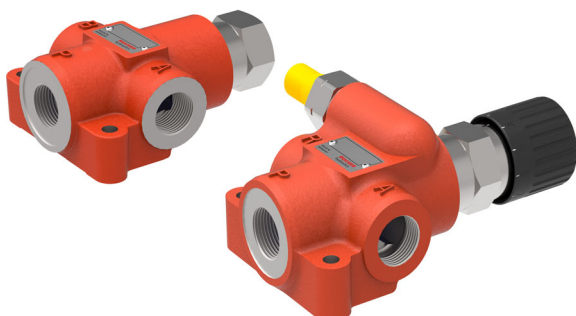


Flow Control Valves

Series MTKA, MTQA



- robust, uncomplicated, reliable
- these valves do not require maintenance. This lowers costs and reduces the risk of a system failure.
- can be provided with mechanical actuation
- flow rates are unaffected by temperature change or when the higher load pressure alternates between the outlet ports
- line mounting design

1 Description

1.1 MTKA flow control valve

The MTKA priority flow control valve divides the inlet flow P into a priority flow A (fixed, or manually adjustable) and a surplus flow B. 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.

1.2 MTQA flow control valve

The MTQA priority flow control valve divides the inlet flow P into a priority flow A (fixed, or manually adjustable) and a surplus flow R. 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.

The pressure relief valve is set by the factory according to the customer's specifications and provided with a safety cap.

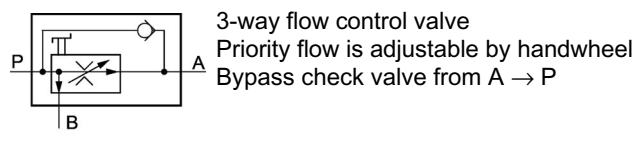
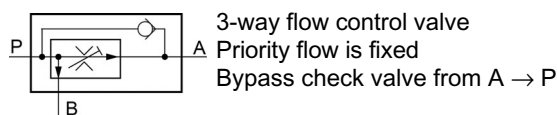
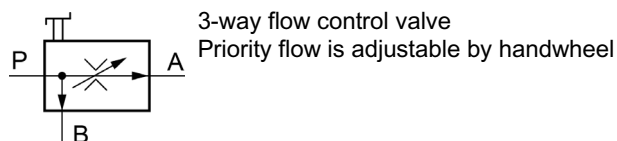
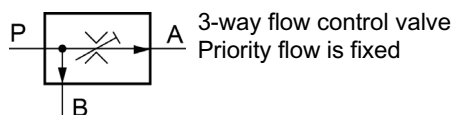
1.3 Application examples

The valves are used to regulate the speed of hydraulic actuators (cylinders, motors, etc.).

- Harvesters
- Municipal vehicles
- Forestry machines
- Construction equipment
- External propelled OFF-Highway machines

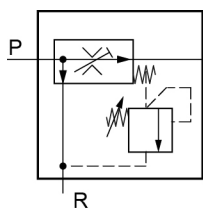
2 Symbols

2.1 MTKA...

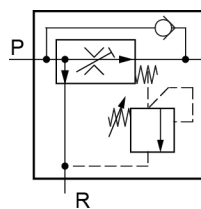


A	Priority flow	P	Pump
B	Surplus flow (can be pressurised)		

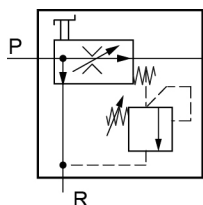
2.2 MTQA...



