HERZ SMARTCONTROL

Datasheet for **4522**, Issue 0225

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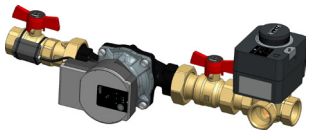
PUMPFIX SMARTCONTROL PLUS 	-	♡
EUROMIX SMARTCONTROL 	♡	-
3-WAY / 4-WAY MIXING VALVE WITH SMARTCONTROL 	♡	♡

HERZ SMARTCONTROL

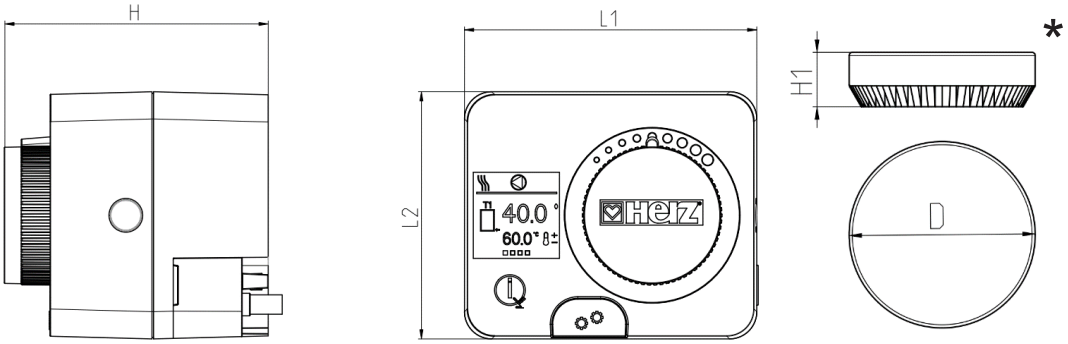
Smart controller

Datasheet 1 4522 00, 1 4522 01

Overview

HERZ SMARTCONTROL controllers are engineered to maintain a consistent temperature within the pipeline. Designed for precise constant temperature control in pipelines, our innovative product features a smart controller with an integrated processor unit, making it entirely PLUG & PLAY. The controllers are configured through a keypad and a graphic display, which also provides real-time temperature readings and other relevant data. An integrated motor drive is used to operate the mixing valve. The controller should be connected to the power supply using a prewired cable with a plug.

Dimensions



Order number	Type	*Weather compensation	L1 [mm]	L2 [mm]	H [mm]	H1 [mm]	D [mm]
1 4522 00	Smartcontrol	No	95,5	80	100,5	-	-
1 4522 01	Smartcontrol Plus	Yes	95,5	80	100,5	26	100,5

Applications

Smartcontrol (1 4522 00)

- Regulating the return water temperature to a boiler or other energy source
- Maintaining a constant inlet temperature for heating or cooling systems

Smartcontrol PLUS (1 4522 01)

- Weather-controlled regulation of heating and/or cooling
- Control of an independent mixing circuit (mixing valve and circulation pump)
- Control of an additional mixing circuit (mixing valve and circulation pump)

Outlined functions

• Clutch for manual operation
The manual operation clutch of the motor smart controller is activated by pressing a button (marked in the picture). When the clutch is activated, the control of the mixing valve and, if necessary, of the circulating pump is deactivated, thus saving energy.

• Setting keys
The keys for adjusting the regulator are located below the manual scroll button. This prevents unwanted access to the controller settings.

• Plug-in connectors
The compact motor smart controller has a socket built into the housing for plugging in the power cord. This allows easy replacement of the cable in case of damage.

• Graphic display
The 240 x 240 pixel colour graphic display provides detailed graphics and text in colour.

Operating data

Mixing valve control	3-point PID
Circulation pump control	2-point (ON/OFF)
Nominal voltage (power supply)	230 V
Nominal voltage frequency	50 Hz
Control output	Solid state relay, 1(1), A-, 250V-
Power consumption in operation	max. 3,5 W
Power consumption in stand by	max. 0,5 W

Function data

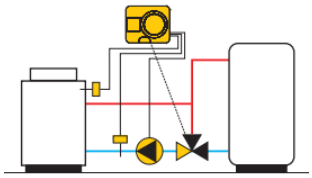
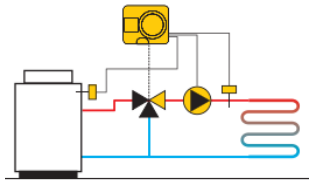
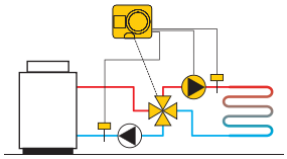
Torque motor	5 Nm for versions 1 4522 00 6 Nm for versions 1 4522 01
Position accuracy	±5%
Direction of motion motor	CW and CCW rotation
Manual override	temporary and permanent gear disengagement with light gray button on the housing
Angle of rotation	90°
Running time motor	120 s / 90°
Position indication	Reversible scale plate

Safety data

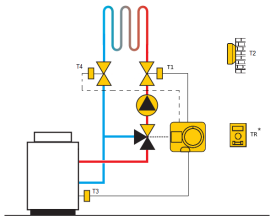
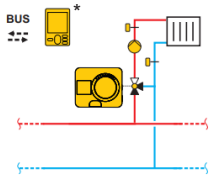
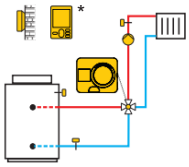
Protection class	I for version 1 4522 00, according to EN 60730-1 II for versions 1 4522 01, according to EN 60730-1
Degree of protection	IP 42 , according to 60529
EMC	CE according to 2014/30/EU
Type of temperature sensors	Pt1000
Ambient temperature	0...50°C
Storage temperature	-20...65°C
Ambient humidity	Max. 95% RH, non-condensing
Servicing	maintenance-free
Housing cover	PC material (gray)

Hydraulic schematics

Smartcontrol (1 4522 00)

CONTROL OF RETURN-PIPE TEMPERATURE	CONTROL OF SUPPLY TEMPERATURE	CONTROL OF SUPPLY TEMPERATURE AND LIMITATION OF RETURN-PIPE TEMPERATURE
		

Smartcontrol PLUS (1 4522 01)

HEATING CIRCUIT	ADDITIONAL HEATING CIRCUIT	HEATING CIRCUIT AND RETURN FLOW REGULATION
		

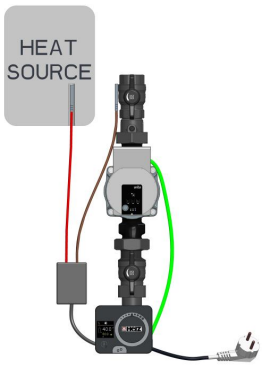
*room control unit is not included in set

