resideo

Hydraulic balancing.

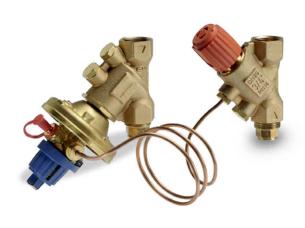
Braukmann Balancing Valves ensure energy savings and efficiency.













Hydraulic balancing with Braukmann Balancing Valves means:

Increase energy efficiency and comfort

A hydraulically balanced heating system works more efficiently and can therefore reduce energy consumption. It can increase user comfort by distributing heat/cold evenly. Adjusting the pressure in the system helps to prevent noise being generated at the radiator.



Saving resources

The energy savings from hydraulic balancing can be up to 15%*, although the actual savings depend on the individual condition of the system. (*Source: co2online.de)



Solutions for various applications

Our hydraulic balancing solutions are suitable for 1-pipe, 2-pipe and 4-pipe systems, radiators, underfloor and ceiling heating and cooling.



Partner for installers and planners

Resideo's solutions for hydraulic balancing are based on decades of manufacturing experience. In addition to our wide range of products, we offer technical service and training to support our customers.

Savings potential through hydraulic balancing

No hydraulic Static hydraulic Dynamic hydraulic Dynamic hydraulic balancing with flow controller PICV balancing balancing balancing Medium No High Highest saving potential saving potential saving potential saving potential

Our solutions: Clever. Clean. Quick.

SafeCon™ measurement connections

Commissioning made easy

When commissioning a system, carrying out measure ments is a time-consuming and unpopular task. The snap-on SafeCon™ measurement connections can be used to carry out any necessary measurements quickly, easily and safely – no matter what the installation position!



Pressure test connections with colour coding.



Attaching the test hose with a simple "click".



Measurement can be carried out with a secure connection.



To remove the hose, pull the ring and remove. Done!

BasicMes

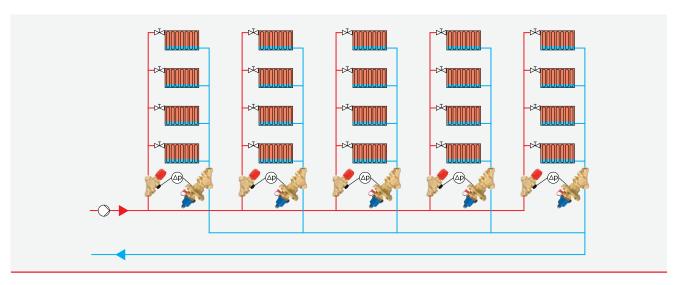
The measurement device for any eventuality

With BasicMes-2 (VM242A), we offer a measuring computer for determining flow values, which is predominantly used in heating and cooling systems. A large, coloured display simultaneously shows the flow, differential pressure, valve choice and presetting. The measurement results can be downloaded using the USB cable included as an accessory. BasicMes can be used to test the most common brands of balancing valves: for any eventuality – BasicMes!



Hydraulic balancing – Applications expertise.

2-Pipe Heating



System description

Two-pipe systems for distributing heat are most common in Europe. The radiators are connected in parallel and supplied with the same flow temperature by means of supply and return pipes. In modern buildings, heat distribution is horizontal: each apartment is supplied by a dedicated section. In preexisting systems, on the other hand, vertical distribution is common, with supply and return lines running through multiple floors.

Hydraulic balancing

For modern two-pipe systems with speedregulated pumps, hydraulic balancing using automatic differential pressure controllers is recommended. These ensure constant, preset pressures and, work in combination with adjustable thermostatic valves. They ensure the correct, consumer-specific flow and thus the correct distribution of heat. This maximises convenience and energy savings.

