Pump and Partners

REAL

CHINA PUMP

CONSULTANCY

Water Pressure Booster Set

Public water supply systems

High rises

Hotels

Hospitals

HVAC systems

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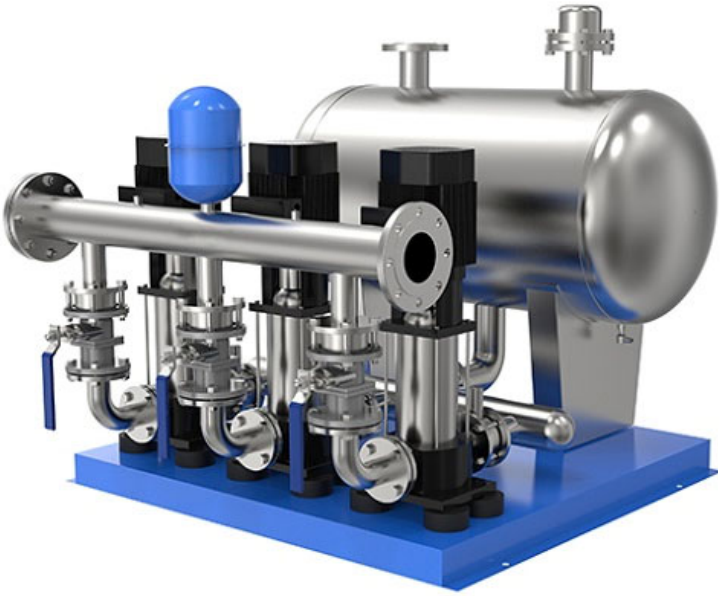


- **Flexible arrangements**
- **Top-quality stainless steel multistage pumps**
- **Motor-mounted VFD available**
- **Auto-control systems**
- **Up to 6 pumps can be equipped**

Product Introduction

WPB series is a range of factory-assembled booster system ready for installation and operation, and designed for pressure boosting of clean water. It incorporates either normal stainless steel multistage pumps or pumps with integrated frequency-controlled motor.

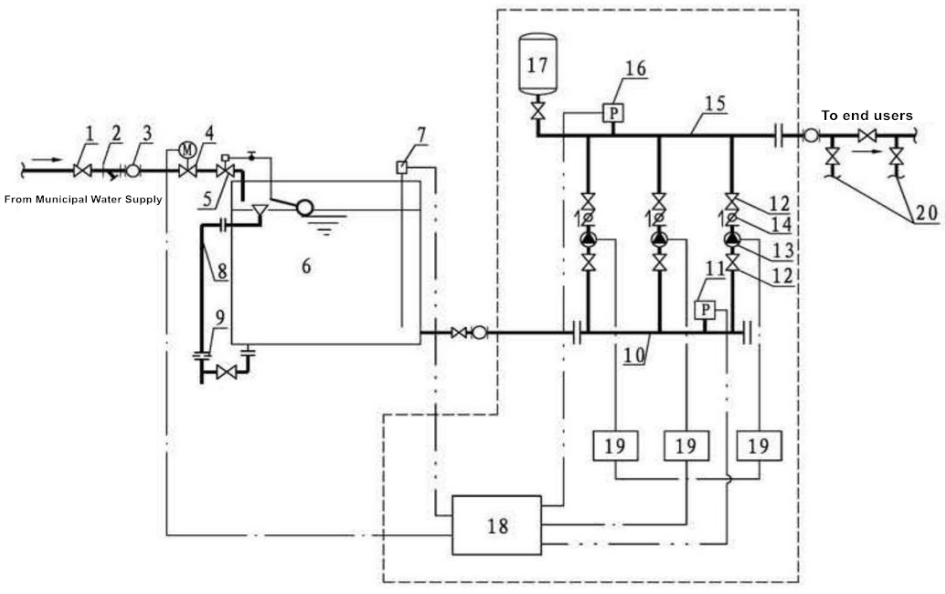
Typical applications:

