Hyperchill
Process Water Chillers
Parker Hyperchill water chillers celebrate a presence of over 30 years in the industrial chiller market. This experience has led to a range which not only offers all the advantages typically offered by a quality water chiller, but also adds significant benefits for the industrial user. As such Hyperchill combines advanced design solutions, such as energy saving scroll compressors and a sophisticated microprocessor, with unique features to meet the specific needs of industrial users: these include Hyperchill’s extreme flexibility towards the varying working conditions typically found in industry.

The standard models are augmented by a wide range of options and accessories, which together ensure Hyperchill is the perfect solution to each and every industrial application. Hyperchill maximizes productivity and minimizes costs, as well as easing conformity to regulations on water quality. Hyperchill is the perfect solution to industrial chilled water needs.

**Why an industrial chiller?**

The use of cold water is very common in industry. The motives are obvious: cold water improves productivity, secures industrial processes and reduces costs. There are several methods of creating cold water, but water chillers are increasingly becoming the preferred solution. But why? Firstly, chillers always supply the exact water temperature requested, even with differing ambient conditions and differing load requests, thus ensuring optimum efficiency. Water has furthermore become a very precious, and costly, natural resource. Chillers, by operating in a closed circuit, continuously reutilize the same water, and thereby avoid unwanted water wastage. Add to this fact that a number of directives have recently emerged to safeguard both the quality of the water being utilized (for health reasons) as well as the discharging of impure water into the ambient (to protect the environment): closed circuit chiller operation greatly simplifies conformance to these regulations. The needs of industry are changing, and a water chiller increasingly satisfies these needs.

**Benefits**

- Increases productivity, reduces costs
- Optimizes industrial applications
- Adaptable to individual customer needs
- Accepts wide range of water temperatures and fluctuating water flows

**Applications**

- Food (beverage, confectionery, chocolate, processing, storage)
- Plastics (injection, blow molding, extrusion, film extrusion, thermoforming)
- Lasers (welding, profiling, cutting, optics, medical, marking, aesthetics)
- Printing and Graphics (manufacture, printing, cardboard, labels, plastic film)
- Chemical (petrochemical, paints, solvents, temperature control)
- Medical (imaging and oncology)
- Mechanical (welding, cutting, profiling, polishing, rolling, grinding)
- Other (wood, ceramics, gold & silver, biogas pharmaceutical, compressed air, textile)
Hyperchill is an all-in-one solution, with all components packaged inside.
Compact dimensions and a low weight make it simple to position, while models from PCW020 can be installed outdoors.
Maintenance is facilitated by full frontal access, a removable tank and a condenser section which is isolated from the rest of the chiller (from PCW020).
Models PCW020 - 650 can be used in pressurized closed circuits, facilitating system design. (PCW007 - 010 must be specified when ordered).

Unlike traditional chillers, Hyperchill places the evaporator stage within the tank, with the temperature control sensor positioned on the water outlet: this guarantees a very accurate water outlet temperature control. Water temperature stability is further improved thanks to the oversized water tank.
An antifreeze thermostat and water level sensor secure continuous operation in all conditions, as does the internal water by-pass (standard on PCW007 – 650).

Note: Internal by-pass will not protect pump from dead-head. External bypass kits are available where needed.

Hyperchill standardly uses environmentally friendly refrigerant R407C on all models: R407C is characterized by a very high efficiency, providing lower power consumption.
Scroll compressors, which offer energy savings of around 20%, are fitted from PCW060.
Multiple compressors (from PCW210) ensure significant energy savings at partial loads.

Hyperchill operates continuously in all conditions and with all applications.
Multiple compressors and twin independent refrigeration circuits (from PCW210), with automatic rotation, offer increased peace of mind, as do an extensive list of safety devices.
The high working limits and (from PCW020) condenser pre-filter ensure that Hyperchill operates in all ambients.
When operating in closed circuits, Hyperchill avoids water fouling and the need for refilling.
Scroll compressors

Hyperchill features advanced scroll compressors (standard from PCW060). These offer significantly lower power consumption and a reduced refrigerant charge. The unique technology offers extreme reliability and renders the compressor near indestructible. Scroll compressors are also very user friendly, as they are extremely quiet and ensure the chiller requires no pre-heating. Furthermore, scroll compressors feature 50% fewer moving parts and emit lower vibration levels, thus increasing the chiller’s longevity.