Braukmann Balancing Valves: Static solutions

Static balancing valves for applications from

Braukmann Balancing Valves: Dynamic solutions

Automatic differential pressure controllers such as Kombi-Auto and Kombi-3-Plus with membrane for applications from DN10 to DN50 as well as Kombi-Auto Flange in DN65 to DN150. Alternative for applications with up to 60 kPa and flows up to 160l/h: Kombi-TRV



Kombi-Auto Kombi-Kombi-S Flange



Kombi-Auto I



Kombi-3-Plus Kombi-TRV



DN10 to DN400

V Kombi-3-Plus

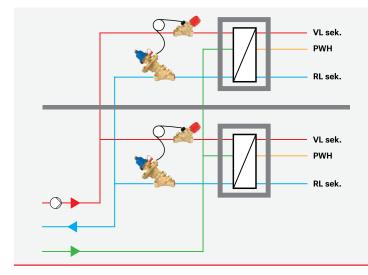


Kombi-2-Plus



Kombi-F

Heat Interface Unit



For maximum convenience and energy savings:

Braukmann Balancing Valves can be used to hydraulically balance the most common heating and cooling systems. Capable. Complete. Kombi!

System description

Central heating systems equipped with local heat interface units are in principal comparable to two-pipe systems. Radiators connected in parallel or heating circuits in panel heating are supplied with the same flow temperature via supply and return pipes. Heat interface units contain all the components for combined local water heating and hot water distribution and for horizontal distribution of the heating water to individual apartments.

Hydraulic balancing

As in modern two-pipe systems with speed-regulated pumps, hydraulic balancing using automatic differential pressure controllers is recommended. These ensure constant, preset pressures and, in combination with adjustable thermostatic valves, also ensure the correct, consumer-specific flow and thus the correct distribution of heat. In the case of applications with heat exchange units, the differential pressure controller on the primary side should be arranged upstream of these heat exchange units so that the generation of heat for hot water is also balanced.

Braukmann Balancing Valves: Dynamic solutions

Automatic differential pressure controllers such as Kombi-Auto and Kombi-3-Plus with membrane for applications from DN10 to DN40, Kombi-Auto Flange available from DN65 up to DN150



Kombi-Auto Flange



Kombi-Auto Kombi-S



Kombi-3-Plus

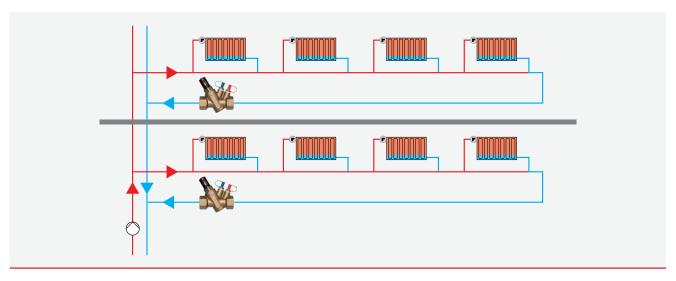
Braukmann Balancing Valves: Static solutions

Kombi-3-Plus static balancing valves for applications from DN10 to DN50



Kombi-3-Plus

1-Pipe Heating



System description

One-pipe systems for heat distribution are still widespread in existing building stock in Europe in some regions. The radiators are connected one after the other in series and are each supplied with a proportion of the heating water. The majority of the circulating heating water bypasses the respective radiator on a bypass circuit so that it can be mixed with the cooled water from the radiator downstream of that radiator. The flow of mixed water is then fed to the next radiator in the circuit. As a result, all the radiators in a one-pipe system have different flow temperatures dictated by the system. One-pipe systems can have a horizontal or vertical network architecture.

Hydraulic balancing

For modernised one-pipe systems with a constant flow, hydraulic balancing by means of automatic flow controllers or pressure-independent control valves is recommended. Flow controllers ensure defined flow in radiator groups arranged horizontally or vertically. Pressure-independent control valves enable defined return flow temperatures when the heating system is operated in design mode or under partial load. Thermostatic valves with distribution ensure correct flow at the radiator and thus correct distribution of heat.

