



Small goods with

Great Performance





Habor Precise Industries (Taiwan)



Habor Precise Machine (ZheJiang)

- HABOR (Shanghai)
- HABOR (Zhejiang)
- HABOR Headquarter (Taiwan)

Extremely precise
Environmental friendly
Energy saving

3 - 9	Oil Cooler Series
10 - 17	Water Cooler Series
18 - 19	Air Cooler Series / Heat Pipe Heat Exchanger Series
20 - 22	Ventilation Filter With Fan Series
23	Air Dryer Series
26	Electronic Controller

PID V Series

PID Controlled : Control the coolant temperature with the precision of +/- 0.2°C by PID controlled proportional value.

ON / OFF

ON/OFF Controlled : Control the coolant temperature within +/- 1°C

Application / Series	HBO	HK	HJ	HE	HW	HA	HPW/HPC	FU	HRD
	Oil Cooler				Water Cooler	Air Cooler	Heat Exchanger	Ventilation Filter With Fan	Air Dryer
High Speed Spindle	●	●			●				●
Linear Motor	●	●			●				
Ball Screw	●	●							
Hydraulic System	●				●				
Coolant		●	●						
CNC Cutting Machine	●	●	●		●	●	●	●	●
Laser Machine					●	●	●	●	●
CNC Lathe	●	●	●			●	●	●	●
Machining Center	●	●	●	●	●	●	●	●	●
EDM				●					
WireCut Machine					●	●	●	●	
PCB Drilling Machine	●				●	●	●	●	●
Injection Machine					●	●	●	●	
Semi Con Industrial Machine					●				●
Medical Equipment					●				
Printing Equipment					●				
Electronic or Electric Cabinets						●	●	●	
Tele-communication Equipment						●	●		
CNC Control Equipment						●	●	●	

Oil Cooler Series



HBO Series

Oil cooler for lubrication oil, hydraulic oil

HK Series

Oil cooler for grinding liquid, cutting liquid

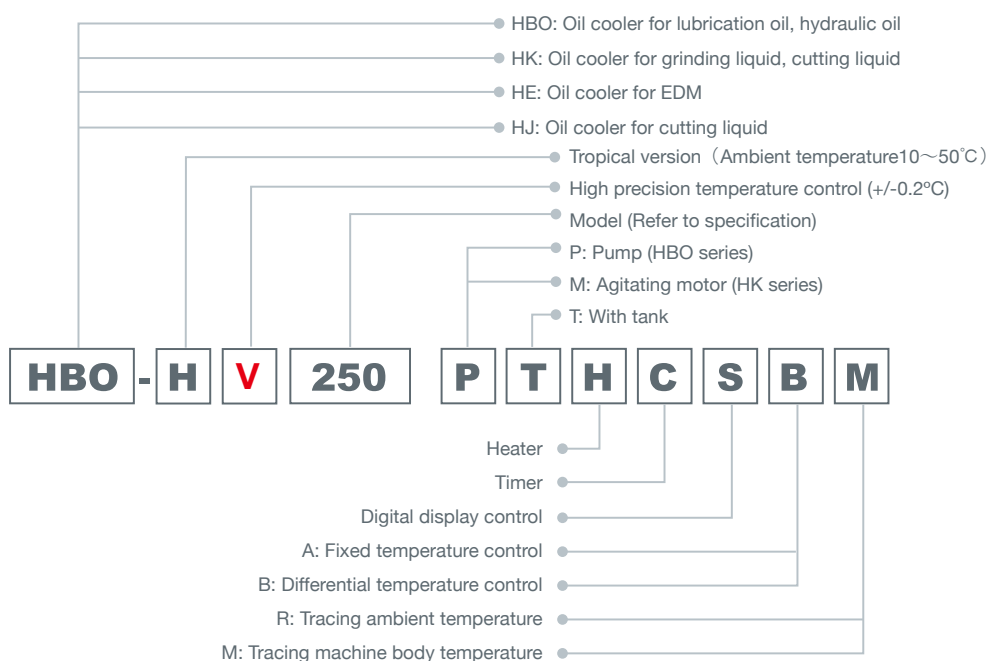
HJ Series

Oil cooler for cutting liquid

HE Series

Oil cooler for EDM

▲ EX. : HBO-250PTSBM

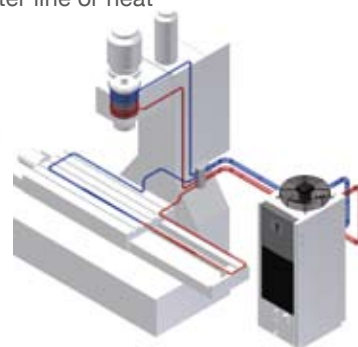


HBO Series Oil Cooler for Hydraulic Oil, Lubrication Oil



Feature

- Prevent temperature increasing of spindle, improve working precision of machine.
- Prevent deviation of spindle center line or heat deformation of machine.
- Extend the lifetime of the machine.
- Stabilize oil pressure, prevent oil vibration.
- Easy operation, low noise.



