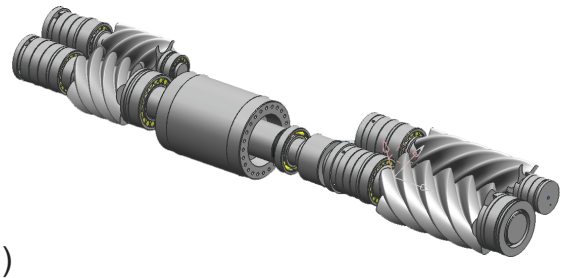
One compressor, Two-stage work
Designed for high compression lift in
Low temperature and
Heat pump applications

LT Series
Compound Two-stage Screw Compressor

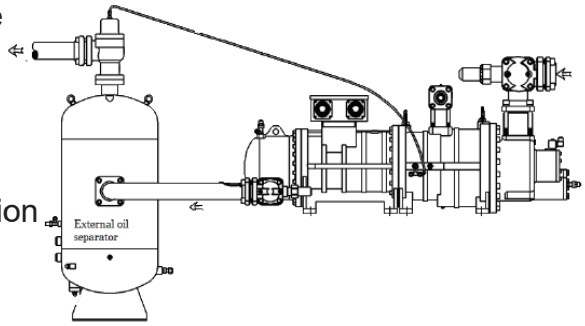
Highlights of LT Series Screw Compressor

High-efficiency Two-stage design



- Pressure differential in each stage is smaller
- Less inner leakage and high volumetric efficiency
- More ECO injection flow creats better subcooling
- High displacement screw rotor profile
- Extended operation range and lower discharge temp.
- Fit the application with high initial suction pressure
- Working Evaporating Temp. as low as -65degC (-85degF)

User-friendly Structure and Mechanism



- Step, Stepless and VFD capacity control options
- Easy start under minimum load with unloading-type slide valve in high stage
- Minimized rotor reversal time after compressor stop with suction check valve
- Low noise and vibration with built-in discharge muffler
- Dew-free cable box located at medium temperature section
- Less work space required compare to cascade system

Complete Protection & Accessories

- Built-in motor temperature sensor PT100
- Motor and discharge side temperature thermistor
- Liquid injection to motor and to chamber for low- and high-stage
- Gas injection port in different connection side for easy piping and installation

Other Advantages

- Motor Winding designed in middle pressure section, refrigerant cooling and no frost during opeation
- Minimum pressure valve (MPV) as standard, keep the pressure differential stable

Durable Bearing Structure

- High-quality raidial and axial bearings
- Additional bearings for backward rotation
- α balance piston against axial thrust
- Heavy-duty design

Model Nomenclature

LT - x -xx / xx - (x) - (x)

- (x): Application Code:
  Null: Low-temp. with pre-cooling
  L: Low-temp. without pre-cooling
  A: Air-source heat pump, H: High-temp. heat pump
- (x): Null: standard motor; V: variable frequency motor
- xx: Displacement of high stage (m^3/h)
- xx: Displacement of low stage (m^3/h)
- x: S: Semi-hermetic model
  G: Open-type model
- LT: Compound two-stage compressor

Technical Data

Low Temp. Model (LT-S: w/ pre-cooling, LT-S-L: w/o pre-cooling)

Model			LT-S-20/10	LT-S-30/12*	LT-S-45/20	LT-S-55/25	LT-S-65/32	LT-S-83/41
Evaporating Temperature @ 100%		℃	R448A/ R449A/ R507/ R404A: -65°C to -25°C (LT-S) R448A/ R449A/ R507/ R404A: -65°C to -10°C (LT-S-L)					
Compressor	Rated Speed (50Hz/60Hz)	rpm	2950/3550					
	Displacement (Low stage)	m^3/h	224/268	316/379	450/540	551/661	651/781	840/1008
	Displacement (High stage)	m^3/h	99/119	137/164	207/248	257/308	313/375	396/475
	Capacity Control	%	10, 50, 100 (STEP TYPE) 10, 50~100 (STEPLESS TYPE)				10, 50, 75, 100 (STEP TYPE) 10, 50~100 (STEPLESS TYPE)	
	Lubrication		Pressure differential oil supply					
Motor	Type		3 phase, 2 pole, squirrel cage induction motor					
	Starter		Star-Delta, DOL					
	Voltage (50Hz)	V	380, 400, 415					
	Voltage (60Hz)	V	380, 440, 460, 480					
	Insulation		Class F					
	Protection		PTC+PT100					
Pressure Test		bar	35					
Noise Level (LT-S)		dB	80	81	83	84	86	87
Noise Level (LT-S-L)		dB	81	NA	84	85	88	89
Weight (LT-S)		kg	598	1158	1158	1195	1395	1430
Weight (LT-S-L)		kg	620	NA	1200	1230	1450	1490

