



RELIABLE, COMPACT
& **ENERGY**
EFFICIENT

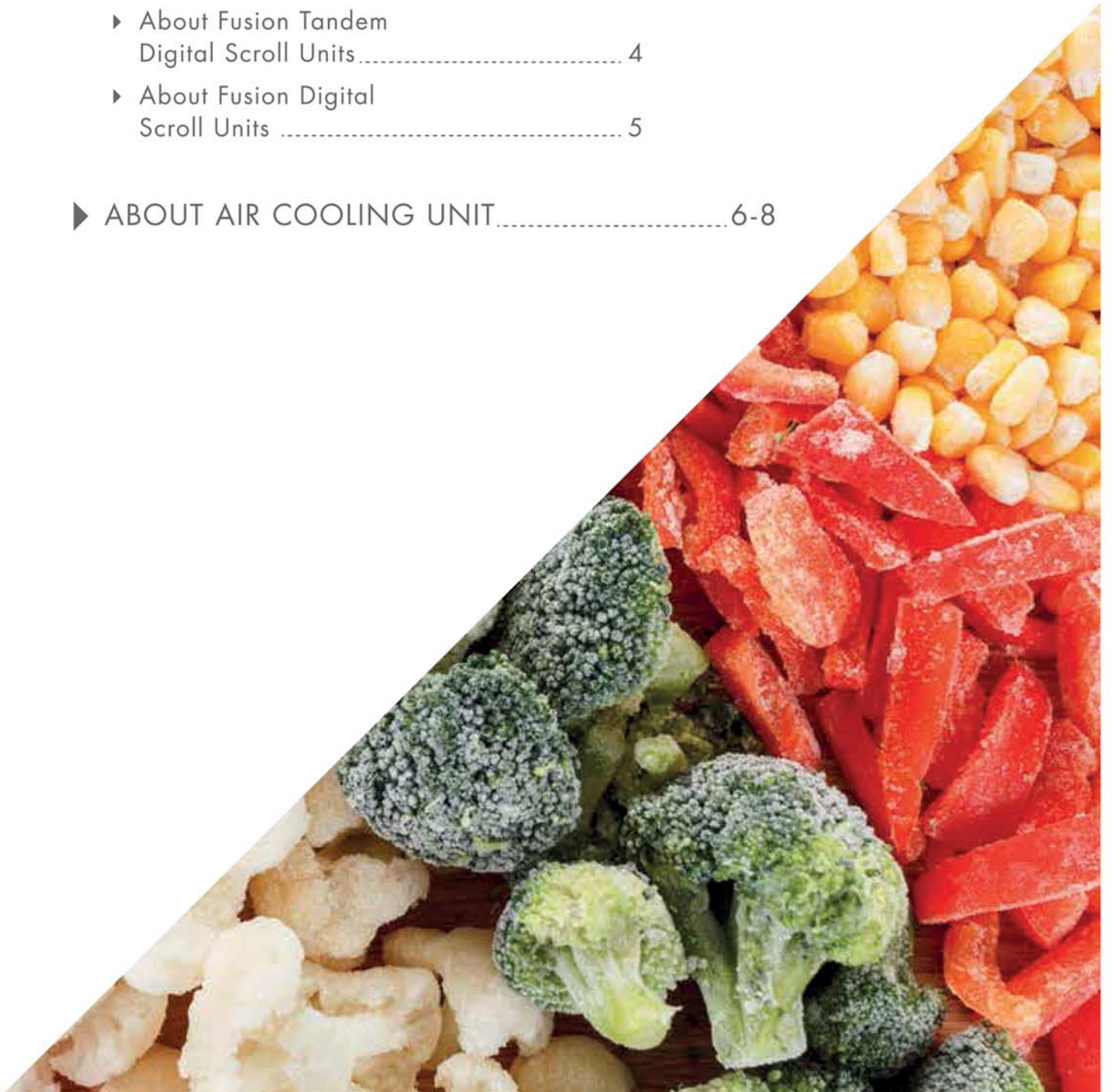


COMMERCIAL
REFRIGERATION UNITS

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FUSION COMMERCIAL
CONDENSING UNITS



THE PERFECT CHOICE WITH MORE THAN 100 YEARS OF REFRIGERATION EXPERIENCE AND IDEAL SOLUTION FOR COMMERCIAL REFRIGERATION.

