



Weather with you

**EPHESUS TROPICAL
PACKAGE
TYPE ROOFTOP UNIT**



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EPHESUS TROPICAL are composed of compressor, condenser coil and evaporator coils, expansion valve, fan-motor, filter, connecting piping and all necessary liquid line accessories and safety controls. All unit are factory assembled, internally wired, fully refrigerant charged and thoroughly tested before delivery. Designed to operate at severe ambient temperature up to 55°C without tripping. We have two models according to the R410a and R407c refrigerant gas type.

CASING & STRUCTURE

- Double skin 25mm pannels are filled with rockwool for heat and acoustic insulation.
- The inner and outer walls are made of corrosion-resistant galvanized steel.
- Stainless steel and insulated condensation pan.
- Electrostatic powder pain coating
- G4(EU4) quality panel filter is used as standard, optional M5(EU5)-F7(EU7)-F9(EU9) filter can be preferred.
- Optional mixing box

EVAPORATOR FAN & MOTOR

High efficient AMCA certified centrifugal fans. All ranges are statically and dynamically balanced in the factory, each bearing are self-aligning and lubricated for life.

High efficient electric motors used in the units and they are factory wired to the control panels. All electric motors conform to relevant IEC standards. Totally Enclosed Fan Cooled "TEFC", IP-55 protected with Class F insulation.



CONDENSER FAN

High efficient condenser fan section has a special built-in design. Direct driven condenser fans made of Sickle-shaped Aluminum blades with serrated trailing edge powered by thermally protected TEAO motors with minimum IP54 protection. The motors are selected for high ambient operation.



EVAPORATOR & CONDANSER COILS

All coils are manufactured of seamless copper tubes mechanically bonded to aluminum fins to ensure optimum heat transfer. All models are suitable for savage air conditions and Epoxy, heresite or hydrophilic coil coatings are available as an option against corrosive air conditions. Evaporator coil are supplied with suitable size thermostatic expansion valve and multi-circuited distributors providing capacity modulation to match the compressors.

Dust storms and the general level of available maintenance in countries with tropical climate requires that the condenser coil design shall provide long life and maintenance-free operation with the least possible operational blockage in the condenser. All the condensers are designed for the unit operation up to 55°C ambient temperature.



COMPRESSOR

EPHESUS rooftop packaged units are equipped with high efficiency and silent hermetic scroll compressors. The compressors and their auxiliary equipments are sound-proofed and thermally insulated. The connections of the equipments to the device are made with specially designed parts and the vibration is reduced to a minimum to maintain a stable operation of the compressors.

- Compact and light design.
- Quiet operation, low sound levels.
- High efficiency.
- Crank case heater.
- Internal Thermal Protection.
- Anti-vibration kits for silent operation.



CONTROL PANEL

On-Board control panel is fabricated out of heavy gauge sheet steel in powder coated baked finish. The enclosure conforms to IP54 (standard) and IP55 (option). Unit control provides a reliable cooling control utilizing inputs from relevant sensors and other elements. Control system improve compressor life and enhances the reliability of the compressor and increase the efficiency at part loads.

With the standard control board and the remote keyboard, turning on/off the unit or choosing the heating/cooling mode is possible.

The optional microprocessor electronic control comprises automatic transition between heating and cooling, dehumidifying control, error detection, service intervention warning, dirty filter warning, daily and weekly programs and Modbus RTU for BMS.



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PERFORMANCE DATA TABLES EPH-TR-A (R410A)

