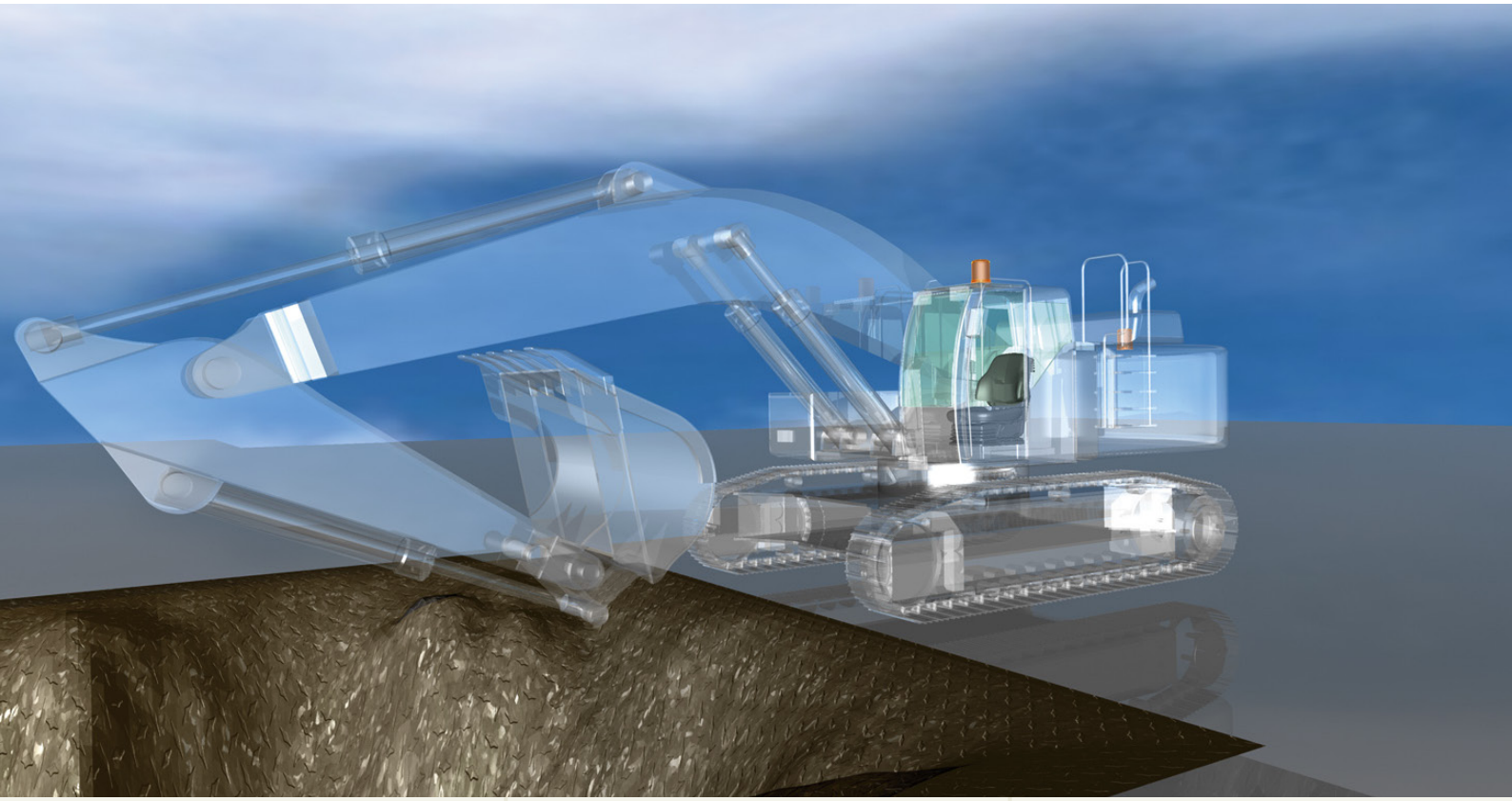
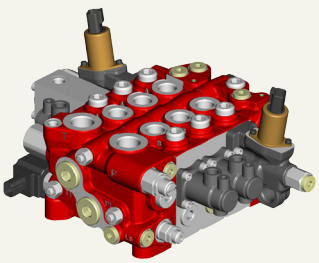
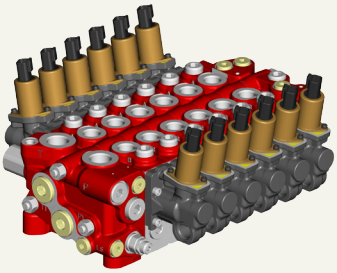
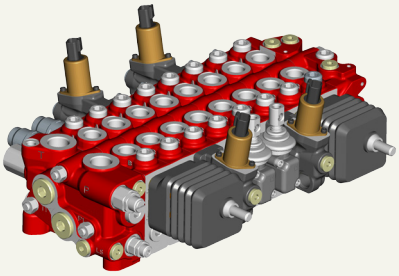
BUCHER
hydraulics