Daikin Fusion Reciprocating and Fusion Scroll commercial refrigeration units create the perfect answer for those demanding a compact yet efficient unit. The units are the ideal solution for commercial refrigeration sectors where noise, size and reliability are paramount.

Housed in a cabinet made of electro-galvanised mild steel with an anti-corrosion treatment and coated in baked polyester powder paint, units are able to withstand the most stringent weather testing. The integral IP54 rated control panel provides further protection to all essential electrical components.

All units are acoustically lined. The Fusion Scroll units house the extremely efficient Copeland scroll compressor and the standard Fusion Reciprocating range house a highly reliable reciprocating compressor fitted with compressor jacket to further reduce noise. *excludes small units

All condensing units come complete with all components fitted during manufacture to save the installer time and money. Fusion Reciprocating and Fusion Scroll condensing units are available for both medium and low temperature applications.

FUSION SCROLL

On all models

- R404A refrigerant (Medium temperature units can also operate on R134a, if required.)
- Robust weather-resistant housing
- Highly reliable Copeland scroll compressor
- Liquid receiver with fusible plug
- Adjustable HP/LP pressure safety switch
- Liquid line with sight glass and filter drier factory fitted
- IP54 rated control panel
- Noise data tested to ISO 3774-2 standard
- Oil separator and check valve for low temperature models
- CE marked
- Polyurethane foam insulation for improved noise reduction
- Externally mounted service valves for easy isolation and an extended tail for easy installation
- Hexagon head screws and stainless steel washers for easy removal of access panels
- Isolator with integrated MCB for improved electrical layout
- Fan speed controller**
- Crankcase heater**

**optional

FUSION RECIPROCATING

On all models

- R404A refrigerant
- Robust weather-resistant housing
- Highly reliable hermetic compressor
- Liquid receiver with fusible plug
- Adjustable HP/LP pressure safety switch
- Liquid line with sight glass and filter drier factory fitted
- IP54 rated control panel
- Noise data tested to ISO 3774-2 standard
- Oil separator and check valve for low temperature models
- CE marked
- Polyurethane foam insulation for improved noise reduction
- Externally mounted service valves for easy isolation and an extended tail for easy installation
- Hexagon head screws and stainless steel washers for easy removal of access panels

On medium, large and twin fan models features include:

- Compressor contactor
- Fan speed controller**
- Crankcase heater**
- Fitted compressor jacket for improved noise reduction
- Isolator with integrated MCB for improved electrical layout
- Medium temperature units can also operate on R134a, if required

**optional



FUSION SCROLL

Medium Temperature Performance Data

MODEL	HP	T_e / T_a		Cooling Capacity (Watts)					
				-20	-15	-10	-5	0	5
LRMSS0200AXV1	2	38		2231	2736	3279	3978	4730	5587
LRMSS0250AXV1	2.5	38		2575	3171	3870	4676	5644	6704
LRMSS0300AXV1	3	38		3225	3978	4838	5805	6934	8159
LRMSS0350AXV1	3.5	38		3816	4676	5698	6934	8278	9826
LRMSS0400AXV1	4	38		4300	5311	6472	7805	9342	11031
LRMSS0500AXY1	5	38		5214	6396	7740	9353	11126	13126
LRMSS0600AXY1	6	38		5966	7310	8869	10589	12524	14642
LRMSS0680AXY1	6.8	38		6450	7848	9514	11341	13330	15545
LRMSS0800AXY1	8	38		7321	9385	11610	13975	16501	19175
LRMSS1000AXY1	10	38		9310	11449	13706	16125	18759	-

T_e : Evaporating Temperature (°C) T_a : Ambient Temperature (°C)
 Rating condition based on EN 13215
 *At condensing temperature 50°C

