



SST series

Scroll & Screw Two-Stage
Refrigeration Compressor

Toll-free line : 080-088-1953

HQs

No. 172, Sec. 2, Nanjing E. Rd.,
Zhongshan Dist.,
Taipei City 10485

Tel: +886-2-2507-2211
Fax: +886-2-2504-7870

Northern Area Office

No. 60, Sec. 2, Guangfu Rd.,
Sanchong Dist.,
New Taipei City 24158

Tel: +886-2-2995-1411
Fax: +886-2-2995-7925

Taichung Office

No. 49, Gongye 22nd Rd.,
Nantun Dist.,
Taichung City 40850

Tel: +886-4-2359-5617
Fax: +886-4-2359-2296

Kaohsiung Office

No. 57, Kangping St.,
Sanmin Dist.,
Kaohsiung City 80745

Tel: +886-7-311-5951
Fax: +886-7-311-5953

Fusheng has the final interpretation of this catalogue.

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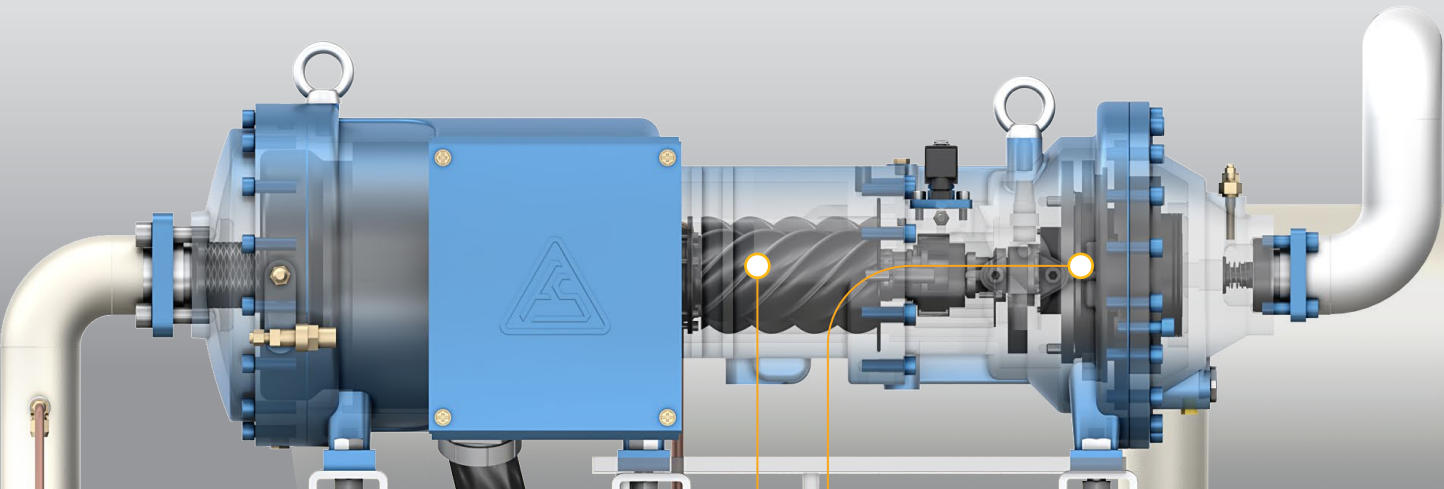
Pursuing Excellence,
Enriching Life

SST series

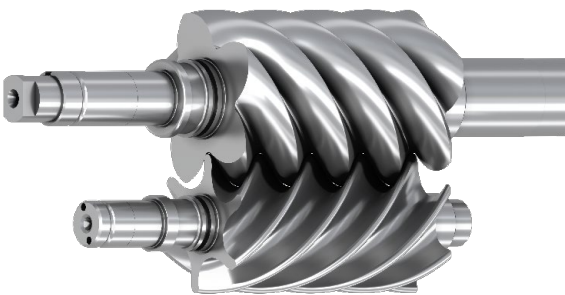
Scroll & Screw Two-Stage
Refrigeration Compressor

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Outstanding performance
Comes from a powerful heart.



