

Model

Designation	MS18UVULTM	Sales code:	104M0822
-------------	-------------------	-------------	-----------------

Compressor design

Oil type	Polyolester	Refrigerant(s)	R290, R170, R1270
Oil viscosity	32cSt	Displacement	17,69cm ³ / 1,08cu.in
Oil quantity	473cm ³ / 16fl.oz	Compressors on pallet	80
Refr. charge - tech. limit	550g / 19,4oz		
Free gas volume comp.	1460cm ³ / 49,4fl.oz		
Weight	14,2kg / 31,3lbs		
Motor protection	2# internal		
Winding resist. ph. to ph.	3,92Ω (at 25°C)		
Max. winding temp.	125°C / 257°F		
Max. discharge temp.	130°C / 266°F		



Additional note
 Good robustness against liquid intake.
 Compressor for laboratory and medical applications.
 Check special warranty terms with Secop Sales.

General - Configurations and Applications with MS18UVULTM and Controller

	Conf. 1	Conf. 2	Conf. 3
Sales code single pack:	105N4932	105N4932	105N4932
Sales code industry pack:	105N4933	105N4933	105N4933
Power supply (nominal)	100-240V,50/60Hz	100-240V,50/60Hz	100-240V,50/60Hz
Approvals	UL,VDE,CCC	UL,VDE,CCC	UL,VDE
Refrigerant	R170	R290	R1270
Number of phases	1~AC	1~AC	1~AC
Application	ULT	L+MBP	LLBP
Starting torque	HST	HST	HST
Hot gas defrost	OK	OK	OK
Long interval pull down	OK	OK	OK
System cooling	Fan cooling 3m/s	Fan cooling 3m/s	Fan cooling 3m/s
Note	See operation limits for controller		

Controller functions

	Conf. 1	Conf. 2	Conf. 3
Protection	Mechanic	Mechanic	Mechanic
Max output power	1100W	1100W	1100W
No of relays	2	2	2
Hot gas defrost	yes	yes	yes
AEO speed setting	yes	yes	yes
Serial com, (Modbus)	SWI	SWI	SWI
DWI / Frequency input	yes	yes	yes
Reduced leakage current	yes	yes	yes
Note			

Model

Designation

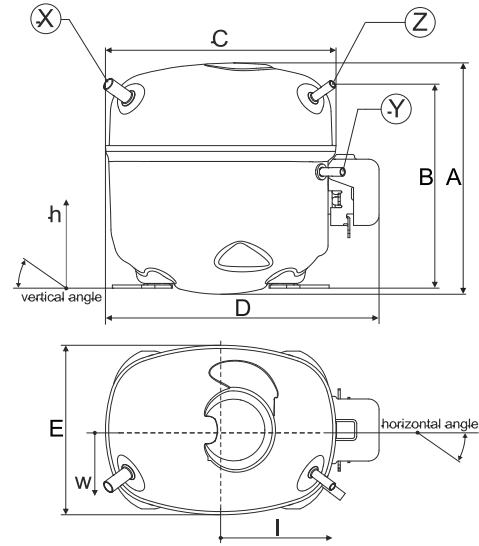
MS18UVULTM

Sales code:

104M0822

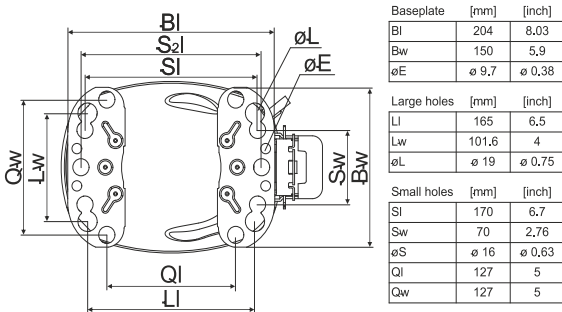
Compressor dimensions

Housing	A Height	219,9mm / 8,66in
	B Height	214mm / 8,43in
	C Length shell	217mm / 8,54in
	D Length w. cover	257,6mm / 10,14in
	E Width	161,1mm / 6,34in

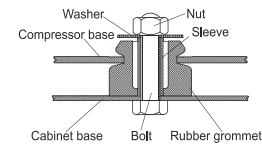


Connectors		Suction	Discharge	Process
		X	Y	Z
Diameter	[mm]	øi 9,54-9,72	øi 6,41-6,59	øi 6,41-6,59
(i:inside, o:outside)	[in]	øi 0,38-0,38	øi 0,25-0,26	øi 0,25-0,26
Material		copper	copper	copper
Horizontal angle	±2°	37°	37°	37°
Vertical angle	±2°	30°	0°	30°
Position l/h/w	[mm]	-106/193/57	114/110/81	106/94/72
	[in]	-4,2/7,6/2,2	4,5/4,3/3,2	4,2/3,7/2,8
Straight tube l.	[mm]	12	12	12
	[in]	0,5	0,5	0,5

