



Savings, Performance, 3 Technologies

NEW SILENSYS®

Silence to meet
your highest expectation



Tecumseh



PISTON



ROTARY



SCROLL

Cooling for a Better Tomorrow™



SILENSYS®

The first condensing unit which combines **silence and performance**, available in **3 technologies**.

The only manufacturer to master the 3 compressor technologies.



PISTON

Tecumseh proven compressor technology. Reliability and robustness characterize these reciprocating compressors. Tecumseh continues to lead the way by designing energy efficiency, quiet operation and reliability into every new reciprocating compressor we produce.



ROTARY

Rotary technology ensures optimum performance especially for small cooling capacities. This compressor technology allows energy saving (due to reduced electrical input power on a large evaporation range) and a low acoustic level with a small footprint. Ideally suited for demanding applications, its design gives it great strength.



SCROLL

Scroll technology ensures high efficiency for medium and high cooling capacities regardless of the operating regime. This technology allows significant energy savings and is ideal for demanding applications. Its design gives it great resistance to liquid flooding.

SILENSYS®, a range of cutting edge products

With 50 years of experience in the refrigeration industry, world leader Tecumseh develops and devises high performance condensing unit solutions.

Tecumseh continues to innovate and launches in 2011 three new Silensys® condensing unit ranges.



SILENSYS[®], an innovative idea, French designed and manufactured

MADE IN FRANCE

Tecumseh Europe's R&D department and accredited laboratory guarantee performance levels and validated improvements.

This level of excellence is recognized by the leading accreditation and certification bodies:

- Laboratory COFRAC accreditation
- Compressor performance ASERCOM certification.

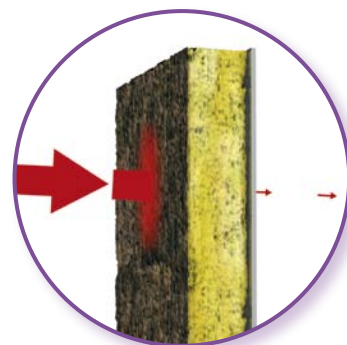


Silensys[®]'s benefits

Acoustics

Silensys[®], the ultra silent range, remains the acoustic reference on the market.

Decrease in sound power is **at least 50% on S, M and L** [-3 dB(A)] and **75% on size XL** [-6 dB(A)].



Energy efficiency

The Reciprocating range has been supplemented by two "High Efficiency" (HE) ranges, which integrate the new Rotary and Scroll compressors. With the addition of EC fan (motors) on some models Tecumseh further meets the needs to reduce energy consumption.

Coefficient of Performance (COP) improvement

- **Reciprocating technology:** on average +5%
- **Scroll technology:** on average +15%
- **Rotary technology:** on average +20%



Robustness and reliability

French made Silensys[®] condensing units are manufactured with **high quality components**.

Silensys[®] is designed to operate in a wide range of environments, including those with high ambient temperatures.



Installation and maintenance

Contents and functions of the new condensing units have been upgraded **in order to ease installation and maintenance**. Safety aspects have also been improved.

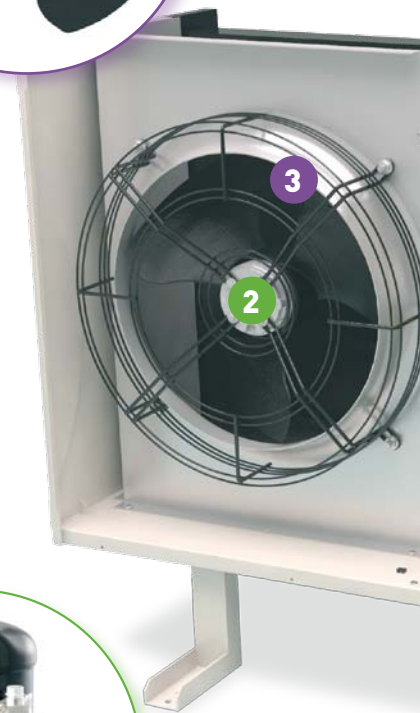


SILENSYS® RANGE

ACOUSTICS

And the silence is

- 1 New fan blade design geometry
- 2 Added foam within the cover to encapsulate noise
- 3 Air flow optimization by adding a buffer around the fan
- 4 Noise transmission is further limited by the lateral double skin plastic door
- 5 Redesigned metal door frame for increased overall stiffness and reduced vibration
- 6 Discharge muffler line reduces the pulsations (depending on model)
- 7 Specific pipe-bending to reduce and absorb cooling circuit vibrations



