

SUSTAINABLE COOLING SOLUTIONS

SECCP



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ABOUT SECCOP

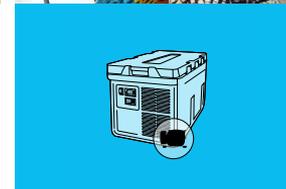
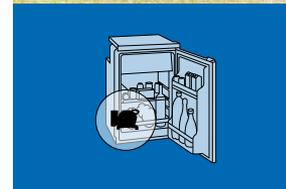
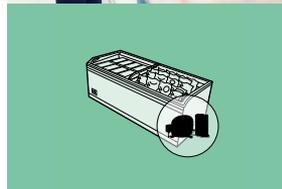
International Provider of:

- Hermetic reciprocating compressors
- Controllers for compressors
- Condensing units
- Refrigeration solutions



Our Markets Are:

- **Light commercial:** (e.g., food service, food retail)
- **Battery driven:** (e.g., electric cars, trucks, RVs, boats)
- **Medical:** (e.g. blood freezers, vaccine storage and transportation)





Vision

Secop strives to be the first choice for partners searching for leading-edge refrigeration solutions and premium customer experience.



Mission

Secop is committed to delivering advanced refrigeration compressors and controls, offering customers tailored sustainable solutions for light commercial, battery-driven, and special cooling applications.



Values

- Perform with **PASSION**
- Deliver high **QUALITY**
- Act with **INTEGRITY**
- Work with **TEAM SPIRIT**

Integral to Your Success

These qualities make Secop an ideal partner for efficient cooling solutions:



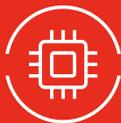
Energy Efficient
"Green Solutions"



Hydrocarbon
Ready



Long Product
Life Cycles



Premium Controllers
for Compressors



Superior Product
Quality and Reliability



Variable-Speed
Compressors

CORE BUSINESSES AND PRODUCTS



Stationary Cooling

Refrigeration compressors and solutions for food retail, food service, medical, commercial freezers or coolers, beverage dispensers, special commercial equipment, and selected residential applications



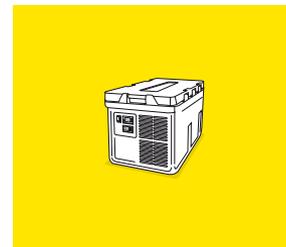
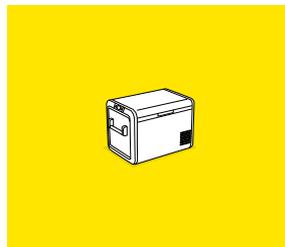
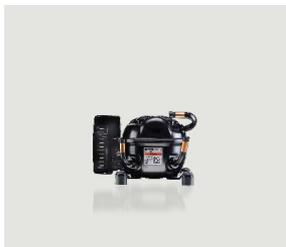
Mobile Cooling

DC-powered or battery-driven compressors specifically designed for mobile cooling solutions: automotive (trucks, cars, bus), recreations vehicles, portable boxes, medical, solar, and special applications



Medical Cooling

Refrigeration compressors and solutions for various vaccine and biomedical cooling requirements including ultra-low temperature models for stationary or mobile appliances providing world-wide safe storage or transport at different temperature levels

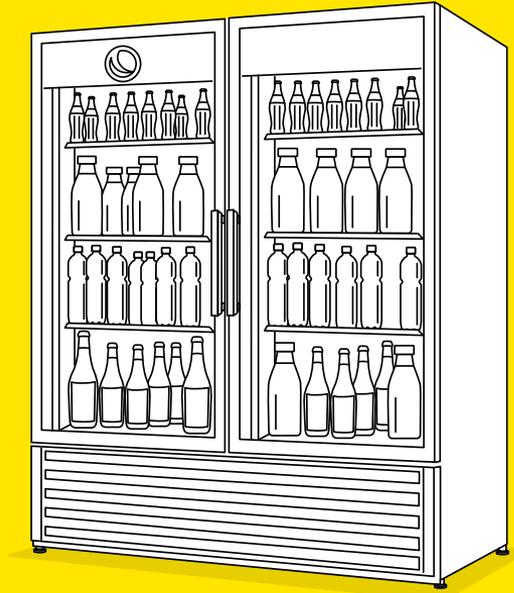




Stationary Cooling

The recipe for successful solutions:

- More than 60 years of experience
- Unparalleled reliability
- Efficient solutions
- Hydrocarbon optimized range
- Premium variable-speed drive
- Global service





Variable-Speed
Drive



Energy
Optimized

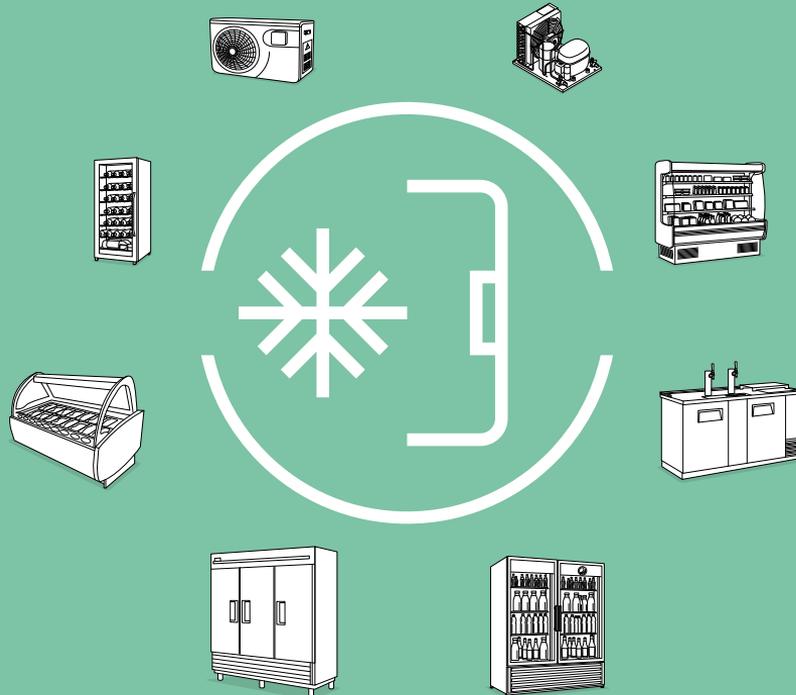


Wide Application
Range



Natural
Refrigerants

Stationary Cooling



Stationary Cooling

Product Portfolio - Variable-Speed



Natural Refrigerants



Variable-Speed Drive

Stationary Cooling

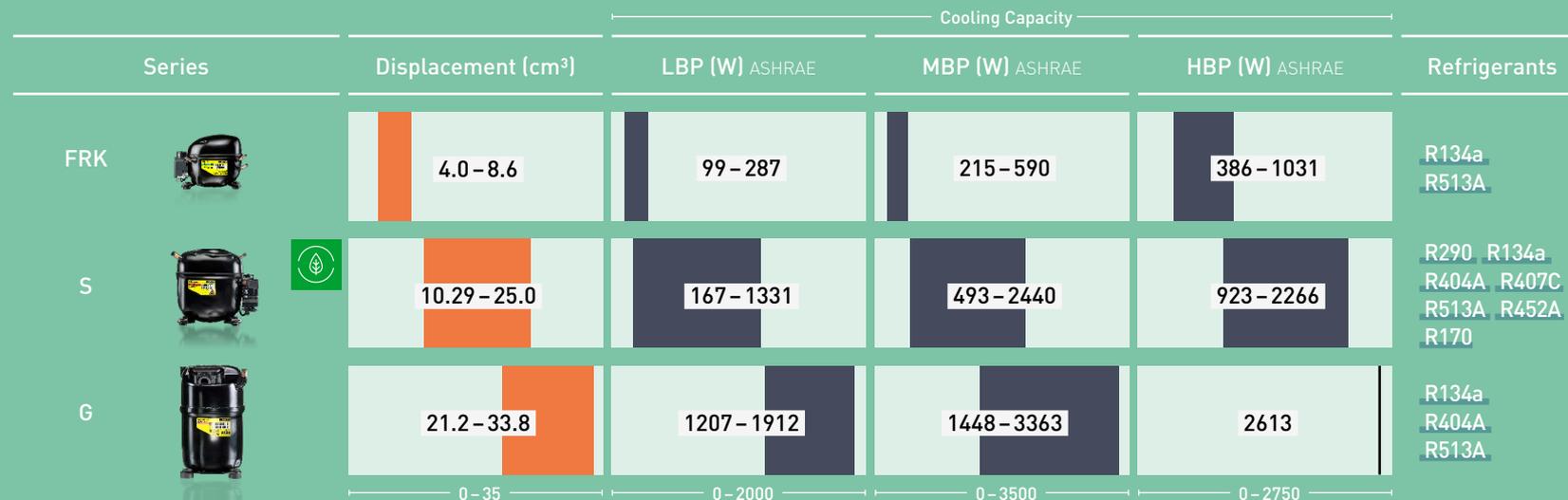
Product Portfolio – Fixed-Speed

Series	Displacement (cm ³)	Cooling Capacity			Refrigerants
		LBP (W) ASHRAE	MBP (W) ASHRAE	HBP (W) ASHRAE	
P 	1.41 – 2.50 	25 – 59	66 – 126	130 – 192	R600a R134a
K 	5.6 – 12.5 	92 – 260			R600a R134a
KL 	4 – 8.6 	102 – 490	221 – 847	398 – 1080	R290 R134a R513A
N 	6.13 – 14.65 	127 – 909	320 – 1557	1400 – 1424	R600a R290 R134a R404A R513A R452A R170
	0 – 35	0 – 2000	0 – 3500	0 – 2750	



Stationary Cooling

Product Portfolio – Fixed-Speed

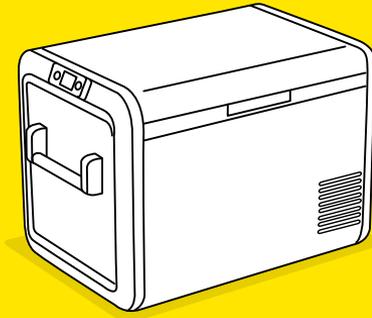




Mobile Cooling

Refrigeration anytime and anywhere:

- DC-powered compressors
- Pioneer with more than 40 years of experience in battery-driven mobile refrigeration solutions
- Reliable solutions (automotive standards)
- High performance in compact size
- Premium control electronics
- Global service



