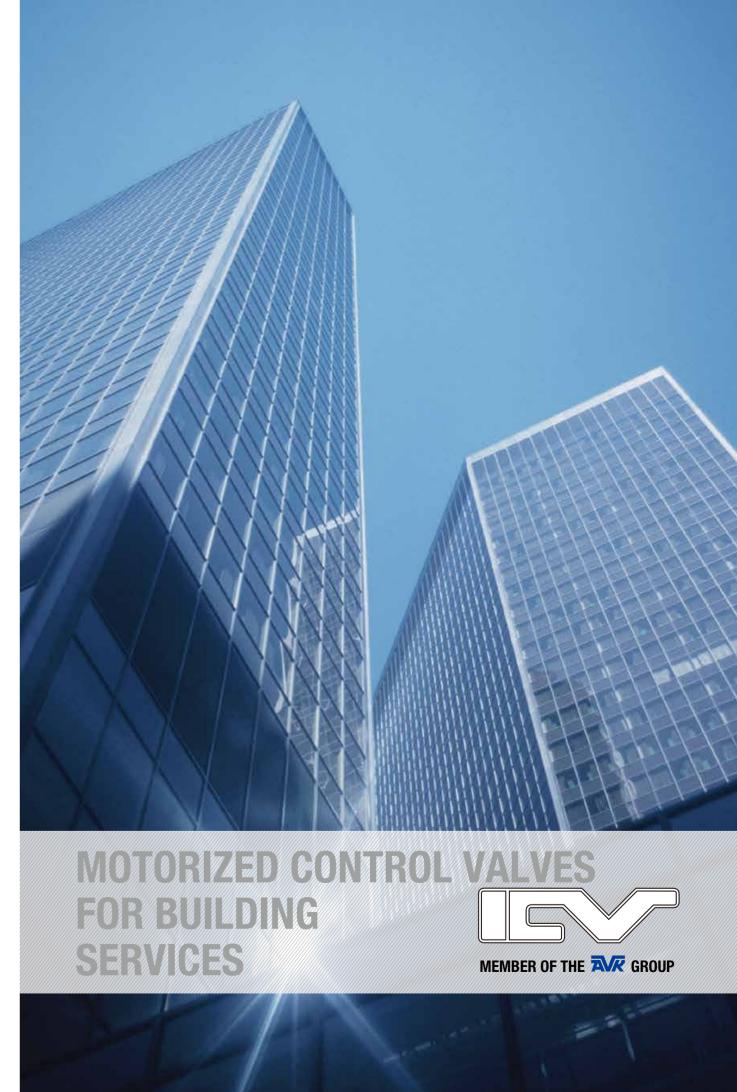
ICV TOTAL CONTROL INSIDE BUILDINGS













ICV[™] - a proud member of the AVK Group

The AVK Group of Denmark is a privately owned industrial group that currently comprises 77 companies.

AVK's core business is the production of valves, hydrants and accessories for the water and gas distribution network, sewage treatment and fire protection. Furthermore, AVK has built up strong brands supplying valves and controls for water treatment, dams & reservoirs, buildings, HVAC, chemical processing, marine and other industrial

AVK best in class factories cast, machine, coat valves all over the world. AVK also produces its own sealing materials and other essential components in its own factories.

AVK products are designed to the major international standards and are sold in more than 80 countries worldwide. When dealing with the AVK Group expect quality, reliability, functionality and long lifetime in service.

ICV™ is a fully owned subsidiary of the AVK Group A/S.

ICV™ (Indoor Climate Valves) is the building solution department of the AVK Group. Originally under the AVK Water segment the ICV business area was established as a separate AVK subsidiary brand in 2006 to allow for even greater focus on buildings.

ICV develops, produces, and markets all over the world - total valve solutions for buildings with valves produced by AVK.

This includes heating ventilation and airconditioning (HVAC), drinking and wastewater in

- General and manual valves (photo below)
- Motorized control valves (photo below)
- Balancing solutions (next page)

ICV's balancing solutions include all balancing valves typically used for buildings with innovative solutions and durable materials.















951 Flowmaster™

Pressure independent control valve - PICV

Offers the combined benefits of optimal modulating flow control valve, differential dynamic pressure balancing control, and manual balancing valve – all in one – for air-handling units, fresh air units, fan coils and all other terminal equipment.

ICV 951 FlowmasterTM PICV has been sold worldwide for years to the benefit of investors, designers, installers and users alike.

It's an integral part of ICV's balancing solution and is the optimal choice for all coils – particularly air handling units and fancoils.

