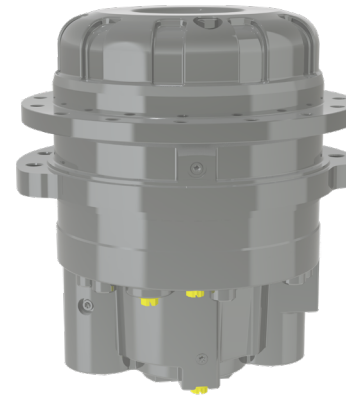
1.5

HRP5T series

Radial piston hydraulic motor

The HRP5T series radial piston hydraulic motor, is a kind of low speed high torque hydraulic motor, disc valve structure, with high pressure, good stability at low speed, high volumetric efficiency and mechanical efficiency.

Contents



Overview

The HRP5T series radial piston hydraulic motor, is a kind of low speed high torque hydraulic motor, disc valve structure, with high pressure, good stability at low speed, high volumetric efficiency and mechanical efficiency, the motor can be equipped with a variety of functional modules.

Advantages

· Patented compact design with front brake.
· Front end adopts mechanical seal, which can be used on dirt and water roads.
· Output shaft diameter is 2.5 times thicker, can support larger radial load.
· Advanced disc valve structure, high volumetric efficiency and high reliability.
· More options including flushing valve, speed sensor, etc.
· Smoothly 2-speeds changed.

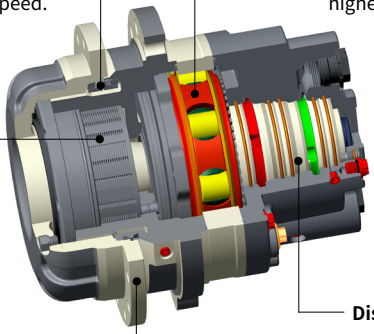
Standard structure

Folating Seal

Specially customized folating seal ensures the sealing between the housing and shaft with high speed.

Piston Pair

The device that converts hydraulic energy into mechanical energy, and the specially designed rollers to have higher ME and high reliability.



Braking Device

The specially customized friction pair ensures that the motor parking brake is safe and reliable.

Distribution Device

Advanced disc valve structure, strong automatic compensation ability after wear, to ensure high volumetric efficiency, long life, efficient and stable work.

Wheel Flanges

Direct drive wheels, easy to install, can withstand high torque output.

P - 0168

Specification

Series			HRP5T
Motor performance			
Displacement		cm^3/rev.	820
Variable Displacement		cm^3/rev.	410
Max.torque		Nm	5200
Min.stable speed		rpm	5
Max.speed	Displacement	rpm	210
	Variable displacement	rpm	230
Pressure	Max.differential pressure	bar	400
Brake			
Minimum static torque		Nm	4500
Release pressure		bar	12 ～ 16
Maximum pressure at brake port Z		bar	40
Oil volume to operate brake		cm^3	20

T - 0143

01

· Make sure the motor is full of oil before use.
· The maximum torque is only available for small operating conditions.
· During motor running-in(at least 20 hours), it should not be operated without load at greater than 100rpm.
· 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° , the minimum viscosity of the oil is recommended to be $20mm^2/s$.
· The recommended maximum operating temperature is 85° C.

Ordering information

HRP5T	Single and Two Speed	Displacement	Port Connection	Output Shaft	Paint Option	Brake	Flushometers	Special Features
01	02	03	04	05	06	07	08	09

