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Part Number LX-6, LX-Series Load-Sensing Sectional Control Valves

- Load pressure independent flow control with
  - Open Center (OC) system for fixed displacement pump
  - Closed Center (CC) system for variable displacement pump
- Flow-optimized valve design
- High mechanical and electrical resolution
- Compact size and low weight

Specifications | General Data and Operating Conditions | Hydraulic Data | Electrical Data | General Information and Functional Description | Features | Note

Specifications

Brands	HYDAC	
Nominal Pump Port Flow Rate[1]	66 gpm	250 L/min
Nominal Working Port Flow Rate[2]	42 gpm 160 L/min	

General Data and Operating Conditions

Number of Working Sections[3]	1 to 8	
Installation Position	Optional	
Inlet Plate (CL17) Mass	13.4 lb 6.1 kg	
Inlet Plate (UL17) Mass	13.2 lb	6.0 kg
Inlet Plate (UL17F) Mass	13.0 lb 5.9 kg	
Optional Block (UD1) Mass	0.9 lb	0.4 kg
Optional Block (UW1) Mass	2.4 lb 1.1 kg	
Working Section (B6) Mass	11.2 lb	5.1 kg

Working Section (LS6) Mass	10.4 lb 4.7 kg	
Working Section (LS6F) Mass	10.0 lb	4.6 kg
Operation Unit (H) Mass	0.9 lb 0.4 kg	
Operation Unit (E) Mass	2.0 lb	0.9 kg
Hand Lever (1/2/3) Mass	0.2 lb 0.1 kg	
Optional Block (LD1) Mass	0.7 lb	0.3 kg
Optional Block (LW) Mass	2.6 lb 1.2 kg	
Optional Block (LW1) Mass	3.5 lb	1.6 kg
End Plate (ER1) Mass	8.8 lb 4.0 kg	
End Plate (ER2) Mass	8.6 lb	3.9 kg
End Plate (ER27) Mass	9.3 lb 4.2 kg	
End Plate (ER2F) Mass	8.6 lb	3.9 kg
Open Block (E1C) Mass	1.5 lb 0.7 kg	
Working Section (2) Tie Rod Mass	0.7 lb	0.3 kg
Working Section (4) Tie Rod Mass	1.1 lb 0.5 kg	
Working Section (6) Tie Rod Mass	1.5 lb	0.7 kg
Working Section (8) Tie Rod Mass	1.8 lb 0.8 kg	
Thread Connection Type	BSPP (According to ISO 1179-1)	SAE (According to ISO 11926-1 or SAE J1626)
Ambient Temperature[4]	-4 to 140 ºF -20 to 60 ºC	
Hydraulic Fluid Temperature[5]	-4 to 176 ºF	-20 to 80 ºC
Painting	Standard Primer Top Coat RAL 9005 on Inquiry	

Hydraulic Data

Nominal Flow Rate (P)	66 gpm	250 L/min
Nominal Flow Rate (A, B)	42 gpm	160 L/min
Nominal Pressure	5076 psi 350 bar	
Maximum Operating Pressure at Port (P)	5076 psi	350 bar
Maximum Operating Pressure at Port (A, B)	6092 psi 420 bar	
Maximum Operating Pressure at Port (T) for External Drained Tank Line Z	435 psi	30 bar
Maximum Operating Pressure at Port (T) for Internal Connection Z → T	145 psi 10 bar	
Maximum Operating Pressure at Port (Z)	Drained to Tank	
Maximum Pilot Pressure at Port (C/X, Y)	435 psi 30 bar	

Hydraulic Pilot Pressure	94 to 290 psi	6.5 to 20 bar
Electrohydraulic Pilot Pressure	65 to 290 psi 4.5 to 20 bar	
Required Control Pressure (Δp) at Control Block	247 psi	17 bar
Hydraulic Fluid	Mineral Oil (HL/HLP) According to DIN 51524 Other Hydraulic Fluids on Inquiry	
Viscosity	10 to 400 mm²/s	
Maximum Permitted Degree of Contamination of the Hydraulic Fluid	20/18/15 According to ISO 4406 (c)	

Electrical Data

Direct Current (DC) Supply Voltage	12 V	24 V
Connector Type	2-Pin Axial	AMP Junior Timer
Protection Class	Up to IP6K6	
Connector Type with Mating Connector Mounted and Locked	2-Pin Deutsch DT04	Axial
Protection Class with Mating Connector Mounted and Locked	Up to IPX9K	
Note for Connector Type and IP Protection Class	Mating plug-in connectors are not included.	

General Information and Functional Description

General Information and Functional	The LX-6 is a proportional directional control valve according to the load-sensing principle pre compensated. The nominal flow rate to the working ports A and B is 160 l/min. The main spool 2.1 determines the flow direction and magnitude of flow rate. Pressure control valves 2.4.3 and 2.4.4 are providing shifting pressure to the left and right side of the main spool 2.1 to control its position. The level of electric current determines the level of pilot pressure and therefore the position of the main spool. Adjustable stroke limiters 2.4.1 and 2.4.2 can be set mechanically to limit the maximum flow rate to the working ports A and B.

Description	The pressure compensator 2.7 keeps the flow rate to the actuator constant, even if the system pressure varies. Pressure changes at the pump or working ports A and B are compensated for each working section individually. The maximum operating pressure can be adjusted by LS pressure limitation for working ports A and B separately. Shock/anti-cavitation valves 2.3.2 protect the working ports A and B from pressure peaks. Anti-cavitation valves 2.3.1 protect the system from cavitation. Shuttle valves are integrated into the working sections to signal the highest load pressure for the valve stack to the inlet plate or variable displacement pump.

Features

- Modular design up to 8 working sections
- Types of operation (with/without hand lever)
  - Hydraulic
  - Electrohydraulic (on/off, proportional)
- Application-specific main spools with adjustable stroke limiter
- Shock/anti-cavitation valves for protection of actuators
- Adjustable load sense pressure limitation (mechanically or electro proportionally) causes the compensator to block flow to the working ports A or B independently
- Direct-mounted option blocks for remote control of LS and pilot oil supply
- End plates with additional pilot oil supply options
- Areas of application
  - Cranes
  - Forestry
  - Lifting platforms
  - Municipal vehicles
  - Drilling machinery
  - Truck applications
  - Construction
  - Stationary applications
  - Agriculture

Note

The technical data and characteristic curves were measured at a viscosity of 32 mm²/s.

[1] With compensator and load holding function

[2] With compensator and load holding function

[3] Deviation of data on inquiry only

[4] Deviation of data on inquiry only.

[5] Deviation of data on inquiry only.