Mobile Cooling



Variable-Speed
Efficiency



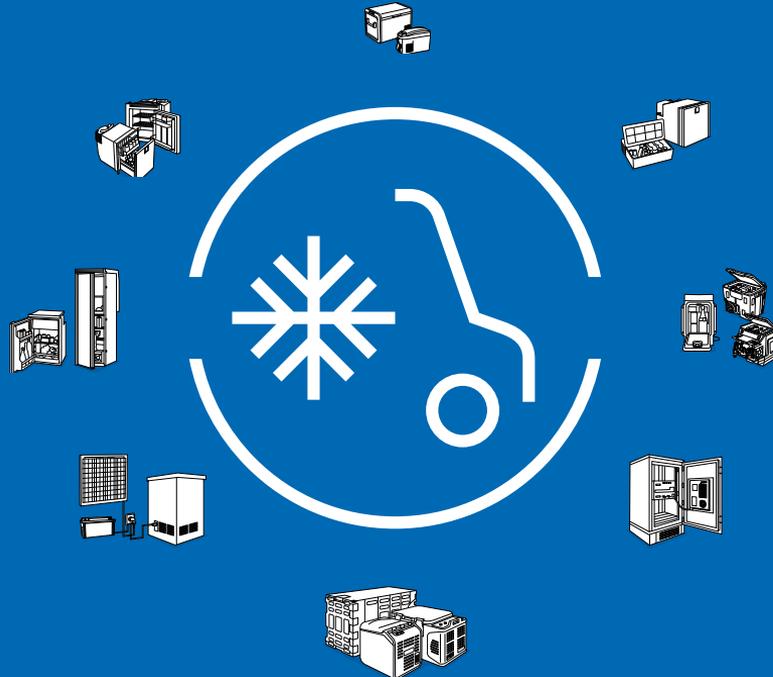
Premium
Controllers



Low Noise
Low Vibration

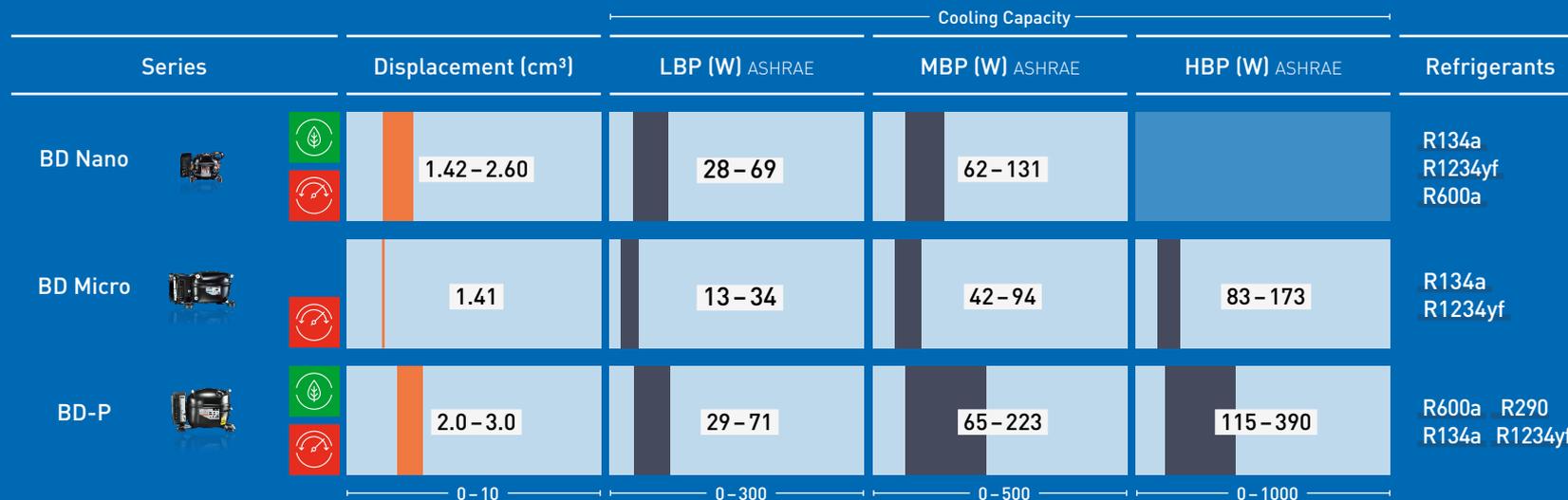


Low GWP
Refrigerants



Mobile Cooling

Product Portfolio

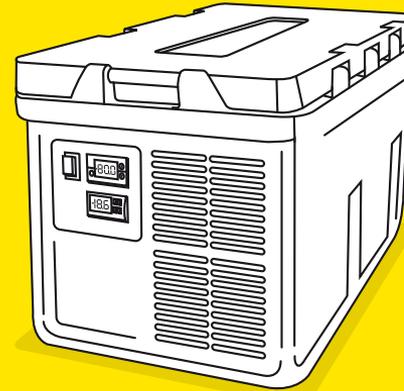




Medical Cooling

Reliable stationary and mobile solutions:

- For stationary biomedical appliances
- Active mobile ULT compressor solutions
- Safe storage and transport in AC/DC mode
- SDD (Solar Direct Drive) solutions
- Used in applications officially certified by WHO
- Electronic controlled solutions
- Global service