Designed for Energy Saving

ECOdraulics

Proportional Flow Sharing
HDS 24

An introduction to the NEW HDS24 directional valve

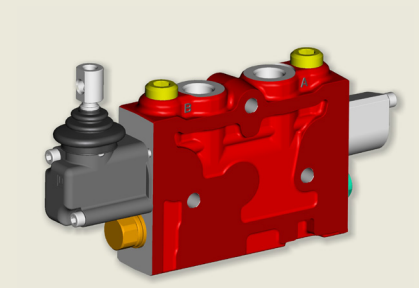
The commitment of machine manufacturers, to comply with the global guidelines of energy saving and functional safety, is increased considerably, in recent years, forcing the entire production chain to a big effort of increasing technological innovation.
In this context, the consolidated leadership and extensive know-how in telescopic loaders, material handling and earthmoving applications, the deep experience in the field, the powerful capacity to develop innovative solutions and the strong commitment to anticipate the upcoming technical and application needs of our customers, have guided Bucher Hydraulics Reggio Emilia in the development of the new flow-sharing directional valve HDS24 size 12.
Based on the experience of the size 14 valve and incorporating all the advantages of HDS34, the new HDS24 was just developed to face the new energy saving and functional safety requirements of the global market.
The flexible and versatile construction with a wide range of inlet and outlet covers as well as of controls, gives the designer a high degree of freedom in the choice of the valve configuration and of the hydraulic circuit which fits in the best way the machine requirements.
Each valve section can be equipped with a load holding valve as well as flow sharing or priority pressure compensators, whose stability and smooth behaviour grant high levels of system controllability.
The wide range of controls, combined with innovative solutions and compact dimensions, makes HDS24 a powerful and flexible product able to fulfil all the requirements of modern machines.

Technical Data:

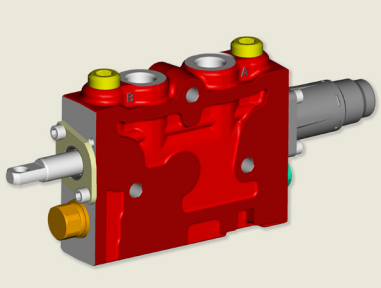
Max inlet flow		130 l/min
Max work port A/B flow (13 bar /190 PSI margin)		100 l/min
Supply port P max continuous operating pressure		280 bar
Work port A/B max peak pressure		320 bar
Max internal leakage A/B -> T **(at 100 bar / 1430 PSI, 50° C, 23 mm2/s) Lower values on demand**	Without port valves With port valves	16 cc/min 20 cc/min
Max contamination level		20 / 18 / 15 - ISO 4406:1999 (NAS 1638 class 9)
Fluid temperature (NBR seals)		-20°C / +80°C
Viscosity operating range	recommended admissible	from 15 to 75 mm^2/s from 12 to 400 mm^2/s
Max number of elements		10
Ambient temperature in operating conditions	With mechanical/hydraulic/ pneumatic controls With electric/ electro-hydraulic devices	from -30 to 60 °C from -30 to 50 °C
Port threads size (A/B):		1/2" BSP, SAE10, M22x1.5 or equivalent
Port threads size (P/T):		3/4" BSP, SAE12, M27x2 or equivalent

Benefits

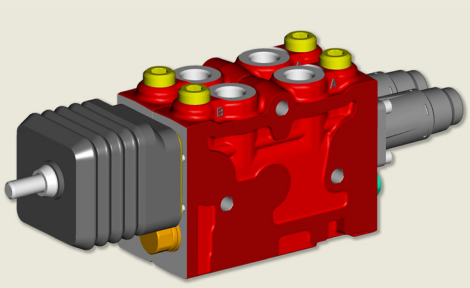
- *Enhanced ride comfort thanks to the C-LRV electronically controlled elevator valveHigh efficiency and low power losses by means of new features orented to energy saving*
- *Local shut-off device to cut the flow to workports*
- *Energy saving workport pressure limitation in combination with anti-shock valves*
- *High flexibility through a common body with interchangeable components: easy to switch between the different versions*
- *Load holding valve with compensators*
- *Priority circuit for swivel and aux functions*
- *Electro-hydraulic positioners internal piloted with integrated safety lever (open and closed loop)*
- *Low pressure drops and high fatigue strength through numerical simulation and optimization: longer system lifetime*
- *Damped compensators for smooth controllability and functional instability reduction*
- *LS damping devices integrated in the inlet cover for pump compensator stable operation*
- *Main relief valve, flushing valve, LS relief valve and LS unloading simultaneously available*
- *Increased spool stroke for better metering controllability in standard and floating actuations*
- *Fully interchangeable spools with wide range of notch configurations, designed to reduce flow forces effect and to improve control hysteresis*
- *Optional inlet and outlet ports in the back cover to minimize the effect of the pressure drops on the flow sharing system performances*



