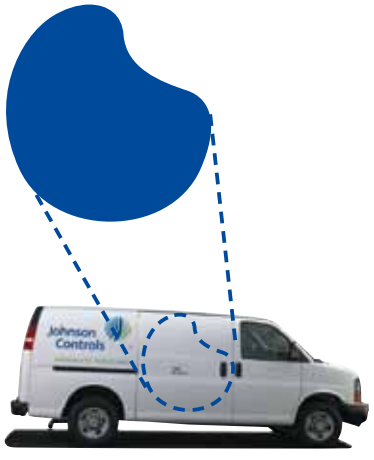
2-WAY FLANGED CONTROL BALL VALVES

VG12E5XX-C

Johnson Controls



On the cover
Integrated professional services designed for your unique business need.

We care about your business and understand that each business has its unique requirements. Our all-encompassing maintenance package is tailor-made to fit your every financial and technical need. It covers from planned routine equipment inspections and predictive maintenance routines to system performance checks and annual shutdowns.

Application

The VG1000 series control ball valves are used for the water control of air treatment systems in ventilation and air conditioning units as well as heating system.
They are operated by remote mounted Spring Return and Non Spring Return actuators of Johnson Controls.

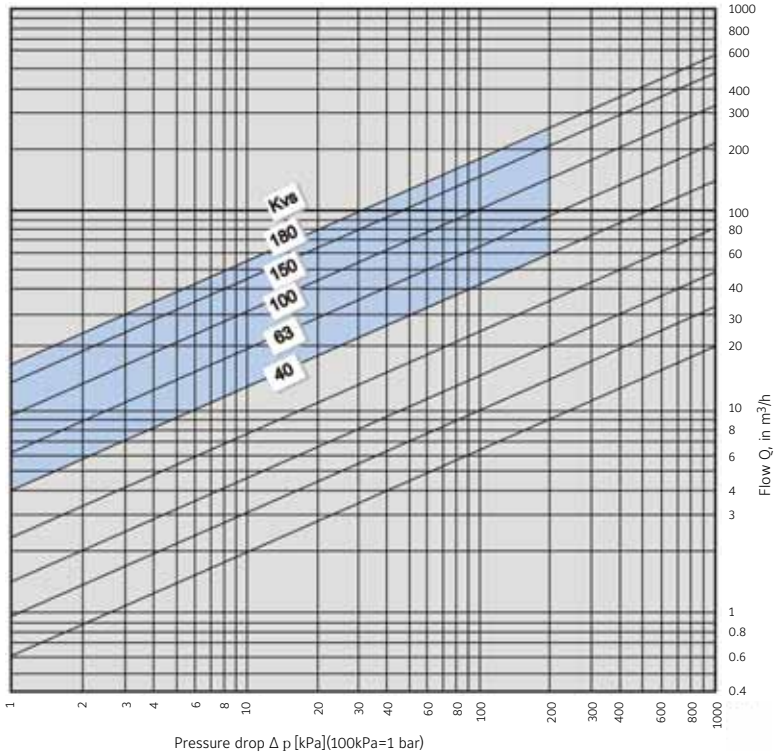
Ordering Codes

See tables of valve actuator assemblies

Features

- Stainless steel ball and stem assembly
- Amodel® flow characterizing disk
- Ethylene Propylene Diene Monomer (EPDM) double o-ring stem seal
- Graphite-Reinforced Polytetrafluoroethylene (PTFE) Seat

Kv Selection Diagram for DN 65 to DN 100 Flanged Control Ball Valves



Assemblies of valves with PROPORTIONAL ACTUATORS

Spring return function		-		■	
Supply voltage		24 VAC/DC			
Torque		24 Nm		20 Nm	
Running time		125 s		150 s	
Spring return time Power off		-		26 s	
Control signal	**VDC** **mA**	0 - 10 / 2 - 10 0 - 20 / 4 - 20			
Switches		-	2 x SPDT	-	2 x SPDT
Feedback	**VDC**	0 - 10 / 2 - 10			
Actuator code		M9124-GGA-2	M9124-GGC-2	M9220-HGA-3	M9220-HGC-3
Linkage code		M9000-518-C		M9000-519-C	

Ordering Codes

Valve code	Body size	Kvs	Valid combinations of valves, linkages and actuators			
VG12E5GS-C	DN65	40	■	■	■	■
VG12E5GT-C		63	■	■	■	■
VG12E5GU-C		100	■	■	■	■
VG12E5HT-C	DN80	63	■	■	■	■
VG12E5HU-C		100	■	■	■	■
VG12E5HV-C		150	■	■	■	■
VG12E5HW-C		180	■	■	■	■
VG12E5JU-C	DN100	100	■	■	■	■
VG12E5JV-C		150	■	■	■	■

