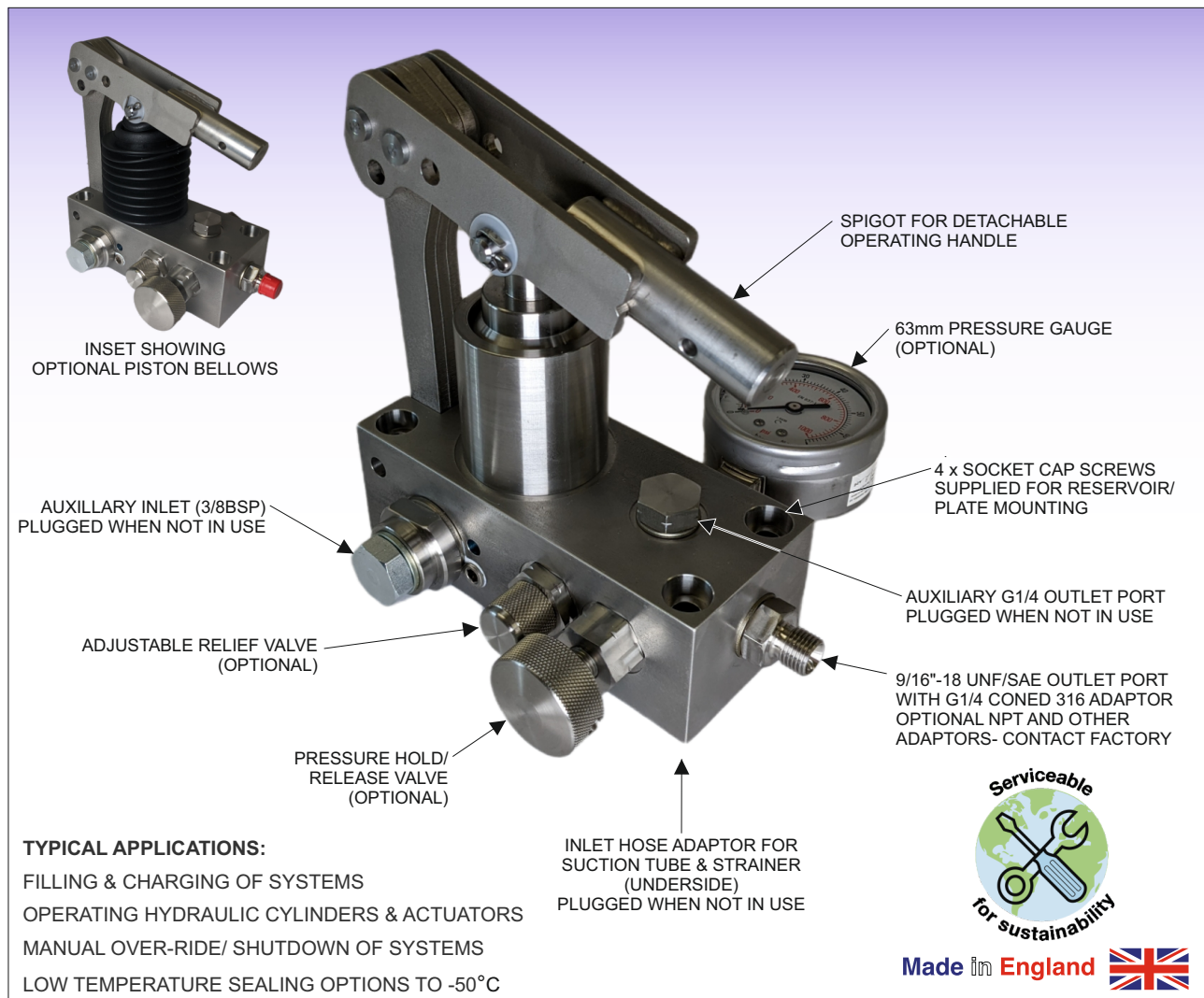




# Micropac® MFX Single Speed Flush Mounted Hydraulic Hand Pump



#### TYPICAL APPLICATIONS:

- FILLING & CHARGING OF SYSTEMS
- OPERATING HYDRAULIC CYLINDERS & ACTUATORS
- MANUAL OVER-RIDE/ SHUTDOWN OF SYSTEMS
- LOW TEMPERATURE SEALING OPTIONS TO -50°C

