Model
MS18UVULTM

Sales code:
104M0823

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
- Direct suction intake with 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:
104M0823

Compressor Design

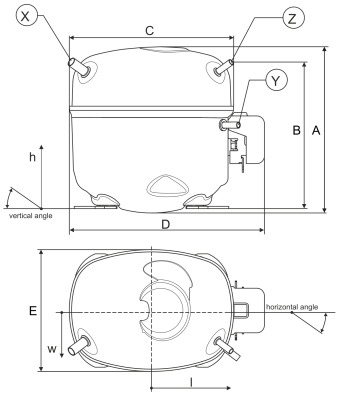
Oil type	**POE**	Motor protection	**internal**
Oil viscosity	**32cSt**	Winding resistance main	**3.850 Ohm**
Oil quantity	**473 / 15.99fl.oz**	Max. winding temp.	**125 °C**
Free gas volume comp.	**1,460 cm3 / 49.37fl.oz**	Max. discharge temp.	**130°C / 266°F**

Compressor Dimensions

Housing

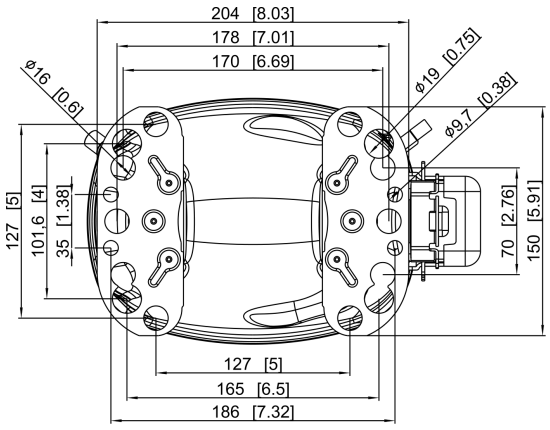
A Height	**219.9mm / 8.66in**
B Height	**214mm / 8.43in**
C Length shell	**217mm / 8.54in**
D Length w. cover	**257.6mm / 10.14in**
E Width	**161.1mm / 6.34in**

Find 3D Model here



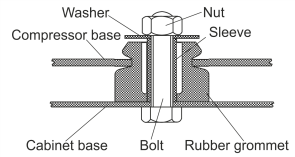
Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 9.54–9.72 / 0.38–0.38in	øi 6.41–6.59 / 0.25–0.26in	øi 6.41–6.59 / 0.25–0.26in
Material	CU	CU	CU
Horizontal angle ±2°	37°	37°	37°
Vertical angle ±2°	30°	0°	30°
Position l/h/w [mm]	-106/193/56.7 / -4.17/7.60/2.23in	113.7/110/81 / 4.48/4.33/3.19in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

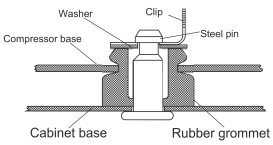


Dimensions in mm [in]

Bolt joint



Snap-on



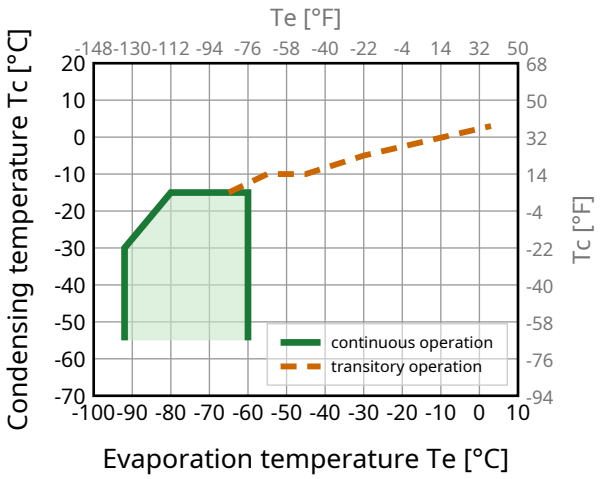
	one comp.	multi pack
Bolt joint | M6 | ø16mm	118-1958	118-1961
Snap-on | ø7,3 | ø16mm	–	118-1962