	SMARTCONTROL	SMARTCONTROL PLUS
TECHNICAL CHARACTERISTICS		
No. of preset hydraulic schemes	3	2
No. of solid state relays	1	1
No. of temperature sensor inputs	2	4
Allowed temperature setting in the range 10-90°C	☑	☑
The option of BUS connection between controllers	-	☑
Weather compensated	-	☑
HEATING SYSTEM PROTECTION		
Undercooling protection	☑	☑
Antiblock function for the mixing valve	☑	☑
Antiblock function for the pump	☑	☑
Limiting the maximum supply temperature for underfloor heating	☑	☑
DATA DISPLAY		
Display of notifications and warnings about the system operation	☑	☑
Display of actual temperature and other operation data	☑	☑
Detailed display of temperatures for the current day	☑	☑
Overview of temperatures for the past week	☑	☑
Indication of valve turning direction	☑	☑
Control and indication of circulation pump operation	☑	☑
REMOTE ACCESS		
Possibility of USB connection to a PC	☑	☑
SETUP AND INSTALLATION		
Startup wizard for an easy and quick device startup	☑	☑
14-language user interface: EN, DE, FR, NL, PL, ES, SL, IT, CZ, SK, HR, RU, HU, UA	☑	☑
Connector system for sensor connection	☑	☑

Setting up the operation by selecting the hydraulic scheme	☑	☑
Selection of valve turning direction	☑	☑
Logging and display of changes made to the setup	☑	☑
Option for retrieval of the basic setup in the event of data loss or unwanted changes	☑	☑
Sensors with a conncector for a “Plug & Play” installation	☑	☑
The power cord is fitted with a plug	☑	☑

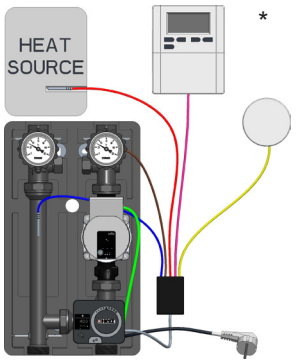
☑ Wiring diagram

Smartcontrol



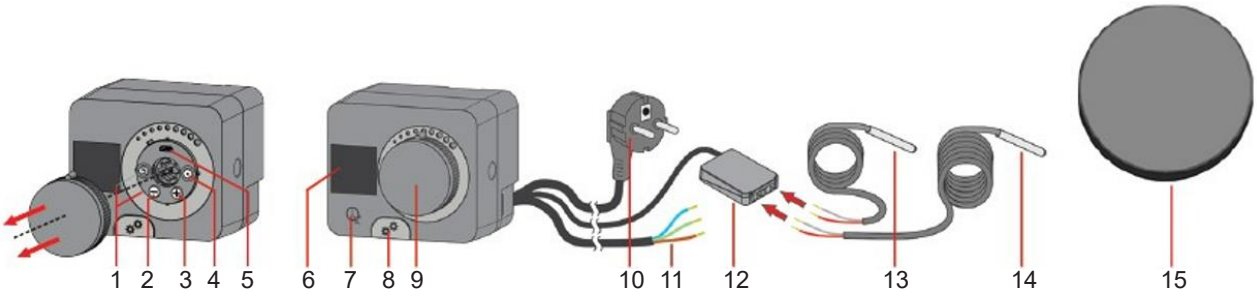
Indication:
BLACK – power cable
BROWN – T1 hot water system
RED – T2 heat source
GREEN – cable for circulation pump

Smartcontrol PLUS



Indication:
BLACK – power cable
BROWN – T1 hot water system
YELLOW – outdoor temperature sensor
RED – T3 heat source
BLUE – T4 cold water return system
GREEN – cable for circulation pump
*PINK – ROOM CONTROL UNIT
(not included in set)

☑ Components of HERZ SMARTCONTROL



1 - Back key
2 - Left shift and decrease key
3 - Right scroll and zoom key
4 - Menu entry and confirmation key
5 - USB connector for software updates and connection to a PC
6 - Colour graphic display (240 x 240)
7 - “Help” key
8 - Manual operation clutch
9 - Detachable manual scroll button
10 - Pre-wired power cable with plug (2 m)
11 - Pre-wired cable for circulation pump (0.5 m)
12 - Pre-wired connection strip for two sensors and communication
13 - Temperature sensor (1 m)
14 - Temperature sensor (3 m)
15 - Temperature sensor (only in 1 4522 01)

Maintenance instructions

The ingress of condensate, dripping water etc. into the drive should be prevented. Repairs on the device must be carried out by authorized persons only.
Regular maintenance of heating systems keeps them running smoothly, optimizing their energy consumption and reducing utility bills. Well-maintained components ensure the heating system doesn't have to work harder than necessary to achieve the desired temperature.
Make sure, that regular maintenance is done periodically at least twice a year, according to the procedures written below:
1. Check and clean the system filters.
2. Check that the non-return valves are operating normally, without problems caused by impurities.
3. Limescale can be removed from internal components by immersion in a suitable de-scaling liquid.
4. When the components which can be maintained have been checked, commissioning should be carried out again.
In-service tests should be carried out regularly to monitor the diverting valve performance, as deterioration of performance could indicate that the valve and/or the system require maintenance. If, during these tests, the performance of the valve has changed significantly in comparison to the previous tests, the details given in the installation sections should be checked and maintenance carried out.
The following aspects should be checked regularly to ensure that the optimum performance levels of the valve are maintained, periodically at least twice a year.
• Motor smart controller:
In case the motor smart controller is broken, then only the specialist electricians can exchange or service it.

These specialist electricians need to respect all of electrical standards and recognized regulations. Usage of correct safety equipment against electric shock is obligatory. Live parts can cause electric shock that will result in serious injury or death.

Disposal instructions

The disposal of HERZ SMARTCONTROL accessories must not endanger the health or the environment. National legal regulations for the proper disposal of the HERZ SMARTCONTROL accessories have to be followed.

HERZ PUMPFIX SMARTCONTROL PLUS

Pump groups

General information

Description of HERZ PUMPFIX SMARTCONTROL PLUS pump group

HERZ PUMPFIX SMARTCONTROL PLUS pump group is a high-quality product assembled and pressure tested during the manufacturing process under constant quality control.

The advantages of the pump group are:

- all integrated components are the result of our own development,
- permanent quality control of production in our own factories,
- we supply complete pump groups,
- easy installation and maintenance,
- “plug & play” installation of the motor smart controller
- circulation pump with installation length of 180 mm,
- connection distance between supply and return: 125 mm,
- all pump groups are available either with or without circulation pump.

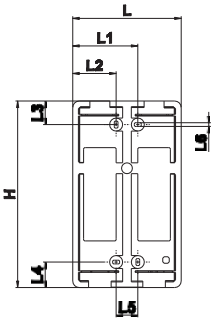
Assembly

The pump group is mounted vertically, with the ball valves with thermometer facing up. Connection to boiler or distributor from below with external thread. Connection to the consumers above with internal thread. Connector of the pump group motor smart controller is “Plug & Play”.

Every HERZ PUMPFIX SMARTCONTROL PLUS must be installed on a set of a mounting plate. Every pump group is equipped with two mounting plates.

