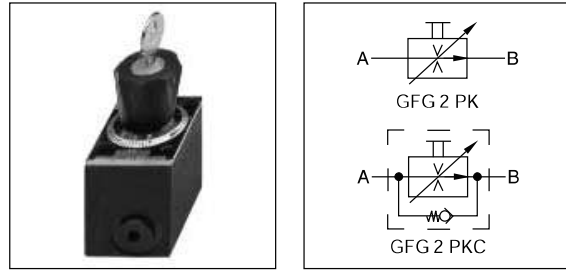


Characteristics

2 way flow control valves are used to provide pressure compensated flow. The valve design compensates temperature variations to a certain extent.

Optionally the flow from A to B can be blocked by external pilot pressure applied to port P (option X). This can be used to avoid unintended initial movements of actuators. The GFG is optionally equipped with a built-in check valve for the return flow.


Design

The 2 way flow control valves are fitted with a triangular flow restrictor and a subsequent pressure compensator. The setting of the flow rate can be locked by a key lock in the adjusting knob against unauthorised adjustment (option C).

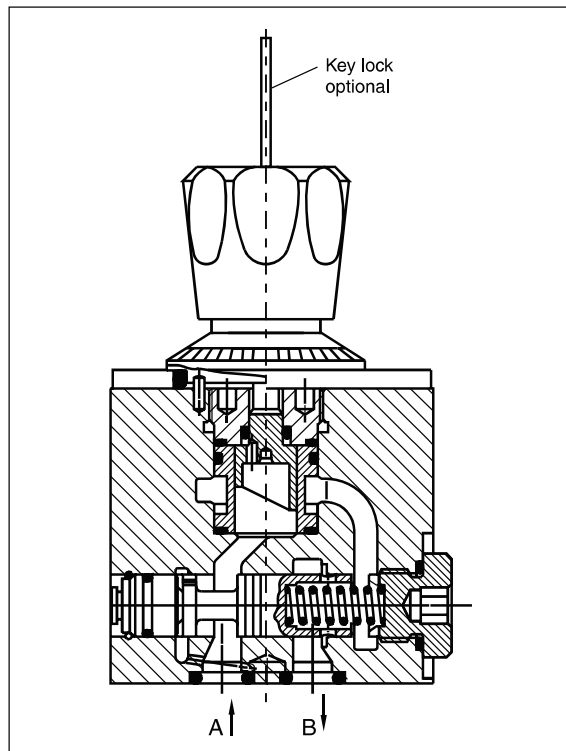
Function

The fluid enters through port A through the flow restrictor. Downstream of the flow restrictor the pressure compensator is located. The control edges are provided by four radial bores in the poppet, which are fully open to port B in the neutral position.

This can cause a short non-compensated flow when the valve is initialized.

Optionally the compensator spool can be held in closed position by external pilot pressure in port P (option X).

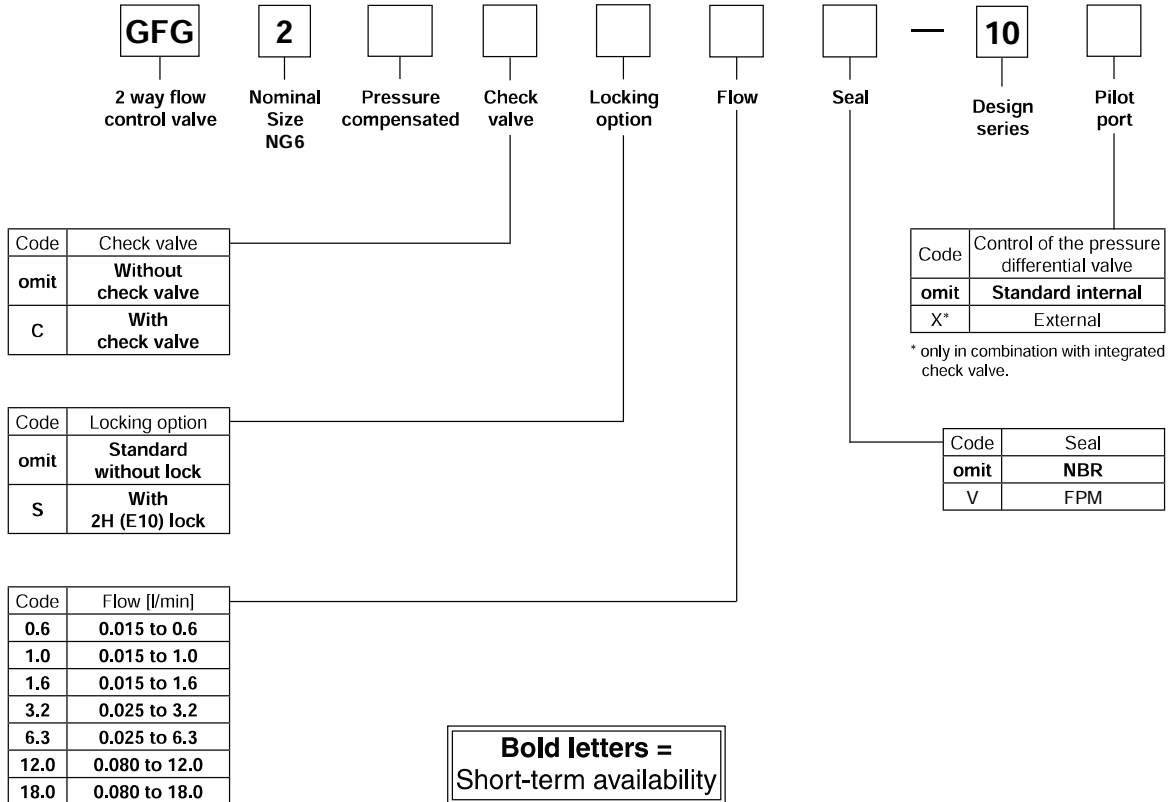
The flow adjustment is done via the flow resistor which is adjusted by the hand knob. The adjusting angle of the hand knob is 270°.


