

rotork® Fluid Systems

The Rotork manPOWER range provides high-integrity fail-safe valve operation without the need for any external power supply. The self-contained system is suitable for workshop or field mounting on a wide range of rotary and linear operated valves and dampers. It offers a cost-effective solution for actuator applications where operation is infrequent. Typical applications include emergency shutdown valves and over- or under-pressure protection at remote, unpowered locations.

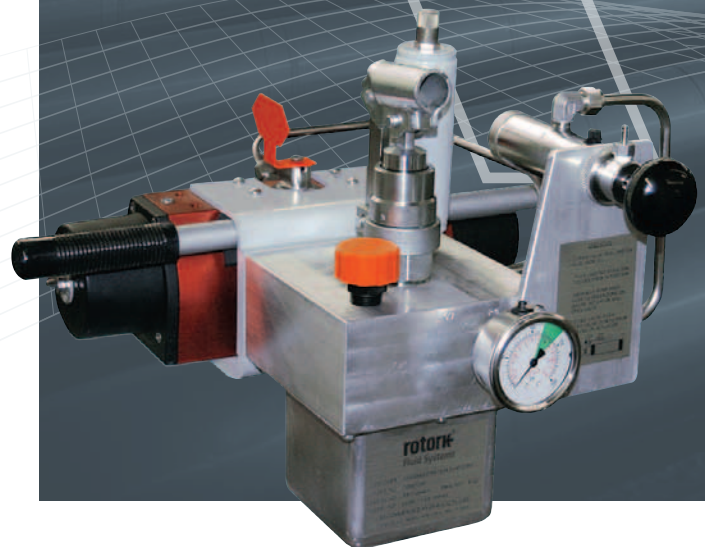
Each manPOWER module contains a compact manually operated hydraulic power unit that provides hydraulic pressure to operate a spring-return actuator. The fail-safe system can be controlled by electrical control signal(s), pressure pilots or fire sensors. When tripped, the actuator spring cartridge drives the valve to its fail-safe position. The safe and easy-to-operate system is manually recharged via the hand pump. There are four power module variants. Rotork installs the appropriate model on an actuator sized to meet the end user's valve torque demand. Modular construction from our standard components facilitates quick delivery and simplifies installation, operation and maintenance. Configurations are available for virtually any size or type of valve.

manPOWER is easy to mount on either new or existing valve actuators or dampers. The closed-loop, non-breathing hydraulic circuit is temperature compensated for use in the most extreme environments. It is also compatible with FDA approved food grade hydraulic fluids. Installation costs are reduced because the need for plant air, fuel gas, electricity or expensive nitrogen backup systems is eliminated.

Key Standard Features

- Completely self contained.
- Adaptable for quarter-turn or linear service.
- Simplified control circuit with a minimum of components.
- Built-in temperature compensation.
- High-pressure zero-leakage control system.
- Watertight or explosionproof construction.
- Fail open or closed.
- High-integrity stainless-steel tube and fittings.
- Manual reset after operation.
- 10 Bar (150 psi) or 100 Bar (1,500 psi) operating pressure suitable for actuator displacements up to 13.2 L (3.5 US gal).

Redefining Flow Control



manPOWER Range

Fail-Safe Actuator Control System for
Quarter-Turn and Linear Valves and Dampers

Optional Features

- Local electrical controls.
- Remote mounted stainless-steel power module enclosure.
- Lockable stainless-steel power module enclosure.
- Adjustable speed control.
- High- and/or low-pressure pilot(s).
- High-temperature fire sensor(s).
- High-volume rotary pump for large actuators.
- Adaptable for use with SCADA systems.