Radial Piston Series

01	Incurve multiple-action radial piston motor	HRP5T

Single and Two Speed

02	Two speed, gear ratio 2:1	2

Displacement $cm^3/rev.$

03	820, Step piston	15

Port Connection

04	1-5/16-12UN(A, B), 3/4-16UNF(L), 3/4-16UNF(F), 9/16-18UNF(X, Z)	H1

Output Shaft

05	Pilot ϕ230×17, 15×1/2-13UNC distribution circle ϕ260	S8

Paint Option

06	No Paint	N
	Black	B
	Hengli blue	C
	Yellow	Y

Brake

07	Static braking torque 4500Nm	B1

Ordering information

Flushing Valve

08	Whether there is a flushing valve or not	A
	There is a flushing valve with a flow rate of 5L/min	B
	There is a flushing valve with a flow rate of 7L/min	C
	There is a flushing valve with a flow rate of 10L/min	D
	There is a flushing valve with a flow rate of 12.5L/min	E
	There is a flushing valve with a flow rate of 13.5L/min	F

Special Features

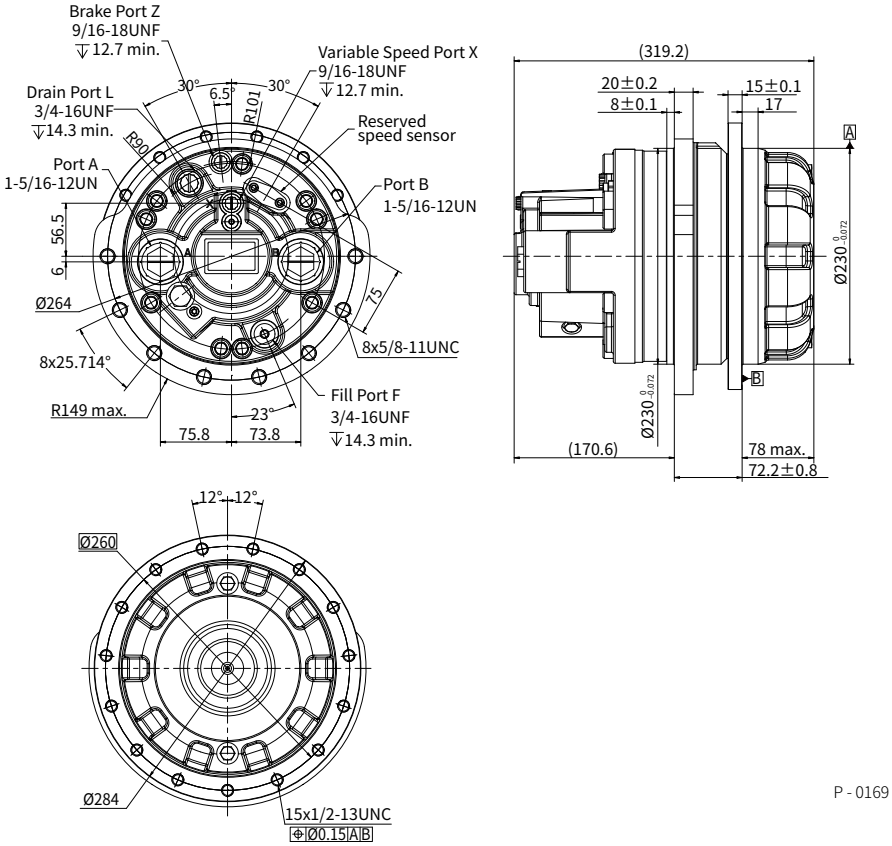
09	Standard	AA
	Speed sensor cavity	S1
	Speed sensor to determine direction	S2

T - 0143

Note: For the other types of port forms, output forms and brake port orienttations, please contact Hengli's application engineer for consultation.

Installation size

·HRP5T（Two-speed）



P - 0169

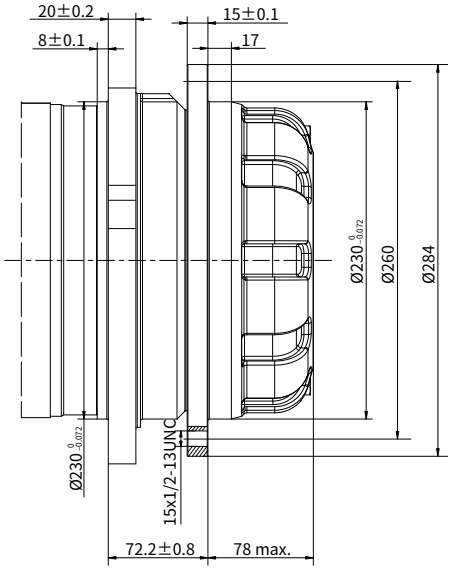
Note: The weight of the connection shown in the figure is 72kg.

