

# TACOHEAT MIX

## HEATING CIRCUIT PUMP ASSEMBLY



Pump assembly with mixer, actuator, high efficiency pump and shut-off ball valves with thermometer for heating circuits

### BENEFITS

- **Compact:** All necessary valves, accessories and components are fitted
- **Simple:** Suction and pressure sides can be shut off for simple pump replacement
- **Efficient:** High efficiency pump used with  $EEL \leq 0.20$
- **Flexible:** Can be used with any heat generator

### DESCRIPTION

The TacoHeat Mix pre-assembled pump assembly is suitable for heating circuits. It consists of a three-way mixer with actuator, high efficiency pump, two shut-off ball valves with integral thermometers and a non-return valve integrated into the return.

### INSTALLATION POSITION

The heating circuit pump assembly must be installed vertically so that correct ventilation can be ensured. It can be installed by one person.

### OPERATING PRINCIPLE

The integral three-way mixer with actuator regulates the required flow temperature to the selected set value in conjunction with the flow sensor and the consumer heating controller. The mixer has an internal bypass which ensures circulation of the return.

It reduces the high flow temperature from the heat generator down to the required level, which also results in an increase in the flow rate, as required for underfloor heating circuits.

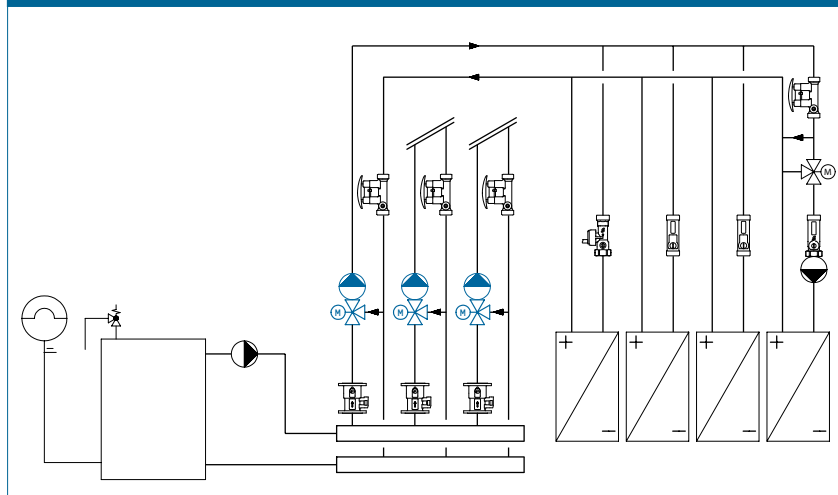
This allows the actuator to operate across the entire setting range. The high efficiency circulation pump has various operating modes which can be adjusted to suit the relevant heating circuit.

The non-return valve integrated into the return prevents incorrect circulation or heat backflow.

### BUILDING CATEGORIES

- Apartments, apartment buildings
- Detached houses, estates of detached houses
- Multi family homes

### SYSTEM/SCHEMATIC DIAGRAM



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## TENDER DOCUMENTATION

See [www.taconova.com](http://www.taconova.com)

## SPECIFICATION

### General

- Operating temperature  $T_{B \max}$ : 110 °C
- Operating pressure  $P_{B \max}$ : 10 bar
- $k_{VS}$  value of mixing valve: 4 m<sup>3</sup>/h
- Flow rate: max. 1200 l/h
- Thread to DIN 2999/ISO 7 and ISO 228
- Recommended application area:
  - Radiator heating system:  
2000 l/h x 15 K = 35 kW
  - Underfloor heating system:  
2000 l/h x 7 K = 16 kW  
(11.6 kW at 5 K)

### Material

- Base plate: zinc-plated sheet steel
- Back panel and cover: stylish EPP insulation
- Flow:
  - Ball valve: hot-pressed brass nickel-plated
  - Circulation pump: cast iron
  - Three-way mixer: brass
  - Servomotor housing: plastic
- Return:
  - Ball valve: hot-pressed brass nickel-plated
  - Connection pipe: plastic
  - Tee for three-way mixer: brass
  - Non-return valve: plastic
- Gaskets/seals: EPDM, PTFE

### Electrical connection information

- Grundfos UPM3 HYBRID 15-70 130
  - Rated voltage: AC 230 V
  - Permissible voltage deviation: +10 % - 15 %
  - Rated frequency: 50/60 Hz
  - Power consumption:  
Speed P1 [W] min. 2, max. 52  
I1/1 [A] min. 0.04, max. 0.52
  - Protection rating: IP 44
  - EEI ≤ 0.20
- UNI 3P rotary drive
  - Rated voltage: AC 230 V
  - Permissible voltage deviation: ± 10 %
  - Rated voltage: AC 230 V ± 10 %
  - Rated frequency: 50 Hz
  - Actuating signal: 3-point floating SPDT
  - Power consumption: 6 VA
  - Runtime: 147 s/90°
  - Torque: 15 Nm
  - Protection rating: IP 44

