



# HYFRA Alpha

Circulating chillers for process cooling with water, oil or emulsions

Customized. Cooling. Solutions.

 HYFRA

# Reliable. Efficient. Stand-alone.

Our HYFRA Alpha series can be adapted to individual customer options to meet individual customer requirements. With a cooling capacity of 5-160 kW/1-45 Tons for emulsion/oil or 5-320 kW/1-91 Tons for water HYFRA Alpha models offer wide coverage in mechanical engineering — especially in filtration technology.



# HYFRA Alpha circulating chillers

The HYFRA Alpha series was designed as a stand-alone solution for process cooling with water, oil and emulsions. It is mainly used in filtration technology.

The continuous flow coolers are equipped with powerful pumps with flow monitoring, which provide the cooling medium with a sufficient outlet pressure. They can be installed in a generous radius around the machine to be cooled.

## *70 % refrigerant reduction through microchannel*

The industry-leading HYFRA Microchannel-technology reduces the amount of refrigerant the HYFRA Alpha series by up to 70 %. Cooling capacities of up to 28 kW/8 Tons are possible due to the compact design on a footprint of only 0,5m<sup>2</sup>/5,4 sq.ft.

This results in considerable flexibility advantages in planning the production area layout and a significant increase in productivity.

## *FleXX technology for demand-based operation*

Depending on the performance class, the HYFRA Alpha-series are easy-to-clean plate heat exchangers or solid tube bundle evaporators are installed. HYFRA Alpha-models are also available with the innovative HYFRA FleXX technology, which ensures demand-controlled, energy-efficient and extremely precise operation. The control cabinet is equipped with a FreeSmart controller as standard.



## Key data HYFRA Alpha circulating chillers

- ✓ **Power range:**  
5-160 kW/1-45 Tons for emulsion/oil  
5-320 kW/1-91 Tons with water
- ✓ **Medium:**  
Water, oil and emulsion
- ✓ **Footprint:**  
5 - 28 kW/1-8 Tons on only 0.5 m<sup>2</sup> stand space;  
up to 80 kW/23 Tons output on only 1 m<sup>2</sup>
- ✓ **Optimized:**  
Equipped with HYFRA FleXX technology  
and various control options
- ✓ **Application:**  
Mainly filtration

# HYFRA Alpha c circulating chillers

Our HYFRA Alpha c chillers for water, oil and emulsions offer reliable cooling capacities up to 16kW/ 5 Tons in a compact form. They are up to 40 % lower than standard models of the HYFRA Alpha series. As an entry-level continuous cooler model, it also features the energy-efficient HYFRA Microchannel technology, thanks to which the use of refrigerant is reduced by 70 %. Frame and plate heat exchanger are made of durable stainless steel.

Otherwise, the HYFRA Alpha c series is only equipped with the essential components and is therefore cost-optimized. These are, for example, the flow monitoring by means of a pressure sensor to prevent the evaporator from freezing. HYFRA Alpha c units are equipped with a FreeSmart controller. Further Other equipment options are available on request.

*Up to 40 % height reduction for better integration into different system layouts.*



## Key data HYFRA Alpha c circulating chillers

- ✓ **Power range:**  
5 – 16 kW/1-5 Tons
- ✓ **Medium:**  
Water, oil and emulsion
- ✓ **Footprint:**  
5 – 16 kW/1-5 Tons on 0.5 m<sup>2</sup> footprint
- ✓ **Demand-optimised:**  
Up to 40 % height reduction
- ✓ **Application:**  
Mainly filtration



## Filtration in machine construction

*When it comes to the filtration of cooling lubricants, it is not only the reliable removal of foreign bodies. Lubricant cooling is also an essential prerequisite for optimum process performance.*

# More flexibility through Intelligent control

## HYFRA FleXX technology

With the FleXX technology, HYFRA is responding to the different market requirements of machine manufacturers and operators.

Thanks to its high degree of flexibility and adaptability, it provides a decisive competitive advantage. Chillers with FleXX technology are not operation of various components, they are energy-efficient, economical and quiet, they also run with very little wear and tear and reduce life cycle costs considerably.