Installation dimensions of the support plate

DN	L, mm	H, mm	L1, mm	L2, mm	L3, mm	L4, mm	L5, mm	L6, mm
25	250	430	150	100	50	54,3	58,8	8,5
32	250	430	150	100	50	54,3	58,8	8,5



Brass

Under Article 33 of the REACH Regulation (EC No. 1907/2006), we are obliged to point out that the material lead is listed on the SVHC list and that all brass components manufactured in our products exceed 0.1 % (w / w) lead (CAS: 7439-92-1 / EINECS: 231-100-4). Since lead is a component part of an alloy, actual exposure is not possible and therefore no additional information on safe use is necessary.

Maintenance

According to EN 806-5 (point 6. Operation) ball valves should always be in their fully opened or closed position and actuated at regular intervals to ensure they remain operational. Therefore HERZ ball valves should be closed

and opened periodically (at least twice a year, every 6 months). This prevents the ball valve from blocking, reduces sediment deposition and reduces the possibility of corrosion inside the ball valves. The circulation pump can be isolated by closing the ball valves and may therefore be maintained without draining the system.

Repairs on the device must be carried out by authorized persons only.

Disposal instruction

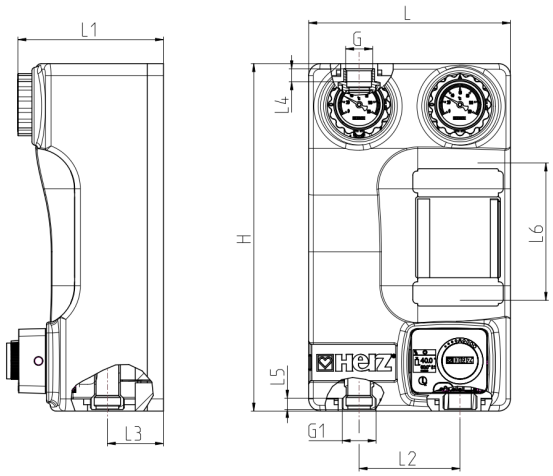
The disposal of HERZ PUMPFIX SMARTCONTROL pump groups must not endanger the health or the environment. National legal regulations for proper disposal of the HERZ PUMPFIX SMARTCONTROL pump groups have to been followed.

HERZ PUMPFIX SMARTCONTROL PLUS

BASIC DN25, DN32

Datasheet 1 4522 XX

Dimensions



Order Nr.	DN	Pump	BP	Kvs	L [mm]	H [mm]	L1 [mm]	L2 [mm]	L3 [mm]	G* [mm]	L4 [mm]	L5 [mm]	G1** [mm]	L6 [mm]
1 4522 02	25	Without pump	YES	4	250	430	209	125	68	1	16	12	1-1/4	180
1 4522 05	25	WILO PARA 25-180/6–43/SC-12	YES	4	250	430	209	125	68	1	16	12	1-1/4	180
1 4522 03	25	Without pump	YES	6,3	250	430	209	125	68	1	16	12	1-1/4	180
1 4522 06	25	WILO PARA 25-180/6–43/SC-12	YES	6,3	250	430	209	125	68	1	16	12	1-1/4	180
1 4522 04	25	Without pump	YES	10	250	430	209	125	68	1	16	12	1-1/4	180
1 4522 07	25	WILO PARA 25-180/6–43/SC-12	YES	10	250	430	209	125	68	1	16	12	1-1/4	180
1 4522 08	32	Without pump	NO	10	250	430	180	125	68	1-1/4	16	12	1-1/2	180
1 4522 10	32	WILO PARA 25-180/6–43/SC-12	NO	10	250	430	180	125	68	1-1/4	16	12	1-1/2	180
1 4522 09	32	Without pump	NO	16	250	430	180	125	68	1-1/4	16	12	1-1/2	180
1 4522 11	32	WILO PARA 25-180/6–43/SC-12	NO	16	250	430	180	125	68	1-1/4	16	12	1-1/2	180

*internal thread
**external thread
BP – bypass

Material and construction

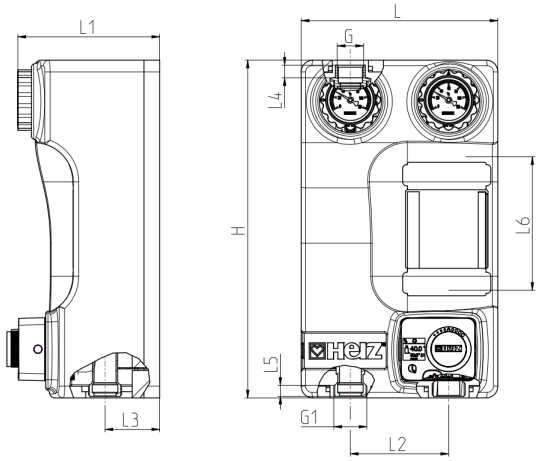
Ball valve with thermometer:	Forged brass EN 12165, CW617N
Ball:	Forged brass acc. to EN 12165, chrome plated, CW617N
Handle of ball valve with thermometer:	Plastic, PA66 GF30
Spacer:	Powder coated steel (black)
Threaded connectors of closing valve:	Internal thread acc. to ISO 7-1
Threaded connector of pump group:	External thread acc. to ISO 228-1
Spindle:	Machined brass acc. to EN12164
Spindle seals:	EPDM
Ball seals:	PTFE
Gaskets:	EPDM
Heat insulation material of pump group:	EPP

HERZ PUMPFIX SMARTCONTROL PLUS

DN25, DN32

Datasheet 1 4522 XX

Dimensions



Order Nr.	DN	Pump	BP	Kvs	L [mm]	H [mm]	L1 [mm]	L2 [mm]	L3 [mm]	G* [mm]	L4 [mm]	L5 [mm]	G1** [mm]	L6 [mm]
1 4522 12	25	Without pump	YES	4	250	430	209	125	68	1	16	12	1-1/4	180
1 4522 15	25	WILO PARA 25-180/6–43/SC-12	YES	4	250	430	209	125	68	1	16	12	1-1/4	180
1 4522 13	25	Without pump	YES	6,3	250	430	209	125	68	1	16	12	1-1/4	180
1 4522 16	25	WILO PARA 25-180/6–43/SC-12	YES	6,3	250	430	209	125	68	1	16	12	1-1/4	180
1 4522 14	25	Without pump	YES	10	250	430	209	125	68	1	16	12	1-1/4	180
1 4522 17	25	WILO PARA 25-180/6–43/SC-12	YES	10	250	430	209	125	68	1	16	12	1-1/4	180
1 4522 18	32	Without pump	NO	10	250	430	180	125	68	1-1/4	16	12	1-1/2	180
1 4522 20	32	WILO PARA 25-180/6–43/SC-12	NO	10	250	430	180	125	68	1-1/4	16	12	1-1/2	180
1 4522 19	32	Without pump	NO	16	250	430	180	125	68	1-1/4	16	12	1-1/2	180
1 4522 21	32	WILO PARA 25-180/6–43/SC-12	NO	16	250	430	180	125	68	1-1/4	16	12	1-1/2	180

