

LZ58XU1 COMPRESSOR

TECHNICAL SPECIFICATION



HUANGSHI DONPER COMPRESSOR CO., LTD.

2021.3

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1. Compressor Type

Compressor model	LZ58XU1
Rated voltage/frequency	110-127V~60Hz
Refrigerant	R290
Application	L/MBP
Cooling method	Fan Cooling
Start torque	High starting torque (HST)
Control device	Capillary tube
Motor type	CSR
Running capacitor	15μF
Starting capacitor	75μF

2. Performance Data

Displacement	Net Wt.	Oil Charge	Cooling Capacity(≥95%)		COP(≥95%)	
			ASHRAE	CECOMAF	ASHRAE	CECOMAF
			-23.3	-25	-23.3	-25
cm ³	kg	ml	w	w	w/w	w/w
5.8	8.8±0.4	200±10	320	274	1.7	1.44

These datas come from the test without a current starting relay

Testing condition:

Test conditions	LBP	
	ASHRAE	CECOMAF
Evaporating Temp.	-23.3°C	-25°C
Ambient Temp.	+32.2°C	+32°C
Condensing Temp.	+54.4°C	+55°C
Suction Temp.	+32.2°C	+32°C
Subcooling Temp.	+32.2°C	+55°C

	Condensing Temperature	Evaporating Temperature	Cooling Capacity +/-5%			Power Consumption (+/-5%)	Current Consumption (+/-5%)	Efficiency +/-5%		
			(kcal/h)	(W)	(Btu/h)			(kcal/Wh)	(W/W)	(Btu/Wh)
LZ58XU1	(°C)	(°C)								
	55	-35	147.2	171.2	584.1	161.2	1.66	0.91	1.06	3.62
		-30	199.6	232.1	791.9	175.2	1.75	1.14	1.32	4.52
		-25	263.3	306.2	1044.8	189.9	1.85	1.39	1.61	5.50
		-20	336.7	391.5	1335.8	206.1	1.96	1.63	1.90	6.48
		-15	423.4	492.3	1679.7	221.6	2.07	1.91	2.22	7.58
		-10	524.9	610.3	2082.3	235.4	2.18	2.23	2.59	8.85
		-5	640.9	745.2	2542.6	258.7	2.28	2.48	2.88	9.83
	0	770.1	895.5	3055.4	282.1	2.39	2.73	3.17	10.83	
	50	-35	156.7	182.2	621.7	159.9	1.62	0.98	1.14	3.89
		-30	209.1	243.1	829.5	173.8	1.71	1.20	1.40	4.77
		-25	272.0	316.3	1079.2	188.9	1.80	1.44	1.67	5.71
		-20	346.2	402.6	1373.7	205.3	1.91	1.69	1.96	6.69
		-15	432.8	503.2	1716.9	219.8	2.03	1.97	2.29	7.81
		-10	534.2	621.2	2119.5	233.6	2.14	2.29	2.66	9.07
		-5	652.7	758.9	2589.4	257.1	2.23	2.54	2.95	10.07
	0	773.7	899.6	3069.4	279.6	2.35	2.77	3.22	10.98	
	45	-35	165.2	192.1	655.4	159.1	1.57	1.04	1.21	4.12
		-30	218.7	254.3	867.7	172.0	1.66	1.27	1.48	5.04
		-25	281.4	327.2	1116.4	187.8	1.75	1.50	1.74	5.94
		-20	354.6	412.3	1406.8	204.2	1.86	1.74	2.02	6.89
		-15	442.1	514.1	1754.1	218.9	1.98	2.02	2.35	8.01
		-10	542.8	631.2	2153.7	232.7	2.09	2.33	2.71	9.26
		-5	661.5	769.2	2624.5	255.3	2.18	2.59	3.01	10.28
	0	784.6	912.3	3112.8	278.9	2.30	2.81	3.27	11.16	
	40	-35	172.9	201.1	686.2	158.2	1.52	1.09	1.27	4.34
		-30	227.3	264.3	901.8	170.8	1.61	1.33	1.55	5.28
		-25	290.5	337.8	1152.6	186.6	1.70	1.56	1.81	6.18
-20		362.2	421.2	1437.1	202.7	1.82	1.79	2.08	7.09	
-15		451.1	524.5	1789.6	216.8	1.94	2.08	2.42	8.25	
-10		552.4	642.3	2191.5	230.9	2.03	2.39	2.78	9.49	
-5		671.8	781.2	2665.5	254.1	2.14	2.64	3.07	10.49	
0	794.3	923.6	3151.3	278.0	2.25	2.86	3.32	11.34		
35	-35	183.4	213.3	727.8	157.6	1.47	1.16	1.35	4.62	
	-30	236.6	275.1	938.6	168.9	1.57	1.40	1.63	5.56	
	-25	299.5	348.2	1188.1	185.0	1.64	1.62	1.88	6.42	
	-20	371.6	432.1	1474.3	201.4	1.76	1.85	2.15	7.32	
	-15	461.3	536.4	1830.2	215.1	1.89	2.14	2.49	8.51	
	-10	563.6	655.3	2235.9	229.7	1.98	2.45	2.85	9.73	
	-5	683.0	794.2	2709.8	253.2	2.10	2.70	3.14	10.70	
0	805.1	936.2	3194.3	276.4	2.19	2.91	3.39	11.56		

