

For all manufacturing systems where cooling water is used

Our products make it possible to use cooling water of the equal quality everywhere in the world.



UWT-1000WHX

Patented No.3927188



UWT-300WHX

Secondary cooling unit that leads to trouble-free cooling water, stable manufacturing processes and energy saving.

【Standard specifications】

Device type	Heat exchanger unit	Line to machines	Dimensions (WxLxHmm)	Tank capacity (t)	Water volume to machines (L/min)
UWT-250WHX	2 lines	2 lines	1,100 x 1,600 x 2,434	1.0	250 (250-500)
UWT-300WHX	2 lines	2 lines	1,650 x 2,200 x 2,434	1.0	300 (300-1,000)
UWT-1000WHX	2 lines	2 lines	1,650 x 3,100 x 2,434	2.0	1,000 (1,000-2,000)
UWT-2000WHX	2 lines	2 lines	1,650 x 3,115 x 2,434	3.0	2,000 (2,000-3,000)

*The power of heat exchanger and pumps are customized. *Abalable for the special design.

Secondary cooling system enables complete controls on cooling water

Exquisite cooling system employed in power plants.



Rust in pipes of a oil-cooler.



Thick scale piled up in a joint.

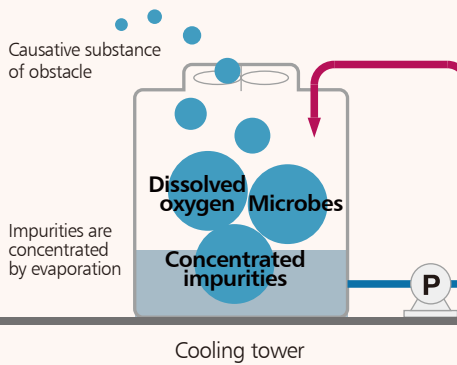


Algae grows on the surface of a cooling tower side.

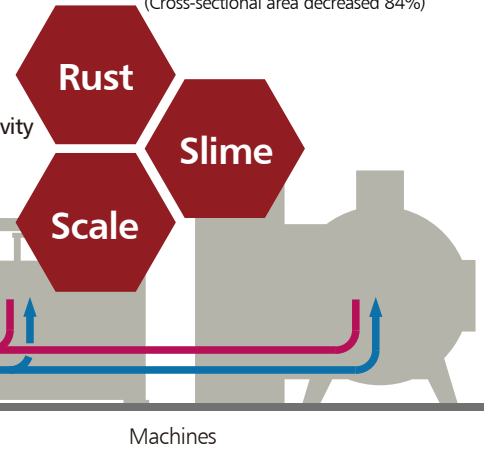


Thick scale piled up in a PVC pipe. (Cross-sectional area decreased 84%)

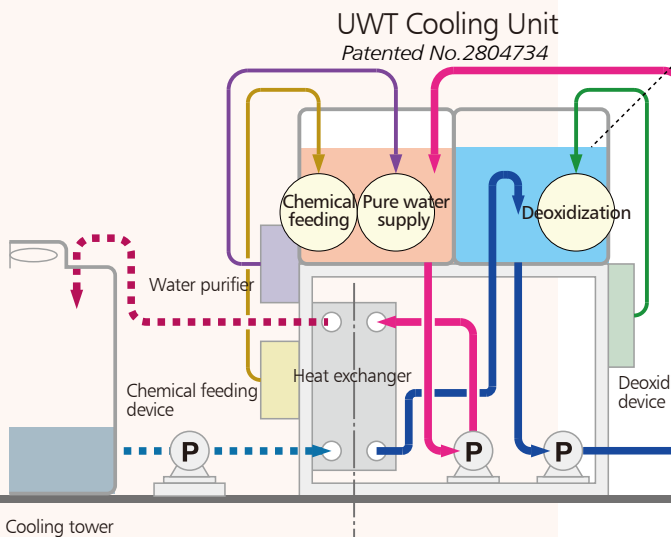
Ordinary Cooling System



Contaminated cooling tower water causes corrosion and scaling, which reduce cooling efficiency of molds or molding machine resulting low productivity and precision.



