

## 5542GS

# HYDRAULIC MIXING UNIT WITH SERVOMOTOR ELECTRONICALLY ADJUSTABLE AT FIXED POINT, 230 Vac CIRCULATOR PUMP WILO PARA 25/7-130 DN25.



### DESCRIPTION

The mixing unit with servomotor, adjustable at fixed point, art. 5542GS, is designed to supply heating and cooling system circuits directly from a manifold branch at the desired fixed temperature by adjusting the temperature of the incoming fluid. This function is achieved through a mixing valve controlled by a servomotor, which is managed by an integrated electronic controller also equipped with a manual override for use if necessary.

### PERFORMANCE

The unit is equipped with a high-efficiency electronic circulator compliant with the European ErP directive.

It also features insulation made of closed-cell expanded PE-X, which reduces the risk of condensation forming on metal surfaces. The two thermometers allow monitoring of the instantaneous supply and return temperatures.

A check valve is installed on the return branch to prevent fluid circulation when the circulator is switched off.

### STRUCTURE

All hydraulic components of the unit (mixing valve, shut-off valves, fittings, and branches) are made of CW617N brass.

Thermal insulation is made of closed-cell expanded PE-X.

### PRODUCT RANGE

Art.	Code	Dimension	Connections	Max. Press. [bar]	Max. T. [°C]	Power Supply	Pack.
5542GS	557 0717	DN25 (1")	1½" Male Flat Face	8	110	230 Vac 50 Hz	1/1

### ADVANTAGES / STRENGTHS

- Fixed-point adjustment of the fluid supply temperature
- User-friendly programming: selection of 3 pre-set hydraulic schemes
- Display of actual and set temperatures
- Pre-wired temperature sensor and power cable
- Quick attachment to the mixing valve
- Manual valve adjustment possible, with display indication.

### CONTROLS

The core of the product is the servo motor, complete with a fixed-point regulator, which allows constant-temperature regulation of a fluid. Parameter settings are made via the keypad located under the knob, while the graphical display shows essential operating parameters, such as the actual fluid temperature, the set temperature, and the type of system selected.

The regulator is powered by mains voltage (230 Vac) through a supplied cable with plug. The temperature sensor is pre-wired.

### ACCESSORIES

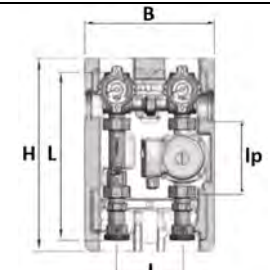
The unit can be equipped with optional components:

- Art. 5535DIFF: Differential bypass;
- Art. 2075KIT03: 55 °C safety thermostat.

**TECHNICAL SPECIFICATIONS**

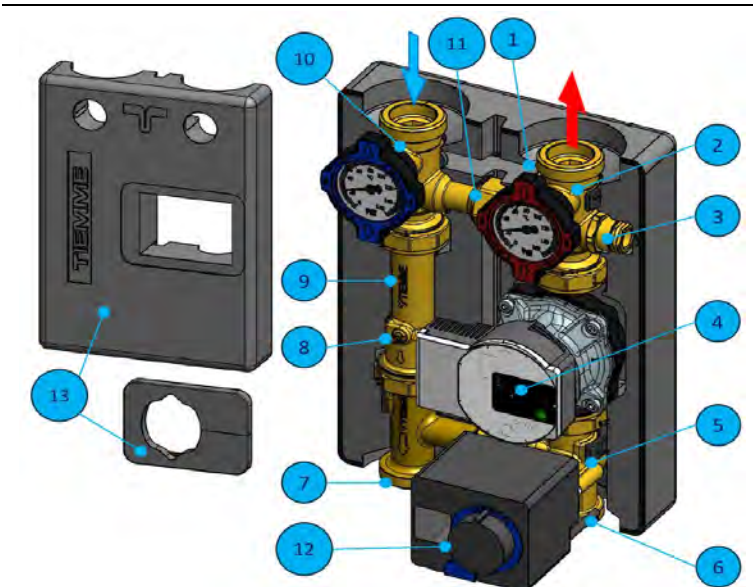
		Article code
		<b>557 0717</b>
Maximum Working Pressure	bar	8
Maximum Working Temperature	°C	110
Safety Thermostat Temperature (Optional)	°C	55
Dimensions	DN (Inches)	DN25 (1")
Connections	Inlet	1½" – Male Flat Face
	Outlet	1½" – Male Flat Face
Body Material		CW 617N Brass
Insulation Shell Material		Closed-cell Expanded PE-X
Gasket Material		EPDM

