

R170 · 220–240 V | 50 Hz · 115–127 V | 60 Hz

# ULTRA-LOW TEMPERATURE MEDICAL COOLING

**SECCP**



**ULT Compressors**



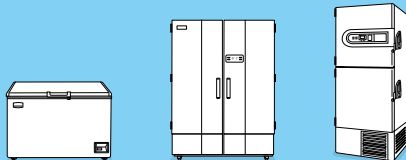
ULTRA-LOW  
TEMPERATURE



NATURAL  
REFRIGERANT



MEDICAL  
APPLICATIONS



- Made for reliable cooling equipment which is essential to ensure the quality and usability of stored assets
- Ideal solution for new highly effective mRNA-based vaccines for COVID-19, Ebola, and CGTs which require an ultra-low temperature storage
- Precise cooling and control of target temperature
- Reliable long lasting systems with low TCO life cycle
- Optimized proven and robust designs
- Used in different applications which are officially certified by WHO (World Health Organization)

Secop's new dedicated range of compressors is optimized for the safe storage, and handling of highly sensitive substances including pharmaceuticals, vaccines, cells, genes, blood, etc. The reliability of cooling equipment is essential to ensure the quality and usability of stored assets.

Secop now provides a solution with several benefits such as enhanced robustness, ultra-low temperature technology, and compatibility with refrigerant Ethan (R170) with its new medical compressors range. This makes them the ideal solution for hospitals, laboratories, pharmacies, research centers, universities, and the medical industry.

The medical and vaccine cold chain requires storage at different temperature levels: +2°C to +8°C, -20°C down to -86°C. Our compressor solutions make us a reliable partner for leading companies supporting the development of a global ULT (ultra-low temperature) supply chain.

GENERAL	MN11UHULTM	MN13UDULTM	MS18UHULTM	MS21UDULTM
Compressor	105M0830	105M0840	104M0810	104M0811
Approvals	UL 60335-2-34	EN 60335-2-34, CCC	UL 60335-2-34	EN 60335-2-34, CCC

