

## SALES AND MARKETING HEAD OFFICE

2, avenue Blaise Pascal  
Site Prologis Bât. B  
38090 Vaulx-Milieu  
France  
Tel. int +33 (0)4 74 82 24 00  
Fax int +33 (0)4 74 82 24 99

## GERMAN OFFICE

Ludwigstrasse 31  
60327 Frankfurt am Main  
Germany  
Tel. int +49 (0)69 97 1454-0  
Fax int +49 (0)69 72 41053

## ITALIAN OFFICE

Via Parco Abbaziaale, 6  
10094 Giaveno (TO)  
Italia  
Tel. int +39 (0)11 937 98 61  
Fax int +39 (0)11 937 83 88

## SPANISH OFFICE

C/Corcega 301-303, 2º, 3a  
08008 Barcelona  
España  
Tel. int +34 93 218 5708  
Fax int +34 93 218 1691

## BRITISH OFFICE

8 The Square, Stockley Park,  
Uxbridge Middlesex UB11 1FW  
United Kingdom  
Tel. int +44 (0) 203 008 8565  
Fax int +33 (0)4 74 82 24 94

## MALAYSIAN OFFICE

Nº 18 Jalan Sultan Mohamed 4  
Selat Klang Utara  
42000 Port Klang  
Selangor Darul Eshan  
Malaysia  
Tel. int +60 3 3176 3886  
Fax int +60 3 3176 3890

# Tecumseh Europe: the commercial refrigeration specialist

Tecumseh Europe, a major player in the refrigeration and climatic comfort industry, is a subsidiary of the American group Tecumseh Products Company. As a human-sized international company, Tecumseh Europe designs and manufactures compressors and condensing units using new technologies, which positions it as the leader in commercial refrigeration. Today, about 25% of global food consumption is spoiled due to non-compliance with the cold chain. Faced with this reality, Tecumseh aims to offer a range of high added-value products and services.

### ■ Values in the service of customers and the company

For more than 75 years, Tecumseh's success has been based on key values shared by its managers and all its employees:

- the human value: the people that make up the company
- the actual customer orientation and the place given to its customers
- the importance of the quality of services and products offered
- the permanent technological innovation.

### ■ The people: most important resource of the company

This value can be seen especially in the professionalism of each employee, all of whom have significant technical and commercial skills as well as a real industrial dimension.

The development of skills by in-house training and promotion aims to involve employees to a greater degree.

### ■ Innovative products

Since 1934, Tecumseh has been committed to developing products using innovating technologies that guarantee low energy consumption as well as a high level of reliability.

Today, Tecumseh is the only company that offers its customers the 3 technologies used in a hermetic compressor: **Reciprocating, Rotary and Scroll.**

Internationally recognised, the benchmark brands of the Group such as L'Unité Hermétique®, Silensys®, Wintsys®, Masterflux®, Celseon®, and Vector® **form part of the pillars of the refrigeration industry thanks to a strong distribution network with thousands of points of sale on all 5 continents.**

### ■ Tecumseh also offers service

Tecumseh offers a complete assistance service from the selection of products, **design, and training, to on-site** technical assistance by a high-performance Sales Administration department.

### ■ Tecumseh: the desire to propose a green offer

Because it is aware of the future economic and ecological demands, **the company is committed to sustainable development by offering products that use the refrigeration fluids** in phase with the current market. Because it follows a rigorous approach of continuous improvement, Tecumseh works according to the **ISO 14001** certification (environmental management system) as well as standard **ISO 9001** for its quality management system.

With more than 1,350 employees, Tecumseh Europe focuses on innovation, the quality of the products with complete solutions. At present and for the foreseeable future, the company is the best supplier of 100% customer-oriented commercial refrigeration.



"L'Unité Hermétique", a Tecumseh brand internationally recognised by professionals in the cooling industry, stands for reliability, expertise and skill. Tecumseh offers solutions labeled "Expertise L'Unité Hermétique", referencing the performance of the historical benchmark of the refrigeration market on all 5 continents.



Tecumseh

Cooling for a Better Tomorrow™

www.tecumseh.com

COMMERCIAL  
REFRIGERATION

# HERMETIC COMPRESSORS



*Tecumseh*



Powerful, Innovative, High-Performance  
Technologies you can count on

# HERMETIC

The only manufacturer to master  
**3 compressor technologies**



PISTON



Family TH

AE

AJ

FH

AG

## HERMETIC COMPRESSORS A certified level of excellence

The design office and the laboratory of Tecumseh Europe guarantee the levels of performance and validate the improvements made. This level of excellence is recognised by the largest certification organisations:

- COFRAC accreditation of the laboratory
- ASERCOM certification of the cooling performances of the compressors.

The proven technology of the **reciprocating** compressors by Tecumseh. Its reciprocating compressors are well-known on the market for their reliability and their strength. Tecumseh has built its reputation through the years on the constant improvements made to the products and on their manufacturing quality.



# COMPRESSORS



ROTARY



RG

HG

The **Rotary** technology ensures optimal yield for small cooling capacities. This technology allows a significant reduction in energy consumption and a low noise level along with reduced overall dimensions. Perfectly suited to demanding applications, its strength lies in its design.



SCROLL



VS

The **Scroll** technology ensures increased yield for medium and high cooling capacities regardless of the operating speed. This technology allows a significant reduction in energy consumption. Perfectly suited to demanding applications, its design gives it a high resistance to slugging.



# QUALITY AND ENVIRONMENT

## Our commitments

**Tecumseh Europe's management system is recognised and certified according to ISO 9001 version 2008 quality and ISO 14001 version 2004 environmental standards.**

It shows the daily commitment and the capacity of the company to maintain and improve these certifications.

- **ISO 9001, version 2008:** Quality management system. This certification guarantees Tecumseh's ability to provide a product that is compliant with the applicable regulatory requirements and with those of its customers.
- **ISO 14001, version 2004:** Environmental management system. This certification guarantees that Tecumseh Europe respects environmental standards and regulations.
- **ISO 17025 by COFRAC (Comité Français d'Accréditation - French Accreditation Committee):** This certification guarantees the exactness of the measurements provided by the Tecumseh Europe laboratory to installers, instructors and installers. It is strictly monitored and audited each year.



### Commercial refrigeration

Display cases, ice-makers, bottle coolers, transport, industrial processes.

## An offer customised to **your requirements**

**Tecumseh Europe offers you a large range of compressors for your commercial refrigeration applications. This offer complies with the technical and regulatory specifications of your contracts.**

Reciprocating, rotary or scroll, the compressors available in our range operate with different refrigerants to suit all the key refrigeration applications.

### Natural refrigerants, Sustainable Development

## TECUMSEH, AN ENVIRONMENTALLY- CONSCIOUS BRAND

Tecumseh integrates the use of the **R290 natural coolant** to help **preserve our planet's future.**

- It has no impact on the ozone layer (zero ODPs).
- Very little impact on global warming:
  - GWP = 3
  - GWP R404A = 3 700, R134a = 1 200.
- Non-toxic coolant.
- Reduced energy consumption:
  - 5% to -10% vs. R404A.
- Improved reliability of the cooling systems.
- Pure coolant:
  - No slipping.
- Discharge temperature lower with regards to the R404A.
- No major modification of the cooling system with regards to the R404A.
- Natural coolant, therefore easily available.
- Few safety restrictions for applications containing less than 150 gr of coolant.
- An economic solution.
- A Tecumseh guideline is available.



