

## 4/3 Directional valve elements with manual lever operated control with flow sharing control (LUDV concept)

L85L1...(EDC-LV)

**RE 18301-17**

Edition: 02.2016



Size 6

Series 00

Maximum operating pressure on "P" 350 bar (5076 psi)

Maximum peak pressure "A-B" 380 bar (5511 psi)

Maximum flow at 14 bar (203 psi) 70l/min(18.49gpm)

Maximum flow at 18 bar (261 psi) 78l/min(20.6gpm)

Ports connections planned G 3/8 - G 1/2 - SAE8 and

Modular

### General specifications

Valve element with direct proportional flow sharing control.

It can achieve the simultaneous activation of different actuators by distributing the available flow proportionally to the speeds selected by the operator.

All simultaneous movements go on at the same reciprocal speed also in case of flow shortage.

No shuttle valve fitted.

Control spools manual operated by hand lever.

Control spool with return for all three positions.

### Contents

Ordering details	2
Functional description	3
Technical data	4
Characteristic curves	5
External dimensions and fittings	6

Ordering details

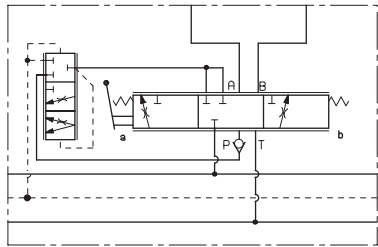
01	02	03	04	05	06	07	08	09
L	8	5	L1					00
Family								
01	Directional Valve elements ED							L
Type								
02	Size 6							8
Configuration								
03	Flow Sharing							5
Operation type								
04	Manual lever							L1
Spool variants								
05	4/3 operated on both sides a and b; P,A,B,T colsed in neutral							B2
	4/3 operated on both sides a and b; P closed; A and B and T in neutral							E2
Flow pattern & Nominal Flow <sup>1)</sup>								
06	Both meter in and out, A 25 l/min (6,6gpm) - B 25 l/min (6,6gpm)							S4
	Both meter in and out, A 70 l/min (18,49gpm) - B 70 l/min (18,49gpm)							SZ
Side with the control lever								
07	a side with handle aiming high (A and B direction)							A0
	a side with handle aiming low (opposite to A and B)							A2
	b side with handle aiming high (A and B direction)							B0
	b side with handle aiming low (opposite to A and B)							B2
Manual lever control								
08	With return spring							M1
Ports								
09	G 3/8 DIN 3852							0
	G 1/2 DIN 3852							2
	3/4-16 UNF 2-B (SAE8)							3
	Machined for interfacing to modular elements							M <sup>2)</sup>

1) With Δp (P>A or P>B) 14 bar (203bar).

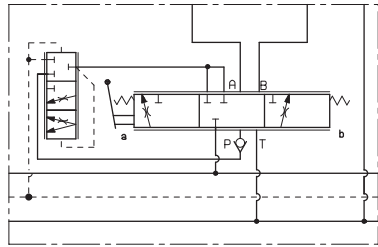
2) See RE18301-45, RE18301-46, RE18301-47, for flangeable elements.

