

## Throttles type Q, QR, QV, and FG

Throttles are a type of metering valve. The valve types Q, QR and QV are subdivided into five sizes and are used to limit the flow in accumulator and control circuits. They are designed as slot-type throttles (complete stroke) and are therefore impervious to micro-contaminants (no edge filter effect).

The precision throttle valves type FG are preferentially used for adjusting the switching time of directional valves, preventing pressure surges and damping oscillations. The throttle effect is achieved via the effective thread length.

The settings can only be adjusted using tools.

### Features and benefits:

- Different installation options
- Simple design

### Intended applications:

- General hydraulic systems



<b>Nomenclature:</b>	Throttle Restrictor check valves
<b>Design:</b>	Cartridge Individual valve for pipe mounting <ul style="list-style-type: none"> <li>■ Corner housing</li> <li>■ Banjo bolt</li> <li>■ Swivel fitting</li> </ul>
<b>Adjustment:</b>	Tool adjustable
<b>p<sub>max</sub>:</b>	300 .... 400 bar
<b>Q<sub>max</sub>:</b>	0 ... 80 lpm

### Design and order coding example

QR 20  
FG 1

- H 6

#### Version with housing

- Without labelling as a screw-in valve
- Available as a banjo bolt and/or with swivel fitting

#### Basic type, size, function

- Throttles type Q, type QR, type QV and precision throttles type FG, subdivided into 5 sizes
- Throttle direction and free flow direction function
- Slot-type throttles, available with or without built-in check valve

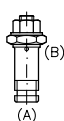
### Diagram of devices:

#### FG

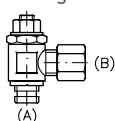
Throttle screw



Banjo bolt



Swivel fitting

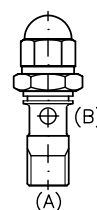


#### Q

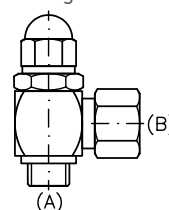
Throttle screw



Banjo bolt



Swivel fitting

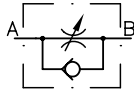


## Function

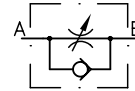
FG, Q



FG 1, QR

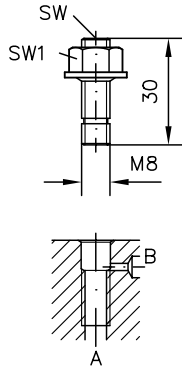


FG2, QV

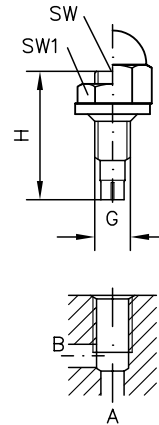


## General parameters and dimensions

FG..



Q..



	$Q_{max}$ [lpm] <sup>1)</sup>	$p_{max}$ [bar]	Dimensions				m [g]
			H [mm]	G	SW = a/f	SW =a/f 1	
FG, FG1, FG2	0,15	300	30	M 8	SW 4	SW 13	15
Q20, QR20, QV20	12	400	32	M 8 x 1	SW 4	SW 13	15
Q30, QR30, QV30	25	400	36	M 10 x 1	SW 5	SW 17	25
Q40, QR40, QV40	50	400	41	M 12 x 1.5	SW 6	SW 19	40
Q50, QR50, QV50	90	400	46	M 14 x 1.5	SW 8	SW 22	55
Q 60, QR60, QV60	120	315	58	M 16 x 1.5	SW 10	SW 24	100

1) These figures apply for valves fully opened (observe red indicator) with a back pressure of approx. 50 bar (throttled direction of flow)

### Associated technical data sheets:

- Throttles type Q, QR, QV: [D 7730](#)
- Precision throttles type FG: [D 7275](#)

### Similar products:

- Throttles type CQ, CQR, CQV: [D 7713](#)
- Throttle and restrictor check valves type ED, RD and RDF: [D 7540](#), [D 2570](#)

- Restrictor check valves and orifice inserts type EB, BE, BC: [D 6465](#), [D 7555 B](#), [D 6969 B](#)