GRUNDFOS
HVAC OEM Division

A new era of innovation

be
think
innovate

GRUNDFOS

To Grundfos, innovation is more than invention. It is a fundamental pillar of our company that allows us to constantly adapt to changing market conditions and ensure the best solutions for you. That is essential as we, together, face the challenges of tomorrow, such as electrification and digitalisation.

Our future is dependent on upholding this take on innovation as well as on continuously building and developing our relationships with you to strengthen your businesses and ours.

That is why we are, for instance, integrating the new LIN BUS communication standard into all our HVAC solutions and enabling even greater appliance connectivity nothing about wireless.

This way our products always meet your customers' needs and live up to the standards of tomorrow.

"Innovation is a fundamental pillar at Grundfos which is deeply rooted in our DNA,"
– Morten Bach Jensen, Group Vice President of Grundfos HVAC OEM

HVAC OEM

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Grundfos HVAC OEM is the right partner for your business

With more than 25 years of experience, and 125 million circulators installed worldwide, we have the expertise and technology to help your business succeed.

The HVAC OEM industry is rapidly developing thanks to changes in technology, digitalisation, and greater connectivity. Grundfos HVAC OEM is ready to meet these new demands and help you to develop the business of tomorrow.

CERTIFIED OEM FACTORIES

OEM products

PAGE 8 – 31

Intelligent solutions for all HVAC applications

Grundfos HVAC OEM offers more than just the product – we offer complete solutions. Our portfolio covers all HVAC applications, from boilers and heat pumps to HIU systems. Not only that, we also offer the best service and support for customers all over the world – ensuring that your system is up and running smoothly so you can concentrate on growing your business.

Grundfos **standard portfolio**

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One-stop-shop for all your hydraulic needs

As a global leader in advanced pump solutions and water technology, Grundfos offers a wide range of products and services for all types of applications.
This means we can meet all your hydraulic needs in one place.

A trusted partner today

• Dedicated to innovative insights and know-how

We are leading the way within hydronic solutions and service by constantly innovating our products as well as our organisation to meet your needs.

• Hydronic solutions, IoT/connectivity and intelligence

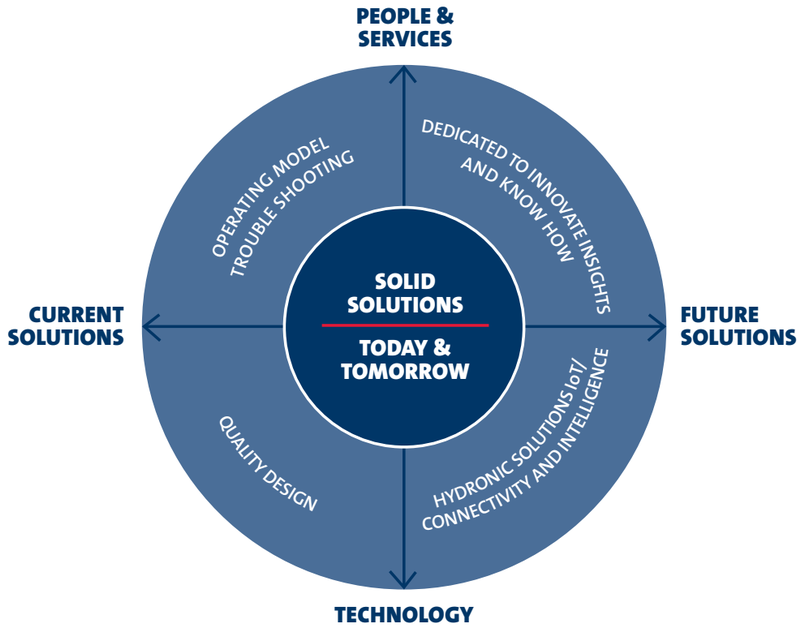
With decades of experience in hydronic solutions, our highly efficient project teams develop new products based on your expressed needs.

• Quality design

We offer the best, most reliable products on the market with top-notch quality and high-volume availability.

• Operating model trouble shooting

We believe that a close collaboration with our customers maximises the value of projects, and for that reason we have formed global customer-focused teams focusing on efficiency and customer-relationships.

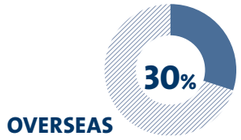


+100.000.000
UNITS Produced and installed since 2000

5 OEM
certified factories

+40 COUNTRIES
Product sales covers more than 40 countries

25 YEARS of EXPERIENCE



Our wide product range and decades of experience allow us to accommodate your every HVAC pumping solution need – from standard circulators to highly complex system solutions.

A visionary partner for tomorrow

Our promises:

STRENGTHENING YOUR COMPETITIVE ADVANTAGES

We want to help you build a strong business. To do so, we will continue to offer products of the highest quality and with on-time delivery to ensure you competitive advantages.

TAKING ON THE BOILER AND HEAT PUMP MARKETS TOGETHER

As we expect growth in the boiler and heat pump markets in the coming years, we are putting extra focus on these areas in order to offer you the best solutions and take on the growing markets together with you.

MEETING THE DEMANDS OF TOMORROW

The future is digital, and that goes for pumping too. At Grundfos, we take the lead in innovating pump solutions to meet the demands of tomorrow. For you, that means an increase in integrated solutions as well as connected appliances which will add value to the complete value chain.

BUILDING MEANINGFUL PARTNERSHIPS

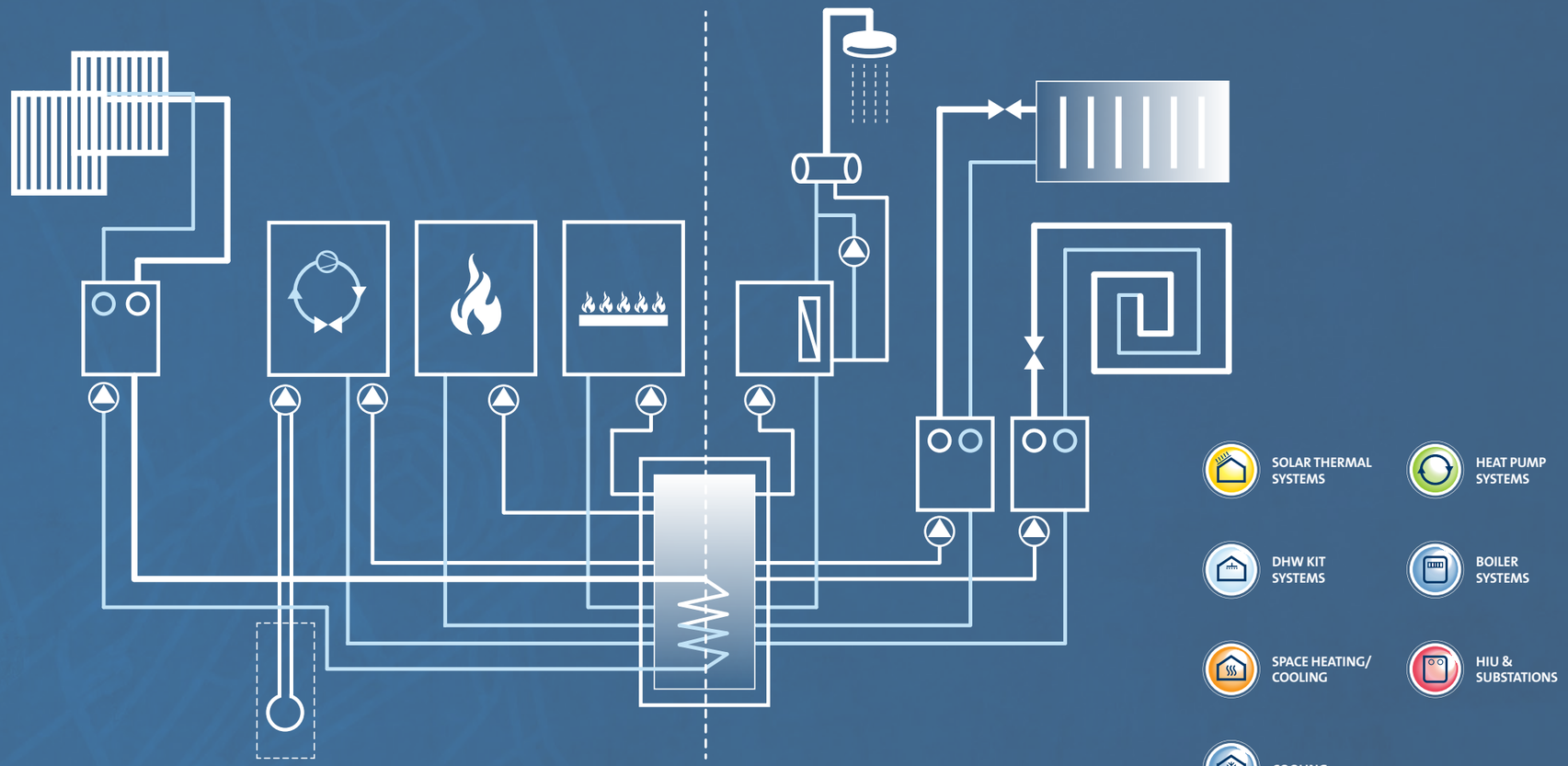
Our organisational structure reinforces the collaboration between our team and yours with solutions tailored to the specific needs of your company and with a key account manager always ready to assist you.

WORLDWIDE PRESENCE

Grundfos HVAC OEM is present worldwide and will continue to be directly accessible in more than 40 countries, ensuring that we are available to you, wherever you are.

