



**TECNOMATIC CORP.**

# Air Conditioners

Indoor, outdoor, stainless steel & explosion-proof

## Filter Fans & Grilles



**TECNOMATIC CORP.**

130 LENOX AVE. UNIT 6 STAMFORD CT 06906 - PHONE 203-359-9036 - FAX 203-9679026  
tecno@tecnomatic.com

# Ref. table / ordering code

## PROTHERM - EVE

Wall mounted air conditioners

Cooling capacity DIN L35L35	Power Supply V - ph - Hz	Dimensions(mm)			Part. N.
		H	W	D	
350 W	230-1-50	520	260	170	EVE0350230
350 W	115-1-60	520	260	170	EVE0350115
500 W	230-1-50	700	300	240	EVE0500230
500 W	115-1-60	700	300	240	EVE0500115
800 W	230-1-50	700	300	240	EVE0800230
800 W	115-1-60	700	300	240	EVE0800115
1000 W	230-1-50	900	380	240	EVE1000230
1000 W	115-1-60	900	380	240	EVE1000115
1500 W	230-1-50	900	380	240	EVE1500230
1500 W	115-1-60	900	380	240	EVE1500115
1500 W	400-3-50	900	380	240	EVE1500400
2000 W	230-1-50	900	380	240	EVE2000230
2000 W	115-1-60	900	380	240	EVE2000115
2000 W	400-3-50	900	380	240	EVE2000400
2700 W	230-1-60	1234	508	375	EVE28U0201
2700 W	400-3-50	1234	508	375	EVE2800207
4000 W	230-1-60	1234	508	375	EVE41U0201
4000 W	400-3-50	1234	508	375	EVE4100207

FOR STAINLESS-STEEL ADD "SS" TO THE ABOVE PART.N

## TOP - EHE

Top mounted air conditioners

Cooling capacity DIN L35L35	Power Supply V - ph - Hz	Dimensions(mm)			Part. N.
		H	W	D	
500 W	230-1-50	400	600	400	EHE0500230
500 W	115-1-60	400	600	400	EHE0500115
800 W	230-1-50	400	600	400	EHE0800230
800 W	115-1-60	400	600	400	EHE0800115
1000 W	230-1-50	400	600	400	EHE1000230
1000 W	115-1-60	400	600	400	EHE1000115
1500 W	230-1-50	400	600	400	EHE1500230
1500 W	115-1-60	400	600	400	EHE1500115
1500 W	400-3-50	400	600	400	EHE1500400
2000 W	230-1-50	500	800	470	EHE2000230
2000 W	115-1-60	500	800	470	EHE2000115
2000 W	400-3-50	500	800	470	EHE2000400
3000 W	230-1-50	500	800	470	EHE3000230
3000 W	400-3-50	500	800	470	EHE3000400
3800 W	230-1-50	500	800	470	EHE3800230
3800 W	400-3-50	500	800	470	EHE3800400
5200 W	400-3-50	488	908	554	EHE6000207

## EXA - UL Air-to-air heat exchangers

Specific heat transmission	Power Supply V - ph - Hz	Dimensions			Part. N.
		H	W	D	
36 W/K	230-1-50/60	784	316	147	EXA36U0320
36 W/K	115-1-50/60	784	316	147	EXA36U0322
50 W/K	230-1-50/60	1480	277	115	EXA50U0320
50 W/K	115-1-50/60	1480	277	115	EXA50U0322

## GNV-GNVE

Filter fans

Air volume	Power Supply V - ph - Hz	Dimensions			Part. N.
		H	W	D	
50m³/h	230-1-50/60	130	130	68	GNV1200220
50m³/h	115-1-50/60	130	130	68	GNV1200222
50m³/h	12DC	130	130	68	GNV1200210
50m³/h	24DC	130	130	68	GNV1200211
50m³/h	48DC	130	130	68	GNV1200212
100m³/h	230-1-50/60	255	255	133	GNV2500220
100m³/h	115-1-50/60	255	255	133	GNV2500222
100m³/h	12DC	255	255	133	GNV2500210
100m³/h	24DC	255	255	133	GNV2500211
100m³/h	48DC	255	255	133	GNV2500212
220m³/h	230-1-50/60	255	255	133	GNV2501220
220m³/h	115-1-50/60	255	255	133	GNV2501222
220m³/h	12DC	255	255	133	GNV2501210
220m³/h	24DC	255	255	133	GNV2501211
220m³/h	48DC	255	255	133	GNV2501212
500m³/h	230-1-50/60	323	323	150	GNV300A220
500m³/h	230-1-50/60	323	323	150	GNV300P220
500m³/h	230-1-50/60	323	323	150	GNV300UA220
500m³/h	230-1-50/60	323	323	150	GNV300UP220
500m³/h	115-1-50/60	323	323	150	GNV300A222
500m³/h	115-1-50/60	323	323	150	GNV300P222
500m³/h	115-1-50/60	323	323	150	GNV300UA222
500m³/h	115-1-50/60	323	323	150	GNV300UP222
500m³/h	400-3-50/60	323	323	150	GNV300A207
500m³/h	400-3-50/60	323	323	150	GNV300P207

## TB - Exhaust fans, top mounting

Cooling capacity	Power Supply V - ph - Hz	Dimensions			Part. N.
		H	W	D	
550m³/h	230-1-50/60	105	460	380	TB19000220
550m³/h	115-1-50/60	105	460	380	TB19000222
900m³/h	230-1-50/60	105	460	380	TB22000220
900m³/h	115-1-50/60	105	460	380	TB22000222
1450m³/h	230-1-50/60	160	520	400	TB25000220
2365m³/h	230-1-50/60	300	600	550	TB35000220

