

D1 High Power Open Circuit Pumps 130/145/193/260 cm³



SAMER has become a preferred Hydraulic Supplier with many Manufacturers because offers the best of what really matters: the hardware at the internal core of the Machine Application.

The new D1 pump is a high-pressure, high-performance variable axial piston pump, developed specifically for open-circuit systems in the most extreme application environments. Its robust design makes it an ideal solution for concrete machinery, mining machinery, cranes, drilling machinery, offshore, marine, and oil and gas equipment.

The D1 expands the Danfoss open circuit pump portfolio to include higher hydraulic power product options for customers. It's designed to work seamlessly with the new PVG 128/256 high flow valves, providing OEMs a full hydraulic system portfolio.

The D1 pump is offered with four displacement options (130cc-260cc), a wide range of control options (pressure, load sense, power limiting and displacement controls), output pressure up to 350bar [5000psi] continuously, 400bar [5802psi] intermittently, and an integral charge pump allows the D1 pump to run at speeds up to 2500rpm.

The D1 pump was developed and designed with global expertise, and customers will benefit from the strong local service provided by Danfoss. Danfoss offers technical support through its wide network of local distributors in more than 100 countries.

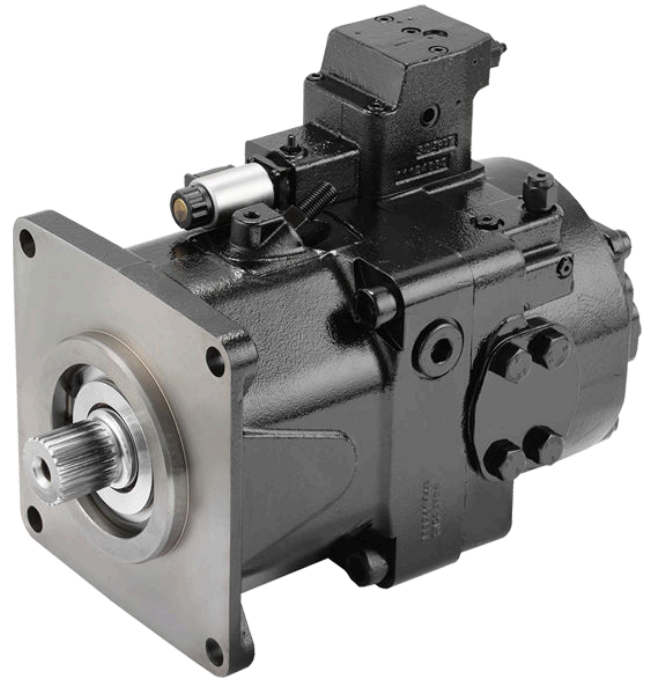
Features

Designed for quality and reliability

- Proven and optimized 9 piston rotating group
- Angled bore cylinderblock design improves self-priming capability
- The spherical valve plate and cylinderblock surface provide stable rotation, thus achieving high efficiency

Installation and packaging benefits

- Mainstream installation
- Standardized connector interface
- High power density



Expanded functionality

- Integral charge pump option allows the pump to run at higher speed
- PLUS+1® compliant control • Full power through drive capability
- The electric displacement control features manual override function for diagnosis

Control options

- NPNN : Pressure compensated control
- NPSN : Pressure compensated control + Load sensing control
- NPNR : Pressure compensated control + Remote pressure compensated control
- NNES : Electric displacement control + Load sensing control
- TPSN : Mechanical power control + Pressure compensated control + Load sensing control
- TPE2/TPE5 : Mechanical power control + Pressure compensated control + Electric displacement control