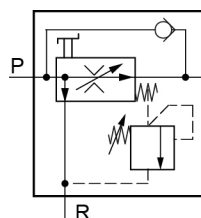
3-way flow control valve
Priority flow is fixed
Pressure relief valve for P



3-way flow control valve
Priority flow is fixed
Pressure relief valve for P
Bypass check valve from A → P



3-way flow control valve
Priority flow is adjustable by
handwheel
Pressure relief valve for P



3-way flow control valve
Priority flow is adjustable by
handwheel
Pressure relief valve for P
Bypass check valve from A → P

A	Priority flow	P	Pump
		R	Return line to tank

3 Technical data

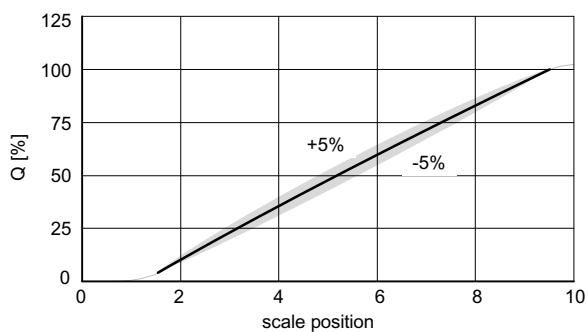
Hydraulic characteristics		Description, value, unit
Maximum operating pressure	bar	315
Nominal flow rate Q (inlet flow)	l/min	max. 70
Priority flow, fixed setting ¹⁾	l/min	Min. 3; max. 65 (in steps of 1 l / min)
Priority flow, adjustable ¹⁾	l/min	VE=0-6 VB=0-25 VG=0-8 VH=0-35 VA=0-12 VC=0-50 VK=0-20 VD=0-65
Control accuracy		± 5 %
Pressure differential Δp	bar	3,5 ... 5
Fluids		mineral oil to DIN 51524 (other fluids on request)
Fluid cleanliness		ISO 4406 class 20/18/15
Fluid temperature range	°C	-20 ... +80
Viscosity range	mm ² /s	10 ... 300
Leakage, priority flow, at min. control setting ²⁾	cm ³ /min	max. 50 (for MTKA.../20" max. 250)

1) For other priority flows/flow ranges, contact Bucher Hydraulics.

2) Measured with surplus flow not under pressure and 30mm³/s.

4 Performance graphs

The values refer to a viscosity of 33 mm²/s. Flow from P to A varies with the scale setting (adjustable models).

