



*Weather with you*

**EPHESUS  
TROPICAL**  
PACKAGED  
ROOFTOP UNITS



## EPHESUS TROPICAL PACKAGED ROOFTOP UNIT

### EPHESUS TROPICAL PACKAGE TYPE ROOFTOP UNIT

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 52°C without tripping.

### 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 & CONDENSER 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.



### 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.

Scroll compressors have the following characteristics :

- 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.

# EPHESUS TROPICAL PACKAGED ROOFTOP UNIT

## PERFORMANCE DATA TABLES

EPH TR-A		37	55	64	80	94	108	122	138	153	176	200
<b>COOLING</b>												
Nominal Cooling Capacity (1)	kW	37	55	64,2	80,2	94,4	108,4	122,4	137,5	152,6	176,3	200
Sensible Cooling Capacity (1)	kW	25,13	37,84	43,09	54,52	63,91	73,05	84,39	94,91	106	122	136
Total Power Consumption (1)	kW	12,58	18,83	21,56	26,2	29,95	33,57	36,73	42,61	49,16	55,97	69,96
Cooling Capacity (2)	kW	32,8	49,4	57,6	70,8	83,8	96,6	109,4	123,1	136,8	157,4	178
Sensible Cooling Capacity (2)	kW	23,42	35,25	40,11	50,82	59,27	68,13	78,7	88,52	98,61	113	127
Total Power Consumption (2)	kW	15,42	22,47	25,76	31,44	35,85	40,42	44,53	51,41	58,96	67,27	76,76
Cooling Capacity (3)	kW	31,9	48,2	56,2	68,8	81,6	94,1	106,6	119,9	133,2	153,2	173,2
Sensible Cooling Capacity (3)	kW	23,11	34,79	39,67	50,16	58,51	67,26	77,7	87,4	97,36	112	125
Total Power Consumption (3)	kW	16,02	23,23	26,64	32,64	37,05	41,87	46,23	53,26	60,96	69,67	79,56
Cooling Capacity (4)	kW	31	47	54,8	66,8	79,2	91,5	103,8	116,9	130	149,4	168,8
Sensible Cooling Capacity (4)	kW	22,71	34,18	38,9	49,28	57,47	66,08	76,34	85,87	95,68	110	123
Total Power Consumption (4)	kW	16,66	24,05	27,54	34,74	38,45	43,42	47,93	54,21	63,16	72,17	82,36
<b>COMPRESSOR</b>												
Compressor Type	SCROLL											
Compressor Quantity	2	2	2	2	2	2	2	2	2	2	2	2
Number of Circuits	2	2	2	2	2	2	2	2	2	2	2	2
Refrigerant	R410A											
<b>EVAPORATOR FAN</b>												
Nominal Air Flow	m <sup>3</sup> /h	5600	8300	9400	12200	14100	16600	18800	21200	23800	27100	30500
External Static Pressure (Max)	Pa	250	250	250	250	250	250	250	250	250	250	250
Fan Type	FORWARD CENTRIFUGAL FAN BY BELT DRIVEN											
Number of Fans	1	1	1	1	2	2	2	2	2	2	2	1
<b>CONDENSER FAN</b>												
Fan Type	AXIAL											
Number of Fans	2	2	2	2	2	2	2	2	3	4	4	4
<b>POWER SUPPLY</b>												
415 V / 3 Ph / 50 Hz												
<b>PANELLING</b>												
DOUBLE SKIN 25MM ROCK WOLL												