GRUNDFOS HIGH EFFICIENCY
OEM CIRCULATORS

Available for all HVAC applications



	Application	UPM3	UPM3 FLEX AS	UPM3 AUTO	UPM3 HYBRID	UPM3 SOLAR	UPM3 DHW	UPM3S	UPM3L	UPMM	UPML	UPMXL	UPMXXL	SOLAR PML	UPMO	ALPHA1.1	ALPHA2.1	MAGNA 1	MAGNA 3	UPSO	UPS IMU	UPS Series 200	COMFORT PM	UPN	UPA	AC
Heat production or heat transmission side	Gas or oil-fired space and combination heaters	•	•		•			•	•	•	•	•	•		•			•	•	A	A	A				
	Solid fuel heaters	•	•		•				•	•	•	•	•					•	•	A	A	A				
	Heat pumps (brine side)	K	K		K				K	•	•	•	•					•		AK	AK	A				
	Heat pumps (heating side)	•	•		•				•	•	•	•	•		•			•	•	A	A	A				
	Mini combined heat and power cogeneration	•	•		•				•											A	A					
	Thermal solar system (collector side)				•	•								•						A	A					
	District heating systems with heat exchanger	•	•	•	•				•	•	•	•	•					•	•	A	A	A				
	Cooling system and chillers	K							K	•	•	•	•					•	•	AK	AK	A				•
Heat distribution side	Space heating systems			•	•				•	•	•	•	•		•	•	•	•	•	A	A	A				
	Space heating and cooling systems	K		K	K				K	•	•	•	•					•	•	AK	AK	A				
	Domestic hot water generation (heating side)	•	•							•	•	•	•					•	•	A	A	A				
	Domestic hot water generation (DW side)						NK			N	N	N						N	N	N	N	N		•	•	
	Domestic hot water recirculation						N			N	N	N				N	N	N	N	N	N	N	•	•		

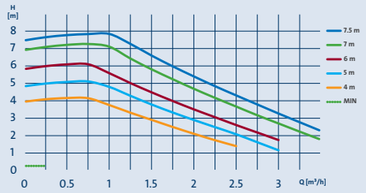
N = Stainless steel housing or PPS
K = Cold water version
A = For use outside EU (Asia/America)

Pump Flow [m³/h] at H=6 m	0.9	1.2	1.7	2.1	2.4	2.7	3.3	3.8	4.3	5.2	6.5	10.0	50.0
Pump Flow [US GPM] at H=20 ft	3.8	5.3	7.5	9.2	10.6	11.9	14.5	16.7	18.9	22.7	28.6	44.0	220.1
Heat capacity heat pump (ΔT5K) [kW]	5	7	10	12	14	16	19	22	25	30	38	58	291
Required pump type 230 V for heating and cooling	UPM3K 60 W			UPM3L 75 W	UPMM 100 W		UPML 140 W		UPMXL 180 W		UPMXXL	MAGNA1	
Required pump type 115 V for heating and cooling	UPMM 70 W		UPML 100 W				UPMXL 120 W		UPS 26 60 Hz			MAGNA 3 60 Hz	
Heat capacity boiler (ΔT15K) [kW]	15	21	30	37	42	47	58	66	75	90	113	174	872
Required pump type ErP ready for heating only	UPM3S 42 W	UPM3 60 W		UPM3L 75 W	UPMM 100 W		UPML 140 W		UPMXL 180 W		UPMXXL	MAGNA3	
Required pump type Non ErP ready	UPSO		UPS 26/IMU -80				UPS -125	UPS -100				UPS Series 200	

UPM3 (K)

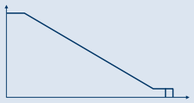
UPM3 is the ideal choice for all large-scale projects and applications where one specific control mode and one specific speed range is required.

UPM3 is externally controlled via a signal cable entry. It is available in a version with maximum head between 4 and 7.5 m and comes with a wide range of standard and customised housings.

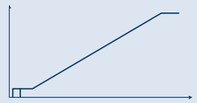


SETTING OPTIONS

EXTERNALLY CONTROLLED BY	MAX HEAD
PWM profile A	7.5 m
PMW profile C	7 m
LIN BUS	6 m
	5 m
	4 m



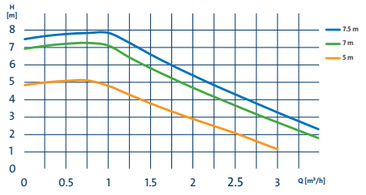
PWM PROFILE A



PWM PROFILE C

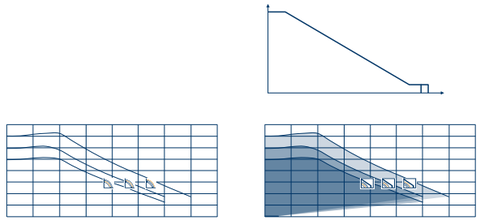
UPM3 (K) FLEX AS

UPM3 FLEX AS is a flexible solution for boiler systems. It is designed to work with and without PWM signal, allowing you to upgrade your systems without having to change the controller. It is available in a 5, 7 or 7.5 m version.



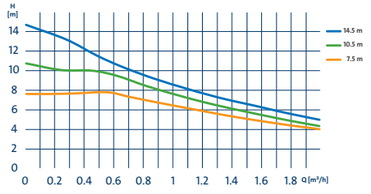
SETTING OPTIONS

PUMP RUNS WITHOUT PWM SIGNAL MAXIMUM CURVE			PUMP RUNS WITH PWM SIGNAL PWM PROFILE A		
3 m	5 m	5 m	3 m	5 m	5 m
4 m	6 m	6 m	4 m	6 m	6 m
5 m	7 m	7.5 m	5 m	7 m	7.5 m



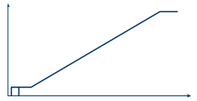
UPM3 SOLAR

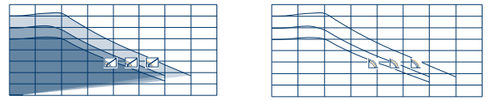
UPM3 SOLAR is an OEM high efficiency circulator offering flexible solutions for thermal solar systems – no matter if matched flow, constant flow or drainback. It is applicable for solar fluid up to 130° C and designed to work with or without PWM signal, allowing you to upgrade your systems without having to change the controller. It is available in a 7.5, 10.5 or 14.5 m version.



SETTING OPTIONS

PWM PROFILE C			CONSTANT CURVE		
7.5 m	10.5 m	14.5 m	5.5 m	6.5 m	8.5 m
			6.5 m	8.5 m	10.5 m
			7.5 m	10.5 m	14.5 m



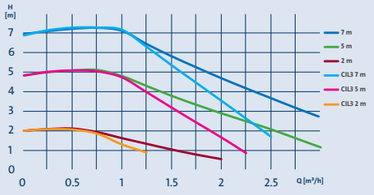


UPM3 (K) DHW

UPM3 DHW is an OEM high efficiency circulator offering flexible solutions for potable drinking water systems.

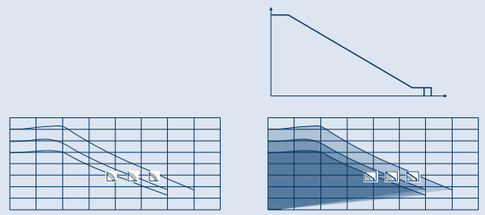
It is designed to recirculate domestic hot water using drinking water approved housings made out of stainless steel or PPS.

It is available in 2, 5 or 7 m versions and is suitable for domestic hot water systems with or without external PWM speed control.



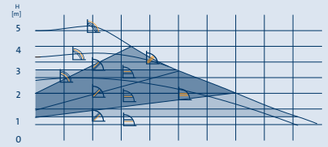
SETTING OPTIONS

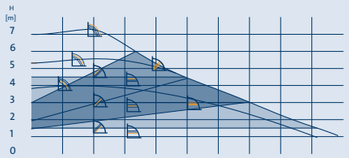
PUMP RUNS WITHOUT PWM SIGNAL MAXIMUM CURVE			PUMP RUNS WITH PWM SIGNAL PWM PROFILE A		
1 m	3 m	5 m	1 m	3 m	5 m
1.5 m	4 m	6 m	1.5 m	4 m	6 m
2 m	5 m	7 m	2 m	5 m	7 m



UPM3 (K) AUTO

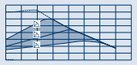
UPM3 AUTO is for all applications that require an internally controlled pump. It is designed to be used in appliances or cabinets with increased ambient temperatures and limited space options: either in standalone applications or in kit systems without PWM controller. It is available in a 7 or 5 m version.

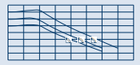




SETTING OPTIONS

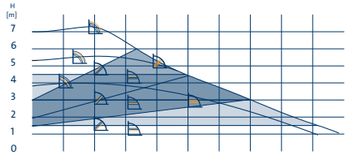
PROPORTIONAL PRESSURE	CONSTANT PRESSURE	CONSTANT CURVE
Curve 1	Curve 1	3 m 5 m
Curve 2	Curve 2	4 m 6 m
Curve 3	Curve 3	5 m 7 m
AUTO*ADAPT*	AUTO*ADAPT*	





UPM3 (K) HYBRID

By combining external control through signal entry with internal self-control, the UPM3 HYBRID covers all your circulator needs in one product, giving you access to a full range of settings. It is available in a 7 or 5 m version.



SETTING OPTIONS

PROPORTIONAL PRESSURE	CONSTANT PRESSURE	CONSTANT CURVE
Curve 1	Curve 1	3 m 5 m
Curve 2	Curve 2	4 m 6 m
Curve 3	Curve 3	5 m 7 m
AUTO*ADAPT*	AUTO*ADAPT*	

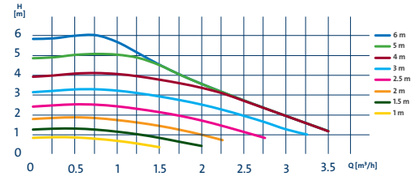
SETTING OPTIONS

PWM PROFILE A	PWM PROFILE C
3 m 5 m	5 m 7 m
4 m 6 m	
5 m 7 m	

UPM3S

The UPM3S circulator pump range is designed for integration in boilers and other heating appliances with limited performance up to 6 m/42 W.

Its rotor is injection-moulded with PPS bonded hard ferrite magnetic particles.



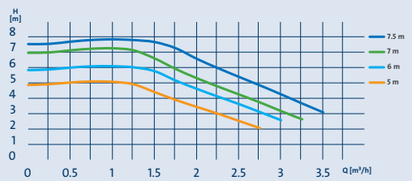
SETTING OPTIONS

EXTERNALLY CONTROLLED BY	MAX HEAD
PWM PROFILE A	6 m
PWM PROFILE C	
LIN BUS	

UPM3L

The UPM3L circulator pump range is designed for integration in boilers and other heating appliances with extended performance up to 7.5 m/75 W

The ambient temperature is limited to 55° C.



SETTING OPTIONS

MAX HEAD	EXTERNALLY CONTROL BY
6 m	PWM PROFILE A
7 m	PWM PROFILE C
7.5 m	LIN BUS

UPMM

The UPMM circulator pump range is designed for integration in boilers and other heating appliances with extended performance up to 9.5 m 100 W.

The ambient temperature is limited to 55° C.

The media temperature can be between -10° C and 95° C.

UPML

The UPML circulator pump range is designed for integration in boilers and other heating appliances with extended performance up to 10.5 m 140 W.

The ambient temperature is limited to 55° C.

The media temperature can be between -10° C and 95° C.

UPMXL

The UPMXL circulator pump range is designed for integration in boilers and other heating appliances with extended performance up to 12.5 m 180 W.

