WATER HEAT EXCHANGER FOR HYDRONIC APPLICATIONS

Chiller replacement. Chilled water supply to fan coils

Chiller replacement.

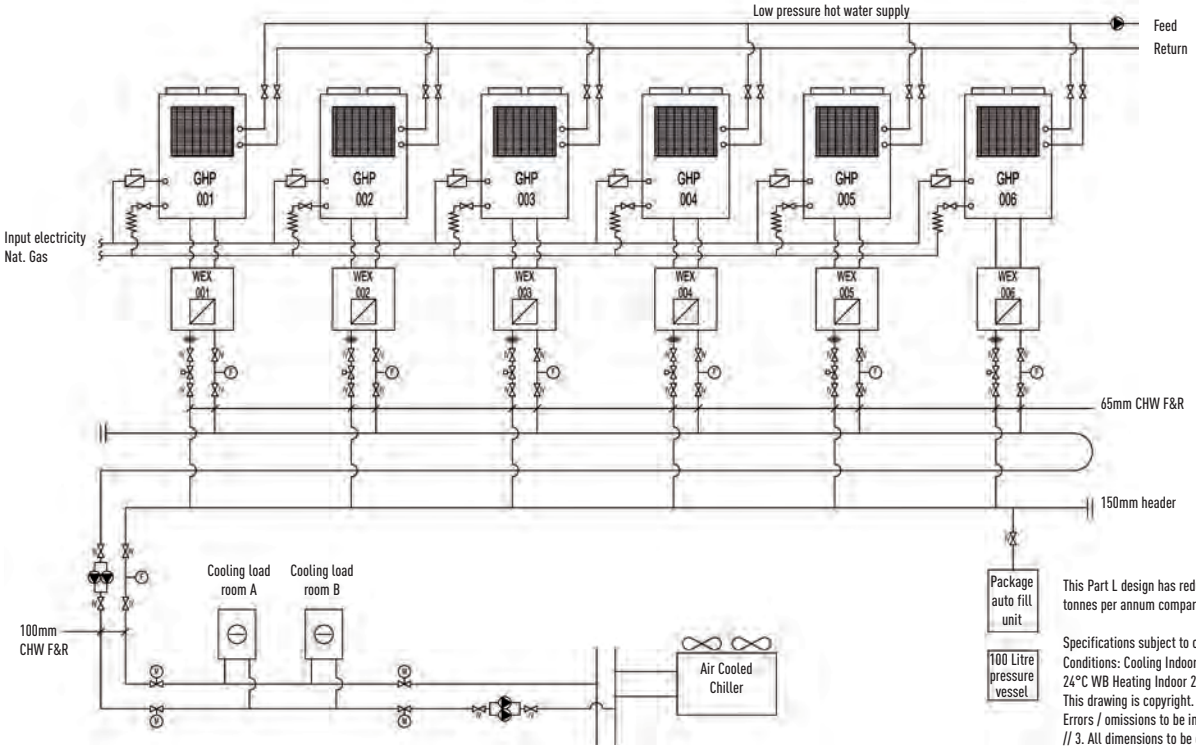
When some old chillers needed replacing at the end of their operational lifetime, ECO Gs with Water Heat Exchangers enabled the project to be carried out in stages whilst still utilising the existing water pipe work and fan coils. This enabled the project to be delivered on time, to a restricted budget and avoided all issues regarding refrigerant in confined spaces.

When a top London restaurant opened, it needed large volumes of fresh air to ensure the optimum dining environment. ECO G units connected to the cooling coils within the air handling equipment ensured the air was introduced in the right condition in both summer and winter.

Connection to 'close control' computer equipment

Computer room applications.

When all available electrical power needed to be utilised for the IT equipment for a leading international bank, the cooling load of over 450kW had to be powered by gas. The outdoor units were connected via Water Heat Exchangers to cooling coils inside the 'close control' units thereby maintaining a conditioned environment for temperature and humidity. By utilising the hot water function over 100kW of hot water are supplied to the building and therefore the additional benefit of considerable CO_2 savings is ensured.



