

# SUSTAINABLE COOLING SOLUTIONS

**SECCP**



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# ABOUT SECCOP

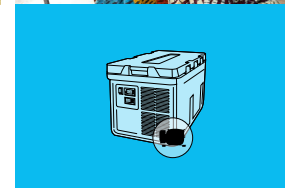
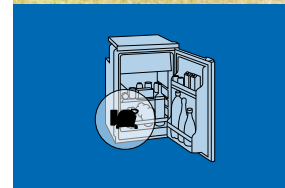
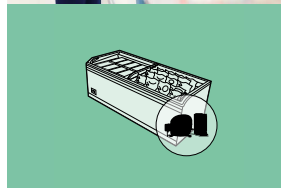
## International Provider of:

- 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



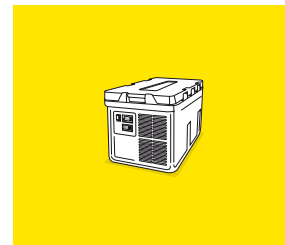
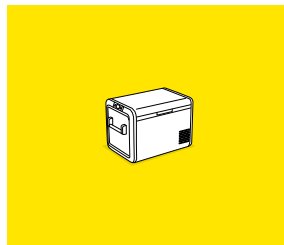
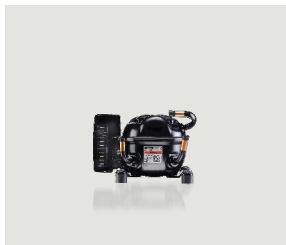
## Mobile Cooling