**A low pressure unit in aluminium alloy or 316 stainless steel**

## FEATURES

- Single acting operation - pumps on down stroke
- 316 stainless construction for corrosion resistance
- Displacement 50cc/ double stroke to 50 bar
- Compatible with water, oil and other liquids
- Reliable- British design & manufacture
- Sturdy construction- suitable for outdoor use
- Long life hard chromed stainless piston rod
- Optional bellows for extreme environments
- Soft-seat check valve for positive sealing
- Pressure gauge, release & relief valve options
- User serviceable sealing & seating components
- Detachable operating handle - length options
- Nitrile seals standard - optional EPDM/ Viton®
- Universal mounting orientation
- Flat face mountable - base or side inlet options
- Factory support for product and application

# INSTALLATION & MAINTENANCE

## APPLICATION

This equipment is suitable for use in both indoor and outdoor applications; for extreme environments specify the 316 stainless steel version.

The hydraulic hand pump provides manual hydraulic power for a range of applications such as filling, charging, and cylinder and actuator operation in manual back up systems. It is fitted with a soft seat outlet check valve for positive system sealing. Pumping operation is single acting; fluid is drawn into the pump on the up stroke and displaced out of the pump on the down stroke. The pump displacement is 50cc per double stroke up to a maximum pressure of 50 bar.

Sealing options are nitrile, fluorocarbon and ethylene propylene elastomers, specified at time of ordering.

Depending on specification, the pump may be fitted with a soft seat pressure hold/ release needle valve, an adjustable pressure relief valve, and a pressure gauge. Release and relief valve drain back through the pump inlet.

The stainless steel operating handle is detachable and measures 625mm, with options of 150mm and 450mm.

The pump is intended for direct mounting onto a suitable reservoir and has an inlet connection for the flexible dip tube and strainer (supplied) on the underside. The pump may also be remote mounted and piped into a system using the G3/8 auxiliary inlet port on the side of the pump.

## CONSTRUCTION MATERIALS

316 stainless steel wetted parts and handle mechanism, small amounts of stainless steel 302/303/304/420/431, UHMWP, PTFE, Polyurethane and elastomeric sealing.

Consult factory for seal options.

## SAFETY

This unit is a component forming part of a hydraulic pressure system. If forming part of a permanent installation, the system should be designed, operated and maintained in accordance with statutory requirements and other relevant instructions. A risk assessment covering safe installation, operation and maintenance should always be carried out prior to use.

Under the EU Pressure Equipment Directive (PED) 2014/68/EU and the UK Pressure Systems (Safety) Regulations, the unit is not required to be CE or UKCA marked.

## INSTALLATION

The pump can be mounted vertically or horizontally; the pump inlet dip tube suction has to be fully immersed in the pumped media at all times.

**Reservoir mounting:** refer to pump dimensions section for mounting interface detail. The reservoir top plate requires a through hole for the inlet hose adaptor and provision for mounting (4 holes M8x1.25 thread). The reservoir should be vented to atmosphere. Cut the pump dip tube and filter assembly to suit your reservoir. The inlet hose connector is designed to accept 9.5mm i.d. nylon tube. Push the tube onto the barbed pump inlet. Locate the mounting gasket supplied with the pump onto the reservoir top plate such that the inlet hose adaptor hole aligns. No jointing compound is necessary.

Lower the pump into position and secure using the four M8 x 65 long socket head cap screws supplied, tightening evenly to a torque of 15Nm.

## INSTALLATION continued

Before mounting the reservoir, consider ergonomics of pump handle operation; refer to pump dimensions section.

Mount the reservoir on a surface that can withstand handle forces during pumping to maximum required pressure. Use the mounting holes provided; fixings are not supplied.

**Remote mounting using side inlet port:** mounting detail as for reservoir. Allow clearance for inlet blanking plug on underside of pump body. Connect inlet tube (min. bore diameter 10mm) using suitable tube adaptor (G3/8 female port), ensuring media is filtered.

