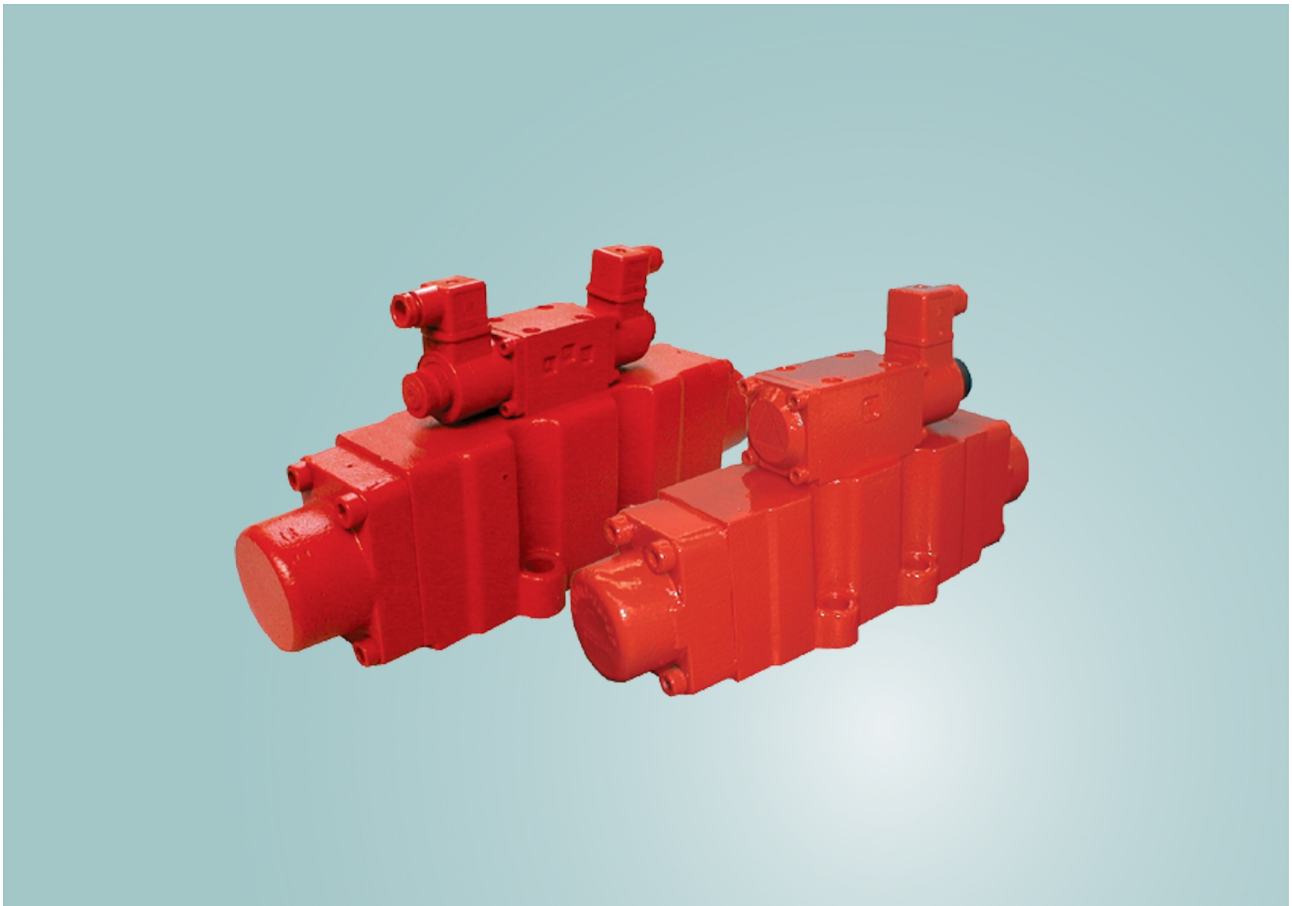


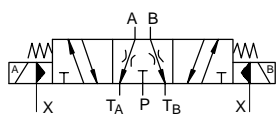
Safety for Hydraulics
Directional Valve “ON/OFF” type, Series WEH



motion and progress

Contents	Page
1. General description	3
2. Technical data	3
2.1 General characteristics	3
2.2 Hydraulic characteristics	3
2.3 Electrical characteristics	4
3. Performance graphs	4
3.1 Pressure drop through directional valve WEH 18	4
3.2 Pressure drop through directional valve WEH 20	4
3.3 Pressure drop through directional valve WEH 25	4
4. Dimensions	5
5. Model code key	6

1. General description



Series WEH directional valves are solenoid operated, two stage units that are suitable for controlling large flow rates. A flow can be started and stopped, and its direction controlled, by means of electrical signals.

This valve was specially developed for use in mobile equipment. It is distinguished by its very small size and low weight.

The valve features a two stage design i.e. in the absence of a control signal, the spools of both the pilot and main stages are moved into their middle, or neutral, positions by centring springs.

