Submersible High Power Slurry Pumps　GPN

The GPN-series is a submersible high power, heavy-duty slurry pump incorporating an agitator to suspend solids enabling the pump to handle high concentration slurries. Being equipped with high-chromium cast iron wear parts, the pump delivers outstanding durability. The suction plate is adjustable enabling the pump to maintain the original performance*. The GPN utilizes a cooling water jacket to allow the pump to operate at low water levels for extended period of time without the fear of overheating.

*Available in GPN422/622/837

Applications

- Transferring and draining slurry in piling works.
- Draining cement slurry or sand-carrying water in foundation works.
- Draining aggregate and ore wash water in mines and quarries.
- Collecting sediments in grit chambers at wastewater treatment plants.
- Pumping scale at steel mills.

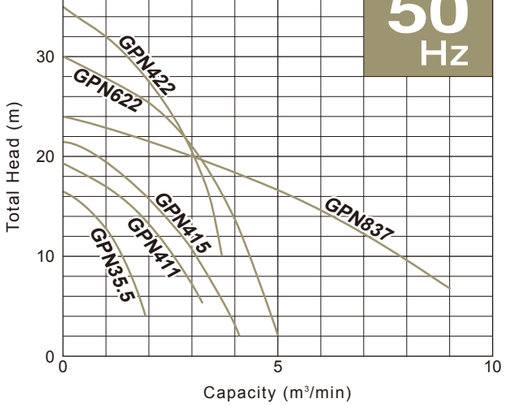
High-powered slurry pumps that deliver powerful agitation for discharging slurries laden with silt, earth, sand or other particulate

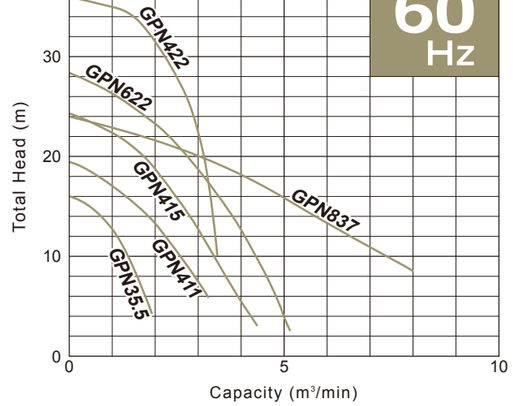
The GPN-series is a submersible three-phase high power and extra heavy-duty slurry pump driven by a 4-pole or 6-pole motor. It is equipped with a high-chromium cast iron agitator that assists smooth suction of the settled matters. The other wear parts such as the impeller and the suction plate are also made of high-chromium cast iron for extra durability. The side discharge, spiral design allows smoother passage of the sucked solid matters. The motor is cooled by a water jacket that assures efficient motor cooling even when it operates with its motor exposed to air.

GPN411

GPN622

Performance Curves





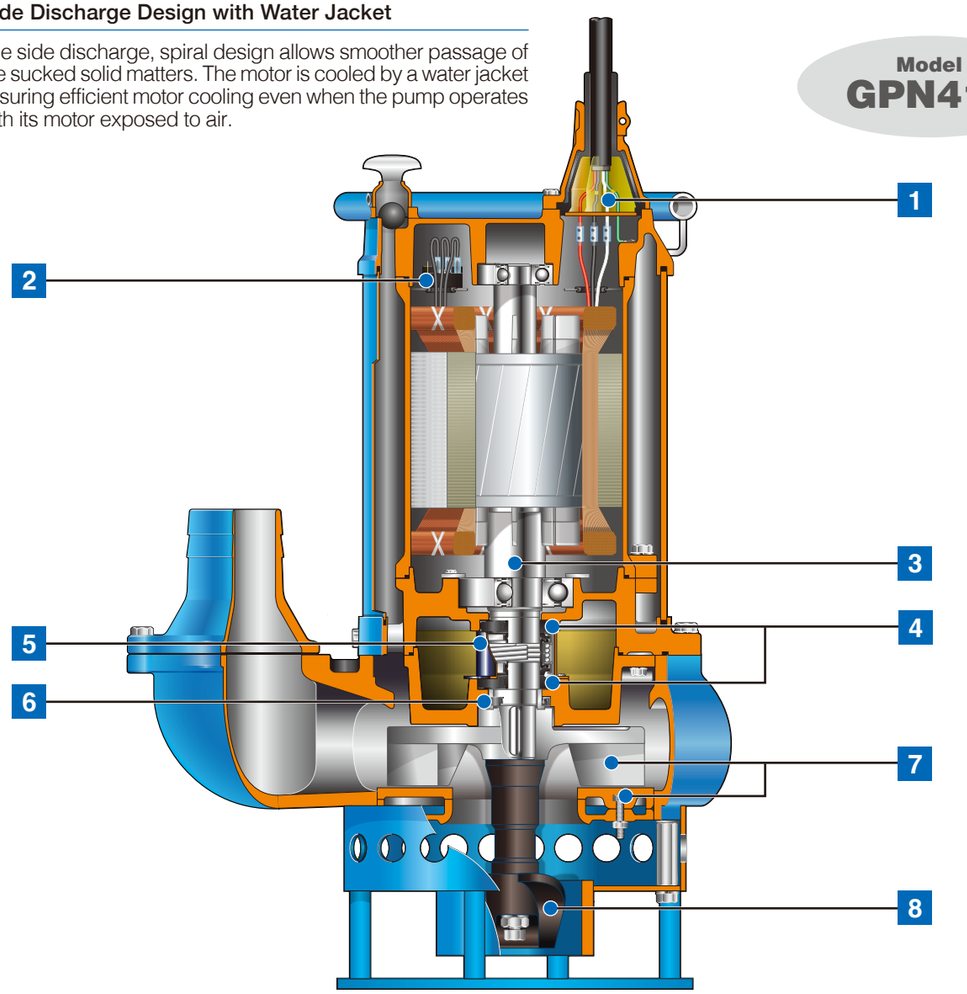
Discharge Bore mm	Model	Motor Output kW	Phase	Starting Method	Solids Passage mm	Dimensions L x W x H mm	Dry Weight*2 kg	Cable Length m
80	**GPN35.5**	5.5	Three	D.O.L.*1	30	487 x 390 x 841	160	8
100	**GPN411**	11		D.O.L.*1	30	617 x 452 x 924	239	8
100	**GPN415**	15		D.O.L.*1	30	617 x 452 x 924	242	10
100	**GPN422**	22		D.O.L.*1	30	725 x 572 x 1102	410	10
150	**GPN622**	22		D.O.L.*1	30	725 x 572 x 1102	415	10
200	**GPN837**	37		Star-Delta	46	1015 x 749 x 1606	815	10

