Scienco® Products

Diaphragm, Air Piston, Hand Pumps and Flow Meters

Experience In Motion
Experience makes the difference

Flowserv Scienco pumps are the most dependable chemical transfer pumps in the agricultural industry. Pump to pump, chemical to chemical, Scienco pumps deliver the performance and reliability expected from a leader. After all, Scienco has been providing chemical transfer systems for more than 30 years.

Reaping benefits

Scienco’s versatile transfer pump product lines offer numerous benefits and options.

- Pump designs — diaphragm, air piston and hand pump models
- Mounting flexibility — horizontal or vertical configurations
- Chemical resistance — plastic or metallic construction
- Self-priming capability
- Portability
- Ease of use and maintenance

Reliability guaranteed

Scienco’s industry-leading pumps also come with an industry-leading service program. Scienco offers its 5-Year Service Program on its standard duty CT6 pumps and pump-mounted SEM-10 flow meters.

For five years from the date of manufacture, Scienco will provide a replacement pump or meter electronics in the case of equipment failure.

Through this program, Scienco pump users will spend less money and time on chemical transfer equipment than ever before.
Scienco product overview

CT6 diaphragm transfer pump
The CT6 is a six-chamber diaphragm pump designed for chemical transfer applications. It is a self-priming pump with wetted parts resistant to many agricultural and industrial chemicals.

AP-30 air piston pump
The AP-30 air piston pump is a high-capacity, low-maintenance pump for herbicides, diesel fuel, gasoline, lubricating oil, and other ag-chem and industrial services.

EZ Handler hand-operated drum pump
The EZ Handler hand-operated drum pump is designed to efficiently deliver high volumes of harsh and viscous chemicals at low pressures.

MHP metered hand pump
The manually operated metered hand pump precisely delivers high volumes of chemicals at low pressures.

SEM flow meters
The SEM-10 electronic flow meter offers simple one-touch operation and comes ready to use.
CT6 diaphragm transfer pump

High flow rates for faster loading

The CT6 is a six-chamber diaphragm pump designed for chemical transfer applications. It is a self-priming pump with wetted parts resistant to many agricultural and industrial chemicals. It is used primarily to dispense fluids from bulk or mini-bulk tanks, intermediate bulk containers (IBCs), drums, and for similar containers. The pump can be configured with a variety of brackets, dip tubes, flow meters, fittings, hoses and valves to provide a complete pumping system.

Applications
- Crop protection chemicals
- Seed treatment products
- Crop oils
- Spray adjuvants
- Starter fertilizers
- Micronutrient solutions
- Biocides
- Harvest aides
- Detergents
- Antifreeze
- Diesel exhaust fluid (DEF)
- Light oils
- General chemical transfer
- Non-flammable liquids

Features
- High flow rates
- Self-priming from a dry state
- Multiple configurations for use with caged IBCs, mini bulk tanks and drums
- Lightweight and portable
- Quiet system
- Electronic flow meters and ancillaries
- 12V DC or 115V AC motors
- Ag and DEF compatible
- Increased operating parameters
- Integrated Micro Matic® coupler
- NPT and BBSP threading
- Fully compliant with ISO 22241 for DEF
- Optional SPAN cap
- Easy to service

Operating parameters
- Flows CT6 to 50 lpm (13 gpm)
- Flows CT6-HF to 68 lpm (18 gpm)
- Pressure to 2.0 bar (30 psi)
- Temperature to 66°C (150°F)
- Suction lift to 2.4 m (8 ft) for water-like fluids
### Configurations

- CES CT6 side mount for use with 275- or 330-gallon caged IBCs with bottom outlet
- CT6 caddy pump in protective frame for use with caged IBCs, mini bulk tanks or drums
- CES CT6 SPAN cap horizontal mount for use with mini bulk tanks with 9-in opening
- CT6 vertical mount for use with drums or tank lid with 2-in opening
- CT6-MM vertical mount integrated with Micro Matic three-pin coupler for use with drums or tanks fitted with Micro Matic three-pin container valve and suction tube

