



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. 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>• TSV3 valve (with manual by-pass 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, a flow balancing valve shall be installed and adjusted at the inlet to port B of the TSV3 load valve

Code	boiler output*
<b>19084</b> for 65 °C valve opening temperature	max. 25 kW
<b>19087</b> for 72 °C valve opening temperature	max. 25 kW

\* at  $\Delta T$  20 K and balancing valve fully open

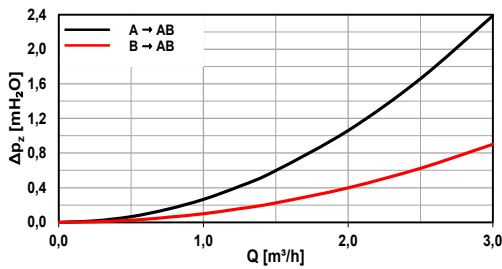
Technical Data	
Fluid working temperature	5 - 95 °C
Max. working pressure	6 bar
Min. working pressure	0,5 bar
Ambient working temperature	5 – 40 °C
Max. relative humidity	80 % non condensing
Control Range of the Load Valve	opening temperature + 5 °C
Load Valve Kvs (direction A ►AB)	6,2 m <sup>3</sup> /hod
Load Valve Kvs (direction B ►AB)*	10,1 m <sup>3</sup> /hod
Max. pump speed	5288 rpm
Pump motor protection	not needed
Overall dimensions	325 x 140 x 220 mm
Total weight	3,25 kg
Connection	3 x G 1" F

\* balancing valve fully open

Electric data	
Power supply	230 V, 50 Hz
Power input (min./max.)	2/42 W
Current (min./max)	0,04/0,40 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

### Valve pressure drop diagram



Kvs value, and thus also the pressure drop in the B → AB direction, depends on the bypass balancing valve settings.

### Selected profile display during pump operation



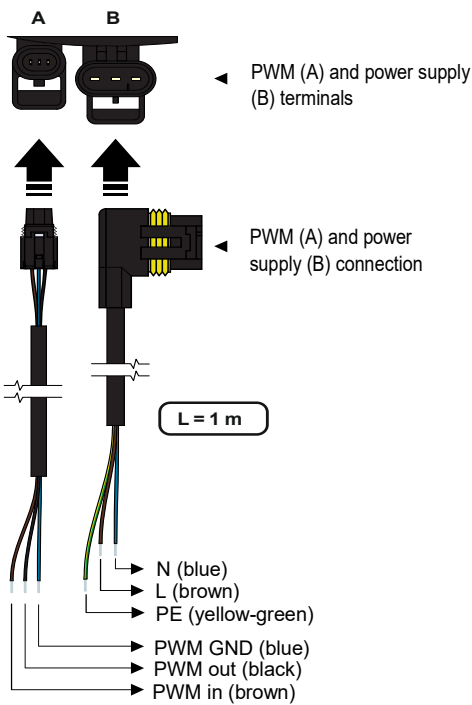
curve 1 (4 m)

curve 2 (5 m)

curve 3 (6 m)

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

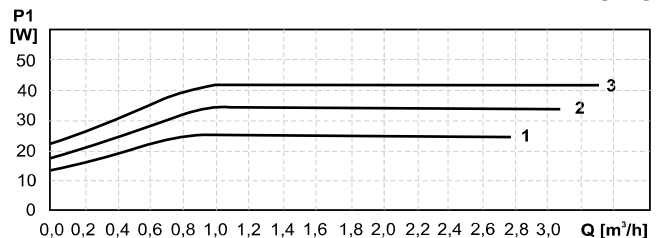
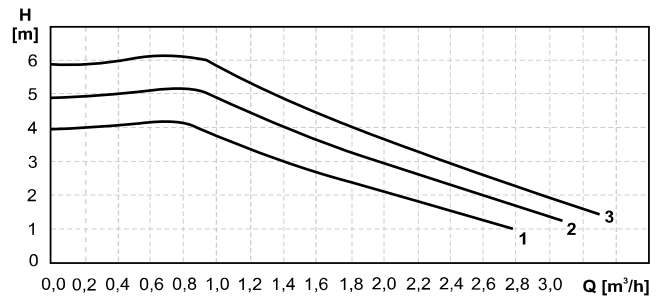
### Pump wiring



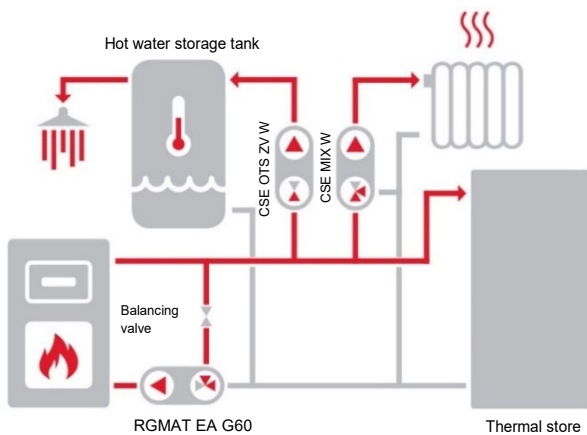
Power supply cables and PWM cables are included in supply.

### Pump performance curves

Curve	Max. H (upper graph)	Max. P <sub>1</sub> (lower graph)
1	4 m	25 W
2	5 m	34 W
3	6 m	42 W

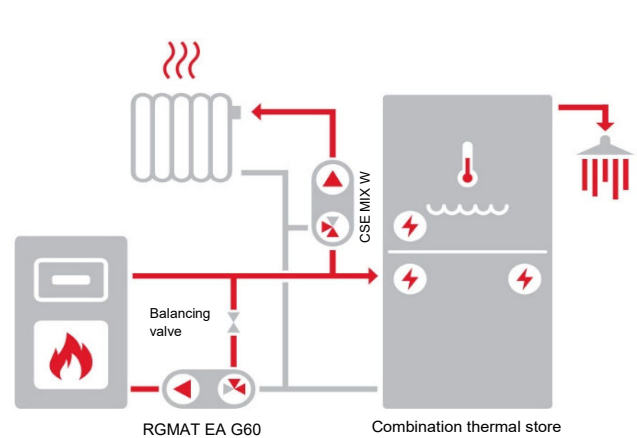


### Example of possible connection I



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). A balancing valve shall be installed at the B inlet into the RGMAT EA G60 pump station.

### 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). A balancing valve shall be installed at the B inlet into the RGMAT EA G60 pump station.