- High rise buildings
- Irrigation systems
- Booster substations
- General buildings like hotels, apartments, hospitals and schools
- Wash and clean
- Fire hydrants

General Information

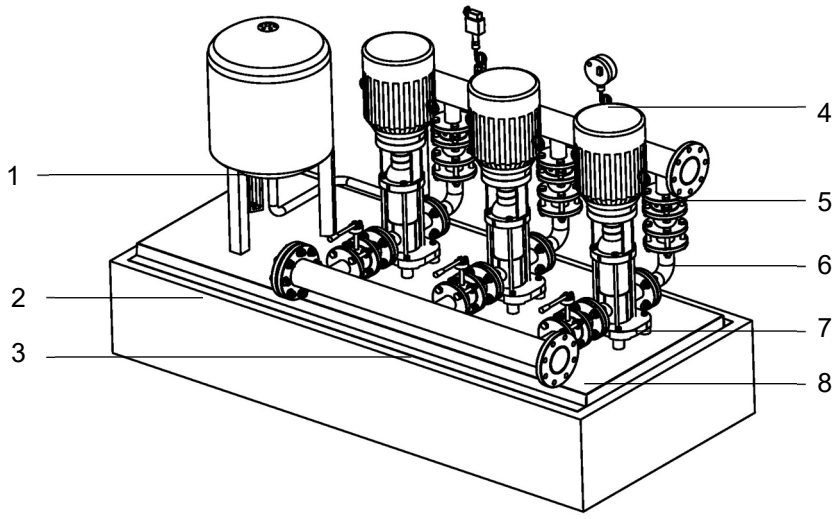
Product Range	2-5 pumps
Flow Range (m3/hr)	0-1,200
Pressure Range	PN10 & PN16
Pump size Range	DN32, 40, 50, 65, 80, 100, 125, 150
Liquid temp. Range (℃)	0-60
Ambient temp. Range (℃)	0-40

System Principle



1	Valve
2	Filter
3	Flexible joint
4	Intake valve
5	Level control valve
6	SS water tank
7	Level sensor
8	Return tube
9	SS filter
10	Inlet manifold
11	Pressure gauge and sensor
12	Valve
13	Pump
14	Check valve
15	Outlet manifold
16	Pressure gauge and sensor
17	Pressure tank
18	Controller
19	Motor mounted VFD (if required)
20	Sterilizer provisions

Typical Pump Set Structure and Material Information



1. Pressure tank
2. Baseplate with cushions
3. Inlet manifold
4. Pressure gauge
5. Outlet manifold
6. Valve
7. Pump
8. Valve

Material Information

	Standard	Optional
Pump	Cast iron pump base, other wetted parts in SS	Wetted parts all in stainless steel
Baseplate	Galvanised steel baseplate	Steel baseplate with SS sheet cover
Pressure tank	Carbon steel	Stainless steel
Manifold	Full SS304	SS316
Valves	Heavy duty SS304 butterfly valves and check valves	Gate valve
Bolts & nuts	SS304	

Size and Performance Range

Flow and Head Range

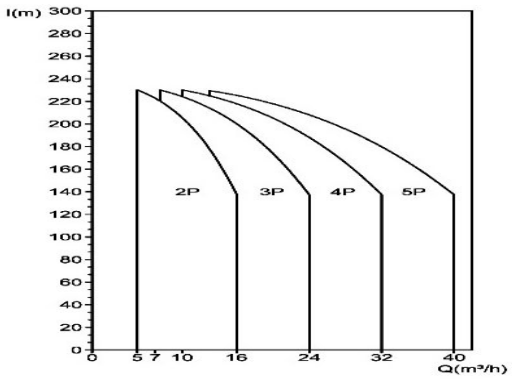
Pump Size		Head Range (m)	Flow Range (m^3/hr)				
			Duty of single pump	2P	3P	4P	5P
Small Size	DN32	~230	5	5-16	7.2-24	10-32	13-40
	DN40	~220	10	10-26	15-39	20-52	25-65
	DN50	~220	15	16-40	24-60	32-80	40-100
		~210	20	20-52	30-78	40-108	50-130
Medium Size	DN65	~290	32	32-80	48-120	64-160	80-200
	DN80	~300	42	50-110	75-165	100-220	125-275
	DN100	~210	65	60-160	90-240	120-320	150-400
		~165	85	100-220	150-330	200-440	250-550
Large Size	DN125	~160	120	120-300	180-450	240-600	300-750
		~155	150	160-360	240-540	320-720	400-900
	DN150	~155	150	200-440	300-720	400-960	500-1200

