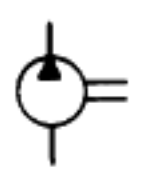






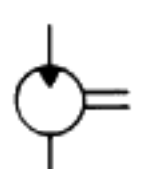




Hydraulic symbols

according to UNI-ISO standards

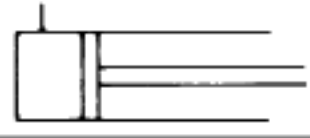
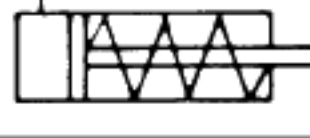
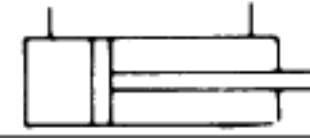
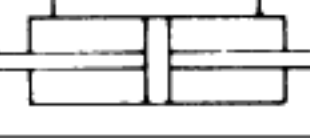
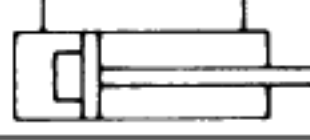
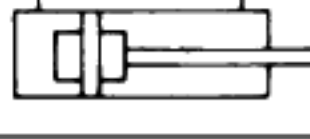
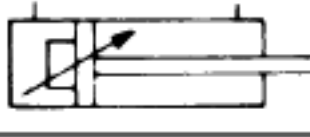

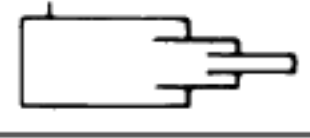

PUMPS

Graphic symbol		Item	Description
(a) 	(b) 	Fixed displacement pump	One flow direction (a)
			Two flow directions (b)
(a) 	(b) 	Variable displacement pump	One flow direction (a)
			Two flow directions (b)
		Hand pump	Lever pumping


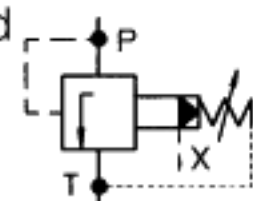
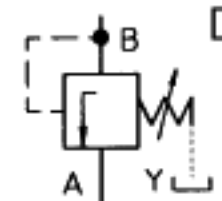
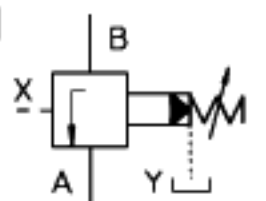
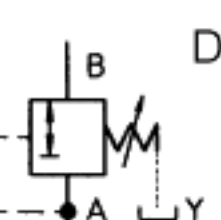
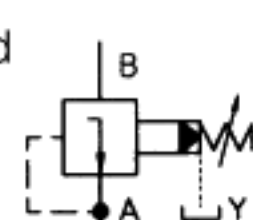
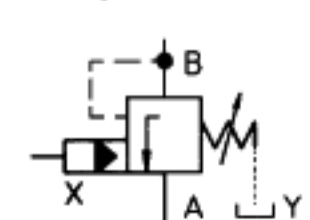
MOTORS

Graphic symbol		Item	Description
(a) 	(b) 	Fixed displacement motor	One rotation sense (a)
			Two rotation senses (b)
(a) 	(b) 	Variable displacement motor	One rotation sense (a)
			Two rotation senses (b)
		Rotary actuator	Hydraulic motor with limited angle of rotation

CYLINDERS

Graphic symbol	Item	Description
	Single-acting cylinder	Return stroke by external force
		Return stroke through a spring
	Double-acting cylinder	Single rod
		Double rod
	Cylinder with fixed stroke end cushioning	Cushioning on one side
		Cushioning on both sides
	Cylinder with adjustable stroke end cushioning	Cushioning on one side
		Cushioning on both sides
	Telescopic cylinder	Single-acting
		Double-acting




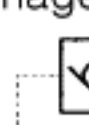
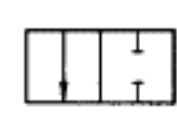



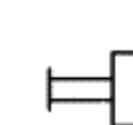
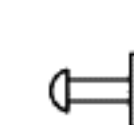
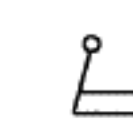

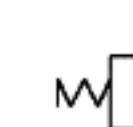
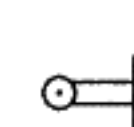
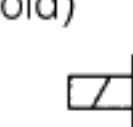
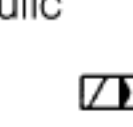

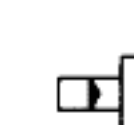
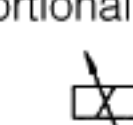
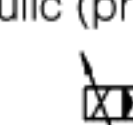
PRESSURE CONTROL VALVES

Pressure relief valve Direct operated  Pilot operated 		Sequence valve Direct operated  Pilot operated 	
Pressure reducing valve Direct operated  Pilot operated 		Counterpressure valve 	













FLOW CONTROL VALVES






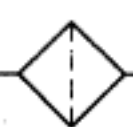







Variable throttling valve Two way With check 		Compensated flow regulator Two-way Three-way 	
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DIRECTIONAL CONTROL VALVES

Check valve Standard  Calibrated  Piloted operated  Piloted with drainage 			
Directional valves 2 ways - 2 positions  3 ways - 2 positions  4 ways - 2 positions  4 ways - 3 positions 			
Controls for directional valves Mechanical  Pushbutton  Lever  Pedal 			
Controls for directional valves Spring  Cam  Electric (solenoid)  Electro-hydraulic 			
Controls for directional valves Pneumatic  Hydraulic  Electric (proportional)  Electro-hydraulic (proportional) 			

ENERGY TRANSMISSION AND ACCESSORIES

Graphic symbol	Item	Description
	Motor	Electric
		Engine
	Pipings and connections	Main
		Pilot
		Drain
		Flexible hose
		Connection point
		Crossing
		Branching
	With connected piping	
	Coupling	Fast coupling
		With check valves

Graphic symbol	Item	Description
	Reservoir	Pipings above level
		Pipings under level
		Pressurized reservoir
	Air bleed	
	Hydraulic accumulator	
	Filter	
	Heat exchanger	Heater
		Cooler
		Liquid operated cooler
	Pressure gauge	
	Pressure switch	
	Rotating shaft	1 direction
		2 directions