

Single Pack TL4GH 220-240V 50Hz / 208-230V 60Hz CSIR

Single pack code number: **195B4140**

Position	Title	Code	Amount
1	Compressor TL4GH	102G4455	1
2	Starting relay	117U6000	1
3	Starting capacitor (60 μ F 220V, 6.3mm)	117U5014	1
4	Cord relief	103N1010	1
5	Cover	103N2011	1
6	Bolt joint for one compressor M6 \varnothing 16mm	118-1917	1

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Model

Designation	TL4GH	220-240V/50Hz 1~ 208-230V/60Hz 1~	Sales code:	102G4455
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Compressor design

Oil type	Polyolester	Refrigerant(s)	R134a, R513A
Oil viscosity	32cST	Displacement	3,86cm ³ / 0,24cu.in
Oil quantity	283cm ³ / 9,6fl.oz	Compressors on pallet	125
Refr. charge - tech. limit	600g / 21,2oz		
Free gas volume comp.	1690cm ³ / 57,1fl.oz		
Weight	7,5kg / 16,5lbs		
Motor protection	1# internal		
Winding resistance main	14,5Ω (at 25°C)		
Winding resistance aux	14,8Ω (at 25°C)		
Max. winding temp.	125°C / 257°F		
Max. discharge temp.	130°C / 266°F		



General - Configurations with TL4GH

	Conf. 1	Conf. 2	Conf. 3	Conf. 4
Motorconfiguration	CSIR	CSIR	CSIR	CSIR
Power supply (nominal)	220-240V/50Hz	220-240V/50Hz	208-230V/60Hz	208-230V/60Hz
Number of phases	1	1	1	1
Voltage range	198-254V	198-254V	198-254V	198-254V
Approvals	VDE, UL, CCC	VDE, UL, CCC	VDE, UL, CCC	VDE, UL, CCC
Starting torque	HST	HST	HST	HST
Note	- / -			

Applications with TL4GH

	Conf. 1	Conf. 2	Conf. 3	Conf. 4
Refrigerant	R134a	R513A	R134a	R513A
Application	MBP+HBP	MBP+HBP	MBP+HBP	MBP+HBP
System cooling	fan 3m/s	fan 3m/s	fan 3m/s	fan 3m/s
Hot gas defrost	OK	OK	OK	OK
Long interval pull down	OK	OK	OK	OK

Electrical data - Configurations with TL4GH

	Conf. 1	Conf. 2	Conf. 3	Conf. 4
Starting device type	relay	relay	relay	relay
Run capacitor	- / -	- / -	- / -	- / -
Start capacitor	60μF	60μF	60μF	60μF
LRA (locked rotor amps / 4s)	5,7A	5,7A	5,7A	5,7A
RLA (rated load amps / 1s)	1,1A	1,1A	1,1A	1,1A
Cut in current	9,7A	9,7A	9,7A	9,7A

Model

Designation

TL4GH

220-240V/50Hz 1~ 208-230V/60Hz 1~

Sales code:

102G4455

Compressor dimensions

Housing	A Height	174mm / 6,85in
	B Height	170mm / 6,69in
	C Length shell	176mm / 6,93in
	D Length w. cover	222mm / 8,74in
	E Width	157mm / 6,18in

Connectors		Suction	Discharge	Process
		X	Y	Z
Diameter	[mm]	øi 6,11-6,29	øi 5,12-5,22	øi 6,11-6,29
	(i:inside, o:outside) [in]	øi 0,24-0,25	øi 0,2-0,21	øi 0,24-0,25
Material		copper	copper	copper
Horizontal angle	±2°	0°	0°	0°
Vertical angle	±2°	150°	28°	31,5°
Position l/h/w	[mm]	-102/105/66	117/108/30	96/105/71
	[in]	-4/4,1/2,6	4,6/4,3/1,2	3,8/4,1/2,8
Straight tube l.	[mm]	12	12	12
	[in]	0,5	0,5	0,5



Compressor fixation



Baseplate	[mm]	[inch]
BI	204	8.03
Bw	136	5.35
Large holes		
LI	165	6.5
Lw	101.6	4
øL	ø 19	ø 0.75
Small holes		
SI	170	6.7
Sw	70	2.76
øS	ø 16	ø 0.63

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

LRA value on compressor label and datasheet may differ due to different test conditions for UL approval.

