



▪ **PRODUCT MANUAL** ▪

# **SUBMERSIBLE PUMPS**

**FOR HIGH TEMPERATURE LIQUIDS**

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# SUBMERSIBLE PUMPS for HIGH TEMPERATURE LIQUIDS



# Submersible Pumps for High Temperature Liquids

Tsurumi manufactures submersible pumps to handle liquids up to 80°C. Many are already in service at sites that need to discharge high temperature liquids, including industrial wastewater from power plants and steel mills, and hot spring discharge from mines in volcanic zones. Tsurumi's standard specification pumps can move liquids of up to 40°C, but Rank 60 and 80 pumps are available as options for liquids of 60° and 80°, respectively. Insulation class, rubber materials, lubrication and bearing grease are upgraded for each temperature rank. Backed by years of experience and know-how, Tsurumi develops hot liquid pumps to withstand harsh working conditions. Tsurumi also has a wide lineup of pumps for moving seawater and corrosive liquids. For more information, contact an authorized Tsurumi pump dealer.



## Selection Table

		Drainage	Slurry	Corrosion-Resistant
		KTZ	GPN	SFQ
Discharge Bore	mm	50-150	80-150	80
Motor Output	kW	1.5, 3.7-11	5.5-22	1.5-11
Discharge Connection		Multi-directional Hose Coupling	Hose Coupling	Threaded Oval Flange (3.7kW and below) Threaded JIS 10kg/cm <sup>2</sup> Flange (5.5kW and above)
Discharge Design		Top Discharge, Side Flow Design	Side Discharge, with Water Jacket	Side Discharge
Feature		Heavy-Duty	Agitator	Made of Cast 316 Stainless Steel
Applicable Ranks* [Max. Temperature]		Rank 60·80 [Max. 80°C]	Rank 60·80 [Max. 80°C]	Rank 60·80 [Max. 80°C]

\* For notes regarding applicable ranks, please refer to the model table on page 3. Tsurumi offers other hot liquid pumps than those shown above. For more information, contact your dealer.

## Specifications

	Rank 60 [Liquid of up to 60°C]	Rank 80 [Liquid of up to 80°C]
Insulation	Class F	Class H
Motor Protector	To be removed	
Mechanical Seal	Standard	FPM (FKM)
Oil Seal, Packing, and O-ring, etc.	Standard (Bend / Flange Packing of SFQ-series: FPM (FKM))	Oil seal, NBR Packing, Bend / Flange Packing and O-ring: FPM (FKM)  Other Packing: Three Sheet
Cabletyre Cable	Chloroprene Rubber	Chloroprene Rubber (For some models, cable thickness is increased.)
Lubricant	Standard	Turbine Oil, ISO VG56
Bearing	Standard	Grease for High Temperature Use



**KTZ:** Tsurumi's flagship line of heavy-duty drainage pumps

**GPN:** Slurry pumps that deliver powerful agitation for discharging slurries laden with silt, earth, sand or other particulate

**SFQ:** Pumps cast in 316 stainless steel for strong resistance to corrosive liquids



Model	Discharge Bore mm	Motor Output kW	Starting Method	Solids Passage 50/60Hz mm	Dimensions L x W x H mm	Dry Weight* <sup>3</sup> kg	Applicable Rank	
<b>KTZ</b> [Drainage]	KTZ21.5	50	1.5	D.O.L.	8.5	270 x 216 x 548	34	60
	KTZ23.7	50	3.7	D.O.L.	8.5	342 x 252 x 675	60	60
	KTZ31.5	80	1.5	D.O.L.	8.5	276 x 216 x 548	33	60
	KTZ33.7	80	3.7	D.O.L.	8.5	347 x 252 x 675	60	60
	KTZ35.5	80	5.5	D.O.L.	8.5	358 x 258 x 719	74	60·80
	KTZ43.7	100	3.7	D.O.L.	8.5	367 x 252 x 690	60	60
	KTZ45.5	100	5.5	D.O.L.	8.5	377 x 258 x 734	74	60·80
	KTZ47.5	100	7.5	D.O.L.	12	399 x 314 x 812	101	60·80
	KTZ411	100	11	D.O.L.	12	428 x 350 x 864	133	60·80
	KTZ67.5	150	7.5	D.O.L.	20	445 x 314 x 875	100	60·80
KTZ611	150	11	D.O.L.	20	457 x 350 x 884	133	60·80	
<b>GPN</b> [Slurry]	GPN35.5	80	5.5	D.O.L.	30	487 x 390 x 796	145	60·80
	GPN411	100	11	D.O.L.	30	617 x 452 x 879	217	60·80
	GPN422	100	22	D.O.L.	30	725 x 572 x 1102	410	60·80
	GPN622	150	22	D.O.L.	30	725 x 572 x 1102	415	60·80
<b>SFQ</b> [Corrosion-Resistant]	80SFQ21.5	80	1.5	D.O.L.	6	329 x 221 x 484	36	60·80**
	80SFQ23.7	80	3.7	D.O.L.	15	359 x 257 x 542	52	60**
	80SFQ25.5* <sup>1</sup>	80	5.5	D.O.L.	18	635 x 360 x 844	124	60·80**
	80SFQ27.5* <sup>1</sup>	80	7.5	D.O.L.	23/20	635 x 360 x 844	128	60·80**
	80SFQ211* <sup>1</sup>	80	11	D.O.L./Star-Delta* <sup>2</sup>	23	635 x 360 x 892	148	60·80**