This Part L design has reduced CO_2 Emissions by 26% or 166 tonnes per annum compared to electric chillers.

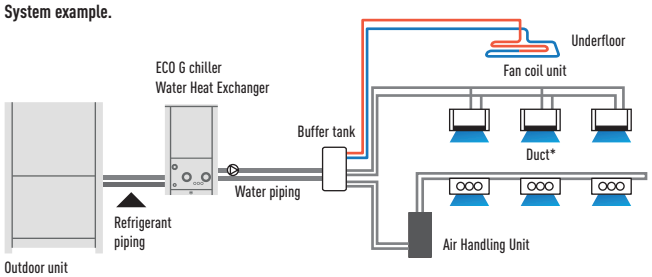
Specifications subject to change without notice. Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB Outdoor 7°C DB 6°C WB. This drawing is copyright. // 1. Do not scale this drawing // 2. Errors / omissions to be immediately notified to the Engineer. // 3. All dimensions to be checked on site.

ECOi Water Heat Exchanger

Electrical VRF with Water Heat Exchanger

- With this easy to install Water Heat Exchanger unit, you can now cover projects up to 51kW hot water demand or 44kW on chilled application on a efficient way and cost effective

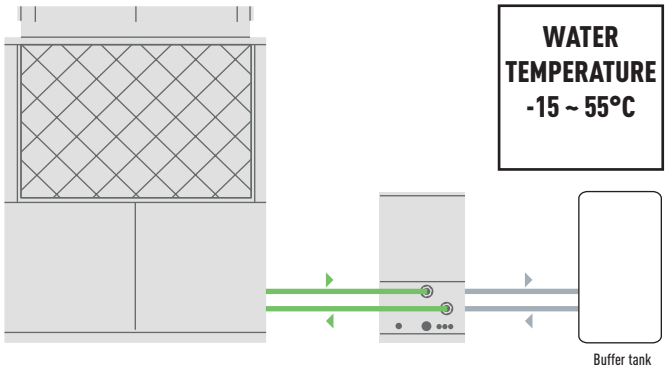
System example.



A Buffer tank of minimum 280l for 28kW and 500l for 50kW is always needed.

Example of Hotel renewal of existing Chiller and Boiler system with Panasonic ECO G and Aquarea mixed solution.

ECO G and Aquarea are the smart solution for renewal Chiller/Boiler applications with annual running cost savings around 13.600€.



2-Pipe ECOi with Water Heat Exchanger for chilled and hot water production

Water Heat Exchanger (WHE) for hydronic applications

WHE for ECOi system controlled by a timer remote control CZ-RTC5B.
Energy-efficient capacity control with superior external static pressure is now ready.
Availability of easy vertical stacking allows installations in a limited space (up to 3 units)*.
Stainless steel plate heat exchanger with anti-freeze protection control.
Change over between heating and cooling operation.

* Stacking kit (PAW-3WSK) is necessary.

Technical focus

- Heating, cooling and DHW
- A class water pump included (only in P model)
- Flexible modularity from 25kW
- Better partial load vs standard chiller system
- Compatible with all centralized controllers
- Maximum distance between outdoor unit and WHE: 170m
- Maximum hot water outlet temperature: 45°C
- Minimum chilled water outlet temperature: 5°C
- Outdoor temperature range in heating mode: -11°C to +15°C (with low temperature kit -25°C)