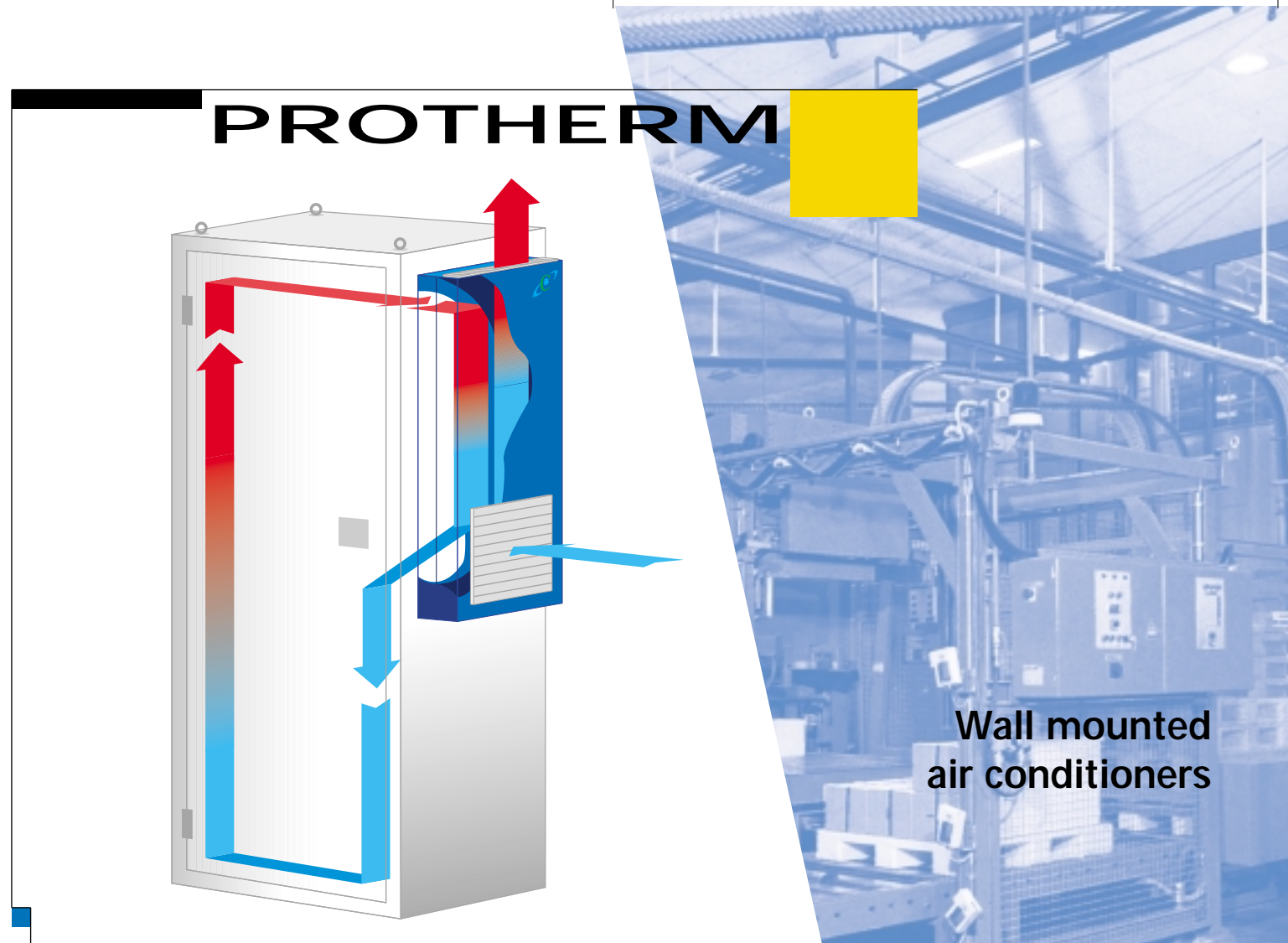
Also available:

Slim-Line of extra flat side mounted air conditioner.

Outdoor models.

Explosion proof models.

Air-conditioning side-walls: air conditioner is integrated into the side of the enclosure. Size available h= 20000 ( 78" ) w= 600 ( 24" ).



Specifically designed to be mounted on side or door of any electrical enclosures, the air conditioners of the series PROTHERM have a cooling capacity ranging from 350W (1195 BTU) to 4000W (13660 BTU). Available in the most common voltages at both 50Hz and 60Hz according to UL & CSA.

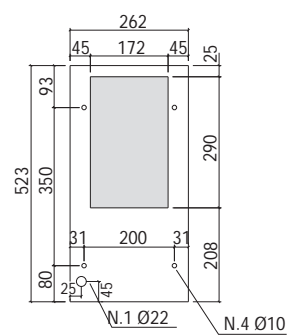
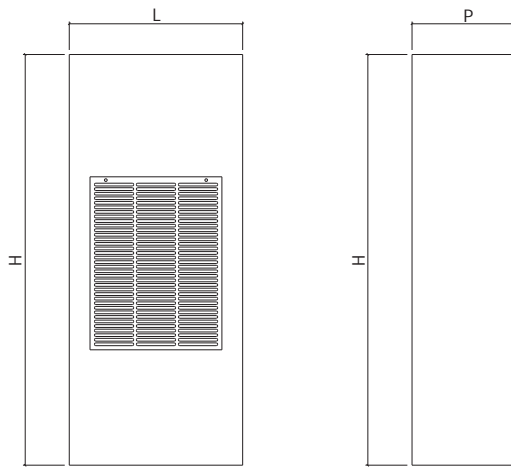
#### TECHNICAL FEATURES

- Hermetic compressor with thermal-amperometric protection
- Ecologic R134a refrigerant, CFC free
- Aluminium fins and a copper pipe form the condensing and evaporating unit.
- Internal and external ball bearing fans with internal thermal protection
- Mechanical control thermostat preset at 35°C, dead band 4°C
- ABS protection grille on external air inlet
- Power supply chord 3m long according to applicable CE regulation
- Front cover in carbon-steel, powder coated RAL 7032 or also available in stainless steel.
- Internal structure in tropicalized steel.

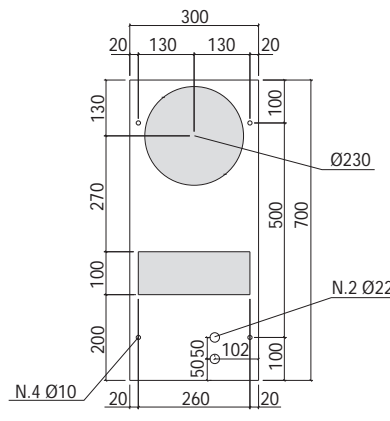
#### ONE COMPLETE UNIT INCLUDES:

- Air conditioner
- Carton box with internal styrefoam
- Mounting cut out template, scale 1:1
- Adhesive gasket for sealed mounting to the enclosure
- Installation, operation and maintenance handbook in six languages
- Test certificate
- CE Declaration of Conformity

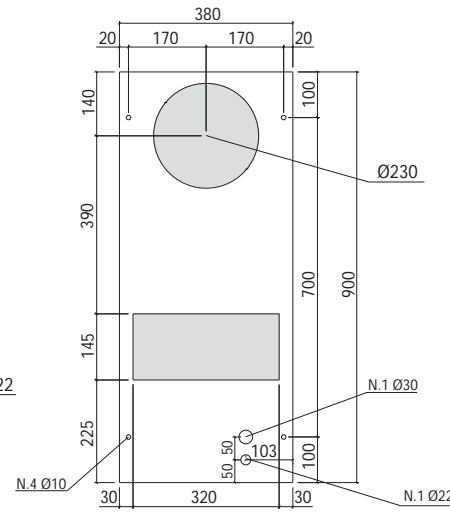
# PROTHERM EVE, EVE-SS



EVE035



EVE050/080



EVE100/150/200

Part N.	Dimensions (mm)			Cooling capacity DIN 3168 L35 L35		Cooling capacity DIN 3168 L35 L50		kg/lbs	m <sup>3</sup>
	W	H	D						
EVE0350	260	520	170	350W-1195	BTU	280W-956	BTU	18/40	0,033
EVE0500	300	700	240	500W-1707	BTU	420W-1434	BTU	22/49	0,066
EVE0800	300	700	240	800W-2732	BTU	670W-2288	BTU	25/55	0,066
EVE1000	380	900	240	1000W-3415	BTU	840W-2868	BTU	63/139	0,104
EVE1500	380	900	240	1500W-5123	BTU	1250W-4268	BTU	68/150	0,104
EVE2000	380	900	240	2000W-6830	BTU	1650W-5635	BTU	70/154	0,104