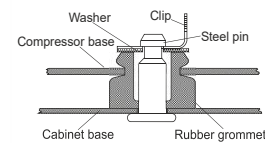
Compressor fixation



Bolt joint



Snap-on



Mounting accessories

Bolt joint | M6 | ø16mm

Snap-on | ø7,3 | ø16mm

one comp. multi pack

118-1958 118-1961

118-1962

Application notes

Provision for PE Grounding is located at the PE Stamp on the compressor

Indirect suction intake without telescope

QR Code and Hyperlink leads to the

[Operating Instructions.](#)

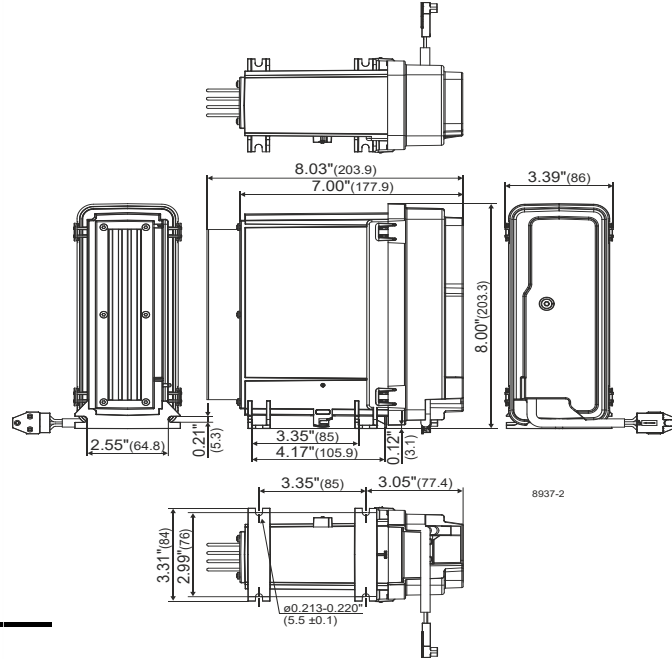


Model

Designation	MS18UVULTM	100-240V,50/60Hz	Conf. 1	Sales code:	104M0822
Controller	SLVE MP MV GFCI				105N4932

Sales code single pack:	105N4932 (1 units)
Sales code industry pack:	105N4933 (8 units)
Adaption to compressor:	detached
Protection class:	IP54
Weight:	1,4kg/3,08lbs
Voltage nom.:	100-240V,50/60Hz
Voltage range:	90–150/180–270V
Max. current:	4,2 A(230V)/8,4 A(115V)
LRA (Locked Rotor Amperage):	2,9A
Cable length:	915mm
Compressor speed range:	2200-4500rpm
Housing plastic:	UL94-5VA

Controller dimensions:



Operation Limits

Suctiongas temperature < +20°C (continous operation)
 U:100-240V LBP; 208-240V MBP; 50/60Hz

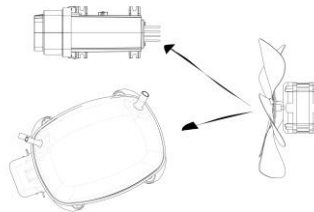
System cooling

Ambient/ machineroom temperatures minimum /maximum

Ambient temperature range:	10 - 43°C / 50 - 110°F
Machine room temperature range compressor:	10 - 48°C / 50 - 119°F
Machine room temperature range controller:	10 - 50°C / 50 - 122°F

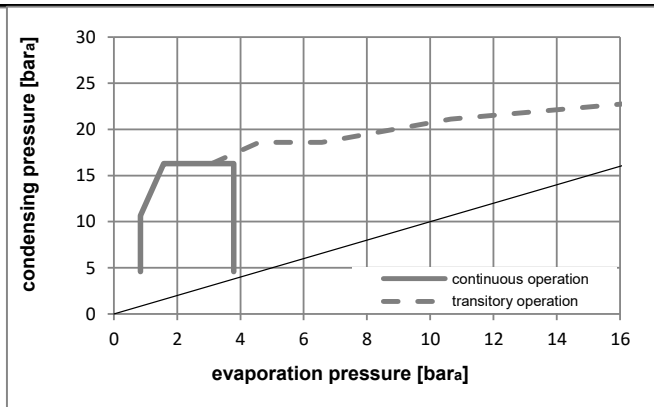
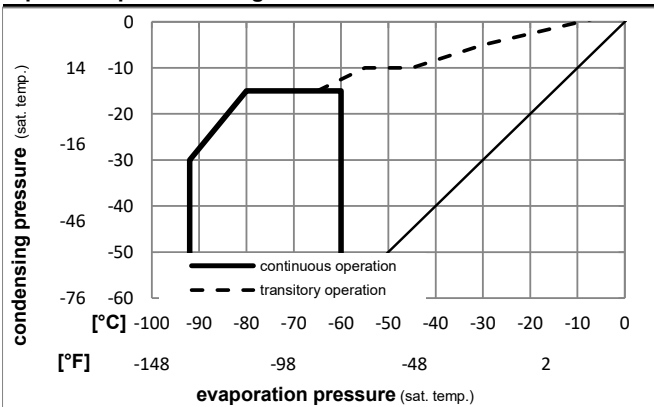
Compressor and Controller Cooling:

Fan cooling 3m/s
 Ensure proper airflow of 3 m/s at both compressor and electronic units.
 The airflow for the electronics must be directed to the heat sink.



Operation pressure range

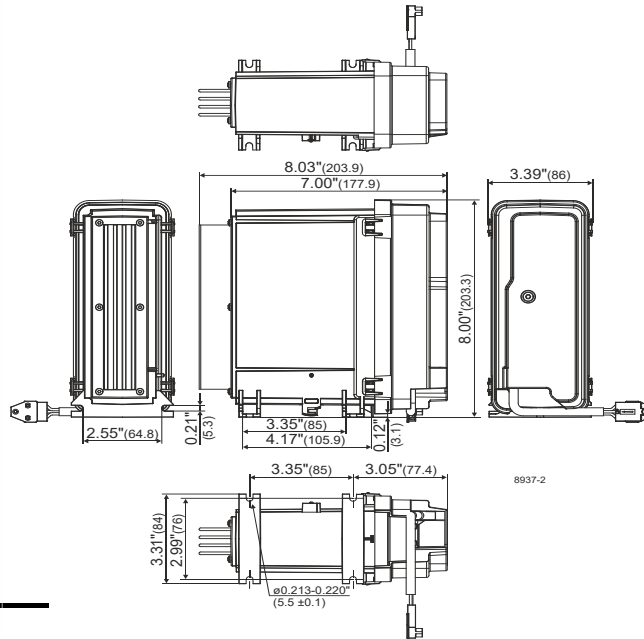
R170



Model				
Designation	MS18UVULTM	100-240V,50/60Hz	Conf. 2	Sales code: 104M0822
Controller	SLVE MP MV GFCI			105N4932

Sales code single pack:	105N4932 (1 units)
Sales code industry pack:	105N4933 (8 units)
Adaption to compressor:	detached
Protection class:	IP54
Weight:	1,4kg/3,08lbs
Voltage nom.	100-240V,50/60Hz
Voltage range	90-150/180-270V
Max. current:	4,2 A(230V)/8,4 A(115V)
LRA (Locked Rotor Amperage)	2,9A
Cable length:	915mm
Compressor speed range:	2200-4500rpm
Housing plastic:	UL94-5VA

Controller dimensions:



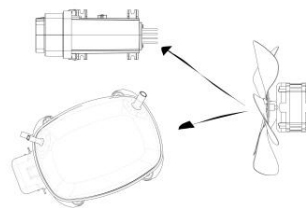
Operation Limits

Suctiongas temperature < +20°C (continous operation)
 U:100-240V LBP; 208-240V MBP; 50/60Hz

System cooling

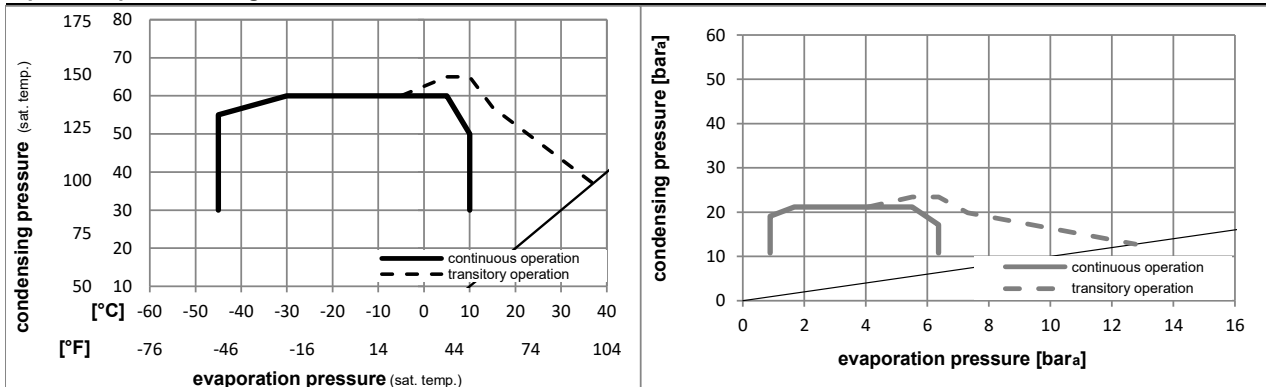
Ambient/ machineroom temperatures minimum /maximum	
Ambient temperature range:	10 - 43°C / 50 - 110°F
Machine room temperature range compressor:	10 - 48°C / 50 - 119°F
Machine room temperature range controller:	10 - 50°C / 50 - 122°F
Compressor and Controller Cooling:	Fan cooling 3m/s