*LT-S-30/12 is avaiable on LT-S only

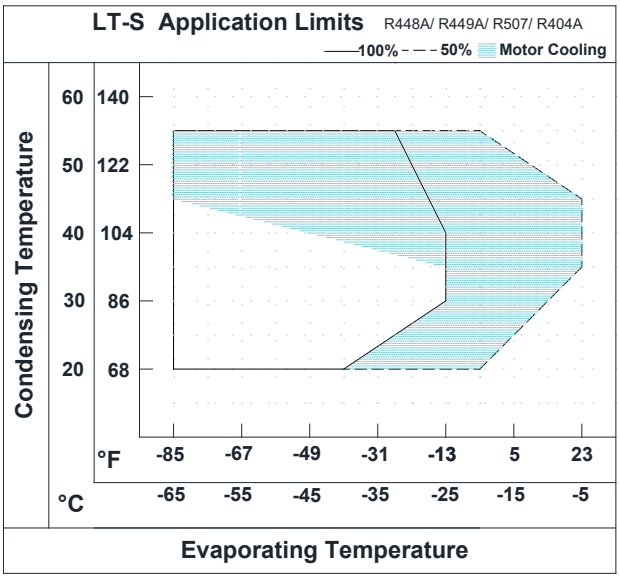
Air-source Heat Pump Model (LT-S-A)

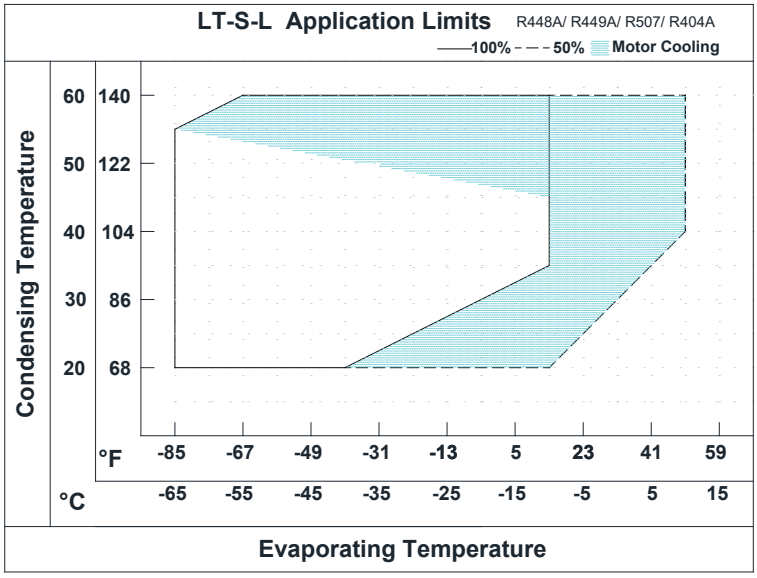
Model			LT-S-20/10	LT-S-45/20	LT-S-55/25	LT-S-65/32	LT-S-83/41
Evaporating Temperature @ 100%		℃	R448A/ R449A/ R507/ R404A: -65℃ to 10℃ R134a/ R513A/ R1234ze/ R1234yf: -45℃ to 15℃				
Compressor	Rated Speed (50Hz/60Hz)	rpm	2950/3550				
	Displacement (Low stage)	m^3/h	224/268	450/540	551/661	651/781	840/1008
	Displacement (High stage)	m^3/h	99/119	207/248	257/308	313/375	396/475
	Capacity Control	%	10, 50, 100 (STEP TYPE) 10, 50~100 (STEPLESS TYPE)			10, 50, 75, 100 (STEP TYPE) 10, 50~100 (STEPLESS TYPE)	
	Lubrication		Pressure differential oil supply				
Motor	Type		3 phase, 2 pole, squirrel cage induction motor				
	Starter		Star-Delta, DOL				
	Voltage (50Hz)	V	380, 400, 415				
	Voltage (60Hz)	V	380, 440, 460, 480				
	Insulation		Class F				
	Protection		PTC+PT100				
Pressure Test		bar	40				
Noise Level		dB	81	83	84	86	87
Weight		kg	620	1200	1230	1450	1490