**DIMENSIONAL SPECIFICATIONS**

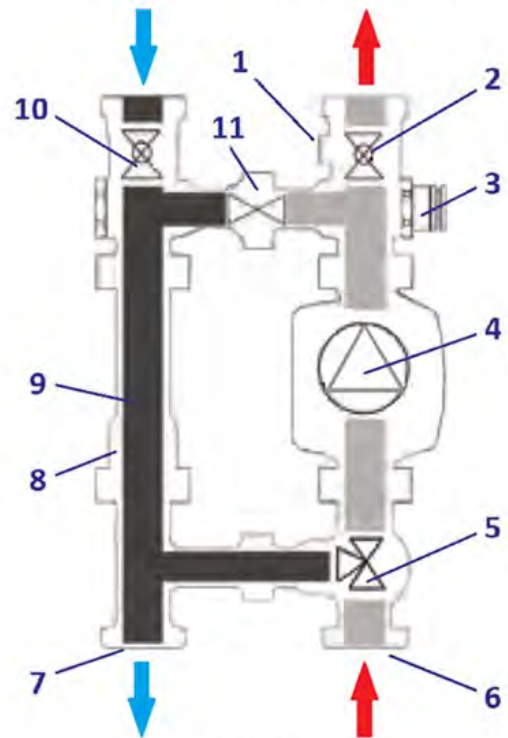
Total Width (with shell)	B	mm	248	
Total Height (with shell)	H	mm	370	
Unit Body Height	L	mm	322	
Connection Center Distance	I	mm	125	
Circulator Connection Center Distance	Ip	mm	130	

**TECHNICAL SPECIFICATIONS**

- 1 Connection for Safety Thermostat Sensor (EN 1264)
- 2 Ball Valve with Thermometer (SUPPLY)
- 3 Ø6 mm Sensor Well Complete with Nipple
- 4 High-Efficiency Circulator, Model WILO PARA 25/7 (ErP)
- 5 3-Way Mixing Valve
- 6 Supply Circuit (Generator Side)
- 7 Return Circuit (Generator Side)
- 8 Check Valve
- 9 Connection Extension
- 10 Ball Valve with Thermometer (RETURN)
- 11 Adjustable Differential (Optional)
- 12 Servo Motor with Fixed-Point Electronic Regulator
- 13 Insulation