ICV's 951 Flowmaster™ satisfies the need for static balancing caused by the construction of pipes and coils in hydraulic systems, as well the need for dynamic differential pressure balancing which occurs when control valves modulate the flow of water to terminal coils to adjust the temperature in rooms and thereby impact the flow to other terminal coils.

The motorized control valve is also built into the 951 - that's why called a 3-in-1.

Design made fast and safe

- Simply and quickly chose the valve according to the designed flowrate
- The constant differential pressure control across the modulation control valve guarantees full valve authority at 100%.
- Security that the specified flow is also the actual flow
- Automatic adjustment if the system is modified after the initial installation – no rebalancing necessary
- Design pumps according the actual needs – no need to overdesign capacity

Investments made easy

 One 3-in-1 valve replaces three other valves reducing material cost and installation time, no other regulating valves required when installed at terminals

Installation made fast and easy

- Automatic balancing reduces the time required for debugging
- Minimized commissioning time due to automatic balancing of the system

Comfort made safe

- Precise temperature control gives users better comfort and eliminates over or under supply regardless of fluctuating pressure conditions in the system
- Correct balancing minimizes actuator action extending its service life
- Fast response pressure regulator reduces energy consumption and increases system stability

lighlights

Cost saving

A single 3-in-1 PICV replaces three other valves saving on investment and installation cost

Safe

Balancing made safe during design, installation and remodeling for designers and installers

Comfortable

Increased comfort for users due to ensured balancing and precise modulating temperature control

Energy saving

Inbuilt fast response balancing regulator reduces energy consumption and pump size



FlowmasterTM

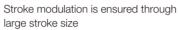
24VAC

Heating

Cooling

Source

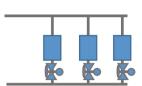
Ventilation



Commissioning and flushing enabled without actuator

Designed to resist build-up of dirt High quality materials ensures no corrosion





Recommended application:

The 951 PICV is installed on the return pipe of any terminal coil offering the combined benefits of optimal modulating flow control valve, differential dynamic pressure balancing control, and manual balancing valve - all in one - for airhandling units, fresh air units, fan coils and all other terminal equipment.

Full stroke modulation is ensured regardless of the presetting.

"First open" cap to allow for installation and commissioning before actuator is installed. Removable pressure regulator cartridge makes small-pipe flushing and pipe cleaning

High quality DZR brass ensures no corrosion









| ICV no | | 951-000-9804 | 951-000-9806 | 9200420248 | 9200420249 |
|--------------|----------------|--------------|-------------------|-----------------|-------------|
| Force (Nm) | | 250N | 400N | 1200N | 5000N |
| Running time | (50/60Hz) | 75 | 140 | 210/175 | 240/175 |
| IP Class | | IP44 | IP54 | IP54 | IP54 |
| 0.014.0 | Control signal | Modula | ating 0-10V, 020r | mA, 2-10V/420mA | , 2P on/off |

| | 24VAC | Feedback (position) signal | | | | | | | |
|----------------|--------------|----------------------------|--------------------|--------------|-----------|-----------|-----------|-----------|-------------------------------|
| PN25 0120°C | ICV no | DN | Δps [kPa] Range | Kvs (m³/h) | Δps [kPa] | Δps [kPa] | Δps [kPa] | Δps [kPa] | |
| | 951-015-2011 | 15 low | 16-400 | 0.0750625 | 400 | | | | |
| 4 | 951-020-2011 | 20 low | 16 -400 | 0.131 -1.05 | 400 | | | | Body: DZR Brass EN CW602N |
| 191 | 951-025-2011 | 25 low | 16 -400 | 0.231 -1.722 | 300 | | | | Regulator: PPS with 40% glass |
| | 951-015-2012 | 15 | 18 -400 | 0.244 -1.724 | 400 | | | | Flow limiter: PPO |
| | 951-020-2012 | 20 | 22 -400 | 0.292 -2.039 | 300 | | | | Spring: Stainless steel |
| AN | 951-025-2012 | 25 | 22 -400 | 0.292 -2.039 | 300 | | | | O-ring: EPDM |
| | 951-032-2012 | 32 | 18 –400 | 0.465 -3.056 | 300 | | | | Body: 89/336/EEC, 93/68/EEC |
| | 951-040-2012 | 40 | 16 -400 | 2.022 -7.105 | | 300 | | | 200,1 00,000,220, 00,00,220 |
| | 951-050-2012 | 50 | 16 -400 | 2 204 -8 586 | | 300 | | | |

