

# JUSTTHERMO series

## GUIDE of KAWATA



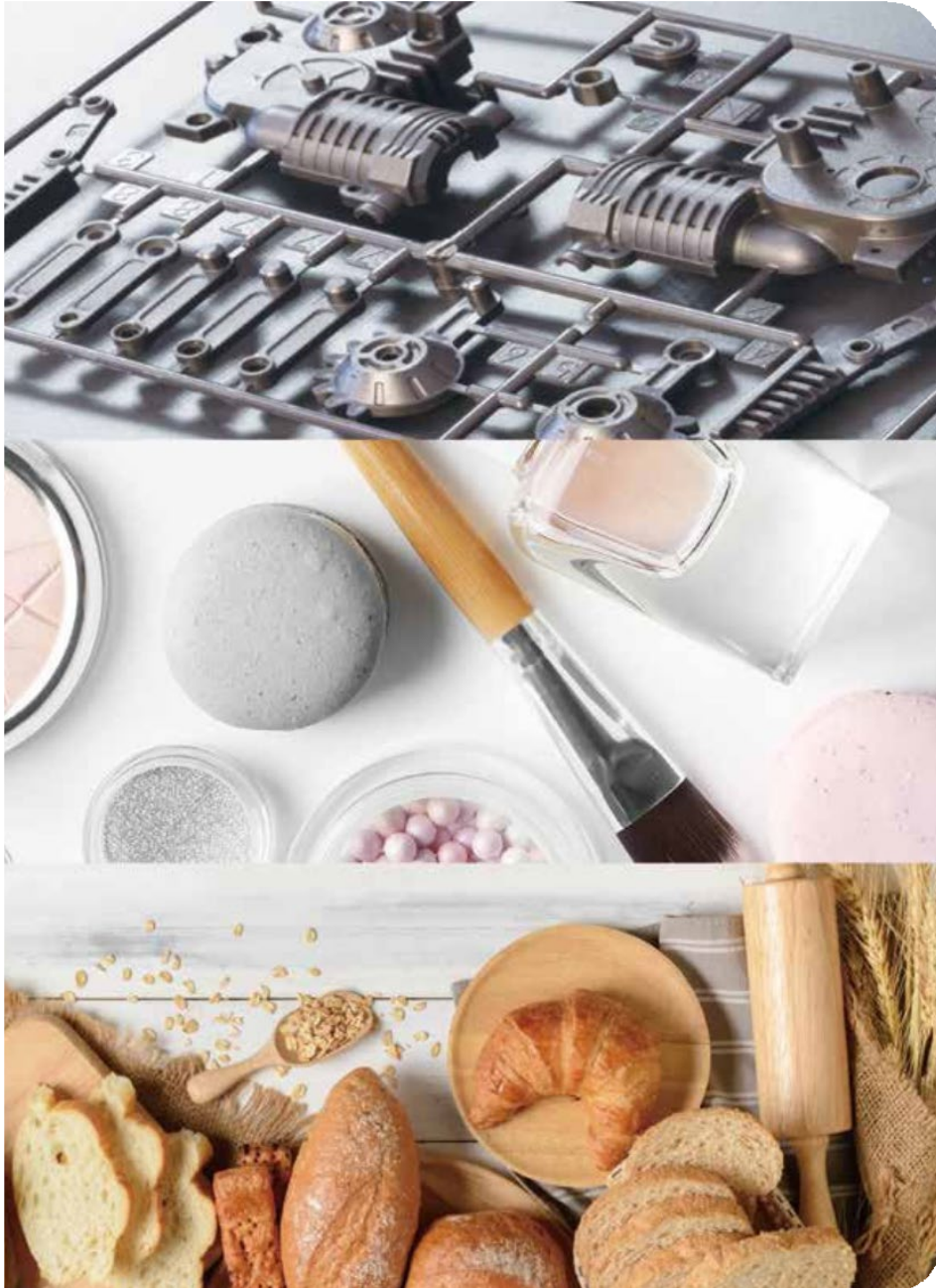
Kawata Heat Medium Circulation Temperature  
Controller Series Catalog

# JUSTTHERMOseries

Sales in over 40 countries.

High quality, detailed temperature control and stable temperature control.





Medium : Fresh water

High Pressurre type

**TW/95**<sub>series</sub>

Low Pressurre type

**TW/95-L**<sub>series</sub>

Medium : Fresh water

High Pressurre type

**TW/120**<sub>series</sub>

Medium : Fresh water

High Pressure type

Large flow type

**KCT/200**<sub>series</sub>

**KCT/350**<sub>series</sub>

**KCT/600**<sub>series</sub>

Medium : Fresh water

High Pressure type

High Temperature,

**TW/160-180**<sub>series</sub>

Medium : Fresh water

High Pressurre type

**TW/95-K**<sub>series</sub>

**TW/160-K**<sub>series</sub>

Medium : Oil

High Temperature type

**KCO/160**<sub>series</sub>

**KCO/200**<sub>series</sub>

**KCO/250**<sub>series</sub>

**KCO/300-320**<sub>series</sub>

Medium : Fresh water

Medium : Oil

Heating Medium : Steam

**TES**<sub>system</sub>

You can choose model by the medium,temp,and flow rate.

## Heating Medium Circulation Temperature Controller Selection Guide

### Heating Medium : Water

Model		Low Pressure type	High Pressure type		High Temperature, High Pressure type	
Max.Temperature		95℃	95℃	120℃	160℃	180℃
Max.Flow (L/min)  * Max. Flow Shows the Rates at 50Hz/60Hz.  For Injection machine (Estimated)	20/20		TW-75/95			
	31/39			TW-75/120		
	55/55				TW-5006/160 TW-5009/160 TW-5006/160-K TW-5009/160-K	TW-5006/180 TW-5009/180
	72/86	TW-200/95-L	TW-200/95 TW-200/95-K			
	75/89			TW-200/120 TW-400/120		
	85/85				TW-8006/160 TW-8009/160	
	105/126	TW-600/95-L	TW-600/95			
	140/165			TW-600/120		
	175/150				TW-10012/160	
	200/240			TW-1200/120 KCT-20020C/120 KCT-20030/120		
	250/265	TW-1200/95-L	TW-1200/95			
	Large Flow type	367/433		KCT-35012/120 KCT-35020/120 KCT-35030/120 KCT-35040/120		
		600/700		KCT-60020/120 KCT-60030/120 KCT-60040/120		

### Heating Medium : Water

Model		JUSTTHERMO (Water Cooled)			
Max.Temperature		95℃	120℃	160℃	180℃
Clamping Force	~75t	TW-75/95	TW-75/120	TW-5006/160 TW-5006/160-K	TW-5006/180 TW-5009/180
	~200t	TW-200/95 TW-200/95-K	TW-200/120		
	~400t	TW-600/95	TW-400/120	TW-5009/160 TW-5009/160-K TW-8006/160 TW-8009/160 TW-10012/160	
	~600t		TW-600/120		
	~1200t	TW-1200/95	TW-1200/120		

Model		High Temperature type				
Max.Temperature		160℃	200℃	250℃	300℃	320℃
Max.Flow (L/min)	33/39	KCO-2003/160				
	54/60	KCO-4006/160				
	55/55		KCO-4006N/200	KCO-4012N/250 KCO-4018N/250	KCO-4018N/300	
	64/72	KCO-6009/160				
	135/135		KCO-13509N/200			
	150/150			KCO-15012N/250 KCO-15018N/250	KCO-15018N/300 KCO-15026N/300	
	250/250			KCO-25015/250 KCO-25027/250		KCO-25018N/320
	350/350					KCO-35026N/320 KCO-35039N/320
	400/500			KCO-40018/250 KCO-40027/250		

\*Max. Flow Shows the Rates at 50Hz/60Hz.

\*Heater 50kW or more is available, too.

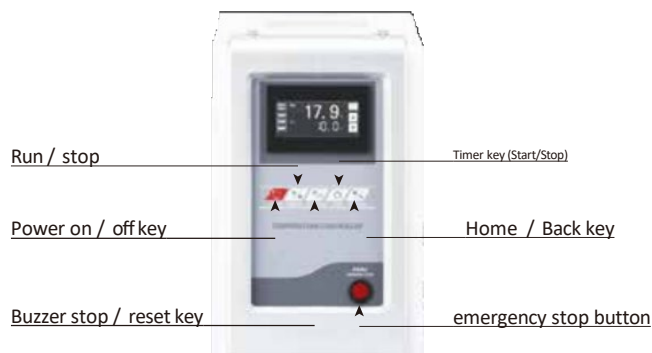
## Heating Medium : Oil

Model		JUSTTHERMO (Water Cooled)				
Max.Temperature (Max.)		160℃	200℃	250℃	300℃	320℃
Clamping Force	~75t	KCO-2003/160	KCO-4006N/200	KCO-4012N/250 KCO-4018N/250	KCO-4018N/300	KCO-25018N/320 KCO-35026N/320 KCO-35039N/320
	~200t	KCO-4006/160				
	~400t	KCO-6009/160	KCO-13509N/200	KCO-15012N/250 KCO-15018N/250	KCO-15018N/300 KCO-15026N/300	
Large Flow type				KCO-25015/250 KCO-25027/250 KCO-40018/250 KCO-40027/250		

## New JUSTTHERMO

Newly adopted LCD touch panel.

Easy to use, easy to see, and answers to customer's



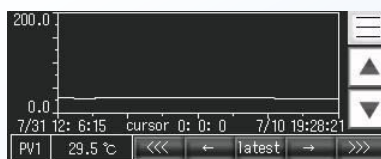
### Fulfilling standard features

#### LCD touch panel operation



Touch the SP1 section displayed on the panel!  
Set temperature can be entered or changed!

#### Trend graph display



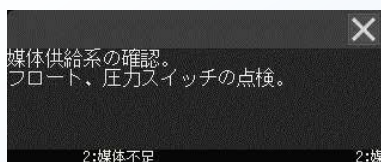
Medium temperature graph display is available!  
(Pressure, flow rate, and power can be displayed as separate options)

#### Alarm/setting change history display



Display 20 alarms history  
Date, time, alarm number, and description are displayed.

#### Alarm contents display



Press the help button to see how to respond to alarms.

#### Ten-key display

Global language display (Japanese, English, Chinese)

#### Weekly timer

Alarm contents display

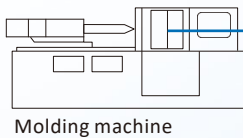


Green screen during operation, red screen when alarm occurs

Multi-functional and easy to operate screen.

#### MODBUS/SPI communication

MODBUS/SPI communication standard equipped for temperature control and alarm operation/confirmation Easy to introduce for IoT/smart factory!



Molding machine



Centralized management

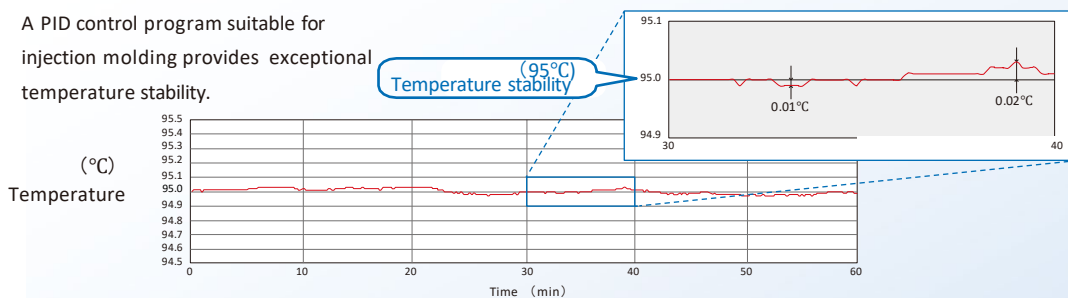


JUSTTHERMO

\*Communication cable is not included. \*Settings are required on the molding machine and software side.

#### Temperature stability

A PID control program suitable for injection molding provides exceptional temperature stability.