# TECHNICAL DESCRIPTION

## ■ SPECIFICATIONS

### The essentials



**TH**

Aimed at low capacity commercial cooling installations.

#### **SPECIFICATIONS**

##### **Evaporation ranges:**

High Back Pressure: -23 °C to +10 °C  
(-10 °F to +50 °F)

Low Back Pressure: -40 °C to -12 °C  
(-40 °F to +10 °F)

**Coolants:** R134a, R404A

**Capacity:** from 100 W to 614 W  
(EN 12900)



**AE**

New generation high-output compressor.



#### **SPECIFICATIONS**

##### **Evaporation ranges:**

High Back Pressure: -23 °C to +10 °C  
(-10 °F to +50 °F)

Low Back Pressure: -40 °C to -12 °C  
(-40 °F to +10 °F)

**Coolants:** R134a, R404A, R290

**Capacity:** de 150 W to 1 600 W  
(EN 12900)



**AJ**

The reference product combining silence, reliability and efficiency of commercial cooling.

#### **SPECIFICATIONS**

##### **Evaporation ranges:**

High Back Pressure: -23 °C to +10 °C  
(-10 °F to +50 °F)

Low Back Pressure: -40 °C to -12 °C  
(-40 °F to +10 °F)

**Coolants:** R134a, R404A

**Capacity:** from 380 W to 4 400 W  
(EN 12900)



**FH**

Bi-cylinder compressor known for its reliability in commercial cooling.

#### **SPECIFICATIONS**

##### **Evaporation ranges:**

High Back Pressure: -23 °C to +10 °C  
(-10 °F to +50 °F)

Low Back Pressure: -40 °C to -12 °C  
(-40 °F to +10 °F)

**Coolants:** R134a, R404A

**Capacity:** from 1 100 W to 8 500 W  
(EN 12900)



**AG**

Tri-cylinder compressor with high efficiency and reliability in negative and positive commercial cooling.

#### **SPECIFICATIONS**

##### **Evaporation ranges:**

High Back Pressure: -23 °C to +10 °C  
(-10 °F to +50 °F)

Low Back Pressure: -40 °C to -12 °C  
(-40 °F to +10 °F)

**Coolants:** R134a, R404A

**Capacity:** from 1 900 W to 15 000 W  
(EN 12900)



**RG**

The solution for high-yield application.

### SPECIFICATIONS

#### Evaporation ranges:

High Back Pressure: -23 °C to +10 °C  
[-10 °F to +50 °F]

Low Back Pressure: -40 °C to -12 °C  
[-40 °F to +10 °F]

**Coolants:** R134a, R404A, R290

**Capacity:** from 330 W to 2400 W  
[EN 12900]



**HG**

The solution for high-yield applications with reduced overall dimensions.

### SPECIFICATIONS

#### Evaporation ranges:

High Back Pressure: -23 °C to +10 °C  
[-10 °F to +50 °F]

Low Back Pressure: -40 °C to -12 °C  
[-40 °F to +10 °F]

**Coolants:** R134a, R404A, R290

**Capacity:** from 330 W to 2400 W  
[EN 12900]



**VS**

A high-yield solution for high power installations.

### SPECIFICATIONS

#### Evaporation ranges:

High Back Pressure: -23 °C to +10 °C  
[-10 °F to +50 °F]

Low Back Pressure: -40 °C to -12 °C  
[-40 °F to +10 °F]

**Coolants:** R404A

**Capacity:** from 3700 W to 16000 W  
[EN 12900]

1  
T

2  
AJ

3  
4

4  
5

5  
19

6  
Z



- 1 ▶ **No letter** = single-phase low torque  
C = single-phase high torque  
T = three-phase
- 2 ▶ **Families:** TH-AEZ-AE-AJ-FH-AG-HG-RG-RK-VS.
- 3 ▶ **Applications**
  - 1 = Low evaporation pressure. Motor with normal starting torque.
  - 2 = Low evaporation pressure. Motor with high starting torque.
  - 3 = High evaporation pressure. Motor with normal starting torque.
  - 4 = High evaporation pressure. Motor with high starting torque.
  - 5 = Air conditioning.
  - 9 = Medium and high evaporation pressure. Motor with high starting torque.
  - 0 = Medium and high evaporation pressure. Motor with normal starting torque.
- 4 ▶ Number of figures making up the cooling power. Example: 19000 BTU/h
- 5 ▶ Corresponds to the first figures of the cooling power expressed in BTU/h at 60 Hz as per the conditions given on pages 8 and 9 of the catalogue. Example: 10 preceded by 5 means: 19000 BTU/h
- 6 ▶ **A, B, C ou D** = coolant R-12  
**C** = coolant R-407c (Air conditioning)  
**E, F, G ou H** = coolant R-22  
**M** = coolant R-600a  
**T** = coolant R-22 ou R-502  
**U** = coolant R-290  
**W** = coolant R-407C / R-22  
**Y** = coolant R-134a  
**Z** = coolant R-404A ou R-407B ou R-507



## Explanation of the model name description



# R-290



## POSITIVE COMMERCIAL COOLING

 <b>PISTON</b>	Models	Capacity cm <sup>3</sup>	Motor type	EN12900 (RTG 20 °C) – 50 Hz						
				Evaporation T°						
				-15	-10	-5	0	5	10	15
	<b>NEW</b> AE4425U	5,02	CSIR	276	348	430	523	629	749	884
	<b>NEW</b> AE4430U	6,12	CSIR	331	417	516	628	755	899	1061
	<b>NEW</b> AE4440U	8,02	CSIR	434	546	676	823	989	1178	1390
	<b>NEW</b> AE4450U	10,33	CSIR	608	741	892	1065	1262	1485	1738
	<b>NEW</b> AE4460U	12,01	CSIR	729	889	1070	1278	1514	1782	2085

 <b>ROTARY</b>	Models	Capacity cm <sup>3</sup>	Motor type	EN12900 (RTG 20 °C) – 50 Hz						
				Evaporation T°						
				-15	-10	-5	0	5	10	15
	HGA4467U	9,5	CSR	628	765	920	1096	1295	1521	1775
	HGA4492U	12,75	CSR	846	1029	1238	1476	1747	2054	2400
	HGA4512U	16,12	CSR	1096	1327	1591	1892	2235	2624	3063

# R-290

## NEGATIVE COMMERCIAL COOLING

 <b>PISTON</b>	Models	Capacity cm <sup>3</sup>	Motor type	EN12900 (RTG 20 °C) – 50 Hz					
				Evaporation T°					
				-35 °C	-30 °C	-25 °C	-20 °C	-15 °C	-10 °C
	<b>NEW</b> AE2410U	5,48	CSIR	133	180	229	286	351	426
	<b>NEW</b> AE2415U	8,85	CSIR	219	288	366	457	562	682
	<b>NEW</b> AE2420U	10,96	CSIR	274	357	454	567	697	846

In a constant endeavour to improve its products, TECUMSEH EUROPE reserves the right to change any information contained in the catalogue without prior warning.

