

HYFRA Sigma

Efficient, reliable cooling water recooling systems

Customized. Cooling. Solutions.

HYFRA
A LENNOX INTERNATIONAL COMPANY

Trouble-free. Flexible. Efficient.

A range of optional equipment allows the HYFRA Sigma series to adapt optimally to customer requirements. With a cooling capacity of 5 to 320 kW, HYFRA Sigma models are dimensioned to meet the major challenges of laser and machine tool applications.

HYFRA Sigma series

Cooling water recooling HYFRA Sigma

The proven HYFRA Sigma series for cooling water recooling is equipped with high-efficiency plate heat exchangers. In combination with sector-leading HYFRA microchannel technology, the refrigerant used is reduced by up to 70 % in comparison to conventional devices. The low level of refrigerant used for devices with up to 30 kW of cooling power means annual leak tests are a thing of the past and also leads to a reduction in maintenance costs.

No leak tests up to 30 kW and up to 70 % less refrigerant thanks to microchannel technology

Energy costs are perceptibly lower when HYFRA Sigma recooling systems are used. Because the compressors always function at optimal efficiency, the plate heat exchangers are also extremely energy efficient. A 2-point pressure transducer that constantly regulates system pressure and has an early warning function for leak detection ensures smooth operation.

FleXX technology for demand-based operation

HYFRA Sigma models are also available with the innovative HYFRA FleXX technology that ensures energy-efficient, extremely precise operation with demand-based controls.



Key data HYFRA Sigma

Power range:
5 – 320 kW

Medium:
Water

Footprint:
5 – 28 kW on footprint of 0.5 m²;
Up to 160 kW power in only 1 m²;
Up to 320 kW power in only 2 m²

Optimized:
Equipped with HYFRA FleXX technology and various control options

Application:
Machine tool applications

Cooling water recooling system HYFRA Sigma c

Our Sigma c series for cooling water offers reliable cooling capacity of up to 16 kW in a compact design. Designed to save space, they are up to 40 % lower than the standard models in the Sigma series. An entry-level recooling model, it also uses our energy-efficient HYFRA microchannel technology, which uses up to 70 % less refrigerant. The frame is made of durable stainless steel.

The attached control cabinet is equipped with an ST120 controller that reliably monitors compression pressure and temperature. Equipment options – for example, reinforced pumps and variable frequencies or voltages – are available upon request.

Up to 40 % height reduction for improved integration into various plant layouts.



Key data HYFRA Sigma c

Power range:
5 – 16 kW

Medium:
Water

Footprint:
5 – 16 kW on footprint of 0,5 m²

Optimized:
Up to 40 % height reduction

Application:
Machine tool applications



Machine tool applications at operating temperature

Machine tool applications require constant precision in the µ range and maximum tool life. HYFRA chillers provide the required operating temperatures accurately and reliably.

Improved flexibility through intelligent controls

HYFRA FleXX technology

With its FleXX technology, HYFRA is reacting to the various market requirements of machine manufacturers and operators.

Thanks to its high level of flexibility and adaptability, it ensures a decisive competitive advantage. Due to the demand-based operation of various components, chillers with FleXX technology are not only highly energy-efficient, economical, and quiet; they also operate with very little wear, greatly reducing life cycle costs.

Optional controllers

The chillers in the HYFRA Sigma series are equipped with FreeSmart controllers – and as of cooling capacity of 210 kW, they come with FreeEvolution controllers. The two variants are freely programmable and have both analog and digital inputs and outputs, an external display (Free Evolution) and an FDO (fast digital output) interface for quickly reading out operating data.

FreeEvolution is available in three design variants: basic, professional and expert. For example, they offer menu navigation in multiple languages or remote maintenance linkup. Of course we can flexibly integrate special customer requirements into each of the variants.

HYFRA chillers in comparison

		HYFRA Alpha Circulating chiller	HYFRA Gamma Immersion chiller	HYFRA Sigma Recooling systems	HYFRA eChilly Recooling systems
Reduced footprint		✓	✓	✓	
Compact version		✓		✓	
FleXX technology		✓	✓	✓	
Medium	Water	✓	✓	✓	✓
	Oil	✓	✓		
	Emulsion	✓	✓		
Cooling capacity		5 – 80 kW	5 – 160 kW	5 – 320 kW	1 – 6 kW

With over 35 years of experience in process cooling, highly qualified employees and our own production facilities in Krunkel, we provide premium quality "Made in Germany."



Technical data: HYFRA Sigma

HYFRA Sigma model no. (kW)		5	13	18	34	80	160
Performance data							
Ambient °C	Refrigerant °C / Water	Cooling capacity kW					
32	10	3.2	9.7	14.1	25.7	60.7	121.4
	15	4.0	11.5	16.6	29.9	71.3	142.6
	20	4.5	12.6	18.3	33.5	79.8	159.6

Technical Data							
Refrigerant		R134a	R410A				
Power consumption	kW	3.4	6.2	9.2	13.3	26.3	36.9
Max. airflow rate	m³/h	4500			5500	15500	

Dimensions and weight							
Length	mm	715			1000		
Width	mm	715			1000		
Height	mm	1554			2000		
Empty weight	kg	170	190	250	310	370	480

For detailed technical data, see: www.hyfra.com

Technical data: HYFRA Sigma c

HYFRA Sigma c model no. (kW)		c 5	c 7	c 9	c 13	c 16
Performance data						
Ambient °C	Refrigerant °C / Water	Cooling capacity kW				
32	10	3.33	4.67	6.00	8.67	10.67
	15	4.40	6.40	7.40	10.70	12.70
	20	5.33	7.33	8.67	12.67	14.67

Technical Data						
Refrigerant		R134a	R410A			
Power consumption	kW	3.2	4.2	4.8	6.0	7.1
Max. airflow rate	m³/h	3300			4500	

Dimensions and weight						
Length	mm	710				
Width	mm	820				
Height	mm	930				
Empty weight	kg	114	117	119	130	

For detailed technical data, see: www.hyfra.com

We are HYFRA

HYFRA is your partner for customized process cooling. Our program ranges from plug & play compact devices to customized systems with extensive service options.



