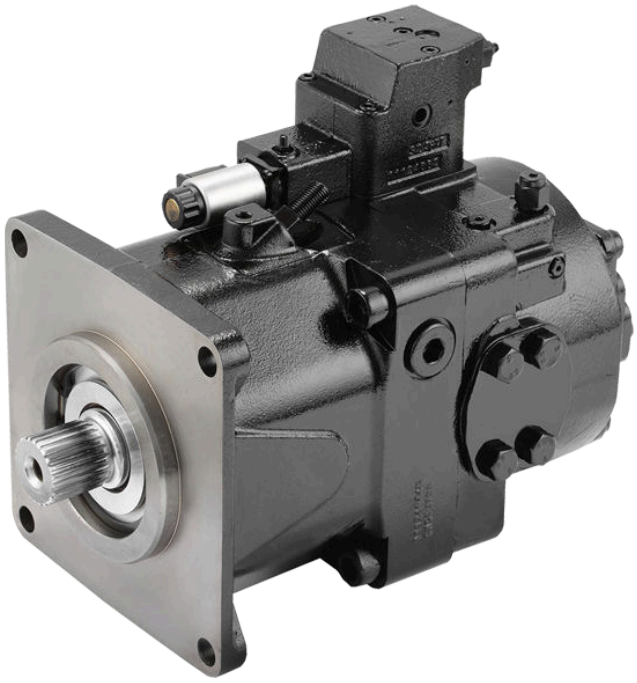
ENGINEERING TOMORROW

Data Sheet

D1 High Power Open Circuit Pumps
065/130/145/160/193/260/290 cm^3



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 five displacement options (65cc-260cc)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
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Expanded functionality

- Integral impeller style 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

Hydraulic control options

- NPNN: PC
- NPSN: PC + LS
- NPNR: PC + RPC
- TPSN: MTC + PC + LS

Electro-hydraulic control options

- NPE0: PC + EDC (without pilot pressure)
- NPE2/NPES: PC + EDC (with pilot pressure)
- NNES: EDC + LS
- ENSN: EPC + LS
- TPE2/TPE5: MTC + PC + EDC

Technical specifications

D1P 065, 130, 145, 160 details

Features		Unit	65	130		145		160	
			No impeller	No impeller	Impeller	No impeller	Impeller	No impeller	Impeller
Displacement		cm^3 [in^3]	65 [3.84]	130 [7.93]	130 [7.93]	145 [8.85]	145 [8.85]	160 [9.77]	160 [9.77]
Available rotation		CCW [L]	●	●	●	●	●	●	●
		CW [R]		●	●	●	●	●	●
Weight		kg [lbs]	47 [104]	68 [150]	74 [163]	68 [150]	74 [163]	68 [150]	74 [163]
Input speed	Min.	rpm	500	500	500	500	500	500	500
	Rated		2550	2200	2500	2200	2500	2200	2500
	Max.		3000	2500	2500	2200	2500	2200	2500
Theoretical flow		l/min [US gal/min]	165 [44]	286 [76]	325 [86]	319 [84]	363 [96]	400 [106]	400 [106]
System pressure	Max. working pressure	bar [psi]	350 [5076]	350 [5076]	350 [5076]	350 [5076]	350 [5076]	350 [5076]	350 [5076]
	Max. pressure		400 [5802]	400 [5802]	400 [5802]	400 [5802]	400 [5802]	400 [5802]	400 [5802]
Inlet pressure (Abs)	Min.	bar [psi]	0.8 [11.6]	0.8 [11.6]	0.6 [8.7]	0.8 [11.6]	0.6 [8.7]	0.8 [8.7]	0.6 [8.7]
	Max.		30 [435]	30 [435]	2 [29]	30 [435]	2 [29]	30 [435]	2 [29]
Case pressure (Abs)	Max.	bar [psi]	2 [29]	2 [29]	2 [29]	2 [29]	2 [29]	2 [29]	2 [29]

D1P 193, 260, 290 details

Features		Unit	193	260	290
			Impeller	Impeller	Impeller
Displacement		cm^3 [in^3]	193 [11.78]	260 [15.87]	290 [17.70]
Rotation		CCW [L]	●	●	●
		CW [R]	●	●	●
Weight		kg [lb]	106 [234]	141 [311]	141 [311]
Input speed	Min.	rpm	500	500	500
	Rated		2500	2300	2300
	Max.		2500	2300	2300
Theoretical flow		l/min [US gal/min]	483 [128]	598 [158]	667 [176]
System pressure	Max. working pressure	bar [psi]	350 [5076]	350 [5076]	350 [5076]
	Max. pressure		400 [5802]	400 [5802]	400 [5802]
Inlet pressure (Abs)	Min.	bar [psi]	0.6 [8.7]	0.6 [8.7]	0.6 [8.7]
	Max.		2 [29]	2 [29]	2 [29]
Case pressure (Abs)	Max.	bar [psi]	2 [29]	2 [29]	2 [29]

