



# technical data



Fan coil unit

FWC - Ceiling mounted cassette unit

# FWC - Ceiling Mounted Cassette Unit



Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intension to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.



Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.



ISO14001 assures an effective environmental management system in order to help protect human health and the environment from the potential impact of our activities, products and services and to assist in maintaining and improving the quality of the environment.



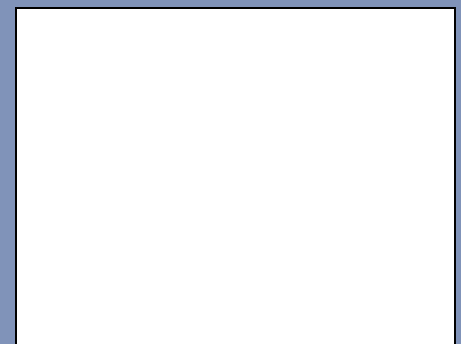
Daikin units comply with the European regulations that guarantee the safety of the product.



Daikin Europe N.V. participates in the Eurovent Certification Programme for Air Conditioners (AC), Liquid Chilling Packages (LCP) and Fan Coil Units (FC); the certified data of certified models are listed in the Eurovent Directory.

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# technical data



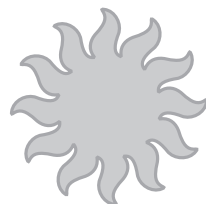
Fan coil units

FWC - Ceiling Mounted Cassette Unit

Cooling only



Heating only



Heat pump



# TABLE OF CONTENTS

## FWC

1	Features .....	4
2	Specifications .....	5
	Nominal capacity and nominal input .....	5
	Technical Specifications .....	5
	Electrical Specifications .....	7
3	Control systems .....	8
4	Capacity tables .....	9
	Cooling capacity tables .....	9
	Capacity tables with glycol for process cooling applications .....	11
	Heating capacity tables .....	12
	Capacity correction factor .....	14
5	Dimensional drawing & centre of gravity .....	17
	Dimensional drawing .....	17
6	Piping diagram .....	18
7	Wiring diagram .....	19
	Wiring diagram .....	19
8	Sound data .....	21
	Sound power spectrum .....	21
9	Operation range .....	22
10	Hydraulic performance .....	23
	Water pressure drop curve evaporator .....	23

# 1 Features

- Wide operating range
- Quiet operation with auto-swing comfort
- Easy to install and maintain
- Flexibility (2-pipe or 4-pipe)
- 3 speed fan motor
- Double-intake centrifugal fans
- 4 way air discharge and air swing
- Air suction from underneath
- High power air flow
- Slim front panel and aesthetic design
- Removable washable air filter (self-extinguishing class 1)
- Built-in high pressure drain pump (up to 700mm condensate water can be pumped)
- Wireless controller as standard with decoration panel kit



## 2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT			FWC02AF	FWC03AF	FWC04AF	FWC05AF	FWC06AF	FWC07AT	FWC08AT	FWC10AT	
Power Input	High	W	122	138	153	184	232	127	151	164	
	Medium	W	110	111	129	149	190	115	122	139	
	Low	W	98	96	113	116	167	102	105	122	
Cooling capacity	Total capacity	High	kW	3.81	3.96	4.63	5.01	5.16	6.63	7.50	8.80
		Medium	kW	3.69	3.81	4.40	4.81	4.95	6.00	6.75	7.80
		Low	kW	3.63	3.71	4.31	4.63	4.76	5.10	5.60	6.60
	Sensible capacity	High	kW	3.40	3.52	4.07	4.40	4.54	4.90	5.40	6.40
		Medium	kW	3.17	3.28	3.75	4.10	4.22	4.40	4.90	5.65
		Low	kW	3.11	3.14	3.60	3.87	3.66	3.65	4.00	4.60
Heating capacity (2-pipe)	High	kW						8.40	9.50	11.00	
	Medium	kW						7.50	8.45	9.70	
	Low	kW						6.40	6.90	8.00	
Heating capacity (4-pipe)	High	kW	10.55	10.99	12.51	13.48	13.77				
	Medium	kW	9.99	10.08	10.52	12.46	12.81				
	Low	kW	9.55	9.67	10.96	11.72	12.02				

2-1 NOMINAL CAPACITY AND NOMINAL INPUT			FWC11AT	FWC12AT	
Power Input	High	W	192	253	
	Medium	W	155	208	
	Low	W	121	183	
Cooling capacity	Total capacity	High	kW	9.95	10.80
		Medium	kW	9.20	10.20
		Low	kW	7.50	8.60
	Sensible capacity	High	kW	7.10	7.70
		Medium	kW	6.60	7.30
		Low	kW	5.10	6.00
Heating capacity (2-pipe)	High	kW	12.00	12.90	
	Medium	kW	11.10	12.10	
	Low	kW	8.90	10.20	

2-2 TECHNICAL SPECIFICATIONS				FWC02AF	FWC03AF	FWC04AF	FWC05AF	FWC06AF	FWC07AT	FWC08AT	FWC10AT
Dimensions	Unit	Height	mm	335	335	335	335	335	335	335	335
		Width	mm	820	820	820	820	820	820	820	820
		Depth	mm	821	821	821	821	821	821	821	821
	Unit with packing	Height	mm	380	380	380	380	380	380	380	380
		Width	mm	920	920	920	920	920	920	920	920
		Depth	mm	920	920	920	920	920	920	920	920
Weight	Machine weight	kg	31.0	32.0	35.0	38.0	40.0	31.0	32.0	35.0	
	Operation weight	kg	34.0	35.0	38.0	41.0	43.0	34.0	35.0	38.0	
	Gross weight	kg	32.0	33.0	36.0	39.0	41.0	32.0	33.0	36.0	
Material	Electro-galvanised mild steel (ABS)										
Sound level	Sound pressure	High	dBA	42	45	49	51	53	42	45	49
		Medium	dBA	39	42	45	48	52	39	42	45
		Low	dBA	37	40	43	46	50	37	40	43
	Sound power	High	dBA	52	55	60	61	64	52	55	60
		Medium	dBA	50	52	56	59	63	50	52	56
		Low	dBA	49	50	54	57	57	49	50	54
Water flow	Cooling	l/h	655	681	796	862	888	1,140	1,290	1,514	
	Heating	l/h						1,140	1,290	1,514	
	Add. heat exchanger	l/h	907	945	1,076	1,159	1,184				
Water pressure drop	Cooling	kPa	3.56	3.78	4.94	5.7	5.96	24.8	30.8	41.6	
	Heating	kPa						21.4	26.8	35.3	
	Add. heat exchanger	kPa	4.8	5.5	7.2	8.6	8.9				

## 2 Specifications

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2

2-2 TECHNICAL SPECIFICATIONS				FWC02AF	FWC03AF	FWC04AF	FWC05AF	FWC06AF	FWC07AT	FWC08AT	FWC10AT
Fan	Type			Direct drive turbo fan							
	Air flow rate	High	m <sup>3</sup> /h	1,310	1,380	1,560	1,740	1,840	1,310	1,380	1,560
		Medium	m <sup>3</sup> /h	1,130	1,180	1,320	1,530	1,680	1,130	1,180	1,320
		Low	m <sup>3</sup> /h	1,070	1,070	1,210	1,340	1,540	1,070	1,070	1,210
	Speed			3 steps : high, medium, low							
Quantity			1	1	1	1	1	1	1	1	
Motor	Type			Induction							
Standard heat exchanger	Rows	mm	2	2	2	2	2	2	2	2	
	Stages	mm	2	2	2	2	2	4	4	4	
	Fin pitch	mm	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59	
	Face area	m <sup>2</sup>	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	
	Water volume	l	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	
Air filter	Washable Sarannet										
Insulation material	PE										
Vibration insulation	Rubber Bush (Fan Motor)										
Water connections	Std. heat exchanger		inch	3/4"							
	Add. heat exchanger		inch	3/4"	3/4"	3/4"	3/4"	3/4"			
Drain			mm	19.05	19.05	19.05	19.05	19.05	19.05	19.05	19.05
Notes	Rating conditions cooling 2 pipe : air 27										
	Rating conditions heating 2 pipe : air 20										
	Sound power level according to ISO3741										
	Sound pressure measured at 1 m in front of the unit and 0.8 m below the vertical centre line of the unit. (JIS C 9612)										
	Sound pressure measured at 1,4m below the facia (JIS C 9612)										
	Sound pressure measured at 1,5m below the facia (JIS B 8615)										
Rating conditions heating 4 pipe : air 20											

2-2 TECHNICAL SPECIFICATIONS				FWC11AT				FWC12AT			
Dimensions	Unit	Height	mm	335				335			
		Width	mm	820				820			
		Depth	mm	821				821			
	Unit with packing	Height	mm	380				380			
		Width	mm	920				920			
		Depth	mm	920				920			
Weight	Machine weight		kg	38.0				40.0			
	Operation weight		kg	41.0				43.0			
	Gross weight		kg	39.0				41.0			
Material	Electro-galvanised mild steel (ABS)										
Sound level	Sound pressure	High	dBA	51				53			
		Medium	dBA	48				52			
		Low	dBA	46				50			
	Sound power	High	dBA	61				64			
		Medium	dBA	59				63			
		Low	dBA	57				61			
Water flow	Cooling		l/h	1,711				1,858			
	Heating		l/h	1,711				1,858			
Water pressure drop	Cooling		kPa	52.2				69.3			
	Heating		kPa	45.2				64.1			
Fan	Type			Direct drive turbo fan							
	Air flow rate	High	m <sup>3</sup> /h	1,740				1,840			
		Medium	m <sup>3</sup> /h	1,530				1,680			
		Low	m <sup>3</sup> /h	1,340				1,540			
	Speed			3 steps : high, medium, low							
Quantity			1				1				
Motor	Type			Induction							