Part N.	Power absorbed DIN 3168 L35 L50	Starting Current (Max rated current)				Protection Fuses			
		Standard Voltages V-Ph-Hz				Standard Voltages V-Ph-Hz			
		230-1-50	230-1-60	115-1-60	400-3-50	230-1-50	230-1-60	115-1-60	400-3-50
EVE0350	270W-922 BTU	5,0 A (1,7)	5,0 A (1,9)	10,0 A (2,8)	-	2,0 A	2,0 A	4,0 A	-
EVE0500	370W-1263 BTU	6,5 A (2,0)	7,0 A (2,0)	16,0 A (4,0)	-	6,0 A	6,0 A	12,0 A	-
EVE0800	420W-1434 BTU	9,0 A (2,5)	10,0 A (3,0)	26,5 A (5,0)	-	6,0 A	6,0 A	12,0 A	-
EVE1000	600W-2049 BTU	14,0 A (3,5)	16,0 A (5,0)	30,0 A (6,5)	-	6,0 A	6,0 A	12,0 A	-
EVE1500	950W-3244 BTU	16,0 A (4,5)	21,0 A (5,0)	44,0 A (8,5)	10,5 A (2,5)	8,0 A	8,0 A	16,0 A	6,0 A
EVE2000	1300W-4439 BTU	23,0 A (5,5)	23,0 A (5,0)	47,0 A (13,0)	13,0 A (2,5)	10,0 A	10,0 A	20,0 A	8,0 A

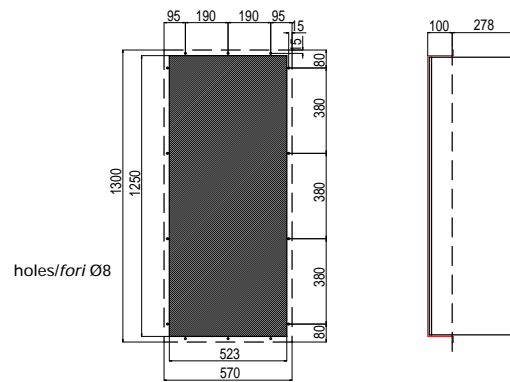
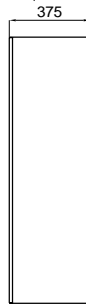
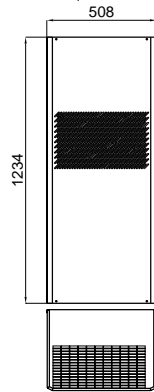
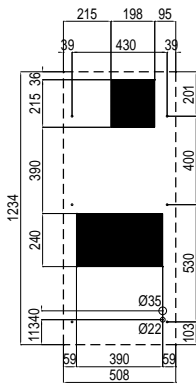
Explosion Proof models available at: **800 W EVE800EX** **2000 W EVE2000EX** **4000 W EVE4000EX**

Outdoor models : **850 W EVE850AIR** **1400 W EVE1400AIR** **2000 W EVE2000AIR** **4000 W EVE4000AIR**

For outdoor model to be mounted inside **1400 W EVE1400IN** **2000 W EVE2000IN** **4000 W EVE4000IN**

# PROTHERM

## EVE28-EVE41

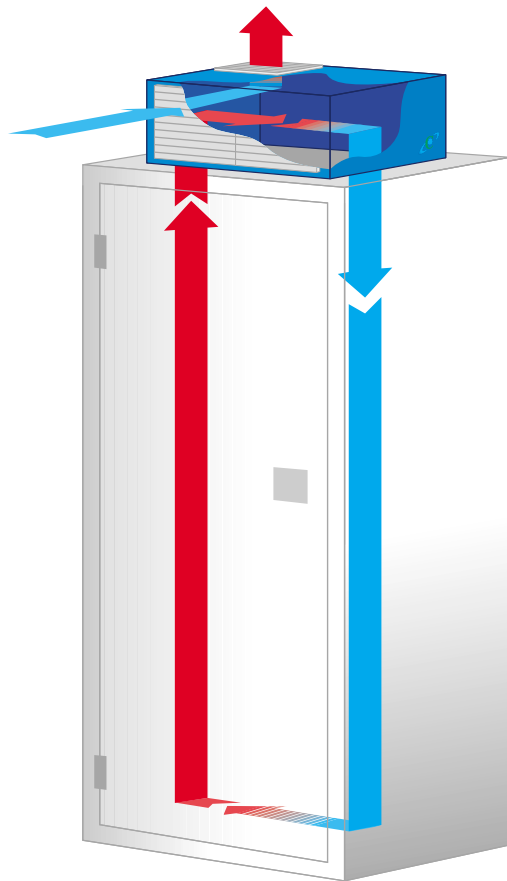


CODE		EVE28U0201	EVE2800207	EVE41U0201	EVE4100207
Approvals file number		SA12046	-	SA12046	-
Voltage / Phase / Frequency	V-ph-Hz	230-1-60	400-3-50	230-1-60	400-3-50
Cooling capacity L35L35 - DIN 3168	W	2700	2700	4000	4000
Cooling capacity L35L50 - DIN 3168	W	2300	2300	2900	2900
Height / Width / Depth*	mm	1234x508x375	1234x508x375	1234x508x375	1234x508x375
Max running current	A	8	3	9.2	3.5
Starting current	A	38	16	46.5	18
Protection fuses	A	16	8	16	16
Power assorbed L35L50- DIN 3168	W	1450	1450	1780	1780
Refrigerant R134a	Kg	1	1	1,05	1,05
Refrigerant circuit max pressure	bar	26	26	26	26
Side cabinet fan flow, free air	m <sup>3</sup> /h	900	860	1510	1510
Evaporator fan capacitor	µF	2	3	4	5
Side ambient fan flow, free air	m <sup>3</sup> /h	1350	1510	1350	1510
Side ambient fan capacitor	µF	4	5	4	5
Side cabinet temperature limits	°C	25 - 45	25 - 45	25 - 45	25 - 45
Side ambient temperature limits	°C	20 - 50	20 - 50	20 - 50	20 - 50
Side cabinet protection degree	IP	54	54	54	54
Side ambient protection degree	IP	34	34	34	34
Noise level	dB(A)	70	70	70	70
Weight	kg	79	83	83	86
Duty cycle	%	100	100	100	100
Shipment weight/Shipment volume	kg/m <sup>3</sup>	85/0.38	88/0.38	87/0.38	92/0.38

\* without protection grill



# TOP



## Top mounting air conditioners

Specifically designed to be mounted on the roof of electrical enclosures, the air conditioners of the series TOP have a cooling capacity ranging from 500W (1710 BTU) to 5200W (17784 BTU). Available in the most common voltages at both 50Hz or 60Hz according to UL and CSA.

