

Tendering documents Hycleen Automation System

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1. Introduction

The Hycleen Automation System from GF Piping Systems offers an ingenious package for the automation of drinking water installations. Sensors and Controller integrated into the valves log the required data. The Master controller performs the control function and supports an optimized temperature and hygienic drinking water installation including data recording and reporting processes with its applications. The matched components are connected with the ready-to-use cabling with the distinctive connectors.

Materials: gunmetal, stainless steel, UBA compliant plastics

Dimensions: DN 15 - DN 20

Working pressure: up to 10 bar

Operating temperature: +5°C to +90°C

Main applications:

- Larger buildings with hygiene-sensitive areas and irregular water extraction (e.g. clinics, hotels, old people's homes and residential complexes)
- Hot and cold water installation systems

Main benefits:

- Uniform temperature level and regular water exchange with one system
- Central controller and status display
- Logging and reporting
- Remote monitoring
- Controlled hydraulic balancing in the building



2. Hycleen Automation Master

Control for the Hycleen Automation system, for the execution, programming, recording, monitoring and data logging of drinking water installations, hydraulic balancing (JRG LegioTherm 2T) of hot and cold drinking water systems, as well as flushing valves (JRG LegioTherm K) for cold and hot water. Automatic detection of the valves for hydraulic balancing or purge function, and also type and serial numbers. The Hycleen Automation Master with plastic housing incl. 10.1" Touchscreen, for max. 50 Controller includes Powerbox 36V and is equipped with a Bluetooth function. 2 M12 plugs for 2 x up to 500 m cable length (1 cable comprising power supply + communication RS485), 2 RJ45 Ethernet (LAN) plugs, 2 x USB type A plugs, and 1 x USB type B plug for UPS. IP20, incl. 2m device cable with plug. Power supply: 90 - 230V AC / Slave supply 36V DC

Make: +GF+ JRG

JRG Code: 9900.000 (EU) / 9900.001 (CH)

GF Code: 351110656 (EU) / 351110655 (CH)



3. Hycleen Automation Powerbox

Powerbox 36V DC made of plastic for the power supply of the circulation controllers JRG LegioTherm 2T, the flushing valves LegioTherm K and sensors of the Hycleen Automation System with cable lengths of over 300 m per wiring harness, power supply 90 - 230V AC / 36 V DC 100W, 2 M12 plugs and LED for functional information, incl. 2 m device cable with plug. IP20

Make: +GF+ JRG

JRG Code: 9901.000

GF Code: 351110626



4. Uni Controller

The Uni Controller allows the connection of 2 external Hycleen sensors as well as the connection of actuators via a 24/230V relay output and/or a 4-20mA input/output signal. Programming is done via the Master actuator app. 2 M12 connectors for cabling, 2 M8 connectors for connecting external sensors, 1 M12 connector 4-20mA input/output for control of one actuator, 1 relay output 24V/230V via RD 24 connector for control of one actuator, and LED for function information. IP44.

Make: +GF+ JRG

Dimensions: 2x M12, 2x M8 for external sensors, M12 4-20 mA input/output, RD 24 (24V/230V relay)

RG Code: 9902.000

GF Code: 351110645



5. Circulation regulator (LegioTherm 2T) DN 15

Circulation regulator LegioTherm 2T for Hycleen Automation System, PN 10 for hot and cold/water circuits, with electric motor driven actuator incl. Controller, PT1000 sensor, Bluetooth chip, light ring and insulation. Cable connection via M12 and M8 plug for external sensor connection. Outlets with BR1 male thread to DIN ISO 228, without fitting, threaded connection for drain valve/sampling valve, closed with closure cap, made completely of gunmetal to meet the requirements of DIN 50930 Part 6, UBA compliant, with non-rising grinded valve stem and valve seat made of chromium-nickel steel, free of dead space, seals from EPDM according to DVGW W270 and "UBA Elastomer Guideline", regulating wedge made of UBA-compliant brass, for water up to 90°C, max. operating pressure PN 10. Factory setting normal mode 57°C, setting range 0-90°C, factory setting thermal disinfection 70°C, adjustment range 60-90°C, IP44. Delivery position opened 50%.

Circulation regulator JRG LegioTherm 2T is not suitable for circulation with gravity. JRG LegioTherm 2T (low-voltage 36V DC) can be interconnected by the installation engineer.