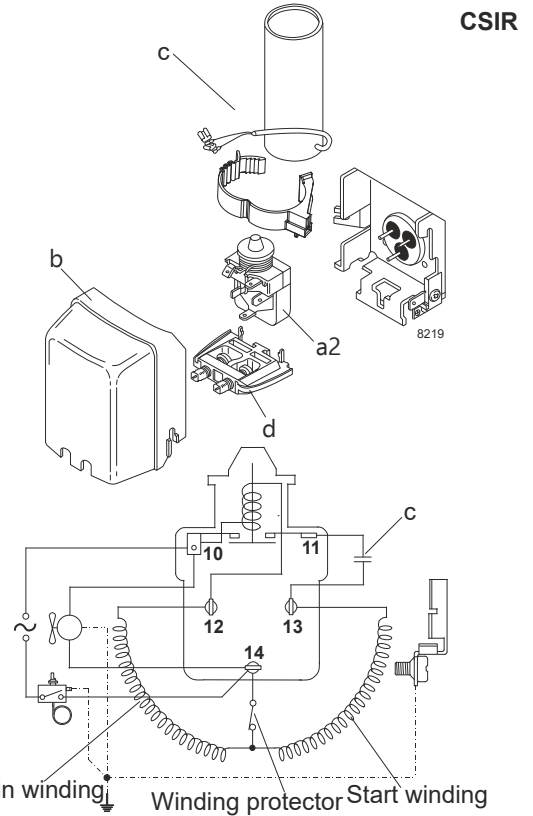
Model

Designation	TL4GH	220-240V/50Hz	Conf. 1	Sales code:	102G4455
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Configuration

Motorconfiguration	CSIR	
Power supply (nominal)	220-240V/50Hz 1~	
Refrigerant	R134a	
Application	MBP+HBP	
Voltage range	198-254V	
Starting torque	HST	
Approvals	VDE	
	UL	SA3693
	CCC	

Electrical accessories / wiring diagram

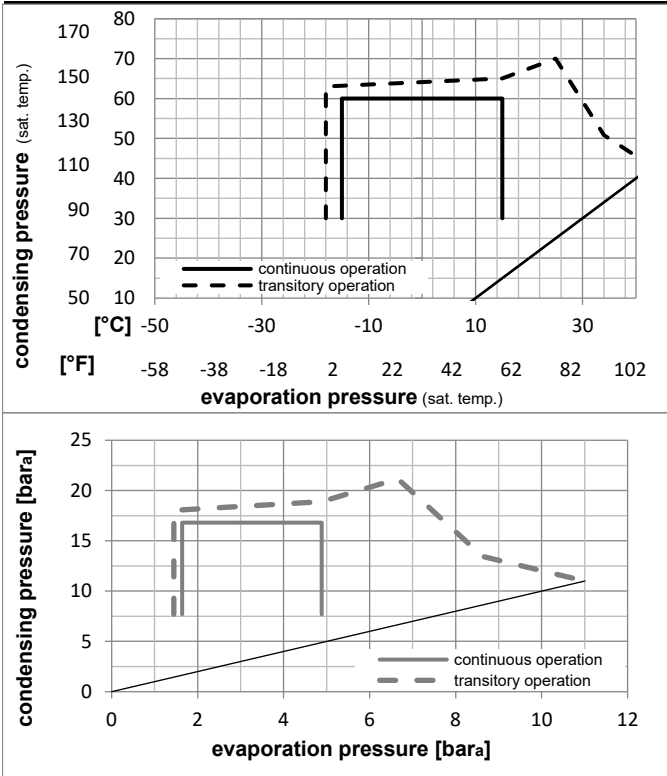


Ambient/ machine room temperatures minimum /maximum

Ambient temperature range:	10 - 43°C / 50 - 110°F
Machine room temperature range:	10 - 48°C / 50 - 119°F
Compressor cooling:	fan 3m/s

Operation Limits

Operation pressure range



Components

a2	relay	117U6000
c	start capacitor (60μF)	117U5014
d	cord relief	103N1010
b	plastic cover	103N2011