Manifold Size

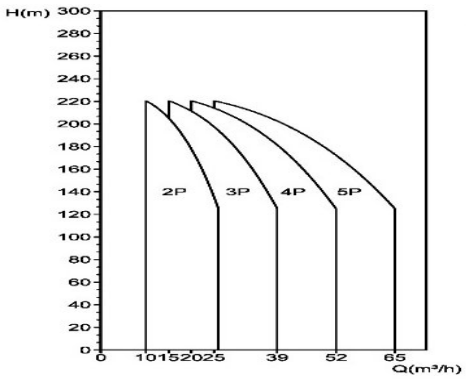
Pump Size		Manifold Size			
		2P	3P	4P	5P
Small Size	DN32	DN32/50	DN32/50	DN32/65	
	DN40	DN40/80	DN40/80	DN40/80	DN40/100
	DN50	DN50/80	DN50/80	DN50/100	DN50/100
Medium Size	DN65	DN65/80	DN65/100	DN65/150	DN65/150
	DN80	DN80/100	DN80/125	DN80/150	DN80/150
	DN100	DN100/150	DN100/150	DN100/200	DN100/250
Large Size	DN125	DN125/150	DN125/200	DN125/300	DN125/300
	DN150	DN150/200	DN150/250	DN150/300	DN150/300

Small Size (DN32, 40, 50, Flow range 5-130 m3/hr)

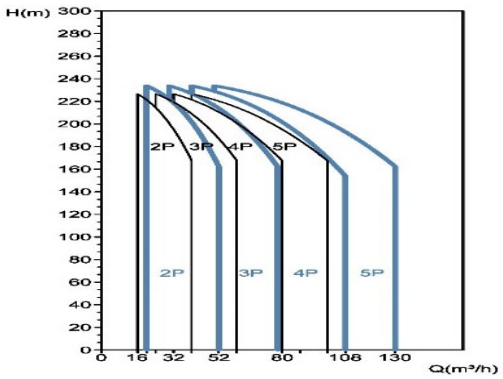
DN32



DN40

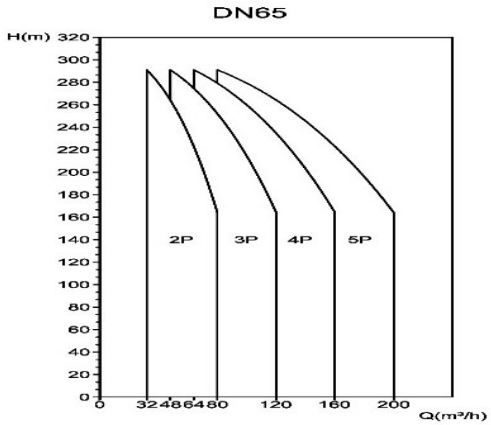


DN50

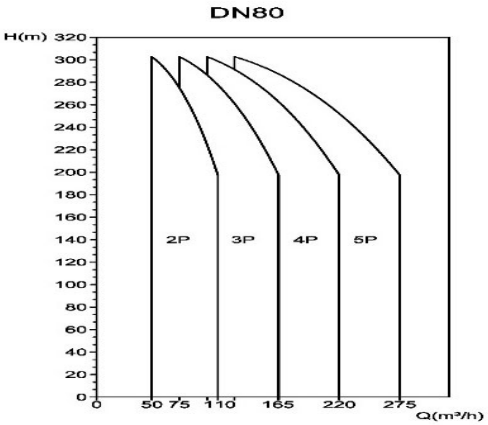


Medium Size (DN65, 80, 100, Flow range 32-550 m3/hr)