## 2 Specifications

2-2 TECHNICAL SPECIFICATIONS			FWC11AT		FWC12AT	
Standard heat exchanger	Rows	mm	2		2	
	Stages	mm	4		4	
	Fin pitch	mm	1.59		1.59	
	Face area	m <sup>2</sup>	0.47		0.47	
	Water volume	l	2.69		2.69	
Air filter			Washable Sarannet			
Insulation material			PE			
Vibration insulation			Rubber Bush (Fan Motor)			
Water connections	Std. heat exchanger	inch	3/4"			
Drain		mm	19.05		19.05	
Notes			Rating conditions cooling 2 pipe: air 27			
			Rating conditions heating 2 pipe : air 20			
			Sound power level according to ISO3741			
			Sound pressure measured at 1 m in front of the unit and 0.8 m below the vertical centre line of the unit. (JIS C 9612)			
			Sound pressure measured at 1,4m below the facia (JIS C 9612)			
			Sound pressure measured at 1,5m below the facia (JIS B 8615)			
			Rating conditions heating 4 pipe : air 20			

2-3 ELECTRICAL SPECIFICATIONS			FWC02AF	FWC03AF	FWC04AF	FWC05AF	FWC06AF	FWC07AT	FWC08AT	FWC10AT
Current input	High	A	0.53	0.61	0.67	0.80	1.02	0.52	0.64	0.68
	Medium	A	0.48	0.49	0.57	0.65	0.84	0.47	0.51	0.58
	Low	A	0.43	0.43	0.50	0.51	0.74	0.42	0.45	0.51
Required power supply		V / f / Hz	220-240 / 1 / 50							
Required fuses		A	2	2	2	2	2	2	2	2
Required wire section		mm <sup>2</sup>	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5

2-3 ELECTRICAL SPECIFICATIONS			FWC11AT		FWC12AT	
Current input	High	A	0.79		1.06	
	Medium	A	0.64		0.87	
	Low	A	0.50		0.78	
Required power supply		V / f / Hz	220-240 / 1 / 50			
Required fuses		A	2		2	
Required wire section		mm <sup>2</sup>	1.5		1.5	

### 3 Control systems

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3

Control systems for FWC-FWF-FWT

Controller	Application	Operation mode		Basic Controls			Energy saving mode	Timer setting	Air distribution	Faster cooling/heating
		Manual	Automatic	Temperature setting	Automatic Fan Speed	Fan speed: high/medium/low	Sleep mode	ON/OFF	Automatic air swing	Turbo
WRC	2-pipe	x		x	x	x	x	x	option	x
	4-pipe	x	x	x	x	x	x	x	option	x
SRC	2-pipe	x		x	x	x	x	x	option	
	4-pipe	x	x	x	x	x	x	x	x	
MERCA	2-pipe	x		x	x	x	x	x	x	
	4-pipe	x	x	x	x	x	x	x	x	

**Operation mode:**

- Cooling only: Cool, Dry and Fan
- Heating mode: Auto, Cool, Dry, Fan and Heat
- Automode is only available for 4-pipe applications

**Temperature Setting:** To set the desired room temperature

**Fan speed:** high, medium, low or automatic

**Sleep Mode:** energy saving option while optimising comfort conditions by temperature adjustment

**Timer setting:** to turn ON/OFF the air conditioner at the desired time

**Automatic air swing:** air distribution according to a specific direction

# 4 Capacity tables

## 4 - 1 Cooling capacity tables

### Cooling capacities FWC-F (4 pipe)

Air temperature (°C DB - °C WB)		22-16															
Water temperature (Entering °C - Leaving °C)		6-11				7-12				8-13				9-14			
Model	Air Flow	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa
FWC02AF	High	3.12	3.12	0.54	2.44	2.99	2.99	0.51	2.24	2.85	2.85	0.49	2.05	2.72	2.72	0.47	1.86
	Medium	2.91	2.91	0.50	2.13	2.78	2.78	0.48	1.96	2.66	2.66	0.46	1.79	2.54	2.54	0.44	1.63
	Low	2.85	2.85	0.49	2.06	2.73	2.73	0.47	1.89	2.61	2.61	0.45	1.72	2.49	2.49	0.43	1.57
FWC03AF	High	3.19	3.14	0.55	2.51	3.03	3.03	0.52	2.27	2.93	2.93	0.50	2.12	2.82	2.82	0.49	1.97
	Medium	3.07	2.92	0.53	2.34	2.83	2.83	0.49	1.99	2.73	2.73	0.47	1.85	2.63	2.63	0.45	1.72
	Low	2.99	2.80	0.51	2.22	2.72	2.71	0.47	1.85	2.61	2.61	0.45	1.70	2.52	2.52	0.43	1.58
FWC04AF	High	3.63	3.62	0.62	3.12	3.47	3.47	0.60	2.85	3.34	3.34	0.57	2.63	3.20	3.20	0.55	2.43
	Medium	3.45	3.33	0.59	2.83	3.20	3.20	0.55	2.44	3.07	3.07	0.53	2.25	2.95	2.95	0.51	2.07
	Low	3.38	3.20	0.58	2.72	3.10	3.07	0.53	2.29	2.95	2.95	0.51	2.08	2.83	2.83	0.49	1.92
FWC05AF	High	3.99	3.99	0.69	3.70	3.84	3.84	0.66	3.42	3.67	3.67	0.63	3.13	3.50	3.50	0.60	2.86
	Medium	3.75	3.72	0.64	3.28	3.58	3.58	0.62	2.99	3.42	3.42	0.59	2.74	3.27	3.27	0.56	2.50
	Low	3.61	3.51	0.62	3.05	3.38	3.38	0.58	2.68	3.23	3.23	0.56	2.45	3.08	3.08	0.53	2.24
FWC06AF	High	4.06	4.03	0.70	3.77	3.86	3.86	0.66	3.43	3.70	3.70	0.64	3.14	3.53	3.53	0.61	2.87
	Medium	3.89	3.74	0.67	3.49	3.59	3.59	0.62	2.98	3.44	3.44	0.59	2.73	3.28	3.28	0.56	2.49
	Low	3.74	3.24	0.64	3.23	3.42	3.11	0.59	2.71	3.02	2.98	0.52	2.13	2.84	2.84	0.49	1.89

Air temperature (°C DB - °C WB)		25-18															
Water temperature (Entering °C - Leaving °C)		6-11				7-12				8-13				9-14			
Model	Air Flow	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa
FWC02AF	High	3.67	3.26	0.63	3.33	3.43	3.12	0.59	2.92	3.16	3.00	0.54	2.49	2.89	2.87	0.50	2.10
	Medium	3.55	3.04	0.61	3.13	3.32	2.91	0.57	2.74	3.06	2.79	0.53	2.34	2.80	2.68	0.48	1.97
	Low	3.49	2.98	0.60	3.04	3.27	2.86	0.56	2.66	3.01	2.74	0.52	2.27	2.76	2.63	0.47	1.91
FWC03AF	High	3.88	3.30	0.67	3.66	3.61	3.20	0.62	3.17	3.31	3.09	0.57	2.68	3.01	2.98	0.52	2.23
	Medium	3.74	3.08	0.64	3.40	3.47	2.98	0.60	2.95	3.18	2.88	0.55	2.49	2.90	2.78	0.50	2.07
	Low	3.64	2.95	0.63	3.23	3.38	2.85	0.58	2.80	3.10	2.75	0.53	2.37	2.82	2.66	0.49	1.97
FWC04AF	High	4.52	3.81	0.78	4.74	4.20	3.67	0.72	4.10	3.87	3.54	0.67	3.50	3.54	3.40	0.61	2.95
	Medium	4.29	3.51	0.74	4.30	3.99	3.38	0.69	3.72	3.68	3.26	0.63	3.18	3.37	3.14	0.58	2.67
	Low	4.21	3.37	0.72	4.13	3.91	3.25	0.67	3.58	3.60	3.13	0.62	3.05	3.30	3.01	0.57	2.57
FWC05AF	High	4.86	4.18	0.84	5.41	4.54	4.02	0.78	4.73	4.16	3.86	0.72	3.99	3.78	3.69	0.65	3.31
	Medium	4.67	3.90	0.80	5.01	4.36	3.75	0.75	4.38	4.00	3.60	0.69	3.69	3.63	3.44	0.63	3.06
	Low	4.49	3.68	0.77	4.65	4.20	3.54	0.72	4.07	3.85	3.39	0.66	3.43	3.50	3.25	0.60	2.85
FWC06AF	High	5.03	4.25	0.86	5.70	4.68	4.09	0.80	4.94	4.24	3.92	0.73	4.09	3.81	3.76	0.66	3.32
	Medium	4.82	3.95	0.83	5.26	4.49	3.80	0.77	4.56	4.07	3.65	0.70	3.78	3.66	3.49	0.63	3.06
	Low	4.64	3.42	0.80	4.88	4.31	3.29	0.74	4.23	3.91	3.16	0.67	3.50	3.51	3.02	0.60	2.84

Air temperature (°C DB - °C WB)		27-19															
Water temperature (Entering °C - Leaving °C)		6-11				7-12				8-13				9-14			
Model	Air Flow	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa
FWC02AF	High	4.06	3.53	0.70	4.05	<b>3.81</b>	3.40	0.66	3.58	3.54	3.28	0.61	3.10	3.28	3.16	0.56	2.66
	Medium	3.93	3.29	0.68	3.81	3.69	3.17	0.64	3.36	3.43	3.06	0.59	2.92	3.17	2.95	0.55	2.50
	Low	3.87	3.23	0.67	3.69	3.63	3.11	0.62	3.26	3.38	3.00	0.58	2.83	3.12	2.89	0.54	2.43
FWC03AF	High	4.23	3.64	0.73	4.31	<b>3.96</b>	3.52	0.68	3.79	3.66	3.40	0.63	3.25	3.36	3.29	0.58	2.75
	Medium	4.07	3.39	0.70	4.01	3.81	3.28	0.66	3.53	3.52	3.17	0.61	3.02	3.23	3.07	0.56	2.56
	Low	3.96	3.24	0.68	3.81	3.71	3.14	0.64	3.35	3.43	3.04	0.59	2.87	3.15	2.93	0.54	2.43
FWC04AF	High	4.96	4.20	0.85	5.68	<b>4.63</b>	4.07	0.80	4.96	4.30	3.94	0.74	4.28	3.97	3.80	0.68	3.66
	Medium	4.72	3.87	0.81	5.15	4.40	3.75	0.76	4.50	4.09	3.63	0.70	3.89	3.77	3.50	0.65	3.32
	Low	4.62	3.72	0.79	4.95	4.31	3.60	0.74	4.32	4.00	3.48	0.69	3.73	3.69	3.36	0.64	3.19
FWC05AF	High	5.34	4.57	0.92	6.49	<b>5.01</b>	4.40	0.86	5.72	4.62	4.23	0.80	4.88	4.24	4.07	0.73	4.12
	Medium	5.13	4.26	0.88	6.00	4.81	4.10	0.83	5.29	4.44	3.95	0.76	4.52	4.07	3.79	0.70	3.81
	Low	4.94	4.02	0.85	5.58	4.63	3.87	0.80	4.91	4.27	3.72	0.74	4.20	3.92	3.58	0.67	3.54
FWC06AF	High	5.51	4.69	0.95	6.80	<b>5.16</b>	4.54	0.89	5.98	4.73	4.37	0.81	5.03	4.29	4.20	0.74	4.17
	Medium	5.29	4.36	0.91	6.28	4.95	4.22	0.85	5.52	4.53	4.06	0.78	4.65	4.12	3.91	0.71	3.85
	Low	5.08	3.78	0.87	5.82	4.76	3.66	0.82	5.12	4.36	3.52	0.75	4.31	3.96	3.38	0.68	3.57

