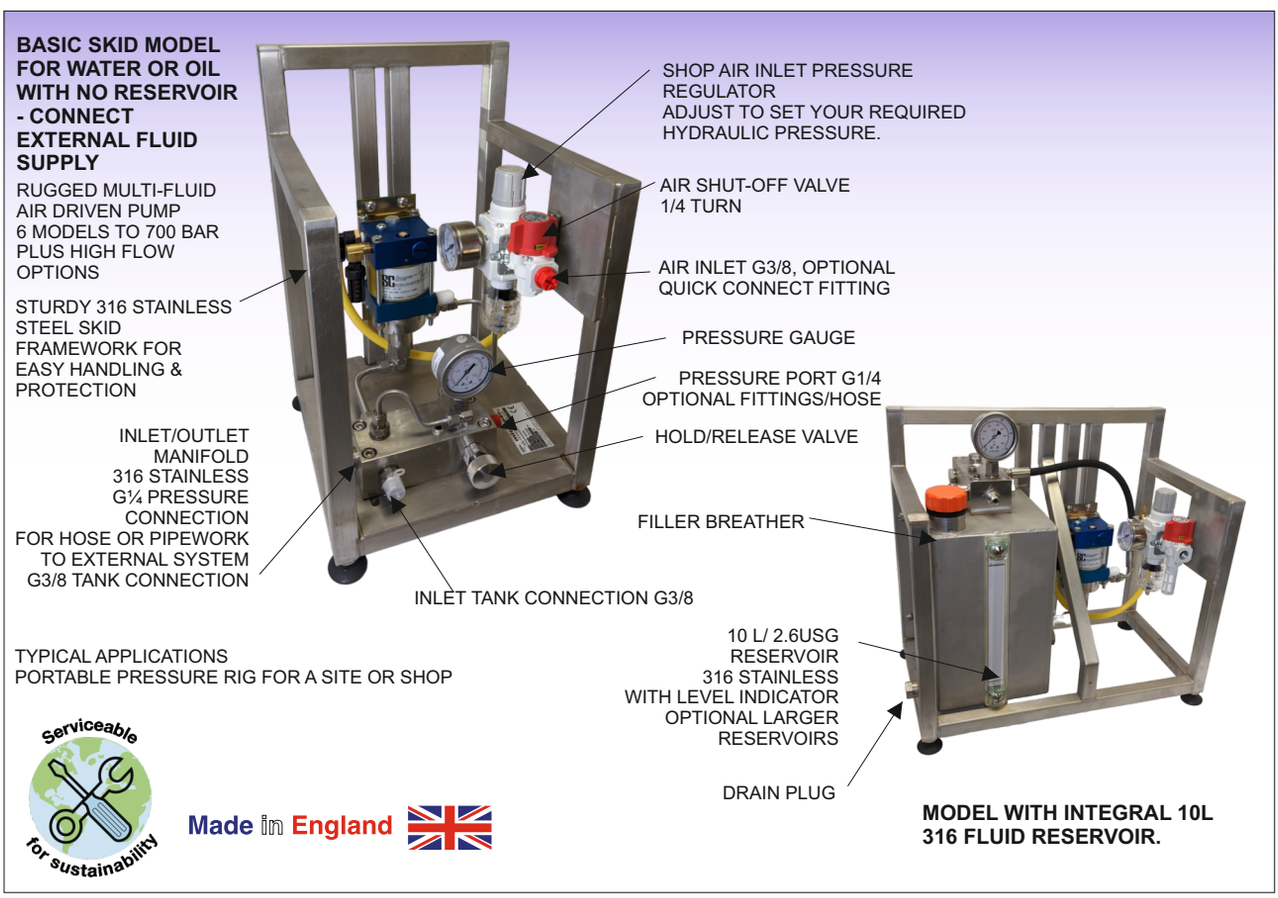
SARUM HYDRAULICS
Designers & Manufacturers of Micropac® Hydraulics

MICROPAC® PTR-M Air Driven Hydrotest Skid
Rugged pressure & test units for site and shop



FEATURES

- Rugged & versatile hydraulic pressure test skid
- Air operated pressure pump for reliability & safety
- Only needs shop air for inherently safe operation
- 316 stainless skid for superior corrosion resistance
- Suitable for water, oil and other operating media
- 6 Pump options to suit max. pressures 125-700 bar
- Maximum free flow of test media 4 litre/min
- Single manifold for neat release/gauge/connections
- Compact Base unit has external fluid supply
- Optional integrated 10L stainless reservoir
- Skid mounted for easy transport & storage
- Serviceable, not throwaway
- Quality British manufacture - 1 year warranty
- Factory support for product and application
- Highly cost effective compared with custom rigs
- Enquires welcomed for options

APPLICATION, INSTALLATION & MAINTENANCE

BASIC OPERATION OF A PTR-M SERIES MANUAL AIR DRIVEN HYDROTEST SKID.