Low Temperature Performance Data

MODEL	HP	T_e / T_a		Cooling Capacity (Watts)				
				-40	-35	-30	-25	-20
LRLSS0200AXY1	2	38		984	1247	1553	1914	2333
LRLSS0300AXY1	3	38		1306	1650	2048	2510	3042
LRLSS0400AXY1	4	38		1914	2446	3075	3816	4676
LRLSS0500AXY1	5	38		2295	2951	3709	4569	5590
LRLSS0600AXY1	6	38		2817	3548	4408	5429	6558
LRLSS0750AXY1	7.5	38		3333	4289	5343	6525	7869
LRLSS1000AXY1	10	38		4515	5698	7031	8546	10288

T_e : Evaporating Temperature (°C) T_a : Ambient Temperature (°C)
 Rating condition based on EN 13215
 *At condensing temperature 50°C

FUSION RECIPROCATING

Medium Temperature Performance Data

MODEL	HP	T_e / T_a		Cooling Capacity (Watts)						
				-25	-20	-15	-10	-5	0	5
LRMRS0500AXV1	0.5	38		-	420	584	779	1007	1267	1560
LRMRS0088AXV1	0.88	38		-	933	1145	1400	1697	2038	2421
LRMRS0150AXV1	1.5	38		730	1061	1457	1917	2441	3030	3684
LRMRS0225AXV1	2.25	38		1390	1963	2602	3303	4071	4902	5799
LRMRS0300AXV1	3	38		2009	2737	3563	4484	5503	6618	7830
LRMRS0400AXY1	4	38		2668	3665	4840	6191	7721	9427	11311
LRMRS0500AXY1	5	38		3598	4801	6181	7739	9474	11386	13476
LRMRS0600AXY1	6	38		3908	5314	6877	8595	10469	12499	14686
LRMRS0675AXY1	6.75	38		4365	5962	7688	9544	11528	13642	15884
LRMRS0825AXY1	8.25	38		4675	6496	8485	10639	12961	15449	18104
LRMRS1000AXY1	10	38		6617	8678	10865	13174	15608	18164	-

T_e : Evaporating Temperature (°C) T_a : Ambient Temperature (°C)
 Rating condition based on EN 13215
 *At condensing temperature 50°C

Low Temperature Performance Data

MODEL	HP	T_e / T_a		Cooling Capacity (Watts)				
				-40	-35	-30	-25	-20
LRLRS0075AXV1	0.75	38		225	354	499	660	837
LRLRS0175AXV1	1.75	38		529	860	1217	1602	2012
LRLRS0225AXV1	2.25	38		1093	1516	2008	2570	3202
LRLRS0350AXY1	3.5	38		1161	1723	2442	3316	4347
LRLRS0400AXY1	4	38		1880	2682	3651	4786	6088
LRLRS0725AXY1	7.25	38		2755	3995	5390	6941	8648
LRLRS0825AXY1	8.25	38		3991	5494	7196	9097	11196

T_e : Evaporating Temperature (°C) T_a : Ambient Temperature (°C)
 Rating condition based on EN 13215
 *At condensing temperature 50°C



FUSION TANDEM DIGITAL SCROLL SERIES 5 COMMERCIAL CONDENSING UNITS

Fusion Tandem Digital Scroll unit is an extension to the range of Daikin commercial products. With a capacity up to 31kW, Series 5 is an ideal solution for larger convenience store applications and is a packaged alternative to multi compressor racks. Digital compressor capacity control matches varying display case loads and provides the perfect energy-efficient commercial refrigeration solution. It houses the extremely efficient Copeland Digital Scroll compressor and Copeland Scroll compressor which allow a simple and very reliable variable capacity system at MT envelope.

The digital modulated variable capacity Fusion Tandem Digital Scroll unit comes with Carel controller. The Carel controller provides real time load estimation and controls variable capacity from 10% to 100%. The controller also provides basic protection that includes high discharge temperature trip, compressor trip and oil return management. The controller can display suction temperature, outdoor temperature, condensing coil temperature and discharge temperature.



