

Directional seated valve bank type BWH and BWN

The valve bank types BWN and BWH consist of a connection block (with ports P and R), the directional seated valves types BWN and BWH installed on sub-plates and connected in parallel plus the end plate. The whole valve bank is held together with one tension rod.

Depending on the type of sub-plate differing flow pattern of the valves mounted on them are possible as well as optional functions e.g. pressure switches or pressure limiting valve for the consumer port may be incorporated in these sub-plates.

These valve banks may be either directly connected to a pipe system via the connection block (with or without pressure limiting valve) or installed

directly onto hydraulic power packs (type HK, HC, MP, MPN, KA and FP) or other valve banks utilizing an adapter plate.

Various end plates featuring e.g. pressure switch for gallery P or accumulator drain valve widen the field of application for this valve banks.

All this, together with our hydraulic power packs enables hydraulic control systems with low spatial requirements.



Nomenclature: Directional seated valve, zero leakage

Design: Valve bank
 • For pipe connection
 • For combination with hydraulic power packs

Actuation: Solenoid

p_{max} : 350 ... 450 bar

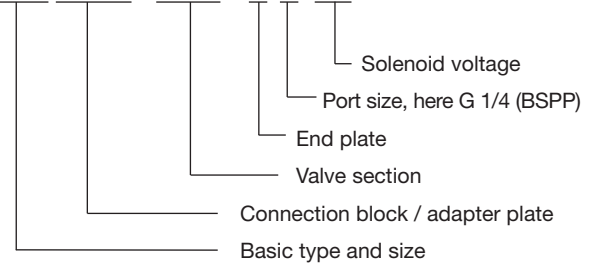
Q_{max} : 5 ... 60 lpm

Basic types and general parameters

Basic type and size	Flow Q_{max} (lpm)	Pressure p_{max} (bar)	Tapped ports (BSPP) P, R, A, B
BWN 1	5	350	G 1/4
BWH 1	8	450	G 1/4
BWH 2	15	350	G 1/4
BWH 3	30	350	G 3/8
BWH 4	60	350	G 1/2

Order coding example

BWH 2 A-1/300 - FH5 N5 - 1 - 1 - G24



Connection blocks / adapter plates

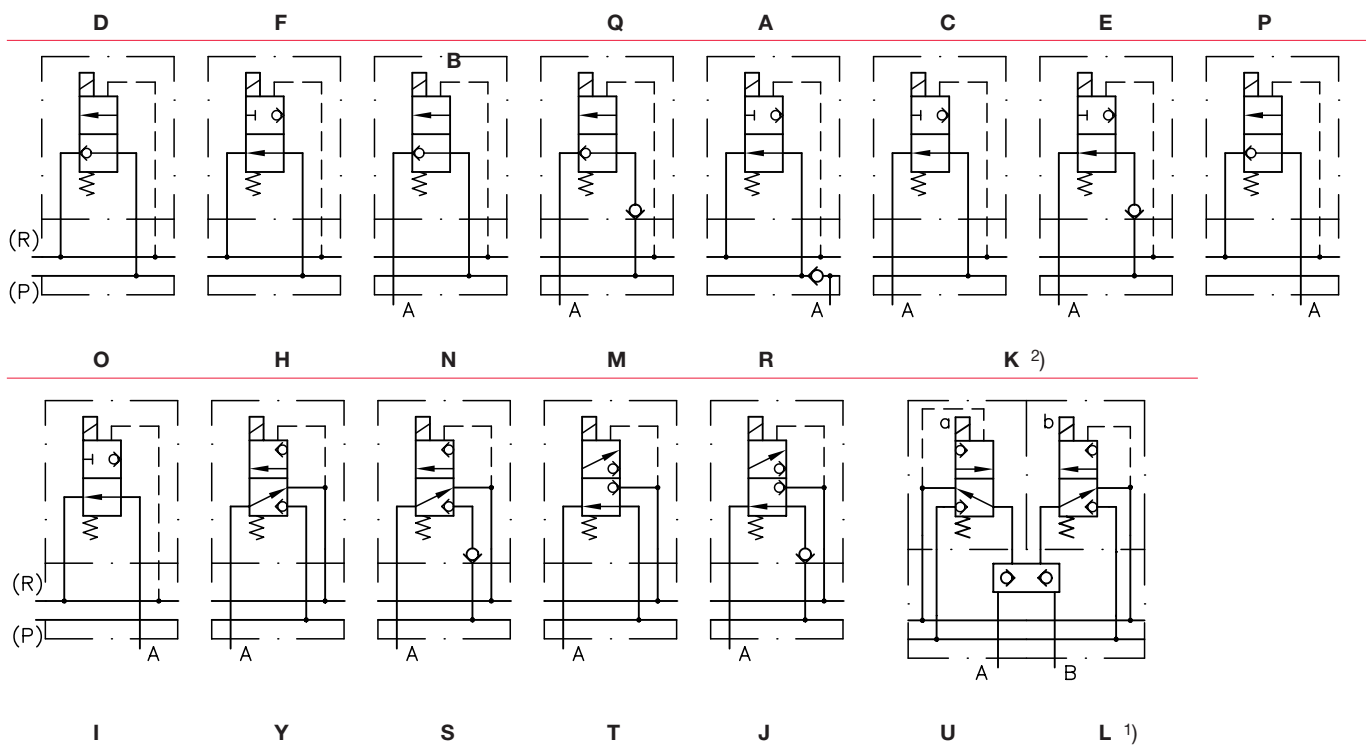
Basic type	Brief description	Symbol
A-1/...	For pipe connection, with tool adjustable pressure limiting valve (/...- pressure specification in bar)	
C	For mounting onto hydraulic power packs type R	
F	For mounting onto hydraulic power packs with connection block (type HK, HC, MP, MPN, KA, FP)	