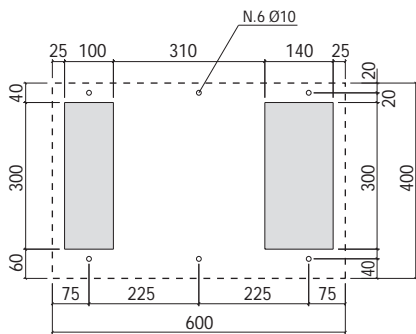
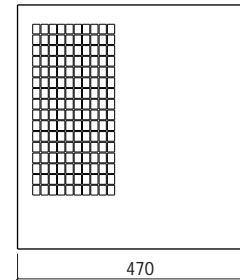
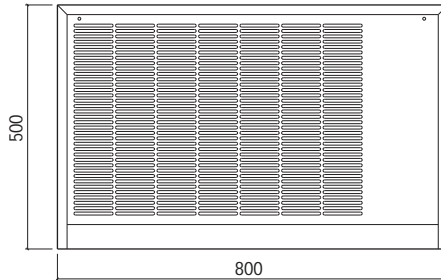
### TECHNICAL FEATURES

- All models with double-protection: self condensing reservoir and water level sensor for auto shut-off of unit in case of condensing reservoir malfunction.
- Reciprocating hermetic compressor with thermal-amperometric protection
- Ecologic R134a refrigerant, CFC free
- Aluminium fins and a copper pipe form the condensing and evaporating unit.
- Internal and external ball bearing fans with internal thermal protection
- Mechanical control thermostat preset at 35°C, dead band 4°C
- ABS grille on external air inlet
- Power supply chord 3m long according to applicable CE regulation
- Steel sheet front cover powder painted RAL 7032 orange peel (gray)
- Steel sheet internal structure powder painted RAL 9005 (black)

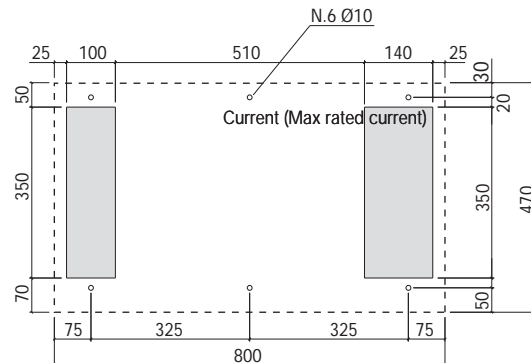
### ONE COMPLETE UNIT INCLUDES:

- Air conditioner
- Carton box with internal styrefoam
- Flexible hose for condensate safety drainage
- Mounting cut out template, scale 1:1
- Adhesive gasket for sealed mounting to the enclosure
- Installation, operation and maintenance handbook in six languages
- Test certificate
- CE Declaration of Conformity

# TOP EHE, EHE-SS



EHE050/080/100/150



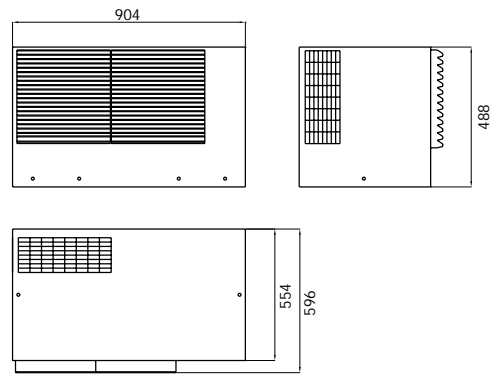
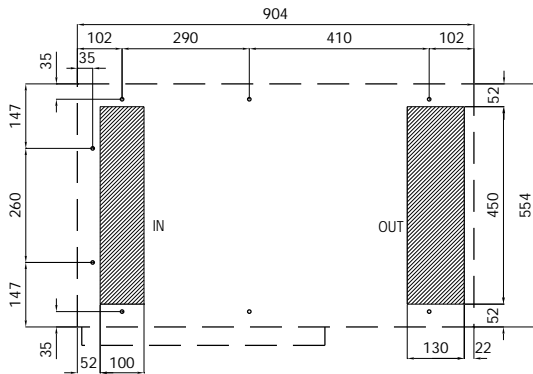
EHE200/300/380



Protection Fuses

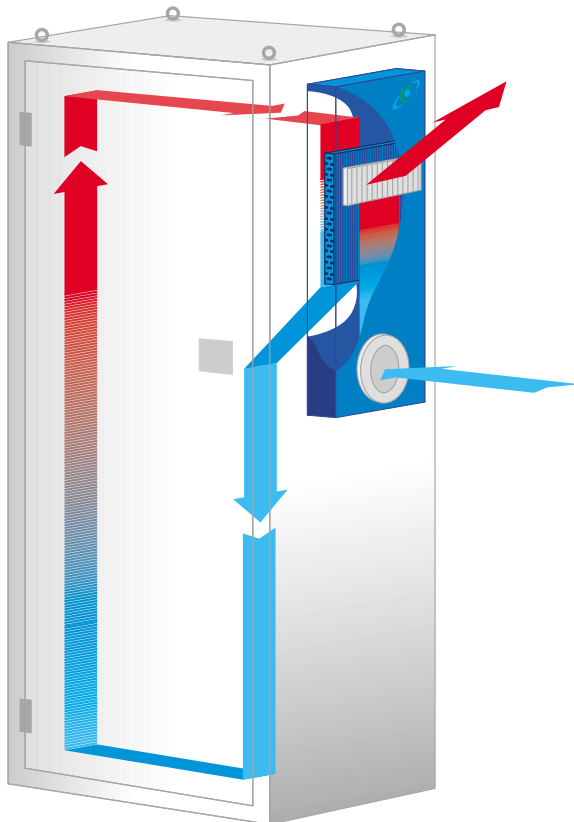
Modello	Dimensions (mm)			Cooling Capacity DIN 3168 L35 L35			Cooling Capacity DIN 3168 L35 L50			kg/lbs	m <sup>3</sup>
	W	H	D								
EHE050	600	400	400	500W	-	1707 BTU	420W	-	1434 BTU	45/99	0,119
EHE080	600	400	400	800W	-	2732 BTU	670W	-	2288 BTU	47/103	0,119
EHE100	600	400	400	1000W	-	3415 BTU	840W	-	2869 BTU	48/106	0,119
EHE150	600	400	400	1500W	-	5123 BTU	1250W	-	4269 BTU	50/110	0,119
EHE200	800	500	470	2000W	-	6830 BTU	1650W	-	5635 BTU	70/154	0,220
EHE300	800	500	470	3000W	-	10245 BTU	2500W	-	8538 BTU	75/165	0,220
EHE380	800	500	470	3800W	-	12977 BTU	3300W	-	11270 BTU	77/170	0,220