FUSION TANDEM DIGITAL SCROLL

On all models

- Twin Copeland Scroll compressors, 1 fixed speed and 1 digital
- Four condenser fans with control mode selection option
- Fan speed controller
- Microchannel condenser
- Electrical control panel with mains isolator
- Phase protection module
- Carel electronic controller with LCD display
- Mechanical back-up system
- Compressor HP switches
- External status lights
- Internal ball valves and external service valves
- Liquid line drier and sight glass
- Pressure relief valve on liquid receiver
- Hinged door access
- Operates with refrigerants R404A, R407A and R407F

Model	Compressor			Coil Vol. Litres	Air Flow m ³ /hr	Fan Motors		Connections		Receiver Litres	Dry Weight kg	Noise dB (A)**	Dimensions (mm)		
	Type	Operating Current (A)*	LRC (A)			No.	FLC (A)	Suction	Liquid				Width	Depth	Height
LRMTS1200AXY1	ZBD45KQE-TFD	8.29	74	5.7	8000	4	2.4	1-3/8	3/4	18	382	47	2083	722	1762
	ZB45KQE-TFD	9.07	74												
LRMTS1500AXY1	ZBD48KQE-TFD	9.92	100	5.7	8000	4	2.4	1-3/8	3/4	18	382	48	2083	722	1762
	ZB48KQE-TFD	9.24	101												

* Operating current rated using R404A at (-10/+32°C) MT & (-25/+32°C) LT conditions. Different operating condition will produce different result.
 ** Sound pressure levels @10m free field at (-10/+32°C) MT & (-25/+32°C) LT conditions. Alternative conditions may produce different results.
 *At condensing temperature 50°C

Model	HP	T _e T _a	Cooling Capacity (Watts)					
			-20	-15	-10	-5	0	5
LRMTS1200AXY1	12	38	11180	13700	16580	19880	23600	27800
LRMTS1500AXY1	15	38	14191	17296	20654	23760	20672	-

T_e : Evaporating Temperature (°C) T_a : Ambient Temperature (°C)
 Rating conditions : Suction gas superheat 10K, Sub-cooling OK
 EN 13215:2000
 *At condensing temperature 50°C

FUSION DIGITAL SCROLL COMMERCIAL CONDENSING UNITS

Fusion Digital Scroll unit houses the extremely efficient Copeland Digital Scroll compressor which allows a simple and very reliable variable capacity system at MT envelope. The digital modulated variable capacity Fusion Digital Scroll unit comes with Carel controller. The Carel controller provides real time load estimation and controls variable capacity. The controller also provides basic protection that includes high discharge temperature trip, compressor trip.

The controller can display suction temperature, outdoor temperature, condensing coil temperature and discharge temperature. With a capacity up to 16kW, Digital scroll unit is an ideal solution for convenience stores, supermarkets and petrol forecourts. Digital scroll unit is also suitable for multi cabinet systems.



FUSION DIGITAL SCROLL

- Copeland Hermatic Digital Scroll Compressor
- Liquid receiver with fusible plug
- Oil separator and discharge non-return valve
- Acoustic lining
- IP54 rated control panel
- Isolator
- Manual Motor start with short-circuit and overload protection
- Advanced programmable controller
- LCD display
- High and Low pressure transducers
- Mechanical by-pass circuit
- Manually adjustable low pressure switch
- AC modulation fan speed controller
- Compressor contactor
- Step-down transformer 240V to 24V
- Fuse protection on controller, fan speed controller and backup system
- Crankcase Heater
- Operates with refrigerant R404A

Model	Compressor			Coil Vol. (L)	Airflow (m ³ /hr)	Fan Motors		Connections		Receiver vol. (L)	Net weight (kg)	Noise dB (A)**	Dimensions (mm)		
	Type	Operating Current (A)	LRC (A)			No.	FLC (A)	Suction	Liquid				Width	Depth	Height
LRMDS0600AXY1	ZBD45KQE-TFD	8.5	74.0	7.6	5180	1	1.1	7/8	1/2	7.6	139	44	1347	556	884

* Operating current rated using R404A at (-10/+32°C) MT & (-25/+32°C) LT conditions. Different operating condition will produce different result.

