

Technical Information & Installation Instructions



1. General

The present specification applies to Albion mixing (CRM) valves. The valves are made of brass allowing use in heating and cooling installations. Valves are intended to be used together with actuator by the end user, even if they can be separately delivered. Valves are intended to be installed on heating and/or cooling systems, sanitary applications, and plant room installations. Valves allow mixing between two fluids, warm and cold water, to get the desired temperature. Valves have neck shape, adapted to connection with the clip system.

2. Valve specification: 3-way mixing valves

2.1 Nominal dimensions

Valve nominal dimension:

DN15,
DN20,
DN25,
DN32,
DN40
DN50

Nominal pressure: PN10

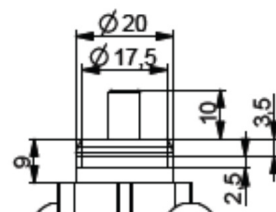
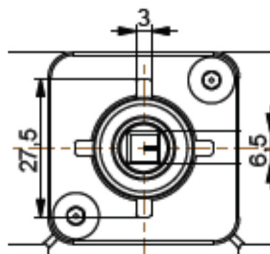
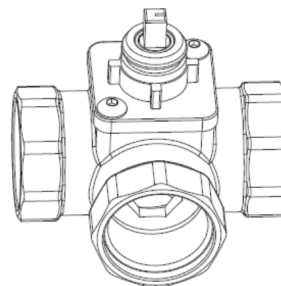
2.2 Types overview

-Type of pipe connections:

- Internal threads (EN10226-1)

- Type of valve-actuator connection:

- Clip

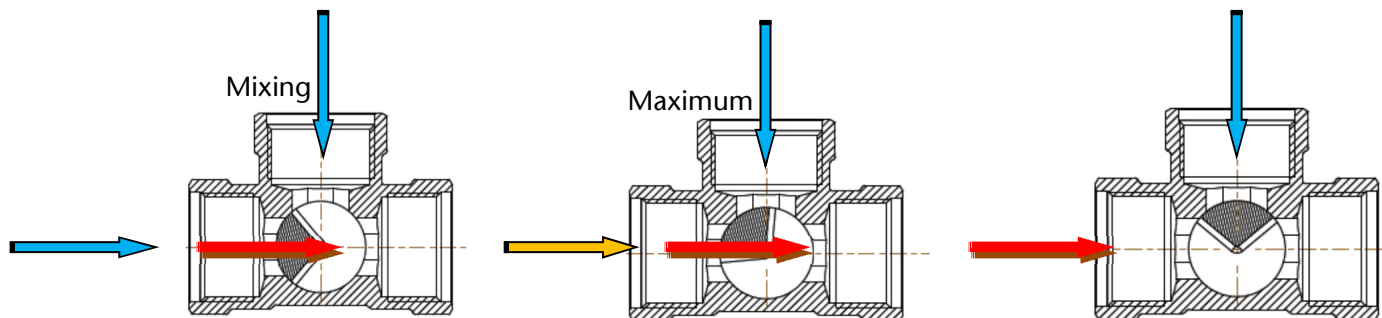


2.3 Working way

Series CRM are 3-way valves suitable for mixing or diverting operation.

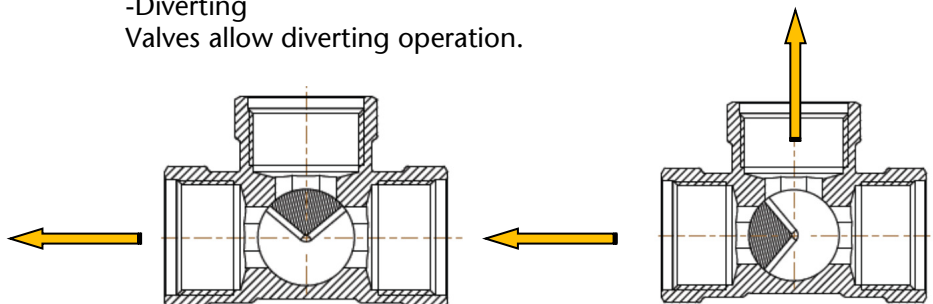
-Mixing

Valves allow mixing between two fluids, warm and cold water, to get the desired temperature.