EPH TR-A		18	23	28	32	37	43	46	55	64
COOLING										
Nominal Cooling Capacity (1)	kW	18,5	23,3	27,5	32,1	37	43	46,6	55	64,2
Sensible Cooling Capacity (1)	kW	13,36	17,01	19,97	23,26	26,88	31,06	33,88	39,83	46,7
Total Power Consumption (1)	kW	6,49	7,8	10,01	12,07	12,82	14,47	15,59	19,43	23,4
Cooling Capacity (2)	kW	16,3	20,7	24,5	28,6	32,6	38,1	41,4	49	57,2
Sensible Cooling Capacity (2)	kW	12,48	15,91	18,69	21,75	25,14	29,05	31,66	37,2	42,99
Total Power Consumption (2)	kW	7,88	9,35	11,87	14,17	15,6	17,63	18,69	23,05	27,6
Cooling Capacity (3)	kW	15,65	19,9	23,6	27,6	31,3	36,7	39,8	47,2	55,2
Sensible Cooling Capacity (3)	kW	12,17	15,51	18,22	21,19	24,51	28,31	30,88	36,27	41,9
Total Power Consumption (3)	kW	8,18	9,67	12,26	14,62	16,2	18,31	19,33	23,83	28,5
Cooling Capacity (4)	kW	15,3	19,45	23,2	27	30,6	36	38,9	46,4	54
Sensible Cooling Capacity (4)	kW	12,05	15,34	17,97	20,85	24,25	27,91	30,53	35,78	41,23
Total Power Consumption (4)	kW	8,49	10,02	12,67	15,07	16,82	19,03	20,03	24,65	29,4
COMPRESSOR										
Compressor Type	SCROLL									
Compressor Quantity	1	1	1	1	2	2	2	2	2	2
Number of Circuits	1	1	1	1	2	2	2	2	2	2
Refrigerant	R410A									
EVAPORATOR FAN										
Nominal Air Flow	m ³ /h	2800	3600	4200	4800	5600	6400	7200	8300	9400
External Static Pressure (Max)	Pa	645	623	752	700	631	528	722	569	568
Fan Type	FORWARD CENTRIFUGAL FAN BY BELT DRIVEN									
Number of Fans	1	1	1	1	1	1	1	1	1	1
CONDENSER FAN										
Fan Type	AXIAL									
Number of Fans	1	1	1	1	2	2	2	2	2	2
POWER SUPPLY										
415 V / 3 Ph / 50 Hz										
PANELLING										
DOUBLE SKIN 25MM ROCK WOLL										

(1) Outdoor Temperature 35 °C DB - Indoor Temperature 27 °C DB / 19 °C WB

(2) Outdoor Temperature 46 °C DB - Indoor Temperature 27 °C DB / 19 °C WB

(3) Outdoor Temperature 48 °C DB - Indoor Temperature 27 °C DB / 19 °C WB

(4) Outdoor Temperature 50 °C DB - Indoor Temperature 27 °C DB / 19 °C WB



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EPH-TR-A (R410A)

EPH TR-A		76	80	94	108	122	138	153	176	200
COOLING										
Nominal Cooling Capacity (1)	kW	76,8	80,2	94,4	108,4	122,4	137,6	152,8	176,4	200
Sensible Cooling Capacity (1)	kW	54,59	58,35	68,3	78,77	89,36	100,24	111,93	128,84	145,53
Total Power Consumption (1)	kW	26,75	27,4	31,65	36,31	41,65	47,86	54,3	64,13	74,88
Cooling Capacity (2)	kW	67,2	70,4	83,2	95,9	108,6	122,3	136	156,4	176,8
Sensible Cooling Capacity (2)	kW	50,87	54,49	63,75	73,63	83,55	93,72	104,66	120,46	136,06
Total Power Consumption (2)	kW	31,89	32,63	37,85	43,21	49,54	56,66	64	75,38	87,68
Cooling Capacity (3)	kW	64,6	67,6	80,2	92,4	104,6	117,8	131	150,6	170,2
Sensible Cooling Capacity (3)	kW	49,57	53,14	62,16	71,79	81,47	91,38	102,07	117,47	132,64
Total Power Consumption (3)	kW	32,99	33,73	39,05	44,61	51,14	58,46	66	77,68	90,28
Cooling Capacity (4)	kW	62,8	65,8	78,2	90,3	102,4	115,3	128,2	147,3	166,4
Sensible Cooling Capacity (4)	kW	48,93	52,6	61,27	70,8	80,4	90,1	100,75	115,94	130,9
Total Power Consumption (4)	kW	34,09	34,93	40,45	46,21	52,94	60,46	68,2	80,28	93,28
COMPRESSOR										
Compressor Type	SCROLL									
Compressor Quantity	2	2	2	2	2	2	2	2	2	2
Number of Circuits	2	2	2	2	2	2	2	2	2	2
Refrigerant	R410A									
EVAPORATOR FAN										
Nominal Air Flow	m ³ /h	10800	12200	14100	16600	18800	21200	23800	27100	30500
External Static Pressure (Max)	Pa	585	593	654	552	559	590	579	568	646
Fan Type	FORWARD CENTRIFUGAL FAN BY BELT DRIVEN									
Number of Fans	1	1	2	2	2	2	2	2	2	1
CONDENSER FAN										
Fan Type	AXIAL									
Number of Fans	2	2	2	3	4	4	4	4	5	6
POWER SUPPLY										
415 V / 3 Ph / 50 Hz										
PANELLING										
DOUBLE SKIN 25MM ROCK WOLL										

