FAQ: Co-Operation mode on Flamcomat

ENG **Co-Operation mode**
FAQ
- Application for Flamcomat pressurisation automats

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This document is intended as a "Frequently Asked Questions" guide to inform the reader about Co-Operation for Flamcomat pressurisation equipment utilizing Flextronic controller. Please refer to the Flamcomat and/or Co-Operation Installation and Instruction manuals for more technical information.

1 FAQ Co-Operation mode

Why (would I need Co-Operation mode)?
To be able to facilitate operation in larger systems, this feature allows to couple standard products to a network to scale the performance on a load-dependent base.

What?
Any models and types of Flamcomats (mono and duo) can be coupled. The vessels can be a slightly different (±1 size). It is possible to interconnect the vessels at the low pressure side, but the level sensors should be connected on every automat.

How many?
Minimum of 2 automats. The network can size up to 10 automats.

USP's compared to conventional master-slave setup
- No hardware based master-slave, meaning the governing 'master-role' can switch to any automat in the network, ensuring the continuation of the pressure-maintenance of your heating/cooling-system;
- Standard on every Flamcomat with Flextronic control, no additional accessories need to be purchased;
- The feature is software-based, and can be improved over time by updating the firmware, meaning additional features and efficiency-improvements can be added in the future.

Where to place?
The automats can be installed on the same or on a different level (static height differences). The same possibilities and restrictions apply to that of a stand-alone Flamcomat.

How to connect?
The automats should be connected in series to the bus network (standard on Flextronic). The total cable length should not exceed 500m.

How to enable?
The automats must be installed to the same hydronic system, commissioned and wired to the network (Flamco does not provide a cable). The feature should be activated in the menu on every automat one-by-one. The Co-Operation mode is a Plug&Play feature. There is no additional hardware required.

How does it work?
One of the automats takes a virtual role as the governor (or master) to align the available resources to the load. By acting on changing pressure gradient, the automats and their actuators (pumps and valves) can be triggered very efficiently to save energy and only use multiple actuators when necessary.

How do I know that everything is fine?
The status of the network is available from every automat. It shows the presence of the actuators, active faults, the current pressure and level on every node and if any actuator is active at the moment. An error will be raised on every node if any automat has a fault, and is visible from the network overview which automat is in an error-status. The same is true when a specific network-error is active.

What is shared to the network?
All automats are involved in the pressure maintenance and the degassing. The governor activates as many automats at a time as required. The system keeps the expansion water equally spread over the available vessels. The levels will be equalized while automats are idle.

Accessories
The accessories work as on the standard product and effect to the automat on which are connected.

Changing of the settings

The adjustment of the pressure setpoint at any one automat part of the network, synchronizes the setpoints on all other automats (the static height is taken into consideration).

Unique settings

Every automat in the network can be set individually for degassing, the refill/top-up, the drain (optional accessory) and the connectivity options.

Scaling of the network

It is possible to add (or remove) one or more automats to the network at any point in time.

What if something goes wrong?

The Co-Operation mode can self-diagnose if the governor is available and active and automatically transfers this role to another automat in case of failure.
In case of a cable issue, the network splits into segments and keep working. The network will automatically reintegrate when the cable issue is gone.

I have more questions about Co-Operation mode

Please contact your local Flamco representative for assistance to calculate the system requirements.

Co-Operation mode - Manual Flamcomat G4

We reserve the right to change designs and technical specifications of our products.

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