### Materials

<table>
<thead>
<tr>
<th>Code</th>
<th>Housing</th>
<th>Diaphragm</th>
<th>Valve Plate</th>
<th>Valve</th>
<th>O-rings</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT6, CT6-HF</td>
<td>Glass-filled Polypropylene</td>
<td>Santoprene®</td>
<td>Glass-filled Polypropylene</td>
<td>EPDM, Viton®, Santoprene</td>
<td>EPDM, Viton, Santoprene</td>
</tr>
</tbody>
</table>

® Santoprene and Viton are registered trademark of the DuPont Company.
**AP-30 air piston pump**

**High capacity, low maintenance**

The high-capacity AP-30 air piston pump is ideal for agricultural and industrial services, including herbicides, diesel fuel, gasoline and lubricating oils. It offers users a high degree of reliability, versatility and long life.

The AP-30 air piston pump is ruggedly and smartly constructed. With no motor to burn out and minimal moving parts, the AP-30 is extremely reliable and requires little maintenance. Its aluminum, stainless steel and non-metallic construction resists corrosion from most agricultural and industrial chemicals. The pump is built with no metal-to-metal contact to reduce wear.

**Applications**

- Herbicides
- Diesel fuel
- Antifreeze
- Lubricating oils
- Cutting oils
- Gasoline
- Water
- Cutting oils
- Waste oils

**Features**

- Versatile air piston design accepts stationary and portable auxiliary air compressors as well as portable carbon dioxide cylinders
- Ruggedly constructed with minimal moving parts and no metal-to-metal contact
- Includes 50 mm (2 in) NPT bung adapter and high-density polyethylene dip tube
- Undamaged by dead heading

**Operating parameters**

- Flows to 10 m³/h (30 gpm)
- Maximum air pressure: 8.6 bar (125 psi)
- Pressure rating: ⅓ to 1
- 15 m³/h (9 ft³/m) compressed air

**Versatility of air sources**

- Stationary air compressor
- Portable air compressor
- Auxiliary air
- Portable CO₂
- Truck compressor attachments

**Materials**

<table>
<thead>
<tr>
<th>Code</th>
<th>Materials of Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>AP-30 air pump</td>
<td>Housing, Piston</td>
</tr>
<tr>
<td></td>
<td>Aluminium</td>
</tr>
</tbody>
</table>

© Buna is a registered trademark of the DuPont Company.
EZ Handler hand-operated drum pump

Minimal effort, zero waste

The Flowserve EZ Handler hand-operated drum pump is ideal for a wide range of commercial and industrial fluid transfer applications. It safely and efficiently delivers high volumes of harsh and viscous chemicals at low pressures. Its patented no-friction design has no parts to wear or jam and minimizes the manual effort required for operation. The EZ Handler drum pump is available in two sizes to suit application needs:

• The HP-30 is designed to fit 40- and 110-liter (15- and 30-gallon) containers.
• The HP-55 fits 110- and 200-liter (30- and 55-gallon) drums.

Applications

• Acids
• Alkaline
• Chlorine-based liquids
• Oils
• Diesel fuel
• Liquid fertilizers
• Crop chemicals
• Lubricants

Features

• Efficient, patented double-pumping action ensures product delivery on both up and down strokes.
• No-friction design eliminates wear and prevents jamming.
• Outlet spout swivels to prevent drips and accepts an extender hose for convenience and flexibility.
• Lightweight, non-metallic construction makes the pump easily portable.
• Wetted components are made of food-grade polypropylene and polyethylene.
• Anti-pumping safety device prevents accidents.
• 50 mm (2 in) buttress and NPT adapters are standard.

Operating parameters

<table>
<thead>
<tr>
<th></th>
<th>HP-30</th>
<th>HP-55</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses</td>
<td>40- and 110-liter (15- and 30-gallon) containers</td>
<td>110- and 200-liter (30- and 55-gallon) drums</td>
</tr>
<tr>
<td>Output per stroke</td>
<td>400 ml (15 oz)</td>
<td>400 ml (15 oz)</td>
</tr>
<tr>
<td>Maximum depth (from neck to bottom)</td>
<td>770 mm (30 in)</td>
<td>930 mm (36 in)</td>
</tr>
<tr>
<td>Width of spout</td>
<td>20 mm (0.75 in) (Fits 25 mm [1 in] diameter extender hose)</td>
<td>20 mm (0.75 in) (Fits 25 mm [1 in] diameter extender hose)</td>
</tr>
<tr>
<td>Width of case pipe</td>
<td>41 mm (1.5 in)</td>
<td>41 mm (1.5 in)</td>
</tr>
<tr>
<td>Weight per pump</td>
<td>635 g (1.4 lb)</td>
<td>700 g (1.6 lb)</td>
</tr>
</tbody>
</table>
MHP metered hand pump

