Model
MS18UVULTM

Sales code:
104M0822

Compressor Data

Refrigerant(s)	**R290 / R170 / R1270**
Refr. charge - tech. limit	**550g / 19.40oz**
Weight	**14.20 kg / 31.31lbs**
Displacement	**17.69 cm3 / 1.08cu.in**
Compressors on pallet	**64**

General – Configurations With MS18UVULTM and Controller

–	**Conf. 1**	**Conf. 2**	**Conf. 3**
Sales code single pack:	105N4932	105N4932	105N4932
Power supply (nominal)	100-240 V,50/60 Hz	100-240 V,50/60 Hz	100-240 V,50/60 Hz
Number of phases	1~AC	1~AC	1~AC
Approvals	UL, VDE, CCC	UL, VDE, CCC	UL, VDE
Starting torque	HST	HST	HST
Refrigerant	R170	R290	R1270
Application	ULT	L+MBP	VLBP
Hot gas defrost	OK	OK	OK
Long interval pull down	OK	OK	OK
Protection	Mechanic	Mechanic	Mechanic

Application Notes

- See operation limits for controller
- Provision for PE Grounding is located at the PE Stamp on the compressor
- Indirect suction intake without telescope
- U:100-240 V LBP; 208-240 V MBP; 50/60 Hz
- Good robustness against liquid intake.
- Compressor for laboratory and medical applications.
- Check special warranty terms with Secop Sales.

Model
MS18UVULTM

Sales code:
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Compressor Design

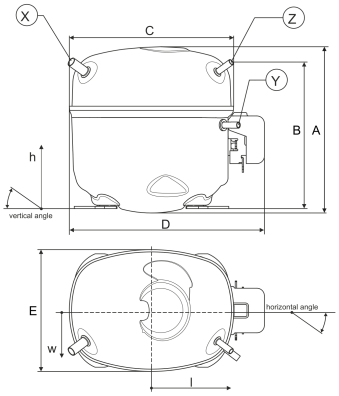
Oil type	**POE**	Motor protection	**internal**
Oil viscosity	**32cSt**	Winding resistance main	**3.850 Ohm**
Oil quantity	**473 / 15.99fl.oz**	Max. winding temp.	**125 °C**
Free gas volume comp.	**1,460 cm3 / 49.37fl.oz**	Max. discharge temp.	**130°C / 266°F**

Compressor Dimensions

Housing

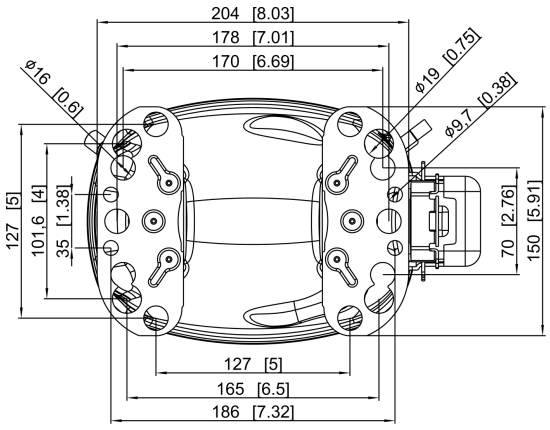
A Height	**219.9mm / 8.66in**
B Height	**214mm / 8.43in**
C Length shell	**217mm / 8.54in**
D Length w. cover	**257.6mm / 10.14in**
E Width	**161.1mm / 6.34in**

Find 3D Model here



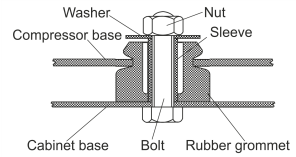
Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 9.54–9.72 / 0.38–0.38in	øi 6.41–6.59 / 0.25–0.26in	øi 6.41–6.59 / 0.25–0.26in
Material	CU	CU	CU
Horizontal angle ±2°	37°	37°	37°
Vertical angle ±2°	30°	0°	30°
Position l/h/w [mm]	-106/193/56.7 / -4.17/7.60/2.23in	113.7/110/81 / 4.48/4.33/3.19in	106/94.3/72 / 4.17/3.71/2.83in
Straight tube l. [mm]	12 / 0.47in	12 / 0.47in	12 / 0.47in

Mounting Accessories

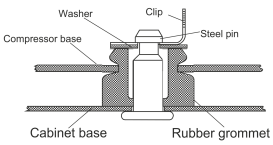


Dimensions in mm [in]