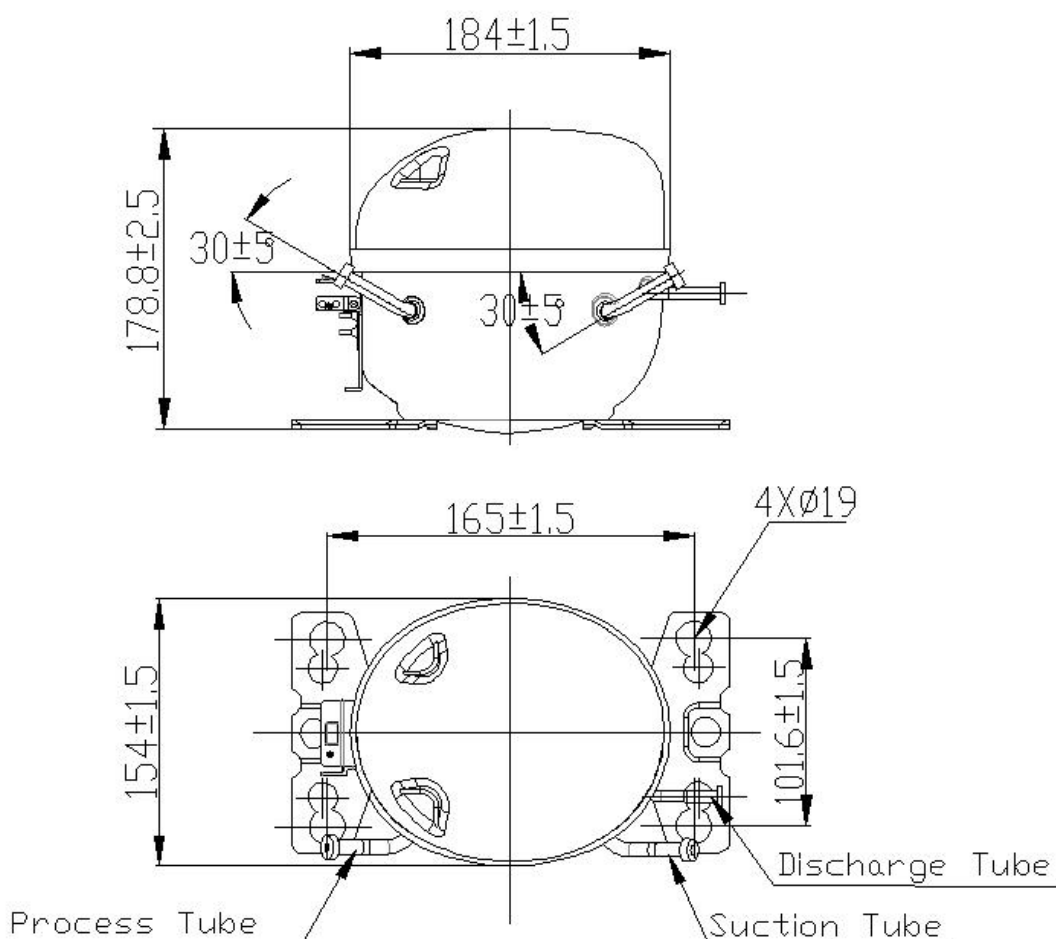
3. Running Condition

Ambient temp.	0~43°C
Evaporating temp.	-35~0°C
Voltage range	98~134V
Max. condensing temp.	65°C
Max. winding temp.	130°C
Max. shell temp.	100°C
Max. discharge temp.	130°C
Start voltage	98V [0.8/0.8MPa(abs)]
Shell min. resistance to pressure	35bar

4. Compressor Mechanical Information

Oil type	POE oil
Viscosity	18.2~23.1mm ² /s(40°C)