AC-Powered
Applications



DC-Powered
Applications

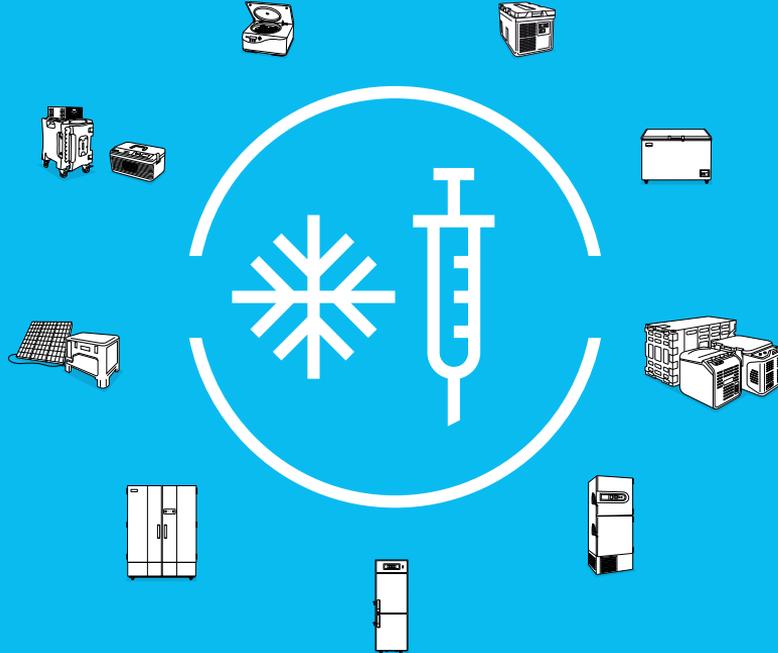


Energy
Optimized



Ultra Low
Temperature

Medical Cooling





Medical Cooling

Product Portfolio

Applications	Evap. temp. range [°C]	Displacement (cm ³)	Cooling Capacity (W)	Test Conditions	Refrigerants
MB CKV 	Solar Powered Vaccine Refrigerators -30 to 5 °C	2.6	66 – 131	ASHRAE MBP	R600a
MN U/UV 	Biomedical Freezers -30 to -60 °C	11.15 – 12.55	245 – 538	EN 12900 LBP	R290 HC mixture R404A R452A
MS U/UV 	Ultra-Low Temperature Freezers -60 to -90 °C	17.69 – 20.95	316 – 657		R290 HC mixture R404A R452A
MP UV 		2	26.7 – 47	pe= -90° pc= -35° Tsuc= 20° Tliq= -35° Tamb= 32.2°	R170 R290 HC mixture



Secoop recommends using 2-stage cascade systems for the temperature range from -60 °C to -90 °C. These have been developed for highest reliability and product safety at ultra-low temperatures.



Medical Cooling

Product Portfolio

Applications	Evap. temp. range [°C]	Displacement (cm ³)	Cooling Capacity (W)	Test Conditions	Refrigerants
MN U/UV 	Ultra-Low Temperature Freezers -60 to -90 °C	11.15 – 12.55	182 – 397	pe= -90° pc= -35° Tsuc= 20° Tliq= -35° Tamb= 32.2°	R170 R290 HC mixture
MS U/UV 		17.69 – 20.95	234 – 477		R170 R290 HC mixture
Mobile ULT Condensing Units 		2x 2	26.7 – 47		R170 R290
Stationary ULT Condensing Units 		2x 17.69	234 – 477		R170 R290
		0 – 35	0 – 1200		



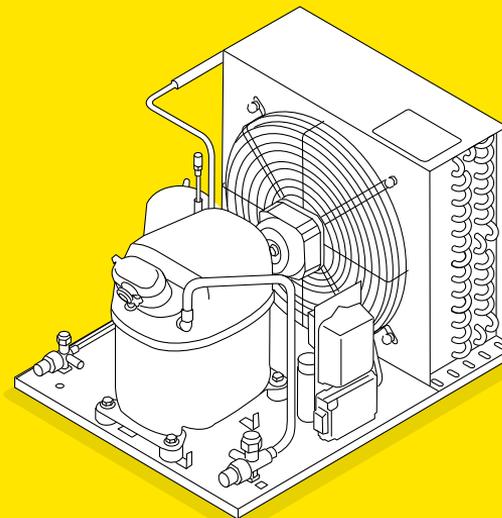
Secoop recommends using 2-stage cascade systems for the temperature range from -60 °C to -90 °C. These have been developed for highest reliability and product safety at ultra-low temperatures.



Stationary Cooling

Condensing Units:

- Natural and alternative refrigerants
- Comply with the EU Ecodesign Directive
- Compact design for installation in tight spaces
- 100% quality control of every single unit
- Using energy-optimized compressors
- Global service