** Sound pressure levels @10m free field at (-10/+32°C) MT & (-25/+32°C) LT conditions. Alternative conditions may produce different results.

*At condensing temperature 50°C

Model	HP	T _E T _A	Cooling Capacity (Watts)					
			-20	-15	-10	-5	0	5
LRMDS0600AXY1	6	27	7067	8589	10374	12285	14385	16853
		32	6615	8033	9660	11550	13545	15855
		38	4998	7329	8789	10553	12285	14333

T_E : Evaporating Temperature [°C] T_A : Ambient Temperature [°C]

Rating condition based on EN 13215

*At condensing temperature 50°C

AIR COOLING UNIT



Product Features

- Can be used with refrigerants R404A, R134a, R507A and R410A
- DX evaporator coil, with shredder valve soldered into suction line for ease of superheat measurement
- GI casing with pre-coated paint
- IP44 Axial fan with moisture proof protected and built in thermal overload
- Up to 3 heaters can be slotted for defrosting
- Pre-fixed wiring to fan motor



MEDIUM TEMPERATURE APPLICATION

	Designation	LFMNS0150AXV1	LFMNS0400AXV1	LFMNS0600AXV1	LFMNS0800AXV1	LFMNS0980AXV1	LFMNS1400AXV1
*Capacity	kW	1.5	3.9	5.9	8.05	9.8	14.2
General	Size L/W/H [mm/mm/mm]	745 x 560 x 515	745 x 560 x 515	1205 x 560 x 515	1205 x 560 x 515	1665 x 560 x 515	1665 x 560 x 515
	Weight, kg	23	27	34	43	51	62
	Room Temperature	-5~15°C	-5~15°C	-5~15°C	-5~15°C	-5~15°C	-5~15°C
	Max operating press, Bar	25	25	25	25	25	25
	Air Flow (m ³ /h)	1600	1500	3200	3100	4800	4700
	Power Supply	230/1/50Hz	230/1/50Hz	230/1/50Hz	230/1/50Hz	230/1/50Hz	230/1/50Hz
**Air throw	m	10	10	13	13	15	15
***Sound	dB(A)	67	67	68	68	70	70
Fan motor	mm x Qty	315 x 1	315 x 1	315 x 2	315 x 2	315 x 3	315 x 3
	Fan speed (rpm)	1350	1350	1350	1350	1350	1350
	Watts (W)	92	92	184	184	276	276
	Current (A)	0.41	0.41	0.82	0.82	1.23	1.23
Connection pipe size	Outlet Size	OD 12.7mm	OD 15.88mm	OD 15.88mm	OD 22.2mm	OD 22.2mm	OD 28.56mm
	Inlet Size	OD 12.7mm	OD 12.7mm	OD 12.7mm	OD 12.7mm	OD 12.7mm	OD 15.88mm
	Drain pipe	1"-14UNF	1"-14UNF	1"-14UNF	1"-14UNF	1"-14UNF	1"-14UNF

* Capacity based on Tinlet = 0°C, Te = -8°C. Use external equalised thermostatic expansion valve.

** Air throw is according to final air velocity of 0.4m/s.

*** The sound pressure level is measured at 1m away from the unit, inside Anechoic sound room.

R404A (kW)

Model	T _e	-10	-8	-5	0	5
LFMNS0150AXV1		1.48	1.50	1.54	1.66	1.79
LFMNS0400AXV1		3.85	3.90	4.01	4.30	4.63
LFMNS0600AXV1		5.83	5.90	6.07	6.58	7.05
LFMNS0800AXV1		7.95	8.05	8.28	8.91	9.37
LFMNS0980AXV1		9.67	9.80	10.07	10.71	11.16
LFMNS1400AXV1		13.94	14.20	14.52	15.28	15.76

R134a (kW)