*internal thread
**external thread
BP – bypass

Material and construction

Ball valve with thermometer:	Forged brass EN 12165, CW617N
Ball:	Forged brass acc. to EN 12165, chrome plated, CW617N
Handle of ball valve with thermometer:	Plastic, PA66 GF30
Spacer with backflow preventer:	brass
Threaded connectors of closing valve:	Internal thread acc. to ISO 7-1
Threaded connector of pump group:	External thread acc. to ISO 228-1
Spindle:	Machined brass acc. to EN12164
Spindle seals:	EPDM
Ball seals:	PTFE
Gaskets:	EPDM
Heat insulation material of pump group:	EPP

Operating data

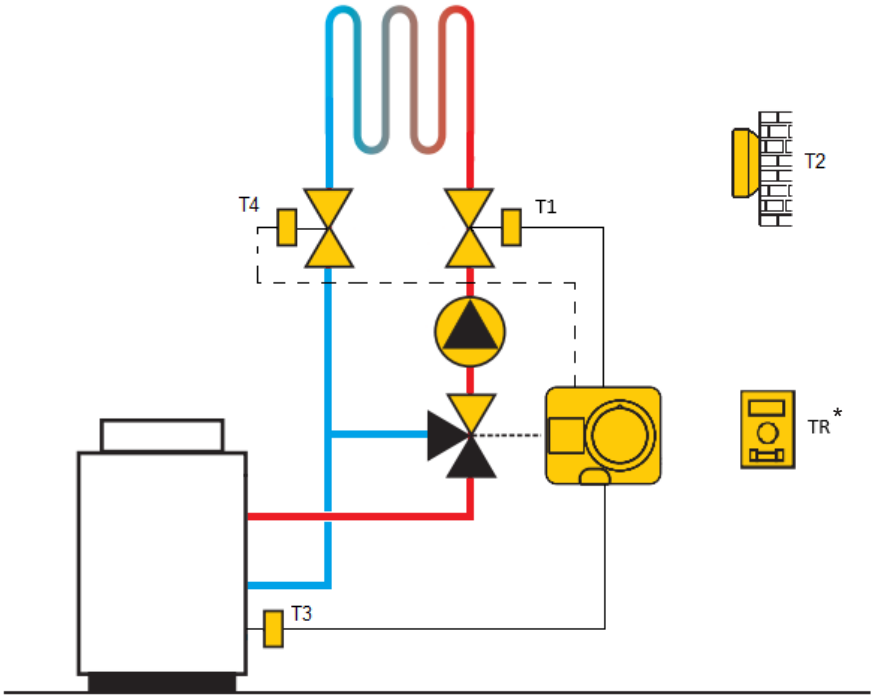
Nominal pressure:	Max. 10 bar
Max. operating temperature:	110 °C
Short-term load:	120 °C < 15 s
Min. operating temperature:	0 °C (water 0,5 °C)
Opening pressure for check valve :	200 mmWc
Propylene glycol mixing ratio:	25-50 %

Medium

Heating water according to ÖNORM H5195 or VDI- Standard 2035. The use of ethylene, or propylene glycol in a mixing ratio of 25- 50% is allowed. EPDM gaskets can be affected by Mineral oils lubricants and thus lead to failure of the EPDM seals. Please refer to the manufacturers documentation when using ethylene glycol products for frost and corrosion protection.

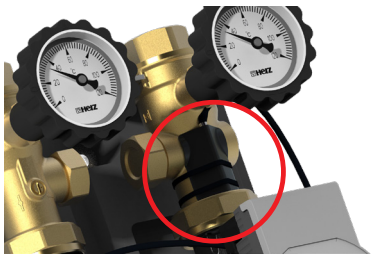
Field of application

The HERZ- PUMPFIX SMARTCONTROL PLUS pump group is used in heating and cooling systems in households. It allows for the installation of circulation pumps from various manufacturers and types. The integrated 3-way valve is used to regulate temperature in combination with the Smartcontrol PLUS smart controller, which includes a weather compensated controller in addition to the motor drive. The Smartcontrol PLUS regulates the operation of the 3-way valve and the pump trough temperature sensors, ensuring always optimal settings.

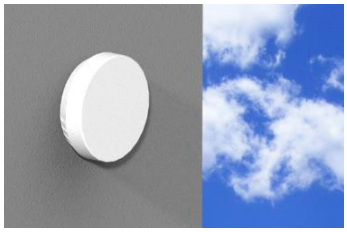


T1 – temperature sensor for hot water circuit
T2 – outdoor temperature sensor
T3 – temperature sensor for the heat source
T4 – temperature sensor for cold water return
*TR – room control unit (not included in set)

T1 (included in set)
The temperature sensor T1 is located in the ball valve on the hot water system. It measures the temperature of the hot water after the circulation pump. T1 is already assembled in the factory.



T2 - outdoor temperature sensor (included in set)
Outdoor temperature sensor is located on the outside area of the house. It measures the outside temperature.



T3 (included in set)
The temperature sensor T3 is inserted at the location of the heat source and measures the temperature of the heat source. The cable length is 3 meters.

Heat source can be:

- BUFFER
- BOILER

T4 (included in set)

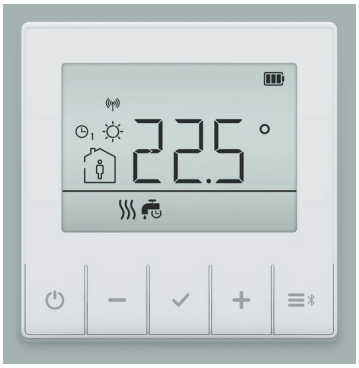
The temperature sensor T4 is installed on the system's cold water return. It measures the return water temperature. If connected, the controller can limit the power of each mixing circuit. This is particularly useful in systems with multiple circuits and an energy source with limited capacity. T4 is already assembled in the factory.

TR – room control unit (not included in set)

The room unit measures the room temperature and actively adjusts the supply water temperature, displays the controller's data and allows the setting of desired temperatures and operating modes. As a result, the supply temperature is always adjusted so that the system provides just enough to achieve the desired room temperature.

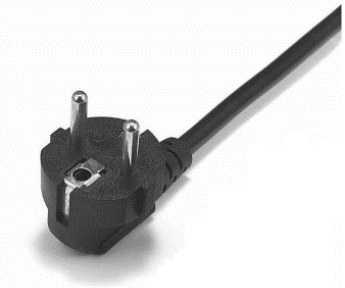
The room control unit is not mandatory equipment for the operation of HERZ Pumpfix Smartcontrol Plus and is available as an additional equipment that optimizes the operation.

Room control unit is not included in set. It can be ordered separately (1 4522 34)



SCHUKO PLUG (included in set)

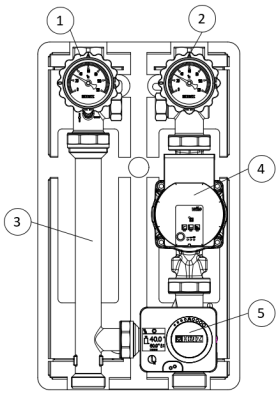
The HERZ Smartcontrol motorized smart controller is equipped with a Schuko connector, making the entire system "Plug & Play." Thanks to the Schuko plug, the smart controller can be easily connected to standard European electrical outlets, ensuring a quick and hassle-free installation process. This feature significantly simplifies the setup, as no complex wiring or additional components are required.