#### Options

Ethernet communication, Analog interface, Object temperature control, Cascade temperature control, Data logging function



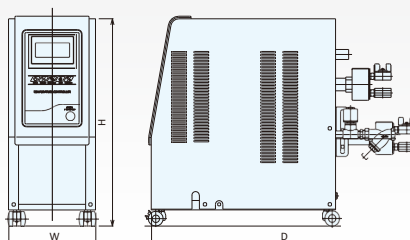
# JUSTTHERMO TW/95series

Medium : Fresh water

Temperature : Max95°C



## Dimensions

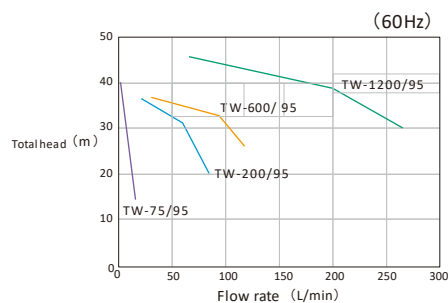
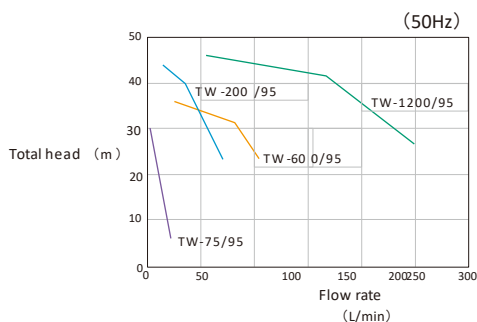


## Dimensions

Model	TW-75/95	TW-200/95	TW-600/95	TW-1200/95
W	235	235	235	300
D	(600)	(711)	(726)	(840)
H	514	559	670	850
Weight (kg)	40	60	70	110

## ■ High-Pressure Large-Flow Pump

### Pump Curve



## Standard

Display in 0.1°C increments

Temperature sensor Pt100Ω

SSC for heater control

Remote operation (No-voltage contact or open collector)

Operational output (including Out terminal) [Relay contact 250V 1.0A max.]

Alarm output (including Out terminal) [Relay contact 250V 1.0A max.]

Emergency stop

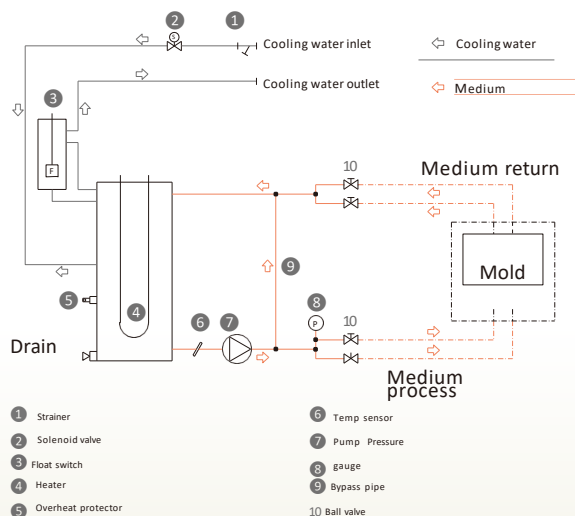
Run/Stop timer (to set run and stop time)

Maintenance alarm (to indicate when maintenance is needed) Alarm log

Stop after cooling time

Pressure gauge (Glycerin filled)[TW-75/95,200/95,600/95]

## Flow sheet





# Specifications

Model				TW -75/95				TW-200/95				TW -600/95				TW -1200/95							
Medium				Fresh water																			
Temperature (°C)				Max.95																			
Control Method				PID control																			
Heater	Capacity (kW)			3				6				9				12							
	Control			SSC Drive																			
Pump	Seal Method			Mechanical seal																			
	Motor Capacity (kW) (50/60Hz)			0.15/0.25				0.74/0.74				1.27/1.28				2.3/2.2							
	Max. Pressure (MPa) (50/60Hz) Notes : 2			0.3/0.4				0.44/0.38				0.36/0.38				0.48/0.46							
	Max. Flow (L/min) (50/60Hz)			20/20				72/86				105/126				250/265							
	Performance	50Hz	Flow Rate (L/min)	2	10	20	17	35	72	27	78	105	55	167	250								
			Total Head (m)	30	22	7	44	40	23	36	31	23	48	41	26								
60Hz		Flow Rate (L/min)	2	10	20	20	62	86	32	94	126	66	200	265									
		Total Head (m)	40	30	16	38	30	20	38	33	25	46	39	30									
Cooling Method				Direct cooling																			
Cooling Capacity			* (kW)	Δt=60°C * 1				6.2				17.9				25.6				38.4			
			Δt=30°C * 2				2.3				7.3				10.8				15.1				
Pipe Size	Circulation Line	(Accessories Branch Pipe)		10A (3/8B)				25A(1B)				25A(1B)				40A(1 1/2B)							
				8A (1/4B)×2 directions				10A (3/8B)×2 directions				10A (3/8B)×4 directions				15A (1/2B)×4 directions							
	Cooling Line		10A (3/8B)				15A (1/2B)																
Alarm				Reverse phase, Medium shortage, Pump overload, Temp. upper limit and lower limit																			
Accessories				Power cable 5m																			
Painting Color				JMPA KN93,semigloss																			
Weight(kg)				40				60				70				110							
Utility	Power Supply			3 phase AC200V 50/60Hz AC220V 60Hz																			
	Power Demand (kVA)			6.2				7.9				12.0				16.2							
	Main Breaker (AT)			20				30				40				60							
	Compressed Air (L/min ( ) ANR ( ) 0.4~0.7MPa)			Approximately 0.5Nm³ Proper amount for Air purge (op)																			
	Cooling water (L/min) Water Pressure (0.1~0.3MPa) Notes : 1			5 or more				15 or more				25 or more				45 or more							

\* The value of cooling capacity mentioned here is for practical use.

\* Designed for use with 50 or 60 Hz (TW-75/95 : usable by changing thermal settings)

\* 1. Cooling water pressure is 0.3 MPa when the difference between medium temperature and cooling water inlet temperature is 60°C.

\* 2. Cooling water pressure is 0.2 MPa when the difference between medium temperature and cooling water inlet temperature is 30°C.

Notes : 1. For the management of water quality, refer to the water quality standards of the Japan Refrigeration and Air Conditioning Industry Association. Please use water with electric conductivity (25 °C) 5 to 80 mS / m (50 to 800 μS / cm). Notes : 2. Please use connection hose which withstand the temperature above maximum and the pressure above the maximum 0.5 MPa.

For options, see the list on page p24 and 25.

# JUSTTHERMO

## TW/95-Lseries

Medium : Fresh water

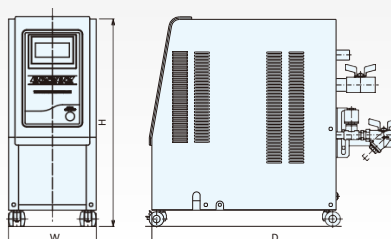
Temperature : Max95°C

Low Pressure type

Jacket temp controller



Dimensions

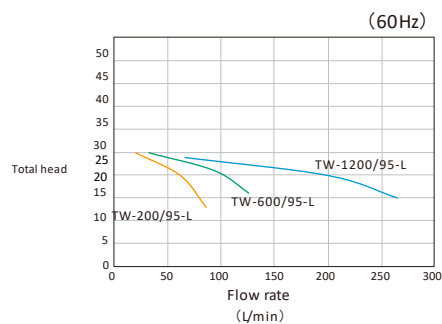
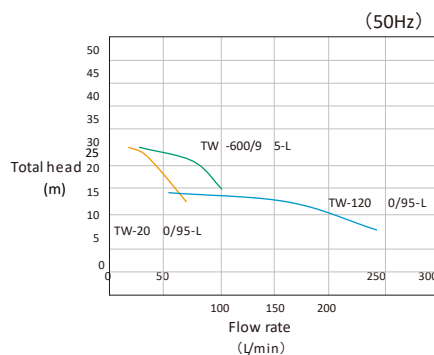


Dimensions

Model	TW-200/95-L	TW-600/95-L	TW-1200/95-L
W	235	235	300
D	(633)	(722)	(815)
H	559	670	850
Weight(kg)	60	70	100

### High-Pressure Large-Flow Pump

Pump Curve



### Standard

Display in 0.1°C increments

Temperature sensor Pt100Ω

SSC for heater control

Remote operation (No-voltage contact or open collector)

Operational output (including Out terminal) [Relay contact

250V 1.0A max.] Alarm output (including Out terminal) [

Relay contact 250V 1.0A max.] Emergency stop

Run/Stop timer (to set run and stop time)

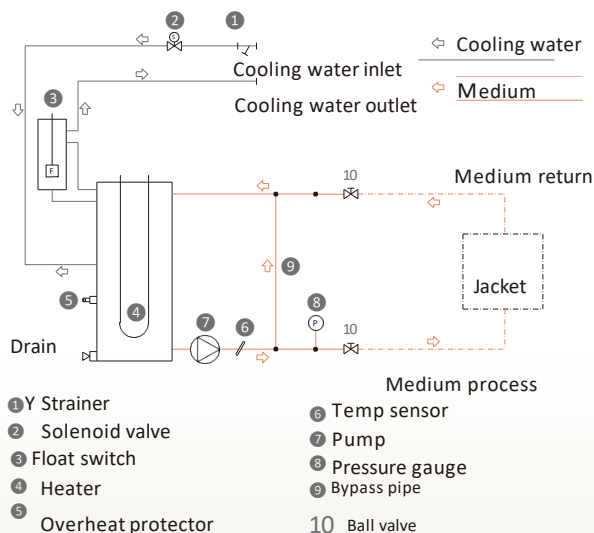
Maintenance alarm (to indicate when

maintenance is needed) Alarm log

Stop after cooling time

Pressure gauge (Glycerin filled)[TW-75/95,200/95,600/95]

Flow sheet



## JUSTTHERMO series GUIDE of KAWATA

Specifications

L-series

Model		TW-200/95-L			TW-600/95-L			TW-1200/95-L					
Medium		Fresh water											
Temperature (°C)		Max.95											
Control Method		PID control											
Capacity (kW)		6			9			12					
Heater	Control		SSC Drive										
	Seal Method		Mechanical seal										
Motor Capacity (kW) (50/60Hz)		0.43/0.43			0.74/0.74			0.74/1.28					
Max. Pressure (MPa) (50/60Hz) 注) 2		0.26/0.25			0.26/0.25			0.16/0.24					
Max. Flow (L/min) (50/60Hz)		72/86			105/126			250/265					
Pump	Performance	50Hz	Flow Rate (L/min)		17	35	72	27	78	105	55	167	250
			Total Head (m)		26	24	14	26	23	17	16	14	8
		60Hz	Flow Rate (L/min)		20	62	86	32	94	126	66	200	265
			Total Head (m)		25	20	13	25	21	16	24	20	15
	Cooling Method	Direct cooling											
		* (kW)		Δt=60°C * 1			17.9			25.6			38.4
Cooling Capacity		Δt=30°C * 2		7.3			10.8			15.3			
Pipe Size	Circulation Line		25A(1B)			25A(1B)			40A(11/2B)				
Alarm	Cooling Line		15A(1/2B)										
Accessories		Reverse phase, Medium shortage, Pump overload, Temp. upper limit and lower limit											
Painting Color		Power cable 5m											
Weight (kg)		JMPA KN93,semigloss											
		60			70			100					
		Note) Un attached : hose & branch pipe (option)											
Utility	Power Supply		3 phase AC200V 50/60Hz AC220V 60Hz										
	Power Demand (kVA)		7.3			11.2			15.3				
	Main Breaker (AT)		30			40			50				
	Compressed Air (L/min ( ) ANR ( ) 0.4~0.7MPa)		Approximately 0.5Nm³ Proper amount for Air purge (op)										
	Cooling Water (L/min)												
Water Pressure (0.1~0.3MPa) Notes : 1		15 or more			25 or more			45 or more					

\* The value of cooling capacity mentioned here is for practical use.

\* 1. Cooling water pressure is 0.3 MPa when the difference between medium temperature and cooling water inlet temperature is 60°C.

\* 2. Cooling water pressure is 0.2 MPa when the difference between medium temperature and cooling water inlet temperature is 30°C.

Notes : 1. For the management of water quality, refer to the water quality standards of the Japan Refrigeration and Air Conditioning Industry Association. Please use water with electric conductivity (25 °C) 5 to 80 mS / m (50 to 800 μS / cm). Notes : 2. Please use connection hose which withstand the temperature above maximum and the pressure above the maximum 0.3 MPa.

For options, see the list on page p24 and 25.

