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

**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

**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

**Data Sheet**

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

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# Technical Specifications

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Displacement</td>
<td>cm³ [in³]</td>
<td></td>
<td></td>
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<tr>
<td>Available Rotation¹</td>
<td>CCW [L]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CW [R]</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Input Speed</td>
<td>rpm</td>
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<td>500</td>
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</tr>
<tr>
<td></td>
<td>Min.</td>
<td>2200</td>
<td>2500</td>
<td>2200</td>
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<tr>
<td></td>
<td>Rated</td>
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<td>2500</td>
<td>2200</td>
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<tr>
<td></td>
<td>Max.</td>
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<td>2500</td>
<td>2200</td>
<td>2500</td>
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<td>2500</td>
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<tr>
<td></td>
<td>[US gal/min]</td>
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<td></td>
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<tr>
<td>System Pressure</td>
<td>bar [psi]</td>
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<td></td>
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<td>350 [5076]</td>
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<tr>
<td></td>
<td>Max. Working Pressure²</td>
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<td>400 [5802]</td>
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<tr>
<td>Inlet Pressure (Abs)</td>
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<td>0.6 [8.7]</td>
<td>0.8 [11.6]</td>
<td>0.6 [8.7]</td>
<td>0.6 [8.7]</td>
<td>0.6 [8.7]</td>
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<td>Case Pressure (Abs)</td>
<td>Max.</td>
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<td>2 [29]</td>
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</tbody>
</table>

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 w/o Charge Pump with TPSN control

130/145 w/ Charge Pump with TPSN control

130/145: TPSN control

193 with TPE2 control

193/260: TPE2 control

260 with TPSN control

193/260: TPSN control

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