| 1 | 951-015-2012 951-020-2012 951-025-2012 951-032-2012 951-040-2012 951-050-2012 | 15 20 25 32 40 50 | 18 -400 22 -400 22 -400 18 -400 16 -400 | 0.244 -1.724 0.292 -2.039 0.292 -2.039 0.465 -3.056 2.022 -7.105 2.204 -8.586 | 400 300 300 300 | 300 | | | Flow limiter: PPO Spring: Stainless steel O-ring: EPDM Body: 89/336/EEC, 93/68/EEC |
|-------------------|--|--|--|---|--------------------------|-----------|--------------------------|-------------------|---|
| PN16/25 -595°C | ICV no | DN | ∆ps [kPa] Range | Kvs (m³/h) | Δps [kPa] | Δps [kPa] | Δps [kPa] | Δps [kPa] | |
| | 951-0040-15012X 951-0050-15012X 951-0065-15012X 951-0080-15012X 951-0100-15170X 951-0125-15170X 951-0150-15170X 951-0200-15-70X | 40 50 65 80 100 125 150 200 | 30-400 30-400 30-400 30-400 30-400 30-400 30-400 | 1.0 -7.7 2.0 -12.1 3.0 -20.4 5.0 -40.0 10.0 -45.3 15.0 -70.7 20.0 -101.8 50.0 -360.0 | | | 500 400 300 300 | 300 300 300 | Body: ductile GG25 Stem: AISI 304 Diaphragm: EPDM Internals: Standards: BS EN 12266, 1092-2 |
| | 951-0200-15-70X | 200 | 30-400 | 30.0 –300.0 | | | | 150 | |

Innovative solution



The preset and volumetric flow control functions in one component (left), and pressure regulator (right) -replaceable, compact and innovative

Maximum flow limiter



Simple presetting of maxium volumeric flow by inbuilt dial in brass valve

P/T Ports - Pressure testing ports



Safe and easy calibration of volumetric flow (Δp) using the ICV PFM Bluetooth commissioning instrument

High grade materials



High grade materials: corrosion resistant brass, AVK rubber sealing, GG25 ductile iron ensures longevity

Inbuilt pressure regulator



Very wide differential pressure control ranges 30-400kpa (dp_{min} $-dp_{max}$) Very high constant flow precision at +/-5% of flowrate.

Volumetric control valve



Precise volumetric flow control valve using ICV's 24V modulating actuators 100 valve authority ensured Ensures temperature control and comfort to coil







Motorized control valves are at the heart of all climate control in buildings.

Motorized control valves are installed on the return pipe of all heating and cooling coils and the stroke of the actuator is controlled by either thermostats or electronic building controllers.

Correct on-demand flow of energy to coils ensures a comfortable indoor climate by avoiding underflow or incorrect flow-rates, and minimizes energy cost as overflow through coil is avoided.

ICV 920/3 and 920/4 are stroke (globe) valves which offer high precision in flow control.

A motorized control valve constantly changes the flow of energy through its coil throughout the day and will thereby also influence the flow of energy to other coils. ICV recommends the use of dynamic balancing valves (i.e. 908/3 or 951) to ensure that the flow through valves and coils elsewhere in the system are not negatively influenced by this (see ICV balancing offering).

Design made fast and safe

- A very wide range from one supplier makes design and selection easy
- ICV actuators offer all standard control signals and work perfectly with any building controller from any producer
- · Designed according to international standards making simple replacement during refurbishments possible

Investments made easy

· Wide offering of actuators makes the most economical choice available

920/3 & 920/4

Motorized control stroke valves

Offers precise and adjustable flow control for all cooling and heating plants ensuring comfort and energy saving for on-demand heating and cooling

Comfortable and energy saving

Stroke design control concept offers the most precise control characteristics of the control valve

Safe

All standard control signals offered befitting all control manufacturers ensures perfect integration of building automation systems

Very wide offering of both threaded brass valves and the flanged cast ductile iron version

Installation made fast and easy

Comfort made safe

you money

Easy mounting of actuator saves time

installation and commissioning safe

users better comfort and eliminates

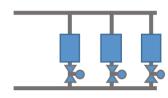
over or under supply - it also saves

Precise temperature control gives

Self calibration and status lights makes



920/3&4



Recommended application:

The 920/3 and 920/4 motorized control stroke valves are installed on the return pipe of all coils requiring modulating flow control:

