

Single Pack MS21UDULTM 220-240V 50Hz CSCR

Single pack code number: **195B4691**

Position	Title	Code	Amount
1	Compressor MS21UDULTM	104M0811	1
2	SC starting device (550mm)	117-7816	1
3	Bolt joint for one compressor M6 ø16mm	118-1917	1

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ULT - ready

Model

Designation	MS21UDULTM	220-240V/50Hz 1~	Sales code:	104M0811
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Compressor design

Oil type	Polyolester	Refrigerant(s)	R170, R508B
Oil viscosity	32cST	Displacement	20,95cm ³ / 1,28cu.in
Oil quantity	620cm ³ / 21fl.oz	Compressors on pallet	80
Refr. charge - tech. limit	500g / 17,6oz		
Free gas volume comp.	1460cm ³ / 49,4fl.oz		
Weight	14,2kg / 31,3lbs		
Motor protection	external		
Winding resistance main	4,09Ω (at 25°C)		
Winding resistance aux	13,46Ω (at 25°C)		
Max. winding temp.	135°C / 275°F		
Max. discharge temp.	140°C / 284°F		



General - Configurations with MS21UDULTM

	Conf. 1
Motorconfiguration	CSCR
Power supply (nominal)	220-240V/50Hz
Number of phases	1
Voltage range	198-254V
Approvals	Chem.-comp.
Starting torque	HST
Note	ULT-ready. Compressor for low-temp-stage of cascade refrigeration systems.

Applications with MS21UDULTM

	Conf. 1
Refrigerant	R170
Application	LBP
System cooling	fan 3m/s
Hot gas defrost	-/-
Long interval pull down	-/-

Electrical data - Configurations with MS21UDULTM

	Conf. 1
Starting device type	relay
Run capacitor	10μF
Start capacitor	60μF
LRA (locked rotor amps / 4s)	18,16A
RLA (rated load amps / 1s)	2,95A
Cut in current	18,16A

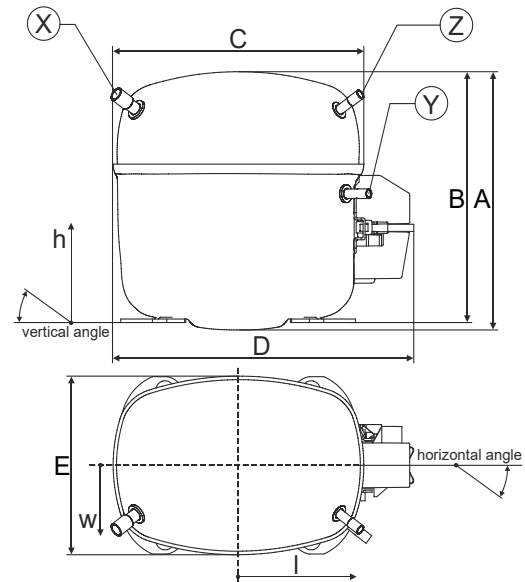
ULT - ready

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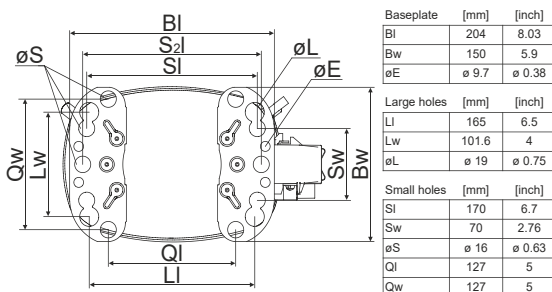
Compressor dimensions

Housing	A Height	219mm / 8,62in
	B Height	213mm / 8,39in
	C Length shell	218mm / 8,58in
	D Length w. cover	255mm / 10,04in
	E Width	151mm / 5,94in