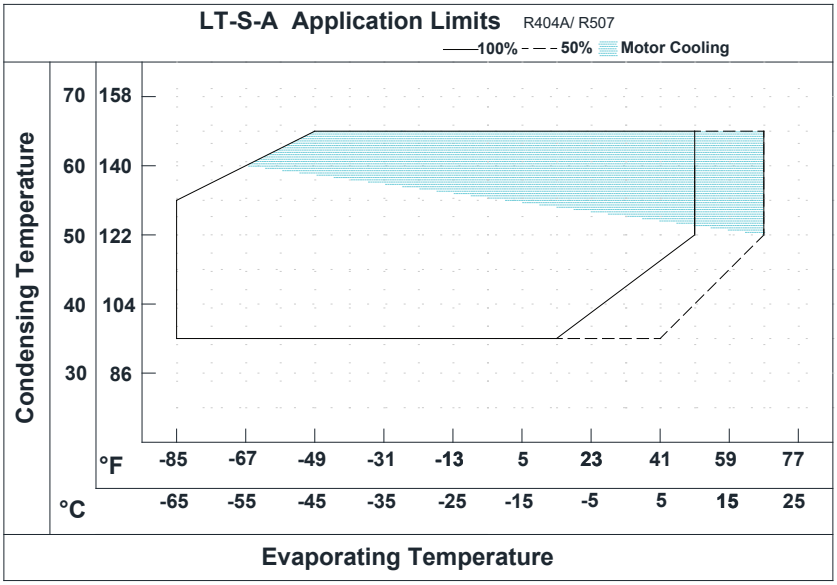
High Temp. Heat Pump Model (LT-S-H)

Model			LT-S-45/20	LT-S-55/25	LT-S-65/32	LT-S-83/41
Condensing Temparature @ 100%		℃	R134a/ R513A/ R1234ze/ R1234yf: 35°C to 95°C			
Compressor	Rated Speed (50Hz/60Hz)	rpm	2950/3550			
	Displacement (Low stage)	m^3/h	450/540	551/661	651/781	840/1008
	Displacement (High stage)	m^3/h	207/248	257/308	313/375	396/475
	Capacity Control	%	10, 50, 100 (STEP TYPE) 10, 50~100 (STEPLESS TYPE)		10, 50, 75, 100 (STEP TYPE) 10, 50~100 (STEPLESS TYPE)	
	Lubrication		Pressure differential oil supply			
Motor	Type		3 phase, 2 pole, squirrel cage induction motor			
	Starter		Star-Delta, DOL			
	Voltage (50Hz)	V	380, 400, 415			
	Voltage (60Hz)	V	380, 440, 460, 480			
	Insulation		Class F			
	Protection		PTC+PT100			
Pressure Test		bar	45			
Noise Level		dB	84	85	88	89
Weight		kg	1200	1230	1450	1490

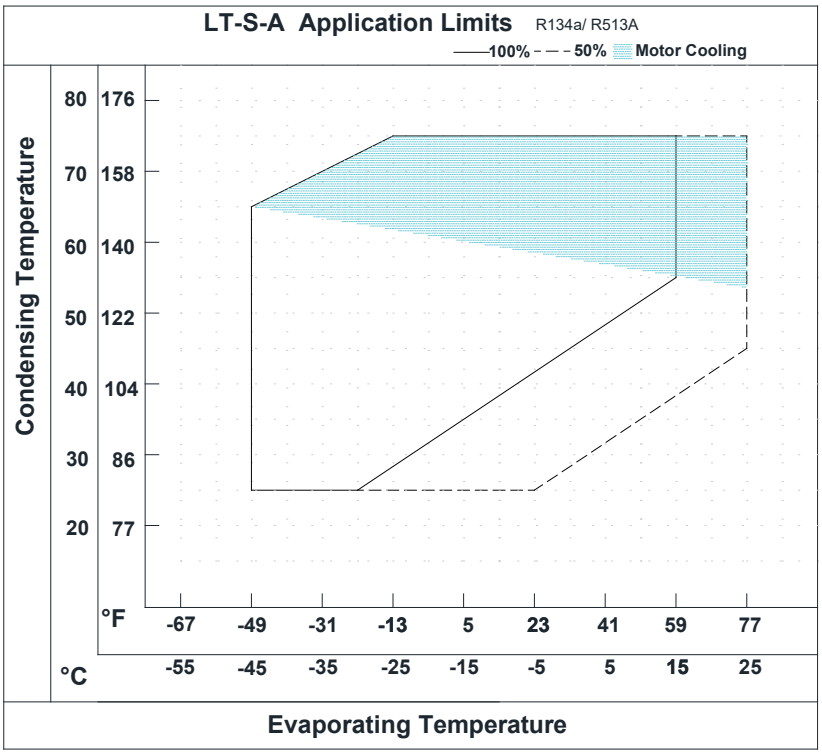
Application Limits (R448A/R449A/R507/R404A)