Air handling units and fresh air units Chillers and cooling towers Heating plants Energy distribution

| | 920/3 Motorized threaded cor 920/4 Motorized flanged cont | | | | | | | - | <u>.</u> | Ü | |
|---|--|----------------------------|----------|-------------|------------|--------------|----------------------|------------|------------|------------|--|
| | ICV No. | | | | | 9200320246 | 9200320247 | 92004B0247 | 9200420248 | 9200420249 | |
| Air handling units | Force (N) | | | | | 600N | 1000N | 1200N | 1800N | 5000N | Housing: ABS |
| Fresh air units | Positioning time (50/60Hz) | | | | | 92/76 | 105/90 | 114/95 | 210/175 | 240/175 | Gear: POM, Nylon |
| Heating equipment | IP Class | | | | | IP54 | IP54 | IP54 | IP54 | IP54 | Bracket: die casting aluminum |
| Energy distribution | 24VAC | | | | 0-10V-020 | mA, 2-10V/42 | 20mA, on/off | | alloy | | |
| | 277/10 | | Position | ing feedbac | ck signal | | 0-10V, 2-10V, on/off | | | | |
| PN16 -595 °C | ICV No. 2-way MOD/ONOFF | ICV No. 3-way MOD/ONOFF | DN | Stroke | Kvs (m3/h) | ∆ps [kPa] | ∆ps [kPa] | Δps [kPa] | Δps [kPa] | Δps [kPa] | |
| 1.2 | 920-03-1-0015-11061/2 | 920-03-1-0015-12061/2 | 32 | 20 | 16 | 550 | | | | | |
| 1 | 920-03-1-0020-11061/2 | 920-03-1-0020-12061/2 | 40 | 20 | 25 | 450 | | | | | Body: brass H62 |
| | 920-03-1-0025-11061/2 | 920-03-1-0025-12061/2 | 50 | 20 | 40 | 300 | | | | | Stem: stainless steel |
| Name of Street, or other Designation of the least of the | 920-03-1-0032-11061/2 | 920-03-1-0032-12061/2 | 65 | 20 | 63 | | 300 | | | | Disc/seat: brass H62 Packing: PTFE+NBR |
| | 920-03-1-0040-11061/2 | 920-03-1-0040-12061/2 | 80 | 20 | 78 | | 250 | | | | Facking. FII L+NDN |
| | 920-042-0065-13121/3 | 920-042-0065-14121/3 | 65 | 20 | 75 | | | 300 | | | |
| - 4 - | 920-042-0080-13121/3 | 920-042-0080-14121/3 | 80 | 20 | 100 | | | 300 | | | Body: cast iron GG25 |
| | 920-042-0100-13181/3 | 920-042-0100-14181/3 | 100 | 38 | 125 | | | | 300 | | Stem: stainless steel AISI 302 |
| | 920-042-0125-13181/3 | 920-042-0125-14181/3 | 125 | 38 | 200 | | | | 300 | | Disc/seat: brass |
| . 45 | 920-042-0150-13181/3 | 920-042-0150-14181/3 | 150 | 38 | 285 | | | | 300 | | Packing: PTFE+fluororubber |
| | | | | | | | | | | | |

E0% equal percentage control curve



Equal percentage control characteristics (blue) combines with the energy flow/yield curve of the coil (red) to produce the required energy output in the room(green)

Valve

- Wide range of 2-way and 3-way valves available from DN32-200
- Triple sealing packing box of PTFE+Fluororubber (flanged) and PTFE+NBR (brass) ensures no neck leakage
- Pressure compensated design of flanged valves ensures high close-off pressures with minimum wear on the actuator
- Designed according to BS EN 1092-2 and hydraulically tested according to BS EN 12266. Ensures correction functionality (i.e. EQ) and strength
- DZR corrosion resistant brass body and seat ensures that valve is resistant longivety and functionality

Actuator

- Wide range 600N, 1000N, 1200N, 1800N, 5000N ensures economical fit for different valves sizes
- Easy to use manual override on the actuator
- Control signals 0-10V/0..20mA and 2-10/4..20mA available.
 Position feedback signals 0-10V and 2-10V selectable on the actuator
- Self-calibration ensures correct alignment of the control signal and the stroke position
- Normally open or normally closed can be selected on the actuator
- Work status light indicator makes it easier to realize functional issues after installation and commissioning
- Easy mounting saves time for the installer





920/2
Motorized control ball valves

Offers precise and adjustable flow control for all cooling and heating plants ensuring comfort and energy saving for on-demand heating and cooling

Motorized control valves are at the heart of all climate control in buildings.

Motorized control valves are installed on the return pipe of all heating and cooling coils and the stroke of the actuator is controlled by either thermostats or electronic building controllers.

Correct on-demand flow of energy to coils ensures a comfortable indoor climate by avoiding underflow or incorrect flow-rates, and minimizes energy cost as overflow through coil is avoided.

