



SIAM COMPRESSOR INDUSTRY

Classification : Specification for Compressor		Written By		Wanmongkol Marathong	
		Approved By		Korakot Intraratat	
Subject : APB33FAAMT		Issued Date		2020-04-29	
		Document No.		SPC18O2008.02	
				Revised D	
1.Compressor data					
Type		Scroll			
Displacement		cm³/rev.	33.0		
		in³/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 (in³)	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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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

◆ Specifications of compressor protector (for fixed speed)

Ultimate trip current characteristic

Amb temp

130°C

Current

22.4~30.6A

Operating temp

Open

170±5°C

Close

90±10°C

◆ Abnormally over current and input of compressor (at 198V)

Current

19.4A

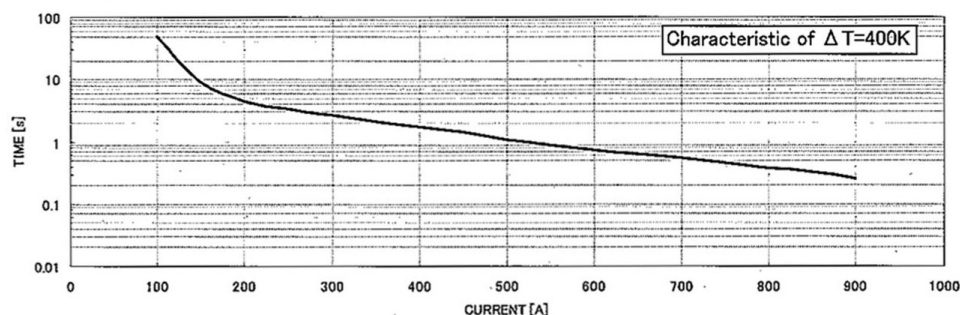
Input

3690W

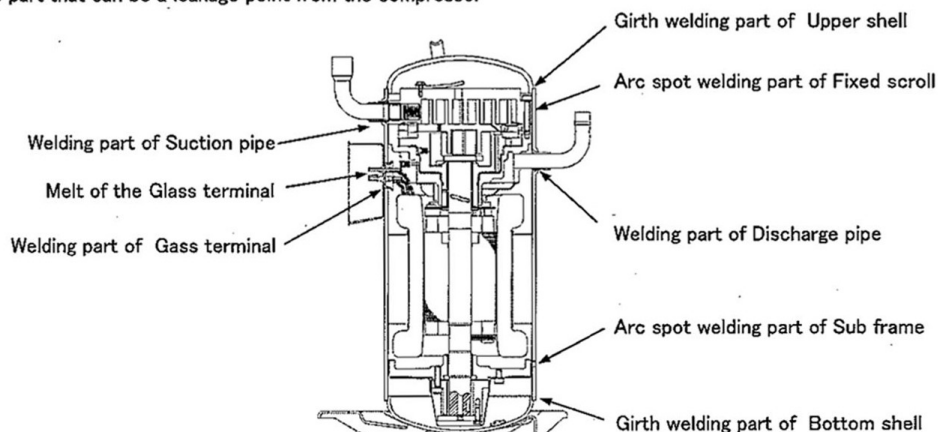
◆ Destructive pressure of compressor shell (hydrostatic pressure)

13.7MPa

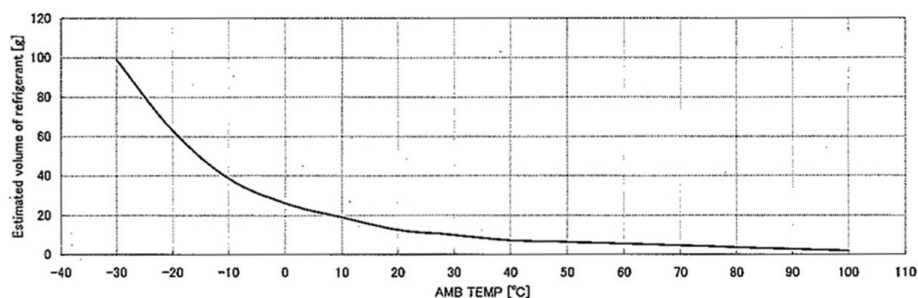
◆ Glass melting temperature curve for the glass terminal



◆ The part that can be a leakage point from the compressor



◆ Estimated volume of refrigerant remaining in oil when you expose compressor to the air



VM-CZC21



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<p>Pressure</p> <p>Condensing 3.15 MPaG [457 psiG] or less</p> <p>Evaporating 0.07 ~ 0.69 MPaG [10.2~100.1 psiG]</p> <p>Compression ratio Follow pressure operating envelop</p> <p>Abnormal rise in pressure -</p> <p>Temperature</p> <p>Condensing Under 82 °C</p> <p>Evaporating temperature -30 ~ 18 °C</p> <p>Discharge gas (max) 115 °C In case -30°C ~ -20°C and speed limit 15 ~ 120 rps 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</p> <p>Suction gas superheat Must be more than 0 °C - No liquid-back</p> <p>Discharge gas superheat 10 °C or more</p> <p>Outdoor ambient temp. -</p> <p>Electrical</p> <p>Reverse phase (rotation) Not possible</p> <p>ON / OFF</p> <p>ON/OFF frequency Less than 250,000 cycles</p> <p>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)</p> <p>Piping stress 34.3 N/mm² or less at start and stop condition (17.7 N/mm² during operation)</p> <p>Refrigerant circuit</p> <p>Maximum refrigerant charge Amount of refrigerant [g] < or = Amount of oil [g] x 4 (the relative density of oil : 1[g/cm³]). Regarding operation which exceeds the above limit, consult with us.</p> <p>Piping vibration Maximum 0.8 mm.</p> <p>Inclination of compressor Within 5°</p> <p>Piping Suction & Discharge pipes are sealed with rubber plugs.</p> <p>Discharge gas temp. measurement Discharge gas temperature sensor at 340mm distance from the shell is acceptable by the test result.</p> <p>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.</p> <p>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.</p> <p>Maximum allowable pressure (PS) 3.47 MPaG [503.3 psiG] or less</p>		