## Optional control

The chillers of the HYFRA Alpha series are equipped with Free Smart or, from 210 kW cooling capacity, with FreeAdvance controllers. Both versions are freely programmable and have analogue and digital inputs and outputs, an external display (FreeAdvance) and an FDO interface (Fast Digital Output) for controlling pulsed valves or heaters (PWM).

FreeAdvance offers multilingual menu navigation and remote maintenance connection. Special customer requests can also be realised.

## HYFRA chillers in comparison

		 HYFRA Alpha Circulating chiller	 HYFRA Gamma Immersion chiller	 HYFRA Sigma Recooling systems	 HYFRA eChilly, eChilly+ Recooling systems
	Reduced footprint	✓	✓	✓	
	Reduced footprint	✓		✓	
	FleXX technology	✓	✓	✓	
	Water	✓	✓	✓	✓
	Oil	✓	✓		
	Emulsion	✓	✓		
	Cooling capacity	5 – 320* kW / 1 - 91 Tons	5 – 160 kW / 1 – 45 Tons	5 – 320 kW / 1 – 91 Tons	1 – 6 kW / 0.3 – 2 Tons

\* Emulsion/Oil 5-160kW / 1-45 Tons

*With over 40 years of experience in the construction of cooling systems, highly trained employees and our own production facilities in Krummel, Rhineland-Palatinate, we guarantee the highest quality «Made in Germany».*



# Technical data: HYFRA Alpha

HYFRA Alpha model no. (kW)	5	13	22	34	52	80
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## 400V/50Hz

### Performance data

Ambient °C / °F	Refrigerant °C / °F		Cooling capacity kW / Tons					
	Emulsion/Water	Oil	R134A		R410A		R410A	
32 / 90	15 / 59	20 / 68	4.0 / 1.1	11.5 / 3.3	20.0 / 5.7	29.9 / 8.5	45.5 / 12.9	71.3 / 20.3
	20 / 68	25 / 77	4.5 / 1.3	12.6 / 3.6	21.7 / 6.2	33.5 / 9.5	51.8 / 14.7	79.8 / 22.7

### Technical data

Refrigerant		R134A	R410A				
Max. power consumption (emulsion)	kW	3.4	6.9	10.2	13.4	19.5	31.6
Max. power consumption (oil)	kW	4.0	7.5	11.3	14.5	22.0	34.1
Max. airflow rate	m <sup>3</sup> /h / cfm	4500 / 2648			6800 / 4022	10800 / 6356	15500 / 9123

## 460V/60Hz

### Performance data

Ambient °C / °F	Refrigerant °C / °F		Cooling capacity kW / Tons					
	Emulsion/Water	Oil	R134A		R410A		R410A	
32 / 90	15 / 59	20 / 68	3.9 / 1.1	10.6 / 3.0	17.9 / 5.1	26.8 / 7.6	43.4 / 12.3	64.8 / 18.4
	20 / 68	25 / 77	4.7 / 1.3	13.1 / 3.7	22.2 / 6.3	49.8 / 14.2	74.1 / 21.1	60.0 / 17.1

### Technical data

Refrigerant		R134A	R410A				
Max. power consumption (emulsion/water)	kW	4.1	7.2	11.1	14.1	21.0	31.7
Max. power consumption (oil)	kW	4.5	7.6	11.2	14.2	23.9	34.6
Max. airflow rate	m <sup>3</sup> /h / cfm	4950 / 2913			7480 / 4403	11880 / 6692	17050 / 10035

### Dimensions and weight

Length	mm / in	715 / 28.1			1000 / 39.4		
Width	mm / in	715 / 28.1			1000 / 39.4		
Height	mm / in	1554 / 61.2			2055 / 80.9		
Empty weight (emulsion/water)	kg / lbs	160 / 353	190 / 419	250 / 551	310 / 683	370 / 816	480 / 1058
Empty weight (oil)	kg / lbs	165 / 364	195 / 430	255 / 562	315 / 694	375 / 827	485 / 1069