Additional versions

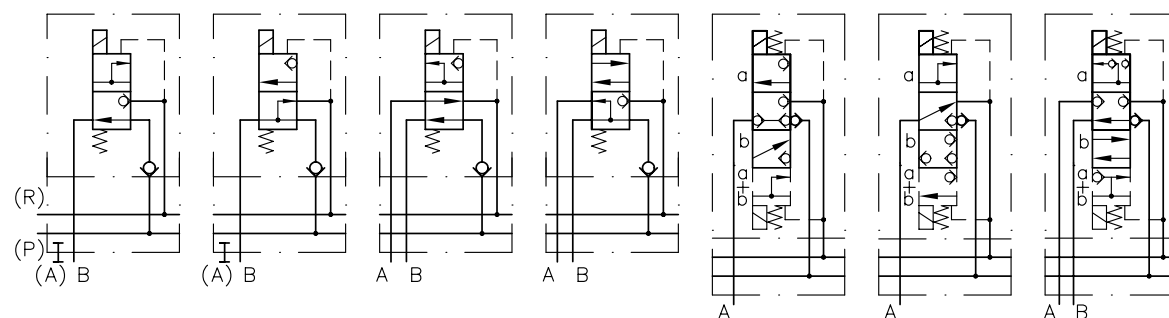
- Connection block for pipe connection without pressure limiting valve
- Connection block for pipe connection with manually adjustable pressure limiting valve
- Connection block for pipe connection with prop. pressure limiting valve
- Adapter plates to the combination with directional valves type BVZP or SWR/SWP (see also section "Additional information")

Symbols (symbols show type BWH)

max. 12 valve sections may be combined in a valve bank



Simplified flow pattern



- 1) Max. pump delivery flow is only $0.5 \times Q_{max}$
Not available in size 4
- 2) Only available in size 1

Options for the valve section

Pressure switches in gallery P or the consumer port

Pressure limiting valves in the consumer duct
(for 3/2- or 3/3-way valves)
(only available with size 1)

Pressure reducing valve,
reducing the pressure in the
subsequent P gallery

Example: ... **H5** ...
Flow pattern H with DG 35 in the consumer port

Example: ... **H8** ...
Flow pattern M with DG 35 in the gallery P

The pressure switches type DG 3.. 3) are directly mounted at the sub-plate

Example: ... **H1/150** ...
Flow pattern H with return pressure stop (1) and directly mounted pressure limiting valve, factory set to 150 bar

The pressure limiting valve is directly integrated in the sub-plate

Example: ... - **CZ1/200/5R** - ...
2-way pressure reducing valve type CDK 3 3), factory set to 200 bar, with check valve

3) See also "Additional information"

Solenoid voltage

- 12V DC, 24V DC, 230V AC 50/60 Hz
- Other voltage on request

Additional versions (valve section)

- Individual valve with orifice in port P and/or return pressure stop in the port R

- Version with plug M12-design and solenoid 8 Watt-design
- Plug with LED, improving EMC, or with economy circuit (see also section “Additional information”)

- Sub-plate with pressure switch DG 3.. 4) for blocking the P gallery

End plates

Basic type	Brief description	Symbol
1	Standard end plate	
2	End plate with accumulator drain valve	
3..	End plate with one or	
3./..	two pressure switches connected to the P gallery	

Additional versions (end plates)