Specification

Item / Model		HBO-50PS	HBO-250PS	HBO-400PS	HBO-600PS	HBO-750PS	HBO-900PS	HBO1000PS	HBO-2RPS	HBO-3RPS	HBO-4RPS	HBO-5RPS
Cooling capacity	KCAL/H 50/60Hz	430/500	840/1000	1250/1500	1700/2100	2600/3000	3200/3800	3750/4500	5000/6000	7500/9000	10000/12000	12500/15000
	W 50/60Hz	500/580	980/1170	1450/1750	1970/2450	2900/3500	3700/4400	4350/5250	5820/6980	8720/10470	11630/13960	14540/17450
	BTU/H 50/60Hz	1720/2000	3360/4000	5000/6000	6700/8400	10000/12000	12800/15200	15000/18000	20000/24000	30000/36000	40000/48000	50000/60000
Temperature controller	A	Fixed temperature control type (setting range 10~40 °C)										
	B	Differential temperature control type (tracing ambient/machine body temperature, setting range -9.9~+9.9℃)										
Use range	Ambient temperature℃	10~40℃ (Standard)										
	Oil temperature℃	10~45℃										
Power source		3Ø 200~230V 50/60Hz										
Motor	Compressor	250	478	845	845	1185	1500	1700	2480	3350	4400	6100
	Fan	200				180		350			500	
	Pump					400		750			2200	
Pump flow rate (L/min)	50Hz	3.7		6.7		16.6		25	33		57	64
	60Hz	4.5		8		20		30	40		68	77
Piping diameter	Inlet	PT 1/4"	PT 1/2"			PT 1"		PT 1"		PT 1-1/4"		
	Outlet	PT 1/4"	PT 1/2"			PT 1"		PT 1"		PT 1-1/4"		
Max. pressure loss (kgf/cm²)		3.0										
Oil viscosity		Hydraulic oil, lubrication oil 4-300 cSt										
Tank capacity (optional)		2.5L	7L	19L		20L		20L	35L	31L	90L	
Dimension WxDxH (mm)	Without tank	270x475x436	373x470x686	370x475x765	370x475x840	575x430x1045		480x580x1340	500x770x1295	554x690x1525	1085x740x1400	
	With tank			370x475x950	370x475x1030	575x430x1200		550x580x1340			1085x780x1400	
Weight (KG)	Without tank	33	51	61	66	96		147	176	181	291	
	With tank	34	54	71	77	118		150	179	208	325	
Noise level		Below 70 dB(A)							Below 80 dB(A)			

1. The above cooling capacity is based on the condition of ambient temperature 35 °C, outlet oil temperature 35°C with oil type of ISO VG32.