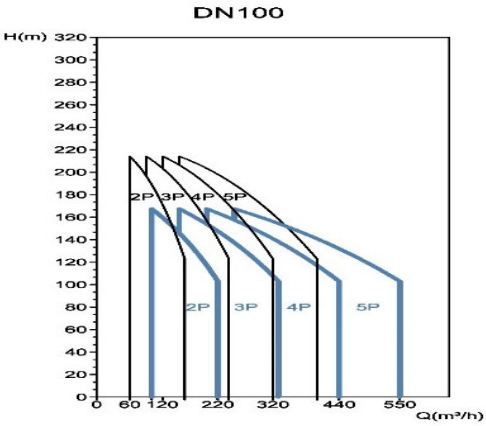
DN65



DN80

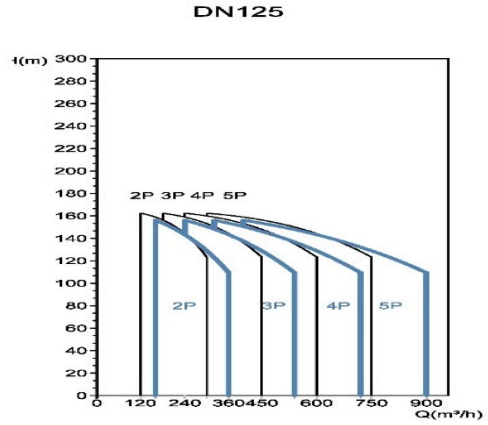


DN100

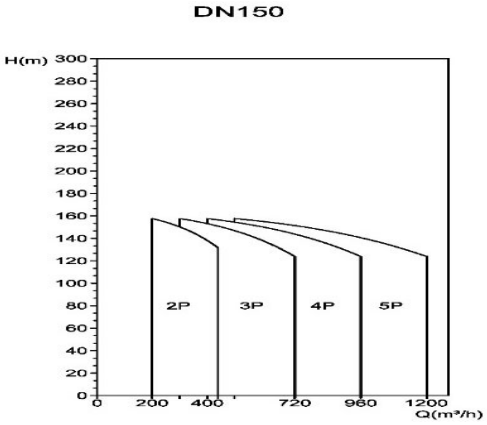


Large Size (DN125, 150, Flow range 120-1,200 m3/hr)

DN125



DN150



Reference flow selection

It's a complicated calculation for complete system flowrate, and should be based on local development, user habits, area planning, policies and etc. In order to make it easy for quick selection, we provide reference list based on experience as below:

Nos. of users	Flow of single pump (m3/hr) and Nos. of pump	Max. flow (m3/hr)
10	3/2P	6
15	4/2P	8
20	4/2P	10
30	4/2P	12
40	8/2P	14
50	8/2P	16
75	8/2P	20
100	12/2P	24
125	12/2P	26
150	16/2P	32

Nos. of users	Flow of single pump (m3/hr) and Nos. of pump	Max. flow (m3/hr)
175	16/2P	34
200	16/2P	36
225	20/2P	40
250	20/2P	42
275	20/2P	44
300	32/2P	46
350	32/2P	56
400	32/2P	64
450	32/2P	72
500	42/2P or 32/3P	80

Nos. of users	Flow of single pump (m3/hr) and Nos. of pump	Max. flow (m3/hr)
600	42/2P or 32/3P	84
700	42/2P or 32/3P	90
800	65/2P or 32/3P	100
900	65/2P or 32/3P	110
1000	65/2P or 42/3P	120
1300	65/2P or 42/3P	140
1500	85/2P or 65/3P	160
1750	85/2P or 65/3P	180
2000	85/2P or 65/3P	200

Available Pressure Tank

In the above table, we provide recommended pressure tank for each pump set. If any other size is required, please find from below table and let us provide customized solution.