- End plates with accumulator drain valve and pressure switches
- End plates with additional pressure limiting valve connected to the P gallery (also version with unit approval (TÜV))

Order examples

BWH 1A-1/420 - F H4 N4 S - 1 - 1 - G24

Valve bank type BWH, size 1 with connection block A1../. for pipe connection including integrated pressure limiting valve (factory set to 420 bar), flow pattern F, H, N and S, valves H and N with pressure switches DG 34 in the consumer duct (coding 4), end plate 1, tapped ports G 1/4 (BSPP) (coding 1), solenoid voltage 24V DC

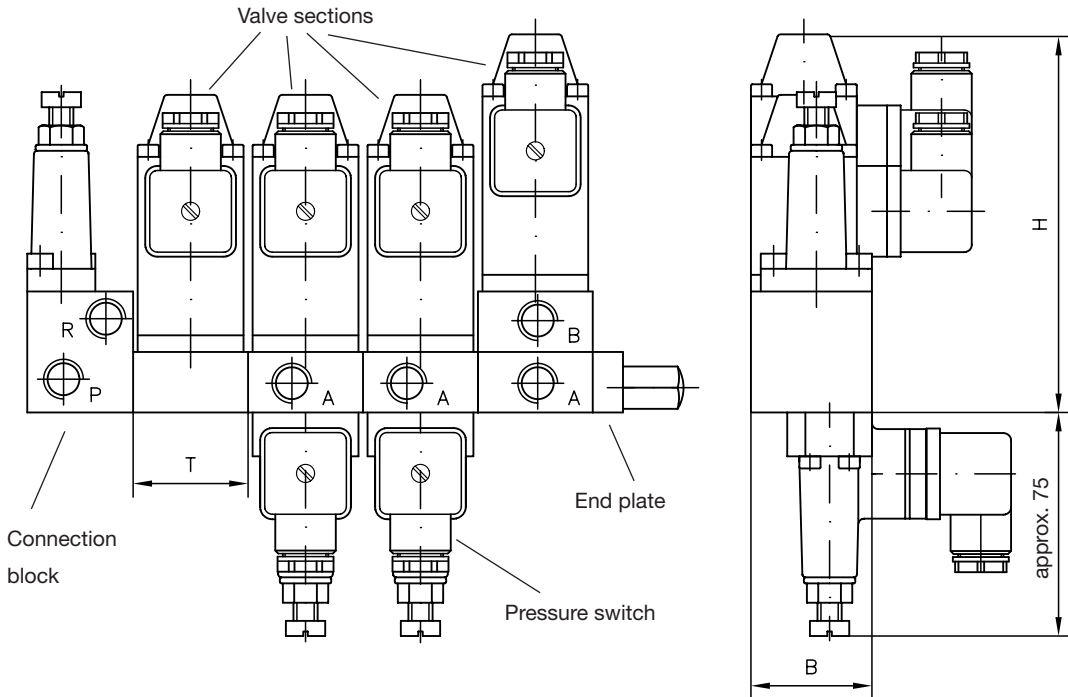
BWH 2F - HRHR - 1 - 1 - WG230

Valve bank type BWH, size 2 with adapter plate for mounting onto connection blocks of hydraulic power packs (type HK, HC, MP, MPN, KA, FP) 4) and flow pattern H, R, H, R, end plate 1, tapped ports G 1/4 (BSPP) (coding 1), solenoid voltage 230V AC 50/60 Hz

Dimensions

Design for pipe connection

(acc. to the order example on the left side)



Basic type	H	T	B	m (kg) 5)
BWH(N) 1	116.5...131.5	38	40	0.8...0.9
BWH 2	122...157.5	38	50	0.9...1.1
BWH 3	155.5...168	50	60	1.9...2.4
BWH 4	158...213	70	92	4.1...6.1

All dimensions in mm, subject to change without notice!

4) See also “Additional information”