The ambient temperature is limited to 55° C.

The media temperature can be between -10° C and 95° C.

SOLAR PML

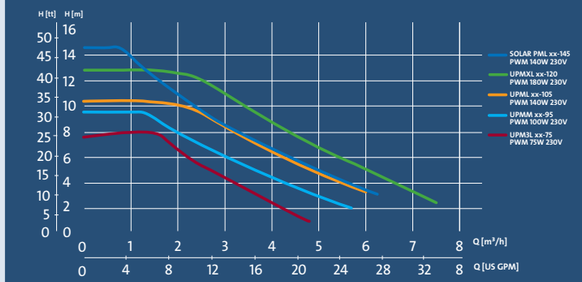
The SOLAR PML circulator pump is designed for integration in solar thermal systems with extended performance up to 14.5 m 140 W.

The ambient temperature is limited to 55° C.

The media temperature can be between -10° C and 110° C.

UPMM, UPML and UPMXL for the EU

MEDIUM UPM 230V EU



Power Supply	Type	P1 max	Control	R 1¼" x 130 mm CED	R 1¼" x 180 mm CED	R 2" x 180 mm CED	R 1" x 130 mm CED NEW*	R 1¼" x 180 mm SS
1 x 230 V 50/60 Hz EU-Version	UPMXXL xx-120 PWM	180 W	PWM A	•	•	•	•	•
	UPMXXL xx-120 AUTO		AUTO	•	•	•	•	•
	UPMXL xx-125 PWM	180 W	PWM A	•	•	•	•	•
	UPMXL xx-125 LIN		LIN BUS	•	•	•	•	•
	UPMXL xx-125 AUTO		AUTO	•	•	•	•	•
	UPML xx-105 PWM	140 W	PWM A	•	•	•	•	•
	UPML xx-105 LIN		LIN BUS	•	•	•	•	•
	UPML xx-105 AUTO		AUTO	•	•	•	•	•
	SOLAR PML xx-145 PWM	140 W	PWM C	•	•	•	•	•
	UPMM xx-95 PWM	100 W	PWM A	•	•	•	•	•
	UPMM xx-95 LIN		LIN BUS	•	•	•	•	•
	UPMM xx-95 AUTO		AUTO	•	•	•	•	•

Proportional Pressure

The differential pressure increases at increased flow.

Constant Pressure

Grundfos AUTOADAPT will be available with 2 different modes:

Proportional Pressure AUTOADAPT

In proportional pressure AUTOADAPT, the circulator is set to proportional-pressure control.

Constant Pressure AUTOADAPT

In constant pressure AUTOADAPT, the circulator is set to constant-pressure control.

There are 2 different PWM profiles available:

PWM input signal profile A (heating)

At low PWM signal percentages, the circulator speed is high for safety reasons.

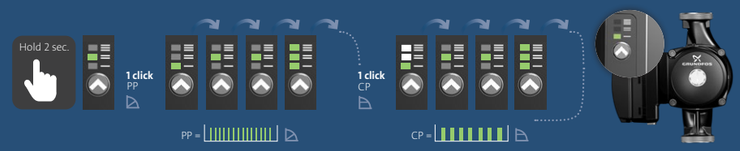
PWM input signal profile C (solar)

Without PWM signal percentages, the circulator will stop for safety reasons.

Externally controlled by

LIN-BUS

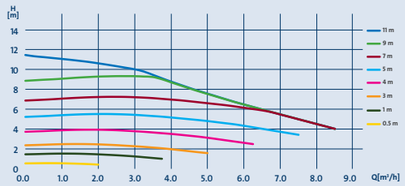
Pumps available for communication with controllers via LIN BUS



UPMXXL

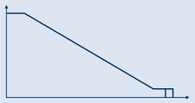
The UPMXXL circulator pump range is designed for integration in medium sized boilers, heat pumps, and other heating appliances with extended performance up to 12 m head, 9.7 m³/h 180 W.

The ambient temperature is limited to 55° C.
The media temperature can be between -10° C and 95° C



Benefits

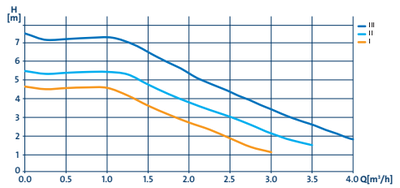
- High efficient solution EEI ≤ 0.23
- Increased performance in the flow range up to 12 m head or 9 m³/h flow
- Proven track record of UPML/XL range for several years
- AUTO variant especially useful for district heating system
- PWM Profile A available



PWM PROFILE A

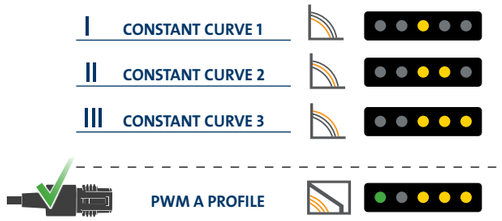
UPMO – HVAC OEM SPARES

The UPMO is the right ErP replacement for millions of UP installed in the market – whether they are integrated in a heating appliance or stand alone.



The UPMO high efficiency circulator is designed for upgrading systems that use old hydraulic interfaces with UP/UPO, UPS/UPSO, UPR/UPRO, UPER/UPERO pump heads.

This new user interface has been specially designed for the HVAC OEM spare parts business.



ALPHA1.1

Grundfos ALPHA1.1 is a complete range of circulator pumps with integrated differential pressure so you can adjust the pump performance to the actual system requirements.

Benefits:

- High-efficiency motors that are EuP 2015 ready
- Suitable for installation in existing systems
- Low noise operation
- Built in electrical and thermal protection of the pump
- Simple setting and operation in a very compact design
- Plug and play with patented cable plug for safe and easy connection

Technical data

- Supply Voltage: 1 x 230 V 50/60 Hz
- Flow rate Qmax: 2.4 m³/h
- Liquid temperature: +2° C to 110° C
- Power range: 5-45 W
- Ambient temperature: 0° C to +40° C
- EEI: <0.23

ALPHA1.1	
ALPHA1 XX-80	50W
ALPHA1 XX-60	34W
ALPHA1 XX-40	18W

ALPHA2.1

The ALPHA2.1 circulator is a tried and tested industry leader with more than 4 million units installed worldwide. It offers unrivalled energy efficiency based on proven Grundfos technologies and is a perfect choice for all HVAC applications.

Benefits

- High efficiency exceeding Ecodesign 2015 requirements
- LED display showing actual power consumption or flow
- AUTOADAPT function
- Automatic night setback function
- Compact size
- Equal to ALPHA2 available in wholesale

ALPHA2.2

The ALPHA2.2 offers easy and accurate hydronic balancing.

This is possible thanks to the ALPHA Reader which allows the ALPHA2.2 to connect with the installer's smart phone and balance the system through it.

The ALPHA Reader is a pocket-sized device that you attach to the front of the ALPHA2.2. It reads the light signal from the pump and communicates with the Grundfos GO Balance app via bluetooth.

The Grundfos GO Balance app can be download from iTunes or Google Play.

ALPHA2.1 AND 2.2	
ALPHA2 XX-80	50W
ALPHA2.1 XX-60	34W
ALPHA2.1 XX-40	18W

UPSO/UP15

THE UPSO/UP15 are integrated or stand-alone asynchronous pumps for small HVAC OEM applications outside the EU.

The UPS is available for different power supply grids all over the world: 115 V or 230 V, 50 Hz or 60 Hz.

Flow, Q: max. 5 m³/h

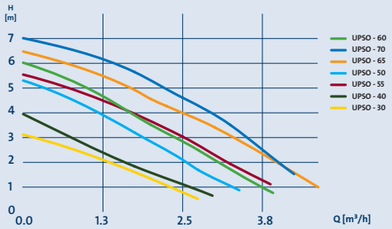
Head,H: max. 7 m

Liquid temperature: +2° C to +110° C

Op. press: max. 10 bar

Power input up to 140 W

Special versions for cold water, solar thermal or the US are available



UPS IMU/UP26

The UPS IMU/ UP 26 are integrated or stand-alone asynchronous pumps with one or three speeds. They are designed for medium HVAC OEM applications outside of the EU.

The UPS IMU/UP 26 are canned-rotor type. They are available for different power supply grids all over the world: 115 V or 230 V, 50 Hz or 60 Hz.

Flow, Q: max. 12 m³/h

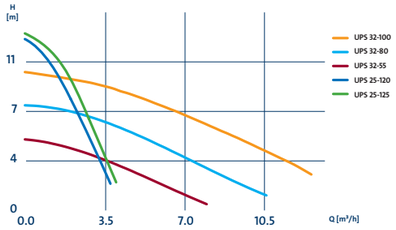
Head. H: max. 12 m

Liquid temperature: -25° C/+2° C to +110° C

Op. press: max. 10 bar

Power input up to 270 W

Special versions for the US are available



Wide range of dedicated OEM pump housings

Grundfos HVAC OEM circulators are available with a wide range of standard or customised pump housings with different dimensions, materials, design or additional functionalities.