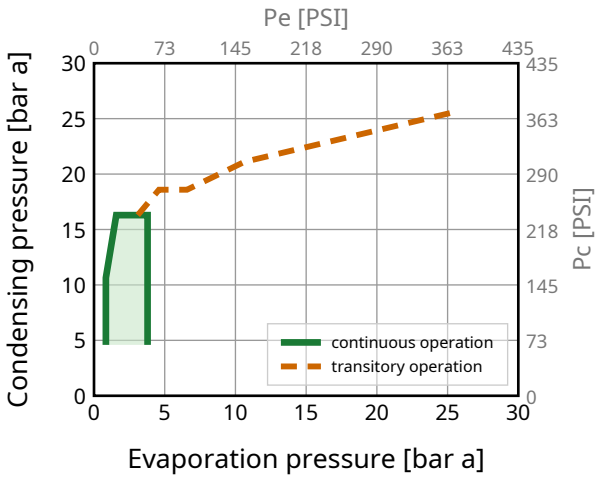
Model
MS18UVULTM System Design

Sales code:
104M0823

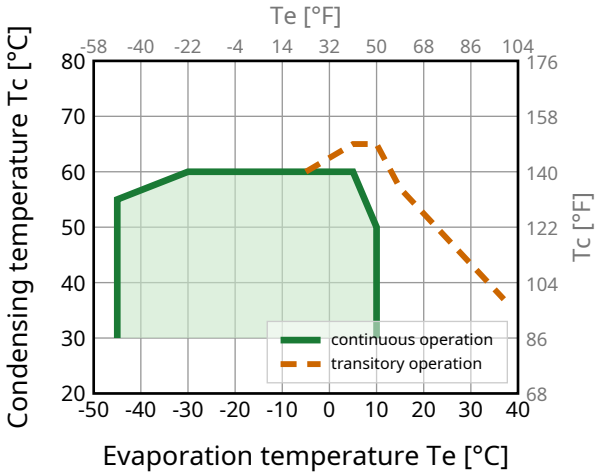
System Design

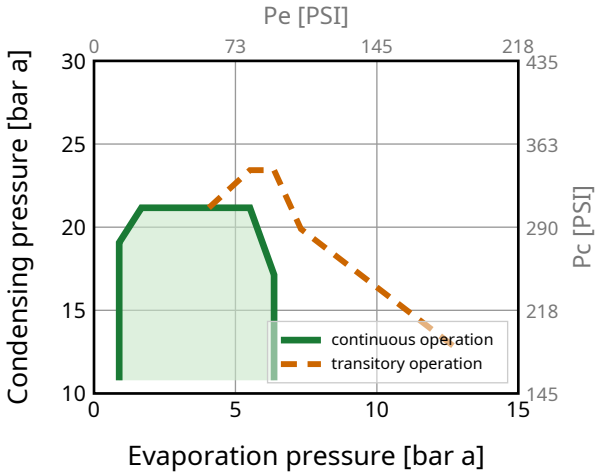
Operation Pressure Range R170



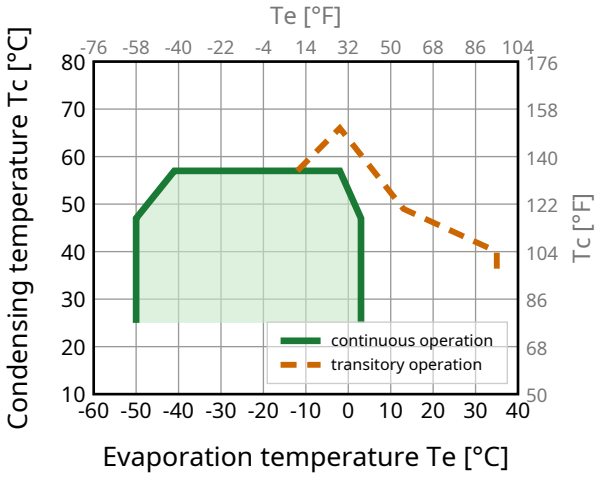


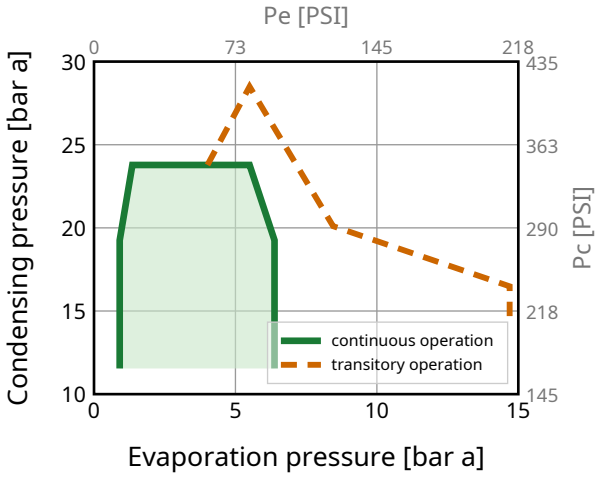
Operation Pressure Range R290





Operation Pressure Range R1270





Model
MS18UVULTM

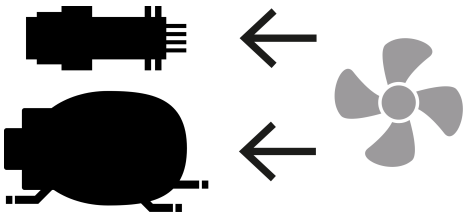
Sales code:
104M0823

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:

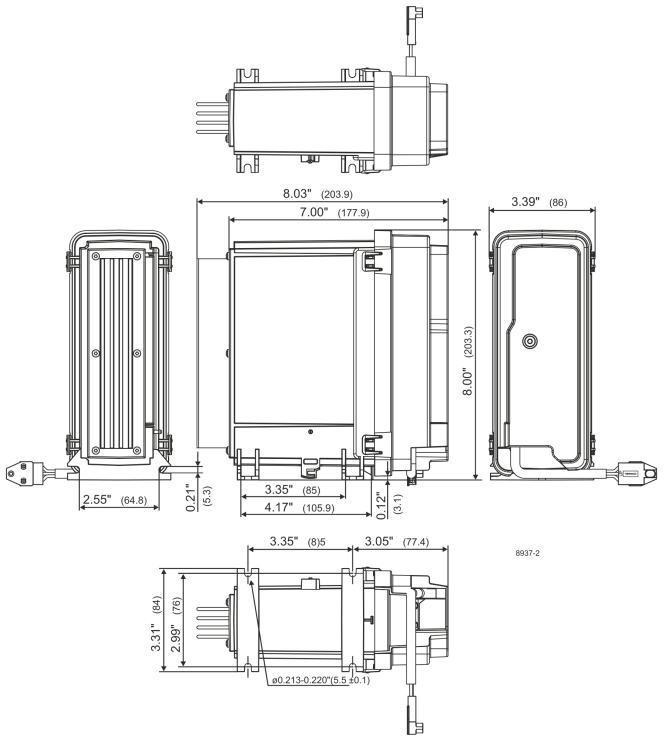
MS18UVULTM Controller Overview **104M0823**

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:
104M0823

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	**326**	1113	281	**1.42**	4.86	229	1.14	2.65	**ULT 1**
-85 -121	-40 -40	10 50	-20 -4	**351**	1199	302	**1.62**	5.53	217	1.08	2.76	**ULT 2**
-85 -121	-45 -49	10 50	-25 -13	**376**	1282	323	**1.85**	6.31	203	1.01	2.86	**ULT 3**
-95 -139	-35 -31	10 50	-30 -22	**168**	575	145	**1.06**	3.60	160	0.79	1.24	**ULT 4**
-95 -139	-40 -40	10 50	-35 -31	**188**	640	161	**1.22**	4.16	154	0.77	1.34	**ULT 5**
-95 -139	-45 -49	10 50	-40 -40	**207**	706	178	**1.41**	4.80	147	0.73	1.44	**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	**227**	774	195	**1.26**	4.31	180	0.89	1.62
-90	-130	**265**	903	228	**1.37**	4.66	194	0.96	1.90
-85	-121	**376**	1284	324	**1.64**	5.61	229	1.14	2.70
-80	-112	**514**	1754	442	**1.96**	6.67	263	1.30	3.69
-75	-103	**681**	2325	586	**2.33**	7.94	293	1.44	4.91
-70	-94	**881**	3005	757	**2.79**	9.53	315	1.55	6.35
-65	-85	**1115**	3804	959	**3.40**	11.61	328	1.61	8.07
-60	-76	**1388**	4734	1193	**4.24**	14.48	327	1.61	10.07