Ensure proper airflow of 3 m/s at both compressor and electronic units.
 The airflow for the electronics must be directed to the heat sink.



Operation pressure range

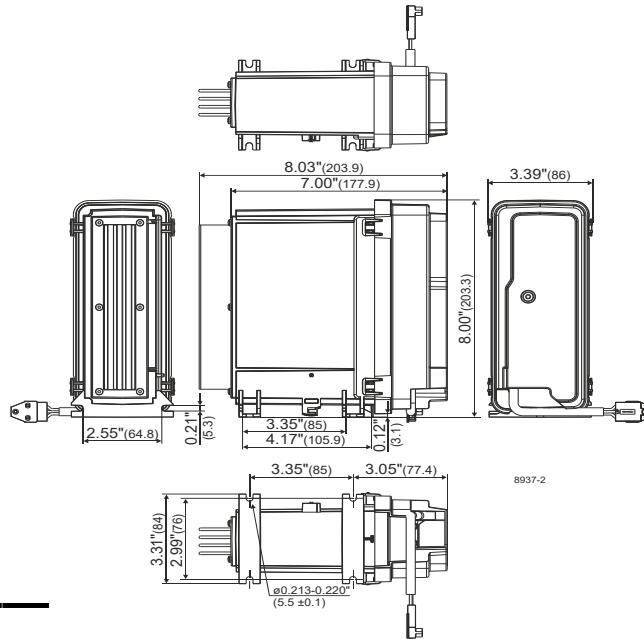
R290



Model					
Designation	MS18UVULTM	100-240V,50/60Hz	Conf. 3	Sales code:	104M0822
Controller	SLVE MP MV GFCI				105N4932

Sales code single pack:	105N4932 (1 units)
Sales code industry pack:	105N4933 (8 units)
Adaption to compressor:	detached
Protection class:	IP54
Weight:	1,4kg/3,08lbs
Voltage nom.	100-240V,50/60Hz
Voltage range	90-150/180-270V
Max. current:	4,2 A(230V)/8,4 A(115V)
LRA (Locked Rotor Amperage)	2,9A
Cable length:	915mm
Compressor speed range:	2200-4500rpm
Housing plastic:	UL94-5VA

Controller dimensions:



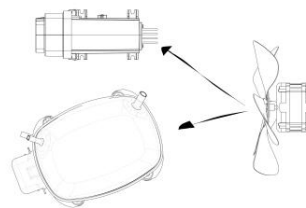
Operation Limits

Suctiongas temperature < +20°C (continous operation)
 U:100-240V LBP; 208-240V MBP; 50/60Hz

System cooling

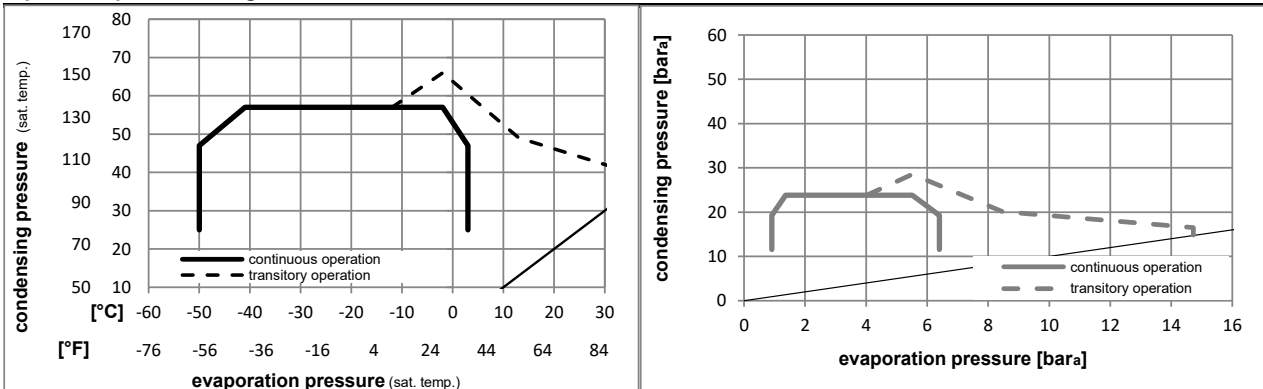
Ambient/ machineroom temperatures minimum /maximum	
Ambient temperature range:	10 - 43°C / 50 - 110°F
Machine room temperature range compressor:	10 - 48°C / 50 - 119°F
Machine room temperature range controller:	10 - 50°C / 50 - 122°F
Compressor and Controller Cooling:	Fan cooling 3m/s

Ensure proper airflow of 3 m/s at both compressor and electronic units.
 The airflow for the electronics must be directed to the heat sink.