**APPLICATION R170**

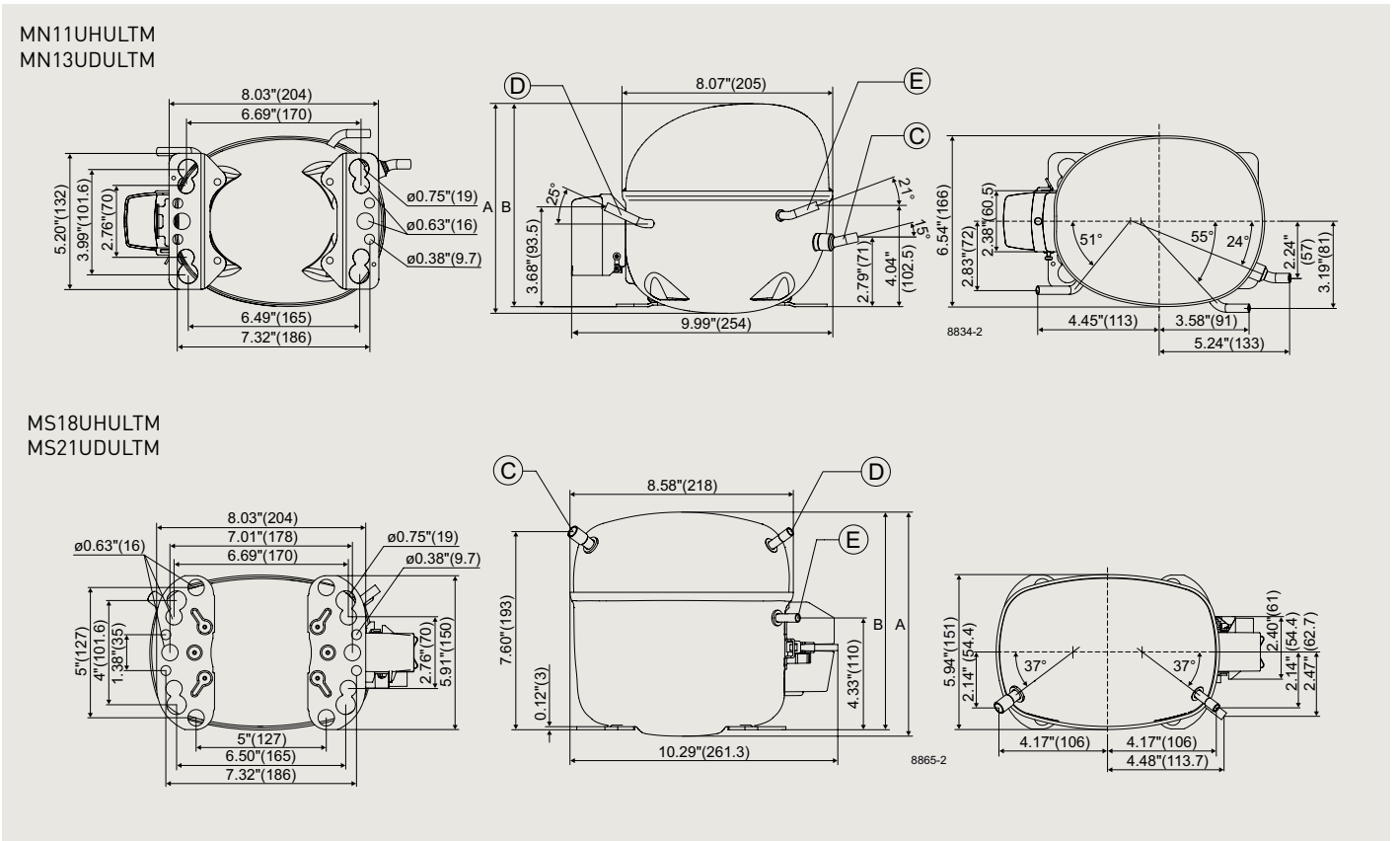
Application	Low temperature stage in a 2-stage cascade system				
Evaporating temperature	°C   °F	-90 to -60   -130 to -76			
Voltage range / frequency	V/Hz	103-127/60	198-254/50	103-127/60	198-254/50

**PERFORMANCE DATA ULT (115 V, 60 Hz or 220 V, 50 Hz • fan cooling)**

Evaporating temperature	°C   °F	-90   -130	-90   -130	-90   -130	-90   -130
Cooling capacity	W   BTU/h	247   844	207   707	348   1190	356   1217
Power consumption	W	186	161	259	260
COP	W/W	1.33	1.29	1.35	1.37
EER	BTU/Wh	4.53	4.39	4.59	4.69
Test conditions	Condensing temperature: -35 °C   Suction gas temperature: -20 °C   Ambient temperature: 32.2 °C   Liquid temperature: -35 °C				

**DIMENSIONS**

Height	inch or mm	A	7.99	203	8.60	218
		B	7.76	197	8.40	212
Suction connector	location/I.D. inch or mm angle   material   seal	C	0.320-0.327	8.2 ±0.09	0.378-0.385	10.2 ±0.09
			15°   Copper   Rubber plug		37°   Copper   Rubber plug	
Process connector	location/I.D. inch or mm angle   material   seal	D	0.252-0.259	6.2 ±0.09	0.252-0.259	6.2 ±0.09
			25°   Copper   Rubber plug		37°   Copper   Rubber plug	
Discharge connector	location/I.D. inch or mm angle   material   seal	E	0.252-0.259	6.2 ±0.09	0.252-0.259	6.2 ±0.09
			21°   Copper   Rubber plug		37°   Copper   Rubber plug	



**ULTRA-LOW TEMPERATURE SYSTEMS**

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.



Learn more about the ULTRA-LOW TEMPERATURE (ULT) FREEZER [www.secop.com/ult](http://www.secop.com/ult)

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