ICV 920/2 series are control ball valves with adequate control characteristics thanks to the V-shaped flow control component for larger sizes.

A motorized control valve constantly changes the flow of energy through its coil throughout the day and will thereby also influence the flow of energy to other coils. ICV recommends the use of dynamic balancing valves (i.e. 908/3 or 951) to ensure that the flow through valves and coils elsewhere in the system are not negatively influenced by this (see ICV balancing offering)

Design made fast and safe

- A very wide range from one supplier makes design and selection easy
- ICV actuators offer all standard control signals and works perfectly with any building controller from any producer
- Designed according to international standards making simple replacement during refurbishments possible

Investments made easy

 Wide offering of actuators makes the most economical choice available

Installation made fast and easy

- Easy mounting of actuator saves time
- Self calibration and status lights makes installation and commissioning safe

Comfort made safe

 Adequate flow control gives users better comfort and eliminates over or under supply – it also saves you money

Highlights

Cost effective

Control ball valves offer adequate control characteristics for affordable price

Easy

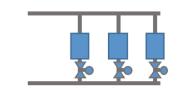
Easy mounting saves time during installation.

Safe

Wide portfolio from the same supplier makes design and product selection easy and safe



920/2



Recommended application:
The 920/2 motorized control ball valves are installed on the return pipe of all coils requiring modulating flow control:
Air handling units and fresh air units
Chillers and cooling towers
Heating plants
Energy distribution

| | | 920/2 motorized control ba | II valve | | | | - | | | |
|--|------------------------------------|--|--|--|--|------------|--------------|-----------------|-----------|--|
| | | ICV No. modulating control | | | | - | 9202101 | 9202101 | 9203301 | |
| | | ICV No. on/off control | | | | 9201023 | 9202103 | 9202103 | 9203303 | |
| | A: 1 III 'I | Force | | | | 2 | 10 | 10 | 30 | |
| | Air handling units Fresh air units | Positioning time (50/60Hz) | | | | 40/50 | 95/105 | 95/105 | 120/130 | |
| | Heating equipment | IP Class | | | | 54 | 54 | 54 | 54 | Actuator: ABS |
| | Energy distribution | Energy distribution | | ignal | | 2P | - | - | - | |
| | 0,7 | 220 VAC | Position feedback | | | | - | - | - | |
| | | 24 VAC | Control signal | | | - | 0-10\ | //020mA,2-10V/4 | 20mA | |
| | 24 VAO | | Position feedback | | - | | 0-10V, 2-10V | | | |
| | PN16'090 °C | 阀们型号 | 口径 | PN | Kvs (m3/h) | ∆ps [kPa] | ∆ps [kPa] | ∆ps [kPa] | ∆ps [kPa] | |
| | | 1-41111五 2 | | | | | | 1 - 1 - 1 | 1 | |
| | | 920-02-1-220-00015-1D | 15 | 20 | 4 | 300 | | 1.1.1 | 1 1 1 | |
| | | | | 20 20 | 4 | | -pv [:: :] | | ,,,, | Body: Brass |
| | T. | 920-02-1-220-00015-1D | 15 | | | 300 | | | | Seat/gasket: PTFE |
| | | 920-02-1-220-00015-1D 920-02-1-220-00020-1D | 15 20 | 20 | 4 | 300 300 | 300 | | | · · · · · · · · · · · · · · · · · · · |
| | | 920-02-1-220-00015-1D 920-02-1-220-00020-1D 920-02-1-220-00025-1D | 15 20 25 | 20 20 | 4 10 | 300 300 | | | | Seat/gasket: PTFE Ball: chromed brass CW617N |
| | | 920-02-1-220-00015-1D 920-02-1-220-00020-1D 920-02-1-220-00025-1D 920-02-B-CCC-00032-1D | 15 20 25 32 | 20 20 20 | 4 10 16 | 300 300 | 300 | | | Seat/gasket: PTFE Ball: chromed brass CW617N Stem: stainless steel AISI 304 |
| | | 920-02-1-220-00015-1D 920-02-1-220-00020-1D 920-02-1-220-00025-1D 920-02-B-CCC-00032-1D 920-02-B-CCC-00040-1D | 15 20 25 32 40 | 20 20 20 20 | 4 10 16 25 | 300 300 | 300 300 | 300 | | Seat/gasket: PTFE Ball: chromed brass CW617N Stem: stainless steel AISI 304 O-ring: EPDM |
| | | 920-02-1-220-00015-1D 920-02-1-220-00020-1D 920-02-1-220-00025-1D 920-02-B-CCC-00032-1D 920-02-B-CCC-00040-1D 920-02-B-CCC-00050-1D | 15 20 25 32 40 50 | 20 20 20 20 20 20 | 4 10 16 25 40 | 300 300 | 300 300 | | | Seat/gasket: PTFE Ball: chromed brass CW617N Stem: stainless steel AISI 304 |
| | | 920-02-1-220-00015-1D 920-02-1-220-00020-1D 920-02-1-220-00025-1D 920-02-B-CCC-00032-1D 920-02-B-CCC-00040-1D 920-02-B-CCC-00050-1D 920-02-B-CCC2-0065-125 | 15 20 25 32 40 50 65 | 20 20 20 20 20 20 20 | 4 10 16 25 40 63 | 300 300 | 300 300 | 300 | 300 | Seat/gasket: PTFE Ball: chromed brass CW617N Stem: stainless steel AISI 304 O-ring: EPDM Body: ductile cast iron Seat/gasket: PTFE Ball: chromed brass CW617N |
| | | 920-02-1-220-00015-1D 920-02-1-220-00020-1D 920-02-1-220-00025-1D 920-02-B-CCC-00032-1D 920-02-B-CCC-00040-1D 920-02-B-CCC-00050-1D 920-02-B-CCC2-0065-125 920-02-B-CCC2-0080-125 | 15 20 25 32 40 50 65 80 | 20 20 20 20 20 20 16 16 | 4 10 16 25 40 63 100 | 300 300 | 300 300 | 300 | | Seat/gasket: PTFE Ball: chromed brass CW617N Stem: stainless steel AISI 304 O-ring: EPDM Body: ductile cast iron Seat/gasket: PTFE |

