Flow Control Valves

Series MTKA, MTQA, MTCA

- **robust, uncomplicated, reliable**
- **these valves do not require maintenance. This lowers costs and reduces the risk of a system failure.**
- **can be provided with customised mechanical or electrical actuation**
- **attractive price/performance ratio**

1 Description

Series MTKA, MTQA and MTCA priority flow control valves provide a constant, pressure-compensated, flow of hydraulic fluid in one direction. They divide an inlet flow into a constant, priority, flow and a surplus flow. The priority flow setting can be fixed or adjustable and the valves are used to regulate the speed of hydraulic actuators (cylinders, motors, etc.).

1.1 MTKA flow control valve

The MTKA priority flow control valve divides the inlet flow into a priority flow (fixed, or manually adjustable) and a surplus flow. The surplus flow can be pressurised and can therefore be supplied to an additional actuator. The pressure in the inlet line corresponds to that of the actuator with the highest load.

When used as a 2-way flow control valve, the surplus flow outlet port (B) is plugged. For this application, please order the .../20 special feature.

1.1.1 MTQA flow control valve

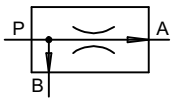
The MTQA priority flow control valve divides the inlet flow into a priority flow (fixed, or manually adjustable) and a surplus flow. The whole inlet flow is protected by an adjustable pressure relief valve. The surplus flow from port R should be returned directly to tank. The pressure in the inlet line corresponds to that of the actuator.

1.1.2 MTCA flow control valve

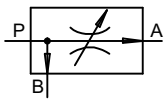
The MTCA priority flow control valve divides the inlet flow into a priority flow (fixed, or manually adjustable) and a surplus flow. Both flows can be pressurised independently of each other and both are protected by an adjustable pressure relief valve functioning in the inlet flow. The pressure in the inlet line corresponds to that of the actuator with the highest load. If the priority flow stops (e.g. when cylinder reaches its end stop), then the oil is throttled down from load pressure and is combined with the surplus flow. If the surplus flow also stops, then the total inlet flow is relieved at the relief valve setting and exits through port T to tank.

2 Symbols

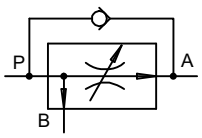
2.1 MTKA...



Priority flow is fixed

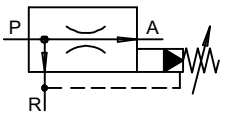


Priority flow is adjustable

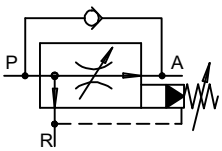


Bypass check valve from A → P

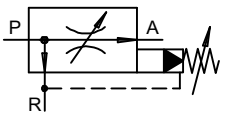
2.2 MTQA...



Priority flow is fixed

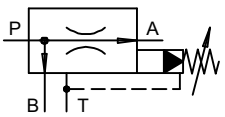


Bypass check valve from A → P

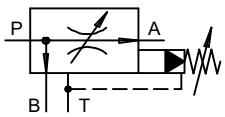


Priority flow is adjustable

2.3 MTCA...



Priority flow is fixed



Priority flow is adjustable

P = pump
A = priority flow
B = surplus flow
R = return line to tank
T = tank (no back pressure)

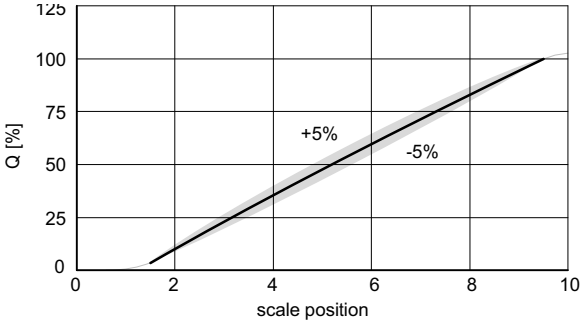
3 Technical data

Hydraulical characteristics	Description, value, unit	
	MTKA, MTQA	MTCA
Maximum operating pressure	315 bar	
Nominal flow rate Q (inlet flow)	max. 70 l/min	max. 80 l/min
Priority flow, fixed setting [1]	3, 6, 9, 12, 16, 25, 32, 40, 50 and 65 l/min	
Priority flow, adjustable [1]	VE=0-6 l/min, VG=0-8 l/min, VA=0-12 l/min, VK=0-20 l/min, VB=0-25 l/min, VH=0-35 l/min, VC=0-50 l/min, VD=0-65 l/min	
Control accuracy	± 5 %	
Pressure differential Δp	3,5 to 5 bar	4 to 10 bar
Fluid temperature range	-20 to +80 °C	
Viscosity range	10 to 300 mm^2/s	
Leakage, priority flow, at min. control setting [2]	max. 50 cm^3/min for MTKA.../20" max. 250 cm^3/min	

