



Compact Pressurised Condensate Recovery System (CPCRS)



Conserving Resources, Preserving the Future.

Themax provides systems and solutions in the critical domains of energy and environment. The products and services developed by Themax help industries achieve better resource productivity and improved bottom lines while maintaining the cleanest environment. Our vision for the future is firmly anchored in the belief that, to stay competitive, business houses need to adopt sustainable practices.

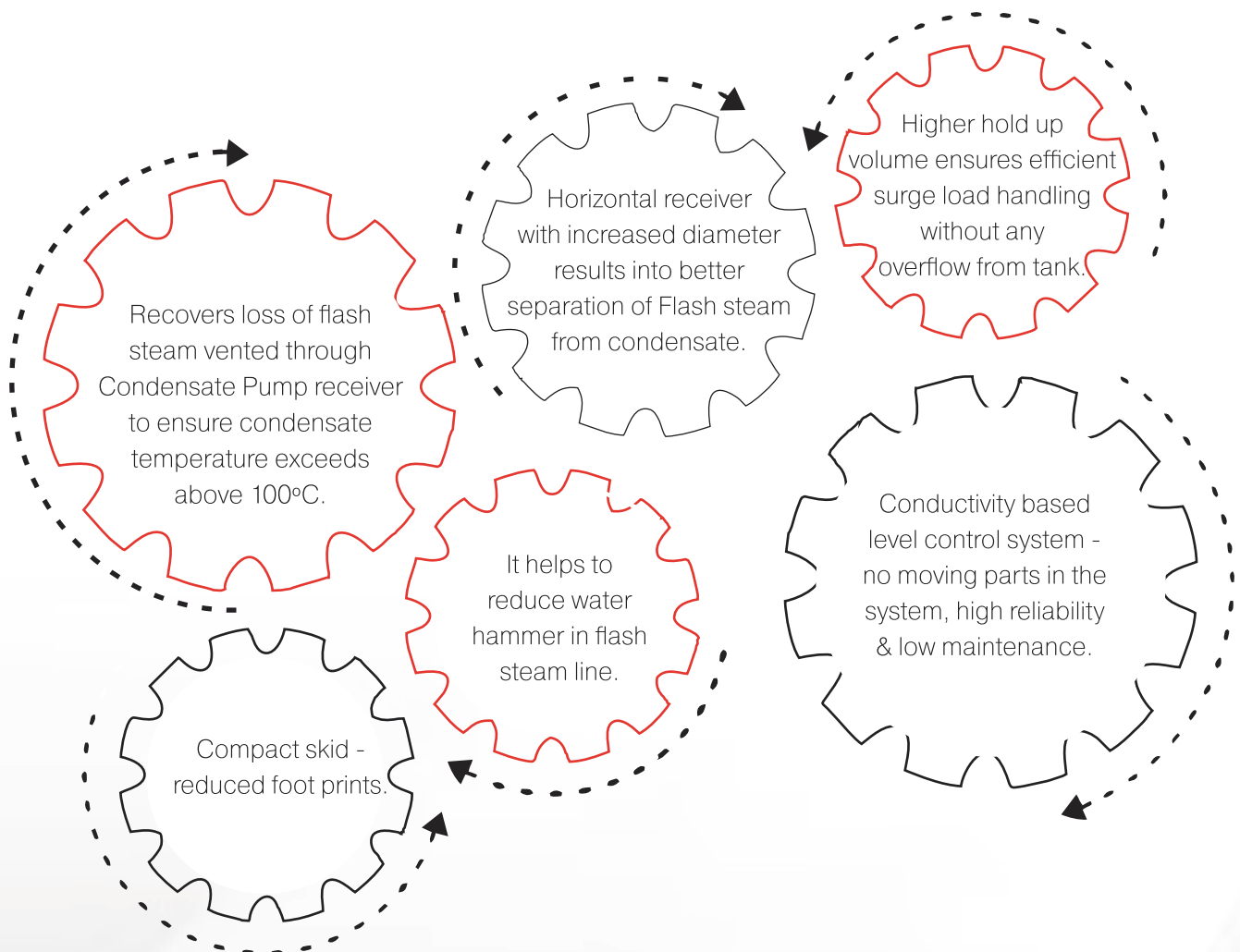
Themax's product portfolio covers heating, cooling, water and waste management, and specialty chemicals. The company also designs, builds and commissions large boilers for steam and power generation, turnkey power plants, waste-to-energy/systems and air pollution control projects.