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

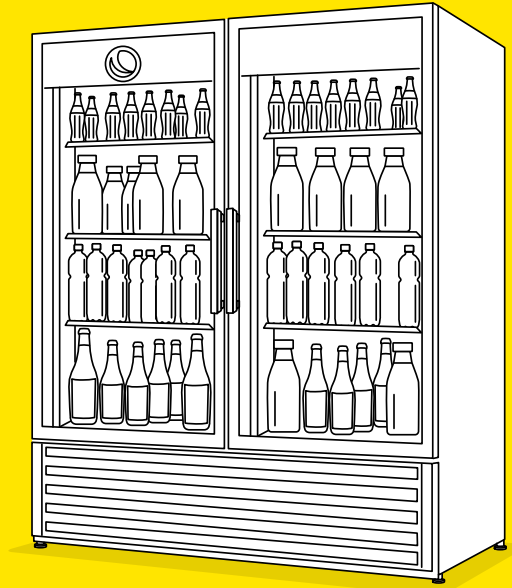




## Stationary Cooling

### 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

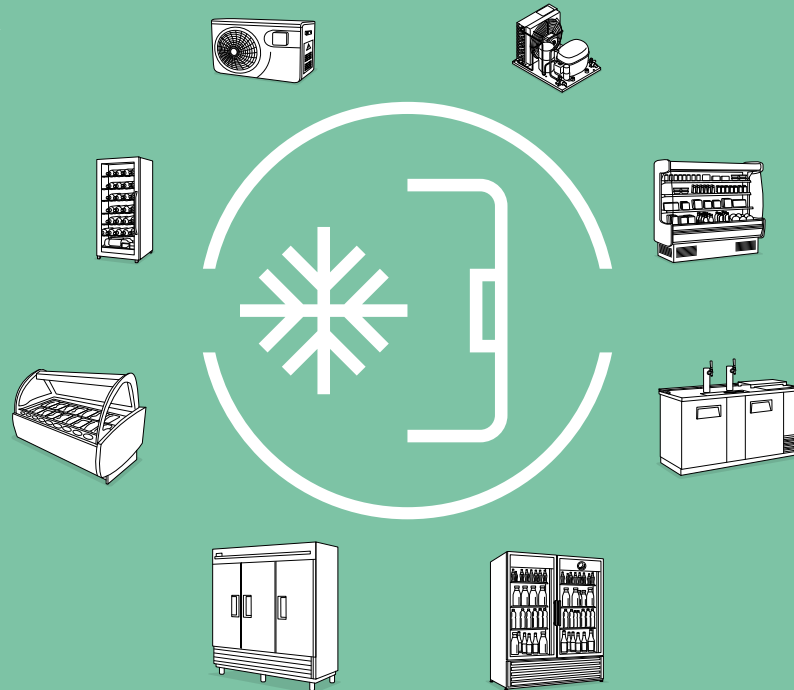


Wide Application Range



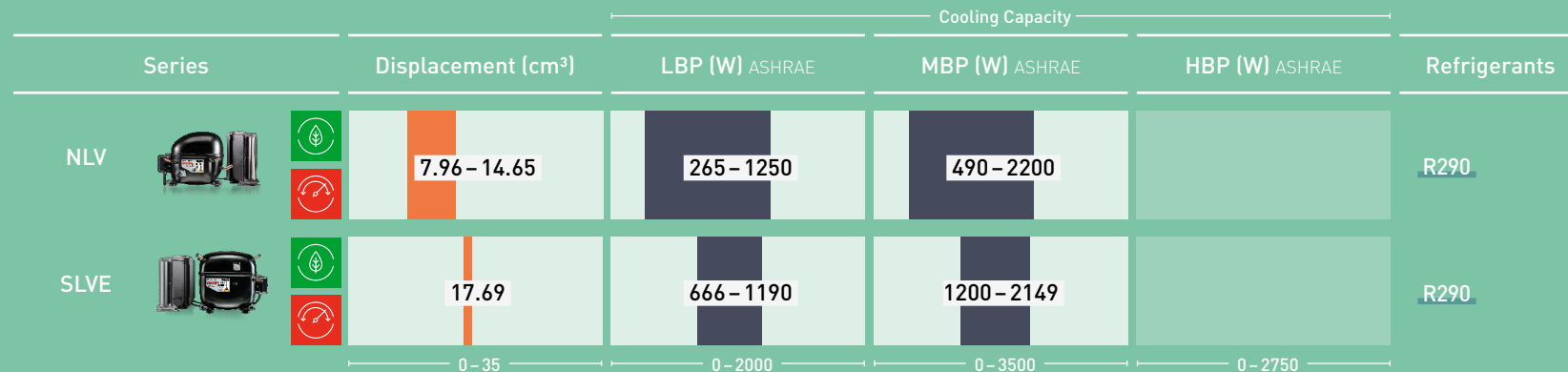
Natural Refrigerants

# Stationary Cooling




# Stationary Cooling

## Product Portfolio - Variable-Speed



# Stationary Cooling

## Product Portfolio – Fixed-Speed

Series	Displacement (cm <sup>3</sup> )	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