ENERGY EFFICIENCY

Friendly power

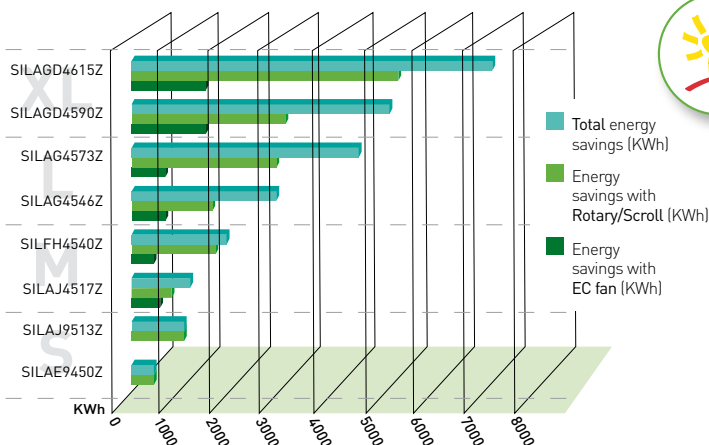
- 1 Reduced electrical input power with Rotary and Scroll technologies due to higher volumetric efficiency
- 2 Improved AC fan performance with permanent capacitor for S size
- 3 Fan speed regulator direct mounted on 3-way valve (or liquid receiver)



Rotary compressor



Scroll compressor



- In a condensing unit compressor power largely determines in the total power consumption
- Tecumseh has anticipated the Energy related Product (ErP) 2013/2015 directive requirements which sets minimum efficiency numbers for EC fans (permanent magnet motor)
- Digital controller on XL Scroll Silensys® for multiple evaporator capability
- Silensys®' condensers are devised to operate in High Ambient Temperature

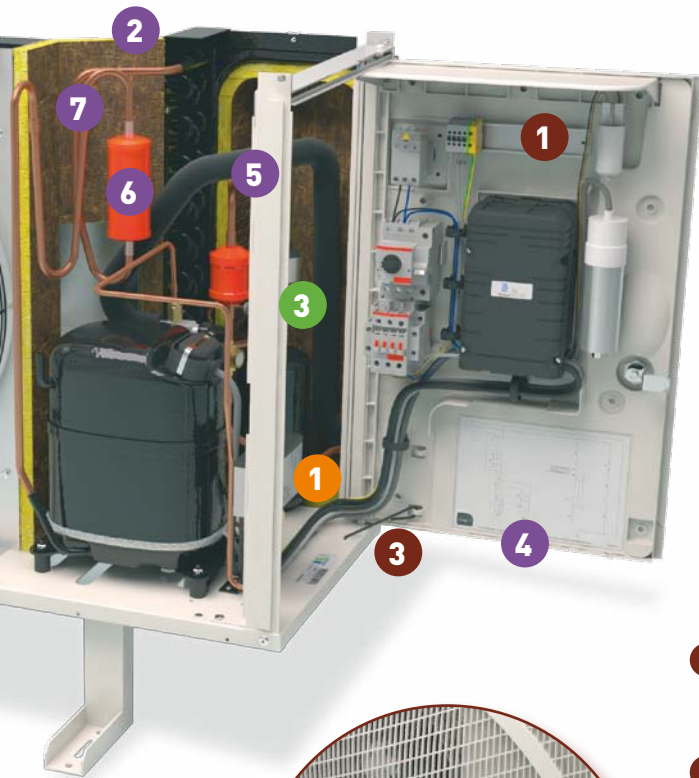


What's new?

