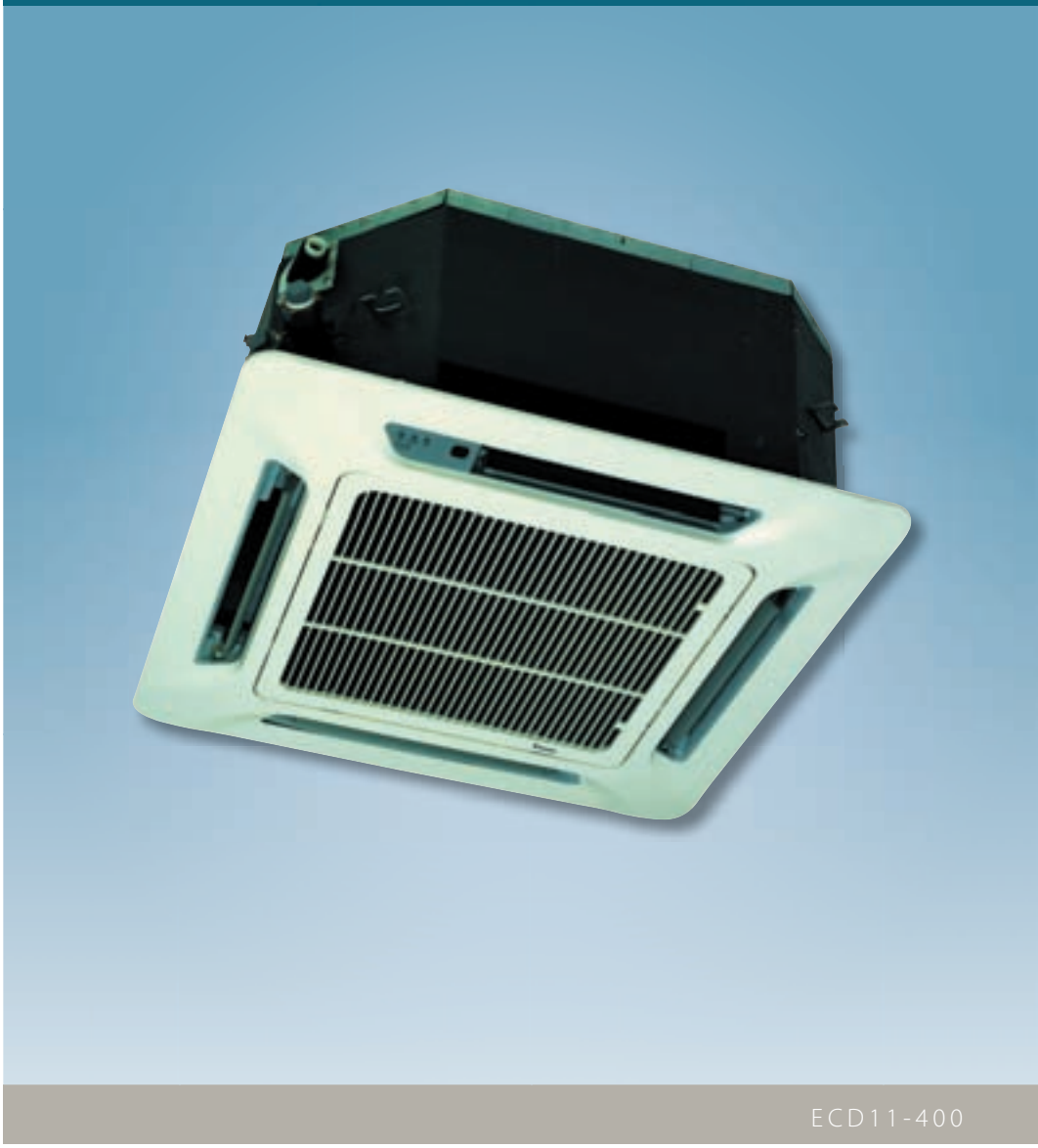
DAIKIN

Fan Coil Units

Technical Data

4-way blow Ceiling Mounted Cassette Unit



ECD11-400

FWF-CT

DAIKIN

Fan Coil Units

Technical Data

4-way blow Ceiling Mounted Cassette Unit

ECD11-400

FWF-CT

1 Features

- Wide operating range
- Quiet operation with auto-swing comfort
- Easy to install and maintain
- 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
- Tile size decoration panel
- 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				FWF02CT	FWF03CT	FWF04CT
Power Input	High		W	63	64	79
	Medium		W	51	58	73
	Low		W	45	52	69
Cooling capacity	Total capacity	High	kW	2.49	4.10	4.54
		Medium	kW	2.20	3.52	3.81
		Low	kW	1.91	2.78	3.37
	Sensible capacity	High	kW	1.91	2.93	3.37
		Medium	kW	1.67	2.43	2.78
		Low	kW	1.49	1.88	2.49
Heating capacity (2-pipe)	High		kW	3.52	4.69	5.28
	Medium		kW	3.08	3.96	4.40
	Low		kW	2.64	3.08	3.81

