

FORMAX®

HERE BEGINS YOUR ULTIMATE VALUE

FMC Series
FMC Oil Temperature
Controller

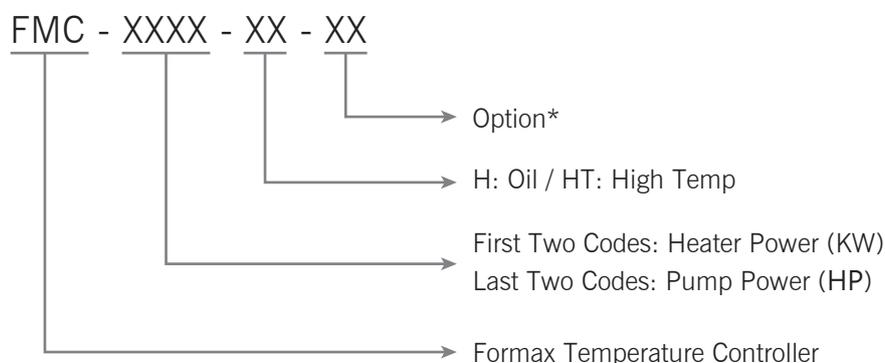
FMC-1210H



Please read the brochure carefully before operation.

FMC-H FMC Oil Temperature Controller

■ Coding Principle



FMC-2430HD

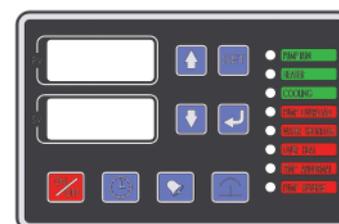
■ Features

Standard Configuration

- PID temperature controller with digital display and actual temperature.
- Reservation timer for 0~9999 mins. The temperature unit (°C/°F) is changeable also.
- Adopts high efficiency high temperature pump which can meet the demands of temperature control for precise molds and mold loop with minor diameter to achieve precise temperature control and high efficiency heat exchange.
- The control box and mechanical are designed in isolation, so the life of circuit is extended also.
- Safety devices include power reverse phase protection, pump overload protection, overheat protection, low level sensor, and media shortage alarm that can automatically detect abnormal situation and alarm via buzzer.
- Heater is made of stainless steel.
- For standard FMC the heating temperature can reach 200°C, while FOH can reach 300°C.
- FOH is equipped with magnetic pump and the internal structure is stainless steel for explosion-proof.
- Equipped RS485 to realize central monitoring online.



FMC-3015HT32



Control Panel

Options

- Electrical circuit built to comply with CE safety equipment as option.
- Automatic water drain function when changing the mold (Denotes "L")



Magnetic Pump

Application

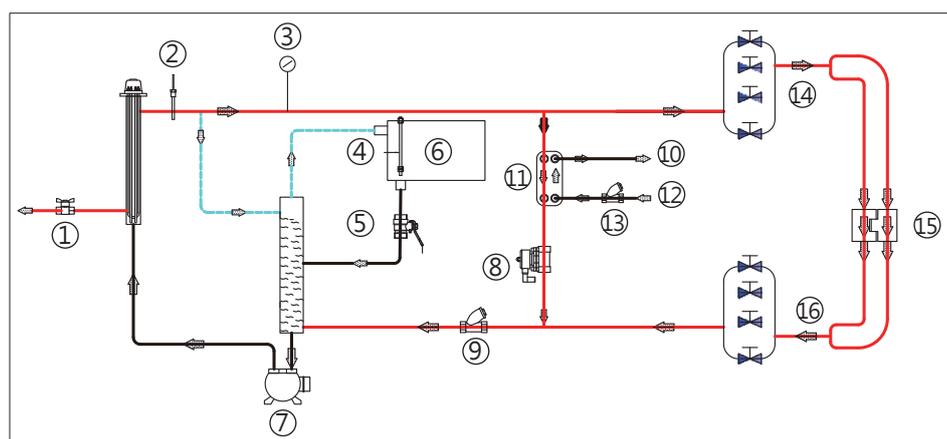
FMC series of oil temperature controller have both the standard and high temperature types. It's mainly applied to heating up and temperature maintenance of mold. It also can be applied to other fields with the same demands. High temperature oil from the mold is returned to the

cooler for indirectly cooling. Then the oil will be sent to the mold after being pressurized by pump and heated by the heater which realized heating and temperature maintenance of the oil. The newly applied PID temperature control can maintain accuracy and stability.