Features

- Flow rate independent of pressure and temperature
- Available for 7 different flow rates
- Good fine adjustment
- Optional reverse flow check valve
- Turn knob with key lock (option C)

Note

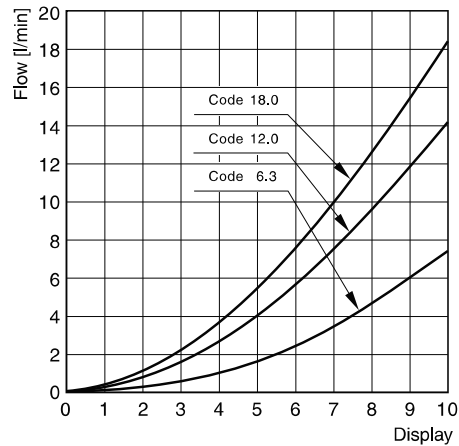
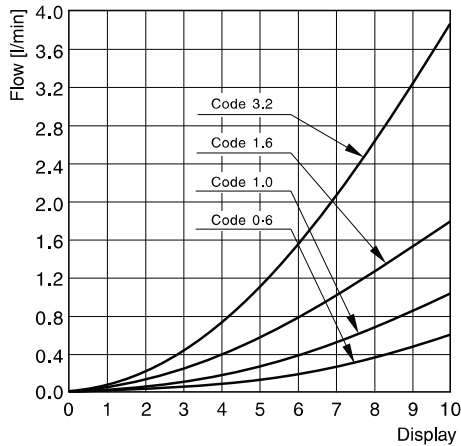
Rectifier plate and subplates see 'Accessories' at the end of this chapter.

Ordering Code / Technical Data
Ordering code

Technical data

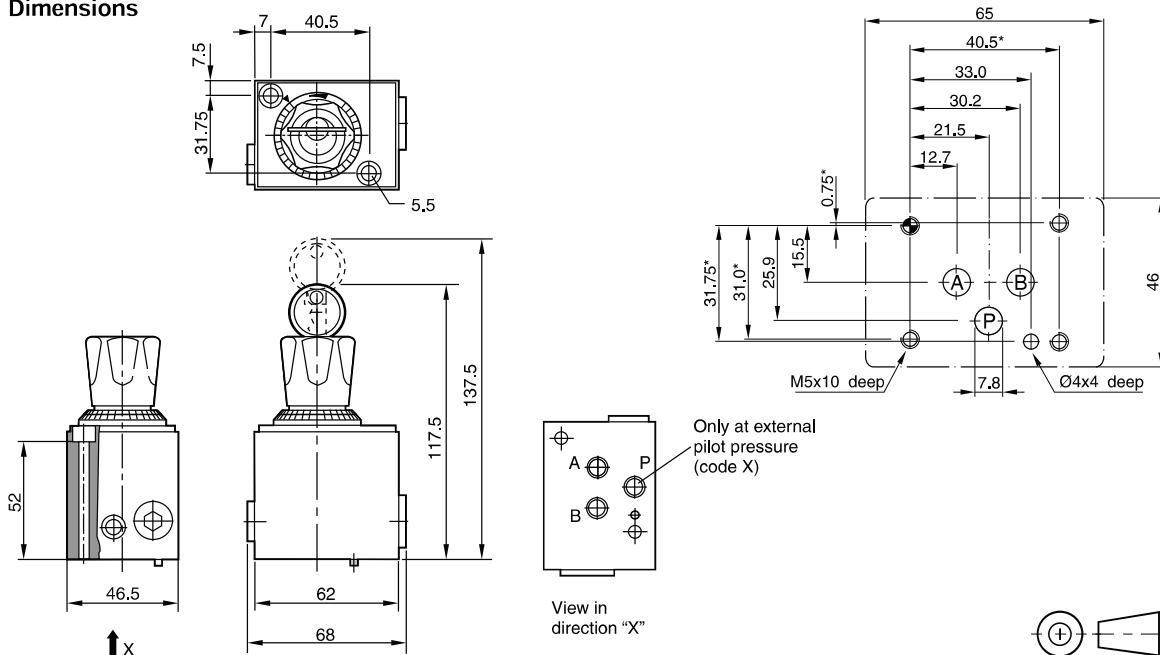
General	
Design	Orifice, infinitely variable, pressure-compensated
Actuator	Manual flow rate adjustment
Mounting type	ISO 6263 code: ISO 6263-AB-03-4-B
Mounting position	unrestricted
MTTF _D value	[years] 150
Weight	[kg] 1,1 (without subplate)
Fluid	Hydraulic oil according to DIN 51524/525
Fluid temperature	[°C] Max. 70
Ambient temperature	[°C] -25...+50
Viscosity range	[cSt] / [mm ² /s] 2,8...400
Filtering	[µm] ISO 4406 (1999); 18/16/13 (meet NAS 1638: 7)
Min. pressure difference	[bar] 5 (GFG*1,6/3,2), 8,5 (GFG*6,3/12/18)
Operating pressure	[bar] A; B = 315 , P = 5 (GFG*, GFG*C), A, B, P = 160 (GFG*X)
Effect of pressure on Q _{max} at p = 160 bar	[%] ± 2 (GFG*1,6/3,2/6,3/12), ± 2,5 (GFG*18)
Flow direction	
A → B	Flow control function
B → A	Throttle function or free flow through check valve