Operation pressure range

R1270

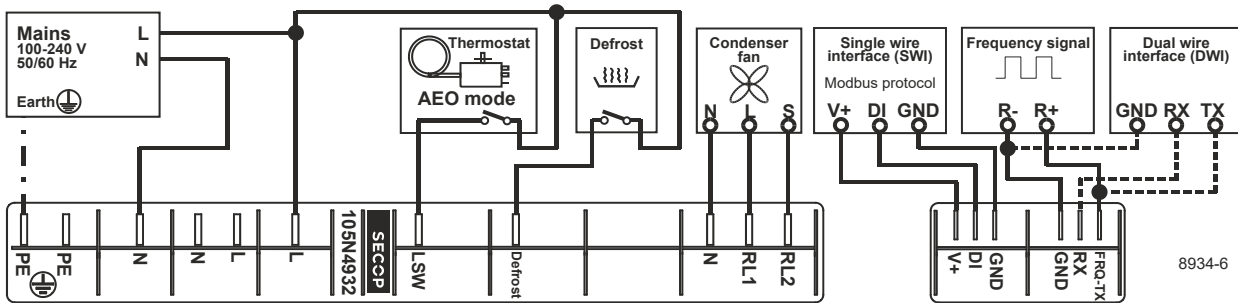
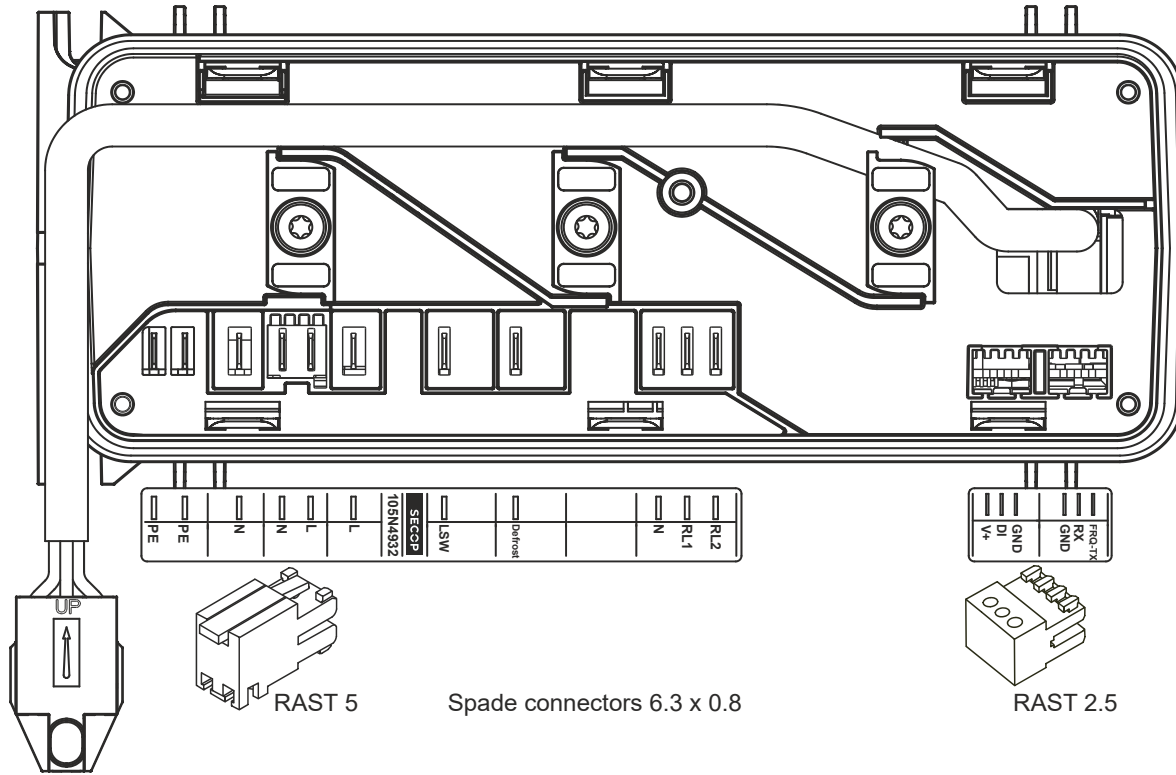