2-2 Technical Specifications				FWF02CT	FWF03CT	FWF04CT
Weight	Machine weight		kg	15.00	17.00	17.00
	Operation weight		kg	16.00	16.00	16.00
	Gross weight		kg	16.00	18.00	18.00
Sound level	Sound pressure	High	dBA	42	45	48
		Medium	dBA	35	38	40
		Low	dBA	29	30	36
	Sound power	High	dBA	52	54	56
		Medium	dBA	45	47	49
		Low	dBA	39	41	45
Water flow	Cooling		l/h	460	780	810
	Heating		l/h	460	780	810
Water pressure drop	Cooling		kPa	19	27	29
	Heating		kPa	17	24	27
Fan	Air flow rate	High	m³/h	646	680	748
		Medium	m³/h	493	527	561
		Low	m³/h	391	374	476

2-3 Electrical Specifications			FWF02CT	FWF03CT	FWF04CT
Current input	High	A	0.27	0.28	0.34
	Medium	A	0.22	0.25	0.31
	Low	A	0.19	0.22	0.29

3 Control systems

FWF-CT

Control systems for FWF-CT

		Operation mode		Basic Controls			Energy saving mode	Timer setting	Air distribution	Faster cooling/heating
Controller	**Application**	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	

CONSYS_1

NOTES

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

FWF-CT

Air temperature (°C DB - °C WB)		23-16															
Water temperature (Entering °C - Leaving °C)		6-11				7-12				8-13				9-14			
Model	Air Flow m^3/hr	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa
FWF02CT	646	1.84	1.58	0.34	10.94	1.69	1.49	0.31	9.33	1.46	1.37	0.27	7.21	1.29	1.28	0.24	5.78
	493	1.62	1.38	0.30	8.71	1.49	1.30	0.27	7.43	1.29	1.20	0.24	5.76	1.14	1.12	0.21	4.64
	391	1.41	1.19	0.26	6.72	1.29	1.12	0.24	5.75	1.12	1.03	0.21	4.47	0.99	0.96	0.18	3.61
FWF03CT	680	2.98	2.51	0.56	14.56	2.85	2.40	0.54	13.44	2.49	2.23	0.47	10.42	2.15	2.09	0.41	7.95
	527	2.55	2.08	0.48	10.93	2.45	2.00	0.46	10.10	2.13	1.85	0.40	7.85	1.84	1.74	0.35	6.01
	374	2.02	1.61	0.38	7.12	1.94	1.54	0.37	6.59	1.69	1.43	0.32	5.15	1.46	1.34	0.28	3.96
FWF04CT	748	3.48	2.90	0.63	17.86	3.14	2.64	0.57	14.72	2.81	2.51	0.51	11.97	2.45	2.35	0.44	9.29
	561	2.92	2.40	0.53	12.85	2.63	2.18	0.48	10.61	2.36	2.07	0.43	8.65	2.05	1.94	0.37	6.74
	476	2.58	2.09	0.47	10.24	2.33	1.91	0.42	8.47	2.08	1.81	0.38	6.92	1.82	1.69	0.33	5.40