Model

Designation **TL4GH** **220-240V/50Hz** Conf. 1 Sales code: **102G4455**

Optimization + standard conditions

R134a, 220V/50Hz, CSIR, fan 3m/s, VDE, UL, CCC

		Evaporating pressure (saturation temperature)				Condensing pressure (saturation temperature)			Return gas temp.			Liquid temp.			Cooling capacity			COP	EER	Power consumption			
		pe	pc	RGT	Tliq	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	P1	I	Ref. mass flow									
[°C]	[°F]											[W]	[A]	[kg/h]									
-23	-10	54	32	32	69,2	236	59,5	0,75	2,57	0,65	92,0	0,90	1,34	ASHRAE LBP									
55	131	32	55	46,8	160	40,2	0,52	1,78	0,45	89,7	0,89	1,12	cecomaf LBP										
-35	-31	40	20	40	30,4	104	26,2	0,45	1,53	0,39	67,6	0,82	0,67	EN12900 LBP									
49	120	4,4	49	62,7	214	53,9	0,70	2,40	0,61	89,0	0,89	1,66	ARI540 LBP										
41	105	32	32	93,5	319	80,5	1,08	3,69	0,93	86,5	0,88	1,82	AHAM LBP										
45	113	32	45	20,8	71	17,9	0,29	1,01	0,25	70,4	0,81	0,45	opt										

Performance tables

R134a, 220V/50Hz, CSIR, fan 3m/s, VDE, UL, CCC

	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]	-15	5	130,5	446	112,3	1,24	4,25	1,07	105,0	0,93	2,85
cond. pressure	-10	14	170,0	581	146,3	1,46	4,99	1,26	116,3	0,96	3,72
pc= 45/113	-5	23	216,4	739	186,2	1,70	5,79	1,46	127,6	0,99	4,76
return gas temp.	0	32	270,7	924	232,9	1,96	6,68	1,68	138,4	1,02	5,99
RGT= 32/90	5	41	333,9	1140	287,3	2,25	7,70	1,94	148,1	1,05	7,43
liquid temp	10	50	407,1	1390	350,3	2,61	8,90	2,24	156,2	1,08	9,13
Tliq= 45/113	15	59	491,2	1678	422,8	3,03	10,34	2,61	162,3	1,11	11,13
[°C / °F]	-15	5	104,2	356	89,7	0,96	3,26	0,82	109,1	0,97	2,51
cond. pressure	-10	14	139,9	478	120,4	1,16	3,95	1,00	120,9	1,01	3,38
pc= 55/131	-5	23	181,7	620	156,3	1,36	4,65	1,17	133,6	1,05	4,42
return gas temp	0	32	230,4	787	198,3	1,57	5,38	1,35	146,4	1,09	5,64
RGT= 32/90	5	41	287,3	981	247,2	1,81	6,17	1,56	159,0	1,12	7,08
liquid temp	10	50	353,2	1206	304,0	2,07	7,07	1,78	170,7	1,16	8,78
Tliq= 55/131	15	59	429,3	1466	369,5	2,37	8,10	2,04	181,0	1,20	10,78

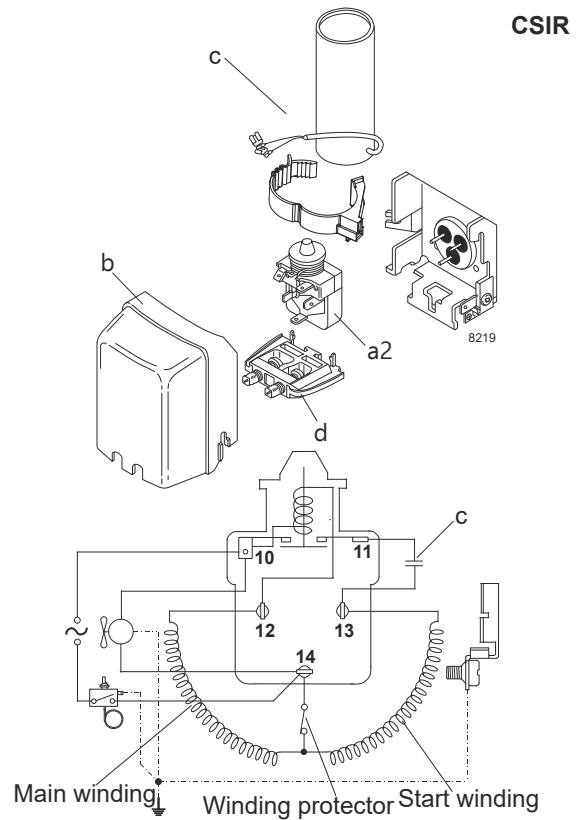
Model

Designation	TL4GH	220-240V/50Hz	Conf. 2	Sales code:	102G4455
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Configuration