Assemblies of valves with FLOATING and ON/OFF ACTUATORS

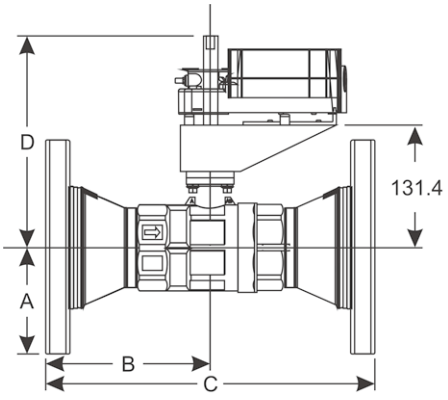
Spring return function	-				■					
Supply voltage	24 VAC / DC		230 VAC		24 VAC / DC				230 VAC	
Torque	24 Nm				20 Nm					
Running time	125 s				150 s				24 - 57 s	
Spring return time Power off	-				20 s				11...50 s	
Control signal	Floating and ON/OFF						ON/OFF			
Switches	-	2 x SPDT	-	2 x SPDT	-	2 x SPDT	-	2 x SPDT	-	2 x SPDT
Feedback	-									
Actuator code	M9124-AGA-2	M9124-AGC-2	M9124-ADA-1N	M9124-ADC-1N	M9220-AGA-3	M9220-AGC-3	M9220-BGA-3	M9220-BGC-3	M9220-BDA-3	M9220-BDC-3
Linkage code	M9000-518-C				M9000-519-C					

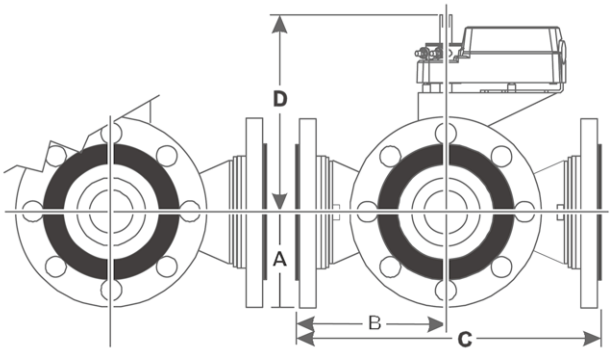
Ordering Codes

Valve code	Body size	Kvs	Valid combinations of valves, linkages and actuators									
VG12E5GS-C	DN65	40	■	■	■	■	■	■	■	■	■	■
VG12E5GT-C		63	■	■	■	■	■	■	■	■	■	■
VG12E5GU-C		100	■	■	■	■	■	■	■	■	■	■
VG12E5HT-C	DN80	63	■	■	■	■	■	■	■	■	■	■
VG12E5HU-C		100	■	■	■	■	■	■	■	■	■	■
VG12E5HV-C		150	■	■	■	■	■	■	■	■	■	■
VG12E5HW-C		180	■	■	■	■	■	■	■	■	■	■
VG12E5JU-C	DN100	100	■	■	■	■	■	■	■	■	■	■
VG12E5JV-C		150	■	■	■	■	■	■	■	■	■	■

Non-Spring Return M9124 Actuated VG12E5XX-C Flanged Ball Valves, Dimensions in mm

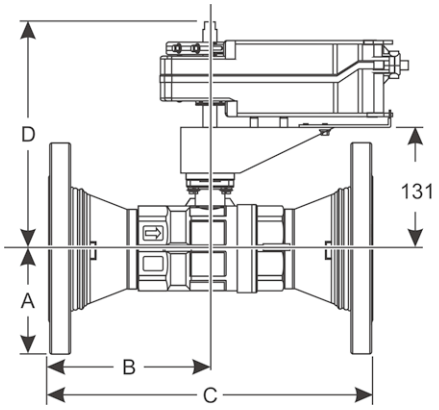
Valve Size, DN	A	B	C	D	Holes for Flange	Holes Diameters	Bolt
DN65	92.5	145	290	226	4	17.5	M16x60
DN80	100	155	310	226	8	17.5	M16x65
DN100	110	175	350	226	8	17.5	M16x70

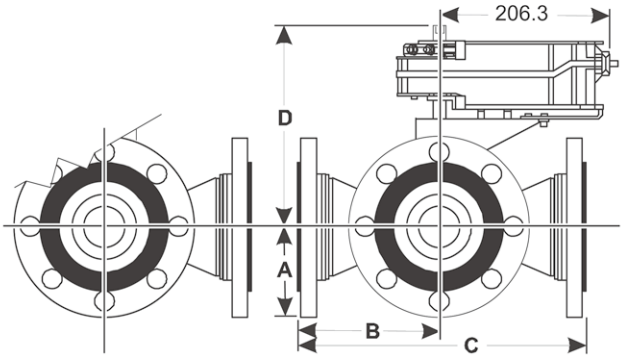




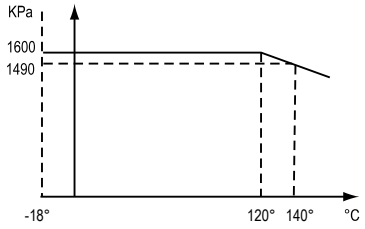
Spring Return M9220 Actuated VG12E5XX-C Flanged Ball Valves, Dimensions in mm