Oil charged	200±10ml
Diameter of suction tube (I.D.)	Φ 6.2±0.1mm
Diameter of discharge tube(I.D.)	Φ 4.9±0.1mm
Diameter of process tube (I.D.)	Φ 6.2±0.1mm
Material of suction tube, process tube and discharge tube	Copper tube
Compressor noise	48dB(A)
Vibration	1.5m/s ²
Protecting gas	Dry com.air (Dew point-60°C)

5. Compressor Shape

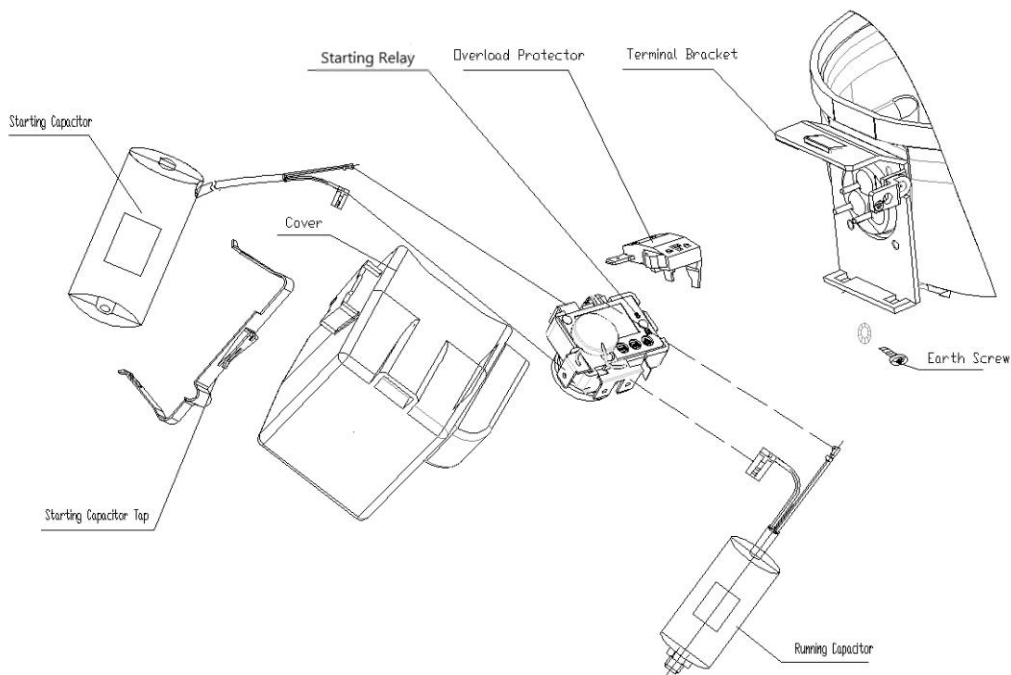
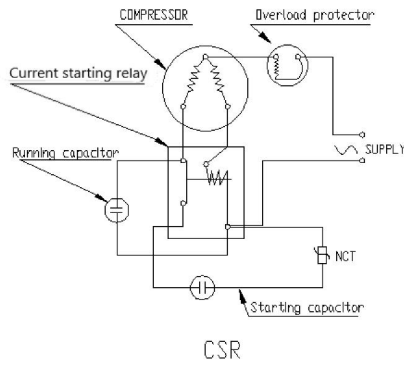


