

Data Sheet

Axial Piston Motors

L and K Frame



For more than 40 years, Danfoss has been developing state-of-the-art components and systems for mobile machinery used in off-highway operations around the world. We have become a preferred supplier by offering the best of what really matters: The hardware inside your vehicle application.

The L/K motor is designed for use primarily in mobile equipment using existing and proven technology. These motors have been optimized with regard to options, life, package size and installed cost.

The L/K motor family consists of five base displacements which all fit in one package size. Two different configurations are available, an SAE-B two-bolt, or a cartridge style motor.

These motors are a two-position, variable displacement, with smooth, shift-on-the-go capability. The working displacement range of 3.4:1 with a minimum angle option to Zero degree provides exceptional versatility in the application of L/K motors. The motor is spring biased to maximum displacement and can be hydraulically shifted to minimum angle



Features

Wide range of options

- Integral loop flush valve with relief plus orifice
- Minimum angle option to Zero degrees
- Speed sensor with zero rpm and direction sensing capability
- Single and Two line control available for SAE mount motors. Single line control available for cartridge motors
- Twin radial (side) or axial (end) porting is available
- Multiple minimum displacement options available
- Reduced maximum displacement options
- Tapered input shaft with shaft seal dust protector for fan drive applications

Installation and Packaging benefits

- SAE-B two-bolt, and cartridge mounting
- Three clean sides with superior clearance and access to mounting bolts
- Short and compact: fits into wheel end and compact installations with improved porting
- The cartridge motor fits through a 178 mm [7 Inch] mounting hole of a gearbox pilot for subassembly installation of motor to gearbox
- High Efficiency - nine piston rotating groups with an 18 degree maximum angle
- Low control pressure requirement (14 bar for servo) - no undue parasitic power loss. Smooth two-speed shift from minimum to maximum angle

Designed for Durability and Flexibility

- Versatility - working displacement range of 3.4:1 with a minimum angle option to Zero degrees. SAE-B two-bolt, and cartridge mounting available
- Five displacements allow the optimum selection of hydraulic motor for the lowest possible installed cost
- Reliability - uses existing technology
- Suitable for closed and open circuit applications
- Designed for maximum system pressures up to 420 bar [6100 psi]

Comprehensive technical literature is online at powersolutions.danfoss.com

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Technical specifications

Physical properties

Parameter	Unit	L25	L30	L35	K38	K45
Displacement maximum	cm ³ [in ³]	25 [1.50]	30 [1.83]	35 [2.14]	38 [2.32]	45 [2.75]
Weight (cartridge and SAE-B)	kg [lb]	15.4 [34]				
Mass moment of inertia of rotating components	kg·m ² [slug·ft ²]	0.001666 [0.001229]	0.001582 [0.001167]	0.001530 [0.001128]	0.002326 [0.001716]	0.002286 [0.001687]
Theoretical torque	N·m/bar [lbf·in/1000psi]	0.40 [244]	0.48 [293]	0.56 [347]	0.60 [366]	0.72 [439]

Operating parameters

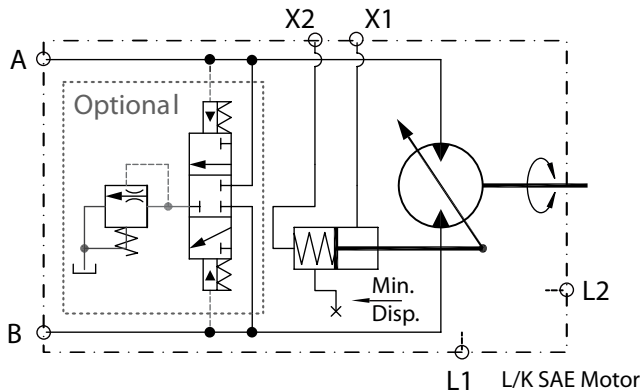
Parameter		Unit	L25	L30	L35	K38	K45
System pressure¹	Maximum operating	bar [psi]	400 [5800]	350 [5075]	300 [4350]	350 [5075]	300 [4350]
	Maximum		420 [6090]	375 [5440]	325 [4715]	415 [6019]	350 [5075]
Speed limit (at max. disp)	Rated	min ⁻¹ (rpm)	3400	3500	3600	3600	3500
	Maximum		3950	4150	4300	4000	3900
Speed limit (at min. disp)²	Rated	min ⁻¹ (rpm)	4400	4450	4500	4650	4500
	Maximum		5000	5150	5300	5200	5050
Case pressure	Maximum operating	bar [psi]	2 [29]				
	Maximum		6 [87]				
Shift pressure (single line control)	Maximum operating	bar [psi]	14 [203]				
	Maximum		69 [1000]				

