

SERIES  
**FHP**

FLOATING DECANTERS



**Photosensor prevents sludge inflow, helps discharge only supernatant liquid. Ideal for use under unstable water levels.**



### Features

- The sludge surface monitoring device prevents unexpected inflow of sludge and helps the pump solely discharge supernatant liquid.
- A float makes the pump particularly useful for the application where the water level fluctuates widely.
- An incorporated control circuit automatically stops operation upon receiving warning signals from the photosensor which would detect a water level drop to near the sludge interface layer.
- The sensor surfaces are automatically washed with pressurized water to be kept clean for perfect monitoring.

### Applications

- Discharging supernatant liquid in SBR
- Discharging supernatant liquid at a facility where such process is required



Tsurumi FHP-series displays high effect for the discharge of supernatant liquid in SBR.

### Major Components & Specifications

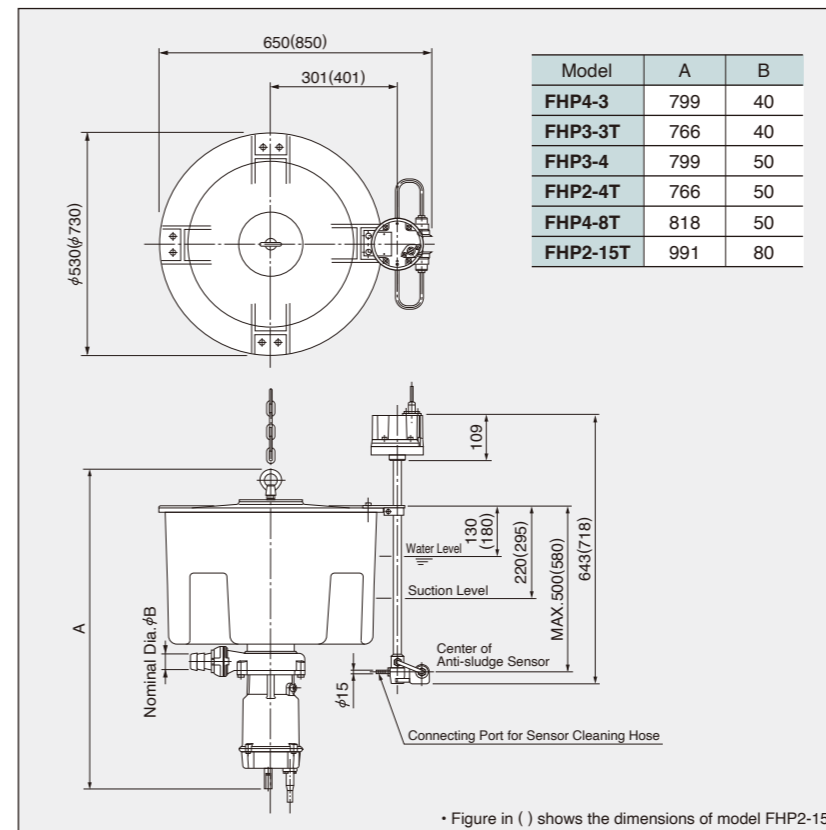
Discharge Bore	mm	40	50	80
Pumping Fluid	Type of Fluid	Treated Water		
	Fluid Temperature	0 to 40°C		
Pump	Structure	Impeller	Channel	
		Shaft Seal	Double Mechanical Seal	
		Bearing	Double-shielded Ball Bearing	
	Materials	Impeller	Gray Cast Iron	
		Casing	Gray Cast Iron	
		Shaft seal	Silicon Carbide	
Float	FRP			
Motor	Type, Pole	Dry Type Submersible Induction Motor, 2-pole		
	Insulation	E F (1.5kW only)		
	Phase	Single-phase Three-phase (suffix "T")		
	Starting Method	Capacitor Start (Single-phase only) Direct on Line		
	Protection Device (built-in)	Circle Thermal Protector		
	Lubricant	Turbine Oil (ISO VG32)		
	Materials	Frame	Gray Cast Iron	
Shaft		420 Stainless Steel		
Cable		PVC		
Discharge Connection	Hose Coupling			

### Model Selection 50/60Hz

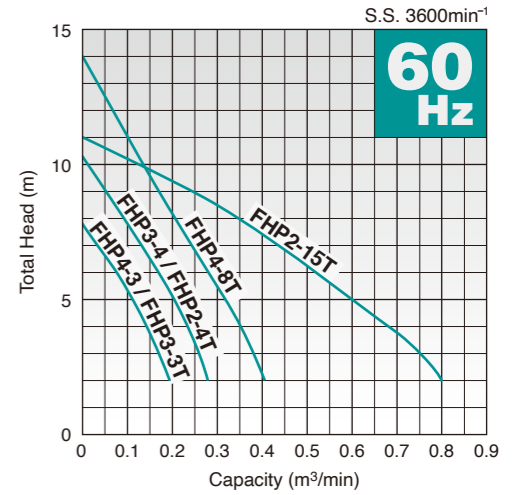
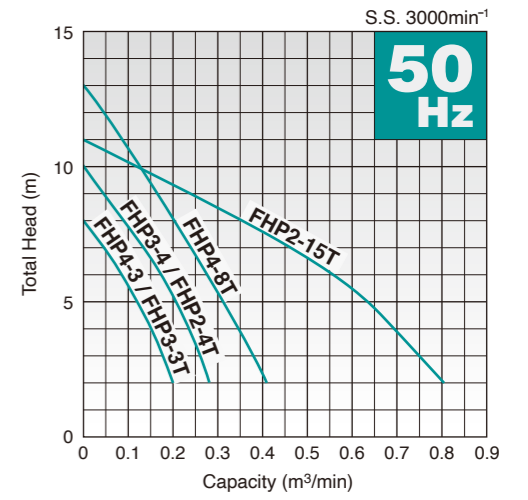
Discharge Bore mm	Model	Motor Output kW	Phase	Speed (S.S.) min <sup>-1</sup>	Starting Method	Dry Weight* kg	Cable Length m
40	FHP4-3	0.25	Single	3000/3600	Capacitor Start	29	6
40	FHP3-3T	0.25	Three	3000/3600	D.O.L.	27	6
50	FHP3-4	0.4	Single	3000/3600	Capacitor Start	29	6
50	FHP2-4T	0.4	Three	3000/3600	D.O.L.	27	6
50	FHP4-8T	0.75	Three	3000/3600	D.O.L.	28	6
80	FHP2-15T	1.5	Three	3000/3600	D.O.L.	60	6

