

Condensate Recovery System

HPT10 HP10 HPT30 HP30

■ Features



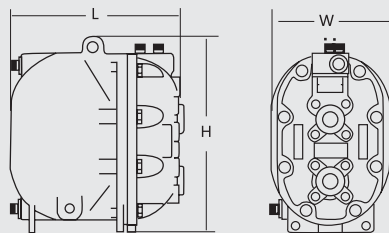
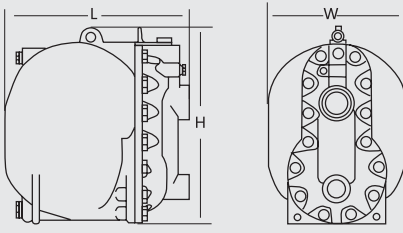
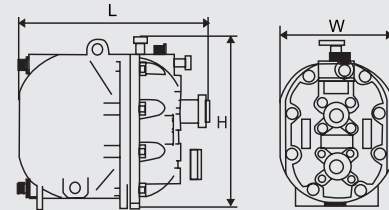
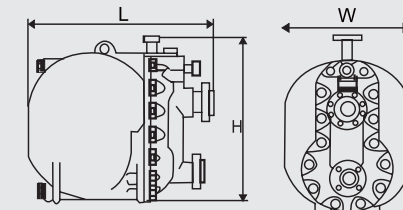
Condensate Recovery System with Four-pumps in Parallel

1. Discharging and recovering condensate can improve production efficiency, save energy, reduce water treatment cost, and fully utilize steam.
2. Eliminates water hammer, avoids equipment damage, and improves the reliability and safety.
3. Effectively recovers condensate, reduces the cost of boiler fuel and water treatment for reuse, and that of down stream water treatment and drainage.
4. Recovers condensate with temperature of up to 185°C without evaporation.
5. No need for Electricity, reliable operation, and easy for installation and maintenance.



HONGFENG 920

■ Dimensions

	HPT10	HP 10	HPT30	HP30
Built-in Trap	YES	NO	YES	NO
Max. Flow rate	Approximately 1.5t/h		Approximately 7t/h	
Trap Dimensions (mm)				
	L-370 H-410 W-250		L-580 H-620 W-430	
Flanged (mm)				
	L-470 H-455 W-250		L-650 H-720 W-430	
Weight (kg)	50	49	141	138
Connections	Screwed or Flanged		Screwed	
Piping Dimensions (mm)	Condensate Inlet:ø40, Outlet:ø25 Motive Medium Inlet & Exhaust Port:ø15		Condensate Inlet:ø80, Outlet:ø50 Motive Medium Inlet & Exhaust Port:ø25	
Max. Operating Press.	1.05MPaG***			
Max. Operating Temp.	185℃			
Motive Medium Press.	0.03-1.05MPaG			
Motive Medium	Steam, compressed air, nitrogen or other non-flammable, non-toxic gas			
Pumped Medium	Steam condensate, water or other non-flammable, non-toxic fluid with a specific gravity of 0.85-1.0			
Filling Head* (mm)	Standard:860, Min.:710		Standard:630, Min.:459,550**	
Steam or Air Comsumption	Per t/h condensate:1.7kg steam,6m³ compressed air			

When selecting a suitable model

1. Make sure of the max. flow rate of the pumped medium.
2. Make sure of the characteristic, pressure and temperature of the motive medium.
3. Make sure of the total back pressure of the pump.
 - (1) Vertical lifting height.
 - (2) Pressure of condensate recovery line(MPa).
 - (3) Resistance loss of pipelines, valves and fittings.
4. Motive medium pressure provided by customer must be 0.1-0.15MPa higher than the total back pressure.

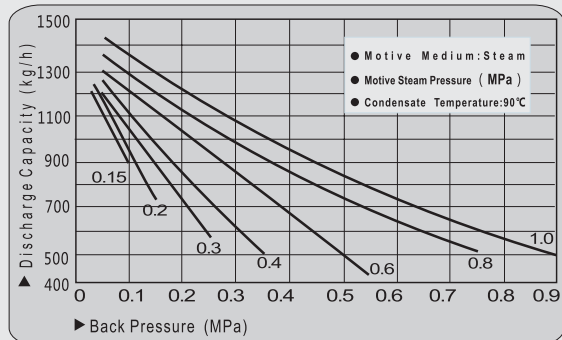
* Measured from the ground
 ** CKF3M wafer check valve
 *** G means gauge pressure not absolute pressure