# JUSTTHERMO TW/120series

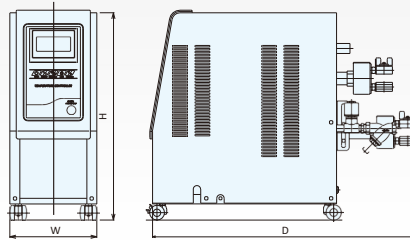
Medium : Fresh water

Temperature : Max120°C

TW/120series



## Dimensions

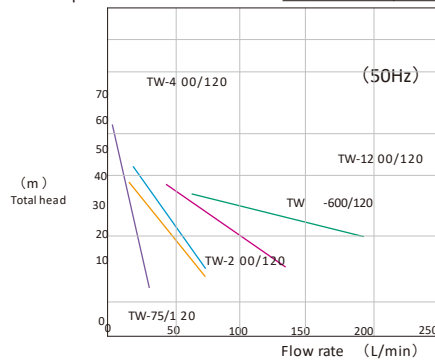


Dimension

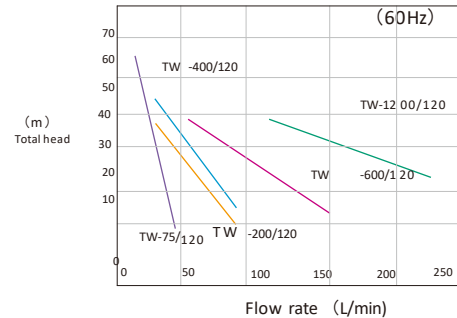
Model	TW-75/120	TW-200/120	TW-400/120	TW-600/120	TW-1200/120
W	235	245	245	245	300
D	(566)	(821)	(821)	(821)	(968)
H	530	630	750	800	870
Weight (kg)	40	70	85	90	130

High-Pressure Large-Flow Pump

Pump Curve

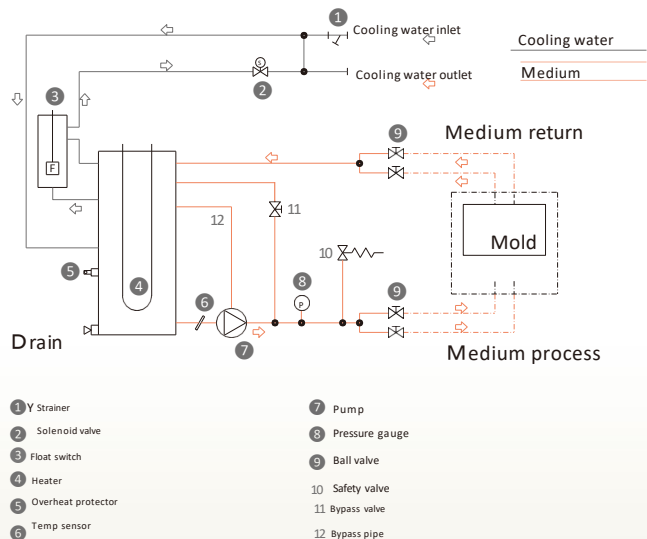


Flow sheet



## Standard

Display in 0.1°C  
increments Temperature  
sensor Pt100Ω SSC for  
heater control  
Remote operation (No-voltage contact or open collector)  
Operational output (including Out terminal) [Relay  
contact 250V 1.0A max.] Alarm output (including Out  
terminal) [Relay contact 250V 1.0A max.] Emergency  
stop  
Run/Stop timer (to set run and stop  
time) Auto depressurization  
Maintenance alarm (to indicate when  
maintenance is needed) Pressure gauge  
(Glycerin filled)  
Resin float switch  
Alarm log  
Stop after cooling time



# Specifications

## JUSTTHERMO series GUIDE of KAWATA

Model				TW-75/120		TW-200/120		TW-400/120		TW-600/120		TW-1200/120	
Medium				Fresh water									
Temperature (°C)				Max.120									
Control Method				3		6		PID control		9		12	
Capacity (kW)				9									
Heater				SSC Drive									
Control				Mechanical Seal									
Seal Method													
Motor Capacity (kW) (50/60Hz)				0.47/0.53		0.55/0.75		0.75/1.1		1.1/1.5		1.5/2.2	
Max. Pressure (MPa) (50/60Hz) NOTE				0.6/0.54		0.43/0.45		0.46/0.5		0.44/0.47		0.4/0.44	
Max. Flow (L/min) (50/60Hz)				31/39		75/89		75/89		140/165		200/240	
	Performance	50Hz	Flow Rate (L/min)	3	31	20	75	20	75	42	140	84	200
			Total Head (m)	60	10	43	16	46	16	44	19	40	26
		60Hz	Flow Rate (L/min)	11	39	24	89	24	89	50	165	100	240
			Total Head (m)	54	10	45	18	50	16	47	21	44	28
Cooling Method				Direct cooling									
* (kW)			Δt=60°C * 1	6.2		17.9		25.6		25.6		38.4	
Cooling Capacity			Δt=30°C * 2	2.3		7.3		10.8		10.8		15.1	
Pipe Size	Circulation Line	Accessories		15A (1/2B)		25A (1B)		25A (1B)		25A (1B)		40A (1 1/2B)	
		Branch Pipe)		8A (1/4B)×2 directions 10A directions		(3/8B)×2 directions 10A		(3/8B)×4 directions		10A(3/8B)×4 directions		15A (1/2B)×4	
	Cooling Line		10A (3/8B)		15A (1/2B)								
Alarm				Reverse phase, Medium shortage, Pump overload, Temp. upper limit and lower limit									
Accessories				Power cable 5m									
Painting Color				JMPA KN93,semigloss									
Weight (kg)				40		70		85		90		130	

Utility	Power Supply	3 phase AC200V 50/60Hz AC220V 60Hz					
	Power Demand (kVA)	4.2	7.7	11.5	11.9	16.2	
	Main Breaker (AT)	15	30	40	40	50	
	Compressed Air (L/min ( ) ANR ( ) 0.4~0.7MPa)	Approximately0.5Nm <sup>3</sup> Proper amount for Air purge (op)					
	Note:1 Water Pressure (0.1~0.3MPa)	5 or more	15 or more	25 or more	25 or more	45 or more	

\* The value of cooling capacity mentioned here is for practical use.

\* Designed for use with 50 or 60 Hz (TW-75/120 : usable by changing thermal settings)

\* 1. Cooling water pressure is 0.3 MPa when the difference between medium temperature and cooling water inlet temperature is 60°C.

\* 2. Cooling water pressure is 0.2 MPa when the difference between medium temperature and cooling water inlet temperature is 30°C.

Notes : 1. For the management of water quality, refer to the water quality standards of the Japan Refrigeration and Air Conditioning Industry Association. Please use water with electric conductivity (25 °C) 5 to 80 mS / m (50 to 800 μS / cm). Notes : 2. Please use connection hose which withstand the temperature above maximum and the pressure above the maximum 1.0 MPa.

# DYNATHERM KCT/200series

Large flow 200L/min type

Medium : Fresh water

Temperature : Max120°C

KCT/200series

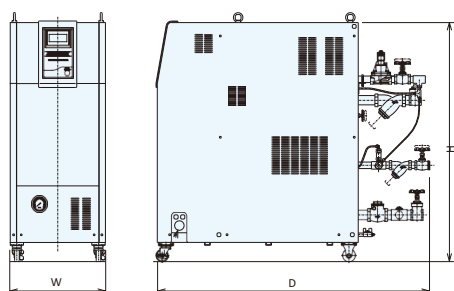


KCT series are large flow rate type for the mold temperature controllers. High performance pump enables stable temperature control for the heat exchange object. Heat-up time can be shortened significantly by highly efficient temperature elevation mechanism. Flow rate and Heater capacity can be selected to meet individual needs of customers.

Precision molding can be raised resulting in better quality of molded products.

Applications: Molds, roll, jacket, barrel, geared pump, etc.

## Dimensions

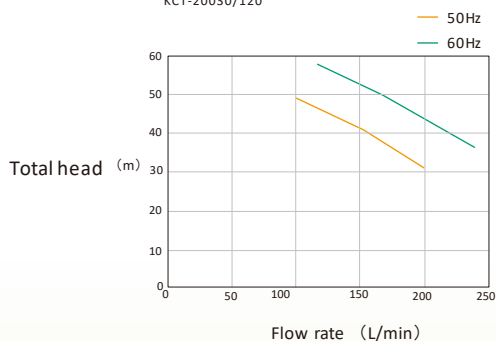


## Dimensions

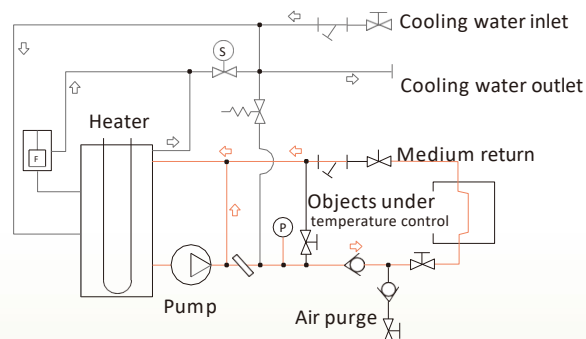
Model	KCT-20020C/120	KCT-20030/120
W	300	500
D	(1108)	(1423)
H	1000	1250
Weight (kg)	130	170

## Pump Curve

KCT-20020C/120  
KCT-20030/120



## Flow sheet



# JUSTTHERMO series GUIDE of KAWATA

## Specifications

Model				KCT-20020C/120				KCT-20030/120					
Medium				Fresh water									
Temperature (°C)				Max.120									
Control Method				PID control									
Heater		Capacity (kW)		20				30					
Pump		Seal Method		Mechanical seal									
		Motor Capacity (kW) (50/60Hz)		2.2/3.0 High-efficiency motor									
		Max. Pressure (MPa) (50/60Hz)		0.51/0.6									
		Max. Flow (L/min) (50/60Hz)		200/240									
		Performance	50Hz	Flow Rate (L/min)		84		200		84		200	
				Total Head (m)		51		33		51		33	
			60Hz	Flow Rate (L/min)		100		240		100		240	
				Total Head (m)		60		39		60		39	
* (kW)			Δt=60°C *1		207								
Cooling Capacity			Δt=30°C *2		112								
		Circulation Line		40A Gate valve									
		Cooling Line		25A Globe valve									
Alarm				Reverse Phase, Medium short, Pump overload, Temp. over, Temp. low									
Accessories				NONE									
PaintingColor				Nittoko S4-389									
Weight (kg)				130				170					
Utility		Power Supply		AC200V 50/60Hz・AC220V 60Hz 3φ 3W									
		Power Demand (kVA)		25.9				36.9					
		Main Breaker (AT)		100				125					
		Compressed Air (L/min ( ) ANR ( ) 0.4~0.7MPa)		Approximately 0.5Nm <sup>3</sup>									
		Cooling water (L/min)		100									
		Water Pressure (0.1~0.3MPa) Notes :1											

\* 1. Cooling water pressure is 0.3 MPa when the difference between medium temperature and cooling water inlet temperature is 60°C.

\* 2. Cooling water pressure is 0.2 MPa when the difference between medium temperature and cooling water inlet temperature is 30°C.

Notes : 1. For the management of water quality, refer to the water quality standards of the Japan Refrigeration and Air Conditioning Industry Association. Please use water with electric conductivity (25 °C) 5 to 80 mS / m (50 to 800 μS / cm). Notes : 2. Please use connection hose which withstand the temperature above maximum and the pressure above the maximum 1.0 MPa.

### Options

Temp. control by the local temp. sensor, Electric leakage breaker, Local voltage (for 380/415V 50Hz), Heater SSC,

Pres. reduction valve for water supply, Low pres. type pump, Nominated-color, Display °F



# DYNATHERM

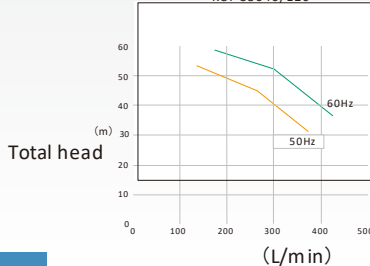
## KCT/350series

Large flow 350L/min type

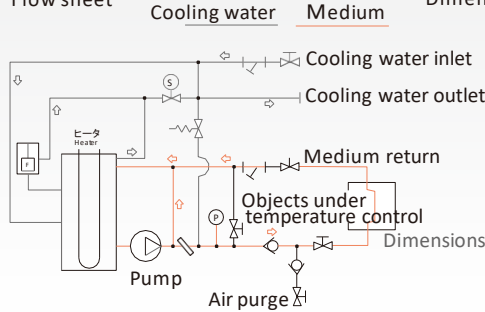
Medium : Fresh water

Temperature : Max120°C

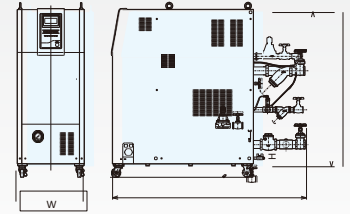
Pump Curve  
KCT-35012/120  
KCT-35020/120  
KCT-35030/120  
KCT-35040/120



Flow sheet



Dimensions



Model	KCT-35012/120	KCT-35020/120	KCT-35030/120	KCT-35040/120
W	500			
D	(1437)			
H	1250			
Weight (kg)	180	185	190	

Specifications

Flow rate

Model				KCT-35012/120		KCT-35020/120		KCT-35030/120		KCT-35040/120	
Medium				Fresh water							
Temperature (°C)				Max.120							
Control Method				PID control							
Heater	Capacity (kW)			12		20		30		40	
Pump	Seal Method			Mechanical seal							
	Motor Capacity (kW) (50/60Hz)			4.0/5.5 High-efficiency motor							
	Max. Pressure (MPa) (50/60Hz) Notes :2			0.54/0.57							
	Max. Flow (L/min) (50/60Hz)			367/433							
	Performance	50Hz	Flow Rate (L/min)	133	367	133	367	133	367	133	367
			Total Head (m)	54	34	54	34	54	34	54	34
		60Hz	Flow Rate (L/min)	167	433	167	433	167	433	167	433
			Total Head (m)	57	37	57	37	57	37	57	37
Cooling Method				Direct cooling							
* (kW) Cooling Capacity			Δt=60°C *1	207							
			Δt=30°C *2	112							
Pipe Size	Circulation Line			50A Gate valve							
	Cooling Line			25A Globe valve							
Alarm				Reverse Phase, Medium short, Pump overload, Temp. over, Temp. low							
Accessories				NONE							
Painting/Color				Nittoko S4-389							
Weight (kg)				180		180		185		190	
Utility	Power Supply			AC200V 50/60Hz • AC220V 60Hz 3 φ 3W							
	Power Demand (kVA)			20.0		28.8		39.8		50.8	
	Main Breaker (AT)			75		100		150		175	
	Compressed Air (L/min ( ) ANR ( ) 0.4~0.7MPa)			Approximately 0.5Nm³							
	Cooling Water (r L/min)			100							
	Water Pressure (0.1~0.3MPa) Notes :1										

\* The value of cooling capacity mentioned here is for practical use.