Components of HERZ PUMPFIX SMARTCONTROL PLUS

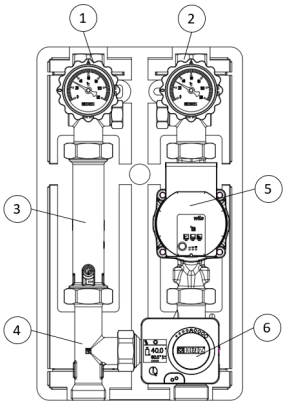
PUMPFIX BASIC

1. Valve with thermometer (blue) and non-return valve
2. Valve with thermometer (red)
3. Spacer
4. Circulation pump
5. Three way valve with an smart controller (1 4522 01)



PUMPFIX

1. Valve with thermometer (blue)
2. Valve with thermometer (red)
3. Spacer with non-return valve
4. Return T-piece
5. Circulation pump
6. Three way valve with an smart controller (1 4522 01)



Assembly

A system where the HERZ Pumpfix Smartcontrol PLUS pump group is installed must be flushed to remove any dirt or debris that may have accumulated during installation. Failure to remove dirt or debris may affect performance and the manufacturer's warranty. The installation of filters of appropriate capacity at the inlet of the water from the main supply is always advisable. In areas that are subject to highly aggressive water, arrangements must be made to treat the water before it enters the valve.

Access to the HERZ Pumpfix Smartcontrol PLUS pump group must be unobstructed for any maintenance that may be required to the pump group or valve connections. The pipework from/to the HERZ Smartcontrol PLUS pump group must not be used to support the weight of the pump group itself.

When connecting the HERZ Smartcontrol PLUS pump group to the system components use suitable sealing material (spinning material, Teflon ribbon, sealing paste) to coat the pipes. There should not be an excess of sealing material on the pipe because it can damage the thread. All the connecting pipes have to be correctly aligned, so the pump group is not loaded with a bending moment. When using copper or plastic pipes take into account the pressure and temperature limits of used material.

When assembling, use a suitable assembly tool that adapts to pump group end connections. Following assembly, the connections of the pump group must be checked for water-tightness by the installer. All engineering standards and recognized regulations must be adhered to by these specialist staff.

Maintenance instructions

The ingress of condensate, dripping water etc. into the drive should be prevented. Repairs on the device must be carried out by authorized persons only.

According to EN 806-5 (point 6. Operation), valves must always be in their fully opened or closed position and actuated at regular intervals to ensure they remain operational. Therefore HERZ Ball valves must be closed and opened periodically at least twice a year. This prevents the ball valve from blocking, reduces sediment deposition, and reduces the possibility of corrosion inside the valve.

Regular maintenance of heating systems keeps them running smoothly, optimizing their energy consumption and reducing utility bills. Well-maintained components ensure the heating system doesn't have to work harder than necessary to achieve the desired temperature.

HOT WATER / LIQUID

Pay attention while installing / commissioning / servicing the Pump group because the temperature of medium can exceed 100°C. Exposure to this high temperature medium can cause death, serious injury or damage of the other components in the system. Make sure that when works are being carried out on the HERZ Pump group the system is cooled down and it is unpressurised. Before any disassembly make sure that the system is drained.

WARNING

Make sure, that regular maintenance is done periodically at least twice a year, according to the procedures written below:
1. Check and clean the system filters.
2. Check that the non-return valves are operating normally, without problems caused by impurities.
3. Limescale can be removed from internal components by immersion in a suitable de-scaling liquid.
4. When the components which can be maintained have been checked, commissioning should be carried out again.
In-service tests should be carried out regularly to monitor the pump group performance, as deterioration of performance could indicate that the valve and/or the system require maintenance. If, during these tests, the performance of the valve has changed significantly in comparison to the previous tests, the details given in the installation sections should be checked and maintenance carried out.
The following aspects should be checked regularly to ensure that the optimum performance levels of the valve are maintained, periodically at least twice a year.
• Motor smart controller:
In case the motor smart controller is broken, then only the specialist electricians can exchange or service it.

These specialist electricians need to respect all of electrical standards and recognized regulations. Usage of correct safety equipment against electric shock is obligatory. Live parts can cause electric shock that will result in serious injury or death.

Disposal instructions

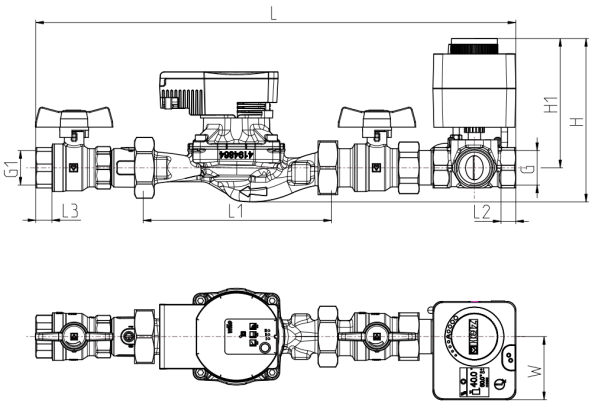
The disposal of HERZ Pump group must not endanger the health or the environment. National legal regulations for the proper disposal of the HERZ Pump group have to be followed.

HERZ EUROMIX SMARTCONTROL

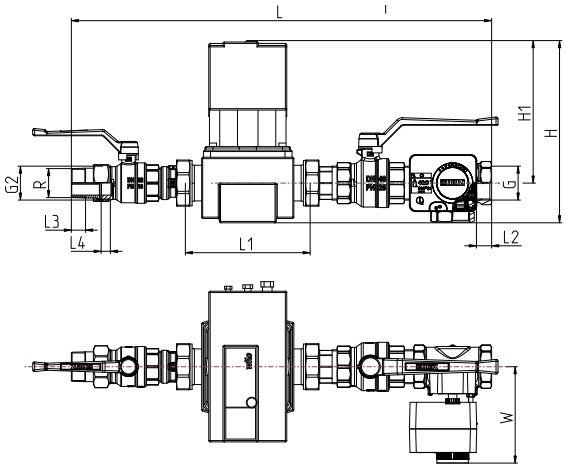
Return temperature set

Datasheet 1 4522 2X

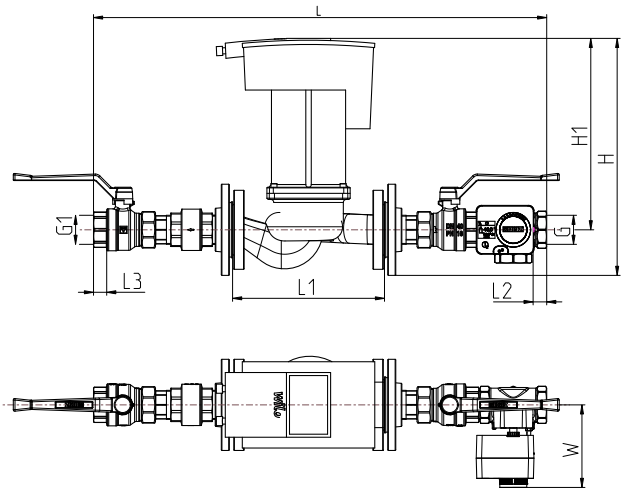
Dimensions



1 4522 22(24)



