

The SILI ZYG Hydrophore Units are designed to fulfill the request for fresh water or sea water on board of sea-going vessels and offshore rigs. The systems are complete with electronic control and monitoring equipment to measure the water quality, and counters to measure water consumption. All connections are on one side, which decreases costs and eases installation on board; the units are completely wired up and tested beforehand in our workshop.

- Easy to operate
- Easy installation
- Compact design
- Unmanned and fully automated



The hydrophore unit is pre-wired and tested before delivery to ensure its performance. They will only need to plug in the power supply, connect the inlet/outlet pipes & air supply and the unit will be ready for operation. The unit control functions can be customized and integrated into the system according to your needs and requirements. It is also compliance to IMO rules.

Each hydrophore unit is equipped with an adequately sized full-killed steel pressure tank, and class approved pressure vessels are available upon request. It is equipped with two units of centrifugal pumps in a duty and standby configuration to allow for sufficient redundancy. Pump material is in mainly bronze for sea water, and for the fresh water, the pump casing can be in cast iron.

The system controller with its in-built logic and with a pair of pressure controllers will ensure that the duty pump operation will maintain the system pressure and delivery capacity at all times. In instances when the water demand is higher than the normal consumption, the system will also start the standby pump automatically to cater for this extra demand effortlessly.

The expansion and contraction of the air pocket inside the pressure vessel works as an air cushion in synchronization with the pumps and controllers. The minimum starting and stopping of the pumps ensure the system water pressure is maintained without erratic pressures surges.

Safety is an important aspect to the hydrophore unit. The system's pressure vessel is designed with a factory set pressure relief valve and self closing level gauge(optional) in case of an accidental breakage of the sight glass. The in-built control logic will not allow the pumps to over pressure the tank even when system is operating manually.

The hydrophore system piping is constructed from high strength hot galvanized piping or carbon steel piping. The piping is factory fitted and tested for leakage prior to delivery.

There are three series model of SILI ZYG Hydrophore Units:

a. ZYGH, with two CLH vertical centrifugal pumps, much smaller space requested.

The pressure tank not only provides the storage space but the pumps and control are mounted on the side of the pressure tank to reduce the foot print required.

b. ZYGX, with two CWX horizontal self-priming centrifugal pump.

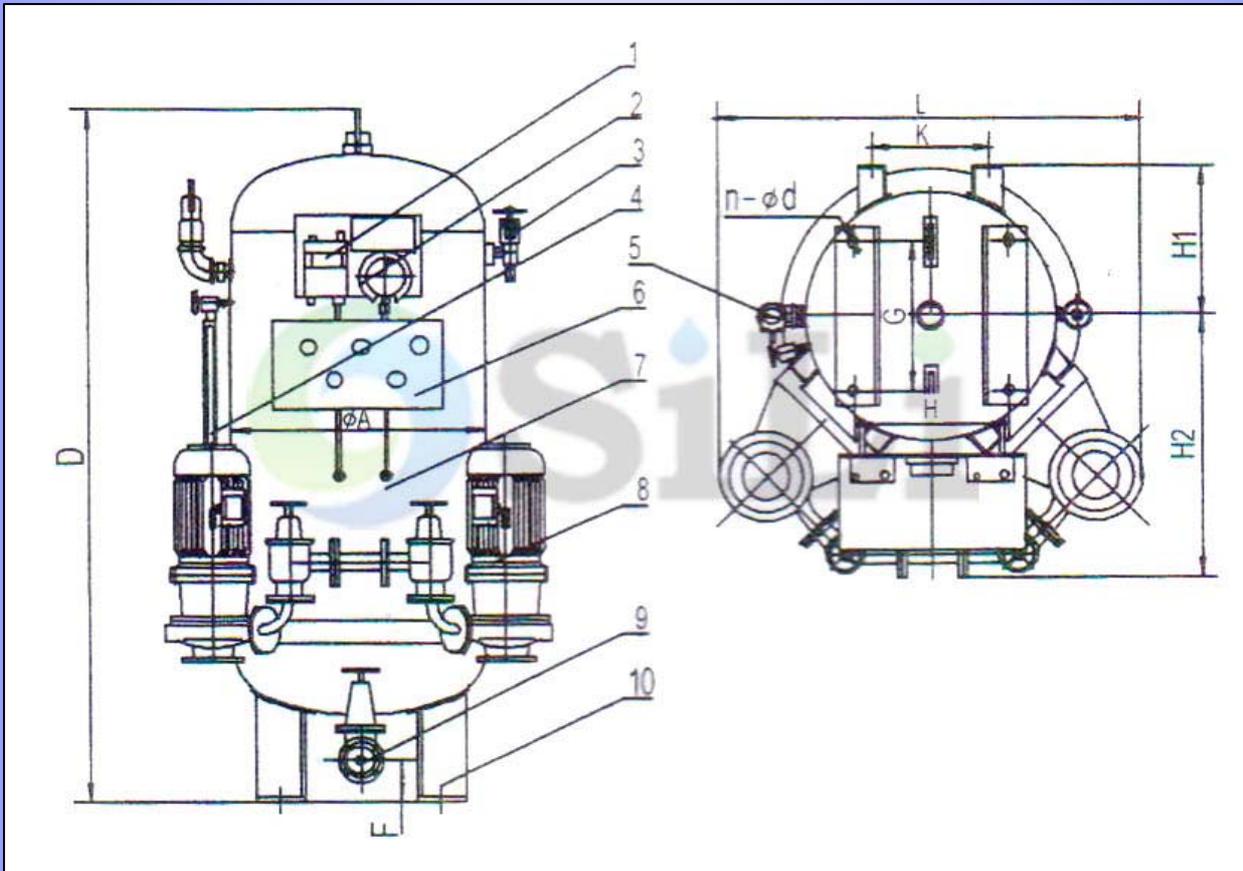
The pressure tank, pumps, control and piping appurtenances are mounted on a structural skid which is grit blasted and epoxy painted for marine application. The structural skid will allow ease of lifting of the system during installation