Condensate Recovery System

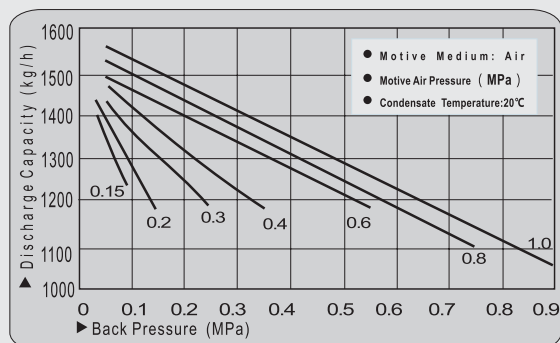
Capacity Chart

HPT10 Capacity Chart

● Inlet diameter: 40mm ● Inlet check valve CK3MG40mm

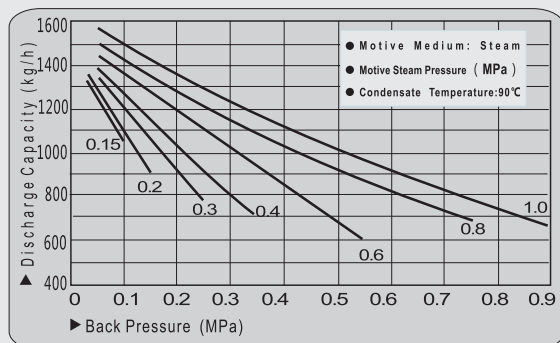


● Outlet check valve CK3MG25mm ● Filling head: 630mm

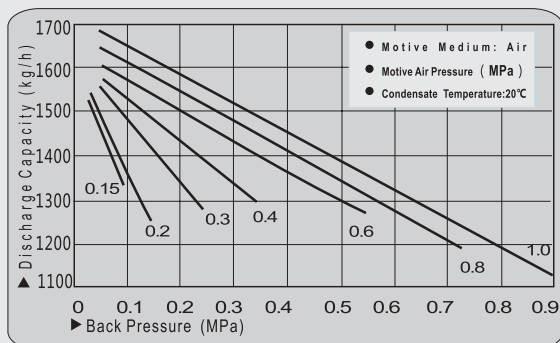


HP10 Capacity Chart

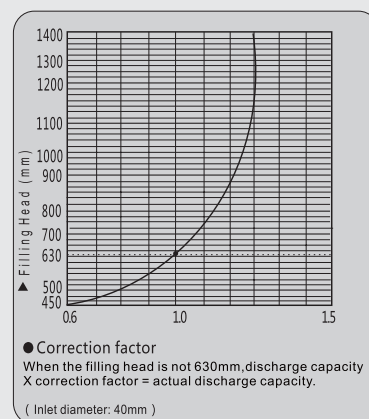
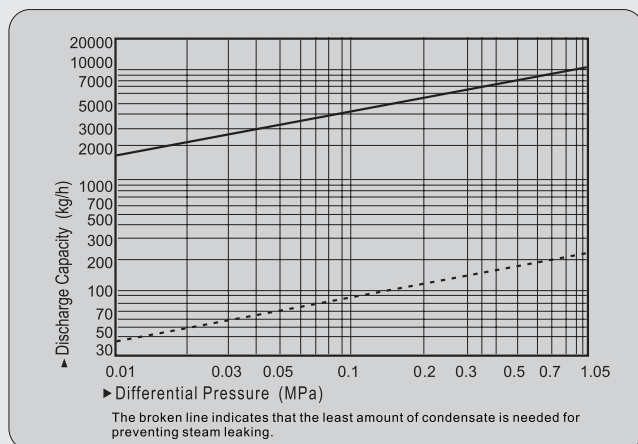
● Inlet diameter: 40mm ● Inlet check valve CK3MG40mm



● Outlet check valve CK3MG25mm ● Filling head: 630mm



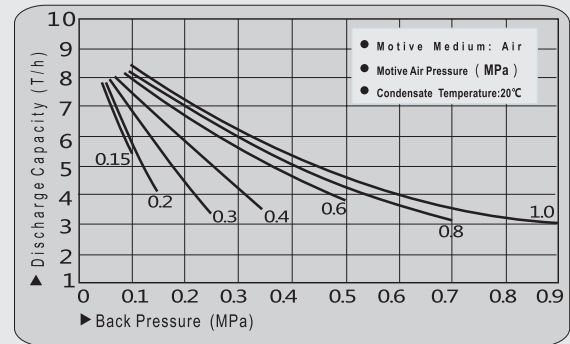
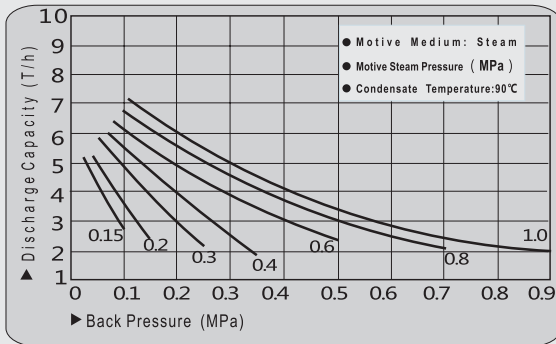
Capacity Chart of Built-in Trap of HPT10