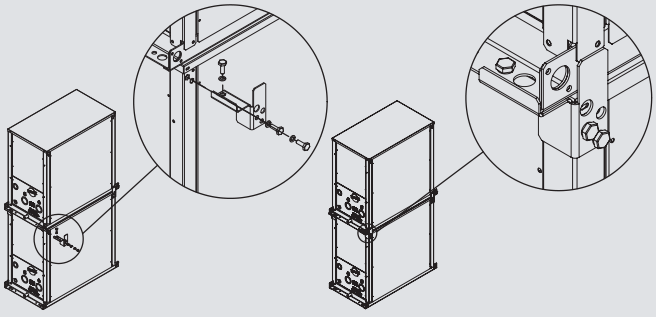
Hydrokit with A class water pump			**PAW-250WP5G**	**PAW-500WP5G**
Hydrokit without pump			**PAW-250W5G**	**PAW-500W5G**
Cooling capacity at 35°C, water outlet 7°C		kW	25,00	50,00
Heating capacity		kW	28,00	56,00
Heating capacity at +7°C, heating water temperature at 45°C		kW	28,00	56,00
COP at +7°C with heating water temperature at 45°C		W/W	2,97	3,10
Heating Energy Efficiency class at 35°C [1]			A+	A++
ηsh (LOT21) [2]		**%**	**164,00**	**158,00**
Dimension	H x W x D	mm	1000 x 575 x 1110	1000 x 575 x 1110
Net weight		kg	135 (140 with pump)	155 (165 with pump)
Water pipe connector			Rp2 Female Thread (50A)	Rp2 Female Thread (50A)
Heating water flow (ΔT=5 K. 35°C)		m³/h	5,16	10,32
Capacity of integrated electric heater		kW	Not equipped	Not equipped
Flow switch			Equipped	Equipped
Water filter			Equipped	Equipped
Input power		kW	0,329 (with A class water pump) / 0,024 (without pump)	0,574 (with A class water pump) / 0,024 (without pump)
Maximum current		A	1,43 (with A class water pump) / 0,10 (without pump)	2,50 (with A class water pump) / 0,10 (without pump)
Outdoor unit			**U-10ME2E8**	**U-20ME2E8**
Sound pressure		dB(A)	56	60
Dimension	H x W x D	mm	1842 x 770 x 1000	1842 x 770 x 1000
Net weight		kg	210	375
Piping connections	Liquid pipe	Inch (mm)	3/8 (9,52)	5/8 (15,88)
	Gas pipe	Inch (mm)	7/8 (22,22)	1-1/8 (28,58)
Refrigerant (R410A) / CO_2 Eq.		kg	5,6 *Need Additional gas amount at site	9,5 *Need Additional gas amount at site
Pipe length range / Elevation difference (in/out)		m	170 / 50 (OD above) 35 (OD below)	170 / 50 (OD above) 35 (OD below)
Pipe length for nominal capacity		m	7,5	7,5
Pipe length for additional gas / Additional gas amount (R410A)		m / g/m	0 < / Refer to manual	0 < / Refer to manual
Operation range	Heat Min ~ Max	°C	-11 ~ +15 [3]	-11 ~ +15 [3]
Water outlet temperature range	Cool Min ~ Max	°C	+5 ~ +15	+5 ~ +15
	Heat Min ~ Max	°C	+35 ~ +45	+35 ~ +45

Accessories	
PAW-3WSK	Stacking kit for vertical stacking (4 sets in the Kit)

1) Unit efficiency energy level: Scale from A++ to G. 2) Seasonal space cooling/heating energy efficiency following COMMISSION REGULATION (EU) 813/2013. 3) With accessory low temperature kit -25 ~ +15°C.

Performance calculation in agreement with Eurovent. Sound pressure measured at 1m from the outdoor unit and at 1,5m height.

Stacking kit PAW-3WSK.
It is possible to stack up to 3 units. When stacking units, always anchor the bottom unit to the ground using the anchor holes.



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2-Pipe ECO G with Water Heat Exchanger for chilled and hot water production

Water Heat Exchanger (WHE) for hydronic applications

WHE for ECO G system controlled by a timer remote control CZ-RTC5B.
Energy-efficient capacity control with superior external static pressure is now ready.
Availability of easy vertical stacking allows installations in a limited space (up to 3 units)*.
Stainless steel plate heat exchanger with anti-freeze protection control.
Change over between heating and cooling operation.

* Stacking kit (PAW-3WSK) is necessary.

