

# Directional spool valve

## 2.1 Proportional directional spool valve type EDL

Proportional directional spool valves are a type of directional valve. They control the direction of movement and the velocity of individual or multiple hydraulic consumers actuated simultaneously. Control is independent of the load and continuous.

The directional spool valve type EDL with series connection is actuated directly. The flow rates for the individual consumers can be individually adjusted. The proportional directional spool valve can be flexibly adapted to different control tasks by means of additional functions in the intermediate plates and ancillary blocks.

The directional spool valve type EDL can be combined directly with the proportional directional spool valve type PSL and PSV in size 2 and is therefore suitable for constant and variable pump systems. It is used in mobile hydraulics, in particular in civil engineering and agricultural engineering.

### Features and benefits:

- One valve for different control functions and small flow quantities
- Energy-saving closed-centre systems
- Compact and lightweight design
- Modular system can be directly combined with type PSL/PSV-2

### Intended applications:

- Construction and construction materials machinery
- Cranes and lifting equipment
- Machines for forestry and agricultural purposes
- Municipal trucks



<b>Nomenclature:</b>	Directly Prop. directional spool valves as per load-sensing principle
<b>Version:</b>	Valve bank in series connection
<b>Actuation:</b>	solenoid-actuated
<b>p<sub>max</sub>:</b>	320 bar
<b>Q<sub>max, consumer</sub>:</b>	48 l/min
<b>Q<sub>pu max</sub>:</b>	100 l/min

### Design and order coding example

EDL - DA2 L 40/25 E /2 - G24

**Solenoid voltage** 12V DC, 24V DC  
 ▪ Actuated via prop. amplifier or PLVC

**Ancillary blocks**  
**Confirmation** Type E, EI

**Volumetric flow** Volumetric flow indicator, side A, B (3...40)

**Spool** Type L, H

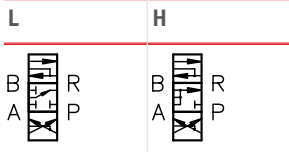
**Spool block** Section with inflow controller

**Basic type** Type EDL: directly actuated proportional directional spool valve

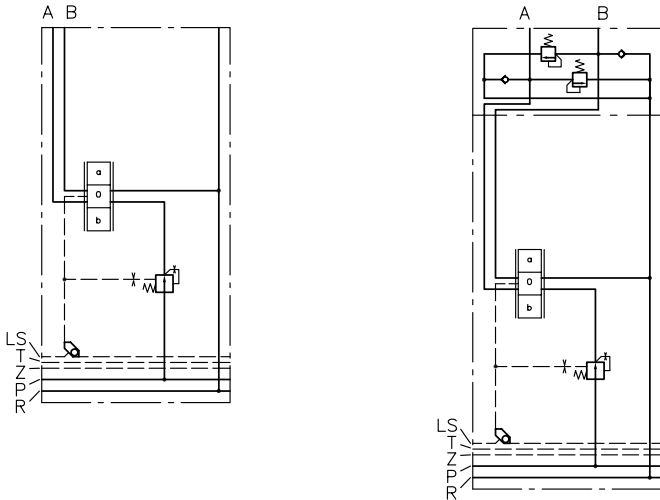
## Function

### Valve sections:

#### Circuit symbol



### Versions of valve sections:



### Additional functions in the ancillary block:

- Shock and servo-suction valves
- Load-holding valves
- Check valves with release, no leakage
- Floating and block functions can be switched