\* Cooling capacity varies depending on the cooling water pressure and temperature.

\* 1. Cooling water pressure is 0.3 MPa when the difference between medium temperature and cooling water inlet temperature is 60°C.

\* 2. Cooling water pressure is 0.2 MPa when the difference between medium temperature and cooling water inlet temperature is 30°C.

Notes : 1. For the management of water quality, refer to the water quality standards of the Japan Refrigeration and Air Conditioning Industry Association. Please use water with electric conductivity (25 °C) 5 to 80 mS / m (50 to 800 μS / cm).

Notes : 2. Please use connection hose which withstand the temperature above maximum and the pressure above the maximum 1.0 MPa.

Options

Temp. control by the local temp. sensor, Electric leakage breaker, Local voltage (for 380/415V 50Hz), Heater SSC, Pres. reduction valve for water supply, Low pres. type pump,

Nominated-color, Display \*F

# DYNATHERM

## KCT/600series

Large flow 600L/min type

Medium : Fresh water

Temperature : Max120°C

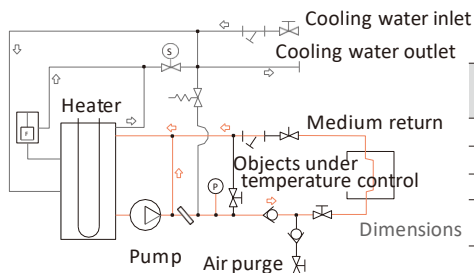
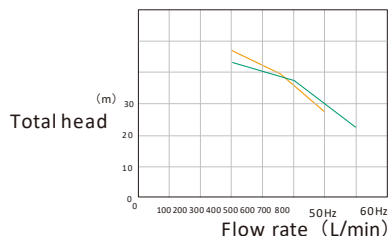
Pump Curve

KCT-60020/120  
KCT-60030/120  
KCT-60040/120

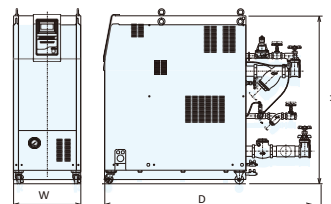
Flow sheet

Cooling water

Medium



Dimensions



Model	KCT-60020/120	KCT-60030/120	KCT-60040/120
W	500		
D	(1529)		
H	1250		
Weight (kg)	230	235	240

### Specifications

Model				KCT-60020/120				KCT-60030/120				KCT-60040/120			
Medium				Fresh water											
Temperature (°C)				Max.120											
Control Method				PID control											
Heater		Capacity (kW)		20				30				40			
Pump	Seal Method			Mechanical seal											
	Motor Capacity (kW) (50/60Hz)			5.5/5.5 High-efficiency motor											
	Max. Pressure (MPa) (50/60Hz) Notes :2			0.47/0.43											
	Max. Flow (L/min) (50/60Hz)			600/700											
	Performance		50Hz	Flow Rate (L/min)	300	450	600	300	450	600	300	450	600		
Total Head (m)				47	39	27	47	39	27	47	39	27			
60Hz			Flow Rate (L/min)	300	500	700	300	500	700	300	500	700			
			Total Head (m)	43	37	23	43	37	23	43	37	23			
Cooling Method				Direct cooling											
(kW)			Δt=60°C *1	207											
			Δt=30°C *2	112											
Pipe Size		Circulation Line		65A Gate valve											
		Cooling Line		25A Globe valve											
Alarm				Reverse Phase, Medium short, Pump overload, Temp. over, Temp. low											
Accessories				NONE											
Painting Color				Nittoko S4-389											
Weight (kg)				230				235				240			
Utility	Power Supply			AC200V 50/60Hz・AC220V 60Hz 3φ 3W											
	Power Demand (kVA)			28.8				39.8				50.8			
	Main Breaker (AT)			100				150				175			
	Compressed Air (L/min ( ) ANR ( ) 0.4~0.7MPa )			Approximately 0.5Nm³											
	Cooling water L/min) Water Pressure (0.1~0.3MPa) Notes :1			100											

\* The value of cooling capacity mentioned here is for practical use.

\* Cooling capacity varies depending on the cooling water pressure and temperature

\* 1. Cooling water pressure is 0.3 MPa when the difference between medium temperature and cooling water inlet temperature is 60°C.

\* 2. Cooling water pressure is 0.2 MPa when the difference between medium temperature and cooling water inlet temperature is 30°C.

Notes : 1. For the management of water quality, refer to the water quality standards of the Japan Refrigeration and Air Conditioning Industry Association. Please use water with electric conductivity (25 °C) 5 to 80 mS / m (50 to 800  $\mu\text{S}$  / cm).

Notes : 2. Please use connection hose which withstand the temperature above maximum and the pressure above the maximum 1.0 MPa.

### Options

Temp. control by the local temp. sensor, Electric leakage breaker, Local voltage (for 380/415V 50Hz), Heater SSC, Pres. reduction valve for water supply, Low pres. type pump, Nominated-color, Display °F

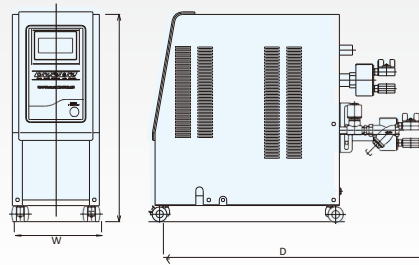
# JUSTTHERMO TW/160 - 180series

Medium : Fresh water

Temperature : Max160 ° 180°C



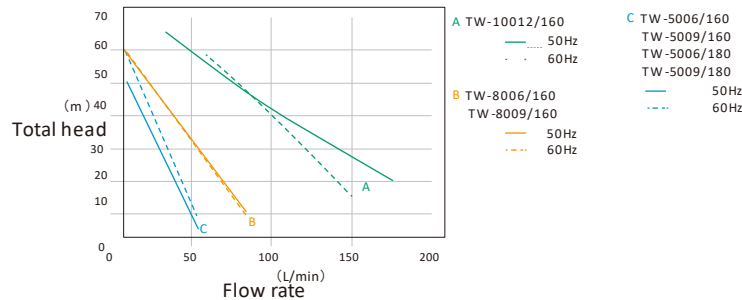
Dimensions



Dimensions

Model	TW-5006/160	TW-5009/160	TW-8006/160 TW-8009/160	TW-10012/160	TW-5006/180	TW-5009/180
W	200	350	350	350	200	400
D	(751)	(919)	(967)	(1164)	(801)	(932)
H	541	745	745	720	700	745
Weight (kg)	65	100	100	150	85	115

Pump Curve



## Standard

Display in 0.1°C

increments

Temperature

sensor Pt100Ω

SSC for heater

control

Remote operation (No-voltage contact or open collector)

Operational output (including Out terminal)(Relay contact 250V 1.0A max.) Alarm output (including Out terminal)(Relay contact 250V 1.0A max.) Emergency stop

Run/Stop timer (to set run and stop time) Auto depressurization

Maintenance alarm

Pressure gauge

(Glycerin filled) Air

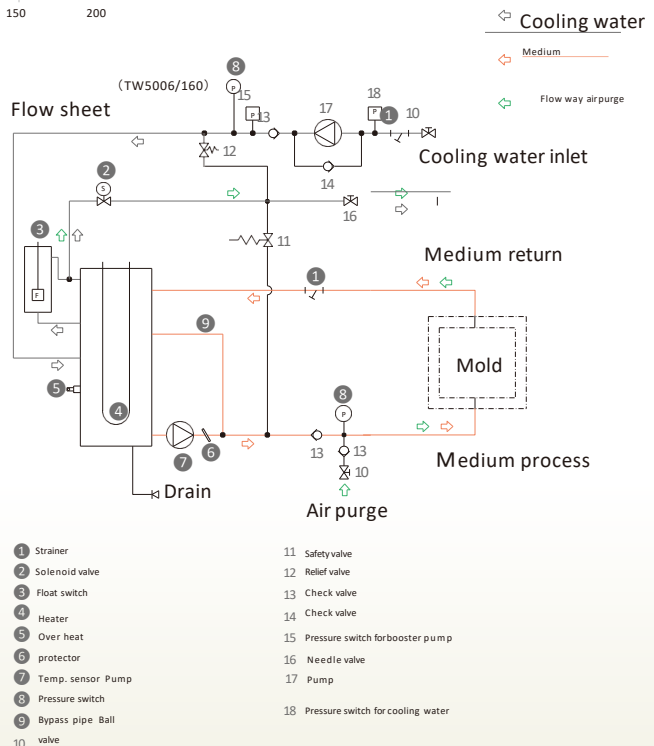
purge

Weekly timer

(Parameter setting)

Alarm log

Stop after cooling time



# Specifications

Model		TW-5006/160		TW-5009/160		TW-8006/160		TW-8009/160		TW-10012/160		TW-5006/180		TW-5009/180				
		<Built-in booster pump>																
Medium		Fresh water																
Temperature (°C)		Max.160										Max.180						
Control Method		PID control																
Heater	Capacity (kW)		6		9		6		9		12 (6× 2)		6		9			
	Control		SSC Drive															
Pump	Seal Method		Seal less															
	Motor Capacity (kW ( ) 50/60Hz)		1.0/1.1				1.5/1.5				3.5/4.0				1.0/1.1			
	Max. Pressure (MPa ( ) 50/60Hz) Notes : 2		0.5/0.6				0.6/0.6				0.65/0.58				0.5/0.6			
	Max. Flow ( L/min ( ) 50/60Hz)		55/55				85/85				175/150				55/55			
	Performance	50Hz	Flow Rate (L/min)		10	30	55	9	40	85	35	100	175	10	30	55		
			Total Head (m)		50	30	5	60	40	10	65	42	20	50	30	5		
		60Hz	Flow Rate (L/min)		10	30	55	9	40	85	60	100	150	10	30	55		
			Total Head (m)		60	37	10	60	40	10	58	40	15	60	37	10		
Booster Pump Motor Capacity (kW ( ) 50/60Hz)		0.055								0.055×2		1.0/1.1						
Cooling Method		Direct cooling																
* Cooling Capacity (kW ( ) Δt=30°C) *1		7.3																
Pipe Size	Circulation Line		20A (3/4B)×1 unit		15A (1/2B)×1 unit		20A (3/4B)×1 unit		32A (1 1/4B)×1 unit		15A (1/2B)×1 unit							
	Cooling Line		15A (1/2B)											20A(3/4B)				
Alarm		Reverse phase, Medium shortage, Pump overload, Temp. upper limit and lower limit, Booster pressure shortage, Booster overload																
Accessories		Power cable 5m																
Painting Color		JMPA KN93,semigloss																
Weight ( kg)		65		100				150		85		115						

Utility	Power Supply		3 phase AC200V 50/60Hz AC220V 60Hz													
	Power Demand (kVA)		8.3		11.5		8.9		12.1		19.3		10.1		13.4	
	Main Breaker (AT)		30		40		30		40		60		30		50	
	Compressed Air		Manual (Air connection:10A) Approx. 0.5 Nm³													
	(L/min ( ) ANR ( ) 0.4~0.7MPa															
	Cooling Water (L/min)		15 or more										15 or more			
Water Pressure (MPa) Notes:1		0.2~0.7										0.25~0.4				

\* The value of cooling capacity mentioned here is for practical use.