Working Principle

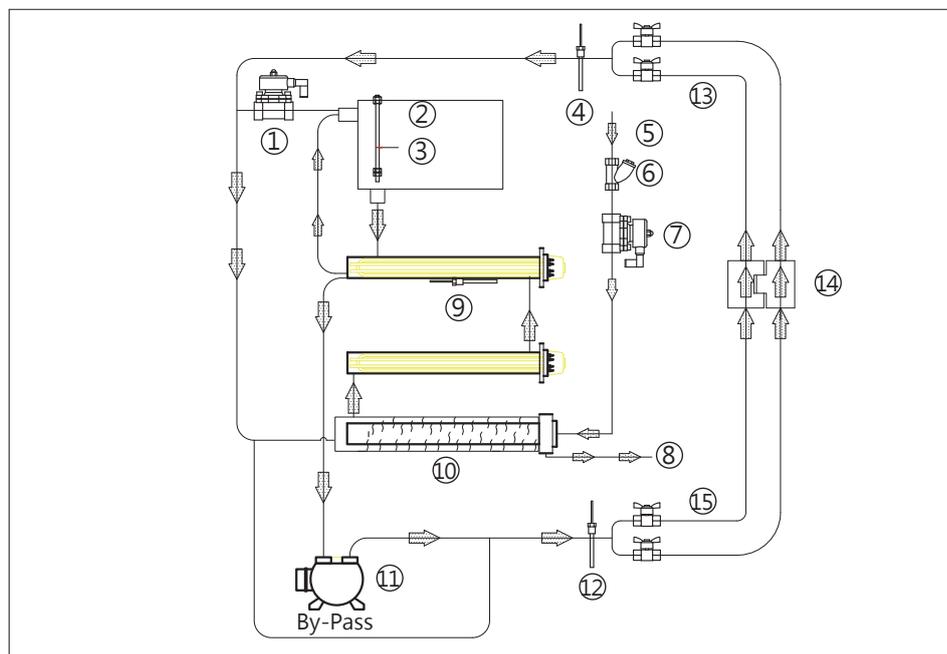
High temperature oil returns to the machine and then be pressure by pump to the heater. After being heated, oil will be forced to mold and continue the circle. In the process, if the oil temperature is too high, the system will activate the solenoid valve to let cooling water cool down the temperature directly until the temperature is

down to the system requirement. If the temperature keeps increasing and reaches to the set point of ultra high temperature, system will sound high pressure alarm and stop operation. When oil level is lower than standard value, oil level switch will send a signal of oil storage to launch low pressure alarm and machine stops.



FMC-H Standard Type System Flow

- ① Oil drain port
- ② Thermocouple
- ③ Pressure gauge
- ④ Oil level switch
- ⑤ Bali valve
- ⑥ Oil tank
- ⑦ Pump
- ⑧ Solenoid valve
- ⑨ Filter
- ⑩ Cooling water outlet
- ⑪ Heat exchanger
- ⑫ Cooling water inlet
- ⑬ Filter
- ⑭ Hot media in
- ⑮ Mold
- ⑯ Hot media out

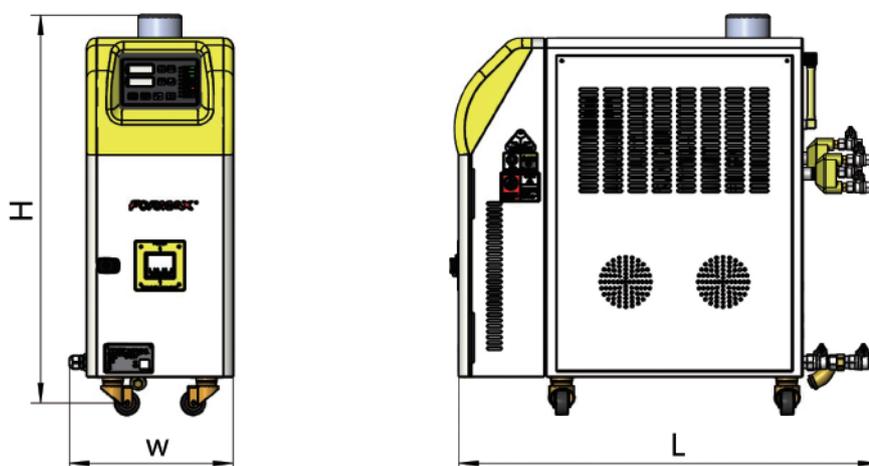


FMC-32HT High Temperature System Flow

- ① Solenoid valve
- ② Oil tank
- ③ Oil level switch
- ④ Thermocouple
- ⑤ Cooling water inlet
- ⑥ Filter
- ⑦ Solenoid valve
- ⑧ Cooling water outlet
- ⑨ Overheat protection
- ⑩ probe
- ⑪ Cooler
- ⑫ Pump
- ⑬ Thermocouple
- ⑭ Hot media out
- ⑮ Mold
- Hot media in

