



CHANGYU
PUMP CUSTOMIZATION EXPERT

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Innovative fluid solutions.

The choice of trust in the chemical industry

PHH Series Slurry Pump

PRODUCT CATALOG



Anhui Changyu pump and valve manufacturing Co., LTD

The PHH slurry pump is a heavy-duty horizontal slurry pump and a high-head slurry pump.

- Excellent hydraulic performance
- Low energy consumption
- Long service life
- Reliable operation
- Easy maintenance



Compared with PH pumps, the PHH heavy-duty high-head slurry pump delivers excellent performance in high-head applications. Its structure is similar to PH and PL pumps, but it has a larger impeller diameter than the PH series and features a heavy-duty reinforced casing. The wetted parts of the PHH series are made of wear-resistant high-chromium alloy, making it suitable for high-head operating conditions.

Advantages

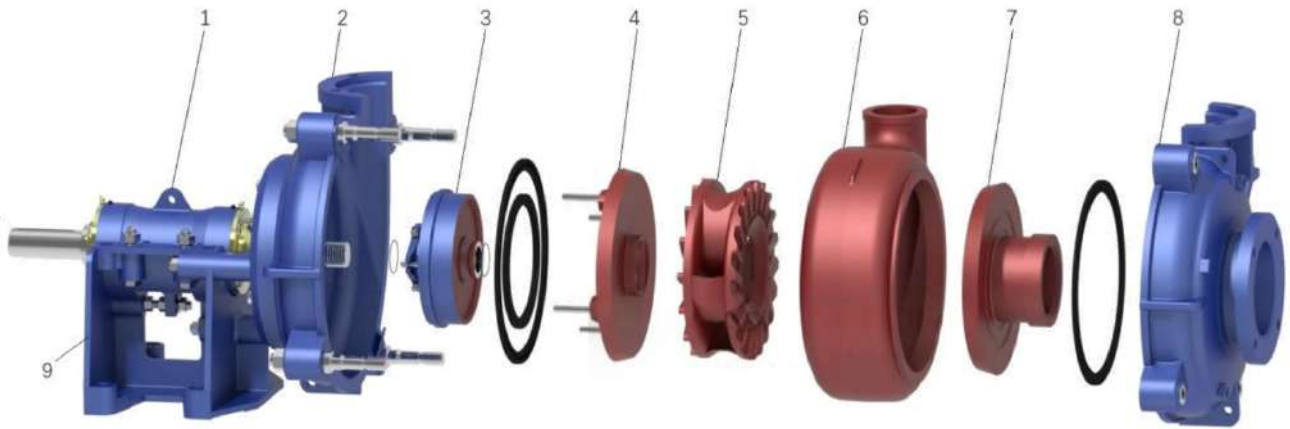
High head — exceeds the head range of PH pumps
Excellent wear-resistant wetted parts — high-chromium alloy wetted components with superior wear resistance
Heavy-duty shaft — thickened shaft with heat treatment and tempering
Minimizes deflection and vibration
Heavy-duty bearings — grease lubricated
Single-row tapered roller bearings are used to extend bearing service life

Multiple sealing options:
Gland packing seal, auxiliary impeller seal, mechanical seal

Multiple discharge orientations:
The discharge outlet can be rotated in eight directions

Multiple drive types:
DC direct coupling drive, CV belt drive, ZVZ belt drive, CRZ belt drive, CLZ belt drive

Structural diagram



Exploded view for metal liner (PHH pumps)

- 1. Bearing assembly
- 4. Rear wear plate
- 7. Front wear plate

- 2. Pump casing
- 5. Impeller
- 8. Pump cover

- 3. Seal assembly
- 6. Sleeve
- 9. Bracket

Note: This is the basic structure of the PHH slurry pump. There may be some variations depending on the pump size.