Model	T _e	-10	-8	-5	0	5
LFMNS0150AXV1		1.35	1.37	1.40	1.51	1.63
LFMNS0400AXV1		3.51	3.55	3.65	3.91	4.21
LFMNS0600AXV1		5.30	5.37	5.52	5.98	6.41
LFMNS0800AXV1		7.24	7.33	7.54	8.10	8.53
LFMNS0980AXV1		8.80	8.92	9.17	9.75	10.16
LFMNS1400AXV1		12.68	12.92	13.21	13.91	14.34

T_e = Evaporating temperature

LOW TEMPERATURE APPLICATION

Designation	LFHS0150AXV1	LFHS0200AXV1	LFHS0320AXV1	LFHS0400AXV1	LFHS0480AXV1	LFHS0600AXV1	
*Capacity	kW	1.5	2.0	3.2	4.0	6.0	
General	Size L/W/H [mm/mm/mm]	745 x 560 x 515	745 x 560 x 515	1205 x 560 x 515	1205 x 560 x 515	1665 x 560 x 515	1665 x 560 x 515
	Weight, kg	23	27	34	43	51	62
	Room Temperature	-18~-5°C	-18~-5°C	-18~-5°C	-18~-5°C	-18~-5°C	-18~-5°C
	Max operating press, Bar	25	25	25	25	25	25
	Air Flow (m ³ /h)	1600	1500	3200	3100	4800	4700
	Power Supply	230/1/50Hz	230/1/50Hz	230/1/50Hz	230/1/50Hz	230/1/50Hz	230/1/50Hz
**Air throw	m	10	10	13	13	15	15
***Sound	dB(A)	67	67	68	68	70	70
Fan motor	mm x Qty	315 x 1	315 x 1	315 x 2	315 x 2	315 x 3	315 x 3
	Fan speed (rpm)	1350	1350	1350	1350	1350	1350
	Watts (W)	92	92	184	184	276	276
	Current (A)	0.41	0.41	0.82	0.82	1.23	1.23
Connection pipe size	Outlet Size	OD 12.7mm	OD 15.88mm	OD 15.88mm	OD 22.2mm	OD 22.2mm	OD 28.56mm
	Inlet Size	OD 12.7mm	OD 12.7mm	OD 12.7mm	OD 12.7mm	OD 12.7mm	OD 15.88mm
	Drain pipe	1"-1.4UNF	1"-1.4UNF	1"-1.4UNF	1"-1.4UNF	1"-1.4UNF	1"-1.4UNF
Recommended Heater		3 x 0.3kW	3 x 0.4kW	3 x 0.6 kW	3 x 0.8kW	3x 0.9kW	3 x 1.2kW

* Capacity based on $T_{\text{inlet}}=-18^{\circ}\text{C}$, $T_{\text{e}}=-25^{\circ}\text{C}$, with refrigerant R404a. Use external equalised thermostatic expansion valve.
 ** Air throw is according to final air velocity of 0.4m/s.
 *** The sound pressure level is measured at 1m away from the unit, inside Anechoic sound room.

CAPACITY TABLE R404A (kW)

Model	T_{e}	-40	-35	-30	-25	-20
LFHS0150AXV1	0.81	1.04	1.27	1.5	1.73	
LFHS0200AXV1	1.49	1.66	1.83	2	2.17	
LFHS0320AXV1	2.21	2.54	2.87	3.2	3.53	
LFHS0400AXV1	2.74	3.16	3.58	4	4.42	
LFHS0480AXV1	3.27	3.78	4.29	4.8	5.31	
LFHS0600AXV1	4.05	4.7	5.35	6	6.65	

T_{e} = Evaporating temperature

TEMPERATURE DIFFERENCE (TD) CORRECTION FACTORS

Capacity at different TD can be calculated using the correction factor given in below table:

TD(K)	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
Correction Factor (Medium Temp.)	0.56	0.63	0.69	0.75	0.81	0.88	0.94	1	1.06	1.13	1.19	1.25
Correction Factor (Low Temp.)	0.64	0.71	0.79	0.86	0.93	1	1.07	1.14	1.21	1.29	1.36	-





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