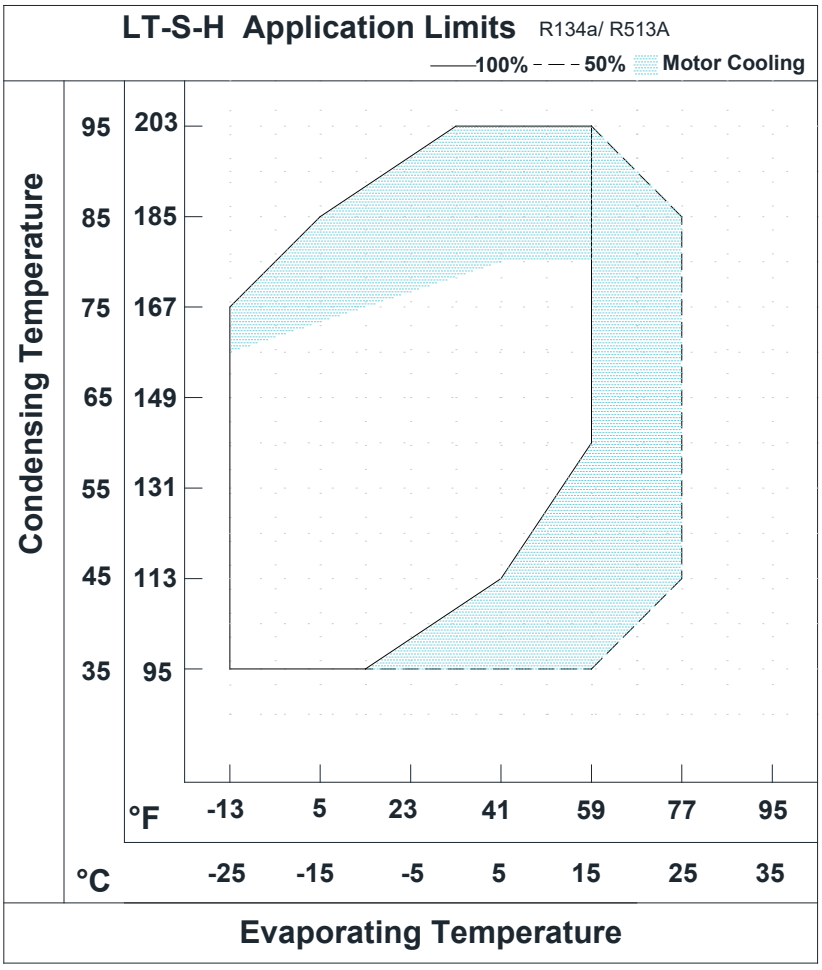




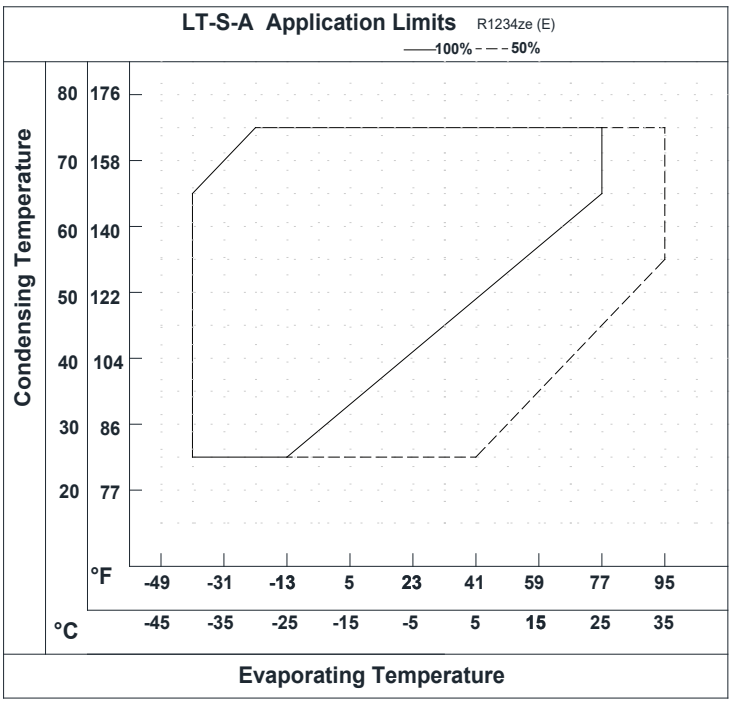


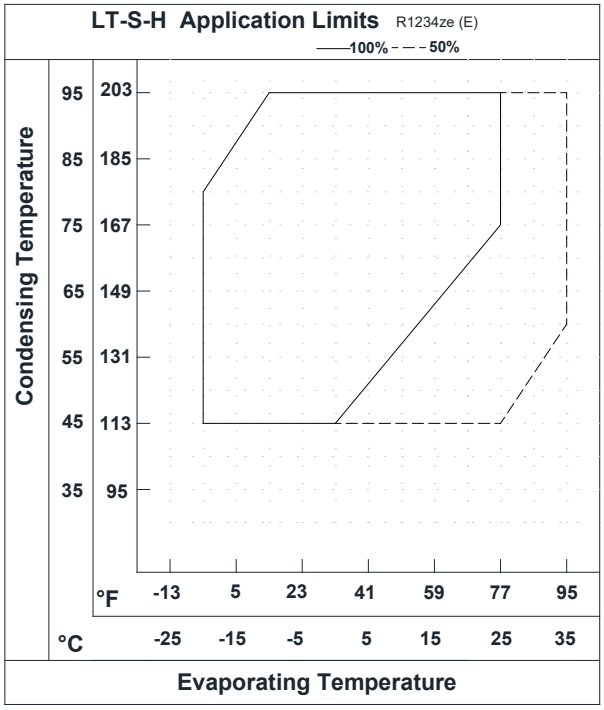
Application Limits (R134a/R513A)