Bolt joint



Snap-on



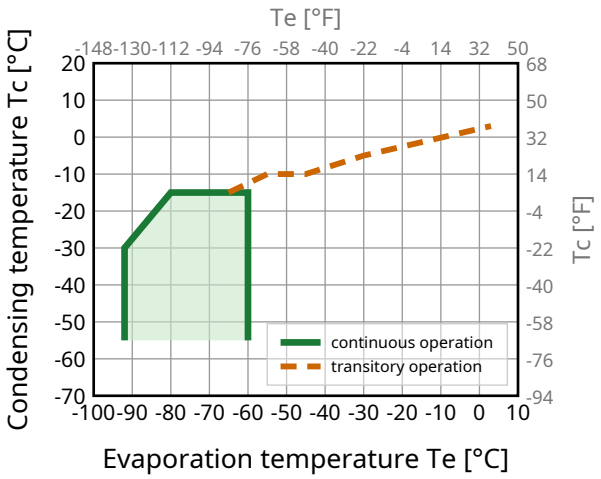
	one comp.	multi pack
Bolt joint | M6 | ø16mm	118-1958	118-1961
Snap-on | ø7,3 | ø16mm	–	118-1962

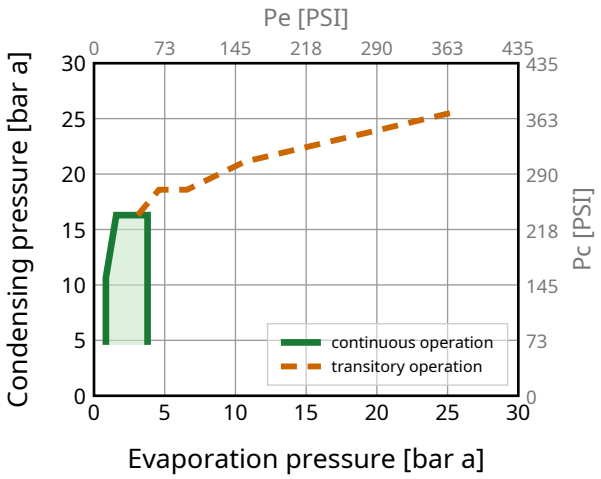
Model
MS18UVULTM System Design

Sales code:
104M0822

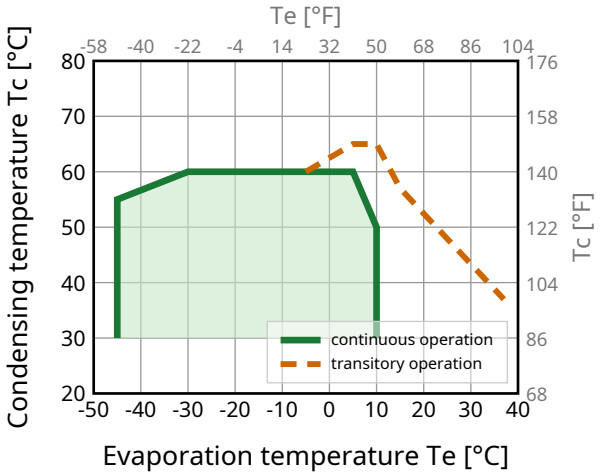
System Design

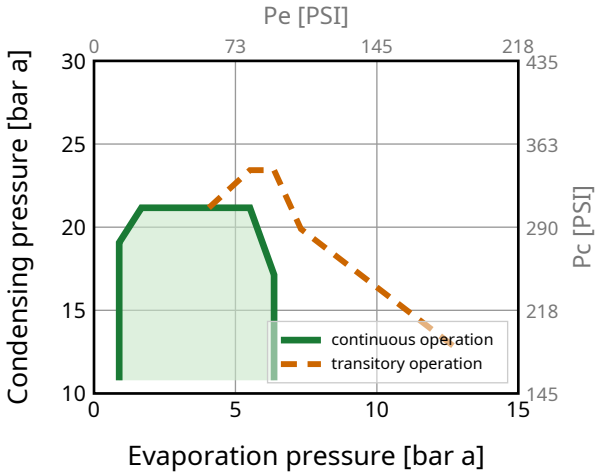
Operation Pressure Range R170



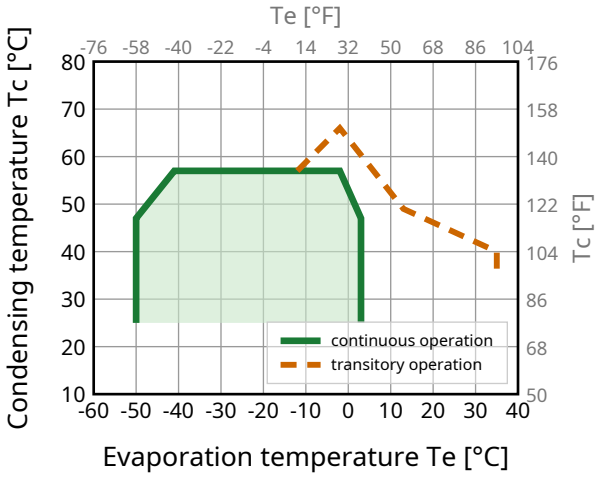


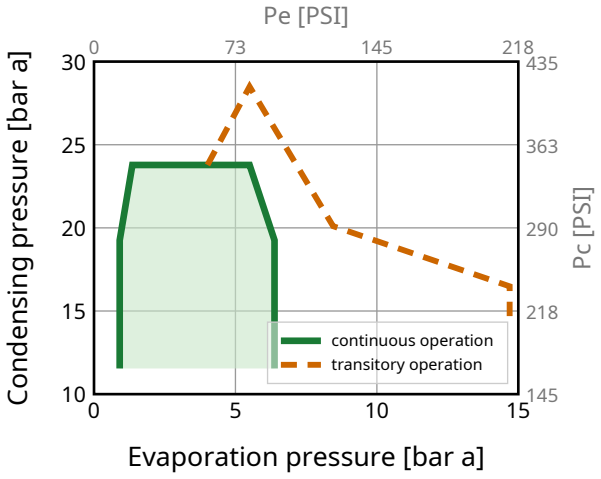
Operation Pressure Range R290





Operation Pressure Range R1270





Model
MS18UVULTM

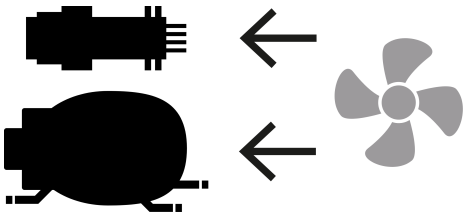
Sales code:
104M0822

System Cooling

Compressor and Controller Cooling: fan 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.



Accessories (Compressor + Controller)

103N2008	plastic cover	1 pcs

Operation Limits

Suctiongas temperature < +20 °C (contininous operation)

Model Sales code:

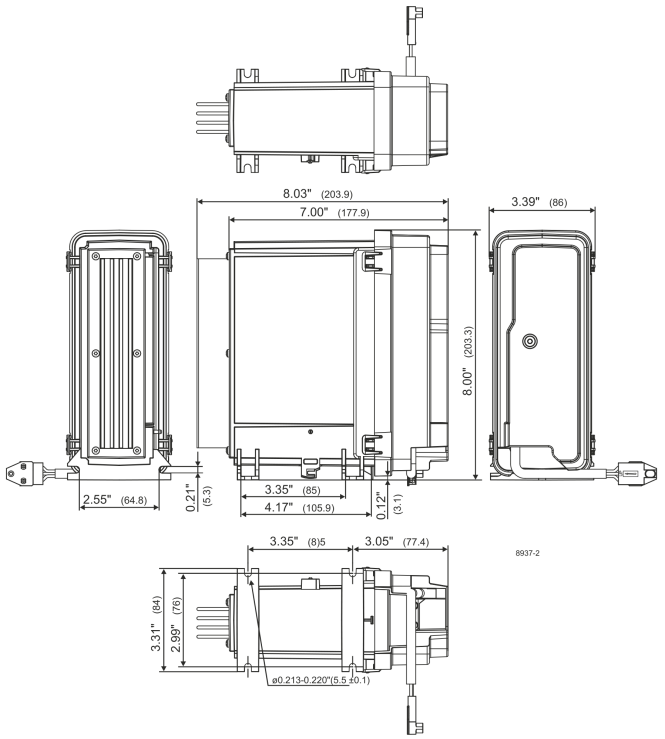
MS18UVULTM Controller Overview **104M0822**

Controller Overview

–	**Conf. 1, 2, 3**
Sales code single pack:	105N4932
Sales code industry pack:	105N4933 (8)
Voltage nom.:	100-240 V,50/60 Hz
Voltage range	90–150/180–270 V
Max output power	1100 W
Compressor speed range:	2200-4500 rpm