EN12900 Evaporation T° -10 °C		Outside operating diameter			Voltages available	Weight kg
P abs (Watt)	COP (W/W)	Suction (mm - inches)	Discharge (mm - inches)	Load (mm - inches)		
195	1,78	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	FZ	10
239	1,74	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	FZ	10,1
322	1,70	9,5 - 3/8"	6,35 - 1/4"	6,35 - 1/4"	FZ	10,2
421	1,76	9,5 - 3/8"	6,35 - 1/4"	6,35 - 1/4"	FZ	10,5
478	1,86	9,5 - 3/8"	6,35 - 1/4"	6,35 - 1/4"	FZ	11,2

EN12900 Evaporation T° -10 °C		Outside operating diameter			Voltages available	Weight kg
P abs (Watt)	COP (W/W)	Suction (mm - inches)	Discharge (mm - inches)	Load (mm - inches)		
345	2,22	9,5 - 3/8"	7,9 - 5/16"	-	FZ	12
455	2,26	12,7 - 1/2"	7,9 - 5/16"	-	FZ	12,5
585	2,27	12,7 - 1/2"	7,9 - 5/16"	-	FZ	13,2

EN12900 Evaporation T° -35 °C		Outside operating diameter			Voltages available	Weight kg
P abs (Watt)	COP (W/W)	Suction (mm - inches)	Discharge (mm - inches)	Load (mm - inches)		
128	1,04	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	FZ	10,5
215	1,02	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	FZ	10,6
264	1,04	9,5 - 3/8"	6,35 - 1/4"	6,35 - 1/4"	FZ	10,6

## EN 12900

	BP	HP/MHP
Evaporation T°	- 35 °C	- 10 °C
Condensation T°	+ 40 °C	+ 45 °C
Gas return T° (= evaporator outlet)	+ 20 °C	+ 20 °C
Sub-cooling	OK	OK



NOTE: one of the main consequences of these measurement conditions of the compressor cooling performances is a variation of these values with regards to the previous values published in some documents. These standards guarantee new powers that are closer to the «reality» of your various cooling installations and in compliance with european standards.



## VOLTAGE CODE



Previous code letter	New code letter	Description
C	<b>CZ</b>	208V 1~ 50 Hz / 230V 1~ 60 Hz
F	<b>FZ</b>	220 - 240V 1~ 50 Hz
G	<b>GZ</b>	208 - 220V 1~ 50 Hz
H	<b>HZ</b>	208 - 220V 1~ 60 Hz
K	<b>KZ</b>	220V 3~ 50 Hz / 220V 3~ 60 Hz
Q	<b>QZ</b>	200V 3~ 50 Hz / 200V 3~ 60 Hz
T	<b>TZ</b>	400V 3~ 50 Hz / 440V 3~ 60 Hz
W	<b>WZ</b>	208-230V~ 50 Hz / 220-230V~ 60 Hz
A	<b>XA</b>	100V 1~ 50 Hz / 115V 1~ 60 Hz
XG	<b>XG</b>	380-420V 3~ 50 Hz / 460V 3~ 60 Hz
M	<b>XU</b>	100V 1~ 50 Hz / 100V 1~ 60 Hz
V	<b>XZ</b>	115V-40 Hz / 230V-80Hz - 3~

# R-404A

# POSITIVE COMMERCIAL COOLING

	Models	Capacity cm <sup>3</sup>	Motor type	EN12900 (RTG 20 °C) – 50 Hz						
				Evaporation T°						
				-15	-10	-5	0	5	10	15
	THB4428Z	5,2	CSIR	324	401	488	588	701	829	975
	<b>New</b> AE4425Z	4,24	CSIR	257	326	407	502	613	741	889
	<b>New</b> AE4430Z	5,16	CSIR	320	404	500	611	740	888	1057
	<b>New</b> AE4440Z	6,69	CSIR	433	546	676	826	1000	1199	1427
	<b>New</b> AE4450Z	8,85	CSIR	576	720	885	1074	1289	1534	1812
	<b>New</b> AE4460Z	10,33	CSR	713	875	1062	1275	1519	1799	2117
	<b>New</b> AE4470Z	12,01	CSR	843	1035	1251	1495	1773	2088	2447
	CAJ/TAJ9480Z	15,2	CSR / TRI	920	1159	1434	1752	2117	2535	3013
	CAJ/TAJ9510Z	18,3	CSR / TRI	1158	1453	1794	2187	2639	3157	3749
	CAJ/TAJ9513Z	24,2	CSR / TRI	1423	1827	2290	2819	3422	4106	4879
	CAJ/TAJ4517Z	25,95	CSR / TRI	1648	2070	2552	3104	3736	4459	5283
	CAJ/TAJ4519Z	34,45	CSR / TRI	2129	2699	3342	4069	4896	5833	6896
	FH/TFH 4522Z	39,9	CSR / TRI	1951	2617	3380	4257	5262	6411	7720
	FH/TFH 4524Z	43,5	CSR / TRI	2299	3048	3889	4833	5887	7059	8359
	FH/TFH 4531Z	56,6	CSR / TRI	3055	3968	4991	6143	7444	8916	10580
	FH/TFH 4540Z	74,2	CSR / TRI	4043	5173	6437	7861	9471	11292	13349
	TAG4546Z	90,2	TRI	4035	5457	7122	9061	11307	13892	16850
	TAG4553Z	100,7	TRI	4633	6220	8062	10202	12684	15550	18845
	TAG4561Z	112,5	TRI	5389	7107	9082	11363	13998	17036	20527
	TAG4568Z	124,4	TRI	6534	8449	10672	13233	16166	19502	23273
TAG4573Z	135	TRI	7132	9167	11520	14236	17358	20930	24997	
<b>New</b> TAG4581Z	145	TRI	7833	10072	12659	15647	19095	23033	27537	

	Models	Capacity cm <sup>3</sup>	Motor type	EN12900 (RTG 20 °C) – 50 Hz						
				Evaporation T°						
				-15	-10	-5	0	5	10	15
	RG/HGA 4467Z	9,5	CSR	754	915	1100	1313	1556	1833	2150
	RG/HGA 4480Z	11,5	CSR	908	1100	1320	1573	1863	2195	2573
	RG/HGA 4492Z	12,8	CSR	1036	1256	1507	1796	2128	2509	2942
	RG/HGA 4512Z	16,1	CSR	1278	1553	1867	2227	2639	3109	3645

	Models	Capacity cm <sup>3</sup>	Motor type	EN12900 (RTG 20 °C) – 50 Hz						
				Evaporation T°						
				-15	-10	-5	0	5	10	15
	VSA9510Z	26,55	CSR / TRI	1910	2339	2847	3441	4132	4929	5842
	VSA9514Z	36,05	CSR / TRI	2539	3145	3844	4649	5570	6620	7812
	VSA9517Z	42,77	CSR / TRI	3503	4247	5111	6111	7262	8579	10077
	VSA9521Z	50,14	CSR / TRI	4184	5085	6111	7281	8613	10124	11905
	VSA9524Z	57,68	TRI	4529	5505	6637	7944	9447	11168	13128
	VSA9528Z	68,8	TRI	5637	6823	8178	9727	11491	13394	15758
	VSA9536Z	82,6	TRI	7191	8676	10364	12281	14456	16918	19695
VSA9544Z	106,5	TRI	8853	10701	12824	15259	18040	21203	24783	

In a constant endeavour to improve its products, TECUMSEH EUROPE reserves the right to change any information contained in the catalogue without prior warning.