Braukmann Balancing Valves: Dynamic solutions

Kombi-VX flow controllers and Kombi-PICV returntemperature-flow-controlled, pressure-independent control valves





Kombi-VX Kombi-PICV

Braukmann Balancing Valves: Static solutions

Kombi-3-Plus and Kombi-2-Plus static balancing valves for applications from DN10 to DN80

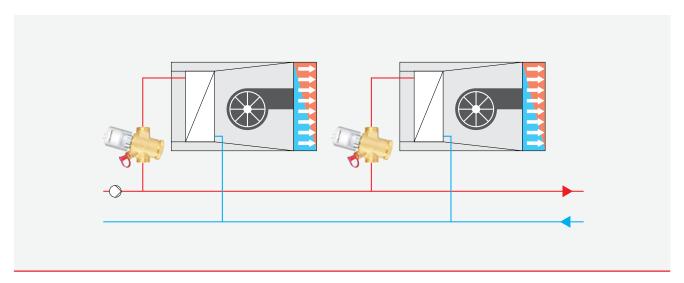




Kombi-3-Plus

Kombi-2-Plus

Fan coil – 2-Pipe system



System description

Two-pipe systems with local fan coils as heat exchangers are in principle realised as a two-pipe system. All fan coils connected in parallel are supplied with heating or cooling at the same flow temperature via supply and return pipes. The switch from heating to cooling operation and vice versa is carried out centrally. Fan coils are usually used to supply heating or cooling room by room. The cooling or heating is fed to the room using temperature-controlled air by means of heat exchangers and fans. Engineered control is on a room-by-room or group-by-group basis using room thermostats or by incorporation in the building automation system.

Hydraulic balancing

As in modern two-pipe systems with speed-regulated pumps, hydraulic balancing using automatic differential pressure controllers in the pipes/circuits is recommended. These ensure constant, preset pressures and, in combination with adjustable control valves with actuation at the fan coil, also ensure the correct, consumer-specific flow and thus the correct distribution of heat. Alternatively, hydraulic balancing in modern systems is carried out on a consumer-specific basis with pressure-independent control valves and actuators at the fan coil. It is also recommended that pre-control be carried out in this case using automatic differential pressure controllers.

Braukmann Balancing Valves: Dynamic solutions

Kombi-Auto automatic differential pressure controllers for applications from DN10 to DN50. Flanged versions are available from DN65 to DN150. Alternative: Kombi-PICV



Kombi-Auto Flange



Kombi-Auto Kombi-S



Kombi-PICV

Braukmann Balancing Valves: Static solutions

Static balancing valves for applications from DN10 to DN400





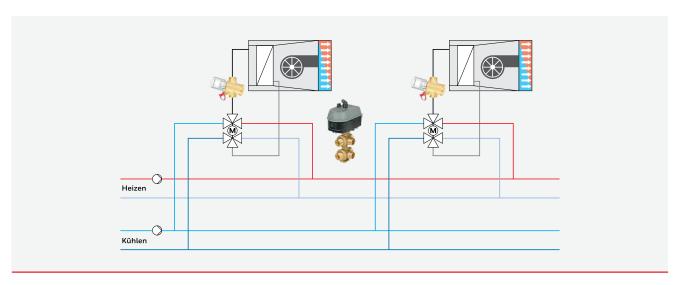


Kombi-2-Plus



Kombi-F

Fan coil – 4-Pipe system



System description

Four-pipe systems are in principal realised as a "double" two-pipe system. All fan coils connected in parallel are simultaneously supplied with heating or cooling at the same flow temperature via supply and return pipes. The switch from heating to cooling oper-ation is carried out for each room as needed. This "switchover" prevents simultaneous cooling or heating operation. A choice of cooling/heating is fed to the room using temperature-controlled air by means of heat exchangers and fans. Engineered control is on a room-by-room or group-by-group basis using room thermostats with "switchover" or by incorporation in the building automation system.

Hydraulic balancing

As in modern two-pipe systems with speed-regulated pumps, hydraulic balancing using automatic differential pressure controllers in the pipes/circuits is recommended. These ensure constant, preset pressures and, in combination with adjustable control valves with actuation at the fan coil, also ensure the correct, consumer-specific flow and thus the correct distribution of heat. Alternatively, hydraulic balancing in modern systems is carried out on a consumer-specific basis with pressure-independent control valves and actuators at the fan coil. It is also recommended that pre-control be carried out in this case using automatic differential pressure controllers.