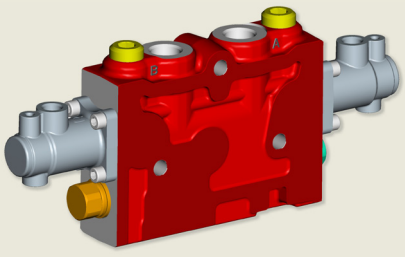
Manual - Standard positioner



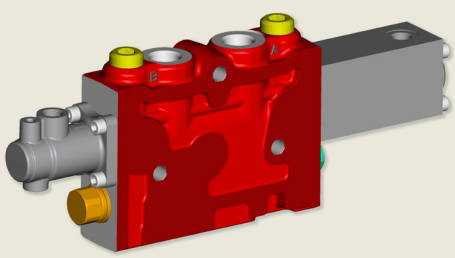
Manual - Mechanical detent



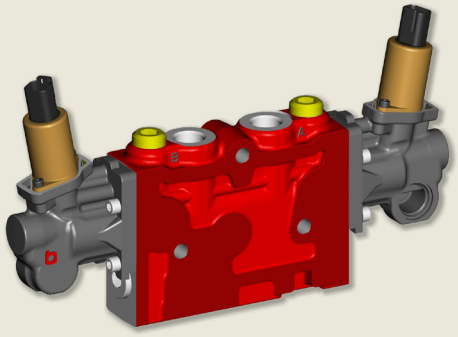
Joystick with locking system



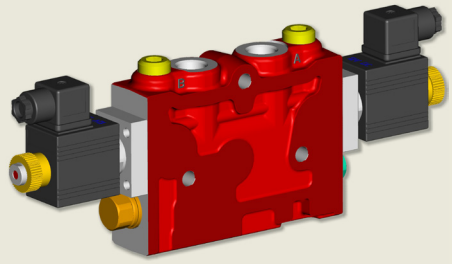
Standard hydraulic proportional



Hydraulic proportional - Floating position

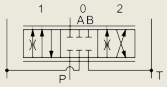
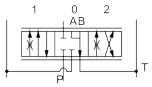
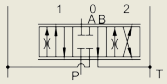
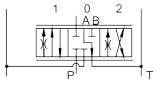
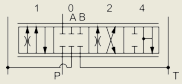
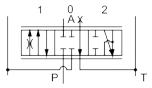


Electro-hydraulic open loop proportional (EHO)

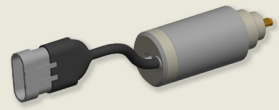


Direct acting solenoids

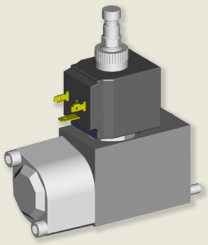
Spool ref.	Nominal flow (13 bar margin)
01	10 l/min
02	20 l/min
04	40 l/min
06	60 l/min
08	80 l/min
10	100 l/min

Standard spool type	Hydraulic schematic	Features
A		A/B ports closed to tank
C		A/B ports connected to tank - Motor spool
D		B port connected to tank A port closed
L		A port connected to tank B port closed
W		Floating position pushing the spool
S		Single effect

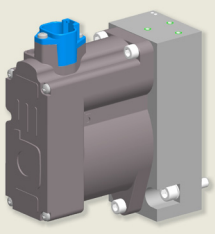
Options



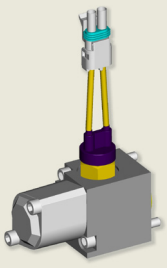
Proportional/ON-OFF spool position sensor



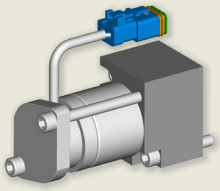
Electro-mechanical locking system



Electro-hydraulic closed loop proportional (EHC)