Natural Refrigerants



EU Sustainable Design

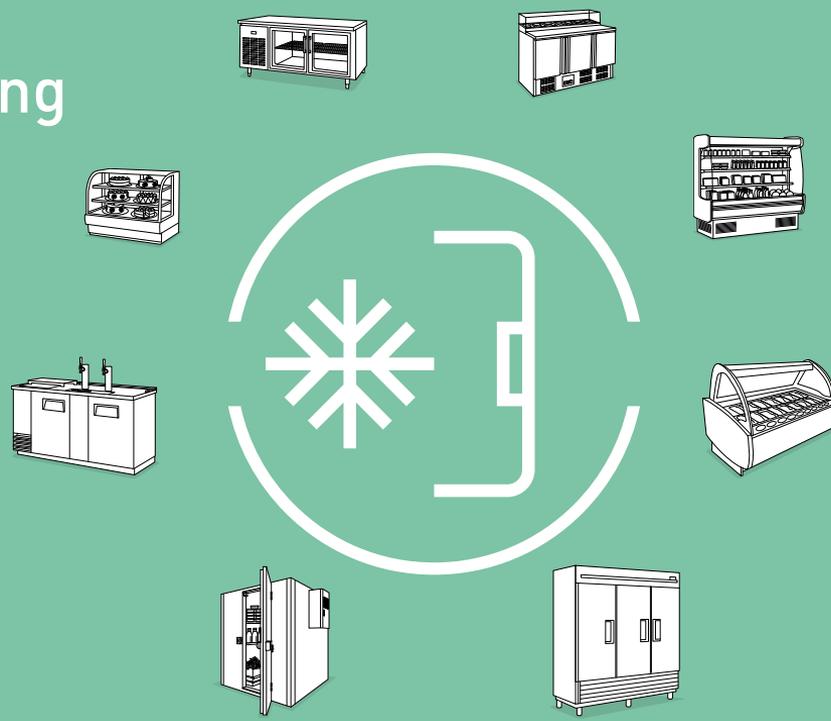


Alternative Refrigerants



Wide Application Range

Condensing Units





Stationary Cooling

Product Portfolio

Series	Displacement (cm ³)	Cooling Capacity		Refrigerants
		LBP (W) EN 13215*	MBP (W) EN 13215*	
KL 	4.8 – 7.7	228 – 422	412 – 700	R290
N 	6.1 – 12.6	159 – 582	326 – 996	R134a R513A R404A R452A R290
S 	10.3 – 21.0	590 – 944	752 – 1683	R134a R513A R404A R452A R449A R290
G 	26.3 – 33.8	1275 – 1712	1372 – 1782	R134a R513A R404A R452A R449A

0-35 0-2000 0-3500



BEYOND THE PRODUCT

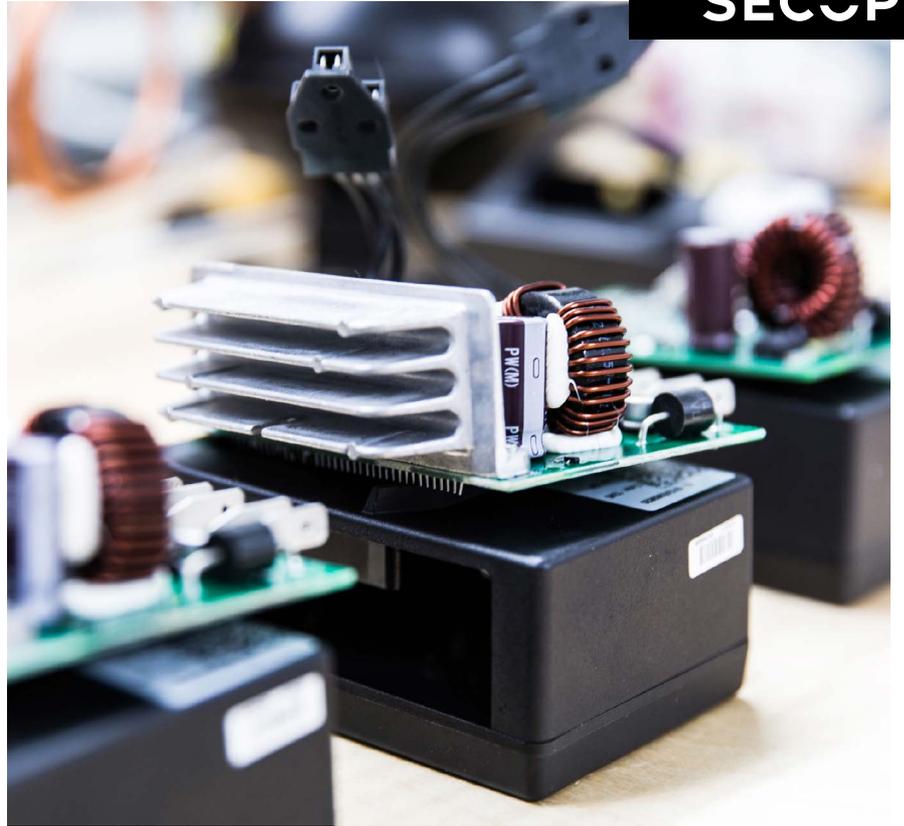
Premium Customer Support

- Sales team aligned to customers with Secop representatives around the globe
- Support in 50+ countries
- Customer service support in different regions
- Worldwide distribution network
- Application engineering worldwide support



