

# Hyperchill

## Industrial Process Chillers for Precision Cooling



### Precision chilled water down to -10°C.

Extremely compact and easy to use, Hyperchill ensures an accurate control of water temperature. Each model is designed for safe and reliable operation in the most varied working conditions, thanks to the modern technical solutions used and the availability of a wide range of accessories and options.

Hyperchill Low water version allows operation with water outlet temperature down to -10 °C in order to meet the needs of many applications like Wineries, Breweries, Low temperature storage, Cool rooms in hospitals and large centers requiring stable and reliable low temperature cooling.

Each individual Hyperchill unit is extensively tested to guarantee efficient operation and reliability in all working conditions.



### Product Features

#### Complete solution, easy to install and manage

- Hydraulic circuit: water tank, immersed evaporator, pump with bypass provide a compact and easy to install solution.
- Configurable with Low Water option allowing water temperature control down to -10 °C;
- Electronic controllers with proprietary software provide access to all the parameters of the units and allow special management for any specific need.
- Available with remote monitoring.
- Completely configurable with many options and kits to fit many industrial applications needs.
- Condenser filters.
- Independent condensing plenum.
- Full access and easy service design.
- Low ambient speed-control on fan-motor ensures constant performances at different temperatures

#### High reliability and back-up eliminate downtime

- Large water tanks allow minimum compressor cycling and precise low water temperature control.
- Double independent fridge circuits (from ICE076).
- 2 compressors from ICE076 and 4 compressors from ICE150 with automatic rotation.
- Double stand-by water pumps available.
- Maximum ambient temperature up to 45 °C.

#### Lowest energy consumption in the market

- Oversized condensers and evaporators.
- Use of compliant scroll compressors.

# Product Specification

## Hyperchill Industrial Process Chillers for Precision Cooling

**Water and refrigerant manometers:** permit full control of the working conditions.

**Microprocessors:** permit full control of the unit parameters. Proprietary software allows a wide range of programming and remote monitoring options.

**Compliant scroll compressors:** with less moving parts and compliant technology provide excellent efficiency, high reliability, and very low noise levels.

**Air cooled with axial fans:** Suitable for outdoor installation, no need for protection.

**Water pump (standard 3bar):** different head-pressures available to meet the requirements of specific applications. Configurable as a twin-system for 100% back-up.

**Mesh filters:** condenser protection from dirt and contamination, reduces maintenance costs and the risk of downtime.

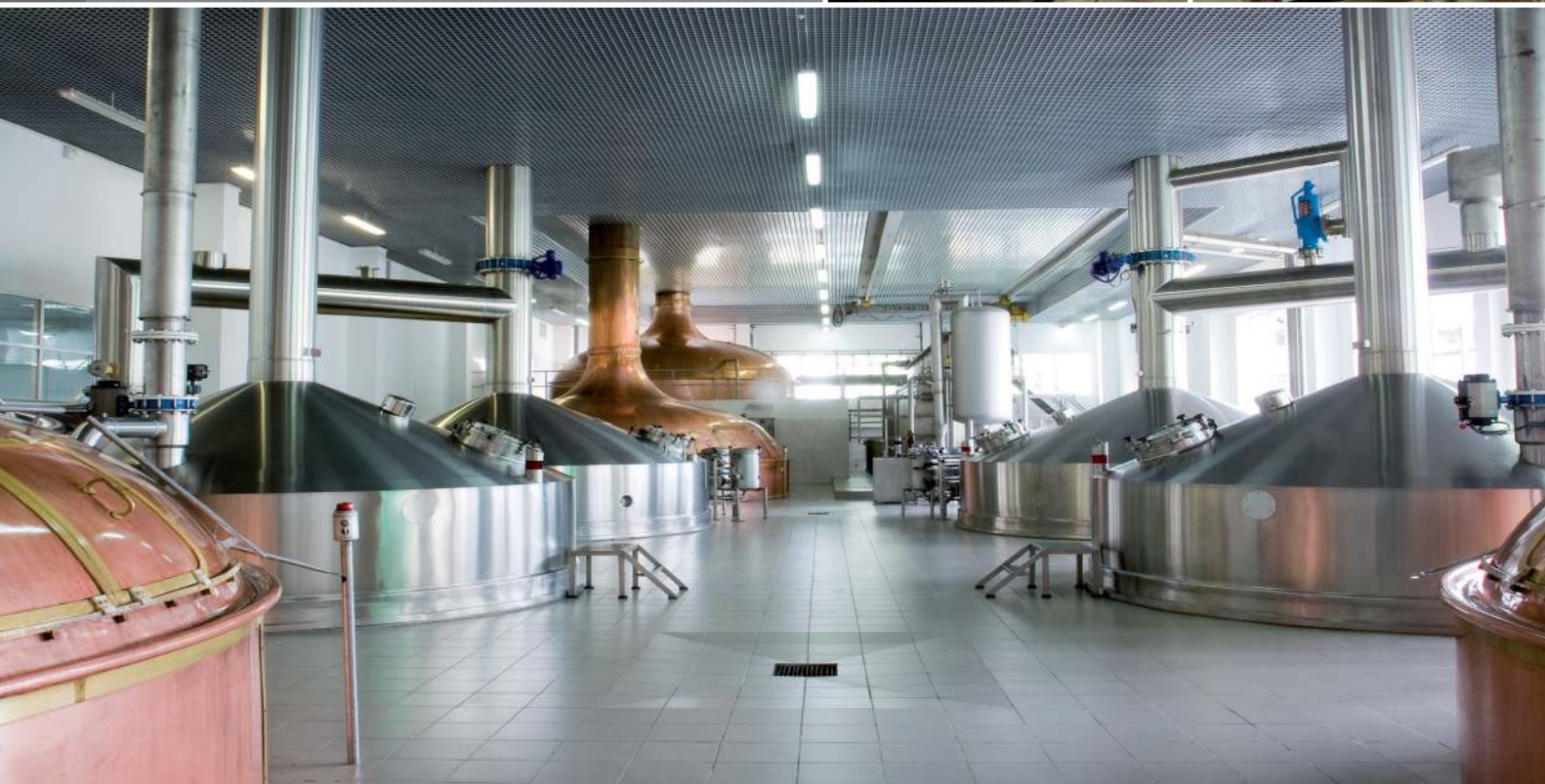
**Evaporator:** located inside the water tank - reduces the overall dimensions, increases the efficiency and improves temperature control.