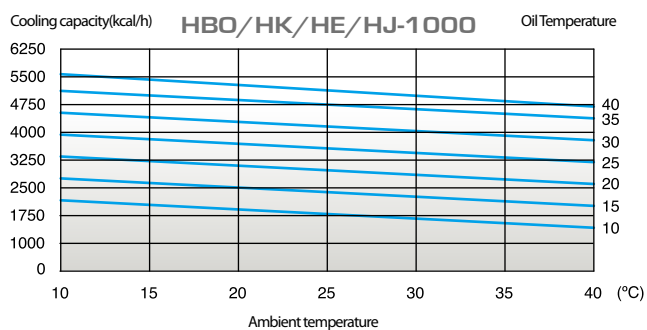
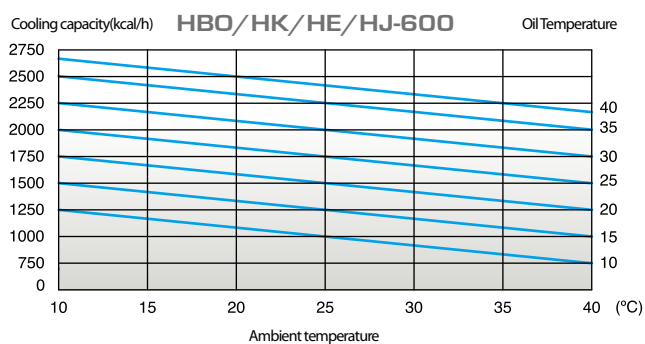
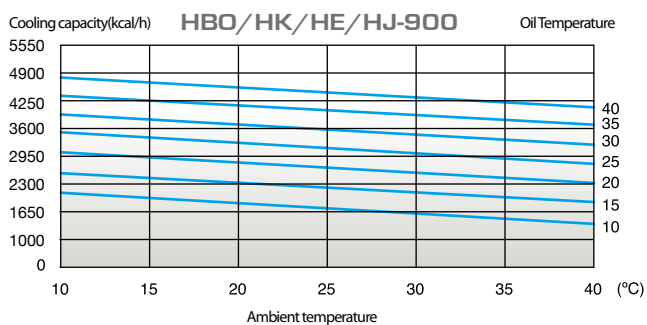
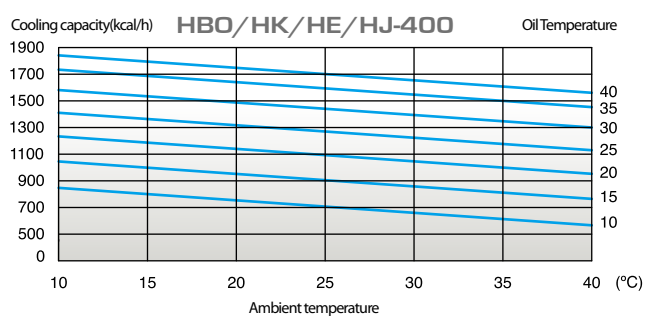
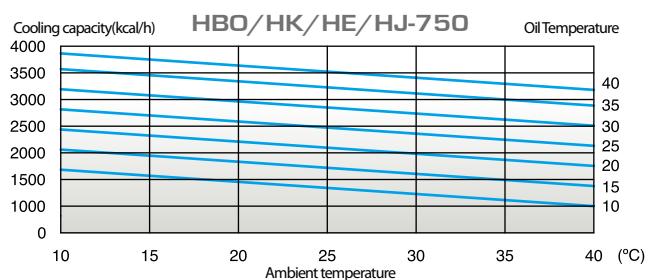
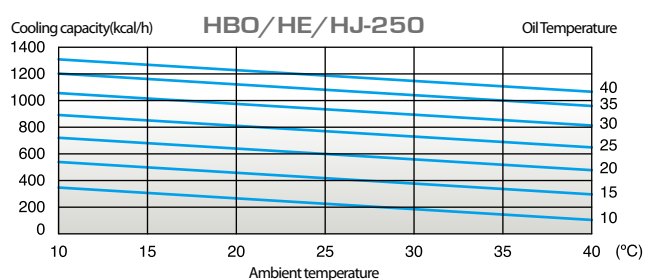
2. Please contact us for special request on specification.

