



*Duratherm Family of
Circulating Water
Temperature
Control Systems*

DURATHERM

***DUAL ZONE
DURATHERM***

DURATHERM HTP

DURATHERM NPS



Duratherm HTP

Mokon's Duratherm HTP circulating water temperature control system maximizes performance with temperatures up to 300° F and pressures up to 70 PSI. The HTP adds a cast iron pump, resulting in the highest temperature and pressure capabilities possible. Multiple sizes and configurations are available, including single and dual zone control. There's a variety of cooling methods from which to choose, as well as an optional brass pump for a completely non-ferrous system.



Duratherm HTP Specifications

| Model | Pump (hp) | Flow Rate | Heating Capacity | | | | | | Cabinet Dimensions L x W x H (in.) | |
|-------|-----------|----------------------|------------------|-------|-------|-------|-------|-------|---------------------------------------|----------------|
| | | | 9 kw | 18 kw | 24 kw | 36 kw | 48 kw | 72 kw | | 96 kw |
| | | | Total Amps* | | | | | | | |
| DB | 1-1/2 | 25 GPM up to 60 PSI | 13.8 | 25.1 | | | | | | 28 x 16 x 25 |
| | | | | | 32.6 | | | | | 32 x 17 x 27.5 |
| | | | | | | 47.7 | 62.7 | 92.8 | | 33 x 17 x 52 |
| | | | | | | | | | 122.9 | 37 x 25 x 39 |
| DC | 2 | 40 GPM up to 60 PSI | 14.4 | 25.7 | 33.2 | | | | | 32 x 17 x 27.5 |
| | | | | | | 48.3 | 63.3 | 93.4 | | 33 x 17 x 52 |
| | | | | | | | | | 123.5 | 37 x 25 x 39 |
| DF | 3 | 60 GPM up to 60 PSI | 15.5 | 26.8 | 34.3 | | | | | 32 x 17 x 27.5 |
| | | | | | | 49.4 | 64.4 | 94.5 | | 33 x 17 x 52 |
| | | | | | | | | | 124.6 | 37 x 25 x 39 |
| DE | 5 | 80 GPM up to 70 PSI | 17.5 | 28.8 | 36.3 | | | | | 32 x 17 x 27.5 |
| | | | | | | 51.4 | 66.4 | 96.5 | | 33 x 17 x 52 |
| | | | | | | | | | 126.6 | 37 x 25 x 39 |
| DD | 7-1/2 | 100 GPM up to 70 PSI | 20.3 | 31.6 | 39.1 | | | | | 32 x 17 x 27.5 |
| | | | | | | 54.2 | 69.2 | 99.3 | | 33 x 17 x 52 |
| | | | | | | | | | 129.4 | 37 x 25 x 39 |
| DA | 10 | 120 GPM up to 70 PSI | 24.2 | 35.5 | 43 | | | | | 38 x 17 x 28 |
| | | | | | | 58.1 | 73.1 | 103.2 | | 39 x 17 x 52 |
| | | | | | | | | | 133.3 | 37 x 25 x 39 |

Dual Zone Duratherm HTP Specifications

| | | | | | | | | | | |
|----|-------|----------------------|------|------|------|---|---|---|---|--------------|
| DG | 1-1/2 | 25 GPM up to 60 PSI | 27.6 | 50.2 | 65.2 | — | — | — | — | 33 x 17 x 52 |
| DJ | 2 | 40 GPM up to 60 PSI | 28.8 | 51.4 | 66.4 | — | — | — | — | 33 x 17 x 52 |
| DL | 3 | 60 GPM up to 60 PSI | 31 | 53.6 | 68.6 | — | — | — | — | 33 x 17 x 52 |
| DM | 5 | 80 GPM up to 70 PSI | 35 | 57.6 | 72.6 | — | — | — | — | 33 x 17 x 52 |
| DK | 7-1/2 | 100 GPM up to 70 PSI | 40.6 | 63.2 | 78.2 | — | — | — | — | 33 x 17 x 52 |
| DH | 10 | 120 GPM up to 70 PSI | 48.4 | 71 | 86 | — | — | — | — | 39 x 17 x 52 |

*460/3/60 (for 230V, double the listed amps)

Duratherm NPS

The Duratherm NPS gives you accurate temperature control while creating a negative pressure condition to pull the water through the mold and create a vacuum to stop the leak.

