2.4

HCL series

Orbital hydraulic motor

HCL series orbital hydraulic motor is a kind of disc distribution cycloidal hydraulic motor, which adopts a special end face compensation structure, which can achieve high volumetric efficiency, high starting efficiency and good load retention under high pressure conditions.

Contents

Overview

HCL series orbital hydraulic motor is a kind of disc distribution cycloidal hydraulic motor, which adopts a special end face compensation structure, which can achieve high volumetric efficiency, high starting efficiency and good load retention under high pressure conditions, and is suitable for the rotary drive of mini excavators. The integrated relief valve group design can be selected to ensure the safety of the motor during use.

Advantages

- Specially designed rotor with integrated internal flushing and self-lubrication function to improve the life of the rotating shaft
- Double tapered roller bearing design to withstand high radial loads
- High pressure face compensation disc to improve volumetric efficiency
- Good load retention
- Lock nut is used for better and more accurate bearing preloading
- Integrated gear spindle for easy installation and use
- Compact back-cover design for integrated relief valves, fill valves, flushometers and other options

Applications

- Mast Aerial Work Platform
- Mini excavator
- Wood grabber machines

Specification

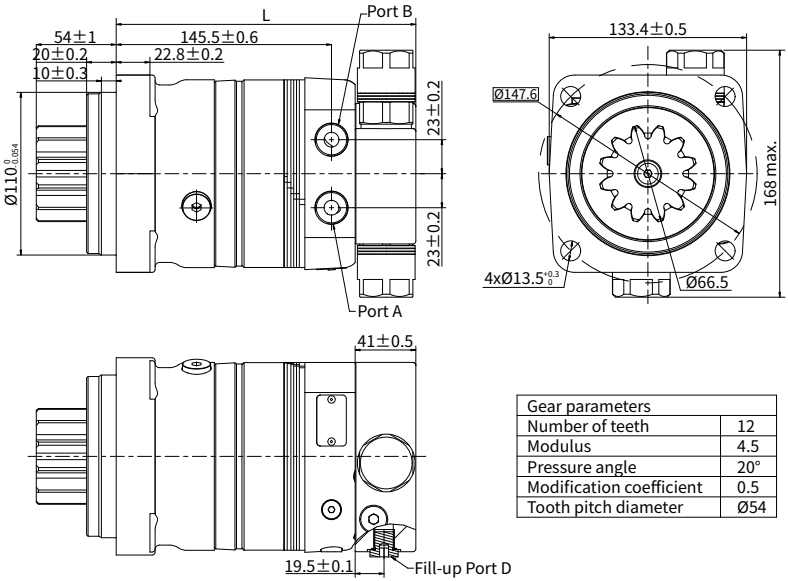
Type	HCL245
Displacement (cm^3/rev.)	243.6
Max.output torque (Nm)	510
Max.differential pressure (bar)	162
Max.speed (rpm)	80
Weight (kg)	18.9

P-0097

- The filtration standard of ISO 4406 cleaning standard 20/18/15 is recommended.
- High quality anti-wear hydraulic fluids are recommended.
- When the temperature is 50° C, the minimum viscosity of the oil is recommended to be 20mm^2/s.
- The recommended maximum operating temperature is 82°C .
- To assure best motor life, run motor 10-15 minutes in low speed high torque mode at approximately 50% of continuous pressure and 50% of continuous flow.
- The maximum pressure is the set pressure of the safety valve.
- External oil filling port is required (oil filling pressure 0.5-0.7Mpa).

Installation size

Mount port: C01; Main shaft: G1



Gear parameters	
Number of teeth	12
Modulus	4.5
Pressure angle	20°
Modification coefficient	0.5
Tooth pitch diameter	Ø54

P-0143

Length and weight

Displacement cm^3/rev.	L mm	Weight kg
245	202.5	18.9

T-0139

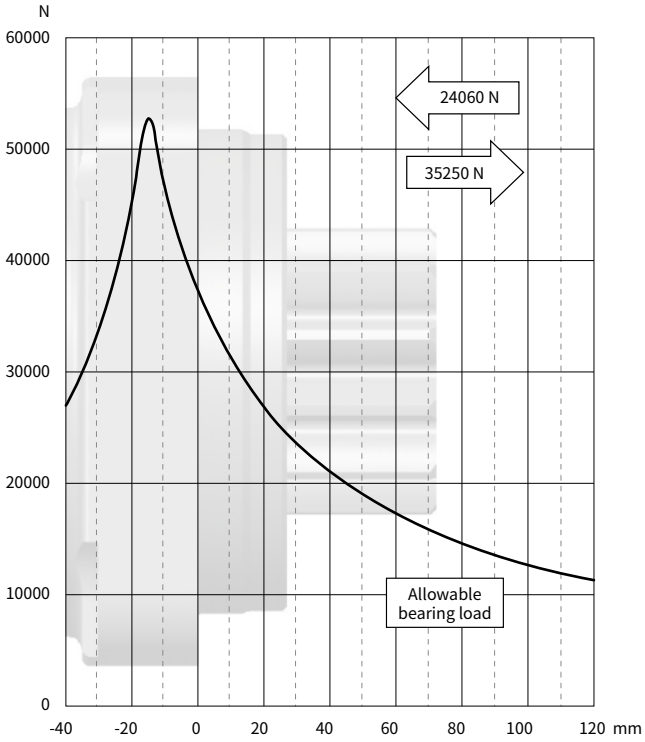
Note: Dimensions L are the length from the flange mounting surface to the rear end of the motor, and the tolerance is ±1mm.

Allowable shaft load/bearing curve

As shown in the figure, when the axial load is 0, the radial allowable load of the output shaft is related to the distance from the flange mounting surface to the load action point.

The solid line shows the allowable radial load of the bearing.It is based on L_{10} bearing life 2000 hrs at 100 RPM with rated output torque.

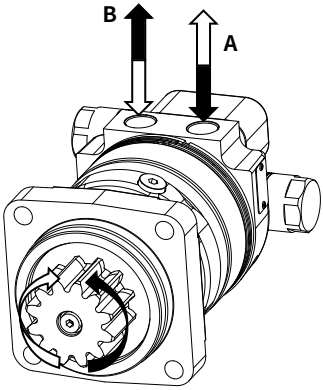
Any shaft load exceeding the values quoted in the curve will involve a risk of failure.



P-0144

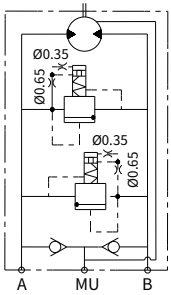
Rotation direction: CW

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



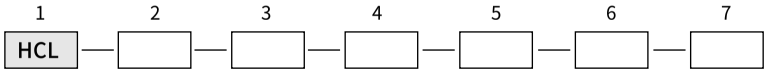
P-0146

Hydraulic diagram



P-0145

Ordering information



Pos.1	2	3		4		5		6		7	
Series code	Displacement	Mount, Port		Output shaft		Rotation direction		Paint option		Special features	
HCL	245	C01	4×φ13.5 Mount φ147.6，pilot φ110×10，Port G1/2，Drain Port G1/4	G1	12 tooth m4.5 gear shaft	A R	CW CCW	N B C	No Paint Black Hengli blue	A F V S J4	Standard Free running High temperature Low temperature Integrated relief valve, with a relief pressure of 162 bar

T-0140

Note: 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.