Modello	Power absorbed DIN 3168 L35 L50	Starting Current (Max rated current)				Protection Fuses			
		Standard Voltages V-Ph-Hz				Standard Voltages V-Ph-Hz			
		230-1-50	230-1-60	115-1-60	400-3-50	230-1-50	230-1-60	115-1-60	400-3-50
EHE050	410W - 1400 BTU	6,5 (2,0) A	7,0 (2,0) A	16,0 (4,0) A	-	4,0 A	4,0 A	8,0 A	-
EHE080	520W - 1776 BTU	9,0 (2,5) A	10,0 (3,0) A	26,5 (5,0) A	-	6,0 A	6,0 A	10,0 A	-
EHE100	620W - 2117 BTU	11,0 (3,0) A	16,0 (4,5) A	29,5 (6,0) A	-	6,0 A	6,0 A	12,0 A	-
EHE150	900W - 3074 BTU	16,0 (4,0) A	21,0 (5,0) A	43,5 (8,5) A	10,5 (2,5) A	8,0 A	8,0 A	16,0 A	6,0 A
EHE200	1300W - 4440 BTU	23,0 (5,5) A	23,0 (5,0) A	47,0 (13,0) A	13,0 (2,5) A	10,0 A	10,0 A	20,0 A	8,0 A
EHE300	1650W - 5635 BTU	36,5 (7,0) A	44,0 (9,0) A	11,5 (3,0) A	12,0 (3,5) A	16,0 A	16,0 A	8,0 A	8,0 A
EHE380	2000W - 6830 BTU	32,5 (7,5) A	42,0 (9,0) A	14,5 (3,5) A	15,0 (4,0) A	16,0 A	16,0 A	8,0 A	8,0 A



CODE		EHE6000207
Approvals file number		-
Voltage / Phase / Frequency	V-ph-Hz	400-3-50
Cooling capacity L35L35 - DIN 3168	W	5200
Cooling capacity L35L50- DIN 3168	W	4100
Height / Width / Depth	mm	488x908x554
Max running current	A	4.4
Starting current	A	25
Protection	A	8
Power assorbed L35L50- DIN 3168	W	3300
Refrigerant R134a	kg	1,4
Refrigerant circuit max pressure	bar	26
Side cabinet fan flow	m <sup>3</sup> /h	1510
Side cabinet fan capacitor	μF	5
Side ambient fan flow	m <sup>3</sup> /h	3410
Side cabinet temperature limits	°C	25 - 45
Side ambient temperature limits	°C	20 - 50
Side cabinet protection degree	IP	54
Side ambient protection degree	IP	34
Noise level	dB(A)	75
Weight	kg	85
Duty cycle	%	100
Shipment weight/Shipment volume	kg/m <sup>3</sup>	92/0,25





## Air to air heat exchangers

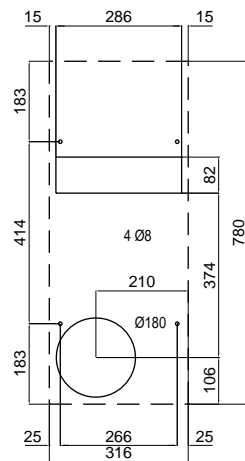
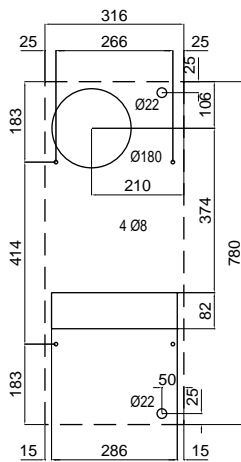
When the maximum ambient temperature is not too high and the electronic components inside the cabinet withstand temperatures higher than 35°C-40°C, an air to air heat exchanger can be the most convenient choice. The EXA series offers air to air heat exchangers with a specific capacity range from 36 W/K to 50 W/K. There are versions for the most common power supplies, with CE, CSA and UL approvals. They are always supplied with deflectors for the outlet of ambient and enclosure air in order to optimize the enclosure thermal management.

### TECHNICAL FEATURES

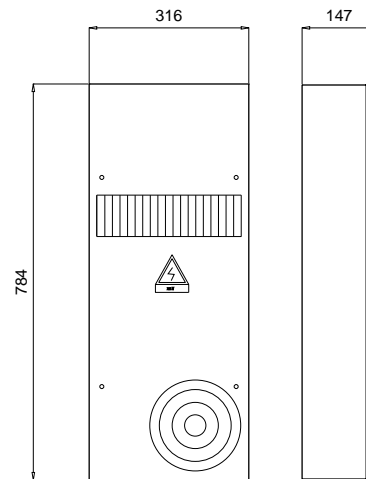
- Heat exchange coil with aluminum fins, high efficiency and low clogging factor
- Internal and external ball bearings fans with internal thermal protection
- Power supply chord 3m long according to applicable CE regulation
- Steel sheet frame powder painted RAL 7032 orange peel (gray)

### ONE COMPLETE UNIT INCLUDES:

- Air to air heat exchanger
- Carton box with internal styrene linings
- Deflectors for ambient and enclosure air outlets, simple installation
- Mounting cut out template, scale 1:1
- Adhesive gasket for sealed mounting to the enclosure
- Installation, operation and maintenance handbook
- Test certificate
- CE Declaration of Conformity

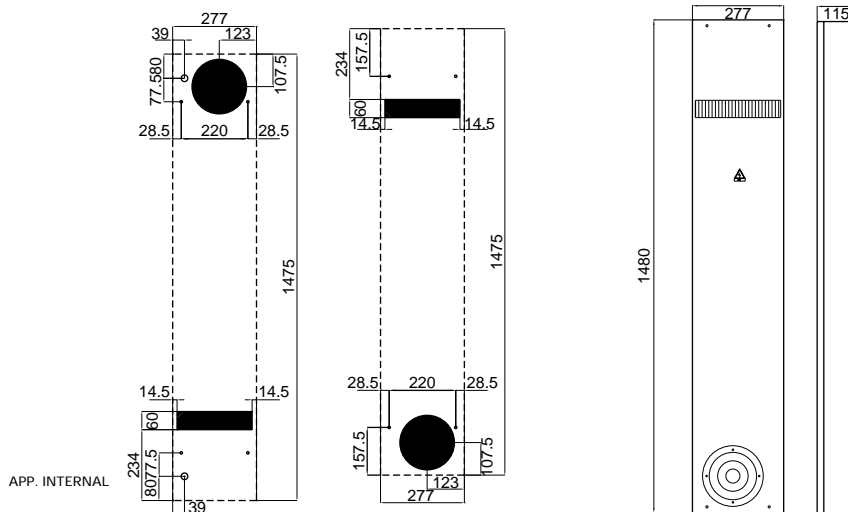


INSIDE APPLICATION (outside cabinet view)