Motorconfiguration	CSIR	
Power supply (nominal)	220-240V/50Hz 1~	
Refrigerant	R513A	
Application	MBP+HBP	
Voltage range	198-254V	
Starting torque	HST	
Approvals	VDE	
	UL	SA3693
	CCC	

Electrical accessories / wiring diagram

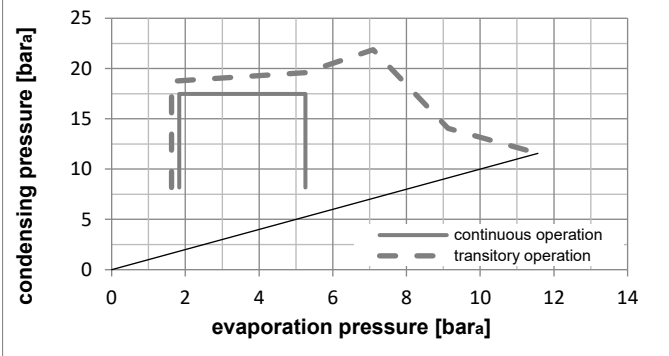
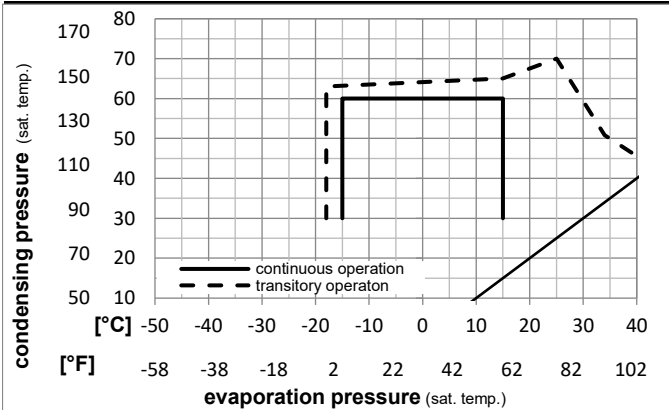


Ambient/ machine room temperatures minimum /maximum

Ambient temperature range:	10 - 43°C / 50 - 110°F
Machine room temperature range:	10 - 48°C / 50 - 119°F
Compressor cooling:	fan 3m/s

Operation Limits

Operation pressure range



Components

a2	relay	117U6000
c	start capacitor (60μF)	117U5014
d	cord relief	103N1010
b	plastic cover	103N2011

Model

Designation **TL4GH** **220-240V/50Hz** Conf. 2 Sales code: **102G4455**

Optimization + standard conditions

R513A, 220V/50Hz, CSIR, fan 3m/s, VDE, UL, CCC

	Evaporating pressure (saturation temperature)				Cooling capacity			COP	EER	P1	Power consumption		Ref. mass flow	
	pe	pc	RGT	Tliq	[W]	[Btu/h]	[kcal/h]				l	m		
[°C]	[°C]	[°C]	[°C]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]		
[°F]	[°F]	[°F]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	ASHRAE LBP	
-23	54	32	32	77,4	264	66,6	0,81	2,76	0,70	95,6	0,89	1,67		
-10	130	90	90											
-25	55	32	55	51,1	175	44,0	0,55	1,88	0,47	93,1	0,88	1,40	cecomaf LBP	
-13	131	90	131											
-35	40	20	40	35,4	121	30,4	0,51	1,74	0,44	69,5	0,80	0,87	EN12900 LBP	
-31	104	68	104											
-23	49	4,4	49	66,6	227	57,3	0,72	2,46	0,62	92,5	0,88	2,04	ARI540 LBP	
-10	120	40	120											
-23	41	32	32	103,2	352	88,8	1,15	3,92	0,99	89,9	0,87	2,22	AHAM LBP	
-9,9994	105	90	90											
-35	45	32	45	25,0	85	21,5	0,35	1,19	0,30	72,1	0,81	0,61	opt	
-31	113	90	113											