Product core introduction



Screw Rotor Structure

The screw rotor design provides better compression performance. For applications between -18°C and -60°C, it is 40% more efficient than a single screw compressor and 45% more efficient than a low-temperature two-stage piston compressor. The performance is outstanding with evaporation temperature of -65°C. It is more energy-saving for the same refrigeration capacity.

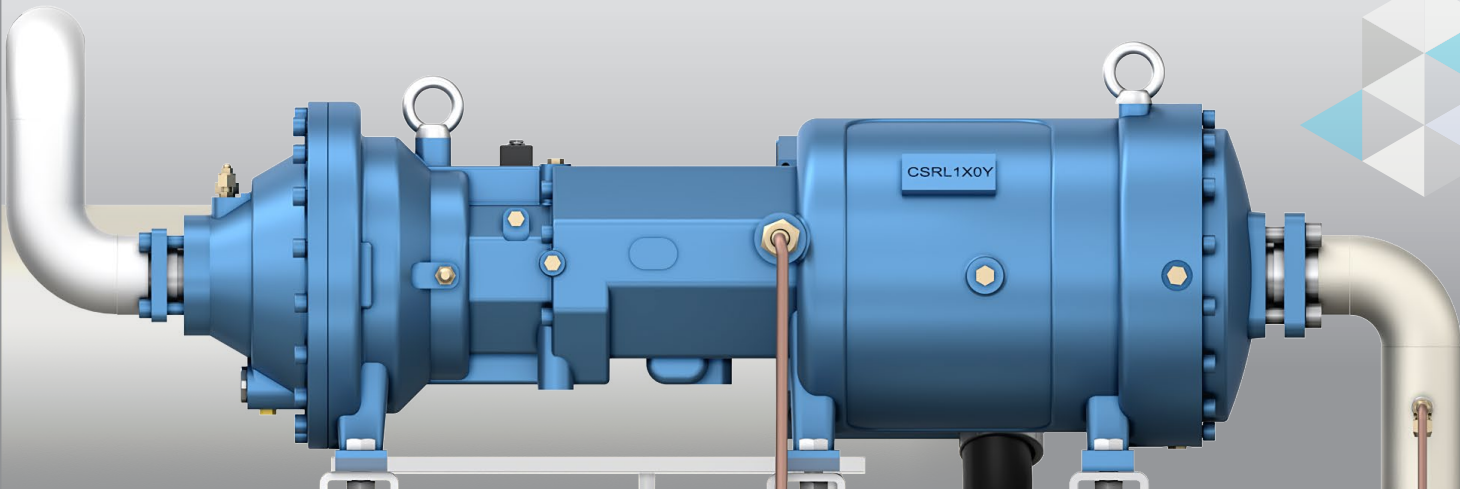


Scroll Structure

The secondary scroll features dedicated compression ratio and patented shape design for a volumetric efficiency up to 97%. The performance is improved by 3% to 5% to lower both operation costs and noise level significantly. The combination of scroll and screw means greater performance and greener operations.