Model

Designation **MS18UVULTM** 100-240V,50/60Hz Conf. 1,2,3 Sales code: **104M0822**

Controller **SLVE MP MV GFCI** **105N4932**

Controller connections



Accessories (Compressor + Controller) - check operation manual for details

103N2008 plastic cover 1 pcs

Model

Designation **MS18UVULTM 100-240V,50/60Hz Conf. 1** Sales code: **104M0822**

Controller **SLVE MP MV GFCI** **105N4932**

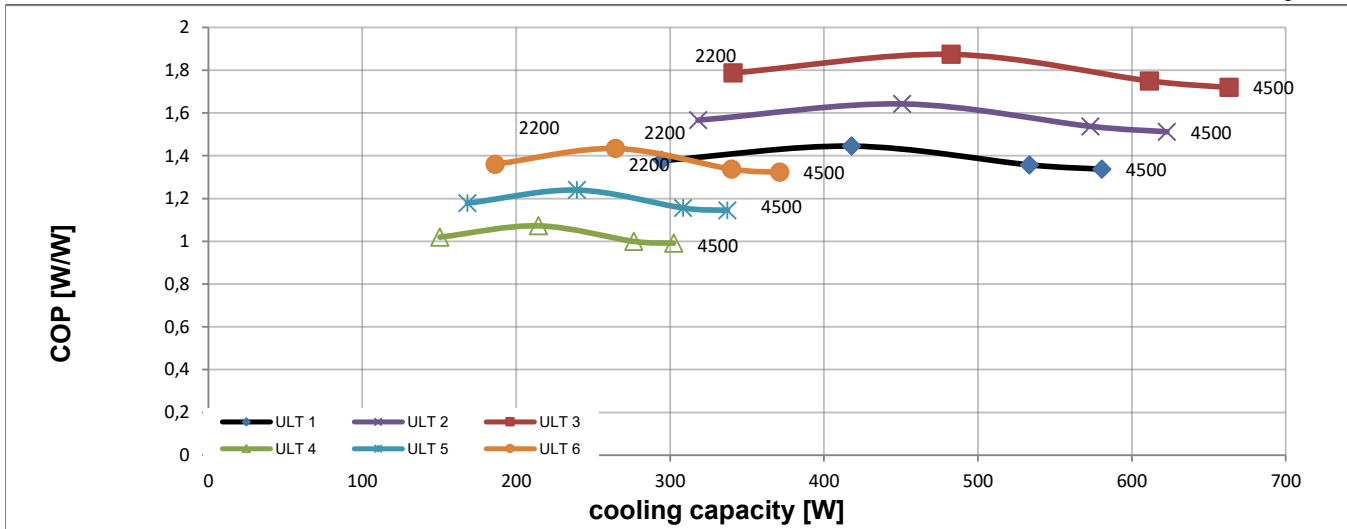
Optimization + standard conditions

R170, 220V, 50Hz, Rpm_N 4500, Fan cooling 3m/s

	Evaporating pressure (saturation temperature)				Condensing pressure (saturation temperature)			Return gas temp.			Liquid temp.			Cooling capacity			COP	EER	P1	Power consumption		Ref. mass flow
	pe	pc	RGT	Tliq	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	I	m	[W]	[A]	[kg/h]						
[°C]	-85	-35	10	-15	580,6	1983	499,6	1,34	4,57	1,15	434,2	2,15	4,72	ULT 1								
[°F]	-121	-31	50	5																		
[°C]	-85	-40	10	-20	622,8	2127	536,0	1,51	5,16	1,30	411,9	2,04	4,90	ULT 2								
[°F]	-121	-40	50	-4																		
[°C]	-85	-45	10	-25	663,2	2265	570,7	1,72	5,87	1,48	385,7	1,92	5,05	ULT 3								
[°F]	-121	-49	50	-13																		
[°C]	-95	-35	10	-30	302,3	1032	260,2	0,99	3,39	0,85	305,0	1,52	2,23	ULT 4								
[°F]	-139	-31	50	-22																		
[°C]	-95	-40	10	-35	337,3	1152	290,3	1,14	3,91	0,99	294,6	1,47	2,41	ULT 5								
[°F]	-139	-40	50	-31																		
[°C]	-95	-45	10	-40	371,2	1268	319,5	1,32	4,52	1,14	280,7	1,40	2,59	ULT 6								
[°F]	-139	-49	50	-40																		

