



Engineering Flow Solutions

HDP

HEAVY DUTY SLURRY PUMPS



HDP Series Heavy Duty Slurry Pumps



DESCRIPTION

The HDP series (HDP – Heavy Duty Pumps) of the centrifugal overhung double-casing slurry pumps is designed for heavy operating conditions using the latest 3D modeling methods, as well as taking into account the modern requirements to energy efficiency and reliability.

Complete interchangeability with the standard GrAT pump series in overall and coupling dimensions allows application of the HDP pumps on existing foundations, with the same piping arrangement.

The HDP series pumps are produced by one of the leading in CIS pump manufacturing companies – Bobruisk Machine-Building Plant (a part of HMS Group) located in Bobruisk, Belarus.

APPLICATION

- Hydrotransport systems:
 - mills discharge
 - hydrocycloning
 - tailings duty
 - froth products handling
- Metallurgical plants
- Coal mining industry
- Cement industry
- Hydraulic ash removal at thermal power plants
- Hydromechanization

TECHNICAL DATA

Capacity	up to 8,000 m ³ /h
Head	up to 100 m*
Drive power	up to 3.2 MW
pH	6 ... 12
Solids size	up to 200 mm
Pulp temperature	up to +80 °C
Solid concentration by weight (C _w)	up to 65%

* Water with density 1000 kg/m³

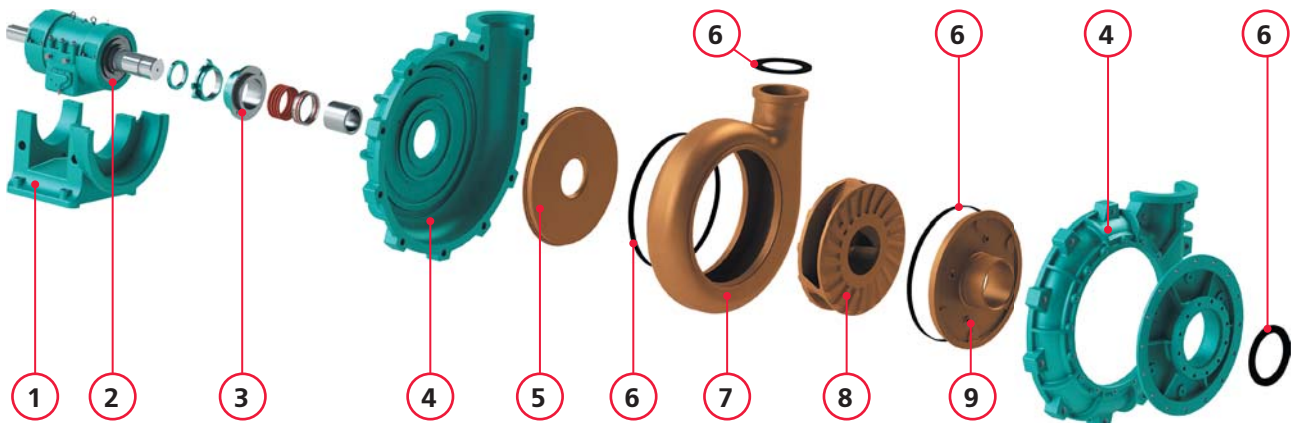
WET END PARTS MATERIALS

- High-chrome alloy with hardness up to 620 HB
- Hyper-chrome alloy with hardness up to 700 HB
- Polymer (option): wear-resistant rubber, polyurethane, caprolon

HYDRAULIC SEALS TYPES

- «Full flow» gland seal» type (standard version)
- Gland seal of «KE - low flow rate» type with reduced water consumption for hydraulic sealing (option)
- Hydraulic seal of expeller and mechanical types (under development)

Design Features & Advantages



1. Unified base frames make HDP pumps interchangeable with GrAT pumps using the same foundations, pipelines and existing overall and coupling dimensions
2. Reinforced bearing units apply contemporary heavy-duty bearings with oil bath or grease lubrication (option)
3. An advanced gland seal chamber reduces the water consumption for hydraulic sealing and simplifies the gland seal repacking
4. The newly designed casing allows clamping of all wet end pump's parts for easier installation and service personnel safety (Fig. 1)
5. Reinforced volute, throatbush and impeller (Fig. 2). Compared to similar GrAT pumps, the wet end parts material thickness is almost doubled
6. The wet end seals prevents slurry leakages outside from the pump. This fact reduces the volute wear and increases the pump's hydraulic efficiency
7. The pump version with rubber or polyurethane linings increases its wearlife when handling highly abrasive mixtures (Fig. 3)
8. Optimally shaped expelling vanes decrease the front gap recirculation and increase throatbush and impeller wear life
9. There are frame plate liner insert and throatbush available for the pump models starting from 8x6 HDP size to increase their economic efficiency for the end users and make pumps' maintenance easier