Secondary Cooling System



Water condition can be checked any time.

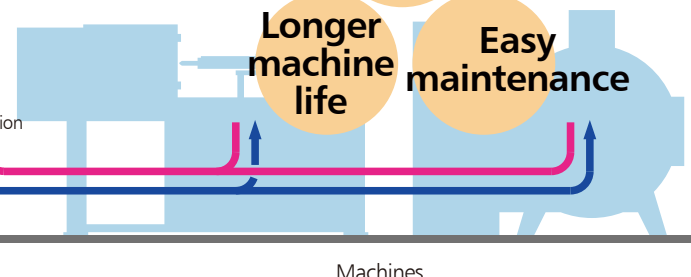
Controlled cooling water prevents corrosion to enhance precision and stable molding.



Precision and stable

Longer machine life

Easy maintenance

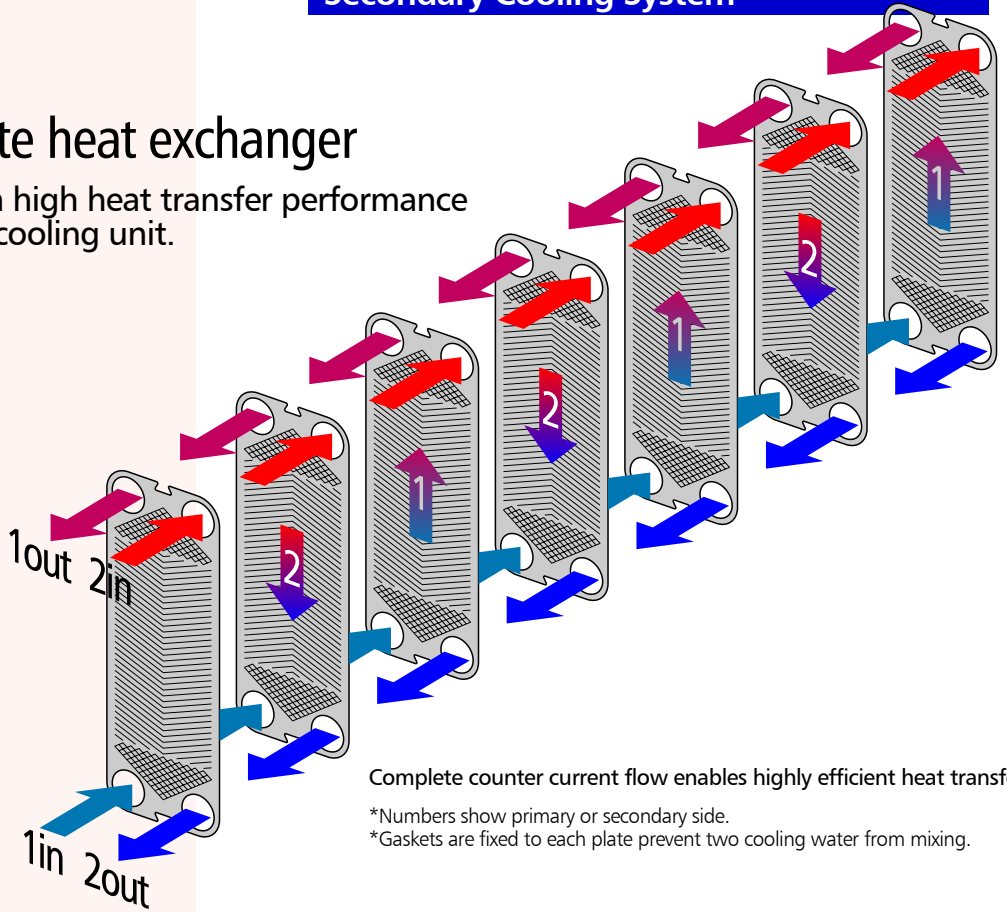
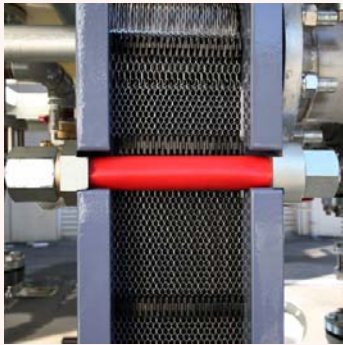


