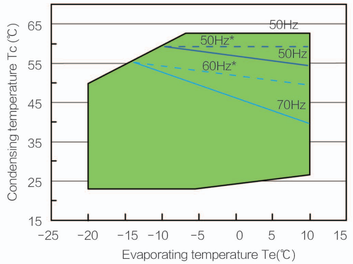
Applications

The compressor is widely used in food flash-freezing, marine refrigeration and ice storage projects.



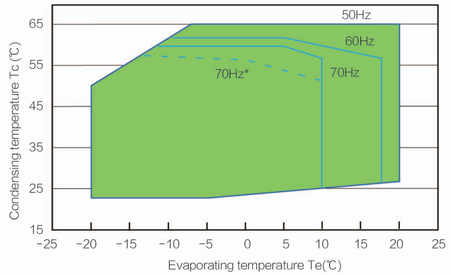
Working Conditions

Figure 3 Application of 134-IS with small motor



It is applicable to most severe working conditions.

Figure 4 Application of 134-IS with large motor



Technical Parameters

Table1 Main technical parameters of 134-IS with small motor

Model	Inside diameter of exhaust port (mm)	Inside diameter of suction port (mm)	Dimensions (mm)			Refrigeration capacity (m^3/h@70Hz)	Maximum running current (A)
			Length	Width	Height		
134-IS-95	54	80	1425	715	712	378	118
134-IS-105	54	80	1425	715	712	430	132
134-IS-125	54	92	1425	715	712	482	145
134-IS-135	67	92	1425	715	712	532	158
134-IS-155	80	104.8	1539	767	772	578	179
134-IS-175	80	104.8	1539	767	772	672	198
134-IS-215	80	104.8	1539	767	772	784	200
134-IS-225	80	104.8	1774	784	823	896	268
134-IS-245	80	104.8	1774	784	823	1008	300
134-IS-295	80	104.8	1774	784	823	1127	317
134-IS-325	104.8	133	2173	878	815	1274	373
134-IS-375	104.8	133	2173	878	815	1400	416
134-IS-415	104.8	133	2173	878	815	1540	473

Table1 Main technical parameters of 134-IS with large motor

Model	Inside diameter of exhaust port (mm)	Inside diameter of suction port (mm)	Dimensions (mm)			Refrigeration capacity (m^3/h@70Hz)	Maximum running current (A)
			Length	Width	Height		
134-IS-100	54	80	1425	715	712	378	142
134-IS-110	54	80	1425	715	712	430	165
134-IS-130	54	92	1425	715	712	482	182
134-IS-140	67	92	1425	715	712	532	196
134-IS-160	80	104.8	1539	767	772	578	226
134-IS-180	80	104.8	1540	824	772	672	250
134-IS-220	80	104.8	1540	824	772	784	285
134-IS-230	80	104.8	1774	821	823	896	338
134-IS-250	80	104.8	1774	821	823	1008	350
134-IS-300	80	104.8	1774	821	823	1127	350
134-IS-330	104.8	133	2173	878	815	1274	470
134-IS-380	104.8	133	2173	878	815	1400	525
134-IS-420	104.8	133	2173	878	815	1540	560

RefComp

134-IS Semi-hermetic inverter

Refrigeration Screw Compressor

RefComp

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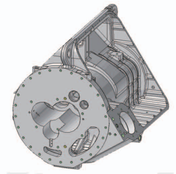
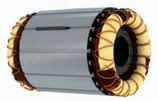
RefComp 134-IS Semi-hermetic Inverter Screw Compressor

134-IS series, RefComp brand-new design specially for R134a refrigerant screw compressor with one inverter for energy control. It is mainly characterized by its integrated layout of the inverter (which is cooled by refrigerant) and the compressor, compact structure and convenience and reliability in application. Compared with other models designed specially for R134a, this compressor has higher real operational efficiency and better flexibility. It has a frequency range of 30Hz~70Hz, 26 models, with displacement ranging from 378~1,540 m^3/h (70Hz) and a nominal power ranging from 100Hp~420Hp (70Hz). Its innovative unique automatic compression ratio control technology ensures the compressor to its largest extent have the best efficiency in a relatively larger and various working conditions. Innovative compression ratio auto- adjust technology ensures the compressor's high efficiency in various working conditions and under partial loads. It is widely applied in air-cooled units, various water and under-ground source heat pump units, ice-storage units, etc.



