

Flow Divider (high performance)

MT14



- Excellent traction at the lowest travel speeds
- Differential lock can be activated with low pressure (50 bar max.)
- Anti-shock and make-up valves can be incorporated to protect the system and prevent cavitation
- Bi-directional flow divider (dividing and adding/combining)
- Minimal pressure losses when lock is active
- High performance specified design Q_{max} / p_{max}

13 Description

13.1 General

The MT14 flow divider is a further development of our current solution in terms of energy optimization, extended control flow and pressure range. The flow divider divides a volume flow into 2 equal part-flows (1:1). When the flow direction of the valve is reversed, both volume flows are combined to form a combined (added) total volume flow.

The dividing and adding function is largely independent of the pressure of the two individual flows and the viscosity. Due to its design, it is able to cope with high pressures and volume flows. Due to the unique flow divider principle the valve can be used independently of the volume flow supplied.

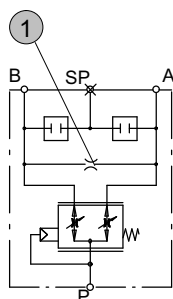
13.2 Application examples

- Agricultural equipment
- Forestry machines
- Construction equipment
- Municipal equipment

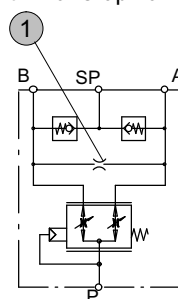
14 Symbols

14.1 Hydraulic actuation

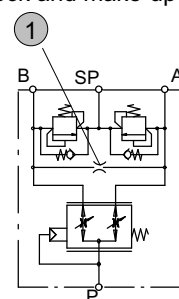
without anti-shock and make-up valve



with make-up valve



with anti-shock and make-up valve



1 Balancing orifice can be fitted

15 Technical data

Hydraulic characteristics	Unit	Description, Value
Mounting attitude		Unrestricted; preferably horizontal
$Q_{\max}^{1)}$	l/min	300
Nominal flow	l/min	150
Q_{\max} per output ¹⁾	l/min	3 ... 150
Nominal flow rate per connection	l/min	3 ... 75
Operating pressure p_{\max}	bar	450
Peak pressure (max. 100000 duty cycles)	bar	520
Viscosity range	mm ² /s	10 ... 300
Max. admissible level of contamination of the hydraulic fluid		ISO 4406 code 20/18/15, achievable with a filter rating of $\beta_{10} \geq 75$
Fluid temperature range	°C	-20 ... +80
Fluids		HL/HLP mineral oils DIN 51524; other fluids consult Bucher Hydraulics
Connection types P, A, B T		M33x2 M14x1,5
Surface protection		Primer (RAL 9004)

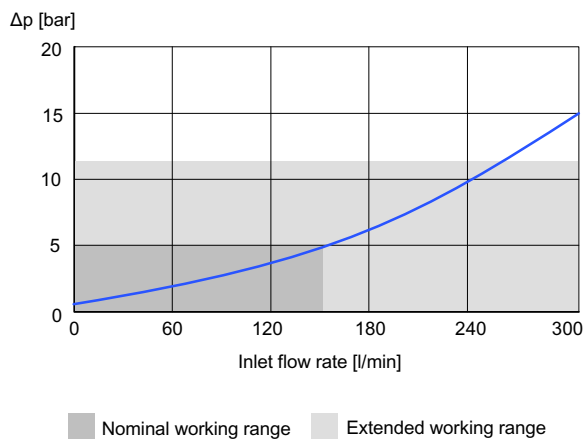
1) Extended working range see chapter 4.1.1 and 4.2.1.

16 Performance graphs

Measured with viscosity 35 mm²/s.

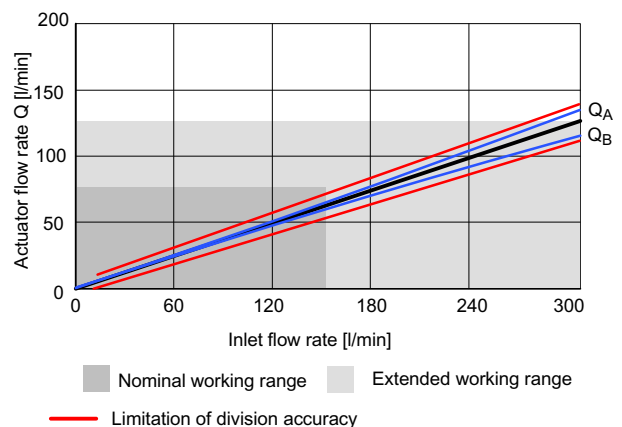
16.1 Pressure drop of 2-fach differential lock valve