Microprocessor control

All models standardly feature a microprocessor, offering ease of use, precise control and reliable operation. The advanced version, standard from (PCW040), offers a vast range of programming possibilities, allowing the chiller to be optimized for operation in even the most particular conditions. The microprocessor is standardly fitted with an interface for easy connection to be a centralized supervisor system. Remote control panels can be specified from PCW020.

Integral water tank

PCW007 - 650 are standardly supplied with an integral tank. The tank’s generous dimensions ensures precise water temperatures. The unique design places the evaporator (co-axial on PCW007 - 025, finned coil on PCW040 - 650) within the tank for steady temperature control, while the low water velocity configuration offers minimal pressure drops and virtually eliminates the risk of impurities blocking the water circuit. The tank is removable, allowing easy maintenance.
Cleanable condenser pre-filter
A condenser pre-filter (standard from PCW020) improves chiller performance and reduces maintenance.

Flexibility of installation
Hyperchill standardly accepts water inlet temperatures up to 86°F (30°C) and delivers outlet temperatures down to 32°F (0°C)*. Inlet/outlet temperature differences of as much as 27°F (15°C) can be obtained. Hyperchill operates with ambient temperatures up to 113°F (45°C), even with high water temperatures and during start-up. Models from PCW020 can be installed outdoors. The water by-pass (standard on PCW007 - 650) guarantees fault-free generation with fluctuating water flows and facilitates chiller start-up.

(*with water/glycol mixture)

Integral Pump
PCW007 - 650 feature, as standard, a pump installed within the chiller itself. Twin pumps (from PCW080), or pumps with lower or higher available head pressures, are available on request. The water by-pass (standard on PCW013 - 650) protects the pump in fluctuating load conditions.

Peace of mind
Every single Hyperchill is extensively tested. Performance tests with water flow are combined with helium leak tests, water circuit tests, electrical tests, and tests of the microprocessor settings.

www.parker.com/faf
Options and Accessories

Centrifugal fan option (PCW040 - 650)
Designed for indoor installation, this version features fans which permit the condenser discharge air to be ducted.

Water-cooled option (PCW040 - 650)
In those cases where air-cooled models cannot be used, or a supply of warm water is desirable, Hyperchill offers water-cooled models featuring a shell & tube condenser and a pressostatic water control valve.

Special & multiple pumps
On request the standard pump can be substituted by pumps for either lower or high available head pressures (from PCW020). Furthermore, twin pumps can be installed on board (from PCW080), offering a stand-by capacity.

Low ambient option (from PCW020)
A 14°F (-10°C) ambient temperature version (0°F (-18°C) on PCW160 - 330) is available for operation in cold environments.

Low water temperature option (from PCW020)
This option allows operation with water outlet temperatures of as low as 14°F (-10°C).

Non-ferrous option (PCW020 - 650)
This version features a water side using non-ferrous materials, and is used in industries such as lasers.

Remote control kits (from PCW020)
Two remote control kits are offered. The base version features remote on/off switching and gives an on/off and general alarm signal. The advanced version allows the user to perform all operations available on the microprocessor.

Low noise option (from PCW020)
This version further reduces the standard models already impressively low noise levels.

Close control option
Used in applications such as lasers, where very precise outlet water temperatures are required (+/- 1°F (0.5°C)); this version features a twin hot gas by-pass system, enhanced condensing control, and a P+I control algorithm.

Other options
Transport wheels (PCW007 - 013)
Metal control panel cover (from PCW040)
Antifreeze heating for tank (PCW020 - 650)
Water fill kits

Two types of water fill kits are offered to assist in filling the fluid circuit and to compensate for any expansion of the circuit during operation. Each fill kit comes with a filter to reduce the potential of introducing mineral deposits to the fluid circuit.

