Regulus

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Installation and Operation Manual

REGOMAT E W 5/4“ LOAD UNIT with YONOS PARA 25/7.5 for heating systems

EN

REGOMAT E W 5/4“

1. Introduction

REGOMAT E W 5/4“ Load Unit makes boiler installation quicker as it contains all components needed for boiler circuit circulation and for boiler protection against low-temperature corrosion. It is designed to be installed directly on return piping. The distance of pipe axis from a wall shall be at least 100 mm to enable insulation removal if needed.
This Load Unit is intended for hydronic fireplaces and solid-fuel boilers.

2. Regomat E W 5/4“ Description

Regomat E W 5/4“ keeps the temperature in a hydraulic boiler circuit above the flue gas condensation temperatures, which prevents so called low-temperature corrosion of the boiler combustion chamber. This limits condensation and boiler tarring significantly, the efficiency of fuel combustion increases and service life of the boiler is extended.

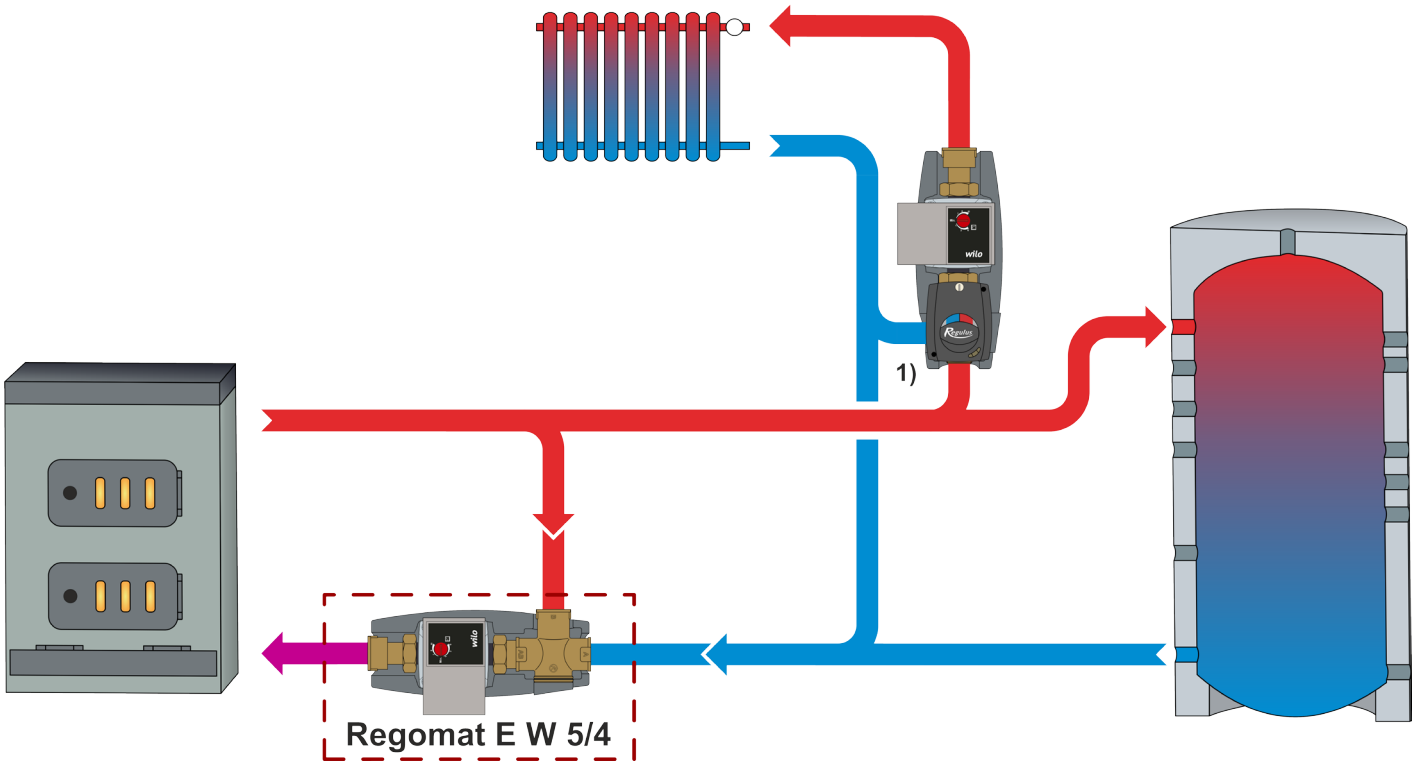
Main features	
Purpose	maintaining inlet temperature into a boiler (fireplace) through a load valve
Application	Load Unit for solid-fuel boilers and fireplaces; it prevents low-temperature corrosion and boiler (fire) fouling
Description	consists of a Wilo Yonos PARA RS 25/7.5 RKC pump, TSV5B valve (with automatic bypass balancing), thermometer and insulation
Working fluid	water, water-glycol mixture (max. 1:1), water/glycerine mixture (max. 2:1)
Installation	on a return pipe, the, min. distance of the pipe axis from a wall is 100 mm