Performance tables

R513A, 220V/50Hz, CSIR, fan 3m/s, VDE, UL, CCC

	pe		Cooling capacity			COP	EER	P1	l	m	
	[°C]	[°F]	[W]	[Btu/h]	[kcal/h]						
[°C / °F]	-15	5	139,2	475	119,8	1,28	4,36	1,10	109,1	0,94	3,41
cond. pressure	-10	14	179,6	613	154,5	1,49	5,08	1,28	120,7	0,98	4,41
pc= 45/113	-5	23	226,6	774	195,0	1,71	5,85	1,48	132,2	1,02	5,59
return gas temp.	0	32	281,2	960	242,0	1,97	6,72	1,69	143,0	1,06	6,98
RGT= 32/90	5	41	344,6	1177	296,5	2,26	7,71	1,94	152,7	1,10	8,59
liquid temp	10	50	417,5	1426	359,3	2,60	8,87	2,24	160,7	1,13	10,48
Tliq= 45/113	15	59	501,1	1711	431,3	3,01	10,28	2,59	166,5	1,15	12,68
[°C / °F]	-15	5	109,8	375	94,5	0,97	3,30	0,83	113,6	0,96	3,02
cond. pressure	-10	14	145,7	498	125,4	1,16	3,96	1,00	125,8	1,00	4,03
pc= 55/131	-5	23	187,3	640	161,2	1,35	4,61	1,16	138,6	1,05	5,20
return gas temp	0	32	235,6	805	202,8	1,55	5,31	1,34	151,6	1,09	6,58
RGT= 32/90	5	41	291,6	996	250,9	1,78	6,07	1,53	164,1	1,14	8,19
liquid temp	10	50	356,2	1217	306,6	2,03	6,92	1,74	175,7	1,18	10,09
Tliq= 55/131	15	59	430,5	1470	370,5	2,32	7,91	1,99	185,8	1,22	12,30

Model

Designation	TL4GH	208-230V/60Hz	Conf. 3	Sales code:	102G4455
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Configuration

Motorconfiguration	CSIR	
Power supply (nominal)	208-230V/60Hz 1~	
Refrigerant	R134a	
Application	MBP+HBP	
Voltage range	198-254V	
Starting torque	HST	
Approvals	VDE	
	UL	SA3693
	CCC	

Electrical accessories / wiring diagram

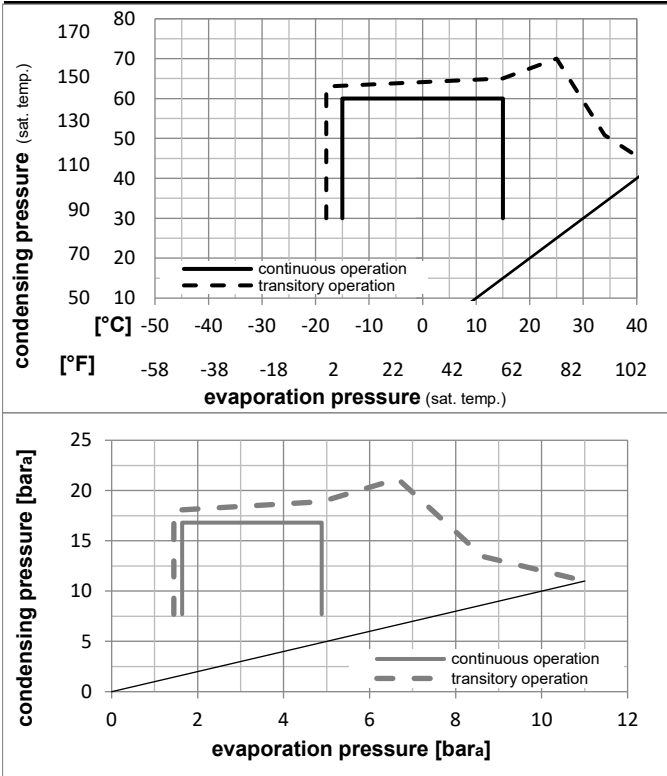


Ambient/ machine room temperatures minimum /maximum

Ambient temperature range:	10 - 43°C / 50 - 110°F
Machine room temperature range:	10 - 48°C / 50 - 119°F
Compressor cooling:	fan 3m/s

Operation Limits

Operation pressure range



Components

a2	relay	117U6000
c	start capacitor (60μF)	117U5014
d	cord relief	103N1010
b	plastic cover	103N2011