Cable length:	915 mm
Protection class:	IP54
LRA (Locked Rotor Amperage):	2,9 A
AEO and Defrost pin	Yes
Frequency input	Yes
Modbus input	SWI
Controller Wiring	» Controller Wiring

Controller Dimensions

Conf. 1, 2, 3



Operating Instructions

For proper installation and operation of variable-speed compressors and controllers, please refer to the Operating Instructions. The document covers electrical installation, speed control, and technical data for the controller.
» Download Operating Instructions

Model
MS18UVULTM

Sales code:
104M0822

Standard Conditions — 2200 rpm

R170, 220 V/50 Hz, fan 3m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	ṁ	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-85 -121	-35 -31	10 50	-15 5	**295**	1006	254	**1.38**	4.70	214	1.06	2.40	**ULT 1**
-85 -121	-40 -40	10 50	-20 -4	**318**	1086	274	**1.57**	5.35	203	1.01	2.50	**ULT 2**
-85 -121	-45 -49	10 50	-25 -13	**341**	1164	293	**1.79**	6.10	191	0.95	2.60	**ULT 3**
-95 -139	-35 -31	10 50	-30 -22	**150**	513	129	**1.02**	3.48	148	0.73	1.11	**ULT 4**
-95 -139	-40 -40	10 50	-35 -31	**168**	574	145	**1.18**	4.02	143	0.71	1.21	**ULT 5**
-95 -139	-45 -49	10 50	-40 -40	**186**	635	160	**1.36**	4.64	137	0.68	1.30	**ULT 6**