Everywhere in the world, secondary cooling water for machines has equal high quality.

This is a schematic illustration. Actual flow of secondary cooling unit is on page 05.

High efficiency plate heat exchanger

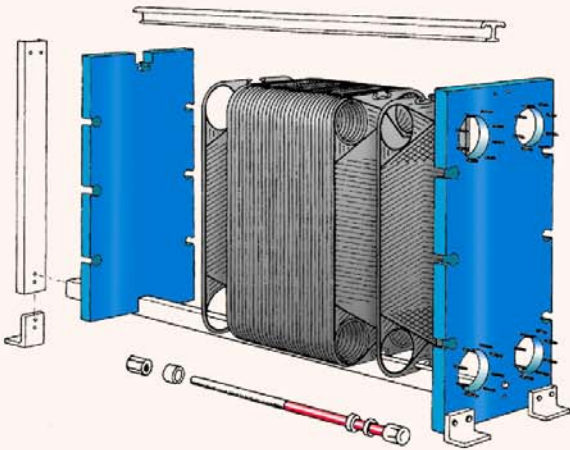
Plate heat exchanger with high heat transfer performance
 ---the core of secondary cooling unit.



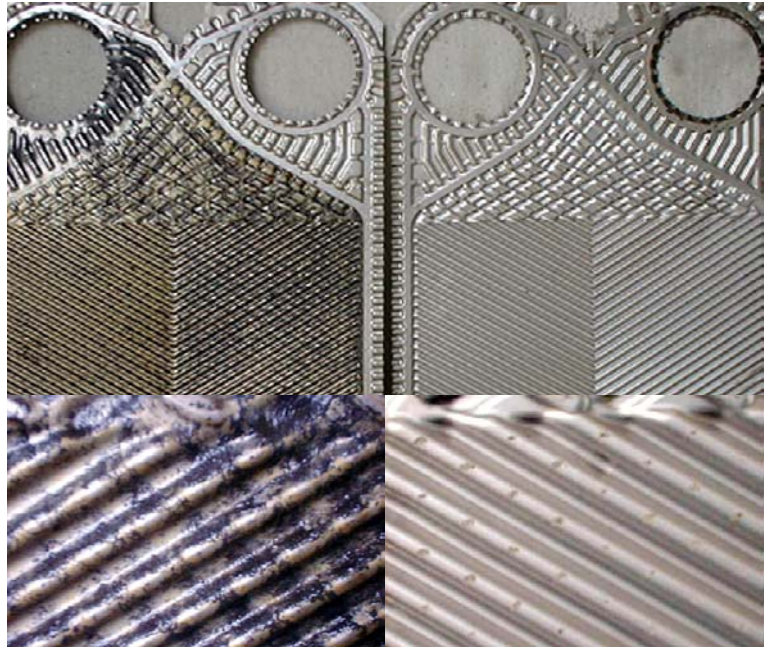
Complete counter current flow enables highly efficient heat transfer.

*Numbers show primary or secondary side.

*Gaskets are fixed to each plate prevent two cooling water from mixing.



Simple frame work allows easy extension and maintenance.