## CONNECTIONS

The outlet connection is a 9/16" UNF SAE female port; a G1/4 male 60° coned adaptor is fitted as standard. There is an auxiliary G1/4 female outlet port on the top face of the pump body; this is plugged as standard.

Make connection to system using suitable swivel nut & nipple, or female adaptor fitting.

The pressure gauge port is G1/4 flat bottomed and is plugged where a pressure gauge is not supplied.

## COMMISSIONING

The reservoir may be filled by unscrewing the filler cap and topping up to desired level with clean fluid; do not over fill. Where fitted, use the dipstick to determine fluid level. Always refit filler cap after top up.

Fit operating handle to handle spigot. If fitted, close the soft seat release/ hold valve by screwing knob in fully clockwise; do not overtighten. Operate the handle by moving up and down until maximum required pressure is achieved. Check for leaks in the system.

To release pressure, unscrew release/ hold valve knob, slowly for a controlled release.

To set relief valve, remove cap, adjust set screw whilst operating hand pump to achieve maximum pressure requirement, then refit cap.

## MAINTENANCE

**Maintenance operations should only be carried out by a competent service engineer.**

The inlet and outlet check valves are serviceable and employ replaceable seats. Service kits are available comprising all seals, seats, balls and springs.

The pump inlet strainer should be checked periodically for fouling. To do this, the pump should be removed from the reservoir; ensure that the mounting gasket is in good condition when refitting, and that the pump mounting screws are sufficiently tightened to effect a seal between the pump and reservoir.

The reservoir fluid should be kept clean.

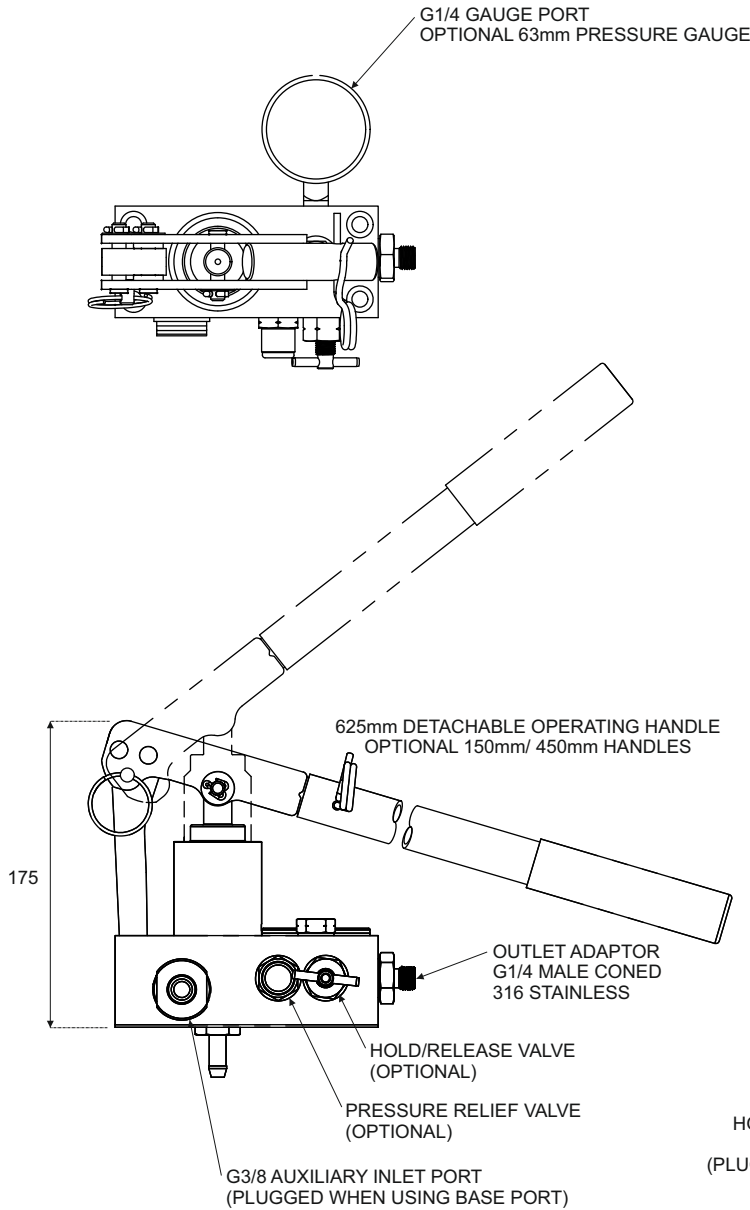
If using aqueous media, ensure that the reservoir is protected from low temperatures to prevent against risk of freezing.