Wetted parts material

Name	Description	Hardness	Applicable working conditions
BTMcr27	27% chromium erosion-resistant white cast iron	≥56HRC	It is a wear-resistant white cast iron with excellent performance under erosive conditions.
BTMcr28	28% chromium, low carbon, high-chromium white cast iron	≥45HRC	It is particularly suitable for FGD and other corrosive applications where the pH is below 4.
BTMcr33	33% chromium, erosion and corrosion resistant alloy, high-chromium, low-carbon material	≥35HRC	It can handle oxygen-containing slurries with a pH not lower than 1, such as phosphoric acid and other corrosive applications.

If other materials are required, please contact us!

Slurry pump shaft seal

The shaft seal is one of the important mechanical components in a centrifugal slurry pump. We select the appropriate sealing type according to the site requirements !

There are three commonly used shaft sealing types:



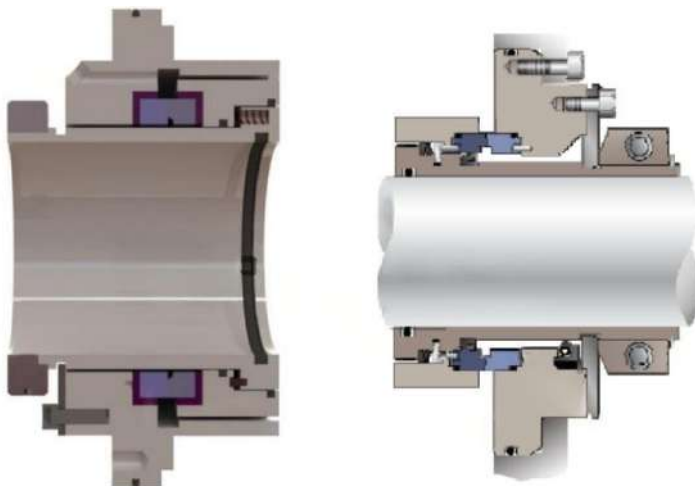
Gland packing seal

The gland packing seal is the most common type of seal. It works by introducing shaft sealing water at a certain pressure and flow rate, which is evenly distributed through the front water sealing ring into the gap between the packing and the shaft sleeve, preventing slurry leakage from the pump casing. Its functions include cooling, lubrication, and flushing. For multi-stage series pumps where an auxiliary impeller shaft seal is not suitable, a gland packing seal is used. The gland packing seal has a simple structure, is easy to maintain, and is cost-effective.



Auxiliary impeller seal

The auxiliary impeller seal mainly relies on the pressure generated by the auxiliary impeller, which rotates synchronously with the main impeller, to prevent slurry leakage. It is used in applications where dilution of the slurry is not allowed. Water sealing or grease lubrication can be used.