SST100 - 170 series

R404A and R507 refrigerants ;
evaporation temp. : -25°C and -65°C



Industrial applications



Food IQF process



Meat IQF and storage



Offshore fisheries refrigeration



Fisheries processing and freezing



Low temperature petrochemical industry



Pharmaceutical tical frezzing and drying

Scroll & Screw Two-Stage Refrigeration Compressor

Product Features

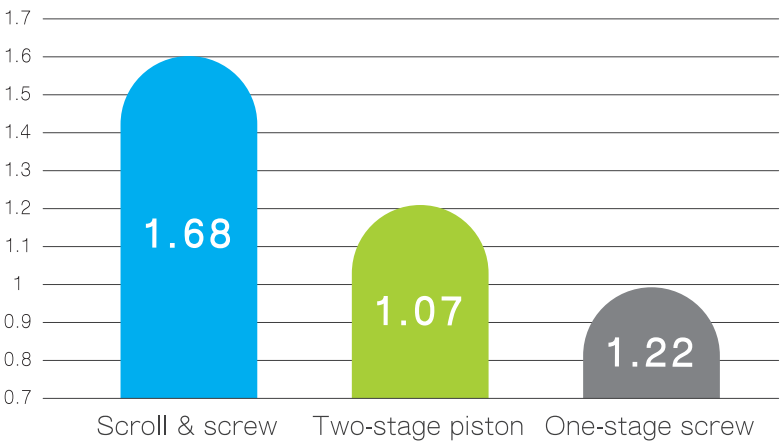
- Evaporating temperature lower to -65°C. (with R404A, R507, R448A or R449A)
- Ability of use in parallel for refrigeration needs at a massive scale.
- Made in Taiwan with in-time service and easy access to service parts.
- First stage screw and secondary scroll design; screw is used at low-pressure section for greater compression and scroll at high-pressure section for better volumetric efficiency.
- The stability of scroll and screw design reduces mechanical vibrations and noises; high volumetric efficiency in high pressure difference environment, such as refrigeration applications; it helps make industrial applications more efficient and create greater commercial benefits.
- The scroll and screw design provides more efficient compression; at least 34% more efficient than a one-stage screw compressor and 45% than a low-temperature two-stage piston unit for applications between -25° C and -60° C.



Compressor efficiency comparison

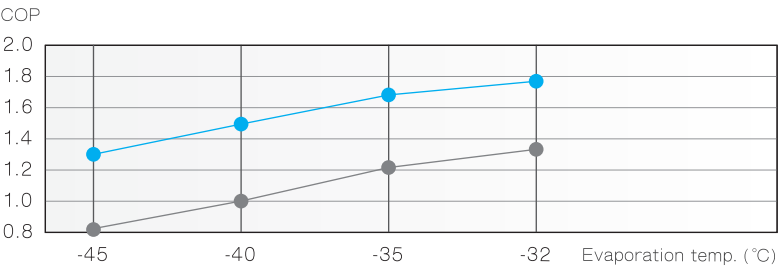
Scroll and screw design
30% more efficient
than two-stage piston unit

Coefficient of performance (COP) of different low-temperature compressors on R404A (-35°C)



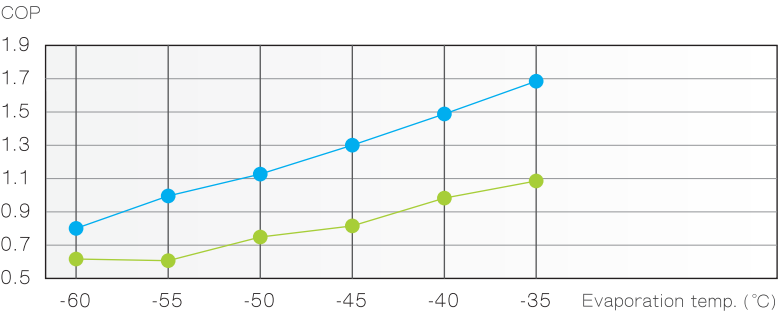
COP of scroll & screw compressor vs. one-stage screw compressor on R404A

Condensing temp., 40°C	Evaporation temperature			
	-45°C	-40°C	-35°C	-32°C
● Scroll & screw	1.3	1.49	1.68	1.76
● One-stage screw	0.85	1.02	1.22	1.34
Difference	153%	146%	138%	134%



