



## Booster Pump Systems Horizontal Type

### Horizontal - TS / GS / YS / YM / PS / JS

#### Overview

Booster pump system is an advanced pressurized water supply facility where more than two pumps are combined in parallel. This system consists of an optimized system with PID controlled panel of new functions. This system uses the water supply method where service water is supplied under the constant pressure in piping and can be divided into quantity control method using pressure switch and Inverter control method using Inverter.

#### Advantages

- Solves the problem in low pressure ( Shortage in water pressure at the highest two floors ) As a pressurized water supplying method, this system always ensures to maintain the sufficient water supply pressure up to the highest floor of the building.
- Protects the water in tank on the roof from contamination. Since it is not necessary to equip the tank on the roof which should be used in the high reservoir system, the contamination of water tank can be avoided in principle.
- Reduces the construction cost and increases the efficiency in space utilization.
- Since it is possible to eliminate the water tank on the roof, construction load and structural cost can be reduced. On the other hand, the available space in the building can be maximized, and furthermore, the cost in piping work can be reduced due to upward piping method.
- Reduces the cost of electric power and ensures the minimized space for installation.
- Ensures the easy installation work due to the minimized installation space and shortened construction period.

#### Features

- **Controlled by an intelligent PID control function with high quality** - Exclusive controller which offers Diversified functions for accurate control
- **Energy Saving System** - This system controls the pumps to operate in accordance with the required water volume, which enables more than 30% power saving
- **Maintains constant discharge pressure** - Enabling smooth water supply even in case of sudden change in supply volume
- **Components of high grade material** - High quality stainless steel for clean water supply and corrosion protection
- **Product design in accordance to user** - Standardized parts
- **Quality assurance** - Perfect quality assurance system through Intensive manufacturing inspection and shop performance test.

#### Comparison of Control Type

Inverter Control	Step Control
Maintains the target pressure of water supply and supply demanded flow by one lead pump which controls number of revolutions in accordance to discharge pressure change sensed by pressure transmitter and the other pump which step controls.	Controls number of pumps automatically according to consumption of water supply by diaphragm type pressure tank and pressure switch.
Set pressure: $\pm 0.2 \text{ kg/cm}^2\text{g}$	Set pressure: $\pm 1 \sim 2 \text{ kg/cm}^2\text{g}$
<ul style="list-style-type: none"> <li>• Constant water supply pressure</li> <li>• Saves power consumption cost due to variable speed operation and reduction of direct on line start.</li> <li>• Reduces the installation space due to minimized pressure tank.</li> <li>• Stable operation due to reduction in the water hammer effect.</li> </ul>	<ul style="list-style-type: none"> <li>• The lowest cost of facilities in the methods of booster pump control.</li> <li>• Easy to maintain and manage the system due to simple construction and control method.</li> </ul>
<ul style="list-style-type: none"> <li>• High facilities cost compare to the Step Control system</li> </ul>	<ul style="list-style-type: none"> <li>• Larger installation space due to bigger pressure tank capacity than Inverter control type. If the capacity of pressure tank is reduced than proper capacity, it repeats start and stop and shortens life of pump.</li> <li>• Large declination of water supply pressure.</li> <li>• Increase in power consumption cost because of operating over demanded water supply pressure.</li> </ul>
<ul style="list-style-type: none"> <li>• High-rise building and Apartment</li> <li>• Places where water supply flow is variable and needs constant pressure.</li> </ul>	<ul style="list-style-type: none"> <li>• Small buildings</li> <li>• Places where water supply flow is less and needs static pressure.</li> </ul>

## WATER MANAGEMENT SYSTEMS

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FOR DISTRIBUTOR STAMP

## Booster Pump Systems Horizontal Type

### Applications

- High-rise buildings, hotels, schools, villas, apartments
- Food Industries such as distillery plants, beverage manufacturing plants, dairy manufacturing plants
- Petrochemical, Pharmacy, Metal working Industries
- Fire-Fighting Systems
- Swimming pools, waterside facilities
- Irrigation of parks, resorts, golf courses
- Places where pressurization is necessary due to shortage in water pressure