General Specifications

Model	Maximum Pressure (Bar/PSI)	Maximum Actuator Displacement (Litres/US gal)	Pump Displacement (cm ³ /inch ³)	Flow Capacity ¹ (LPM/US GPM)
MPL-1	10 / 150	3.78 / 1.0	21.3 / 1.3	18.9 / 5
MPL-2	10 / 150	7.56 / 2.0	21.3 / 1.3	18.9 / 5
MPH-1	100 / 1,500	3.78 / 1.0	10.65 / 0.65	18.9 / 5
MPH-2 ²	100 / 1,500	13.23 / 3.5	14.75 / 0.90	18.9 / 5

1. The stated flow capacity is the unrestricted flow from the actuator through the manPOWER control module to the reservoir. This governs the maximum speed of the actuator fail mode.
2. This option requires the high-volume pump/reservoir assembly that is part of the lockable stainless-steel enclosure option.

Temperature range:

Standard: -20 to +60 °C (-5 to +140 °F)

Optional low: -46 to +60 °C (-50 to +140 °F)

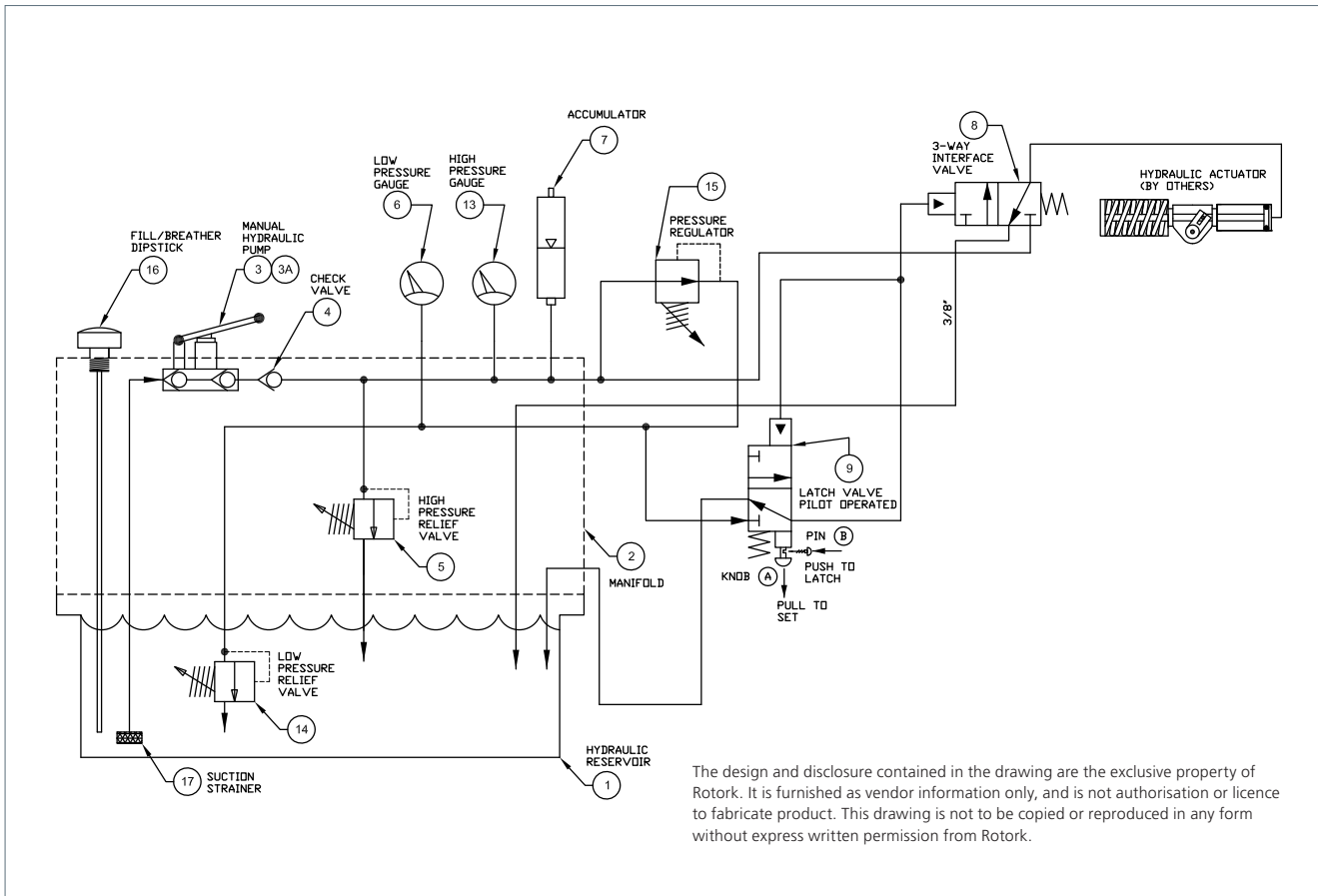
Solenoids: 12V, 24V or 120V to FM, IEC ATEX