Braukmann Balancing Valves: Dynamic solutions

Kombi-Auto automatic differential pressure controllers for applications from DN10 to DN50. Flanged versions are available from DN65 to DN150. Alternative: Kombi-PICV



Braukmann Balancing Valves: Static solutions

Kombi-3-Plus static balancing valves for applications from DN10 bis DN400







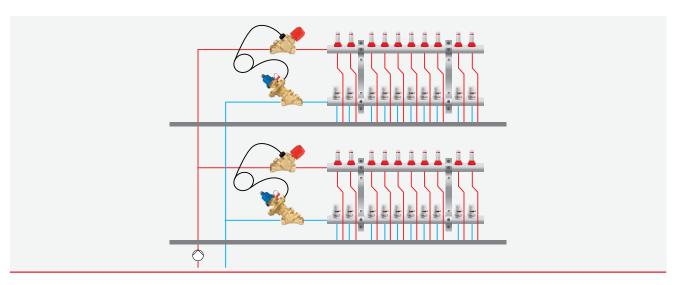
Kombi-3-Plus

Kombi-2-Plus

Kombi-F

VBG26

Surface heating



System description

Central heating systems with surface heating (underfloor, panel or overhead heating) are generally realised as a two-pipe system. One or more heating circuit distributors (manifolds) are supplied with heat at the same flow temperature via supply and return pipes. Heat is supplied to the room-specific heating circuits from the heating circuit distributor as required. The heat is supplied to the rooms to be heated via the floor structure by means of pipelines laid across the surface, through which hot water flows. The control is done on a room-by-room or group-by-group basis using room thermostats, if required together with individual timing control.

Hydraulic balancing

As in modern two-pipe systems with speed-regulated pumps, hydraulic balancing using automatic differential pressure controllers in the pipes/circuits is recommended. These ensure constant, preset pressures and, in combination with adjustable control valves for each heating circuit at the heating circuit distributor, also ensure the correct, consumer-specific flow and thus the correct distribution of heat. The heating-circuitspecific control valves are controlled by means of room thermostats. This maximises convenience and energy savings.

Braukmann Balancing Valves: Dynamic solutions

Automatic differential pressure controllers such as Kombi-Auto and Kombi-3-Plus with membrane for applications from DN10 to DN150



Kombi-Auto Kombi-S



Kombi-Auto Flange



Kombi-3-Plus

Braukmann Balancing Valves: Static solutions

Kombi-3-Plus static balancing valves for applications from DN10 to DN80

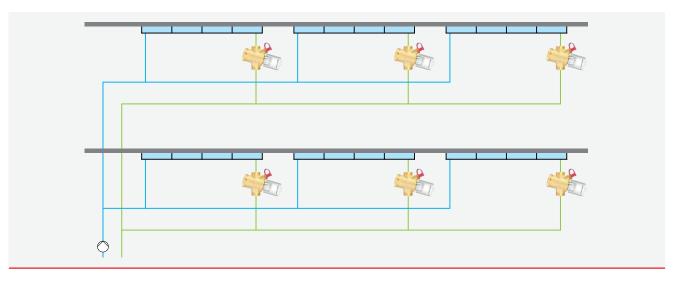


Kombi-3-Plus



Kombi-2-Plus

Chilled ceilings



System description

Central systems with chilled ceilings are generally realised as a two-pipe system. chilled ceilings are supplied with cooling at the same flow temperature via supply and return pipes. Chilled ceilings are usually used to cool non-residential buildings, such as offices, retail and exhibition spaces, on a room-by-room basis. The cooling is supplied to the room via the floor structure or extensive heat-exchange surfaces by means of pipelines laid across the surface, through which cold water flows. The control is done on a room-by-room or group-by-group basis using room thermostats, if required together with individual timing control.

Braukmann Balancing Valves: Dynamic solutions

Automatic differential pressure controllers such as Kombi-Auto and Kombi-3-Plus with membrane for applications from DN10 to DN150.