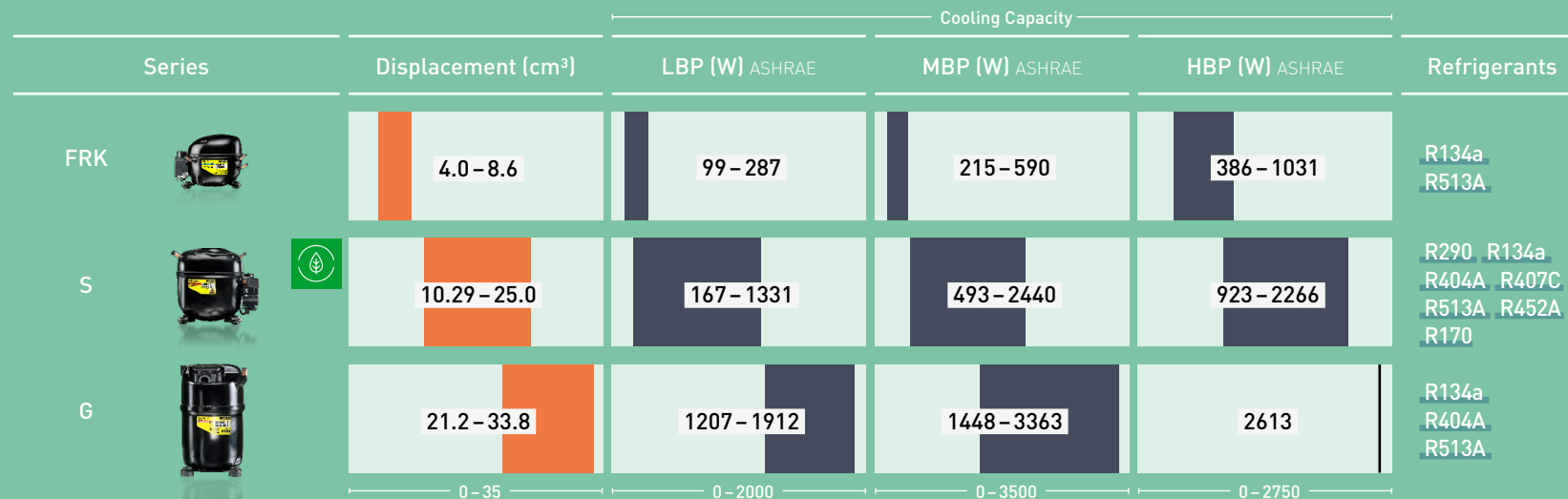
Natural Refrigerants



Variable-Speed Drive

# Stationary Cooling

## Product Portfolio – Fixed-Speed

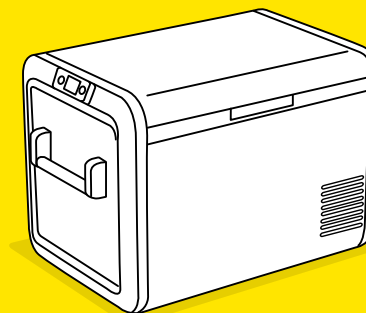




## Mobile Cooling

### 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



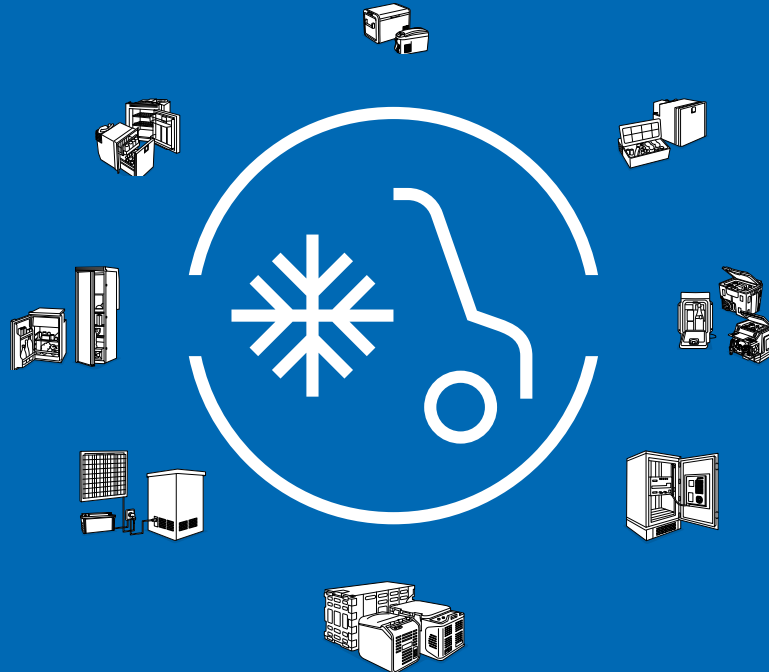
Premium  
Controllers



Low Noise  
Low Vibration

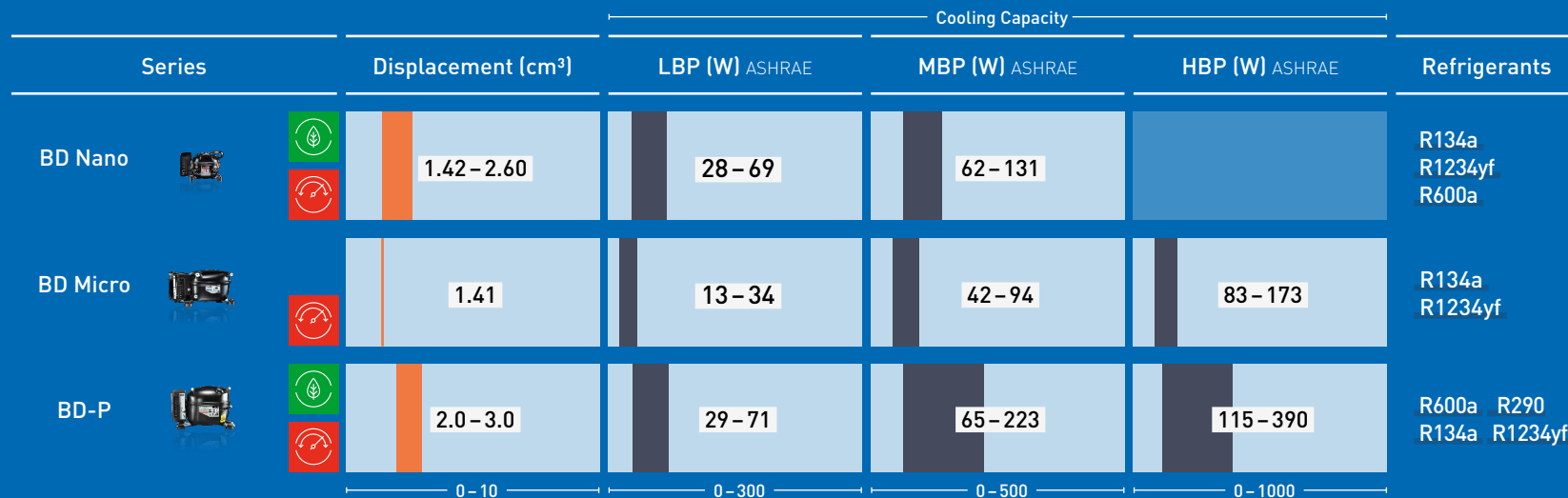


Low GWP  
Refrigerants



# Mobile Cooling

## Product Portfolio

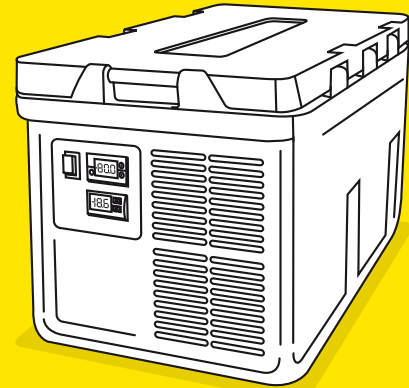




## Medical Cooling

### 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

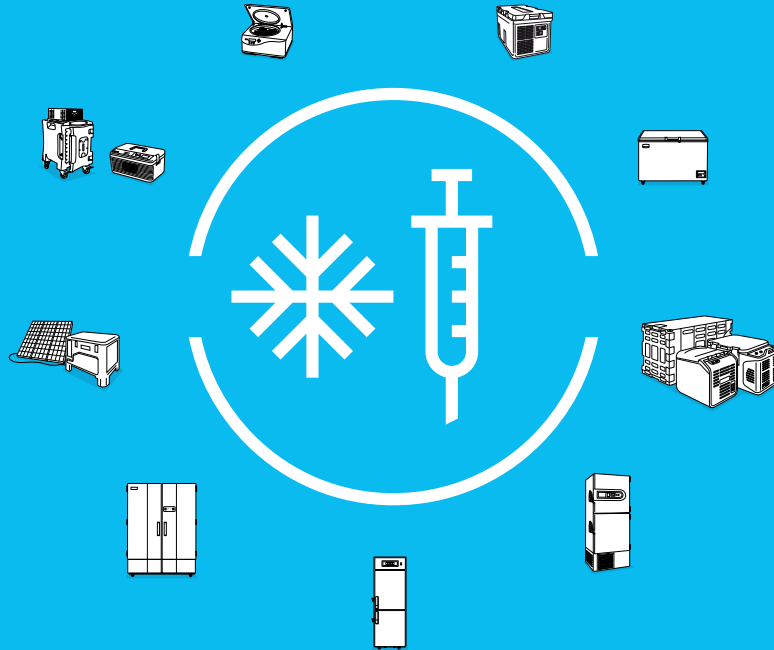


Energy  
Optimized