Make: +GF+ JRG

Dimension: DN 15

JRG Code: 9901.015

GF Code: 351110550



6. Circulation regulator (LegioTherm 2T) DN 20

Circulation regulator LegioTherm 2T for Hycleen Automation System, PN 10 for hot and cold/water circuits, with electric motor driven actuator incl. Controller, PT1000 sensor, Bluetooth chip, light ring and insulation. Cable connection via M12 and M8 plug for external sensor connection. Outlets with BR1 male thread to DIN ISO 228, without fitting, threaded connection for drain valve/sampling valve, closed with closure cap, made completely of gunmetal to meet the requirements of DIN 50930 Part 6, UBA compliant, with non-rising grinded valve stem and valve seat made of chromium-nickel steel, free of dead space, seals from EPDM according to DVGW W270 and "UBA Elastomer Guideline", regulating wedge made of UBA-compliant brass, for water up to 90°C, max. operating pressure PN 10. Factory setting normal mode 57°C, adjustment range 0-90°C, factory setting thermal disinfection 70°C, adjustment range 60-90°C, IP44. Delivery position opened 50%.

Circulation regulator JRG LegioTherm 2T is not suitable for circulation with gravity. JRG LegioTherm 2T (low-voltage 36V DC) can be interconnected by the installation engineer.

Make: +GF+ JRG
Dimension: DN 20
JRG Code: 9910.020
GF Code: 351110590



7. Circulation regulator (LegioTherm 2T) DN 25

Circulation regulator LegioTherm 2T for Hycleen Automation System, PN 10 for hot and cold/water circuits, with electric motor driven actuator incl. Controller, PT1000 sensor, Bluetooth chip, light ring and insulation. Cable connection via M12 and M8 plug for external sensor connection. Outlets with BR1 male thread to DIN ISO 228, without fitting, threaded connection for drain valve/sampling valve, closed with closure cap, made completely of gunmetal to meet the requirements of DIN 50930 Part 6, UBA compliant, with non-rising grinded valve stem and valve seat made of chromium-nickel steel, free of dead space, seals from EPDM according to DVGW W270 and "UBA Elastomer Guideline", regulating wedge made of UBA-compliant brass, for water up to 90°C, max. operating pressure PN 10. Factory setting normal mode 57°C, adjustment range 0-90°C, factory setting thermal disinfection 70°C, adjustment range 60-90°C, IP44. Delivery position opened 50%.

Circulation regulator JRG LegioTherm 2T is not suitable for circulation with gravity. JRG LegioTherm 2T (low-voltage 36V DC) can be interconnected by the installation engineer.

Make: +GF+ JRG
Dimension: DN 25
JRG Code: 9910.025
GF Code: 351110630



8. Flushing valve (LegioTherm K) DN 15

Flushing valve JRG LegioTherm K for Hycleen Automation System for cold and hot water, with actuator motor incl. Controller, PT1000 sensor, Bluetooth, light ring and insulation. Cable connection via M12 and M8 plug for external sensor connection. Outlets with external thread to DIN ISO 228, threaded connection for drain valve/sampling valve sealed with cap, completely from gunmetal in accordance to the requirements of DIN 50930 Part 6, UBA-compliant and valve seat from chromium nickel steel, free of dead space, seals from EPDM according to DVGW W270 and "UBA Elastomer Guideline", regulating block from UBA-compliant brass, for water up to 90°C, max. operating pressure PN 10. Factory setting for normal mode 20°C, adjustment range 0-90°C. JRG LegioTherm K (low-voltage 36V DC) can be interconnected by the installation engineer. IP44. Delivery position closed.

Precautionary note:

Flushing valve JRG LegioTherm K must not be used without the consent of the holder of patents EP 1 845 207 B1 and DE 10 2006 017 807 B4 for use in a water system of the type described in these patents.

Make: +GF+ JRG
Dimension: DN 15
JRG Code: 9920.015
GF Code: 351110600



9. Flushing valve (LegioTherm K) DN 20

Flushing valve JRG LegioTherm K for Hycleen Automation System for cold and hot water, with actuator motor incl. Controller, PT1000 sensor, Bluetooth, light ring and insulation. Cable connection via M12 and M8 plug for external sensor connection. Outlets with external thread to DIN ISO 228, threaded connection for drain valve/sampling valve sealed with cap, completely from gunmetal in accordance to the requirements of DIN 50930 Part 6, UBA-compliant and valve seat from chromium nickel steel, free of dead space, seals from EPDM according to DVGW W270 and "UBA Elastomer Guideline", regulating block from UBA-compliant brass, for water up to 90°C, max. operating pressure PN 10. Factory setting for normal mode 20°C, adjustment range 0-90°C. JRG LegioTherm K (low-voltage 36V DC) can be interconnected by the installation engineer. IP44. Delivery position closed.

