

HVAC System

**HPM R - type
Dual Circuit Floor Mount
Chilled Water Units for High
Redundancy**

海洛斯 HPM R - type

双回路地板安装的冷冻水机组



Redundancy to Secure Your Business

冗余保护您的业务

HPM R-type units are dual circuit chilled water units for business critical applications. Equipped with two independent chilled water circuits they are able to take cooling fluid from two independent sources.

The models are available in the cooling capacity range 24 - 120 kW for each circuit; each equipped with 3 or 2 Port valves. These units provide additional security for your critical environment. With primary and secondary chilled water circuits the units provide mandatory back up in terms of cooling capacity.

HPM R 型是双回路冷冻水机组并应用于关键业务。配备两个独立的冷冻水回路，冷却液来源可以分别独立的运作。

该型每个回路的冷量范围是在 24 - 120 千瓦；各配备 3 或 2 端口阀。这些机组提供额外的安全关键环境。初级和次级冷冻水回路提供强制备份的冷却能力。

HPM Dual CW Circuit Hydraulic System Schematic

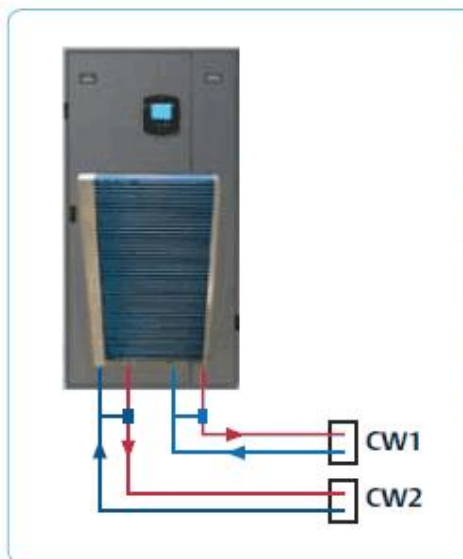
HPM Dual CW Circuit units are specifically designed for buildings with primary and secondary chilled water circuits.

A typical application is for polyfunctional buildings where a larger cooling source operates during the day, serving offices, technology and datacenters; while at night when cooling is only required for the technology and datacenters we can use a smaller chilled water source, maximizing obvious energy savings.

HPM 双连续回路的液压系统原理图

HPM 双连续回路机组是专为建筑物中初级和次级冷冻水回路。

一个典型的应用是多功能的建筑物，在白天工作较大的冷却源，服务机构，技术和数据中心；而在夜间只需冷却技术和数据中心，可以使用一个较小的冷冻水源，最大限度发挥节能的功效。



Availability

- 100% redundancy CW circuits
- Dual CW circuits with double power supply maximize availability.

可用性

- 100%冗余的连续回路
- 最大可用的双电源双连续回路。

Flexibility

Simplified design layout:

- power cables / • condensate drain / • supply/drain for humidifier

Secondary CW circuit can provide additional cooling in the event of increased heat loads.

灵活性

简化设计布局:

- 电力电缆 / • 凝析排水 / • 加湿器的供给/排水
- 二次连续回路可以提供额外增加热负载的冷却。

Low Total Cost of Ownership

- Reduced footprint compared to two separate units
- Lower investments in airconditioners
- Lower cost for the installation

较低的总拥有成本

- 减少足迹和两个独立机组相比较之后
- 空调设备低成本的投资
- 低安装成本

Keep it under control (控制)

Control

The sophisticated control logic of the units offers several options to satisfy the chilled water system requirements and valve management.

Parallel mode

The chilled water valve management and positions are the same for both CW circuits.

Safe mode

First circuit and valve managed utilizing 70% of proportional temperature band, and then second valve starts to open (Requires same inlet fluid temperature on both circuits).

Alternate mode

With an external input to the controller it is possible to manage which of the two chilled water circuits / valves is duty and which is standby.

In parallel and safe modes both CW circuits can run together maximizing the cooling capacity.

控制

机组成熟的控制逻辑单元提供了多种选择，以满足冷冻水系统的要求和阀门管理。

并行模式

针对连续回路冷冻水阀门的管理和位置是相同的。

安全模式

第一回路和阀门管理利用比例 70% 的温度带，然后第二阀开始打开（对回路需要同样温度的进入流体）。

交替模式

控制器可以同时管理这两个冷冻水回路/阀门是工作状态还是备用态还。

平行和安全模式连续波回路可以同时运行以达最大冷却能力。

Liebert HPM R-type - Technical Data

Model		M24 ¹ upward downward	M45 ¹ upward downward	M60 ¹ upward downward	L85 ¹ downward	L11 ¹ downward	L13 ² downward
Total cooling capacity at max airflow ⁴	kW	24.8	48.4	63.5	86.1	108.1	127.4
Total cooling capacity ^{4,5}	kW	24.2	46.9	60.7	80.3	99.7	118.6
Sensible cooling capacity ^{4,5}	kW	24	43.1	54	68.3	89.1	118.6
Water flow rate ⁵	l/s	1.15	2.24	2.89	3.83	4.76	5.66
Number of fans	n	1	1	2	2	3	4
Air delivery	m ³ /h	7050	11500	13900	17150	23900	32700
Max ESP downward/upward delivery ³	Pa	190/210	100/100	120/140	180	210	180
Sound pressure level ⁵	dB(A)	54.4	65.4	64	64.2	66.1	69.3
Width	mm	1000	1750	1750	2050	2550	3350
Depth	mm	850	850	850	850	850	850
Height	mm	1950	1950	1950	1950	1950	1950
Net weight	kg	335	540	610	640	865	1020

* All the data refer to: one circuit working and G4 air filter

* 20 Pa ESP for downward delivery version, 50 Pa ESP for upward delivery version

¹ Air inlet @ 24° C, 50% RH, water in/out 7/12° C, ESP 20 Pa, G4 air filter

² Air inlet @ 24° C, 45% RH, water in/out 7/12° C, ESP 20 Pa, G4 air filter

³ Max. ESP available for the indicated air delivery

⁴ For downward version

⁵ 1.5 m height, 2 m front distance; free field; fan (s) working with indicated air delivery, downward delivery version.

⁶ At nominal/indicated air delivery

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