Technical focus

- Heating, cooling and DHW
- A class water pump included (only in P model)
- No cascade installation up to 80kW
- Free DHW from waste heat of engine
- Compatible with all centralized controllers
- Maximum distance between outdoor unit and WHE: 170m
- Hot water outlet temperatures from 35°C to 55°C
- Chilled water outlet temperatures from -15°C to +15°C
- Minimum outdoor temperature in heating mode: -21°C

Hydrokit with A class water pump			**PAW-500WP5G**	**PAW-710WP5G**
Hydrokit without pump			**PAW-500W5G**	**PAW-710W5G**
Heating capacity		kW	60,00	80,00
Heating capacity at +7°C, heating water temperature at 35°C		kW	60,90	81,20
COP at +7°C with heating water temperature at 35°C		W/W	1,15	1,18
Heating capacity at +7°C, heating water temperature at 45°C		kW	60,00	80,00
COP at +7°C with heating water temperature at 45°C		W/W	1,02	1,04
Heating capacity at -7°C, heating water temperature at 35°C		kW	48,20	50,80
COP at -7°C, heating water temperature at 35°C		W/W	0,80	0,80
Heating capacity at -15°C, heating water temperature at 35°C		kW	46,30	50,00
COP at -15°C with heating water temperature at 35°C		W/W	0,80	0,80
Refrigeration load Pdesign		kW	48,00	—
Heating Energy Efficiency class at 35°C [1]			A+	—
ηsh (LOT21) [2]		**%**	**130,04**	**127,94**
Cooling capacity		kW	—	—
Cooling capacity at +35°C, outlet temperature 7°C, inlet temperature 12°C		kW	50,00	67,00
EER at +35°C, outlet temperature 7°C, inlet temperature 12°C		W/W	0,78	0,89
Dimension	H x W x D	mm	1000 x 575 x 1110	1000 x 575 x 1110
Net weight		kg	155 (165 with pump)	160 (175 with pump)
Water pipe connector			Rp2 Female Thread (50A)	Rp2 Female Thread (50A)
Heating water flow (ΔT=5 K. 35°C)		m³/h	10,32	13,76
Capacity of integrated electric heater		kW	Not equipped	Not equipped
Flow switch			Equipped	Equipped
Water filter			Equipped	Equipped
Input power		kW	0,574 (with A class water pump) / 0,024 (without pump)	0,824 (with A class water pump) / 0,024 (without pump)
Maximum current		A	2,50 (with A class water pump) / 0,10 (without pump)	3,60 (with A class water pump) / 0,10 (without pump)
Outdoor Unit			**U-20GE3E5**	**U-30GE3E5**
Sound power	Normal / Silent	dB	80 / 77	84 / 81
Dimension	H x W x D	mm	2255 x 1650 x 1000	2255 x 2026 x 1000
Net weight		kg	765	880
Piping connections	Liquid pipe	Inch (mm)	5/8 (15,88)	3/4 (19,05)
	Gas pipe	Inch (mm)	1-1/8 (28,58)	1-1/4 (31,75)
Pipe length / Pipe length for nominal capacity		m	7 / 170	7 / 170
Elevation difference (in/out)		m	50 (OD above) 35 (OD below)	50 (OD above) 35 (OD below)
Operation range	Heat Min ~ Max	°C	-21 ~ +24 (until outlet temperature 45)	-21 ~ +24 (until outlet temperature 45)
Water outlet temperature range	Cool Min ~ Max	°C	-15 ~ +15	-15 ~ +15
	Heat Min ~ Max	°C	+35 ~ +55	+35 ~ +55

Accessories	
PAW-3WSK	Stacking kit for vertical stacking (4 sets in the Kit)

1) Unit efficiency energy level: Scale from A++ to G. 2) Seasonal space cooling/heating energy efficiency following COMMISSION REGULATION (EU) 813/2013.

Performance calculation in agreement with Eurovent. Sound pressure measured at 1m from the outdoor unit and at 1,5m height.

GAS POWERED ECO G | 5 YEARS COMPRESSOR WARRANTY