EN12900 Evaporation T° -10 °C		Outside operating diameter			Voltages available	Weight kg
P abs (Watt)	COP (W/W)	Suction (mm - inches)	Discharge (mm - inches)	Load (mm - inches)		
331	1,21	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	FZ	8,2
213	1,53	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	FZ	10
266	1,52	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	FZ	10
341	1,60	9,5 - 3/8"	6,35 - 1/4"	6,35 - 1/4"	FZ	10,2
445	1,62	9,5 - 3/8"	6,35 - 1/4"	6,35 - 1/4"	FZ	10,5
524	1,67	9,5 - 3/8"	6,35 - 1/4"	6,35 - 1/4"	FZ	11
620	1,67	9,5 - 3/8"	6,35 - 1/4"	6,35 - 1/4"	FZ	11,2
692	1,67	12,7 - 1/2"	7,9 - 5/16"	6,35 - 1/4"	XA, FZ, GZ, TZ	20,8
844	1,72	15,9 - 5/8"	7,9 - 5/16"	6,35 - 1/4"	XA, FZ, GZ, TZ	21,5
990	1,85	15,9 - 5/8"	7,9 - 5/16"	6,35 - 1/4"	XA, FZ, GZ, TZ	22
1122	1,84	15,9 - 5/8"	9,5 - 3/8"	6,35 - 1/4"	FZ, GZ, KZ, TZ	23
1595	1,69	15,9 - 5/8"	9,5 - 3/8"	6,35 - 1/4"	FZ, GZ, KZ, TZ	23
1544	1,69	15,9 - 5/8"	12,7 - 1/2"	7,9 - 5/16"	FZ, KZ, TZ	29
1743	1,75	15,9 - 5/8"	12,7 - 1/2"	7,9 - 5/16"	FZ, GZ, KZ, TZ	29,3
2149	1,85	22,2 - 7/8"	12,7 - 1/2"	7,9 - 5/16"	FZ, GZ, KZ, TZ	31
2891	1,79	22,2 - 7/8"	12,7 - 1/2"	7,9 - 5/16"	FZ, GZ, KZ, TZ	32,8
2949	1,85	22,2 - 7/8"	15,9 - 5/8"	9,5 - 3/8"	KZ, TZ	43
3354	1,85	22,2 - 7/8"	15,9 - 5/8"	9,5 - 3/8"	KZ, TZ	45
3782	1,88	28,6 - 1 1/8"	15,9 - 5/8"	9,5 - 3/8"	KZ, TZ	46
4223	2,00	28,6 - 1 1/8"	15,9 - 5/8"	9,5 - 3/8"	KZ, TZ	47
4681	1,96	28,6 - 1 1/8"	15,9 - 5/8"	9,5 - 3/8"	KZ, TZ	49
5192	1,94	28,6 - 1 1/8"	15,9 - 5/8"	9,5 - 3/8"	TZ	49

EN12900 Evaporation T° -10 °C		Outside operating diameter			Voltages available	Weight kg
P abs (Watt)	COP (W/W)	Suction (mm - inches)	Discharge (mm - inches)	Load (mm - inches)		
463	1,98	9,5 - 3/8"	7,9 - 5/16"	-	XA, CZ, FZ	12,5
551	2,00	9,5 - 3/8"	7,9 - 5/16"	-	XA, CZ, FZ	12,5
613	2,05	12,7 - 1/2"	7,9 - 5/16"	-	XA, CZ, FZ	12,8
781	1,99	12,7 - 1/2"	7,9 - 5/16"	-	XA, CZ, FZ	13,3

EN12900 Evaporation T° -10 °C		Outside operating diameter			Voltages available	Weight kg
P abs (Watt)	COP (W/W)	Suction (mm - inches)	Discharge (mm - inches)	Load (mm - inches)		
1427	1,64	19 - 3/4"	12,7 - 1/2"	-	FZ, TZ, XG	31
1973	1,59	19 - 3/4"	12,7 - 1/2"	-	FZ, TZ, XG	31
2111	2,01	19 - 3/4"	12,7 - 1/2"	-	FZ, TZ, XG	34
2420	2,10	19 - 3/4"	12,7 - 1/2"	-	FZ, TZ, XG	34
2653	2,08	19 - 3/4"	12,7 - 1/2"	-	TZ, XG	36
3220	2,12	22,2 - 7/8"	12,7 - 1/2"	-	TZ, XG	51
3967	2,19	22,2 - 7/8"	12,7 - 1/2"	-	TZ, XG	53
5367	1,99	22,2 - 7/8"	12,7 - 1/2"	-	TZ, XG	56

## EN 12900

	BP	HP/MHP
Evaporation T°	- 35 °C	- 10 °C
Condensation T°	+ 40 °C	+ 45 °C
Gas return T° (= evaporator outlet)	+ 20 °C	+ 20 °C
Sub-cooling	OK	OK



NOTE: one of the main consequences of these measurement conditions of the compressor cooling performances is a variation of these values with regards to the previous values published in some documents. These standards guarantee new powers that are closer to the «reality» of your various cooling installations and in compliance with european standards.

## VOLTAGE CODE



Previous code letter	New code letter	Description
C	<b>CZ</b>	208V 1~ 50 Hz / 230V 1~ 60 Hz
F	<b>FZ</b>	220 - 240V 1~ 50 Hz
G	<b>GZ</b>	208 - 220V 1~ 50 Hz
H	<b>HZ</b>	208 - 220V 1~ 60 Hz
K	<b>KZ</b>	220V 3~ 50 Hz / 220V 3~ 60 Hz
Q	<b>QZ</b>	200V 3~ 50 Hz / 200V 3~ 60 Hz
T	<b>TZ</b>	400V 3~ 50 Hz / 440V 3~ 60 Hz
W	<b>WZ</b>	208-230V~ 50 Hz / 220-230V~ 60 Hz
A	<b>XA</b>	100V 1~ 50 Hz / 115V 1~ 60 Hz
XG	<b>XG</b>	380-420V 3~ 50 Hz / 460V 3~ 60 Hz
M	<b>XU</b>	100V 1~ 50 Hz / 100V 1~ 60 Hz
V	<b>XZ</b>	115V-40 Hz / 230V-80Hz - 3~

# R-134a

# POSITIVE COMMERCIAL COOLING

	Models	Capacity cm <sup>3</sup>	Motor type	EN12900 (RTG 20 °C) – 50 Hz						
				Evaporation T°						
				-15	-10	-5	0	5	10	15
	THB4410Y	2,72	CSIR	97	123	155	195	240	291	348
	THB4413Y	3,6	CSIR	135	168	210	260	319	385	458
	THB4415Y	4,23	CSIR	160	196	243	301	367	443	527
	THB4419Y	5	CSIR	192	239	297	366	445	534	633
	THB4422Y	5,9	CSIR	251	305	373	452	543	644	754
	<b>NEW</b> AE4425Y	6,69	CSIR	249	324	414	519	644	788	955
	<b>NEW</b> AE4430Y	8,02	CSIR	294	382	488	613	760	930	1127
	<b>NEW</b> AE4440Y	10,33	CSIR	399	508	637	790	968	1176	1417
	<b>NEW</b> AE4450Y	13,24	CSIR	526	672	843	1042	1273	1540	1847
	<b>NEW</b> AE4456Y	14,51	CSIR	579	737	921	1133	1380	1664	1990
	<b>NEW</b> AE4460Y	15,09	CSIR	608	774	967	1190	1449	1747	2090
	CAJ/TAJ 4452Y	15,2	CSIR / TRI	443	607	799	1026	1293	1606	1972
	CAJ/TAJ 4461Y	18,3	CSIR / TRI	574	756	977	1243	1560	1934	2372
	CAJ/TAJ 4476Y	22,8	CSIR / TRI	652	888	1163	1484	1856	2287	2781
	CAJ/TAJ 4492Y	25,9	CSIR / TRI	825	1115	1452	1847	2307	2841	3457
	CAJ/TAJ 4511Y	32,7	CSR / TRI	1135	1496	1913	2397	2956	3599	4335
	CAJ4513Y	34,45	CSR	1214	1591	2028	2533	3118	3791	4562
	FH/TFH 4518Y	53,2	CSR / TRI	1335	2031	2811	3669	4601	5601	6663
	FH/TFH 4525Y	74,25	CSR / TRI	2167	2914	3823	4883	6082	7407	8845
	TAG 4528Y	90,2	TRI	1760	2671	3804	5148	6691	8419	10321
TAG 4534Y	100,7	TRI	2505	3539	4815	6320	8040	9962	12071	
TAG 4537Y	112,5	TRI	2936	4077	5495	7173	9096	11249	13616	
TAG 4543Y	124,4	TRI	3088	4244	5750	7586	9733	12172	14884	
TAG 4547Y	135	TRI	3582	4941	6543	8429	10637	13209	16182	