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 m^3/hr	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa
FWF02CT	646	2.34	1.77	0.43	17.07	2.21	1.69	0.41	15.27	1.99	1.57	0.37	12.59	1.81	1.48	0.33	10.62
	493	2.07	1.55	0.38	13.53	1.95	1.48	0.36	12.11	1.75	1.38	0.32	10.00	1.60	1.30	0.29	8.45
	391	1.79	1.33	0.33	10.40	1.69	1.27	0.31	9.32	1.52	1.19	0.28	7.71	1.39	1.12	0.25	6.53
FWF03CT	680	3.93	2.80	0.74	24.49	3.74	2.70	0.71	22.39	3.39	2.53	0.64	18.54	3.04	2.39	0.57	15.09
	527	3.36	2.33	0.64	18.30	3.21	2.24	0.61	16.75	2.90	2.10	0.55	13.88	2.60	1.98	0.49	11.32
	374	2.66	1.79	0.50	11.83	2.54	1.73	0.48	10.84	2.30	1.62	0.43	9.01	2.06	1.53	0.39	7.37
FWF04CT	748	4.41	3.21	0.80	27.96	4.09	2.96	0.74	24.22	3.73	2.82	0.67	20.32	3.38	2.65	0.61	16.90
	561	3.70	2.65	0.67	20.03	3.43	2.45	0.62	17.37	3.13	2.33	0.56	14.60	2.84	2.19	0.51	12.17
	476	3.27	2.31	0.59	15.91	3.04	2.14	0.55	13.81	2.77	2.03	0.50	11.62	2.51	1.91	0.45	9.70

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 m^3/hr	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa
FWF02CT	646	2.59	1.98	0.48	20.63	2.49	1.91	0.46	19.28	2.24	1.82	0.41	15.77	2.05	1.73	0.38	13.31
	493	2.29	1.74	0.42	16.32	2.20	1.67	0.40	15.17	1.98	1.60	0.36	12.51	1.81	1.52	0.33	10.57
	391	1.98	1.49	0.36	12.52	1.91	1.44	0.35	11.65	1.72	1.37	0.32	9.62	1.57	1.30	0.29	8.15
FWF03CT	680	4.28	3.11	0.81	28.91	4.10	2.93	0.78	26.88	3.76	2.83	0.71	22.59	3.39	2.69	0.64	18.54
	527	3.67	2.58	0.69	21.58	3.52	2.43	0.65	18.89	3.22	2.35	0.61	16.89	2.90	2.24	0.55	13.88
	374	2.91	1.99	0.55	13.91	2.78	1.88	0.51	12.20	2.55	1.81	0.48	10.93	2.30	1.72	0.43	9.01
FWF04CT	748	4.88	3.53	0.88	33.91	4.54	3.37	0.81	28.84	4.21	3.13	0.76	25.58	3.85	2.95	0.70	21.59
	561	4.09	2.92	0.74	24.26	3.81	2.78	0.70	21.94	3.53	2.58	0.64	18.34	3.23	2.43	0.58	15.51
	476	3.62	2.55	0.65	19.24	3.37	2.43	0.62	17.41	3.12	2.26	0.56	14.57	2.86	2.13	0.52	12.34

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 m^3/hr	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa	Total cooling capacity kW	Sensible cooling capacity kW	Water flow m^3/hr	Water pressure drop kPa
FWF02CT	646	3.34	2.18	0.62	33.40	3.19	2.09	0.59	30.58	3.04	1.97	0.56	27.94	2.89	1.88	0.53	25.34
	493	2.95	1.91	0.54	26.34	2.82	1.83	0.52	24.14	2.69	1.73	0.49	22.07	2.55	1.65	0.47	20.02
	391	2.56	1.64	0.47	20.12	2.44	1.57	0.45	18.45	2.33	1.48	0.43	16.88	2.21	1.42	0.41	15.33
FWF03CT	680	6.05	3.48	1.15	56.14	5.70	3.40	1.08	50.05	5.34	3.27	1.01	44.06	5.00	3.11	0.95	38.82
	527	5.19	2.89	0.98	41.72	4.89	2.83	0.93	37.22	4.58	2.71	0.87	32.79	4.28	2.58	0.81	28.91
	374	4.11	2.23	0.78	26.70	3.87	2.18	0.73	23.85	3.62	2.09	0.69	21.03	3.39	1.99	0.64	18.57
FWF04CT	748	6.26	3.93	1.13	54.69	6.05	3.74	1.09	51.12	5.52	3.58	1.00	42.95	5.24	3.46	0.95	38.76
	561	5.25	3.25	0.95	38.99	5.07	3.09	0.92	36.46	4.63	2.96	0.84	30.67	4.39	2.86	0.79	27.70
	476	4.64	2.84	0.84	30.84	4.49	2.70	0.81	28.85	4.10	2.59	0.74	24.29	3.88	2.50	0.70	21.95

SRC_1

4 Capacity tables

4 - 2 Capacity tables with glycol for process cooling applications

FWF-CT

Glycol correction factor

FWF-CT	Cooling capacity				
Entering water temperature °C	0	20	40	60	Pressure Drop
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