INTRODUCTION

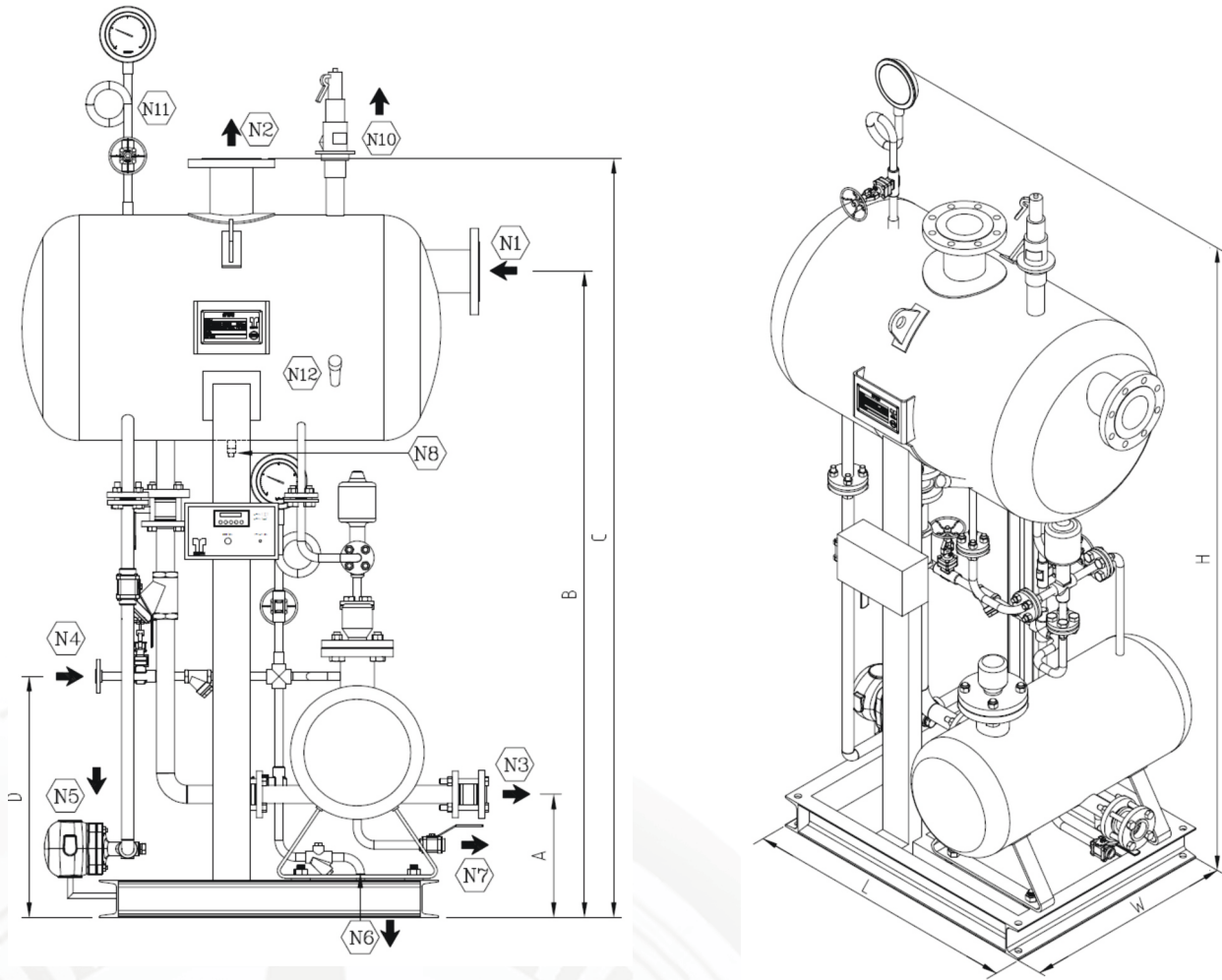
Compact Pressurised Condensate Recovery System (CPCRS) is closed loop, a compact, ready to install system in which flash vessel and condensate transfer pump installed on a common skid. The condensate pump receiver acts as receiver cum flash vessel in this compact module and recovers condensate at higher temperature above 100 Deg.C.

Compact Pressurised Condensate Recovery System (CPCRS) gives benefit both in terms of energy saving & reduced footprints.

FEATURES



DRAWING



NOZZLE SCHEDULE

Nozzle Connections / Model	CPCRS 200i	CPCRS 300i	CPCRS 400i	CPCRS 500i	CPCRS 600i
N1 - Condensate Inlet	100 NB FL #150	100 NB FL #150	100 NB FL #150	150 NB FL #150	150 NB FL #150
N2 - Flash Steam Outlet	100 NB FL #150	100 NB FL #150	100 NB FL #150	150 NB FL #150	150 NB FL #150
N3 - Condensate Outlet	25 NB FL #150	40 NB FL #150	50 NB FL #150	80 NB FL #150	100 NB FL #150
N4 - Motive Steam Outlet	15 NB FL #150	15 NB FL #150	15 NB FL #150	15 NB FL #150	25 NB FL #150
N5 - Over ow Outlet	25 NB FL #150	25 NB FL #150	25 NB FL #150	25 NB FL #150	40 NB FL #150
N6 - Pump Drain	15 NB - SW	15 NB - SW	15 NB - SW	15 NB - SW	25 NB - SW
N7 - Steam Trap Drain	15 NB - SW	15 NB - SW	15 NB - SW	15 NB - SW	15 NB - SW
N8 - Receiver Drain	15 NB - BSP	15 NB - BSP	15 NB - BSP	15 NB - BSP	15 NB - BSP
N9* - Instrument Air Inlet	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT
N10 - Safety Valve Outlet	40 NB - BSP	40 NB - BSP	40 NB - BSP	40 NB - BSP	40 NB - BSP