Precisely, manually operated

The manually operated metered hand pump precisely delivers high volumes of chemicals at low pressures.

Applications

- Herbicides
- Diesel fuel
- Gasoline
- Lubricating oils

Features

- Rugged polypropylene construction with Viton seals
- Includes diptube, discharge hose, ball valve and spout
- Accurate to 2% per full stroke
- 50 mm (2 in) threaded bung connection
- EPDM seals available
- Buttress thread adapter optional
- 1-quart/1-liter capacity
- Metric or English units

Configurations

- 1-quart capacity with English units
- 1-liter capacity with Metric units
SEM flow meters

Accurate, reliable metering

The Scienco SEM-10 and SEM-10FT electronic flow meters employ positive displacement nutating disc technology to meter liquids of various viscosities with great accuracy and nominal pressure loss. With the largest LCD display available on the market, large positive touch buttons and simple one-touch operation, the SEM-10, SEM-10FT and SEM-10SS flow meters are easy to read and use.

The SEM-10 meter mounts directly to the pump discharge via a 25 mm (1 in) rear port. The flow-through configuration of the SEM-10FT enables the meter to be mounted at hose end via a 25 mm (1 in) side port. The SEM-10SS is equipped with a stainless steel housing to meter many pesticides, chemicals and petroleum products and can be mounted directly to the pump discharge via a 25 mm (1 in) rear port.

Features

- Fixed mounting or flow-through configurations provide application flexibility.
- Positive displacement nutating disc design meters liquids of various viscosities with great accuracy and minimal pressure loss.
- Simple, one-touch operation with large, positive touch buttons
- LCD display measures 20 mm (0.75 in) and is the largest on the market.
- Choice of three calibration modes to suit application needs
- Extended battery life is provided by one 3-volt lithium battery.
- Auto shut-off after 40 seconds of inactivity saves battery life.
- Auto wake-up occurs when pumping resumes.

Operating parameters

- Flows from 0.5 to 6.8 m³/h (2 to 30 gpm)
- Temperatures for SEM-10 and 10FT to 55°C (130°F)
- Temperatures for SEM-10SS to 85°C (185°F)
- Pressures for SEM-10 and 10FT to 4 bar (60 psi)
- Pressures for SEM-10SS to 6.9 bar (100 psi)
- Accuracy to +/- 0.5%

Applications

- Agriculture
- Chemical transfer
- Non-flammable liquids
- Light oils
- Inks
- Automotive fluids

Materials

<table>
<thead>
<tr>
<th>Code</th>
<th>Housing</th>
<th>Meter Chamber</th>
<th>O-Rings</th>
<th>Electronic Body</th>
<th>Screws</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEM-10</td>
<td>Nylon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEM-10EPDM</td>
<td>Nylon</td>
<td>Polyphenylene Sulfide and stainless steel</td>
<td>EPDM</td>
<td>Stainless steel</td>
<td></td>
</tr>
<tr>
<td>SEM-10FT</td>
<td>Nylon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEM-10FTE</td>
<td>Polyphenylene</td>
<td></td>
<td>EPDM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEM-10FTP</td>
<td>Polyphenylene</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEM-10SS</td>
<td>Nylon</td>
<td></td>
<td>Viton</td>
<td>Stainless steel</td>
<td></td>
</tr>
</tbody>
</table>

Scienco Products – Diaphragm, Air Piston, Hand Pumps and Flow Meters 9
Accessories for CT6

Hose
Hose for suction or discharge use.
- 25 mm x 3.65 m (1 in x 12 ft) EPDM
- Two-braid, four-ply polypropylene fittings