1 4522 25



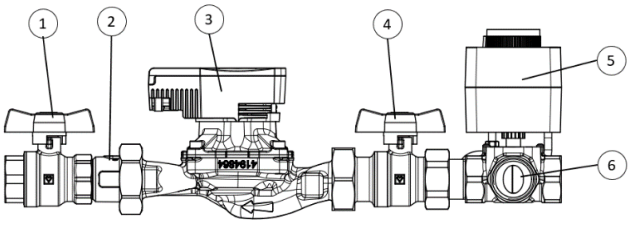
1 4522 26

Order Nr.	DN	Pump	kW	L [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	G* [mm]	G1* [mm]	G2** [mm]	R** [mm]	H [mm]	H1 [mm]	W [mm]
1 4522 22	20	Wilo PARA 25-180/6-43/SC-12	20	426	180	13	11	-	3/4”	3/4”	-	-	148	114	60
1 4522 23	25	Wilo PARA 25-180/6-43/SC-12	35	465	180	15	16	-	1”	1”	-	-	158	124	60
1 4522 24	32	Wilo Stratos PARA 30/1-8	60	508	180	18,8	18	-	1 1/4”	1 1/4”	-	-	162	128	60
1 4522 25	40	Wilo Stratos PARA 30/1-12	100	689	180	21,4	22	15	1 1/2”	-	1 3/4”	1 1/2”	257	201	136
1 4522 26	40	Wilo Yonos MAXO 40/0,5-12	150	754	250	21,4	17	-	1 1/2”	-	-	-	390	315	136

*internal thread
**external thread

Components of HERZ Return temperature set

1. Ball valve
2. Check valve
3. Circulation pump
4. Ball valve
5. 1 4522 00 Smartcontrol motor controller
6. 1 2137 0x 3-Way mixing valve



Material and construction

Ball valve:	forged brass acc. to EN 12165; CW 617N
Ball:	forged brass acc. to EN 12165, hard crome plated, CW617N
Spindle:	turned brass acc. to EN12164, CW614N
Spindle seals:	PTFE
Ball seals:	PTFE
Internal threaded connectors:	acc. to ISO 228-1
External threaded connectors:	acc. to ISO 7-1
Check valve:	forged brass acc. to EN 12165; CW 617N
Gaskets:	EPDM

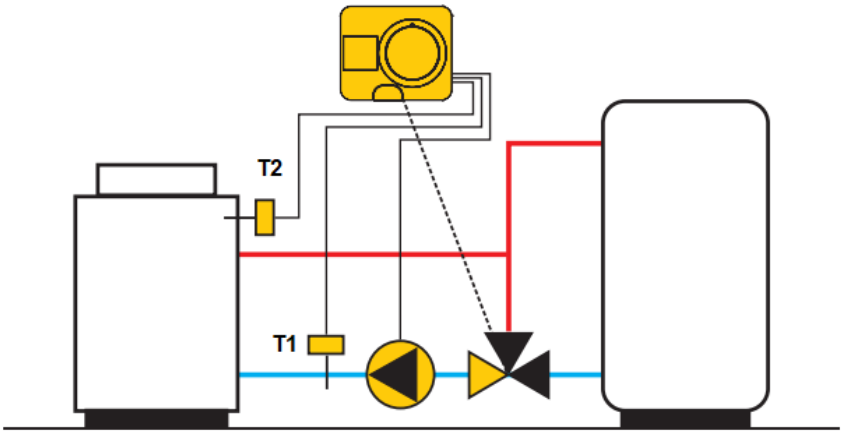
Operating data

Operating pressure:	10 bar without pump, with pump see pump characteristics
Min. operating temperature:	0°C (water 0,5°C)
Max. operating temperature:	110°C
Max. short-term temperature load:	120°C

Medium:
Heating water according to ÖNORM H5195 or VDI-Standard 2035. The use of ethylene or propylene glycol in a mixing ratio 25- 50% is allowed. EPDM gaskets can be affected by mineral oils lubricants and thus lead to failure of the EPDM seals. Please refer to manufacturers documentation when using ethylene glycol and propylene glycol products for frost and corrosion protection.

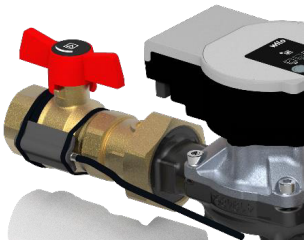
Field of application

The HERZ EUROMIX SMARTCONTROL- Return temperature set is used in heating systems in industrial and household areas. With connection of the boiler and the buffer tank, it is necessary to install the return temperature set for protection of the boiler protecting against too low back flow temperature entering the boiler.
Low temperature of boiler backflow should be avoided because of two reasons:
• It prevents condensation and prolongs boiler life because the return to the boiler has the correct temperature.
• Provides the necessary operating temperature of the boiler and thus the proper operation of the heating system and filling of the buffer tank
The advantage of the HERZ EUROMIX SMARTCONTROL – return temperature set compared to other sets is that the set includes a HERZ SMARTCONTROL motor drive, which continuously monitors the return water temperature and energy source with the provided sensors. Using the collected data, it ensures optimal regulation and appropriate adjustment of the return flow to the boiler. The entire system features a “Plug&Play” installation method.



T1 – temperature sensor for cold water return
T2 – temperature sensor for the heat source

T1 (included in set)
The temperature sensor T1 is installed on the return line, behind the circulation pump. It measures the temperature of the cold water before entering the boiler. The cable lenght is 1 m.

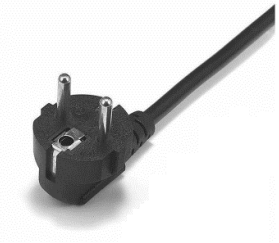


T2 (included in set)
The temperature sensor T2 needs to be inserted at the location of the heat source and measures the temperature of the heat source. The cable length is 3 meters

Heat source can be:

- BUFFER
- BOILER

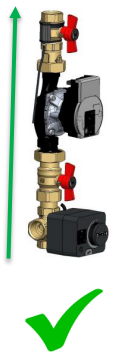
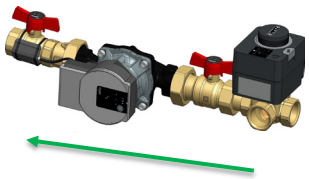
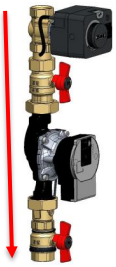
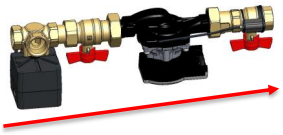
SCHUKO PLUG (included in set)
The HERZ Smartcontrol motorized smart controller is equipped with a Schuko connector, making the entire system "Plug & Play." Thanks to the Schuko plug, the smart controller can be easily connected to standard European electrical outlets, ensuring a quick and hassle-free installation process. This feature significantly simplifies the setup, as no complex wiring or additional components are required.