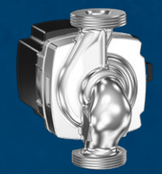
CED 15x130 mm

CED 25x130 mm

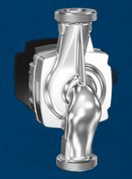
CED 25x180 mm

CED 32x180 mm

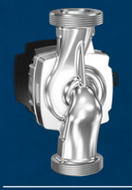
CIL3 15x130 mm



NIRO 25x130 mm



NIRO 25x180 mm



NIRO 32x180 mm

CES3

GGES3

GGMBP3

GGBP3

AOKR

CAOD

CIAO2

CIAO AC

CACAO

CESAO1

CESAO2

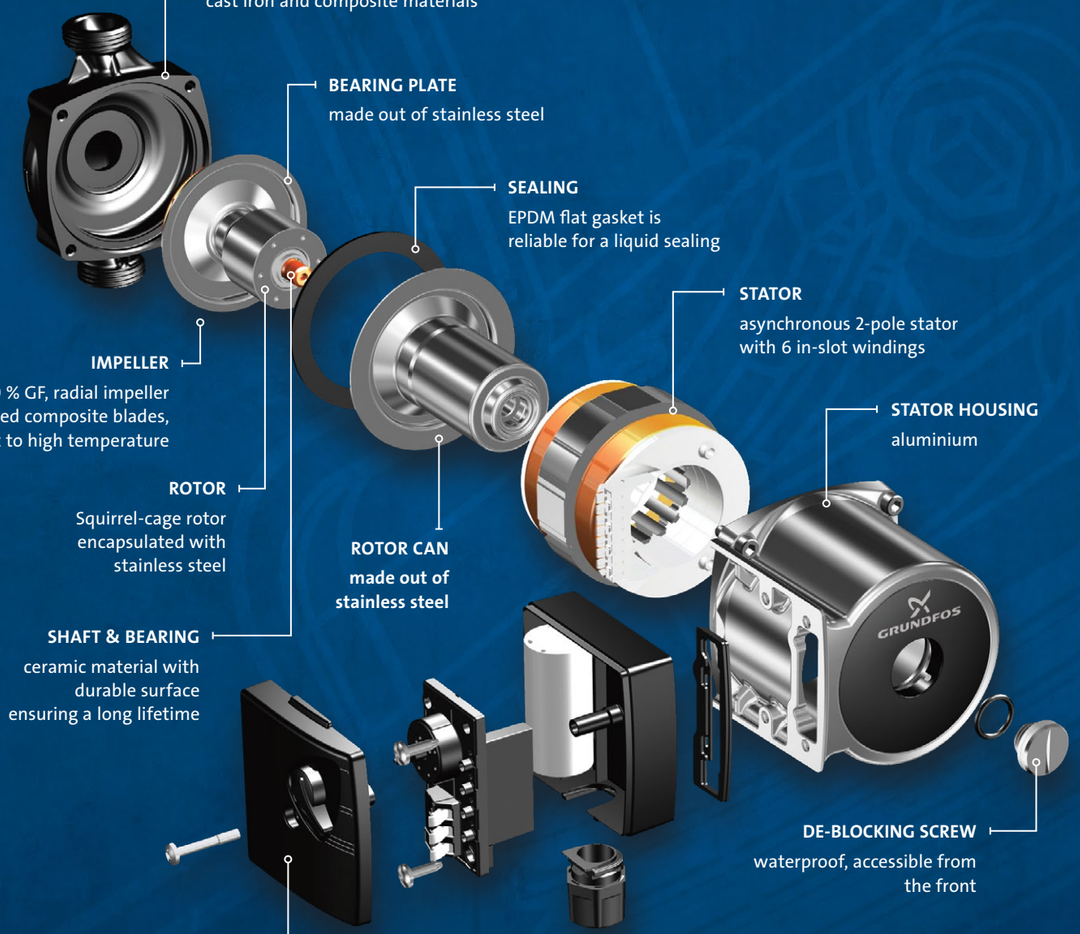
CESAO4

AND MANY MORE...

A global portfolio

STANDARD CIRCULATOR

Asynchronous glandless pump



HOUSING
energy optimised hydraulic in standard or customised versions, available in cast iron and composite materials

BEARING PLATE
made out of stainless steel

SEALING
EPDM flat gasket is reliable for a liquid sealing

STATOR
asynchronous 2-pole stator with 6 in-slot windings

STATOR HOUSING
aluminium

IMPELLER
PES 30 % GF, radial impeller with curved composite blades, resistant to high temperature

ROTOR
Squirrel-cage rotor encapsulated with stainless steel

ROTOR CAN
made out of stainless steel

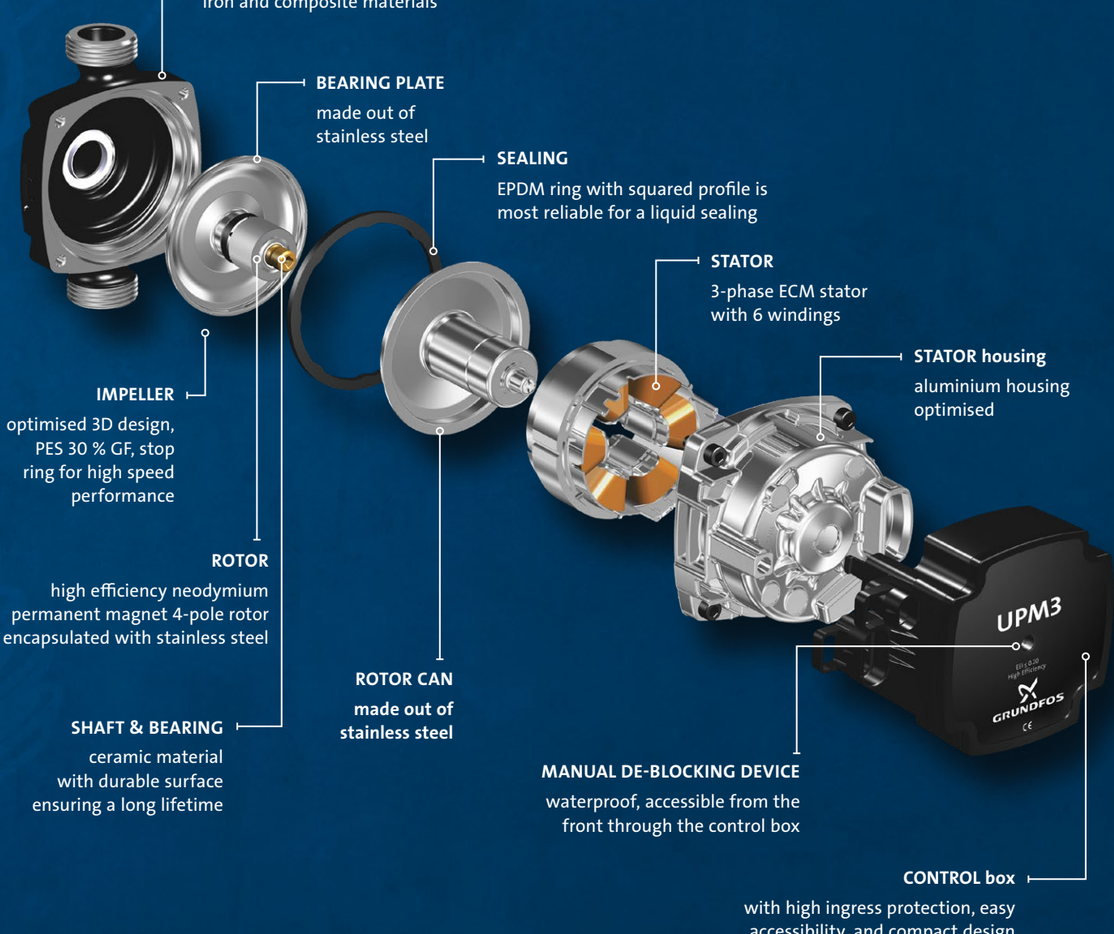
SHAFT & BEARING
ceramic material with durable surface ensuring a long lifetime

DE-BLOCKING SCREW
waterproof, accessible from the front

TERMINAL BOX
1- or 3-speed switch with high ingress protection, for pre-mounted supply cable or with cable entry for manual mounting

HIGH EFFICIENCY CIRCULATOR

Permanent magnet ECM pump



HOUSING
energy optimised hydraulic in standard or customised versions, available in cast iron and composite materials

BEARING PLATE
made out of stainless steel

SEALING
EPDM ring with squared profile is most reliable for a liquid sealing

STATOR
3-phase ECM stator with 6 windings

STATOR housing
aluminium housing optimised

IMPELLER
optimised 3D design, PES 30 % GF, stop ring for high speed performance

ROTOR
high efficiency neodymium permanent magnet 4-pole rotor encapsulated with stainless steel

ROTOR CAN
made out of stainless steel

SHAFT & BEARING
ceramic material with durable surface ensuring a long lifetime

MANUAL DE-BLOCKING DEVICE
waterproof, accessible from the front through the control box

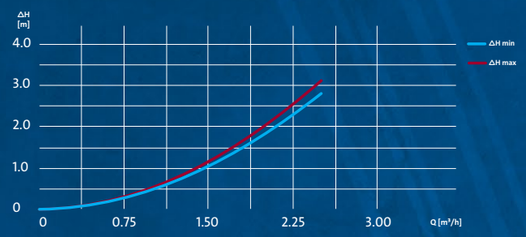
CONTROL box
with high ingress protection, easy accessibility, and compact design for easy integration

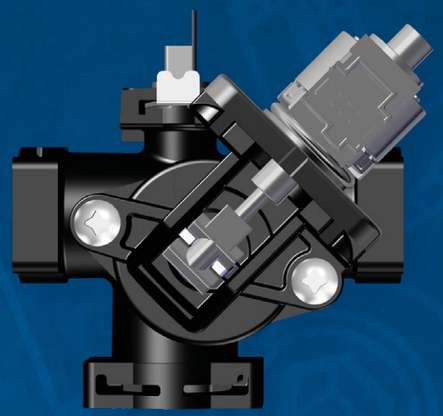
Flapper Valves

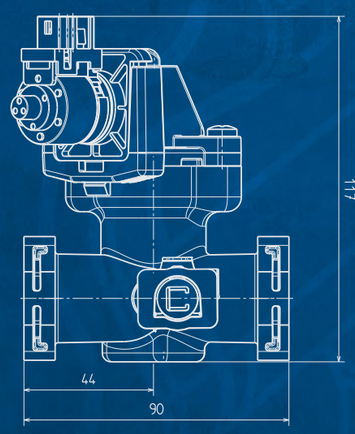
Change-over Return Valve RV 10

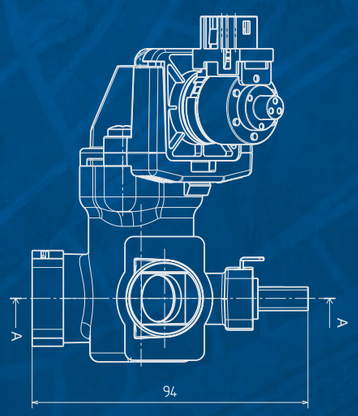
Material: composite PA 6.6 with 30 % GF
Q nom = 2.5 m³/h , TF max = 95° C, PN = 3 bar
Closing: ΔH max 5 m
Clip connections for ø18 mm copper pipe
Temperature sensor in the outlet
NMB 24 V DC stepper motor bi polar type
Flow factor Kv = 4.5 m³/h