Caution:Suction tube and process tube can not be exchanged

Unmarked tolerance: ± 5mm

Unmarked Angle: ± 10°

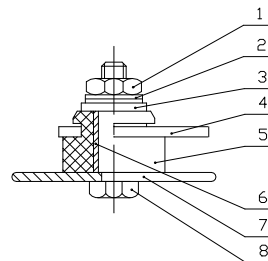
6. Wiring Diagram



Note: Each of the starting relay、 the overload protector、 the cover 、 the capacitor and the earth screw is separately provided by our company.

7. Fixing of mounting bracket and cabinet base

- 1、 Hexagon nut
- 2、 Spring washer
- 3、 Flat washer
- 4、 Compressor mounting bracket
- 5、 Rubber grommet
- 6、 Sleeve
- 7、 Cabinet base
- 8、 Screw



Note: Equipment assembly is all provided by our company. Above is just for reference, details can refer to delivery state.

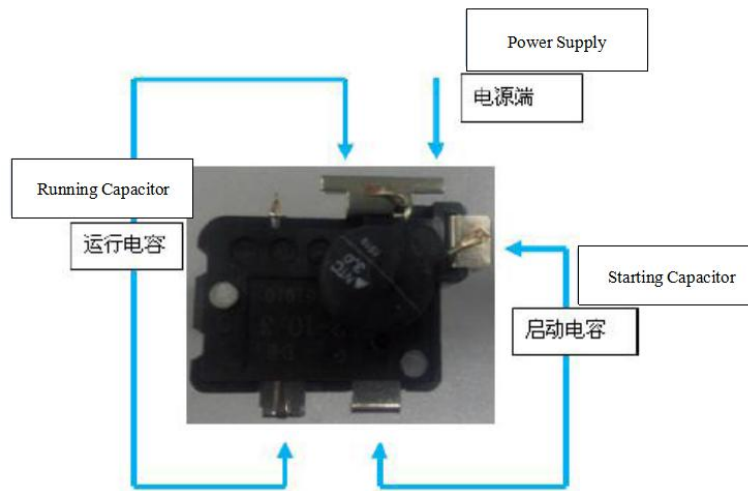
8. Starting relay and overload protector

8.1 Starting relay

Model	QL2-10.3	
Supplier	Changshu Tianyin Electromechanical Co. Ltd	
Max Current	A	10.3
Min Open Current	S	8.6

Assembly force $\leq 100\text{N}$ Disassembly force $\geq 25\text{N}$

Flammability: Anti-flammability

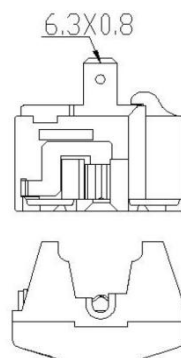


8.2 Overload protector

Model	4TM427PHBYY-53	
Supplier	Sensata Technologies (Baoying) Co.,Ltd.	
Max.T.C Amp.(25°C)	A	15.5
Trip time	S	5~15
Reset time	S	25~150
Open temp.	$\pm 5^\circ\text{C}$	125
Close temp.	$\pm 9^\circ\text{C}$	69

Assembly force $\leq 80\text{N}$ Disassembly force $\geq 12.5\text{N}$

Flammability: Anti-flammability



9. Capacitor

Running Capacitor	Model	μF	15
	Rated voltage	V.AC	250
	Supplier and model		Anhui Feida Electrical Technology Co., Ltd.
			Anhui Tongfeng Electronics Co.,Ltd.
Ningguo Yuhua Electrical Products Co.,Ltd			
		Shanghai haoyue Electronics CO.,LTD	