CODE		EXA36U0322
Approvals file number		SA12046
Voltage / Phase / Frequency	V-ph-Hz	115-1-60
Specific heat transmission	W/K	36
Height / Width / Depth	mm	784x316x147
Fans	n°	2
Internal fan flow	m <sup>3</sup> /h	575
Side ambient fan flow, free air	m <sup>3</sup> /h	575
Absorbed fan current	A	2x0,76
Absorbed fan power	W	2x80
Fan capacitor	µF	2x6
Protection fuses	A	3
Exchange surface	m <sup>2</sup>	1,6
Side cabinet temperature limits	°C	-5/+55
Side ambient temperature limits	°C	-5/+55
Side cabinet protection degree	IP	54
Side ambient protection degree	IP	22
Noise level	dB(A)	64
Weight	kg	14
Duty cycle	%	100
Shipping weight / Shipping volume	kg/m <sup>3</sup>	16/0.09

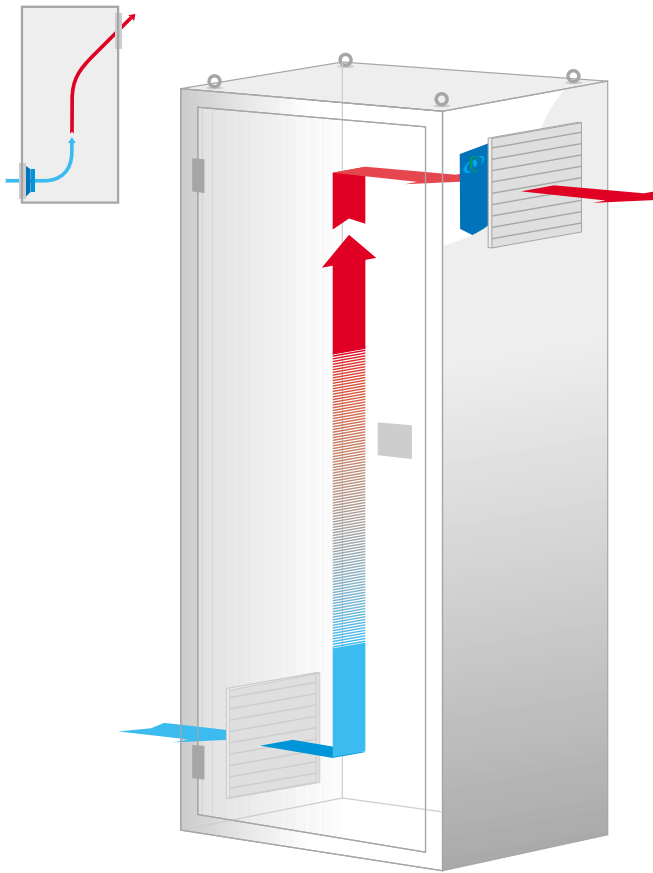




CODE		EXA50U0322
Approvals file number		SA12046
Voltage / Phase / Frequency	V-ph-Hz	115-1-60
Specific heat transmission	W/K	50
Height / Width / Depth	mm	1480x277x115
Fans	n°	2
Internal fan flow	m <sup>3</sup> /h	575
Side ambient fan flow, free air	m <sup>3</sup> /h	575
Absorbed fan current	A	2x0,76
Absorbed fan power	W	2x80
Fan capacitor	μF	2x6
Protection fuses	A	3
Exchange surface	m <sup>2</sup>	3.3
Side cabinet temperature limits	°C	-5/+55
Side ambient temperature limits	°C	-5/+55
Side cabinet protection degree	IP	54
Side ambient protection degree	IP	22
Noise level	dB(A)	64
Weight	kg	13
Duty cycle	%	100
Shipping weight / Shipping volume	kg/m <sup>3</sup>	15/0.05

# GNV = low profile Grilles

# GNVE = low profile Filter Fans



## Filter fans Flush Mounted

The filter fans of the GNV series together with the filter units GNF allow a simple and cost effective solution to enclosure cooling. Designed for easy clip-on mounting and made out of high resistance, self-extinguishing ABS UL94VO grade, they cover an air flow rate range from 50 m<sup>3</sup>/hr to 500 m<sup>3</sup>/hr. With the supplied filter mat they provide an IP44 protection degree. With EU5 filter mat they can achieve IP54.

### OTHER GENERAL FEATURES

- Color RAL 7032 gray
- Progressive filter mat type EU4 with 90% efficiency, Eurovent classification 4/9
- Ball bearing fans, with a 30000 hours life expectancy at 55°C ambient
- Operating temperature range -10/+70°C
- Prewired terminal strip.

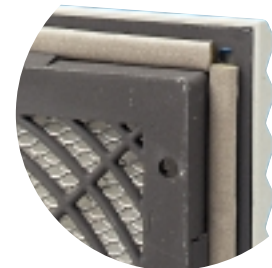
### ONE COMPLETE UNIT INCLUDES:

- Filter fan
- Carton box
- Cut-out template, scale 1:1
- Adhesive gasket
- Mounting instructions
- Mounting hardware
- Filter fans are sold in multiple packaging.

### ACCESSORIES

The GNV units can be controlled with a thermostat type TMF  
Spare filter mat packages are available.

The filter fans GNVE series and the filter units GNFE are the perfect solution for applications where EMI protection is an issues. Designed for easy clip-on mounting and made out of high resistance, self-extinguishing ABS UL94VO grade, they cover an air flow rate range from 50 m<sup>3</sup>/hr to 500 m<sup>3</sup>/hr. With the supplied filter mat they provide an IP44 protection degree. With EU5 filter mat they can achieve IP54. In the range from 100MHz to 1000MHz the attenuation factor varies from 65 dB to 40 dB. This is achieved by inserting a fine mesh metallic net in the filter holder, the use of special EMI shielding gasket and of a conductive paint on the internal part of the unit.



Please Note : High profile , GRF and GRV are also available.