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

-92	-134	**184**	629	158	**0.98**	3.33	189	0.94	1.40
-90	-130	**219**	749	189	**1.07**	3.65	205	1.02	1.67
-85	-121	**323**	1103	278	**1.30**	4.44	248	1.23	2.46
-80	-112	**452**	1544	389	**1.54**	5.26	294	1.45	3.45
-75	-103	**610**	2081	525	**1.81**	6.16	338	1.66	4.66
-70	-94	**799**	2726	687	**2.11**	7.21	378	1.85	6.12
-65	-85	**1022**	3488	879	**2.48**	8.48	411	2.01	7.85
-60	-76	**1283**	4377	1103	**2.95**	10.06	435	2.12	9.89

Model
MS18UVULTM

Sales code:
104M0823

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	**585**	1995	503	**1.38**	4.71	424	2.10	4.76	**ULT 1**
-85 -121	-40 -40	10 50	-20 -4	**627**	2140	539	**1.56**	5.33	402	2.00	4.93	**ULT 2**
-85 -121	-45 -49	10 50	-25 -13	**668**	2279	574	**1.77**	6.06	376	1.87	5.09	**ULT 3**
-95 -139	-35 -31	10 50	-30 -22	**305**	1040	262	**1.02**	3.50	297	1.48	2.25	**ULT 4**
-95 -139	-40 -40	10 50	-35 -31	**340**	1159	292	**1.18**	4.03	287	1.43	2.43	**ULT 5**
-95 -139	-45 -49	10 50	-40 -40	**374**	1276	322	**1.36**	4.65	274	1.37	2.60	**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	**410**	1398	352	**1.22**	4.17	335	1.67	2.94
-90	-130	**478**	1629	411	**1.32**	4.52	360	1.79	3.42
-85	-121	**675**	2302	580	**1.59**	5.43	424	2.10	4.84
-80	-112	**916**	3124	787	**1.90**	6.47	482	2.39	6.58
-75	-103	**1206**	4113	1037	**2.26**	7.72	533	2.63	8.68
-70	-94	**1550**	5288	1333	**2.71**	9.26	571	2.81	11.18
-65	-85	**1954**	6665	1680	**3.29**	11.24	593	2.92	14.13
-60	-76	**2422**	8264	2083	**4.08**	13.91	594	2.92	17.57

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

-92	-134	**331**	1130	285	**0.95**	3.23	349	1.74	2.52
-90	-130	**395**	1349	340	**1.04**	3.56	379	1.88	3.01
-85	-121	**583**	1988	501	**1.28**	4.36	456	2.26	4.44
-80	-112	**812**	2769	698	**1.52**	5.18	535	2.64	6.19
-75	-103	**1088**	3712	936	**1.78**	6.09	610	3.00	8.31
-70	-94	**1416**	4833	1218	**2.09**	7.13	678	3.33	10.85
-65	-85	**1802**	6150	1550	**2.45**	8.37	734	3.60	13.85
-60	-76	**2252**	7682	1936	**2.90**	9.90	776	3.79	17.35