## SPECIFICATION (CONTINUED)

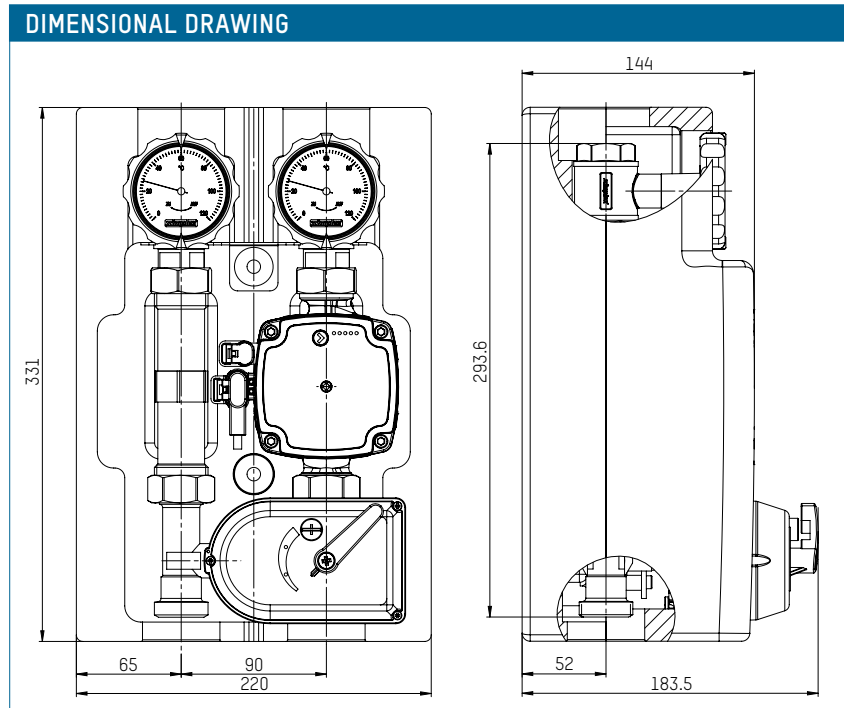
### Flow media

- Water mixtures with standard corrosion and antifreeze additives (indicator scale for viscosity of medium  $\nu = 2.3 \text{ mm}^2/\text{s}$ )
- Heating water (VDI 2035; SWKI BT 102-01; ÖNORM H 5195-1)
- Cold water

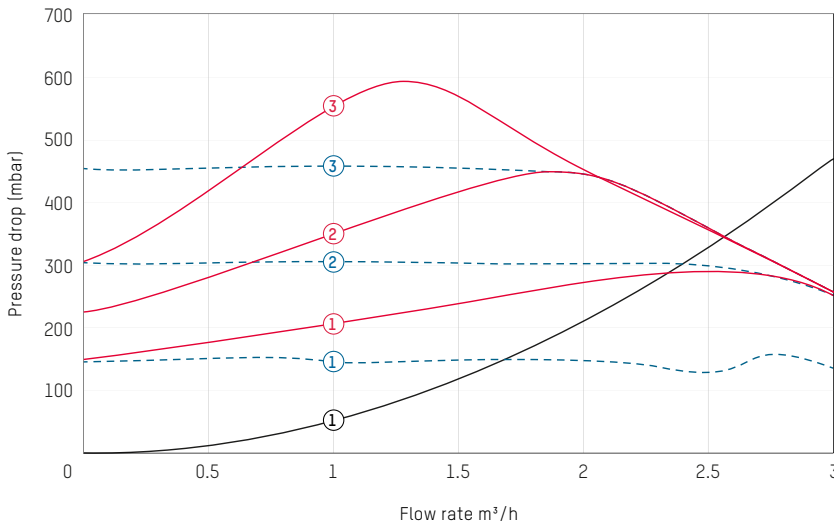
## TYPE OVERVIEW

TacoHeat Mix | Heating circuit pump assembly

Part no.	Connection	Equipment level
277.1200.000	G 1" / Rp ¾"	Mixing valve, actuator and high efficiency pump



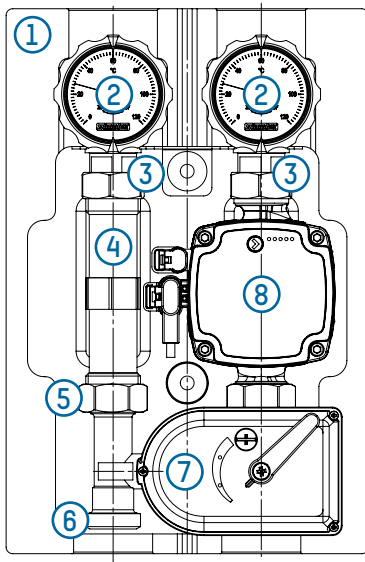
**PRESSURE DROP CHART**



**Key**

- 1 Constant pressure CP1
- 2 Constant pressure CP2
- 3 Constant pressure CP3
- 1 Proportional pressure pp1
- 2 Proportional pressure pp2
- 3 Proportional pressure pp3
- 1 Pressure drop with non-return valve

**COMPONENTS**



**1 Wall mounting**

**2 Ball valve with fem. connection**

- 3/4" (fem. thread), DN 20 with round thermometer bezel (red for flow; blue for return)
- Thermometer Ø: 63 mm
- Indicator range: 0 – 120 °C

**3 Adaptor fittings**

- 3/4" (male thread) – union nut G 1"

**4 Connection pipe**

- 1" (male thr. - male thr.), L = 130 mm

**5 Three-way mixer**

- DN 20 with integral tee

**6 Non-return valve**

- DN 20 Neoperl

**7 Rotary drive**

- FIRST UNI 3P 230 V

**8 High efficiency circulation pump**

- Grundfos UPM3 15-70 Hybrid, L = 130 mm

**Insulation and installation accessories**

- EPDM rubber seal
- Flat gasket
- 2x M12 insulating sleeves
- Washers
- 2x M8x40 hexagon bolts
- Installation instructions
- EPP insulation for pump assembly