

Crankshafts

Hongyang provides the same crankshaft and crankshaft assembly as the original design.

The crankshaft assembly is composed of crankshaft, large gear ring,

Connecting rod (with bearing) and main bearing, and the installation process is fully compliance with the design requirements.

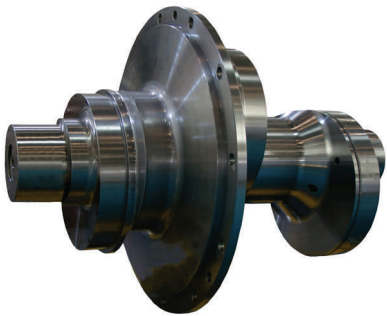

The crankshaft is made of high quality alloy steel. divided into casting, forging structure, the overall forging, installation the same size, forging structure cost is better than casting and overall forging.

We can supply pump crankshaft type: F-500/800/1000/1300/1600/2200; 10P-130; 12P-160; 14P-220; TEE; PAH; PZ-7/8/9/10/11; W-440/446; 3NB-500C/1000C/1300C/1600;

TWS-300(PG05); TWS-600S; SPM-QWS-2500; SPM-QWS-2800.



Comparison of comprehensive performance between forged crankshaft and cast hollow crankshaft

	Forged crankshaft	Cast hollow crankshaft
Type		
technical requirement	The forgings meet the requirements of <<heavy machinery general technical conditions - forgings>>, meet the requirements of grade IV forgings, and the forging ratio is greater than 3. Quenching and tempering treatment and make ultrasonic inspection as a whole.	The casting meets the requirements of <<heavy machinery general technical conditions - casting steel>>, casting size tolerance value in line with CT13 level requirements, casting surface conditions are smooth ($\sqrt{25}$), normalizing treatment.
Weight	The crankshaft is lighter relative to the hollow casting.	The crankshaft is heavier relative to forging structural crankshaft
the static balance	Less than 10% of the static balance weight of the hollow casting crankshaft	Static balance weight is larger.
Appearance structure	All parts of the appearance are machined, the surface is more delicate and beautiful.	Appearance is prone to defects, gas eyes, sand, loose, slag, penetrate or not through the cracks. Internal hollow, casting cavity size and defects difficult to control, resulting in potential risks. Part of machining surface is machine tool processing, part is artificial grind, the surface is coarser
Material organization and structure	Forging crankshaft material through hot forging, grain and grain internal structure, the organization state is pressed, the grain is fine, the organization is dense, there are fewer defects.	Casting hollow crankshaft material, grain and grain internal structure, the organization state is the original state of grain, surface defects, line defects, point defects exist more defects
Mechanical property	Forging crankshaft is the use of forging machinery to exert pressure on the metal blank, after secondary processing, compact tissue, mechanical properties of non-directional, to produce plastic deformation, in order to obtain a certain mechanical properties, better than the traditional hollow crankshaft.	Casting hollow crankshaft is a molten metal, which is formed by the organization and performance of castings, loose, not dense, it is easy to appear the pinhole, slag, gas eyes problem.
Comprehensive comparison	From the above comparison is obvious that the casting hollow crankshaft, due to the existence of more defects in the use of the mud pump process, prone to fatigue, damage, easy to penetrate and not through the cracks, resulting in crankshaft fracture, plastic deformation resistance worse, short life Forging crankshaft due to the existence of fewer defects in the process of the use, not easy fatigue and damage, there is no penetration and no penetration cracks, plastic deformation of the resistance is stronger, so that the crankshaft life longer.	



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