The name HYFRA stands for long-term, sustainable partnership. We want to offer our customers the best solutions for process cooling. With each consultation, with each action, with each system we deliver and commission, and with our 24/7 service promise, we support our customers' efforts to be successful for the long term.

Made in Germany since 1981

Our highly efficient cooling systems and air heat exchangers are key for reliably safeguarding processes. With over 35 years of experience, highly qualified employees and our own production facilities at our location in Krunkel, Rhineland-Palatinate, HYFRA systems provide premium quality "Made in Germany."

Worldwide service availability

Whether its remote diagnostics via data transmission or on-site repairs, HYFRA Service is available worldwide and always finds the solution to malfunctions quickly. In addition, we provide customer support for regular maintenance and repair. Qualified service teams will install the entire HYFRA cooling system if necessary.

Customized service solutions for all requirements

Turnkey Solutions

Depend on reliability and leave the project management to our experienced experts – from system planning to acceptance. We will take on the responsibility for material procurement for system construction and carry out all of the installation work with our technicians. With our help, you will have an operational cooling system from a single source.

Repair & Maintenance

HYFRA Service is available worldwide so we can guarantee 100% system availability as soon as possible if a malfunction occurs. In case of failure, our own service team and our local partner's experienced cooling system technician will find a quick solution. We will provide you with transparent information on the costs and duration of service measures at any time.

Training

Optimal operation and maintenance enable a cooling system to develop its full potential and work perfectly at all times. We provide customized training for your operating personnel and maintenance technicians. We will thoroughly train them to use our systems properly so that your company reaps the long-term benefits of perfect production results.

Modification & Customization

We can customize HYFRA standard models to satisfy your detailed requirements. A variety of equipment and control options are available. As required, we will also provide a modification kit if your conditions change.

Maintenance & Service

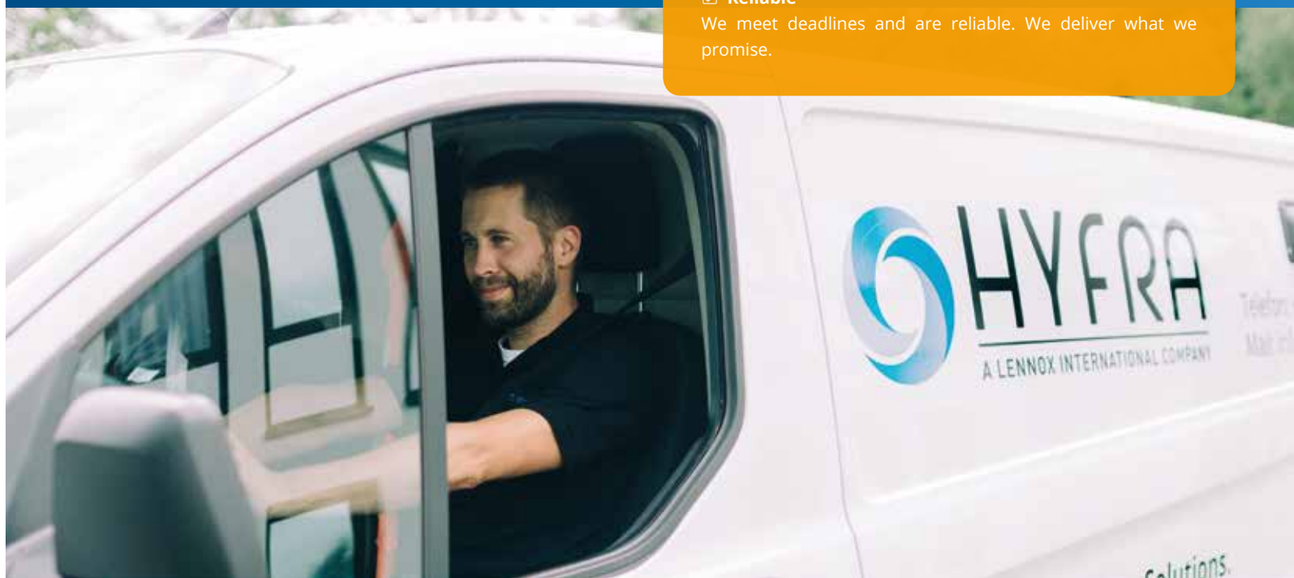
In order to deliver top performance continuously, cooling systems must be serviced regularly. This also helps effectively avoid expensive repairs and unexpected production downtime. And maintenance measures can significantly extend your system's life cycle. At HYFRA, you can select one of several service packages with one-year terms. They include maintenance and services such as start up and training sessions as well.

The HYFRA Service promise

Expert
Our service team and the employees of our local partners are thoroughly qualified and regularly attend training sessions.

Efficient
We carry out orders quickly in order to facilitate fast system availability.

Reliable
We meet deadlines and are reliable. We deliver what we promise.



Customized. Cooling. Solutions.

HYFRA is one of the most experienced suppliers of customized process cooling solutions. We cover the entire range of industrial process cooling solutions from plug & play compact machines to individually developed systems with extensive services. Our highly efficient, reliable machines are the key to our customers' success.

As a LENNOX International company, we help mechanical engineers in more than 50 countries to continually set new standards of performance.

2017-09 Subject to technical changes.

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