For users who simply need a skid mounted air driven pump with integral air controls, a pressure gauge and hold/release valve, we offer our PTR-M unit. This is based on the proven PTR components and is available with or without a reservoir.

The skid based unit is suitable for site, shop or bench mounting. The construction is rugged, with a stainless steel skid and stainless reservoir where required rather than the commonly used plastic units.

Like the programmable PTR, we use a single manifold block for the pressure/tank connections, the hold/release valve, the pressure gauge port and an extra pressure connection. This type of manifold block eliminates all the pipework and fittings that are a feature of other units. Everything is integrated as far as possible, On the PTR-M skid without the reservoir, we use our standard manifold block but split it into a pressure section with the outlet port, gauge port and release valve PLUS a tank section which allows neat connection of the suction tube. We pipe the release valve spill back into this tank section. If your requirement is to dump the spill externally and not back into the suction line, our this configuration allows this to be changed very easily.

The PTR-M is a true multi fluid unit, using soft seat check valves. Like all Micropac equipment, the unit is serviceable, not throwaway.

Although this pump can be used for simple hydrostatic pressure testing or single cycle burst testing, it can also be used as an everyday site hydraulic power unit for tasks such as jacking, work holding, swaging and presswork, amongst others.

Controls are very simple. There is a master on/off valve for the air feed to the pump, an air regulator that controls the maximum pump pressure and a hold/release valve to vent hydraulic pressure. As with any air driven pump, the hydraulic pressure that can be achieved is a simple multiple of the input air pressure. This multiple is based on the ratio of the areas of the air section piston and the hydraulic section piston. At free flow with zero hydraulic pressure, the pump will cycle at its maximum rate and shift the highest hydraulic flow rate. As the hydraulic pressure rises, the cycling rate slows down and the unit eventually stalls at this pre-determined maximum pressure based on the input air pressure. A useful feature of an air driven pump is that once stalled, the pump action will keep this maximum pressure “topped up” if it decays in the system. The pump can be heard to cycle now and then. The maximum hydraulic flow rate is a feature of the pump design but the incoming air supply does need to be adequate or the pump will simply run slower and the flow rate be depressed. Note that a long small bore incoming air line can materially reduce the air flow rate.

MATERIALS OF CONSTRUCTION

Seals: Viton, PTFE, Polyurethane, UHMWP and nitrile. Optional alternative compounds are available.

Reservoir, connection block and pipework: stainless wetted parts.

Air driven pump and release valve: stainless wetted parts, anodised aluminium alloy and stainless air section.

APPLICATION AND CONNECTIONS FOR THE MICROPAC PTR-M SKID UNIT

Under the Pressure Equipment Directive 2014/68/EU, this unit is suitable for use with group 1 liquids (liquids classified as explosive, extremely flammable, highly flammable, flammable, very toxic, toxic, oxidising) up to 400 bar and group 2 liquids (all other liquids) with no limit in pressure, subject to compatibility with seals and materials used in the equipment construction. Check carefully both seal and material compatibility prior to ordering; if in doubt, contact our technical support.

The unit requires dry shop air (60psi/4.1 bar to 125psi/8.6 bar) to operate the air driven pump. No mains electricity is required, which makes the unit inherently safe from this point of view.

The maximum hydraulic pressure quoted for each model is based on an inlet air pressure of 6.9 bar (100 psi).

There is a low leakage outlet check valve to maintain system pressure. Pressure may be released back to the pump inlet or reservoir (if fitted) manually using the needle hold/release valve on the connection block. The manual hold/release valve must be tight in order to generate pressure. There is no necessity to fit a relief valve although some users will fit one as a safety option, particularly on low pressure operation. An optional relief valve will easily mount on the connection block, as pressure and tank ports are present. If your need is for a safety relief valve to protect the test component, we would advise using a PED certificated safety device. Consult the factory.

There is a G1/4 flat bottom pressure gauge port on the connection block should a pressure gauge need to be fitted. A pressure transducer can be fitted as an alternative or in addition to a pressure gauge. Consult the factory.

The basic unit is mounted on a skid WITHOUT a reservoir. For units without a reservoir, the fluid supply connection is G3/8 female. Adaptors are available. Ensure that the fluid supply is clean. Contact the factory to discuss strainer options.

There is also a standard option on the PTR-M-*-*-10 to supply WITH a 10 litre fixed stainless steel Micropac reservoir within the skid. Larger reservoirs such as 20 litres can be also be fitted. The reservoir is filled through the filler/breather cap. There is a clear polymer level indicator. The reservoir can be drained using the hexagon plug.