Alternative: Kombi-PICV



Kombi-Auto Kombi-S

Kombi-Auto Flange

Kombi-3-Plus

Kombi-PICV

Hydraulic balancing

As in modern two-pipe systems with speed-regulated pumps, hydraulic balancing using automatic differential pressure controllers in the pipes/circuits is recommended. These ensure constant, preset pressures and, in combination with adjustable control valves for each cooling circuit at the cooling circuit distributor or for each cooling surface element, also ensure the correct, consumer-specific flow and thus the correct distribution of cooling. The cooling-circuit-specific control valves are controlled by means of room thermostats. Humidity sensors avoid condensation forming. Alternatively, hydraulic balancing can be carried out on a consumerspecific basis with pressure-independent control valves with actuators at the cooling surface element.

Braukmann Balancing Valves: Static solutions

Kombi-3-Plus and Kombi-2-Plus static balancing valves for applications from DN10 to DN80

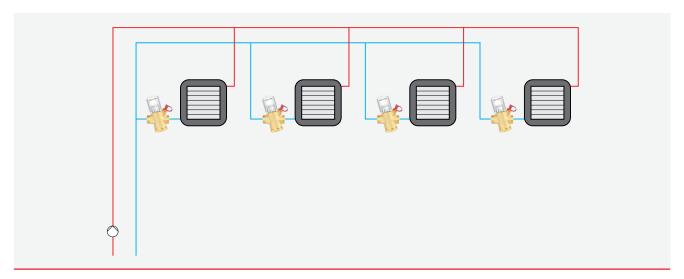




Kombi-3-Plus

Kombi-2-Plus

Air heaters



System description

Central heating systems with air handling units are in principle realised as a two-pipe system. All air heaters connected in parallel are supplied with heat at the same flow temperature via supply and return pipes. Air heaters are usually used to heat non-residential buildings such as sports facilities and assembly halls on a room-by-room basis or as air-curtain systems in entrance areas. Heat is fed to the room in the form of heated air by means of heat exchangers and electric fans. The control is done on a room-by-room or groupby-group basis using room thermostats or by incorporation into a building management system.

Hydraulic balancing

As in modern two-pipe systems with speed-regulated pumps, hydraulic balancing using automatic differential pressure controllers in the pipes/circuits is recommended. These ensure constant, preset pressures and, in combination with adjustable control valves with actuation at the fan heater, also ensure the correct, consumer-specific flow and thus the correct distribution of heat. Alternatively, hydraulic balancing can be carried out on a consumer-specific basis with pressure-independent control valves having actuators at the air heater.

Braukmann Balancing Valves: Dynamic solutions

Kombi-Auto automatic differential pressure controllers for applications from DN10 to DN150. Alternative: Kombi PICV up to DN50 or flanged Kombi-QM up to DN150



Kombi-S

Kombi-Auto



Kombi-Auto Flange



Kombi-QM Flange



Kombi-PICV

Braukmann Balancing Valves: Static solutions

Static balancing valves for applications from DN10 to DN400











Kombi-3-Plus

Kombi-2-Plus

Kombi-F

Braukmann Balancing Valves for static balancing.

KOMBI-2-PLUS V5032



Variable and safe

Kombi-2-Plus is a static shut-off and balancing valve for return flow with the additional functions: shut-off, presetting and measurement.

Technical data

- · Valve housing in dezincification resistant brass
- Pressure rate PN16
- Medium: water or glycol/water mixture at -20 up to +130 °C
- · Zero-maintenance due to double O-ring seal on the spindle
- PTFE seat seal
- · Connection sizes:
- DN15 to DN80 with internal thread

KOMBI-3-PLUS V5000 / V5010



Remarkably versatile

The combination of Kombi-3-Plus blue and Kombi-3-Plus red is the standard solution for static hydraulic balancing. With the simple installation of a membrane, old systems can very easily be upgraded from static hydraulic balancing to dynamic balancing.