Compressor body

- Optimized design of suction airways, low suction resistance and sufficient cooling for the motor; straight-through middle airway, reduction of on-way loss; little discharge throttling loss and low energy consumption;
- Compact design and compact structure with an integrated filter, check valve and temperature sensor.

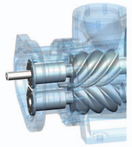


Motor

- Variable-frequency motor is adopted, featuring a high insulation grade, simple and flexible structure, high reliability, small volume and high power density;
- High power factor, small current, low rotor copper losses and prevents excitation losses, highly efficient;
- Special structure design and layout, using over-flow refrigerant gas from air suction check valve to the screw suction side to cool the motor effectively.

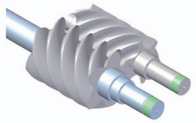
Motor protection

- Part-winding or Y-△ start-up, with small starting current and low energy consumption in operation;
- Several operating voltages and frequencies are designed for different areas to meet different voltage demands; special customized materials are used to adapt to refrigerant requirements;
- System operational information tracking, providing real-time feedback of operating status of the motor and the system.



Bearing

- Multiple bearings are combined to prevent the rotor from being worn axially/radially and achieve high loads and low noise;
- Highly precise & wear-resistant roller element and special profile line with a designed service-life of 80,000 h.



Rotor

- Asymmetric tooth profile at 5/6 for male rotors/female rotors designed by RefComp is used to. optimize compression stroke and maintain smooth and quiet operation of the compressor with favorable lubrication and perfect meshing;
- With high efficiency, high strength and low vibration, low gas pulsation and noise made possible through new technologies, our compressors reaching the highest level worldwide among the equivalent;
- The optimized length/diameter ratio design improving the compression efficiency, effectively working for refrigeration in moderate to high temperatures.

Suction filter

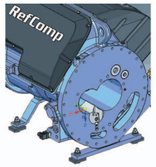
- Suction filters are configured at an interval of 100 μm to remove impurities from cold gas and protect the motor.

Safety valve

- The built-in safety valve connecting the high pressure side and the low pressure side, ensures the internal pressure does not exceed the safety value;
- Designed with high specifications, reliable sealing, precise opening, fully opening timely, stable discharging and closing timely, safe and reliable.

Check valve

- Built-in discharge check valves with low resistance to prevent refrigerant oil backflow during downtime.
- Air suction/discharge check valves rotate 360° with a compact structure, for easy and flexible installation.



Refrigerating capacity control

- Different refrigeration capacities are available for different working conditions with full load or partial load. The inverter is used to control energy;
- Frequency of the inverter ranging from 30Hz~70Hz, wide energy control range;
- The slide value is between the shell and the rotors. It has reasonable, compact design, and superior sealing performance;
- Discharge port structure designed properly, effectively improving radial discharge efficiency;
- High efficiency under partial load. Compared to traditional compressors, the compressor combining tourer motor specd under partial load and optimized fluid dynamic design, increases ESEER by at least 14%.

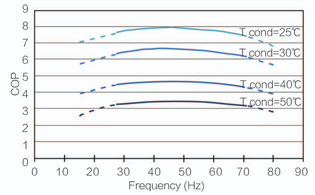
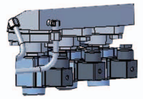


Figure 1 High efficiency under partial load



Built-in volumetric ratio regulation

- Built-in volumetric ratio regulating system;
- Built-in volumetric ratio regulation and variable speed control of motor largely improves COP and shows a great advantage in variable working conditions;
- Optimal efficiency under different working conditions is guaranteed to the largest extent. Compared with traditional compressors, the combination of innovative built-in volumetric ratio control and inverter increases ESEER by at least 26%.

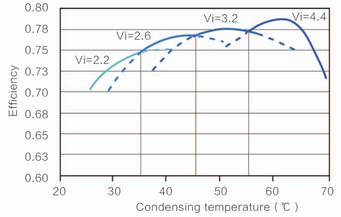
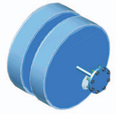


Figure 2 Highest efficiency under different working conditions are ensured to the largest extent



Built-in oil separator

- A built-in oil separator, boasting low-noise design, three-stage separation, multilayer oil mist filters, with oil separating efficiency of up to 99.85%;
- Embedded structure, reducing size of the compressor, ensuring there is lubricating oil inside the compressor to keep bearings and rotors lubricated, preventing lubricating oil from entering the refrigeration system.