Performance Tables — 2200 rpm

R170, 220 V/50 Hz, fan 3m/s

pc= -35/-31 | RGT= 10/50 | Tliq= -35/-31 | °C/°F

pe		Cooling capacity			COP	EER	P	I	ṁ
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-92	-134	**203**	694	175	**1.22**	4.16	167	0.83	1.46
-90	-130	**238**	812	205	**1.32**	4.51	180	0.90	1.71
-85	-121	**340**	1160	292	**1.59**	5.43	214	1.06	2.44
-80	-112	**466**	1591	401	**1.89**	6.46	246	1.22	3.35
-75	-103	**619**	2113	533	**2.26**	7.70	274	1.35	4.46
-70	-94	**801**	2734	689	**2.71**	9.26	295	1.46	5.78
-65	-85	**1016**	3466	874	**3.31**	11.28	307	1.51	7.35
-60	-76	**1265**	4315	1088	**4.12**	14.06	307	1.51	9.18

pc= -25/-13 | RGT= 10/50 | Tliq= -25/-13 | °C/°F

-92	-134	**164**	559	141	**0.94**	3.21	174	0.86	1.25
-90	-130	**196**	668	168	**1.03**	3.52	190	0.94	1.49
-85	-121	**290**	991	250	**1.26**	4.29	231	1.14	2.21
-80	-112	**409**	1394	351	**1.49**	5.10	274	1.35	3.12
-75	-103	**553**	1886	475	**1.75**	5.99	315	1.55	4.22
-70	-94	**726**	2476	624	**2.06**	7.02	353	1.73	5.56
-65	-85	**930**	3173	800	**2.42**	8.26	384	1.88	7.14
-60	-76	**1168**	3986	1005	**2.88**	9.81	406	1.98	9.00

Model
MS18UVULTM

Sales code:
104M0822

Standard Conditions — 4500 rpm

R170, 220 V/50 Hz, fan 3m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	ṁ	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-85 -121	-35 -31	10 50	-15 5	**581**	1981	499	**1.34**	4.56	434	2.15	4.73	**ULT 1**
-85 -121	-40 -40	10 50	-20 -4	**623**	2126	536	**1.51**	5.16	412	2.04	4.90	**ULT 2**
-85 -121	-45 -49	10 50	-25 -13	**664**	2264	571	**1.72**	5.87	386	1.92	5.05	**ULT 3**
-95 -139	-35 -31	10 50	-30 -22	**302**	1032	260	**0.99**	3.38	305	1.52	2.23	**ULT 4**
-95 -139	-40 -40	10 50	-35 -31	**337**	1151	290	**1.15**	3.91	295	1.47	2.42	**ULT 5**
-95 -139	-45 -49	10 50	-40 -40	**371**	1267	319	**1.32**	4.51	281	1.40	2.59	**ULT 6**

Performance Tables — 4500 rpm

R170, 220 V/50 Hz, fan 3m/s

pc= -35/-31 | RGT= 10/50 | Tliq= -35/-31 | °C/°F

pe		Cooling capacity			COP	EER	P	I	ṁ
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-92	-134	**407**	1388	350	**1.18**	4.04	344	1.71	2.91
-90	-130	**474**	1617	408	**1.28**	4.38	370	1.84	3.40
-85	-121	**670**	2286	576	**1.54**	5.26	434	2.15	4.81
-80	-112	**909**	3103	782	**1.84**	6.27	495	2.45	6.54
-75	-103	**1198**	4086	1030	**2.19**	7.48	547	2.70	8.62
-70	-94	**1540**	5253	1324	**2.63**	8.96	586	2.89	11.11
-65	-85	**1941**	6622	1669	**3.19**	10.88	609	2.99	14.04
-60	-76	**2406**	8210	2069	**3.94**	13.45	610	3.00	17.46

pc= -25/-13 | RGT= 10/50 | Tliq= -25/-13 | °C/°F

-92	-134	**328**	1121	283	**0.92**	3.13	359	1.78	2.50
-90	-130	**392**	1339	337	**1.01**	3.44	389	1.93	2.98
-85	-121	**578**	1974	497	**1.24**	4.22	468	2.32	4.41
-80	-112	**806**	2750	693	**1.47**	5.02	548	2.70	6.15
-75	-103	**1080**	3687	929	**1.73**	5.89	626	3.08	8.26
-70	-94	**1407**	4801	1210	**2.02**	6.90	696	3.41	10.78
-65	-85	**1791**	6110	1540	**2.37**	8.09	755	3.69	13.75
-60	-76	**2237**	7632	1924	**2.80**	9.56	798	3.90	17.24