# GNV-GNVE



**GNF12**  
**GNV12**



**GNF25**  
**GNV25**  
**GNV2501**

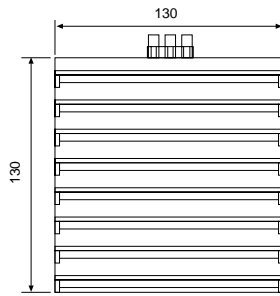
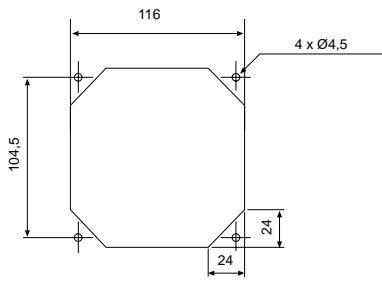


**GNF30**  
**GNV30**

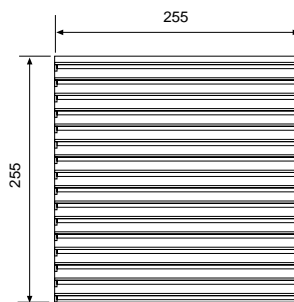
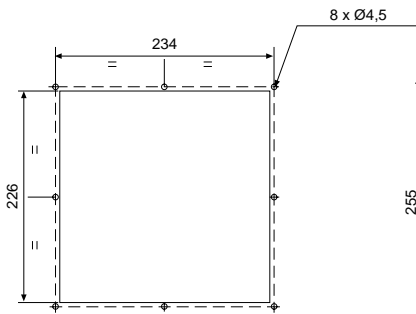
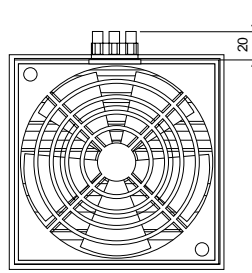
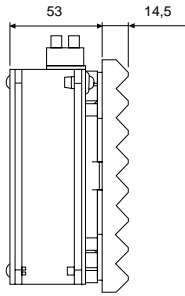
MODEL		GNF12	GNF25	GNF30	GNV1200222	GNV2500222	GNV2501222	GNV30 *
Approvals file number		-	-	-	E194444	E194444	E194444	E194444
Voltage/Phase/Frequency	V-ph-Hz	-	-	-	115-1-50/60	115-1-50/60	115-1-50/60	115-1-50/60
Height / Width / Depth	mm	130x130x67,5	255x255x133	323x323x150	130x130x67,5	255x255x133	255x255x133	323x323x150
Absorbed power/current	W/A	-	-	-	16/0,26	16/0,26	42/0,6	63-77/0.6-0.68
Temperature limits	° C	-	-	-	-10/+70	-10/+70	-10/+70	-10/+76
Protection degree	IP	IP 44: with standard filter EU4			IP 54: with EU5 filte			
Noise level	dB (A)	-	-	-	47/53	47/53	56/58	59/62
GNV air volume	m3/h - (CFM)	-	-	-	50 (29)	100 (59)	220 (130)	500 (295)
GNV+GNF air volume	m3/h	-	-	-	36 1 GNF12 43 2 GNF12	80 1 GNF25 89 2 GNF25	155 1 GNF25 200 2 GNF25 190 1 GNF30	345 1 GNF30 390 2 GNF25 450 2 GNF30
Weight	kg	0.1	0.5	1	0.8	1.7	1.9	3.3

(\*) GNV300A222, GNV300P222, GNV300UA222, GNV300UP222

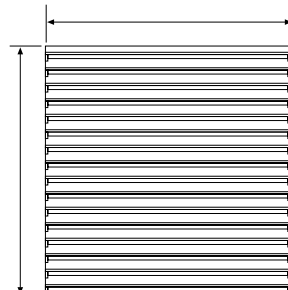
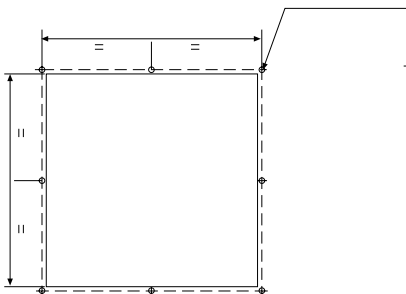
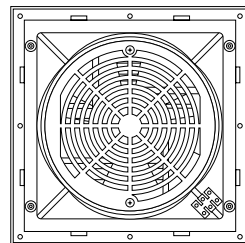
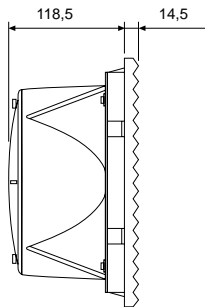




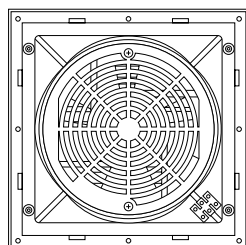
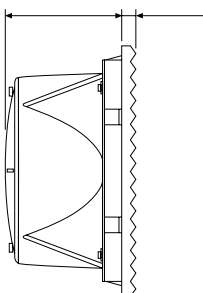
**GNV12**



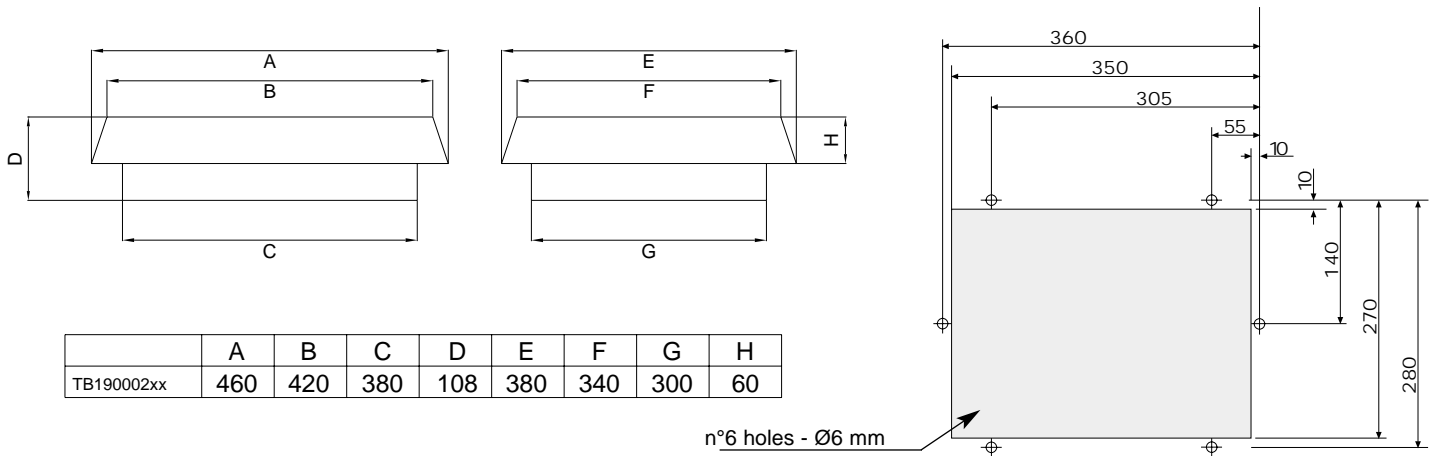
**GNV25**



**GNV30**



## Exhaust fans - Pagoda Top



CODE		TB19000222	TB22000222	TB190/ TB220
Approvals file number		-	-	-
Voltage / Phase / Frequency	V-ph-Hz	115-1-50/60	115-1-50/60	-
Height / Width / Depth	mm	105x460x380	105x460x380	105x460x380
Protection fuses	A	10	2	
Power assorbed	W	80	85	-
Fan capacitor	µF	6	10	-
Fan flow, free air	m³/h	575	860	-
Temperature limits	°C	-20/+55	-20/+55	-
Side cabinet protection degree	IP	44	44	44
Noise level	dB(A)	62	70	-
Weight	kg	5,8	8	3 / 5
Shipping weight / Shipping volume	kg/m³	7/0,03	9/0,03	4,5-6 / 0,03

