

## Data Sheet

# D1 High Power Open Circuit Pumps

## 130/145/193/260 cm<sup>3</sup>

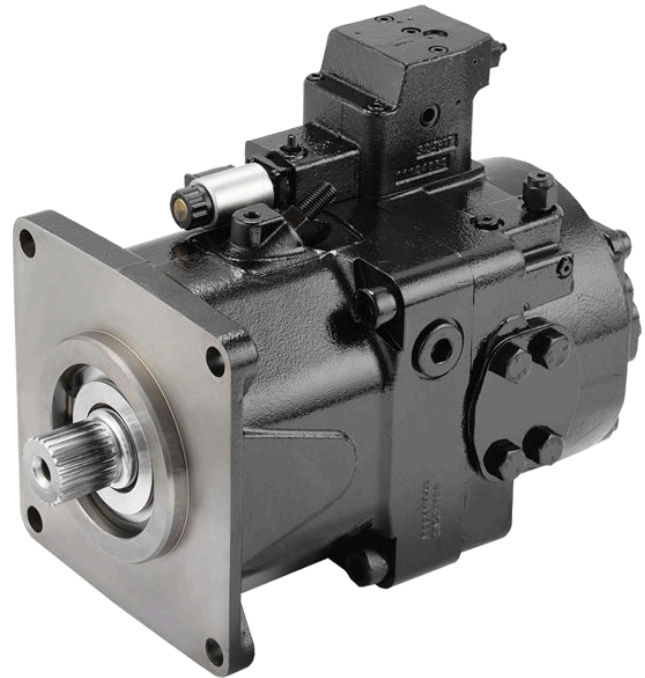


The new D1 pump is a high-pressure, high-performance variable axial piston pump, developed specifically for open-circuit systems in the most extreme application environments. Its robust design makes it an ideal solution for concrete machinery, mining machinery, cranes, drilling machinery, offshore, marine, 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<sup>®</sup> 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 <sup>3</sup> [in <sup>3</sup> ]	130 [7.93]	130 [7.93]	145 [8.85]	145 [8.85]	193 [11.78]	260 [15.87]
Available Rotation <sup>1</sup>		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 <sup>2</sup>	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]					

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

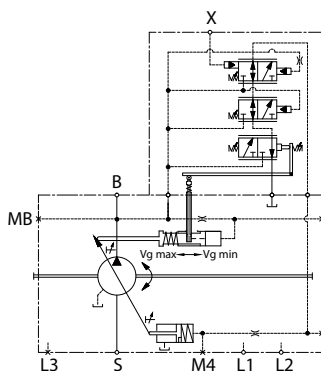
<sup>2</sup> Applied pressures above maximum working pressure requires Danfoss application approval. Maximum (peak) pressure is the highest intermittent (t<1s) outlet pressure allowed.

**Schematics/Dimensions (mm)**

For other controls, please see D1 Technical Information, L1426007

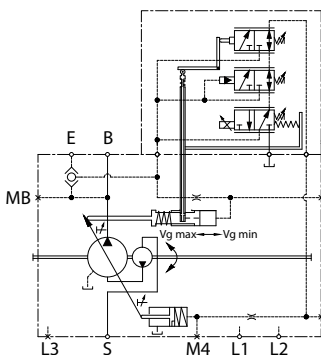
**Schematics**

130/145:  
TPSN control

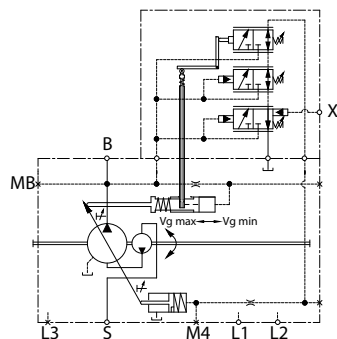


130/145:  
TPE5 control

193/260:  
TPE2 control

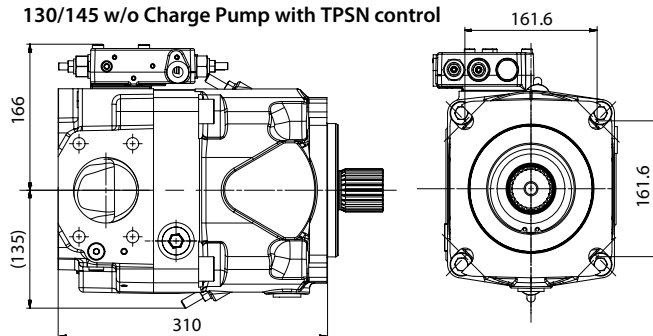


193/260:  
TPSN control

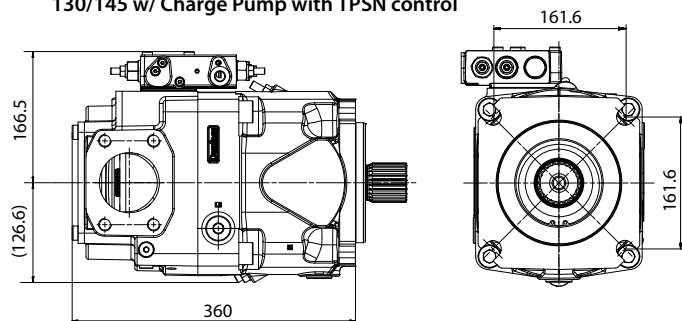


**Outline dimensions**

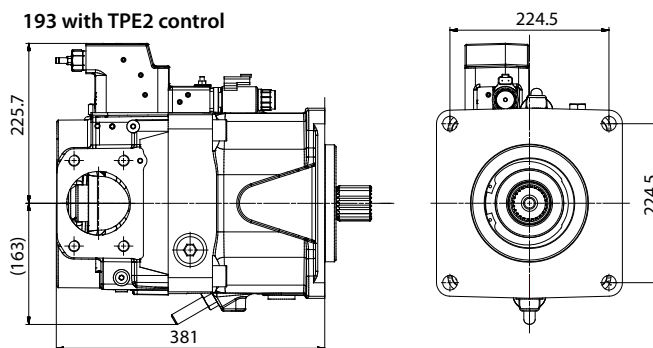
130/145 w/o Charge Pump with TPSN control



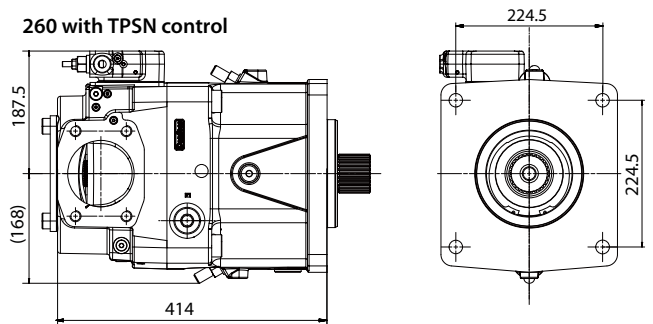
130/145 w/ Charge Pump with TPSN control



193 with TPE2 control



260 with TPSN control



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