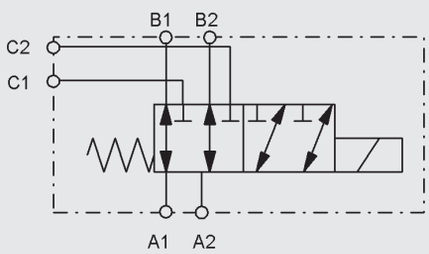
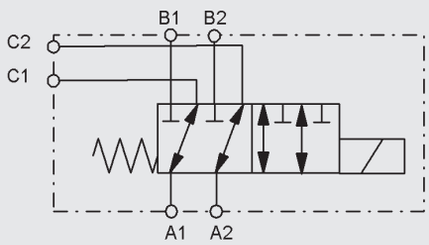
HYDAC INTERNATIONAL

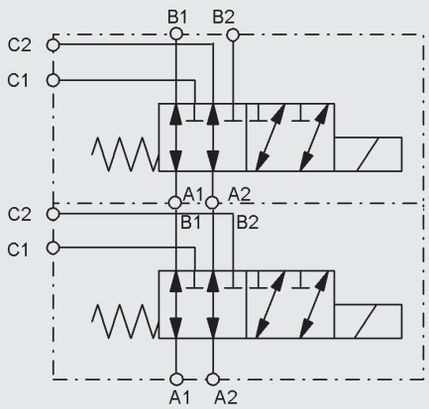
Mobile Technology
6/2 Directional Valve
MWV 6/2-12

Switching symbols
Individual valves:

