

Data Sheet

Open Circuit Pumps Series 45



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.

Series 45 pumps are a high efficiency alternative to traditional open circuit pumps. Each frame size is uniquely designed to optimize performance, size, and cost, while matching the demanding requirements of the mobile equipment market.

Series 45 pumps are designed to fit the needs of open circuit systems capable of speeds up to 3600 rpm, maximum pressures up to 400 bar, continuous pressures up to 310 bar [4500 psi]. Series 45 pumps offer a wide variety of control options such as Electronic Torque Limiting (ETL).

Series 45 pumps are PLUS+1[®] compliant. With robust designs and proven reliability in the test lab and the field, Series 45 pumps set the standard for market quality. Danfoss pumps are supported by a global network of authorized service centers.

Series 45 offers a full line of displacement, controls, pressures and configurations that have been engineered to fit all of your application needs.



Features

Designed for durability and flexibility

- Heavy-duty tapered roller bearings for long life
- Single piece rigid housing reduces leak paths and noise
- Designed and manufactured to rigorous standards for mobile equipment
- Displacements ranging from 25 to 147 cm³/rev [1.53 - 8.97 in³/rev]

Installation and packaging benefits

- Compact design minimizes installation space requirements
- Wide range of mounting flanges, shafts, and porting options for ease of installation
- Robust input shaft bearings to handle large external loads
- Low noise for operator comfort

Application benefits

- Optimized design maximizes efficiency and quiet operation
- PLUS+1[®] compliant control options
- Simple design reduces service requirements
- Optimizes machine power usage to maximize productivity

Comprehensive technical literature is online at www.danfoss.com

PLUS+1[®] Compliance

PLUS+1[®] compliance ties our advanced mobile control technology together. Our electrohydraulic products integrate seamlessly using PLUS+1[®] Guide. You can develop customized controls faster than ever while reducing cost and development time. Our pumps are designed to work seamlessly with PVG valves. PVG valves offer electronic control, load-sensing and flexible, modular design.

Specifications

Pump model		Frame L		Frame K		Frame J		
Maximum displacement	cm ³ [in ³]	25 [1.35]	30 [1.83]	38 [2.32]	45 [2.75]	45 [2.75]	51 [3.11]	60 [3.66]
Cont. working pressure	bar [psi]	260 [3770]	210 [3046]	260 [3770]	210 [3046]	310 [4500]	310 [4500]	310 [4500]
Max. working pressure		350 [5075]	300 [4350]	350 [5075]	300 [4350]	400 [5800]	400 [5800]	400 [5800]
Continuous input speed	min ⁻¹ (rpm)	3200	3200	2650	2650	2800	2700	2600
Theoretical flow	l/min [US gal/min]	80 [21.1]	96 [25.4]	100.7 [26.6]	119.2 [31.5]	126 [33.3]	137.7 [36.4]	156 [41.2]
Weight	kg [lb]	Axial 19 [41.9], Radial 24 [52.9]				Axial 23.1 [51.0], Radial 27.3 [60.2]		

Pump model		Frame J (cont.)		Frame F		Frame E		
Maximum displacement	cm ³ [in ³]	65 [3.97]	75 [4.58]	74 [4.52]	90 [5.49]	100 [6.1]	130 [7.93]	147 [8.97]
Cont. working pressure	bar [psi]	260 [3770]	260 [3770]	310 [4500]	260 [3770]	310 [4500]	310 [4500]	260 [3771]
Max. working pressure		350 [5075]	350 [5075]	400 [5800]	350 [5075]	400 [5800]	400 [5800]	350 [5075]
Continuous input speed	min ⁻¹ (rpm)	2500	2400	2400	2200	2450	2200	2100
Theoretical flow	l/min [US gal/min]	162 [42.9]	180 [47.5]	177.6 [47.4]	198 [52.8]	245 [64.7]	286 [75.6]	308 [81.4]
Weight	Axial	kg [lb]	23.1 [51.0]	29.5 [65.0]		51.3 [113]		
	Radial		27.3 [60.2]	32.6 [71.9]		54.9 [121]		

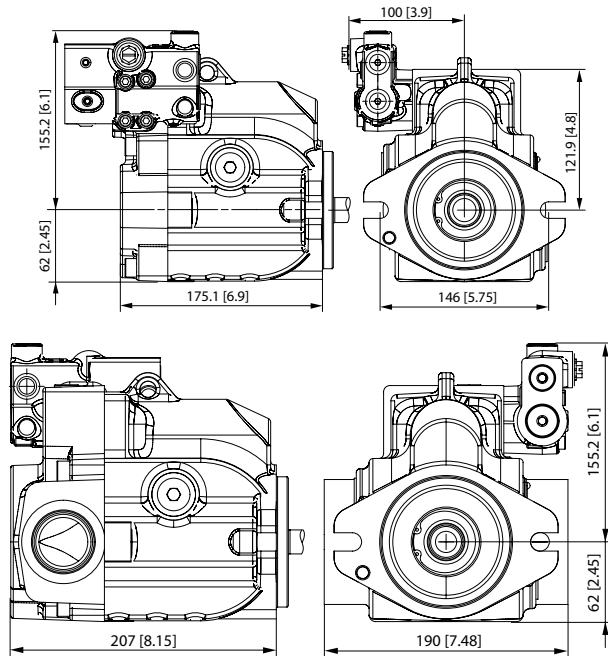
Pump model		Frame K2			
Maximum displacement	cm ³ [in ³]	25 [1.53]	30 [1.83]	38 [2.32]	45 [2.75]
Cont. working pressure	bar [psi]	260 [3770]	260 [3770]	310 [4500]	260 [3770]
Max. working pressure		350 [5075]	350 [5075]	350 [5075]	350 [5075]
Continuous input speed	min ⁻¹ (rpm)	3450	3200	2900	2900
Theoretical flow	l/min [US gal/min]	86.3 [22.8]	96.0 [25.4]	110.2 [29.1]	130.5 [34.5]
Weight	Axial	kg [lb]	16 [35]		
	Radial		17 [37]		