Combining Mokon's proven Duratherm design with a venturi jet pump, the Duratherm NPS provides positive or negative pressure flow to reduce repair delay and increase efficiency by temporarily fixing cooling circuit leaks.



Duratherm NPS Specifications

| Model | Pump (hp) | Flow Rate | | Heating Capacity | | | Cabinet Dimensions L x W x H (in.) |
|--------|-----------|-----------------------|---------------|------------------|-------|-------|---------------------------------------|
| | | Positive Mode | Negative Mode | 9 kw | 18 kw | 24 kw | |
| | | | | Total Amps* | | | |
| DT-NPS | 3/4 | Up to 25 GPM @ 25 PSI | Up to 17 GPM | 12.7 | 24 | 31.5 | 32 x 17 x 27.5 |
| DR-NPS | 1-1/2 | Up to 40 GPM @ 32 PSI | Up to 27 GPM | 13.6 | 24.9 | 32.4 | 32 x 17 x 27.5 |
| DN-NPS | 3 | Up to 60 GPM @ 34 PSI | Up to 36 GPM | 15.5 | 26.8 | 34.3 | 32 x 17 x 27.5 |
| DO-NPS | 5 | Up to 80 GPM @ 38 PSI | Up to 52 GPM | 17.5 | 28.8 | 36.3 | 32 x 17 x 27.5 |

*460/3/60 (for 230V, double the listed amps)

Which Design Will Make the Difference for You?

Duratherm

- 250° F maximum operating temperature
- 3/4 – 10 hp pump sizes

- Up to 120 gpm flow rates and 96 kw heating capacities

- Available in open circuit or closed circuit configurations

Dual Zone Duratherm

- Available in all Duratherm models

- Two zones of control in one cabinet

- Vertical design – less floor space required

Duratherm HTP

- 300° F maximum operating temperature

- 1-1/2 – 10 hp pump sizes

- Up to 120 gpm flow rates and 96 kw heating capacities

- Ideal for restrictive processes and high temperature applications

Duratherm NPS

- Combines positive and negative pressure in one system

- 180° F maximum operating temperature

- Available in 3/4 – 5 hp pump sizes and 9 – 24 kw heating capacities

- Repairs minor cooling circuit leaks



Design is the DifferenceSM

Circulating Water Temperature Control Systems

At Mokon, it's about more than just engineering products – it's about engineering answers. That's why we designed the Duratherm series of water temperature control systems to provide your process with unmatched control and accuracy. From our unique heating design, which maximizes energy efficiency, to our high quality construction that increases system service life and minimizes maintenance, Mokon's design truly makes the difference.