Sarum Hydraulics Ltd also offer a servicing facility; please advise before returning the unit to us.

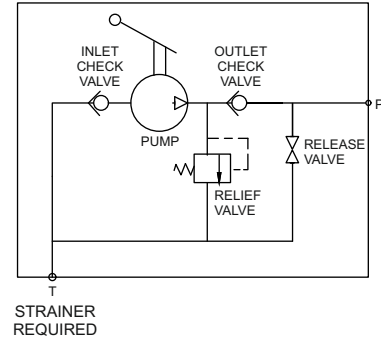
# DIMENSIONS

ALL DIMENSIONS ARE IN MM

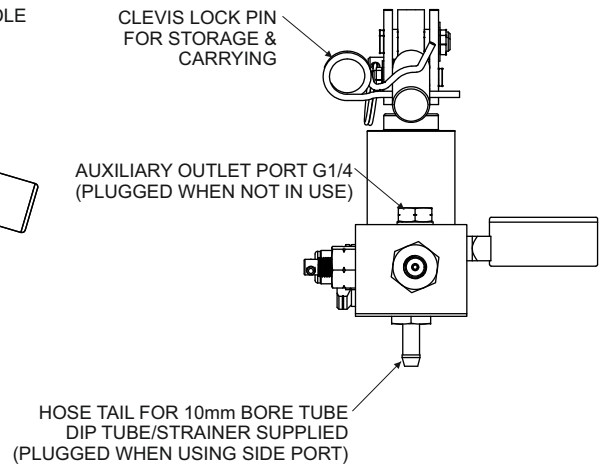
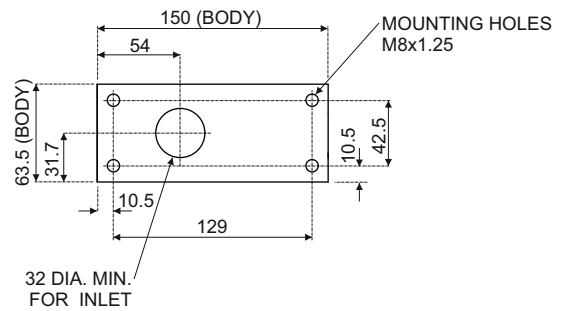
INSTALLATION DRAWING 508000100 AVAILABLE UPON REQUEST



HYDRAULIC CIRCUIT DIAGRAM



MOUNTINGFACE PLAN



# SPECIFICATION

Displacement/ double stroke: 50cc

Max. operating pressure: 50 bar

Max. flow (typical): 2 litres/ minute

Nom. operating hand load (625mm, at max. pressure): 400N

Compatibility:

Nitrile seals: water, water-glycol, mineral oil

Fluorocarbon and EPDM sealing options- check compatibility first; if in doubt, consult factory.

Ambient operating temperature range: -20 to 40°C

Media operating temperature range:

Nitrile: -35 to 80°C

Fluorocarbon: -26 to 80°C

EPDM: -50 to 80°C

Low temperature options to -50°C; consult factory

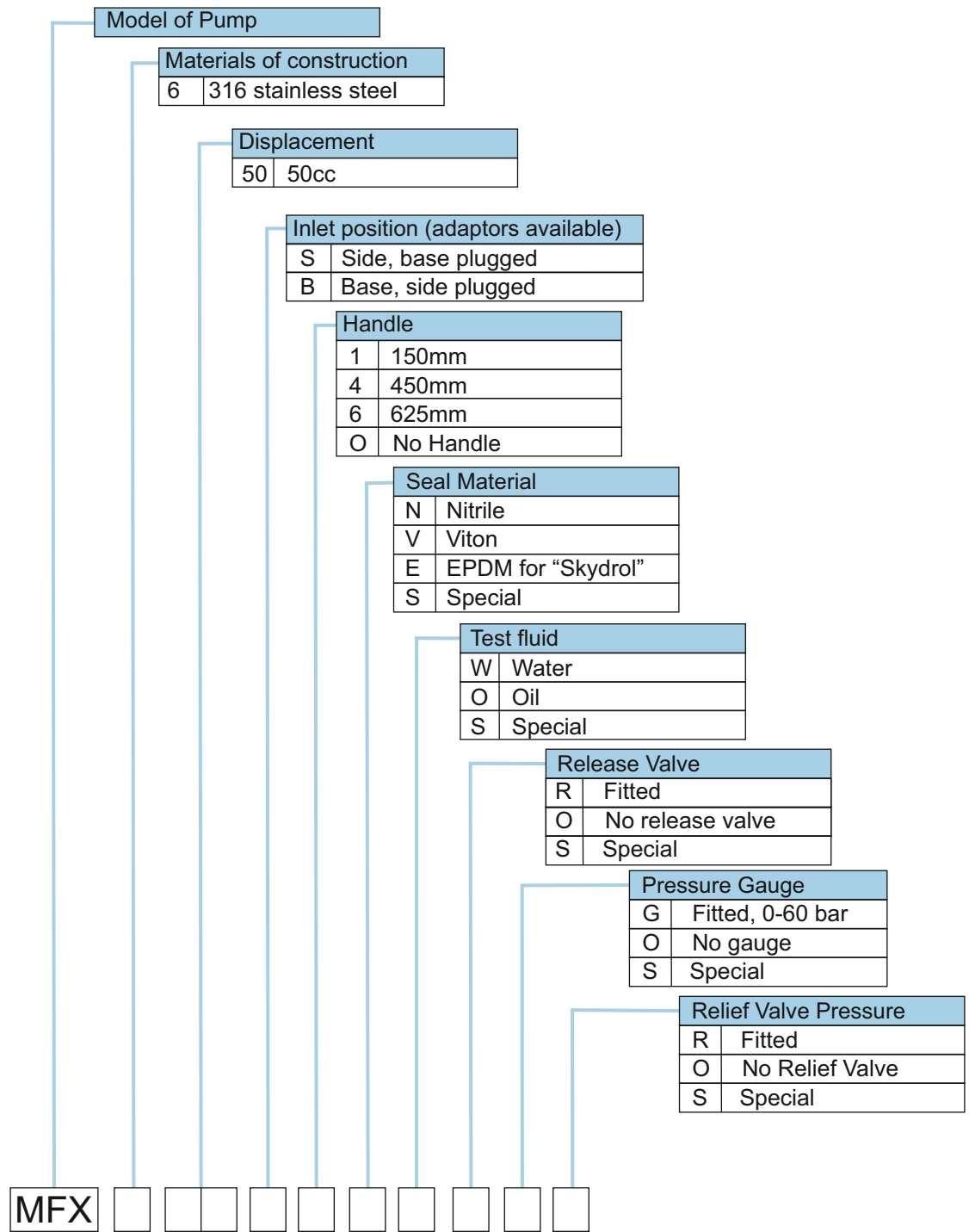
Weights (excluding operating handle):

316 stainless version: 5.5kg

Operating handle: 0.5kg (450mm); 0.7kg (625mm)

For reservoir specifications and dimensions, please refer to our MR reservoir datasheet ref. 001026300.

# ORDERING CODES



We are a long established ISO 9001:2015 certificated designer and manufacturer of hydraulic equipment. Full details of other products in our range are available from:

**Sarum Hydraulics Limited**  
 Unit 1 Danebury Court, Salisbury, SP4 6EB, UK  
 Tel: 44(0)1722 328388 Fax: 44(0)1722 414307  
 email: pumpsales@sarum-hydraulics.co.uk  
 www.sarum-hydraulics.co.uk



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