



Cooling for a Better Tomorrow™

UNIT COOLER
—
The Perfect Complement

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UNIT COOLER

The Perfect Complement

INTRODUCTION

Founded in 1934, Tecumseh Products Company has consistently been a global leader of commercial refrigeration technology. Tecumseh offers high quality products which are able to provide the highly valued solutions to our customers. Aside that, our employees located globally design and manufacture innovative refrigeration and air-conditioning products for the people around the world.

BENEFITS TO MEET MARKET DEMANDS

01



COMPACT

Tecumseh Unit Cooler's compact design is an added bonus for space-conscious environment without affecting the cooling capacity optimum performance.

02



WIDE OFFERING

Tecumseh Unit Cooler offers a wide range of cooling capacity to ensure the best solution for high temperature & low temperature application.

03



EXCELLENCE PERFORMANCE

With excellence heat exchange efficiency & homogeneous air circulation, goods will now be preserved under better conditions.

04



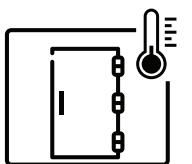
EASY
INSTALLATION
& MAINTENANCE

Lightweight feature is time efficiency, greatly reducing installation time.

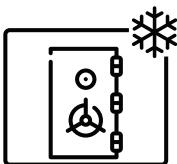
Removable side panel & hinged drain pan; will ease for servicing & maintenance jobs.

APPLICATION

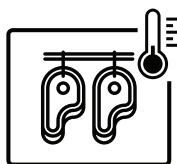
Tecumseh Unit Coolers are suitable for common applications:



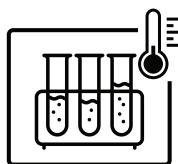
Walk-in Cooler Rooms



Walk-in Freezer Rooms



Food Processing Rooms



Preparation Rooms

PRODUCT FEATURES

CAPACITY

**High Temp Application
2.4 to 30 kW**

**Low Temp Application
2.5 to 57.4 kW**

CASING

Made of Premium Aluminium

FAN DIAMETER

Available fan sizes of 300mm, 400mm & 500mm wired in an enclosed junction box

FIN SPACING

4mm or 6mm
to minimize defrosting cycles



SIDE PANEL

Easy removable type
for ease of maintenance

DEFROSTING HEATER

Electrical Coils & Drain Pan Heater
wired in an enclosed junction box

DRAIN PAN

Hinged Type
for easy cleaning

DRAIN PLUG

Made from PVC
(Light & Durable Material)

REFRIGERANT

R-404A / R-134a
(Eco-Friendly refrigerant)

NOMENCLATURE

TEM

Tecumseh
Unit Cooler

H

Application

4.0

Rated Capacity
in kW

14

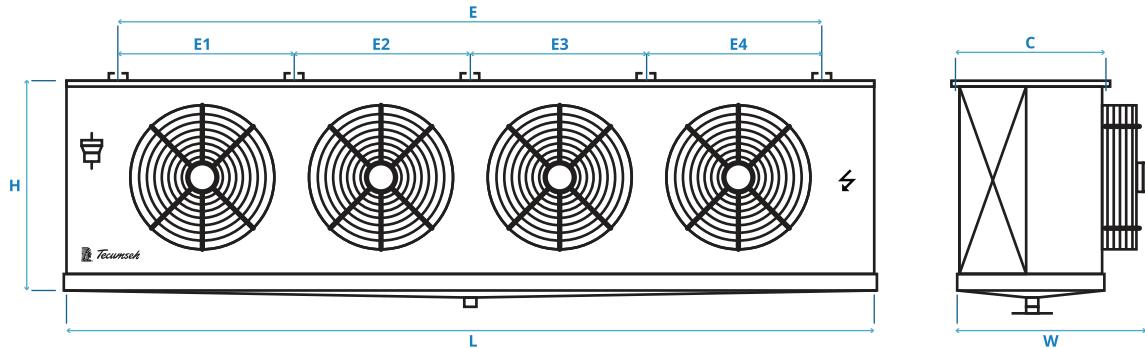
External Surface
(m²)

APPLICATIONS PARAMETERS

Code	Application	Fin Spacing (mm)
H	High Temp.	4.0
L	Low Temp.	6.0

DIMENSION SPECIFICATION FOR UNIT COOLER

* Specification drawing is for reference only, for detail information please refer to our staffs.



High Temperature Application

Unit Coolers	Dimension (mm)					Inlet OD (inch)	Outlet OD (inch)	Drain Size (inch)	Weight (kg)
Model	L	H	W	C	E				
TEM-H-2.5/9	812	450	500	390	477	1/2	5/8	1 - 1/4	20
TEM-H-4.0/14	1265	450	500	390	930	1/2	5/8	1 - 1/4	32
TEM-H-5.4/22	900	570	550	450	565	1/2	5/8	1 - 1/4	35
TEM-H-7.4/22	1440	570	550	450	1105	1/2	5/8	1 - 1/4	47
TEM-H-9.0/30	1440	570	550	450	1105	1/2	5/8	1 - 1/4	50
TEM-H-10.5/45	1440	570	550	450	1105	5/8	7/8	1 - 1/4	57
TEM-H-16.2/80	1920	730	635	435	1650	5/8	1 - 1/4	1	120
TEM-H-21.3/105	1920	730	635	435	1650	5/8	1 - 1/4	1	132
TEM-H-25.0/125	2720	730	635	435	2450	3/4	1 - 1/2	1	182
TEM-H-32.6/160	2720	730	635	435	2450	3/4	1 - 1/2	1	193
TEM-H-37.6/185	3520	730	635	435	3250	3/4	1 - 7/8	1 - 1/2	230
TEM-H-42.7/210	3520	730	635	435	3250	3/4	1 - 7/8	1 - 1/2	260
TEM-H-57.4/280	3250	830	725	525	3250	7/8	1 - 7/8	1 - 1/2	290