Ultra Low  
Temperature





# Medical Cooling





## Medical Cooling

### Product Portfolio

Applications	Evap. temp. range [°C]	Displacement (cm <sup>3</sup> )	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
MS U/UV 	Ultra-Low Temperature Freezers -60 to -90 °C	17.69 – 20.95	316 – 657		R290
MP UV 		2	26.7 – 47	pe= -90° pc= -35° Tsuc= 20° Tliq= -35° Tamb= 32.2°	R170 R290

0 – 35
0 – 1200







Secop 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 <sup>3</sup> )	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 R1270
MS U/UV 		17.69 – 20.95	234 – 477		R170 R290 R1270
Mobile ULT Condensing Units 		2x 2	26.7 – 47		R170 R290 R1270
Stationary ULT Condensing Units 		2x 17.69	234 – 477		R170 R290 R1270
		0 – 35	0 – 1200		



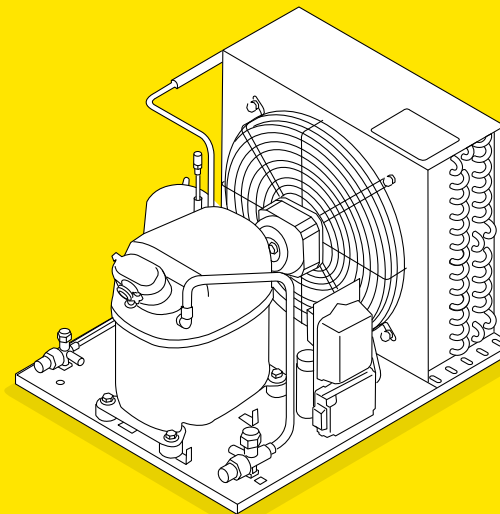
Secoop recommends using 2-stage cascade systems for the temperature range from -60 °C to -90 °C. These have been developed for highest reliability and product safety at ultra-low temperatures.



## 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

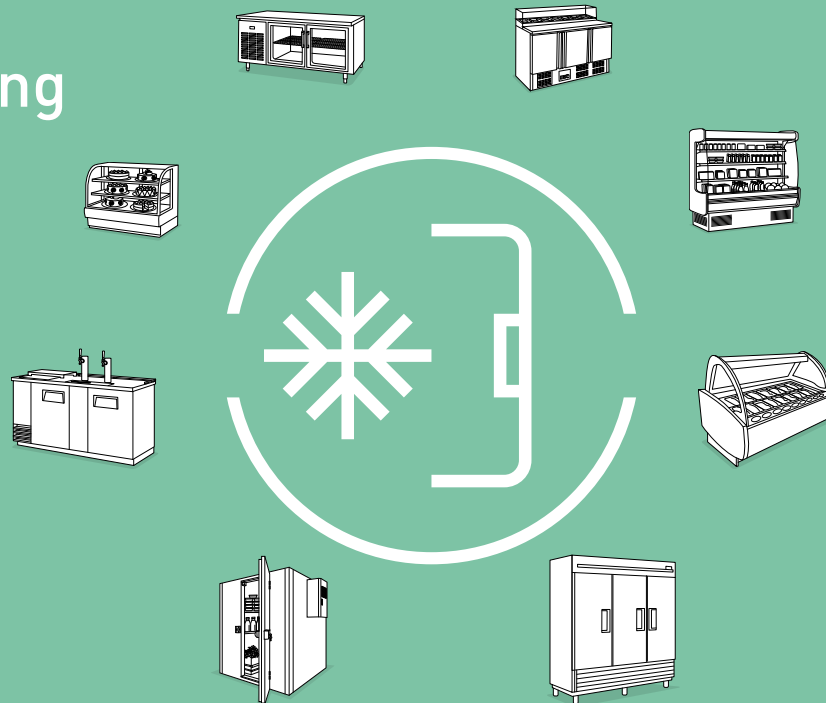


Alternative Refrigerants



Wide Application Range


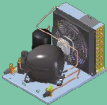


# Condensing Units





# Stationary Cooling

Product Portfolio

Series	Displacement (cm <sup>3</sup> )	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

