



Classification : Preliminary Specification for Compressor Containing designed-theoretical value		Written By		Nutsanun Jeenpetch	
		Approved By		Korakot Intraratat	
Subject : DPW42FBAMTS		Issued Date		2021-04-20	
		Document No.		PL20-0226	
				Revised B	
1.Compressor data					
Type		Scroll			
Displacement	cm <sup>3</sup> /rev.	42.0			
	in <sup>3</sup> /rev.	2.6			
2.Motor data					
Motor type		BLDCM			
Motor protection		External			
Nominal output	W	2140			
Number of pole		4			
Nominal revolution	rpm	3600 (at 60rps)			
Insulation class		E			
Motor resistance (20 °C)	Ohm	1.45			
3.Refrigerant					
Type		R-290			
4.Oil					
Type		PZ46M			
Charge amount	L (in <sup>3</sup> )	0.65 (39.7)			
5.Mass (include.oil)	kg (lbs)	21.5 (47.4)			
6.Compressor power source					
Rated voltage	V	110-400			
Rated frequency	Hz	120 (60rps)			
Running frequency	Hz	30-200(15-100rps)			
Phase	∅	3			
7.Performance					
Refrigerating capacity (±5%)	W	8000	1690	4650	
	BTU/hr	27296	5766	15866	
Motor input (±5%)	W	2370	1310	2020	
COP	W/W	3.38	1.29	2.30	
EER	BTU/hr.W	11.52	4.40	7.85	
Current	A	6.7	4.4	5.6	
Note: Conditions		ARI	LT	MT	
Evaporating temp.	°C (°F)	7.2 (45.0)	-35 (-31.0)	-10 (14.0)	
Condensing temp.	°C (°F)	54.4 (129.9)	40 (104.0)	45 (113.0)	
Return gas temp.	°C (°F)	18.3 (64.9)	20 (68.0)	20 (68.0)	
Ambient temp.	°C (°F)	35.0 (95.0)	35 (95.0)	35 (95.0)	
Liquid temp.	°C (°F)	46.0 (114.8)	40 (104.0)	45 (113.0)	
Power source	rps/Hz	60/120	60/120	60/120	
Modulation		PWM(Sine wave), carrier frequency 4kHz			
Cooling performance curve		SCI-CPDD062			
-Performance data are base on SCI's calorie meter at oil 650 cc.					
Please follow to the general specification for DPW (TDRD13F039)					



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Outline drawing	9G01D120	
Wiring diagram	CS01D584	
Crank case heater		25 W
Terminal parts accessories		
Terminal parts assy	CS01F449	
Terminal cover	SC25C057H01	1 pce.
Rubber bush	CR32D639H01	1 pce.
Mounting accessories		
Mounting parts	SC01D525	
Rubber mount	SC31D009H01	4 pcs.
Spacer (Optional)	SC10D377H01	4 pcs.
Motor parameter	TDRD20W036	
Observance matter of the compressor	TDRD20K002	

Developed-stage model



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<p>Pressure</p> <table><tr><td>Condensing</td><td>2.02 MPaG [293 psiG] or less</td></tr><tr><td>Evaporating</td><td>0.01 ~ 0.54 MPaG [1.5~78.3 psiG]</td></tr><tr><td>Compression ratio</td><td>-</td></tr><tr><td>Abnormal rise in pressure</td><td>-</td></tr></table> <p>Temperature</p> <table><tr><td>Condensing</td><td>Under 60 °C</td></tr><tr><td>Evaporating temperature</td><td>-40 ~ 10 °C</td></tr><tr><td>Discharge gas (max)</td><td>110 °C</td></tr><tr><td>Suction gas superheat</td><td>Must be more than 0 °C - No liquid-back</td></tr><tr><td>Discharge gas superheat</td><td>10 °C or more</td></tr><tr><td>Outdoor ambient temp.</td><td>Under 43 °C</td></tr></table> <p>Electrical</p> <table><tr><td>Reverse phase (rotation)</td><td>Not possible</td></tr></table> <p>ON / OFF</p> <table><tr><td>ON/OFF frequency</td><td>Less than 250,000 cycles</td></tr><tr><td>ON/OFF cycle</td><td>-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)</td></tr></table> <p>Piping stress</p> <table><tr><td></td><td>3.5 kg/mm<sup>2</sup> or less at start and stop condition (1.8 kg/mm<sup>2</sup> during operation)</td></tr></table> <p>Refrigerant circuit</p> <table><tr><td>Maximum refrigerant charge</td><td>6 kg</td></tr><tr><td></td><td>No accumulator &lt;2 kg</td></tr><tr><td>Piping vibration</td><td>Maximum 0.8 mm.</td></tr><tr><td>Inclination of compressor</td><td>Within 1°</td></tr></table>			Condensing	2.02 MPaG [293 psiG] or less	Evaporating	0.01 ~ 0.54 MPaG [1.5~78.3 psiG]	Compression ratio	-	Abnormal rise in pressure	-	Condensing	Under 60 °C	Evaporating temperature	-40 ~ 10 °C	Discharge gas (max)	110 °C	Suction gas superheat	Must be more than 0 °C - No liquid-back	Discharge gas superheat	10 °C or more	Outdoor ambient temp.	Under 43 °C	Reverse phase (rotation)	Not possible	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)		3.5 kg/mm <sup>2</sup> or less at start and stop condition (1.8 kg/mm <sup>2</sup> during operation)	Maximum refrigerant charge	6 kg		No accumulator <2 kg	Piping vibration	Maximum 0.8 mm.	Inclination of compressor	Within 1°
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