CAPCOOLGLY_1

4 Capacity tables

4 - 3 Heating capacity tables

FWF-CT

Air temperature (°C DB)		20								
Water temperature (Entering °C - Leaving °C)		50-45			60-50			70-60		
Model	Air Flow m³/hr	Total heating capacity kW	Water flow m³/hr	Water pressure drop kPa	Total heating capacity kW	Water flow m³/hr	Water pressure drop kPa	Total heating capacity kW	Water flow m³/hr	Water pressure drop kPa
FWF02CT	646	3.71	0.64	31.15	4.59	0.40	12.64	6.04	0.52	21.06
	493	3.11	0.54	22.30	3.85	0.33	9.18	5.06	0.44	15.13
	391	2.63	0.45	16.25	3.26	0.28	6.78	4.28	0.37	11.09
FWF03CT	680	4.71	0.81	25.76	5.97	0.51	10.91	7.73	0.66	17.63
	527	3.85	0.66	17.58	4.89	0.42	7.55	6.32	0.54	12.09
	374	2.86	0.49	10.10	3.64	0.31	4.44	4.70	0.40	7.00
FWF04CT	748	5.35	0.92	33.81	6.79	0.58	14.29	8.78	0.76	23.19
	561	4.23	0.73	21.65	5.38	0.46	9.28	6.94	0.60	14.89
	476	3.66	0.63	16.52	4.66	0.40	7.13	6.02	0.52	11.38

Air temperature (°C DB)		22								
Water temperature (Entering °C - Leaving °C)		50-45			60-50			70-60		
Model	Air Flow m³/hr	Total heating capacity kW	Water flow m³/hr	Water pressure drop kPa	Total heating capacity kW	Water flow m³/hr	Water pressure drop kPa	Total heating capacity kW	Water flow m³/hr	Water pressure drop kPa
FWF02CT	646	3.41	0.59	26.67	4.30	0.37	11.20	5.73	0.49	19.12
	493	2.86	0.49	19.05	3.60	0.31	8.10	4.80	0.41	13.73
	391	2.42	0.42	13.92	3.05	0.26	5.97	4.06	0.35	10.06
FWF03CT	680	4.34	0.75	22.08	5.60	0.48	9.65	7.35	0.63	16.01
	527	3.55	0.61	15.07	4.58	0.39	6.69	6.01	0.52	10.99
	374	2.64	0.45	8.67	3.41	0.29	3.95	4.46	0.38	6.38
FWF04CT	748	4.93	0.85	29.00	6.36	0.55	12.69	8.35	0.72	21.03
	561	3.89	0.67	18.55	5.04	0.43	8.20	6.59	0.57	13.52
	476	3.37	0.58	14.15	4.37	0.38	6.34	5.71	0.49	10.34

SRC_2

4 Capacity tables

4 - 4 Capacity correction factor

FWF-CT

Heating correction factor

	FWF-CT											
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	1.338	1.376	1.388	1.414	1.422	1.452	1.491	1.529	1.559	1.569	1.605	1.643	1.683
7.2	1.257	1.297	1.310	1.338	1.347	1.379	1.421	1.462	1.497	1.507	1.547	1.586	1.630
10.0	1.176	1.221	1.235	1.265	1.275	1.311	1.356	1.401	1.433	1.444	1.488	1.531	1.577
12.7	1.093	1.140	1.155	1.187	1.198	1.235	1.284	1.331	1.370	1.381	1.426	1.476	1.523
15.5	1.010	1.061	1.077	1.113	1.124	1.165	1.217	1.268	1.306	1.318	1.368	1.420	1.471
18.3	0.958	0.999	1.013	1.044	1.054	1.095	1.149	1.199	1.242	1.255	1.308	1.363	1.419
20.00	0.877	0.933	0.950	0.989	1.000	1.046	1.103	1.159	1.204	1.216	1.274	1.330	1.386
21.1	0.824	0.890	0.910	0.953	0.965	1.014	1.074	1.134	1.179	1.192	1.251	1.308	1.364
23.9	0.758	0.819	0.838	0.880	0.894	0.943	1.005	1.066	1.115	1.129	1.191	1.252	1.312
26.7	0.677	0.741	0.761	0.806	0.820	0.871	0.937	1.001	1.052	1.067	1.133	1.197	1.259