Type 1: An atmospheric pressure version is available with either manual or automatic refilling. The manual version is built directly within the cabinet on the PCW007 - 013 models with the PCW020 - 650 provided as a separate kit. These kits are supplied with a 20 micron capsule filter. The recommended change out for the entire capsule is every 12 months.

Type 2: A pressurized / automatic fill version is intended for static pressures up to 87 psi (6 bar) for models PCW020 - 650 and is provided in two assemblies for site installation. This kit is supplied with a 20 micron filter assembly. The recommended change out for the filter element is every 6 - 12 months.

Type of water fill kit required is dependant on application.

### Technical Data

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(1) At water in/out temperature = 55/45°F (12/7°C), glycol 0%, 95°F (35°C) ambient temperature air-cooled models
(2) Weights are inclusive of pallet and refrigerant charge
(3) Referred to axial fan version in free field conditions at a distance of 32.8 ft (10 m) from unit, measured on condenser side
## Worldwide Filtration Manufacturing Locations

### North America

**Gas Separation & Filtration**
- Gas Separation & Filtration Division
  - Lancaster, NY
  - 716 686 6400
  - www.parker.com/haf
- Haverhill, MA
  - 978 858 0595
  - www.parker.com/balston

**Engine Filtration & Water Purification**
- Racor
  - Modesto, CA
  - 209 521 7860
  - www.parker.com/racor
- Holly Springs, MS
  - 662 252 2656
  - www.parker.com/racor
- Beaufort, SC
  - 843 846 3200
  - www.parker.com/racor
- Racor – Village Marine Tec.
  - Gardena, CA
  - 310 516 9911
  - desalination.parker.com

**Hydraulic Filtration**
- Hydraulic Filter
  - Metamora, OH
  - 419 644 4311
  - www.parker.com/hydraulicfilter
- Laval, QC Canada
  - 450 629 9594
  - www.parkerfarr.com

**Process Filtration**
- domnick hunter Process Filtration
  - Oxnard, CA
  - 805 604 3400
  - www.parker.com/processfiltration
- Madison, WI
  - 608 824 0500
  - www.scilog.com
- Phoenixville, PA
  - 610 933 1600
  - www.parker.com/processfiltration

**Aerospace Filtration**
- Velcon Filtration
  - Colorado Springs, CO
  - 719 531 5855
  - www.velcon.com

### Europe

**Gas Separation & Filtration**
- domnick hunter Filtration & Separation
  - Gateshead, England
  - +44 (0) 191 402 9000
  - www.parker.com/dhfns
- Parker Gas Separations
  - Etten-Leur, Netherlands
  - +31 76 508 5300
  - www.parker.com/dhfns
- Hiross Zander
  - Padova Business Unit
  - Padova, Italy
  - +39 049 9712 111
  - www.parker.com/hzd
- Hiross Zander
  - Essen Business Unit
  - Essen, Germany
  - +49 2054 9340
  - www.parker.com/hzd

**Engine Filtration & Water Purification**
- Racor
  - Dewsbury, England
  - +44 (0) 1924 487 000
  - www.parker.com/rfde
- Racor Research & Development
  - Stuttgart, Germany
  - +49 (0)711 7071 290-10
  - www.parker.com/rfde

**Hydraulic Filtration**
- Hydraulic Filter
  - Arnhem, Holland
  - +31 26 3760376
  - www.parker.com/hfde
- Urjala Operation
  - Urjala, Finland
  - +358 20 753 2500
  - www.parker.com/hfde

**Condition Monitoring Centre**
- Norfolk, England
  - +44 (0) 1842 763 299
  - www.parker.com/hfde

**Process Filtration**
- domnick hunter Process Filtration
  - Birtley, England
  - +44 (0) 131 410 5121
  - www.parker.com/processfiltration
- Parker Twin Filter BV
  - Zaandam, Netherlands
  - +31(0)75 655 50 00
  - www.twinfiler.com

### Asia Pacific

**Australia**
- Castle Hill, Australia
  - +61 2 9634 7777
  - www.parker.com/australia

**China**
- Shanghai, China
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