Technical data

- · Valve housing in red bronze
- Pressure rate PN16
- · Medium: water or glycol/water mixture at 2 up to 130 °C
- · Zero-maintenance due to double O-ring seal on the spindlel
- PTFE seat seal
- · Connection sizes:
- DN10 to DN80 with internal thread
- DN10 to DN50 with external thread

Advantages

- Shut-off and balancing by means of stroke limiting with digital setting display
- Quick and easy flow measurement with integrated SafeCon™ measurement connections
- Valve insert with easy-to-read display of the preset value – can be set and read from outside
- · Preset is not changed during shut-off

Advantages

- Shut-off and balancing by means of stroke limiting with digital setting display
- Subsequent upgrade to automatic differential pressure controller possible
- Precise flow measurement with the red fixed orifice supply valve
- Various options for extension via the valve insert (actuator for zone control, measurement, draining, control with a membrane)
- Valve insert with easy-to-read display of the preset value – can be set and read from outside
- · Preset is not changed during shut-off

KOMBI-F V6000



Functionality on a large scale

The Kombi-F balancing and shut-off valve enables adjustment of the individual heating sections, with the additional functions: shut-off, presetting and measurement.

Technical data

- · Valve housing in brass
- Pressure rate PN16
- Medium: water or glycol/water mixture at 2 up to 130 °C
- · Stainless steel valve insert
- PTFE seat seal
- · Connection sizes:
- DN20 to DN400 in flanged design

Advantages

- Shut-off and balancing by means of stroke limiting with digital setting display
- Quick and easy flow measurement with SafeCon™ measurement connections
- · Stainless steel spindle
- Non-rising spindle with double seal
- · Preset is not changed during shut-off

Static hydraulic balancing.

By installing balancing valves, variable pressure losses are incorporated in the pipes, enabling even flow and distribution.

Evaluation

Energy efficiency
Comfort
Commissioning complexity
Calculation effort

| low | high |
|-----|------|
| | |
| | |
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| | |

Advantages

 Designed to ensure even flow rates in the different sections

Disadvantages

Only applies to the design scenario (generally full capacity)

Medium saving potential.

Up to 5%



A valve for dynamic balancing with differential pressure control.

KOMBI-AUTO V5001PY AND KOMBI-AUTO FLANGE V7000





Perfect control

The Kombi-Auto V5001PY automatic differential pressure controller is the standard solution for dynamic hydraulic balancing in new buildings and renovation projects. The easy installation and setting enable functional hydraulic balancing – right from the very start.

Technical data

- · Valve housing in red bronze
- Pressure rate PN16
- Medium: water or glycol/water mixture at -20 up to +130 °C
- 2 pressure ranges: 5-35 kPa, 30-60 kPa
- Connection sizes: DN15 to DN50 with internal thread
- Kombi-S as a shut-off partner valve for connection of an impulse tube and extended measurement functions
- Flanged version: Connection sizes: DN65 to DN150, max. differential pressure 4bar, max. operating temperature: -10 up to +120 °C

KOMBI-3-PLUS WITH MEMBRANE



Simple and complete

Simple installation of a membrane turns the Kombi-3- Plus into a dynamic solution for hydraulic balancing.

Technical data

- · Valve housing in red bronze
- Kombi-3-Plus pressure rate: PN16 in combination with a membrane: PN10
- Medium: water or glycol/water mixture at 2 up to 130 °C
- · Zero-maintenance due to double O-ring seal on the spindlel
- PTFE seat seal
- · Connection sizes:
- DN10 to DN40 with internal thread
- DN10 to DN40 with external thread

Advantages

- · No tools required for presetting
- Hand wheel displaying the preset differential pressure in kPa
- Presets secured against unintentional adjustment
 can also be sealed
- SafeCon[™] measurement connection
- Concealed shut-off function for easy maintenance of the system
- · Preset is not changed during shut-off
- Insulation shell included in the scope of supply for optimum insulation and convenience only for threaded version

Advantages

- Existing systems with Kombi-3-Plus can be upgraded from static control to differential pressure control, without any great expense.
- · Upgrading also possible during operation

KOMBI-TRV V2100PI



All in one

A simple and robust solution for two-pipe heating systems with differential pressure up to 60 kPa and flows up to 160 l/h: Kombi-TRV combines a thermostatic radiator valve with inbuilt differential pressure controller.