Model

Designation **TL4GH** **208-230V/60Hz** Conf. 3 Sales code: **102G4455**

Optimization + standard conditions

R134a, 230V/60Hz, CSIR, fan 3m/s, VDE, UL, CCC

	Evaporating pressure (saturation temperature)				Cooling capacity			COP	EER	P1	Power consumption			ASHRAE LBP
	pe	pc	RGT	Tliq	[W]	[Btu/h]	[kcal/h]				l	Ref. mass flow		
	[°C]	[°F]	[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	
	-23	54	32	32	76,6	262	66,0	0,76	2,61	0,66	100,4	0,79	1,49	ASHRAE LBP
	[-10]	[130]	[90]	[90]										
	-25	55	32	55	49,6	169	42,7	0,51	1,75	0,44	97,0	0,77	1,19	cecomaf LBP
	[-13]	[131]	[90]	[131]										
	-35	40	20	40	48,7	166	41,9	0,67	2,29	0,58	72,6	0,71	1,07	EN12900 LBP
	[-31]	[104]	[68]	[104]										
	-23	49	4,4	49	79,1	270	68,1	0,81	2,75	0,69	98,2	0,79	2,09	ARI540 LBP
	[-10]	[120]	[40]	[120]										
	-23	41	32	32	123,8	423	106,5	1,28	4,39	1,11	96,3	0,80	2,40	AHAM LBP
	[-10]	[105]	[90]	[90]										
	-35	45	32	45	33,9	116	29,1	0,45	1,55	0,39	74,5	0,70	0,73	opt
	[-31]	[113]	[90]	[113]										

Performance tables

R134a, 230V/60Hz, CSIR, fan 3m/s, VDE, UL, CCC

	pe		Cooling capacity			COP	EER	P1	l	m	
	[°C]	[°F]	[W]	[Btu/h]	[kcal/h]						
[°C / °F]	-15	5	162,3	554	139,7	1,36	4,64	1,17	119,5	0,87	3,54
cond. pressure	-10	14	207,1	707	178,2	1,54	5,26	1,33	134,5	0,92	4,53
pc= 45/113	-5	23	259,4	886	223,2	1,73	5,90	1,49	150,2	0,98	5,70
return gas temp.	0	32	320,3	1094	275,7	1,93	6,58	1,66	166,2	1,04	7,08
RGT= 32/90	5	41	391,0	1335	336,5	2,15	7,33	1,85	182,2	1,10	8,71
liquid temp	10	50	472,8	1615	406,9	2,39	8,17	2,06	197,7	1,16	10,61
Tliq= 45/113	15	59	566,8	1936	487,8	2,67	9,11	2,30	212,4	1,22	12,84
[°C / °F]	-15	5	118,2	404	101,8	0,96	3,29	0,83	122,8	0,89	2,85
cond. pressure	-10	14	159,9	546	137,6	1,15	3,94	0,99	138,7	0,95	3,87
pc= 55/131	-5	23	208,0	710	179,0	1,33	4,55	1,15	156,0	1,02	5,06
return gas temp	0	32	263,8	901	227,1	1,51	5,17	1,30	174,3	1,09	6,45
RGT= 32/90	5	41	328,5	1122	282,7	1,70	5,80	1,46	193,3	1,16	8,09
liquid temp	10	50	403,1	1377	346,9	1,90	6,48	1,63	212,5	1,23	10,02
Tliq= 55/131	15	59	489,0	1670	420,9	2,11	7,21	1,82	231,6	1,31	12,28

Model

Designation	TL4GH	208-230V/60Hz	Conf. 4	Sales code:	102G4455
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Configuration

Motorconfiguration	CSIR	
Power supply (nominal)	208-230V/60Hz 1~	
Refrigerant	R513A	
Application	MBP+HBP	
Voltage range	198-254V	
Starting torque	HST	
Approvals	VDE	
	UL	SA3693
	CCC	

Electrical accessories / wiring diagram

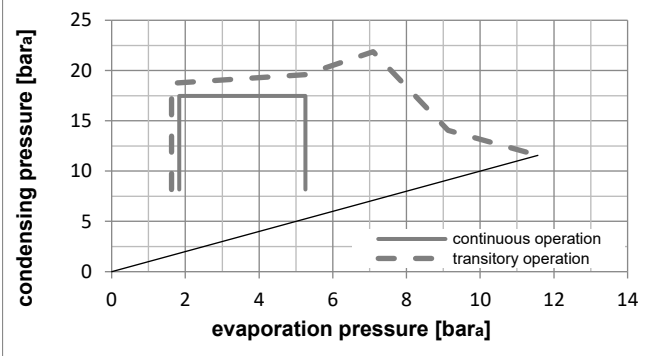
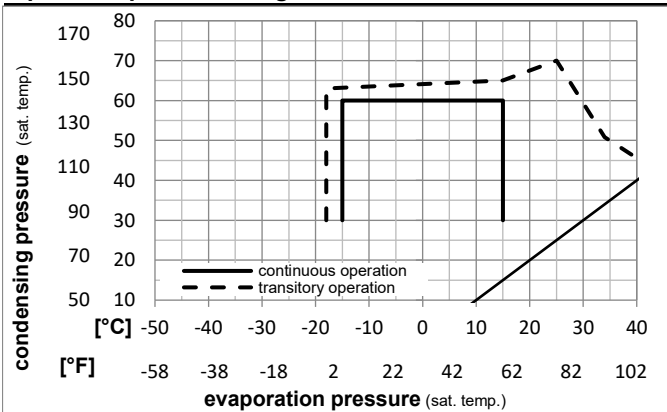