Assembly

HERZ-Return temperature set must be assembled by trained specialist staff (licensed specialist companies – installers). All engineering standards and recognized regulations must be adhered to by these specialist staff. This set may only be used in accordance with return temperature set of the appropriate HERZ biomass boiler. Use the enclosed documentation for the smart controller as well as the pump. Following assembly, the set must be checked for water-tightness by the installer. The correct installation position of the valve insert must be checked. The drawings correspond to a schematic representation and not to the installation situation.
A system where the HERZ Euromix Smartcontrol – return temperature set is installed must be flushed to remove any dirt or debris that may have accumulated during installation. Failure to remove dirt or debris may affect performance and the manufacturer's warranty. The installation of filters of appropriate capacity at the inlet of the water from the main supply is always advisable. In areas that are subject to highly aggressive water, arrangements must be made to treat the water before it enters the valve.
Access to the HERZ Euromix Smartcontrol – return temperature set must be unobstructed for any maintenance that may be required to the return temperature set or valve connections. The pipework from/to the HERZ Euromix Smartcontrol – return temperature set must not be used to support the weight of the return temperature set itself.
When connecting the HERZ Euromix Smartcontrol – Return temperature set to the system components use suitable sealing material (spinning material, Teflon ribbon, sealing paste) to coat the pipes. There should not be an excess of sealing material on the pipe because it can damage the thread. All the connecting pipes have to be correctly aligned, so the pump group is not loaded with a bending moment. When using copper or plastic pipes take into account the pressure and temperature limits of used material.
When assembling, use a suitable assembly tool that adapts to pump group end connections. Following assembly, the connections of the return temperature set must be checked for water-tightness by the installer. All engineering standards and recognized regulations must be adhered to by these specialist staff.

Allowed mounting positions

ALLOWED		NOT ALLOWED	
			

Maintenance instructions

The ingress of condensate, dripping water etc. into the drive should be prevented. Repairs on the device must be carried out by authorized persons only.
According to EN 806-5 (point 6. Operation), valves must always be in their fully opened or closed position and actuated at regular intervals to ensure they remain operational. Therefore HERZ Ball valves must be closed and opened periodically at least twice a year. This prevents the ball valve from blocking, reduces sediment deposition, and reduces the possibility of corrosion inside the valve.
Regular maintenance of heating systems keeps them running smoothly, optimizing their energy consumption and reducing utility bills. Well-maintained components ensure the heating system doesn't have to work harder than necessary to achieve the desired temperature.
HOT WATER / LIQUID
Pay attention while installing / commissioning / servicing the Pump group because the temperature of medium can exceed 100°C. Exposure to this high temperature medium can cause death, serious injury or damage of the other components in the system. Make sure that when works are being carried out on the HERZ Pump group the system is cooled down and it is unpressurised. Before any disassembly make sure that the system is drained.

WARNING

Make sure, that regular maintenance is done periodically at least twice a year, according to the procedures written below:
1. Check and clean the system filters.
2. Check that the non-return valves are operating normally, without problems caused by impurities.
3. Limescale can be removed from internal components by immersion in a suitable de-scaling liquid.
4. When the components which can be maintained have been checked, commissioning should be carried out again.
In-service tests should be carried out regularly to monitor the pump group performance, as deterioration
of performance could indicate that the valve and/or the system require maintenance. If, during these tests, the performance of the valve has changed significantly in comparison to the previous tests, the details given in the installation sections should be checked and maintenance carried out.
The following aspects should be checked regularly to ensure that the optimum performance levels of the valve are maintained, periodically at least twice a year.
• Motor smart controller:
In case the motor smart controller is broken, then only the specialist electricians can exchange or service it.

DANGER

These specialist electricians need to respect all of electrical standards and recognized regulations. Usage of correct safety equipment against electric shock is obligatory. Live parts can cause electric shock that will result in serious injury or death.

Disposal instructions

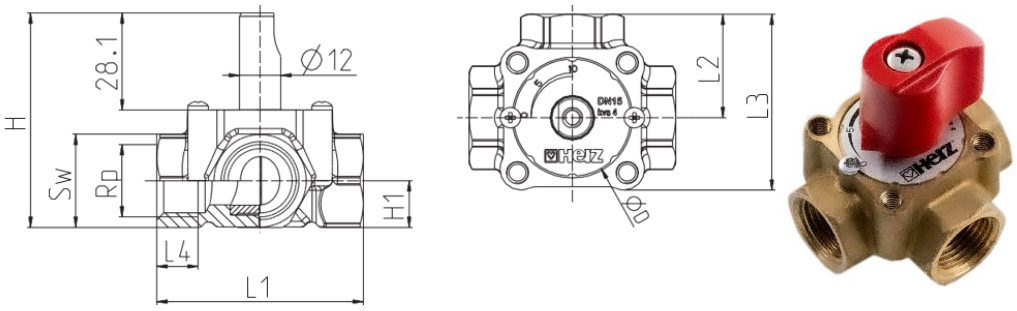
The disposal of HERZ Pump group must not endanger the health or the environment. National legal regulations for the proper disposal of the HERZ Pump group have to be followed.

