

Production Specification

Machine name	Pre Heater THB-6050
Model No	THB-6050

Hakuto Co., Ltd.
1-13, Shinjuku 1-Chome Shinjuku-Ku,
Tokyo 160-8910, Japan

1. Summary

(1)	Machine name	Pre Heater THB-6050
(2)	Quantity	1set
(3)	Date of delivery	4.5 months after P/O
(4)	Place of delivery	Your Designated Place
(5)	Outline	<p>Pre-heater model THB-6050 is a device that heats the substrate with efficiently heated by the clean velocity current of air from a facing nozzle before dry film lamination.</p> <p>Effective temperature can be registered due to set the temperature of blow air and blast volume.</p> <p>Clean air pre-heating available with heat-resistant HEPA filter in the current circulation system.</p>

2. Machine structure, specification

No	Item		Standard	Remark
(1)	Machine composition		<input type="radio"/> Conveyor <input type="radio"/> Air nozzle <input type="radio"/> Blower and filter <input type="radio"/> Heater <input type="radio"/> Control board <input type="radio"/> Operation panel	
(2)	Machine dimension		2050(L)×1970(D)×(2140(H))	Fig No.B2-132 32-2
(3)	Machine weight		About 1800kg	
(4)	Pass line		FL+940±20 mm	
(5)	Work size		W510 × L515, 0/+2mm 0.1 ~ 2.5mm	
(6)	Conveyor speed		1-6 m/min	
(7)	Color		5Y8/1.5	
(8)	Air temperature		Standard heating condition : 80 ~ 90°C ± 3°C MAX : 120°C	
(9)	Transfer drive	Conveyor system	Magnet drive, guide roller attachment	
		Roller	φ35 Main roller -Work edge roller and center roller (3points) φ29 Free roller	
		Roller material	Stainless + Viton O-ring	
		Pinch roller	Transfer by work edge roller and center roller (3points)	
		Pinch roller material	Stainless + Viton O-ring	
		Number of conveyor motor	3 motors	

		Motor	Speed control motor, 1φ200V, Gear reduce	
(10)	Heating	Heating method	Heated Clean air circulation system. Upper/Lower hot clean air blasting (Class 100)	
		Heter	Stainless steel sheath heater 18kW × 1 unit Thermo sensor K Type, PID control/ SSR output	
(11)	Nozzle	Nozzle material	SUS	
		Nozzle clearance	TOP 12.5mm, BOT 12.5mm from pass line	
(12)	Blower	Heat resistant blower	3.7 kW × 1 unit Inverter control	
(13)	Filter	Pre-filter	Heat resists unwoven cloth	
		HEPA filter	0.3μDOP 99.97% Heat resists HEPA	
(14)	Frame material		SS Baking finish	
(15)	Cover panel material		SUS	
(16)	Option	Temperature measurement of the substrate	By radiation thermo sensor	
		Calibration certificate	Pre-shipment inspection calibration certificate	

3. Electric specification

No	Item		Standard	Remark
(1)	Control board		At upper side of the equipment	
(2)	Signal tower		3 colors LED type	
(3)	Touch panel		Mitsubishi	
			With acryl cover	
(4)	PLC Sequencer		Mitsubishi	
(5)	Alarm, warning function	Emergency stop	Operate side, Non-operate side 2set	
		Leak detector	Earth leakage breaker	
		Overload	Detection by thermal	

		Filter differential pressure switch	Detection by differential pressure transmitter	
		Interlock	By door switch Upper nozzle opening switch	
		Alarm of temperature	Detect supply air temperature Overheat protector and Temperature sensor	
		Heater breaking of wire	Detection of heater breaking of wire alarm equipment.	
		Alarm, warning indication	Touch panel and buzzer sound and Signal tower	
(6)	Touch panel display	Language	Japanese / English / Chinese	
		Alarm	Alarm information display	
(7)	Software	MES		
		SMEMA		
		Password control	3 level	
		Ethernet		
		Work number count		
		Recipe	50	
		Parameter management	<ul style="list-style-type: none"> Blower inverter frequency Conveyor speed Supply air temperature 	
		Temperature correction		

4. Utility

No	Contents	Connect	Capacity	Condition
(1)	Power	Connected in control board	24 kVA	3φ 208V±10% 50Hz
(2)	Exhaust air	Connected at upper side of equipment	15m ³ /min (φ150)	

5. Others

No	Item	Specification	Remark
(1)	Warranty Period	<p>1 year (consumption parts remove)</p> <p>If the breakdown happened regardless of normal use situation based on instruction manual in assurance term, we repair and adjust this equipment free of charge</p>	<p>Next case, regardless of assurance period, repair and adjustment are paid service.</p> <ul style="list-style-type: none"> • The breakdown by causes other than this equipment • The breakdown by handling carelessness misuses and falls. • The breakdown due to thing that you repaired, and remodeled • The breakdown due to a fire, act of providence, abnormal voltage, water, steam, oil, and acid etc