(1) Outdoor Temperature 35 °C DB - Indoor Temperature 26,7 °C DB / 19,4 °C WB

(2) Outdoor Temperature 46 °C DB - Indoor Temperature 26,7 °C DB / 19,4 °C WB

(3) Outdoor Temperature 48 °C DB - Indoor Temperature 26,7 °C DB / 19,4 °C WB

(4) Outdoor Temperature 50 °C DB - Indoor Temperature 26,7 °C DB / 19,4 °C WB

## EPHESUS TROPICAL PACKAGED ROOFTOP UNIT

EPH TR-A		37	55	64	80	94	108	122	138	153	176	200	
<b>COOLING</b>													
Indoor Temperature - 30 °C DB / 22,2 °C WB	Nominal Cooling Capacity (1)	kW	40,2	59,8	69,6	87	102,4	117,6	132,8	148,9	165	191	217
	Sensible Cooling Capacity (1)	kW	25,49	38,45	43,74	55,26	64,51	74	85,72	96,4	107	124	138
	Total Power Consumption (1)	kW	12,6	18,87	21,62	26,3	30,05	33,62	36,73	42,61	49,16	56,17	70,36
	Cooling Capacity (2)	kW	35,8	53,8	62,8	77,2	91,4	105,3	119,2	134	148,8	171,5	194,2
	Sensible Cooling Capacity (2)	kW	23,74	35,79	40,67	51,51	60,07	68,98	79,85	89,81	100	115	129
	Total Power Consumption (2)	kW	15,42	22,45	25,78	31,54	35,95	40,47	44,63	51,46	58,76	67,37	77,16
	Cooling Capacity (3)	kW	34,8	52,6	61,4	74,8	88,8	102,5	116,2	130,6	145	167	189
	Sensible Cooling Capacity (3)	kW	23,45	35,36	40,18	50,89	59,35	68,16	78,9	88,74	98,85	114	127
	Total Power Consumption (3)	kW	16	23,23	26,64	32,64	37,15	41,92	46,23	53,36	60,76	69,67	79,76
	Cooling Capacity (4)	kW	33,9	51,4	60	72,8	86,4	99,9	113,4	125,5	141,6	162,9	184,2
	Sensible Cooling Capacity (4)	kW	23,07	34,77	39,5	50,05	58,36	67,05	77,61	87,3	97,25	112	125
	Total Power Consumption (4)	kW	16,64	24,03	27,64	34,84	38,45	43,42	47,93	54,31	62,06	72,27	82,76
Indoor Temperature - 23,4 °C DB / 16,7 °C WB	Nominal Cooling Capacity (1)	kW	34	50,6	59,2	74	87	99,9	112,8	126,9	141	162,4	183,3
	Sensible Cooling Capacity (1)	kW	24,58	36,97	42,15	53,34	62,25	71,53	82,48	92,76	103	119	133
	Total Power Consumption (1)	kW	12,58	18,83	21,52	26,1	29,85	33,47	36,63	42,61	49,26	55,98	69,76
	Cooling Capacity (2)	kW	30,1	45,4	53	65,2	77,2	88,9	100,6	113,3	126	144,7	163,4
	Sensible Cooling Capacity (2)	kW	22,79	34,3	38,95	49,47	57,71	66,37	76,55	86,1	95,92	110	123
	Total Power Consumption (2)	kW	15,44	22,47	25,76	31,44	35,85	40,32	44,23	51,46	58,96	67,17	76,56
	Cooling Capacity (3)	kW	29,2	44,2	51,6	63,2	75	86,4	97,8	110,2	122,6	140,8	159
	Sensible Cooling Capacity (3)	kW	22,47	33,79	38,41	48,77	57	65,45	75,49	84,91	94,6	109	122
	Total Power Consumption (3)	kW	16,02	23,25	26,64	32,54	37,05	41,82	46,13	53,41	60,96	69,47	79,16
	Cooling Capacity (4)	kW	28,4	43	50,4	61,4	72,8	84,1	95,4	107,5	119,6	137,3	155
	Sensible Cooling Capacity (4)	kW	22,04	33,09	37,72	47,83	55,83	64,2	74,05	83,3	92,81	107	119
	Total Power Consumption (4)	kW	16,66	24,07	27,54	34,44	38,35	43,27	47,73	54,31	62,26	72,07	82,16
Indoor Temperature - 20 °C DB / 13,8 °C WB	Nominal Cooling Capacity (1)	kW	31,1	46,4	54,2	67,8	79,6	91,4	103,2	116,3	129,4	148,7	168
	Sensible Cooling Capacity (1)	kW	24,07	36,16	41,29	52,26	60,97	70,13	80,73	90,79	101	116	130
	Total Power Consumption (1)	kW	12,58	18,81	21,5	26	29,65	33,37	36,63	42,61	49,26	55,78	69,36
	Cooling Capacity (2)	kW	27,4	41,2	48,2	59,4	70,4	81	91,6	113,2	114,8	131,8	148,8
	Sensible Cooling Capacity (2)	kW	22,35	33,5	38,2	48,48	56,42	65,03	75,03	84,33	93,86	108	121
	Total Power Consumption (2)	kW	15,44	22,45	25,76	31,34	35,75	40,27	44,23	51,56	59,16	67,17	76,36
	Cooling Capacity (3)	kW	26,6	40,2	47	57,8	68,6	79	89,4	100,8	112,2	128,8	145,4
	Sensible Cooling Capacity (3)	kW	21,83	32,82	37,4	47,46	55,43	63,71	73,22	82,48	92,13	106	118
	Total Power Consumption (3)	kW	16,02	23,27	26,64	32,44	36,95	41,72	46,03	53,46	61,16	69,47	78,96
	Cooling Capacity (4)	kW	25,8	39,1	45,6	55,8	66,4	76,6	86,8	97,8	108,8	124,9	141
	Sensible Cooling Capacity (4)	kW	21,47	32,31	36,81	46,65	54,47	62,73	72,13	81,19	90,64	104	116
	Total Power Consumption (4)	kW	16,66	24,11	27,54	34,34	38,35	43,27	47,73	54,41	62,46	72,07	81,96