Code	**Max. boiler output**
15 789 for opening temperature 45 °C	max. 72 kW
15 913 for opening temperature 50 °C	max. 66 kW
15 790 for opening temperature 55 °C	max. 57 kW
15 914 for opening temperature 60 °C	max. 50 kW
15 791 for opening temperature 65 °C	max. 41 kW
15 915 for opening temperature 70 °C	max. 35 kW

REGOMAT E W 5/4 Technical Data	
Fluid working temperature	0 - 95 °C
Max. working pressure	6 bar
Max. ambient temperature	58 °C
Power supply	230 V, 50 Hz
Insulation material	EPP RG 60 g/l
Overall dimensions	325 x 140 x 220 mm
Total weight	3,27 kg
Connections	3x G 5/4" F

Accessories	
Bypass with non-return valve	code 16 139

3. Regomat E W 5/4“ Connection Diagram



1) CSE MIX W 1F (16 219) or CSE MIX W 1M (16 082) or CSE MIX W 5/4F (16215) or CSE MIX W 1F 7,5 (16 372)

Install the Load Unit respecting the following instructions:

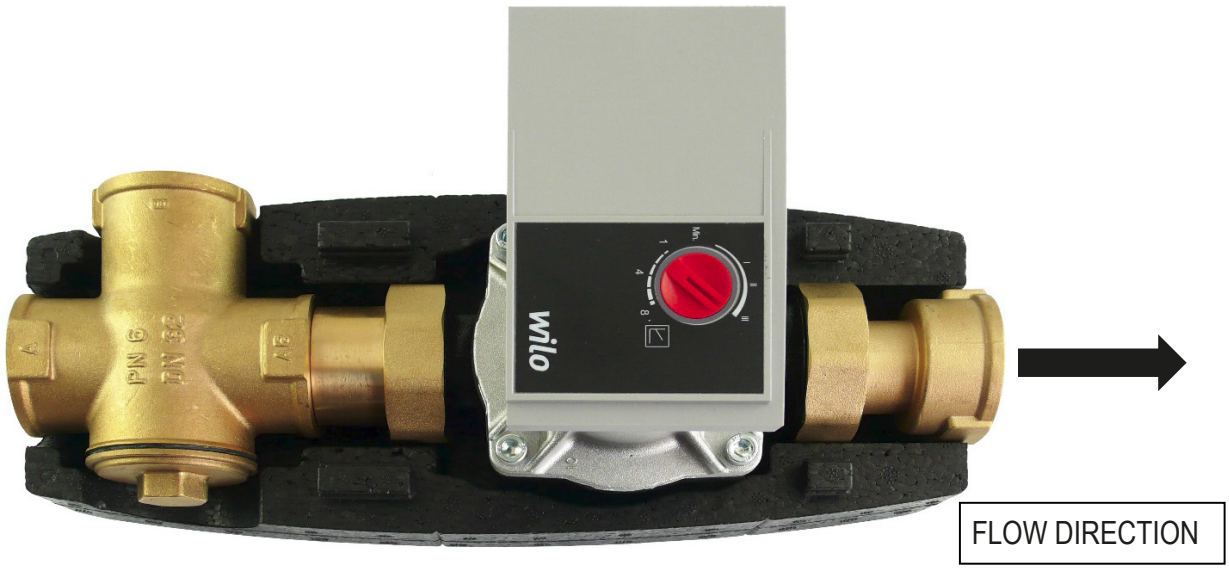
Connect the Load Unit outlet marked **AB** to the piping entering the boiler. Connect the return line from the heating system to the **A** inlet, and the outlet pipe from the boiler to the **B** inlet via a T-piece. Take care to install shut-off valves where necessary to avoid draining the whole system for valve cleaning or replacing the thermostatic element.

When the connecting pipes are not arranged or sloped properly, the thermostatic valve may get blocked by air inside. This may hinder or even disable its operation.