Air temperature (°C DB - °C WB)		30-22															
Water temperature (Entering °C - Leaving °C)		6-11				7-12				8-13				9-14			
Model	Air Flow	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa
FWC02AF	High	5.36	3.67	0.92	6.91	5.11	3.43	0.88	6.29	4.85	3.42	0.83	5.65	4.58	3.41	0.79	5.06
	Medium	5.19	3.42	0.89	6.50	4.95	3.20	0.85	5.91	4.69	3.19	0.81	5.32	4.43	3.17	0.76	4.75
	Low	5.11	3.36	0.88	6.30	4.87	3.14	0.84	5.73	4.62	3.13	0.79	5.15	4.36	3.12	0.75	4.61
FWC03AF	High	5.69	4.02	0.98	7.65	5.41	3.92	0.93	6.91	5.11	3.80	0.88	6.17	4.81	3.68	0.83	5.48
	Medium	5.48	3.75	0.94	7.10	5.21	3.65	0.90	6.42	4.92	3.54	0.85	5.73	4.63	3.44	0.80	5.09
	Low	5.34	3.59	0.92	6.75	5.07	3.50	0.87	6.10	4.79	3.39	0.82	5.45	4.51	3.29	0.78	4.83
FWC04AF	High	6.80	4.60	1.17	10.41	6.44	4.47	1.11	9.34	6.05	4.33	1.04	8.27	5.67	4.20	0.98	7.26
	Medium	6.46	4.24	1.11	9.44	6.12	4.12	1.05	8.47	5.75	3.99	0.99	7.50	5.39	3.87	0.93	6.58
	Low	6.33	4.07	1.09	9.07	5.99	3.95	1.03	8.13	5.63	3.83	0.97	7.20	5.27	3.72	0.91	6.33
FWC05AF	High	7.10	4.98	1.22	11.23	6.70	4.80	1.15	10.01	6.27	4.63	1.08	8.77	5.84	4.46	1.00	7.62
	Medium	6.82	4.64	1.17	10.39	6.44	4.47	1.11	9.26	6.02	4.32	1.04	8.11	5.60	4.16	0.96	7.05
	Low	6.57	4.38	1.13	9.65	6.20	4.22	1.07	8.60	5.79	4.07	1.00	7.54	5.39	3.93	0.93	6.55
FWC06AF	High	7.33	5.16	1.26	11.78	6.96	4.99	1.20	10.64	6.53	4.82	1.12	9.37	6.10	4.66	1.05	8.19
	Medium	7.03	4.79	1.21	10.87	6.68	4.64	1.15	9.82	6.27	4.48	1.08	8.65	5.85	4.33	1.01	7.56
	Low	6.76	4.15	1.16	10.08	6.42	4.02	1.11	9.11	6.02							

# 4 Capacity tables

## 4 - 1 Cooling capacity tables

### Cooling capacities FWC-T (2 pipe)

Air temperature (°C DB - °C WB)		22-16															
Water temperature (Entering °C - Leaving °C)		6-11				7-12				8-13				9-14			
Model	Air Flow	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa
FWC07AT	High	4.68	4.38	0.81	13.93	4.23	4.15	0.73	11.74	3.72	3.69	0.64	9.44	3.22	3.22	0.55	7.43
	Medium	4.24	3.89	0.73	11.83	3.84	3.69	0.66	9.98	3.37	3.28	0.58	8.02	2.90	2.86	0.50	6.24
	Low	3.62	3.26	0.62	9.08	3.27	3.09	0.56	7.66	2.87	2.75	0.49	6.16	2.47	2.40	0.43	4.78
FWC08AT	High	5.81	4.81	1.00	20.16	5.29	4.57	0.91	17.19	4.71	4.33	0.81	14.12	4.13	4.09	0.71	11.31
	Medium	5.24	4.33	0.90	16.93	4.77	4.12	0.82	14.45	4.24	3.90	0.73	11.87	3.72	3.68	0.64	9.51
	Low	4.34	3.59	0.75	12.42	3.96	3.42	0.68	10.60	3.52	3.24	0.61	8.72	3.09	3.05	0.53	6.98
FWC10AT	High	6.53	5.92	1.12	25.32	5.90	5.65	1.02	21.29	5.37	5.37	0.92	18.13	5.09	5.09	0.88	16.53
	Medium	5.79	5.23	1.00	20.71	5.24	4.99	0.90	17.43	4.74	4.74	0.82	14.73	4.50	4.50	0.77	13.44
	Low	4.90	4.25	0.84	15.66	4.43	4.06	0.76	13.19	3.93	3.86	0.68	10.77	3.66	3.66	0.63	9.55
FWC11AT	High	7.62	6.31	1.31	33.47	7.05	6.01	1.21	29.30	6.42	5.70	1.10	24.94	5.78	5.38	1.00	20.89
	Medium	7.05	5.87	1.21	29.37	6.53	5.59	1.12	25.72	5.94	5.30	1.02	21.90	5.35	5.00	0.92	18.35
	Low	5.75	4.54	0.99	20.87	5.32	4.32	0.92	18.29	4.84	4.10	0.83	15.59	4.37	3.87	0.75	13.07
FWC12AT	High	8.40	6.95	1.45	45.68	7.75	6.65	1.33	39.74	7.07	6.32	1.22	33.91	6.38	5.99	1.10	28.50
	Medium	7.94	6.59	1.37	41.47	7.32	6.31	1.26	36.09	6.67	5.99	1.15	30.80	6.03	5.68	1.04	25.89
	Low	6.68	5.41	1.15	31.05	6.16	5.18	1.06	27.03	5.62	4.92	0.97	23.09	5.07	4.66	0.87	19.43

Air temperature (°C DB - °C WB)		25-18															
Water temperature (Entering °C - Leaving °C)		6-11				7-12				8-13				9-14			
Model	Air Flow	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa
FWC07AT	High	6.32	4.63	1.09	22.94	5.83	4.40	1.00	20.01	5.28	4.02	0.91	16.92	4.74	3.64	0.81	14.05
	Medium	5.72	4.11	0.98	19.45	5.28	3.91	0.91	16.98	4.79	3.57	0.82	14.36	4.29	3.23	0.74	11.93
	Low	4.88	3.44	0.84	14.91	4.51	3.28	0.78	13.02	4.08	2.99	0.70	11.02	3.66	2.71	0.63	9.16
FWC08AT	High	7.30	5.08	1.26	29.56	6.76	4.85	1.16	25.91	6.16	4.60	1.06	22.06	5.55	4.34	0.96	18.49
	Medium	6.58	4.58	1.13	24.80	6.09	4.37	1.05	21.75	5.55	4.14	0.95	18.53	5.00	3.91	0.86	15.54
	Low	5.46	3.80	0.94	18.15	5.06	3.62	0.87	15.93	4.60	3.44	0.79	13.58	4.15	3.25	0.71	11.40
FWC10AT	High	8.45	6.17	1.45	38.99	7.83	5.90	1.35	34.24	7.14	5.62	1.23	29.23	6.45	5.35	1.11	24.57
	Medium	7.49	5.45	1.29	31.85	6.95	5.21	1.20	27.99	6.34	4.97	1.09	23.90	5.72	4.72	0.99	20.10
	Low	6.34	4.44	1.09	24.04	5.88	4.24	1.01	21.14	5.36	4.04	0.92	18.06	4.84	3.84	0.83	15.20
FWC11AT	High	9.62	6.67	1.66	49.58	8.98	6.38	1.55	44.05	8.31	6.06	1.43	38.48	7.63	5.74	1.31	33.25
	Medium	8.90	6.21	1.53	43.49	8.31	5.93	1.43	38.64	7.69	5.64	1.32	33.76	7.06	5.34	1.22	29.18
	Low	7.26	4.80	1.25	30.84	6.78	4.59	1.17	27.42	6.27	4.36	1.08	23.97	5.76	4.13	0.99	20.73
FWC12AT	High	10.49	7.31	1.81	66.42	9.78	7.00	1.68	58.87	9.02	6.67	1.55	51.19	8.26	6.34	1.42	43.98
	Medium	9.91	6.93	1.70	60.30	9.24	6.64	1.59	53.44	8.52	6.32	1.47	46.47	7.80	6.01	1.34	39.93
	Low	8.34	5.69	1.44	45.09	7.78	5.45	1.34	39.97	7.17	5.19	1.23	34.77	6.57	4.93	1.13	29.90