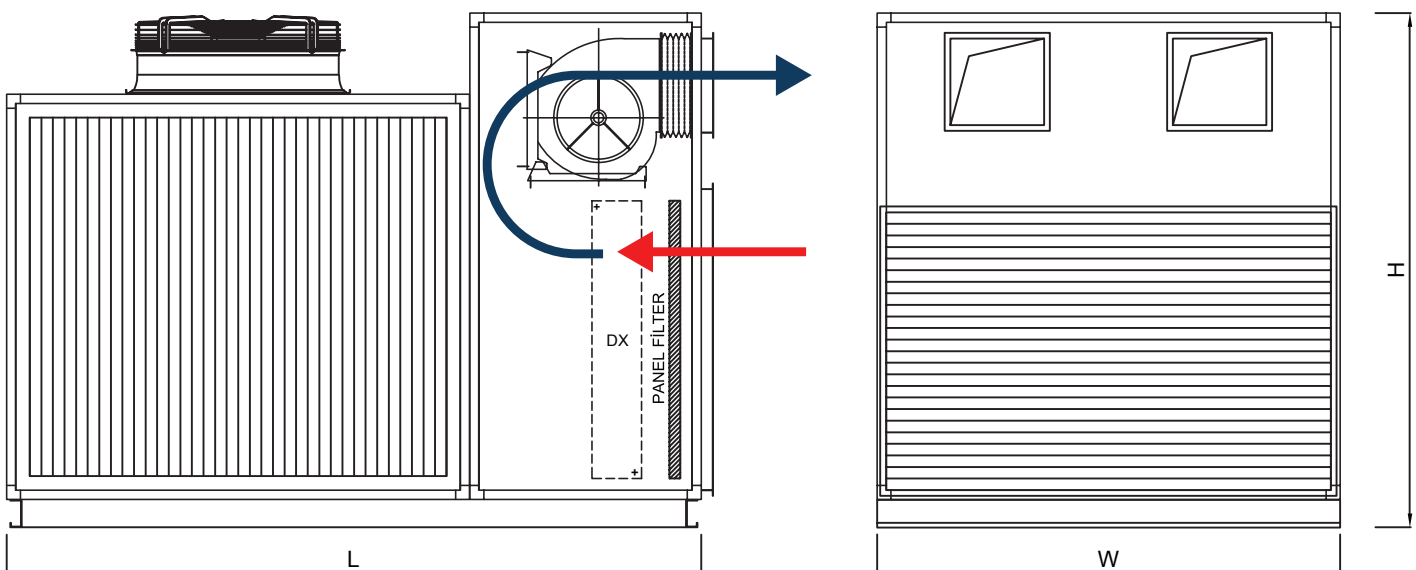
- (1) Outdoor Temperature 35 °C DB  
 (2) Outdoor Temperature 46 °C DB  
 (3) Outdoor Temperature 48 °C DB  
 (4) Outdoor Temperature 50 °C DB