COP of scroll & screw compressor vs. two-stage piston compressor on R404A

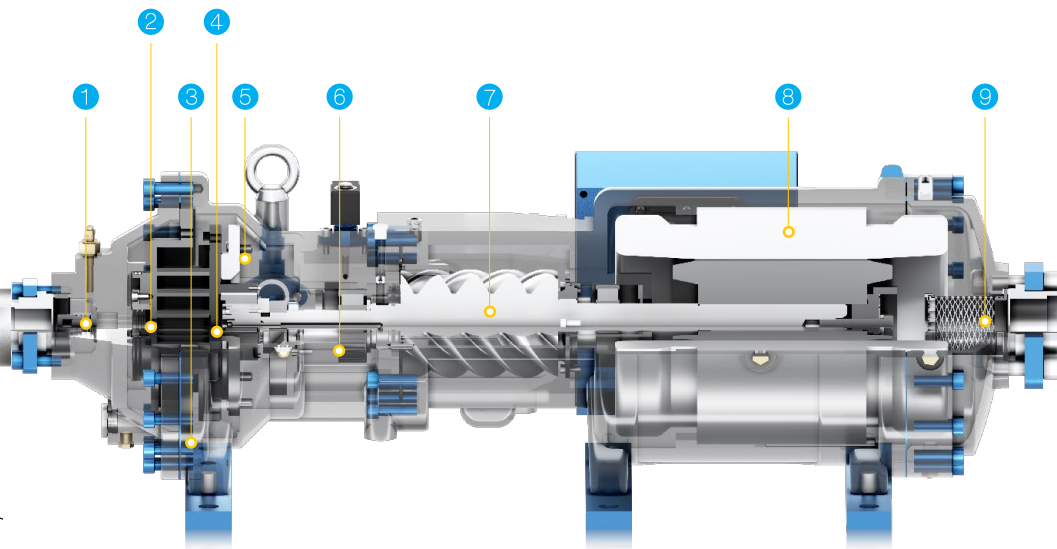
Condensing temp., 40°C	Evaporation temperature					
	-60°C	-55°C	-50°C	-45°C	-40°C	-35°C
● Scroll & screw	0.8	0.96	1.13	1.3	1.49	1.68
● Two-stage piston	0.55	0.64	0.74	0.84	0.95	1.07
Difference	145%	150%	153%	155%	157%	157%



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SST construction

- 1 Check valve
- 2 Fixed scroll
- 3 Oldham - ring
- 4 Orbiting scroll
- 5 Thrust bearing
- 6 Major counter weight
- 7 Rotor
- 8 Motor
- 9 Suction strainer



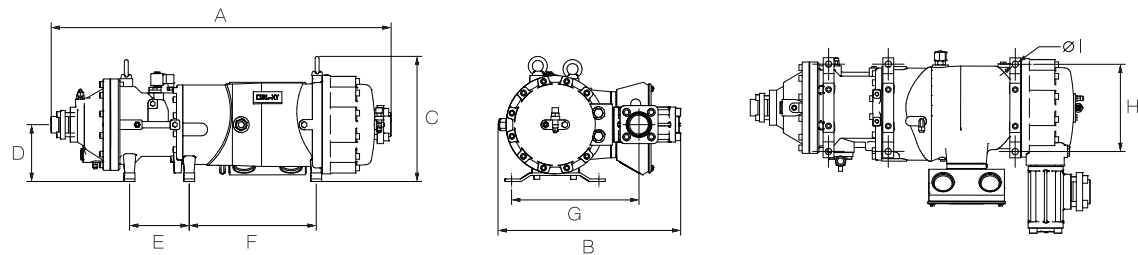
Size and dimension

In mm

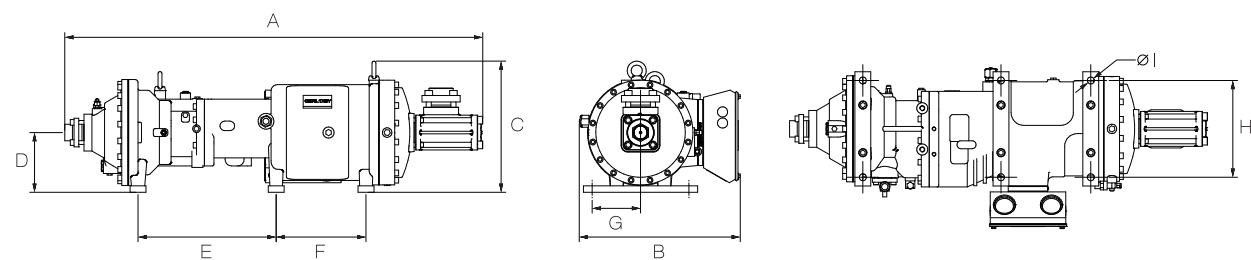
Model	A	B	C	D	E	F	G	H	I
SST100	1071	575	394	179	188	400	401.5	275	20
SST140/170	1316	507	413	188	435	283	152.5	305	22