\*<sup>1</sup> The SFQ 5.5-11kW models are selectable from the stainer stand type or the pump stand type.

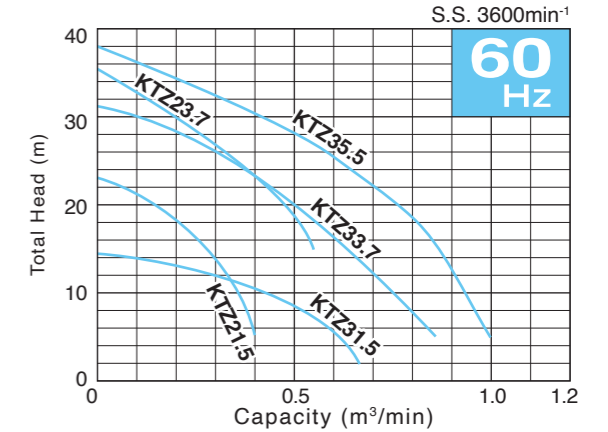
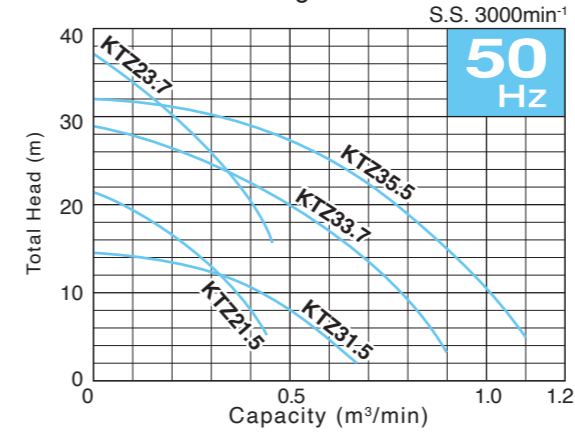
\*<sup>2</sup> D.O.L. with miniature thermal protectors for the stainer stand type. Star-Delta for the pump stand type.

\*<sup>3</sup> Weights excluding cable

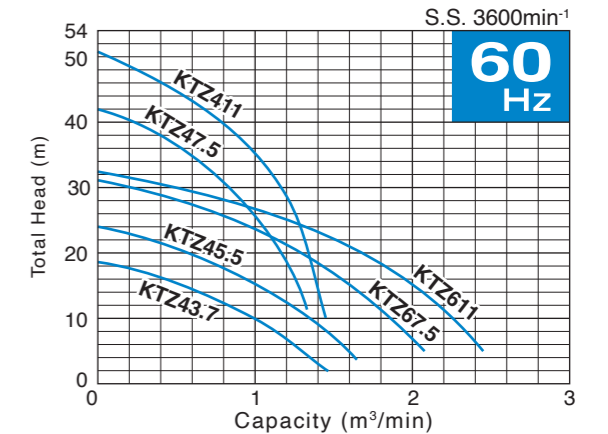
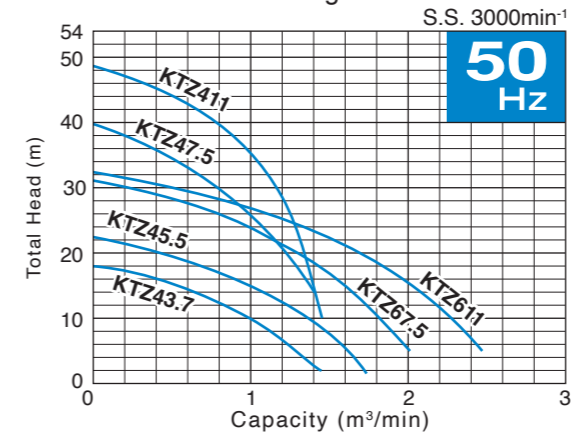
\*<sup>4</sup> For the SFQ-series, when motor is not completely submerged, continuous pump operation should not exceed 20 minutes.

