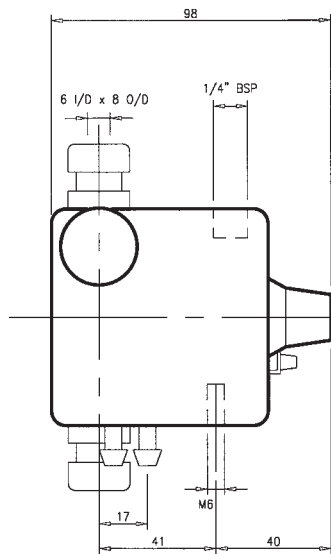
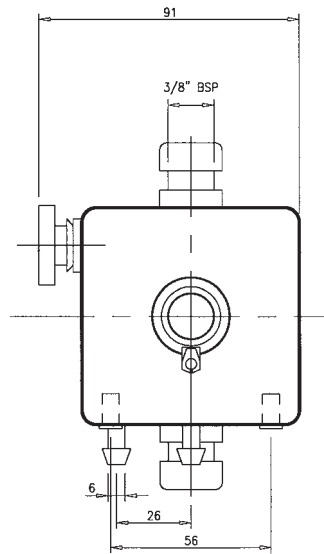


EXTERNAL DIMENSIONS



Drawing dimensions may vary depending upon model/pump head. mm (unless stated)

S200 PNE Series Accessory Range

Optional equipment for enhancing the control and performance of the S200 PNE pump series.

Foot valve and strainer

Assists in maintaining the prime of the pump under suction lift conditions and prevents large solids from entering the pump.

Suction lance

Combining a foot valve and strainer, the suction lance is inserted into the suction vessel, where it ensures maximum draw-down. It allows low level switching to stop the pump and can provide low-level cut-out. A further option of low-level warning may be incorporated.

Injection fitting

This maintains back pressure on the pump, even when the pump is dis-connected. It generally assists with the control of flow and also injects material into the centre of the flow. Additionally, it serves as an anti-syphon device and non-return valve.

Pressure loading valve

On systems operating below 1 bar, the pressure loading valve maintains back pressure on the pump and ensures that accurate flow control is sustained. It also serves as an anti-syphon device.

Pressure relief valve

A safety device that protects the pump and system from damage if over-pressure occurs.

Multifunction valve

Combines the function of pressure loading and pressure relief valve into a single unit that saves in installation cost and provides anti-syphon protection and drain facility.

Flow switch

Provides a positive indication that the pump is operating and the fluid is flowing.

Electronic controller

A complete control system that provides a loop back to the pump to maintain the required chemical dose. It can make the system more efficient and more economical.

Pulsation damper

Fitted to the suction or discharge side of the pump, it reduces pressure surges on arduous applications such as long dosing lines.

Tubing

Available in a wide range of diameters and materials, including PVDF, PFA, PE, nylon-reinforced PVC and others on request.

Tank and pump sets

A stand-alone and single-sourced chemical delivery system that can be bonded if required and can incorporate stirrers. Pre-engineered and tested, they are delivered to site ready to install and are available in a range of tank capacities up to 4,500 litres - although larger sets can also be engineered.

S200 PNE Series Pneumatic Diaphragm Metering Pump



Operating capacities from 0.05 to 11.5 litres/hour at 5 to 6 bar

- Innovative air-operated pump that is purpose-designed for use in hazardous zones.
- Can be operated safely in a wet or condensation-prone environment.
- Gives cost-effective and economic metering.
- Combines the benefits of a manually-adjustable diaphragm pump with the safety and simplicity of pneumatic function.
- Non-metallic head (except Hasteloy spring) uses PP to give excellent chemical resistance.
- Optionally available with pneumatic control valves and timers that can interface with remote electronics.

FURTHER TECHNICAL SUPPORT

The **Signal** team of fully qualified sales engineers are on hand to assist you in any aspect of metering pump technology. Whether you need advice on general application needs, metering, pump performance, health and safety, product selection, accessory choice, ongoing operation or maintenance issues, please call a member of our **Technical Team on 0121 326 1745**

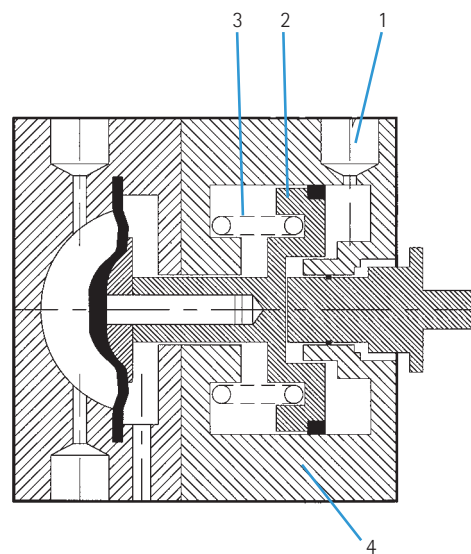
We are here to support you before your purchase – and right through the long service life of your **Signal** pumps.