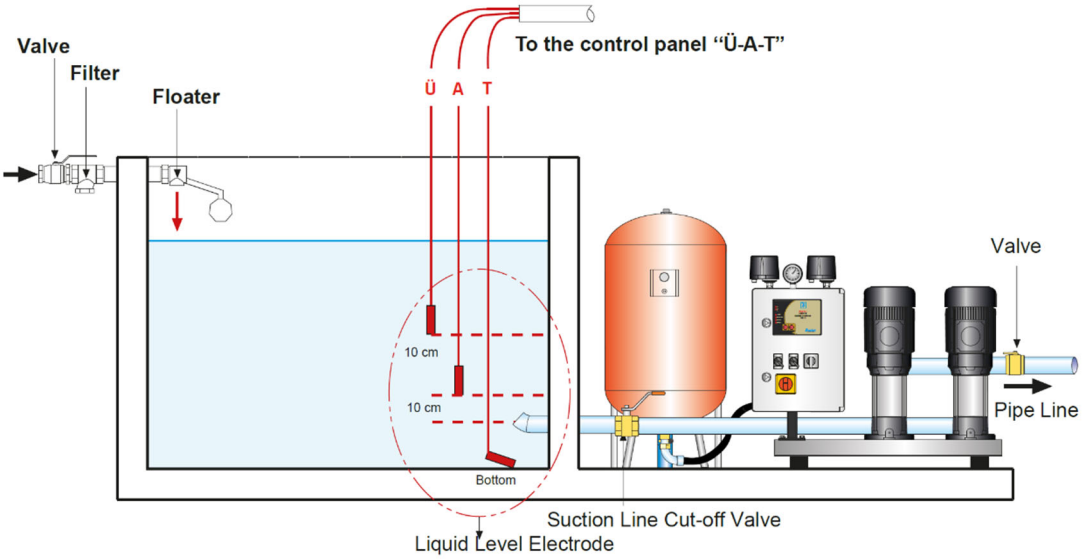
Pressure Tank/Diaphragm Tank				
Size（L）	Type	⌀×H_1（mm*mm）	Nozzle inch	MPa
24L	Vertical	270*460	1"	1.0
36L	Tripod, Vertical, Independent	350*550	1"	
50L		350*660	1"	
80L		450*740	1"	
100L		450*835	1"	
150L		500*1135	1 1/2"	
200L		628*1080	1 1/2"	
300L		628*1400	1 1/2"	
500L		800*1500	1 1/2"	
750L		800*1920	2 2/3"	
1000L		800*2150	2 2/3"	
1500L		1000*2350	2 2/3"	
2000L		1200*2350	2 2/3"	

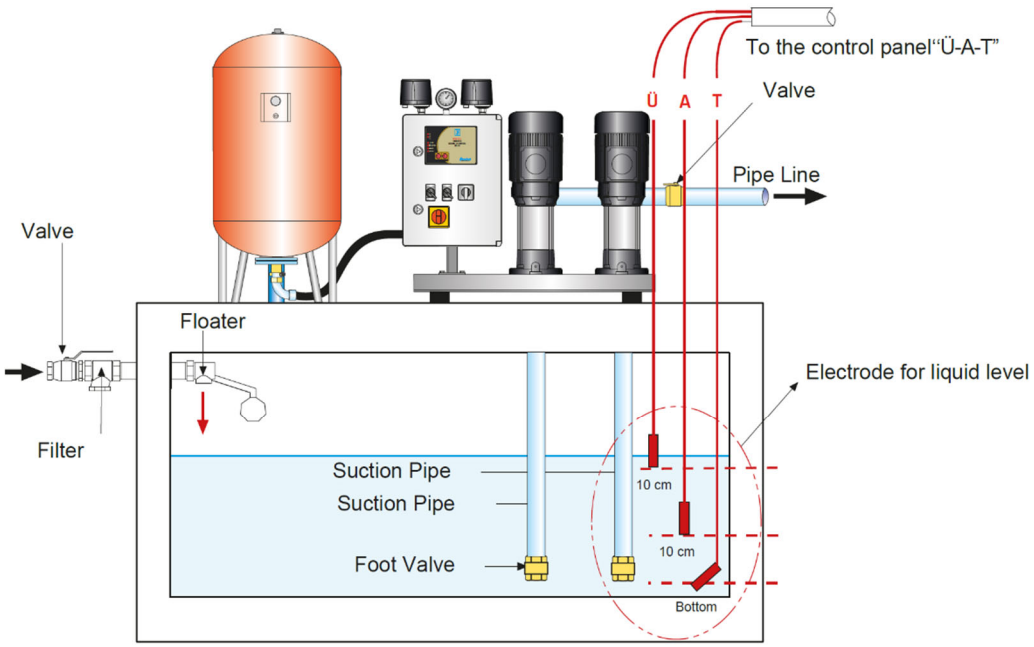
Pressure Tank/Diaphragm Tank				
Size（L）	Type	⌀×H_1（mm*mm）	Nozzle inch	MPa
24L	Vertical	270*460	1"	1.6
36L	Tripod, Vertical, Independent	350*560	1"	
50L		350*670	1"	
80L		450*710	1"	
100L		450*790	1"	
150L		450*1150	1 1/2"	
200L		650*970	1 1/2"	
300L		650*1200	1 1/2"	
500L		650*1800	1 1/2"	
750L		800*1920	2 2/3"	
1000L		800*2150	2 2/3"	
1500L		1000*2350	2 2/3"	
2000L		1200*2350	2 2/3"	