Model
MS18UVULTM

Sales code:
104M0822

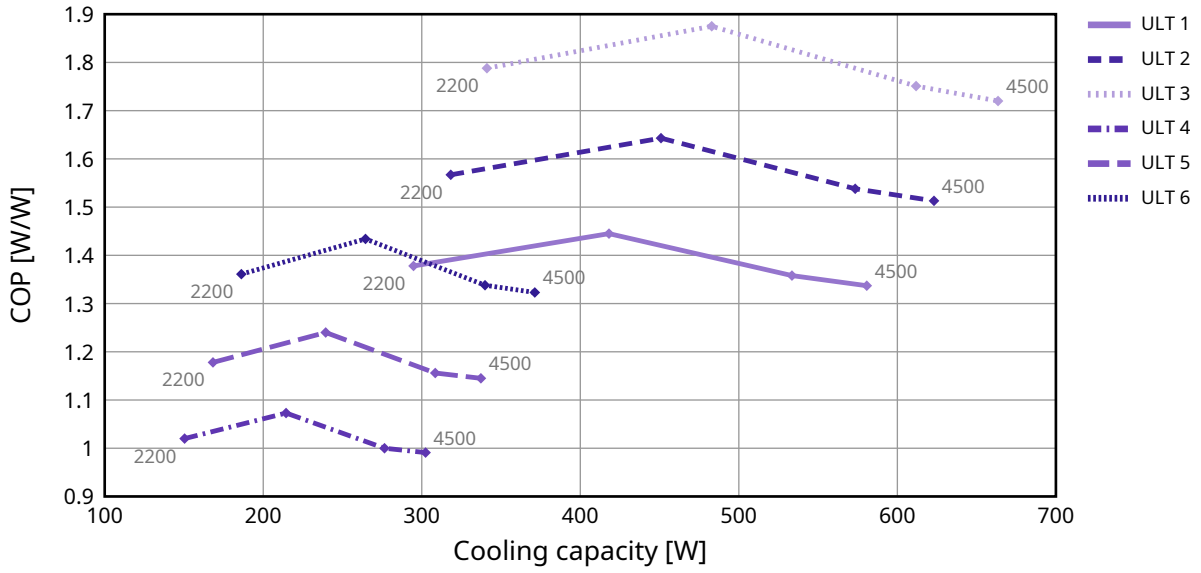
Optimal Performance

R170, 220 V/50 Hz, fan 3m/s
Shows the speed (RPM) that achieves the highest COP at each standard condition.

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	RPM	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[rpm]	
-85 -121	-35 -31	10 50	-15 5	**418**	1427	360	**1.45**	4.93	289	**3000**	**ULT 1**
-85 -121	-40 -40	10 50	-20 -4	**451**	1538	388	**1.64**	5.61	274	**3000**	**ULT 2**
-85 -121	-45 -49	10 50	-25 -13	**483**	1648	415	**1.88**	6.40	258	**3000**	**ULT 3**
-95 -139	-35 -31	10 50	-30 -22	**214**	732	184	**1.07**	3.66	200	**3000**	**ULT 4**
-95 -139	-40 -40	10 50	-35 -31	**239**	817	206	**1.24**	4.23	193	**3000**	**ULT 5**
-95 -139	-45 -49	10 50	-40 -40	**264**	902	227	**1.43**	4.89	184	**3000**	**ULT 6**

Cooling Capacity vs. COP

R170, 220 V/50 Hz, fan 3m/s



Model
MS18UVULTM

Sales code:
104M0822

Standard Conditions — 2200 rpm

R290, 220 V/50 Hz, fan 3m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	ṁ	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	**609**	2078	524	**1.65**	5.62	370	1.81	6.19	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**450**	1537	387	**1.27**	4.35	354	1.73	5.65	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**330**	1127	284	**1.32**	4.50	250	1.24	3.79	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**1124**	3835	967	**2.10**	7.17	535	2.59	12.87	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**890**	3036	765	**1.76**	5.99	507	2.46	11.32	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**982**	3352	845	**2.15**	7.35	456	2.22	12.09	**EN12900 MBP**