D1 High Power Open Circuit Pumps

Technical Specifications

Features	Unit	130		145		193	260	
		W/O Charge Pump	W/ Charge Pump	W/O Charge Pump	W/ Charge Pump	W/Charge Pump	W/Charge Pump	
Displacement	cm ³ [in ³]	130 [7.93]	130 [7.93]	145 [8.85]	145 [8.85]	193 [11.78]	260 [15.87]	
Available Rotation ¹	CCW [L]	●		●		●		
	CW [R]	●	●	●	●	●	●	
Weight (approx.)	kg [lbs]	68 [150]	74 [163]	68 [150]	74 [163]	106 [234]	141 [311]	
Input Speed	Min.	rpm	500	500	500	500	500	
	Rated		2200	2500	2200	2500	2500	2300
	Max.		2500	2500	2200	2500	2500	2300
Theoretical Flow	l/min [US gal/ min]	273 [72]	325 [86]	319 [84]	363 [96]	483 [128]	598 [158]	
System Pressure	Max. Working Pressure ²	bar [psi]	350 [5076]					
	Max. Pressure		400 [5802]					
Inlet Pressure (Abs)	Min.	bar [psi]	0.8 [11.6]	0.6 [8.7]	0.8 [11.6]	0.6 [8.7]	0.6 [8.7]	0.6 [8.7]
	Max.		30 [435]	2 [29]	30 [435]	2 [29]	2 [29]	2 [29]
Case Pressure (Abs)	Max.	bar [psi]	2 [29]					

¹ Rotation: Counterclockwise (CCW) & Clockwise (CW) directions as viewed from the shaft end of the pump.

² Applied pressures above maximum working pressure requires SAMER srl application approval. Maximum (peak) pressure is the highest intermittent (t<1s) outlet pressure allowed.

SAMER offers following services:

- Systems design with pumps and motors in closed and open loop circuits including valves,
- Sale of hydraulic components and electronic devices.
- Commissioning and start up on machinery.
- Repair of hydraulic components
- Postsale and service troubleshoot on phone

D1 High Power Open Circuit Pumps

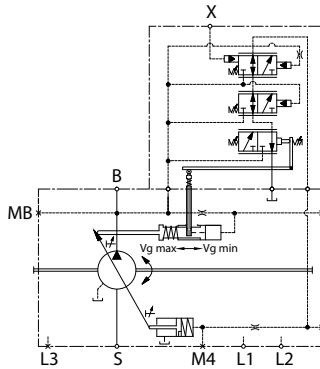
Schematics/Dimensions (mm)

For other controls, please see D1 Technical Information, L1426007

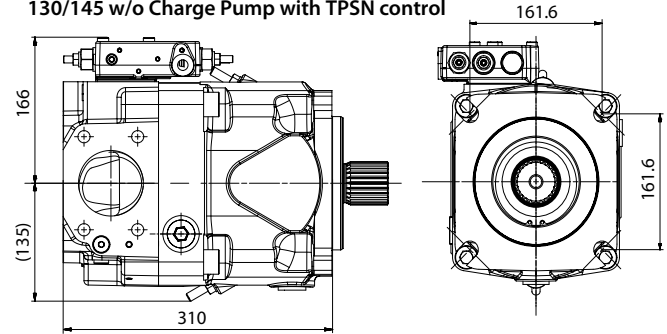
Schematics

Outline dimensions

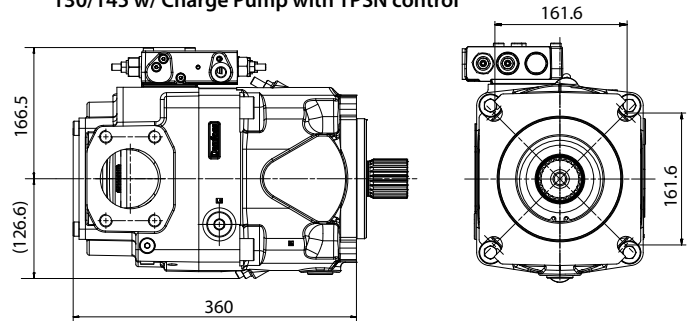
130/145:
TPSN control



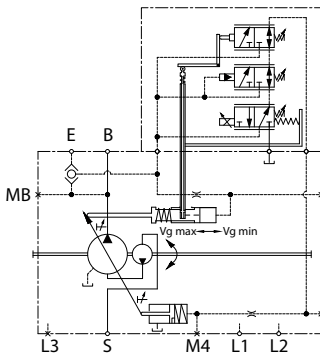
130/145 w/o Charge Pump with TPSN control