CAPCORFAC_1

4 Capacity tables

4 - 5 Air Flow Correction Factors

FWF-CT

Correction Factors

Air Flow Correction Factors

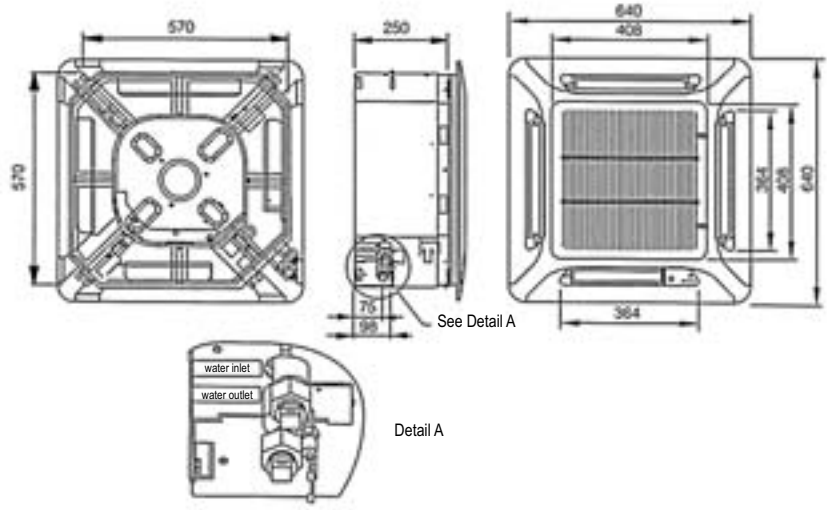
Model	Speed	Air Flow Ratio (Sensible Capacity)	Air Flow Ratio (Sensible Capacity)
FWF02CT	Low	0.75	0.76
	Medium	0.88	0.88
	High	1.00	1.00
FWF03CT	Low	0.64	0.68
	Medium	0.83	0.86
	High	1.00	1.00
FWF04CT	Low	0.72	0.74
	Medium	0.83	0.84
	High	1.00	1.00

