

## RGMAT E G 5/4 Pump Station



### Main features

|               |   |
|---------------|---|
| Description   | <p>This Load Unit is intended for systems with solid-fuel boilers and fireplaces. The Load Valve integrated in the Load Unit keeps the min. incoming temperature to a boiler/fireplace above the flue gas condensation temperatures, which prevents lowtemperature corrosion of the boiler combustion chamber. This way the Load Unit contributes to a significant reduction in tarring and boiler fouling, to an increase in the efficiency of fuel combustion and to extension of the boiler service life.</p> <p>The Load Unit consists of:</p> <ul style="list-style-type: none"> <li>• Grunfos UPM3 FLEX AS Pump</li> <li>• pipe fittings w. shut-off ball valve</li> <li>• TSV5B Load Valve with automatic bypass balancing</li> <li>• thermometer</li> <li>• insulation</li> </ul> |
| Working fluid | water, water-glycol mix (max. 1:1) or water-glycerine mix (max. 2:1)  |
| Installation  | on return pipe, min. pipe centre distance from wall = 100 mm  |

| Code                                      | boiler output |
|---|---------------|
| 16395 for 55 °C valve opening temperature | max. 53 kW    |
| 16397 for 65 °C valve opening temperature | max. 38 kW    |

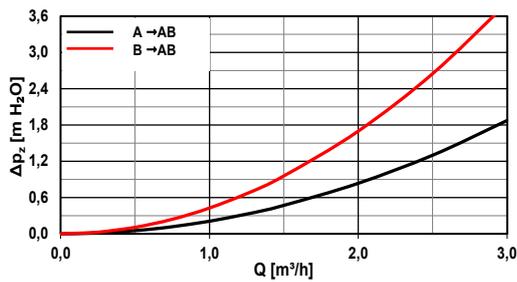
| Technical Data                   |                            |
|----------------------------------|----------------------------|
| Fluid working temperature        | 5 - 95 °C                  |
| Max. working pressure            | 6 bar                      |
| Min. working pressure            | 0,5 bar                    |
| Ambient working temperature      | 5 – 40 °C                  |
| Max. relative humidity           | 80 % non condensing        |
| Control Range of the Load Valve  | opening temperature + 5 °C |
| Load Valve Kvs (direction A ►AB) | 7,0 m³/h                   |
| Load Valve Kvs (direction B ►AB) | 4,9 m³/h                   |
| Max. pump speed                  | 5991 rpm                   |
| Pump motor protection            | not needed                 |
| Overall dimensions               | 305 x 145 x 220 mm         |
| Total weight                     | 3,7 kg                     |

| Electric data           |                        |
|-------------------------|------------------------|
| Power supply            | 230 V, 50 Hz           |
| Power input (min./max.) | 2/60 W                 |
| Current (min./max)      | 0,04/0,58 A            |
| IP rating               | IP44                   |
| Energy efficiency index | ≤ 0.20 per EN 16 297/3 |

| Materials                          |               |
|------------------------------------|---------------|
| Insulation                         | EPP RG 60 g/l |
| Load Valve and fittings            | brass         |
| Thermostatic element and plug seal | EPDM          |
| Load Valve cone seal               | NBR           |

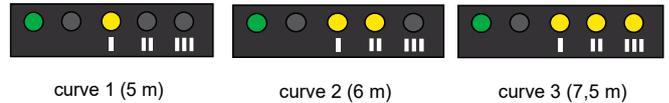
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### Valve pressure drop diagram



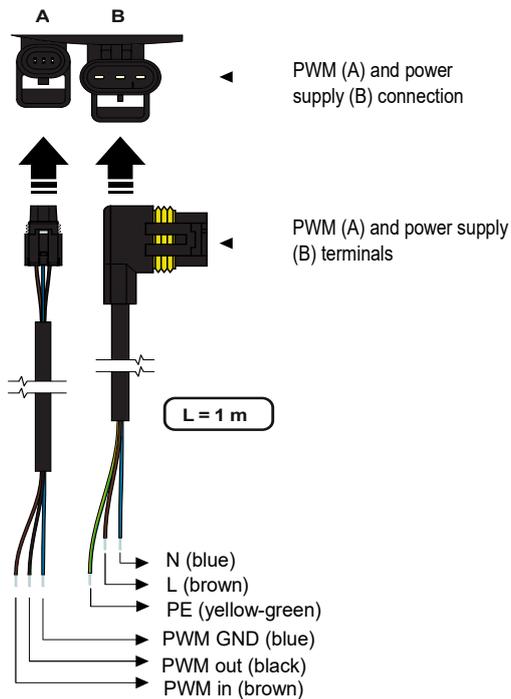
The pressure drop value of the valve moves between the two curves depending on the mixing ratio during mixing