Technical data

- Valve housing in brass
- Medium: water or glycol/water mixture according to VDI 2035
- · Max. differential pressure 60 kPa
- Max. design flow 160 l/h
- · Standard dimensions according to EN 215
- Thermostatic radiator valve 30x1,5
- Connection sizes DN10, DN15, DN20
- Design angle, straight, axial (only DN10 + DN15)

Advantages

- Constant differential pressures and volume flows in all load conditions
- · Less effort
- · Easy automatic hydronic balancing
- · Less system components
- Fast planning
- · Easy installation and commissioning
- · Reliable, robust and less dirt sensitive design
- · No complex piping and pressure loss calculations
- High closing pressure due to large membrane

Pressure independent thermostatic radiator valve.

Evaluation

Energy efficiency Comfort Commissioning complexity Calculation effort

| low | | high |
|-----|---|------|
| | | |
| | | |
| | _ | |
| | L | |
| | | |

Advantages

- Automatically adjusts for all operating conditions, even under partial load
- Easy to set up hydraulic balancing, since only the calculated differential pressure needs to be set

Disadvantages

 Installation complexity is slightly higher than with static balancing because an impulse tube is required (does not apply to Kombi-TRV)

High saving potential.

Up to 10%



A valve for dynamic balancing with flow control.

KOMBI-VX V5003FY



All under control

The Kombi-VX automatic control valves ensure a constant flow rate, even under fluctuating pressure conditions. The flow rate can be preset from outside on the valve insert.

Technical data

- Valve housing in brass
- Pressure rate PN25
- Medium: water or glycol/water mixture at-20 up to +120 °C
- · Connection sizes:
- DN15 to DN50 with internal thread

KOMBI-PICV V5007T AND KOMBI-QM FLANGE V5006TF





All in one

As an automatic, pressure-independent control valve, the Kombi-PICV combines the advantages of an automatic pressure-independent flow controller with those of a constant valve – all in one product. They can cover all flow requirements from DN15 to DN50 threaded applications. For bigger flanged applications from DN65 up to DN150 Kombi-QM is used.

Technical data

- Medium: water or glycol/water mixture, quality to VDI 2035 pH-value: 8 up to 9.5
- Max. operating pressure: max. 25 bar for V5007TZ10..., V5007TN10...; max. 16 bar for V5007TZ20..., V5007TN20...
- Differential pressure range: 15 600 kPa (0.15 6 bar)
- Max. operating temperature medium: -5 up to +120 °C
- · Connection sizes: DN15 to DN50

Advantages

- Controls the set flow rate independently of the pressure
- · Precise control over the full stroke
- · Handling of all functions from one valve side
- All variants with SafeCon[™] measurement connections to ascertain the optimum pump pressure
- Valve insert with easy-to-read display of the preset value – can be set and read from outside
- Valve inserts can be replaced with any of the nominal widths DN15, 20 and 25

Advantages

- Dirt resistant, patented design: no dead zones in the valves, maintenance of the system possible through draining screw
- Precise pressure independent flow performance
- Highest energy saving potential due to efficient energy transfer and minimized pump speed
- Measuring possibility to find the optimal setpoint for the pump
- Reduced movements of actuators as pressure fluctuation do not influence the required temperature
- · No complex calculation needed for selection
- · No balancing method needed for commissioning
- 2 versions of the product available
- Easy commissioning: Presetting with visual flow scale

Dynamic hydraulic balancing with flow controller PICV.

Flow controllers maintain a constant flow in the pipes, regardless of the differential pressure. Pressure independent control valves vary the flow together with an actuator, depending on the consumption.