Model
MS18UVULTM

Sales code:
104M0823

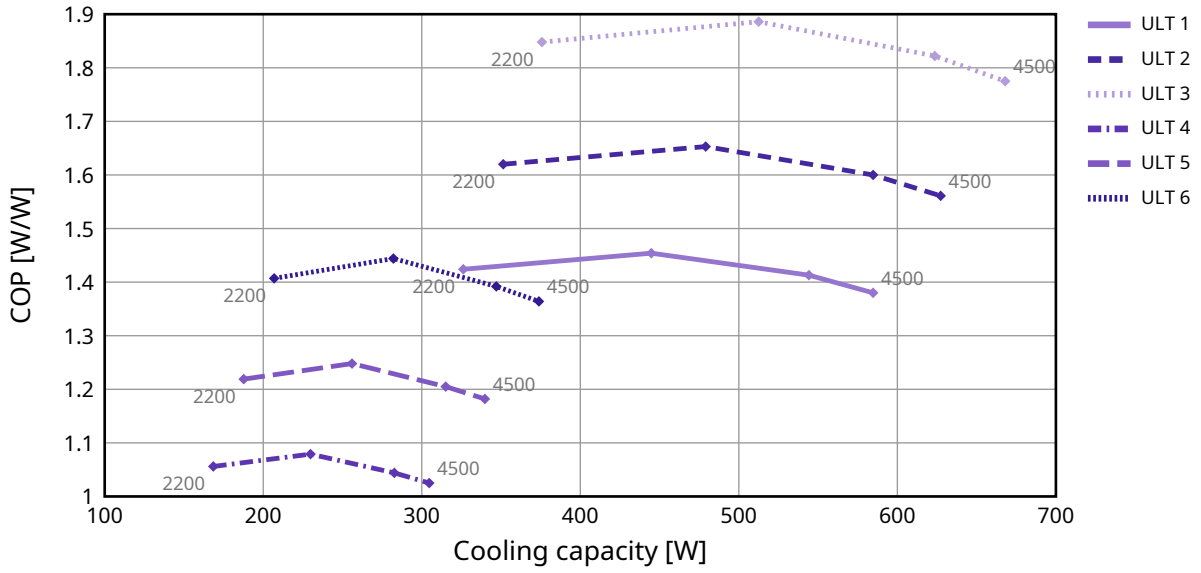
Optimal Performance

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	**445**	1518	383	**1.45**	4.96	306	**3000**	**ULT 1**
-85 -121	-40 -40	10 50	-20 -4	**479**	1635	412	**1.65**	5.64	290	**3000**	**ULT 2**
-85 -121	-45 -49	10 50	-25 -13	**512**	1749	441	**1.89**	6.44	272	**3000**	**ULT 3**
-95 -139	-35 -31	10 50	-30 -22	**230**	784	198	**1.08**	3.68	213	**3000**	**ULT 4**
-95 -139	-40 -40	10 50	-35 -31	**256**	873	220	**1.25**	4.26	205	**3000**	**ULT 5**
-95 -139	-45 -49	10 50	-40 -40	**282**	963	243	**1.44**	4.93	195	**3000**	**ULT 6**

Cooling Capacity vs. COP

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



Model
MS18UVULTM

Sales code:
104M0823

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	**640**	2185	551	**1.73**	5.92	369	1.81	6.50	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**474**	1617	407	**1.34**	4.58	353	1.73	5.94	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**348**	1186	299	**1.39**	4.75	250	1.24	3.99	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**1177**	4017	1013	**2.21**	7.55	532	2.58	13.48	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**933**	3182	802	**1.85**	6.31	505	2.45	11.86	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**1029**	3510	885	**2.27**	7.73	454	2.21	12.66	**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	**163**	555	140	**0.87**	2.96	188	0.93	1.83
-40	-40	**237**	809	204	**1.09**	3.71	218	1.08	2.67
-30	-22	**434**	1480	373	**1.47**	5.03	294	1.45	4.90
-20	-4	**706**	2410	607	**1.87**	6.38	378	1.85	8.03
-10	14	**1070**	3649	920	**2.36**	8.04	454	2.21	12.28
0	32	**1539**	5251	1323	**3.02**	10.32	509	2.47	17.89
10	50	**2129**	7265	1831	**4.04**	13.78	527	2.56	25.18

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

-45	-49	**116**	397	100	**0.61**	2.09	190	0.94	1.44
-40	-40	**184**	628	158	**0.83**	2.84	221	1.09	2.29
-30	-22	**361**	1231	310	**1.19**	4.04	305	1.50	4.51
-20	-4	**606**	2066	521	**1.50**	5.11	404	1.97	7.62
-10	14	**933**	3182	802	**1.85**	6.31	505	2.45	11.86
0	32	**1358**	4632	1168	**2.29**	7.82	592	2.86	17.51
10	50	**1895**	6467	1630	**2.91**	9.92	652	3.14	24.91