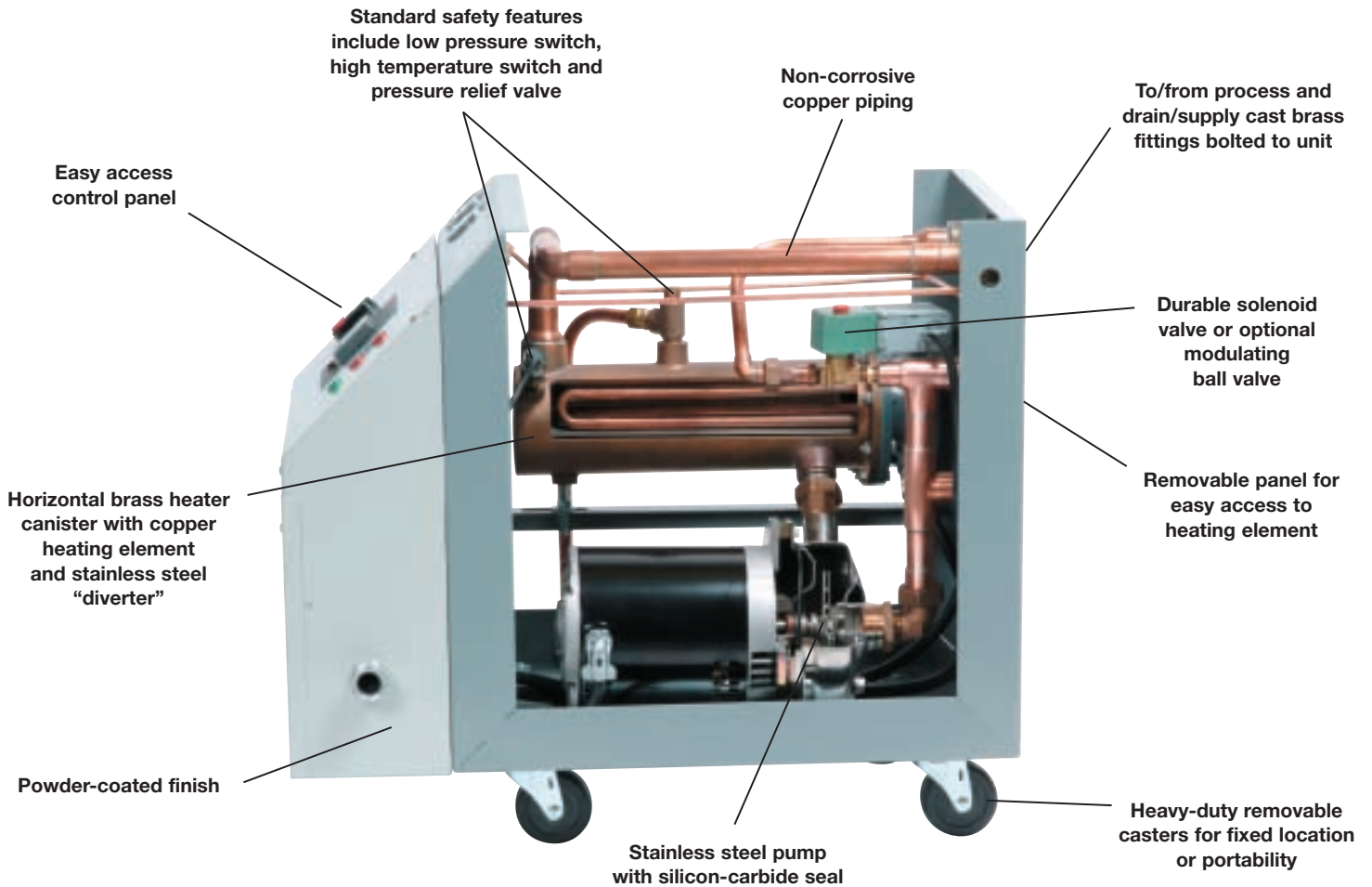


The Duratherm series design provides all the long-lasting benefits you've come to expect from Mokon's craftsmanship, but they're just the beginning of the performance-enhancing features. We reduced the number of piping connections to ensure leak-free operations and used all non-ferrous or stainless steel materials for the plumbing and components, while incorporating a long-life stainless steel pump. To simplify operation while providing the highest degree of precise temperature control to your process, a microprocessor with PID control technology is located at your fingertips on the operator-friendly control panel. To maintain clean and dust-free conditions, we added a removable cover with handles that creates easy access to the internal mechanisms. Heavy-duty casters make the units highly portable and the powder-coated finish on the cabinet adds to Duratherm's appearance and durability.

For many years we've taken customers' requirements to the drawing board to design better temperature control systems. Understanding the current industry demands for energy efficiency and environmental awareness helps us to continually improve our products and exceed industry specifications.

The Duratherm also meets many of your more basic needs – it's simple to install, easy to operate and convenient to service. This design is simply the best temperature control system available for your processing applications. Duratherm ensures better temperature control over a longer period of time, decreasing equipment downtime.

In the end, it all comes back to engineering the Duratherm series to keep your process running not only longer, but more efficiently. Every system is carefully developed and thoroughly tested to ensure the best performance possible. It's just another way that design makes the difference at Mokon.



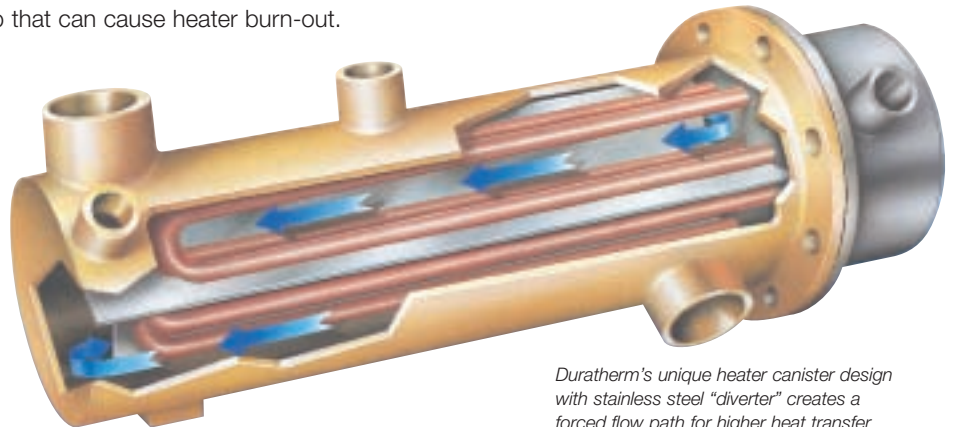
Take a Look Inside.