\* Natural cooling

	Models	Capacity cm <sup>3</sup>	Motor type	EN12900 (RTG 20 °C) – 50 Hz						
				Evaporation T°						
				-15	-10	-5	0	5	10	15
	RGA/HGA4445Y	9,5	CSIR	426	531	655	802	975	1178	1414
	RGA/HGA4450Y	11,5	CSIR	512	639	790	971	1184	1432	1721
	RGA/HGA4460Y	12,8	CSIR	562	705	877	1084	1332	1625	1969
	RGA/HGA4476Y	16,1	CSIR	744	930	1149	1406	1707	2056	2459

In a constant endeavour to improve its products, TECUMSEH EUROPE reserves the right to change any information contained in the catalogue without prior warning.

EN12900 Evaporation T° -10 °C		Outside operating diameter			Voltages available	Weight kg
P abs (Watt)	COP (W/W)	Suction (mm - inches)	Discharge (mm - inches)	Load (mm - inches)		
88	1,40	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	XA, FZ	7
115	1,46	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	XA, FZ	7,5
133	1,47	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	XA, FZ, WZ	7,5
157	1,52	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	XA, FZ	7,8
194	1,57	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	XA, CZ, FZ, GZ	8
215	1,51	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	FZ	9,1
237	1,61	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	FZ	9,4
302	1,68	7,9 - 5/16"	6,35 - 1/4"	6,35 - 1/4"	FZ	9,6
370	1,82	9,5 - 3/8"	6,35 - 1/4"	6,35 - 1/4"	FZ	10,5
424	1,74	9,5 - 3/8"	6,35 - 1/4"	6,35 - 1/4"	FZ	11
480	1,61	9,5 - 3/8"	6,35 - 1/4"	6,35 - 1/4"	FZ	11,3
399	1,52	12,7 - 1/2"	6,35 - 1/4"	6,35 - 1/4"	XA, FZ, GZ, TZ	18
472	1,60	12,7 - 1/2"	6,35 - 1/4"	6,35 - 1/4"	XA, CZ, FZ, GZ, XU, WZ, TZ	19
557	1,59	12,7 - 1/2"	6,35 - 1/4"	6,35 - 1/4"	XA, CZ, FZ, GZ, WZ, KZ	19,5
649	1,72	12,7 - 1/2"	7,9 - 5/16"	6,35 - 1/4"	XA, CZ, FZ, GZ, QZ, TZ	20
766	1,95	15,9 - 5/8"	7,9 - 5/16"	6,35 - 1/4"	CZ, FZ, GZ, QZ, TZ	22
844	1,89	15,9 - 5/8"	7,9 - 5/16"	6,35 - 1/4"	FZ	22
1047	1,94	15,9 - 5/8"	12,7 - 1/2"	7,9 - 5/16"	FZ, GZ, TZ, KZ	30
1417	2,06	15,9 - 5/8"	12,7 - 1/2"	7,9 - 5/16"	FZ, GZ, TZ, KZ	31
1442	1,85	22,2 - 7/8"	15,9 - 5/8"	9,5 - 3/8"	KZ, TZ	44
1727	2,05	22,2 - 7/8"	15,9 - 5/8"	9,5 - 3/8"	KZ, TZ	44
1951	2,09	22,2 - 7/8"	15,9 - 5/8"	9,5 - 3/8"	KZ, TZ	44
2080	2,04	22,2 - 7/8"	15,9 - 5/8"	9,5 - 3/8"	KZ, TZ	45
2554	1,93	22,2 - 7/8"	15,9 - 5/8"	9,5 - 3/8"	TZ	45

EN12900 Evaporation T° -10 °C		Outside operating diameter			Voltages available	Weight kg
P abs (Watt)	COP (W/W)	Suction (mm - inches)	Discharge (mm - inches)	Load (mm - inches)		
290	1,83	9,5 - 3/8"	7,9 - 5/16"	-	XA, CZ, FZ	11
336	1,90	9,5 - 3/8"	7,9 - 5/16"	-	XA, CZ, FZ	11
358	1,97	12,7 - 1/2"	7,9 - 5/16"	-	XA, CZ, FZ	12
461	2,02	12,7 - 1/2"	7,9 - 5/16"	-	XA, CZ, FZ	12,5

## EN 12900

	BP	HP/MHP
Evaporation T°	- 35 °C	- 10 °C
Condensation T°	+ 40 °C	+ 45 °C
Gas return T° (= evaporator outlet)	+ 20 °C	+ 20 °C
Sub-cooling	OK	OK



NOTE: one of the main consequences of these measurement conditions of the compressor cooling performances is a variation of these values with regards to the previous values published in some documents. These standards guarantee new powers that are closer to the «reality» of your various cooling installations and in compliance with european standards.

## VOLTAGE CODE



Previous code letter	New code letter	Description
C	<b>CZ</b>	208V 1~ 50 Hz / 230V 1~ 60 Hz
F	<b>FZ</b>	220 - 240V 1~ 50 Hz
G	<b>GZ</b>	208 - 220V 1~ 50 Hz
H	<b>HZ</b>	208 - 220V 1~ 60 Hz
K	<b>KZ</b>	220V 3~ 50 Hz / 220V 3~ 60 Hz
Q	<b>QZ</b>	200V 3~ 50 Hz / 200V 3~ 60 Hz
T	<b>TZ</b>	400V 3~ 50 Hz / 440V 3~ 60 Hz
W	<b>WZ</b>	208-230V~ 50 Hz / 220-230V~ 60 Hz
A	<b>XA</b>	100V 1~ 50 Hz / 115V 1~ 60 Hz
XG	<b>XG</b>	380-420V 3~ 50 Hz / 460V 3~ 60 Hz
M	<b>XU</b>	100V 1~ 50 Hz / 100V 1~ 60 Hz
V	<b>XZ</b>	115V-40 Hz / 230V-80Hz - 3~