Ambient/ machine room temperatures minimum /maximum

Ambient temperature range:	10 - 43°C / 50 - 110°F
Machine room temperature range:	10 - 48°C / 50 - 119°F
Compressor cooling:	fan 3m/s

Operation Limits

Operation pressure range



Components

a2	relay	117U6000
c	start capacitor (60μF)	117U5014
d	cord relief	103N1010
b	plastic cover	103N2011

Model

Designation	TL4GH	208-230V/60Hz	Conf. 4	Sales code:	102G4455
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Optimization + standard conditions

R513A, 230V/60Hz, CSIR, fan 3m/s, VDE, UL, CCC

	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]						P1	I	m	
[°C]																
[°F]																
-23	54	32	32	85,9	293	73,9	0,80	2,72	0,69	107,7	0,82	1,85	ASHRAE LBP			
-9,9994	130	90	90													
-25	55	32	55	54,5	186	46,9	0,52	1,78	0,45	104,2	0,80	1,49	cecomaf LBP			
-13	131	90	131													
-35	40	20	40	56,2	192	48,4	0,73	2,50	0,63	76,7	0,70	1,39	EN12900 LBP			
-31	104	68	104													
-23	49	4,4	49	84,0	287	72,3	0,80	2,73	0,69	104,9	0,81	2,57	ARI540 LBP			
-9,9994	120	40	120													
-23	41	32	32	136,5	466	117,5	1,33	4,55	1,15	102,4	0,80	2,94	AHAM LBP			
-9,9994	105	90	90													
-35	45	32	45	40,2	137	34,6	0,51	1,73	0,44	79,1	0,71	0,98	opt			
-31	113	90	113													

Performance tables

R513A, 230V/60Hz, CSIR, fan 3m/s, VDE, UL, CCC

	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]	-15	5	173,1	591	148,9	1,37	4,67	1,18	126,7	0,89	4,24
cond. pressure	-10	14	218,7	747	188,2	1,54	5,26	1,33	142,0	0,95	5,38
pc= 45/113	-5	23	271,5	927	233,7	1,72	5,87	1,48	157,9	1,01	6,70
return gas temp.	0	32	332,7	1136	286,4	1,91	6,53	1,65	174,0	1,08	8,25
RGT= 32/90	5	41	403,5	1378	347,2	2,12	7,25	1,83	190,0	1,14	10,06
liquid temp	10	50	484,8	1656	417,3	2,36	8,06	2,03	205,4	1,20	12,17
Tliq= 45/113	15	59	578,0	1974	497,4	2,63	8,98	2,26	219,9	1,26	14,62
[°C / °F]	-15	5	124,5	425	107,1	0,95	3,25	0,82	130,8	0,91	3,43
cond. pressure	-10	14	166,4	568	143,2	1,13	3,87	0,97	146,9	0,97	4,60
pc= 55/131	-5	23	214,4	732	184,5	1,31	4,46	1,12	164,3	1,04	5,96
return gas temp	0	32	269,7	921	232,1	1,48	5,04	1,27	182,7	1,11	7,53
RGT= 32/90	5	41	333,3	1138	286,8	1,65	5,65	1,42	201,6	1,18	9,37
liquid temp	10	50	406,5	1388	349,8	1,84	6,29	1,58	220,8	1,26	11,51
Tliq= 55/131	15	59	490,3	1674	421,9	2,04	6,98	1,76	239,8	1,33	14,00



TL Compressors





Service/Repair – R600a, R290



8545

Brazing on Suction Connectors (Direct Intake)

representative image



! max. 150°C/302°F !
at socket
 brazing solder: phosphor (LP7) or silver

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

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