GFG2 UK.INDD CM 07.09.2011



Performance Curves / Dimensions
Performance curves


All characteristic curves measured with HLP46 at 50°C.

 Changes in pressure cause a change of pre-set flow rate.
 Flow rate deviations a $Q_{max} \pm 2\%$
Dimensions

Bolt kits (Cylinder head DIN 912-12.9 not included)

Nominal size Valve	Valve model	Quantity	Tightening torque [Nm]	Valve without rectifier plate Dimensions	Order No.	Valve with rectifier plate Dimensions	Order No.
NG6	GFG2	2	8,1Nm	2xM5x60	BK380	2xM5x100	BK466

O-rings for sealing the connecting surface

Nominal size Valve	Valve model	Ports	Dimensions Ø-inner x cord thickness	Quantity	Seal kits	
					NBR	FPM
NG6	GFG2	A and B	9x1.5	3	SK-GFG2	SK-GFG2 FPM

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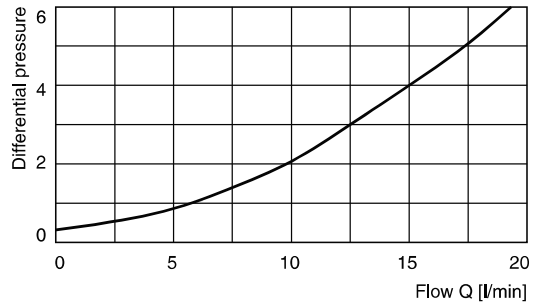
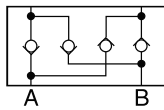


Accessories
Sandwich rectifier plate

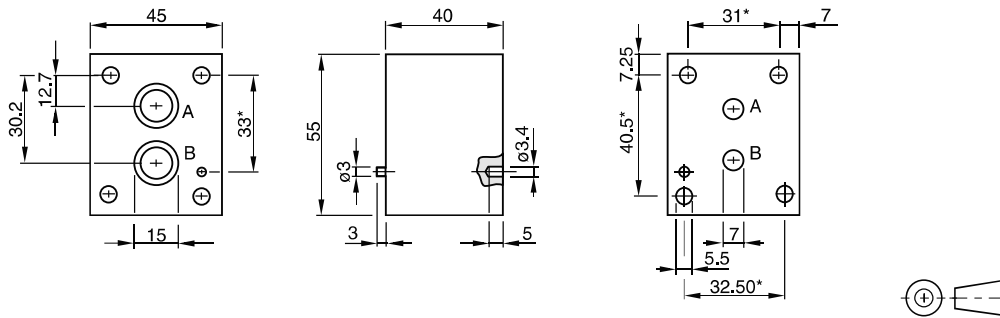
If a 2 way flow control valve is used in combination with a rectifier plate the valve can be used for meter-in and meter-out flow control of an actuator.

Design

The intermediate rectifier plate is designed with 4 identical, symmetrically arranged check valves. Thus the differential pressure is the same in both flow directions.



Measured with HLP46 at 50°C.

Dimensions


Dimension tolerances
 * : $\pm 0.1\text{mm}$
 others : $\pm 0.2\text{mm}$
 holes and silhouette of valve body : untoleranced dimension

Ordering code: HR OA 06 C

O-ring for sealing the connecting surface
 (not included)

Subplates ¹⁾

Connections	Dimensions	required units
A, B	12 x 1.5	2

Ordering code	
SPD 22 B 910	P, A, B and T = G1/4
SPD 23 B 910	P, A, B and T = G1/8

¹⁾ Details see chapter 12, series SPD