Steering and Brakes - Hydraulic Trailer Brake, Determine Pressure Ratio

Hydraulic trailer brake valve with mechanical shut-off



LX1045548-UN: Hydraulic trailer brake valve with mechanical shut-off

The location indicated by the arrow is where the diameter of the pilot valves is displayed. The diameter of the pilot valves allows the ratio between pilot pressure and brake pressure to be calculated (see table).

-: Diameter of pilot valve

Diameter of pilot valve	Ratio	Pilot pressure	Brake pressure at coupler
16 mm	1 : 10.24	9.8 bar (142.1 psi)	100 bar (1450 psi)
15 mm	1:9	11.1 bar (161 psi)	100 bar (1450 psi)
14 mm	1 : 7.84	12.75 bar (185 psi)	100 bar (1450 psi)

The following example explains what is meant by the ratio of pilot pressure to brake pressure:

Pilot pressure x pressure ratio = Brake pressure

This means that a pilot pressure of 980 kPa (9.8 bar; 142.1 psi) multiplied by 10.24 (figure stamped on the trailer brake valve) provides a brake pressure of 10000 kPa (100 bar; 1450 psi) at the coupler.

Hydraulic trailer brake valve without mechanical shut-off



LX1045362-UN: Hydraulic trailer brake valve without mechanical shut-off shown

At the location indicated by the arrow is a figure showing the ratio of pilot pressure to brake pressure at the coupler.

The following example explains what is meant by the ratio of pilot pressure to brake pressure:

Pilot pressure x pressure ratio = Brake pressure

This means that a pilot pressure of 1000 kPa (10 bar; 145 psi) multiplied by 11.6 (figure stamped on the trailer brake valve) provides a brake pressure of 11600 kPa (116 bar; 1682 psi) at the coupler.

Go to Section_260:Group_20F

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