There are three connections to the skid, these being fluid supply, the pressure outlet and the shop air inlet.

The pressure connection to the hydraulic system is made via a G1/4 port in the connection block. A range of optional hydraulic hoses are also available. Our standard hoses offer a G1/4 swivel on free end. We offer adaptors to achieve other threads. The supply connection on the connection block is G3/8 as described above. The air supply connection is G3/8 female to the air shut off valve on the regulator.

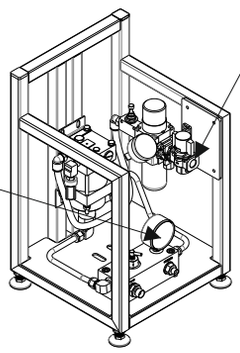
USING THE UNIT.

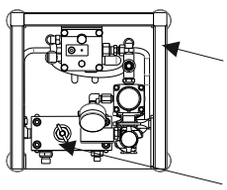
Consult the operating manual before using the unit.

SERVICE KITS AND SPARES

Please quote the serial number.

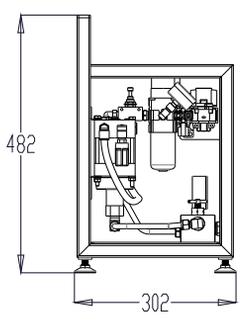
DIMENSIONS PTR-M STAND-ALONE

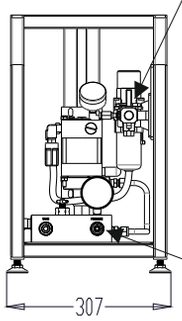




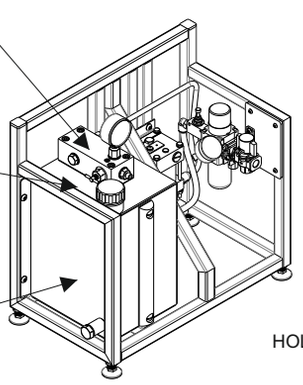
SEE INSTALLATION DRAWING FOR MORE INFORMATION

BASIC MODEL WITH NO RESERVOIR -





DIMENSIONS PTR-M WITH INTEGRAL RESERVOIR



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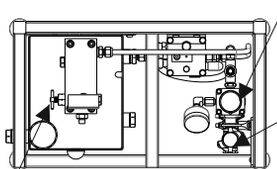
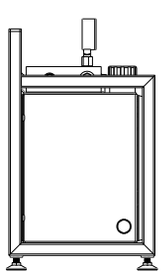
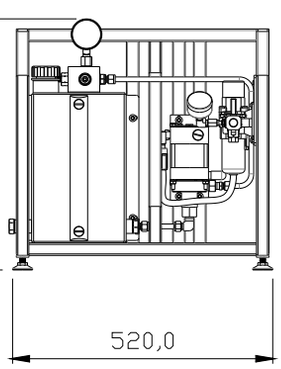


MODEL WITH INTEGRAL 10L 316 FLUID





ORDER CODE FOR MICROPAC® PTR-M PRESSURE TEST SKID

Model	
PTR-M	Manual Air Driven hydrotest pump skid
	For programmable see PTR-A Datasheet

Air Driven Pump Model (choose best fit for max.pressure and free flow requirement)	
15	125 bar max. 3.6 litre/min free flow
25	190 bar max. 2.7 litre/min free flow
35	235 bar max. 2.1 litre/min free flow
45	330 bar max. 1.6 litre/min free flow
65	480 bar max. 1.2 litre/min free flow
105	740 bar max. 0.6 litre/min free flow

Seal material (ask about compatibility)	
N	Nitrile / Polyurethane
V	“Viton” Fluorocarbon / Polyurethane

Test fluid			
W	Water	S	Special
O	Oil		

Pressure gauge	
O	No Gauge
G	Normal
S	Special

Reservoir size (leave blank if not required)	
10	10 Litre fixed
20	20 Litre fixed- consult factory

Hydraulic Hose, stainless fittings G1/4	
O	No hose required
3	Hose 3 metres overall

Pneumatic Hose for Air supply	
O	No hose required
5	Hose 5 metres overall

PTR-M [ ][ ][ ] [ ] [ ] [ ] [ ][ ] [ ] [ ]

CE marking: this product is classified under ‘Sound Engineering Practice’ of the Pressure Equipment Directive (PED) 2014/68/EU. As such, it does not carry the CE marking.

Sarum Hydraulics are an ISO 9001:2015 registered company with over 35 years experience in design and manufacture of hydraulic equipment. Call us, email us or visit our website to find out more about our extensive product range. Enquiries are welcomed for bespoke solutions.

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