**Water by-pass:** protects the pump and supplies constant flow to the evaporator avoiding alarms and freezing.

**Water tank:** generously dimensioned to guarantee high reliability and improved temperature control.



ICE76 watercooled outside a spirit production



# Product Specification

## Hyperchill Industrial Process Chillers for Precision Cooling

### Technical Data

Model ICE		029	039	046	057	076	090	116	150	183	230
Cooling capacity1	kW	28,1	38,2	45,2	56,4	76	90,2	115,5	149,2	182,3	228
Compressor abs.power1	kW	5,7	7,7	10,1	12,3	15,4	20,3	24,9	30,8	40,1	51,4
Cooling capacity2	kW	12,1	16,0	19,5	22,6	31,5	38,4	46,9	61,9	77,0	92,0
Compressor abs.power2	kW	5,9	8,0	9,9	13,4	16,1	20,4	26,3	31,9	40,9	55,4
Power Supply	V/ph/Hz	400/3/50 no neutral									
Protection index		54									
Refrigerant		R407c									

### Compressor

Type		scroll									
Compressors / circuit		1 / 1				2/2			4/2		
Max.abs.power 1 compressor	kW	7,8	11,1	13,7	16,8	11,1	13,7	16,8	11,1	13,7	16,8

### Axial fans

Quantity	n.°	1	2		3			2		3	
Max.abs.power 1 fan	kW	0,78	0,61	0,61	0,61	0,78	0,78	0,78	2	2	2
Air flow	m3/h	9200	12400	12000	17400	25500	25000	26400	47000	46000	66000

### Centrifugal fans

Quantity	N°	2			3						
Max.abs.power 1 fan	kW	1,1	1,1	1,1	1,1	1,5	1,5	1,5	3	3	3
Air flow	m3/h	9200	12400	12000	17400	25500	25000	26400	47000	46000	66000
Head Pressure	Pa	200	180	160	200	100	100	100	180	180	130

### Water cooled version

Condenser water flow											
Condenser connections	m3/h	2,4	4	5,6	8	11,1	11,5	16,6	19,2	31	33

### Pump P30

Max.abs.power											
Water flow (nom./ max)1	kW	1,3	1,3	2,3	2,3	2,5	2,7	2,7	4,5	4,5	4,5
Head pressure (nom./max)1	m3/h	4,8/9,6	6,6/9,6	7,8/18	9,7/18	13/31	15/27	20/27	25/50	30/50	39/50
Water flow (nom./max)2	m H2O	27/17	24/17	28/22	27/22	23/13	28/16	25/16	34/20	32/20	26/20