Valve Size, DN	A	B	C	D	Holes for Flange	Holes Diameters	Bolt
DN65	92.5	145	290	226	4	17.5	M16x60
DN80	100	155	310	226	8	17.5	M16x65
DN100	110	175	350	226	8	17.5	M16x70





Technical Specifications

Product	VG12E5xx-C Non-Spring Return Flanged Control Ball Valve
Valve Type	2-way
Body Rating	PN16
Service*	Hot water, chilled water, 50/50 glycol solutions, and 172 kPa Saturated Steam for HVAC Systems
Valve Fluid Temperature Limits	-18 to 140 °C
Valve Body Pressure / Temperature Rating **- Water** **- Steam**	 max 172 kPa
Maximum Closeoff Pressure	689 kPa
Maximum Recommended Operating Pressure Drop	207 kPa for quiet service
Flow Characteristics	Equal Percentage (according EN60534-2-4)
Rangeability**	Greater than 500:1
Leakage	0.01% of Maximum Flow, ANSI/FCI 70-2, Class 4
Storage and Transport Temperature	-20 °C to +65 °C, dry and free of dirty
End Connections	Flanged, DIN EN 1092, Type 16, Form B sealing strip
Minimum Ambient Operating Temperature **-20 °C** **-40 °C**	 M9124 Series Non-Spring Return Actuator M9220 Series Spring Return Actuator
Maximum Ambient Operating Temperature*** **50 °C** **55 °C**	 M9124 Series Non-Spring Return Actuator M9220 Series Spring Return Actuator
Materials **- Body** **- Ball and Blowout-Proof Stem** **- Flanges & adapters** **- Seat, stem seals** **- Stem bush** **- Characterizing Disk** **- Ball seat**	 Forged brass EN 12165 Stainless Steel x5CrNi1810 EN10088-3 EN-JL 1040 (cast iron) EPDM O-Ring PTFE A model AS-1145HS PTFE graphite filled
Weight	VG12E5Gx DN65 Kg.15.4 VG12E5Hx DN80 Kg.16.3 VG12E5Jx DN100 Kg.20

* Refer to VDI 2035 Standard for proper water treatment.

** Rangeability is defined as the ratio of maximum controllable flow to minimum controllable flow.

*** In steam applications, install the valve with the stem horizontal to the piping, and wrap the valve and piping with insulation.

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

Johnson Controls is a global diversified technology and industrial leader serving customers in more than 150 countries. Our 162,000 employees create quality products, services and solutions to optimize energy and operational efficiencies of buildings; lead-acid automotive batteries and advanced batteries for hybrid and electric vehicles; and interior systems for automobiles. Our commitment to sustainability dates back to our roots in 1885, with the invention of the first electric room thermostat. Through our growth strategies and by increasing market share we are committed to delivering value to shareholders and making our customers successful. In 2011, Corporate Responsibility Magazine recognized Johnson Controls as the #1 company in its annual "100 Best Corporate Citizens" list. For additional information, please visit http://www.johnsoncontrols.com.

Johnson Controls Building Efficiency delivers products, services and solutions that increase energy efficiency and lower operating costs in buildings for more than one million customers. Operating from 500 branch offices in more than 150 countries, we are a leading provider of equipment, controls and services for heating, ventilating, air-conditioning, refrigeration and security systems. We have been involved in more than 500 renewable energy projects including solar, wind and geothermal technologies. Our solutions have reduced carbon dioxide emissions by 16 million metric tons and generated savings of $19 billion since 2000. Many of the world's largest companies rely on us to manage 1.5 billion square feet of their commercial real estate.

Australia
Tel : +61 (2) 9805 8300
Fax: +61 (2) 9889 3016

China (Shanghai)
Tel : +86 (21) 6276 6509
Fax: +86 (21) 6277 3543

Hong Kong
Tel : +852 2590 0012
Fax: +852 2516 5648

India
Tel : +91 (22) 3082 2200
Fax: +91 (22) 3088 1592

Indonesia
Tel : +62 (21) 5366 8500
Fax: +62 (21) 5366 8300

Japan
Tel : +81 (3) 5738 6100
Fax: +81 (3) 5738 6298

Korea
Tel : +82 (2) 554 5935
Fax: +82 (2) 554 5739

Macau
Tel : +853 2875 1820
Fax: +853 2875 1825

Malaysia
Tel : +60 (3) 7628 4393
Fax: +60 (3) 7620 0538

New Zealand
Tel : +64 (9) 444 6434
Fax: +64 (9) 444 2092

Singapore
Tel : +65 6748 0202
Fax: +65 6284 3017

Taiwan
Tel : +886 (2) 2657 5568
Fax: +886 (2) 2657 6388

Thailand
Tel : +66 (2) 717 1260-80
Fax: +66 (2) 717 0861

Asia Engineering Centre: Wuxi, China
Shanghai Distribution Center: Shanghai, China
Asia Centre of Excellence in Engineering (CoEE): Beijing, China · Mumbai & Pune, India
Manufacturing/Assembly: Guangzhou & Wuxi, China · Pune, India

Johnson Controls

www.johnsoncontrols.com