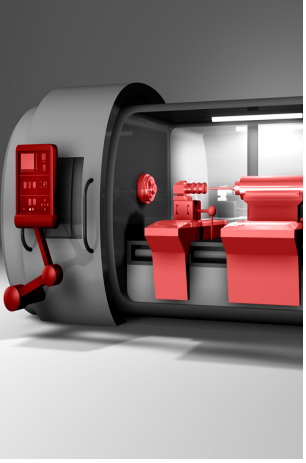
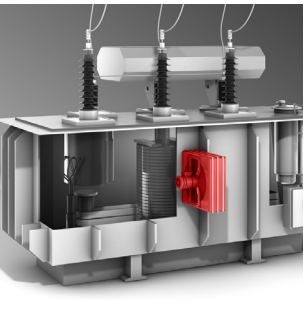
HYDAC INTERNATIONAL

HYDAC Refrigerated Fluid Chiller Systems RFCS

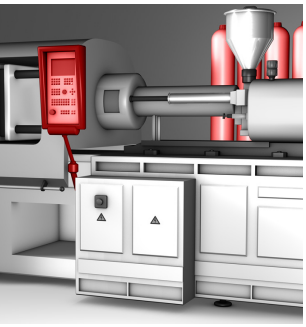
E 5.824.1/08.15



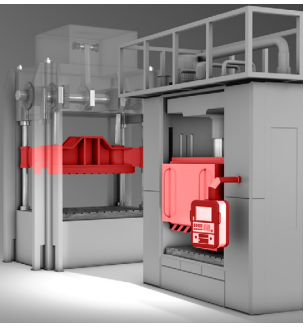
Machine tools



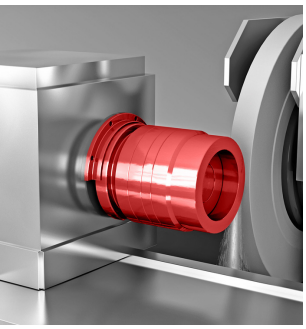
Thermal power plants



Plastic injection moulding machines



Presses



Lathes

Automotive industry

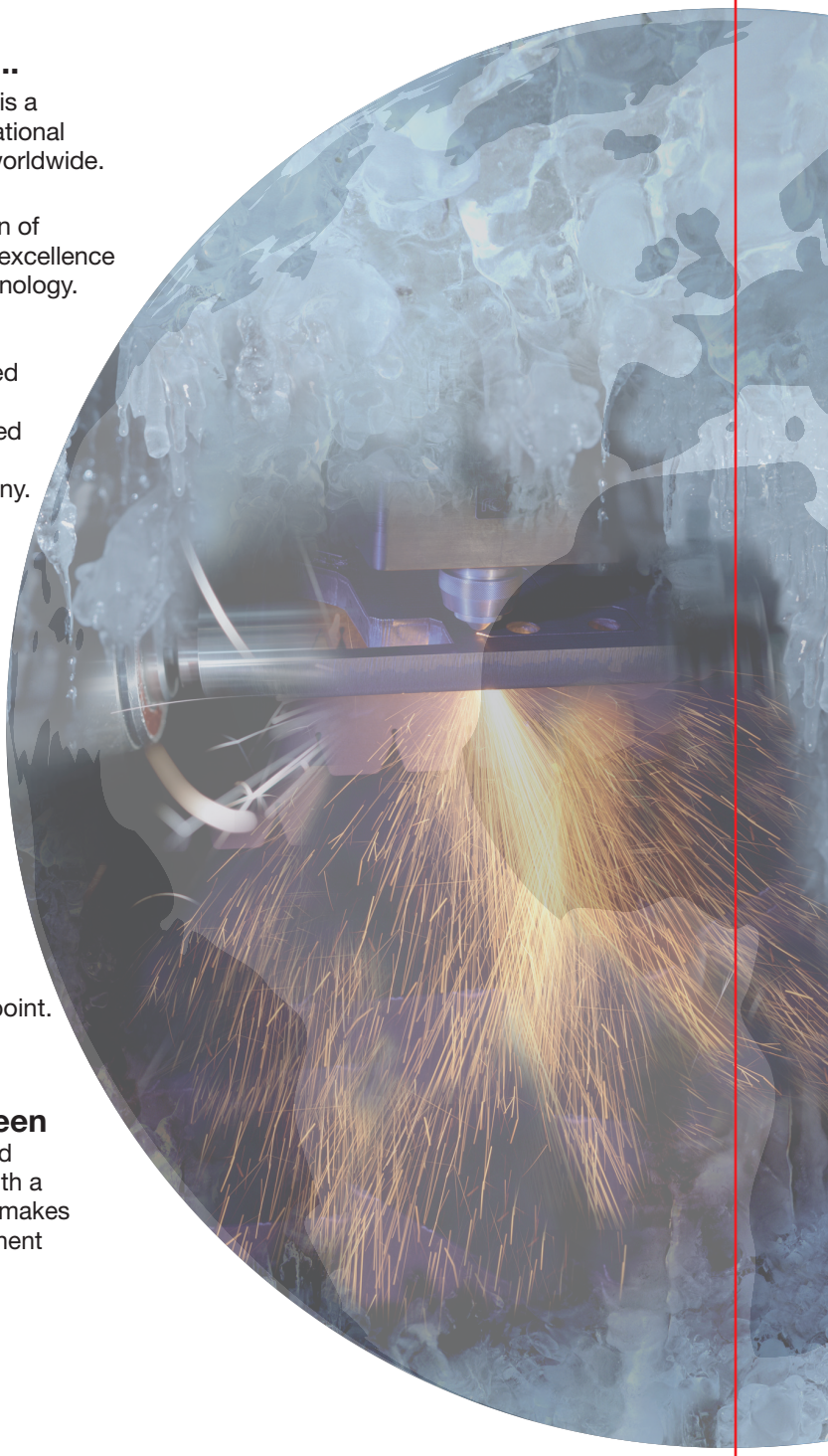
HYDAC

Your Partner for Expertise in Cooling Systems.

All the requirements...

H.I.B Systemtechnik GmbH is a subsidiary of HYDAC International which employs over 7,500 worldwide.

Located in the Bavarian town of Friedberg, it is the centre of excellence for refrigeration cooling technology. Innovative cooling systems for the machine tool and laser industries are developed and manufactured here. The intelligence demonstrated in our machines originates exclusively within our company.



...for efficient cooling solutions

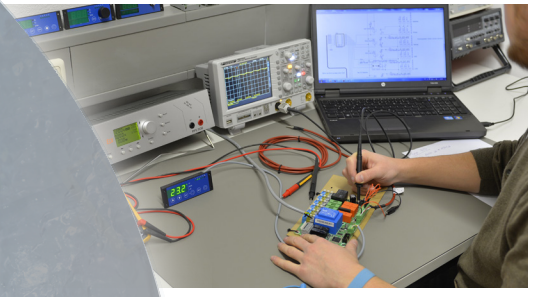
The RFCS Refrigerated Fluid Chiller System cools various fluids such as water, water/glycol or oil down to, or below, the ambient temperature. The cooling system, which consists of a chiller, pump, tank and electronic control, operates independently and highly accurately to a specific setpoint.

Think green – Act green

The energy efficient, patented mixer principle, combined with a sealless submersible pump, makes this system the ideal component for your machining centre.

From the prototype to series production.

Planning and advice from our specialists on site.
We tailor the solution to your individual requirements.



ISO 9001
CERTIFIED
QUALITY

Our own **development centre** produces market-driven, energy efficient and cutting-edge solutions, to stay one step ahead of the "state of the art".

The coolers are **produced** in the Bavarian town of Friedberg and rightly deserve the "Made in Germany" seal of quality!

In order to provide a consistently high **level of quality**, all equipment must undergo a function and performance test.

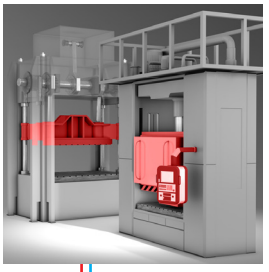
For **Service** you can call on a comprehensive network of service engineers.
Whether it is for repair at H.I.B or on site.
We are at your service worldwide.