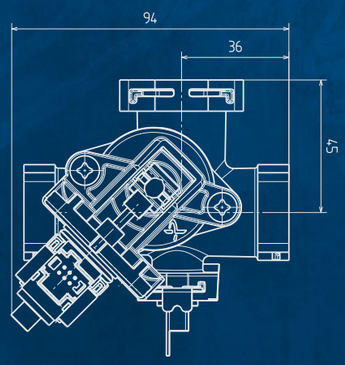
FRICTION LOSS RV10

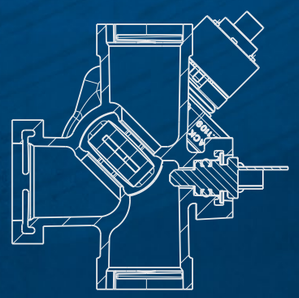








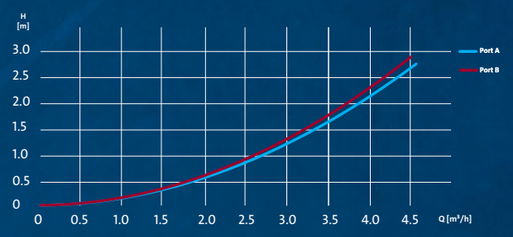


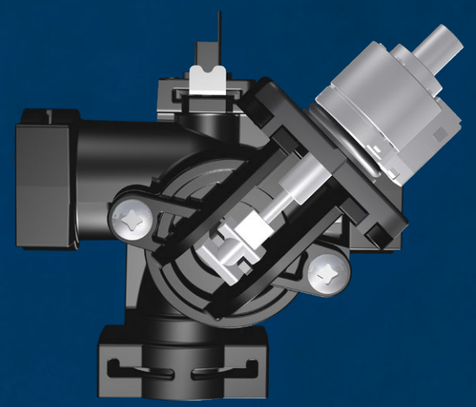


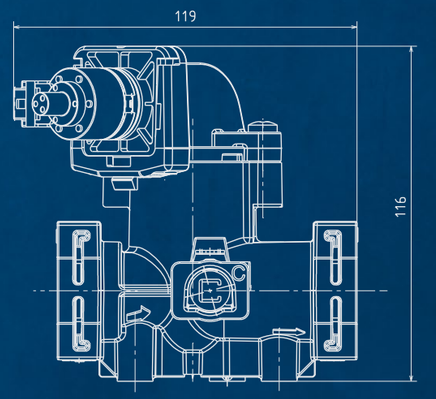
Change-over Return Valve RV 20

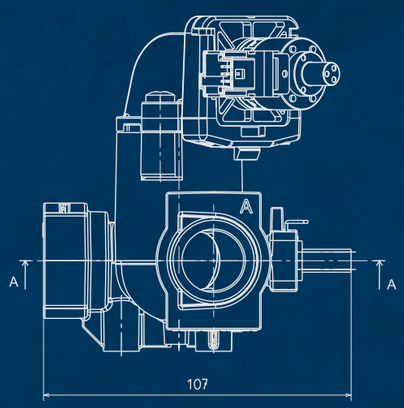
Material: composite PA 6.6 with 30 % GF
Q nom 5 m³/h , Tf max = 95° C, PN = 3 bar
Closing: Δp max 5 m
Clip connections for ø22 mm cobber pipe
Temperature sensor in the outlet
NMB 24 V DC stepper motor bi polar type
Flow factor Kv = 8 m³/h

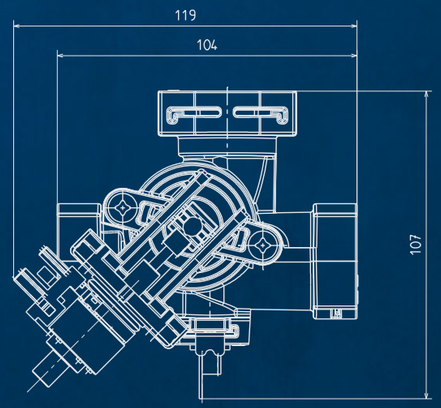
FRICTION LOSS RV20

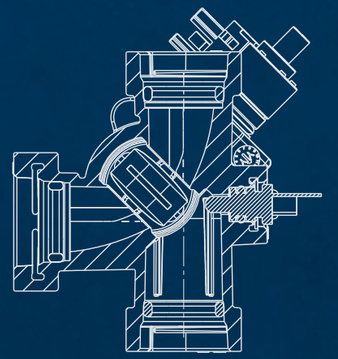












Grundfos HVAC OEM CRU

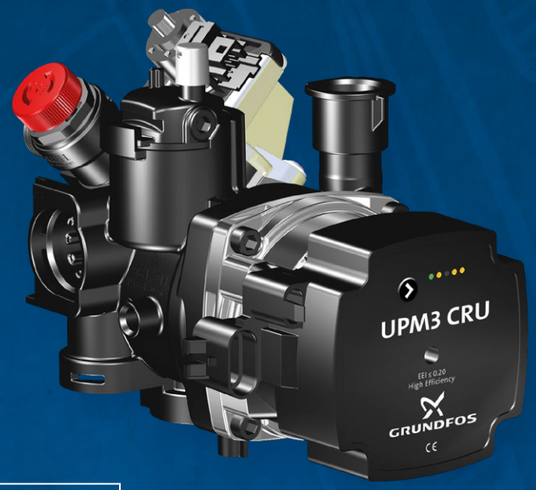
Hydraulic platform for domestic hot water and central heating systems

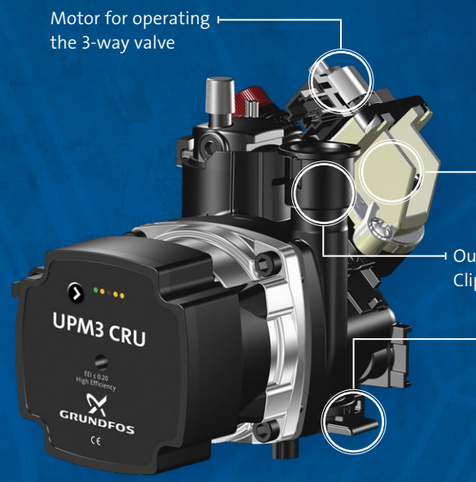
INTELLIGENT FEATURES COME AS STANDARD

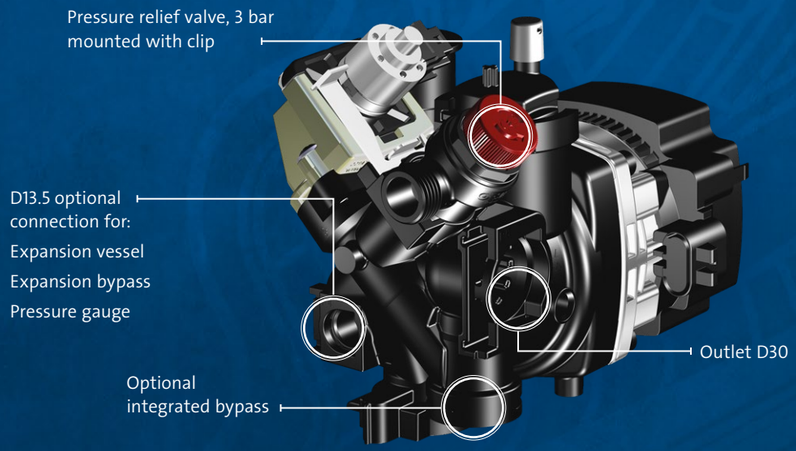
Introducing the smallest Grundfos hydro block yet that does not compromise on function or serviceability.

Highly flexible in terms of
- production concept
- scope of customisation

The CRU contains all the basic hydraulic functions that are needed to serve the primary side of a boiler.

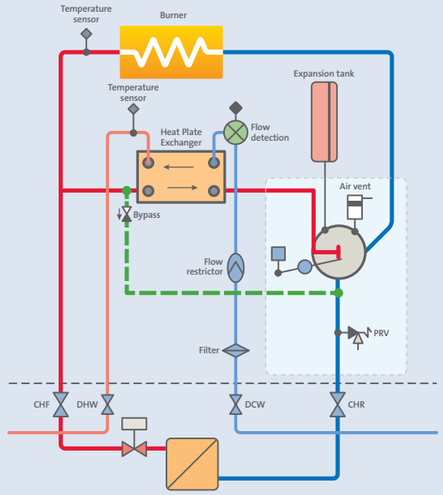




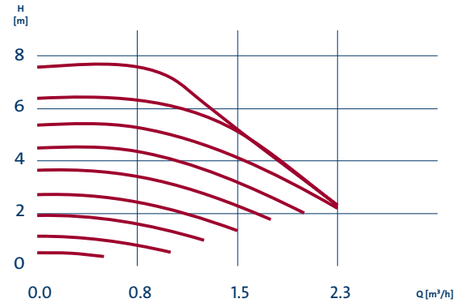


APPLICATION COMBI BOILER:

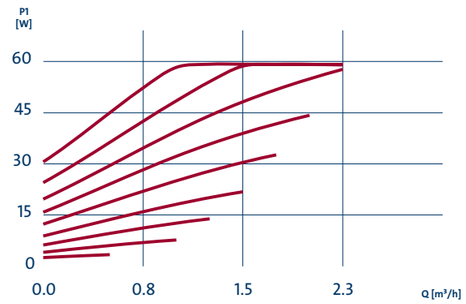
Grundfos CRU

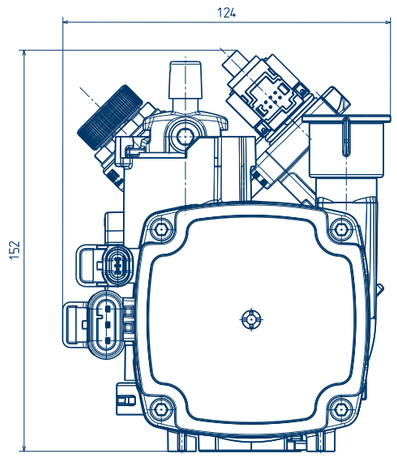


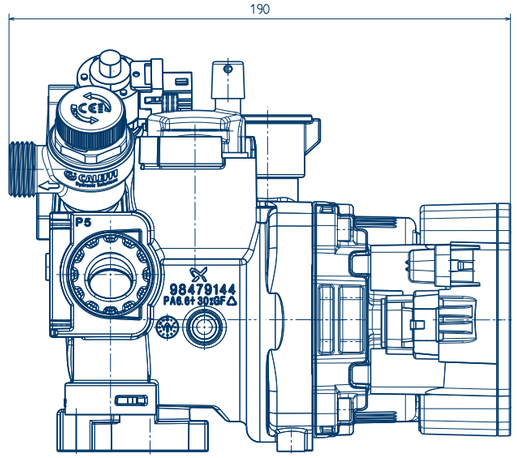
Performance



Power consumption







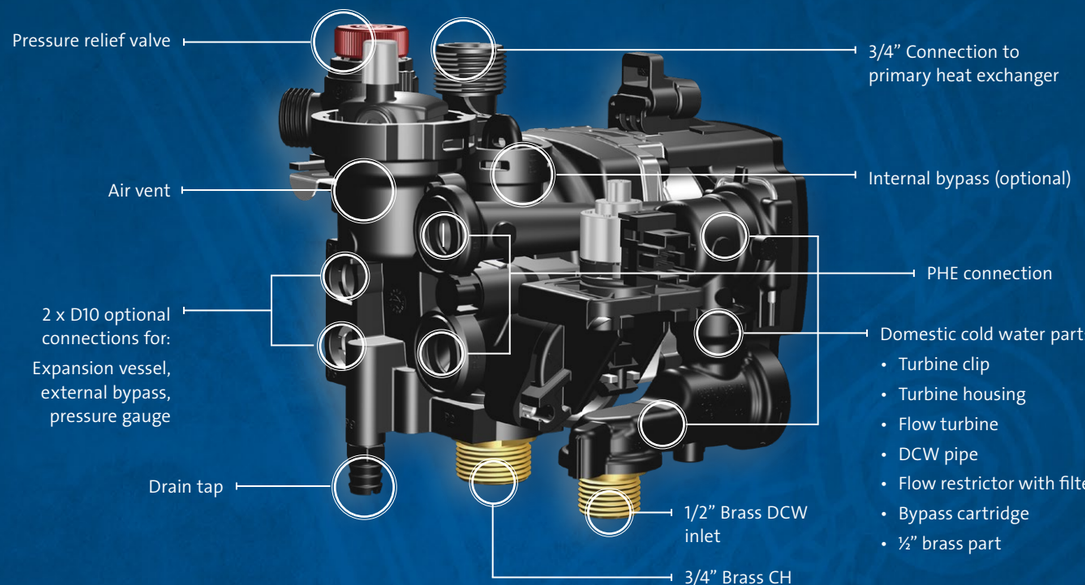
Grundfos HVAC OEM CHB

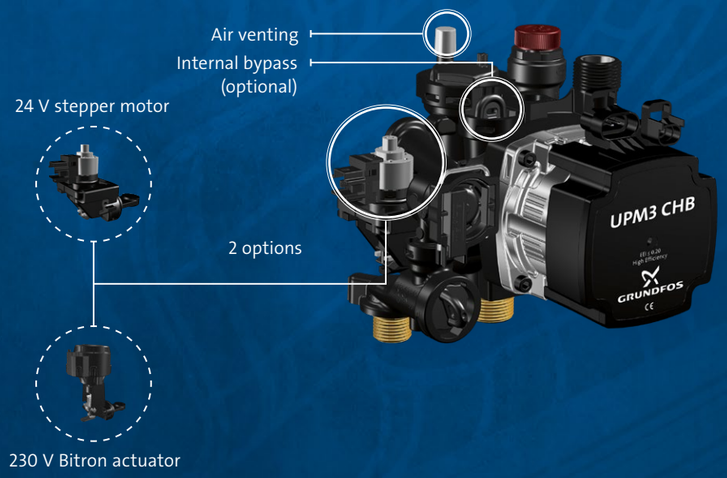
Hydraulic platform for domestic hot water and central heating systems

INTELLIGENT FEATURES COME AS STANDARD

The Grundfos CHB platform comes with a wide range of important functions and features built into the housing, which reduces project complexity and costs significantly.

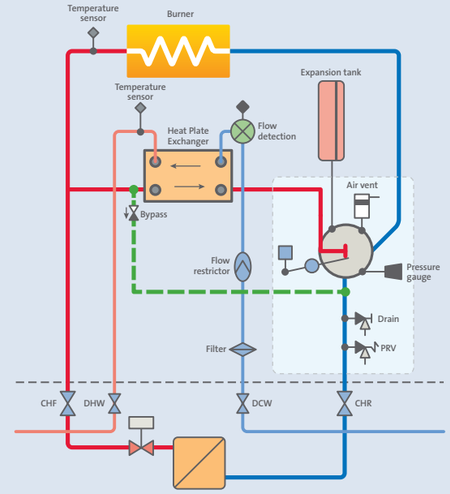
Depending on your requirements, we can combine the Grundfos CHB, which functions as a return group unit, with a matching flow group unit.



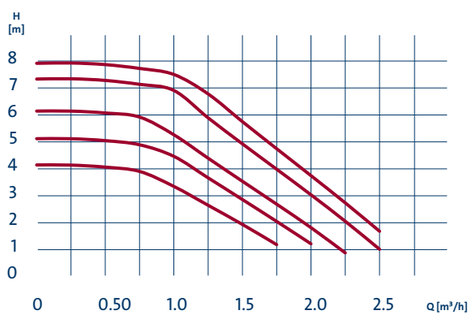


APPLICATION COMBI BOILER:

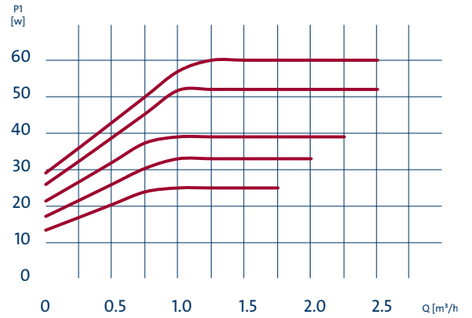
Grundfos CHB

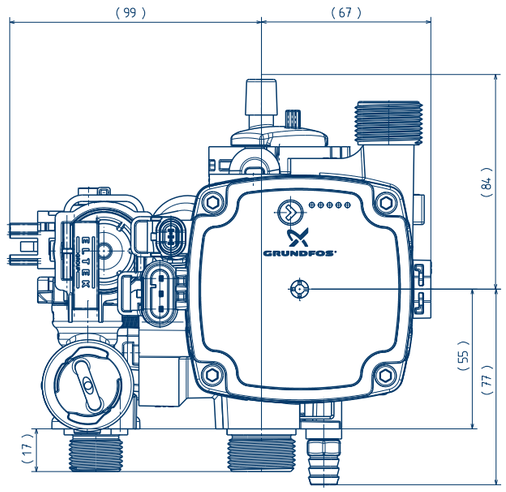


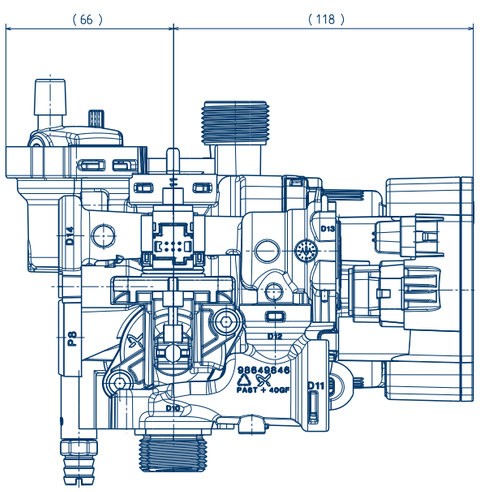
Performance



Power consumption







Grundfos HVAC OEM CHBL

Hydraulic platform for heat pumps, space heaters and combi heaters

INTELLIGENT FEATURES COME AS STANDARD

The Grundfos CHBL comes with a wide range of important functions and features built into the housing, which reduces project complexity and costs significantly.

D9, D10 optional clip connections for: Expansion vessel, external bypass, pressure sensor

D22 outlet clip connection

Pressure relief valve, 3 bar mounted with clip D18

Air vent, with bayonet and unlosable cap

Drain tap, mounted

2 x D22 optional inlet clip connections

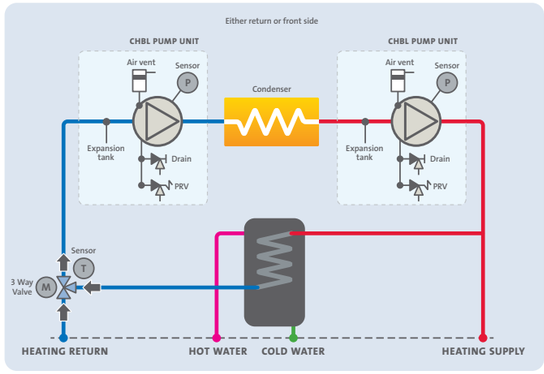
Pump Flow [m³/h]	0.86	1.2	1.71	2.06	2.4	2.74	3.26	3.77	4.29
Heat capacity Heat Pump* [kW]	5	7	10	12	14	16	19	22	25
Required Pump Type Heating and cooling	UPM3K 20-75 UPM2K 20-75 UPSO 20-70 K			UPM GEO 20-85			UPML 20-105 UPMXL 20-125		
Heat capacity Boiler [kW]**	15	21	30	36	46	48	57	66	75
Required Pump Type Heating only	UPM3 20-75 UPM2 20-70 UPSO 20-70 UPERO 20-70			UPM GEO 20-85			UPML 20-105 UPMXL 20-125		

Assumptions
Flow calculated at
*Δt = 5 K / **Δt = 15 K
Duty point at 6 m pump head

CHBL pump housing platform fits all

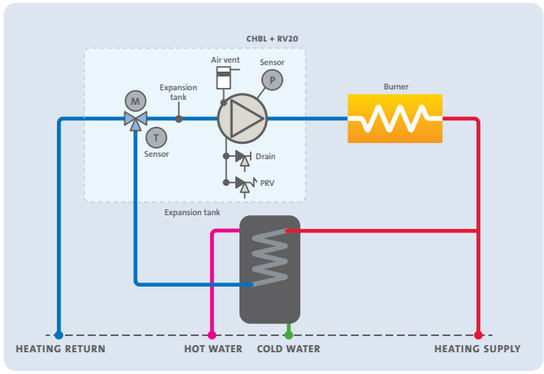
APPLICATION HEAT PUMP:

Grundfos CHBL Pump Unit + RV20 Return Valve

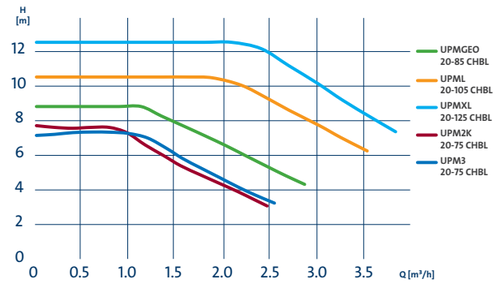


APPLICATION COMBI BOILER:

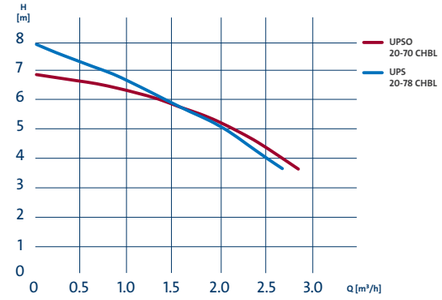
Grundfos CHBL Pump Unit + RV20 Return Valve