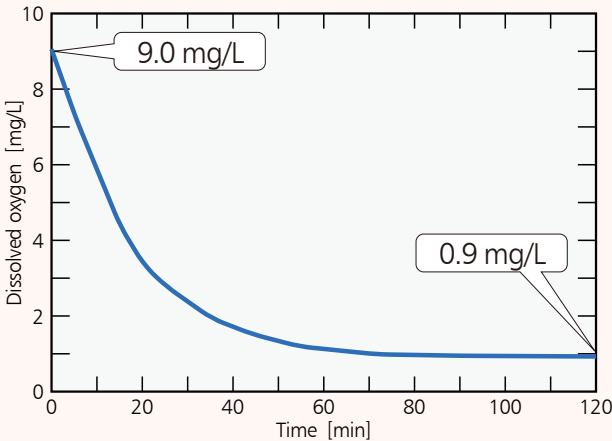
Primary (cooling water) side; a great deal of deposit Secondary (machine) side; no fouling

【Heat exchanger plates used for 6 months】

These photos show effect of the secondary cooling system on fouling prevention.

Removal of dissolved oxygen, the main cause of corrosion

Bring about clean and superb effect of anti-corrosion.



【Actual deoxidization】

Measured decrease in dissolved oxygen in the tank of cooling unit

O₂-Free Air Standard equipment

Anti-rusting Device
for cooling water using deoxidization

Patented No.2804734



Untreated

O₂-Free Air

【Examination of anti-rust effect】

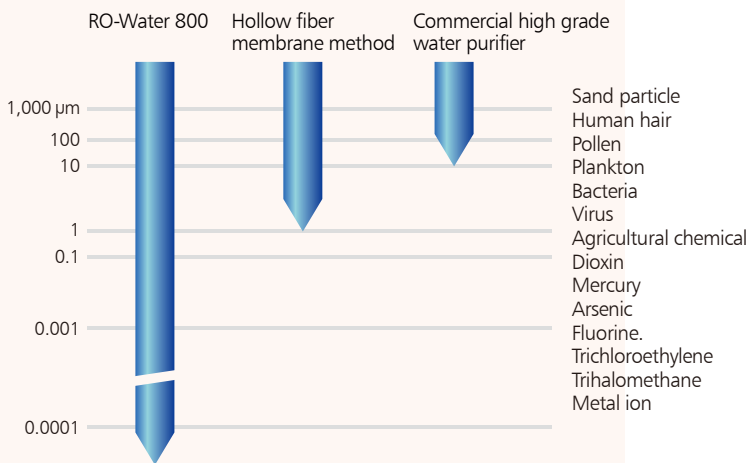
Metal piece, iron and copper, soaked in water for 7 days

Stable anti-rust function irrespective of water temperature by a compact device. Need no power supply and energy saving operation.



Removal of causative substance of scale and slime

Thorough removal of fine contaminations by reverse osmosis method.