### Dimension and weight

Width	mm	1650	1650	1650	2200	2200	2200	2200	3000	3000	3260
Depth	mm	744	744	744	744	898	898	898	1287	1287	1287
Height	mm	1358	1358	1358	1358	1984	1984	1984	2298	2298	2298
Connections in/out	in	1 ½"	1 ½"	1 ½"	1 ½"	2"	2"	2"	2 ½"	2 ½"	2 ½"
Tank capacity	l	180	180	250	300	500	500	500	1000	1000	1000
Weight (axial)	kg	380	410	430	520	800	900	1000	1500	1800	2100
Weight (centrif.)	kg										
Weight (water cooled)	kg	380	410	430	520	800	900	1000	1500	1800	2100

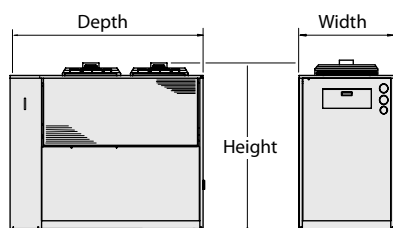
### Noise level

Sound pressure (axial)	dB(A)	53	52	52	56	58	58	58	62	62	64
------------------------	-------	----	----	----	----	----	----	----	----	----	----

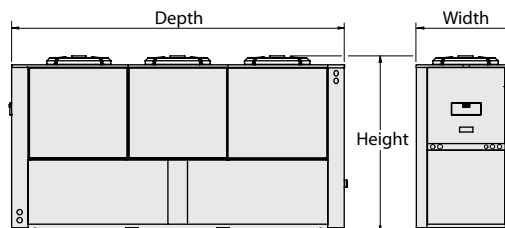
1) at water in/out temperature = 20/15 °C, glycol 0 %, either 25 °C ambient temperature (air-cooled models) or 25 °C condenser water inlet temperature with 35 °C condensing temperature (water-cooled models).

2) at water in/out temperature -3/-8 °C, glycol 30 %, 40 °C ambient temperature (air cooled models)

3) referred to axial fan version in free field conditions at a distance of 10 m from unit, measured on condenser side, 1 m from ground.



ICE029-046



ICE057-230



# Product Specification

## Hyperchill Industrial Process Chillers for Precision Cooling

### Correction factors

A) Ambient temp. (air-cooled models) correction factor (f1)	°C	5	10	15	20	25	30	35	40	45
		1,05	1,05	1,05	1,05	1	0,95	0,89	0,83	0,77
B) Water outlet temperature correction factor (f2)	°C	5	10	15	20	25				
		0,72	0,86	1	1	1				
C) Glycol correction factor (f3)	%	0	10	20	30	40	50			
		1	0,99	0,98	0,97	0,96	0,94			
D) Condenser water inlet temp. (water-cooled models) correction factor (f4)	°C	20	25	30	35	40				
		1,05	1	0,95	0,9	0,85				

To obtain the required cooling capacity multiply the value at nominal conditions by the above correction factors (i.e. cooling capacity =  $P \times f1 \times f2 \times f3 \times f4$ , where P is the cooling capacity at conditions (1)). Hyperchill, in its standard configuration, can operate up to ambient temperatures of max 45 °C. The above correction factors are approximative: for a precise selection always refer to the software selection program.



2 x ICE090 at a hospital in London

ICE360 working at -5 °C on a brewery

### Versions:

- **Air cooled** with centrifugal fans: ideal for installation in enclosed environments. Can be ducted for air venting or heat recovery.
- **Water cooled** (alternative to the air cooled versions): Shell & tube condensers with pressostatic valves.
- **Low ambient temperature** additional condensing control for continuous operation in cold ambients (negative temperature). Available for air cooled, axial fan units.
- **Precision control** for precise water temperature control ( $\pm 0,5$  °C)
- **Non ferrous stainless steel tank**, pump, and hydraulic components.
- **Bioenergy:** epoxy coating on all exposed copper as protection against aggressive environments.
- **Special and multiple pumps:** higher (P50-5bar) or lower (P15-1,5bar) head pressure available to suit different hydraulic circuits. Double stand-by pump for high reliability.
- **Antifreeze heating** avoids freezing when the unit is switched off and glycol is not used.

### Options:

- **Water fill kits:** pressurized, automatic or ambient manual kits, for water filling in any installation.
- **Remote control kits:** base version for remote ON/OFF and general alarm monitoring.
- **Advanced version** for complete remote unit management.
- **Water filters** for circuit cleanliness and machinery protection.

### EMEA Product Information Centre

Free phone: 00 800 27 27 5374

(from AT, BE, CH, CZ, DE, DK, EE, ES, FI, FR, IE, IL, IS, IT, LU, MT, NL, NO, PL, PT, RU, SE, SK, UK, ZA)

### US Product Information Centre

Toll-free number: 1-800-27 27 537

[www.parker.com/hzd](http://www.parker.com/hzd)