Low Temperature Application

Unit Coolers	Dimension (mm)					Inlet OD (inch)	Outlet OD (inch)	Drain Size (inch)	Weight (kg)
Model	L	H	W	C	E				
TEM-L-2.4/10	1265	450	500	390	930	1/2	5/8	1 - 1/4	31
TEM-L-2.9/13	1265	450	500	390	930	1/2	5/8	1 - 1/4	34
TEM-L-4.3/15	1440	570	550	450	1105	1/2	5/8	1 - 1/4	47
TEM-L-5.3/21	1440	570	550	450	1105	1/2	5/8	1 - 1/4	50
TEM-L-6.6/31	1440	570	550	450	1105	5/8	7/8	1 - 1/4	56
TEM-L-11.2/60	1920	730	635	435	1650	5/8	1 - 1/4	1	115
TEM-L-14.9/80	1920	730	635	435	1650	5/8	1 - 1/4	1	125
TEM-L-18.7/100	2720	730	635	435	2450	3/4	1 - 1/2	1	170
TEM-L-22.4/120	2720	730	635	435	2450	3/4	1 - 1/2	1	180
TEM-L-26.2/140	3520	730	635	435	3250	3/4	1 - 7/8	1 - 1/2	210
TEM-L-30.0/160	3520	730	635	435	3250	3/4	1 - 7/8	1 - 1/2	240

TECHNICAL DATA

Nominal Capacity rated at room temperature (T_{room}) of 0°C , evaporating temperature (T_{evp}) of -8°C .

Air throw is for reference purpose only.

The actual air throw will be affected by the arrangement of the unit coolers or the placement of the goods.

High Temperature Application

Unit Coolers		Fan						Defrost Heater			Condesing Unit
Model	Nominal Capacity (W)	Qty. of Fan	Fan Diameter (mm)	Power (kW)	Volt (V)	Air Flow (m ³ /h)	Air Throw (m)	Qty. x Coil (kW)	Qty. x Drain Pan (kW)	Volt (V)	Model
TEM-H-2.5/9	2500	1	300	1 x 0.06	230	1 x 1800	8	2 x 0.75	1 x 1.00	220	PACS/PAC4517Z
TEM-H-4.0/14	4000	2	300	2 x 0.06	230	2 x 1800	9	2 x 0.90	1 x 1.20	220	PACS/PAC4519Z PACS/PAC4524Z
TEM-H-5.4/22	5400	1	400	1 x 0.16	230	1 x 4235	12	4 x 0.40	1 x 0.90	220	PACS/PAC4531Z
TEM-H-7.4/22	7400	2	400	2 x 0.16	230	2 x 4235	14	2 x 0.90	1 x 1.20	220	PACS/PAC4540Z PAC4546Z
TEM-H-9.0/30	9000	2	400	2 x 0.16	230	2 x 4235	13	2 x 0.90	1 x 1.20	220	PAC4553Z PAC4561Z
TEM-H-10.5/45	10500	2	400	2 x 0.16	230	2 x 4235	12	4 x 0.95	1 x 1.20	220	PAC4568Z PAC4573Z
TEM-H-16.2/80	18409	2	500	2 x 0.55	380	2 x 6300	15	3 x 1.55	1 x 1.72	220	PAC4581Z SHT4576ZHR SHT4591ZHR
TEM-H-21.3/105	24205	2	500	2 x 0.55	380	2 x 6300	15	3 x 1.55	1 x 1.72	220	SHT4610ZHR SHT4612ZHR
TEM-H-25.0/125	28409	3	500	3 x 0.55	380	3 x 6300	15	3 x 2.27	1 x 2.44	220	SHT4615ZHR
TEM-H-32.6/160	37045	3	500	3 x 0.55	380	3 x 6300	15	3 x 2.27	1 x 2.44	220	SHT4620ZHR
TEM-H-37.6/185	42727	4	500	4 x 0.55	380	4 x 6300	15	3 x 2.99	1 x 3.02	220	SHT4622ZHR
TEM-H-42.7/210	48523	4	500	4 x 0.55	380	4 x 6300	15	3 x 2.99	1 x 3.02	220	SHT4627ZHR
TEM-H-57.4/280	65227	4	500	4 x 0.55	380	4 x 6300	15	4 x 3.01	1 x 3.02	220	SHT4632ZHR