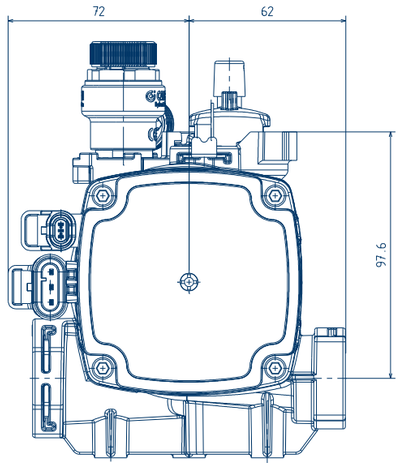


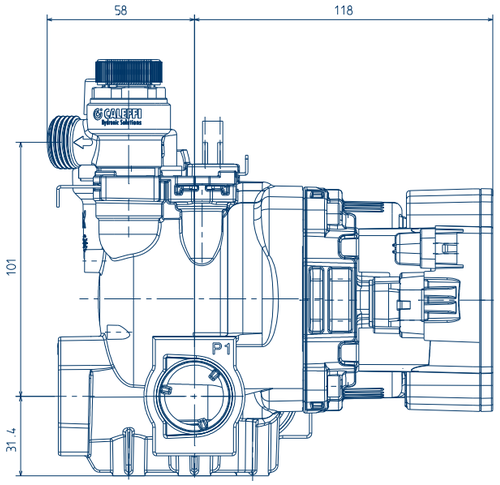
CHBL overview ECM



CHBL overview asynchronous







Grundfos HVAC OEM CHB IWC – Integrated Water Circuit (IWC)

The Grundfos CHB IWC consists of a return group and flow group pre mounted on a bottom plate. This combination makes up 90 % of the hydraulic system in your boiler.

Benefits of IWC

- High degree of predesign – Functionalities built into the housing
- High modularity – Flexible concept with several standard components
- Significant cost reductions – Prefabricated modularity cuts project and tooling costs
- Simplify your supply chain – One supplier for most hydraulic components reduces purchase costs
- Compact design – Less space required in the complete heating system
- Outstanding reliability and robustness – Quality tested to perfection
- High serviceability – Easy access to different components
- Global support – Grundfos supports the CHB IWC platform all around world

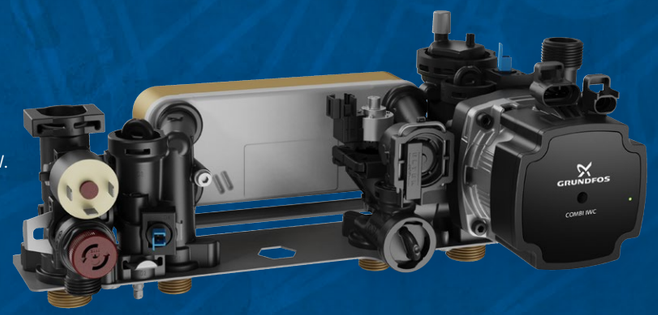
Flexible pump range

UPM3 pump head
For use inside EEA (Europe)

UP asynchronous pump head
For use outside EU

CHB IWC COMBI

The CHB IWC COMBI is ready to be used in combi boilers to provide hot water for heating and DHW.



Return group:

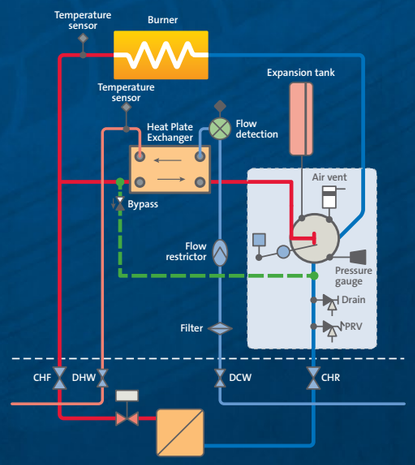
- Air vent
- Drain tap
- PHE connection
- Optional internal bypass
- Cold water domestic parts
- 2 x Optional D10 connection: Expansion, Bypass or Pressure gauge
- ¾" connection to primary heat exchanger
- ¾" brass CH return
- ½" brass DCW inlet
- 3way diverter valve integrated
- Flow sensor

Flow group:

- D18 pipe connection
- ¾" brass CH forward
- ½" brass DHW forward
- Optional filling tap
- Pressure switch
- Pressure Relief Valve
- Optional bypass
- D10 connection: NTC sensor

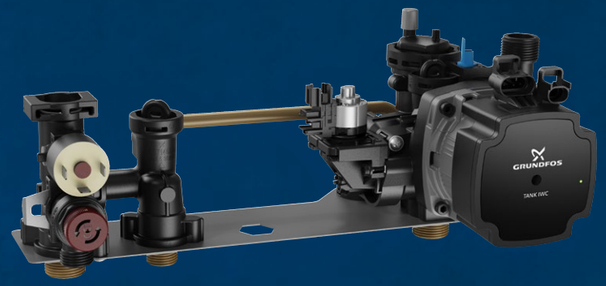
Other:

- Plate heat exchanger
- Bottom plate



CHB IWC TANK

The CHB IWC TANK I is ready to be used in heating boilers with tank.



Return group:

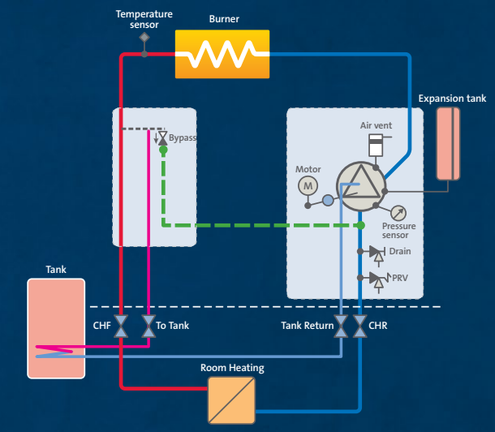
- Air vent
- Optional D10 connection: Expansion, Bypass or Pressure gauge
- Diverter valve for tank
- Drain tap
- Optional internal bypass

Flow group:

- D18 pipe connection
- ¾" brass CH forward
- ½" brass to tank forward
- Pressure switch
- Pressure Relief Valve
- Optional bypass

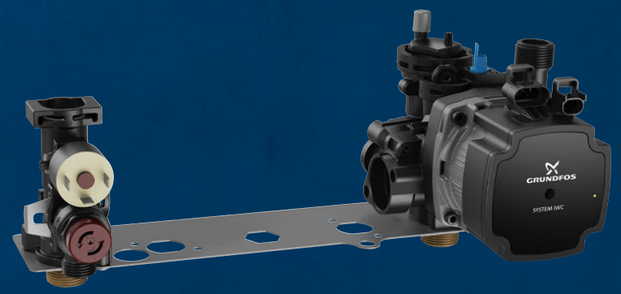
Other:

- Bottom plate



CHB IWC SYSTEM

The CHB IWC SYSTEM is ready to be used in heating boilers.



Return group:

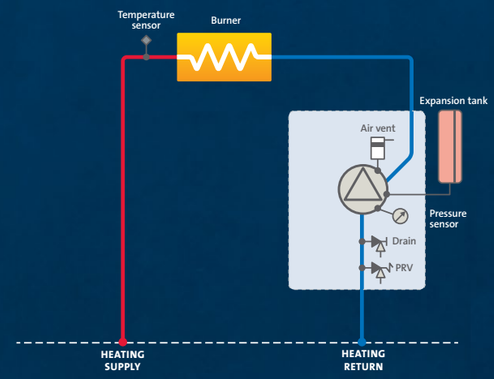
- Air vent
- Optional D10 connection: Expansion, Bypass or Pressure gauge
- Drain tap
- Optional internal bypass

Flow group:

- D18 pipe connection
- ¾" brass CH forward
- Pressure switch
- Pressure Relief Valve

Other:

- Bottom plate



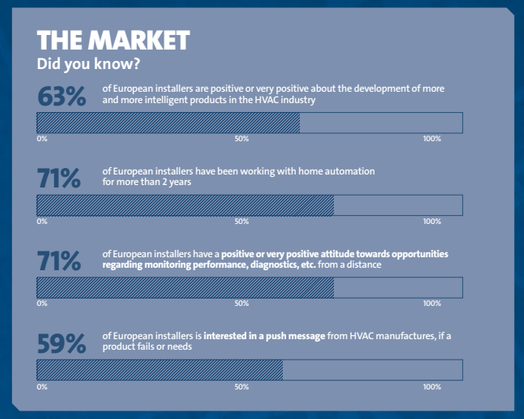
Digitalisation Solutions For Tomorrow

DIGITALIZATION IN THE HVAC INDUSTRY

The HVAC industry is experiencing, like many other industries, a major digital transformation. This will affect all areas of our industry, but sometimes it is not easy to clearly define how.

By 2030, there are expected to be 125 billion connected IOT devices, of which many will be home appliances. This exciting development will cause major changes in priorities, pushing organisations to focus on new areas.

In Grundfos, we are committed to help you in this transformation. With more than 50 years of experience manufacturing circulators, we have accumulated a vast amount of experience and data. And with the Grundfos Digital Transformation Office, we are ready to support our partners, so you become digital market leaders.



GROWING NEED FOR A DATA HIGHWAY

For the last 20 years, PWM has been the standard communication protocol in the HVAC OEM industry. The amount of data that can be transferred via PWM is very limited, resulting in the implementation of the LIN bus communication protocol.

LIN bus was developed for the automotive industry in 1999. It is a proven solution, cost efficient and reliable, allowing up to 15 slave devices.

The comprehensive amount of data that Grundfos products can provide via LIN bus has resulted in dividing the different data points into accessible data modules fitting different functions.

The basic Grundfos LIN module is included in all LIN bus products, offering a great amount of data and functions. The rest of the modules can be chosen as per demand.

NEW FEATURES FOR YOUR APPLICATIONS

Thanks to the data that can be exchange between the pump and the appliance controller via LIN bus and innovative algorithms, you will be able to implement unique and valuable features into your products.

Hydraulic Balancing via Grundfos GO BALANCE is the first feature that can be implemented in your appliance. It provides extra comfort and energy savings for the end users and, at the same time, eases the hydraulic balancing process for the installer. So far, more than 20,000 households has been balanced thanks to Grundfos GO BALANCE.