DIMENSIONS & WEIGHT

Model Name	Foot Print			Approx Weight
	Length (L) mm	Width (W) mm	Height (H) mm	Kgs
CPCRS 200i	900	685	2335	350
CPCRS 300i	900	685	2335	365
CPCRS 400i	900	685	2335	373
CPCRS 500i	900	685	2335	410
CPCRS 600i	1100	950	2670	640

PRODUCT SPECIFICATIONS

1

Design Pressure:

- Pump Vessel - 11 kg/cm²(g)
- Receiver – 3.5 Kg/cm²(g)

2

Design Temperature:

- 200 Deg C

3

Discharge Volume Per Stroke:

- CPCRS – 200i to 500i - 50 litres,
- CPCRS - 600i - 135 litres

4

Receiver / Flash Vessel Hold up Volume:

- CPCRS – 200i to 500i - 270 litres
- CPCRS - 600i – 460 litres

5

Separation Area:

- ~ 0.5 m²

6

Steam Consumption:

- 3 kg/1000 kg of condensate

MATERIAL OF CONSTRUCTION

Model Name	Material of Construction	Model Name	Material of Construction
1 Receiver / Pump Vessel	Carbon Steel - IS 2062 Gr B / SA 285	6 Non Return Valves	Stainless Steel SS304
2 Piping & Nozzles Carbon Steel	Carbon Steel - SA 106 / IS 2062	7 Safety Valve	Cast Iron
3 Condensate Isolation Valve	Carbon Steel / Cast Iron	8 Motive Steam / Pressure Gauge Isolation Valve	Carbon Steel – A105
4 Strainers	Carbon Steel	9 Sensor Stainless	Stainless Steel SS304
5 3/2 Way Valve	Stainless Steel SS304	10 Indicator / Totaliser	IP – 55

SELECTION CHART

Motive Steam Pressure	Total Lift/Back Pressure	CPCRS 200i	CPCRS 300i	CPCRS 400i	CPCRS 500i	CPCRS 600i
kg/cm ² g	kg/cm ² g	LPH	LPH	LPH	LPH	LPH
2	0.5	1190	2860	3790	5400	12285
	1.0	1150	2550	3460	4520	11070
	0.5	1260	3000	4080	5980	13770
3	1.0	1200	2770	3830	5100	12555
	1.5	1170	2560	3600	4840	11745
	2.0	1050	2320	3410	4350	10260
4	0.5	1300	3100	4290	6390	14850
	1.0	1240	2920	4090	5510	13500
	1.5	1200	2670	3790	5200	12285
	2.0	1090	2460	3520	4570	11205
	3.0	940	2090	2880	2810	10125
5	1.0	1270	3030	4290	5830	14175
	1.5	1230	2760	3950	5480	12015
	2.0	1130	2560	3600	4743	10935
	3.0	980	2230	3040	3260	10800
6	1.0	1300	3130	4460	6090	14850
	1.5	1250	2830	4070	5700	14040
	2.0	1150	2650	3670	4880	12555
	3.0	1020	2340	3170	3620	11475
	4.0	990	1980	2630	3530	11340
7	1.0	1320	3210	4210	6310	15255
	1.5	1270	2890	4170	5900	14445
	2.0	1180	2720	3720	5000	13095
	3.0	1050	2440	3280	3930	12015
	4.0	1020	2030	2680	3630	11880
8	1.0	1340	3280	4320	6400	15795
	1.5	1280	2940	4260	6070	14985
	2.0	1200	2780	3770	5100	13500
	3.0	1070	2520	3380	4200	12420
	4.0	1040	2080	2720	3710	12285
9	1.0	1350	3340	4420	6510	16200
	1.5	1290	2980	4340	6210	15390
	2.0	1220	2840	3820	5190	13905
	3.0	1100	2600	3460	4440	12825
	4.0	1060	2120	2760	3780	12690
10	1.0	1370	3400	4510	6620	16470
	1.5	1310	3020	4410	6340	15795
	2.0	1230	2890	3850	5270	14310
	3.0	1120	2660	3540	4647	13230
	4.0	1080	2150	2800	3850	13095

For the pump operating without compressed air option, the condensate displacement capacity has to be verified from HO

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