

HCT Range

Horizontal Carbon Transfer Pumps



THE HCT RECESSED IMPELLER

Designed For Large Fragile Slurry Applications

The HCT range is designed specifically for operation in slurry applications with large fragile particles. The HCT pump induces a vortex created by the impeller to pump large fragile particles. The flow vortex inside the casing ensures the impeller vanes has minimal contact with pumped particles. The hydraulic profile of the HCT pump has been designed to ensure optimal efficiency and head while decreasing the wear of the wet-end components. The inlet and outlet of the HCT are equal in size, allowing large particles to flow through the pump. The maximum sizes of pumped particles are determined by the discharge diameter of the HCT design.

Applications

- Abrasive applications
- Fragile solids applications
- Solids handling applications
- Activated Carbon transfer applications
- Fibrous material handling applications
- Low shear applications

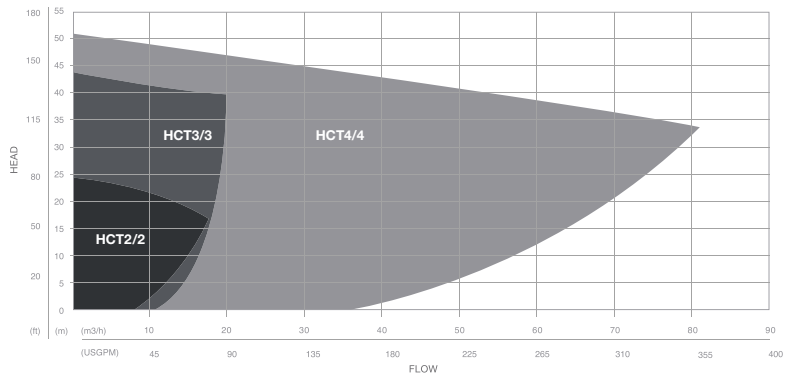
Materials Of Construction

PARTS	MATERIAL
Casing	High Chrome
Impeller	High Chrome
Insert	High Chrome
Adapter Plate	High Chrome
Stuffing Box	High Chrome

Design Benefits & Value Add

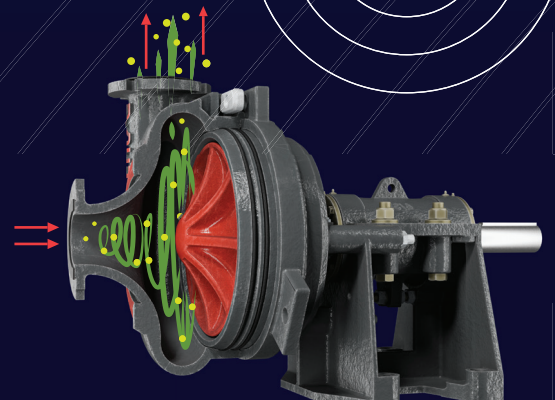
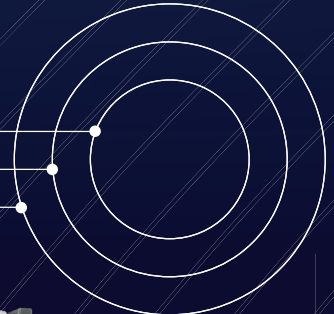
- Impellers are all High Chrome (27%)
- Cupped impeller design smoothly adjusts the flows direction away from the backliner and casing back into the induced vortex.
- Straight vanes allow the pump to run slower while achieving higher head and maintaining optimized efficiency.

Flow Coverage Map

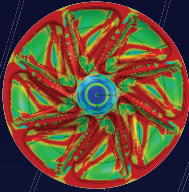
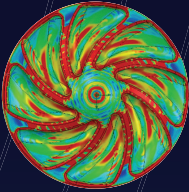
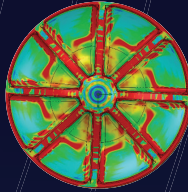
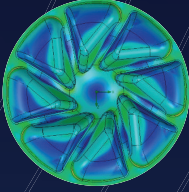
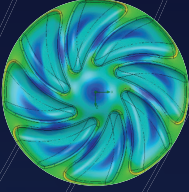
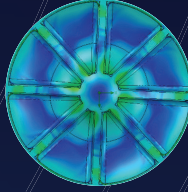


MAX PASSING SIZE IN SOLIDS

- 2x2
- 48mm
- 3x3
- 71mm
- 4x4
- 94mm



Impeller CFD Analysis

	Conventional Vane	Slanted Vane	HCT Straight Vane
<p>Impeller Surface Vorticity</p> <p>First two impellers displayed on the left indicates the greatest area of surface vorticity, this surface vorticity is caused by regions of circulating fluid motion or by regions of high shear. The impeller on the far right, which is the new curve impeller design, shows a dramatic decrease in vorticity - leading to a significant reduction in wear and minimal contact with the material being pumped.</p>			
<p>Impeller Velocity</p> <p>Green indicates high velocity areas, which can be seen on the straight and profiled vane designs on the left. CFD analysis has allowed for designing low velocity areas on the straight vane impeller (far right). Lower velocities ensure less breakage on fragile particles and induces lower wear rates.</p>			

Exploded View



1. Casing
2. Impeller

3. Insert
4. Adapter Plate

5. Stuffing Box
6. Mechanical End

Speak To A Pump System Specialist

You don't need another supplier, you need an invested partner. Our business is built on the foundation of decades of earning our valued clients' and partners' trust, only made possible by consistently delivering unparalleled service excellence.

For more information visit pabtglobal.com