Data are provided for reference only and subject to change without notice.

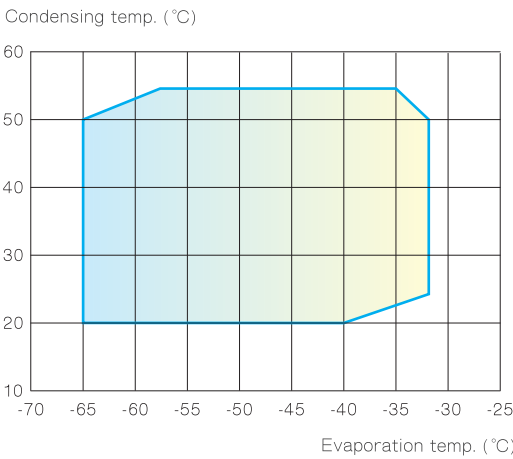
SST100



SST170



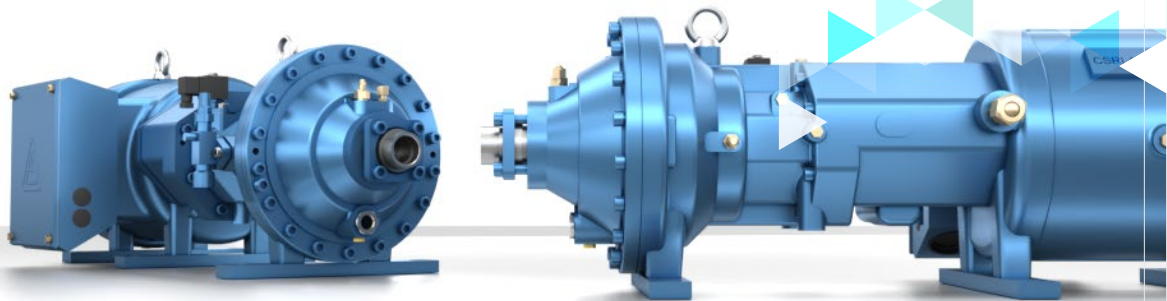
Operation range R404A / R507



Energy efficient for reduction of CO₂ emission

Clients in the food storage business have reported that they have saved a lot on power costs as a refrigeration environment is needed 24-7. The direct effect from the savings is the lowered energy costs. Thanks to the product's effective operation patterns, both the energy demands and CO₂ emissions are reduced to the greatest possible extent in response to the need of the era.

Satisfying multiple freezing and refrigeration applications with reliable capacity.



Technical Data

Model			SST100	SST140	SST170
Inlet pressure saturation temp.		℃	-65℃ ~32℃ (R404/R507)		
Power frequency		Hz	50/60		
Compressor, 2-stage	RPM	RPM	2950/3550		
	Displacement at 50Hz	m³/hr	100	140	170
	Displacement at 60Hz	m³/hr	120	170	204
Refrigerant		—	R404、R507C		
Motor	Voltage	V	380~415 / 220、380、440、460		
	Starting	—	Y-Δ or frequency-converting start, direct start		
Inlet diameter		Inch(mm)	2-5/8" (67)		
Outlet diameter		Inch(mm)	1-5/8" (42)		
Volume control		%	Two-step control (50% - 100%)		
Frequency converting		Hz	30-60Hz		
Lubrication			Lubrication by pressure difference		