Air temperature (°C DB - °C WB)		27-19															
Water temperature (Entering °C - Leaving °C)		6-11				7-12				8-13				9-14			
Model	Air Flow	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa
FWC07AT	High	7.13	5.12	1.23	28.12	<b>6.63</b>	4.90	1.14	24.81	6.07	4.68	1.04	21.30	5.50	4.47	0.95	18.04
	Medium	6.46	4.55	1.11	23.84	6.01	4.35	1.03	21.03	5.50	4.16	0.95	18.07	4.99	3.97	0.86	15.31
	Low	5.51	3.81	0.95	18.26	5.12	3.65	0.88	16.12	4.69	3.49	0.81	13.86	4.25	3.33	0.73	11.75
FWC08AT	High	8.05	5.63	1.39	34.81	<b>7.50</b>	5.40	1.29	30.81	6.88	5.13	1.18	26.57	6.26	4.86	1.08	22.61
	Medium	7.25	5.07	1.25	29.20	6.76	4.86	1.16	25.85	6.20	4.62	1.07	22.30	5.64	4.38	0.97	18.99
	Low	6.02	4.21	1.04	21.35	5.61	4.04	0.96	18.92	5.14	3.84	0.89	16.33	4.68	3.64	0.81	13.92
FWC10AT	High	9.40	6.68	1.62	46.72	<b>8.80</b>	6.40	1.51	41.66	8.10	6.13	1.39	36.10	7.40	5.87	1.27	30.90
	Medium	8.34	5.90	1.44	38.16	7.81	5.65	1.34	34.03	7.18	5.41	1.24	29.50	6.56	5.18	1.13	25.26
	Low	7.05	4.80	1.21	28.78	6.60	4.60	1.14	25.68	6.08	4.41	1.05	22.27	5.55	4.21	0.96	19.09
FWC11AT	High	10.62	7.40	1.83	58.58	<b>9.95</b>	7.10	1.71	52.33	9.25	6.78	1.59	46.14	8.56	6.47	1.47	40.30
	Medium	9.83	6.88	1.69	51.39	9.21	6.61	1.58	45.90	8.56	6.31	1.47	40.48	7.92	6.02	1.36	35.36
	Low	8.01	5.32	1.38	36.43	7.51	5.11	1.29	32.55	6.98	4.88	1.20	28.72	6.46	4.65	1.11	25.10
FWC12AT	High	11.53	8.03	1.99	77.95	<b>10.80</b>	7.70	1.86	69.55	10.00	7.37	1.72	60.90	9.20	7.03	1.58	52.74
	Medium	10.89	7.62	1.87	70.76	10.20	7.30	1.76	63.14	9.44	6.98	1.63	55.28	8.69	6.67	1.50	47.88
	Low	9.17	6.25	1.58	52.92	8.59	5.99	1.48	47.22	7.95	5.73	1.37	41.35	7.32	5.47	1.26	35.83

Air temperature (°C DB - °C WB)		30-22															
Water temperature (Entering °C - Leaving °C)		6-11				7-12				8-13				9-14			
Model	Air Flow	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa
FWC07AT	High	9.70	5.82	1.67	47.21	9.13	5.60	1.57	42.52	8.53	5.38	1.47	37.80	7.93	5.17	1.37	33.34
	Medium	8.79	5.17	1.51	39.98	8.27	4.97	1.42	36.01	7.73	4.78	1.33	32.02	7.19	4.59	1.24	28.24
	Low	7.49	4.33	1.29	30.55	7.05	4.17	1.21	27.53	6.59	4.01	1.13	24.49	6.13	3.85	1.05	21.61
FWC08AT	High	10.65	6.33	1.83	55.80	10.10	6.10	1.74	50.88	9.45	5.87	1.63	45.33	8.80	5.63	1.51	40.07
	Medium	9.59	5.70	1.65	46.78	9.10	5.49	1.57	42.65	8.51	5.28	1.46	38.01	7.93	5.07	1.36	33.60
	Low	7.96	4.73	1.37	34.15	7.55	4.56	1.30	31.14	7.06	4.38	1.22	27.76	6.58	4.21	1.13	24.55
FWC10AT	High	12.47	7.57	2.15	75.23	11.85	7.30	2.04	68.86	11.17	7.02	1.92	62.08	10.48	6.73	1.80	55.61
	Medium	11.06	6.68	1.90	61.46	10.51	6.44	1.81	56.24	9.91	6.19	1.70	50.70	9.30	5.95	1.60	45.41
	Low	9.35	5.43	1.61	46.32	8.89	5.24	1.53	42.39	8.38	5.04	1.44	38.21	7.86	4.84	1.35	34.23
FWC11AT	High	13.65	8.01	2.35	89.45	12.96	7.70	2.23	81.65	12.20	7.40	2.10	73.60	11.45	7.10	1.97	65.91
	Medium	12.63	7.45	2.17	78.51	11.99	7.16	2.06	71.65	11.29	6.88	1.94	64.57	10.60	6.60	1.82	57.81
	Low	10.30	5.76	1.77	55.67	9.78	5.54	1.68	50.80	9.21	5.32	1.58	45.77	8.64	5.11	1.49	40.98
FWC12AT	High	15.10	8.94	2.60	122.54	14.30	8.61	2.46	111.54	13.50	8.27	2.32	100.95	12.70	7.94	2.19	90.80
	Medium	14.26	8.48														

## 4 Capacity tables

### 4 - 2 Capacity tables with glycol for process cooling applications

#### Glycol correction factor

FWC-F Entering water temperature °C	Cooling capacity				Pressure Drop
	0	20	40	60	
0%	1	1	1	1	1
10%	0.955	0.969	0.973	0.980	1.060
20%	0.929	0.941	0.955	0.964	1.120
30%	0.898	0.913	0.929	0.939	1.180
40%	0.863	0.882	0.899	0.911	1.240

#### Glycol correction factor

FWC-T Entering water temperature °C	Cooling capacity				Pressure Drop
	0	20	40	60	
0%	1	1	1	1	1
10%	0.955	0.969	0.973	0.980	1.060
20%	0.929	0.941	0.955	0.964	1.120
30%	0.898	0.913	0.929	0.939	1.180
40%	0.863	0.882	0.899	0.911	1.240

# 4 Capacity tables

## 4 - 3 Heating capacity tables

### Heating capacities FWC-F (4 pipe)

Air temperature (°C DB - °C WB)		20								
Water temperature (Entering °C - Leaving °C)		50 - 45			60 - 50			70 - 60		
Model	Air Flow m <sup>3</sup> /hr	Heating capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Heating capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Heating capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa
FWC02AF	High	8.99	1.54	14.26	9.57	0.82	4.11	10.55	0.91	4.77
	Medium	8.55	1.46	12.94	9.05	0.78	3.69	9.99	0.86	4.30
	Low	8.21	1.41	11.98	8.65	0.74	3.39	9.56	0.82	3.95
FWC03AF	High	9.26	1.59	16.03	9.96	0.86	4.71	10.99	0.94	5.47
	Medium	8.60	1.47	13.92	9.12	0.78	3.98	10.08	0.87	4.64
	Low	8.31	1.42	13.00	8.75	0.75	3.67	9.68	0.83	4.29
FWC04AF	High	11.14	1.91	23.46	11.27	0.97	6.13	12.50	1.08	7.20
	Medium	9.87	1.69	18.58	9.89	0.85	4.76	10.97	0.94	5.60
	Low	9.48	1.62	17.18	9.46	0.81	4.38	10.51	0.90	5.15
FWC05AF	High	12.06	2.07	28.23	12.15	1.05	7.31	13.48	1.16	8.59
	Medium	11.21	1.92	24.53	11.23	0.97	6.28	12.46	1.07	7.39
	Low	10.58	1.81	21.95	10.56	0.91	5.58	11.72	1.01	6.56
FWC06AF	High	12.43	2.13	29.68	12.42	1.07	7.56	13.78	1.19	8.88
	Medium	11.59	1.99	25.91	11.55	0.99	6.57	12.82	1.10	7.73
	Low	10.90	1.87	23.02	10.83	0.93	5.81	12.03	1.04	6.84

Air temperature (°C DB - °C WB)		22								
Water temperature (Entering °C - Leaving °C)		50 - 45			60 - 50			70 - 60		
Model	Air Flow m <sup>3</sup> /hr	Heating capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Heating capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Heating capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa
FWC02AF	High	8.45	1.45	12.67	9.06	0.78	3.70	10.11	0.87	4.40
	Medium	8.04	1.38	11.51	8.56	0.74	3.32	9.56	0.82	3.95
	Low	7.73	1.32	10.66	8.18	0.70	3.04	9.15	0.79	3.63
FWC03AF	High	8.74	1.50	14.36	9.42	0.81	4.24	10.52	0.91	5.04
	Medium	8.12	1.39	12.44	8.63	0.74	3.57	9.65	0.83	4.27
	Low	7.83	1.34	11.61	8.26	0.71	3.29	9.26	0.80	3.94
FWC04AF	High	10.43	1.79	20.67	10.64	0.92	5.49	11.95	1.03	6.59
	Medium	9.24	1.58	16.34	9.33	0.80	4.26	10.48	0.90	5.13
	Low	8.87	1.52	15.11	8.93	0.77	3.91	10.03	0.86	4.71
FWC05AF	High	11.29	1.93	24.87	11.47	0.99	6.54	12.88	1.11	7.87
	Medium	10.49	1.80	21.58	10.60	0.91	5.62	11.91	1.02	6.76
	Low	9.90	1.70	19.30	9.96	0.86	4.99	11.19	0.96	6.00
FWC06AF	High	11.60	1.99	25.96	11.72	1.01	6.76	13.17	1.13	8.14
	Medium	10.82	1.85	22.70	10.90	0.94	5.87	12.25	1.05	7.08
	Low	10.18	1.74	20.18	10.22	0.88	5.19	11.49	0.99	6.26