Standard conditions with different RPM

R170, 220V, 50Hz, Fan cooling 3m/s



Test conditions:	pe [°C]	pc [°C]	Tliq [°C]	Tsuc [°C]
ULT 1	-85	-35	-15	10
ULT 2	-85	-40	-20	10
ULT 3	-85	-45	-25	10
ULT 4	-95	-35	-30	10
ULT 5	-95	-40	-35	10
ULT 6	-95	-45	-40	10

Model

Designation **MS18UVULTM 100-240V,50/60Hz Conf. 2** Sales code: **104M0822**

Controller **SLVE MP MV GFCI** **105N4932**

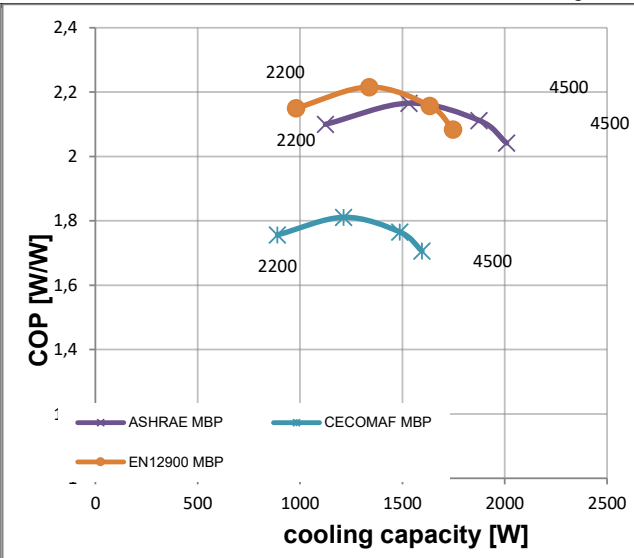
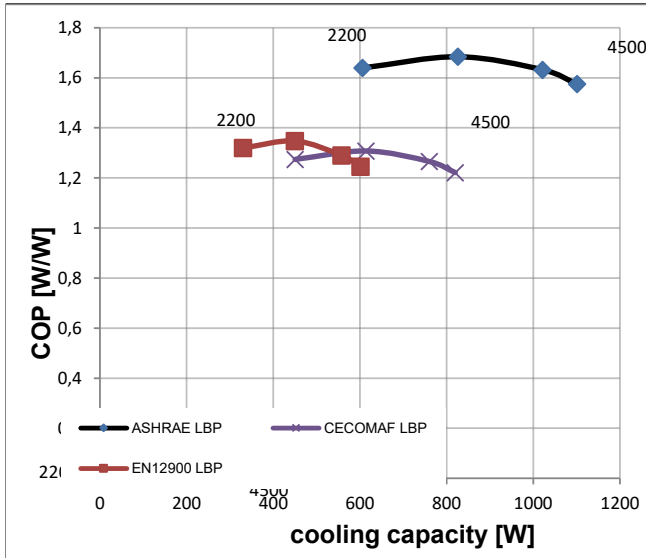
Optimization + standard conditions

R290, 220V, 50Hz, Rpm_N 4500, Fan cooling 3m/s

	Evaporating pressure (saturation temperature)				Condensing pressure (saturation temperature)			COP	EER	Power consumption	Current consumption		Ref. mass flow	
	pe	pc	RGT	Tliq	[W]	[Btu/h]	[kcal/h]				P1	I		
	[°C]	[°C]	[°C]	[°C]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
ASHRAE LBP	-23	54	32	32	1101,2	3761	947,7	1,58	5,38	1,36	699,1	3,43	11,15	
CECOMAF LBP	-25	55	32	55	819,9	2800	705,6	1,22	4,17	1,05	671,3	3,29	10,21	
EN12900 LBP	-35	40	20	40	601,3	2054	517,5	1,24	4,25	1,07	483,1	2,39	6,87	
ASHRAE MBP	-7	54	35	46	2009,1	6861	1729,0	2,04	6,97	1,76	984,0	4,78	22,92	
CECOMAF MBP	-10	55	32	55	1596,1	5451	1373,6	1,71	5,83	1,47	935,6	4,55	20,19	
EN12900 MBP	-10	45	20	45	1748,4	5971	1504,7	2,08	7,12	1,79	839,1	4,09	21,47	

Standard conditions with different RPM

R290, 220V, 50Hz, Fan cooling 3m/s



Test conditions:

	pe [°C]	pc [°C]	Tliq [°C]	Tsuc [°C]
ASHRAE LBP	-23	54,44	32,22	32,22
CECOMAF LBP	-25	55	55	32
EN12900 LBP	-35	40	40	20

	pe [°C]	pc [°C]	Tliq [°C]	Tsuc [°C]
ASHRAE MBP	-6,66	54,44	46,11	35,00
CECOMAF MBP	-10,00	55,00	55,00	32,00
EN12900 MBP	-10,00	45,00	45,00	20,00

