

# **motech**<sup>®</sup>

refrigeration parts and equipment



**GFM44AA**

## **Data Sheet**

## BASIC DATA

### 1.1 OPERATION

**Application:** LBP

**Refrigerant:** R134a

**Expansion device:** Capillary tube

**Cooling:** Static

**Evaporating Temperature Range:** -35 to -10°C ( -34 to +14 °F )

**Max Ambient Temperature:** 43°C ( 110°F )

**Max Operating Discharge Temperature(1):** 120°C ( 248°F )

**Max Peak Discharge Temperature (1, 2):** 135°C ( 275°F )

**Max Operating Condensing Temperature:** 60°C ( 140°F )

**Max Peak Condensing Temperature(2):** 70°C ( 158°F )

**Max Winding Temperature:** 130°C ( 266°F )

**Max Impurities:** 30 mg

**Max Water Content:** 100 mg

### 1.2 COMPRESSOR

**Displacement:** 4.6 cc

**Cylinder Bore:** 20.6 mm

**Stroke:** 13.6mm

**Net Weight(3):** 8.20Kg

**Shell size:** Middle

**Oil charge:** 200 cc

**Oil Type:** ICI RL 10H

**Oil viscosity(4):** 10 cSt

**Suction system:** Semi-direct

### 1.3 MOTOR

**Power supply:** 220-240 V

**Voltage limits:** 187 - 264 V

**Frequency:** 50 Hz

**Phase:** 1

**Motor Type:** RSIR / RSCR

**Electrical Insulation Class:** B

**Locked Rotor Current at 220 V- Max value with RC:**

**Locked Rotor Current at 220 V- After 4 s with RC:** 3.6A

**Locked Rotor Current at 220 V- Max value without RC:**

**Locked Rotor Current at 220 V- After 4 s without RC:** 3.6A

**Main Winding Resistance at 20°C ( 68°F ): 24.10 Ω**

**Start Winding Resistance at 20°C ( 68°F ): 27.70 Ω**

(1) Measured at 5 cm from the shell with insulated termocouples

(2) For transient conditions during "Pull Down"

(3) With oil and without external electricals

(4) Measured at 40°C ( 104°F )

## 1.4 ELECTRICALS

### Motor-protector

**Manufacturer:** WANBAO  
**Type:** BT56-120A61D3  
**Open Temperature:** 115-125 °C  
**Close Temperature:** 70-52 °C  
**U.T.C. at 70°C:** 1.35 A  
**Time Check Current 7-15 s:** 5.6 A (7.5-14 sec)  
**Max Current:** -  
**Code:** -

### PTC starting device

<b>Assembly type:</b>	WANBAO	TIANYIN	
<b>PTC Pill:</b>	QP2-15	QP2-15E	
<b>Resistance at 25°C, 100V:</b>	11-19Ω	11-19Ω	
<b>V max:</b>	350 V	350 V	Low consumption
<b>I max:</b>	8A	8A	
<b>Curie Temp:</b>	120°C	120°C	
<b>Dimensions:</b>	20mm (diameter), 3.3mm (thickness)	16mm (diameter), 2.5mm (thickness)	

### Run capacitor (optional)

**Type:** plastic case  
**Capacity:** 3μF  
**Vmax:** 450 V  
**Working hours:** 10.000 h at 450 V

### Connecting-board

**Type:** Without  
**Fast-on size**

## CALORIMETER DATA

2.1 CALORIMETER TEST	Evaporating temperature					
	-30°C	-23.3°C	-10°C	-30°C	-23.3°C	-10°C
	Without RC			With RC		
Cooling capacity (W)		130			130	
Input power (W)		99			93	
COP (W)/W		1.31			1.40	
Current (A)		0.65			0.53	

### Test conditions according to ASHRAE:

**Condensing temperature:** +55°C(+130°F)  
**Subcooling temperature:** +32°C(+90°F)  
**Superheating temperature:** +32°C(+90°F)  
**Suction temperature:** +32°C(+90°F)

**Room temperature:** +32°C(+90°F)

**Cooling:** Static cooling  
**Supply Voltage:** 220 V  
**Supply Frequency:** 50 Hz  
**Run capacitor:** 3μF

## OTHER PERFORMANCES

3.1 STARTING TEST	Motor Temp. / Equalized Press.		
	90°C / 5 Bar A	43°C / 6.5 Bar A	25°C / 5 Bar A
Min. Starting Voltage (V)	165		

According to ACC-CQ-PRO-99016.D

3.2 CALORIMETER TEST	-25/+55°C	-20/+50°C	-23.3/+40°C
	ISO3745	GB9098	USA STD
A-weighted SPL (dBA)	-	38	-
Vibration Level (dB)	-	-	-
Vibration Index TVI (mm/s)	-	0.5	-
Gas pulse level TPI (mBar)	-	-	-

3.3 LIFE TEST	Wear	High Temp.	On Off
	500 h	2000 h	200 K Cycles
Test Results	Passed	Passed	Passed

Wear Test according to CECOMAF GT4003

High Temperature Test according to CECOMAF GT4002

On Off Test according to CECOMAF GT4004

3.4 TRANSPORT TEST	2 h - 0.75 m/s <sup>2</sup>		
	x - 3.25 Hz	y - 7.5 Hz	z - 11.5 Hz
Test Results		Not required	

According to GB / T4857.10-92

3.5 OIL TRANSPORT TEST	Oil flow
	(g/h)
Test Results	Not required

According to ACC-CQ-ES-99002.D

3.6 IMPACT TEST	
Test Results	Not required

According to ECC-CQ-W-01042