



WEBTEC

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RFIK Series Reversible Hydraulic Tester Operating and Service Instructions



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RFIK Series Reversible Hydraulic Tester

The RFIK provides the ideal solution for servicing and commissioning hydraulic circuits on agricultural and other mobile machinery.

The kit comprises of a direct acting flow indicator with built in thermometer, a loading valve and a pressure gauge all built into a strong steel case with a removable lid.

The unit is self-contained and requires no electrical power. The dials are clear and easy to read.

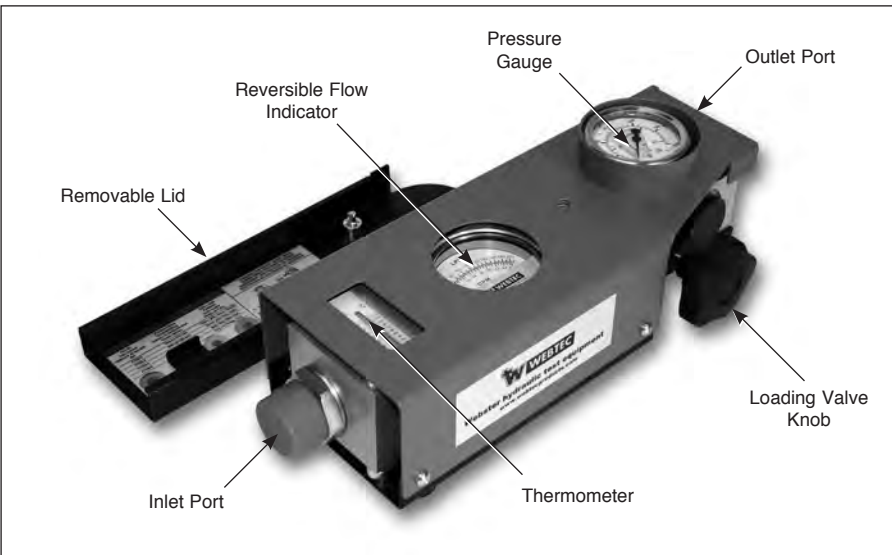
Installation is extremely simple and the test kit can be connected into either the pressure or return lines. The loading valve and pressure gauge allow smooth, progressive build up of system pressure.

The test kit provides the service engineer with quick, accurate and simple performance testing of pumps, motors, valves, cylinders, hydraulic tools and complete hydraulic circuits.

Overview

The RFIK comprises the following items built into a steel frame.

- Reversible Flow Indicator with 30, 60, 120 or 200 lpm (8, 16, 32 or 54 US gpm) flow scale and thermometer scale 20 - 110 °C (65 - 230 °F)
- Loading valve built-in safety discs and glycerine filled pressure gauge. The valve is easy to turn and gives progressive control of system pressure loading.
- Safety discs - Four spare discs are supplied with the kit. Specify FT338-6, 440 bar, 6400 psi for replacements. Note these discs are colour coded Red for easy identification. Other safety discs with lower pressure ratings are available. Consult Sales Office for details.
- Carrying handle, which may also be used for hanging up the unit.



Specification

EU Specification

Model No.	Flow Range	Max. Working Pressure	Temperature Range
RFIK30-B-6	2 - 30 lpm	420 bar	20 - 110 °C
RFIK60-B-6	5 - 60 lpm	420 bar	20 - 110 °C
RFIK120-B-6	5 - 120 lpm	420 bar	20 - 110 °C
RFIK200-B-6	10 - 200 lpm	420 bar	20 - 110 °C

Connections

By flexible hose (1/2 - 1 metre recommended length)

RFIK***-B-6: Inlet Port: 1" BSPP
Outlet Port: 3/4" BSPP

Dimensions/Weight:

310 x 105 x 120 mm, 5 kg

Adapters

Adaptors are fitted as standard to provide inlet & outlet connections

RFIK30-B-6: 3/4" BSPP Male
RFIK60-B-6: 3/4" BSPP Male
RFIK120-B-6: 1" BSPP Male
RFIK200-B-6: 1" BSPP Male

US Specification

Model No.	Flow Range	Max. Working Pressure	Temperature Range
RFIK30-S-6	0.5 - 8 US gpm	6000 psi	65 - 230 °F
RFIK60-S-6	1 - 16 US gpm	6000 psi	65 - 230 °F
RFIK120-S-6	1.3 - 32 US gpm	6000 psi	65 - 230 °F
RFIK200-S-6	2.0 - 54 US gpm	6000 psi	65 - 230 °F

Connections

By flexible hose (2 - 3 ft recommended length)

RFIK***-S-6: Inlet Port: 1-5/16" -12UN #16 SAE ORB
Outlet Port: 1-1/16" -12UN #12 SAE ORB

Dimensions/Weight:

12.25 x 4.125 x 4.875 inches, 11 lbs

Adaptors

Adaptors are fitted as standard to provide inlet & outlet connections

RFIK30-S-6: 1-1/16" -12UN JIC Male
RFIK60-S-6: 1-1/16" -12UN JIC Male
RFIK120-S-6: 1-5/16" -12UN JIC Male
RFIK120-S-6: 1-5/16" -12UN JIC Male

Adapters are available to suit most applications. Consult sales office for details.

Connect the RFIK into the hydraulic system as required using two 1 - 2 metre (3 - 6 ft) long hoses. Ensure that the flow you wish to measure is passing through the RFIK in the direction of the double-arrows on the flow indicator dial. Flow is allowed in the direction of the single arrow, but this flow will not be measured.

Measurement and Indication

Flow

Measured by a tapered metering piston moving within a fixed, sharp edged orifice designed to minimise the effects of changes in temperature and viscosity. The piston movement is proportional to the change in flow rate. In reverse the piston moves back to allow the flow to return at low pressure.

Accuracy: ± 4% of full flow over range 20 - 40 cSt.

Pressure Drop

At full flow with oil viscosity 28 centistokes.

Model Pressure Drop at Max. Flow

RFIK30	60 psi
RFIK60	76 psi
RFIK120	94 psi
RFIK200	218 psi

Pressure

Glycerine filled 63 mm (2 1/2") pressure gauge 0 - 420 bar (0 - 6000 psi) gives a continuous reading of system pressure.