Name	Port Function	H1
A、B	Main Port	1-5/16-12UN
L	Drain Port	3/4-16UNF
F	Fill Port	3/4-16UNF
X	Variable Speed Port	9/16-18UNF
Z	Brake Port	9/16-18UNF

T - 0145

Shaft end dimensions

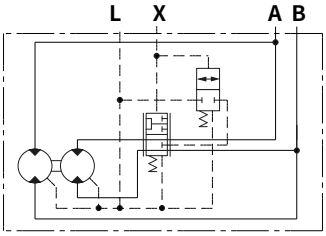
S8 **Pilot ϕ230×17, 15×1/2-13UNC distribution circle ϕ260**



P - 0170

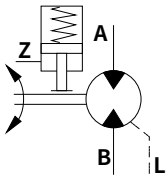
Hydraulic diagram

·Schematic diagram of a two-speed motor



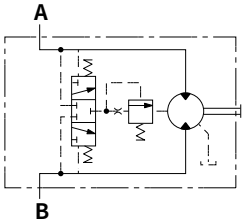
P - 0087

·Motor with parking brake



P - 0086

·Flushing valve schematic

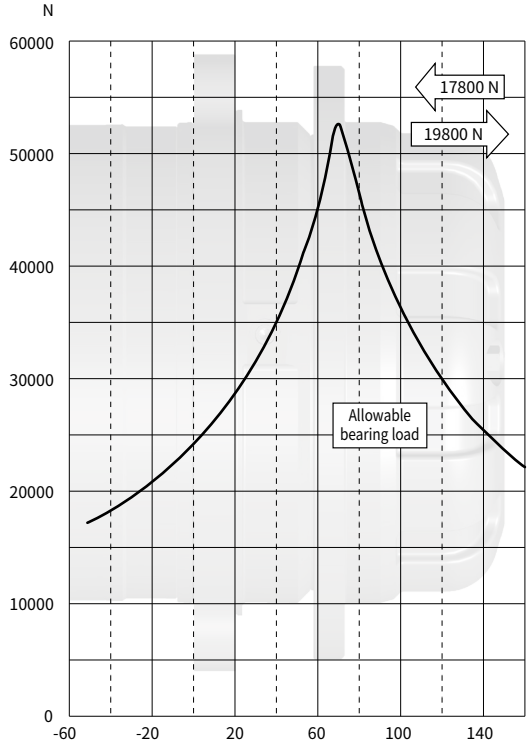


P - 0088

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.

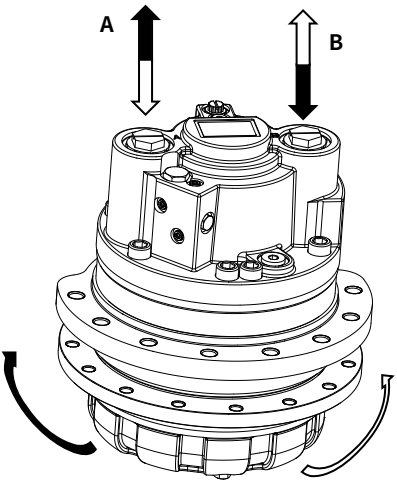
The solid line shows the allowable radial load of the bearing based on L_{10} life with 2000hrs. Denote use hydraulic fluids containing anti-wear additives, and rated output torque and motor speed of 50rpm, the differential pressure is 250 bar, the operating oil temperature is 50°C .



P - 0171

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 - 0172