¹ Refer to bulletin 520L0627 for pressure definitions

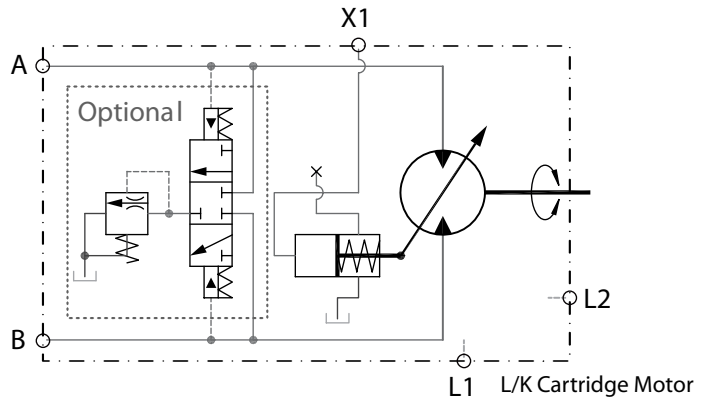
² Limit when motor angle is 12 degrees or less

Schematics

SAE Motor schematic, two line control



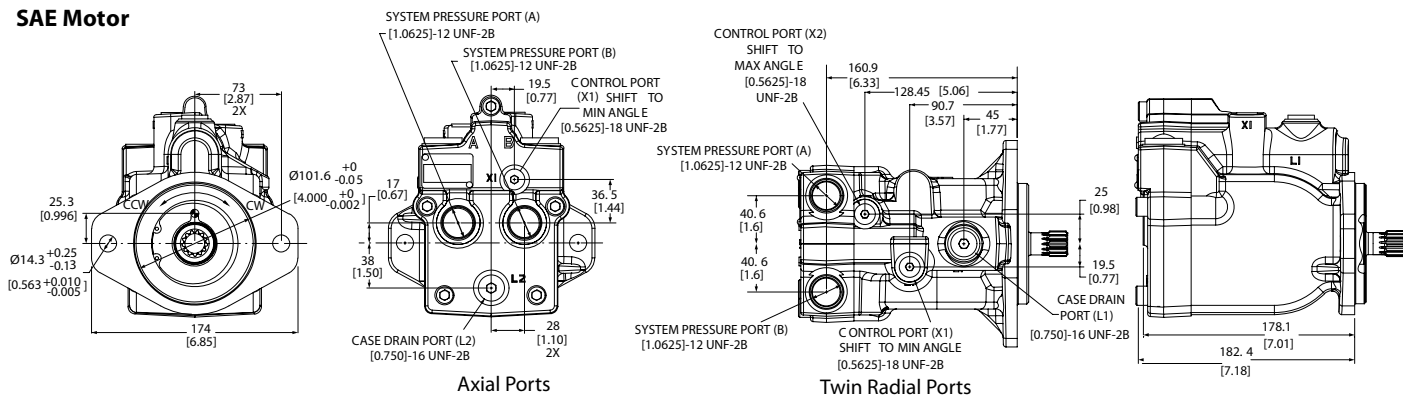
Cartridge motor schematic, single line control



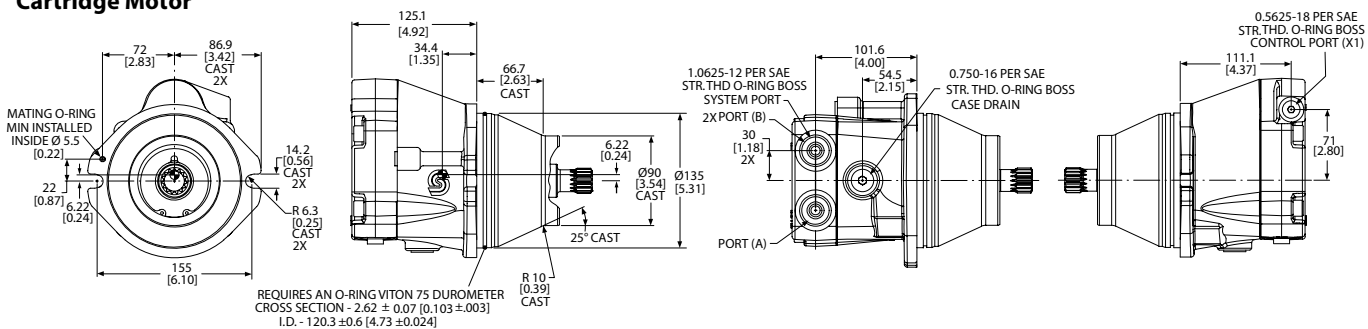
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Dimensions

SAE Motor



Cartridge Motor



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