

Graphical Symbols for Hydraulic Circuits

Basic Symbols		Spool Controls		Energy Transformations		Energy Control		Fluid Treatment	
	PRESSURE OR RETURN LINE		GENERAL SYMBOL		FIXED DISPLACEMENT PUMP		ADJUSTABLE 2-WAY FLOW CONTROL WITH REVERSE FLOW CHECK (e.g. 1VCR...D2VCR)		SOLENOID OPERATED 6 PORT DIVERTER/CHANGEOVER VALVE (e.g. M9278)
	PILOT LINE		PUSH KNOB		SINGLE-ACTING HAND PUMP (e.g. 376)		ADJUSTABLE 3-WAY FLOW CONTROL WITH REVERSE FLOW CHECK (e.g. 1VCR...T, 3VCR)		SOLENOID DIVERTER VALVE WITH EXTERNAL DRAIN (e.g. M9648...)
	TWO OR MORE FUNCTIONS IN ONE UNIT		PUSH-PULL KNOB		DOUBLE-ACTING HAND PUMP (e.g. 27906)		FLOW DIVIDER (e.g. RC...)		DIRECT ACTING SOLENOID DIRECTIONAL VALVE (SPOOL FORM 1) (e.g. 5EVP3D1...)
	FLEXIBLE HOSE		LEVER		FIXED DISPLACEMENT REVERSIBLE MOTOR WITHOUT DRAIN		SPPOOL TYPE FLOW DIVIDER (e.g. DC03...)		DIRECT ACTING SOLENOID DIRECTIONAL VALVE (SPOOL FORM 2) (e.g. 5EVP3D2...)
	UNION		SINGLE ACTING PEDAL		FIXED DISPLACEMENT REVERSIBLE MOTOR WITH DRAIN		ROTARY FLOW DIVIDER (e.g. DCL9-9-9R)		RELIEF / UNLOADING VALVE WITH EXTERNAL HYDRAULIC PILOT AND INTERNAL DRAIN (e.g. 3RD...)
	CROSS		DOUBLE ACTING PEDAL		FIXED DISPLACEMENT REVERSIBLE MOTOR WITH DRAIN		LOWERING VALVE WITH REVERSE FLOW CHECK (e.g. VF...)		LEAK-FREE SEQUENCE VALVE WITH EXTERNAL DRAIN (e.g. 9464)
	CLOSED CONNECTION		PLUNGER		ROTARY ACTUATOR (e.g. 1AFA...)		THROTTLE WITH REVERSE FLOW CHECK (e.g. EG...)		ELECTRICAL UNLOADING VALVE (e.g. 3RD...)
	DIRECTION OF MOVEMENT		PLUNGER WITH STROKE LIMITATION		SINGLE ACTING CYLINDER		PILOT OPERATED CHECK VALVE WITHOUT DRAIN (e.g. VRHS...03)		ELECTRICAL PROPORTIONAL RELIEF VALVE (e.g. 3RP...)
	DIRECTION OF ROTATION		SPRING		DOUBLE ACTING CYLINDER		PILOT OPERATED CHECK VALVE WITH DRAIN (e.g. VRHS...02)		OPEN CENTRE VALVE (e.g. 2VDF...)
	REGULATION POSSIBLE		ROLLER		DOUBLE ACTING CYLINDER WITH VARIABLE DAMPING AT ONE END		CHECK VALVE WITH SPRING		SHUTTLE VALVE
	ELECTRIC		LEVER WITH ROLLER		DOUBLE ACTING CYLINDER WITH VARIABLE DAMPING AT BOTH ENDS		LOGIC ELEMENT (e.g. 1LX...)		RELIEF VALVE / ELECTRICAL LOWERING VALVE (e.g. 2MB...)
	SOLENOIDS WORKING IN OPPOSITE DIRECTIONS		SINGLE SOLENOID		DOUBLE ACTING TELESCOPIC CYLINDER		PRIORITY VALVE (e.g. VPD...)		NORMALLY OPEN SOLENOID CHECK VALVE (e.g. 9526)
	DIRECTION OF ROTATION LOOKING AT SHAFT		PUSH/PULL SOLENOID		SINGLE ACTING TELESCOPIC CYLINDER		STEERING UNITS OPEN CENTRE CLOSED CENTRE CLOSED CENTRE WITH LS (FOR USE WITH PRIORITY VALVE)		NORMALLY CLOSED SOLENOID CHECK VALVE (e.g. 9525)
	PNEUMATIC		DIRECT PILOT OPERATED		ACCUMULATOR WITH GAS PRE-CHARGE		SERIES DIRECTIONAL CONTROL VALVE (e.g. 101..., 102..., 1102...)		PARALLEL DIRECTIONAL CONTROL VALVE (e.g. 402..., 1402..., 406..., 1406..., 1504...)
	HYDRAULIC		PNEUMATIC / HYDRAULIC OPERATED				SERIES DIRECTIONAL CONTROL VALVE WITH NEGATIVE OVERLAP AND VALVES IN SPOOL (e.g. 101..., 102..., 1102..., SPOOLS A AND B)		PARALLEL DIRECTIONAL CONTROL VALVE FOR USE WITH LS PUMPS (e.g. 406..., 1406..., 1504...)
	TEST POINT		ELECTRIC MOTOR				PARALLEL DIRECTIONAL CONTROL VALVE FOR USE WITH LS PUMPS WITH FLOW CONTROL FUNCTION (e.g. 1504L...X...)		PRESSURE INDICATOR
	SPRING		OTHER CONTROL UNIT (NOT ELECTRIC MOTOR)				PRESSURE TRANSDUCER		PRESSURE GAUGE (e.g. MGF...)
	THROTTLE		INTERMEDIATE POSITION				DIFFERENTIAL PRESSURE GAUGE		FLUID LEVEL GAUGE
	PLUGGED PORT		PROPORTIONAL SPOOL				FLUID LEVEL TRANSDUCER		THERMOMETER
	ROTARY UNION		COUPLING				THERMOMETER		FLOW INDICATOR
	DETENT		INTERNAL PILOT				FLOW METER		TACHOMETER
	RETURN ABOVE/BELOW FLUID LEVEL		EXTERNAL PILOT				TORQUE METER		PRESSURE SWITCH
	CHECK VALVE						MICRO SWITCH		
	SHUT-OFF VALVE								

Measuring Instruments & Indicators