S200 PNE Pneumatic Diaphragm Metering Pump

Operating capacities from 0.05 to 11.5 litres/hour at 5 to 6 bar

Applications of the Signal 200 PNE pump include accurate metering for:

- Anti-foams
- Detergents
- Lubricants
- Process additives
- Water treatment chemicals



- 1 Air supply and exhaust
- 2 Piston
- 3 Return spring
- 4 PP

Metering system – how it works

- The Signal S200 PNE pump is designed using the mechanical diaphragm principle to provide safe and leak-free operation.
- A PP pump head and PTFE-face diaphragm, coupled with a variety of seal and valve-ball materials ensures a very high degree of chemical resistance.
- A simple and robust manual stroke adjustment mechanism operates from 0 – 100% and is lockable.
- The compressed air drive uses a close-coupled 3/2 way control valve to admit and exhaust air, the rate of admission and exhaustion determining the pump stroking rate.
- Pressurised air drives a piston forward against a return spring. When this air pressure is relieved, the spring returns the diaphragm.

Construction materials

The S200 PNE pump housing is constructed of robust, lightweight moulded thermoplastic, finished in black.

| | Standard | Variations | |
|-----------------|------------|-----------------|--------|
| Pump Head | PP | | |
| Piston/cylinder | Ceramic | | |
| Diaphragm | PTFE faced | EPDM | |
| Seals | Viton | EPDM | Kalrez |
| Valve Body | PVDF | | |
| Valve Balls | Ceramic | Stainless Steel | |
| Seals | Viton B | EPDM | Kalrez |
| Springs | Hasteloy | | |

Operation

- Control response of the pump will be best when the air solenoid valve is located close to the pump. During the diaphragm return stage of the pump cycle, the air must travel to exhaust. The longer the exhaust line, the slower this will occur and long lines should be avoided, as they will reduce the available stroking rate.
- The viscosity capability of this model is good, enabling it to meter viscous fluids such as anti-foams. In these applications, the suction should be flooded and a generous-size suction hose used. Adaptors for larger size hoses are available.

Metering control

- Manual stroke length control is fitted as standard.
- For pump speed control, the stroking rate can be varied up to 125 strokes/minute by control of the air feed.
- For normal operation, the feed and vent solenoid valve alternately provides and vents air from the pneumatic drive chamber.
- For remote operation, the feed and vent valve can be controlled by a choice of:
 - relay or PLC outputs.
 - analogue signals via an analogue-to-pulse converter.
 - a pneumatic or electronic timer.



TECHNICAL DATA

| Pump Capacity ltr/hr | 1.5 | 3 | 6 | 11.5 |
|---|--------|--------|--------|------------|
| Max. back pressure (bar) | 6 | 6 | 6 | 5 |
| Max. volume per stroke (ml) | 0.2 | 0.4 | 0.8 | 1.53 |
| Max. number of strokes (spm) | 125 | 125 | 125 | 125 |
| Suction lift (mwg) with 100% stroke setting | 2 | 2 | 2 | 2 |
| Air consumption ltr/min | 35 | 35 | 35 | 35 |
| Air control pressure/bar | 6 | 6 | 6 | 6 |
| Suction/discharge connection inner/outer diameter | 4/6 | 4/6 | 4/6 | 6/8 |
| Discharge connection (mm) | 4/6 | 4/6 | 4/6 | 6/8 |
| Bleed tube size (mm) | 6mm ID | 6mm ID | 6mm ID | 6mm ID |
| Optional connections for suction/discharge (mm) | 6/12 | 6/12 | 6/12 | "PVC rigid |

Pump Performance

The capacity of the S200 PNE pump varies with the application back pressure, for which typical variations are illustrated below. A significant increase in capacity can sometimes be obtained at low back pressure.

Delivery rate 11.2 l/h / 5 bar