Precautionary note:

Flushing valve JRG LegioTherm K must not be used without the consent of the holder of patents EP 1 845 207 B1 and DE 10 2006 017 807 B4 for use in a water system of the type described in these patents.

Make: +GF+ JRG
Dimension: DN 20
JRG Code: 9920.020
GF Code: 351110610



10. Temperature sensor DN 15

Temperature sensor PT 1000 integrated in gunmetal housing according to the requirements of DIN 50930 part 6, UBA-compliant, including insulation shells. Outlets with male thread according to DIN ISO 228. The T-sensor measures the water temperature at the desired points of the drinking water installation. The connection to the Controller is made with the sensor cable connection with length = 1m. The T-sensor is automatically recognized as an external temperature sensor when the master is started. Signal 4-20 mA. For water up to +90°C, max. working pressure PN 10.

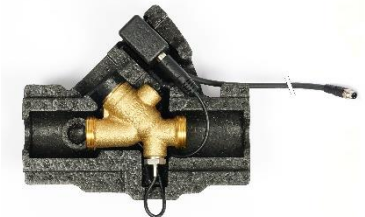
Make: +GF+ JRG
Dimension: DN 15, Plug M8
JRG Code: 9951.015
GF Code: 351110535



11. Temperature sensor DN 20

Temperature sensor PT 1000 integrated in gunmetal housing according to the requirements of DIN 50930 part 6, UBA-compliant, including insulation shells. Outlets with male thread according to DIN ISO 228. The T-sensor measures the water temperature at the desired points of the drinking water installation. The connection to the Controller is made with the sensor cable connection with length = 1m. The T-sensor is automatically recognized as an external temperature sensor when the master is started. Signal 4-20 mA. For water up to +90°C, max. working pressure PN 10.

Make: +GF+ JRG
Dimension: DN 20, Plug M8
JRG Code: 9951.020
GF Code: 351110661



12. Temperature sensor dimension-independent

Temperature sensor PT 1000 for dimension-independent use with connection 1/4" male thread. The T-sensor measures the water temperature at the desired points of the drinking water installation. The connection to the Controller is made with the sensor cable connection with length = 1m. The T-sensor is automatically recognized as an external temperature sensor when the master is started. Signal 4-20 mA. For water up to +90°C, max. working pressure PN 10.

Make: +GF+ JRG
Dimension: Dimension-independent, male thread 1/4", plug M8
JRG Code: 9952.000
GF Code: 351110611



13. Hycleen Automation Flow Sensor

The Hycleen Automation flow sensor is a measurement value receptor for the capturing of the volume flow of liquids. The flow sensor must be connected to a Controller and is automatically identified as an external flow sensor upon the start of the master. The flow rate of the sensors can be read out on the Master in liters per hour. Signal I/O. Captures flow rates from 1 to 60 l/min, liters, application range at maximum 90°C and PN 16, material is CW724R.

Make: +GF+ JRG

Dimension: DN 20, Plug M8

JRG Code: 9950.020

GF Code: 351110772



14. Hycleen Automation run off monitoring system

Alarms and stops a flushing process with non-return and exceeding the defined water level. The core element is a float switch which is installed in a protective and fastening element. The run-off monitor is an accessory of the Hycleen Automation flushing valve and does not have its own power supply. The monitoring is fixed by means of cable ties in the opening of the drainage pipe. The run-off monitoring must be connected to a Controller and is automatically recognized as external run-off monitoring when the master is started. Signal I/O.

Make: +GF+ JRG

Dimension: independent, plug M8

JRG Code: 9953.000

GF Code: 351110763



15. Power supply and communication cable 1.5 m

Pre-assembled cable for Hycleen Automation System with 2x M12 couplings, 36V DC, cross section 2x1mm², RS 485: 2x0.5mm², drilled. Non-toxic in accordance with RoHS Directive 2002/95/EC, halogen-free in accordance with DIN VDE 0428 Part 267, EN 50267-2-2, IEC 60754-2, for serial connection of Hycleen Automation system components (Master, Powerbox, Controller).

Make: +GF+ JRG
Dimension: plug M12
JRG Code: 9940.001
GF Code: 351110581



16. Power supply and communication cable 5 m

Pre-assembled cable for Hycleen Automation System with 2x M12 couplings, 36V DC, cross section 2x1mm², RS 485: 2x0.5mm², drilled. Non-toxic in accordance with RoHS Directive 2002/95/EC, halogen-free in accordance with DIN VDE 0428 Part 267, EN 50267-2-2, IEC 60754-2, for serial connection of Hycleen Automation system components (Master, Powerbox, Controller).