1) for other priority flows/flow ranges, contact Bucher
2) measured with surplus flow not under pressure

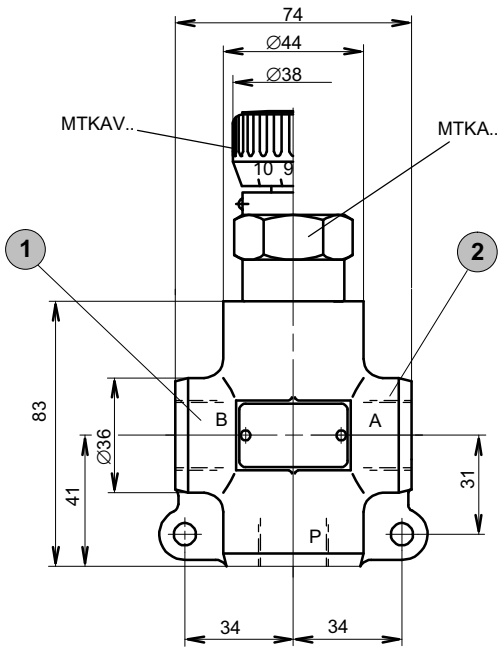
4 Performance graphs

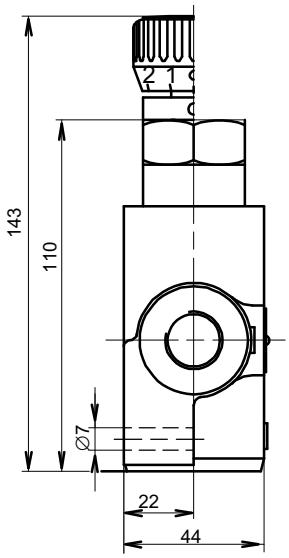
The values refer to a viscosity of 33 mm^2/s. Flow from P to A varies with the scale setting (adjustable models).



5 Dimensions

5.1 MTKA



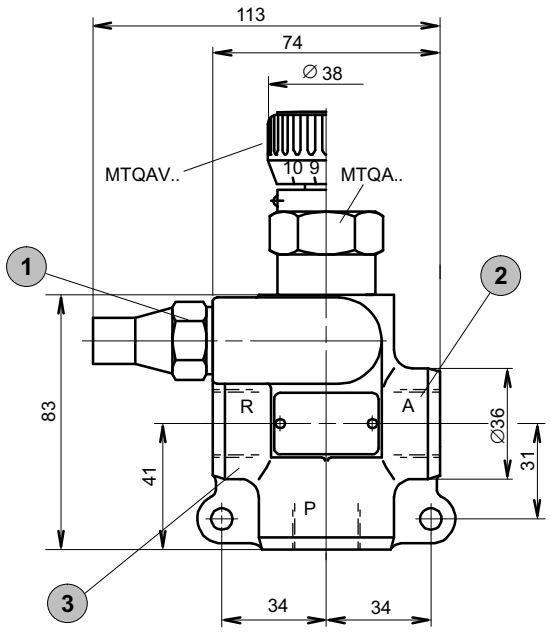


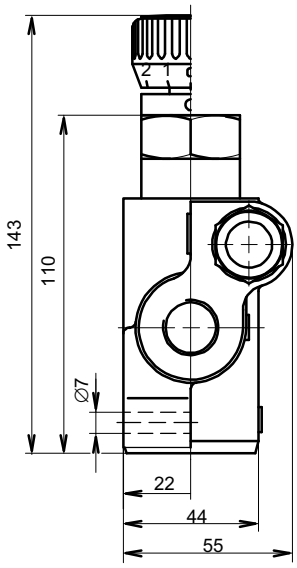
Size of ports P, A and B = M22x1,5 or G1/2”