Actuator



Ni-Ch coated brass ball CW617N and the characterized PTFE seat ensures EQ flow characteristics and durability.

Cast iron ball valve

- Designed according to BS EN 1092-2 and hydraulically tested to BS EN 12266 (PN16)
- EPDM sealing ensures no leakage from neck
- DN65-150 (ductile iron) for higher durability
- High flow rates up to 320 m³/h
- Leakage rate and safe opening-closing of the valve is ensured at 3bar – 300kpa

Threaded brass ball valve

- Designed according to BS 21 and hydraulically tested to BS EN 12266 (PN16)
- EPDM sealing ensures no leakage from neck
- DN15-50 brass available both as 2-way and 3-way valves
- High flow rates up to 40 m³/h
- Leakage rate and safe opening-closing of the valve is ensured at 3bar – 300kpa

Actuato

- 220VAC 2P on/off control
- 24VAC 0-10V (0-20mA) or 2-10V (4..20mA) control and 0-10V and 2-10V feedback signals available
- Rotation direction / normally open or normally closed selectable
- Self calibration function ensures that correct mounting of the actuator and that the correct flow and function is achieved
- Functional light indicating "normal", "self-calibration", and "fault" makes commissioning and fault finding easier
- IP54 housing sufficient for all standard installations
- Manual override for easy and proper mounting
- Running times below 130s (105/130)





925/6Motorized control butterfly valves

Offers precise and adjustable flow control for all cooling and heating plants ensuring comfort and energy saving for on-demand heating and cooling

The 925 motorized control valves from ICV offer reliable and acceptable flow control for large size applications – chillers, cooling towers and other distribution requirements.

Typically modulating flow control butterfly valves are used on the return pipe of chillers, cooling towers but also suitable for a range of flow distribution applications.

Design made fast and safe

- A very wide range from one supplier makes design and selection easy
- ICV actuators offer all standard control signals and works perfectly with any building controller from any producer
- Designed according to international standards making simple replacement during refurbishments possible

Investments made easy

 Wide offering of actuators makes the most economical choice available

Installation made fast and easy

- Readymade pre-mounted actuators saves time and ensures that calibration is done correctly
- Self calibration and status indicator makes installation and commissioning safe

Comfort made safe

 Acceptable flow control gives users better comfort and eliminates over or under supply – it also saves you money

Hiahliahts

Safe

The actuators are pre-mounted from factory avoiding positioning errors

Easy

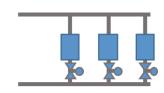
Very wide range makes design and selection easy from one supplier

Energy saving

Adequate flow control helps avoid oversupply and the wide offering ensures an economical fit



925/6



Recommended application:

The butterfly valves are recommended as modulating control or on/off control of all coils, chillers, cooling towers, and distribution for large diameters.