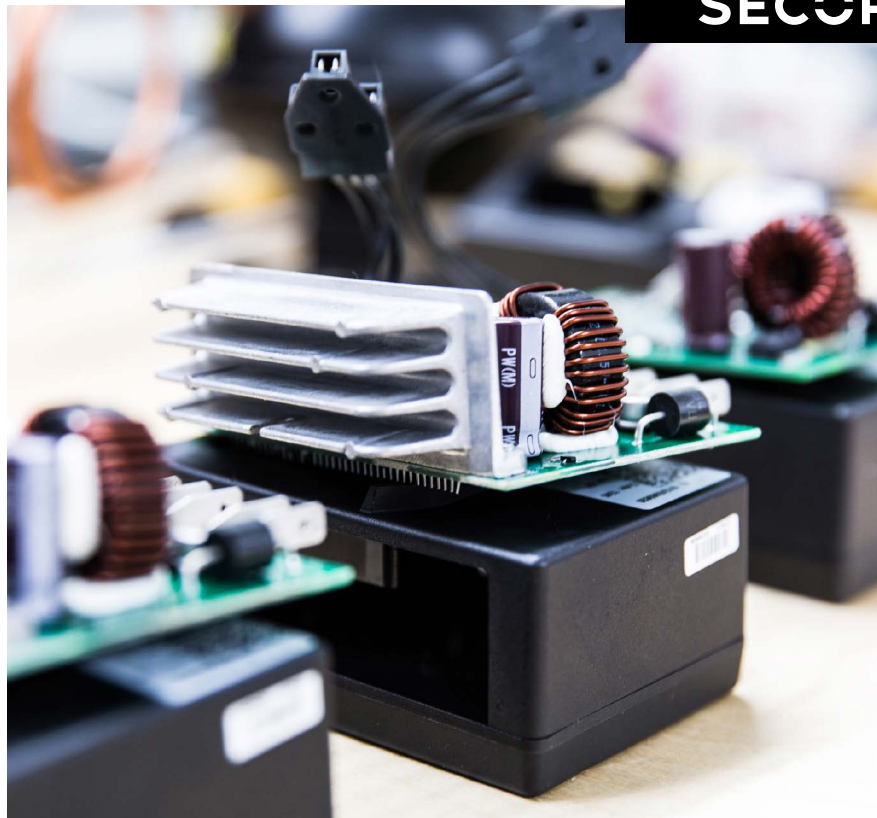
# Premium Customer Support

- 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**

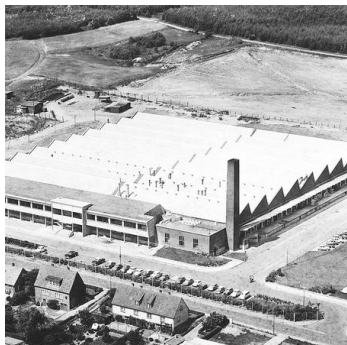
100 Million  
compressors  
produced

**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**

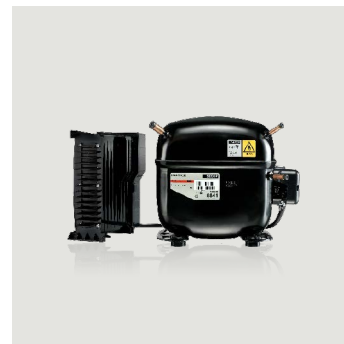
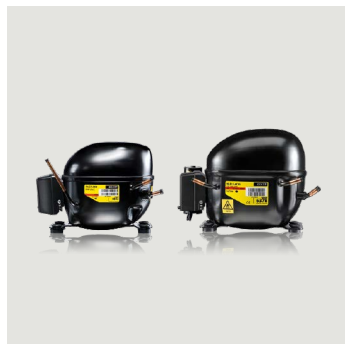
NLV-CN variable-speed propane compressors

