

ZONE VALVES

# MOTORIZED BALL VALVE SERIES MBA120



The ESBE series MBA120 consist of motorized 2-way ball valves available in DN 20-32, PN32 with internal thread or combination of internal and external thread connection.

### OPERATION

The ESBE series MBA120 is a range of 2-way motorized ball valves with actuator for use in heating and cooling system. The valve is air bubble tight according to EN12266-1

The actuator is controlled by 2-point signal and is recommended for on/off function, available for 230V AC, 50 Hz power supply. Actuator is supplied with 0.85 meter connection cable attached, auxiliary switch and an anti condensation resistor to prevent condensation on the electronic circuit board.

Actuator is assembled on the ball valve with a metallic spigot that allows to assembly/disassembly the actuator in a secure, simple and rapid way. The ball valve and actuator has an operating range of 90°.

### TECHNICAL DATA

#### Valve:

Pressure class: \_\_\_\_\_ PN 32  
 Media temperature: \_\_\_\_\_ max. +90°C  
 \_\_\_\_\_ min. 0°C  
 Torque (at nominal pressure): \_\_\_\_\_ < 4 Nm  
 Leakrate - EN12266-1: internal leakage rate A, Air bubble tight  
 EN12266-1: external leakage rate A, Air bubble tight  
 Working pressure: \_\_\_\_\_ 3.2 MPa (32 bar)  
 Connections: \_\_\_\_\_ Internal thread, ISO 228/1  
 \_\_\_\_\_ External thread, ISO 228/1  
 Media: \_\_\_\_\_ Heating water (in accordance with VDI2035)  
 \_\_\_\_\_ Water / Glycol mixtures, max. 50%.  
 (above 20% admixture, the pump data must be checked)

#### Material

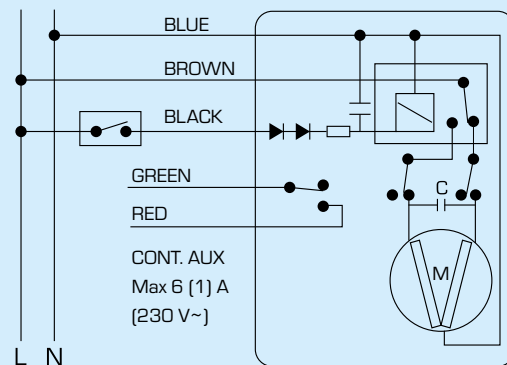
Valve body: \_\_\_\_\_ Brass CW 617N, Nickel plated  
 Body end: \_\_\_\_\_ Brass CW 617N, Nickel plated  
 Seat: \_\_\_\_\_ PTFE  
 O-ring: \_\_\_\_\_ FPM  
 Ball: \_\_\_\_\_ Brass CW 617N, Chrome plated  
 Washer: \_\_\_\_\_ PTFE  
 Shaft: \_\_\_\_\_ Brass CW 614N, Chrome plated  
 O-ring, shaft: \_\_\_\_\_ HNBR  
 Gasket: \_\_\_\_\_ Heat resistance fibre  
 Union: \_\_\_\_\_ Brass CW 617N, Nickel plated  
 Nut: \_\_\_\_\_ Brass CW 617N, Nickel plated

#### Actuator:

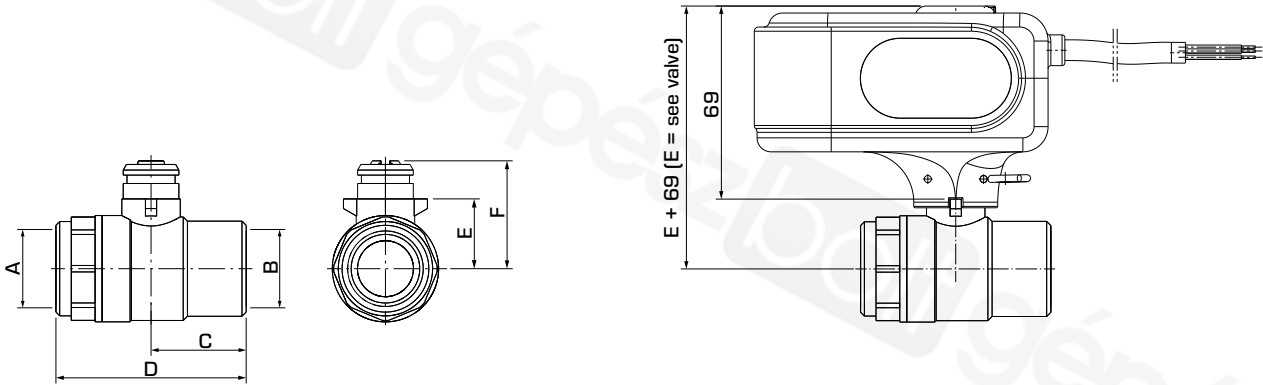
Ambient temperature: \_\_\_\_\_ max. +50°C  
 \_\_\_\_\_ min. 0°C  
 Enclosure rating: \_\_\_\_\_ IP44  
 Protection class: \_\_\_\_\_ II  
 Power supply: \_\_\_\_\_ 230 ± 10% VAC, 50 Hz  
 Control signal: \_\_\_\_\_ 2-point SPST  
 Power consumption - motor operation: \_\_\_\_\_ 3.5 W  
 - anti condensation resistor: \_\_\_\_\_ up to 5 W  
 Rating auxiliary switch: \_\_\_\_\_ 6(1) A 230 V AC  
 Running time 90°: \_\_\_\_\_ 40 seconds  
 Torque: \_\_\_\_\_ 10 Nm