HPT30 Capacity Chart

● Inlet diameter: 80mm ● Inlet check valve CK3MG80mm

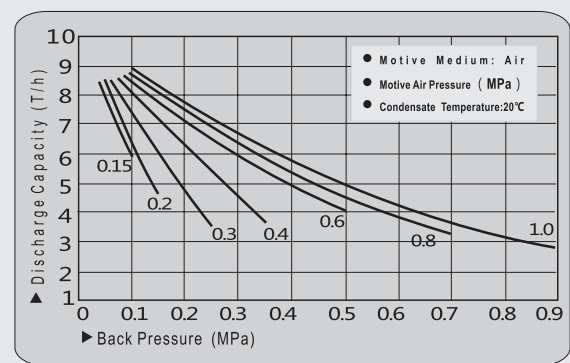
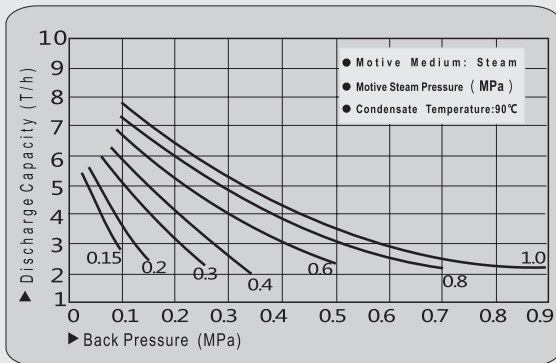
● Outlet check valve CK3MG50mm ● Filling head: 860mm



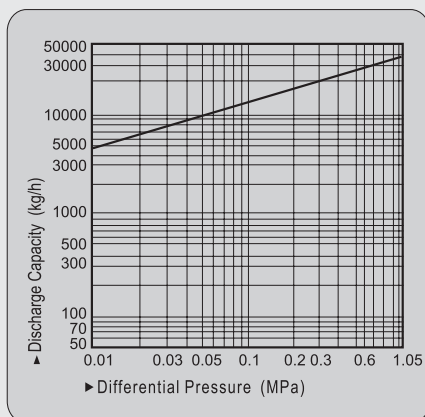
HP30 Capacity Chart

● Inlet diameter: 80mm ● Inlet check valve CK3MG80mm

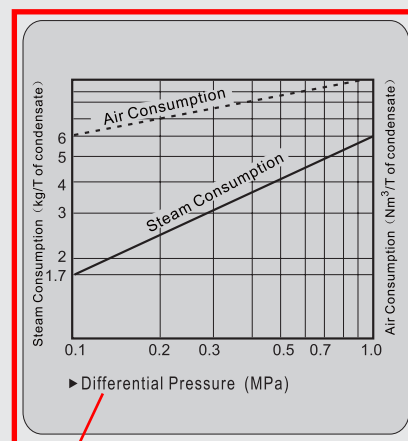
● Outlet check valve CK3MG50mm ● Filling head: 860mm



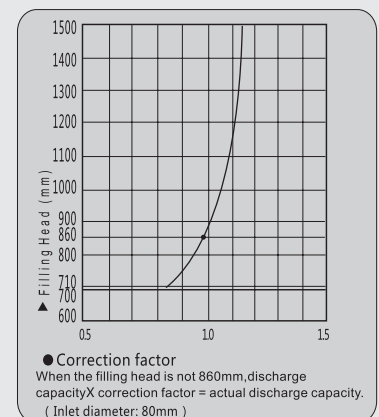
Capacity Chart of Built-in Trap of HPT30



Steam and Air Consumption of HP(T)10/HP(T)30



Differential Pressure = Inlet Pres. + Steam Motive Pres. - Back Pres.