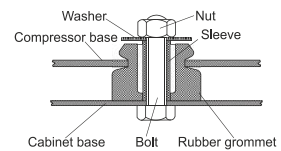


Connectors		Suction	Discharge	Process
		X	Y	Z
Diameter	[mm]	øi 10,11-10,29	øi 6,11-6,29	øi 6,11-6,29
(i:inside, o:outside)	[in]	øi 0,4-0,41	øi 0,24-0,25	øi 0,24-0,25
Material		copper	copper	copper
Horizontal angle	±2°	37°	37°	143°
Vertical angle	±2°	30°	0°	150°
Position l/h/w	[mm]	107/193/55	115/110/63	-107/193/55
	[in]	4,2/7,6/2,2	4,5/4,3/2,5	-4,2/7,6/2,2
Straight tube l.	[mm]	12	12	12
	[in]	0,5	0,5	0,5

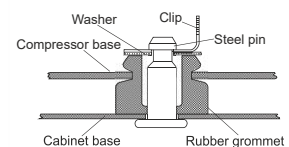
Compressor fixation



Bolt joint



Snap-on



Mounting accessories

	one comp.	multi pack
Bolt joint M6 ø16mm	118-1917	118-1918
Bolt joint ø1/4" ø16mm	118-1946	
Bolt joint ø1/4" ø19mm	118-1949	
Snap-on ø7,3 ø16mm	118-1947	118-1919

Application notes

ULT-ready. Compressor for low-temp-stage of cascade refrigeration systems.

No warranty if compressor operated relevant time outside of published operation limits.

Contact SECOP-Sales to agree on warranty limits (depends on kind of application).

ULT - ready

Model

Designation

MS21UDULTM 220-240V/50Hz

Conf. 1

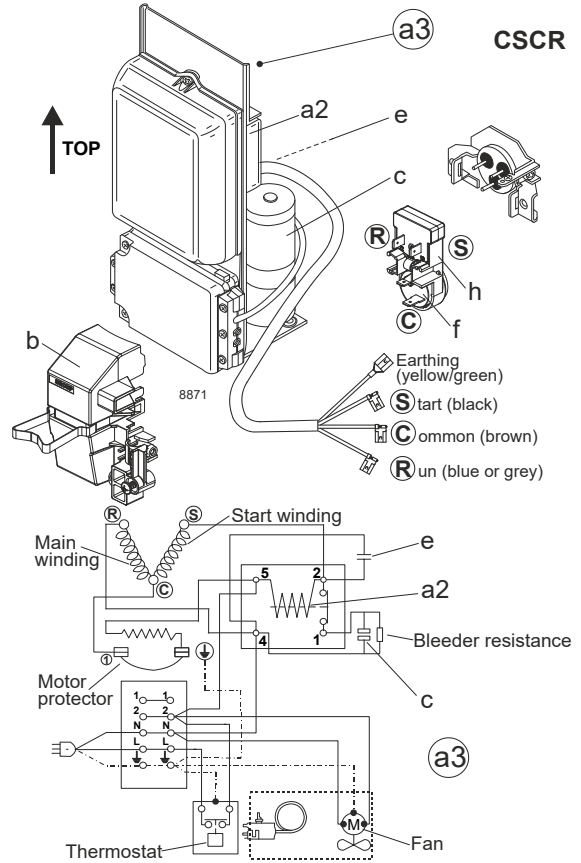
Sales code:

104M0811

Configuration

Motorconfiguration	CSCR
Power supply (nominal)	220-240V/50Hz 1~
Refrigerant	R170
Application	LBP
Voltage range	198-254V
Starting torque	HST
Approvals	Chem.-comp.

