

Data Sheet

D1 High Power Open Circuit Pumps

130/145/193/260 cm³

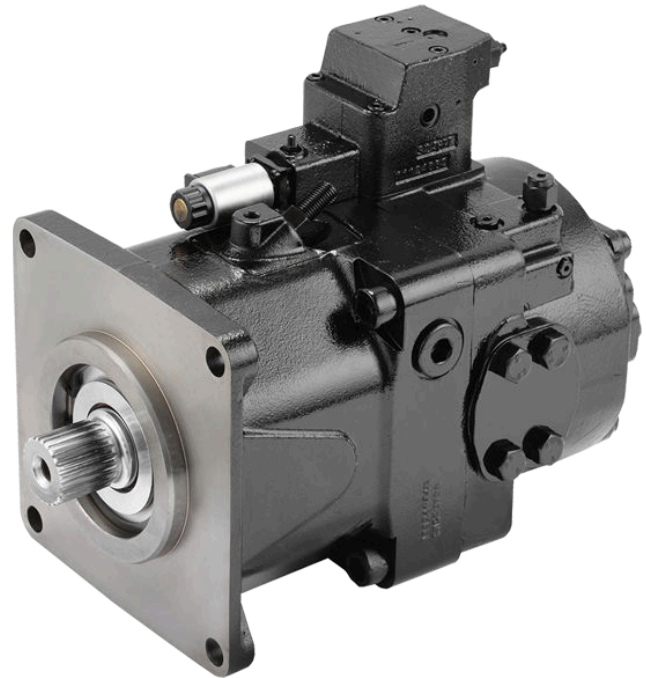


The new D1 pump is a high-pressure, high-performance variable axial piston pump, developed specifically for open-circuit systems in the most extreme application environments. Its robust design makes it an ideal solution for concrete machinery, mining machinery, cranes, drilling machinery, offshore, marine, 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	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 Danfoss application approval. Maximum (peak) pressure is the highest intermittent (t<1s) outlet pressure allowed.

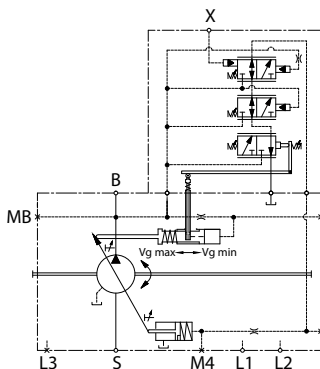
Schematics/Dimensions (mm)

For other controls, please see D1 Technical Information, L1426007

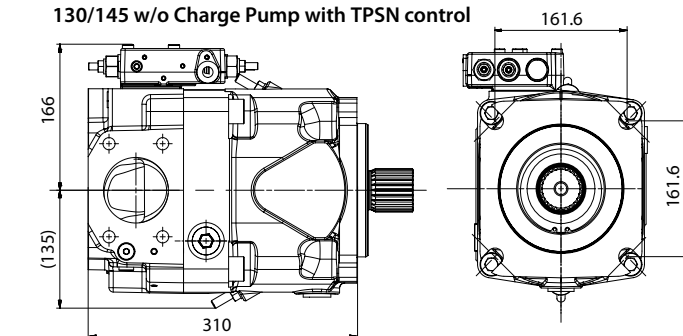
Schematics

Outline dimensions

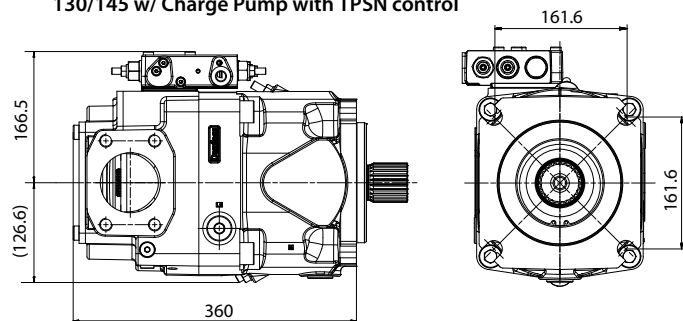
130/145:
TPSN control



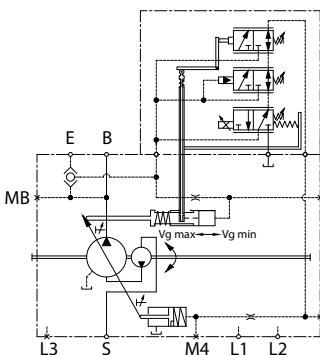
130/145 w/o Charge Pump with TPSN control



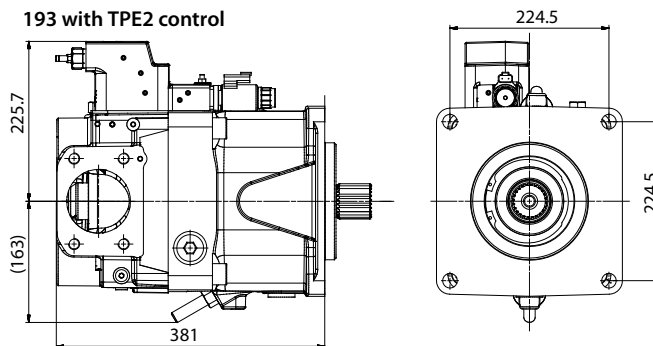
130/145 w/ Charge Pump with TPSN control



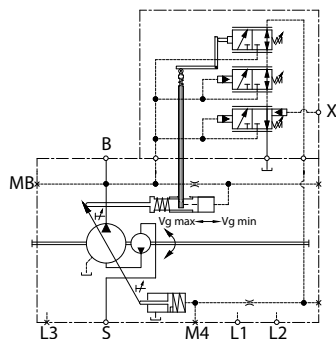
130/145:
TPE5 control



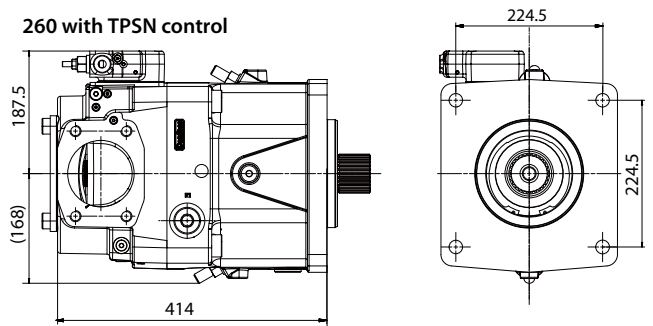
193 with TPE2 control



193/260:
TPSN control



260 with TPSN control



P400420

ENGINEERING
TOMORROW



Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without changes being necessary in specifications already agreed.
All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.