**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

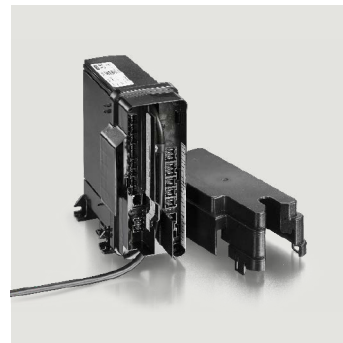
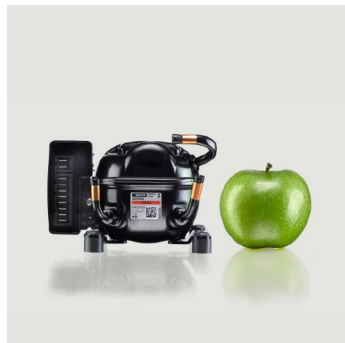
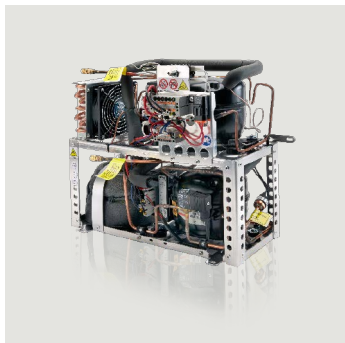
KL-Series – A new premium propane solution

**2023**

Modular electronic MP and XT controllers

**2024**

Energy-optimized SCE Plus 23/25 cc propane compressors

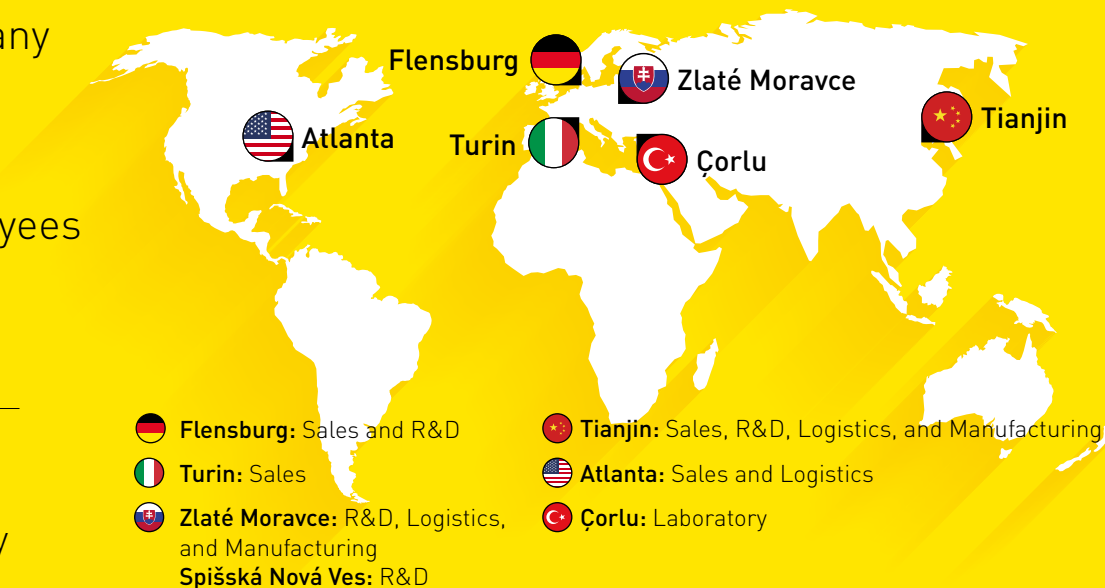


SECCOP

TODAY

## Locations, Footprint, and Figures Today

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



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6,000,000

compressors produced yearly

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# 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



**Stefan Dzigas**  
Chief Financial Officer



**Norbert Brath**  
Chief Technology Officer

Thank You for  
Your Attention