【Comparison of removal performance】

RO-Water 800 Standard equipment

Industrial Water Purifier

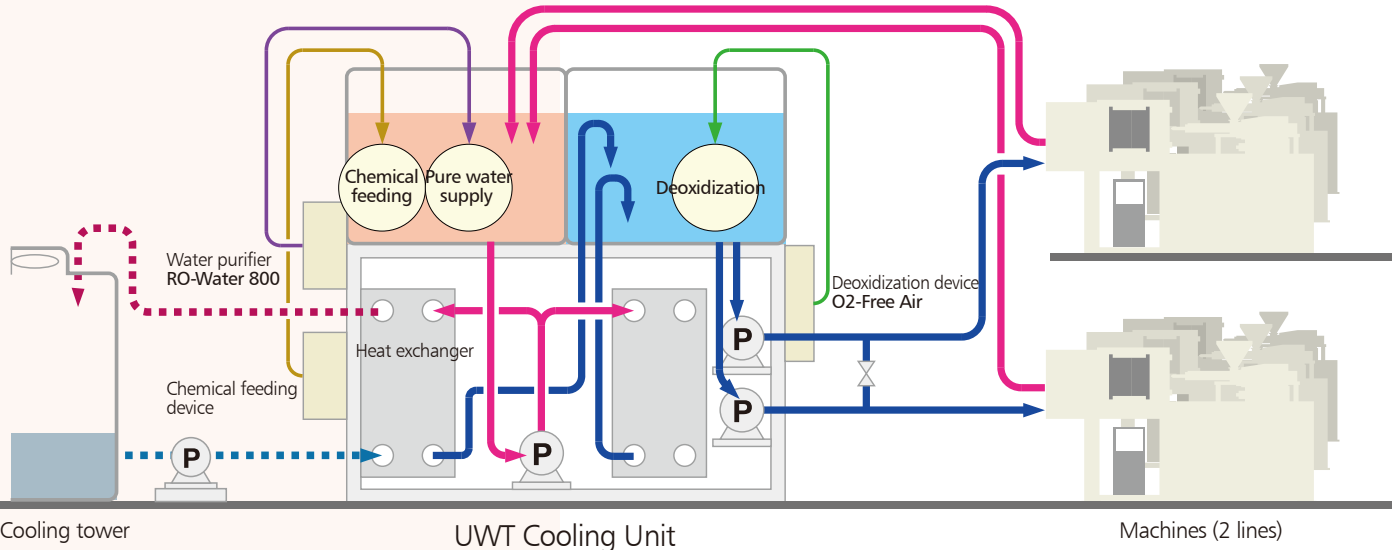


Available 800 little/day of pure water from tap water. Long-life elements, automatic backwashing, easy maintenance and user friendliness.

Dual system designed with productivity and easy maintenance

Two heat transfer units and two lines of piping for machines are installed.
No machine stoppage for maintenance, no production loss.

Patented No.2804734



Two heat exchanger units



Two lines of piping for machines

Variable control of water flow using inverter pump

Inverter pumps are used for piping for machines to control the water flow.

Adequate water supply helps energy saving operation.