## 4 Capacity tables

### 4 - 3 Heating capacity tables

#### Heating capacities FWC-T (2 pipe)

Air temperature (°C DB - °C WB)		20								
Water temperature (Entering °C - Leaving °C)		50 - 45			60 - 50			70 - 60		
Model	Air Flow	Heating capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Heating capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Heating capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa
FWC07AT	High	9.09	1.56	36.17	9.18	0.79	11.15	11.01	0.95	14.53
	Medium	7.97	1.37	28.98	8.13	0.70	9.12	9.72	0.84	11.81
	Low	6.86	1.18	22.49	7.08	0.61	7.25	8.44	0.73	9.33
FWC08AT	High	9.82	1.68	41.94	10.02	0.86	13.14	11.44	0.98	15.77
	Medium	8.80	1.51	34.83	8.88	0.76	10.76	10.14	0.87	12.90
	Low	7.23	1.24	25.01	7.24	0.62	7.67	8.26	0.71	9.18
FWC10AT	High	11.31	1.94	53.62	11.20	0.96	15.93	12.45	1.07	18.30
	Medium	10.03	1.72	43.78	9.77	0.84	12.70	10.89	0.94	14.63
	Low	8.29	1.42	31.74	7.90	0.68	8.93	8.81	0.76	10.29
FWC11AT	High	12.27	2.10	64.03	12.29	1.06	19.39	13.81	1.19	22.70
	Medium	11.33	1.94	56.05	11.22	0.96	16.64	12.63	1.09	19.53
	Low	9.22	1.58	39.53	8.84	0.76	11.21	9.99	0.86	13.20
FWC12AT	High	13.14	2.25	88.87	13.42	1.15	27.78	15.20	1.31	32.95
	Medium	12.34	2.12	79.96	12.49	1.07	24.61	14.17	1.22	29.26
	Low	10.44	1.79	60.25	10.30	0.89	17.84	11.72	1.01	21.29

Air temperature (°C DB - °C WB)		22								
Water temperature (Entering °C - Leaving °C)		50 - 45			60 - 50			70 - 60		
Model	Air Flow	Heating capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Heating capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa	Heating capacity kW	Water flow m <sup>3</sup> /hr	Water pressure drop kPa
FWC07AT	High	8.37	1.43	31.43	8.64	0.74	10.08	10.49	0.90	13.40
	Medium	7.34	1.26	25.22	7.66	0.66	8.26	9.27	0.80	10.90
	Low	6.32	1.08	19.63	6.67	0.57	6.58	8.05	0.69	8.63
FWC08AT	High	9.20	1.58	37.51	9.46	0.81	11.94	10.92	0.94	14.59
	Medium	8.22	1.41	31.02	8.39	0.72	9.78	9.68	0.83	11.94
	Low	6.73	1.15	22.17	6.85	0.59	6.99	7.89	0.68	8.50
FWC10AT	High	10.60	1.82	48.06	10.56	0.91	14.45	11.87	1.02	16.90
	Medium	9.39	1.61	39.16	9.21	0.79	11.52	10.37	0.89	13.49
	Low	7.74	1.33	28.27	7.45	0.64	8.10	8.39	0.72	9.49
FWC11AT	High	11.48	1.97	57.31	11.56	0.99	17.51	13.17	1.13	20.94
	Medium	10.61	1.82	50.10	10.55	0.91	15.02	12.03	1.03	18.00
	Low	8.59	1.47	35.14	8.31	0.71	10.10	9.50	0.82	12.15
FWC12AT	High	12.30	2.11	79.54	12.63	1.09	25.09	14.50	1.25	30.44
	Medium	11.55	1.98	71.49	11.75	1.01	22.21	13.51	1.16	27.01
	Low	9.74	1.67	53.65	9.67	0.83	16.08	11.16	0.96	19.62

# 4 Capacity tables

## 4 - 4 Capacity correction factor

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### Heating correction factor

FWC-F													
Entering Air temperature °C	Entering Water temperature °C												
	37.8	43.3	45.0	48.8	50.0	54.4	60.0	65.5	70.0	71.1	76.7	82.2	87.7
4.4	1.112	1.143	1.153	1.175	1.182	1.207	1.239	1.271	1.296	1.303	1.334	1.365	1.398
7.2	1.044	1.078	1.088	1.112	1.119	1.146	1.181	1.214	1.244	1.252	1.285	1.318	1.355
10.0	0.977	1.014	1.026	1.052	1.060	1.089	1.127	1.164	1.191	1.200	1.236	1.272	1.311
12.7	0.908	0.947	0.959	0.986	0.995	1.026	1.066	1.106	1.138	1.148	1.185	1.226	1.265
15.5	0.839	0.882	0.895	0.924	0.934	0.968	1.011	1.053	1.085	1.095	1.136	1.180	1.222
18.3	0.796	0.830	0.841	0.868	0.876	0.910	0.955	0.996	1.032	1.042	1.087	1.133	1.179
20.0	0.729	0.775	0.790	0.822	0.831	0.869	0.917	0.963	1.000	1.011	1.058	1.105	1.151
21.1	0.685	0.740	0.756	0.792	0.802	0.843	0.892	0.942	0.979	0.990	1.039	1.087	1.134
23.9	0.630	0.681	0.697	0.732	0.743	0.783	0.835	0.886	0.927	0.938	0.990	1.040	1.090
26.7	0.563	0.616	0.632	0.669	0.681	0.724	0.778	0.832	0.874	0.887	0.941	0.995	1.047

### Heating correction factor

FWC07T													
Entering Air temperature °C	Entering Water temperature °C												
	37.8	43.3	45.0	48.8	50.0	54.4	60.0	65.5	70.0	71.1	76.7	82.2	87.7
4.4	1.256	1.343	1.370	1.431	1.450	1.520	1.609	1.696	1.770	1.788	1.876	1.963	2.052
7.2	1.175	1.265	1.293	1.355	1.374	1.446	1.537	1.627	1.699	1.717	1.808	1.896	1.988
10.0	1.087	1.179	1.207	1.271	1.291	1.364	1.458	1.550	1.627	1.645	1.739	1.830	1.924
12.7	1.004	1.142	1.127	1.192	1.213	1.288	1.384	1.478	1.555	1.574	1.667	1.764	1.857
15.5	0.917	1.014	1.044	1.110	1.132	1.209	1.308	1.404	1.483	1.502	1.599	1.698	1.794
18.3	0.849	0.939	0.968	1.033	1.054	1.131	1.232	1.328	1.410	1.430	1.529	1.629	1.730
20.0	0.777	0.877	0.909	0.978	1.000	1.081	1.183	1.284	1.366	1.386	1.489	1.589	1.690
21.1	0.730	0.837	0.870	0.943	0.965	1.048	1.151	1.255	1.338	1.358	1.462	1.563	1.664
23.9	0.657	0.761	0.793	0.865	0.887	0.970	1.076	1.180	1.266	1.286	1.392	1.496	1.600
26.7	0.572	0.678	0.711	0.784	0.807	0.892	1.000	1.106	1.194	1.216	1.324	1.431	1.536



## 4 Capacity tables

### 4 - 4 Capacity correction factor

#### Heating correction factor

FWC08T													
Entering Air temperature °C	Entering Water temperature °C												
	37.8	43.3	45.0	48.8	50.0	54.4	60.0	65.5	70.0	71.1	76.7	82.2	87.7
4.4	1.311	1.366	1.383	1.421	1.433	1.477	1.533	1.588	1.633	1.644	1.698	1.753	1.810
7.2	1.231	1.289	1.307	1.347	1.359	1.406	1.464	1.522	1.567	1.579	1.636	1.693	1.753
10.0	1.145	1.205	1.224	1.266	1.279	1.327	1.389	1.449	1.501	1.513	1.574	1.634	1.696
12.7	1.062	1.126	1.145	1.189	1.203	1.253	1.318	1.381	1.434	1.447	1.508	1.575	1.638
15.5	0.977	1.044	1.064	1.110	1.125	1.178	1.246	1.312	1.368	1.381	1.447	1.516	1.582
18.3	0.920	0.977	0.997	1.040	1.054	1.107	1.177	1.243	1.300	1.314	1.384	1.455	1.526
20.0	0.842	0.913	0.935	0.985	1.000	1.057	1.130	1.202	1.260	1.275	1.347	1.419	1.490
21.1	0.791	0.871	0.895	0.949	0.965	1.025	1.100	1.175	1.234	1.249	1.323	1.396	1.467
23.9	0.725	0.801	0.824	0.877	0.893	0.954	1.031	1.107	1.167	1.183	1.260	1.336	1.411
26.7	0.641	0.720	0.744	0.798	0.816	0.878	0.959	1.037	1.101	1.118	1.198	1.277	1.355

#### Heating correction factor

FWC10T													
Entering Air temperature °C	Entering Water temperature °C												
	37.8	43.3	45.0	48.8	50.0	54.4	60.0	65.5	70.0	71.1	76.7	82.2	87.7
4.4	1.344	1.380	1.390	1.415	1.422	1.451	1.486	1.522	1.550	1.556	1.590	1.625	1.663
7.2	1.263	1.301	1.312	1.339	1.347	1.377	1.416	1.454	1.488	1.495	1.532	1.570	1.611
10.0	1.182	1.224	1.237	1.266	1.275	1.308	1.351	1.393	1.424	1.433	1.474	1.515	1.559
12.7	1.098	1.143	1.156	1.187	1.197	1.233	1.278	1.322	1.361	1.370	1.413	1.460	1.505
15.5	1.015	1.064	1.079	1.112	1.123	1.161	1.211	1.259	1.298	1.308	1.355	1.405	1.454
18.3	0.962	1.000	1.014	1.044	1.054	1.092	1.143	1.191	1.234	1.245	1.296	1.349	1.402
20.0	0.880	0.934	0.951	0.988	1.000	1.043	1.098	1.152	1.196	1.207	1.262	1.316	1.369
21.1	0.828	0.892	0.911	0.952	0.965	1.012	1.069	1.126	1.171	1.182	1.239	1.294	1.348
23.9	0.766	0.825	0.843	0.884	0.897	0.944	1.004	1.063	1.108	1.120	1.180	1.238	1.297
26.7	0.685	0.747	0.766	0.809	0.823	0.872	0.936	0.998	1.045	1.059	1.122	1.185	1.245

# 4 Capacity tables

## 4 - 4 Capacity correction factor

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### Heating correction factor