\* Designed for use with 50 or 60 Hz (TW-5006/160 & 5009/160 : usable by changing thermal settings)

\* 1. Cooling water pressure is 0.2 MPa when the difference between medium temperature and cooling water inlet temperature is 30°C.

\* 2. TW-5006/160 and TW-5006/180 are compact types. (Different voltages are not available.)

Notes : 1. For the management of water quality, refer to the water quality standards of the Japan Refrigeration and Air Conditioning Industry Association.

Please use water with electric conductivity (25 °C) 5 to 80 mS / m (50 to 800 μS / cm).

Notes : 2. Please use connection hose which withstand the temperature above maximum and the pressure above the maximum 1.5 MPa. (For TW-5006/180 and 5009/180, the pressure above maximum 2.0 MPa.)

For options, see the list on page p24 and 25.

TW/160 -  
180-series

# JUSTTHERMO TW/95-Kseries

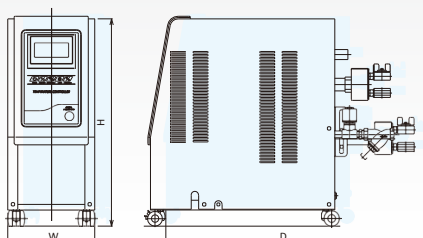
Medium : Fresh water

Temperature : Max95°C

Indirect Cooling Method



## Dimensions

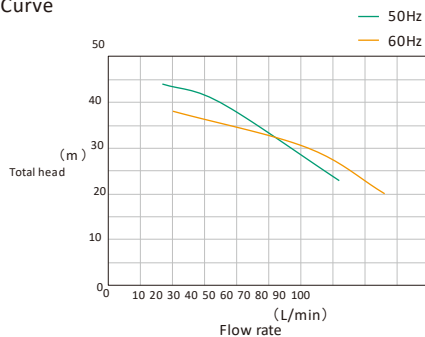


## Dimensions

Model	TW-200/95-K
W	235
D	(908)
H	770
Weight (kg)	75

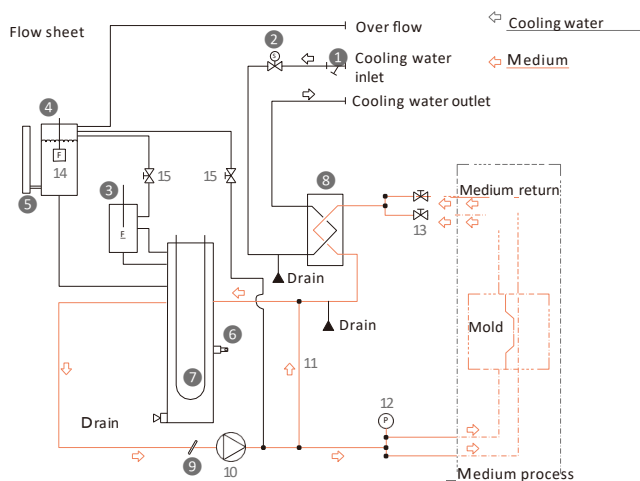
■ High-Pressure Large-Flow Pump

## Pump Curve



## Standard

- Display in 0.1°C
- increments
- Temperature sensor
- Pt100Ω SSC for heater control
- Remote operation (No-voltage contact or open collector)
- Operational output (including Out terminal) [Relay contact 250V 1.0A max.]
- Alarm output (including Out terminal) [Relay contact 250V 1.0A max.]
- Emergency stop
- Run/Stop timer (to set run and stop time)
- Maintenance alarm (to indicate when maintenance is needed)
- Alarm log
- Stop after cooling time
- Pressure gauge (Glycerin filled)



- 1 Strainer
- 2 Solenoid valve Float switch
- 3 Float switch
- 4 Level gauge
- 5 Overheat protector Heater
- 6 Plate type heat exchange device Temp. sensor
- 7 Pump
- 8 Bypass pipe
- 9 Pressure switch
- 10 Ball valve Tank
- 11 Ball valve
- 12 Ball valve for bleeding air

# Specifications

Model				TW-200/95-K			
Medium				Fresh water			
Temperature（℃）				Max.95			
Control Method				PID PID control			
Heater	Capacity（kW）			6			
	Control			SSC Drive			
Pump	Seal Method			Mechanical seal			
	Motor Capacity（kW）（50/60Hz）			0.74/0.74			
	Max. Pressure（MPa）（50/60Hz）Notes：2			0.44/0.38			
	Max. Flow（L/min）（50/60Hz）			72/86			
	Performance	50Hz	Flow Rate（L/min）	17	35	72	
			Total Head（m）	44	40	23	
		60Hz	Flow Rate（L/min）	20	62	86	
Total Head（m）			38	30	20		
Tank Capacity（L）				6			
Cooling Method				Indirect cooling			
* Cooling Capacity（kW）（Δt=30℃）*1				7.3			
Pipe Size	Circulation			25A（1B）			
	Line	Accessories（Branch Pipe）			10A（3/8B）×2directions		
	Cooling Line			15A（1/2B）			
Alarm				Reverse phase, Medium shortage, Pump overload, Temp. upper limit and lower limit			
Accessories				5m Power cable 5m			
Painting Color				JMPA KN93,semigloss			
Weight（kg）				75			
Utility	Power Supply			3 phase AC200V 50/60Hz AC220V 60Hz			
	Power Demand（kVA）			7.9			
	Main Breaker（AT）			30			
	Cooling Water（L/min）			15 or more			
	Water Pressure（0.1～0.3MPa）Notes：1						

\* The value of cooling capacity mentioned here is for practical use.

\* 1. Cooling water pressure is 0.2 MPa when the difference between medium temperature and cooling water inlet temperature is 30°C.

Notes : 1. For the management of water quality, refer to the water quality standards of the Japan Refrigeration and Air Conditioning Industry Association. Please use water with electric conductivity (25 °C) 5 to 80 mS / m (50 to 800  $\mu\text{S}$  / cm). Notes : 2. Please use connection hose which withstand the temperature above maximum and the pressure above the maximum 0.5 MPa.

For options, see the list on page p24 and 25.

# JUSTTHERMO TW/160-Kseries

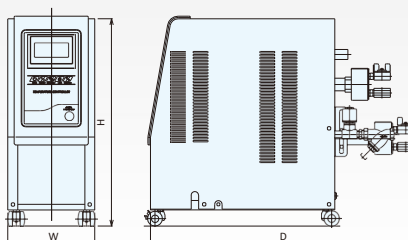
Medium : Fresh water

Temperature : Max160°C

Indirect Cooling Method



## Dimensions

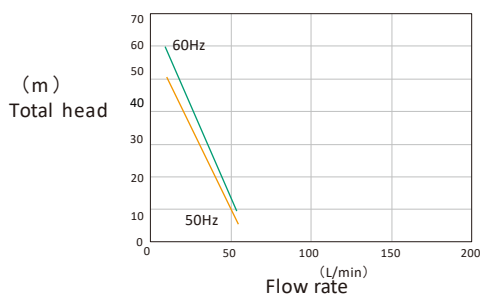


## Dimensions

Model	TW-5006/160-K	TW-5009/160-K
W	400	
D	(977)	
H	900	
Weight (kg)	150	

Pump Curve

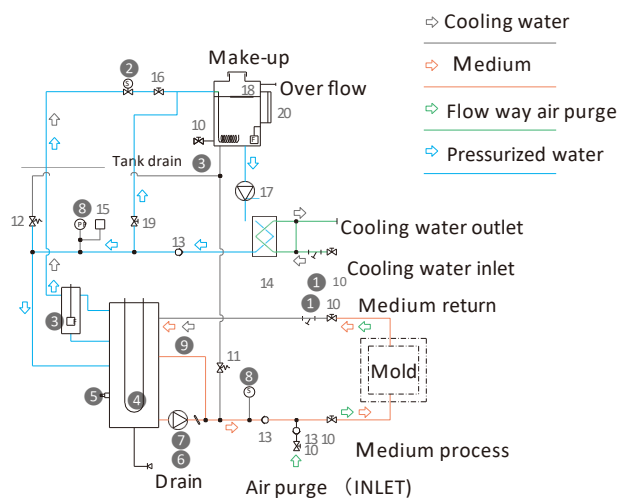
TW-5006/160-K  
TW-5009/160-K



## Standard

- Display in 0.1°C increments
- Temperature sensor
- Pt100Ω SSC for heater
- control
- Remote operation (No-voltage contact or open collector)
- Operational output (including Out terminal)(Relay contact 250V 1.0A max.)
- Alarm output (including Out terminal)(Relay contact 250V 1.0A max.)
- Emergency stop
- Run/Stop timer (to set run and stop time)
- Auto depressurization
- Maintenance alarm
- Pressure gauge (Glycerin filled)
- Air purge
- Alarm log
- Stop after cooling time
- Weekly timer (Parameter setting)

## Flow sheet



- |                    |                        |
|--------------------|------------------------|
| 1 Strainer         | 11 Safety valve        |
| 2 Solenoid valve   | 12 Safety valve        |
| 3 Float switch     | 13 Check valve         |
| 4 Heater           | 14 Heat exchange       |
| 5 Over heat        | 15 Pressure switch     |
| 6 protector Temp.  | 16 Needle valve        |
| 7 sensor Pump      | 17 Buster pump         |
| 8 Pressure         | 18 Tank                |
| 9 gauge Bypass     | 19 Pressure adj. valve |
| 10 pipe Ball valve | 20 Level gauge         |



# JUSTTHERMO series GUIDE of KAWATA

## Specifications

Model				TW-5006/160-K		TW-5009/160-K	
Medium				Fresh water			
Temperature (°C)				Max.160			
Control Method				PID control			
Heater	Capacity (kW)			6		9	
	Control			SSC Drive			
Pump	Seal Method			Sealless			
	Motor Capacity (kW) (50/60Hz)			1.0/1.1			
	Max. Pressure (MPa) (50/60Hz) Notes :2			0.5/0.6			
	Max. Flow (L/min) (50/60Hz)			55/55			
	Performance	50Hz	Flow Rate (L/min)	10	30	55	
			Total Head (m)	50	30	5	
		60Hz	Flow Rate (L/min)	10	30	55	
			Total Head (m)	60	37	10	
Booster Pump Motor Capacity (kW) (50/60Hz)				1.0/1.1			
Tank	Capacity (L)			10			
Cooling Method				Indirect cooling			
* Cooling Capacity (kW) (Δt=30°C) *1				7.3			
Pipe Size	Circulation Line			15A (1/2B)×1 unit			
	Cooling Line			20A (3/4B)			
Alarm				Reverse phase, Medium shortage, Pump overload, Temp. upper limit and lower limit, Booster pressure shortage, Booster overload			
Accessories				Power cable 5m			
Painting Color				JMPA KN93,semigloss			
Weight (kg)				150			
Utility	Power Supply			3 phase AC200V 50/60Hz AC220V 60Hz			
	Power Demand (kVA)			10.1		13.4	
	Main Breaker (AT)			40		50	
	Compressed Air (L/min ( ) ANR ( ) 0.4~0.7MPa)			Manual (Air connection:10A [3/8B]) Approx. 0.5 Nm³			
	Cooling Water (L/min)			15 or more			
	Notes :1 Water Pressure (0.1~0.3MPa)			0.1~0.3			

TW/160-K-series

\* The value of cooling capacity mentioned here is for practical use.

\* 1. Cooling water pressure is 0.2 MPa when the difference between medium temperature and cooling water inlet temperature is 30°C.

Notes : 1. For the management of water quality, refer to the water quality standards of the Japan Refrigeration and Air Conditioning Industry Association. Please use water with electric conductivity (25 °C) 5 to 80 mS / m (50 to 800 μS / cm). Notes :2. Please use connection hose which withstand the temperature above maximum and the pressure above the maximum 1.5 MPa.

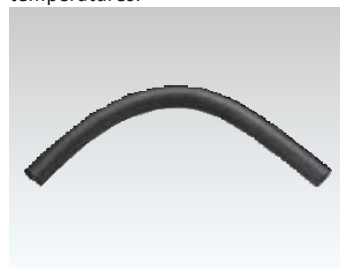
For options, see the list on page p24 and 25.