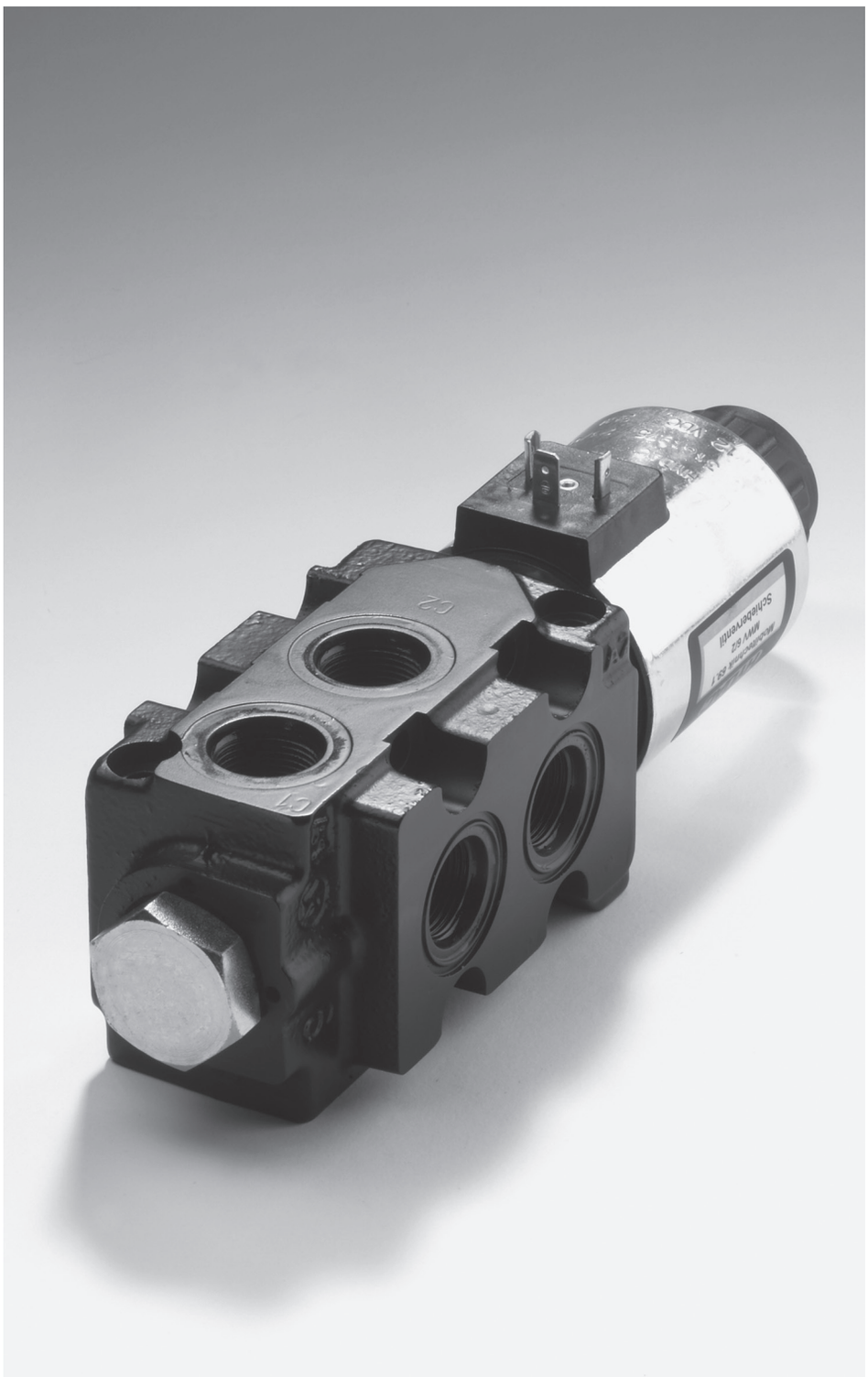




Stacking possible:



Up to 250 bar
Up to 120 l/min



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1. DESCRIPTION

1.1. APPLICATIONS

The valve acts as a diverter between a supply and two hydraulic consumers.
For example, it enables two hydraulic cylinders to be controlled using one control unit.

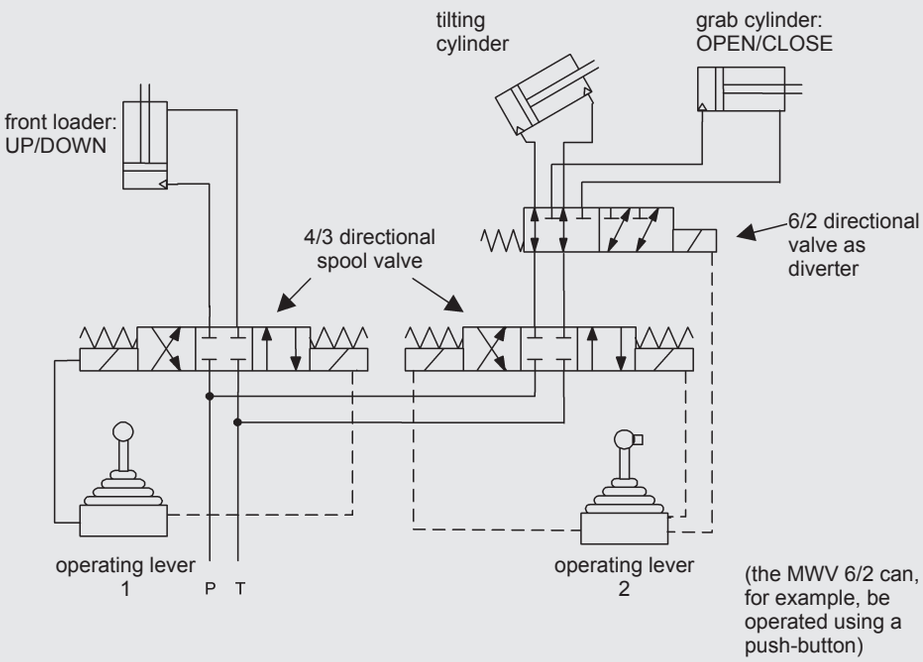
Typical applications are front loaders, telehandlers and attachments.

1.2. GENERAL

- The solenoid control can be on either side, fitted on the right or left of the valve housing. The switch position in the de-energised mode can therefore be decided according to customer requirement.
- The standard solenoid coil with AMP connector is protected against high switch-off surges by a bidirectional free-wheeling diode.
- The flange-housing of the valve means that up to three MWV 6/2 valves can be connected together.
- The valve can be operated under load.
- Valve can be retrofitted.
- Manual override is possible using an appropriate pin.

1.3. FUNCTION

Example circuit of front loader:



In the circuit diagram, both up and down movement in the front loader and the tilting movement of the grab are each controlled by a 4/3 directional spool valve. The additional open and close movement of the grab is made possible by the intermediate switching of the MWV 6/2. When energised, the 6/2 spool valve functions as a diverter and diverts the oil flow from the tilting cylinder to the grab cylinder.