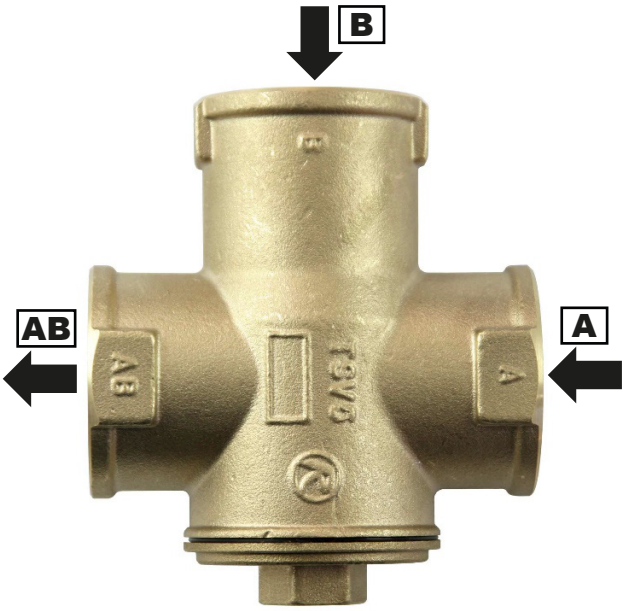
Always respect valid rules and boiler manufacturer’s data during installation.

4. Installation options

This Load Unit comes in the version for horizontal installation to the right of a boiler. However, it can be installed also into vertical piping or horizontally to the left of a boiler. When being installed horizontally to the left of a boiler, the Load Unit needs to be turned by 180° and the TSV5B valve turned as shown in the pics below.



5. Function description of a TSV5B load valve

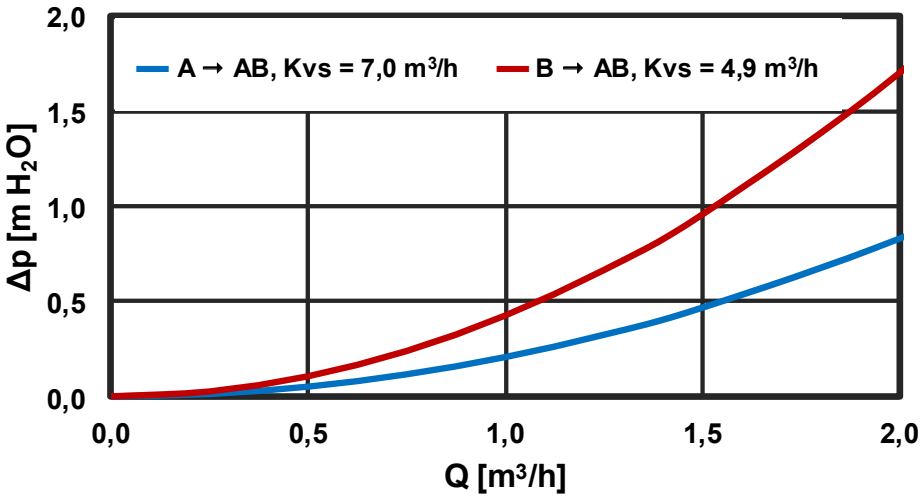


The TSV5B oad valve is fitted with an integrated thermostatic insert that will close the "**A**" inlet (from a heating system), if the return water temperature to the boiler ("**AB**" outlet) is lower than the opening one. As soon as the opening temperature is reached, the thermostat starts opening the "**A**" inlet slowly and mixing the cold return water with the hot water from the "**B**" inlet (boiler flow) with the aim to reach the opening temperature ("**AB**" outlet) in the return pipe.
At the same time, the valve closes the "**B**" inlet, limiting so the hot water flow coming from the bypass till its complete tight closure.
Thanks to this, no balancing valve is needed.
The load valve is made of brass, element and plug seals are in EPDM, cone seal is made of NBR.

Technical Data	
Max. working temperature	95 °C
Max. working pressure	6 bar
Valve opening temperature	depending on the thermostatic element
Control range	$t_{valve,\ opening}$ + 5 °C
Valve Kvs (A→AB direction)	7.0 m³/h
Valve Kvs (B→AB direction)	4.9 m³/h
Connections	3x G 5/4" F
Nominal inner diameter	DN 32

Materials	
Housing, cone and plug	brass
Spring	stainless steel
Element and plug seals	EPDM
Cone seal	NBR

Valve pressure drop graph



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

6. YONOS PARA RS 25/7.5 RKC Pump

Design

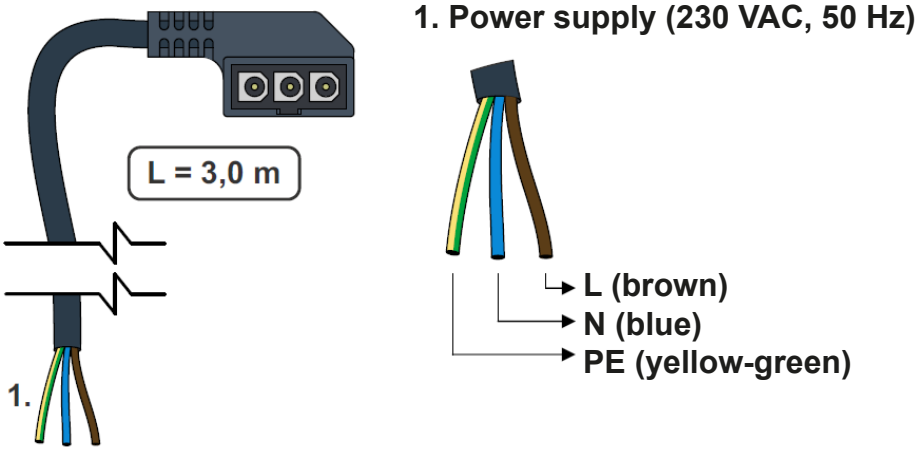
Wet-running circulation pump with G 6/4” M connection.