ROBUSTNESS & RELIABILITY

Built to last

- 1 Oil management: Silensys® ranges (Rotary, Reciprocating and Scroll) are equipped with an oil separator
- Check valve on cooling circuit for rotary compressors
- Oil equalization piping between 2 compressors (Silensys® DUO)
- IP44 Electrical Protection Class (resistant to water spray)
- Corrosion and UV-resistant condensing unit



REGULATIONS - CERTIFICATIONS

Silensys® has anticipated the Energy related Product European directive (ErP), applicable for electrical motors placed in effect 2013 and 2015.

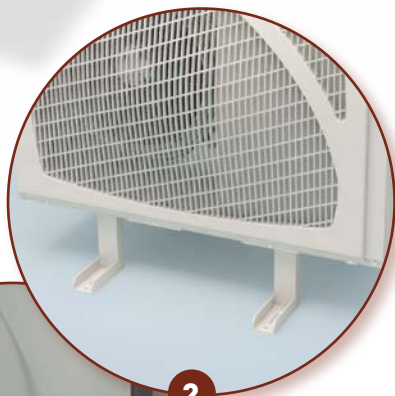
The ErP European directive sets minimum efficiency numbers for fans: applicable for fan input power > 125 W.

All Tecumseh fans are CE marked.

INSTALLATION AND MAINTENANCE

It could not be simpler

- 1 Rail DIN length increased to ease integration of additional components
- 2 Floor or wall setting installation (on S and M sizes)
- 3 90° open door lock
- Electrical safety reinforcement:
 - Power circuit breaker
 - Additional circuit breaker on EC fan motor
 - Internal or external overload on compressor
- Valve on liquid receiver for refrigerant capture during maintenance
- Easy removable front panel for accessibility (M, L and XL sizes)



OPTIONS

- Fusible plug to protect over pressure
- Sightglass mount on liquid receiver
- HP/BP – HP pressure switch/ manual reset

SILENSYS®

A range that meets all your needs

MODEL S

MODEL M

MODEL L



Volume

From S to L: 1 m³ to 170 m³

Power

From S to L: 0,5 kW to 14 kW



Small business

Proximity stores/Bio medical

Petrol station

Whatever the volume to cool,
a Silensys® product meets your needs:

Applications:

- Cold rooms
- Fermentation chambers
- Refrigerated cabinets
- Wine cellars
- Ice makers

Segments:



- Proximity food stores (small supermarket, petrol station, bakery, butcher's, delicatessen, fish shop...)
- Supermarkets
- Non food proximity stores

Others:

- Wine merchant, beer and wine bar, restaurants, community kitchen, biomedical units, morgue