# R-404A

# NEGATIVE COMMERCIAL COOLING

	Models	Capacity cm <sup>3</sup>	Motor type	EN12900 (RTG 20 °C) – 50 Hz					
				Evaporation T°					
				-35 °C	-30 °C	-25 °C	-20 °C	-15 °C	-10 °C
	THB2360Z	3,6	CSIR	86	115	149	190	238	293
	THB2378Z	4,2	CSIR	100	133	172	219	274	339
	THB2396Z	5,2	CSIR	131	172	220	277	344	422
	<b>NEW</b> AE2410Z	5,02	CSIR	140	189	246	315	398	496
	<b>NEW</b> AE2415Z	7,33	CSIR	186	251	327	419	529	660
	<b>NEW</b> AE2420Z	9,35	CSIR	257	346	451	578	730	911
	<b>NEW</b> AE2425Z	12,01	CSR	334	450	587	752	949	1184
	CAJ/TAJ2428Z	15,2	CSIR / TRI	306	434	589	773	991	1246
	CAJ/TAJ2432Z	18,3	CSR / TRI	381	542	738	971	1247	1567
	CAJ2440Z	21	CSR / TRI	463	647	870	1135	1446	1807
	CAJ/TAJ2446Z	26,2	CSR / TRI	627	859	1133	1451	1819	2241
	CAJ/TAJ2464Z	34,5	CSR / TRI	828	1116	1459	1864	2336	2882
	FH/TFH2480Z	53,2	CSR / TRI	1125	1587	2111	2701	3364	4105
	FH/TFH2511Z	74,2	CSR / TRI	1490	2124	2887	3791	4849	6073
	<b>NEW</b> TAG2513Z	100,7	TRI	1913	2468	3208	4138	5255	6570
	TAG2516Z	112,5	TRI	2345	3156	4218	5531	7092	8900
TAG2522Z	135	TRI	2685	3793	5136	6747	8661	10914	
<b>NEW</b> TAG2525Z	145	TRI	3607	4653	6048	7803	9909	12387	

\* Natural cooling

	Models	Capacity cm <sup>3</sup>	Motor type	EN12900 (RTG 20 °C) – 50 Hz					
				Evaporation T°					
				-35 °C	-30 °C	-25 °C	-20 °C	-15 °C	-10 °C
	RG/HGA2426Z	9,5	CSR	344	436	545	672	820	990
	RG/HGA2432Z	11,5	CSR	426	537	667	818	993	1193
	RG/HGA2436Z	12,8	CSR	449	569	711	878	1071	1295
	RG/HGA2446Z	16,1	CSR	582	738	923	1142	1398	1696

In a constant endeavour to improve its products, TECUMSEH EUROPE reserves the right to change any information contained in the catalogue without prior warning.

EN12900 Evaporation T° -35 °C		Outside operating diameter			Voltages available	Weight kg
P abs (Watt)	COP (W/W)	Suction (mm - inches)	Discharge (mm - inches)	Load (mm - inches)		
104	0,83	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	XA, FZ, GZ	7
136	0,74	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	XA, FZ, GZ	8
157	0,83	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	FZ	8,3
159	0,88	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	FZ	9,9
206	0,90	6,35 - 1/4"	4,76 - 3/16"	6,35 - 1/4"	FZ	10
305	0,84	9,5 - 3/8"	6,35 - 1/4"	6,35 - 1/4"	FZ	10,1
367	0,91	9,5 - 3/8"	6,35 - 1/4"	6,35 - 1/4"	FZ	10,1
368	0,83	12,7 - 1/2"	6,35 - 1/4"	6,35 - 1/4"	XA, FZ, GZ, TZ	20
417	0,91	12,7 - 1/2"	7,9 - 5/16"	6,35 - 1/4"	XA, FZ, GZ, TZ	21
499	0,93	12,7 - 1/2"	7,9 - 5/16"	6,35 - 1/4"	FZ	22
604	1,04	12,7 - 1/2"	7,9 - 5/16"	6,35 - 1/4"	XA, FZ, GZ, KZ, TZ	22
845	0,98	15,9 - 5/8"	9,5 - 3/8"	6,35 - 1/4"	XA, FZ, GZ, KZ, TZ	23
1102	1,02	15,9 - 5/8"	12,7 - 1/2"	7,9 - 5/16"	FZ, GZ, KZ, TZ	32
1388	1,07	15,9 - 5/8"	12,7 - 1/2"	7,9 - 5/16"	FZ, GZ, KZ, TZ	32
1708	1,12	22,2 - 7/8"	15,9 - 5/8"	9,5 - 3/8"	TZ	44
2106	1,11	22,2 - 7/8"	15,9 - 5/8"	9,5 - 3/8"	KZ, TZ	44
2389	1,12	28,6 - 1"1/8	15,9 - 5/8"	9,5 - 3/8"	KZ, TZ	47
3164	1,14	28,6 - 1"1/8	15,9 - 5/8"	9,5 - 3/8"	TZ	47

EN12900 Evaporation T° -35 °C		Outside operating diameter			Voltages available	Weight kg
P abs (Watt)	COP (W/W)	Suction (mm - inches)	Discharge (mm - inches)	Load (mm - inches)		
315	1,09	9,5 - 3/8"	7,9 - 5/16"	-	XA, CZ, FZ	11,5
377	1,13	9,5 - 3/8"	7,9 - 5/16"	-	XA, CZ, FZ	12
412	1,09	12,7 - 1/2"	7,9 - 5/16"	-	XA, CZ, FZ	12
516	1,13	12,7 - 1/2"	7,9 - 5/16"	-	FZ	13

## EN 12900

	BP	HP/MHP
Evaporation T°	- 35 °C	- 10 °C
Condensation T°	+ 40 °C	+ 45 °C
Gas return T° (= evaporator outlet)	+ 20 °C	+ 20 °C
Sub-cooling	OK	OK

NOTE: one of the main consequences of these measurement conditions of the compressor cooling performances is a variation of these values with regards to the previous values published in some documents. These standards guarantee new powers that are closer to the «reality» of your various cooling installations and in compliance with european standards.

## VOLTAGE CODE

Previous code letter	New code letter	Description
C	<b>CZ</b>	208V 1~ 50 Hz / 230V 1~ 60 Hz
F	<b>FZ</b>	220 - 240V 1~ 50 Hz
G	<b>GZ</b>	208 - 220V 1~ 50 Hz
H	<b>HZ</b>	208 - 220V 1~ 60 Hz
K	<b>KZ</b>	220V 3~ 50 Hz / 220V 3~ 60 Hz
Q	<b>QZ</b>	200V 3~ 50 Hz / 200V 3~ 60 Hz
T	<b>TZ</b>	400V 3~ 50 Hz / 440V 3~ 60 Hz
W	<b>WZ</b>	208-230V~ 50 Hz / 220-230V~ 60 Hz
A	<b>XA</b>	100V 1~ 50 Hz / 115V 1~ 60 Hz
XG	<b>XG</b>	380-420V 3~ 50 Hz / 460V 3~ 60 Hz
M	<b>XU</b>	100V 1~ 50 Hz / 100V 1~ 60 Hz
V	<b>XZ</b>	115V-40 Hzw 230V-80Hz - 3~



# APPENDICES

## Unit Conversions

- To convert the cooling production from Watts at 50 Hz into:

Btu/h at 50 Hz, use the multiplier coefficient 3.41.

Kcal/h at 50 Hz, use the multiplier coefficient 0.86.

- In order to obtain a cooling production 60 Hz, multiply its value at 50 Hz by 1.2.

