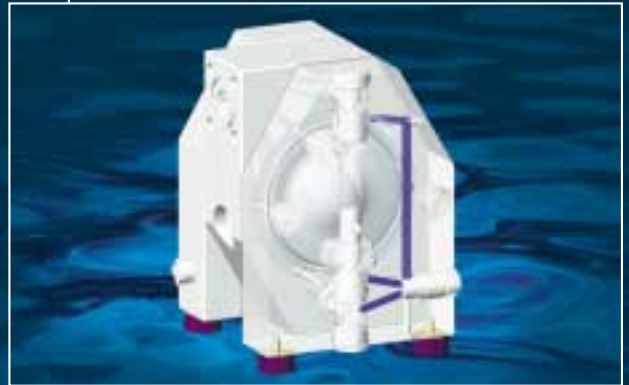
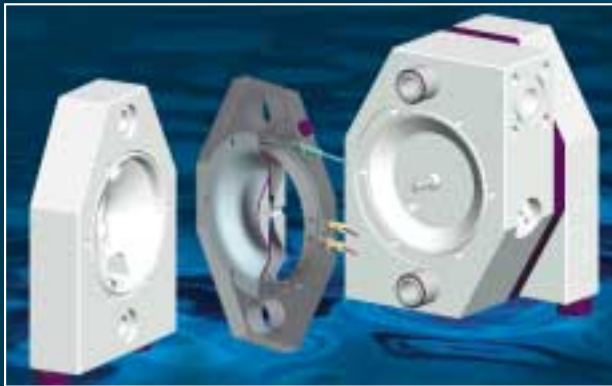
| | UH.050 | UH2 | UH4 |
|---------------------------------|-----------------------------|---------------------------|-------------------------------|
| Max. Flow Rate: | 70.0 lpm (18.5 gpm) | 180 lpm (48 gpm) | 330 lpm (87 gpm) |
| Max. Air Pressure: | 7 bar (100 psig) | 7 bar (100 psig) | 7 bar (100 psig) |
| Max. Liquid Pressure: | 15 bar (218 psig) | 16 bar (230 psig) | 15 bar (218 psig) |
| Max. Temperature: | 70 °C (158 °F) | 70 °C (158 °F) | 70 °C (158 °F) |
| Max. Size Solids: | 4.0 mm (0.16") | 5.0 mm (0.20") | 8.0 mm (0.31") |
| Max. Suction Lift (Dry): | 3.0 m (9.8') | 2.0 m (6.6') | 3.0 m (9.8') |
| Liquid Inlet: | 13 mm (1/2") ANSI or DIN 15 | 25 mm (1") ANSI or DIN 25 | 38 mm (1-1/2") ANSI or DIN 40 |
| Liquid Outlet: | 13 mm (1/2") ANSI or DIN 15 | 25 mm (1") ANSI or DIN 25 | 38 mm (1-1/2") ANSI or DIN 40 |
| Height: | 323 mm (12.7") | 406 mm (16.0") | 539 mm (21.2") |
| Width: | 282 mm (11.1") | 382 mm (15.0") | 490 mm (19.3") |
| Depth: | 179 mm (7.0") | 256 mm (10.1") | 296 mm (11.7") |
| Air Inlet: | 6 mm (1/4") FNPT/BSP | 6 mm (1/4") FNPT/BSP | 6 mm (1/4") FNPT/BSP |
| Est. Ship Weight: | 11 kg (24 lbs) | 30 kg (66 lbs) | 58 kg (127 lbs) |





Back-Flushing System

- Available on UA series only
- Two systems available: manual or pneumatic
- Enables pump to be drained while in-line
- System simply lifts check valves from their seat allowing the fluid to drain into inlet pipe
- Protects diaphragms upon start-up
- Useful when pumping liquids with solids that settle out in the bottom of the liquid chamber



Barrier Chamber

- Available on UA series only
- A barrier chamber is installed between two diaphragms on each side of the pump
- The chamber is filled with a neutral fluid
- Conductivity sensors monitor the conductivity of this fluid
- If the diaphragm fails, the sensors detect a conductivity variance and a signal is sent to a user-supplied controller

Air Exhaust Muffler Sensor

- Capacitive sensor is installed in pump muffler to detect fluid

Equalizer™

- Available in Polyethylene, Conductive Polyethylene, Teflon® PTFE, and Conductive Teflon® PTFE
- Reduces the pressure fluctuation caused by reciprocating, positive displacement pumps
- Protects in-line equipment and pipe connections
- UA series pumps are available with an Equalizer™ as an integral pump component (see photo at right)
- SD or BF Equalizers™ can be placed in-line with UA and UX series pumps



Air Exhaust Muffler

- UNITEC™ pumps are quiet and suitable for indoor use
- Mufflers are included with each UNITEC™ pump
- Sintered polyethylene or brass material
- Noise is muffled in two stages
- Mufflers can be cleaned with appropriate liquid

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22069 Van Buren Street, Grand Terrace, CA 92313-5607
Telephone 909-422-1730 • Fax 909-783-3440
wilden@wildenpump.com

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