Condensate Recovery System

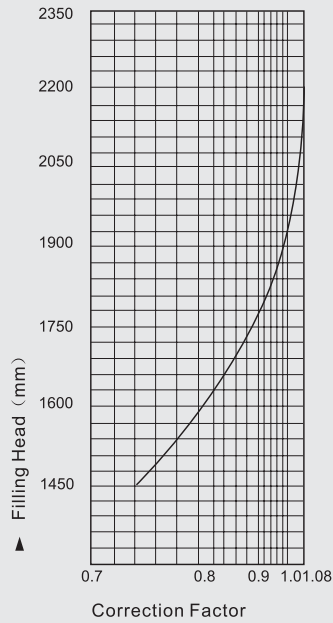
HP50 Steam/Pneumatic Powered Mechanical Pump with Large Capacity

Model	HP 50
Dimensions(mm)	
Max. Flow Rate	About 30T/h
Connections	Flanged GB/T PN1.6MPa RF
Size(mm)	Condensate Inlet: 100mm Outlet: 100mm Motive Medium Inlet & Exhaust port: 50mm
Max. Operating Pressure(MPaG)	1.05MPa
Max. Operating Temperature(°C)	185°C
Motive Medium Pressure(MPaG)	0.17-1.05MPa
Motive Medium	Steam, compressed air, nitrogen or other non-flammable, non toxic gas
Pumped Medium	Steam condensate, water or other non-flammable, non toxic fluid with a specific gravity of 0.85-1.0
Filling Head*1 (mm)	Normal:1900 Min...:1800
Steam or Air Consumption*2	Per t/h condensate:2.4 kg of steam, 8Nm ³ compressed air
Net Weight:	400(kg)
Max. Operating Weight(kg)	1180

1. Measured from the ground

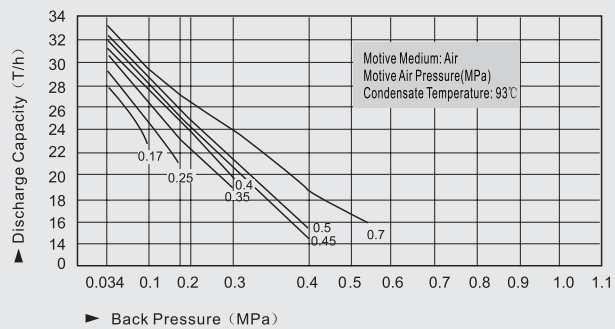
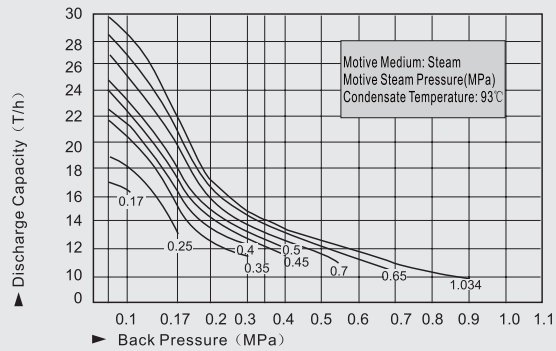
2. When the back pressure is 0.1Mpa, 1Mpa equals to 10.197kg/cm²

Capacity Chart

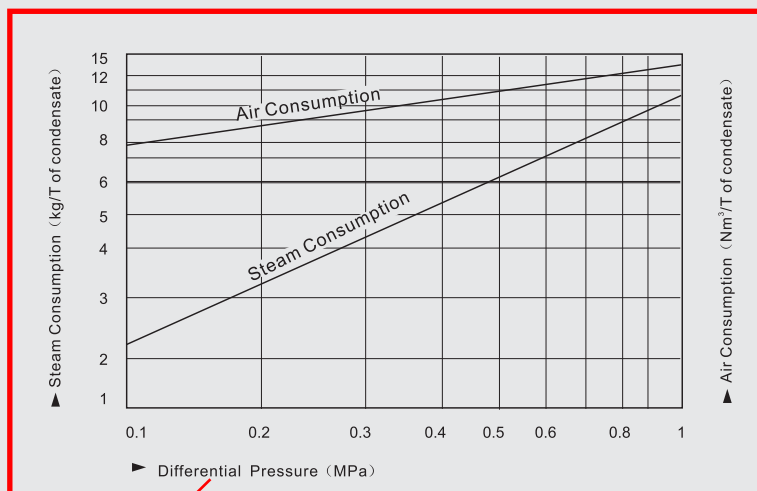


Note: The height of filling head is measured from discharging point to pedestal.

Inlet diameter: 100mm. Inlet check valve: H77 100mm
Outlet check valve H77 100mm. Filling Head: 1900mm



Steam and Air Consumption of HP50



Differential Pressure = Inlet Pres. + Steam Motive Pres. - Back Pres.