### Selected profile display during pump operation



when the control button is pressed for less than 2 s, the currently selected curve is shown; with PWM signal the pump speed changes with the signal value up to the maximum of the selected curve; with no PWM signal the pump runs according to the selected curve

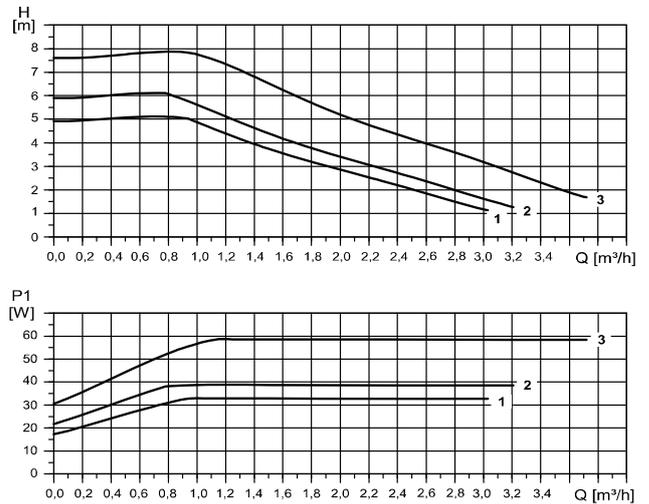
### Pump wiring



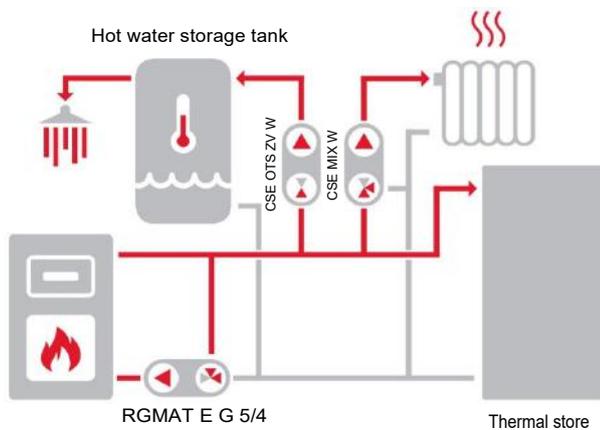
Power supply cables and PWM cables are included in supply.

### Pump performance curves

| Curve | Max. H<br>(upper graph) | Max. P <sub>1</sub><br>(lower graph) |
|-------|-------------------------|--------------------------------------|
| 1     | 5 m                     | 33 W                                 |
| 2     | 6 m                     | 39 W                                 |
| 3     | 7,5 m                   | 60 W                                 |

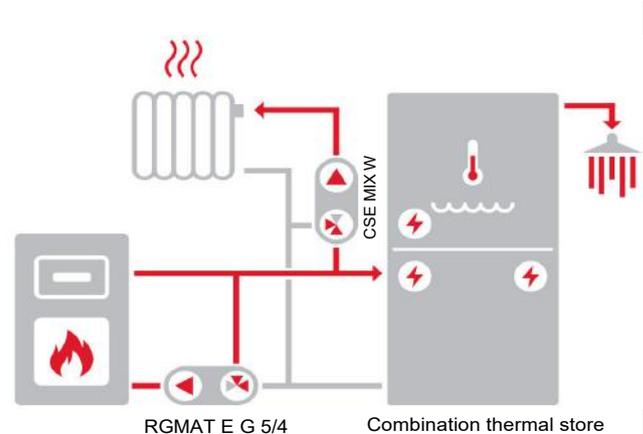


### Example of possible connection I



The diagram shows a typical connection of a solid fuel boiler, thermal store and heating circuit (with the recommended CSE MIX W pump station – not included in supply). If the boiler is used also for hot water heating, it is recommended to install a CSE OTS ZV W pump station (not included in supply).

### Example of possible connection II



The diagram shows a typical connection of a solid fuel boiler, combination thermal store and heating circuit (with the recommended CSE MIX W pump station – not included in supply).