Model
MS18UVULTM

Sales code:
104M0823

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	**1203**	4104	1034	**1.72**	5.87	699	3.43	12.22	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**892**	3042	767	**1.33**	4.53	671	3.29	11.18	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**655**	2235	563	**1.35**	4.62	483	2.39	7.51	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**2172**	7412	1868	**2.22**	7.57	979	4.75	24.87	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**1727**	5893	1485	**1.85**	6.32	932	4.53	21.97	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**1893**	6458	1628	**2.27**	7.73	835	4.07	23.30	**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	**300**	1024	258	**0.82**	2.80	365	1.81	3.37
-40	-40	**446**	1523	384	**1.05**	3.58	426	2.11	5.02
-30	-22	**816**	2784	702	**1.45**	4.93	564	2.78	9.22
-20	-4	**1313**	4481	1129	**1.85**	6.33	708	3.47	14.94
-10	14	**1968**	6714	1692	**2.36**	8.04	835	4.07	22.60
0	32	**2809**	9585	2416	**3.03**	10.35	926	4.50	32.67
10	50	**3867**	13195	3326	**4.03**	13.75	960	4.66	45.73

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

-45	-49	**201**	686	173	**0.55**	1.88	365	1.81	2.49
-40	-40	**340**	1158	292	**0.79**	2.70	429	2.13	4.22
-30	-22	**681**	2324	586	**1.16**	3.97	585	2.88	8.51
-20	-4	**1134**	3869	975	**1.49**	5.09	760	3.71	14.27
-10	14	**1727**	5893	1485	**1.85**	6.32	932	4.53	21.97
0	32	**2491**	8499	2142	**2.30**	7.85	1082	5.24	32.12
10	50	**3454**	11786	2971	**2.91**	9.92	1188	5.74	45.39