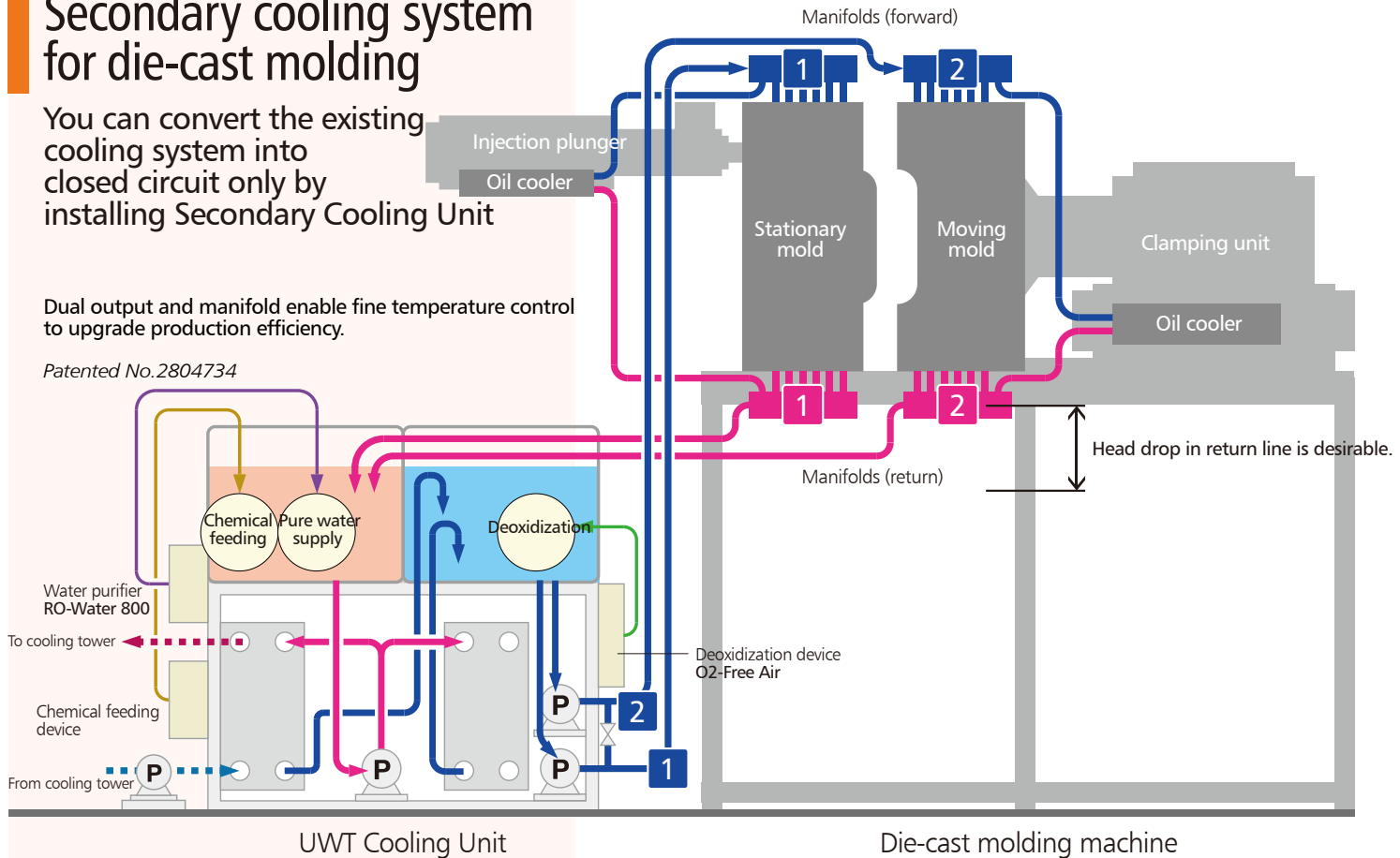


Secondary cooling system for die-cast molding

You can convert the existing cooling system into closed circuit only by installing Secondary Cooling Unit

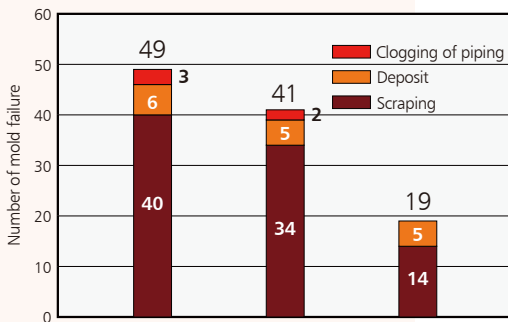
Dual output and manifold enable fine temperature control to upgrade production efficiency.

Patented No.2804734

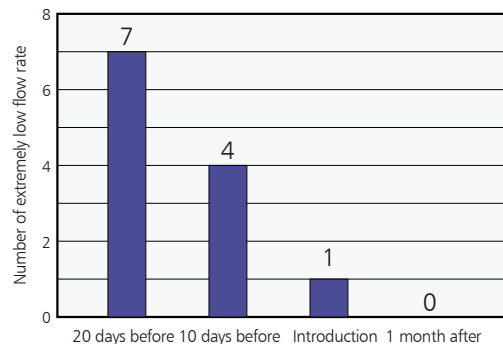


Controlled cooling water prevents clogging of piping or scraping of mold.

Prominent improvement is obtained only by introduction of Secondary Cooling Unit into conventional open system using a pit.



【Change in the number of mold failure】
Crankcase mold (2,000 tf class)



【Change in the number of extremely low flow rate】

【Measured water properties at a die-casting molding factory】 *The water quality criteria is a reference value set by the factory.