2. TECHNICAL SPECIFICATIONS

2.1. GENERAL DATA

Weight:
approx. 5 Kg

Housing material:
EN-GJL-300 (GG 30)
(grey cast iron) primed

Type of construction/operation:
electrically operated

2.1.1 Hydraulic data

Max. pressure
p_{max} = 250 bar

Max. flow rate:
Q_{max} = 120 l/min

Max. pressure drop:
see graphs 1 and 2

Operating limits:
See graph 3

Ports:
Cartridge thread
DIN ISO 6149 M22 x 1.5

Cartridge thread
DIN 3852-X-G1/2

Cartridge thread
SAE J 514-3/4-16UNF

No drain port

Type of mounting:
Flange version

Seal material:
NBR

Operating fluid:
Mineral oil to DIN 51524
Part 1 and Part 2

Viscosity range:
2.8 ... 380 mm²/s

Ambient temperature range:
- 20 ... 60 °C

Oil temperature range:
- 20 ... 80 °C

Oil cleanliness:
Permissible cleanliness class of the operating fluid to ISO 4406
Class 20/18/15 or cleaner

2.1.2 Electrical specifications

Type of solenoid:
AMP Junior Power Timer
(2 pole, radial) with bidirectional free-wheeling diode

or connector to DIN 43650
without bidirectional free-wheeling diode

Coil power:
35W

Nominal voltage:
12V or 24 V DC with
voltage tolerance ±10 %

Coil duty rating:
100%

Protection class:
IP 65 to DIN 40050 when connector is fitted correctly

2.1.3 **Model code**
(also order example)

MWV 6/2 - 12 - M22 - NBR - 12 - Z4 - 01 - X - BG2 - X

Mobile directional valve

Ports / switching positions

Nominal size

Ports
M22 x 1.5
G1/2
¾ -16 UNF

Material of seals
NBR

Coil voltage
12 = 12V DC
24 = 24V DC

Coil connector
Z4 = connector to DIN 43650
AMP = AMP Junior Timer, 2-pole, radial

Type
01 = flow from A to C when de-energised
02 = flow from A to B when de-energised

Series of the valve (determined by manufacturer)

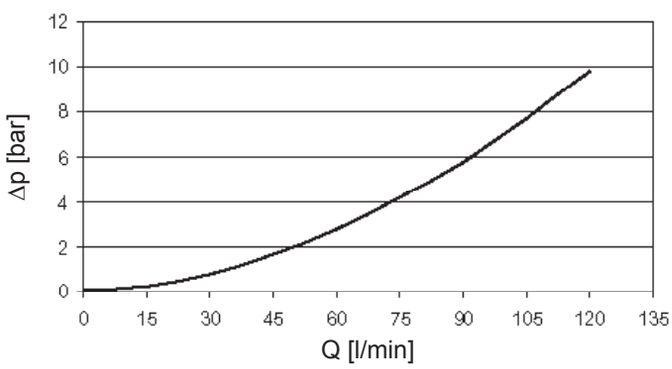
Stacking modules
Without details = individual valve
BG2 = stacking module comprising 2 valves
BG3 = stacking module comprising 3 valves

Series of the assembly (determined by manufacturer)
Without details = individual valve

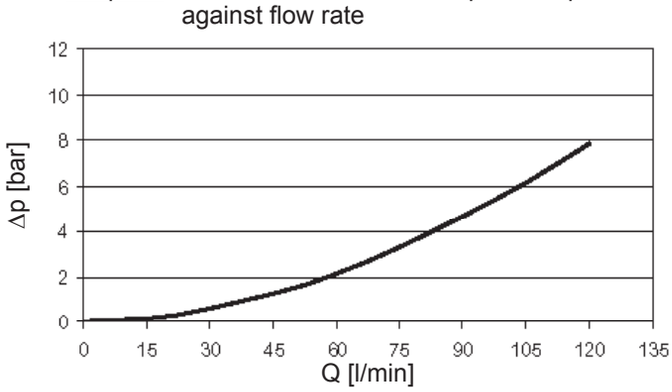
G 1/2, 3/4-16 UNF and other versions on request