Weight 1,2 kg

1	Surplus flow (closed at .../20)
2	Priority flow

5.2 MTQA



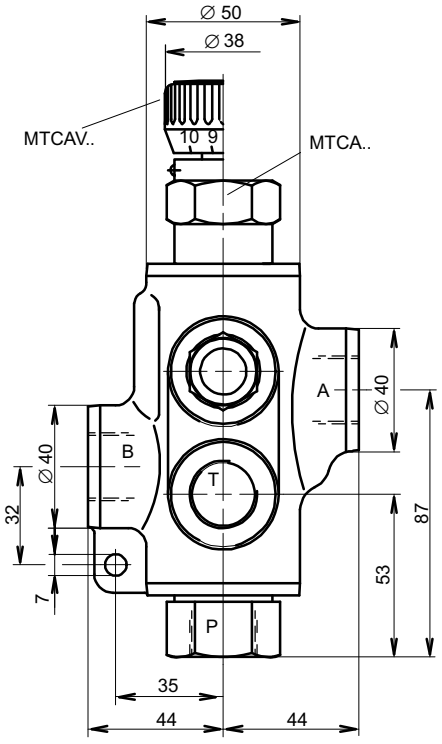


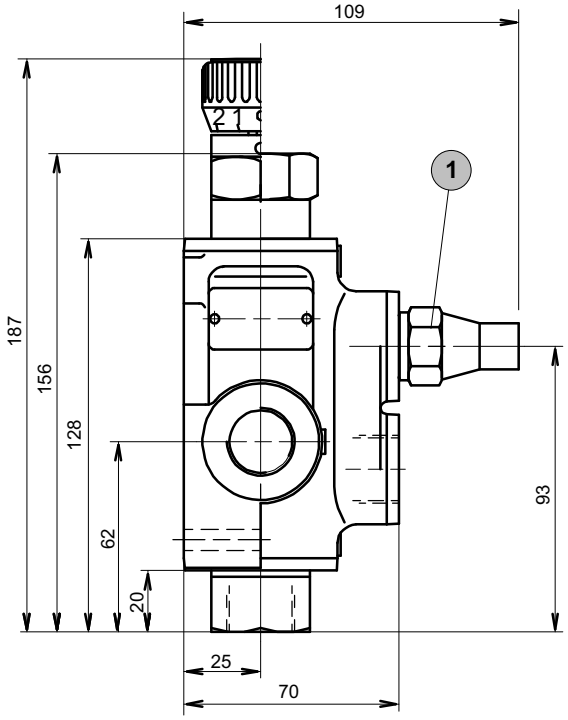
Size of ports P, A and B = M22x1,5 or G1/2”

