



SIAM COMPRESSOR INDUSTRY

Classification : Specification for Compressor		Written By		Wanmongkol Marathong	
		Approved By		Korakot Intraratat	
Subject : APB33FAAMT		Issued Date		2020-04-29	
		Document No.		SPC18Q2008.02	
				Revised D	
1.Compressor data					
Type		Scroll			
Displacement		cm ³ /rev.		33.0	
		in ³ /rev.		2.0	
2.Motor data					
Motor type		BLDCM			
Motor protection		External			
Nominal output		W		2500	
Number of pole		6			
Nominal revolution		rpm		3600 (at 60rps)	
Insulation class		E			
Motor resistance (20 °C)		Ohm		1.21	
3.Refrigerant					
Type		R-290			
4.Oil					
Type		PZ46M			
Charge amount		L (in ³)		0.90 (54.9)	
5.Mass (include.oil)		kg (lbs)		30.7 (67.7)	
6.Compressor power source					
Rated voltage		V		103-415	
Rated frequency		Hz		180 (60rps)	
Running frequency		Hz		45-360 (15-120rps)	
Phase		Ø		3	
7.Performance					
Refrigerating capacity (±5%)		W		6200 5100	
		BTU/hr		21154 17401	
Motor input (±5%)		W		1820 1720	
COP		W/W		3.41 2.97	
EER		BTU/hr.W		11.62 10.12	
Current		A		3.9 4.0	
Note: Conditions		ARI		Heat Pump	
Evaporating temp.		°C (°F)		7.2 (45.0) -7.0 (19.4)	
Condensing temp.		°C (°F)		54.4 (129.9) 50.0 (122.0)	
Return gas temp.		°C (°F)		18.3 (64.9) -2.0 (28.4)	
Ambient temp.		°C (°F)		35.0 (95.0) 0.0 (32.0)	
Liquid temp.		°C (°F)		46.1 (115.0) 46.0 (114.8)	
Power source		rps/Hz		60/180 60/180	
Cooling performance curve s		SCI-CPDA145			
Heating performance curve		SCI-HPDA078			
-Performance data are base on SCI's calculation at oil 900 cc.					
Please follow to the general specification for APB (TDRD20M039)					



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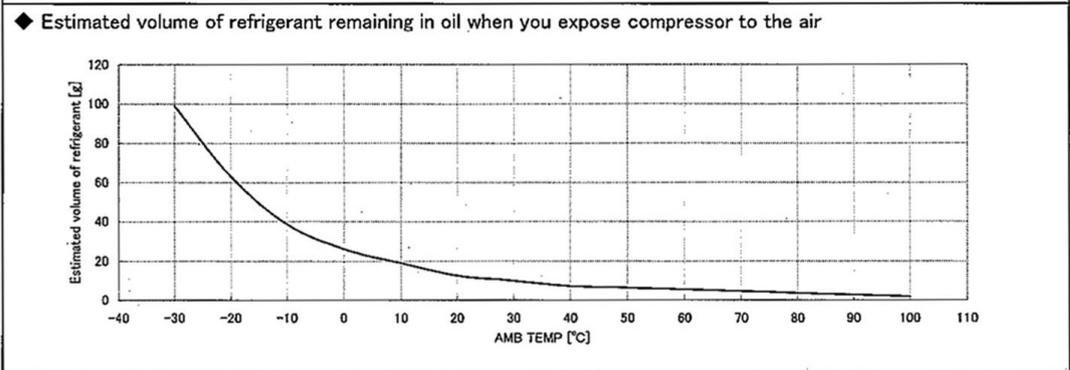
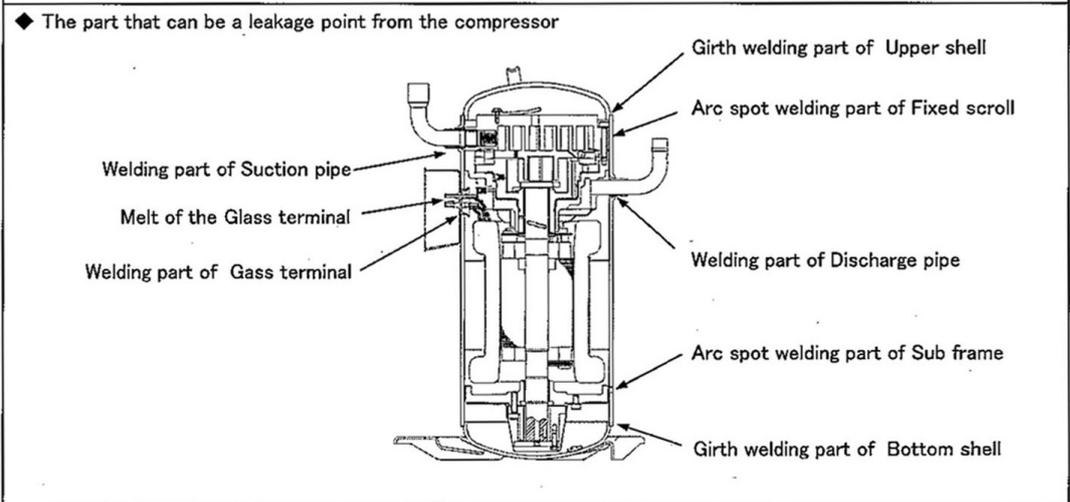
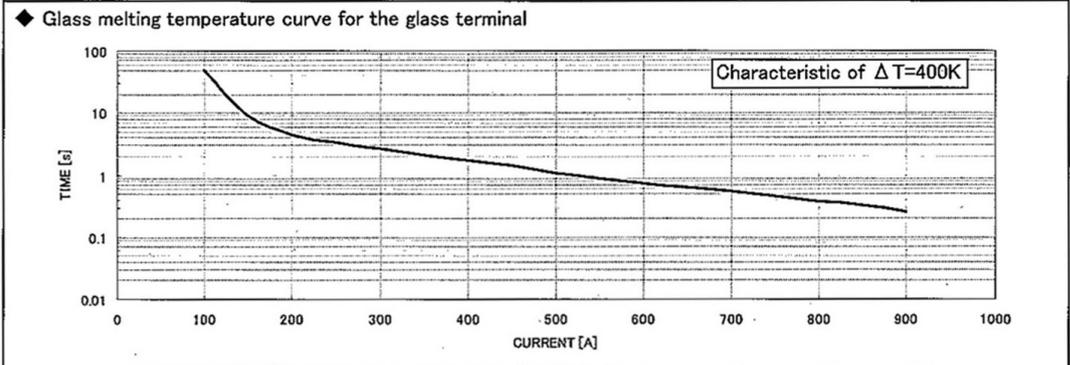
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Outline drawing	SC01F970	
Wiring diagram	CS01D584	
Terminal parts accessories		
Terminal parts assy	CS01F449	
Terminal cover	SC25C057H01	1 pce.
Mounting accessories		
Mounting parts	SC01D525	
Rubber mount	SC31D009H01	4 pcs.
Spacer (Optional)	SC10D377H01	4 pcs.
Motor parameter	TDRD14M083	
Observance matter of the compressor	TDRD20K002	