*1 Star-Delta available upon request
*2 Weights excluding cable

Side Discharge Design with Water Jacket

The side discharge, spiral design allows smoother passage of the sucked solid matters. The motor is cooled by a water jacket assuring efficient motor cooling even when the pump operates with its motor exposed to air.

Model
GPN411



1 Anti-wicking Cable Entry
Prevents water incursion due to capillary wicking should the power cable be damaged or the end submerged.

2 Motor Protector
Circle Thermal Protector (15kW and below)
Directly cuts the motor circuit if excessive heat builds up or overcurrent occurs in the motor.

Miniature Thermal Protectors (22kW and above)
React to excessive heat caused by dry-running. The bimetal strip opens to cause the control panel to shut the power supply.

3 Chromium Molybdenum Shaft
Made of SCM435 (JIS), chromium molybdenum steel (tensile strength 930 N/mm^2 and over). It has the superior performance against a shock given at the instant of sucking hard solid matters.

4 Dual Inside Mechanical Seals with Silicon Carbide Faces
Isolated in the oil chamber where a clean, non-corrosive and abrasion-free lubricating environment is maintained. Compared with the water-cooled outside mechanical seal, it reduces the risk of failure caused by dry-heating and adhering matter. The silicon carbide provides 5 times higher corrosion, wear and heat resistance than the tungsten carbide. Rubber parts of the upper and lower fixing rings are made of NBR or FPM (FKM), which provides higher resistance to heat and chemicals.

5 Oil Lifter
Provides lubrication and cooling of the seal faces down to 1/3 of normal oil level, thus maintaining a stable shaft sealing effect and prolonging seal life longer. The Oil Lifter is Tsurumi original design.

6 Oil Seal
Used as a “Dust Seal,” it protects the mechanical seal from abrasive particles.

7 High-chromium Cast Iron Impeller & Suction Plate
Made of high-chromium cast iron ensuring highest durability. Even if the performance drops due to wearing outof the impeller and/or suction plate, it can be improved by simply replacing the suction plate.
*GPN422/622/837 have an adjustable suction plate.

8 Agitating Mechanism
Consists of a shaft-mounted agitator and a dedicated strainer. The agitator made of high-chromium cast iron resists wear caused by abrasive particles, and it suspends solids to assist in pumping sediments in combination with the strainer.

Specifications

			GPN					
			GPN35.5	GPN411	GPN415	GPN422	GPN622	GPN837
PUMP	Discharge Bore	mm	80	100			150	200
	Discharge Connection		Hose Coupling					
	Solids Passage	mm	30					46
	Impeller		Semi-open					
			High-chromium Cast Iron					
	Suction Cover		Gray Cast Iron					
	Suction Plate		High-chromium Cast Iron					
	Oil Seal		Nitrile Butadiene Rubber					
	Casing		Gray Cast Iron					
	Shaft Seal		Dual Inside Mechanical Seals (with Oil Lifter)					
			Silicon Carbide					
	Shaft Sleeve		403 Stainless Steel					
	Agitator		High-chromium Cast Iron					
MOTOR	Type		Continuous-duty Rated, Dry-type Induction Motor					
	Output	kW	5.5	11	15	22		37
	Phase		Three					
	Pole		4					6
	Insulation		F					
	Starting Method		D.O.L.*2					Star-Delta
	Motor Protector (built-in)		CTP			MTP		
	Leakage Sensor (built-in)		—			Electrode		
	Lubricant	ml	1100	2500		3600		9200
			Turbine Oil (ISO VG32)					
	Frame		Gray Cast Iron					
	Shaft		Chromium Molybdenum Steel					
	Power Cable	m	8		10			
			Chloroprene Rubber					
Dry Weight*1		kg	160	239	242	410	415	815

*1 Weights excluding cable *2 Star-Delta available upon request

TSURUMI PUMP

For The **Earth**, For All The **People**

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