Electrical Data	
Power supply	230 V, 50 Hz
Power consumption (min./max.)	4/75 W
Current (min./max)	0.04/0.66 A
IP rating	IPX4D
Max. speed	4770 rpm
Energy Efficiency Index	≤ 0,21 by EN 16 297/3
Motor protection	integrated

Minimum pressure at suction port to avoid cavitation	
Minimum pressure at suction port	0.05 bar at 50 °C
	0.43 bar at 95 °C

Operating conditions	
Fluid working temperature	0 - 100 °C at 58 °C ambient temperature
Max. working pressure	6 bar
Max. head	7.6 m

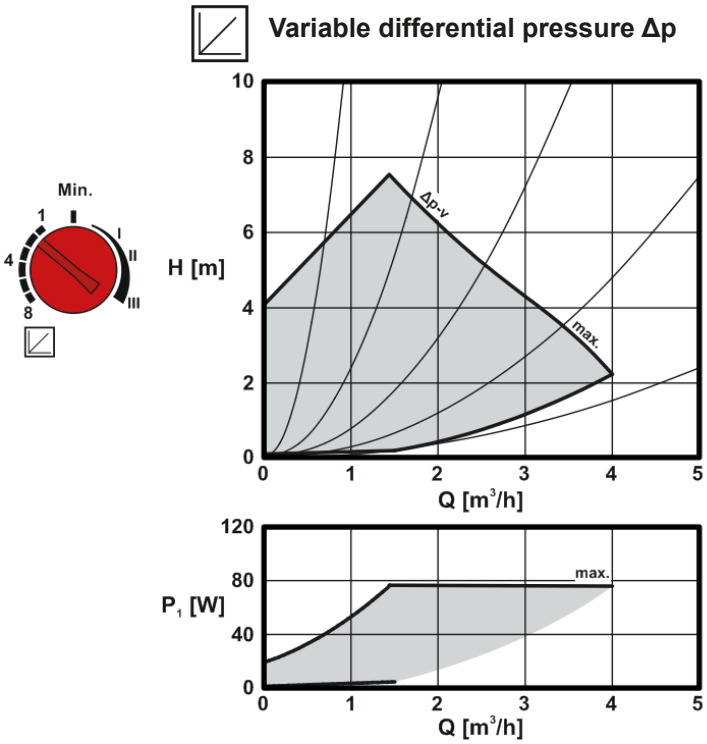
Pump Wiring



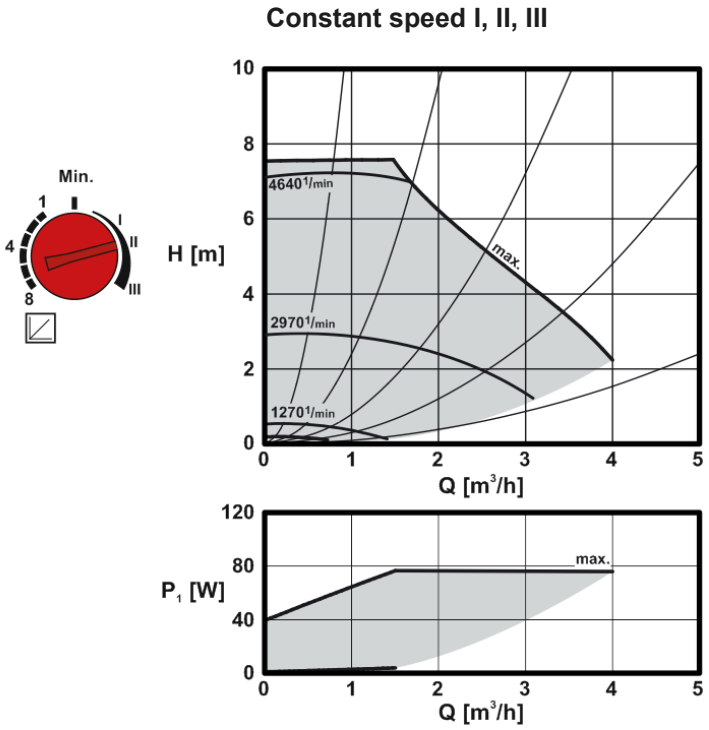
Power cable is included in supply

Performance Curves

Characteristics of Δp-v (variable)



Constant speed I, II, III



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