Control features and options

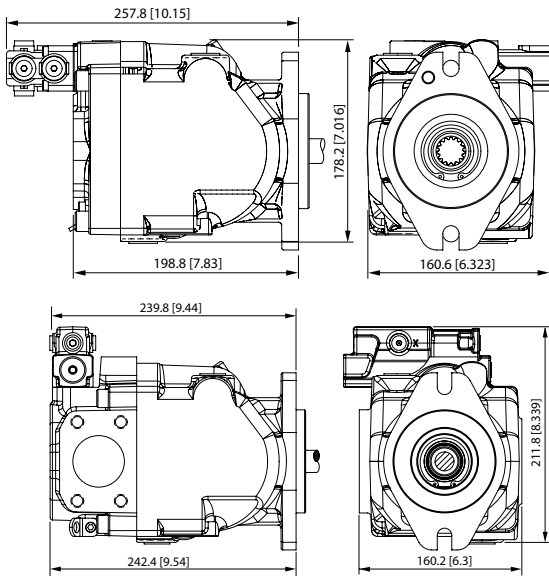
Function Type	Pressure compensation (PC)	Load Sensing (LS)	Cold start relief	Power management	Normally open	Normally closed	12 Vdc	24 Vdc	Description
Pressure Compensation (PC) Only	■								Simplicity at its finest. Pump works to maintain a constant pressure at its outlet.
Pressure Compensation/ Load Sensing (PC/LS)	■	■							Industry standard performance & efficiency to deliver on-demand flow. Pump consumes little power under no demand.
Remote PC			■						Supply your own pressure control valve to create your own variable setting pressure control.
Electronic On/OFF	■		■			■	■	■	Simplicity of a PC only pump with an added pump unloading valve.
Electronic Dump	■	■	■		■	■	■	■	Gain performance & efficiency of a load sensing system with the added flexibility of a pump unloading valve.
Electronic Proportional Controls (EPC)	■		■		■	■	■	■	Fully proportional pressure setting capability. Useful for fan drives or other variable pressure requirement systems.
Fan Drive Control (FDC)	■					■	■	■	Dedicated fan drive control in a fully optimized single spool design package. Reduce installed weight & minimum system pressure levels.
Electronic Torque Limiting (ETL)	■	■	■	■		■	■	■	Implement open circuit power management to perfection with electronically variable torque control.

Dimensions

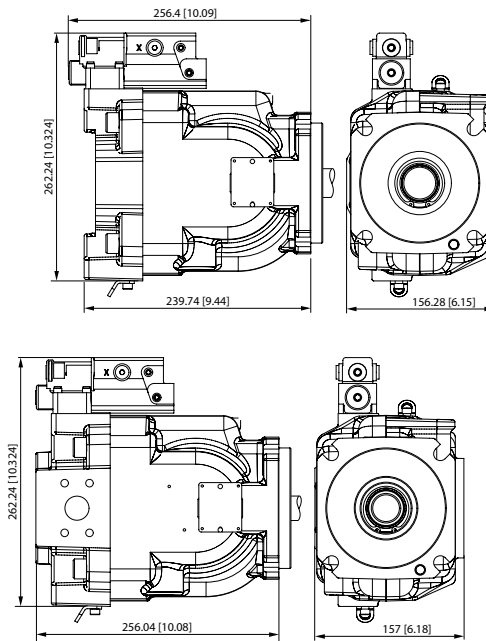
Frame L/K Axial (top) and Radial (bottom)



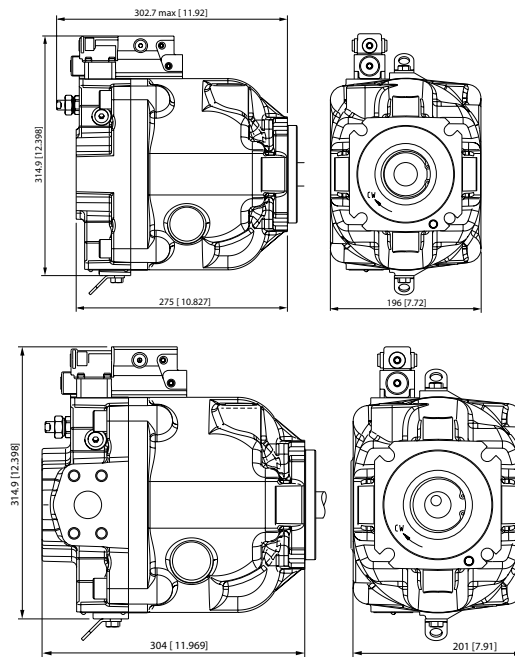
Frame J Axial (top) and Radial (bottom)



Frame F Axial (top) and Radial (bottom)



Frame E Axial (top) and Radial (bottom)



Dimensions

Frame K2 Axial (top) and Radial (bottom)