Symbols

Configuration

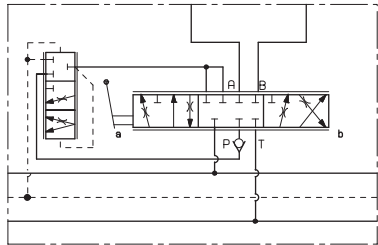


= 0  
= 2  
= 3

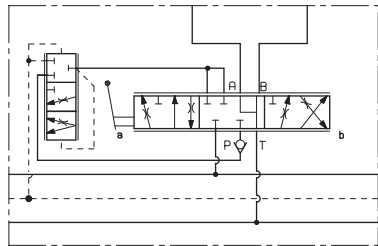


= M

Spool variants - Both meter in and out

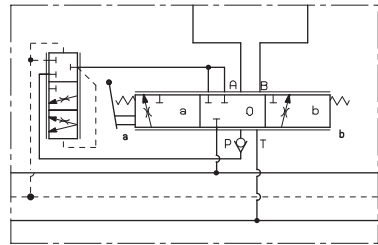


= B2

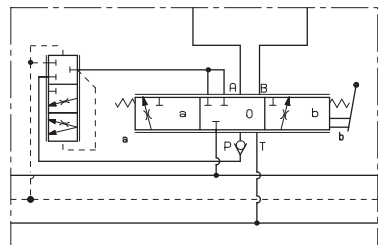


= E2

Side with the control lever

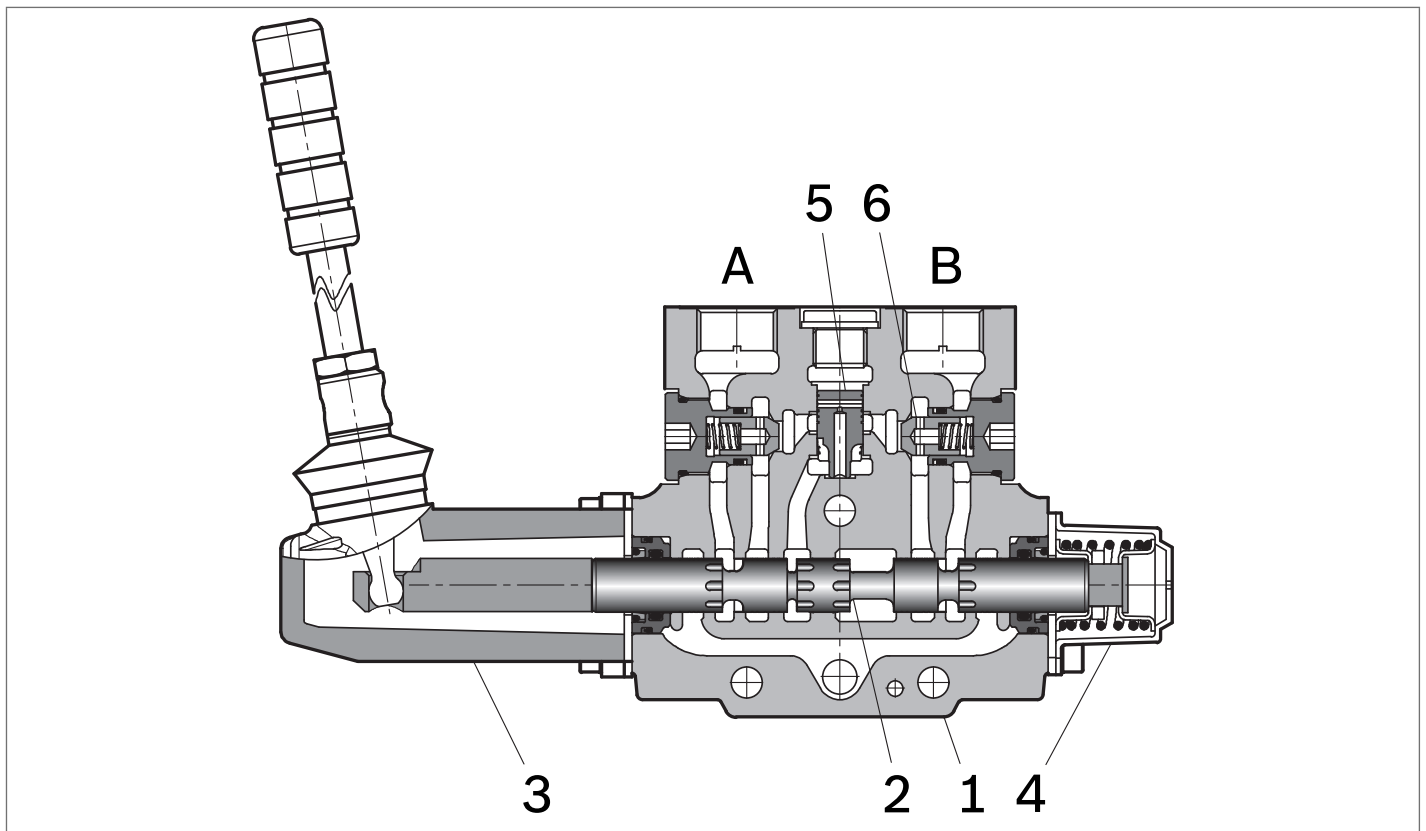


= A\_M1



= B\_M1

## Functional description



The sandwich plate design directional valve elements L85L1... are compact direct operated pressure compensated manual operated valves which control the start, the stop, the direction and the quantity of the flow, with a FLOW SHARING principle.