Performance Tables — 2200 rpm

R290, 220 V/50 Hz, fan 3m/s

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

pe		Cooling capacity			COP	EER	P	I	ṁ
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-45	-49	**153**	523	132	**0.82**	2.79	187	0.93	1.72
-40	-40	**224**	765	193	**1.03**	3.51	218	1.08	2.52
-30	-22	**412**	1407	355	**1.40**	4.78	295	1.45	4.66
-20	-4	**673**	2298	579	**1.78**	6.06	379	1.85	7.66
-10	14	**1021**	3485	878	**2.24**	7.64	456	2.22	11.73
0	32	**1471**	5019	1265	**2.87**	9.80	512	2.48	17.10
10	50	**2036**	6947	1751	**3.83**	13.07	531	2.58	24.08

pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

-45	-49	**109**	371	93	**0.57**	1.96	190	0.94	1.35
-40	-40	**173**	591	149	**0.79**	2.68	221	1.09	2.15
-30	-22	**342**	1168	294	**1.12**	3.84	304	1.50	4.28
-20	-4	**576**	1967	496	**1.42**	4.86	405	1.98	7.26
-10	14	**890**	3036	765	**1.76**	5.99	507	2.46	11.32
0	32	**1297**	4425	1115	**2.18**	7.43	596	2.88	16.73
10	50	**1812**	6182	1558	**2.76**	9.42	656	3.16	23.81

Model
MS18UVULTM

Sales code:
104M0822

Standard Conditions — 4500 rpm

R290, 220 V/50 Hz, fan 3m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	ṁ	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	**1107**	3778	952	**1.58**	5.40	700	3.43	11.25	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**820**	2797	705	**1.22**	4.17	671	3.29	10.28	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**602**	2053	517	**1.25**	4.25	483	2.39	6.90	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**2009**	6853	1727	**2.04**	6.97	983	4.77	23.00	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**1596**	5446	1373	**1.71**	5.82	936	4.55	20.30	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**1751**	5974	1506	**2.09**	7.12	839	4.09	21.55	**EN12900 MBP**

Performance Tables — 4500 rpm

R290, 220 V/50 Hz, fan 3m/s

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

pe		Cooling capacity			COP	EER	P	I	ṁ
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-45	-49	**271**	925	233	**0.75**	2.55	363	1.80	3.04
-40	-40	**407**	1388	350	**0.96**	3.27	425	2.10	4.57
-30	-22	**750**	2560	645	**1.33**	4.54	564	2.78	8.48
-20	-4	**1212**	4137	1043	**1.71**	5.83	710	3.48	13.79
-10	14	**1820**	6211	1565	**2.17**	7.40	839	4.09	20.90
0	32	**2601**	8873	2237	**2.79**	9.52	932	4.53	30.24
10	50	**3581**	12218	3080	**3.70**	12.62	968	4.70	42.35

pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

-45	-49	**178**	607	153	**0.49**	1.68	363	1.80	2.21
-40	-40	**306**	1046	264	**0.72**	2.45	427	2.12	3.81
-30	-22	**624**	2129	537	**1.07**	3.64	584	2.88	7.80
-20	-4	**1045**	3565	899	**1.37**	4.69	761	3.72	13.15
-10	14	**1596**	5446	1373	**1.71**	5.82	936	4.55	20.30
0	32	**2305**	7864	1982	**2.12**	7.23	1088	5.27	29.72
10	50	**3198**	10912	2750	**2.67**	9.11	1197	5.78	42.02