Tubes
Adjustable HDPE (high-density polyethylene) dip tubes.
- Adjusts from 67.3 to 120.7 cm (26.5 to 47.5 in)
- Hose clamp connection
- Rubber hose
- Clamps
Code: Xtube-V (Viton O-rings)
Xtube-E (EPDM O-rings)

Threaded adjustable HDPE (high-density polyethylene) dip tube.
- Adjusts from 67.3 to 120.7 cm (26.5 to 47.5 in)
- 25 mm (1 in) male pipe threads
Code: Xtube-TV (Viton O-rings)
Xtube-TE (EPDM O-rings)

Ball valve and spout cap
Non-metallic ball valve and spout.
- 25 mm (1 in) NPT ball valve and spout
- Polypropylene construction
Code: PH-20

Cap
Cap to adapt CT6 pumps to 190.5 mm (7.5 in) tank openings.
Code: SPAN

Tank gasket
For adapter plates
Code: SPAN-01G

SPAN adapter plates
Auto recirculation
Code: SPA 700RA
Manual recirculation
Code: SPA 700R
No recirculation
Code: SPA 700N

Battery clips and cable
Code: PHA 06
Repair kits

AP-30 air piston pump
AP-30 repair kit, rebuild kit for repairing AP-30 air pump.
- Buna-N O-rings
- PTFE piston ring
- Nylon valves and valve backups
- Chevron packing
- Foam washer
- Gasket
Code: AP-30 Kit

SEM-10 flow meters

SEM-10 Electronics Kit
Electronics repair kit for SEM-10 and SEM-10FT flow meters.
- Electronic LCD display
- 3-volt lithium battery
- Mounting gasket
- Stainless steel screws
Code: SEM-10 Kit-1

SEM-10 Chamber Kit
Chamber repair kit for SEM-10 and SEM-10FT flow meters.
- Nylon
- Magnet wheel
- Top and bottom Viton O-rings
Code: SEM-10 Kit-2
  (with EPDM O-rings)

SEM-10SS Electronics Kit
Electronics repair kit for SEM-10SS flow meter.
- Potted electronic assembly
- 3-volt lithium battery
- Mounting gasket
- Stainless steel screws
Code: SEM-10SS Kit

SEM-10SS Conversion Kit
Converts SEM-30 flow meter to the SEM-10SS flow meter.
- Potted electronics assembly
- Formed stainless steel cover
- Mounting gasket
- Viton O-rings
- Stainless steel screws
Code: SEM-10SS CONV

SEM-10SS and SEM-30 Chamber Kit
Chamber repair kit for SEM-10SS and SEM-30 flow meters.
- Magnet holder assembly
- Washer
- Drive dog assembly and pin
- Wobble plate assembly and housing
- Viton O-rings
Code: SEM-20 Kit
Flowserve Corporation has established industry leadership in the design and manufacture of its products. When properly selected, this Flowserve product is designed to perform its intended function safely during its useful life. However, the purchaser or user of Flowserve products should be aware that Flowserve products might be used in numerous applications under a wide variety of industrial service conditions. Although Flowserve can provide general guidelines, it cannot provide specific data and warnings for all possible applications. The purchaser/user must therefore assume the ultimate responsibility for the proper sizing and selection, installation, operation, and maintenance of Flowserve products. The purchaser/user should read and understand the Installation Instructions included with the product, and train its employees and contractors in the safe use of Flowserve products in connection with the specific application.

While the information and specifications contained in this literature are believed to be accurate, they are supplied for informative purposes only and should not be considered certified or as a guarantee of satisfactory results by reliance thereon. Nothing contained herein is to be construed as a warranty or guarantee, express or implied, regarding any matter with respect to this product. Because Flowserve is continually improving and upgrading its product design, the specifications, dimensions and information contained herein are subject to change without notice. Should any question arise concerning these provisions, the purchaser/user should contact Flowserve Corporation at any one of its worldwide operations or offices.

©2019 Flowserve Corporation. All rights reserved. This document contains registered and unregistered trademarks of Flowserve Corporation. Other company, product, or service names may be trademarks or service marks of their respective companies.