FWC11T													
Entering Air temperature °C	Entering Water temperature °C												
	37.8	43.3	45.0	48.8	50.0	54.4	60.0	65.5	70.0	71.1	76.7	82.2	87.7
4.4	1.330	1.373	1.386	1.416	1.425	1.459	1.503	1.546	1.580	1.590	1.632	1.674	1.720
7.2	1.249	1.295	1.309	1.340	1.350	1.387	1.433	1.479	1.517	1.528	1.573	1.617	1.666
10.0	1.165	1.214	1.229	1.263	1.274	1.313	1.363	1.412	1.452	1.464	1.513	1.561	1.612
12.7	1.086	1.138	1.154	1.190	1.202	1.244	1.297	1.349	1.388	1.400	1.450	1.504	1.556
15.5	1.000	1.055	1.073	1.111	1.123	1.168	1.224	1.280	1.324	1.337	1.391	1.448	1.503
18.3	0.948	0.993	1.008	1.043	1.054	1.099	1.157	1.212	1.258	1.272	1.330	1.390	1.450
20.0	0.867	0.928	0.946	0.988	1.000	1.050	1.111	1.172	1.220	1.233	1.295	1.355	1.416
21.1	0.815	0.885	0.906	0.952	0.965	1.018	1.081	1.146	1.194	1.208	1.272	1.333	1.394
23.9	0.749	0.815	0.835	0.880	0.894	0.947	1.013	1.079	1.130	1.145	1.211	1.276	1.341
26.7	0.668	0.737	0.758	0.806	0.821	0.876	0.946	1.014	1.066	1.082	1.152	1.220	1.287

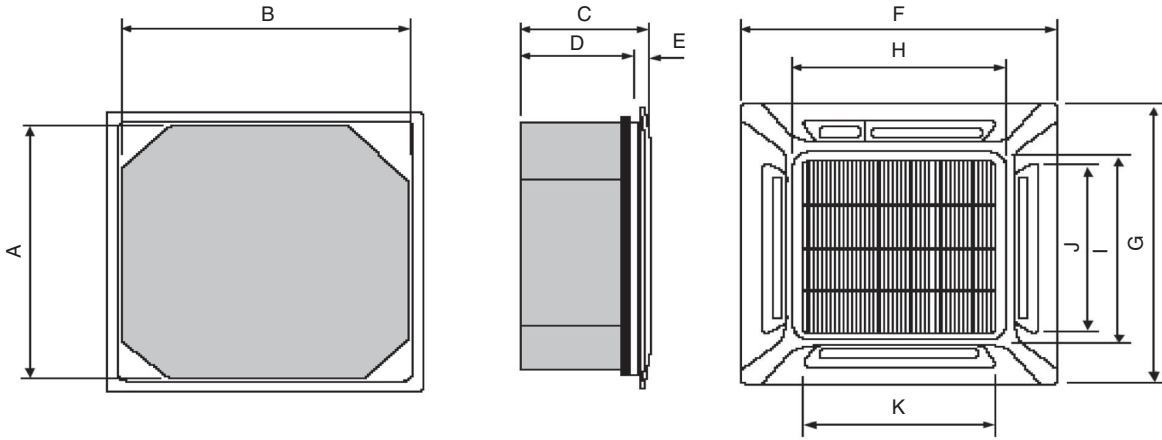
### Heating correction factor

FWC12T													
Entering Air temperature °C	Entering Water temperature °C												
	37.8	43.3	45.0	48.8	50.0	54.4	60.0	65.5	70.0	71.1	76.7	82.2	87.7
4.4	1.321	1.370	1.385	1.419	1.430	1.469	1.519	1.568	1.607	1.617	1.665	1.713	1.765
7.2	1.241	1.293	1.309	1.344	1.356	1.397	1.450	1.501	1.542	1.553	1.604	1.655	1.709
10.0	1.158	1.213	1.230	1.268	1.280	1.324	1.380	1.435	1.477	1.488	1.543	1.597	1.654
12.7	1.075	1.132	1.150	1.190	1.203	1.249	1.308	1.366	1.411	1.423	1.479	1.539	1.597
15.5	0.989	1.050	1.069	1.111	1.125	1.173	1.236	1.297	1.346	1.359	1.418	1.481	1.542
18.3	0.933	0.985	1.002	1.041	1.054	1.103	1.167	1.227	1.279	1.293	1.357	1.422	1.488
20.0	0.854	0.920	0.941	0.986	1.000	1.053	1.121	1.187	1.240	1.254	1.321	1.387	1.453
21.1	0.803	0.878	0.900	0.950	0.965	1.021	1.091	1.160	1.214	1.228	1.298	1.364	1.430
23.9	0.736	0.806	0.828	0.877	0.892	0.948	1.020	1.090	1.149	1.164	1.235	1.306	1.376
26.7	0.655	0.729	0.752	0.803	0.819	0.878	0.953	1.026	1.084	1.100	1.175	1.249	1.321

## 5 Dimensional drawing & centre of gravity

### 5 - 1 Dimensional drawing

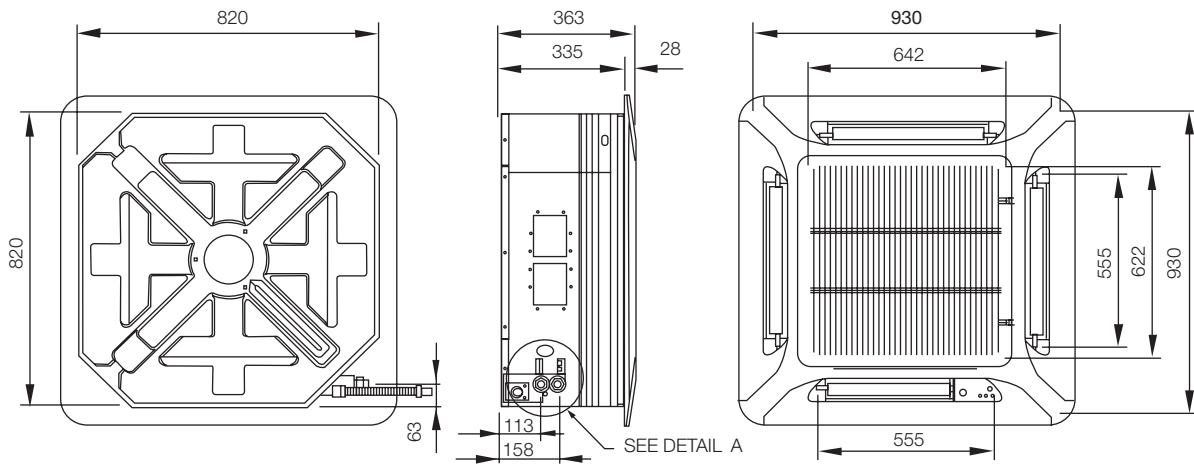
#### FWC-F



All dimensions are in (mm)

Model	A	B	C	D	E	F	G	H	I	J	K
FWC02AAFNMV1	820	820	363	335	28	930	930	642	622	555	555
FWC03AAFNMV1	820	820	363	335	28	930	930	642	622	555	555
FWC04AAFNMV1	820	820	363	335	28	930	930	642	622	555	555
FWC05AAFNMV1	820	820	363	335	28	930	930	642	622	555	555
FWC06AAFNMV1	820	820	363	335	28	930	930	642	622	555	555

#### FWC-T



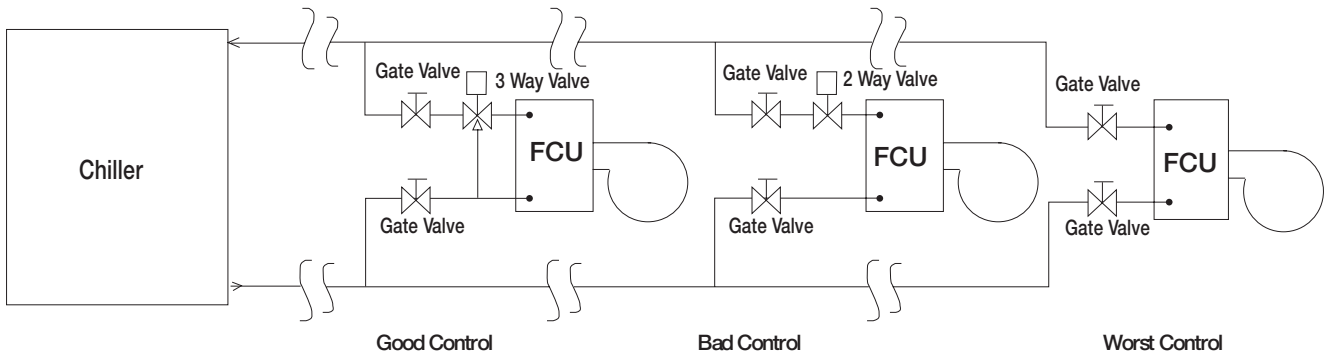
DETAIL A

All dimensions are in mm.

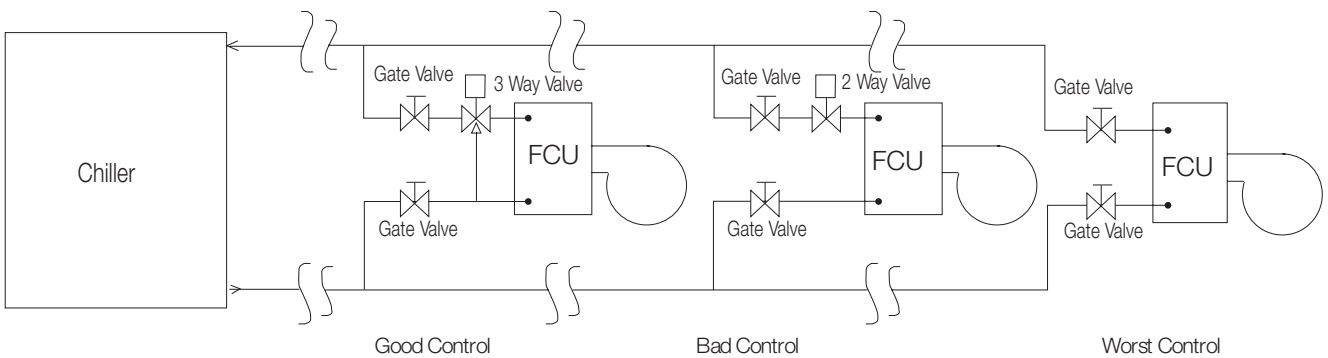
# 6 Piping diagram

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**FWC-F (Water piping diagram)**