Model
MS18UVULTM

Sales code:
104M0822

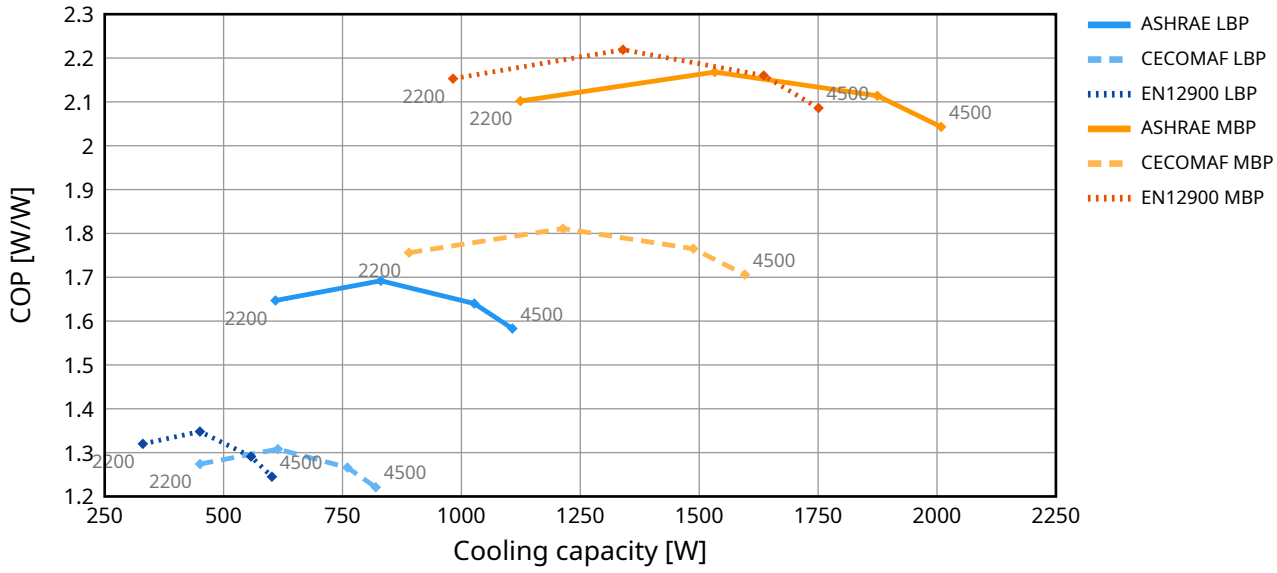
Optimal Performance

R290, 220 V/50 Hz, fan 3m/s
Shows the speed (RPM) that achieves the highest COP at each standard condition.

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	RPM	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[rpm]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	**831**	2834	714	**1.69**	5.77	491	**3000**	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**614**	2096	528	**1.31**	4.46	470	**3000**	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**450**	1536	387	**1.35**	4.60	334	**3000**	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**1533**	5230	1318	**2.17**	7.40	707	**3000**	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**1214**	4140	1044	**1.81**	6.18	670	**3000**	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**1340**	4571	1152	**2.22**	7.57	604	**3000**	**EN12900 MBP**

Cooling Capacity vs. COP

R290, 220 V/50 Hz, fan 3m/s



Model
MS18UVULTM

Sales code:
104M0822

Standard Conditions — 2200 rpm

R1270, 220 V/50 Hz, fan 3m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	ṁ	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	**698**	2382	600	**1.59**	5.44	438	2.13	7.04	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**520**	1775	447	**1.24**	4.23	419	2.05	6.44	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**386**	1318	332	**1.32**	4.49	293	1.45	4.37	**EN12900 LBP**
-23.3 -10	48.8 119.8	4.4 39.9	48.8 119.8	**579**	1977	498	**1.37**	4.68	422	2.06	7.85	**ARI540 LBP**
-23.3 -10	40.6 105.1	32.2 90	32.2 90	**758**	2585	651	**1.92**	6.56	394	1.93	7.64	**AHAM LBP**
-35 -31	45 113	32 89.6	45 113	**364**	1242	313	**1.21**	4.14	300	1.48	4.06	**opt LBP**

Performance Tables — 2200 rpm

R1270, 220 V/50 Hz, fan 3m/s

pc= 35/95 | RGT= 32/89.6 | Tliq= 35/95 | °C/°F

pe		Cooling capacity			COP	EER	P	I	ṁ
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-50	-58	**163**	555	140	**0.95**	3.23	172	0.86	1.66
-40	-40	**323**	1102	278	**1.31**	4.48	246	1.22	3.30
-30	-22	**556**	1897	478	**1.72**	5.86	324	1.59	5.71
-20	-4	**877**	2991	754	**2.23**	7.60	394	1.92	9.07
-10	14	**1299**	4431	1117	**2.93**	10.00	443	2.16	13.57
0	32	**1836**	6266	1579	**3.98**	13.59	461	2.24	19.43
3	37	**2022**	6900	1739	**4.41**	15.05	458	2.23	21.50

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

-50	-58	**123**	420	106	**0.72**	2.46	170	0.85	1.36
-40	-40	**268**	913	230	**1.05**	3.60	254	1.25	2.98
-30	-22	**479**	1634	412	**1.38**	4.71	347	1.70	5.36
-20	-4	**771**	2630	663	**1.75**	5.98	440	2.14	8.69
-10	14	**1158**	3950	996	**2.23**	7.62	518	2.52	13.18
0	32	**1654**	5642	1422	**2.89**	9.86	572	2.77	19.10
3	37	**1826**	6230	1570	**3.14**	10.71	582	2.81	21.20

Model
MS18UVULTM

Sales code:
104M0822

Standard Conditions — 4500 rpm

R1270, 220 V/50 Hz, fan 3m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	ṁ	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	**1379**	4705	1186	**1.61**	5.50	855	4.17	13.91	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**1030**	3515	886	**1.25**	4.28	821	4.01	12.76	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**766**	2613	659	**1.32**	4.49	582	2.87	8.65	**EN12900 LBP**
-23.3 -10	48.8 119.8	4.4 39.9	48.8 119.8	**1139**	3886	979	**1.38**	4.72	824	4.02	15.43	**ARI540 LBP**
-23.3 -10	40.6 105.1	32.2 90	32.2 90	**1480**	5049	1273	**1.91**	6.53	773	3.78	14.92	**AHAM LBP**
-35 -31	45 113	32 89.6	45 113	**725**	2472	623	**1.22**	4.17	593	2.92	8.08	**opt LBP**

