

# Vented Condensate Pump Package

## with Flash Steam Heat Recovery (Steam Pressure-Powered)

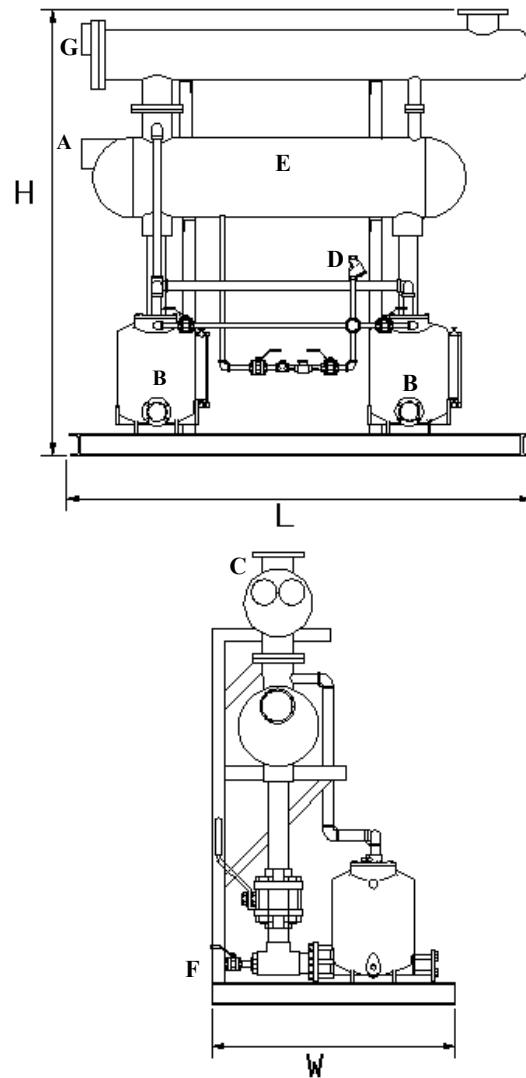
The Model VCP-3DC, Vented Condensate Pump Package with Flash Steam Heat Recovery, is a manufactured, ready-to-install system featuring significant energy savings. Flash Steam is released when trapped Condensate is discharged to atmospheric pressure. The heat available in the Flash Steam is transferred to Make-up Water, or another fluid medium, where heat is required. The result is substantial savings in energy costs at attractive pay-back periods. Also, designed for efficient pumping of condensate, VCP-3DC utilizes steam power in lieu of electric motors, eliminating the need for wiring motors, starters, and controls. The steam-powered pump package is capable of operation in flammable environments. Operating by steam pressure versus electric power, reduces pumping costs. The pump employs a float operated snap-acting mechanism with no external seals or packing, which eliminates seal maintenance, which is required on conventional pumps. All internal pump components and mechanism are constructed of Stainless Steel.

### MODEL VCP-3DC SAVINGS

System Steam Pressure (psig)	Energy Savings (MM Btu/yr.)	Potential Savings (\$ /yr.)	Makeup Water side Flow rate (gpm)
125	35,694.76	178,473.79	106.1
100	30,343.15	151,715.76	90.2
80	26,540.32	132,701.59	78.9
60	21,673.68	108,368.40	64.4
40	16,346.19	81,730.96	48.6
30	13,579.46	67,897.28	40.4
20	9,661.90	48,309.49	28.7
15	7,463.57	37,317.84	22.2
10	5,103.91	25,519.54	15.2
5	1,579.08	7,895.41	4.7

#### NOTES:

- Savings are based on max. potential savings at max. pump capacity on 8400 hr./yr. of continuous operation
- Steam costs at \$5.00/MM Btu
- Savings assume no back pressure on Vented Flash Steam.
- Water side flow rate based on a 80 F temperature change from 60 F to 140F.
- Savings based on approx. calculations.



#### Legend:

Approximate Dimensions: 80"H x 68"L x 48"W

- A. Condensate Inlet 3" NPT
- B. Condensate Discharge (2) 2" NPT
- C. Vent 4" FLG
- D. Steam Inlet 1/2" NPT
- E. Receiver Tank 18" x 48"
- F. Drain 1/2" NPT
- G. Make-up Water Inlet/Outlet 3" NPT

**EnviroSep** • Fluid & Heat Recovery Systems

A Division of TMT, Inc.

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## CONDITIONS OF OPERATION

Max. Allowable Pressure / Temperature:	125 psig / 450 °F
Discharge rate per cycle:	14.2 gal.
Max. instantaneous discharge rate:	180 gpm
Min. Motive Pressure:	5 psig
Steam Consumption (per pump):	3 lbs. per 1000 lbs. of liquid pumped
Compressed Air Consumption (per pump):	100 SCF per 1000 lbs. of liquid pumped

## MODEL VCP-3DC CAPACITIES

Steam Pressure (psig)	Discharge Head (psig)	Flow Rate (lbs. / hr.)
125	15	29,600
125	40	24,400
125	60	20,800
125	80	16,000
125	100	12,600
125	115	10,200
100	15	28,000
100	40	21,800
100	60	16,400
100	80	13,400
75	15	27,800
75	40	19,200
75	60	12,400
50	10	25,800
50	25	19,600
50	40	11,000
25	5	25,600
25	10	20,800
25	15	16,000
10	2	21,600
10	5	14,000
5	2	11,400

## STANDARD CONSTRUCTION

- Fabricated Angle Iron Frame
- Fabricated Steel Tank
- Bronze Ball or Gate Valves
- Stainless Steel Thermodynamic Steam Trap
- Cast Iron Pump with Gauge Glass, and Stainless Steel internal components and Check Valves
- Hydrostatically Tested
- High Temperature Industrial Enamel Paint

## PACKAGE OPTIONS

- Additional / Oversized Condensate Inlet connection(s)
- Oversized Condensate Receiver
- Oversized Atmospheric Vent(s)
- Overflow Connection
- Carbon Steel 3-piece Ball Valves (motive steam)
- Forged Steel Gate Valves (motive steam)
- Cast Iron Gate Valves (pump isolation)
- Digital Cycle Counter to monitor pumping cycles
- Re-circulating Pump
- Pressure / Temperature Relief Valve
- Low-profile design for height restricted applications
- All Welded piping
- Fabricated Square Tubing Frame
- Flash Steam Heat Recovery System only without condensate Inlet for Flash Recovery from existing Atmospheric Tanks.

Regardless of system size, temperature, pressure, fluid medium, or available floor space, **EnviroSep** can service all specialized needs.

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