Model
MS18UVULTM

Sales code:
104M0823

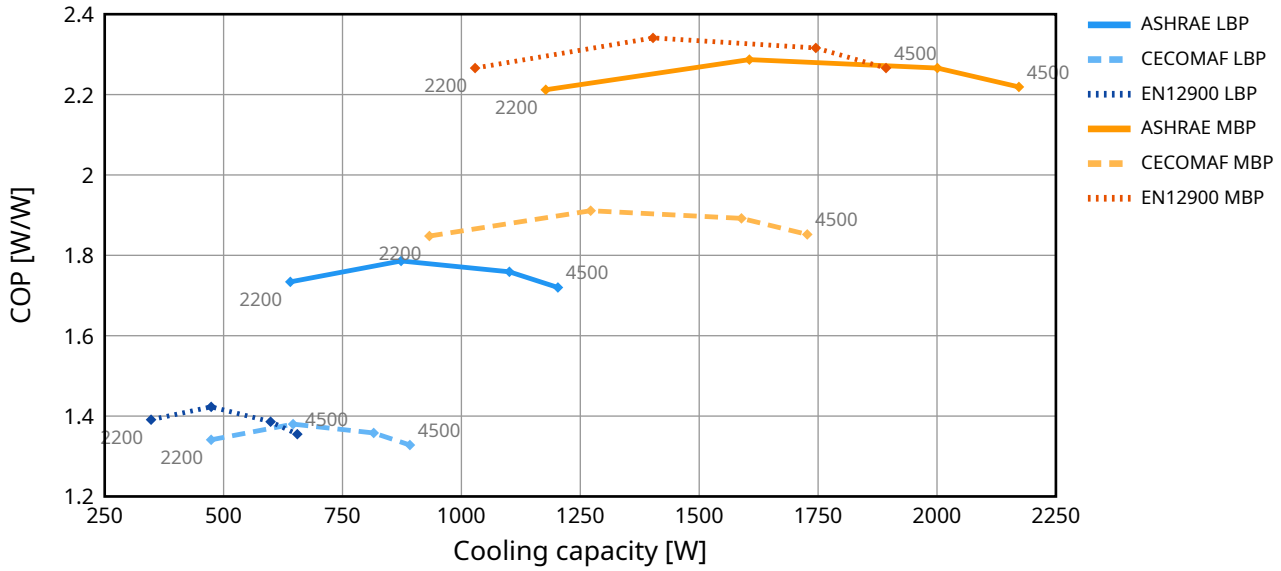
Optimal Performance

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	**873**	2979	751	**1.79**	6.09	489	**3000**	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**646**	2204	556	**1.38**	4.71	468	**3000**	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**474**	1617	408	**1.42**	4.86	333	**3000**	**EN12900 LBP**
-6.7 20	54.4 129.9	35 95	46.1 115	**1606**	5478	1381	**2.29**	7.80	702	**3000**	**ASHRAE MBP**
-10 14	55 131	32 89.6	55 131	**1272**	4339	1094	**1.91**	6.52	666	**3000**	**CECOMAF MBP**
-10 14	45 113	20 68	45 113	**1403**	4787	1206	**2.34**	7.99	599	**3000**	**EN12900 MBP**

Cooling Capacity vs. COP

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



Model
MS18UVULTM

Sales code:
104M0823

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	**774**	2640	665	**1.63**	5.57	474	2.31	7.80	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**577**	1970	496	**1.27**	4.33	454	2.21	7.15	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**429**	1465	369	**1.36**	4.63	316	1.56	4.85	**EN12900 LBP**
-23.3 -10	48.8 119.8	4.4 39.9	48.8 119.8	**641**	2186	551	**1.40**	4.79	456	2.22	8.68	**ARI540 LBP**
-23.3 -10	40.6 105.1	32.2 90	32.2 90	**836**	2852	719	**1.97**	6.73	424	2.07	8.43	**AHAM LBP**
-35 -31	45 113	32 89.6	45 113	**406**	1384	349	**1.25**	4.27	324	1.59	4.52	**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	**184**	628	158	**0.98**	3.35	187	0.93	1.87
-40	-40	**360**	1227	309	**1.36**	4.63	265	1.31	3.67
-30	-22	**615**	2097	529	**1.77**	6.03	348	1.71	6.31
-20	-4	**965**	3293	830	**2.28**	7.79	423	2.06	9.98
-10	14	**1426**	4867	1227	**3.00**	10.23	476	2.31	14.90
0	32	**2015**	6875	1733	**4.07**	13.89	495	2.40	21.32
3	37	**2219**	7570	1908	**4.51**	15.39	492	2.39	23.59

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

-50	-58	**141**	481	121	**0.75**	2.57	187	0.93	1.56
-40	-40	**300**	1024	258	**1.09**	3.72	275	1.36	3.34
-30	-22	**531**	1812	457	**1.42**	4.83	375	1.84	5.94
-20	-4	**850**	2902	731	**1.79**	6.12	474	2.31	9.58
-10	14	**1273**	4344	1095	**2.28**	7.77	559	2.71	14.50
0	32	**1816**	6195	1562	**2.94**	10.04	617	2.98	20.97
3	37	**2004**	6838	1724	**3.20**	10.91	627	3.02	23.27

Model
MS18UVULTM

Sales code:
104M0823

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	**1389**	4738	1194	**1.67**	5.69	833	4.06	14.01	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**1038**	3540	892	**1.30**	4.43	800	3.90	12.85	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**771**	2631	663	**1.36**	4.63	568	2.80	8.72	**EN12900 LBP**
-23.3 -10	48.8 119.8	4.4 39.9	48.8 119.8	**1147**	3913	986	**1.43**	4.88	803	3.92	15.53	**ARI540 LBP**
-23.3 -10	40.6 105.1	32.2 90	32.2 90	**1490**	5083	1281	**1.98**	6.75	753	3.69	15.03	**AHAM LBP**
-35 -31	45 113	32 89.6	45 113	**730**	2490	628	**1.26**	4.30	579	2.85	8.14	**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	**328**	1121	282	**0.95**	3.26	344	1.71	3.34
-40	-40	**646**	2206	556	**1.34**	4.57	483	2.39	6.61
-30	-22	**1099**	3748	945	**1.75**	5.98	627	3.08	11.29
-20	-4	**1711**	5837	1471	**2.27**	7.73	755	3.69	17.70
-10	14	**2509**	8560	2157	**2.96**	10.11	846	4.13	26.20
0	32	**3518**	12004	3026	**4.00**	13.65	879	4.28	37.23
3	37	**3866**	13191	3325	**4.42**	15.08	875	4.26	41.11