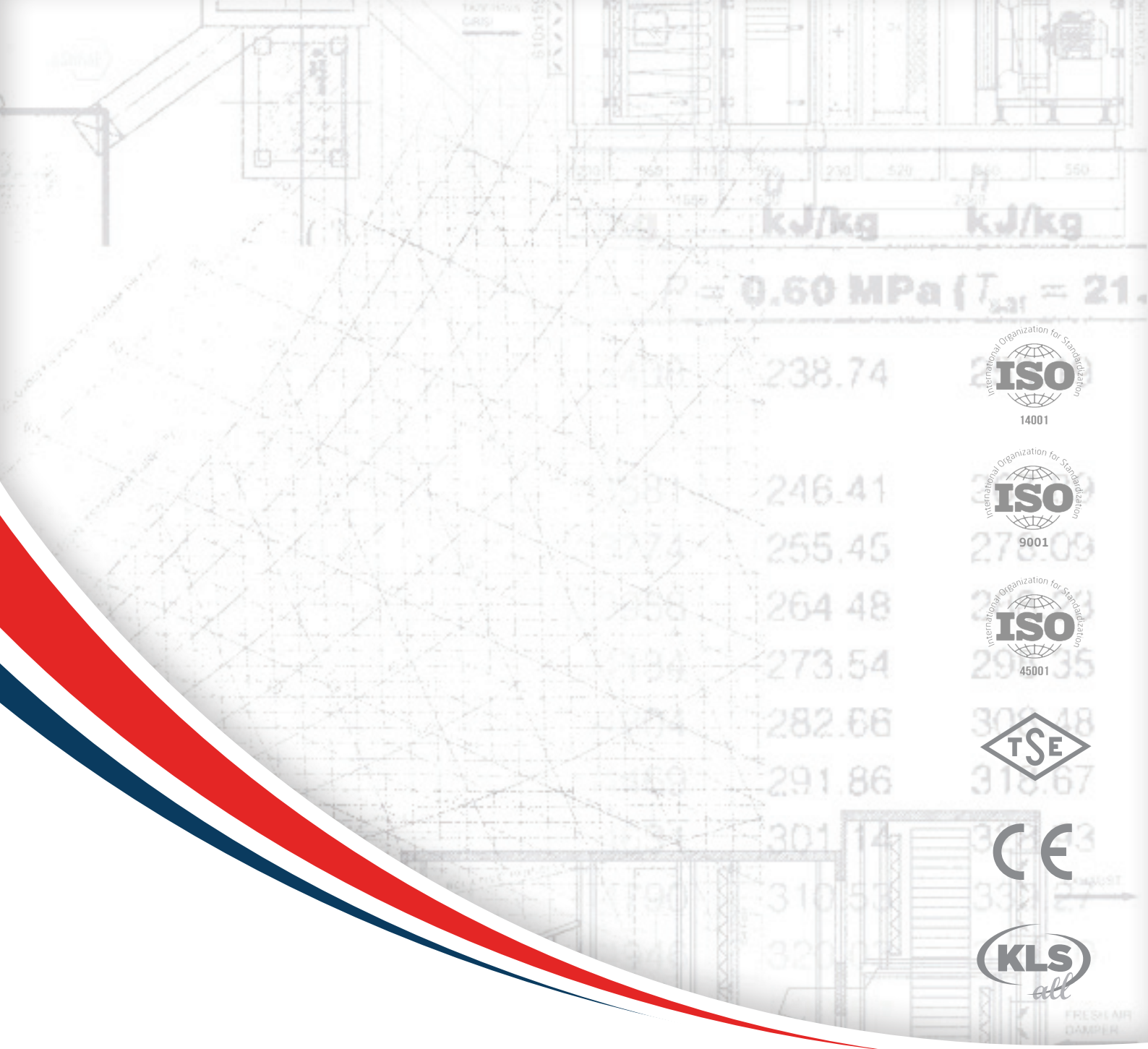
## EPHESUS TROPICAL PACKAGED ROOFTOP UNIT

Optional Features	
Additional filter	M5(EU5)-F7(EU7)-F9(EU9)
Electrical heater	Yes
Heatpump	Yes
Additional coating for evaporator	Heresite or Hydrophilic
Cu CU coils	Yes
SS drain pan	SS and insulated drain pan as Standard
DP switch for filter	Yes
Hot gas bypass	Yes

### Unit Dimension and Weight Details

EPH-TR-A	37	55	64	80	94	108	122	138	153	176	200
W (mm)	1530	1735	1735	1835	2125	2125	2125	2125	2125	2125	2125
L (mm)	1955	2205	2275	2440	2535	2940	2940	3115	3115	3625	4825
H (mm)	1860	2030	2030	2180	2230	2360	2455	2575	2825	2930	2560
WEIGHT (kg)	574	728	759	935	1013	1144	1270	1403	1476	1724	2083





## 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: email@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: email@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: email@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: email@klsklima.com.tr