Air handling units and fresh air units
Chillers and cooling towers
Heating plants
Energy distribution

| 925/06 Motorized co 925/01 wafer type b | | | | | | | | | | | | | | | |
|--|----------------------|---------|------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------------------------|
| | ICV No. 925/06 | | | -00040- 5XY | -00060- 7XY | -00090- 7XY | -00150- 7XY | -00281- 0XY | -00381- 2XY | -00601- 2XY | -01001- 2XY | -02001- 4XY | -03001- 6XY | -04001- 6XY | |
| | Force Nm | | | 40 | 60 | 90 | 150 | 280 | 380 | 600 | 1000 | 2000 | 3000 | 4000 | Housing: aluminum alloy/Cast |
| Air handling units | Positioning time (50 | 0/60Hz) | | 14/17 | 14/17 | 14/17 | 17/20 | 22/26 | 22/26 | 24/29 | 24/29 | 75/90 | 75/90 | 60 | iron |
| Fresh air units | IP Class | | | IP67 | Hand wheel: cast iron |
| Heating equipment Energy distribution | 220 VAC | Contro | l signal | | | | | | 2P | | | | | | Open/Close indicator |
| Lifergy distribution | 220 VAO | Positio | n feedback | | | | | Dry | contact | | | | | | Stainless steel AISI 304 |
| | 380 VAC | Contro | Ŭ | | | | | 0-10V, 2 | | | | | | | |
| | Position feedback | | | | 0-10V, 2-10V | | | | | | | | | | |
| PN16 to 110°C | ICV No. | mm | Kvs (m3/h) | ∆ps [kPa] | |
| | 925-02-0050-X1YY | 50 | 135 | 1600 | | | | | | | | | | | 5 |
| | 925-02-0065-X1YY | 65 | 220 | 1600 | | | | | | | | | | | Body: ductile iron GGG40 |
| | 925-02-0080-X1YY | 80 | 302 | 1600 | | | | | | | | | | | Disc: Epoxy coated ductile iron |
| | 925-02-0100-X1YY | 100 | 600 | | 1600 | | | | | | | | | | Seat: FPDM |
| 1 | 925-02-0125-X1YY | 125 | 1022 | | | 1600 | | | | | | | | | Stem: stainless steel AISI |
| d | 925-02-0150-X1YY | 150 | 1579 | | | | 1600 | | | | | | | | 420/2Cr13 |
| | 925-02-0200-X1YY | 200 | 3136 | | | | | 1600 | | | | | | | Coating: epoxy coating |
| | 925-02-0250-X1YY | 250 | 5340 | | | | | | 1600 | | | | | | RAL7011 > 100μm |
| | 925-02-0300-X1YY | 300 | 8250 | | | | | | | 1600 | | | | | BS EN 1074-1 |
| | 925-02-0350-X1YY | 350 | 11917 | | | | | | | | 1600 | | | | |
| | 925-02-0400-X1YY | 400 | 16388 | | | | | | | | | 1600 | | | (Disc, seat, stem - other |
| | 925-02-0450-X1YY | 450 | 21705 | | | | | | | | | 1600 | | | materials available) |
| | 925-02-0500-X1YY | 500 | 27908 | | | | | | | | | | 1600 | | |
| | 925-02-0600-X1YY | 600 | 43116 | | | | | | | | | | | 1600 | |

Actuato

- Very wide range available from 40 Nm to 4000 Nm ensures economical fit of valve and actuator
- Produced according to JB/T8528-97
- IP67 high protection class suitable for outdoors installations
- Auto-calibration ensure correct position feedback and correct functional integration of the valve and actuator
- Internal heating element ensures that condensation doesn't damage the circuits
- Easy to use clutch and large handwheel for manual override during commissioning
- Self-locking gear train for stable torques and long life

Butterfly valve

- Extremely wide range of butterfly valves avilable from ICV (76, 925, 756)
- · Connection: wafer, lug, double flanged,
- Disc: concentric, eccentric, iron epoxy, stainless steel AISI 304/316
- Liner: many types of EPDM, NBR etc
- Designed with a long neck to limit heat and cold transfer from valve to actuator and allow space for insulation
- Large disc ensures reliable and high close-off pressure

Also available: lug typ



Also available: double flanged





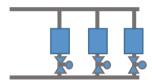
920/1



ICV 920-1

Motorized on/off valve for fancoils

Offers on/off control of fan coils



Recommended application:

For on/off control of fan coils

Most commercial buildings apply fan coils for cooling purposes in rooms.

ICV 920/1 is a simple on/off valve and actuator combination with two wires. The set is available in 2-way and 3-way for fancoils and other low temperature applications.