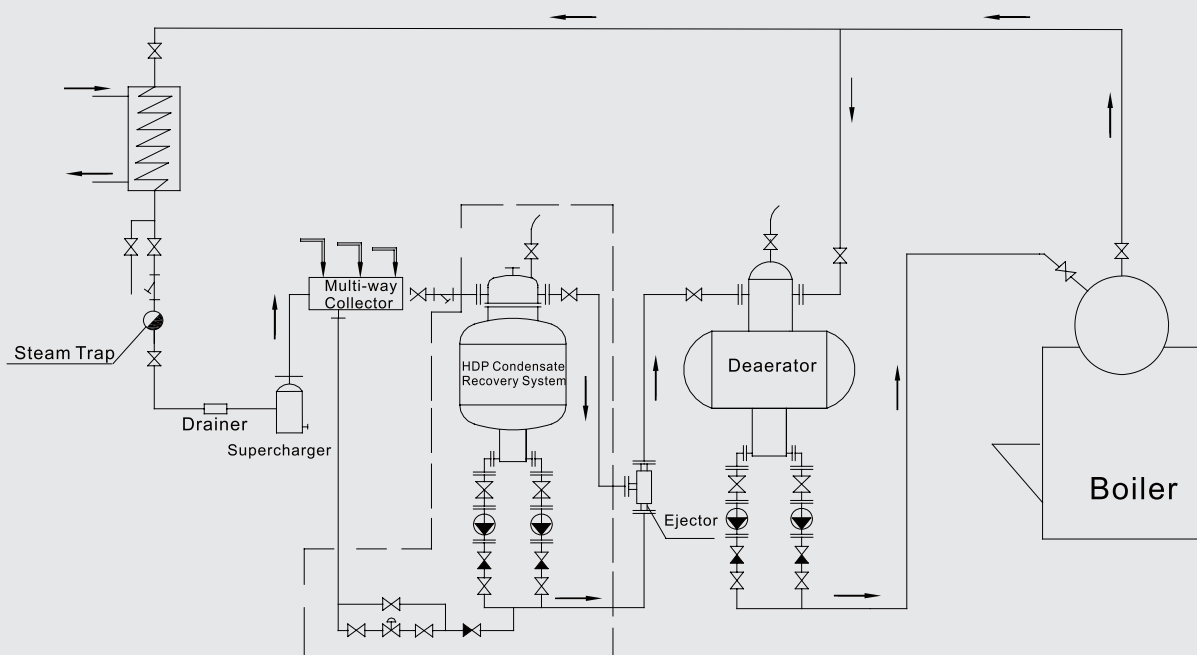
HDP Closed Condensate Recovery System

■ Features

1. Electromechanical fully automatic control, switching between two pumps, acousto-optic alarming and reliable operation.
2. Closed condensate recycling system, without overflow of secondary steam, can prevent condensate from contacting air and the pollution to water from other impurities. The recovered condensate can supply water to boiler directly.
3. The application of advanced technologies of steam-water separation, automatic regulating of steam-water two phase and steam-corrosion elimination guarantees smooth operation of pump.
4. Advanced technology, compact size and easy installation and maintenance.

■ Basic Principles:

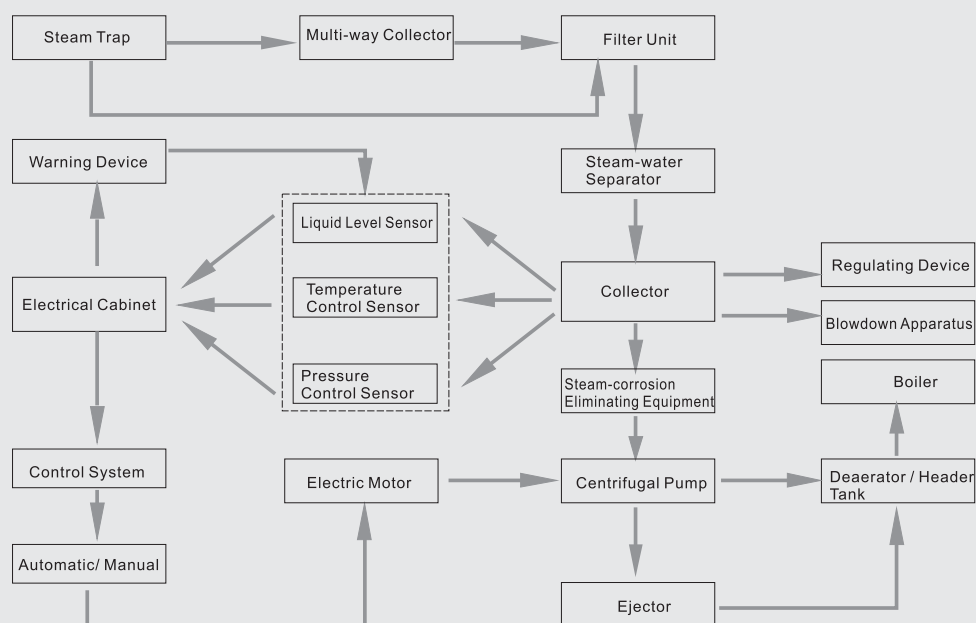
● Technological Flow Sheet of System



Note: Our company supplies products within the broken line.