Low Temperature Application

Unit Coolers		Fan						Defrost Heater			Condesing Unit
Model	Nominal Capacity (W)	Qty. of Fan	Fan Diameter (mm)	Power (kW)	Volt (V)	Air Flow (m ³ /h)	Air Throw (m)	Qty. x Coil (kW)	Qty. x Drain Pan (kW)	Volt (V)	Model
TEM-L-2.4/10	3008	2	300	2 x 0.06	230	2 x 1800	9	2 x 0.70	1 x 1.00	220	PACS/PAC2480Z
TEM-L-2.9/13	3634	2	300	2 x 0.06	230	2 x 1800	9	2 x 0.70	1 x 1.00	220	PACS/PAC2511Z
TEM-L-4.3/15	5388	2	400	2 x 0.16	230	2 x 4235	14	2 x 0.90	1 x 1.20	220	PAC2513Z PAC2516Z
TEM-L-5.3/21	6642	2	400	2 x 0.16	230	2 x 4235	13	2 x 0.90	1 x 1.20	220	PAC2522Z PAC2525Z
TEM-L-6.6/31	8271	2	400	2 x 0.16	230	2 x 4235	12	4 x 0.95	1 x 1.20	220	SHT2534ZBR
TEM-L-11.2/60	14035	2	500	2 x 0.55	380	2 x 6300	15	4 x 1.55	1 x 1.72	220	SHT2542ZBR SHT2552ZBR
TEM-L-14.9/80	18672	2	500	2 x 0.55	380	2 x 6300	15	4 x 1.55	1 x 1.72	220	SHT2558ZBR
TEM-L-18.7/100	23434	3	500	3 x 0.55	380	3 x 6300	15	4 x 2.27	1 x 2.44	220	SHT2575ZBR
TEM-L-22.4/120	28070	3	500	3 x 0.55	380	3 x 6300	15	4 x 2.27	1 x 2.44	220	SHT2610ZBR
TEM-L-26.2/140	32832	4	500	4 x 0.55	380	4 x 6300	15	4 x 2.99	1 x 3.02	220	SHT2614ZBR
TEM-L-30.0/160	37594	4	500	4 x 0.55	380	4 x 6300	15	4 x 2.99	1 x 3.02	220	SHT2615ZBR

SELECTION FEATURES & PERFORMANCE

To select the product in conditions of practical use with R404A, it is necessary to multiply the nominal capacity value by the correction factor stated in (Table 1). With other refrigerants, multiply the nominal capacity by the respective factor (Table 2).

Table 1: Correction Factor of nominal capacity kW (R404A) for different room temperature and TD (F1)

ΔT [K]	10	1.09	1.09	1.10	1.13	1.16	1.19	1.22	1.25	1.29	1.34	1.38	1.42	1.47	1.47	1.47	1.47
°C	-35	-30	-25	-20	-15	-10	-5	0	1	2	3	4	5	6	8	10	12
9	0.98	0.98	0.99	1.02	1.04	1.07	1.10	1.13	1.16	1.20	1.24	1.28	1.32	1.32	1.32	1.32	1.32
8	0.87	0.87	0.88	0.90	0.93	0.95	0.98	1.00	1.04	1.07	1.10	1.14	1.17	1.17	1.17	1.17	1.17
7	0.76	0.76	0.77	0.79	0.81	0.83	0.85	0.88	0.91	0.94	0.97	1.00	1.03	1.03	1.03	1.03	1.03
6	0.65	0.65	0.66	0.68	0.70	0.71	0.73	0.75	0.78	0.80	0.83	0.85	0.88	0.88	0.88	0.88	0.88
5	0.54	0.54	0.55	0.57	0.58	0.60	0.61	0.63	0.65	0.67	0.69	0.71	0.73	0.73	0.73	0.73	0.73
4	0.44	0.44	0.44	0.45	0.46	0.48	0.49	0.50	0.52	0.54	0.55	0.57	0.59	0.59	0.59	0.59	0.59

Table 2: Correction Factor for Refrigerants (F2)

T.Room (°C)	-35	-30	-25	-20	-15	-10	-5	0	1	2	3	4	5	6	8	10	12
R22	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
R134a	-	-	-	-	0.86	0.88	0.89	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.93	0.93	0.93
R404A	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Selection Example :

A) For TEM model based on different conditions

Air Inlet Temperature = -20°C
 Temperature Different, ΔT = 7K
 Refrigerant = R404A
 Selected Model = TEM-L-4.3/15
 Nominal Capacity (W) from catalogue = 5388

Heat Load (W),
can be calculated by using formula,

$$\text{Nominal Capacity} \times F1 \times F2 = 5388 \times 0.79 \times 1.00 = 4257W$$

B) Select TEM model based on required heat load

Heat Load = 9000W
 Air Inlet Temperature = 0°C
 Temperature Different, ΔT = 7K
 Refrigerant = R404A

Nominal Capacity (W),
can be calculated by using formula,

$$\text{Heat Load} / (F1 \times F2) = 9000 / (0.88 \times 1.00) = 10227W$$

* Selected model (High Temp Application)= TEM-H-10.5/45



Tecumseh

Cooling for a better tomorrow

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