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HEL series

Orbital hydraulic motor

The HEL series orbital hydraulic motors are low-speed, high-torque hydraulic motors with wheeled outputs for direct wheel drive, with displacements ranging from 195 to 490 cm^3/rev. Standard configuration includes integrated counterbalance valve and 2 speeds valve.

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Overview

The HEL series orbital hydraulic motors are low-speed, high-torque hydraulic motors with wheelend outputs for direct wheel drive, with displacements ranging from 195 to 490 cm3/rev. Standard configuration includes integrated counterbalance valve and 2 speeds valve.

Advantages

· Higher mechanical and volumetric efficiency.
· Better lowest steady speed.
· Cost competitive due to simple structure design.
· Patented automatic 2-speeds is available.
· Wheel-side output, compact machine structure.

Applications

· Mini excavator
· Belt Conveyor
· Harvester
· Winches
· Paving machines

Typical mini excavator weight(ton)

0.5	0.8	1.0	1.5	1.7	Model
■	■				HEL195
	■	■			HEL310
		■	■		HEL350
			■		HEL390
			■		HEL440
			■	■	HEL490

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Specification

Displacement (cm^3/rev.)	Fixed	195	310	350	390	440	490
	Variable	97.5	155	175	195	220	245
Max.output torque(Theoretically)(N·m)		518	1020	1148	1279	1443	1607
Max. differential pressure (bar)		167	206	206	206	206	200
Max.flow (L/min)		20	20	20	20	20	20
Max.case pressure (bar)		5	5	5	5	5	5
Automatic two-speed pilot pressure(bar)		34	34	34	34	34	34
Weight(kg)		21.0	23.0	23.5	24.0	24.5	25.0

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Hydraulic oil and oil temperature contamination control

· Use abrasion-resistant hydraulic oil that contains inhibitor, oxidation inhibitor, anticorrosive, abrasion-resistant agent,ect

Recommended hydraulic oil: ISO VG 32 TO 68

Recommended viscosity: 20 to 43 cSt（mm^2/s）

· Hydraulic oil operating temperature is -30° C to 80° C

· Maintain the cleanliness of hydraulic oil equivalent to better than ISO 18/13

· Recommended filter: 10 Microns

Ordering information

HEL	490	H01	S1	R	B	A
①	②	③	④	⑤	⑥	⑦

Orbital Hydraulic Series

①	Orbital Hydraulic Motor	HEL

Type

②	Type	195	310	350	390	440	490

Mount, Port

③	8×M10 distribution circle 157, pilot Ø140, port G3/8 O-ring, variable speed port G1/8 O-ring, drain port G1/8 O-ring	H01
	8×M10 distribution circle 155, pilot Ø140, port G3/8 O-ring, variable speed port G1/8 O-ring, drain port G1/8 O-ring	H02

02

Output Shaft

		H01	H02	Code
④	8×M10 distribution circle 157, pilot Ø140, drain port G1/8 O-ring	●		S1
	8×M10 distribution circle 155, pilot Ø140, drain port G1/8 O-ring		●	S2