- Approximate conversion rule for obtaining the cooling power in CV at the standard point:

- In medium and high evaporation pressure and air conditioning (T° evap.: + 7,2 °C; T° cond.: + 54,5 °C):

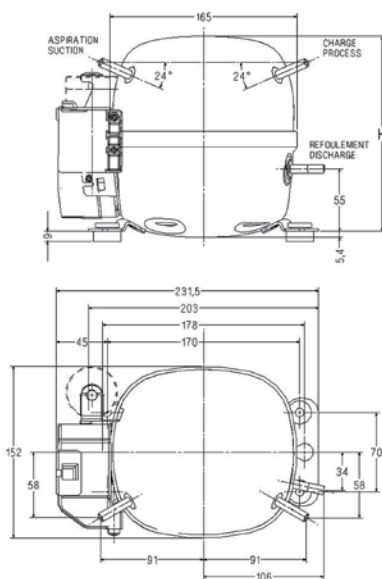
$$Q_o \text{ in CV} = \frac{\text{Cooling power at 60 Hz in Btu/h}}{12000}$$

- In low evaporation pressure (T° evap.: - 23,3 °C; T° cond.: + 54,5 °C):

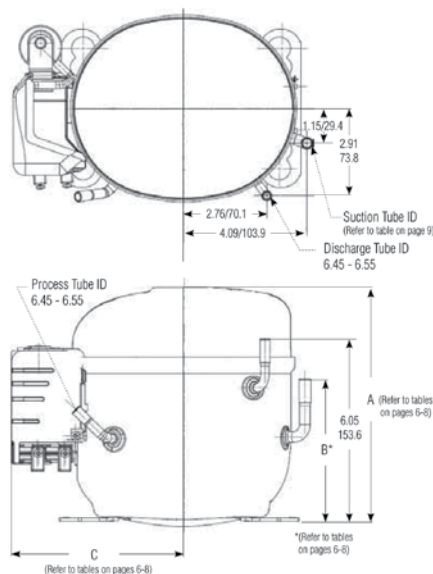
$$Q_o \text{ in CV} = \frac{\text{Cooling power at 60 Hz in Btu/h}}{4000}$$

## Indicative technical diagrams

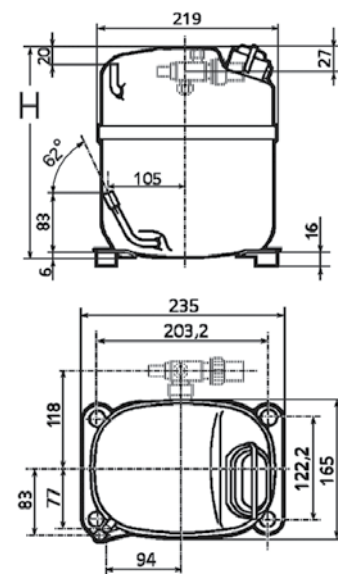
N° 1: TH



N° 2: AE

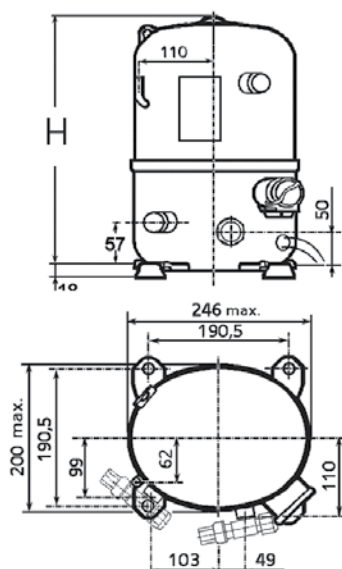


N° 3: AJ / CAJ / TAJ

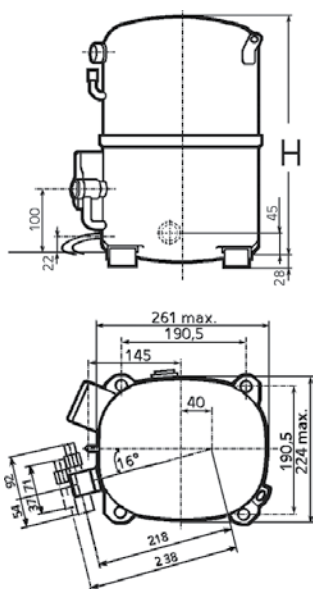


## Indicative **technical** diagrams

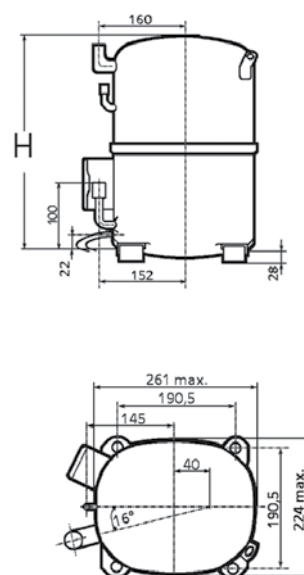
N° 4: FH / TFH



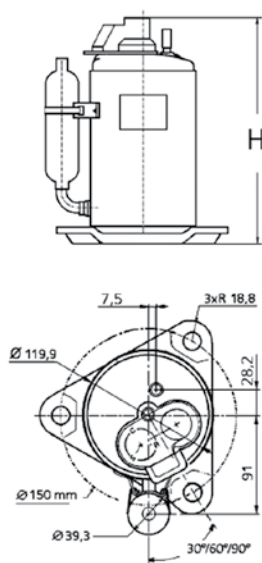
N° 5: AG/TAG



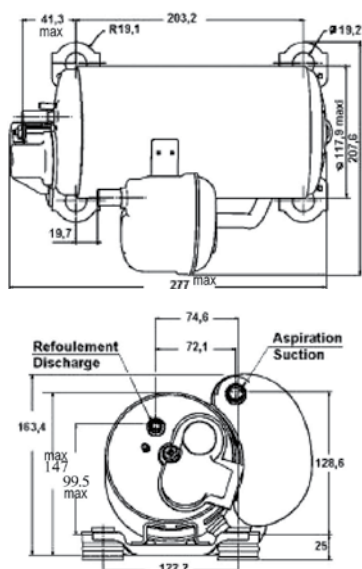
N° 5bis: AG/TAG



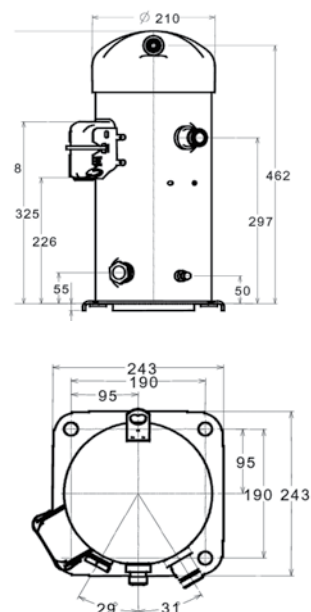
N° 6: RG



N° 7: HG



N° 8: VS

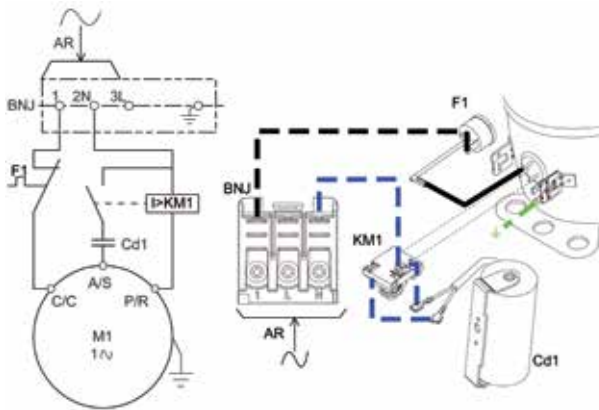


Technical sheets can be consulted at  
[www.tecumseh.com](http://www.tecumseh.com)  
 or on the selection CD