For detailed technical data, see: [www.hyfra.com](http://www.hyfra.com)

# Technical data: HYFRA Alpha

HYFRA Alpha c model no. (kW)	5	7	9	13	16
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## 400V/50Hz

### Performance data

Ambient °C / °F	Refrigerant °C / °F		Cooling capacity kW / Tons				
	Emulsion/Water	Oil					
32 / 89.6	15 / 59	20 / 68	4.0 / 1.1	6.2 / 1.8	7.8 / 2.2	11.5 / 3.3	13.9 / 4.0
	20 / 68	25 / 77	4.5 / 1.3	6.9 / 2.0	8.7 / 2.5	12.6 / 3.6	15.4 / 4.4

### Technical data

Refrigerant		R134A	R410A			
Max. power consumption (emulsion/water)	kW	3.1	4.2	4.9	6.6	8.0
Max. power consumption (oil)	kW	3.8	4.9	5.6	7.3	8.6
Max. airflow rate	m³/h / cfm	2900 / 1707				4500 / 2648

## 460V/60Hz

### Performance data

Ambient °C / °F	Refrigerant °C / °F		Cooling capacity kW / Tons				
	Emulsion/Water	Oil					
32 / 90	15 / 59	20 / 68	3.8 / 1.1	5.7 / 1.6	7.1 / 2.0	10.4 / 3.0	12.6 / 3.6
	20 / 68	25 / 77	4.6 / 1.3	6.9 / 2.0	8.4 / 2.4	13.0 / 3.7	14.4 / 4.1

### Technical data

Refrigerant		R134A			R410A	
Max. power consumption (emulsion/water)	kW	3.7	4.7	5.3	6.8	8.4
Max. power consumption (oil)	kW	4.1	5.1	5.7	7.2	8.8
Max. airflow rate	m³/h / cfm	3190 / 1877				4950 / 2913