Stainless-steel pipeline pressure sensors for high and low ranges available to end-user stated set points.

Fusible link eutectic element to the following set temperatures: 70, 95, 124, 138 °C (158, 203, 255, 281 °F).

High-flow dump valve for high-speed fail mode.

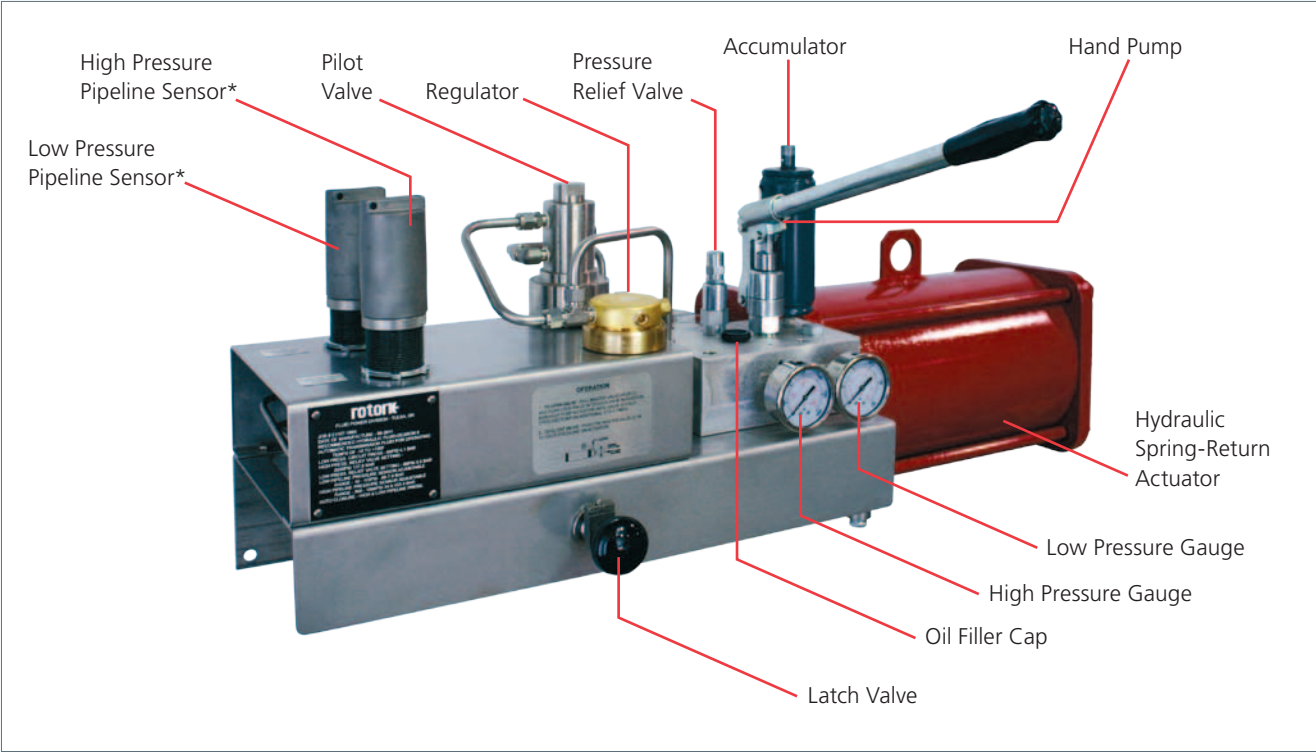
Hydraulic System Schematic