### Performance Curves

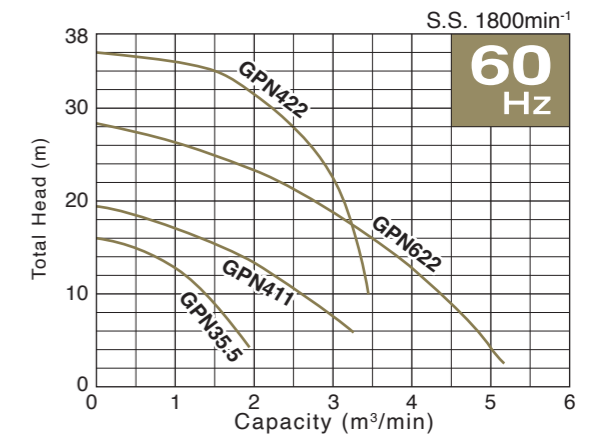
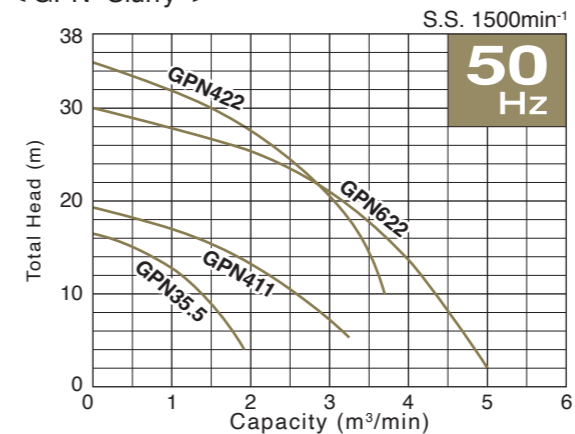
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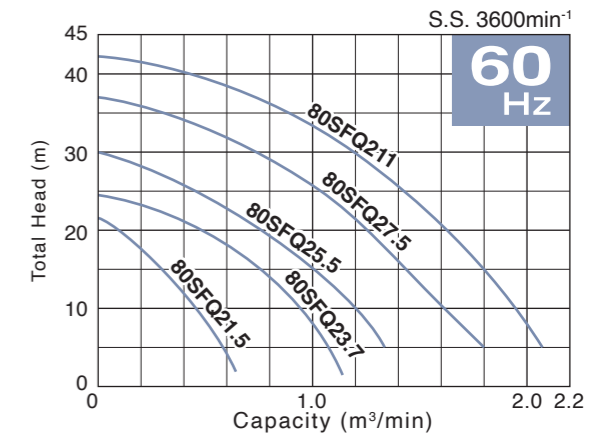
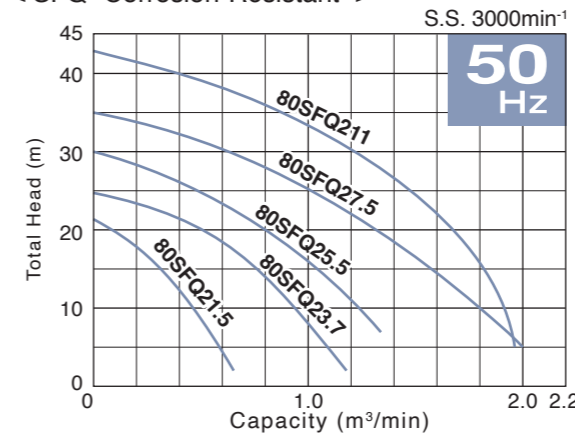
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< GPN -Slurry- >



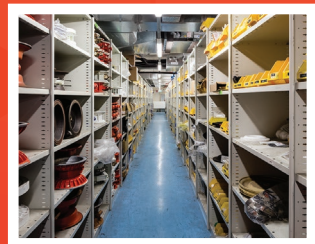
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# WHY USE ALL-PUMPS?

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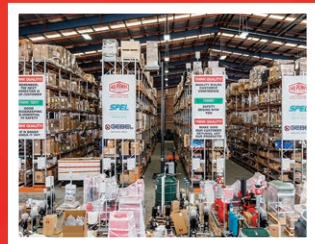
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