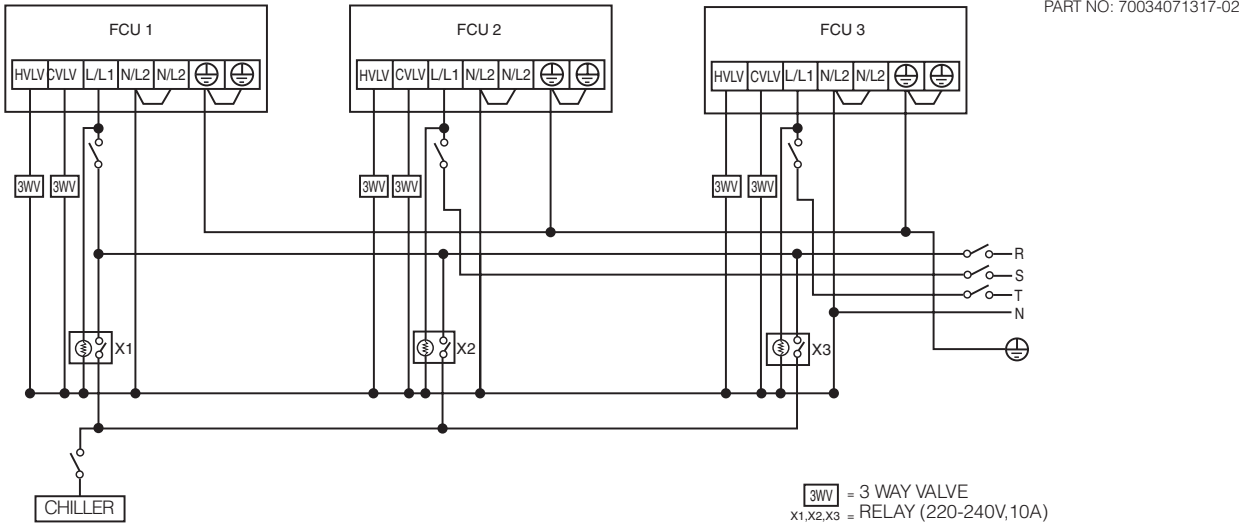
**FWC-T (Water piping diagram)**



# 7 Wiring diagram

## 7 - 1 Wiring diagram

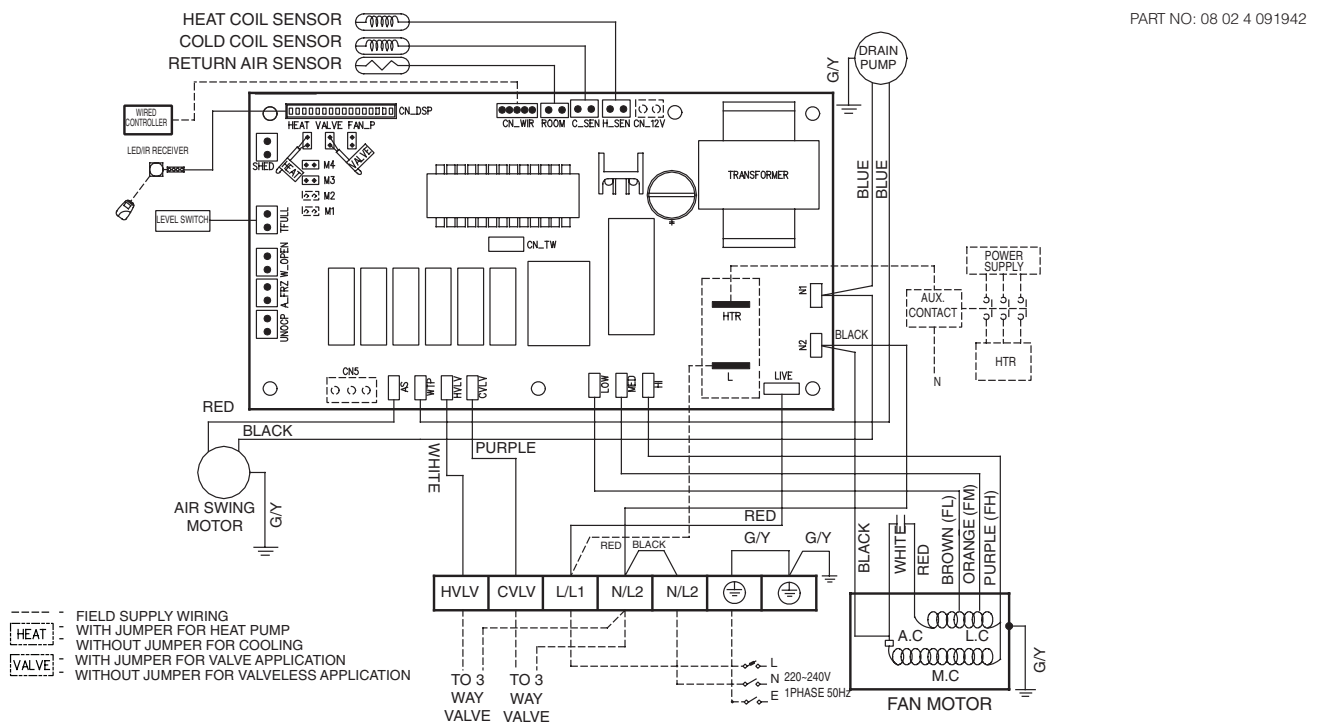
### FWC-F



#### Note

This is a proposed wiring connection. It may change subject to the chiller unit and must comply with local and national code an regulations.

### FWC-F

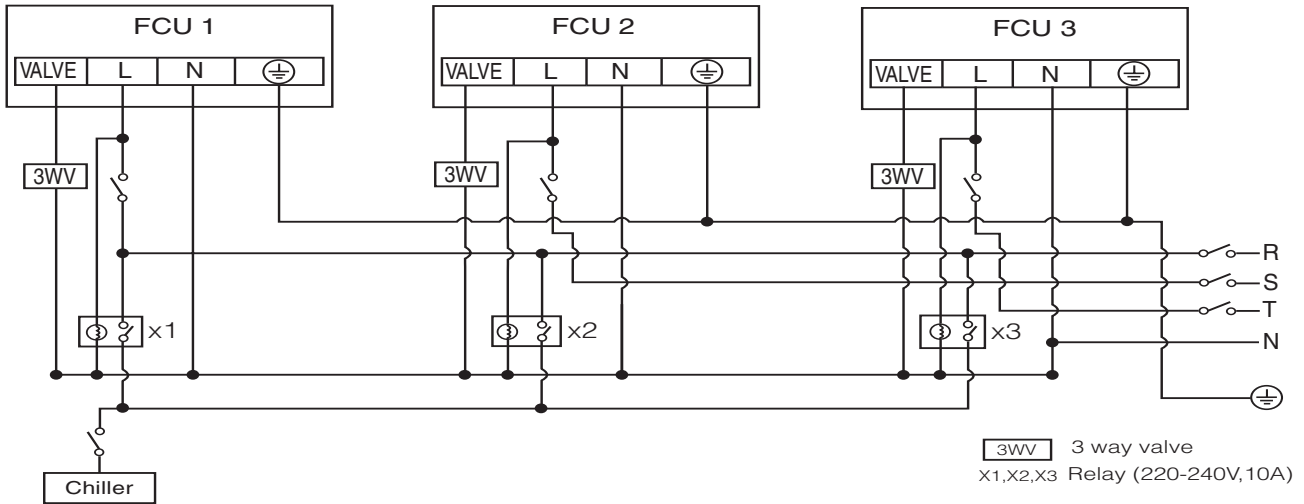


Note: Unit comes in standard heatpump and for valve application.

# 7 Wiring diagram

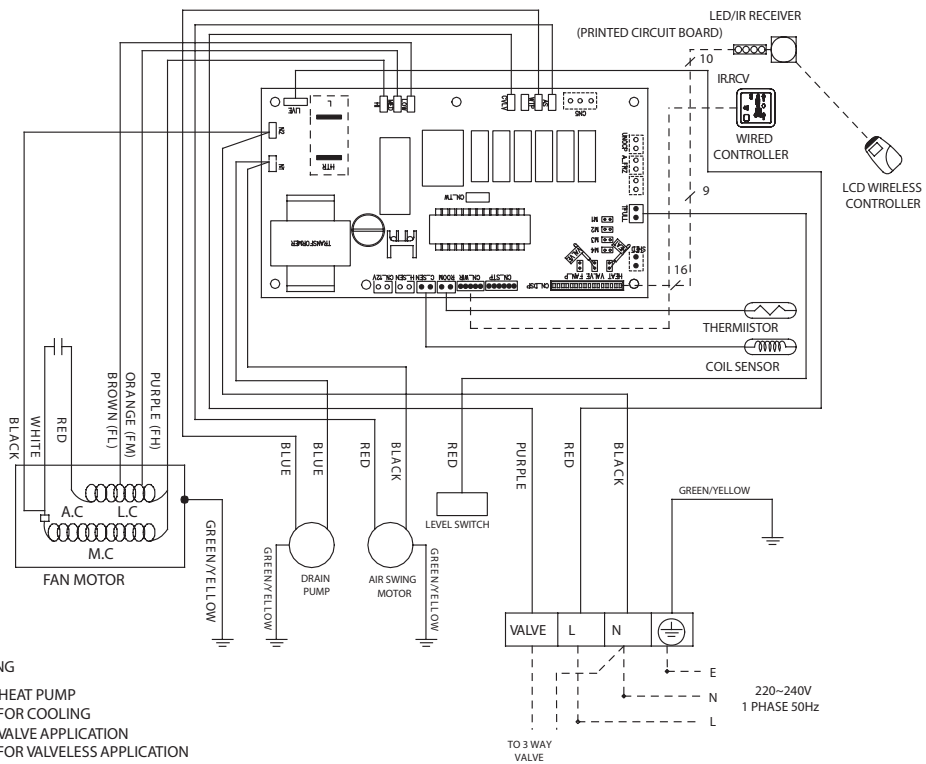
## 7 - 1 Wiring diagram

### FWC-T



This is proposed wiring connection. It may change subject to the chiller unit and must comply with the local and national code and regulations.

### FWC-T



Note : Unit comes in standard heatpump and for valve application.