CE LVD 2014/35/EU  
 EMC 2014/30/EU  
 RoHS 2011/65/EU  
 PED 2014/68/EU, article 4.3

### WIRING

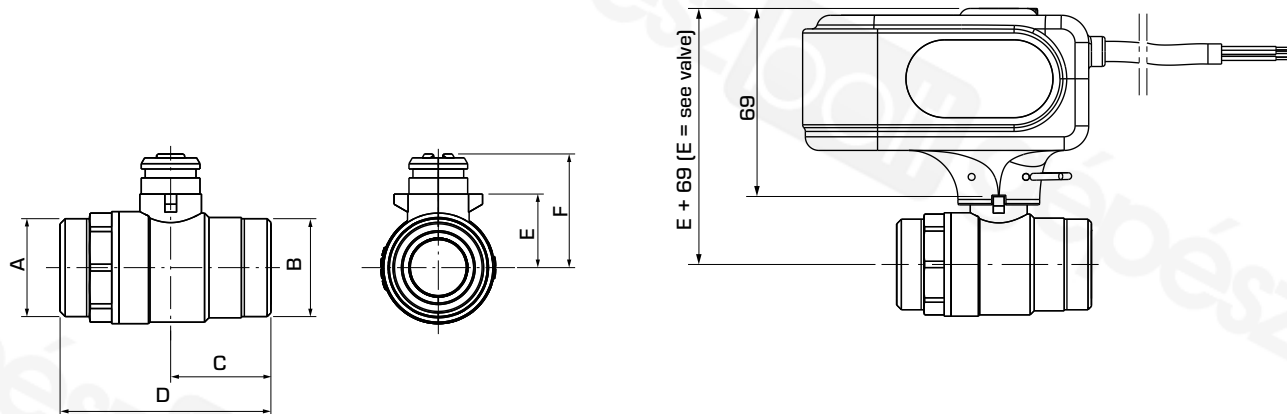


# MOTORIZED BALL VALVE SERIES MBA120



## SERIES MBA121, INTERNAL THREAD

Art. No.	Reference	DN	Kvs*	Connection		C	D	E	F	Weight [kg]	Note
				A	B						
43100100	MBA121	20	45	G ¾"	G ¾"	34	68	25	39	0.74	
43100200		25	60	G 1"	G 1"	41	82	29	43	0.93	
43100300		32	100	G 1¼"	G 1¼"	43	86	34	48	1.08	