Evaluation

| | IOW | nıgn |
|--------------------------|-----|------|
| Energy efficiency | | |
| Comfort | | |
| Commissioning complexity | | |
| Calculation effort | | |

Advantages

- Automatically adjusts for all operating conditions, even under partial load
- Easy to set up hydraulic balancing, since only the calculated flow needs to be set
- Wide range of application
- Sizes DN15 to DN50 cover all popular sizes on Fan Coil Units
- Various versions to support standard flow rates as well as low flow and high flow needs
- Covers hydronic balancing and temperature control in one valve thus reducing mounting costs
- · Maintenance friendly
- Emergency shut-off function with plastic cap: not for permanent use, available as accessory
- Dirt resistant design: no dead zones in the valves, maintenance of the system possible through draining screw

Highest saving potential.



A valve for 4-conductor systems with one heat exchanger.

VBG26



One signal switches between heating and cooling

The VBG26 valves are 6-way motorized ball valves that switch the flow between heating and cooling. With the innovative design a cross-flow is reliably prevented.

Technical data

- · Housing in brass
- · Operating pressure: 16 bar
- Medium: water or glycol/water mixture according to VDI 2035
- Nominal size DN15 / DN20
- · Connection G 3/4 AG

Advantages

- Changeover valve with scalable flow limits, which covers all flow requirements with only 3 valve the entire flow requirements
- Valve versions with external thread for easier installation
- Optional use of an on/off or modulating actuator to close the valve in the middle position
- · Modulating actuator with position feedback
- Pre-wired actuator with clear position indicator position indicator and manual operation

KOMBI-PICV WITH VBG26



Balancing possibilities

To meet the required temperatures and to avoid an overflow in the system, a hydraulic balancing can be done. With the VBG26 valves there are two possibilities to do it. The simple way is to use the included kv-discs. The valves are supplied with the maximum kv and can be configured to other kv's by using the kvdiscs. Using kv-discs have the advantage that the logistics is reduced as only the DN size needs to be considered (DN15 and DN20) and the flow rates can be done by kv-discs – no need to order and store various DN sizes of a valve with various flow rates.

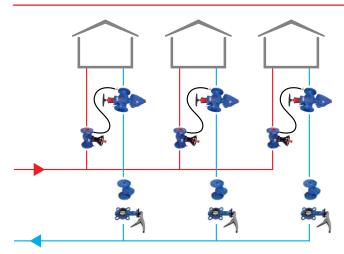
A suitable way of system balancing is with a PICV. We would recommend to use the Kombi-PICV (V5007) with the VBG26 valve. A separate tailpiece (ACS-15T) can be ordered to connect the Kombi-PICV directly to the 6-way valve, thus saving installation space and effort. The Kombi-PICV automatically balances the set flow rate independent from pressure fluctuations and the actuator further maintain the flow rate according to the temperature. Combined Kombi-PICV and VBG26 valves are the ideal solution for chilled ceilings and single fan coil units!

Fittings for local and district heating distribution.



Handover in local and district heating networks

A return temperature and flow rate limiter can be implemented using our Kombi-QM. This dynamic balancing valve with pressure-independent flow limitation and electric servomotor prevents an excessive return temperature and thus achieves improved energy efficiency. The V6002 backflow preventer ensures correct hydraulic integration under different pressure conditions.



Central local and district heating distribution

Use of the V7000 differential pressure controller to achieve dynamic hydronic balancing in systems with several risers and presettable thermostatic valves. Alternatively, it can also be used in local heating networks with different differential pressure requirements in the buildings. In existing systems, simple dynamic hydronic balancing is possible without high calculation costs. Hydraulically decoupled, smaller systems are created from a large system.



The **V5006** Kombi-QM is a pressureindependent control valve. It combines a flow controller and a full-stroke temperature controller with full valve authority in one valve.



Non-return valve **V6002**, to protect sensitive components of the piping system from backflow.



V6000 balancing valve for static balancing static balancing, with measuring connections, shut-off and impulse pipe connection, pre-settable.



Strainer **V6003**, to protect the HVAC system from impurities and solid particles.



Differential pressure control valve **V7000** Kombi-Auto for automatic maintenance of hydronic balancing in heating and cooling systems.



Butterfly valve **V6001**, manual or can be extended with an adapter to fit a rotary actuator.

resideo

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