Weight: 1,3 kg

1	Pressure setting stamped here
2	Priority flow
3	Return line to tank

5.3 MTCA



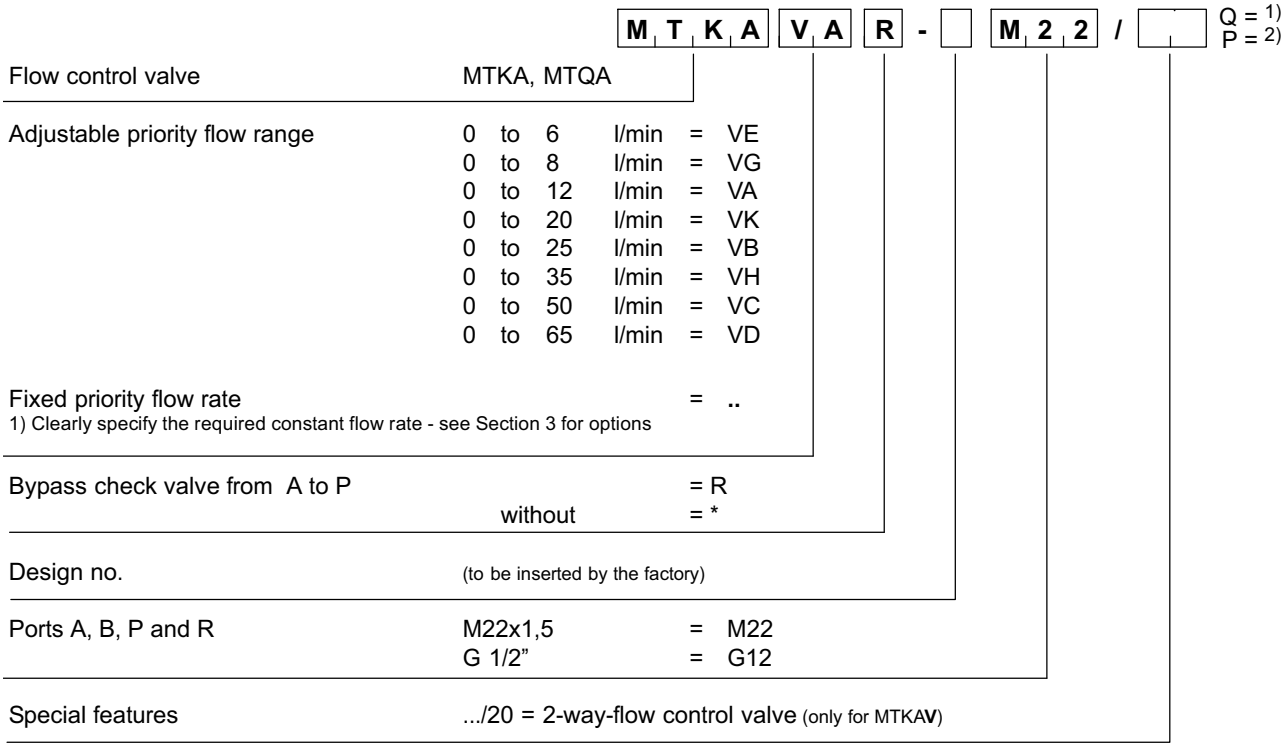


Size of ports P, A, B and T = M22x1,5 or G1/2”
Weight: 2,6 kg

1	Pressure setting stamped here

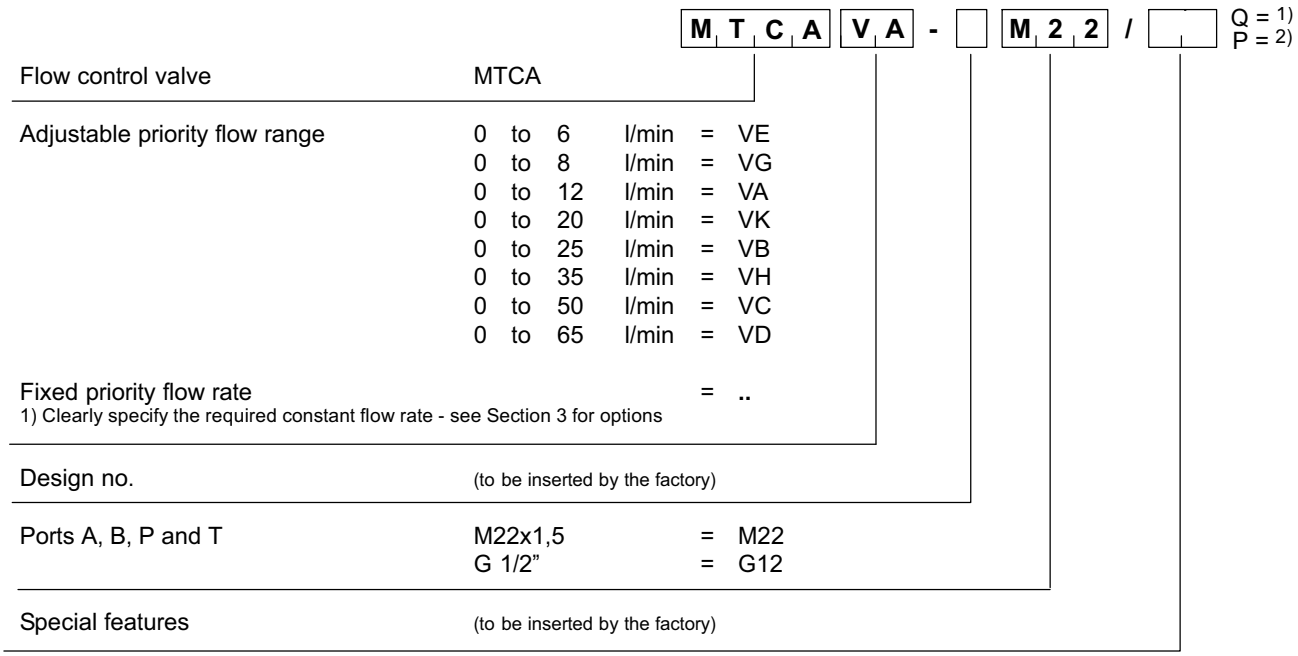
6 Ordering code

6.1 MTKA.., MTQA..



2) Clearly specify the required pressure setting in the order text, MTQA only

6.2 MTCA..



2) Please specify the required pressure setting in the order text

Use flow control valve SRR.. for application with proportional magnet (see data sheet 100-P-000090-..).

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Classification: 430.310.330