Rotation Direction

⑤	CCW	R

Paint option

⑥	Black	B

Special features

⑦	Standard (automatic change, variable speed pressure 173bar)	A

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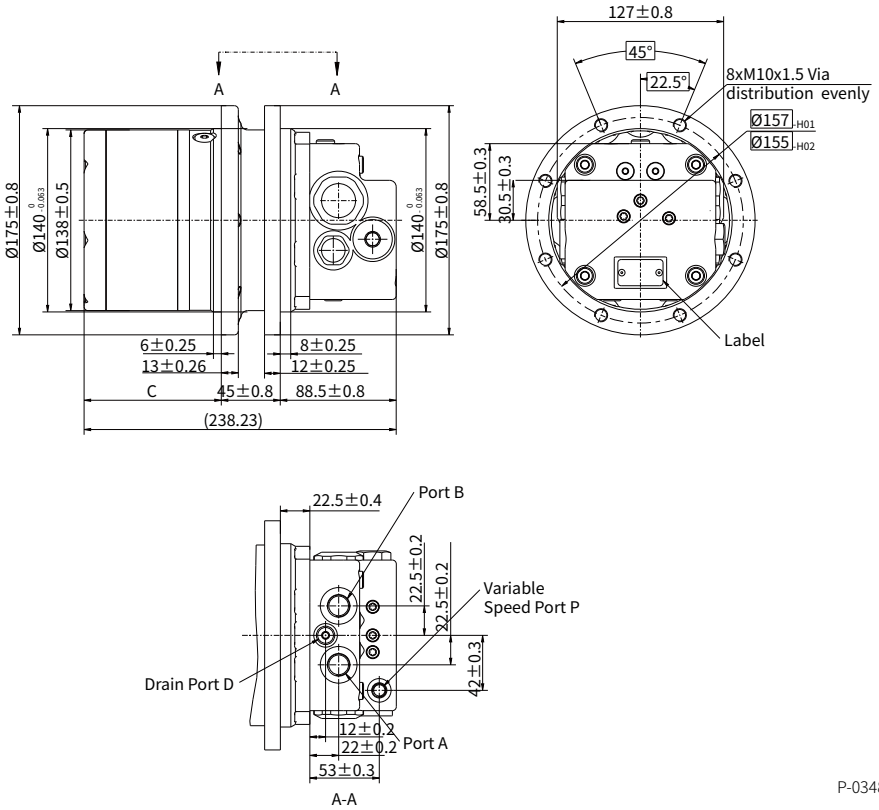
Note: ● =Available; When using the order information, the user can select the motor series, displacement, installation flange, port, shaft and other information. If the selected specification is not in the table or has special requirements, please contact us.

Installation size

Mount flange and oil port: H01; Output flange: S1



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Length and weight

Type	C mm	Weight kg
195	71.96	21.0
310	84.84	23.0
350	89.2	23.5
390	93.65	24.0
440	99.11	24.5
490	104.7	25.0

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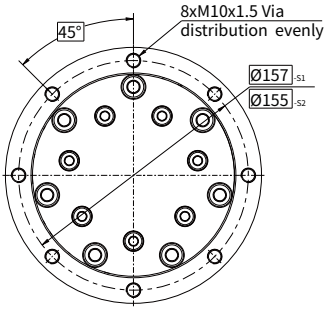
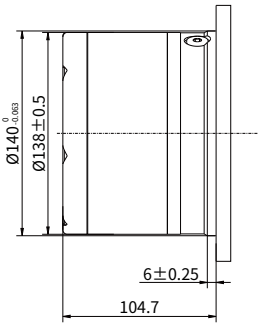
Note: Dimensions C is the distance from the output mounting surface to the output, and the tolerance is ±0.8mm.

Shaft end dimensions

S1/S2 **Pilot diameter Ø140, 8×M10 distribution circle 157$_{-S1}$/155$_{-S2}$**





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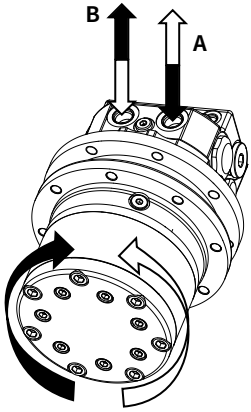
Rotation direction: CCW

When facing the motor shaft extension direction, port A is high pressure oil, the output shaft rotates CCW; Otherwise, it rotates CW.



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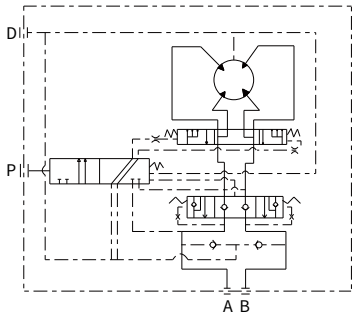
Hydraulic diagram



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