Committed to Quality Products

- Preventive quality tools (PPAP, APQP, FMEA ...)
- TS tools (SPC, product and process audits ...)
- Efficient quality control systems
- Field quality and application engineers



Leading Edge Application Engineering

- Testing for customer's appliances
- Advanced trouble shooting
- System optimization support
- Support conversions to HC refrigerants
- System knowledge to support the introduction of variable-speed solutions



Research and Development

Rooted knowledge in mechanics, electrical motors, electronic controls, and thermodynamics development

- 12 international partners for advanced development
- 33 laboratories located in Germany, Slovakia, China, US, and Turkey
- 150+ R&D engineers and technicians
- 400+ patents globally



Advanced Electronics and Controls

- Unparalleled competency in motor design and variable-speed control
- Advanced motor and inverter electronics development
- Simulation tools and innovative design systems



SECCOP

HISTORY AND MILESTONES

The Danfoss Compressors Era

1956

Founded in
Flensburg,
Germany

1977

Mobile cooling
is introduced

1989

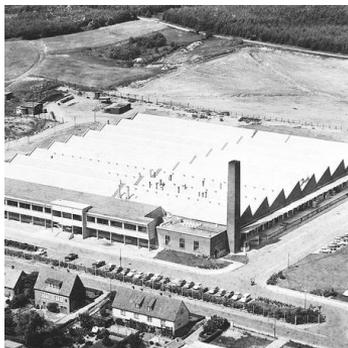
100 Million
compressors
produced

1993

Production of first
natural refrigerant
compressors begins

1998

Introduction
variable-speed
compressors



The Secop Era

2010

New Secop brand and BD Micro Automotive compressor

2015

Energy-optimized DLE and NLE propane compressors

2016

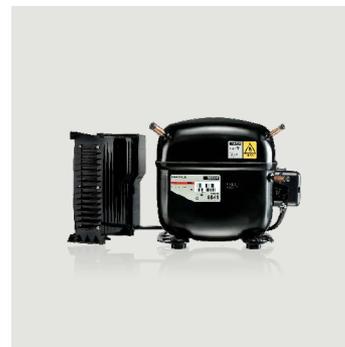
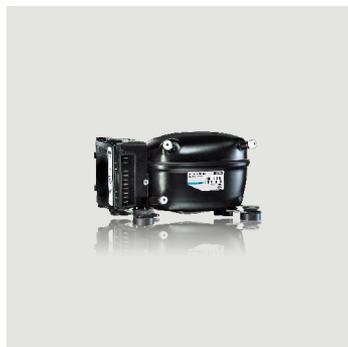
NLV-CN variable-speed propane compressors

2017

Energy-optimized SCE propane compressors

2020

SLVE18CN variable-speed propane compressor



The Secop Era

2021

Ultra-low temperature active mobile medical cooling technology

2022

BD Nano-Series – next generation mobile cooling compressors

KL-Series – A new premium propane solution

2023

Modular electronic MP and XT controllers

2024

Energy-optimized SCE Plus 23/25 cc propane compressors



SECCOP

TODAY

Locations, Footprint, and Figures Today

- Headquarters in Germany
- Production facilities in China and Slovakia
- More than 1,000 employees



6,000,000

compressors produced yearly

Locations in Detail


Flensburg



Sales



R&D



Laboratory


Turin



Sales


Zlaté Moravce



R&D



Logistics



Manufacturing



Laboratory


Spišská Nová Ves



R&D


Çorlu



Laboratory


Tianjin



Sales



R&D



Logistics



Manufacturing



Laboratory


Atlanta



Sales



Logistics



Laboratory

Management Board



Dr. Jan Ehlers
Chief Executive Officer



Johannes Maerz
Chief Operation Officer



Norbert Brath
Chief Technology Officer

Thank You for
Your Attention