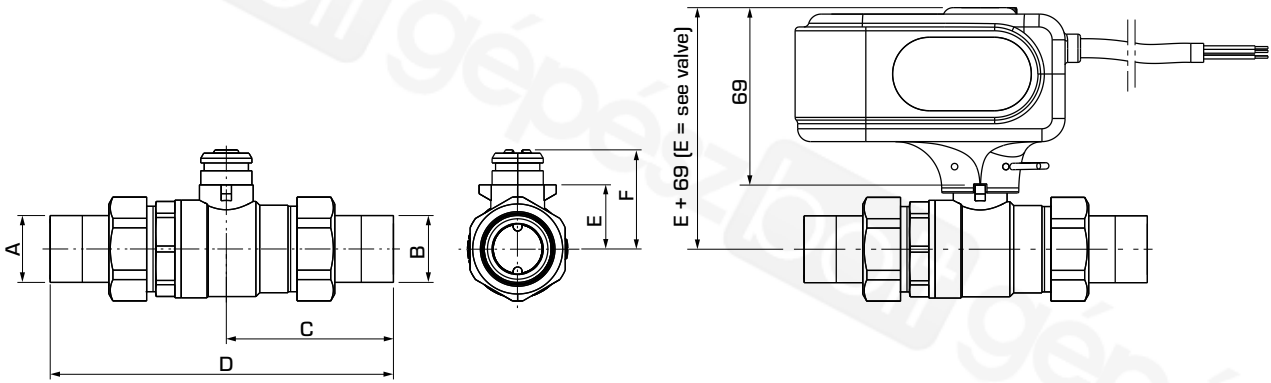


## SERIES MBA122, EXTERNAL THREAD

Art. No.	Reference	DN	Kvs*	Connection		C	D	E	F	Weight [kg]	Note
				A	B						
43101100	MBA122	15	20	G ¾"	G ¾"	31	62	21.5	35	0.61	
43101200		20	45	G 1"	G 1"	34	72	25	38.5	0.72	
43101300		25	60	G 1¼"	G 1¼"	39.5	82	29	42.5	0.91	
43101400		32	100	G 1½"	G 1½"	36	86	34	47.5	1.10	

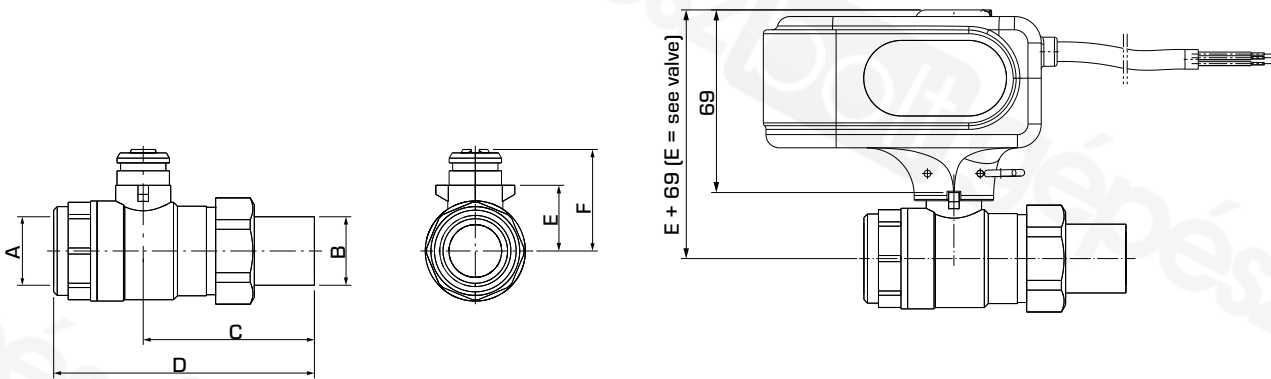
\* Kvs-value in m<sup>3</sup>/h at a pressure drop of 1 bar.

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## SERIES MBA122, EXTERNAL THREAD WITH ADAPTERS

Art. No.	Reference	DN	Kvs*	Connection		C	D	E	F	Weight [kg]	Note
				A	B						
43100700	MBA122	15	20	G 1/2"	G 1/2"	58.5	118	21.5	35	0.73	
43100800		20	45	G 3/4"	G 3/4"	65	133.5	25	38.5	0.93	
43100900		25	60	G 1"	G 1"	73	149	29	42.5	1.24	
43101000		32	100	G 1 1/4"	G 1 1/4"	74	158	34	47.5	1.55	



## SERIES MBA124, INTERNAL AND EXTERNAL THREAD

Art. No.	Reference	DN	Kvs*	Connection		C	D	E	F	Weight [kg]	Note
				A	B						
43100400	MBA124	20	45	G 3/4"	G 3/4"	65	99	25	39	0.83	1)
43100500		25	60	G 1"	G 1"	73	115	29	43	1.04	1)
43100600		32	100	G 1 1/4"	G 1 1/4"	75	119	34	48	1.28	1)

\* Kvs-value in m<sup>3</sup>/h at a pressure drop of 1 bar.

Note 1) Connection A = Internal thread, Connection B = External thread

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## DIMENSIONING

### HEATING APPLICATION IN GENERAL, EXAMPLE RADIATOR OR UNDERFLOOR HEATING SYSTEMS

Start with the heat demand in kW (e.g. 25 kW) and move vertically to the chosen  $\Delta t$  (e.g. 5°C).

Move horizontally to the pressure drop lines and select Kvs-value (e.g. 20,0). A valve with suitable Kvs-value will be found in respective product description.

### OTHER APPLICATIONS

Make sure maximum  $\Delta P$  is not exceeded 2 bar to avoid noises.