**AIR CONDITIONING SYSTEM**

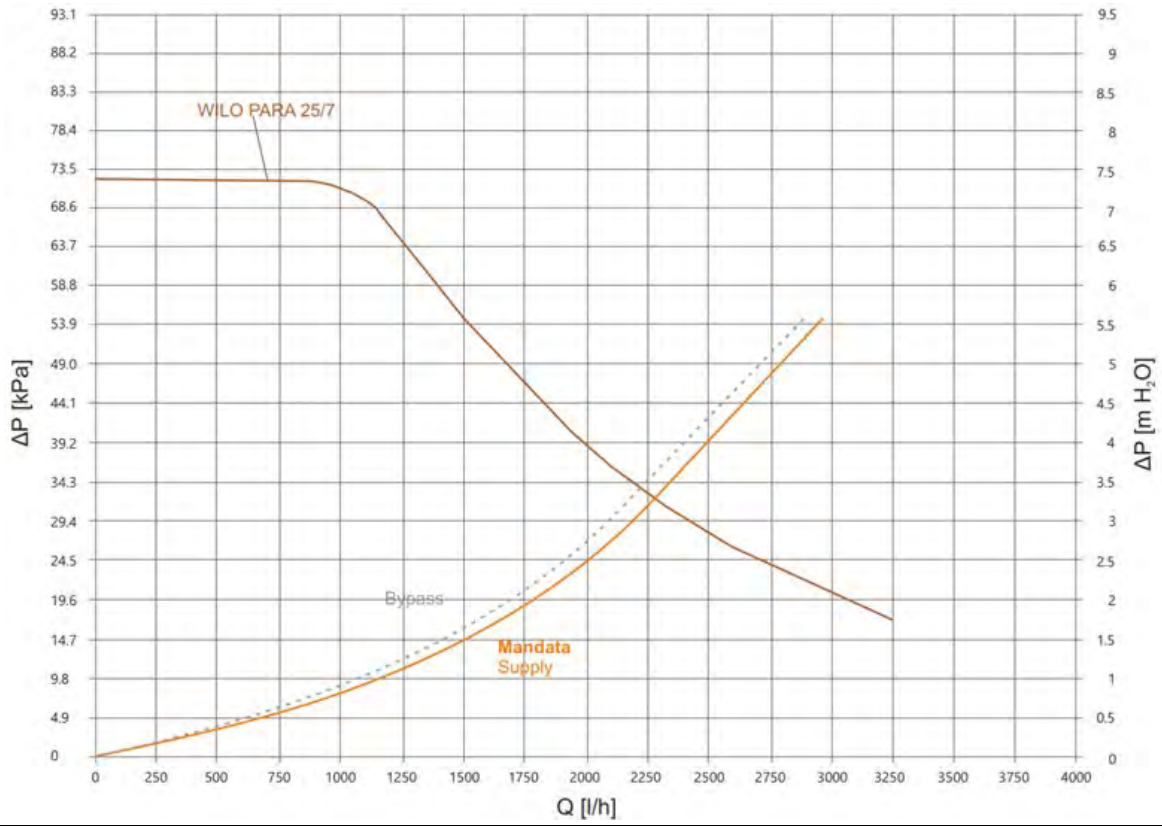


**GENERATOR – DISTRIBUTION MANIFOLD**

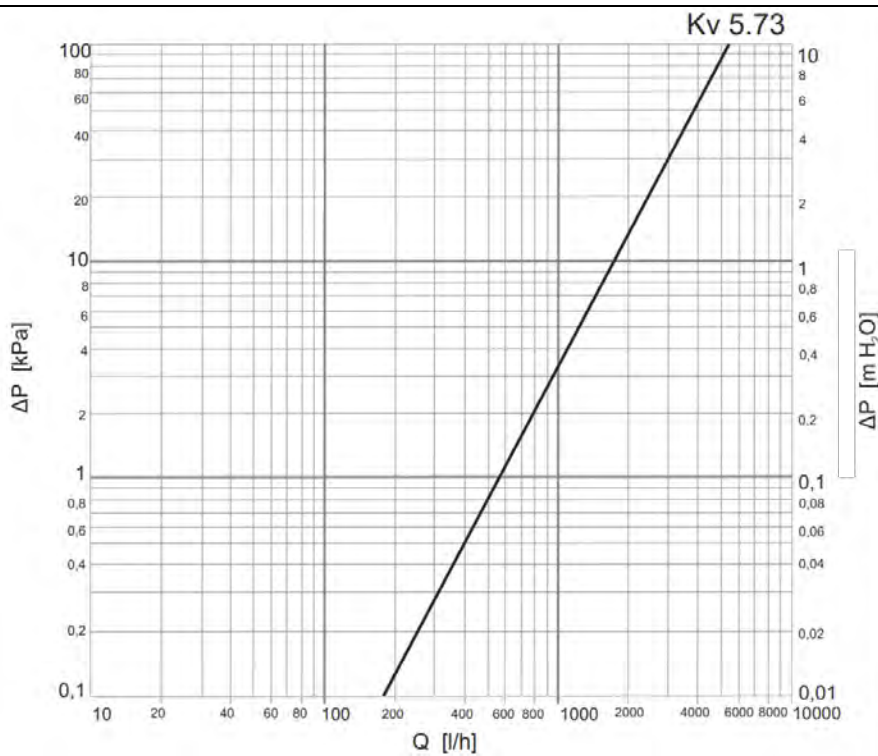
PERFORMANCE

557 0717

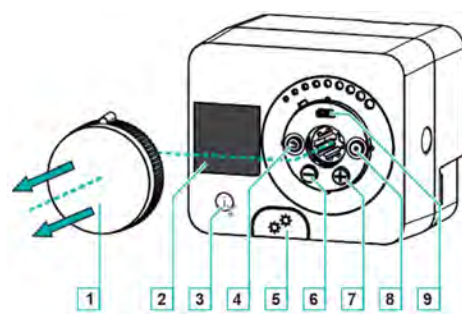
CIRCULATOR HEAD

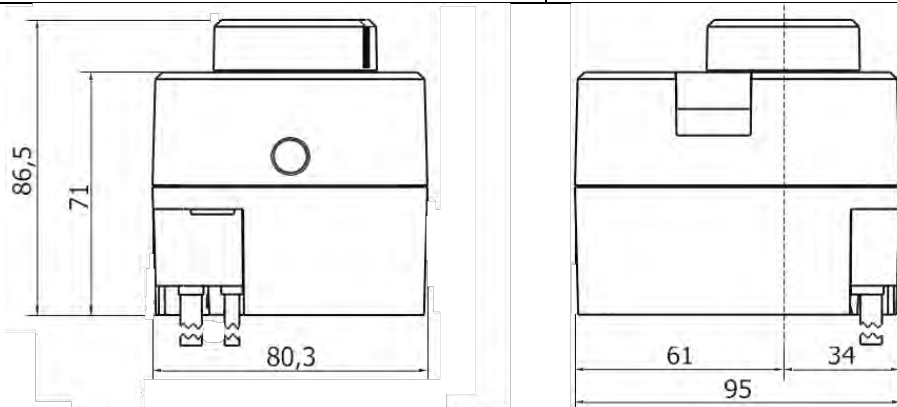


PRESSURE DROPS



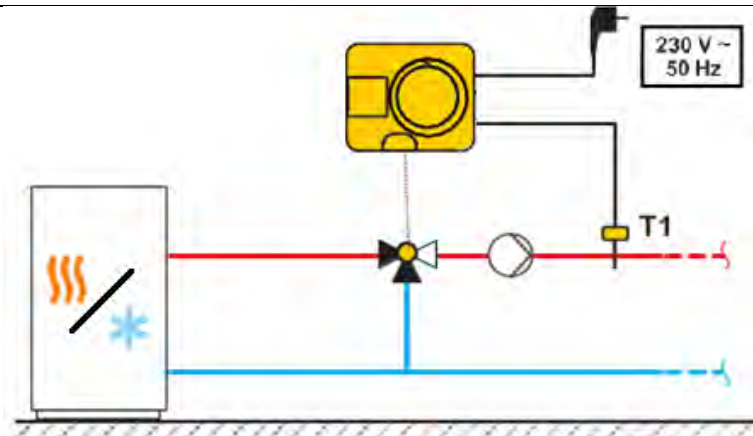
**ELECTRONIC REGULATOR SPECIFICATIONS**

		557 0714
1	Manual Override Button	
2	Graphical Display	
3	Help Button	
4	Back Button	
5	Manually Operated Clutch	
6	Move Left Button – Decrease	
7	Move Right Button – Increase	
8	Menu Item / Confirm Selection Button	
9	USB Port – Software Updates and PC Connection	
Torque	Nm	6
Rotation Angle	°	< 90
Rotation Speed	min/90 <°	2
Type of Use		3 point / PID
Power Supply		230 Vac 50 Hz
Maximum Power Consumption	W	3,5
Protection Rating (EN 60529)		IP 42
Safety Class (EN 60730-1)		I
Dimensions (L x W x H)	mm	86,5 x 95 x 80,3 mm
Weight	gr	800
Material		PC



**SYSTEM CONTROL DIAGRAMS**

**AIR CONDITIONING**



### SAFETY THERMOSTAT

The EN 1264 standard (low-temperature radiant systems) requires a safety device that intervenes in the water circulation when the temperature exceeds 55 °C (paragraph 4.1.2.8.2).