Sampling date	Water quality criteria	Soon after introduction			
		Supply water	Cooling water	Tank of secondary cooling unit	20 days after
Sample				Tank of secondary cooling unit	Tank of secondary cooling unit
Electrical conductivity(μS/cm)	<1200	270	821	343	273
Turbidity	<20	0	1	9.3	0
pH	8.0-9.0	7.13	8.48	7.60	7.20
Total hardness(mg CaCO ₃ /L)		76	270	95	62
Chloride concentration(mg Cl ⁻ /L)		23	60	26	6
Total iron concentration(mg Fe/L)	<1.0	0.20	0.60	2.37	0.15
Oxygen concentration(mg/L)		5.59	10.05	2.70	1.10

Reduce running cost by energy and work saving

Adequate pumping capability

Variable control by inverter pump is important. For example, 20% of rev. down reduces electricity by half.

Mitigation of maintenance

Eliminate failure of equipments caused by cooling water.

Control of cooling water temperature

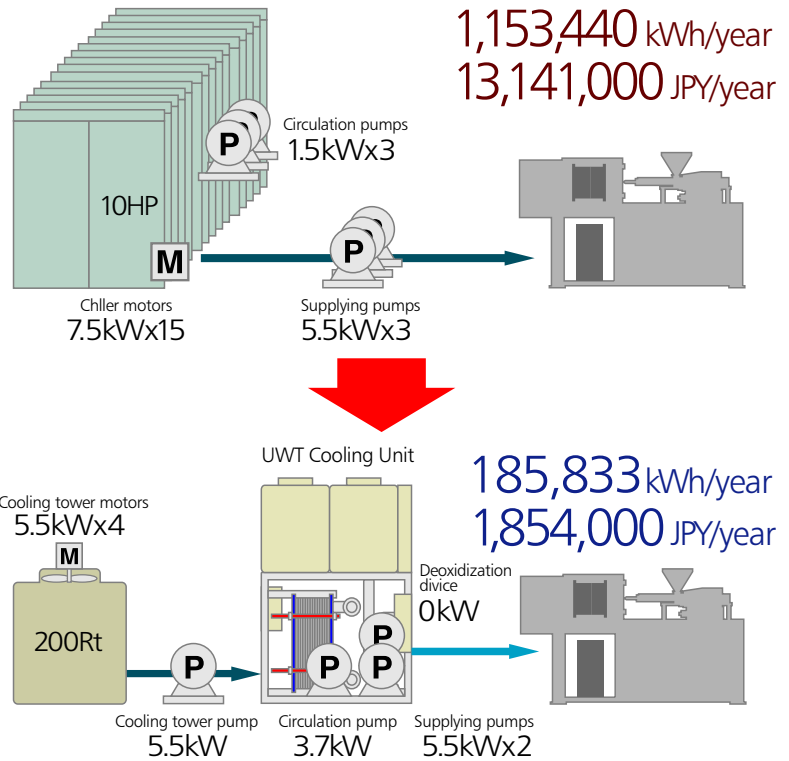
Excess cooling is prevented by automatic ON-OFF control.

Minimum use of chillers

Sufficient and stable supply is more effective than too low water temperature.

CO2 reduction

Power reduction is directly connected to CO2 cut.



Reduction of electricity **967,607 kWh/year**

Reduction of cost **11,287,000 JPY/year**

Reduction of CO2 **537t/year**

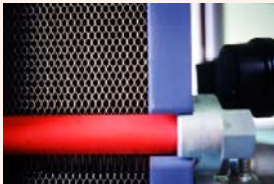
【Comparison of before and after introduction of secondary cooling system】

Easy construction, easy maintenance

UWT Cooling Unit is easily introduced into existing systems.

Maintenance is easy, but check out water condition every day.

Cleaning of heat exchanger plates



1 year

Replacement of filter



As needed

Replacement of membrane of RO water purifier



3 years

Replacement of deoxidization separator



1 year

Replenishment of chemical



As needed

【Maintenance and interval】