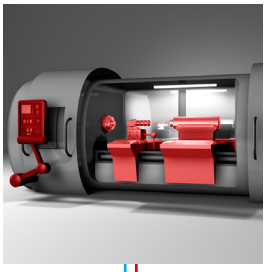
RFCS Chiller System

Two ranges – Multiple applications

In the standard versions, these cooling systems are designed as active coolers complete with compressor, air cooled condenser, submersible pump and electronic control.

Whether integrated into a machine or used as a separate auxiliary cooler, the RFCS range of chillers will tackle any cooling task and guarantees quality for your products with utmost precision.





RFCS-G Series

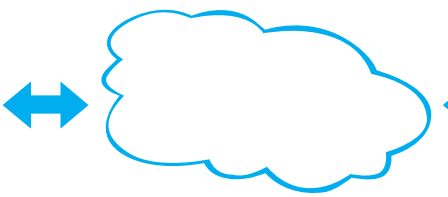
Separate auxiliary coolers with high capacities up to 160 kW for cooling tasks in the machine tool sector. Several units can be connected in parallel to expand the capacity as required.

RFCS-D Series

Separate auxiliary cooler for cooling tasks in machine building (integration into the machine tool), capacities up to 7 kW

Temperature control / Remote maintenance

H.I.B Control unit



RFCS Chiller System

Technical specifications

Series	Cooling capacity [1] [kW]	Condenser		Coolant			Pump capacity / flow rate
		air-cooled	water-cooled	DI [2]	IW [3]	Direct [4] (without tank)	
G0	1	●	●	●	●	●	10 l/min @ 1.5 bar
	1.5	●	●	●	●	●	10 l/min @ 1.5 bar
	2.3	●	●	●	●	●	10 l/min @ 1.5 bar
D2	3.3	●	●	●	●	●	15 l/min @ 2 bar
	3.3	●	●	●	●	●	15 l/min @ 2 bar
D3	4.5	●	●	●	●	●	15 l/min @ 2 bar
	5.6	●	●	●	●	●	15 l/min @ 2 bar
D4	7.5	●	●	●	●	●	40 l/min @ 3 bar
G4	7.5	●	●	●	●	●	40 l/min @ 3 bar
	9.5	●	●	●	●	●	40 l/min @ 3 bar
G5	12	●	●	●	●	●	40 l/min @ 3 bar
	15	●	●	●	●	●	40 l/min @ 3 bar
G6	20	●	●	●	●	●	40 l/min @ 3 bar
	26	●	●	●	●	●	40 l/min @ 3 bar
	32	●	●	●	●	●	40 l/min @ 3 bar
G7	40	●	●	●	●	●	90 l/min @ 3 bar
	50	●	●	●	●	●	90 l/min @ 3 bar
	60	●	●	●	●	●	90 l/min @ 3 bar
	70	6)	●	●	●	●	150 l/min @ 3 bar
	90	6)	●	●	●	●	150 l/min @ 3 bar
	100	6)	●	●	●	●	150 l/min @ 3 bar
	135	6)	●	●	●	●	250 l/min @ 3 bar
	155	6)	●	●	●	●	250 l/min @ 3 bar

1) Cooling capacity based on 35°C ambient air / water to condenser and 20°C process fluid supply temperature
2) DI = deionised water
3) IW = industrial water
4) Direct = direct evaporation without refrigerant
5) Standard, other voltages on request
6) Available as an air-cooled version with separate condenser or air blast heat exchanger