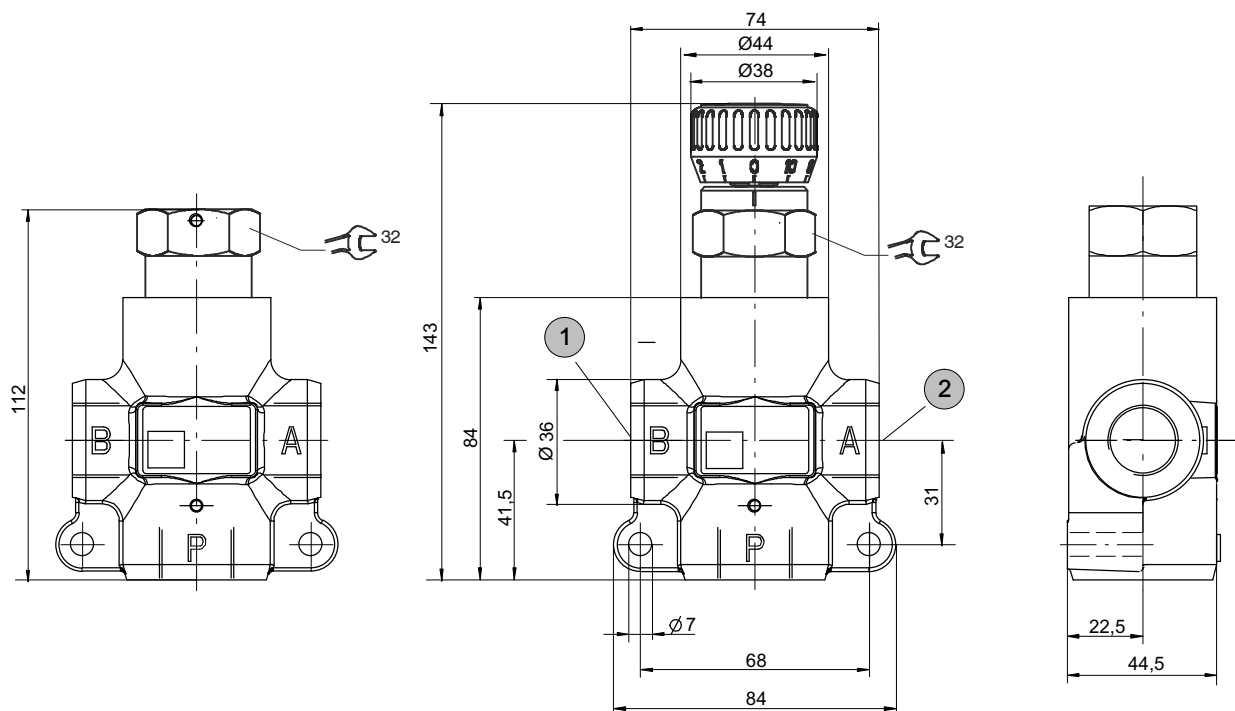


5 Dimensions (all dimensions in mm)

5.1 MTKA

fixed

adjustable



1 Surplus flow (option .../20 plugged)

2 Priority flow

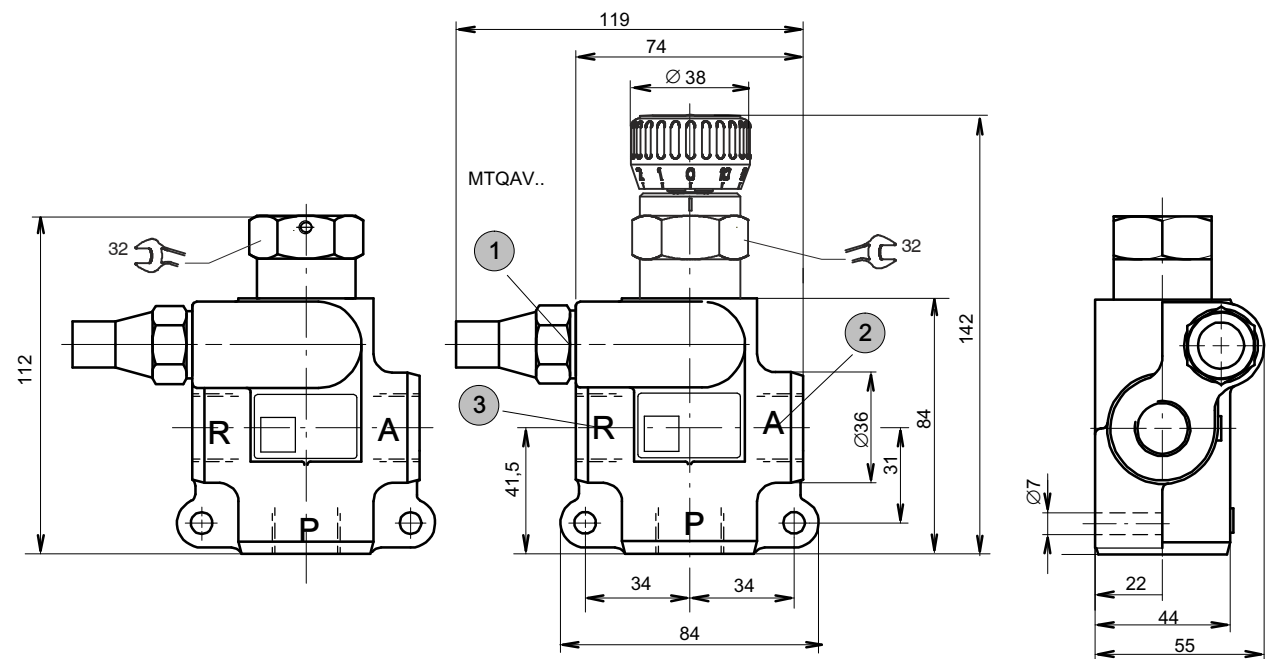
5.1.1 Connection size

Port	MTKA...-M..	MTKA...-G..
P	M22 x 1,5	G1/2"
A		
B		

5.2 MTQA

fixed

adjustable



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

5.2.1 Connection size

Port	MTQA...-M..	MTQA...-G..
P	M22 x 1,5	G1/2"
A		
B		

6 Ordering information

6.1 Model code and ID number for quick order MTKAV*

Model code	ID number
MTKAVE*-2G12	100028121
MTKAVG*-2G12	100034324
MTKAVA*-2G12	100020982
MTKAVK*-2G12	100027627
MTKAVB*-2G12	100021709
MTKAVH*-2G12	100030048
MTKAVC*-2G12	100021342
MTKAVD*-2G12	100021343