130/145 w/ Charge Pump with TPSN control

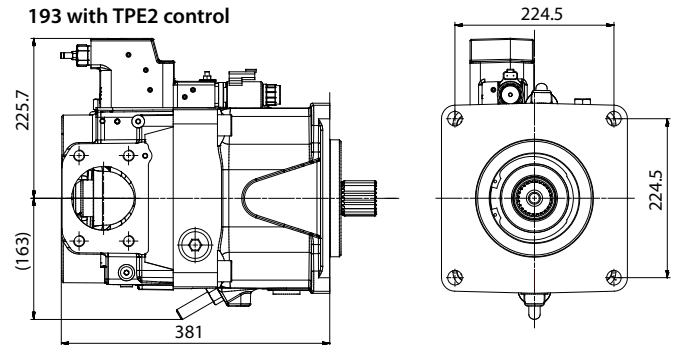


130/145:
TPE5 control

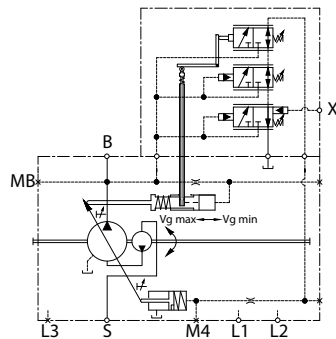


193/260:
TPE2 control

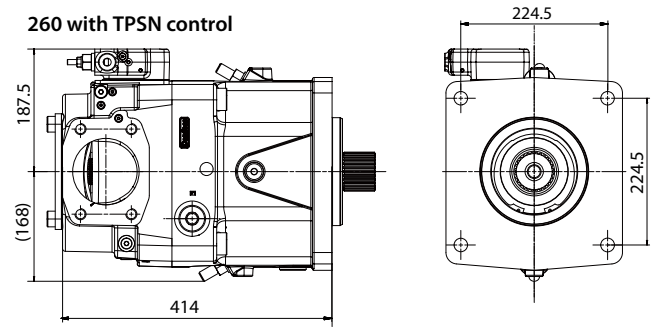
193 with TPE2 control



193/260:
TPSN control



260 with TPSN control



P400420

Open Circuit Pumps

Series 45

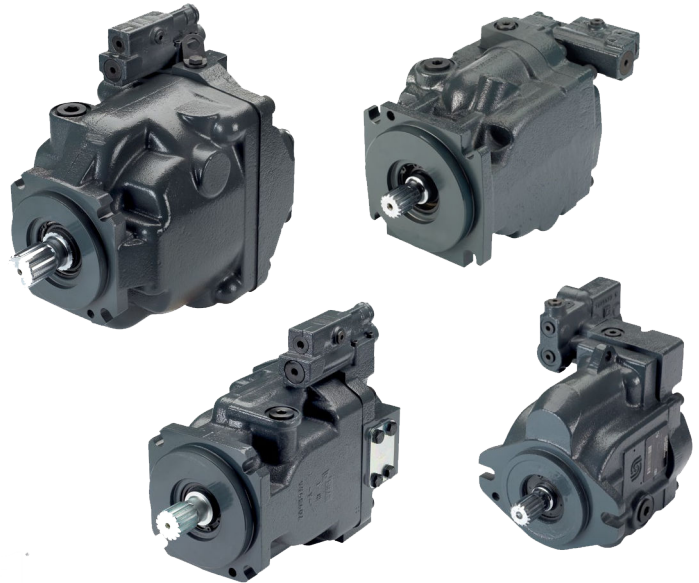


For more than 40 years, Danfoss has been developing state-of-the-art components and systems for mobile machinery used in off-highway operations around the world. We have become a preferred supplier by offering the best of what really matters: The hardware inside your vehicle application.

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.



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

Wide range of controls

- Pressure Compensating (PC)
- Load Sensing (LS)
- Remote Pressure Compensation (RP)
- Electric Normally Open On/Off - 12 V / 24 V (NO)
- Electric Normally Closed On/Off - 12 V / 24 V (NC)
- Electric Proportional Pressure Control (EPC)
- Electronic Torque Control (ETL) with angle sensor

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

Open Circuit Pumps Series 45

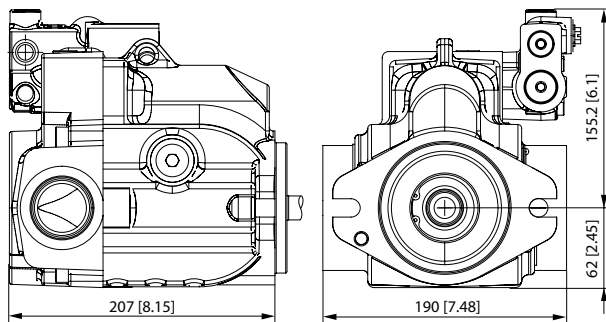
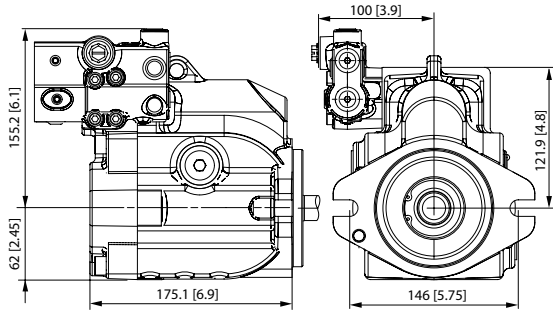
Specifications