Non-ferrous and stainless steel components are the standard throughout the Duratherm design, providing unmatched corrosion resistance for longer service life.

Mokon's unique heater canister design uses a stainless steel "diverter" to generate a forced flow path over the heating element for higher velocity and maximum turbulence, increasing heat transfer to improve efficiency and reduce the scale build-up that can cause heater burn-out.

Additional features of the Duratherm series include an automatic process air purge and safety features such as high temperature and low pressure shut off switches, an internal bypass, safety pressure relief valve and a non-toxic extended life electromechanical contactor.

All Duratherm systems meet and exceed the Society of the Plastics Industry Guidelines for Liquid Circulating Temperature Control Systems and the NFPA 79 (National Fire Protection Association) electrical standards. Separate NEMA-rated electrical enclosure (with main power disconnect) provides additional safety. Systems include motor, heater and transformer fusing and wiring practices to ensure system and operator protection.



Duratherm's unique heater canister design with stainless steel "diverter" creates a forced flow path for higher heat transfer.

Duratherm

With its unique design, Mokon's Duratherm allows you to control process temperatures more efficiently and with less maintenance, keeping your process running longer for increased productivity. The reduced number of piping connections adds to Duratherm's durability by eliminating leaks, and its compact design makes it easy to move the Duratherm wherever it's needed most.



Duratherm Specifications

| Model | Pump (hp) | Flow Rate | Heating Capacity | | | | | | Cabinet Dimensions L x W x H (in.) | |
|-------|-----------|---------------------|------------------|-------|-------|-------|-------|-------|---------------------------------------|----------------|
| | | | 9 kw | 18 kw | 24 kw | 36 kw | 48 kw | 72 kw | | 96 kw |
| | | | Total Amps* | | | | | | | |
| DT | 3/4 | 25 GPM @ 25 PSI | 12.7 | 24 | | | | | | 28 x 16 x 25 |
| | | | | | 31.5 | | | | | 32 x 17 x 27.5 |
| | | | | | | 46.6 | 61.6 | 91.7 | | 33 x 17 x 52 |
| DR | 1-1/2 | 40 GPM @ 32 PSI | 13.6 | 24.9 | | | | | | 28 x 16 x 25 |
| | | | | | 32.4 | | | | | 32 x 17 x 27.5 |
| | | | | | | 47.5 | 62.5 | 92.6 | | 33 x 17 x 52 |
| DN | 3 | 60 GPM @ 34 PSI | 15.5 | 26.8 | 34.3 | | | | | 28 x 16 x 25 |
| | | | | | | 49.4 | 64.4 | 94.5 | | 32 x 17 x 27.5 |
| | | | | | | | | | 124.6 | 33 x 17 x 52 |
| DO | 5 | 80 GPM @ 38 PSI | 17.5 | 28.8 | 36.3 | | | | | 37 x 25 x 39 |
| | | | | | | 51.4 | 66.4 | 96.5 | | 32 x 17 x 27.5 |
| | | | | | | | | | 126.6 | 33 x 17 x 52 |
| DP | 7-1/2 | 100 GPM @ 40 PSI | 20.3 | 31.6 | 39.1 | | | | | 39 x 25 x 38 |
| | | | | | | 54.2 | 69.2 | 99.3 | | 32 x 17 x 27.5 |
| | | | | | | | | | 129.4 | 33 x 17 x 52 |
| DQ | 10 | 120 GPM @ 35 PSI | 23.3 | 34.6 | 42.1 | | | | | 37 x 25 x 39 |
| | | | | | | 57.2 | 72.2 | 102.3 | | 38 x 17 x 28 |
| | | | | | | | | | 132.4 | 39 x 17 x 52 |

*460/3/60 (for 230V, double the listed amps)

Dual Zone Duratherm

The vertical design of Mokon's Dual Zone Duratherm provides independent control of two separate systems in one cabinet – without taking up additional floor space. Like each of the Duratherm models, this vertical design ensures durable thermal stability and economical performance with an advanced heater canister design that provides a higher heat transfer rate and non-corrosive materials of construction.