HERZ 3-WAY and 4-WAY MIXING VALVE WITH SMARTCONTROL

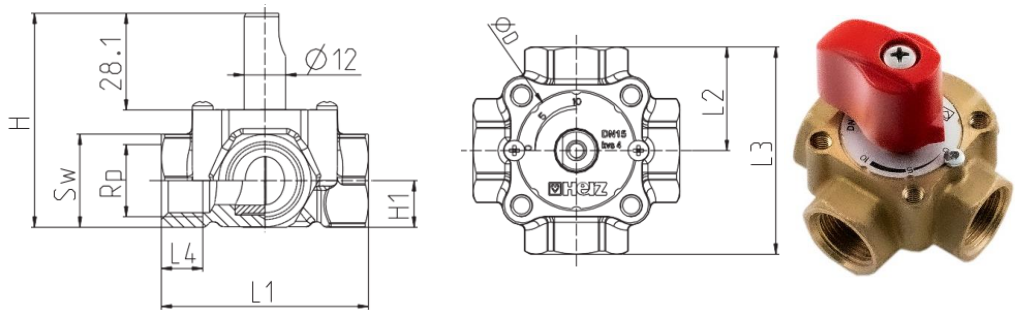
Datasheet 1 2137 XX, 1 2138 XX

Dimensions

1 2137 XX



1 2138 XX

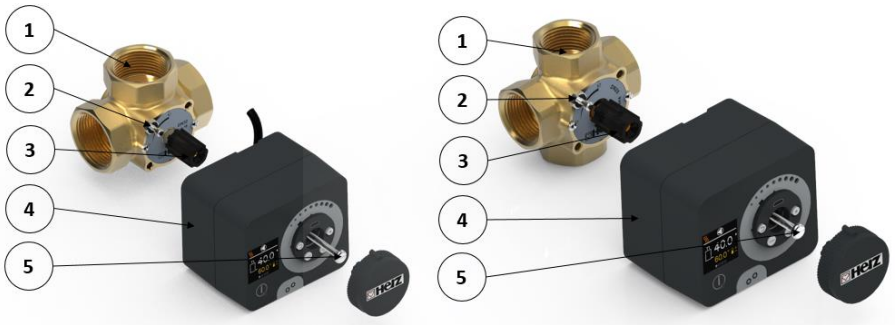


Art. Nr.	DN	kvs [m³/h]	Sw [mm]	Rp [in]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	H [mm]	H1 [mm]	D [mm]	Weight [kg]
1 2137 71	15	0,4	27	½″	60	30	51	12	66,1	13,5	34	0,41
1 2137 31	15	0,63	27	½″	60	30	51	12	66,1	13,5	34	0,41
1 2137 41	15	1	27	½″	60	30	51	12	66,1	13,5	34	0,41
1 2137 51	15	1,6	27	½″	60	30	51	12	66,1	13,5	34	0,41
1 2137 61	15	2,5	27	½″	60	30	51	12	66,1	13,5	34	0,41
1 2137 01	15	4	27	½″	60	30	51	12	62,1	13,5	34	0,41
1 2137 72	20	2,5	31	¾″	64	32	53	13	66,1	15,5	34	0,44
1 2137 32	20	4	31	¾″	64	32	53	13	66,1	15,5	34	0,44
1 2137 02	20	6,3	31	¾″	64	32	53	13	66,1	15,5	34	0,44
1 2137 73	25	6,3	39	1″	80	40	647	15	74,6	19,5	43	0,78
1 2137 03	25	10	39	1″	80	40	647	15	74,6	19,5	43	0,78
1 2137 04	32	16	49	1-¼″	90	45	713	188	85,1	26,3	43	1,15
1 2137 05	40	25	59	1-½″	110	55	88	214	96,6	30,5	61	2,41
1 2137 06	50	40	72	2″	136	68	1.055	27	109,1	37,5	61	2,573
1 2138 01	15	4	27	½″	60	30	60	12	62,1	13,5	34	0,43
1 2138 02	20	6,3	31	¾″	64	32	64	13	66,1	15,5	34	0,47
1 2138 03	25	10	39	1″	80	40	80	15	74,6	19,5	43	0,84
1 2138 04	32	16	49	1-¼″	90	45	90	188	85	26,3	43	1,11

Overview

HERZ Smartcontrol motorized smart controllers (1 4522 0x) are fully compatible with HERZ 3-way (1 2137 1x) and 4-way (1 2138 1x) mixing valves. The motorized smart controller is attached to the mixing valve using a screw, ensuring a secure and stable connection. This compatibility guarantees precise control and efficient regulation of flow in various heating and cooling systems. It is important to note that both the HERZ Smartcontrol motorized smart controller and the 3-way or 4-way mixing valve must be purchased separately. This modular approach allows users to select the specific components that best fit their system requirements, offering flexibility in installation and system design. To install the Smartcontrol motor drive, the red handle must be removed from the HERZ 3-way / 4-way valve.

Components



1. HERZ 3-way (1 2137 1x) or 4-way (1 2138 1x) mixing valve
2. Pin
3. Adapter
4. HERZ Smartcontrol (1 4522 00) or HERZ Smartcontrol PLUS (1 4522 01) motorized smart controller.
5. Screw

Maintenance instructions

The ingress of condensate, dripping water etc. into the drive should be prevented. Repairs on the device must be carried out by authorized persons only.

According to EN 806-5 (point 6. Operation), valves must always be in their fully opened or closed position and actuated at regular intervals to ensure they remain operational. Therefore HERZ Ball valves must be closed and opened periodically at least twice a year. This prevents the ball valve from blocking, reduces sediment deposition, and reduces the possibility of corrosion inside the valve.

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WARNING

Make sure, that regular maintenance is done periodically at least twice a year, according to the procedures written below:

1. Check and clean the system filters.
2. Check that the non-return valves are operating normally, without problems caused by impurities.
3. Limescale can be removed from internal components by immersion in a suitable de-scaling liquid.
4. When the components which can be maintained have been checked, commissioning should be carried out again.

In-service tests should be carried out regularly to monitor the pump group performance, as deterioration of performance could indicate that the valve and/or the system require maintenance. If, during these tests, the performance of the valve has changed significantly in comparison to the previous tests, the details given in the installation sections should be checked and maintenance carried out.

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Disposal instructions

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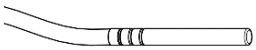
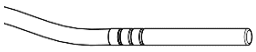
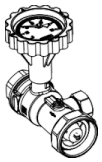
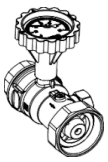
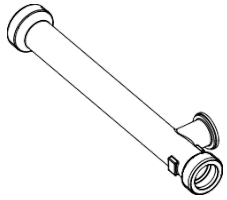
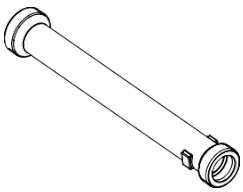
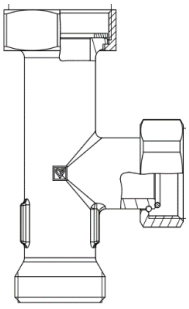
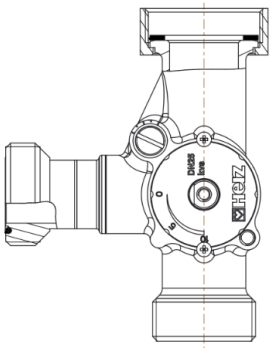
HERZ SMARTCONTROL

Accessories

Datasheet 1 45XX XX

Sketch	Description	Article Nr.	Pcs.
	Temperature sensor 1m length	1 4522 30	1
	Temperature sensor 3m length	1 4522 31	1
	Outdoor temperature sensor	1 4522 32	1
	Room control unit	1 4522 34	1
	Ball valve BLUE with non-return insert DN25	1 4510 86	1
	Ball valve BLUE with non-return insert DN32	1 4510 87	1
	Red thermometer for HERZ PUMPFIX	1 2201 91	1
	Blue thermometer for HERZ PUMPFIX	1 2201 90	1

	Spacer used in MIX DN25 and CONSTANT DN25	1 4510 90	1
	Spacer used in MIX DN32	1 4510 91	1
	Spacer used in DIRECT DN25	1 4510 88	1
	Spacer used in DIRECT DN32	1 4510 89	1
	T-piece for PUMPFIX DN 25	1 4514 94	1
	T-piece for PUMPFIX MIX DN 32	1 4513 84	1
	Mixing valve DN25 kvs 4	1 4514 90	1
	Mixing valve DN25 kvs 6,3	1 4514 91	1
	Mixing valve DN25 kvs 10	1 4514 92	1