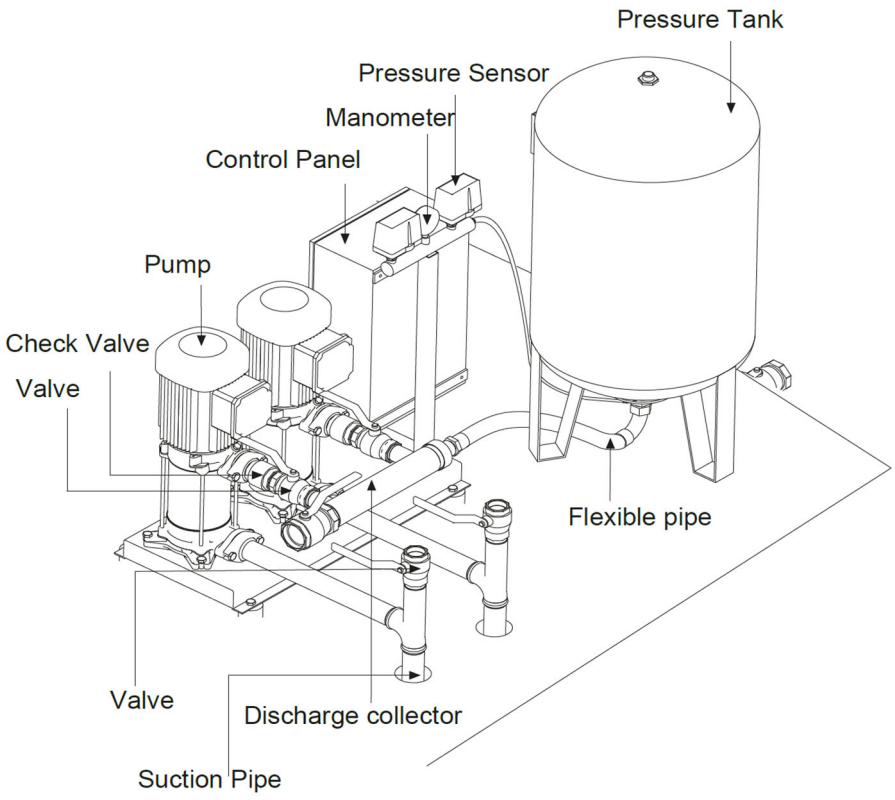
Pressure Tank/Diaphragm Tank				
Size（L）	Type	⌀×H_1（mm*mm）	Nozzle inch	MPa
24L	Tripod, Vertical, Independent	270*460	1"	2.5
50L		350*670	1"	
80L		450*710	1"	
100L		450*790	1"	
150L		450*1150	1 1/2"	
200L		650*970	1 1/2"	
300L		650*1200	1 1/2"	
500L		650*1800	1 1/2"	
750L		800*1920	2 2/3"	
1000L		800*2150	2 2/3"	

Two types of materials are available:
1, Carbon steel with blue baking painting.
2, Stainless Steel 304.