## Options

- (200/220V, 380/400/415V)  
Earth leakage breaker
- (380V • 400V • 415V 50Hz) \*1  
Different voltage (380V • 400V • 415V 50Hz) \*1
- Decompression valve 〈for feedwater〉 (required when  
cooling water is 0.3MPa or more ) \*2
- Decompression valve 〈for  
medium〉 (TW/95 series ) \*3
- Strainer for medium return pipes\*3
- Manual air purging (TW/95 series, TW/120 series)\*3
- Automatic air purging (TW/160 • 180 series, TW/160-K series)
- Bypass pipe for flow control (when pressure in a medium  
circulation path is too high)\*3
- Designated color painting
- Weekly timer (OMRON)\*1
- Automatic power off
- Temperature indication of medium return  
(Temperature displayed with  $\Delta$ t)
- External sensor control (Attachment external sensor 〈  
Pt100 $\Omega$ 〉 5m) (Temperature displayed with  $\Delta$ t)
- Automatic temp. change (startup temperature in starting the  
operation, operational temperature after setting time)
- Signal of temperature rise completion \*1
- Operation power supply / AC100V \*1
- Power consumption monitor
- Flow rate measurement (lower limit alarm output)
- Heater element burnout alarm
- Data logger
- Signal light for during run (Green)
- Signal light for alarm (Red)
- Remote temperature setting
- Remote switch box (Operation at hand)
- Ethernet compatible
- SPI communication
- High efficiency filter for cooling water



- THERMONIZER  
The magnet which dissolves and prevents scale  
and rust.
- Connecting hose (for details, refer to the next page.)
- AEROFLEX (max. 125°C)  
(Heat insulator 2m for Teflon hose 8A[1/4B]& 10A[  
3/8B])  
AEROFLEX shrinks about 5% at high  
temperatures.



- Silicone sponge insulation (max.200°C)

\* 1.  
Except TW-5006/160

\* 2. Standard equipment on TW/160 •  
180 series

# Spesification

	Heat Resisting Hoses (with Adapters at Both Ends) Heat Resisting Hose	Teflon Tube (with Stainless Steel Blade / with Adapters at Both Ends)
Medium	Fresh water	
Temperature	MAX.120°C MAX. 120°C *Heat insulated hoses are available.	MAX.200°C MAX. 200°C
Pressure	MAX.1.0MPa MAX. 1.0MPa	MAX.2.0MPa MAX. 2.0MPa
Material	Rubber	Teflon



## Connecting Hose

### Selection Table for Branch Pipe (for Medium Process/Return) and Hose

	<div></div> Heat Resisting Hose (with Adapter)	<div></div> Heat Resisting Hose	<div></div> Teflon Tube (with Stainless Steel Blade / with Adapter)	<div></div> No Option				
Model	TW-75/95		TW-200/95 / TW-200/95-K		TW-600/95		TW-1200/95	
Branch Pipe	Standard 8A(1/4B)×2 directions	Option — No Branch Pipe	Standard 10A(3/8B)×2 Directions	Option 8A(1/4B)×4 directions No Branch Pipe	Standard 10A(3/8B)×4 directions	Option 15A(1/2B)×2 directions No Branch Pipe	Standard 15A(1/2B)×4 directions	Option 20A(3/4B)×2 directions No Branch Pipe
Connecting Hose (Option)	8A(1/4B) ×1 15m×1 pcs	—	10A(3/8B) ×1 15m×1 pcs	8A(1/4B) ×2 15m×2 pcs *225A(1B) 5m×2 pcs 20A(3/4B) 5m×2 pcs	10A(3/8B) ×2 15m×2 pcs	15A(1/2B) ×2 15m×1 pcs *125A(1B) 5m×2 pcs 20A(3/4B) 5m×2 pcs	15A(1/2B) ×2 15m×2 pcs	20A(3/4B) ×1 15m×1 pcs 40A(11/2B)

\*1. Hose Nipple and Band 12 Set \*2. Hose Nipple and Band 24 Set

Model	TW-75/120		TW-200/120		TW-400/120	
Branch pipe	Standard 8A(1/4B)×2 directions	Option No Branch Pipe	Standard 10A(3/8B)×2 directions	Option 8A(1/4B)×4 directions No Branch Pipe	Standard 10A(3/8B)×4 directions	Option 15A(1/2B)×2 directions No Branch Pipe
Connecting Hose (Option)	8A(1/4B) 3m×4 pcs 8A(1/4B) 0.5m×2 pcs	—	10A(3/8B) 3m×4 pcs 10A(3/8B) 0.5m×2 pcs	8A(1/4B) 3m×8 pcs 8A(1/4B) 0.5m×4 pcs	25A(1B) 5m×2 pcs 20A(3/4B) 5m×2 pcs	15A(1/2B) 3m×4 pcs 15A(1/2B) 0.5m×2 pcs

Model	TW-600/120		TW-1200/120	
Branch Pipe	Standard 10A(3/8B)×4 directions	Option 15A(1/2B)×2 directions No Branch Pipe	Standard 15A(1/2B)×4 directions	Option 20A(3/4B)×2 directions No Branch Pipe
Connecting hose (Option)	10A(3/8B) 3m×8 pcs 10A(3/8B) 0.5m×4 pcs	15A(1/2B) 3m×4 pcs 15A(1/2B) 0.5m×2 pcs	25A(1B) 5m×2 pcs	40A(11/2B)

Model	TW-5006/160 / TW-5009/160 / TW-5006/160-K / TW-05009160-K		TW-8006/160 / TW-8009/160		TW-10012/160	
Branch Pipe	No Branch Pipe	Option 10A(3/8B)×2 directions 8A(1/4B)×4 directions	No Branch Pipe	Option 10A(3/8B)×4 directions	No Branch Pipe	Option 15A(1/2B)×4 directions
Connecting Hose (Option)	15A(1/2B) 5m×2 pcs	10A(3/8B) 3m×4 pcs 10A(3/8B) 0.5m×2 pcs	8A(1/4B) 3m×8 pcs 8A(1/4B) 0.5m×4 pcs	20A(3/4B) 5m×2 pcs 10A(3/8B) 3m×8 pcs 10A(3/8B) 0.5m×4 pcs	32A(11/4B)	15A(1/2B) 3m×8 pcs 15A(1/2B) 0.5m×4 pcs

#### Notes:

1. Select a hose that can withstand the maximum temperature and pressure of the equipment.
2. Select a hose of a diameter that matches the piping diameter of the equipment.
3. Perform regular maintenance and inspection of a hose, and periodically exchange the hose for safety reasons. Teflon tube (with stainless steel blade / with adapter) are recommended for long-term use.
4. Be sure to securely attach a hose. If internal pressure rises, the hose may be disconnected.
5. When attaching a hose, be sure to maintain a minimum bend radius.

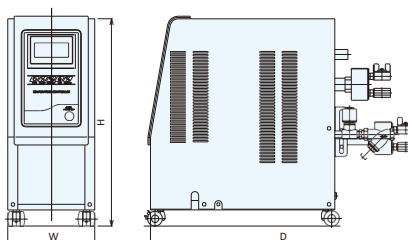
# JUSTTHERMO III KCO/160series

Medium : Oil

Temperature : Max160°C



Dimensions

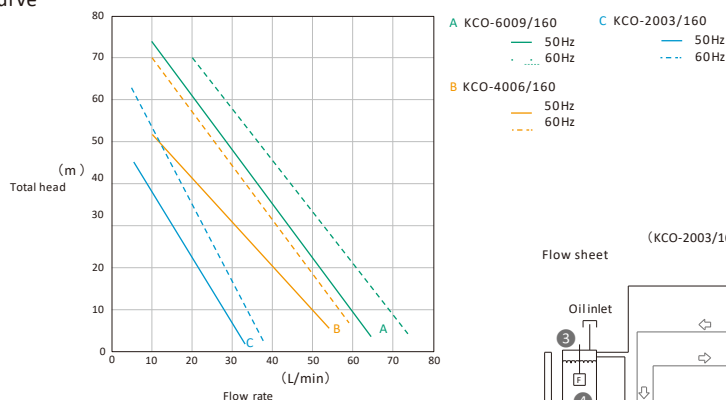


Dimensions

Model	KCO-2003/160	KCO-4006/160	KCO-6009/160
W	275	275	275
D	(905)	(961)	(951)
H	493	653	823
Weight (kg)	60	80	100

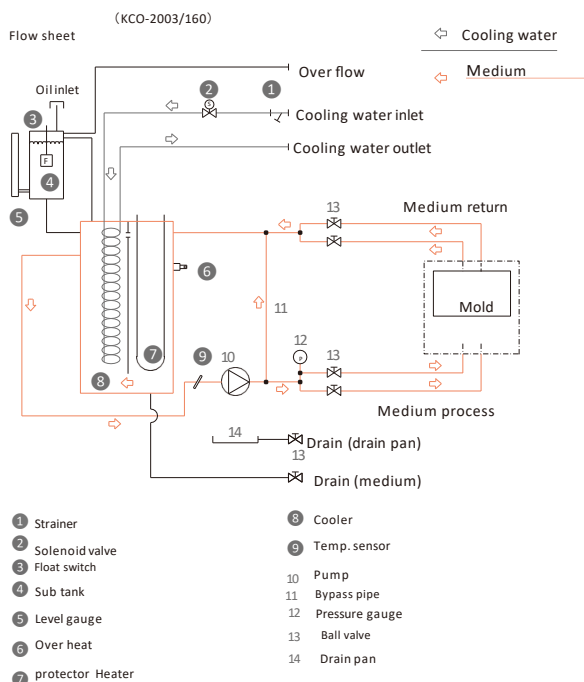
## ■ High-Pressure Large-Flow Pump

Pump Curve



## Standard

- Remote operation (No-voltage contact or open collector)
- Temperature sensor Thermocouple (K)
- Operational output (including Out terminal) [Relay contact 250V 1.0A max.]
- Alarm output (including Out terminal) [Relay contact 250V 1.0A max.]
- Emergency stop
- Run/Stop timer (to set run and stop time)
- Maintenance alarm (to indicate when maintenance is needed) Available for both 50Hz and 60Hz
- Alarm log
- Stop after cooling time



# JUSTTHERMO series GUIDE of KAWATA

Specifications									
Model		KCO-2003/160			KCO-4006/160			KCO-6009/160	
Medium		:			#400)*1 Heating medium			oil (Barrel Therm #400)*1	
Temperature (°C)					Max.160				
Control Method					PID control				
Capacity (kW)		3			6			9	
Heater Control					SSC Drive				
Motor Capacity (kW) (50/60Hz)		0.5/0.5			0.75/0.9			1.5/1.7	
Max. Pressure (MPa) (50/60Hz) 注) 2		0.44/0.62			0.50/0.68			0.74/0.71	
Max. Flow (L/min) (50/60Hz)		33/39			54/60			64/72	
Performance		5			12			10	
		33			54			64	
		0.44			0.50			0.74	
		0.02			0.05			0.04	
		5			12			29	
		39			60			72	
		0.62			0.68			0.71	
		0.03			0.06			0.04	
Heating Medium Oil Volume in the Unit (l)		8			13				
		7/3			10/4				
Expansion Tank Capacity / Effective Capacity (L)					Indirect cooling				
Cooling Method									
at 160°C * Cooling Capacity (kW)		1.7*2			3.4*3			18	
Pipe Size		10A(3/8B)			20A(3/4B)			10/4	
Circulation Line		8A×2			10A×2			25A(1B)	
Cooling Line		8A (1/4B)×2 directions			10A (3/8B)×2 directions			10A×4	
Accessories (Branch Pipe)					10A (3/8B)			10A (3/8B)×4 directions	
Alarm					Reverse phase, Medium shortage, Pump overload, Temp. upper limit and lower limit				
Accessories					Power cable 5m				
Painting Color					JMPA KN93, semigloss				
Weight (kg)		60			80			100	

Utility	Power Supply	3 phase AC200V 50/60Hz AC220V 60Hz		
	Power Demand (kVA)	4.2	8.5	12.5
	Main Breaker (AT)	15	30	40
	Cooling Water (L/min) Notes : 1	5 or more	15 or more	25 or more
	Water Pressure (0.1~0.3MPa)			

\*Convert 1kW=860kcal/H

\*1. Silicon oil is not available for KCO. It may cause early mechanical seal leakage.

\*2. Cooling capacity shows the cooling water 5 L/min(30°C), medium flow rate 10 L/min

\*3. Cooling capacity shows the cooling water 15 L/min(30°C), medium flow rate 20 L/min

Notes : 1. For the management of water quality, refer to the water quality standards of the Japan Refrigeration and Air Conditioning Industry Association.

Please use water with electric conductivity (25 °C) 5 to 80 mS / m (50 to 800 μS / cm).