When the system is in operation, the high-temperature condensate generated in heating equipment enters into equipment and pipe network that transformed residual pressure. When pressure of single pipe is equal to that of multi-way pipes, condensate will enter into recovery equipment directly. Multi-way collector as an assisting equipment should be installed, which can drive condensate enter into recovery equipment when the pressure of single pipe and multi-way pipes aren't same. After condensate entered recovery equipment and passed through devices of residual pressure utilizing equipment, steam-water separator, flow-guiding and pressurizing and steam-corrosion eliminating equipment, the signal that sent from liquid level transmitter to PLC can control centrifugal pump, helping for recovery.

● Technological Flow Sheet of Product



■ Main Parameters:

1. Power of electric motor and pump lift should be decided according to the working condition provided by customers.
2. Our company can design and provide different technical schemes if the working condition is special, such as high-corrosion medium, special controls, over 0.6MPa pressure and rather low recovery volume of condensate.

Type	I Type					II Type					III Type				
Operational Way of Equipment	Intermittent					Continuous					Intermittent or Continuous				
Power	Main line: 380V. Control Wiring: 220V/50 Hz Signal Output Current 4-20mA DC24V														
Max. Operating Pressure	0.6MPa														
Max. Operating Temperature.	170℃														
Rated Recovery Capacity(t/h)	2	4	6	10	15	20	30	40	55	75	100	120	150		

Note: Standard configuration is the II type.

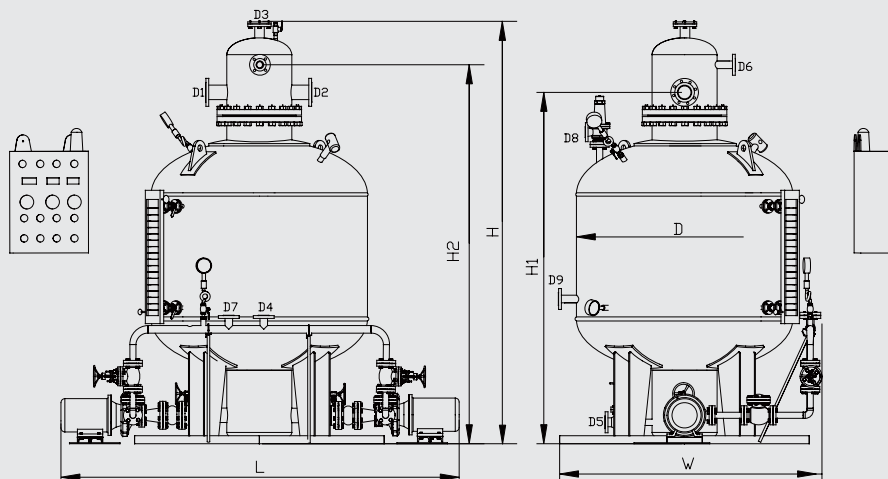
The following parameters should be ensured.

- 1.Recovery medium, especially high-corrosion medium.
- 2.Maximum handling capacity of condensate.
- 3.The operational way of equipment (intermittent, continuous or other special demand).
- 4.Maximum operational pressure and maximum operational temperature of steam system and return pipe.
- 5.Way of control of equipment (field control or remote control).
- 6.Maximum operational back pressure of pump, that is, resistance of condensate recovery system.
- 7.Operational condition and installation location of pump.(If the pump is installed in Northern region, indoor installation is recommended).
- 8.Other requirements: Choose model according to related parameters.