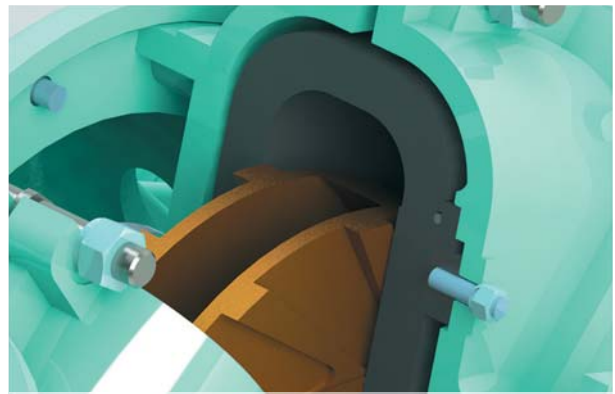


Fig. 1. Newly designed casing parts

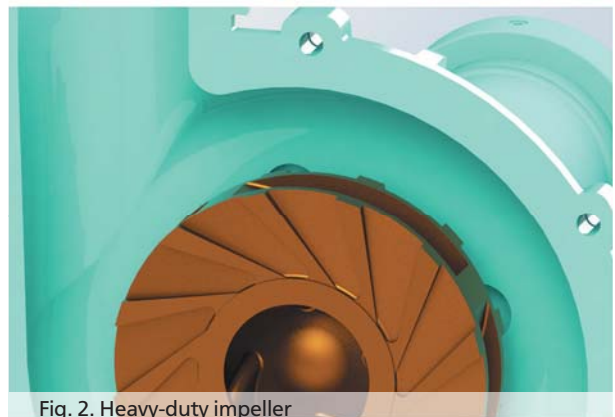


Fig. 2. Heavy-duty impeller

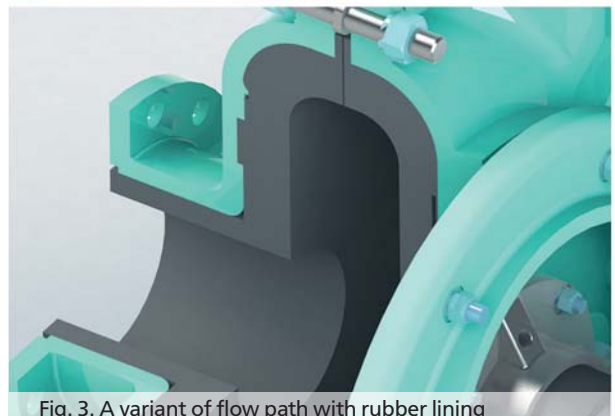
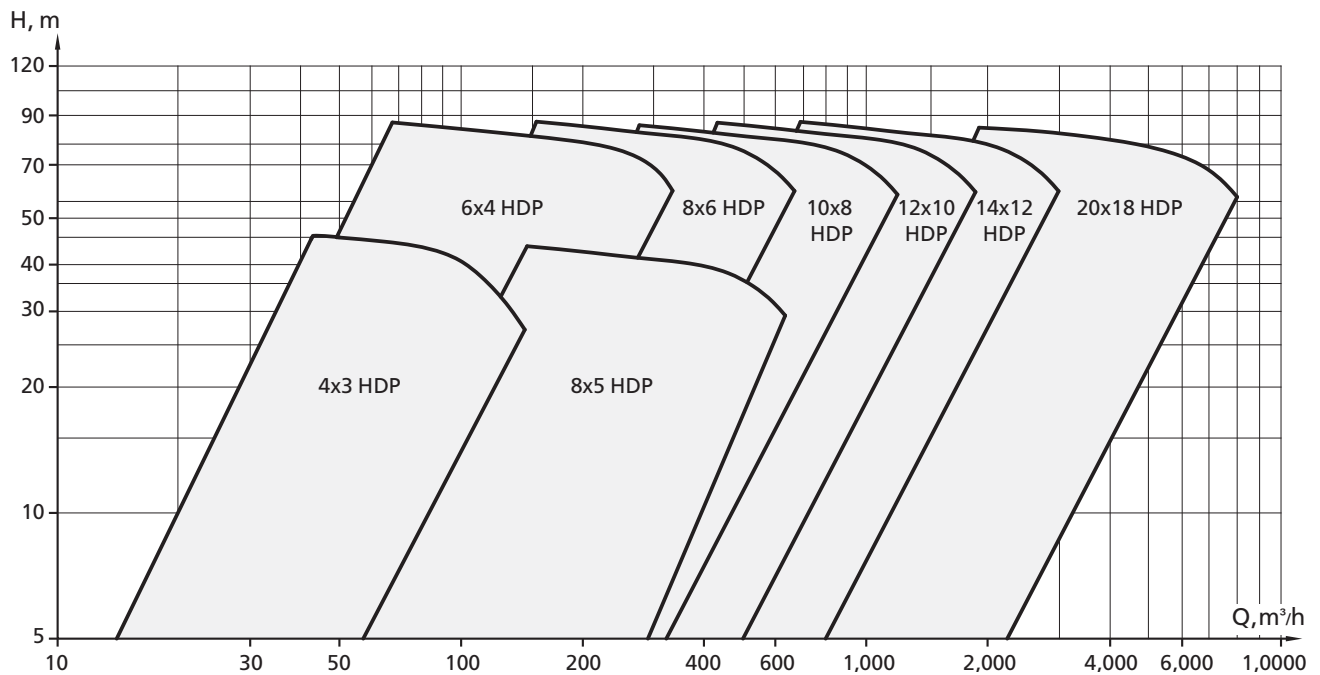


Fig. 3. A variant of flow path with rubber lining

Performance Range



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