CoolBloC®
Heating | Cooling

CoolBloC DN 25 / DN 32

Innovative system technology for modern heating and cooling

Characteristics of the CoolBloCs:

- Pump group for heating and cooling
- Condensation-resistant valves and fittings: high-quality components to avoid oxidation
- Special pump with additional insulating element for the use in special ambient conditions, such as dewing or condensate formation
- Thermal separation of the actuator and the mixing valve to avoid condensate formation
- Sealing lips protected by the utility model in the insulation to reduce condensate formation

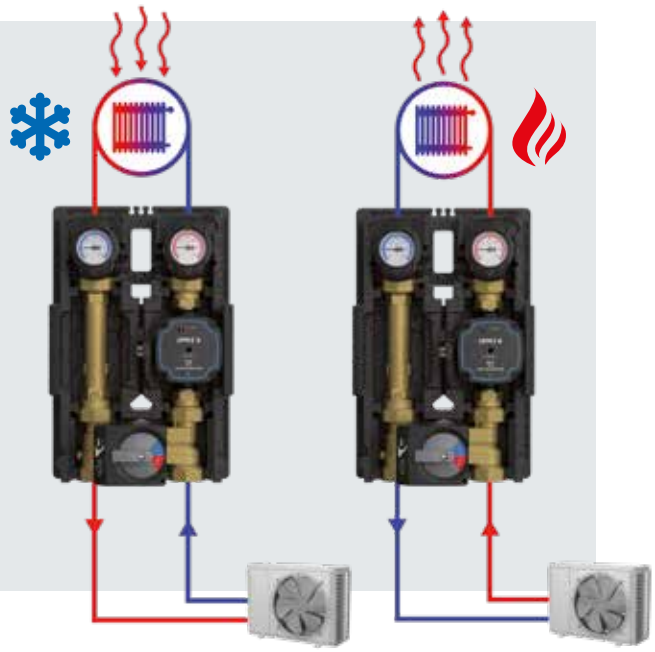
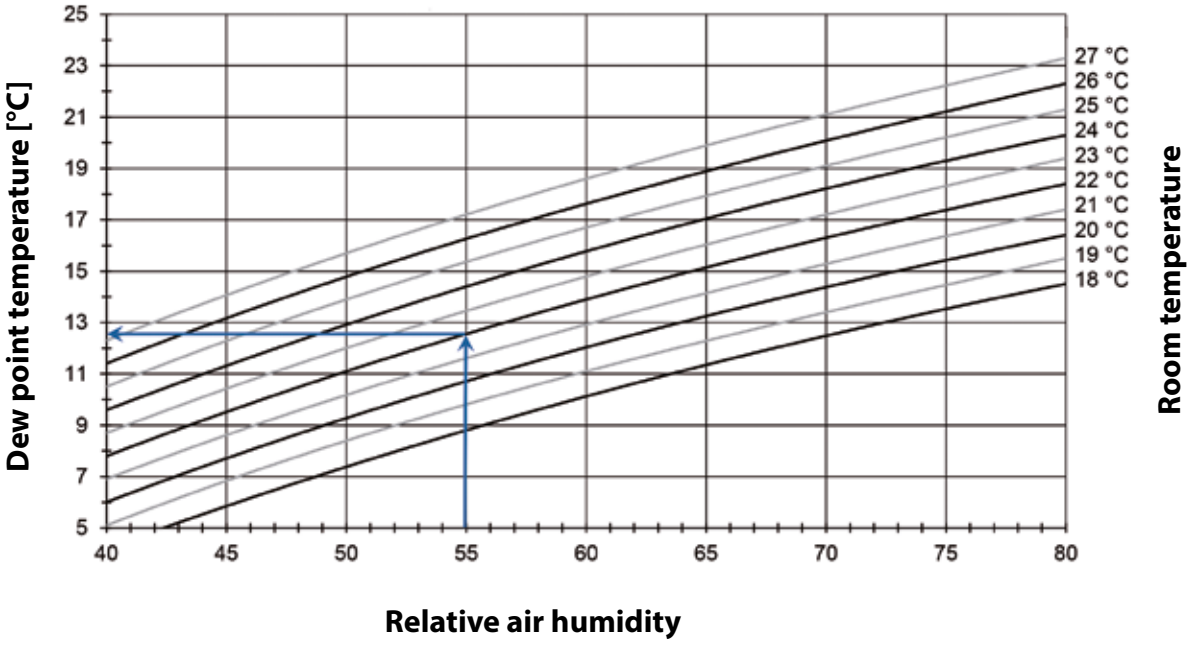