HDP Closed Condensate Recovery System

■ Dimensions

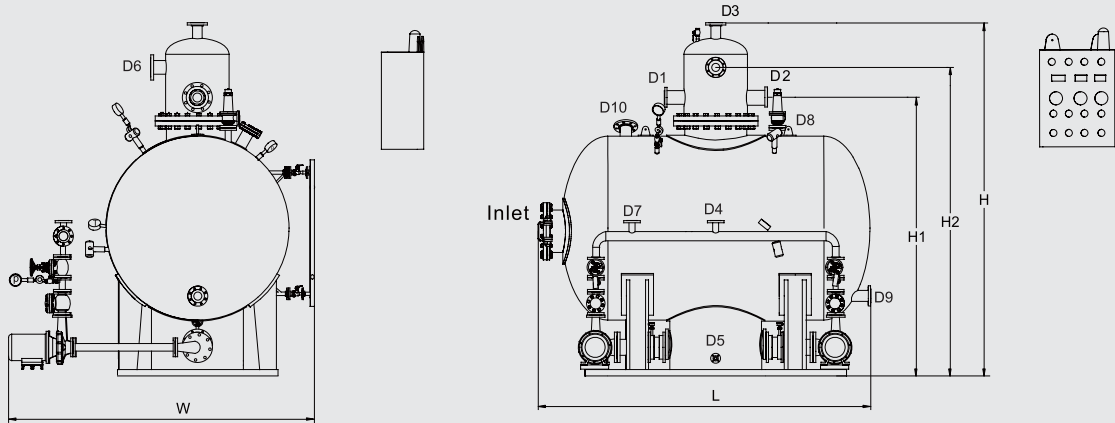
1.Vertical Condensate Recovery Equipment



Model		HDP55W	HDP75W	HDP100W	HDP120W	HDP150W
Technical Parameters						
Rated Condensate Capacity(t/h)		55	75	100	120	150
Max. Oper. Temp. (°C)		170				
Max. Operating Pressure(MPa)		0.6				
L	Total Length(mm)	3300	3800	4200	4500	5000
D	Diameter of Tank(mm)	1800	2000	2200	2400	2600
H	Total Height(mm)	3500	4100	4400	5000	5500
W	Total Width(mm)	3000	3300	3500	3750	4000
H1	Height of Intake(mm)	2810	3375	3675	4000	4300
H2	Height of Pressure Regulating Hole(mm)	3110	3675	3975	4360	4700
Oper. Weight(Kg)		~ 11000	~ 13000	~ 16000	~ 20000	~ 22000

Model		HDP55W	HDP75W	HDP100W	HDP120W	HDP150W
Symbol						
D1	Inlet(mm)	150	200	200	250	250
D2	Inlet(mm)	150	200	200	250	250
D3	Spare Vent(mm)	80	80	100	100	125
D4	Outlet(mm)	100	125	150	150	200
D5	Sewage Outfall(mm)	40	50	50	65	80
D6	Pressure Regulating Hole(mm)	80	80	100	125	150
D7	Circulation Port(mm)	50	65	65	80	80
D8	Outlet of Pressure Regulating Valve(mm)	40	50	50	65	65
D9	Spare Vent(mm)	80	100	150	200	250
D10	Spare Vent(mm)	80	100	150	200	250

2.Horizontal Condensate Recovery Equipment



Model		HDP55W	HDP75W	HDP100W	HDP120W	HDP150W
Technical Parameters						
Rated Condensate Capacity(t/h)		55	75	100	120	150
Max. Oper. Temp.(℃)		170				
Max. Operating Pressure(MPa)		0.6				
L	Total Length(mm)	3300	3800	4200	4500	5000
D	Diameter of Tank(mm)	1800	2000	2200	2400	2600
H	Total Height(mm)	3500	4100	4400	5000	5500
W	Total Width(mm)	3000	3300	3500	3750	4000
H1	Height of Intake(mm)	2810	3375	3675	4000	4300
H2	Height of Pressure Regulating Hole(mm)	3110	3675	3975	4360	4700
Oper. Weight(Kg)		~ 11000	~ 13000	~ 16000	~ 20000	~ 22000

Model		HDP55W	HDP75W	HDP100W	HDP120W	HDP150W
Symbol						
D1	Inlet(mm)	150	200	200	250	250
D2	Inlet(mm)	150	200	200	250	250
D3	Spare Vent(mm)	80	80	100	100	125
D4	Outlet(mm)	100	125	150	150	200
D5	Sewage Outfall(mm)	40	50	50	65	80
D6	Pressure Regulating Hole(mm)	80	80	100	125	150
D7	Circulation Port(mm)	50	65	65	80	80
D8	Outlet of Pressure Regulating Valve(mm)	40	50	50	65	65
D9	Spare Vent(mm)	80	100	150	200	250
D10	Spare Vent(mm)	80	100	150	200	250