(1) Outdoor Temperature 35 °C DB - Indoor Temperature 27 °C DB / 19 °C WB

(2) Outdoor Temperature 46 °C DB - Indoor Temperature 27 °C DB / 19 °C WB

(3) Outdoor Temperature 48 °C DB - Indoor Temperature 27 °C DB / 19 °C WB

(4) Outdoor Temperature 50 °C DB - Indoor Temperature 27 °C DB / 19 °C WB



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EPH-TR-C (R407C)

EPH TR-C		18	26	29	34	37	43	47	55	68
COOLING										
Nominal Cooling Capacity (1)	kW	18,75	26,1	29,2	34,2	37,5	42,8	47,5	55,3	68,4
Sensible Cooling Capacity (1)	kW	13,62	18,59	20,96	24,45	27,23	31,03	34,57	40,2	48,54
Total Power Consumption (1)	kW	6,42	8,15	10,21	12,26	12,7	14,13	16,36	19,67	23,72
Cooling Capacity (2)	kW	17	23,3	26,2	30,7	34	38,1	42,35	49,5	61,4
Sensible Cooling Capacity (2)	kW	12,72	17,3	19,52	22,76	25,39	28,94	32,23	37,51	45,14
Total Power Consumption (2)	kW	7,6	9,94	12,03	14,55	15,06	17,13	19,65	23,28	28,3
Cooling Capacity (3)	kW	16,5	22,5	25,4	29,6	33	36,7	40,85	47,9	59,2
Sensible Cooling Capacity (3)	kW	12,39	16,85	19,03	22,17	24,74	28,19	31,42	36,54	43,98
Total Power Consumption (3)	kW	7,87	10,33	12,41	15,05	15,6	17,75	20,35	24,05	29,3
Cooling Capacity (4)	kW	16,3	22	25	29,1	32,6	36,1	40,05	47	58,2
Sensible Cooling Capacity (4)	kW	12,12	16,5	18,65	21,8	24,19	27,75	30,94	35,85	43,26
Total Power Consumption (4)	kW	8,15	10,73	12,81	15,55	16,16	18,43	21,09	24,85	30,3
COMPRESSOR										
Compressor Type	SCROLL									
Compressor Quantity	1	1	1	1	2	2	2	2	2	2
Number of Circuits	1	1	1	1	2	2	2	2	2	2
Refrigerant	R407C									
EVAPORATOR FAN										
Nominal Air Flow	m ³ /h	2800	3600	4200	4800	5600	6400	7200	8300	9400
External Static Pressure (Max)	Pa	643	594	755	695	629	525	717	574	552
Fan Type	FORWARD CENTRIFUGAL FAN BY BELT DRIVEN									
Number of Fans	1	1	1	1	1	1	1	1	1	1
CONDENSER FAN										
Fan Type	AXIAL									
Number of Fans	1	1	1	1	2	2	2	2	2	2
POWER SUPPLY										
415 V / 3 Ph / 50 Hz										
PANELLING										
DOUBLE SKIN 25MM ROCK WOLL										

(1) Outdoor Temperature 35 °C DB - Indoor Temperature 27 °C DB / 19 °C WB

(2) Outdoor Temperature 46 °C DB - Indoor Temperature 27 °C DB / 19 °C WB

(3) Outdoor Temperature 48 °C DB - Indoor Temperature 27 °C DB / 19 °C WB

(4) Outdoor Temperature 50 °C DB - Indoor Temperature 27 °C DB / 19 °C WB



EPHESUS TROPICAL PACKAGE TYPE ROOFTOP UNIT

EPH-TR-C (407C)