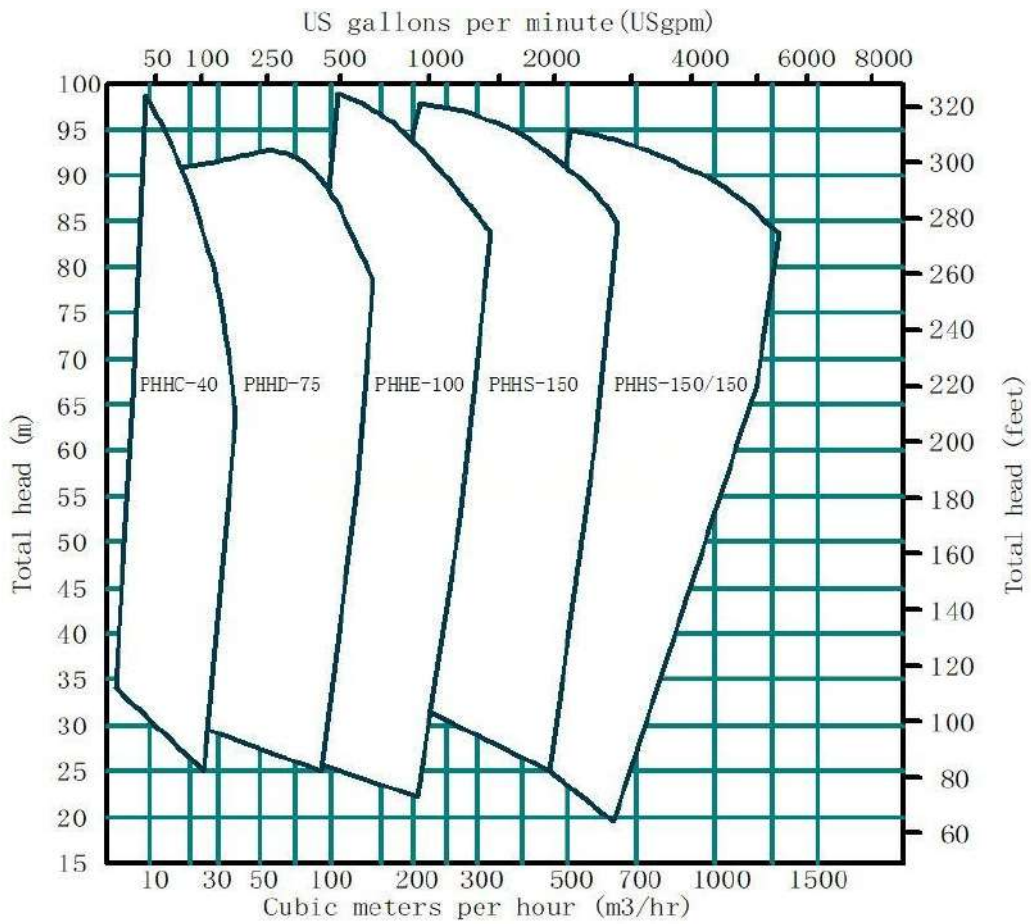
High-pressure flushing water Low-pressure flushing water

Mechanical seal

The mechanical seal consists of a stationary face and a rotating face that are pressed together under mechanical and hydraulic pressure to prevent leakage. It provides the best sealing performance and is suitable for zero-leakage conditions. A low-pressure flush-type mechanical seal does not dilute the product. However, it has a high cost.

For other special shaft seal types, please contact us!