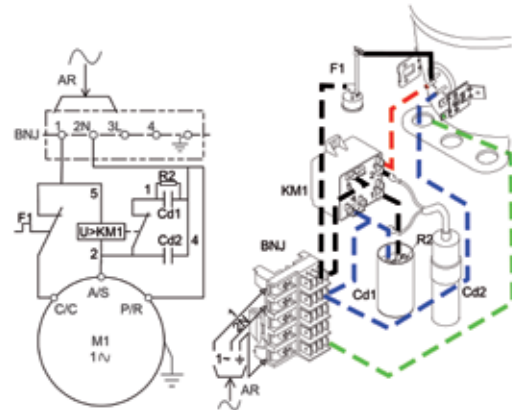
# APPENDICES

## Electrical diagrams

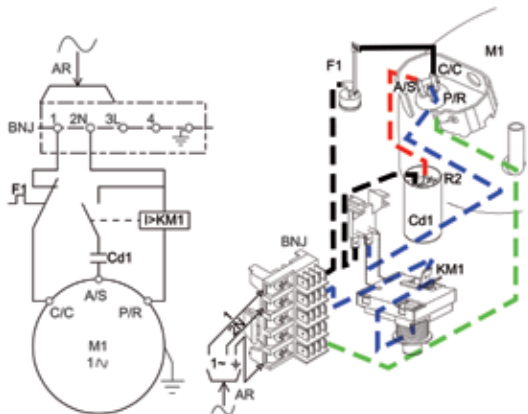
TH/AEZ/AE-CSIR



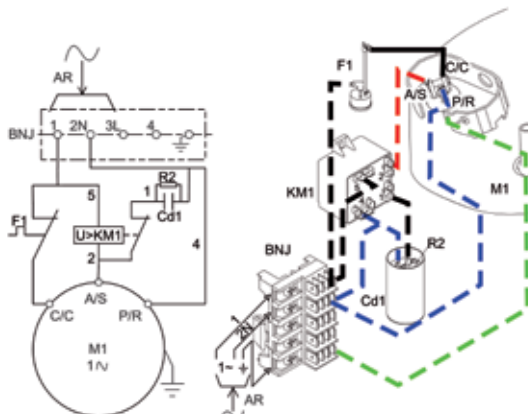
AEZ/AE-CSR



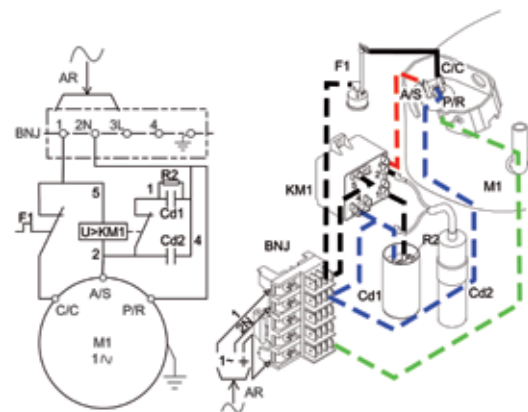
AJ-CSIR-RI



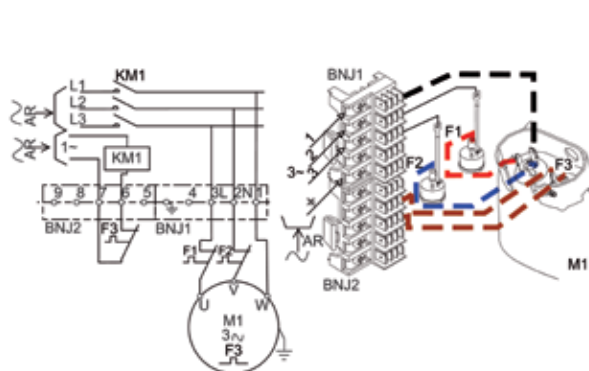
AJ-CSIR-RU



AJ-CSR

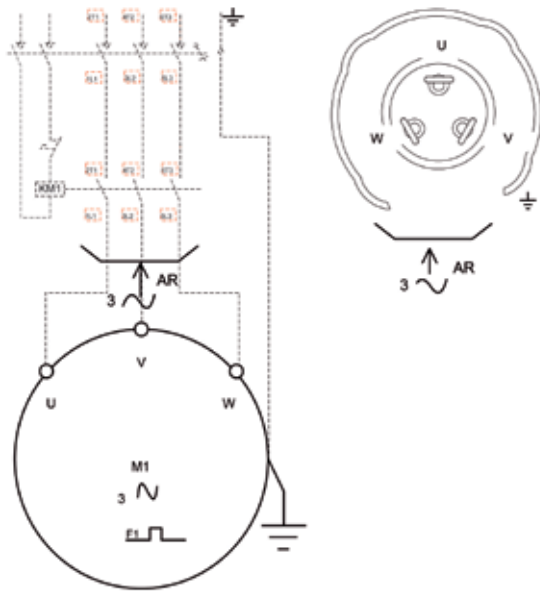


AJ-TRI

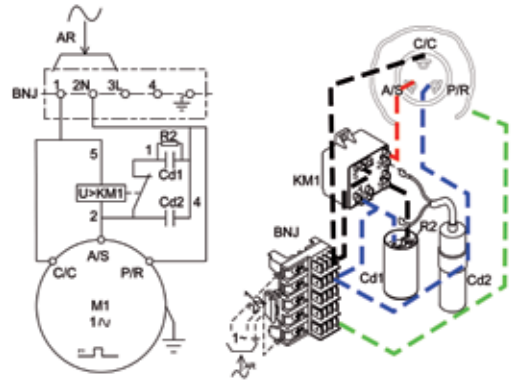


Technical sheets can be consulted at  
[www.tecumseh.com](http://www.tecumseh.com)  
 or on the selection CD

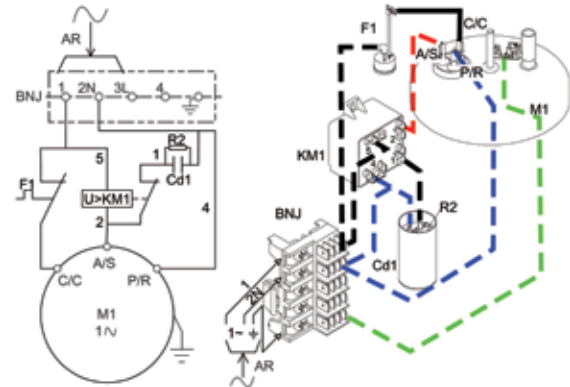
## FH/AG/VS-TRI



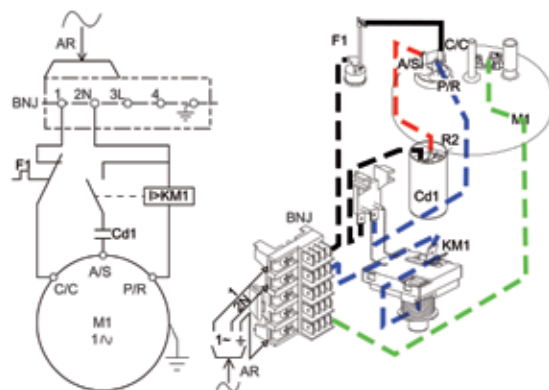
## FH/AG/VS-CSR



## CSIR-RU



## CSIR-RI



## CSR