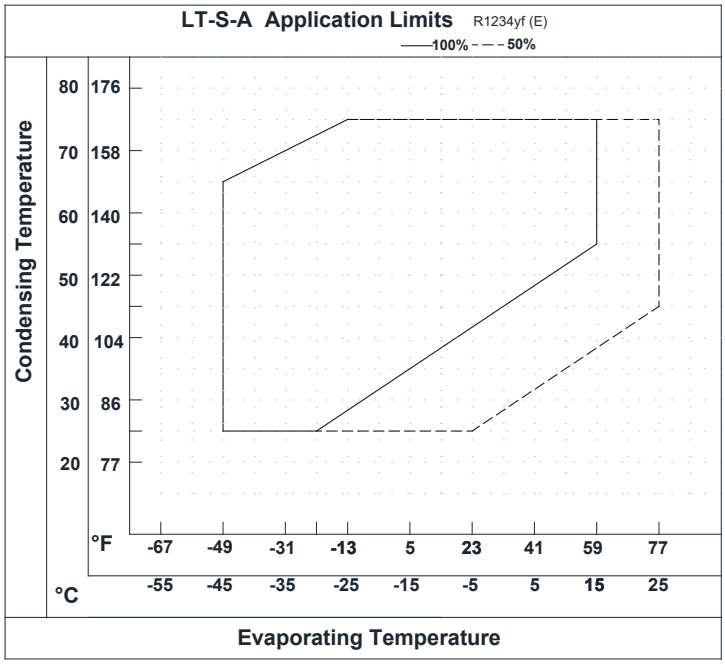




Application Limits (R1234ze/R1234yf)







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