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THE DATA ON COMPRESSOR SAFETY

<p>◆ Specifications of compressor protector (for fixed speed)</p> <p>Ultimate trip current characteristic</p> <p>Amb temp 130°C</p> <p>Current 22.4~30.6A</p> <p>Operating temp</p> <p>Open 170±5°C</p> <p>Close 90±10°C</p>	
<p>◆ Abnormally over current and input of compressor (at 198V)</p> <p>Current 19.4A</p> <p>Input 3690W</p>	
<p>◆ Destructive pressure of compressor shell (hydrostatic pressure)</p>	13.7MPa



VM-CZC21



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Pressure		
Condensing		3.15 MPaG [457 psiG] or less
Evaporating		0.07 ~ 0.69 MPaG [10.2~100.1 psiG]
Compression ratio		Follow pressure operating envelop
Abnormal rise in pressure		-
Temperature		
Condensing		Under 82 °C
Evaporating temperature		-30 ~ 18 °C
Discharge gas (max)		115 °C In case -30°C ~ -20°C and speed limit 15 ~ 120 rps 120 °C In case -20°C ~ 18°C and speed limit 15 ~ 80 rps 120 °C In case -20°C ~ 18°C and speed limit 15 ~ 120 rps
Suction gas superheat		Must be more than 0 °C - No liquid-back
Discharge gas superheat		10 °C or more
Outdoor ambient temp.		-
Electrical		
Reverse phase (rotation)		Not possible
ON / OFF		
ON/OFF frequency		Less than 250,000 cycles
ON/OFF cycle		-The ON/OFF cycle shall be a maximum of 10 times/hour. -OFF time shall be the time until the high side and low side pressure reach to balance pressure (more than 3 minutes)
Piping stress		34.3 N/mm ² or less at start and stop condition (17.7 N/mm ² during operation)
Refrigerant circuit		
Maximum refrigerant charge		Amount of refrigerant [g] < or = Amount of oil [g] x 4 (the relative density of oil : 1[g/cm ³]). Regarding operation which exceeds the above limit, consult with us.
Piping vibration		Maximum 0.8 mm.
Inclination of compressor		Within 5°
Piping		Suction & Discharge pipes are sealed with rubber plugs.
Discharge gas temp. measurement		Discharge gas temperature sensor at 340mm distance from the shell is acceptable by the test result.
Accumulator installation		In case of 1.1kg refrigerant amount usage, it is not necessary to install accumulator in the circuit by the soaking start test result of sightglass compressor.
Suction strainer		In case that suction strainer is not installed in suction line, customer have to secure the quality control for particle not to enter into compressor.
Maximum allowable pressure (PS)		3.47 MPaG [503.3 psiG] or less