c. ZYGW, with two WZ horizontal self-priming centrifugal pump.

Similar with the ZYGX, but with small pump capacity and tank volume.

ZYGH series Hydrophore Units

Working pressure 0.40Mpa, designed pressure 0.50Mpa



Model	Pump			Tank(in mm except mark)										
	model	capacity	power	volume	ΦA	D	L	H1	H2	F	G	H	K	n- Φd
ZYGH0.3/0.4	CLH40-32-2(Z)	5m ³ /h	3kw	0.3m ³	612	1700	1100	370	580	90	375	385	370	4-25
ZYGH0.5/0.4	CLH40-32-2(Z)	5m ³ /h	3kw	0.5m ³	712	1810	1250	430	685	90	465	475	425	4-25
ZYGH1.0/0.4	CLH40-32-3(Z)	10m ³ /h	4kw	1.0m ³	912	2027	1370	510	800	62	520	630	525	4-25

water inlet flange DN40mm,
water outlet flange DN25mm,
drain flange DN20mm.

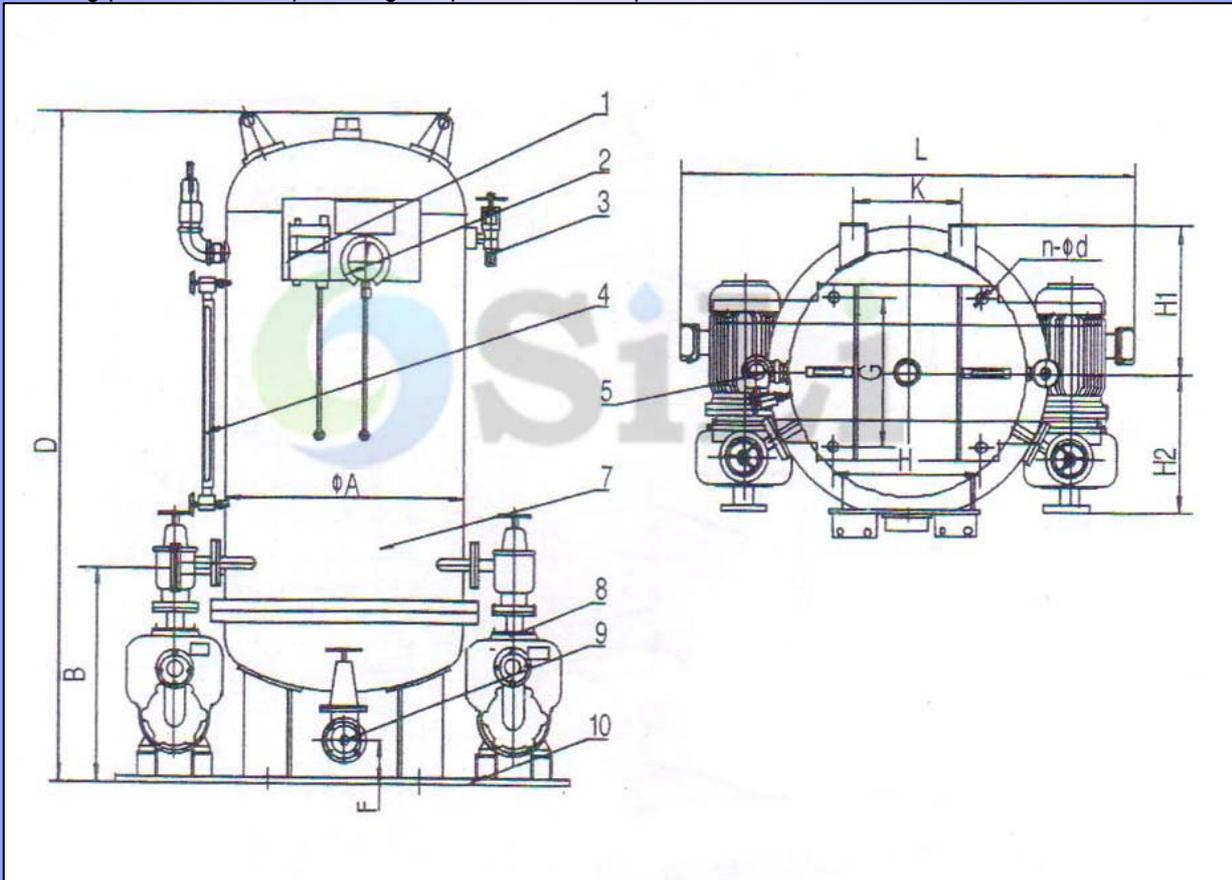
Part item and name:

1. Pressure controller(sensor)
2. Pressure gauge
3. Pressure air charge valve
4. Water level gauge
5. Safety valve
6. Control panel
7. The body
8. Water pump(two sets)
9. Drain valve
10. The base



ZYGX series Hydrophore Units

Working pressure 0.40Mpa, designed pressure 0.45Mpa



Model	Pump			Tank(in mm except mark)										
	model	capacity	power	volume	ΦA	D	L	H1	H2	F	G	H	K	n- Φd
ZYGX0.3/0.4	1.5CWX-2	3m ³ /h	2.2kw	0.3m ³	612	1600	1180	375	510	90	375	385	375	4-25
ZYGX0.5/0.4	1.5CWX-2	3m ³ /h	2.2kw	0.5m ³	712	1790	1360	430	510	90	465	475	425	4-25
ZYGX1.0/0.4	1.5CWX-3	5.5m ³ /h	3kw	1.0m ³	912	2027	1400	510	530	90	520	630	525	4-25

water inlet flange DN40mm,
water outlet flange DN25mm,
drain flange DN20mm.

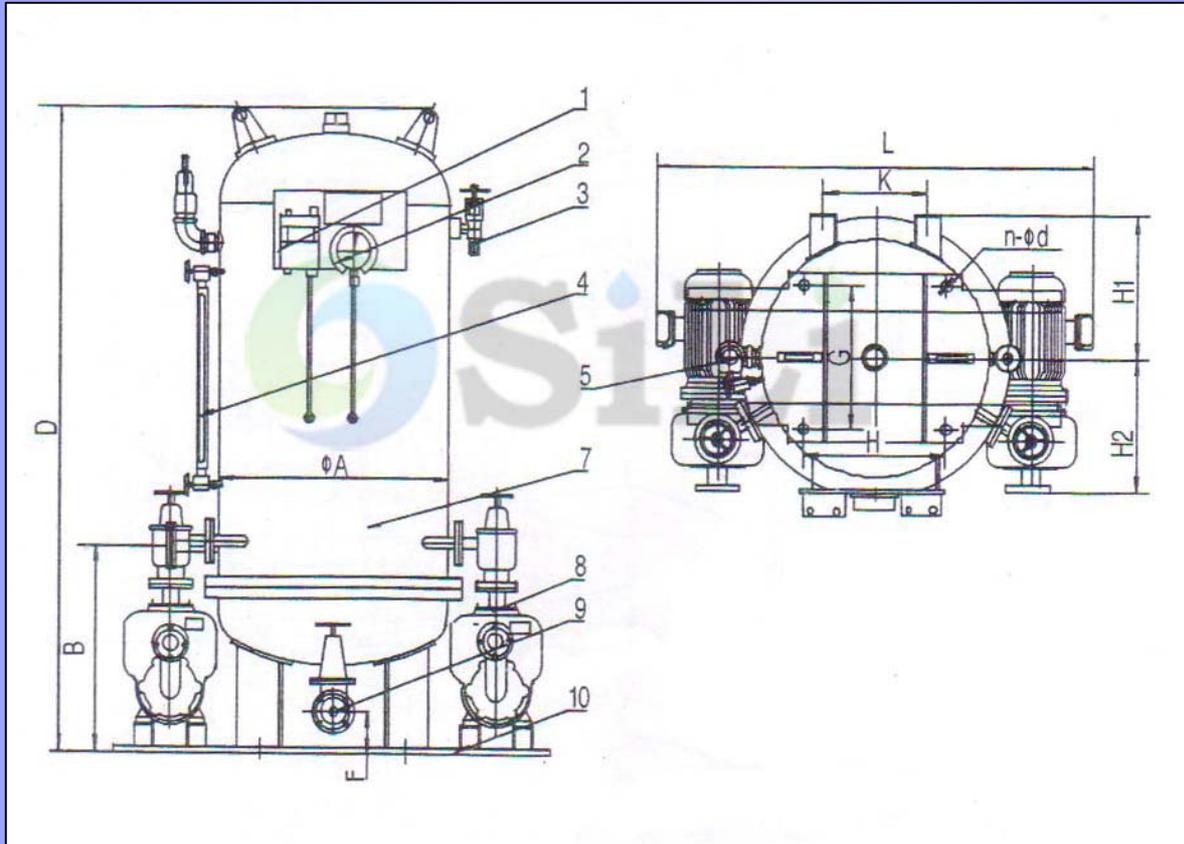
Part item and name:

1. Pressure controller(sensor)
2. Pressure gauge
3. Pressure air charge valve
4. Water level gauge
5. Safety valve
6. Control panel
7. The body
8. Water pump(two sets)
9. Drain valve
10. The base



ZYGW series Hydrophore Units

Working pressure 0.40Mpa, designed pressure 0.45Mpa



Model	Pump			Tank(in mm except mark)										
	model	capacity	power	volume	ΦA	D	L	H1	H2	F	G	H	K	n-Φd
ZYGW0.12/0.4	1WZ-0.9	1m ³ /h	1.5kw	0.12m ³	412	1370	940	270	340	90	260	300	325	4-19
ZYGW0.2/0.4	1WZ-0.9	1m ³ /h	1.5kw	0.2m ³	512	1450	1100	325	390	90	340	350	314	4-19

water inlet flange DN32mm,
 water outlet flange DN25mm,
 drain flange DN20mm.

Part item and name:

1. Pressure controller(sensor)
2. Pressure gauge
3. Pressure air charge valve
4. Water level gauge
5. Safety valve
6. Control panel
7. The body
8. Water pump(two sets)
9. Drain valve
10. The base



Some request of design and construct:

The tank is under a Chinese standard of CB455-91 for ship building purpose.

- a. if the diameter of the tank is bigger than 700mm, a manhole is necessary, the diameter of the manhole is not less than 400mm.
- b. there is a safety valve on sides the unit, the setting pressure is bigger than the working pressure and lower than the designed pressure.
- c. the max pressure of the tank body is 1.5 times of design pressure, and it will be tested for leakage under 1.25 times of the design pressure.
- d. The pumps should be automatically started or stopped by the control of the pressure controller(sensor), at the setting lowest and highest pressure.
- e. After test of the tank body, its inner should be grit blasted and innocuous epoxy painted for marine application. And its outer should be rust removed and be covered with anticorrosive paint and surface paint.

Daily check and operation:

- a. check and flush of the water level gauge
 - 1). close the valve in air sides, and open the flush valve, to check and flush the pipe connected with the water, and then close the valve in water sides.
 - 2). open the valve in the air sides, to check and flush the pipe connected with the compressed air.
 - 3). close the flush valve, and open the valve in water sides, to check the water level in normal position.
- b. compressed air charging into the tank.
 - 1). manually start the service pump, to deliver water into the tank, stop the pump until the working pressure, then close the outlet valve, to temporarily stop the water supply.
 - 2). adjust the compressed air pressure to 0.1Mpa higher than the working pressure, open the air charge valve, to charge compressed air into the tank.
 - 3). drain the redundant water through the drain valve, when the pressure reach the tank working pressure, and the water level is in the full position, close the air charge valve and drain valve.
 - 4). if charge too much air, it can be discharge by the valve upon the tank.
 - 5). put all valve in normal condition, and pump in automatical service position.

SILI PUMP,
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(The company reserves the right to make alteration without notice)