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	2800	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]	

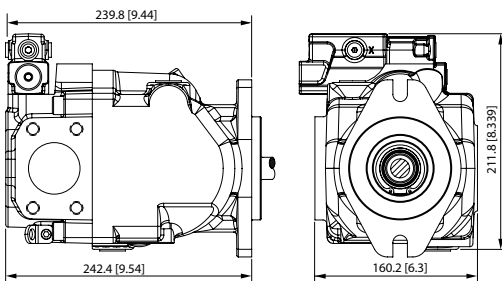
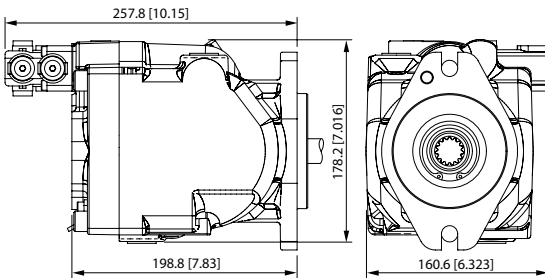
Open Circuit Pumps Series 45

Dimensions

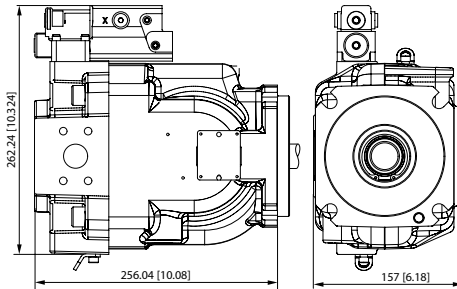
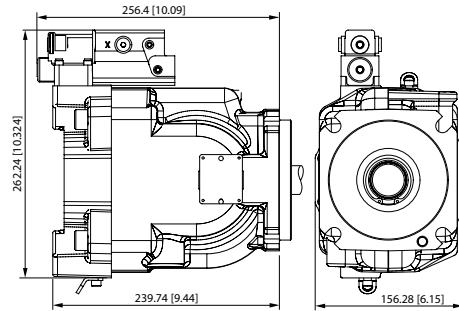
Frame L/K Axial (top) and Radial (bottom)



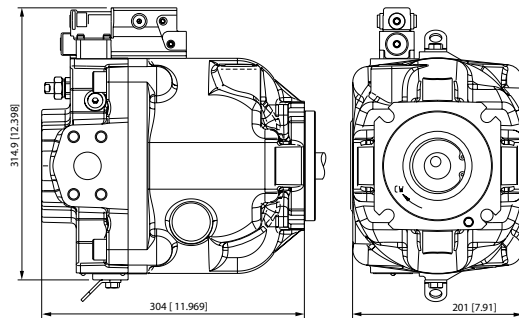
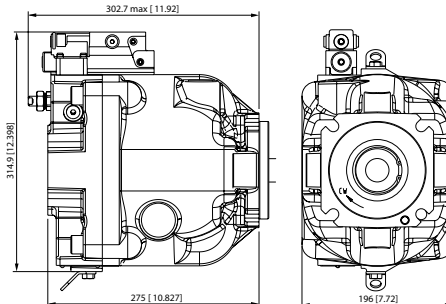
Frame J Axial (top) and Radial (bottom)



Frame F Axial (top) and Radial (bottom)



Frame E Axial (top) and Radial (bottom)



SAMER offers following services:

- Systems design with pumps and motors in closed and open loop circuits including valves,
- Sale of hydraulic components and electronic devices.
- Commissioning and start up on machinery.
- Repair of hydraulic components
- Postsale and service troubleshooting on phone

SAMER S.r.l.

C.da Molino 58/C - Campofilone FM - 63828

Tel: +39 0734 340364 - 06 30818297 - Cell.+39 348 6937145

info@samer.company - www.samer.company