EPH-TR-C		78	82	100	116	132	149	166	185	205
COOLING										
Nominal Cooling Capacity (1)	kW	78,6	82,6	100,2	116,4	132,6	149,4	166,2	185,6	205
Sensible Cooling Capacity (1)	kW	55,96	59,66	71,71	83,71	95,13	107,22	119,4	134,33	148,97
Total Power Consumption (1)	kW	26,59	26,86	32,9	40,25	48,13	53,05	58,2	66,18	75,08
Cooling Capacity (2)	kW	69,8	73,3	89	104,2	119,4	133,5	147,6	165,2	182,8
Sensible Cooling Capacity (2)	kW	52,09	55,59	66,75	77,94	88,56	99,82	111,18	125,15	138,86
Total Power Consumption (2)	kW	31,81	32,27	39,5	48,2	57,43	63,1	69	78,18	88,28
Cooling Capacity (3)	kW	67,2	70,5	85,8	100,6	115,4	128,9	142,4	159,3	176,2
Sensible Cooling Capacity (3)	kW	50,71	54,16	65,04	75,95	86,3	97,26	108,3	121,97	135,33
Total Power Consumption (3)	kW	32,91	33,42	40,9	49,8	59,23	65,2	71,4	80,78	91,08
Cooling Capacity (4)	kW	66	69,3	84	98,9	113,8	126,9	140	156,5	173
Sensible Cooling Capacity (4)	kW	49,9	53,41	64,15	74,66	84,75	95,6	106,45	120,05	133,3
Total Power Consumption (4)	kW	34,11	34,67	42,4	51,65	61,43	67,5	73,8	83,48	94,08
COMPRESSOR										
Compressor Type	SCROLL									
Compressor Quantity	2	2	2	2	2	2	2	2	2	2
Number of Circuits	2	2	2	2	2	2	2	2	2	2
Refrigerant	R407C									
EVAPORATOR FAN										
Nominal Air Flow	m ³ /h	10800	12200	14100	16600	18800	21200	23800	27100	30500
External Static Pressure (Max)	Pa	559	575	623	529	534	572	549	557	638
Fan Type	FORWARD CENTRIFUGAL FAN BY BELT DRIVEN									
Number of Fans	1	1	2	2	2	2	2	2	2	1
CONDENSER FAN										
Fan Type	AXIAL									
Number of Fans	2	2	2	3	4	4	4	4	5	6
POWER SUPPLY										
415 V / 3 Ph / 50 Hz										
PANELLING										
DOUBLE SKIN 25MM ROCK WOLL										

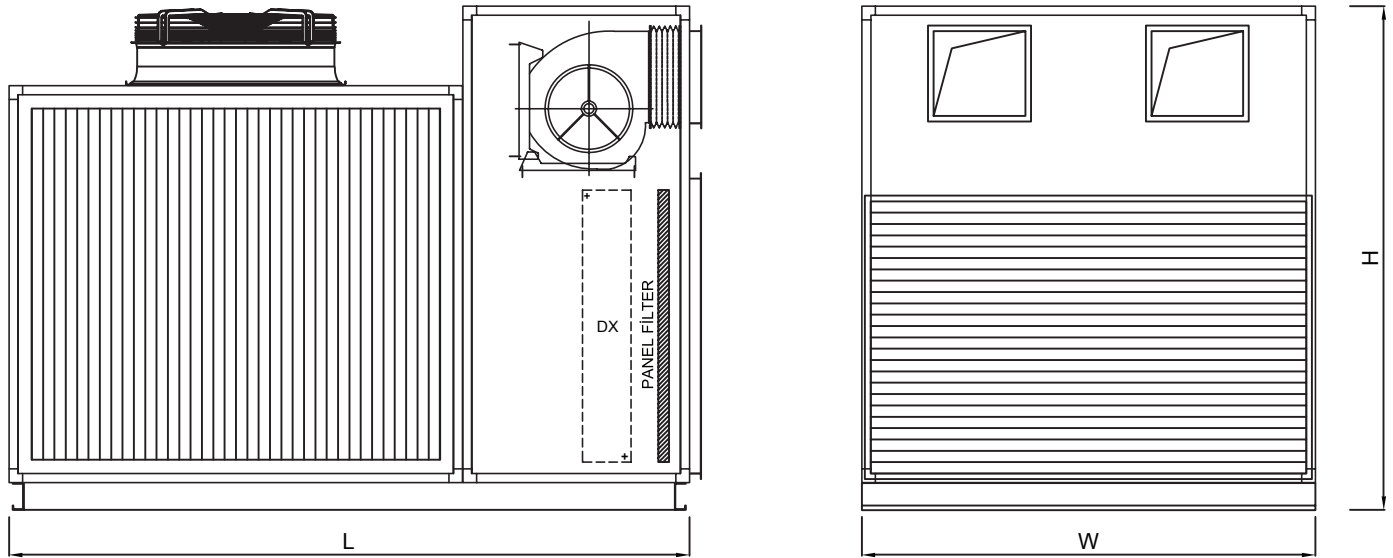
(1) Outdoor Temperature 35 °C DB - Indoor Temperature 27 °C DB / 19 °C WB

