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**Mixing loop solution as a controlled system**

As an example of intelligent subsystems for building automation, Grundfos will be presenting their mixing loop solution Mixit at light+building. Unlike with conventional mixing loops, the all-in-one solution integrates all the necessary components - ball and non-return valve, stepper motor, sensors and intelligent temperature control - in one compact control unit. Instead of up to ten individual components, only the control unit and secondary circuit pump need to be designed and installed. There is no need for time-consuming piping, cabling and insulation of individual components, especially as the control unit can communicate wirelessly with pumps from the Magna3 and TPE3 series via radio interface. Overall, the time and effort required for construction, installing and commissioning a mixing loop is reduced by up to 50 percent.

The special features of the solution also include connectivity and comprehensive control options. The control unit provides up to 170 data points from pump and mixer in order to monitor the mixing loop operation and optimize its energy efficiency. For connecting to control systems, the control unit is already prepared ex works with an RS485 signal input/output and an RJ45 interface for communication with Modbus TCP and BACnet IP. Only a software upgrade via activation code is required for use. If no BMS integration is possible or required, Mixit can also be controlled via the Grundfos BuildingConnect cloud solution. It provides real-time access to operating data, alarms and warning messages from any location. Thanks to its clear visualization, the mixing loop operation can be easily monitored and optimized without a BMS system.

The mixing loop solution is very versatile. It can be operated as a 2- or 3-way valve and for both injection and mixing loops. It is suitable for typical applications in radiator and underfloor heating systems and for cooling applications such as convector ventilation systems, cooling systems and combined heating/cooling systems. Hydraulically, the series seamlessly covers Kvs values from 0.63 to 40 m³/h. The solution can be operated as a stand-alone system as well as controlled by an BMS. Via the Grundfos GO Remote smartphone app, comfort and connectivity functions can be activated at any time without the need to intervene in the hardware. Overall, Grundfos Mixit is an extremely flexible, future-proof mixing loop subsystem that offers exceptional possibilities for integration and mixing loop control.

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