Make: +GF+ JRG
Dimension: plug M12
JRG Code: 9940.005
GF Code: 351110582



17. Power supply and communication cable 10 m

Pre-assembled cable for Hycleen Automation System with 2x M12 couplings, 36V DC, cross section 2x1mm², RS 485: 2x0.5mm², drilled. Non-toxic in accordance with RoHS Directive 2002/95/EC, halogen-free in accordance with DIN VDE 0428 Part 267, EN 50267-2-2, IEC 60754-2, for serial connection of Hycleen Automation system components (Master, Powerbox, Controller).

Make: +GF+ JRG
Dimension: plug M12
JRG Code: 9940.001
GF Code: 351110583



18. Power supply and communication cable 20 m

Pre-assembled cable for Hycleen Automation System with 2x M12 couplings, 36V DC, cross section 2x1mm², RS 485: 2x0.5mm², drilled. Non-toxic in accordance with RoHS Directive 2002/95/EC, halogen-free in accordance with DIN VDE 0428 Part 267, EN 50267-2-2, IEC 60754-2, for serial connection of Hycleen Automation system components (Master, Powerbox, Controller).

Make: +GF+ JRG
Dimension: plug M12
JRG Code: 9940.020
GF Code: 351110584



19. Power supply and communication cable 50 m

Pre-assembled cable for Hycleen Automation System with 2x M12 couplings, 36V DC, cross section 2x1mm², RS 485: 2x0.5mm², drilled. Non-toxic in accordance with RoHS Directive 2002/95/EC, halogen-free in accordance with DIN VDE 0428 Part 267, EN 50267-2-2, IEC 60754-2, for serial connection of Hycleen Automation system components (Master, Powerbox, Controller).

Make: +GF+ JRG
Dimension: plug M12
JRG Code: 9940.050
GF Code: 351110585



20. Hycleen Automation Coupling

Connector with 2 x M12 plugs for connecting pre-assembled cables.

Make: +GF+ JRG
Dimension: plug M12
JRG Code: 9941.000
GF Code: 351110586



21. Extension cable for sensors

Pre-assembled cable with length 5 m, plug M8 for connection between sensor and Controller (max. extension: 50 m = 10 cables)

Make: +GF+ JRG
Dimension: plug M8
JRG Code: 9943.005
GF Code: 351110662



22. Hycleen Automation Relay Cable

Pre-assembled cable with length 5m, connector RD24 for connection between Uni Controller relay output (24/230V) and actuator to control it via a relay.

Mark: +GF+ JRG

Dimension: plug RD24

JRG Code: 9944.005

GF Code: 351110672



23. Hycleen Automation 4-20 mA cable

Pre-assembled cable with length 5m, connector M12 for connection between Uni Controller 4-20 mA input/output and actuator to control it via a 4-20mA signal.

Make: +GF+ JRG

Dimension: plug M12

JRG Code: 9945.005

GF Code: 351110674



24. Hycleen Automation cable set retrofit

Adapter cable set for LegioTherm cable M12 spray and dust protection box. This allows further use of the already installed cables when converting an old JRG LegioTherm system to the Hycleen Automation System.

Make: +GF+ JRG

Dimension: plug M12

JRG Code: 9942.000

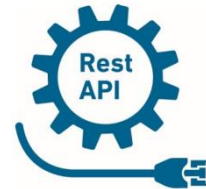
GF Code: 351110588



25. GLT Interface REST API

Unlockable REST API interface for data communication (client-server solution) between the Hycleen Automation System and an external system, e.g. building automation. The connection is established via the RJ45 Ethernet (LAN) connector available on the Master. The activation takes place by means of license locks.

Make: +GF+ JRG
JRG Code: 9980.000
GF Code: 351110790



26. GLT Interface BACnet IP

Unlockable BACnet IP interface for data communication (client-server solution) between the Hycleen Automation System and a higher-level building automation system. The connection is established via the RJ45 Ethernet (LAN) connector available on the Master. The activation takes place by means of license locks.

Make: +GF+ JRG
JRG Code: 9980.001
GF Code: 351110791



27. Master Relay license

License for activating the Master relay module and programming the relays. If you register your Master, a code will be sent to you free of charge.

Make: +GF+ JRG
JRG Code: 9981.001
GF Code: 351110793



28. Actuator Automation License

License to activate the Actuator Automation module. This license allows to program the relays and the 4-20 mA output of the Master and Uni controller. This allows valves and pumps to be controlled on the Master. by programming.

Make: +GF+ JRG
JRG Code: 9981.000
GF Code: 351110792