Electrical supply [1]	Dimensions LxDxH [mm]	Weight [kg]
230V - 50/60Hz	443 x 524 x 443	43
230V - 50/60Hz	443 x 524 x 443	45
230V - 50/60Hz	443 x 524 x 443	48
230V - 50/60Hz	480 x 420 x 800	80
400/440V - 50/60Hz	480 x 420 x 800	80
400/440V - 50/60Hz	595 x 555 x 1131	130
400/440V - 50/60Hz	595 x 555 x 1131	130
400/440V - 50/60Hz	601 x 601 x 1361	160
400/440V - 50/60Hz	601 x 601 x 1527	200
400/440V - 50/60Hz	601 x 601 x 1527	250
400/440V - 50/60Hz	601 x 601 x 2131	300
400/440V - 50/60Hz	601 x 601 x 2131	300
400/440V - 50/60Hz	1230 x 610 x 2131	350
400/440V - 50/60Hz	1230 x 610 x 2131	380
400/440V - 50/60Hz	1230 x 610 x 2131	400
400/440V - 50/60Hz	1860 x 1000 x 2134	1000
400/440V - 50/60Hz	1860 x 1000 x 2134	1000
400/440V - 50/60Hz	1860 x 1000 x 2134	1000
400/440V - 50/60Hz	1860 x 1000 x 2021	750
400/440V - 50/60Hz	1860 x 1000 x 2021	770
400/440V - 50/60Hz	1860 x 1000 x 2021	780
400/440V - 50/60Hz	1860 x 1000 x 2021	800
400/440V - 50/60Hz	1860 x 1000 x 2021	900

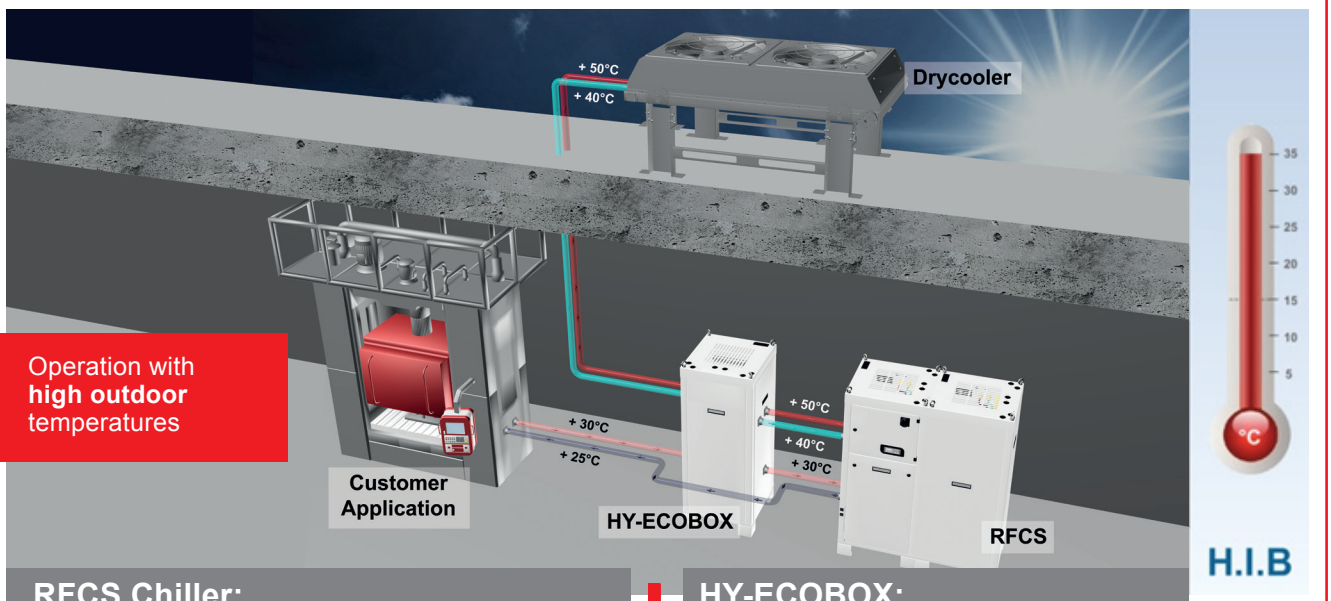
Accessories*

- Higher capacity pumps available
- Several parallel circuits
- Ambient temperature dependent control using separate temperature sensor
- Serial interface for system monitoring
- Filtration units for the refrigerant circuit
- Flow rate display and monitoring
- Extremely accurate control up to ±0.1 K, standard ±1.5 K
- Speed controlled fans