These elements basically consist of a stackable housing (1) with the control spool (2), a block with the control lever (3), and a spring housing (4) with a return spring. When the hand operated lever moves the control spool (2) from its neutral-central position "0" and the metering notches are open; flow is delivered to the 3 way pressure compensator (5) followed by a check valve (6) for each port A or B.

The compensator, balanced by the LS pressure at the opposite and, lifts up and unloads a pressure compensated flow which is sent to the A (or B) port through the relevant check valve; at the same time the opposite port allows oil return to tank.

LS pressure reaches the compensator "dead end" directly from the A or B port, while the check valves lock eventual pressure oscillations which could affect the compensator function.

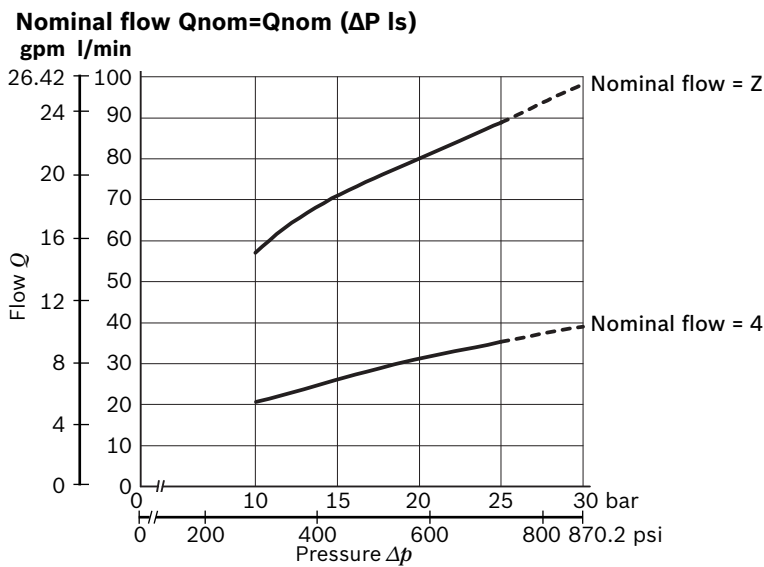
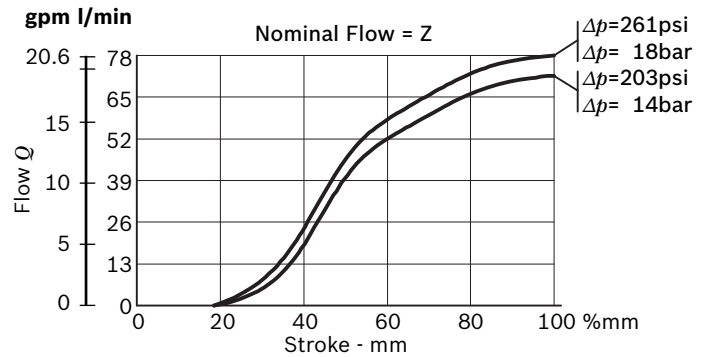
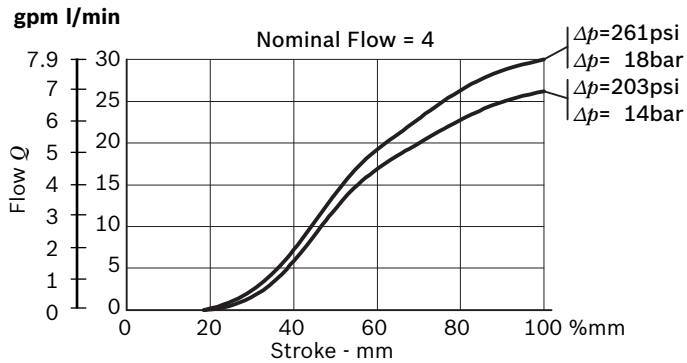
Type L85L1\_2\_\_M1\_000 is the valve version in which the spring return brings the spool back to neutral-central position "0" when the manual lever is not operated.