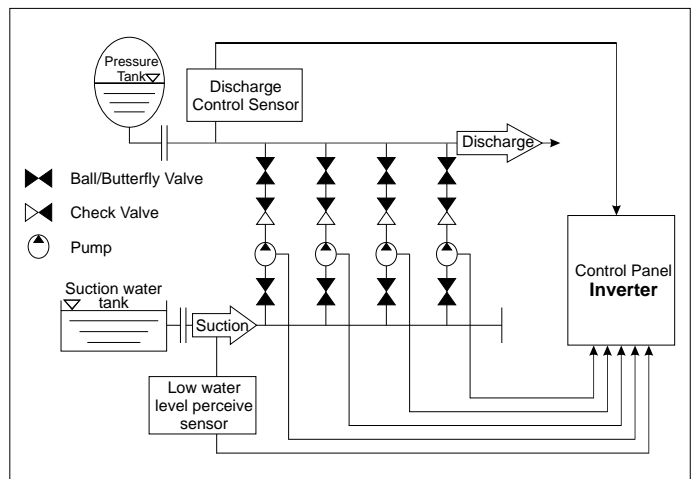
### Specifications

Control Method	Inverter Control	Step Control
Installation Location	Indoor	
Ambient Temperature	+5°C ~ +40°C	
Liquid for Use	Clean Water	
Temperature of Liquid	0°C ~ 70°C	
Max. Pressure ( Suction Head + Total Pump Head )	20 kg/cm <sup>2</sup> g	10 kg/cm <sup>2</sup> g
Min. Suction Pressure	0.2 kg/cm <sup>2</sup> g	1 ~ 2 kg/cm <sup>2</sup> g
Tolerable Suction Pressure	Limited by Maximum Pressure	
Pumps	Vertical / Horizontal Multistage Centrifugal Pumps	
Number of pumps	1 ~ 4 Units	
Power	1 Phase-220V / 3 Phase-415V, 50 Hz	
Suction / Discharge pipes	Stainless Steel	

### Functions

- Service pressure setting function, sequence operation, alternated operation function and skip operation function
- Automatic operation function at the time of recovery after power failure
- Avoidance of dry running of pump through accurate sensing of pressure
- Display of various information and alarm data on the simplified FND screen
- Linked operation without a separate control panel

### Concept Diagram



## Horizontal Booster Pump Systems with WPMS panels

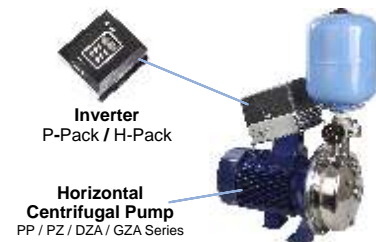
### Sensor / PID / Press Ctrl Type

### Product Details



YM Series

TS / GS / YS / PS / JS Series



Horizontal Booster Pump System

### Model Ordering Code Instructions

	2	-	PP8	-	40	-	24	-	150	-	YM	-	D
	↑		↑		↑		↑		↑		↑		↑
<b>No. of Pumps</b>	PP	-	Horizontal Centrifugal		X 10		20 - 2 stage		055 - 0.55 kW		TS	-	Single inverter sensor type
1 - 1 pump	PZ	-	Horizontal Selfpriming		30 - 3 stage		30 - 3 stage		075 - 0.75 kW		GS	-	Single inverter for volute pump
2 - 2 pumps	GZA	-	Horizontal Volute		40 - 4 stage		40 - 4 stage		110 - 1.10 kW		YS	-	Single inverter PID control
					50 - 5 stage		04 - 4 litres		150 - 1.50 kW		YM	-	Multi inverter PID control
					60 - 6 stage		08 - 8 litres		185 - 1.85 kW		PS	-	Press control type
							19 - 19 litres		220 - 2.20 kW		JS	-	Press control for self priming
							24 - 24 litres						
							50 - 50 litres						