Other great unique features being developed will enable you to predict maintenance and breakdown of the pump and other components in the heating system, help you and installers in the configuration and commissioning of the product, improve efficiency, and much more. This will help you developing new business models, differentiate in the market and, in general, improve your products.

Sustainability and HVAC manufacturers

SUSTAINABLE FUTURE

Sustainability is an area affecting most industries, including HVAC. Globally, 81 % of consumers across genders and generations are demanding that organisations and governments act sustainably.

This will be a radical change in the way that business is done. It will mean changes in all aspects of the value chain of today's organisations. But, at the same time, it will be a tremendous growth opportunity with estimated financial rewards of between USD 12-30 trillion.

In Grundfos, we have sustainability deeply rooted in our DNA. By 2030, we will have contributed to Clean Water and Sanitation, SDG 6, by providing safely managed drinking water to 300 million people in need. In support of Climate Action, SDG 13, we will halve our own CO2 emission by 2025, while we by 2030 aspire towards being climate-positive.

Together with our HVAC customers, we will contribute much more towards SDG 13 as the energy transition from fossil-fuels to renewables gains ground.

REUSABLE COMPONENTS

One of the current sustainable initiatives is investigating what components of our pumps that we can either recycle, remanufacture or reuse going forward.

It has been estimated that by recycling components, we are capable of reducing 13.5% of CO2 emissions and 50% of water consumption, compared to traditional disassembly at commercial waste-handling operations.

At the moment are we capable of disassembling 100.000 units a year and we are currently doing all the preliminary tests.

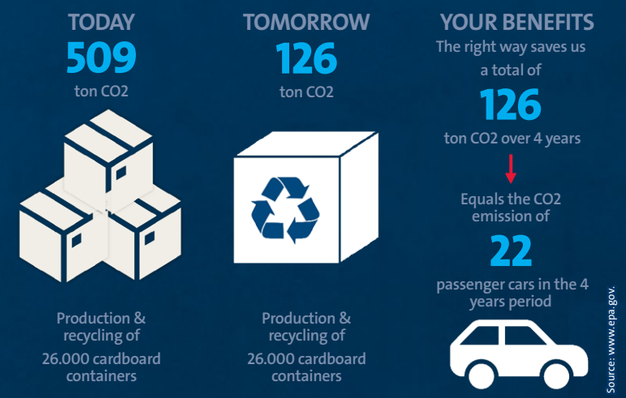
We will only use recycled materials in our products when we can guarantee the product quality and ensure compliance with current chemical legislation, because we will not compromise our quality. Therefore, the content of recycled material also varies from product to product.

RETURNABLE PACKAGING

Another initiative is the implementation of returnable packaging. Today, 509 tons of CO2 are used to produce and recycle 26,000 cardboard containers. We could reduce that to 126 tons CO2 with the production and recycling of PE containers plus the transportation of empty containers back to the source.

Besides the great benefits or reducing CO2, it means a reduction of scrap costs, reduced product damage and other benefits which can be achieved because of returnable packaging from Grundfos.

EXAMPLE: CO2 SAVINGS FOR 1 PRODUCTION LINE OVER 4 YEARS

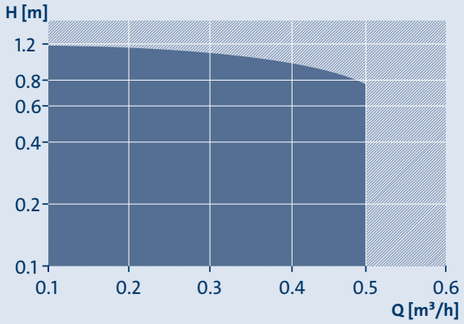


COMFORT PM

Circulator pumps, canned-rotor type

Technical data

Flow rate:	max. 0.5 m³/h
Head:	max. 1.2 m
Liquid temperature:	2 to 95° C
Operating pressure:	max. 10 bar.



Applications

- Domestic hot-water systems in single and two-family homes
- Small heating systems
- Cooling and air-conditioning systems

Features and benefits

- Maintenance-free
- Low noise level
- Low energy consumption down to 2.5 W
- Wide range
- Integrated dry-running protection
- Pump head fits on almost all competitor pump housings

Options

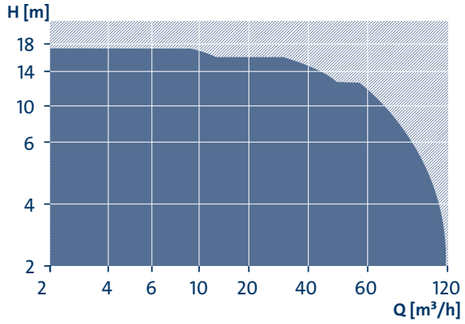
- 24-hour timer
- Corrosion-resistant stainless-steel pump housing
- Adapts to the user pattern, AUTOADAPT variant
- 3-speed variant available
- Adjustable thermostat

MAGNA 1

Circulator pumps, canned-rotor type - ***electronically controlled***

Technical data

Flow rate:	max. 110 m³/h
Head:	max. 18 m
Liquid temperature:	-10 to +110° C
Operating pressure:	max. 16 bar.



Applications

- Heating systems
- Domestic hot-water systems
- Air-conditioning and cooling systems
- Geothermal and solar systems

Features and benefits

- Backwards compatible with MAGNA1
- Digital input (start/stop)
- Fault relay
- Grundfos GO support for fault remedy
- Wireless multipump function with time based alternation
- With an outstanding EEI of ≤ 0.20, all new MAGNA1 pumps are highly energy efficient

Options

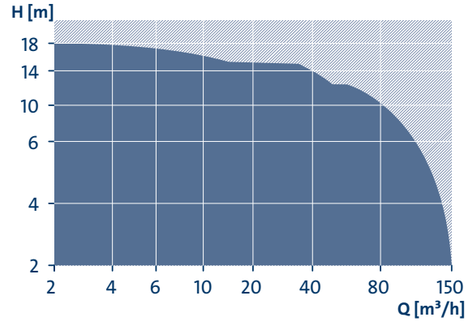
- Stainless-steel pump housing
- Twin-head versions

MAGNA 3

Circulator pumps, canned-rotor type - ***electronically controlled***

Technical data

Flow rate:	max. 150 m³/h
Head:	max. 18 m
Liquid temperature:	-10 to +110° C
Operating pressure:	max. 16 bar.



Applications

- Heating systems
- Domestic hot-water systems
- Air-conditioning and cooling systems
- Geothermal and solar systems

Features and benefits

- Low energy consumption; all MAGNA3 pumps comply with the EuP 2015 requirements
- FLOWADAPT control mode, i.e. a combination of the well-known AUTOADAPT mode and a new FLOWLIMIT function
- Operating log
- Heat energy monitor
- Multipump function
- Differential-temperature control

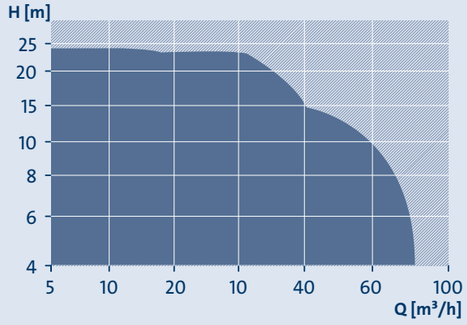
Options

- Stainless-steel pump housing
- Twin-head versions
- Wireless remote control through Grundfos GO

TPE3

Technical data

Flow rate:	max. 80 m³/h
Head:	max. 25 m
Liquid temperature:	-25 to +120° C
Operating pressure:	max. 16 bar.



Applications

- One-string heating system
- Heat recovery system
- Boiler shunt pump
- Domestic hot water recirculation

Features and benefits

- Low energy consumption- better than IE4 and above the efficiency benchmark
- FLOWADAPT and other intelligent control modes
- Built-in heat energy meter for complete motor
- Intelligent communication to BMS
- Large performance range

Options

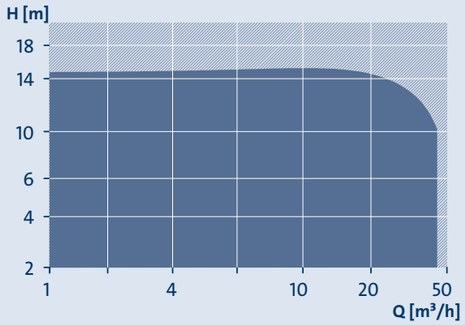
- Cast iron as standard
- Stainless-steel for single pumps up to DN65

AC

Horizontal, single-stage composite centrifugal pump

Technical data

Flow rate:	max. 45 m³/h
Head:	max. 23 m
Liquid temperature:	-10 to 55° C
Operating pressure:	max. 6.5 bar



Applications

Circulation of liquids in open and closed systems for:

- chilling and cooling
- washing and cleaning
- water treatment
- pressure boosting
- applications with viscous liquids (glycol)

Features and benefits

- Compact design
- High reliability
- Low noise level

Options

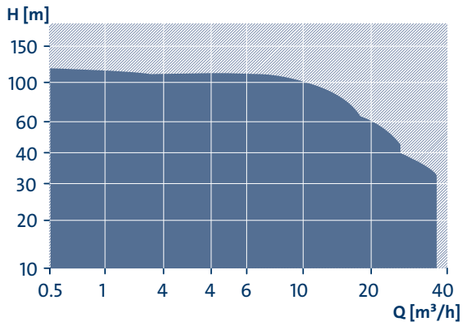
- Customised products
- Available with IE4 motor

CM, CME, CMV

Multistage centrifugal pumps

Technical data

Flow rate:	max. 36 m³/h
Head:	max. 130 m
Liquid temperature:	-30 to 120° C
Operating pressure:	max. 16 bar



Applications

- Washing and cleaning
- Water treatment
- Temperature control
- Pressure boosting

Features and benefits

- Compact design
- Modular design
- Very low noise level down to 50 dB(A)

Options

- Customised products
- Built-in or stand-alone
- Variable frequency drive
- Available as a self-priming variant with a suction lift of up to 8 metres

Grundfos Standard **Portfolio**

Grundfos meets all of your hydraulic needs in one place:
As a global leader in advanced pump solutions and water technology, Grundfos offers a wide range of products and services for all types of applications. This means we can meet all your hydraulic needs in one place.

Partnering with Grundfos also gives you access to our state-of-the-art solutions, professional troubleshooting services, and updates on new developments across all HVAC hydraulic technology.

To learn more about our HVAC technology and how we can help you, visit the HVAC OEM Division website or check out the Grundfos Product Center to find out more about our standard portfolio.
www.grundfos.com/hvac-oem

HVAC OEM Division

Grundfos Product Center

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