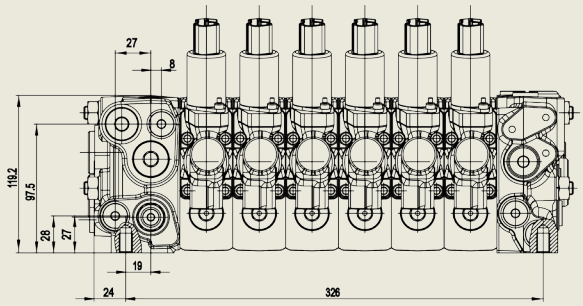


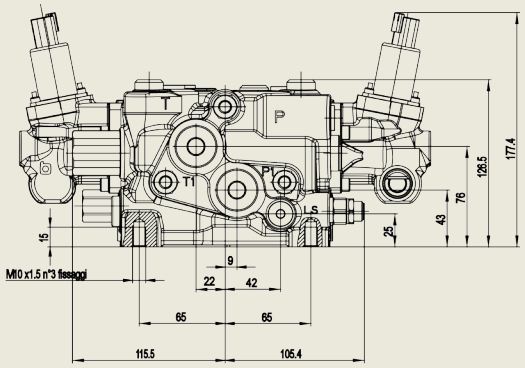
Microswitch positioner

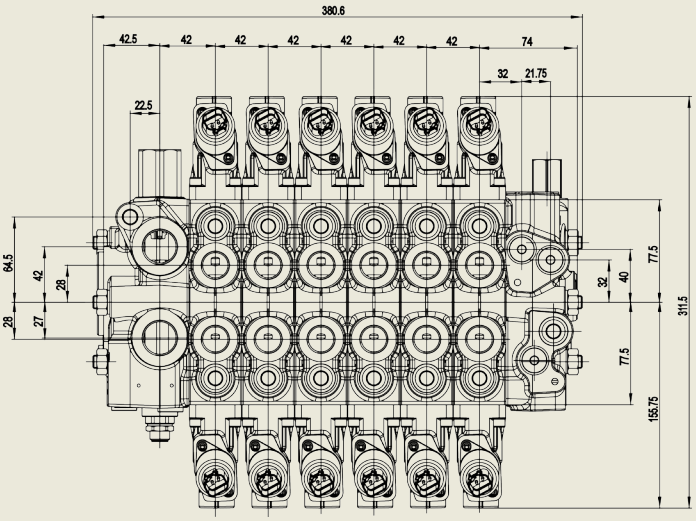


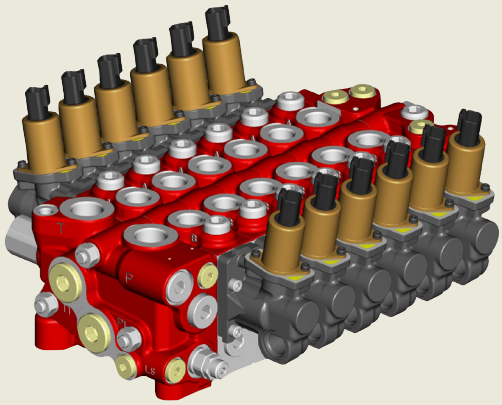
Electro-magnetic detent (EMD)

Dimensions

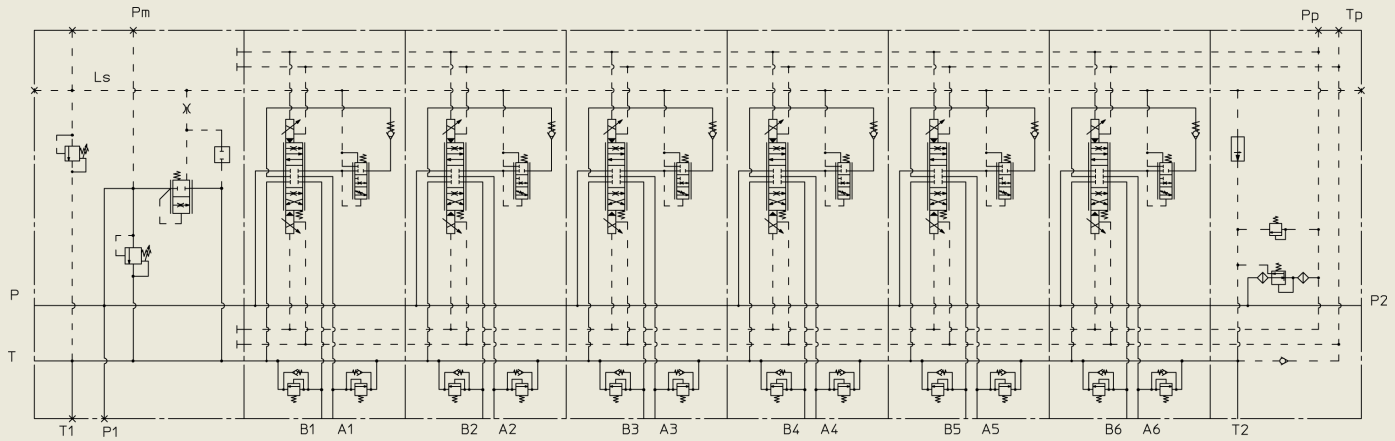




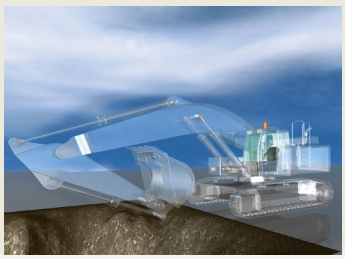




Hydraulic scheme



Main applications



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