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

-50	-58	**249**	849	214	**0.72**	2.45	346	1.72	2.76
-40	-40	**540**	1843	464	**1.09**	3.72	495	2.45	6.01
-30	-22	**954**	3253	820	**1.43**	4.89	665	3.27	10.66
-20	-4	**1515**	5168	1303	**1.81**	6.19	835	4.07	17.07
-10	14	**2250**	7677	1935	**2.29**	7.80	984	4.78	25.62
0	32	**3185**	10867	2739	**2.92**	9.96	1091	5.28	36.78
3	37	**3508**	11970	3017	**3.16**	10.77	1111	5.38	40.73

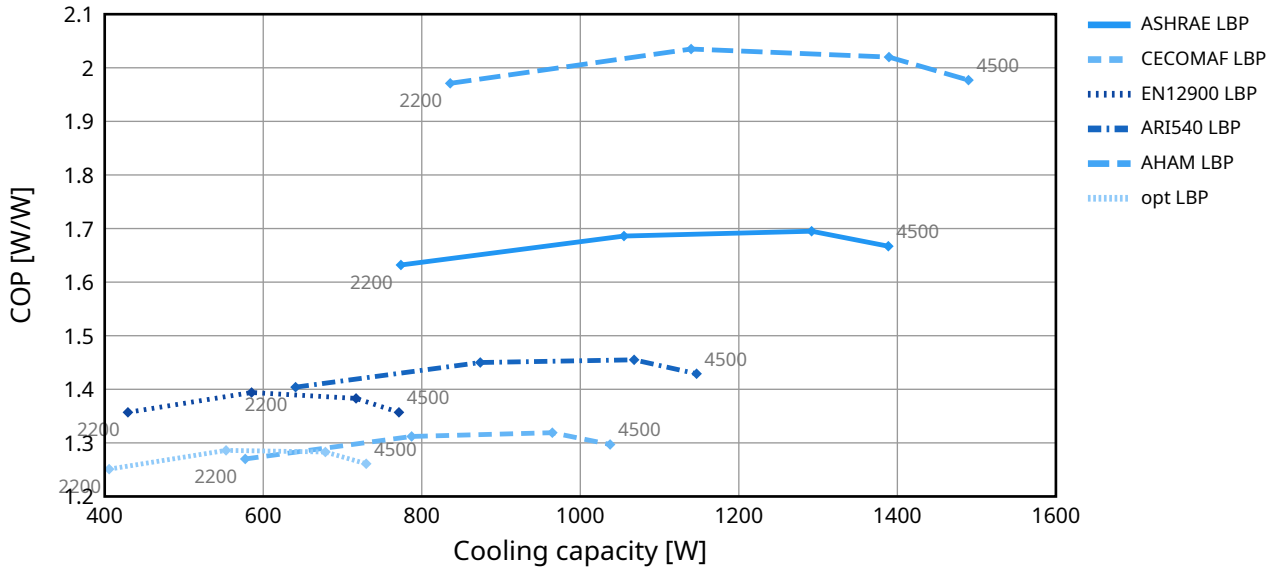
Model
MS18UVULTM

Sales code:
104M0823

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	**1292**	4408	1111	**1.70**	5.78	762	**4000**	**ASHRAE LBP**
-25 -13	55 131	32 89.6	55 131	**965**	3292	830	**1.32**	4.50	732	**4000**	**CECOMAF LBP**
-35 -31	40 104	20 68	40 104	**585**	1997	503	**1.39**	4.76	420	**3000**	**EN12900 LBP**
-23.3 -10	48.8 119.8	4.4 39.9	48.8 119.8	**1068**	3644	918	**1.46**	4.96	734	**4000**	**ARI540 LBP**
-23.3 -10	40.6 105.1	32.2 90	32.2 90	**1140**	3889	980	**2.04**	6.94	560	**3000**	**AHAM LBP**
-35 -31	45 113	32 89.6	45 113	**553**	1887	476	**1.29**	4.39	430	**3000**	**opt LBP**

Cooling Capacity vs. COP

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