Installation Types







Control Panel Options

Two types of panels are used as standard in boosters.

•The first is pressure switch controlled electrical panels. These panels are run/stopped according to pressure signal received from each pump's separated pressure switches. In this type panel boosters, sufficient volume of expansion tank is used for minimizing number of switches.

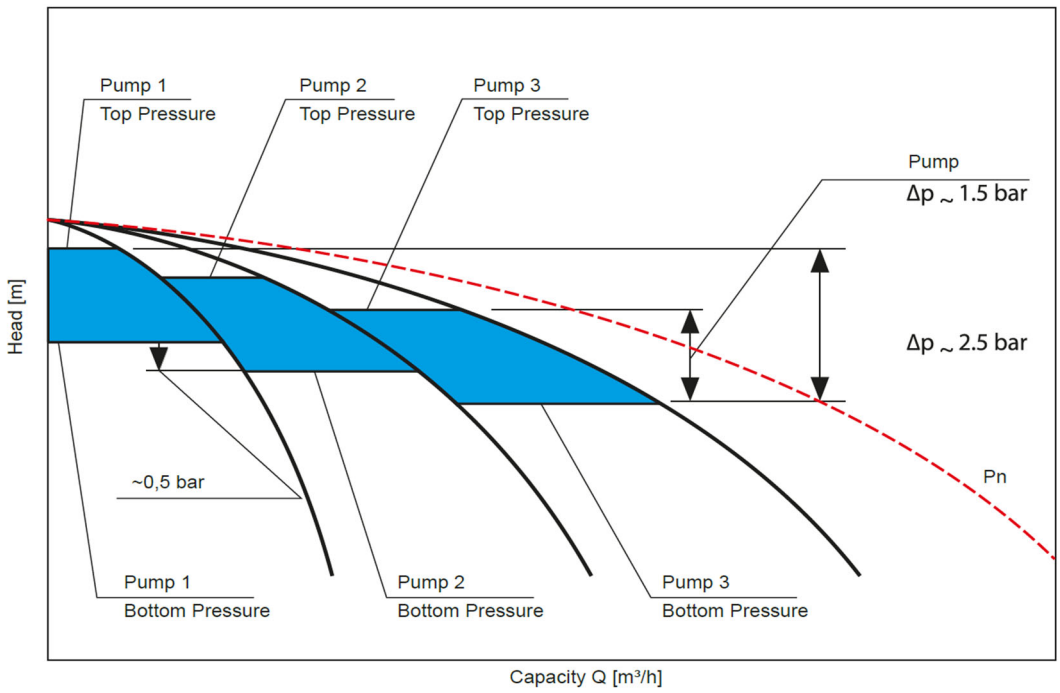
•The second is frequency controlled electrical panels. Comfort is important in regarding facilities using these panels. Pressure information received from Transmitter is run on the frequency inverter's PFC macro or PLC and keeps the line pressure constant by reducing the pump's rate according to system flow rate. In this type of panel booster, an expansion tank with a lower volume than the first type is used.

Pressure Switch Controlled Panel Properties

- Works with 380-460 V AC 50 Hz / 60 Hz mains voltage.
- Panel frame is made of thermoplastic material with IP 54 protection class or manufactured from DKP sheet and painted with RAL 7032 electrostatic paint.
- Panels have Manuel – 0 – Automatic selector switch.
- Panels in Automatic position;

- Protection with floater against waterless operation
- Protection against phase interruption and imbalance

- There is co-aging execution by changing turns on each operation.
- During panel’s protection relay failure, it works via pressure switches on Manuel position against waterless operation.



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