Dual Zone Duratherm Specifications

| Model | Pump (hp) | Flow Rate | Heating Capacity | | | Cabinet Dimensions L x W x H (in.) |
|-------|-----------|------------------|------------------|-------|-------|---------------------------------------|
| | | | 9 kw | 18 kw | 24 kw | |
| | | | Total Amps* | | | |
| DZ | 3/4 | 25 GPM @ 25 PSI | 25.4 | 48 | 63 | 33 x 17 x 52 |
| DY | 1-1/2 | 40 GPM @ 32 PSI | 27.2 | 49.8 | 64.8 | 33 x 17 x 52 |
| DW | 3 | 60 GPM @ 34 PSI | 31 | 53.6 | 68.6 | 33 x 17 x 52 |
| DU | 5 | 80 GPM @ 38 PSI | 35 | 57.6 | 72.6 | 33 x 17 x 52 |
| DV | 7-1/2 | 100 GPM @ 40 PSI | 40.6 | 63.2 | 78.2 | 33 x 17 x 52 |
| DX | 10 | 120 GPM @ 35 PSI | 46.6 | 69.2 | 84.2 | 39 x 17 x 52 |

*460/3/60 (for 230V, double the listed amps)

What Makes the Difference

Easy to Use

- Small footprint
- Simple to install and operate
- Convenient to service

Maximum Energy Efficiency

- Horizontal brass heating canister
- Copper heating element
- Smaller hold-up volume of fluid for faster heating and cooling
- Forced fluid flow path over heater lengthens heater life

High Quality Components Extend Life

- Non-ferrous, non-corrosive copper piping
- Stainless steel pump
- Powder-coated finish
- Fittings and piping rigidly secured to cabinetry
- Easy access and viewing of controls

Maximum Electrical Safety and Control

- Microprocessor controls create greater accuracy
- All systems meet NFPA 79 electrical safety standards
- Separate NEMA-rated electrical enclosure
- Pressure relief, high temperature and low pressure safety switches are standard

Controllers

Several types of controllers are available to enhance the Duratherm's high performance standards. Mokon offers solid state analog dial type to dual digital LED microprocessor-based, with automated PID tuning parameters, linear or serial communication and SPI protocol capabilities. Our controllers' easy interchangeability makes our equipment easier and less expensive to service in the future.



Microprocessor-based Eurotherm controller is optional



1/16 DIN microprocessor controller is standard on all Duratherm systems

Our ability to custom design enables us to offer a control panel that will meet your specific processing needs. From brand name controls to direct computer or host machine interfacing, we can supply the control package that best matches your process.

Custom Options

Not all process applications have the same specifications. In fact, Mokon customers have come to depend on our thermal and fluid dynamic design philosophies to help them meet their unique process requirements. Our custom design system capabilities enable us to provide application solutions with Mokon quality and craftsmanship built in.

Our engineers will develop the Mokon system you need. Whether your process requires special control capabilities, a unique size requirement, multiple zone control, specific materials of construction, increased flow or heating capacities, or just a special color, Mokon will be happy to work with you to find a solution.

Mokon offers a wide variety of options and accessories to meet your specific needs. Typical requests include brass pump head and frame, closed circuit (indirect) cooling, NEMA 4 and 12 electrical enclosure, TEFC motor, additional safety alarms, modulating cooling valve, heat selector switch and phase indicator.

Product Testing and Warranty

All Mokon temperature control systems are qualified for service by rigid, simulated field tests, and they are factory-calibrated before shipping. Our comprehensive quality control program assures our customers' complete satisfaction. With durable materials of construction and reliable components, Mokon's extended life warranty is standard, including lifetime seals, piping and manifold.

Mokon Product Line

Circulating Water Temperature Control Systems

- Minitherm
- Hydrotherm
- Duratherm
- Duratherm HTP
- Dual Zone Duratherm
- Duratherm NPS



Circulating Heat Transfer Fluid Temperature Control Systems

- HTF 350
- HTF 500
- HTF 600
- HTF HF



Portable Chiller Systems

- Iceman Air-cooled
- Iceman Water-cooled
- Iceman Full Range
- Iceman Micro Series
- Iceman SC Series



Central Chillers and Pump Tanks

- Iceman Air-cooled
- Iceman Water-cooled
- Mokon Pump Tanks and Cooling Towers



Maintenance Products

- ClearFlo and ClearFlo Plus
- LeakMaster
- D-Scaler



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