920/1 offers flow rates up to 3m³/h and close-off pressure up to 180 kPa which is suitable for most room cooling and heating using fan coils.

For higher requirements we recommend ICV premium offering the 955 Flowmaster[™] FC which includes dynamic balancing with close-off pressure of 380 kPa and flowrates up to 2.45m³/h.

| 2 | 20VAC | | On/off | | |
|---------------|----------------|----|--------------|----------|--|
| PN16' to 90°C | ICV No. 2-way | mm | ∆ps [kPa] | Kvs m³/h | |
| | 920-01-0015-2 | 15 | 180 | 2 | Body: DZR brass |
| - | 920-01-0020-2 | 20 | 180 | 3 | Disc: NBR |
| - Marie | 920-01-0025-2 | 25 | 180 | 3 | Stem: stainless steel |
| | 920-01-0015-21 | 15 | 180 | 2 | Actuator housing Aluminium alloy and ABS |
| | 920-01-0020-21 | 20 | 180 | 3 | Thread to BS 21 |
| | 920-01-0025-21 | 25 | 180 | 3 | Hydraulic tested to EN 12266 |
| | | | | | |

Hiahliahts

Simple

Simple installation and usage

Suitable

Normally closed suitable for most cooling applications

Easy

Manual override used during installation and maintenance, with only two wires for easy wiring.

Safe

Spring return ensures actuator returns to closed position in case of power failure





ICV Flowmaster™ FC is a premium offering for on/off control as well as dynamic flow balancing.

The ICV Flowmaster FCTM is designed for the balancing of cooling and heating units. With its simple on/off control the valve can be used for many different applications, and at the same time advantage is derived from the dynamic control principles.

By means of ICV Flowmaster FCTM the optimum flow rate is ensured in each control area. This flow rate is maintained in spite of pressure fluctuations in the system. A control area may be two fan coils for a hotel room or a calorifier for a sports centre. Energy savings due to automatic flow control, lower flow and pump pressure.

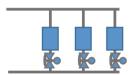
Maximized ΔT due to faster response and increased system stability is also achieved.

Fan coils 955-000-9901 955-000-9902 955-000-9903 220 VAC Δpmax 230 kPa 130N 24 VAC Min ∆p PN25 -10° to ICV No.(L/H) ICV No. (L/H) 952-10 1 1150 0.007 952-11 1/2 1725 14 952-10 1 1170 0.01 952-11 1/2 1730 0.186 14 952-10 1 1190 0.012 952-11 1/2 1735 0.204 14 952-10 1/2 1210 0.015 952-11 1/2 1740 0.222 16 952-10 1/2 1230 0.021 952-11 1/2 1745 0.242 19 952-10 1/2 1260 0.024 21 952-11 1/2 1750 Min ∆p 952-10 1/2 1290 22 0.032 0.283 952-10 1/2 1300 952-20 1/2 2070 955-015-20-1 0.3 22 952-10 1/2 1320 0.036 11 952-20 1/2 2074 955-020-20-1 952-10 1/2 1350 0.043 952-20 1/2 2077 0.332 22 955-025-20-1 952-10 1/2 1370 0.049 12 952-20 1/2 2082 0.371 23 952-10 1/2 1400 0.057 952-20 1/2 2086 23 952-10 1/2 1430 0.067 12 952-20 1/2 2088 23 952-10 1/2 1460 0.078 12 952-20 1/2 2092 0.493 24 952-10 1/2 1490 0.089 952-20 1/2 2094 0.509 24 13 0.578 25 952-10 1/2 1510 0.097 952-20 1/2 2099 0.625 952-10 1/2 1540 0.111 952-20 1/2 2103 26 952-10 1/2 1570 0.132 14 952-20 1/2 2106 0.644 27 952-20 1/2 2109

955 Flowmaster™ FC

Motorized 2-way on/off dynamic balancing valve

Offers dynamic flow balancing and on/off control of fan coils – all in one – ensuring that the correct flow is maintained across all units



Recommended application:

The 955 Flowmaster™ FC is installed on the return pipe of any fancoil. The correct flow cartridge is chosen based on flow requirements.

To in one Two in one on/off control valve and dynamic flow balancing valve Exchange cartridge Exchangeable cartridges for high/low flow and variable flow rates Silent ICVthermic actuator and internal diaphragm ensures silent operation preferred for hotels and homes

Materials

Cap DZR Brass CW602N Body DZR Brass CW602N Cartridge DZR Brass CW602N Stem:Stainless steel Actuator housing ABS