When a solenoid is energised, the spool moves outwards against the force of a spring. Pilot control oil is supplied externally but is drained internally.

The complete valve designation is determined with the aid of the model code key (see p. 6, section 5.).

2. Technical data

2.1 General characteristics

Design	spool valve	
Operation	solenoid operated (ON/OFF)	
Ports (see sect. 4.)	plant standard	
Mounting attitude	unrestricted	
Hydraulic fluids	mineral oils to DIN 51524 and DIN 51525 (HL/HLP)	
Ambient temperature	-30 ... 60°C	
Recommended fluid temp.	20 ... 60°C	
Minimum temperature	-20°C	
Maximum temperature	80°C	
Recommended viscosity range	15 ... 100 mm ² /s (cst)	
Minimum viscosity	10 mm ² /s (cst)	
Maximum viscosity	380 mm ² /s (cst)	
Filtration / cleanliness level	ISO 4406 Class 18/15 NAS 1638 Class 9	
Weight	Size 18	9 kg
	Size 20	11 kg
	Size 25	17.8 Kg

2.2 Hydraulic characteristics

	Units	Data
Max. pump pressure (in P)	bar	350
Max. actuator pressure (in A, B)	bar	350
Max. supply pressure for solenoid operated pilot stage (in X)	bar	350
Min. supply pressure for solenoid operated pilot stage (in X)	bar	20 bar above tank line back pressure
Max. tank line pressure (in T)	bar	50

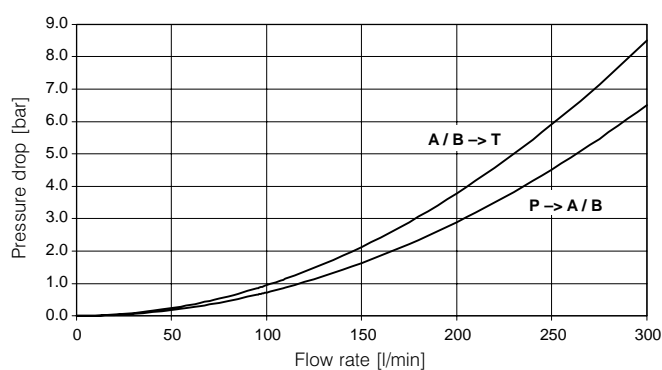
For actuator flow rates, see performance graphs (section 3)

2.3 Electrical characteristics

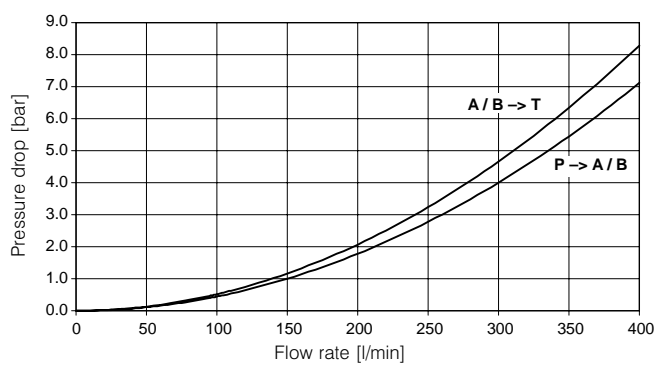
	Units	Data
Nominal voltage $\pm 10\%$	V	12 / 24
Power consumption	W	33
Duty cycle	%	100
Electrical connections		ISO 4400 DIN43650
Protection class to DIN VDE 0470		IP65
Material insulation class to VDE 0580		H

3. Performance graphs

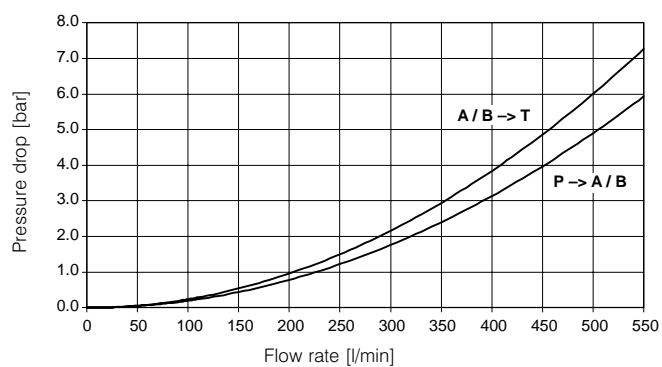
3.1 Pressure drop through directional valve WEH 18