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

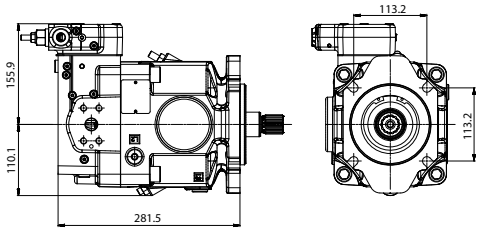
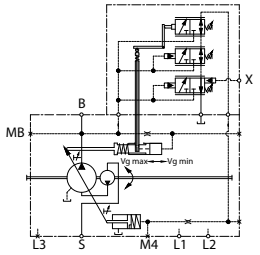
Caution

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

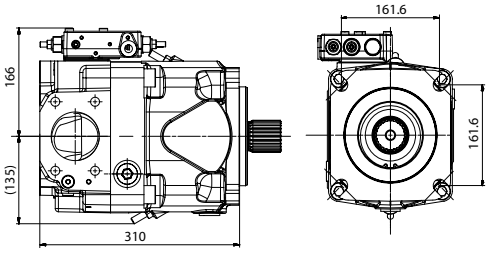
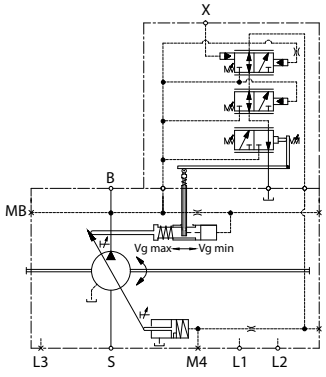
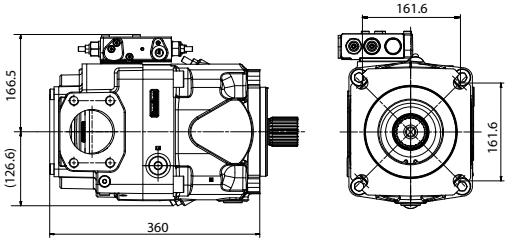
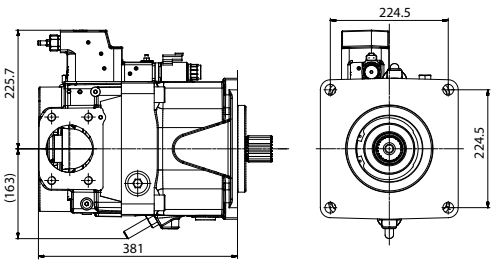
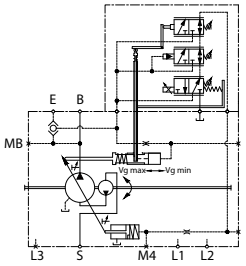
Schematics/Dimensions (mm)

For other controls, please see D1 Technical Information, BC157786485289.

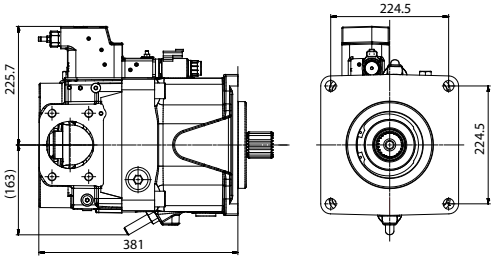
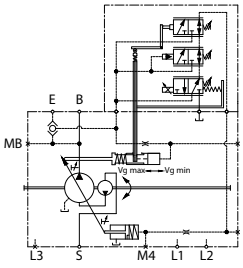
D1P 065 dimensions with control

Dimensions	Schematic
D1P 065 with TPSN 	

D1P 130/145/160 dimensions with control

Dimensions	Schematic
D1P 130/145/160 TPSN (without impeller) 	
D1P 130/145/160 TPSN (with impeller) 	
D1P 130/145/160 with TPE5 	

D1P 193/260/290 dimensions with control

Dimensions	Schematic
D1P 193 with TPE2 	
D1P 260/290 with TPSN