Model code	ID number
MTKAVE*-2M22	100029168
MTKAVG*-2M22	100032189
MTKAVA*-2M22	100020694
MTKAVK*-2M22	100031440
MTKAVB*-2M22	100020906
MTKAVH*-2M22	100026268
MTKAVC*-2M22	100020899
MTKAVD*-2M22	100021618

6.2 Model code key

6.2.1 MTKA

		M T K A		V A		R	-		M	2	2	/	
Flow control valve		MTKA,											
Adjustable priority flow range	0	to	6 l/min	=	VE								
	0	to	8 l/min	=	VG								
	0	to	12 l/min	=	VA								
	0	to	20 l/min	=	VK								
	0	to	25 l/min	=	VB								
	0	to	35 l/min	=	VH								
	0	to	50 l/min	=	VC								
	0	to	65 l/min	=	VD								
Fixed priority flow rate ¹⁾						= e.g. 09							
Min. 3; max. 65 (in steps of 1 l / min)													
Bypass check valve from A to P						= R							
without						= *							
Design no.		(to be inserted by the factory)											
Ports A, B and P		M22x1,5		= M22									
		G 1/2"		= G12									
Option		.../20 = 2-way-flow control valve											

¹⁾ Setting with HLP46 and 50°C (30 mm²/s)

6.2.2 MTQA

		M T Q A		V A		R	-		M	2	2	P=250
Stromregelventil		MTQA										
Einstellbereich verstellbar	0	to	6 l/min	=	VE							
	0	to	8 l/min	=	VG							
	0	to	12 l/min	=	VA							
	0	to	20 l/min	=	VK							
	0	to	25 l/min	=	VB							
	0	to	35 l/min	=	VH							
	0	to	50 l/min	=	VC							
	0	to	65 l/min	=	VD							
Fixed priority flow rate ¹⁾						= e.g. 09						
Min. 3; max. 65 (in steps of 1 l / min)												
Bypass check valve from A to P						= R						
without						= *						
Design no.		(to be inserted by the factory)										
Ports A, R and P		M22x1,5		= M22								
		G 1/2"		= G12								
Setting for Pressure relief valve in P ¹⁾												
minimum 40 bar, maximum 315 bar (in steps of 5 bar)						= z.B. 250						

¹⁾ Setting with HLP46 and 50°C (30 mm²/s)

7 Fluid

The oil for MTKA and MTQA.. products must have a minimum cleanliness level of 20/18/15 to ISO 4406.

We recommend the use of fluids that contain anti-wear additives for mixed-friction operating conditions. Fluids without appropriate additives can reduce the service life of pumps and motors.

The user is responsible for maintaining, and regularly checking the fluid quality.

8 Fluid cleanliness

Cleanliness class (RK) onto ISO 4406.

Code ISO 4406	Dirt particle number / 100 ml		
	$\geq 4 \mu\text{m}$	$\geq 6 \mu\text{m}$	$\geq 14 \mu\text{m}$
23/21/18	8000000	2000000	250000
22/20/18	4000000	1000000	250000
22/20/17	4000000	1000000	130000
22/20/16	4000000	1000000	64000
21/19/16	2000000	500000	64000
20/18/15	1000000	250000	32000
19/17/14	500000	130000	16000
18/16/13	250000	64000	8000
17/15/12	130000	32000	4000
16/14/12	64000	16000	4000
16/14/11	64000	16000	2000
15/13/10	32000	8000	1000