*available for almost all units

Centralized cooling systems

Chiller with air blast heat exchanger and HY-ECOBOX



Operation with **high outdoor** temperatures

RFCS Chiller:

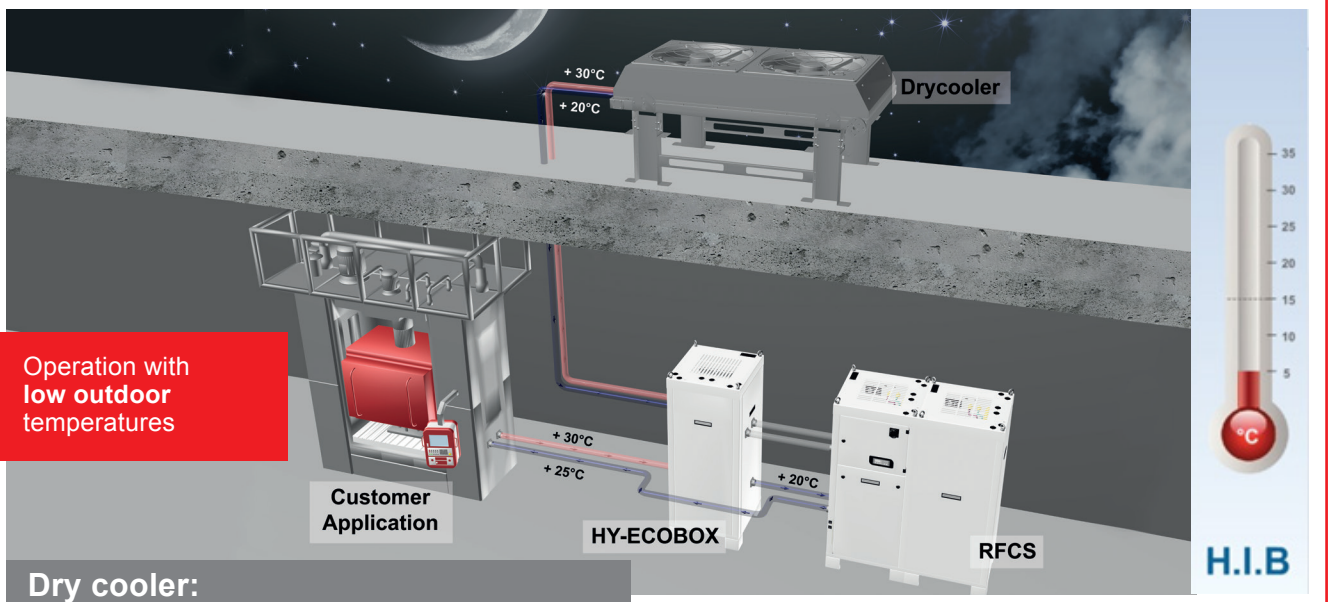
The RFCS produce cold water in different classes independent from local ambient temperatures for cooling customized applications.

In this case, the chiller is designed with a water cooled condenser that dissipates its process heat to a seperate cooling water circuit.

HY-ECOBOX:

The HY-ECOBOX is an optional module which contributes to improve energy saving. Whenever there is a correspondingly low ambient temperature, the active cooling operation of the refrigerating circuit is switched off.

Accordingly the system will work in a passive mode. The use of the HY-ECOBOX as energy manager is therefore only possible in combination with a drycooler.



Operation with **low outdoor** temperatures

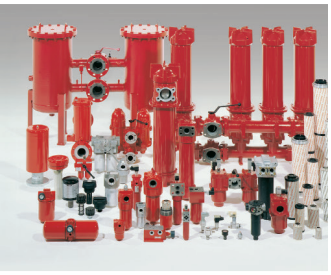
Dry cooler:

Water cooled RFCS chillers require a cooled water supply for heat removal.
A drycooler is used as an efficient resource of achieving an external water supply.