PISTON

	VOLTAGE CODE	Cooling capacity (Watts) EN13215 Return suction gas 20 °C								EN13215 Super heating 10K		Sound pressure 10 m	Sound pressure 5 m	Sound power	
		FZ TZ K	Ambient temperature	-15 °C	-10 °C	-5 °C	0 °C	5 °C	10 °C	15 °C	Cool. cap. (W) -10 °C	Power input (W)	Acoustic* [dB(A)]		
	SILAE4440Y	FZ	25	536	679	855	1064	1306	1581	1890	636	412			
			32	481	611	772	964	1186	1439	1723	569	425	27	33	58
			43	393	504	642	807	998	1216	1460	465	445			
	SILAJ4461Y	FZ/TZ	25	757	970	1221	1512	1845	2221	2643	907	499			
			32	686	882	1112	1380	1688	2038	2431	820	517	28	34	59
			43	573	742	941	1174	1442	1750	2099	683	545			
	SILAJ4476Y	FZ/KZ	25	910	1164	1457	1790	2164	2582	3042	1088	602			
			32	804	1042	1313	1621	1966	2350	2773	968	610	29	35	60
			43	628	838	1076	1343	1641	1972	2336	770	622			
SILAJ4492Y	FZ/TZ	25	1151	1463	1821	2224	2672	3162	3692	1370	676				
		32	1024	1313	1643	2014	2424	2874	3361	1222	692	29	35	60	
		43	810	1069	1360	1683	2039	2429	2852	983	716				
SILAJ4511Y	FZ/TZ/KZ	25	1458	1832	2252	2715	3217	3753	4317	1710	788				
		32	1321	1670	2059	2485	2945	3434	3947	1550	809	30	36	61	
		43	1094	1405	1746	2116	2511	2928	3362	1289	841				
	SILFH4518Y	FZ/TZ/KZ	25	2186	2697	3313	4036	4864	5798	6837	2516	1270			
			32	1858	2359	2951	3635	4410	5276	6234	2187	1282	34	40	65
			43	1343	1828	2382	3005	3696	4456	5285	1675	1302			
	SILFH4525Y	FZ/TZ/KZ	25	2843	3512	4276	5134	6086	7133	8274	3266	1707			
			32	2475	3102	3817	4619	5509	6486	7551	2867	1703	36	42	67
			43	1896	2458	3096	3810	4602	5470	6415	2245	1695			
	SILAG4528Y	TZ/KZ	25	3074	4120	5324	6685	8203	9878	11711	3846	1697			
			32	2645	3586	4680	5926	7326	8878	10583	3328	1796	39	45	70
			43	1972	2746	3667	4734	5947	7306	8811	2520	1951			
SILAG4534Y	TZ/KZ	25	3490	4622	5920	7384	9014	10810	12772	4315	2039				
		32	3007	4020	5192	6525	8017	9668	11479	3730	2029	39	45	70	
		43	2247	3074	4049	5175	6450	7874	9448	2820	2013				
SILAG4537Y	TZ/KZ	25	4247	5434	6808	8369	10117	12052	14174	5070	2342				
		32	3626	4730	6001	7440	9047	10822	12765	4401	2291	39	45	70	
		43	2649	3622	4733	5981	7366	8889	10550	3319	2434				
SILAG4543Y	TZ/KZ	25	4790	6114	7598	9241	11043	13004	15124	5701	2548				
		32	4106	5328	6694	8203	9855	11650	13589	4936	2556	39	45	70	
		43	3031	4092	5273	6571	7988	9523	11177	3746	2570				
	SILAGD4556Y	TZ	25	6004	7771	9826	12170	14802	17723	20932	7251	3214			
			32	4803	6462	8390	10588	13054	15790	18795	5993	3284	46	52	77
			43	2916	4405	6134	8101	10308	12753	15437	4040	3393			
	SILAGD4568Y	TZ	25	6911	8934	11252	13866	16775	19980	23481	8320	3883			
			32	5788	7696	9864	12291	14977	17923	21129	7128	3849	46	52	77
			43	4024	5752	7683	9816	12152	14691	17433	5272	3795			
	SILAGD4574Y	TZ	25	7528	9591	11978	14689	17724	21083	24765	8935	4185			
			32	6382	8375	10632	13155	15943	18995	22312	7752	4278	46	52	77
			43	4580	6463	8517	10744	13144	15715	18458	5910	4425			
SILAGD4586Y	TZ	25	7654	9906	12484	15388	18619	22177	26061	9229	4291				
		32	6634	8727	11109	13780	16739	19988	23526	8083	4320	46	52	77	
		43	5031	6875	8949	11252	13785	16549	19542	6298	4364				

Preliminary data.

* Sound level at maximum speed ventilation
 ** In: nominal current - Im: maximal current