3.2 Pressure drop through directional valve WEH 20

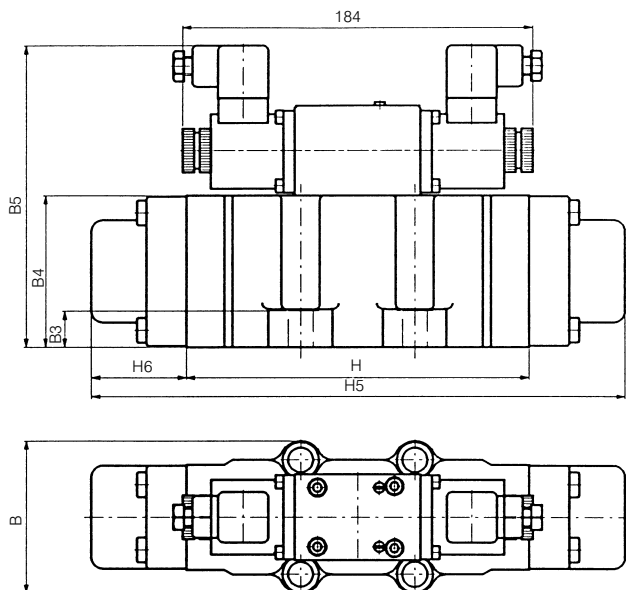


3.3 Pressure drop through directional valve WEH 25

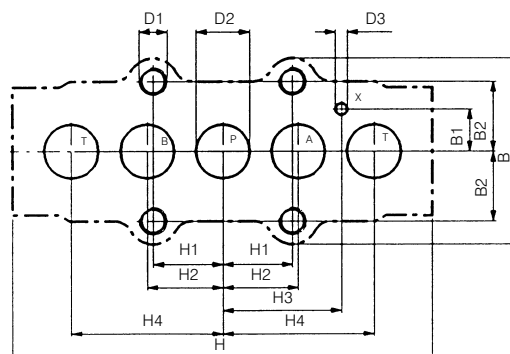


4. Dimensions

Unit dimensions:



Subplate interface:

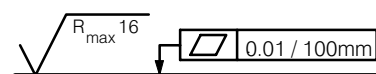


The valve is supplied complete with 4 mounting bolts, class 12.9

The relevant tightening torques are:

Valve	Bolt	Tightening torque [Nm]
Size 18	M12	94
Size 20	M12	94
Size 25	M16	232

Required quality of the mating surface:



Unit dimensions:

Size	B	B1	B2	B3	B4	B5
18	80	18 ± 0.15	30 ± 0.15	19	80	159
20	80	18 ± 0.15	30 ± 0.15	19	80	159
25	110	26 ± 0.15	40 ± 0.15	26	110	189

Dimensions of subplate interface

Size	D1	D2	D3	H	H1	H2	H3	H4	H5	H6
18	M12 – 18 deep	23	4	180	30 ± 0.15	32.5 ± 0.15	51 ± 0.15	65 ± 0.15	280	50
20	M12 – 18 deep	23	4	200	30 ± 0.15	34.5 ± 0.15	54 ± 0.15	69 ± 0.15	300	50
25	M16 – 25 deep	30	5	240	40 ± 0.15	43.5 ± 0.15	65 ± 0.15	87 ± 0.15	380	70

5. Model code key

WEH W 18 - A / 08 / C / X / A / 1

Valve series

solenoid op. two stage directional valve = WEH

Interface

plant standard = W

(see section 4. Dimensions)

Nominal sizes

18 mm = 18
20 mm = 20
25 mm = 25

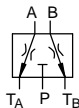
For actuator flow rates, see performance graphs (section 3.)

Design code letter

entered by the manufacturer = A

Spool type

A + B connected to T in neutral = 08
other spool types - contact Bucher



Operation

Solenoid on A end (4/2- directional valve) = A
Solenoid on B end (4/2- directional valve) = B
Solenoid on A and B ends (4/3- directional valve) = C

Pilot oil connections

X (supply) external, Y (drain) internal = X

Solenoid voltage

12 V DC = A
24 V DC = B

Electrical connections

Square connector plug to DIN 43650 = 1

BUCHER HYDRAULICS

Germany

Phone +49 7742 85 20
Fax +49 7742 71 16
info.de@bucherhydraulics.com

France

Phone +33 389 64 22 44
Fax +33 389 65 26 78
info.fr@bucherhydraulics.com

Netherlands

Phone +31 79 34 26 24 4
Fax +31 79 34 26 28 8
info.nl@bucherhydraulics.com

UK

Phone +44 24 76 35 35 61
Fax +44 24 76 35 35 72
info.uk@bucherhydraulics.com

USA

Phone +1 262 605 82 80
Fax +1 262 605 82 78
info.wi@bucherhydraulics.com

www.bucherhydraulics.com

Switzerland

Phone +41 33 67 26 11 1
Fax +41 33 67 26 10 3
info.ch@bucherhydraulics.com

Italy

Phone +39 0522 92 84 11
Fax +39 0522 51 32 11
info.it@bucherhydraulics.com

Austria

Phone +43 6216 44 97
Fax +43 6216 44 97 4
info.at@bucherhydraulics.com

China

Phone +86 10 64 44 32 38
Fax +86 10 64 44 32 35
info.bj@bucherhydraulics.com

Product Center (Elevator)

Phone +41 41 757 03 33
Fax +41 41 757 16 49
info.nh@bucherhydraulics.com

We reserve the right of modification without notice.