Electrical accessories / wiring diagram

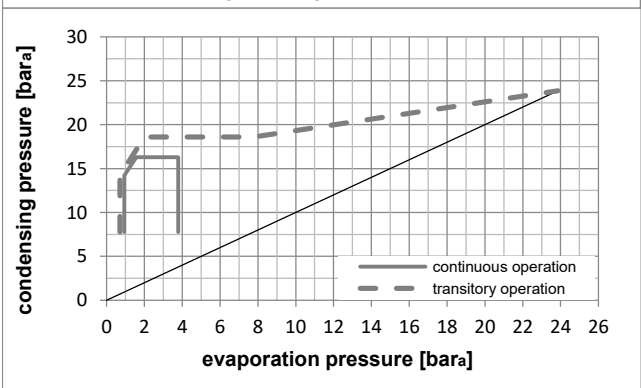
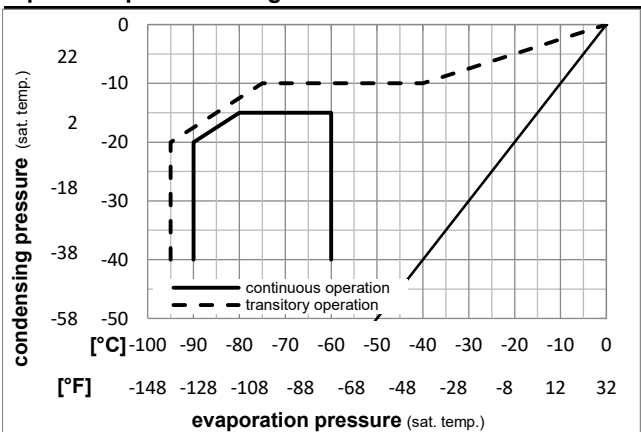


Ambient temperatures / system cooling

Ambient temperature min.:	10°C / 50°F
Ambient temperature max.:	38°C / 101°F

System cooling (n/a: outside limits)			
T ambient	LBP	MBP	HBP
32°C / 90°F	fan 3m/s	n/a	n/a
38°C / 100°F	fan 3m/s	n/a	n/a
43°C / 110°F	n/a	n/a	n/a

Operation pressure range



Components (protector + ~holder + cover: pre assembled)

a3	SC starter kit (550mm)	117-7816
f / h	motor protector assy. (T1102)	117U8001
b	plastic cover	117U1028

Alternative comp. (protector + ~holder + cover: pre assemb.)

a2	potential relay (RVA 4I3R A57)	117-7600
e	run capacitor (10µF, 6.3mm)	117-7112
c	start capacitor (60µF, 6.3mm)	117U5389
f / h	motor protector assy. (T1102)	117U8001
b	plastic cover	117U1028

ULT - ready

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Designation **MS21UDULTM 220-240V/50Hz** Conf. 1 Sales code: **104M0811**

Optimization + standard conditions

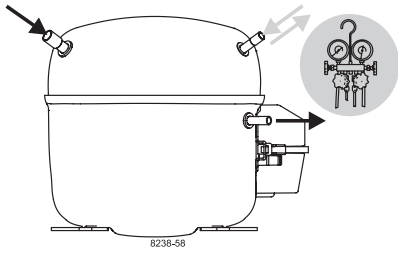
R170, 220V/50Hz, CSCR, fan 3m/s, Chem.-comp.

Evaporating pressure (saturation temperature)					Condensing pressure (saturation temperature)					Power consumption				
					Return gas temp.					Current consumption				
					Liquid temp.					Ref. mass flow				
					Cooling capacity					COP EER				
					P1					I m				
pe	pc	RGT	Tliq		[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
[°C]	-90	-15	-20	-15	226,2	773	194,7	0,83	2,83	0,71	273,1	1,51	2,07	1
[°F]	-130	5	-4	5										
[°C]	-90	-20	-20	-20	256,6	876	220,8	0,93	3,17	0,80	276,8	1,52	2,26	2
[°F]	-130	-4	-4	-4										
[°C]	-90	-25	-20	-25	288,8	986	248,5	1,05	3,58	0,90	275,6	1,52	2,45	3
[°F]	-130	-13	-4	-13										
[°C]	-90	-30	-20	-30	322,3	1101	277,4	1,19	4,08	1,03	269,8	1,49	2,65	4
[°F]	-130	-22	-4	-22										
[°C]	-90	-35	-20	-35	356,4	1217	306,7	1,37	4,69	1,18	259,5	1,45	2,83	5
[°F]	-130	-31	-4	-31										
[°C]	-90	-40	-20	-40	390,6	1334	336,2	1,60	5,45	1,37	244,9	1,40	3,01	6
[°F]	-130	-40	-4	-40										