Selection Table for Branch Pipe (for Medium

Process/Return) and Hose

Teflon Tube (with Stainless Steel Blade / with Adapter)

Model	KCO-2003/160			KCO-4006/160			KCO-6009/160		
	Standard	Option		Standard	Option		Standard	Option	
Branch Pipe	8A(1/4B)×2 directions	10A(3/8B)×2 directions	10A(3/8B)×2 No branch pipe	8A(1/4B)×4 directions	No branch pipe		10A(3/8B)×4 directions	15A(1/2B)×2 directions	15A(1/2B)×2 No branch pipe
Connecting Hose (Option)	8A(1/4B) 3m×4 PCS 8A(1/4B) 0.5m×2PCS	10A(3/8B) 3m×4 PCS 10A(3/8B) 0.5m×2PCS	10A(3/8B) ×5 m	10A(3/8B) 3m×4 PCS 10A(3/8B) 0.5m×2PCS	8A(1/4B) 3m×8 PCS 8A(1/4B) 0.5m×4PCS	20A(3/4B) ×5 m	10A(3/8B) 3m×8 PCS 10A(3/8B) 0.5m×4PCS	15A(1/2B) 3m×4 PCS 15A(1/2B) 0.5m×2PCS	25A(1B) ×5 m



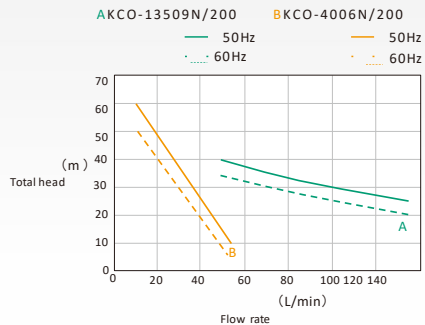
# DYNATHERM

## KCO/200series

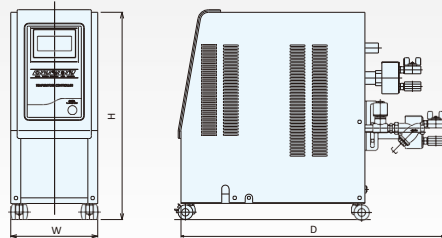
Medium : Oil

Temperature : Max200°C

### Pump Curve



### Dimensions



### Dimensions

Model	KCO-4006N/200	KCO-13509N/200
W	350	
D	(922)	
H	767	1108
Weight (kg)	100	180

### Specifications

Model		KCO-4006N/200	KCO-13509N/200
Medium		Heating medium oil (Barrel Therm #400)	
Temperature (°C)		Max.200	
Control Method		PID control	
Heater Capacity (kW)		6	9
Pump	Motor Capacity (kW) (50/60Hz)	1.0/1.1	3.5/4.0
	Max. Pressure (MPa) (50/60Hz)	0.4/0.48	0.42/0.40
	Max. Flow (L/min) (50/60Hz)	55/55	135/135
(L)		10/7	12/9
Expansion Tank Capacity / Effective Capacity			
(L)		15	22
Heating Medium Oil Volume in the Unit			
Cooling Method		Indirect cooling	
at 200°C* Cooling Capacity (kW)		6.3*1	
Pipe Size	Circulation Line	20A 3/4B (Valve)	25A 1B (Valve)
	Cooling Line	10A 3/8B (Socket)	
Alarm		Reverse phase, Medium shortage, Pump overload, Temp. upper limit and lower limit	
Accessories		Power cable 5m	
Painting Color		JMPA S4-389	
Weight (kg)		100	180
Utility	Power Supply	3 phase AC200V 50/60Hz AC220V 60Hz	
	Power Demand (kVA)	8.2	15.7
	Main Breaker (AT)	30	50
	Cooling Water (L/min)	20 or more	
	Water Pressure (0.1~0.3MPa)		

\* Convert 1kW=860kcal/H

\* 1. Cooling capacity shows the cooling water 8 L/min(30°C), medium flow rate 50 L/min

Notes : 1. For the management of water quality, refer to the water quality standards of the Japan Refrigeration and Air Conditioning Industry Association.

Please use water with electric conductivity (25 °C) 5 to 80 mS / m (50 to 800 μS / cm).

#### Options

Branch pipe, Teflon tube (with stainless steel blade / with adapter), Visual alarm, Heater circuit : SSC, Different voltage, Temperature control at object side (Temperature displayed with Δt)

Strainer for medium return, Bypass pipe for flow control (when pressure in a medium circulation path is too high)\*2,  
Medium oil (Barrel Therm #400)

\*2. KCO-13509N/200 standard equipment

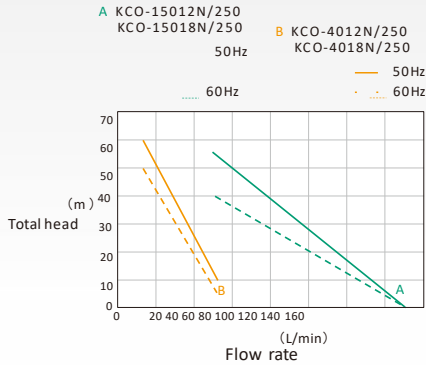
# DYNATHERM

## KCO/250series

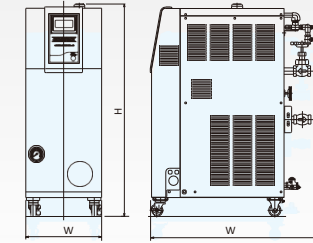
Medium : Oil

Temperature : Max250°C

Pump Curve



Dimensions



Dimensions	Model	KCO-4012N/250	KCO-4018N/250	KCO-15012N/250	KCO-15018N/250
W		400			
D		(895)			
H		1122			
Weight (kg)		190	195	205	210

Specifications

Model		KCO-4012N/250	KCO-4018N/250	KCO-15012N/250	KCO-15018N/250
Medium		Heating medium oil (Barrel Therm #400)			
Temperature (°C)		Max.250			
Control Method		PID control			
Heater Capacity (kW)		12 (6×2)	18 (9×2)	12 (6×2)	18 (9×2)
Pump	Motor Capacity (kW) (50/60Hz)	1.0/1.1		2.8/2.8	
	Max. Pressure (MPa) (50/60Hz)	0.4/0.48		0.32/0.44	
	Max. Flow (L/min) (50/60Hz)	55/55		150/150	
(L)		19/14			
Expansion Tank Capacity / Effective Capacity					
(L)		25			
Heating Medium Oil Volume in the Unit					
Cooling Method		Indirect cooling			
at 250°C * Cooling Capacity (kW)		15.1*1			
Pipe Size	Circulation Line	25A 1B (Valve)			
	Cooling Line	15A1/2B (valve)			
Alarm		Reverse phase reverse, Medium shortage, Pump overload, Temp. upper limit and lower limit			
Accessories		Power cable 5m			
Painting Color		S4-389 JMPA S4-389			
Weight (kg)		190	195	205	210
Utility	Power Supply	3 phase AC200V 50/60Hz AC220V 60Hz			
	Power Demand (kVA)	14.8	21.3	17.1	23.7
	Main Breaker (AT)	50	75	60	75
	Cooling Water (L/min) Water Pressure (0.1~0.3MPa)	20 or more			

\* Convert 1kW=860kcal/H \* Model with heater capacity higher than 50kW is also available.

\* 1. Cooling capacity shows the cooling water 8 L/min(30°C), medium flow rate 50 L/min

Notes : 1. For the management of water quality, refer to the water quality standards of the Japan Refrigeration and Air Conditioning Industry Association.

Please use water with electric conductivity (25 °C) 5 to 80 mS / m (50 to 800 μS / cm).

### Options

Branch pipe, SUS flexible hose, Visual alarm, Heater circuit : SSC, Designated color painting, Different voltage, Strainer for medium return, Medium oil (Barrel Therm #400), Power consumption monito, Heater element burnout alarm, Data logger



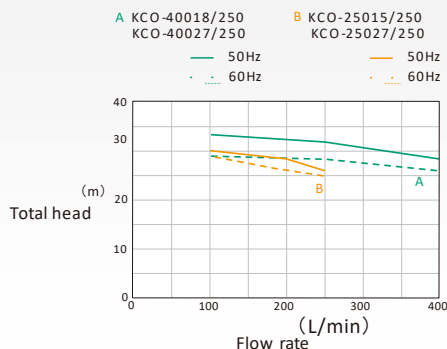
# DYNATHERM

## KCO/250series

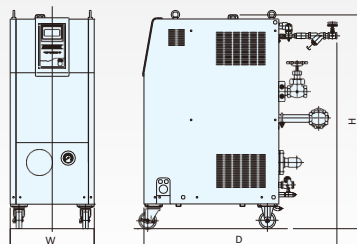
Medium : Oil

Temperature : Max250°C

### Pump Curve



### Dimensions



### Dimensions

Model	KCO-25015/250	KCO-25027/250	KCO-40018/250	KCO-40027/250
W	500			
D	(1147)	(1447)	(1226)	(1484)
H	1272			
Weight (kg)	360		420	

### Specifications

Model		KCO-25015/250	KCO-25027/250	KCO-40018/250	KCO-40027/250
Medium		Heating medium oil (Barrel Therm #400)			
Temperature (°C)		Max.250			
Control Method		PID control			
Heater Capacity (kW)		15 (9+6)	27 (9×3)	18 (9×2)	27 (9×3)
Pump	Motor Capacity (kW) (50/60Hz)	2.2/2.2		3.7/3.7	
	Max. Pressure (MPa) (50/60Hz)	0.27/0.26		0.29/0.26	
	Max. Flow (L/min) (50/60Hz)	250/250		400/500	
(L)		33/24		47/34	
(L)		45		65	45
Heating Medium Oil Volume in the Unit		65			
Cooling Method		Indirect cooling			
at 250°C* Cooling Capacity (kW)		15.1 *1			
Pipe Size	Circulation Line	32A 1 1/4B (Valve)		50A 2B (Valve)	
	Cooling Line	20A 3/4B (Socket)			
Alarm		Reverse phase, Medium shortage, Pump overload, Temp. upper limit and lower limit			
Painting Color		S4-389 JMPA S4-389			
Weight (kg)		360		420	

Utility	Power Supply	3 phase AC200V 50/60Hz AC220V 60Hz			
	Power Demand (kVA)	19.5	32.6	24.4	34.3
	Main Breaker (AT)	63	125	100	125
	Cooling Water (L/min) Water Pressure (0.1~0.3MPa)	25			

\* Convert 1kW=860kcal/H \* Model with heater capacity higher than 50kW is also available.

\* 1. Cooling capacity shows the cooling water 20 L/min(30°C), medium flow rate 50 - 100 L/min  
Notes : 1. For the management of water quality, refer to the water quality standards of the Japan Refrigeration and Air Conditioning Industry Association. Please use water with electric conductivity (25 °C) 5 to 80 mS / m (50 to 800 μS / cm).

### Options

Branch pipe, SUS flexible hose, Visual alarm, Heater circuit : SSC, Power cable, Designated color painting, Different voltage, Strainer for medium return, Medium oil (Barrel Therm #400)

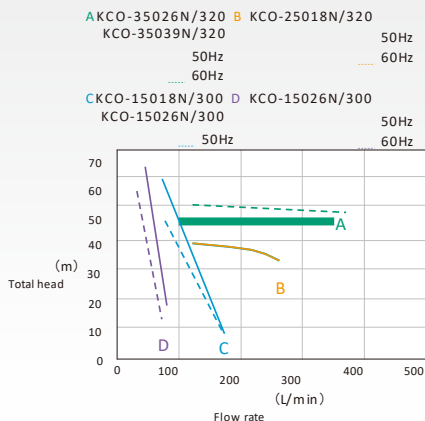
# DYNATHERM

## KCO/300 - 320series

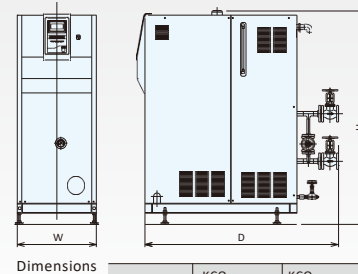
Medium : Oil

Temperature : Ma320°C

### Pump Curve



### Dimensions



Model	KCO-4018N/300	KCO-15018N/300	KCO-15026N/300	KCO-25018N/320	KCO-35026N/320	KCO-35039N/320
W	500	700	600			
D	(1130)	(1305)	(1467)	(1517)	(1817)	
H	1150	1632	1585			
Weight (kg)	300	480	500	600		