Performance Tables — 4500 rpm

R1270, 220 V/50 Hz, fan 3m/s

pc= 35/95 | RGT= 32/89.6 | Tliq= 35/95 | °C/°F

pe		Cooling capacity			COP	EER	P	I	ṁ
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-50	-58	**326**	1111	280	**0.92**	3.15	353	1.75	3.32
-40	-40	**642**	2190	552	**1.30**	4.43	494	2.44	6.56
-30	-22	**1091**	3723	938	**1.70**	5.79	643	3.16	11.21
-20	-4	**1700**	5799	1462	**2.19**	7.48	776	3.79	17.58
-10	14	**2492**	8504	2143	**2.86**	9.77	870	4.24	26.03
0	32	**3495**	11926	3006	**3.86**	13.18	905	4.40	36.99
3	37	**3841**	13106	3303	**4.27**	14.56	900	4.38	40.84

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

-50	-58	**247**	841	212	**0.69**	2.36	356	1.77	2.73
-40	-40	**536**	1829	461	**1.06**	3.61	507	2.51	5.96
-30	-22	**947**	3230	814	**1.39**	4.74	682	3.35	10.59
-20	-4	**1505**	5134	1294	**1.75**	5.98	858	4.18	16.95
-10	14	**2235**	7627	1922	**2.21**	7.53	1013	4.91	25.45
0	32	**3164**	10796	2721	**2.81**	9.60	1125	5.44	36.55
3	37	**3485**	11892	2997	**3.04**	10.37	1146	5.54	40.46

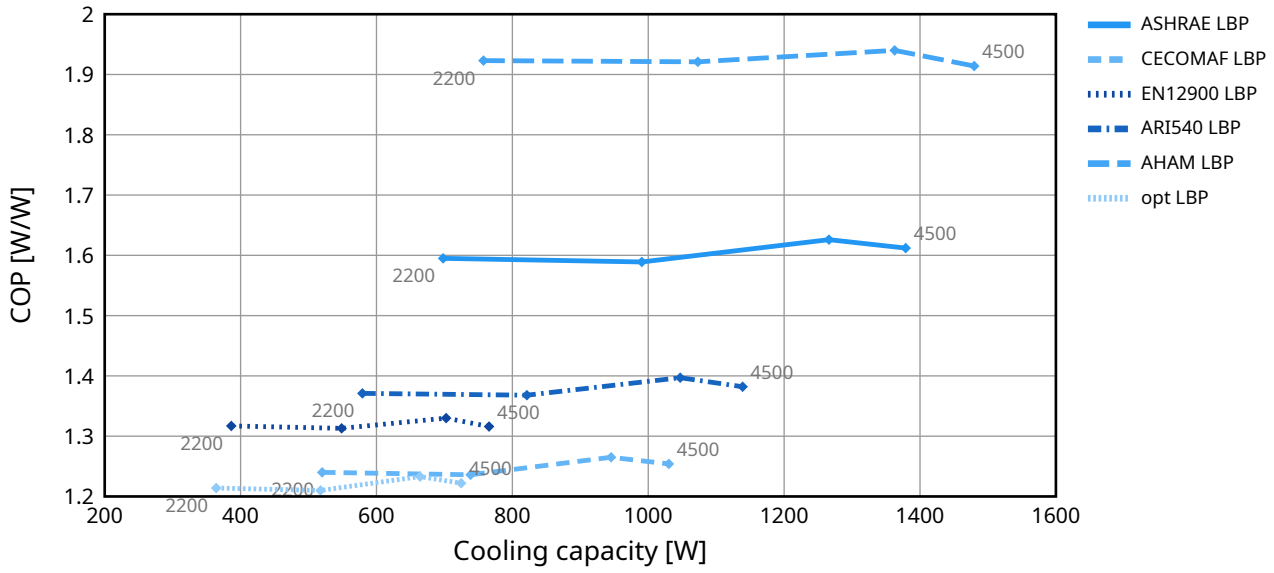
Model
MS18UVULTM

Sales code:
104M0822

Optimal Performance

R1270, 220 V/50 Hz, fan 3m/s
Shows the speed (RPM) that achieves the highest COP at each standard condition.

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	RPM	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[rpm]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	**1266**	4320	1089	**1.63**	5.55	778	**4000**	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**945**	3225	813	**1.26**	4.32	747	**4000**	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**702**	2397	604	**1.33**	4.54	528	**4000**	**EN12900 LBP**
-23.3 -10	48.8 119.8	4.4 39.9	48.8 119.8	**1047**	3572	900	**1.40**	4.77	750	**4000**	**ARI540 LBP**
-23.3 -10	40.6 105.1	32.2 90	32.2 90	**1363**	4650	1172	**1.94**	6.62	702	**4000**	**AHAM LBP**
-35 -31	45 113	32 89.6	45 113	**664**	2266	571	**1.23**	4.21	539	**4000**	**opt LBP**

Cooling Capacity vs. COP

R1270, 220 V/50 Hz, fan 3m/s