2.2. GRAPHS

2.2.1 **Pressure differential against flow rate**

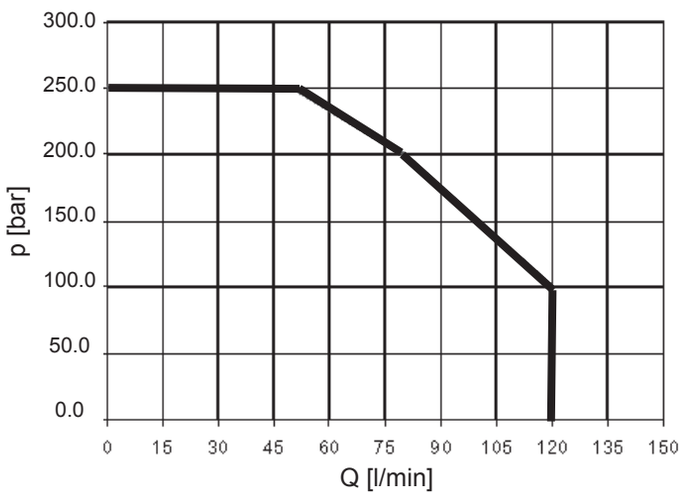


Graph 1: Pressure differential from port A to port B against flow rate



Graph 2: Pressure differential from port A to port C against flow rate

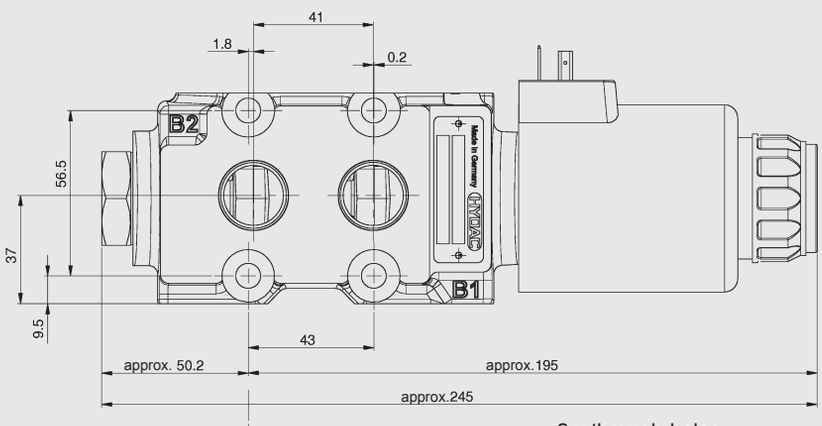
2.2.2 **Operating limits**

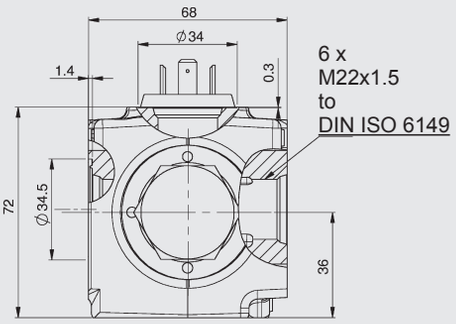


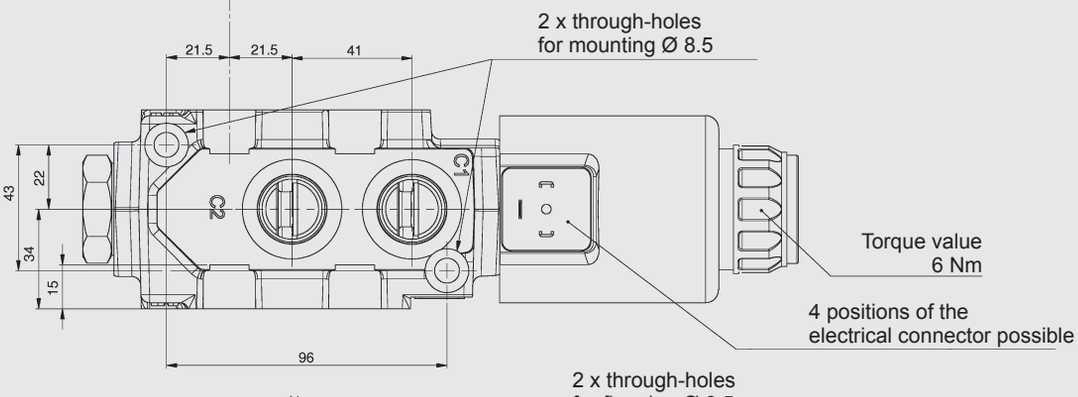
Graph 3: Operating limit of the valve
(35 Watt solenoid with 100% coil duty)

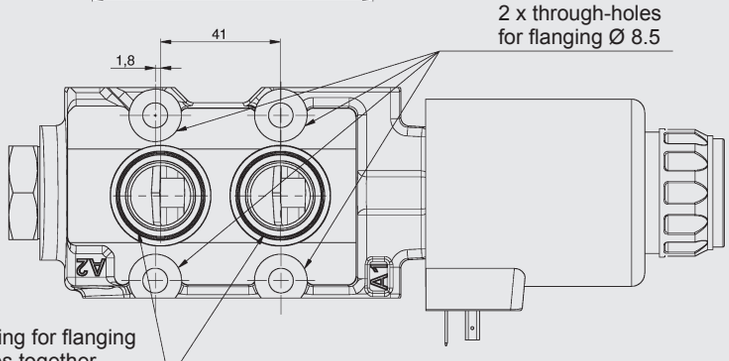
All tests were measured using oil ISO VG46 at 46°C.