\*Weights excluding cable

### Dimensions Unit: mm



### Performance Curves

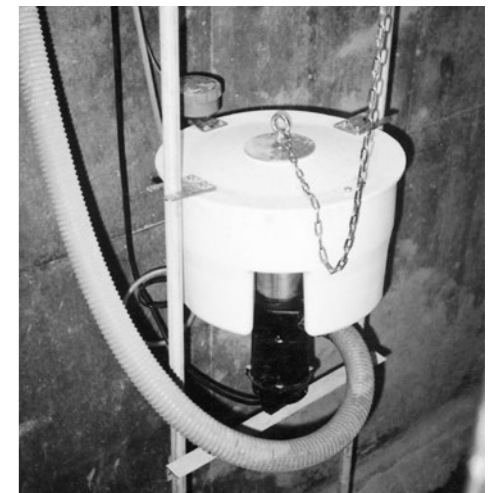


### Standard Accessories

- Hose Coupling
- Anti-sludge Sensor Cable 6m
- Lifting Chain 3m\* (with Shackles)  
\*5m for 1.5kW

### Optional Accessories

- Guide Rail Fitting Set
- Guide Support
- Guide Hook
- Guide Pipe Fixing Plate
- Stopper



## Structural Features

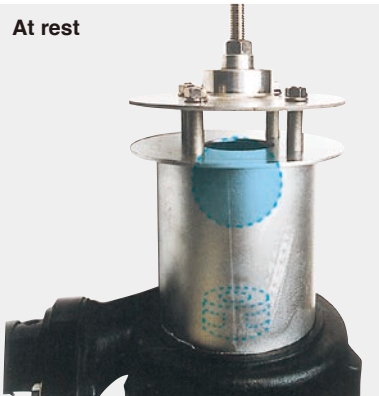
### 1 Float

The float sustains a submersible pump by buoyancy at an appropriate position. Made of fiber reinforced plastic (FRP), the float is filled with polystyrene foam which prevents the loss of buoyancy in case the float is broken.

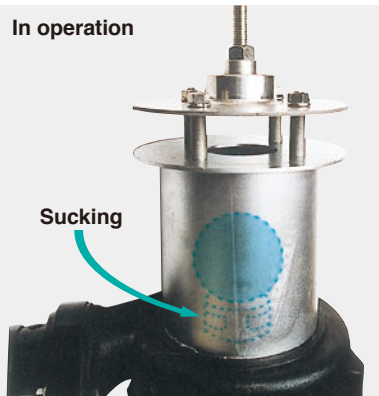
### 2 Intake Check Ball

A check ball incorporated in the intake closes the suction mouth by buoyancy when the pump stops operating thus preventing the inflow of floating sludge. During operation, the ball is sucked in by the pump's suction power to take in supernatant liquid.

At rest



In operation



### 3 Pumping Section

Each component, such as dual inside mechanical seal, motor protector, and anti-wicking cable entry, represents Tsurumi's outstanding expertise.

Anti-sludge Sensor Cable

Amplifier Unit Box

Guide Support

Guide Hook

Float 1

Sensor Cleaning Hose  
(not supplied)

Suction Mouth

Anti-sludge Sensor 4

2 Intake Check Ball

Discharge Hose  
(not supplied)

Sensor Cleaner 5

3 Submersible Pump

Guide Pipe  
(not supplied)

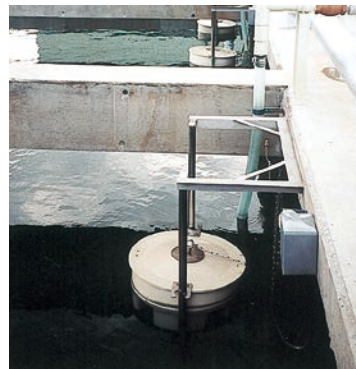
Stopper

Guide Pipe Fixing Plate

Optional accessories

### 4 Anti-sludge Sensor

When the amount of light transmitted from an emitter via glass fibers is reduced by a certain density of sludge existing in the liquid, the sensor identifies the light amount and sends corresponding signals to the control panel to stop or operate the pump not to suck up sludge.



### 5 Sensor Cleaner

The sensor cleaner spouts a jet of clean water from its nozzle to wash the light emitter and receiver at fixed intervals. The pressurized water can be treated water coming from a submersible pump installed in the spray pump tank.

#### Recommendation;

- The washing shall be performed for 5 minutes every 1.5 hours during the aeration process.
- The amount of washing water shall be regulated with a valve over a range of 10 to 20 L/min and the pressure, 0.5 to 1 kg/cm<sup>2</sup>.



We reserve the right to change the specifications and designs without prior notice. The OO series and model OO are indicated with our series/model codes in this catalog.

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