# Conversion factor chart

°C	°F
-100	-148
-90	-130
-80	-112
-70	-94
-60	-76
-50	-58
-40	-40
-35	-31
-30	-22
-25	-13
-20	-4
-15	+5
-10	+14
-5	+23
0	32
1	33,8
2	35,6
3	37,4
4	39,2
5	41,0
6	42,8
7	44,6
8	46,4
9	48,2
10	50
11	51,8
12	53,6
13	55,4
14	57,2
15	59
16	60,8
17	62,6
18	64,4
19	66,2
20	68
21	69,8
22	71,6
23	73,4
24	75,2
25	77
26	78,8
27	80,6
28	82,4
29	84,2
30	86
31	87,8
32	89,6
33	91,4
34	93,2
35	95
36	96,8
37	98,6
38	100,4
39	102,2
40	104
45	113
50	122
55	131
60	140
65	149
70	158
75	167
80	176
85	185
90	194
95	203
100	212
110	230
120	248
130	266
140	284
150	302

°K = °C + 273,2  
 °F = 9/5 x °C + 32  
 °R = °F + 459,7

## VOLUME

from/to	cm <sup>3</sup>	liter	in <sup>3</sup>	ft <sup>3</sup>	fl oz	pt	qt	gal
cm <sup>3</sup>	1	0,001	0,06102	3,53x10 <sup>-5</sup>	0,03381	0,00211	0,00106	2,64x10 <sup>-4</sup>
liter	1000	1	61,02	0,03532	33,81	2,113	1,057	0,2642
in <sup>3</sup>	16,39	0,01639	1	5,79x10 <sup>-4</sup>	0,5541	0,03463	0,01732	0,00433
ft <sup>3</sup>	2,83x10 <sup>4</sup>	28,32	1728	1	957,5	59,84	29,92	7,481
fl oz	29,57	0,02957	1,805	0,00104	1	0,06250	0,03125	0,00781
pt	473,2	0,4732	28,88	0,01671	16	1	0,500	0,1250
qt	946,4	0,9463	57,75	0,03342	32	2	1	0,2500
gal (USA)	3785	3,785	231	0,1337	128	8	4	1

## PRESSURE

from/to	mm Hg	in Hg	in H <sub>2</sub> O	ft H <sub>2</sub> O	bar	kPa	lb/in <sup>2</sup>	kg/cm <sup>2</sup>
mm Hg	1	0,03937	0,5353	0,4460	0,00133	7,5	0,01934	0,00136
in Hg	25,40	1	13,60	1,133	0,3386	0,2953	0,4912	0,03453
in H <sub>2</sub> O	1,868	0,07355	1	0,08333	0,00249	4,014	0,03613	0,00254
ft H <sub>2</sub> O	22,42	0,8826	12	1	0,02980	0,3345	0,4335	0,03048
bar	750	29,53	401,4	33,45	1	0,01	14,50	1,02
kPa	7,5	0,2953	4,014	0,3345	0,01	1	0,145	0,0102
lb/in <sup>2</sup>	51,71	2,036	27,67	2,307	0,06850	0,145	1	0,07031
kg/cm <sup>2</sup>	735,6	28,96	393,7	32,81	0,9680	0,0102	14,22	1

## LENGTH

from/to	cm	m	km	in	ft	ft
cm	1	0,01	1x10 <sup>-5</sup>	0,3937	0,03281	6,21x10 <sup>-6</sup>
m	100	1	0,001	39,37	3,281	6,21x10 <sup>-4</sup>
km	1x10 <sup>5</sup>	1000	1	3,94x10 <sup>4</sup>	3281	0,6214
in	2,540	0,02540	2,54x10 <sup>-5</sup>	1	0,08333	1,58x10 <sup>-5</sup>
ft	30,48	0,3048	3,05x10 <sup>-4</sup>	12	1	1,89x10 <sup>-4</sup>
ft	1,61x10 <sup>5</sup>	1609	1,609	6,34x10 <sup>4</sup>	5280	1

## ENERGY

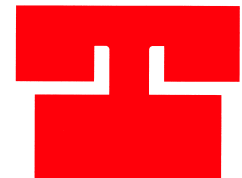
from/to	BTU	cal	joule	Hp hr	kW hr
BTU	1	252,0	1055	3,93x10 <sup>-4</sup>	2,93x10 <sup>-4</sup>
cal	0,00397	1	4,186	1,56x10 <sup>-5</sup>	1,16x10 <sup>-6</sup>
joule	9,48x10 <sup>-4</sup>	0,2389	1	3,73x10 <sup>-7</sup>	2,78x10 <sup>-7</sup>
Hp hr	2545	6,41x10 <sup>5</sup>	2,68x10 <sup>6</sup>	1	0,7457
kW hr	929,00	0,9290	9,29x10 <sup>-6</sup>	144	1

## SURFACE

from/to	cm <sup>2</sup>	m <sup>2</sup>	km <sup>2</sup>	in <sup>2</sup>	ft <sup>2</sup>
cm <sup>2</sup>	1	0,0001	1x10 <sup>-10</sup>	0,1550	0,00108
m <sup>2</sup>	1x10 <sup>4</sup>	1	1x10 <sup>-5</sup>	1550	10,76
km <sup>2</sup>	1x10 <sup>10</sup>	1x10 <sup>6</sup>	1	1,55x10 <sup>9</sup>	1,08x10 <sup>7</sup>
in <sup>2</sup>	6,452	6,45x10 <sup>-4</sup>	6,45x10 <sup>-10</sup>	1	0,00694
ft <sup>2</sup>	929,00	,09290	9,29x10 <sup>-6</sup>	144	1

## WEIGHT

from/to	g	kg	oz	lb
g	1	0,001	0,03527	0,00220
kg	1000	1	35,27	2,205
oz	28,35	0,02835	1	0,06250
lb	453,6	0,4536	16	1



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