(2) Outdoor Temperature 46 °C DB - Indoor Temperature 27 °C DB / 19 °C WB

(3) Outdoor Temperature 48 °C DB - Indoor Temperature 27 °C DB / 19 °C WB

(4) Outdoor Temperature 50 °C DB - Indoor Temperature 27 °C DB / 19 °C WB

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EPH-TR-A

R410A	EPH-TR -A 18	EPH-TR -A 23	EPH-TR -A 28	EPH-TR -A 32	EPH-TR -A 37	EPH-TR -A 43	EPH-TR -A 46	EPH-TR -A 55	EPH-TR -A 64	EPH-TR -A 76	EPH-TR -A 80	EPH-TR -A 94	EPH-TR -A 108	EPH-TR -A 122	EPH-TR -A 138	EPH-TR -A 153	EPH-TR -A 176	EPH-TR -A 200
W (mm)	1310	1310	1310	1310	1600	1805	1805	1805	1905	1905	2195	2195	2195	2195	2195	2195	2195	2195
L (mm)	2010	2010	2070	2070	2125	2225	2305	2305	2510	2655	2785	2925	3195	3225	3490	3490	4060	4310
H (mm)	1460	1460	1690	1690	1900	1600	1985	1985	1985	2110	2110	2185	2285	2580	2705	2905	3010	4060

EPH-TR-C

R407C	EPH-TR -C 18	EPH-TR -C 26	EPH-TR -C 29	EPH-TR -C 34	EPH-TR -C 37	EPH-TR -C 43	EPH-TR -C 47	EPH-TR -C 55	EPH-TR -C 68	EPH-TR -C 78	EPH-TR -C 82	EPH-TR -C 100	EPH-TR -C 116	EPH-TR -C 132	EPH-TR -C 149	EPH-TR -C 166	EPH-TR -C 185	EPH-TR -C 205
W (mm)	1310	1310	1310	1310	1600	1805	1805	1805	1905	1905	2195	2195	2195	2195	2195	2195	2195	2195
L (mm)	2010	2010	2070	2070	2125	2225	2305	2305	2510	2655	2785	2925	3195	3225	3490	3490	4060	4310
H (mm)	1460	1460	1690	1690	1900	1600	1985	1985	1985	2110	2110	2185	2285	2580	2705	2905	3010	4060



KLAS Isıtma Soğutma Klima San. ve Tic. A.Ş.

Fabrika

İ.A.O.S.B. 10008 Sok., No:5,
35620 Çiğli, İzmir, Türkiye
Tel: +90 232 328 10 00
Fax: +90 232 328 10 80
E-mail: info@klsklima.com.tr

İzmir

İ.A.O.S.B. 10008 Sok., No:5,
35620 Çiğli, İzmir, Türkiye
Tel: +90 232 328 10 00
Fax: +90 232 328 10 80
E-mail: info@klsklima.com.tr

İstanbul

Barbaros Mah. Çiğdem Sokak,
Ağaoğlu My Office K:4, D:21,
34746 Ataşehir, İstanbul, Türkiye
Tel: +90 (216) 688 00 20
Fax: +90 (216) 688 02 38
E-mail: info@klsklima.com.tr

Ankara

Armada İş Merk. Eskişehir Yolu,
No:6, K:11, A Blok, Ofis 1106,
06520 Söğütözü, Ankara, Türkiye
Tel: +90 (312) 442 50 68-69
Fax: +90 (312) 442 50 79
E-mail: info@klsklima.com.tr