Diagram to determine the dew point

Determination of the dew point (example):
Relative humidity = 55 % | Room temperature = 22 °C → Dew point temperature = 12.5 °C

The determination of the dew point is based on an approximation formula! With a room temperature of 22 °C and a relative humidity of 55 %, condensation water will form on the objects as soon as the surface temperature of the objects falls below approximately 12.5 °C! * If the supplied fluid falls below the dew point temperature, condensate formation is possible at several components. The characteristics of the CoolBloC described above avoid damages to the mixing valve and the pump.

* w3.wetterochs.de/wetter/feuchte.html



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Application of the cooling circuits CoolBloC DN 25 / DN 32

The PAW CoolBloCs are pump groups which can be used for heating as well as for cooling. They contain special valves and fittings and a special pump for the use in special ambient conditions which can occur during cooling or heating, such as dewing or condensate formation.

The pump groups are ideally suitable for the use in combination with heat pumps.

What happens during cooling or heating?

Cooling
Application during the summer:

A heat sink (f. ex. a heat pump) provides cooled fluid.

The cooling circuit transports the cooled fluid to the interior spaces.

There, a heat transfer takes place and the fluid is heated.

The heated fluid is cooled down again in the heat sink.

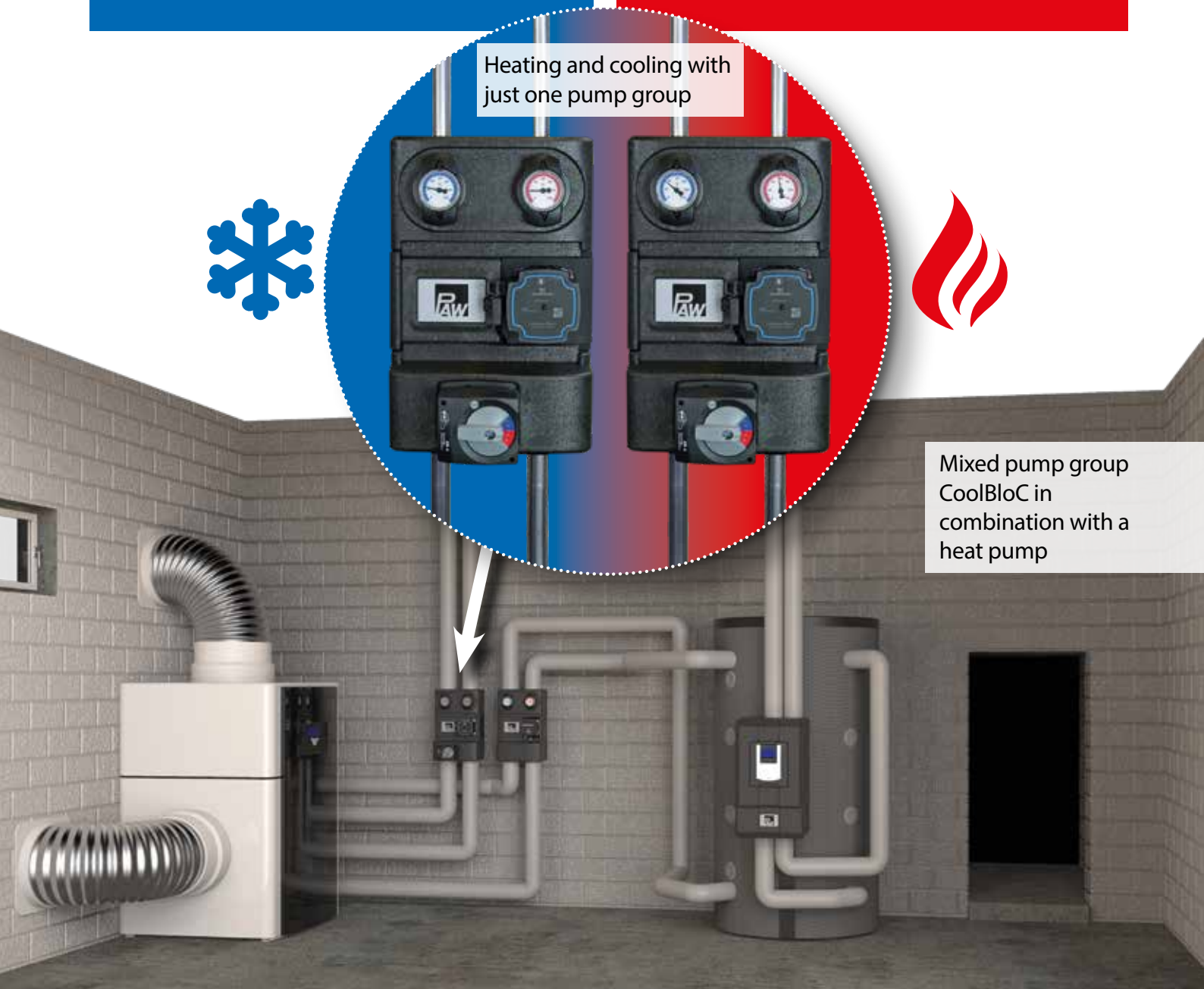
Heating
Application during the winter:

A heat source (f. ex. a heat pump) provides heated fluid.

The cooling circuit transports the heated fluid to the interior spaces.

There, a heat transfer takes place and the fluid is cooled down.

The cooled fluid is heated again in the heat source.



Mixed pump group CoolBloC in combination with a heat pump

CoolBloC C31 – DN 25 / DN 32 direct circuit

Application range:
- for boiler charging
- for modulating temp. heating and cooling systems

Immersion thermometer
thermally separated, made of plastic, with handle, 0 - 120 °C

Thermometer ball valve
Spindle can be replaced under pressure, temperature measuring by means of the spindle in the fluid. Prepared for a thermally decoupled wall bracket, with G¼" sleeves for sensors

Serial numbers on the cooling circuit and the pump
Reliable identification, fast service

Return pipe
Brass with flat-sealing connections and precise threads, condensation-resistant

Check valve
Can be opened with low resistance. Especially for speed-controlled pumps.

Nut 1½"
Brass, with precise threads, condensation-resistant

Connections Rp 1" int. thread / 1¼" int. thread

Design insulation made of EPP with optimised function
elastic, resistant to deformation up to 130 °C, precise snap-in mechanism of the upper and lower shell

High-efficiency pump
particularly suitable for the operation with undercooled fluids (fluid temperatures -10 °C - +95 °C), approved for temporary condensation
- fitted with 2 m cable
- with serial number
- ErP READY

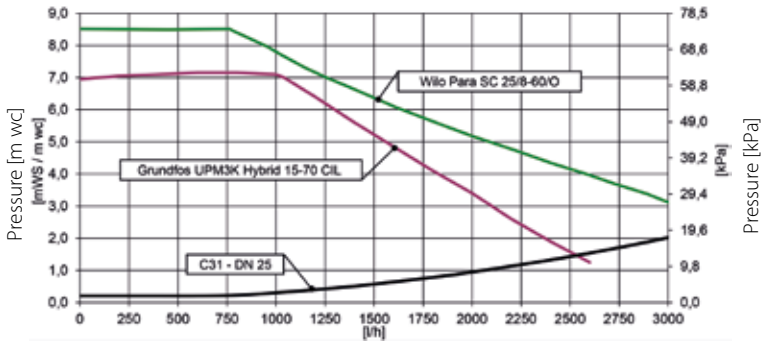
Detailed and illustrated instruction manuals
Available in the following languages:

Pump ball valve
Housing made of brass, spindle can be replaced under pressure

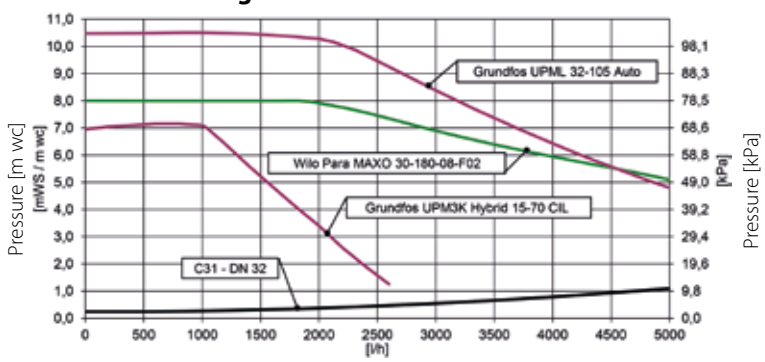
Flat-sealing connections, 1½" ext. thread / 2" ext. thread

Technical data C31	DN 25	DN 32
Materials		
Valves and fittings	Brass	
Gaskets	NBR / EPDM	
Insulation	EPP	
Operating parameters		
Nominal pressure	6 bars	
Max. operating temperature	110 °C	
Kvs value	7.2	15.1
Connections / Dimensions		
Connection generator	1½" ext. thread, flat sealing	2" ext. thread, flat sealing
Connection consumer	1" int. thread	1¼" int. thread
Installation length	340 mm	400 mm
Centre distance	125 mm	
Width	250 mm	
Recommended application range		
Max. power at a temperature difference of	**20 K**	
Max. flow rate (residual head: 2.5 m)	**2000 l/h**	**2150 l/h**
Max. power	**46.5 kW**	**50 kW**
Fluid temperatures	- 10 °C up to + 95 °C, liquid and conveyable	
Ambient conditions	up to 98 % of relative humidity, temporarily condensing	

Pressure loss diagram CoolBloC C31 – DN 25



Pressure loss diagram CoolBloC C31 – DN 32



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CoolBloC C34 – DN 25 / DN 32
3-way mixing valve circuit with bypass 0 - 50%

Application range:
- for heating and cooling systems controlled by a mixing valve

Immersion thermometer
thermally separated, made of plastic, with handle, 0 - 120 °C

Thermometer ball valve
Spindle can be replaced under pressure, temperature measuring by means of the spindle in the fluid. Prepared for a thermally decoupled wall bracket, with G¼" sleeves for sensors

Serial numbers on the cooling circuit and the pump
Reliable identification, fast service

Return pipe with check valve (can be opened)
Brass with flat-sealing connections and precise threads, condensation-resistant

Non-return valve
Can be opened with low resistance. Especially for speed-controlled pumps.

Nut 1½"
Brass, with precise threads, condensation-resistant

Connections Rp 1" / 1 ¼" int. thread

High-efficiency pump
particularly suitable for the operation with undercooled fluids (fluid temperatures -10 °C - +95 °C), approved for temporary condensation
- fitted with 2 m cable
- with serial number
- ErP READY

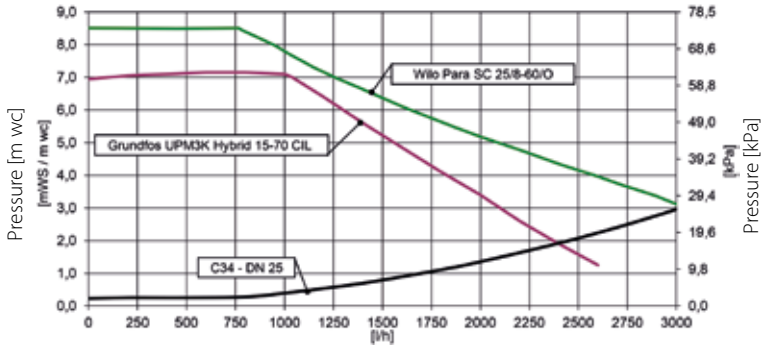
3-way mixing valve with variably adjustable bypass 0-50%
Mixing valve can be isolated, high Kvs value, thermally decoupled snap-in assembly for PAW actuator

Detailed and illustrated instruction manuals
Available in the following languages:

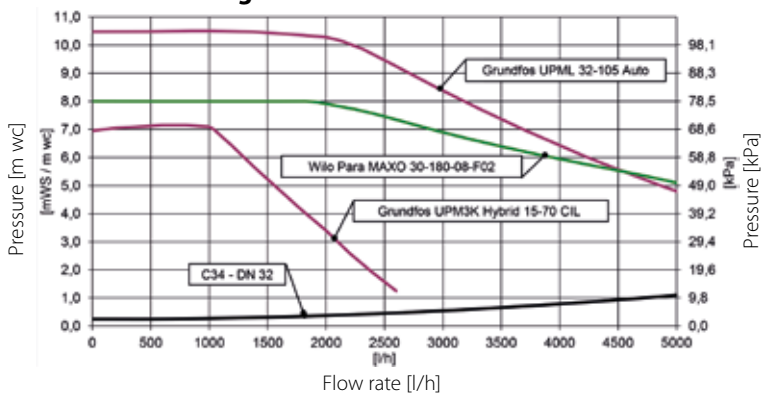
Actuator
5 Nm/230 V, 3-point control
The actuator is thermally separated from the mixing valve:
Avoids condensate formation

Technical data C34	DN 25	DN 32
Materials		
Valves and fittings	Brass	
Gaskets	NBR / EPDM	
Insulation	EPP	
Operating parameters		
Nominal pressure	6 bars	
Max. operating temperature	110 °C	
Kvs value	6.0	10.1
Connections / Dimensions		
Connection generator	1½" ext. thread, flat sealing	2" ext. thread, flat sealing
Connection consumer	1" int. thread	1¼" int. thread
Installation length	340 mm	400 mm
Centre distance	125 mm	
Width	250 mm	
Recommended application range		
Max. power at a temperature difference of **20 K**		
Max. flow rate (residual head: 2.5 m)	**1850 l/h**	**2070 l/h**
Max. power	**43 kW**	**48 kW**
Fluid temperatures	- 10 °C up to + 95 °C, liquid and conveyable	
Ambient conditions	up to 98 % of relative humidity, temporarily condensing	

Pressure loss diagram CoolBloC C34 – DN 25



Pressure loss diagram CoolBloC C34 – DN 32



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Order data
CoolBloC DN 25 / DN 32

Illustration	Unmixed pump group	with	Item no.
	**CoolBloC C31 – DN 25**		
	Grundfos UPM3 K Hybrid 15-70 PP3, high-efficiency pump	▲	**4236013GK7**
	Wilo Para SC 25/8-60/O, high-efficiency pump	▲	**4236013WP8**
	CoolBloC C31 – DN 32		
	Grundfos UPM3 K Hybrid 15-70 CIL, high-efficiency pump	▲	**4239013GK7**
	Grundfos UPML 32-105 Auto, high-efficiency pump	▲	**4239013GL9**
	Wilo Para MAXO 30/1-8, high-efficiency pump	▲	**4239013WM08**

Illustration	Mixed pump group	with	Item no.
	**CoolBloC C34 – DN 25**		
	Grundfos UPM3 K Hybrid 15-70 CIL, high-efficiency pump	Ⓜ ▲	**4236063MGK7**
	Wilo Para SC 25/8-60/O, high-efficiency pump	Ⓜ ▲	**4236063MWP8**
	CoolBloC C34 – DN 32		
	Grundfos UPM3 K Hybrid 15-70 CIL, high-efficiency pump	Ⓜ ▲	**4239063MGK7**
	Grundfos UPML 32-105 Auto, high-efficiency pump	Ⓜ ▲	**4239063MGL9**
	Wilo Para MAXO 30/1-8, high-efficiency pump	Ⓜ ▲	**4239063MWM08**

Accessories		Item no.
	**Wall-mounting set for stair bolts**	**Z3445**
	Components: 2 x clip spring, 2 x acoustic decoupling	
	**Connection set DN 25 (1")**	**3431**
	Consisting of 2 insertion pieces for connection of pipes with 1" external thread below HeatBloCs or for the use of cutting-ring compression fittings and cutting ring fitting.	

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