Starting Capacitor	Model	μF	75
	Rated voltage	V.AC	330
	Supplier and model		Huangshan Zhenzhou Electronic Technology Co., Ltd.
FUXIN JIEKEDA ELECTRONIC CO.LTD			

10. Delivery State

No.	Name	Model	Quantity	CODE
1	Compressor	LZ58XU1	1pcs	
2	Rubber plug	Φ6.4	1pcs	
3		Φ8.2	2pcs	
4	Rubber grommet	H model	4pcs	On the compressor
5	Starting relay	QL2-10.3	1pcs	Changshu Tianyin Electromechanical Co.,Ltd.
6	Overload protector	4TM427PHB YY-53	1pcs	Sensata Technologies (Baoying) Co.,Ltd.
7	Starting capacitor	75μF	1pcs	
8	Running capacitor	15μF	1pcs	
9	Capacitor tap	Q34L-15	1pcs	
10	Relaying cover	A3A	1pcs	
11	Earth screw	QET.1-24C	1pcs	
12	Sleeve	Φ 10×17	4pcs	
13	Anchor bolt assembly	M6×28	4pcs	
14	Nut	QET-27	4pcs	

Notes:1.All electrical parts and equipment assembly are supplied separately, not installed on the compressor.

2.All electrical parts and equipment assembly according to “Delivery state”are all provided by our company.

11. Package、Storage and Transportation

Package type	unrecyclable
Quantity	96pcs/box
Transportation	By sea
Storage	Max. 2 layers
Cross Weight	Kg 880±40
Net Weight	Kg 845±40
Volume	m ³ 0.96
Dimension: length×width×height	cm 109×89×99
Main components	Wooden supporter、upper wooden cover、foam divider、plastic sheet、cardboard cover、rain-proof cover、wrapping
Movement	Keep the compressor in normal or vertical position
Trans. test requirement	No allowable compressor’s damage and performance loss.

12. Technical Items

- (1)、Don’t take off the rubber plugs before using and installing compressor to prevent dust and moisture.
- (2)、Don’t turn down or incline the compressor during storage, transportation or installation and avoid vibration and shock.
- (3)、The compressor must be kept horizontally during running, the inclination angle must be less than 5°.
- (4)、A special polyester oil is charged in the R290 compressor and the charging volume has been optimized by DONPER. Don’t pour out or add any refrigerant oil.
- (5)、The interval of compressor operation must be more than 4 minutes in order to obtain a pressure balance in the systems.
- (6)、Don’t start or run in the case of vacuum or charge high voltage in the compressor. The compressor cannot be used to vacuumize the refrigeration system.
- (7)、The design of refrigeration system must be suitable to insure the oil could flow back to compressor.
- (8)、The maximum ambient temperature of the compressor operation is 43°C. When continuously operating under the maximum ambient temperature 43°C, the condensing pressure and the peak pressure should not exceed as showing in the following table.

Refrigerant	R290
Max. condensing pressure	2.01MPa
Peak	2.44MPa

- (9)、Widen the evaporating Temp. range of the compressor should be approved by DONPER.

- (10)、 Compressor should be stored in a dry place.
- (11)、 Compressor accessories (eg: starting relay, overload protector etc.) are put in the accessories box instead of fixing on the compressor.
- (12)、 The stocking period must be less than 6 months after the date of production. If longer, you have to check whether the filled gas is sufficient. Replenishment must be done if necessary.
- (13)、 It's necessary to keep the compressor without rubber plug as short time as possible (max time 10 min).
- (14)、 R290 systems require a filter with drying agent which suitable for R290 refrigerant
- (15)、 The vacuum pump and the charging system must only be dedicated to R290.
- (16)、 The refrigeration system should minimize the content of chlorine and moisture, and must be free of paraffin and silicon oil.
- (17)、 The organic substance non-compatible with R290 cannot be used in the refrigeration system.