HDP Closed Condensate Recovery System

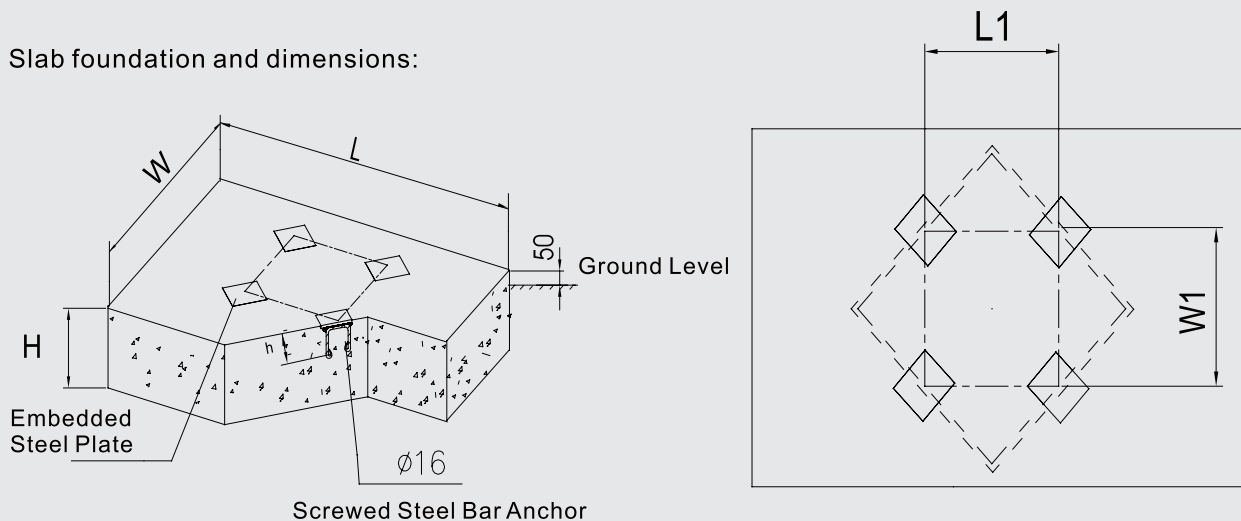
■ Installation and Dimensions

1. Foundation Dimensions

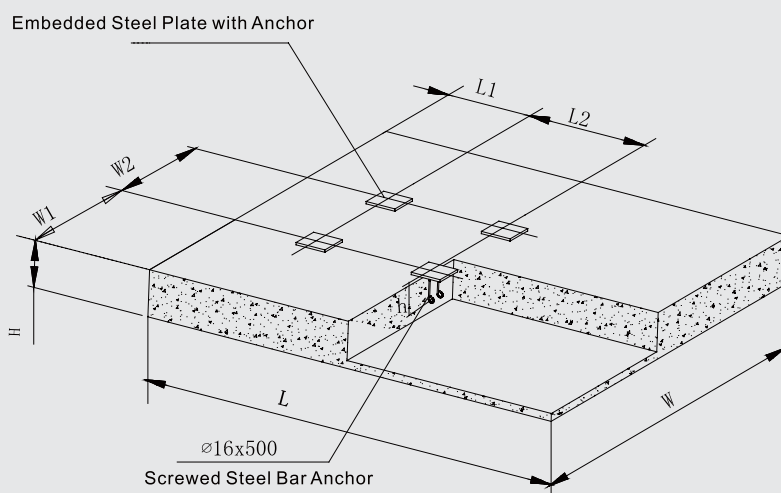
The customers should adhere to the following principles of installation:

- The product must be installed on the ground.
- Enough space for installation and maintenance should be left.
- The connection part between base of equipment and foundation is made of channel steel and the foundation should be horizontal. If the installation height is not enough, slab foundation can not be used. But the bearing capacity must be more than $3.5\text{kg}/\text{cm}^2$.

Slab foundation and dimensions:



Model Parameter	HDP2L	HDP4L	HDP6L	HDP10L	HDP15L	HDP20L	HDP30L	HDP40L
L	3200	3300	3600	3900	4200	4500	4800	5100
W	1900	2100	2300	2400	2800	3200	3700	4200
H	400				500		600	
L1	445	540	670	745	850	885	955	1070
W1	445	540	670	745	850	885	955	1070
h	300				400		500	
Embedded Steel Plate	300 X300 X30						400X400X30	



Model	HDP55W	HDP75W	HDP100W	HDP120W	HDP150W
Parameter					
L	9000	10000	10000	12000	12000
W	7500	9000	9000	10000	10000
H	600	650	700	750	800
L1	3000	3500	3500	4000	4000
L2	1600	1700	1900	2100	2300
W1	3500	4000	4000	4500	4500
W2	1640	1710	2080	2400	2860
H	450	500	550	600	650
Embedded Steel Plate	500X500X30				