Model

Designation **MS18UVULTM 100-240V,50/60Hz Conf. 3** Sales code: **104M0822**

Controller **SLVE MP MV GFCI** **105N4932**

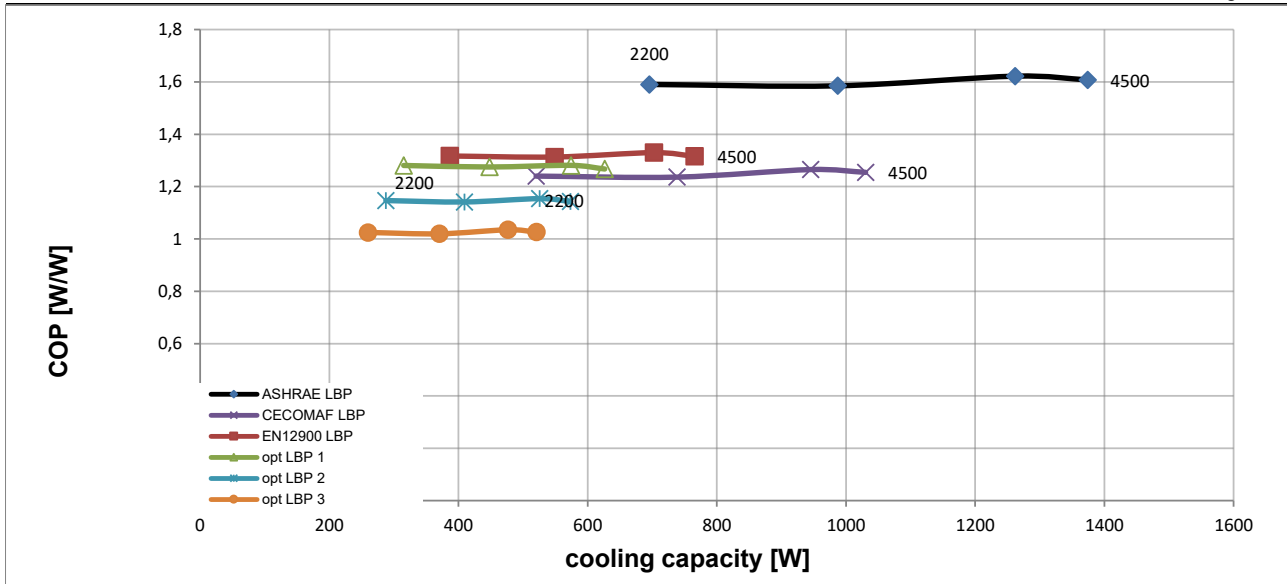
Optimization + standard conditions

R1270, 220V, 50Hz, Rpm_N 4500, Fan cooling 3m/s

	Evaporating pressure (saturation temperature)				Condensing pressure (saturation temperature)			Return gas temp.			Liquid temp.			Cooling capacity			COP	EER	Power consumption			ASHRAE LBP					
	pe	pc	RGT	Tliq	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	P1	I	ṁ	[W]	[A]	[kg/h]											
[°C]	-23	54	32	32	1374,3	4694	1182,8	1,61	5,49	1,38	854,9	4,17	13,88														
[°F]	-10	130	90	90																							
[°C]	-25	55	32	55	1030,3	3519	886,7	1,25	4,28	1,08	821,4	4,01	12,76									CECOMAF LBP					
[°F]	-13	131	90	131																							
[°C]	-35	40	20	40	765,7	2615	659,0	1,32	4,49	1,13	582,0	2,87	8,66										EN12900 LBP				
[°F]	-31	104	68	104																							
[°C]	-40	35	20	35	626,4	2139	539,1	1,27	4,33	1,09	494,3	2,45	6,77											opt LBP 1			
[°F]	-40	95	68	95																							
[°C]	-40	40	20	40	573,4	1958	493,4	1,14	3,90	0,98	501,6	2,48	6,47												opt LBP 2		
[°F]	-40	104	68	104																							
[°C]	-40	45	20	45	520,6	1778	448,0	1,03	3,50	0,88	507,3	2,51	6,15													opt LBP 3	
[°F]	-40	113	68	113																							

Standard conditions with different RPM

R1270, 220V, 50Hz, Fan cooling 3m/s



Test conditions:	pe [°C]	pc [°C]	Tliq [°C]	Tsuc [°C]
ASHRAE LBP	-23	54	32	32
CECOMAF LBP	-25	55	55	32
EN12900 LBP	-35	40	40	20
opt LBP 1	-40	35	35	20
opt LBP 2	-40	40	40	20
opt LBP 3	-40	45	45	20