### Technical data

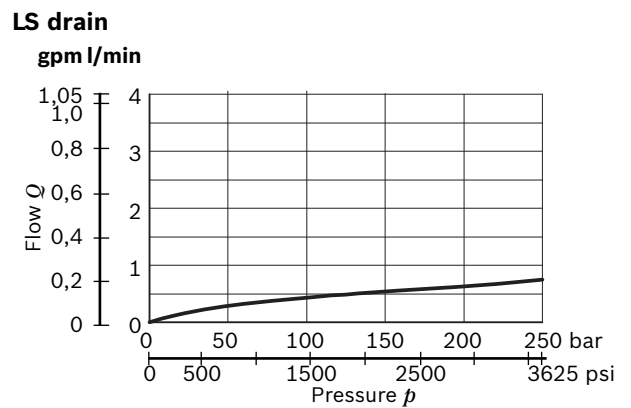
General		
Valve element weight	kg (lbs)	3.5 (7.72)
Mounting position	kg (lbs)	Unrestricted
Ambient Temperature	°C (°F)	-30....+80 (-22...176) (NBR seals)
Hydraulic		
Maximum pressure at P, A and B ports	bar (psi)	350 (5076)
Maximum pressure at T	bar (psi)	20 (290)
Maximum flow at 14 l/min (203psi)	l/min (gpm)	70 (18.49)
Maximum flow at 18 l/min (261psi)	l/min (gpm)	78 (20.6)
Hydraulic fluid General properties: it must have physical lubricating and chemical properties suitable for use in hydraulic systems such as, for example:		Mineral oil based hydraulic fluids HL (DIN 51524 part 1). Mineral oil based hydraulic fluids HLP (DIN 51524 part 2). For use of environmentally acceptable fluids (vegetable or polyglycol base) please consult us.
Fluid Temperature	°C (°F)	-30....+100 (-22...212) (NBR seals)
Permissible degree of fluid contamination		ISO 4572: β <sub>x</sub> ≥75 X=12...15 ISO 4406: class 20/15/15 NAS 1638: class 9
Viscosity range	mm²/s	5....420

**Note**  
 For applications with different specifications consult us

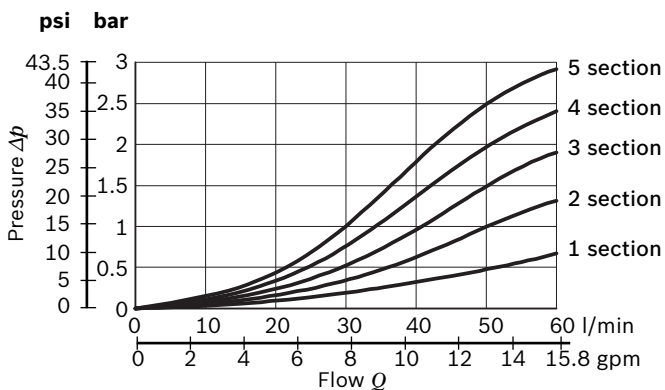
## Characteristic curves



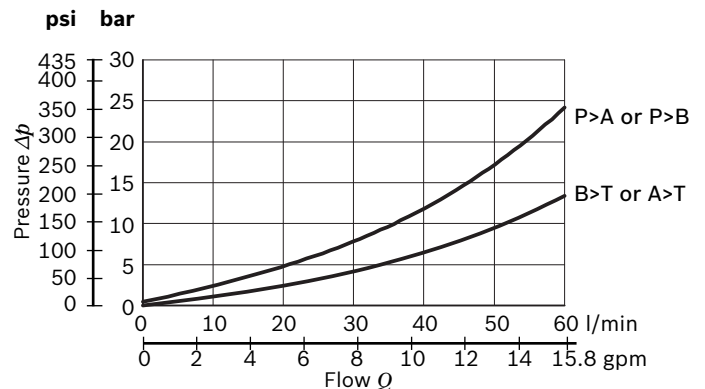
Pressure differential across the spool ( $\Delta P$ Is)