Technical data				FZ Voltage code			TZ Voltage code			KZ Voltage code			Weight	
Air flow (m³/h)	Liquid receiver volume (L)	For tubing O.D.		220V - 240V 50 Hz 1~			400V 50 Hz / 440V 60 Hz 3~			220V 50 Hz / 220V 60 Hz 3~			Gross (kg)	Net (kg)
		Suction	Liquid line	Power input (W)	In (A)**	Im (A)	Power input (W)	In (A)	Im (A)	Power input (W)	In (A)	Im (A)		
1 650	0,75	3/8	1/4	504	3,2	4,5	-	-	-	-	-	-	86	66
1 650	1,5	1/2	1/4	667	4,0	6,4	616	1,6	2,7	-	-	-	86	66
1 650	1,5	1/2	3/8	794	5,0	7,7	-	-	-	726	3,11	4,1	88	68
1 650	1,5	1/2	3/8	928	5,8	8,9	766	2,0	3,3	-	-	-	88	68
1 650	1,5	5/8	3/8	1 123	5,2	9,4	1 128	2,3	3,9	1 144	4,3	8,3	89	69
2 700	2,35	5/8	1/2	1 841	8,5	12,3	1 441	3,8	5,3	1 597	5,7	8,1	101	79
2 700	2,35	5/8	1/2	2 477	11,1	16,3	1 710	4,6	6,7	2 036	6,7	13,1	103	81
5 400	6	7/8	3/8	-	-	-	2 596	5,1	11,6	2 222	10,0	26,2	143	128
5 400	6	7/8	3/8	-	-	-	2 932	5,7	12,6	2 631	11,4	26,2	143	128
5 400	6	7/8	3/8	-	-	-	3 439	6,4	12,2	2 938	12,2	26,2	143	128
5 400	6	7/8	3/8	-	-	-	3 796	6,9	12,2	3 221	13,3	26,2	143	128
6 600	9,5	1 1/8	5/8	-	-	-	4 746	10,7	21,2	-	-	-	285	258
6 600	9,5	1 1/8	5/8	-	-	-	5 587	11,9	23,2	-	-	-	284	257
6 600	9,5	1 1/8	5/8	-	-	-	6 203	12,6	22,4	-	-	-	284	257
6 600	9,5	1 1/8	5/8	-	-	-	6 780	13,5	22,4	-	-	-	284	257

Old letter code	New letter code	Designation
F	FZ	220-240V-50Hz
/	XC	220-240V-50Hz
K	KZ	220V 3-50Hz 220V 3-60Hz
T	TZ	400V 3-50Hz 440V 3-60Hz
/	XG	380-420V 3-50Hz 460V 3-60Hz

Cooling capacity according EN 13215 conditions: suction gas 20 °C, sub cooling 3K, Ambient T° 32 °C.

Cooling performances are listed for single phase groups.

For three-phase groups in some cases they may be different.

Presentation of acoustic values of maximum fan speed in a straight line and according EN 13215.

In a constant effort to reconcile reported and actual acoustic values,

Tecumseh Europe meets the acoustic standard EN ISO 3743-1.

Silensys® is designed to operate in high ambient temperatures

(Ambient T° 46 °C).

Tecumseh Europe: a commercial refrigeration specialist

A market leader in refrigeration & comfort cooling, Tecumseh Europe is part of the multinational Tecumseh Product Company. Tecumseh Europe designs and manufactures innovative compressors and condensing units specifically for commercial refrigeration applications. Currently, almost 25% of consumable food worldwide is wasted due to non respect of the cold chain. Based on this fact, Tecumseh offers high value-added products and a full product range.

■ Our values

For more than 77 years, Tecumseh's success has been based on shared company values:

- employees are our greatest asset
- a true customer service orientation
- the highest product quality & services
- perpetual technological innovation.

■ Tecumseh: People

This value comes from the professionalism of each employee, with strong technology, sales and industrial competency. Continuous training programs and internal promotion of talented employees guarantees a high level of commitment.

■ Tecumseh: Innovative products

Since 1934, Tecumseh has developed highly innovative products targeting high efficiency & high reliability.

Tecumseh in Europe is the only hermetic compressors manufacturers to provide a wide range of compressors in all three primary hermetic compressor technologies: **Reciprocating, Scroll & Rotary.**

■ Tecumseh: Known worldwide

Several key brands names such as Unité Hermétique®, Silensys®, Masterflux®, Celseon®, and Vector® are supported by more than 1,000 sales representatives and authorized wholesale distributors.

■ Tecumseh: Full range of services

Tecumseh proposes full support from product selection, **unit design, training, sales administration and technical support** on site.

■ Tecumseh: Green technology

Conscious of the economic and ecological stakes of tomorrow, **Tecumseh is committed to sustainable energy and efficiency development.** Tecumseh follows **ISO 14001** (environmental management system) as well as **ISO 9001** (quality management process).

With more than 1,350 employees, Tecumseh Europe is delivering on the promise of innovation, product quality and value. Tecumseh is fully customer focused toward being the best global commercial refrigeration supplier today and into the future.

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