To meet this requirement, the unit model 5542GS is prepared for its installation.

#### THE DEVICE MUST BE ORDERED AS AN ACCESSORY.

Complete with cable, it is recommended to connect it in series with the circulator pump.



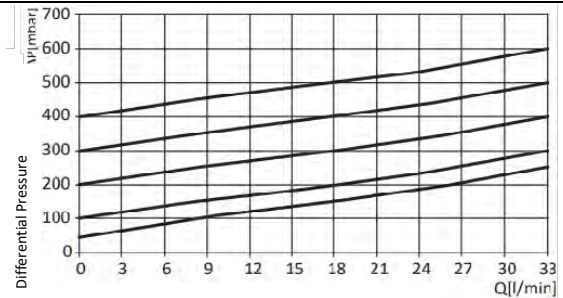
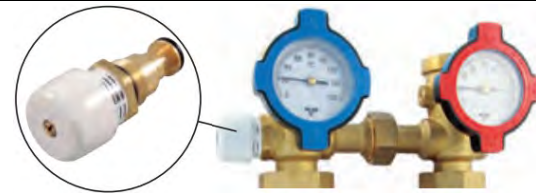
### ADJUSTABLE DIFFERENTIAL BYPASS

The adjustable differential bypass, if required, must be installed on the return line and allows control of the head to which the secondary distribution circuit is subjected.

When the set differential pressure value is reached, the shutter opens, allowing fluid to pass between the supply and return of the circuit, thus limiting the differential pressure to the set value.

#### THE DEVICE MUST BE ORDERED AS AN ACCESSORY.





It is possible to set opening pressures between 50 mbar and 400 mbar, as shown in the graph.









### ACCESSORIES AND SPARE PARTS

#### 5542GS

557 0717

	Description	Code	
	Adjustable Differential Bypass 50–400 mbar, Connection M25×1.5	316 0029	YES
	Safety Thermostat with Capsule, Cable, Straight Connector, 55 °C	557 0024	YES
	Straight Fitting with Swivel and Flat Gasket 32×3.0 / 1/2" FF	165 0240	YES
	Straight Fitting with Swivel and Flat Gasket 40×3.5 / 1/2" FF	165 0239	YES
	Pump Connection Kit CW617N F, Flat Seat 1" F – 1/2" Pump Connection	150 0355	YES

557 0717

	Description	Code	
	Servo Motor Complete with Fixed-Point Electronic Regulator	557 0714	YES
	Sector Mixing Valve for Servo Motor Control, 1"	316 0031	YES
	Knob with Immersion Thermometer for Hydraulic Units – BLUE	470 0183	YES
	Knob with Immersion Thermometer for Hydraulic Units – RED	470 0184	YES
	Adapter and Well for Ø6 mm Sensor	5570022	YES
	Circulation Pump WILO PARA – 25/7 230 VAC, INT=130	4500358	YES

## ITEM SPECIFICATIONS

### 5542GS

5542GS is a pre-assembled DN25 mixing unit designed for use in heating and cooling systems, equipped with a fixed-point electronic regulator. The unit, made of CW 617N brass, features: a high-efficiency electronic circulator compliant with the European ErP directive; a sector mixing valve operable with an attachable servo motor; an electronic servo motor for fixed-point regulation of the fluid supply temperature, with settings adjustable via keypad and graphical display capable of showing the actual fluid temperature, set values, and other parameters; pre-wired fluid temperature sensor; quick attachment system to the mixing valve and provision for manual adjustment; a check valve installed on the return branch to prevent fluid circulation when the circulator is off; thermometers for monitoring supply and return temperatures; and thermal insulation made of closed-cell expanded PE-X.

## CERTIFICATIONS



Low Voltage Directive 2014/35/EC  
Electromagnetic Compatibility Directive 2014/30/EC  
Ecodesign Directive 2009/125/EC