■ Outline Drawings

FMC-H



■ Specifications

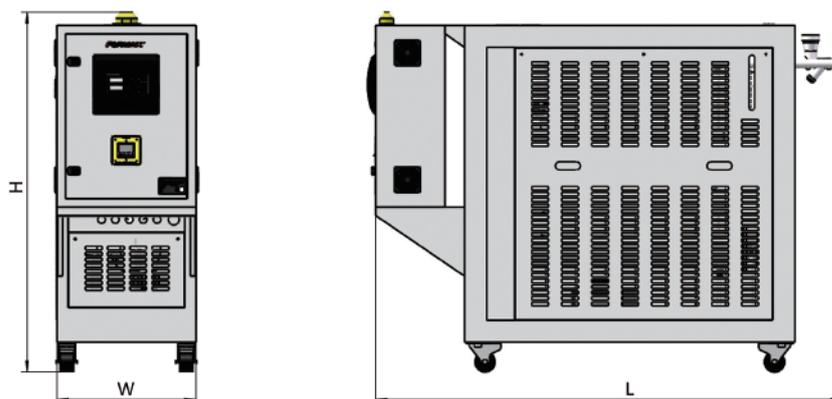
Model	FMC-	605H	910H	1210H	1820H	2430H	3650H
Temperature Range	°C	50 ~ 200°C					
Media		Thermal oil					
Heater	kW	6	9	12	9x2	12x2	12x3
Tank Capacity		6		8	10		15
Cooling Way		Indirect cooling					
Temperature Control	Kcal/hr	7200	9000	9500	12000	2500	35000
Pump	Type	Gear pump				Vortex pump	
	Power(Kw)	0.37	0.75		1.5	2.2	3.75
	Max. pressure (Kg/cm ²)	2.8	3.8	5.2	6.5	2.6	3.8
	Max. output (Ltr/min)	42	56	45	80	315	367
Total Power	kW	6.37	9.75	12.75	19.5	26.2	39.75
Cooling Water Pipe	Inch/set	1/2"PT					
★ Splitter and Connector	Inch/set	3/8"PT-2 inlet 2 outlet		3/8"PT-4 inlet 4 outlet	3/8"PT-6 inlet 6 outlet	3/8"PT-8 inlet 8 outlet	
★ Teflon Hose	Inch/set	3/8"-2.5Mx4		3/8"-2.5Mx8	3/8"-2.5Mx12	3/8"-2.5Mx16	
★ Oil Attached with the Machine	Ltr	15		20		25	
Dimension(LxWxH)	mm	740*300*650		710*300*830	790*350*860		940*450*860
Weight	KG	50		55	65	80	90

- Note: 1) To ensure the stability of the heating temperature, the working pressure of cooling water neither lower 2bar nor exceed 5 bar
 2) Pump testing standard : power of 50/60 Hz, purified water at 20°C(There is ±10% tolerance for either max. flowrate, or max. pressure)
 3) Power supply : 3Ø , 400VAC , 50Hz
 4) ★ Stands for options

Specifications are subject to change without prior notice.

■ Outline Drawings

FMC-HT32



■ Specifications

Modle	FMC	1805HT32	3015HT32	4040HT32	1805HT32D	3015HT32D	4040HT32D
Power Supply	V	AC220~460V, 3P 50/60HZ					
Temperature Range	°C	45 ~ 320°C					
Temperature Control	°C	PID±1°C					
Media		Thermal conductive oil (HT oil , Monsanto :T 66)					
Heater	kW	9x2	15x2	20x2	18+18	30+30	40+40
Tank Capacity	Ltr	25	25	30	42	42	50
Cooling Way		Indirect cooling					
Cooling Capacity	KW	30	30	40	30+30	30+30	40+40
Pump	Power(Kw)	0.55	1.1	3	0.55x2	1.1x2	3x2
	Max. pressure (Kg/cm ²)	5	5.5	5.2	5+5	5.5+5.5	5.2+5.2
	Max. output (Ltr/min)	20	40	60	20+20	40+40	60+60
Total Power	kW	19	31	43	38	62	86
Special Function		Pump reverses oil					
Alarm Function		Default phase / Lack of oil / Overload / Oil outflow / Abnormal heating					
Min. Water Pressure	Kg/cm ²	2					
Cooling Water Pipe	Inch/set	1/2 "PT			3/4"PT		
Media Pipe	Inch/set	3/4"-1 inlet 1 outlet		1"-1 inlet 1 outlet	3/4"-1 inlet 1 outlet x 2		1"-1 inlet 1outlet x 2
Dimension(LxWxH)	mm	1400x500x1150		1650x550x1250	1380x650x1400		1500x650x1500
Weight	KG	130	170	240	210	280	380

Notes: 1) FMC-HT stands for high temperature model, "D" stands for dual-heating zone
 2) Pump testing standard : purified water at 20°C as normal speed transportation
 (There is ±10% tolerance for vertical , flowrate, and function)

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