3. Different voltage is available, please specify upon request.

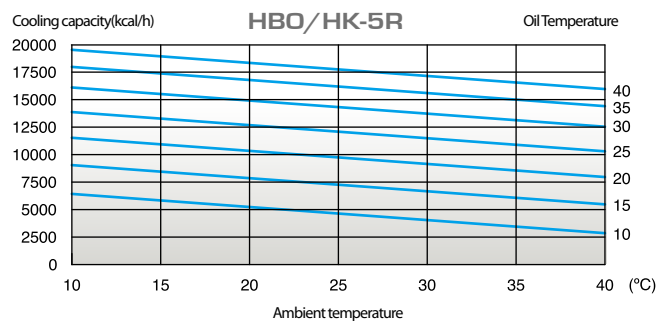
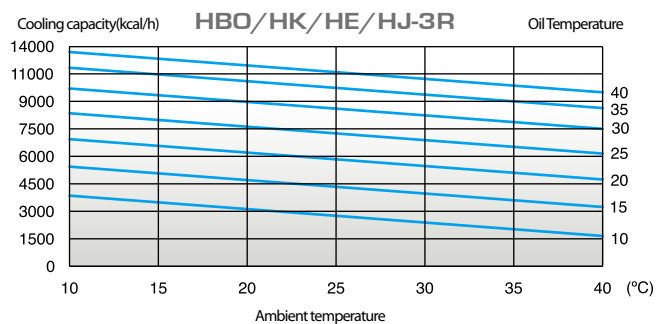
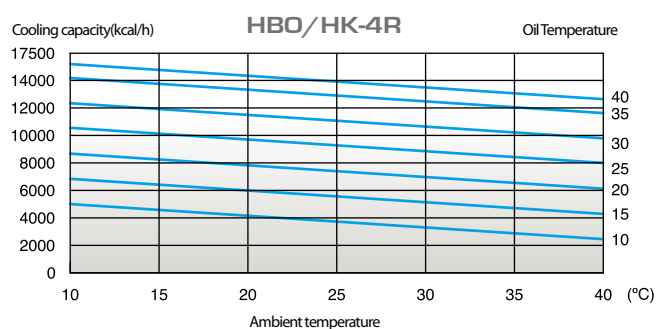
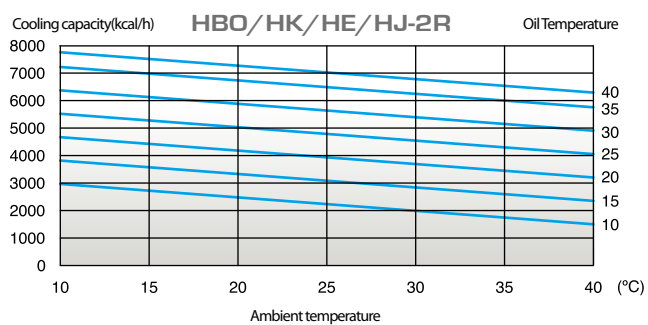
4. Design and specification are subject to change without prior notice.

5. The oil tank is an optional component, please specify during enquiry.

PERFORMANCE CURVE OF OIL COOLER



PERFORMANCE CURVE OF OIL COOLER



▲ NOTE. The above data is based on the condition of 60Hz

Temperature Sensor

Diagram 1

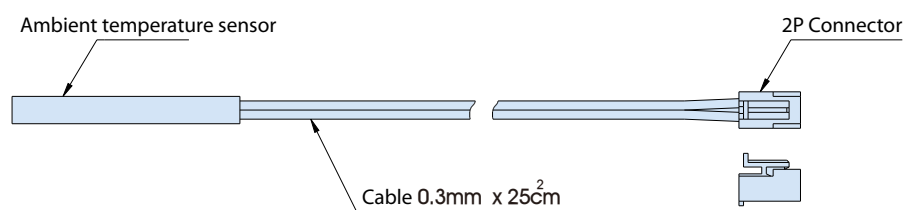


Diagram 2

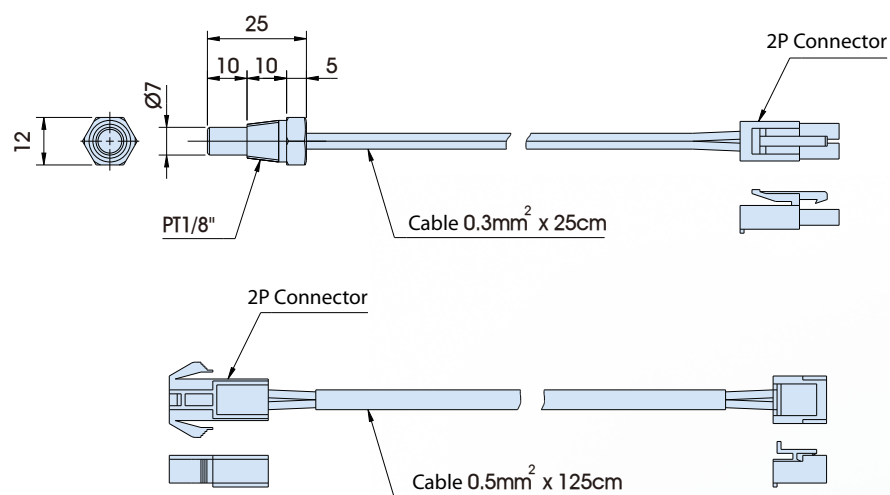
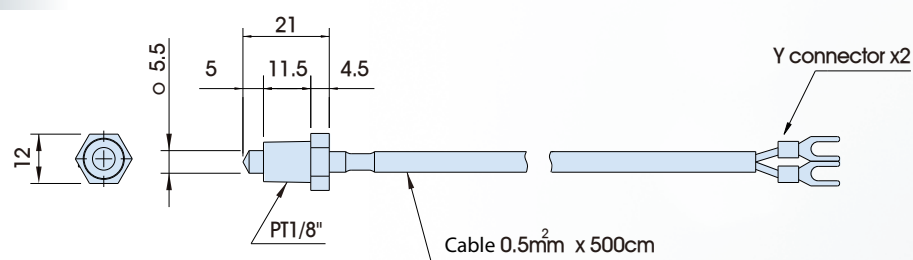