Advantages

- Saves resources, no water consumption
- High energy-saving potential using the HY-ECOBOX
- No heat transfer through the RFCS into the building or water supply

Accumulators E 30.000

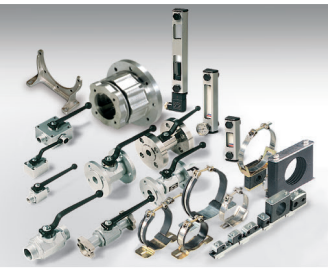


Fluid Filters E 70.000

Process Technology E 77.000

Filter Systems E 79.000

Compact Hydraulics DEF 53.000



Accessories E 61.000

Electronics E 180.000

Cooling Systems DEF 5.700

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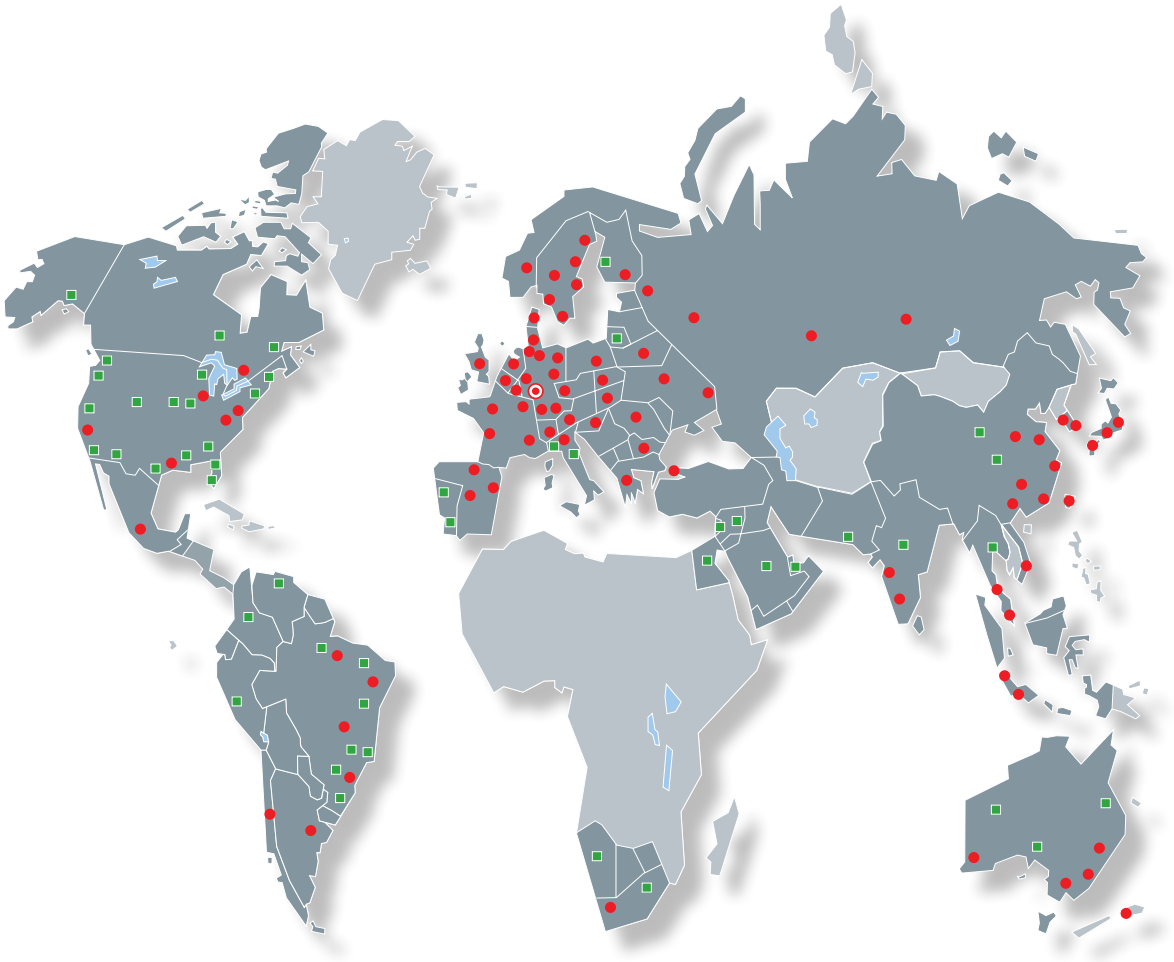

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