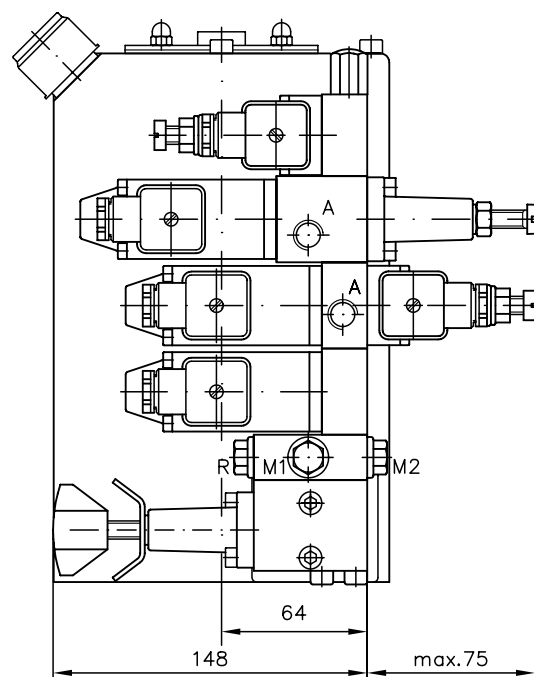
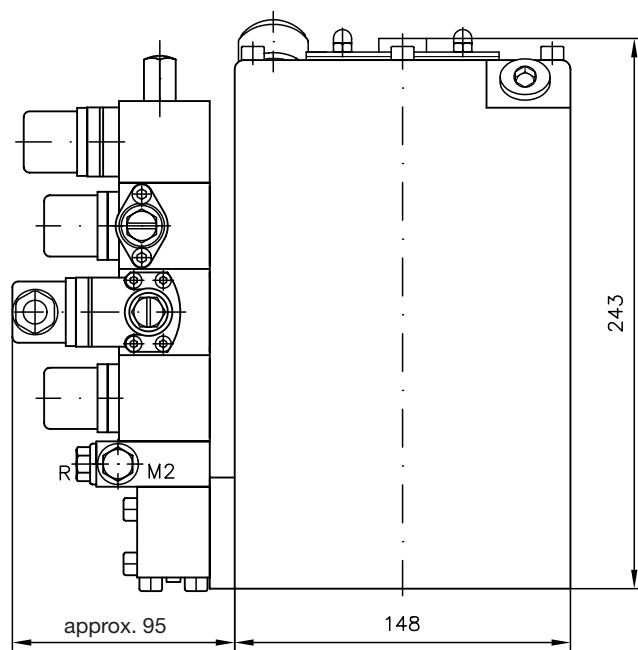
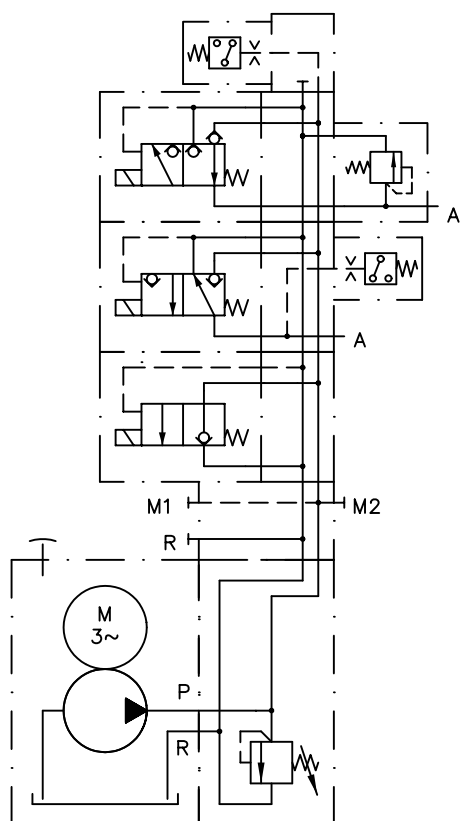
5) Per valve section

Example circuit

HC 24/0,64 - A2/400 - BWH1F1 - D H5 R/150 - 36 - 1 - G24

Hydraulic power pack
type HC, size 2, connection
block with pressure limiting
valve (manually adjustable)

Valve bank type BWH, size 1
with three valve sections and end
plate with pressure switch

**Main parameter of the example circuit**

$Q_{pu} = 0.64$ lpm (at 1450 rpm)

$p_{max pu} = 700$ bar

$p_{system} = 400$ bar (setting of the pressure limiting valve)

$V_{usable} = \text{approx. } 1.5$ l

Additional information

- Directional seated valves type WH, WN D 7470 A/1
- Pressure switches type DG3..., DG5E D 5440, D 5440 E/1
- Pressure reducing valves type CDK D 7745
- Compact hydraulic power packs
 - type MP, MPN, MPNW, MPW D 7200, D 7200 H, D 7207
 - type HC, HCW, HCG D 7900, D 7900 G
 - type HK, HKF, HKL D 7600 ++
 - type FP D 7310
 - type KA, KAW D 8010

- Connection block type A D 6905 A/1
- Hydraulic power packs type R D 6010, D 6010 H
- Directional seated valve banks type BWH, BWN D 7470 B/1
- Plug with LED etc. D 7163
- Plug with economy circuit D 7813, D 7833
- See also "Turn-key solutions out of the modular system"

For page and section of the devices additionally listed,
see type index