16.1.1 Pressure losses when dividing and adding

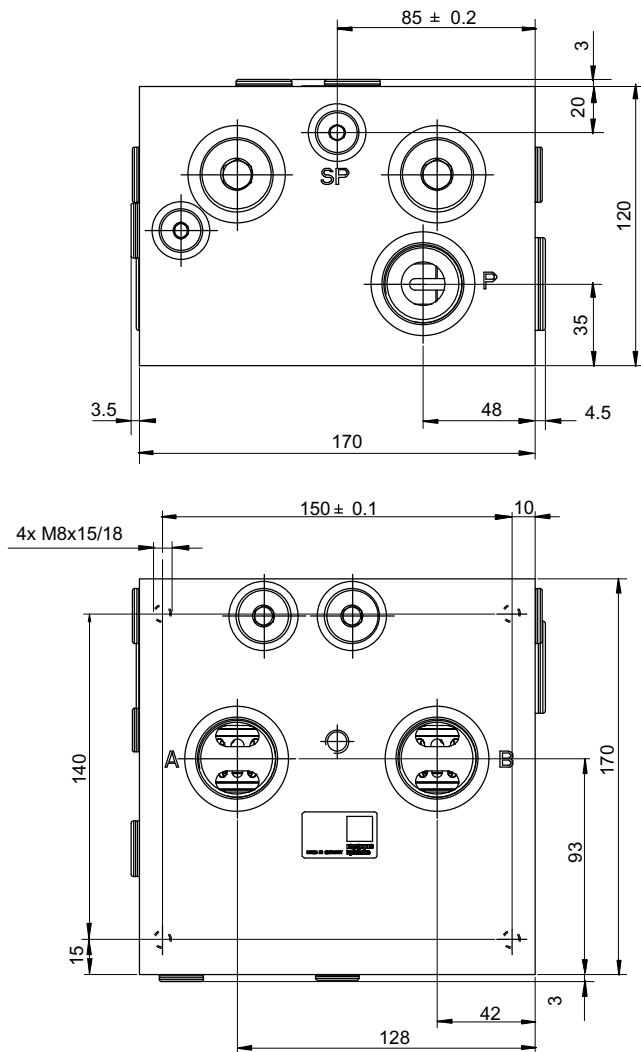


16.2 Division accuracy

16.2.1 Division accuracy to maximum flow rate



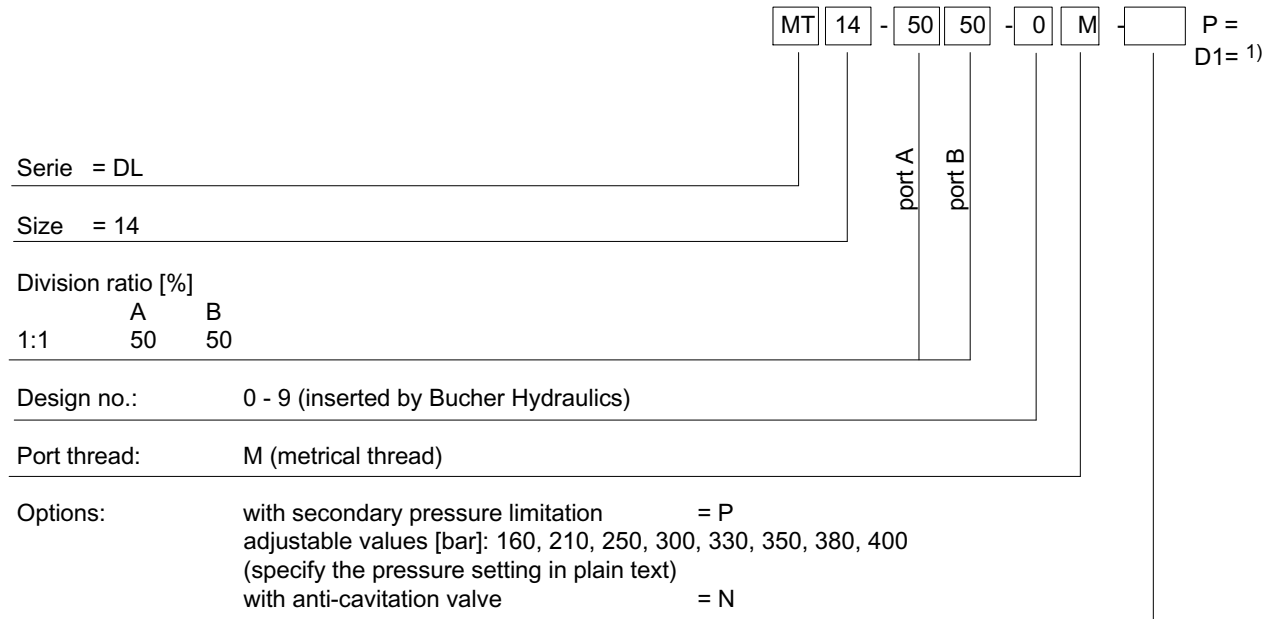
17 Dimensions



17.1 Connection sizes

Port	Port sizes
P, A, B	M33x2
T	M14 x 1,5

18 Ordering code



1) Size of balancing orifices must be plainly stated (see also sect. 2) $\varnothing 0.6 / 0.8 / 1,0$ e.g. if balancing orifice D1 is to be 0.8 mm, then D1 = 08

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