Accuracy: ± 1.6% of full scale

Temperature

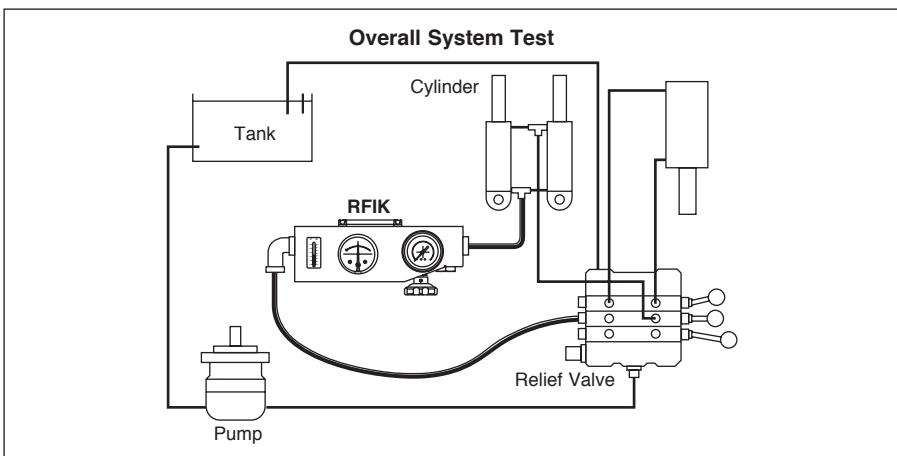
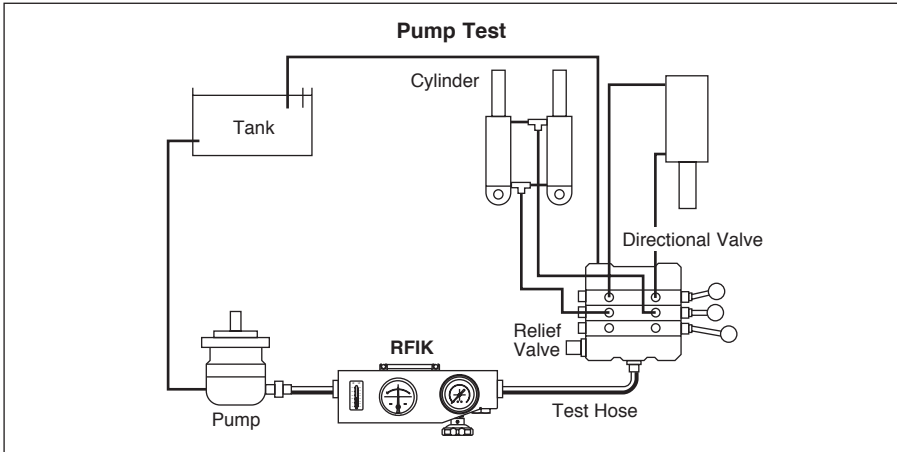
For continuous use at fluid temperatures up to 80°C (180°F), for intermittent use for less than 10 minutes, at up to 110°C (230°F). Indicated in °C and °F by a thermometer built into the flowblock to measure temperature changes in the fluid passage.

Accuracy: ± 2.5°C (± 5°F)

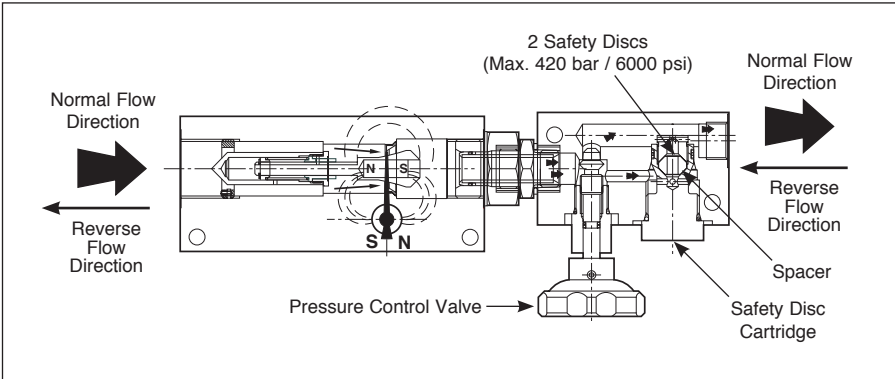
Instructions for using the Flow Test Kit

1. Open loading valve by rotating counter-clockwise.
2. Start pump momentarily to ensure that oil flows freely through the hydraulic system, then run pump at maximum speed. Do not change pump speed while turning the loading valve.
3. Slowly close the loading valve to develop the desired pressure. Run the machine until normal operating temperature is reached i.e. typically 45 - 60°C (115 - 140°F).
4. Open the loading valve to read the flow at minimum pressure.
5. Close loading valve slowly to increase pressure and note reduction of flow as the pressure is increased to maximum pump pressure to determine pump condition.

Typical Tests



Changing The Safety Burst Discs



1. Remove safety disc cartridge with a 1 3/8" AF spanner.
2. Remove the internal disc holder in the cartridge with an 1 1/16" AF spanner.
3. Remove the two spent discs and fit new ORIGINAL WEBSTER discs, one on each side of the spacer.
4. Tighten disc holder to 55 Nm (40 lb. ft.).
5. Check the seals.
6. Replace the entire cartridge assembly in the valve body.