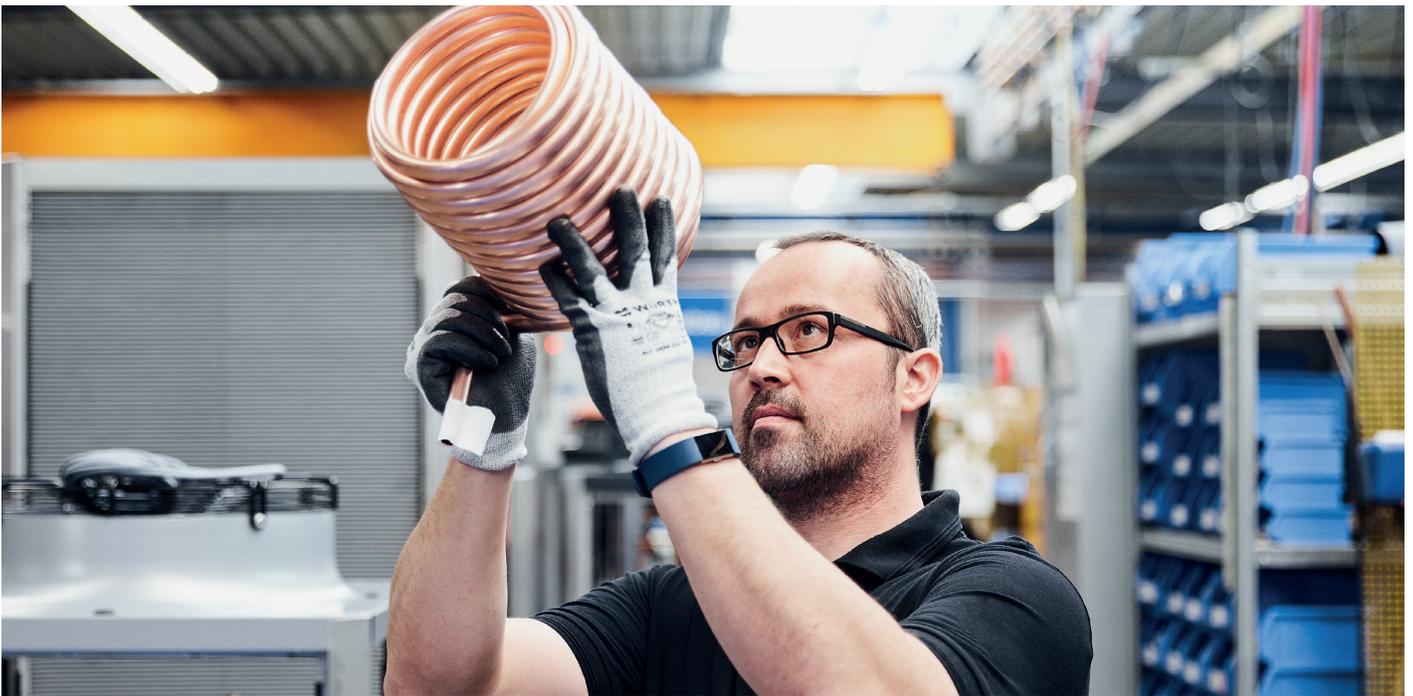
### Dimensions and weight

Length	mm / in	720 / 28.3				
Width	mm / in	835 / 32.9				
Height	mm / in	930 / 36.6				
Empty weight (emulsion/water)	kg / lbs	119 / 262			125 / 275	
Empty weight (oil)	kg / lbs	124 / 273			130 / 286	

For detailed technical data, see: [www.hyfra.com](http://www.hyfra.com)

# We are HYFRA

- ✓ *HYFRA is your partner for individual process cooling. Our range extends from ready-to-connect compact units to customised systems with comprehensive services.*



The name HYFRA stands for long-term and sustainable partnership. We aim to always offer our customers the best solutions for process cooling. With every consultation, with every move, with every system delivered and commissioned, and with our service available at all times, we support our customers in achieving lasting success.

### *Made in Germany since 1981*

Our highly efficient chillers and air heat exchangers are decisive for the reliable protection of processes. With over 40 years of experience, highly trained employees and our own production at our production in Krunkel, Rhineland-Palatinate, we guarantee the highest quality „Made in Germany“ for all HYFRA systems.

### *Worldwide service availability*

Whether remote diagnosis via data transmission or on-site repair: The HYFRA service is available worldwide and always finds a quick solution in case of malfunctions. In addition, we support our customers with regular maintenance and servicing. Qualified service teams take over the complete installation of our refrigeration systems, if required.

# Customized service solutions for all requirements



## Turnkey Solutions

Rely on security and leave the entire project management to our experienced experts - from plant planning to acceptance. We take care of the material supply for you during plant construction and carry out the complete installation with our technicians. With our help, you will receive an operational cooling system from a single source in the shortest possible time.



## Training

In order for a cooling system to develop its full potential and operate trouble-free at all times, it must be optimally operated and maintained. We offer customised training for your operating personnel and maintenance technicians. We train you thoroughly in the use of our systems so that your company benefits from perfect production results in the long term.



## Maintenance & Service

In order to deliver the best performance over the long term, cooling systems need to be maintained regularly. This effectively avoids costly repairs and unexpected production downtimes. The life cycle of the system can also be significantly extended through maintenance measures. At HYFRA you can choose between various service packages with a one-year term, which in addition to maintenance also include services such as commissioning and training.



## Repair & Maintenance

To ensure that we can guarantee 100% system availability again as quickly as possible in the event of malfunctions, HYFRA Service is there for you worldwide. Our own service team and experienced refrigeration technicians from our local partners provide a quick solution in case of breakdowns. We inform you transparently about the costs and duration of the maintenance measures at any time.



## Modification & Customization

HYFRA standard models can be individually adapted to your specific needs. A wide range of equipment and control options are available for this purpose. On request, we can also put together modification kits for changed operating conditions.