Diagram 3



Temperature Sensor

Sensor Type	Specifications	Dimension Diagram	Application Model
Room temperature sensor	RA	Diagram 1	Diff. temp. control tracing ambient temp.
Machine Body Temperature Sensor	RM	Diagram 3	Diff. temp. control tracing machine body temp
Oil temperature sensor	RO	Diagram 2	Oil cooler series
Water temperature sensor	RW	Diagram 2	Water cooler series



Electronics Temperature Controller

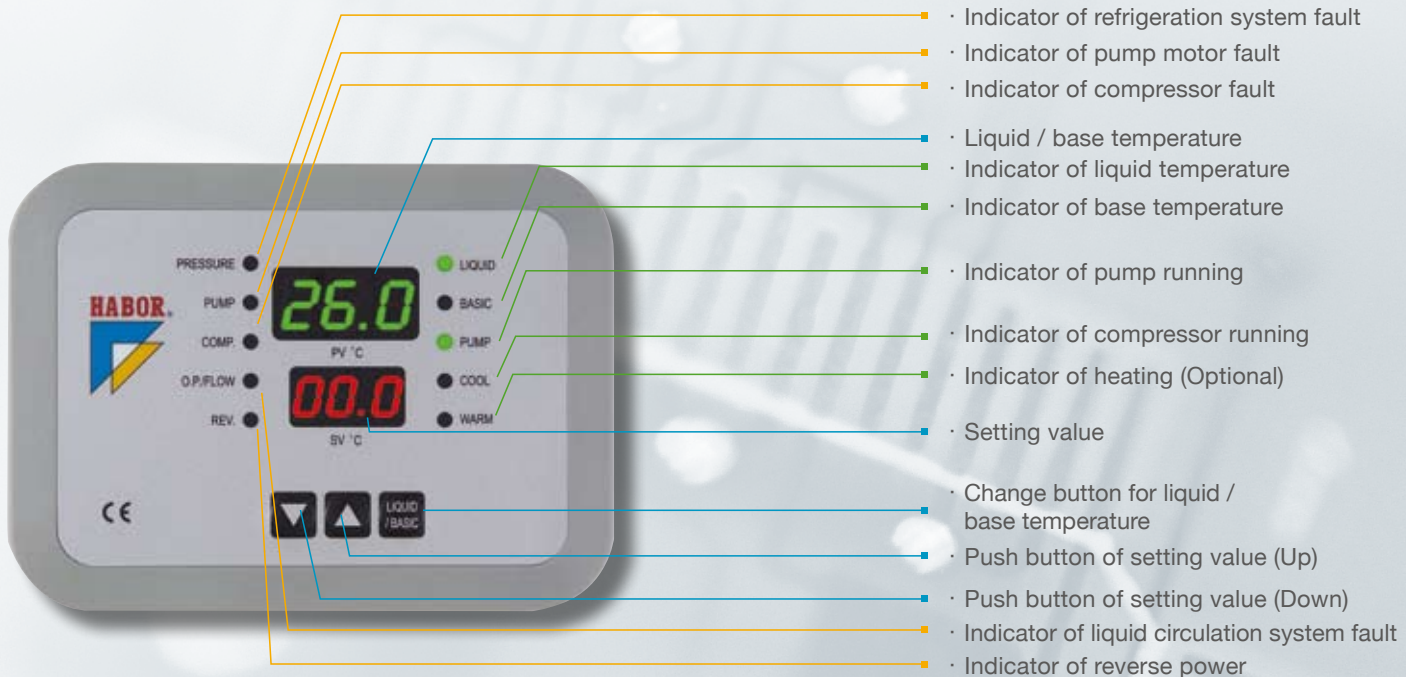
- Display of liquid temperature, ambient temperature and setting value.
- Micro digital circuit design makes high precise control.
- Output of alarm message.
- Function of compressor protection.
- Customized control is available upon request.
- Optional RS485 communication port.

PID Controller Panel

- Parameter display
- Parameter value display
- Standby button
- Parameter changing button
- Push button of setting value (Up)
- Push button of setting value (Down)



ON/OFF Controller Panel





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