### Specifications

Model		KCO-4018N/300	KCO-15018N/300	KCO-15026N/300	KCO-25018N/320	KCO-35026N/320	KCO-35039N/320
Medium		Heating medium oil (Barrel Therm #400)					
Temperature (°C)		Max.300			Max.320		
Control Method		PID control					
Heater Capacity (kW)		18 (9×2)		26 (13×2 )	18 (9×2)	26 (13×2 )	39 (13×3 )
Pump	Motor Capacity (kW) (50/60Hz)	1.0/1.1	2.8/2.8			5.5/5.5	
	Max. Pressure (MPa) (50/60Hz)	0.4/0.48	0.32/0.44		0.26/0.26	0.37/0.38	
	Max. Flow (L/min) (50/60Hz)	55/55	150/150		250/250	350/350	
Expansion Tank Capacity / Effective Capacity (L)		15/11		34/22	48/36		
Heating Medium Oil Volume in the Unit (L)		25		45			55
Cooling	Cooling Method	Indirect cooling					
at 250°C * Cooling Capacity (kW)		15.1*1		83.7*2			
Pipe Size	Circulation Line	25A 1B (JIS 20K flange)				40A 1 1/2B (JIS 20K flange)	
	Cooling Line	15A	1/2B (Valve)	20A		3/4B(Valve)	
Alarm		Reverse phase, Medium shortage, Pump overload, Temp. upper limit and lower limit					
Painting Color		JMPA S4-389					
Weight (kg)		300		480	480	500	600
Utility	Power Supply	3 phase AC200V 50/60Hz AC220V 60Hz					
	Power Demand (kVA)	21.3	23.7	35.4	24.2	38.5	54.2
	Main Breaker (AT)	75		125	75	125	175
	Cooling Water (L/min) Water Pressure (0.1~0.3MPa)	20 or more			25 or more		

\*Convert 1kW=860kcal/H

\* Designed for use with 50Hz or 60Hz (KCO-4018N/300, 15018/300 : usable at both herts)

\* 1. Cooling capacity shows the cooling water 8 L/min(30°C), medium flow rate 50 L/min

\* 2. Cooling capacity shows the cooling water 20 L/min(30°C), medium flow rate 50 -100 L/min

Notes : 1. For the management of water quality, refer to the water quality standards of the Japan Refrigeration and Air Conditioning Industry Association.

Please use water with electric conductivity (25 °C) 5 to 80 mS / m (50 to 800 μS / cm).

#### Options

Branch pipe, SUS flexible hose, Visual alarm, Heater circuit : SSC, Power cable, Designated color painting, Different voltage, Strainer for medium return, Medium oil (Barrel Therm #400)

KCO/300 -  
320series



System for Instantly Switching a Medium Temperature to a Mold Between High and Low

- Precision molding such as optical waveguides and lense ■ Suitable for wall-thick product molding and exterior part molding
- Especially effective for filler and foaming materials

Shortened molding cycle.

Prevention of shrinkage on molding and deformation after takeout.

Welds become hard to see. (Painting is no longer necessary ,leading to cost reduction and improved cyclicity.)

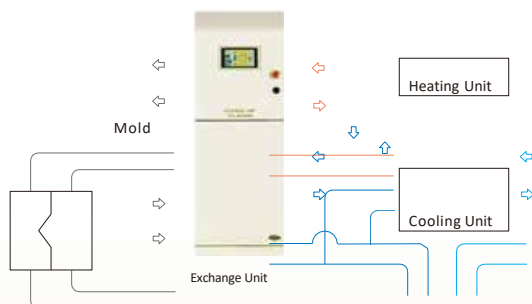
Product surface becomes glossy.

Transferability of minute shapes is improved. (Adds a quality appearance to the product.)

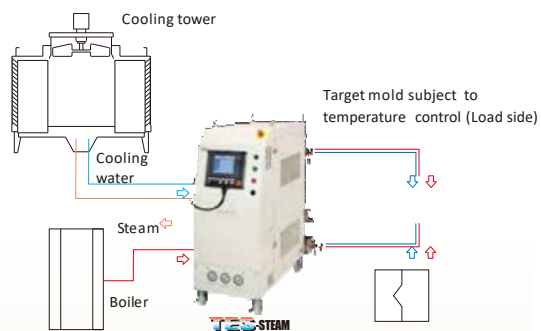
As for PP members, crystalline structure changes in particular so as to improve mechanical strength and melting points.

Mold temperature control for thermal press molding of CFRP, etc.

TES



TES-STEAM



\*This machine is not touch panel.as of Sep 2021.please contact to our sales office about the detail specifications.

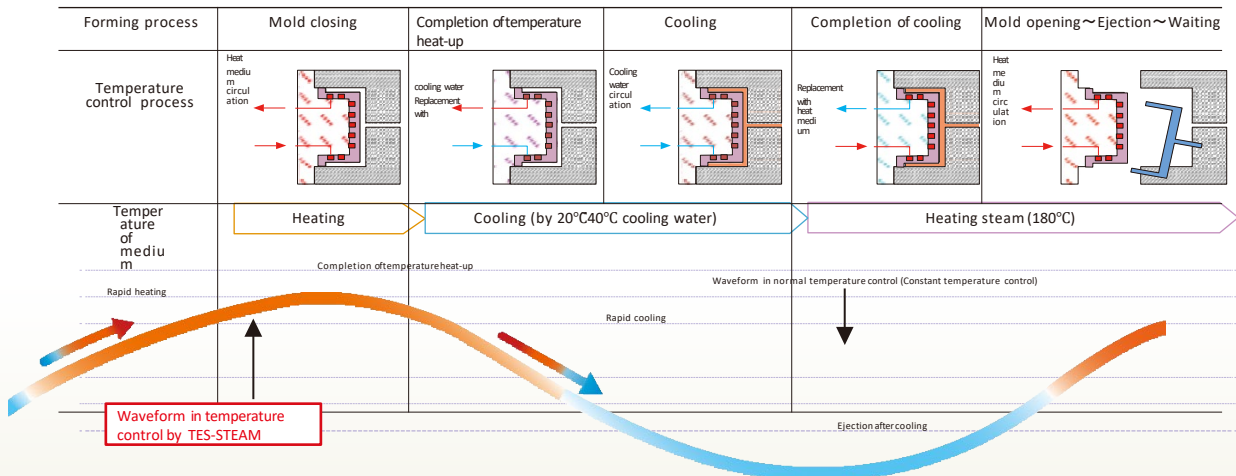
# Specifications

Model		TES-W Type (Medium Water) Main Specifications in a Producible Range	TES-O Type (Medium Oil) Main Specifications in a Producible Range
High-Temperature Side Maximum Temperature	(°C)	180	300
Low-Temperature Side Service Temperature	(°C)	7~30 (80°C)	60~80
High-Temperature Side Heater Capacity	(kW)	20~78×1~2 Systems	18~78×1~2 Systems
Low-Temperature Side Cooling Capacity	(kW)	29~99	20~50
High-Temperature Side Medium Circulation Amount (L/min)		100~600×1~5 systems	250~350×1~2 Systems
Low-Temperature side Medium Circulation Amount (L/min)		50~200	250~350×1~2 Systems
Mold Temperature (High)	(°C)	160	280
Mold Temperature (Low)	(°C)	50	100
Molding Cycle	(min)	1~5	5~20

Model	TES-STEAM-180	
Applicable Temperature Range	High-Temperature Side (°C)	Max. 180
	Low-Temperature Side (°C)	~40
Medium	High-Temperature Side	Steam (~1.0MPa or Less)
	Low-Temperature Side	Fresh water
Pump (50/60Hz)	Output (kW)	3.0/3.0
	Max. Flow Rate (L/min)	200/240
	Max. Output Pressure (MPa)	0.51/0.73
Pipe Connection Size	Steam	25A (1B)
	Cooling Water Inlet / Outlet	40A (1 1/2B)
	Medium Inlet / Outlet	10A×12 + 25A×2
Utilities	Cooling Water Volume (L/min)	More than 150 (at 0.15' 0.3MPa)
	Steam (°C)	Max.180
	Air (MPa)	0.4~0.7
	Total Electric Capacity (kVA)	4.2/4.3
	Breaker Capacity (AT)	30
	Power Supply	200V AC 50/60Hz, 220V AC 60Hz, φ3, 3W
Machine Dimensions (W×D×Hmm)	(	500×1080×1288

## TES molding cycle

TES-STEAM heats and cools the target mold subject to temperature control quickly in one cycle of the process.



## Water Standard

Careful attention should be paid to the quality of the cooling water to supply to the mold temperature controller and its relating equipment. Use of bad water will cause attachment of scale to the internal surface of this machine, inviting troubles such as drop of flow rate and heat exchange effect at the mold, damage of the pump, heater, solenoid valve and so on.

In case pH figure is out of standard range, it will cause corrosion.

If the water of too low electric conductance is used, it will cause early of a mechanical seal, and corrosion.

To prevent these troubles, observe the water standard regulated by Japan Refrigeration and Air Conditioning Industrial Association. (Refer to JRA-GL-02-1994)

When there is a possibility of containing the foreign substances such as sand, mud, iron fillings, dust and etc., please set up the cartridge filter you could have for an option into the water pipe.

Please don't use the pure water. { Please use the water of electric conductivity (25°C) 5 ~ 80 ms/m (50 ~ 800 μS/cm) }

Water Quality Standard (by Japan Refrigeration and Air Conditioning Industrial Association)

Item	Standard value		Tendency	
	Less than 120°C	When it Exceeds 120°C	Corrosion	Scale
pH (25°C)	6.5 ~ 8.2	7.0 ~ 8.0	○	○
Conductivity (mS/m)(25°C) (μS/cm)(25°C)	5 ~ 80 (50 ~ 800)	5 ~ 30 (50 ~ 300)	○	○
Chlorine Ion (mgCl—/ℓ)	200 max	50 max	○	
Sulphate Ion (mgSO <sub>4</sub> <sup>2-</sup> /ℓ)	200 max	50 max	○	
Malkalinity (pH4.8)(mgCaCO <sub>3</sub> /ℓ)	100 max	50 max		○
Total Hardness (mgCaCO <sub>3</sub> /ℓ)	200 max	70 max		○
Calcium Hardness (mgCaCO <sub>3</sub> /ℓ)	150 max	50 max		○
Silica (mgSiO <sub>2</sub> /ℓ)	50 max	30 max		○
All Ferrite (mgFe/ℓ)	1.0 max	1.0 max	○	○
All Copper (mgCu/ℓ)	0.3 max	1.0 max	○	
Sulfur Ion (mgS <sub>2</sub> -/ℓ)	Should not be Sensed	Should not be Sensed	○	
Ammonium Ion (mgNH <sub>4</sub> +//ℓ)	1.0 max	0.3 max	○	
Residual Chlorine (mgCl//ℓ)	0.3 max	0.25 max	○	
Isolated Carbonic Acid (mgCO <sub>2</sub> //ℓ)	4.0 max	0.4 max	○	
Stability Index	6.0 ~ 7.0	—	○	○

Please do not use pure water. When you use pure water, please add a proper water treatment chemicals and perform sufficient water quality treatment to prevent corrosion. (Please manage the rate of electric conductivity(25°C) to become 5 mS/m or more.)

When pure water is used, especially, mechanical seal life of pump may become short extremely and may cause troubles, such as a leak and corrosion of piping. NOTE :We cannot be responsible for troubles caused by water quality.



## Safety Precautions



Please ask our service-field team or specialized worker for installation. Otherwise it may cause water-leakage, electric-shock, or fire if installation work was not properly done by customer.



Proper power supply should be used.



Please do not step on this unit, nor put another items on this unit. It may cause injury by dropping or falling.



In case of repairing the unit, please ask our field service people. Improper repairing may cause water leakage, electric shock, or fire.



When re-location the unit to another place, please ask our field service people or some specialist. Improper re-location may cause fire, electric shock, or water leakage.



Please use proper quality of cooling water or chilled water which comply with quality standard of water. Usage of improper water may cause water leakage.

### Installation conditions

Depending on installation place, earth-leakage Breaker should be installed. Otherwise it is possible to cause electric shock.

When it is installed in indoor such as mechanical room, water drain should be well discharged.

If it is incomplete drainage from the room, it may cause dampening the machines etc.

### Caution

All the hoses and devices to connect to this machine are required to resist the highest temperature and the highest pressure. (Cooling water line is included)

Do you have any of these symptoms? Please check the products you have used for many years!

Feel electric shock.

Big noise or strange noise of motor

Water or medium oil leaking.

Other abnormality or trouble.

If you experience any of these symptoms, be sure to turn off the power and contact us for inspection and repair in order to prevent accidents.

Full service throughout Japan even after purchase

We offer repair and consultation services for our products in 47 prefectures throughout Japan. We value our relationship with our customers so that they can use our products with peace of mind for a long time.

If you have any questions, please contact your local office or visit our website.

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\*These specifications are subject to change without notice.

\*Please read the instruction manual carefully before use.