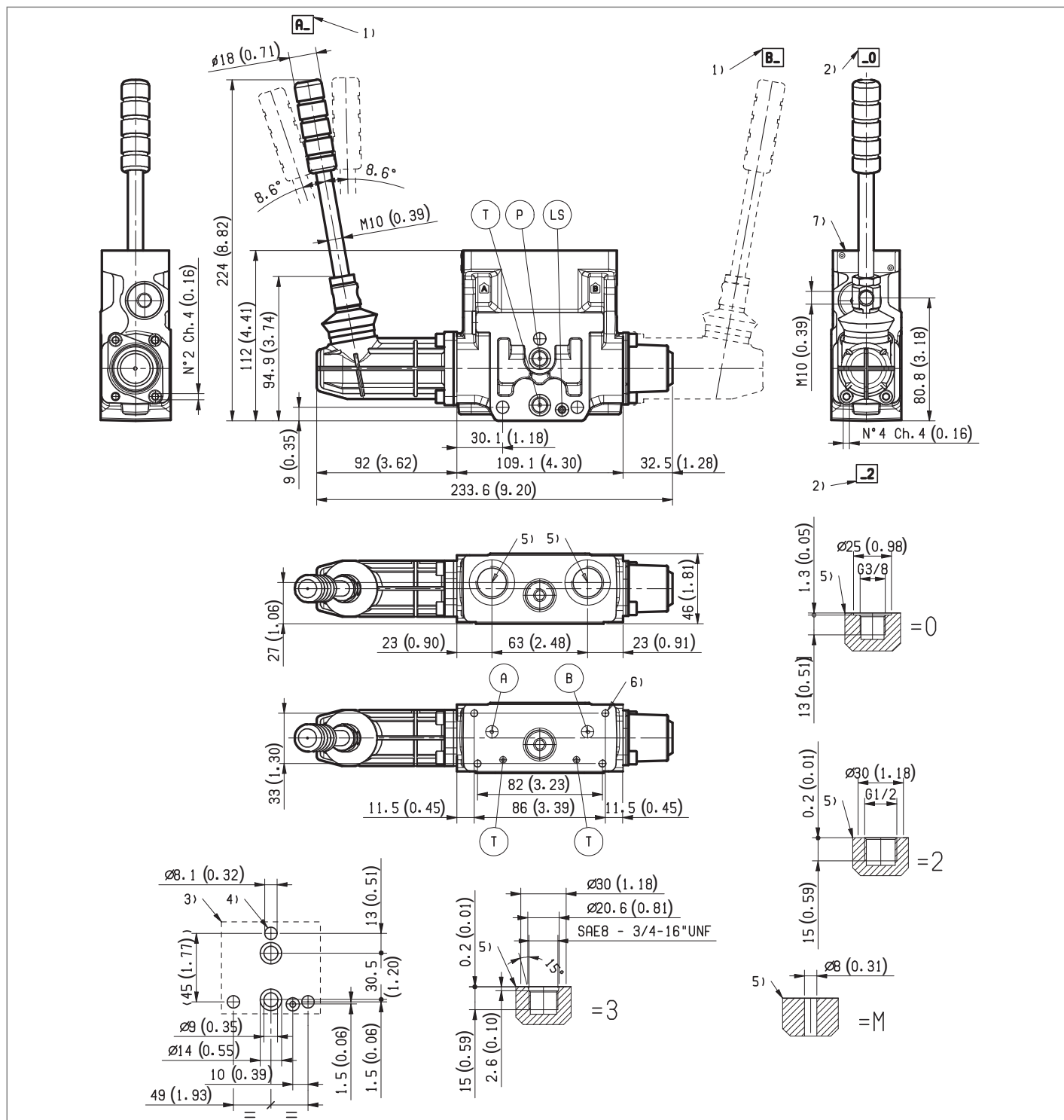
### Pressure drop $\Delta p = \Delta p(Q)$ ( $P_{IN} - P_{OUT}$ ) to the next section



### Pressure drop $\Delta p = \Delta p(Q)$ with spool B2SZ



The curves refer to the spool fully open.  
Measured with hydraulic fluid ISO-VG32 at  $45^\circ \pm 5^\circ \text{C}$   
( $113^\circ \pm 9^\circ \text{F}$ ); ambient temperature  $20^\circ \text{C}$  ( $68^\circ \text{F}$ ).  
The curves refer to the spool fully open.





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Subject to change.