Quick Selection Chart for Clean Water Performance

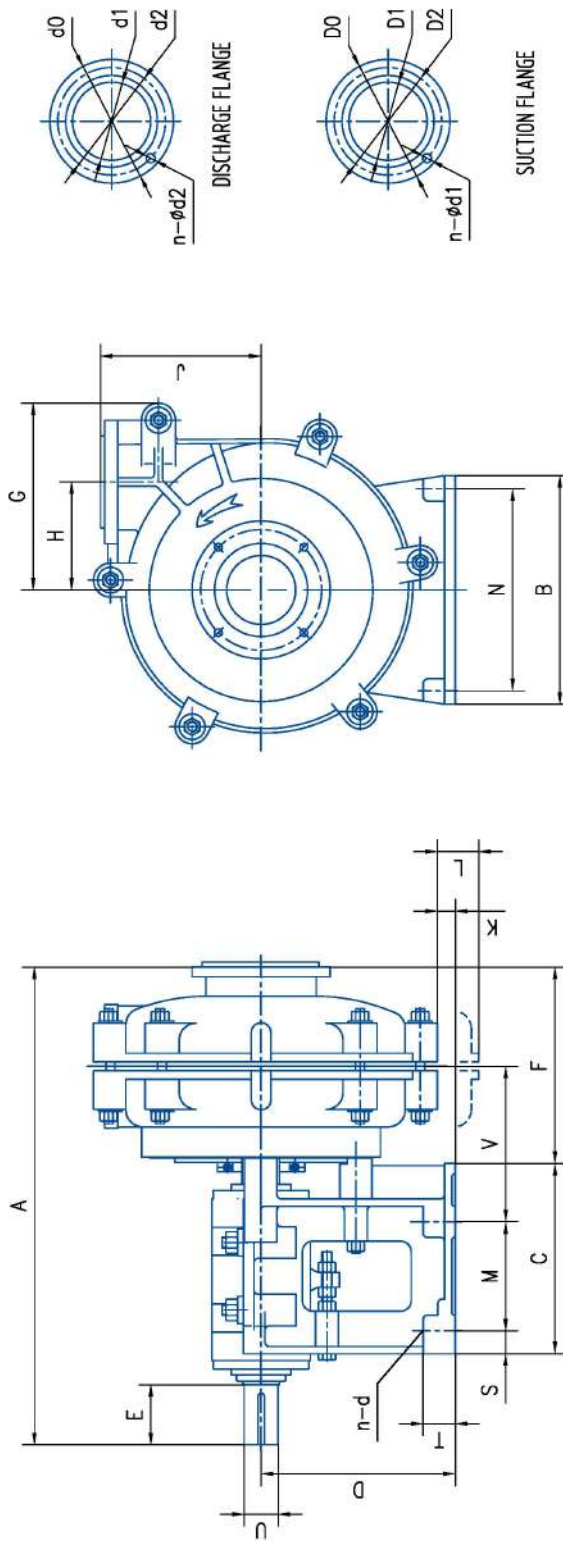


Clean Water Performance Parameter Table

TYPE	MAX. POWER (kw)	CLEAR WATER PERFORMANCE						IMPELLER	
		CAPACITY Q		HEAD H (m)	SPEED n (r/min)	MAX. EFF η (%)	NPSHr (m)	NO. OF VANES	IMPEL. DIA. (mm)
		(m ³ /h)	(L/S)						
PHHC-40	30	16.2-34.2	4.5-9.5	25-95	1400-2200	20	2-5.5	5	330
PHHD-75	60	68.4-136.8	19-38	25-87	850-1400	47	3-7.5	5	457
PHHE-100	120	126-252	35-70	20-97	600-1400	50	2-5	5	508
PHHS-150	560	324-720	90-200	30-97	600-1000	64	3-8	5	711
PHHS-150/150	560	468-1008	130-280	20-94	500-1000	65	4-12	5	711

Note: The clean water performance values are approximate and are for preliminary selection purposes only.

Overall dimension drawing



TYPE	A	B	C	D	E	F	G	H	J	K	L	M	N	V	T	S	n-φd	SUCTION FLANGE				DISCHARGE FLANGE			
																		D0	D1	D2	n-d1	d0	d1	d2	n-d2
PHHC-40	759	406	311	254	42	306	270	194	254	—	11	175	356	252	48	32	4-φ19	152	38	114	4-φ17	152	25	114	4-φ17
PHHD-75	986	492	364	330	65	389	384	254	368	—	51	213	432	298	64	38	4-φ22	216	76	178	8-φ19	203	51	165	4-φ19
PHHE-100	1240	622	448	457	80	492	492	330	432	—	—	257	546	381	76	54	4-φ29	254	102	210	8-φ19	254	76	210	8-φ19
PHHS-150	1668	920	780	450	120	596	616	413	546	—	134	640	760	353	90	70	4-φ35	337	152	292	8-φ22	305	102	260	8-φ22
PHHS-150/150	1700	920	780	450	120	280	625	415	615	—	155	640	760	382	90	70	4-φ35	380	152	320	8-φ27	420	150	360	8-φ27

Note: All dimensions are in millimeters.

Application cases

Typical Applications:

- * Mining and mineral processing
- * Abrasive slurry handling
- * Cyclone feed
- * Tailings transportation
- * Coal preparation plants
- * Steel plants
- * Power plant ash handling
- * Flue gas desulfurization (FGD) and lime slurry
- * Environmental protection
- * Sand dredging
- * Alumina processing
- * Chemical industry
- * Municipal engineering



PHH pumps ready for delivery to customer's site