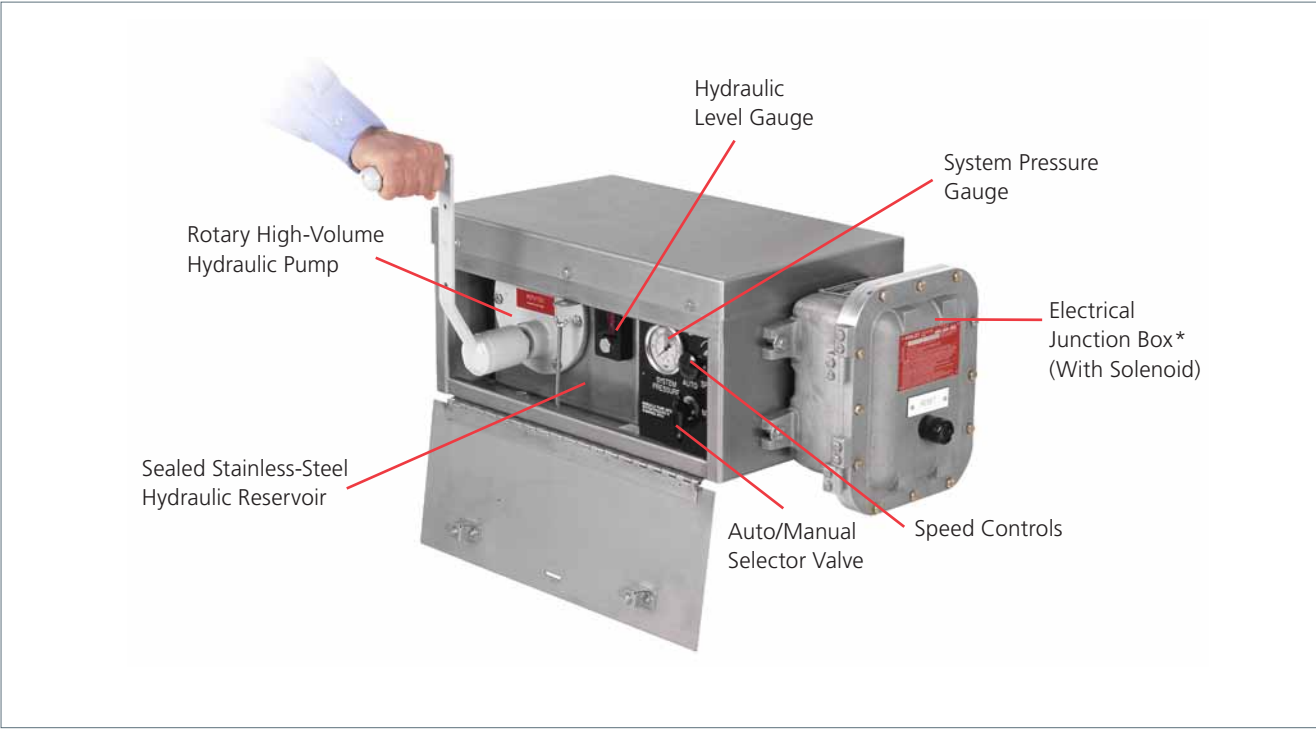
manPOWER Range

Fail-Safe Actuator Control System for
Quarter-Turn and Linear Valves and Dampers

Typically Equipped MPH-1



Typical MPH-2 Controls



* Indicates optional equipment

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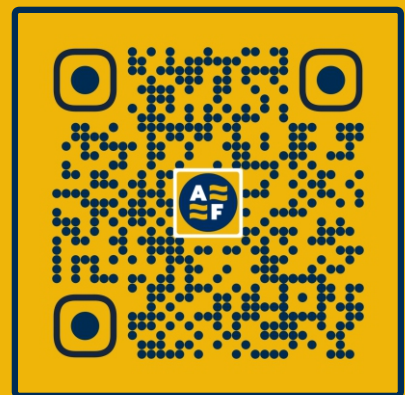
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