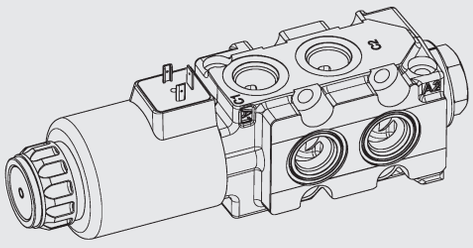
3. DIMENSIONS

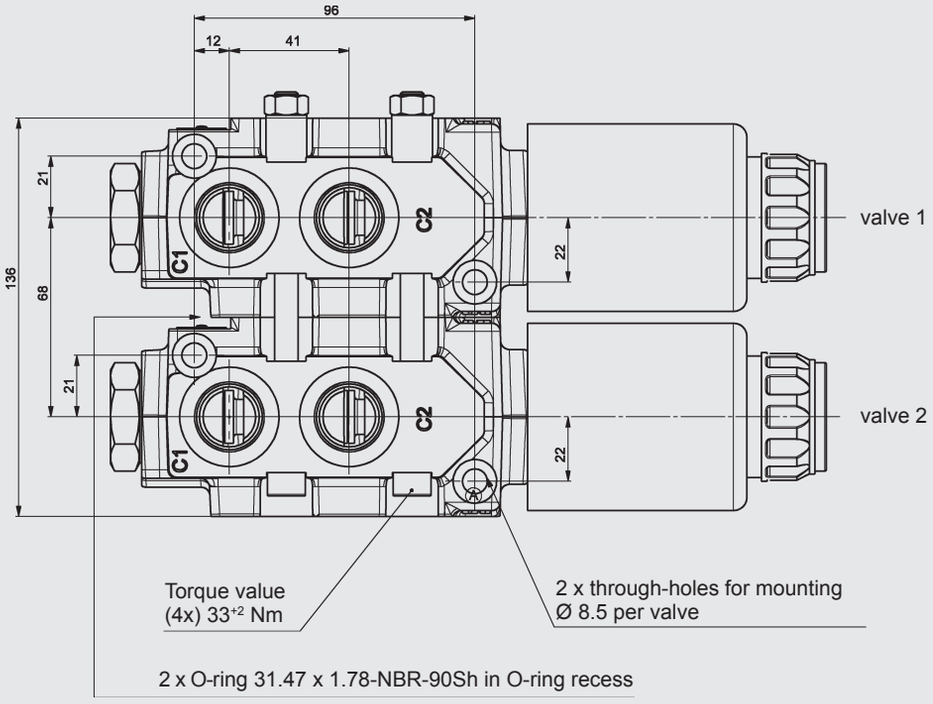












4. ACCESSORIES

Mounting kits for assemblies for:

4.1 MOUNTING 2 x MWV 6/2 VALVES
IN A 2-VALVE STACKING MODULE:

MT mounting kit MWV6/2-BG2
Part no. 3272809
consisting of:

Int. hex. screw ISO 4762-M8x130-10.9-A3B Torque value 33^{+2} Nm	4 pcs.
MT threaded sleeve 14/9-16	4 pcs.
Hex. nut ISO 4032-M8-8-A3B	4 pcs.
O-ring 31.47 x 1.78-NBR-90Sh	2 pcs.

4.2 MOUNTING 3 x MWV 6/2 VALVES
IN A 3-VALVE STACKING MODULE:

MT mounting kit MWV6/2-BG3
Part no. 3272251
consisting of:

Int. hex. screw ISO 4762-M8x200-10.9-A3B Torque value 33^{+2} Nm	4 pcs.
MT threaded sleeve 14/9-16	4 pcs.
Hex. nut ISO 4032-M8-8-A3B	4 pcs.
O-ring 31.47 x 1.78-NBR-90Sh	4 pcs.

4.3 ADDITIONAL WORK REQUIRED
FOR SELF-ASSEMBLY

In order to guarantee the seal between the flange-surfaces, the primer on the relevant flange surfaces must be removed professionally before assembling the module. If solvents are used, ensure that these do not corrode the metal surfaces.

5. NOTE

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.