Performance tables

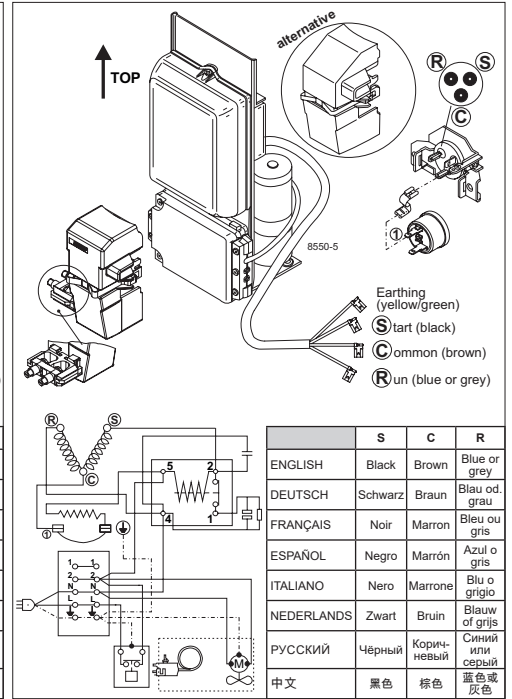
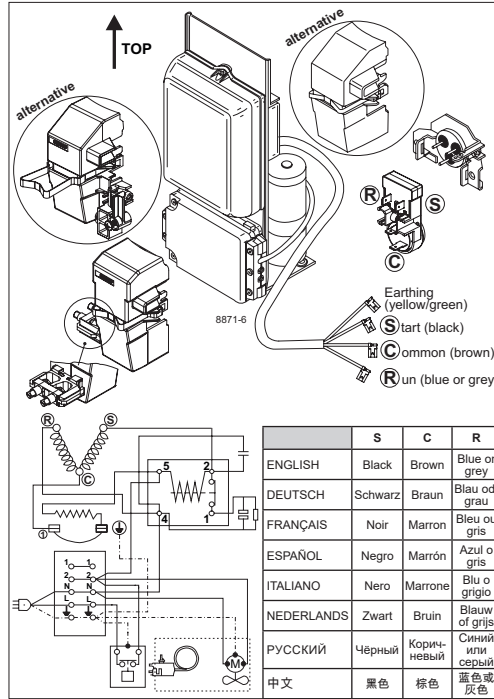
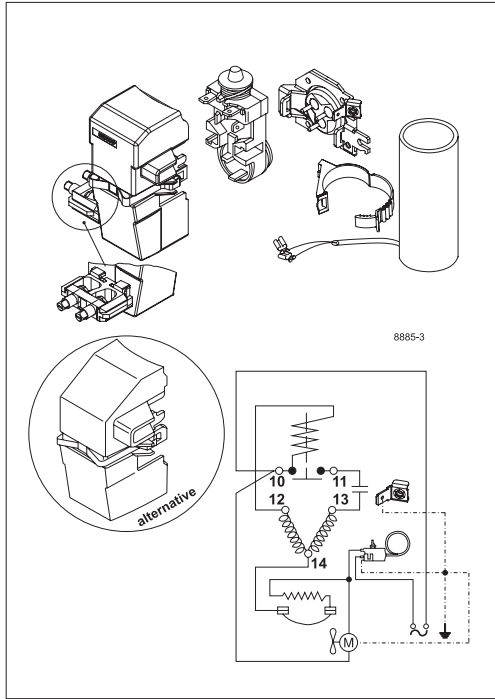
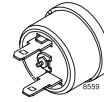
R170, 220V/50Hz, CSCR, fan 3m/s, Chem.-comp.