### The HYFRA Service promise

**Competent**

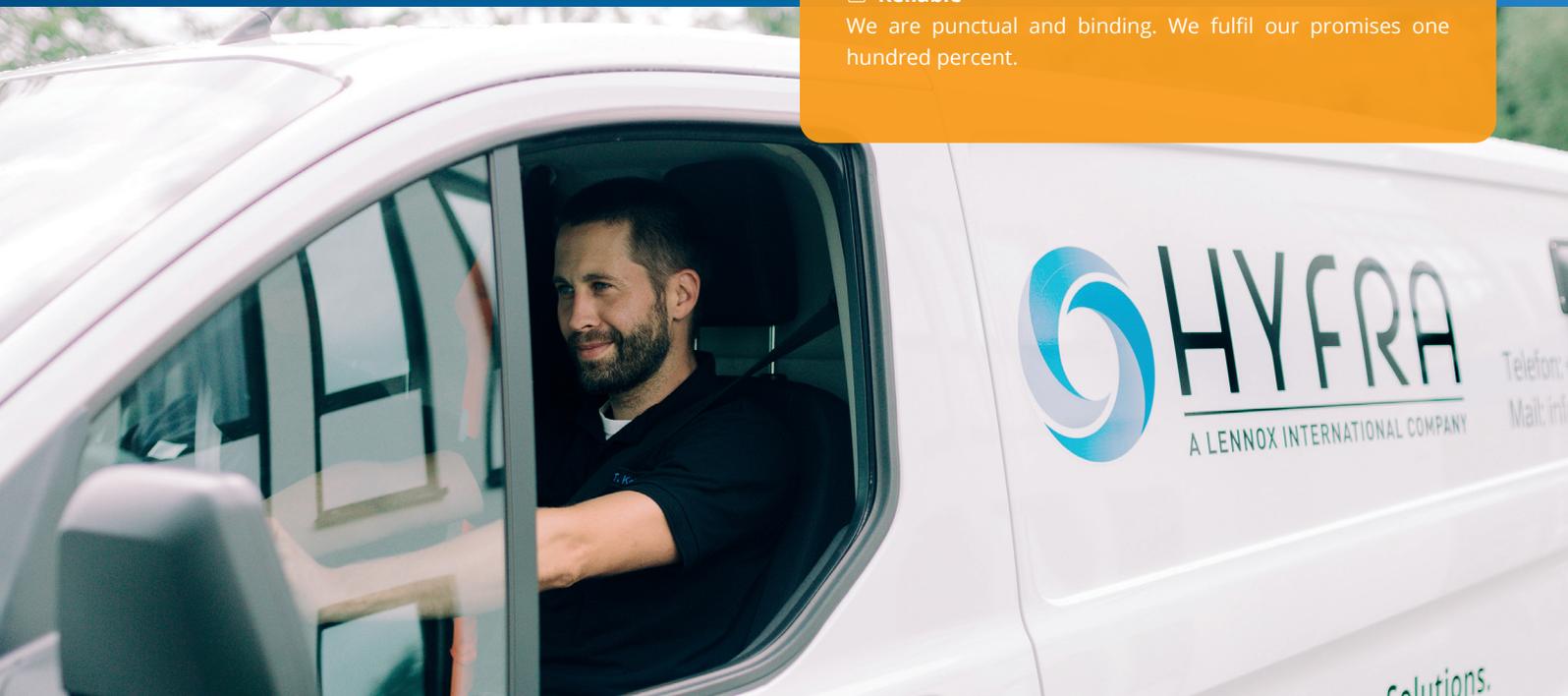
Our service team and the staff of our local partners are highly trained and regularly attend training courses.

**Economical**

Commissioned work is carried out quickly to enable the fastest possible system availability.

**Reliable**

We are punctual and binding. We fulfil our promises one hundred percent.



Customized. Cooling. Solutions.

HYFRA is one of the most experienced suppliers of individual refrigeration solutions. We cover the entire range of industrial process cooling: from the ready-to-connect unit to the customised system with comprehensive services. Our highly efficient and reliable machines are crucial for the success of our customers.

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