# 8 Sound data

## 8 - 1 Sound power spectrum

FWC-F (4 PIPE)										
Model	Freq	1/1 Octave Sound Power Level (dB, reference 1pW)							Overall (dBA)	
		125	250	500	1000	2000	4000	8000		
FWC02AF	Hi	59	57	50	46	42	32	28	52	
	Me	58	56	47	43	38	31	27	50	
	Lo	57	55	46	42	36	30	26	49	
FWC03AF	Hi	60	58	52	49	43	37	31	55	
	Me	57	55	49	45	39	33	28	52	
	Lo	55	53	47	42	37	32	27	50	
FWC04AF	Hi	64	62	57	54	47	35	40	60	
	Me	60	58	54	49	42	41	39	56	
	Lo	59	57	52	47	40	39	37	54	
FWC05AF	Hi	64	62	60	56	49	46	37	61	
	Me	62	60	58	53	46	42	34	59	
	Lo	61	59	57	51	44	38	33	57	
FWC06AF	Hi	67	65	63	59	53	52	44	64	
	Me	66	64	61	57	51	51	42	63	
	Lo	65	63	60	56	49	49	41	61	

Microphone position: FWC02&03 1.4m below the the facia  
FWC04~03 1.5m below the the facia

FWC-T (2 PIPE)										
Model	Freq	1/1 Octave Sound Power Level (dB, reference 1pW)							Overall (dBA)	
		125	250	500	1000	2000	4000	8000		
FWC07AT	Hi	59	57	50	46	42	32	28	52	
	Me	58	56	47	43	38	31	27	50	
	Lo	57	55	46	42	36	30	26	49	
FWC08AT	Hi	60	58	52	49	43	37	31	55	
	Me	57	55	49	45	39	33	28	52	
	Lo	55	53	47	42	37	32	27	50	
FWC10AT	Hi	64	62	57	54	47	35	40	60	
	Me	60	58	54	49	42	41	39	56	
	Lo	59	57	52	47	40	39	37	54	
FWC11AT	Hi	64	62	60	56	49	46	37	61	
	Me	62	60	58	53	46	42	34	59	
	Lo	61	59	57	51	44	38	33	57	
FWC12AT	Hi	67	65	63	59	53	52	44	64	
	Me	66	64	61	57	51	51	42	63	
	Lo	65	63	60	56	49	49	41	61	

Microphone position: FWC07&08 1.4m below the the facia  
FWC10~12 1.5m below the the facia

## 9 Operation range

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### FWC-F

#### OPERATING RANGE

##### Operating Limits:

Thermal carrier : Water

Water temperature : 5 ~65°C

Maximum water pressure : 16 bar

Air temperature : (as below)

##### Cooling Mode

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	16.0 / 60.8	11.0 / 51.8
Maximum indoor temperature	32.0 / 89.6	23.0 / 73.4
Minimum outdoor temperature	16.0 / 60.8	-
Maximum outdoor temperature	46.0 / 114.8	-

##### Heating Mode

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	16.0 / 60.8	-
Maximum indoor temperature	30.0 / 86.0	-
Minimum outdoor temperature	-5.0 / 23.0	-6.0 / 21.2
Maximum outdoor temperature	24.0 / 75.2	18.0 / 64.4

Ts: Dry bulb temperature. Th: Wet bulb temperature.

### FWC-T

#### OPERATING RANGE

##### Operating Limits:

Thermal carrier : Water

Water temperature : 5 ~50°C

Maximum water pressure : 16 bar

Air temperature : (as below)

##### Cooling Mode

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	16.0 / 60.8	11.0 / 51.8
Maximum indoor temperature	32.0 / 89.6	23.0 / 73.4
Minimum outdoor temperature	16.0 / 60.8	-
Maximum outdoor temperature	46.0 / 114.8	-

##### Heating Mode

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	16.0 / 60.8	-
Maximum indoor temperature	30.0 / 86.0	-
Minimum outdoor temperature	-5.0 / 23.0	-6.0 / 21.2
Maximum outdoor temperature	24.0 / 75.2	18.0 / 64.4

Ts: Dry bulb temperature. Th: Wet bulb temperature.



# 10 Hydraulic performance

## 10 - 1 Water pressure drop curve evaporator

FWC-F

Water flow m <sup>3</sup> /hr	FWC-F (4PIPE) cooling				
	FWC02AF	FWC03AF	FWC04AF	FWC05AF	FWC06AF
0.1	0.05	0.05	0.05	0.05	0.05
0.2	0.35	0.34	0.33	0.33	0.32
0.3	0.79	0.78	0.75	0.75	0.74
0.4	1.38	1.36	1.32	1.31	1.29
0.5	2.12	2.09	2.02	2.01	1.98
0.6	3.01	2.97	2.87	2.85	2.81
0.7	4.05	3.99	3.86	3.83	3.78
0.8	5.23	5.16	4.99	4.94	4.88
0.9	6.56	6.46	6.26	6.20	6.12
1.0	8.03	7.92	7.66	7.59	7.50
1.1	9.65	9.51	9.21	9.12	9.01
1.2		11.25	10.89	10.79	10.65
1.3			12.70	12.59	12.43
1.4				14.52	14.34
1.5					16.38

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FWC-F

Water flow m <sup>3</sup> /hr	FWC-F (4 PIPE) heating				
	FWC02AF	FWC03AF	FWC04AF	FWC05AF	FWC06AF
0.1	0.04	0.04	0.05	0.05	0.05
0.2	0.27	0.28	0.29	0.30	0.30
0.3	0.61	0.65	0.66	0.68	0.68
0.4	1.07	1.13	1.16	1.20	1.19
0.5	1.64	1.74	1.78	1.84	1.82
0.6	2.32	2.47	2.53	2.61	2.59
0.7	3.12	3.31	3.40	3.51	3.48
0.8	4.04	4.28	4.39	4.53	4.49
0.9	5.06	5.37	5.50	5.68	5.63
1.0	6.20	6.58	6.74	6.96	6.90
1.1	7.45	8.06	8.10	8.36	8.29
1.2	8.81	9.34	9.57	9.89	9.80
1.3	10.27	10.90	11.17	11.54	11.43
1.4	11.85	12.58	12.88	13.31	13.19
1.5	13.54	14.37	14.72	15.20	15.06
1.6	15.33	16.28	16.67	17.22	17.06
1.7	17.23	18.30	18.73	19.35	19.18
1.8	19.24	20.43	20.92	21.61	21.41
1.9	21.35	22.68	23.21	23.99	23.77
2.0	23.57	25.04	25.63	26.48	26.24
2.1	25.89	27.51	28.15	29.09	28.83
2.2	28.32	30.09	30.79	31.82	31.53
2.3	30.85	32.78	33.54	34.67	34.35
2.4	33.49	35.58	36.41	37.63	37.28
2.5	36.22	38.49	39.38	40.71	40.33
3.0		54.67	55.90	57.80	57.26
3.5		73.47	75.09	77.66	76.93
4.0		94.83	96.86	100.22	

# 10 Hydraulic performance

## 10 - 1 Water pressure drop curve evaporator

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FWC-T

Water flow m <sup>3</sup> /hr	FWC-T (2 PIPE) cooling				
	FWC07AT	FWC08AT	FWC10AT	FWC11AT	FWC12AT
0.1	0.06	0.06	0.06	0.07	0.08
0.2	1.21	1.22	1.26	1.29	1.49
0.3	2.64	2.66	2.75	2.81	3.25
0.4	4.33	4.37	4.52	4.61	5.33
0.5	6.29	6.35	6.56	6.70	7.75
0.6	8.51	8.59	8.87	9.06	10.48
0.7	10.98	11.09	11.45	11.69	13.53
0.8	13.70	13.84	14.29	14.59	16.88
0.9	16.67	16.83	17.38	17.75	20.53
1.0	19.87	20.06	20.72	21.16	24.48
1.1	23.31	23.53	24.30	24.81	28.71
1.2	26.97	27.23	28.12	28.71	33.23
1.3	30.85	31.15	32.17	32.85	38.01
1.4	34.95	35.29	36.45	37.21	43.07
1.5	39.26	39.64	40.94	41.80	48.38
1.6	43.78	44.20	45.65	46.61	53.95
1.7	48.50	48.97	50.57	51.63	59.76
1.8	53.41	53.93	55.69	56.86	65.81
1.9	58.52	59.08	61.01	62.29	72.10
2.0		64.42	66.52	67.92	78.62
2.1		69.93	72.22	73.74	85.36
2.2		75.63	78.10	79.74	92.31
2.3			84.16	85.92	99.47
2.4			90.38	92.27	106.83
2.5			96.77	98.79	114.38
3.0					154.84

FWC-T

Water flow m <sup>3</sup> /hr	FWC-T (2 PIPE) heating				
	FWC07AT	FWC08AT	FWC10AT	FWC11AT	FWC12AT
0.1	0.05	0.05	0.05	0.06	0.07
0.2	1.04	1.06	1.07	1.12	1.38
0.3	2.27	2.32	2.33	2.43	3.00
0.4	3.74	3.80	3.83	3.99	4.93
0.5	5.43	5.53	5.57	5.80	7.17
0.6	7.34	7.47	7.53	7.85	9.70
0.7	9.47	9.65	9.72	10.12	12.51
0.8	11.82	12.04	12.13	12.63	15.61
0.9	14.38	14.64	14.75	15.37	18.99
1.0	17.14	17.45	17.58	18.32	22.64
1.1	20.11	20.47	20.62	21.49	26.55
1.2	23.27	23.68	23.87	24.86	30.73
1.3	26.62	27.09	27.30	28.44	35.15
1.4	30.15	30.70	30.93	32.22	39.82
1.5	33.87	34.48	34.75	36.20	44.73
1.6	37.77	38.45	38.75	40.36	49.88
1.7	41.84	42.59	42.92	44.71	55.25
1.8	46.08	46.90	47.27	49.24	60.85
1.9	50.48	51.38	51.79	53.94	66.66
2.0	55.04	56.02	56.47	58.82	72.68
2.1	59.76	60.81	61.30	63.86	78.91
2.2	64.62	65.76	66.30	69.05	85.33
2.3	69.63	70.86	71.44	74.41	91.95
2.4	74.78	76.10	76.72	79.91	98.75
2.5	80.07	81.47	82.15	85.56	105.73
3.0	108.37	110.25	111.20	115.80	143.10
3.5			143.03	148.93	184.03
4.0			177.05	184.33	