	pe	Cooling capacity			COP			EER			P1	I	m
	[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]		
[°C / °F]	-90	-130	288,8	986	248,5	1,05	3,58	0,90	275,6	1,52	2,45		
cond. pressure	-85	-121	426,1	1455	366,7	1,29	4,40	1,11	331,1	1,73	3,62		
pc= -25/-13	-80	-112	596,0	2036	512,9	1,54	5,26	1,33	386,7	1,96	5,08		
return gas temp.	-75	-103	802,4	2740	690,5	1,82	6,22	1,57	440,5	2,19	6,86		
RGT= -20/-4	-70	-94	1048,7	3582	902,5	2,14	7,30	1,84	490,6	2,41	9,00		
liquid temp	-65	-85	1338,6	4571	1152,0	2,50	8,54	2,15	535,1	2,61	11,53		
Tliq= -25/-13	-60	-76	1675,2	5721	1441,7	2,93	10,00	2,52	572,1	2,77	14,49		
[°C / °F]	-90	-130	356,4	1217	306,7	1,37	4,69	1,18	259,5	1,45	2,83		
cond. pressure	-85	-121	502,8	1717	432,8	1,65	5,63	1,42	305,1	1,63	4,00		
pc= -35/-31	-80	-112	684,4	2337	589,0	1,97	6,72	1,69	348,1	1,80	5,46		
return gas temp	-75	-103	904,9	3090	778,8	2,34	8,00	2,02	386,4	1,96	7,24		
RGT= -20/-4	-70	-94	1168,0	3989	1005,2	2,79	9,54	2,40	418,2	2,10	9,37		
liquid temp	-65	-85	1477,2	5045	1271,3	3,34	11,42	2,88	441,6	2,20	11,89		
Tliq= -35/-31	-60	-76	1835,9	6270	1580,0	4,04	13,79	3,47	454,7	2,25	14,85		



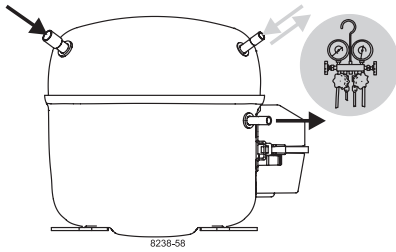
SCE Compressors

(External Protector)



	S	C	R
ENGLISH	Black	Brown	Blue or grey
DEUTSCH	Schwarz	Braun	Blau od. grau
FRANÇAIS	Noir	Marron	Bleu ou gris
ESPAÑOL	Negro	Marrón	Azul o gris
ITALIANO	Nero	Marrone	Blu o grigio
NEDERLANDS	Zwart	Bruin	Blauw of grijs
РУССКИЙ	Чёрный	Коричневый	Синий или серый
中文	黑色	棕色	蓝色或灰色

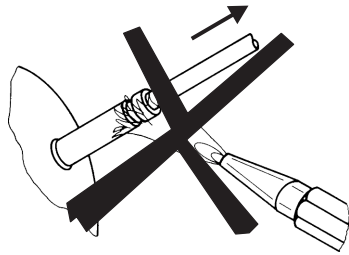
	S	C	R
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DEUTSCH	Schwarz	Braun	Blau od. grau
FRANÇAIS	Noir	Marron	Bleu ou gris
ESPAÑOL	Negro	Marrón	Azul o gris
ITALIANO	Nero	Marrone	Blu o grigio
NEDERLANDS	Zwart	Bruin	Blauw of grijs
РУССКИЙ	Чёрный	Коричневый	Синий или серый
中文	黑色	棕色	蓝色或灰色



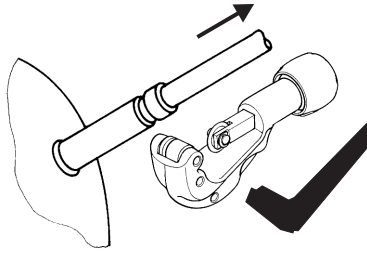
SCE Compressors (External Protector)



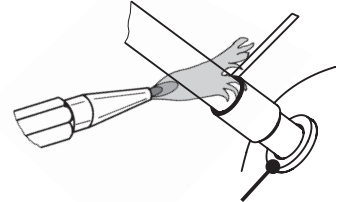
Service/Repair – R290



8545



Brazing on Suction Connectors (Direct Intake)



! max. 350°C/662°F !
at socket
brazing solder: phosphor (LP7) or silver

8882

Refer to Product Bulletin:
Brazing on Suction Connectors
(SCE Compressors with Direct Suction Intake)

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