SRC_3

5 Dimensional drawing

5 - 1 Dimensional drawing

FWF-CT



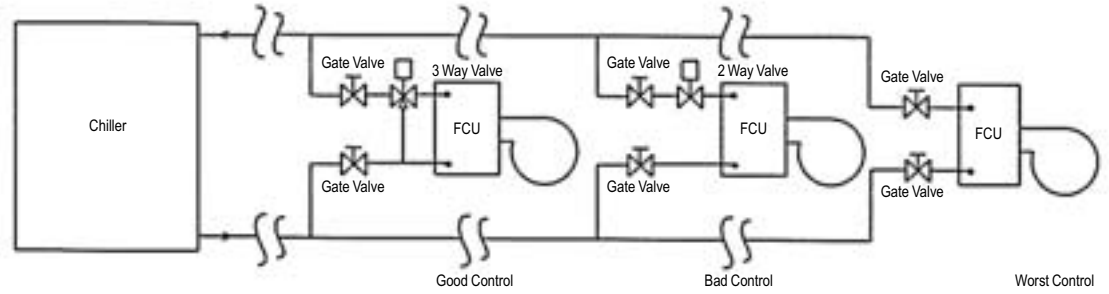
DIM_1

NOTES

1 All dimensions are in mm/ (in)

6 Piping diagram

FWF-CT

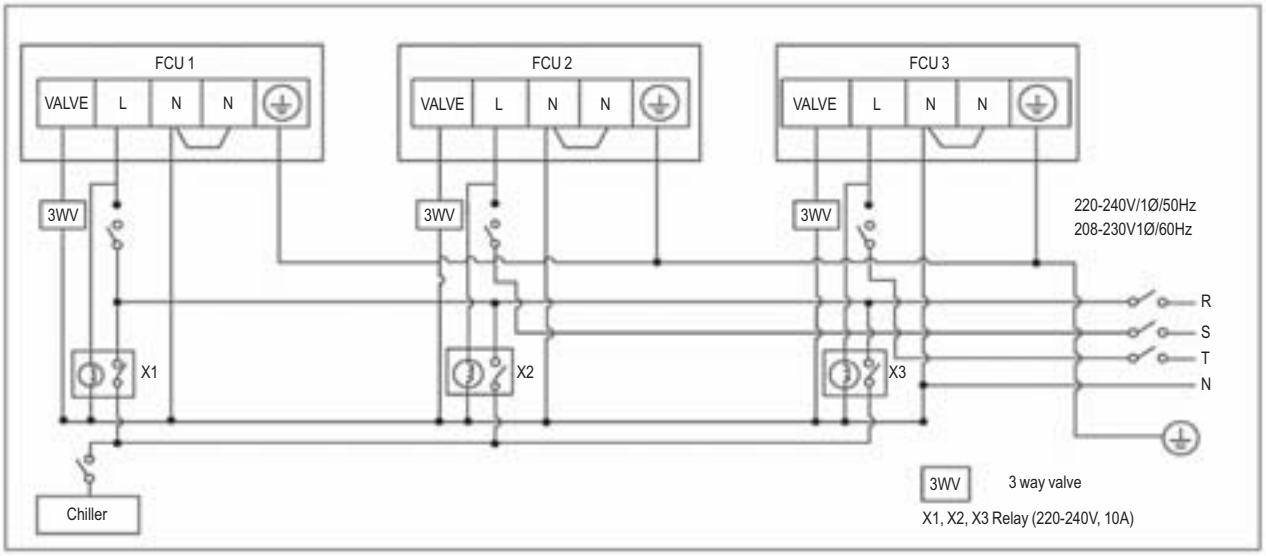


PIP_1

7 Wiring diagram

7 - 1 Wiring diagram

FWF-CT



WIR_1

8 Sound data

8 - 1 Sound level Data

FWF-CT

FWF02CT	1/1 Octave Sound Power Level (dB. reference 1pW)								Overall (dBA)
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
Hi	-	53.4	55.6	49.3	43.3	34.9	28.1	21.1	**52.0**
Me	-	47.0	49.1	42.1	35.3	25.8	19.5	19.3	**45.0**
Lo	-	42.7	43.5	35.8	27.4	19.1	14.1	19.1	**39.0**

FWF03CT	1/1 Octave Sound Power Level (dB. reference 1pW)								Overall (dBA)
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
Hi	-	52.2	55.0	53.1	46.2	40.5	32.6	24.0	**54.0**
Me	-	45.9	50.0	45.8	37.6	29.6	20.7	19.8	**47.0**
Lo	-	45.7	48.0	39.5	30.2	21.7	12.4	18.6	**41.0**

FWF04CT	1/1 Octave Sound Power Level (dB. reference 1pW)								Overall (dBA)
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	
Hi	-	56.0	58.0	54.7	49.9	42.1	37.9	28.6	**56.0**
Me	-	49.7	51.1	48.4	41.1	32.0	26.0	19.7	**49.0**
Lo	-	47.2	48.7	44.9	37.1	27.2	20.3	18.6	**45.0**

NSL_1

9 Operation range

FWF-CT

OPERATING RANGE

Operating Limits:
Thermal carrier: Water
Water temperature: 4°C ~ 10°C (Cooling), 35°C ~ 70°C (Heating)
Maximum water pressure: 16 bar
Air temperature: (as below)

Cooling Unit

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	19.0 / 66.2	14.0 / 57.2
Maximum indoor temperature	32.0 / 89.6	23.0 / 73.4

Heat Pump Unit

Temperature	Ts °C/°F	Th °C/°F
Minimum indoor temperature	15.0 / 59.0	-
Maximum indoor temperature	27.0 / 80.6	-

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

OPL_1

10 Hydraulic performance

10 - 1 Water pressure drop curve evaporator

FWF-CT

FWF-CT Cooling			
Water flow m^3/hr	Water pressure drop (kPa)		
	FWF02CT	FWF03CT	FWF04CT
0.1	11.03	4.14	0.11
0.2	22.70	8.46	6.10
0.3	41.19	15.32	14.00
0.4	66.38	24.66	23.80
0.5	98.11	36.43	35.47
0.6	136.24	50.59	48.99
0.7	180.64	67.08	64.34
0.8		85.85	81.50
0.9		106.86	100.45
1.0		130.05	121.17
1.1		155.37	143.64
1.2			167.85

EPD_1

FWF-CT

FWF-CT Heating			
Water flow m^3/hr	Water pressure drop (kPa)		
	FWF02CT	FWF03CT	FWF04CT
0.1	10.88	4.05	0.11
0.2	22.29	8.28	6.29
0.3	39.01	14.99	14.45
0.4	61.27	24.13	24.55
0.5	89.30	35.65	36.59
0.6	123.31	49.51	50.54
0.7	163.53	65.65	66.37
0.8		84.02	84.08
0.9		104.58	103.63
1.0		127.27	125.01
1.1		152.06	148.20
1.2		178.88	173.17

EPD_2

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 intention 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.

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