### Characteristic values for max. volumetric flows:

Size 2	$Q_{A, B}$				
	3	6	10	25	40

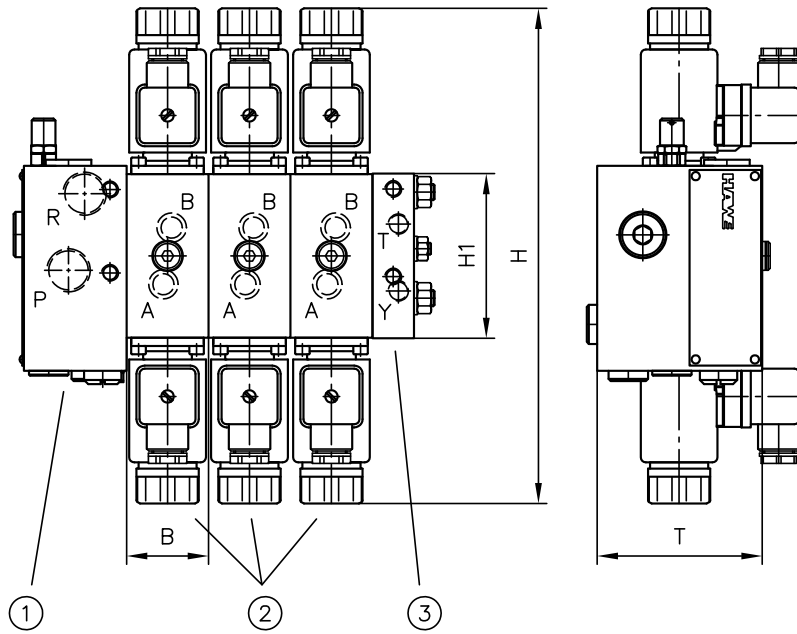
- Characteristic value corresponds to the max. volumetric flow [lpm] of inflow controller versions at the consumer ports A and/or B
- Volumetric flows for A and/or B can be selected separately

### Actuations:

Basic type	Brief description	Circuit symbol (example)
E	electrical actuation with stroke limitation	
EI	electrical actuation without stroke limitation and with emergency manual actuation	

## General parameters and dimensions

PSL/EDL



- 1 Connection block
- 2 Valve section
- 3 End plate

	Flow [lpm]		Oper. pressure [bar]	Ports		Dimensions [mm]				m [kg]
	$Q_{max}$	$Q_{pu\ max}$	$p_{max}$	P, R	A, B	H	H1	B	T	Per valve section <sup>1)</sup>
<b>EDL</b>	3 ... 40	80	320	G 1/2, 3/4-16 UNF-2B	G 3/8, 3/4-16 UNF-2B	241	80	40	64	1.8 ... 2.9

1) Dep. on actuation and additional functions

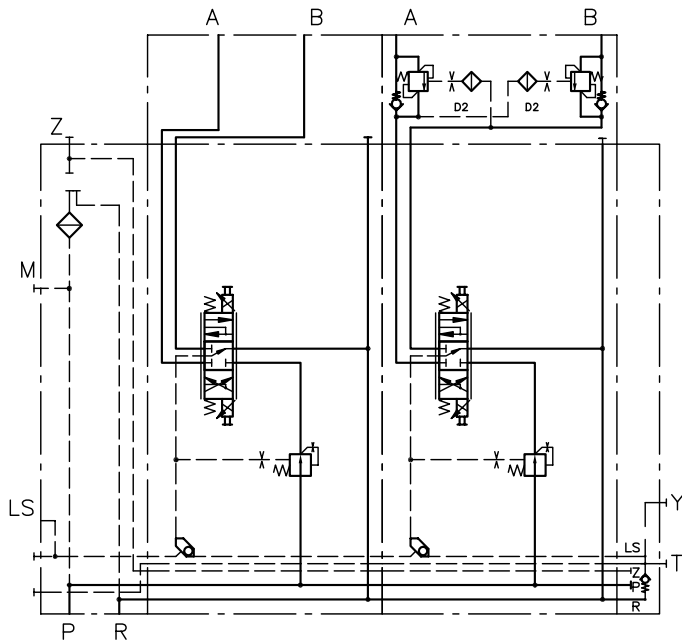
**Circuit example:**

PSV 3-2

- DA2L40/25/E/2

- DA2L25/16/E/24I-0-A4/210-B10-B4/210

- E4-G24


**Associated technical data sheets:**

- [Proportional directional spool valve type EDL: D 8086](#)
- [Proportional directional spool valve, type PSL and PSV size 2: D 7700-2](#)
- [Proportional directional spool valve, type PSL, PSM and PSV size 3: D 7700-3](#)
- [Proportional directional spool valve, type PSL, PSM and PSV size 5: D 7700-5](#)
- [Connection block type HMPL and HMPV for proportional directional spool valve: D 7700 H](#)