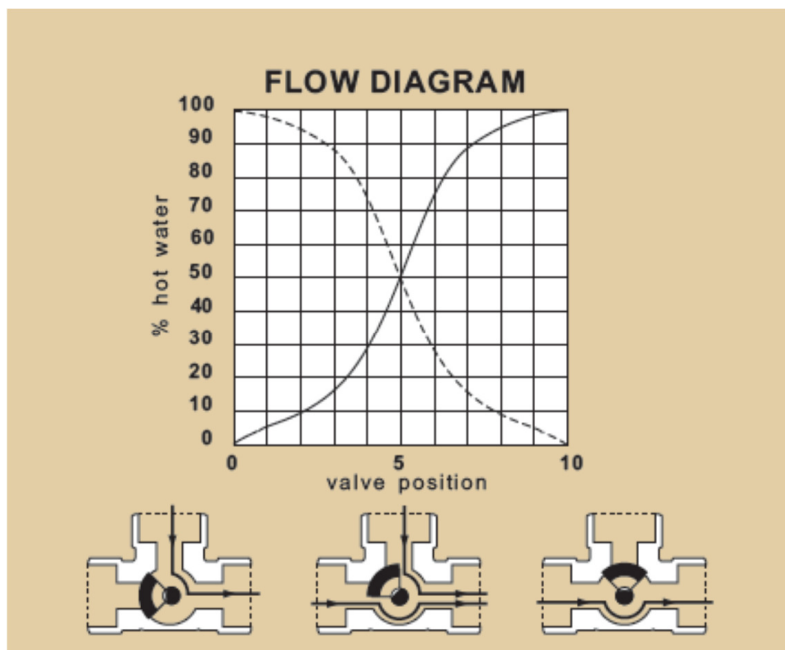
-Diverting

Valves allow diverting operation.



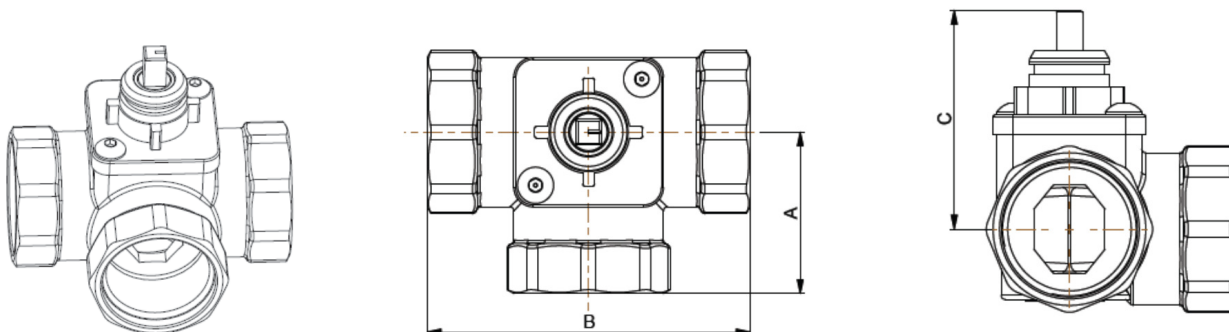
2.4 Valve characteristic (Flow diagram)

Valve has S characteristic.



2.5 Dimensions / end-connections

Groove on the top shows the position of the rotor.



CRM internal threads

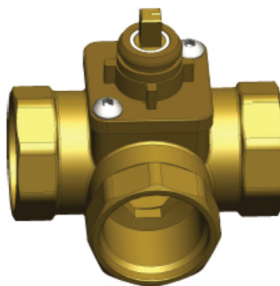
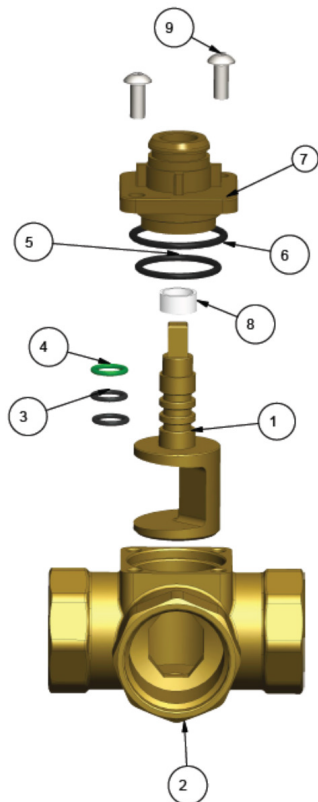
Code	Type	DN	Kvs (m ³ /h)	Connection	A	B	C	Weight (kg)
ADCVCRM15	1/2" CRM15 FFF	15	3	Rp1/2"	36	72	45	0,49
ADCVCRM20	3/4" CRM15 FFF	20	7	Rp3/4"	36	72	45	0,55
ADCVCRM25	1" CRM15 FFF	25	11	Rp1"	41	82	45	0,59
ADCVCRM32	1.1/4" CRM32 FFF	32	15	Rp1 1/4"	47	94	48	0,92
ADCVCRM40	1.1/2" CRM40 FFF	40	25	Rp1 1/2"	53	106	65	1,62
ADCVCRM50	2" CRM50 FFF	50	40	Rp2"	60	120	66	2,20

Dimensions in mm

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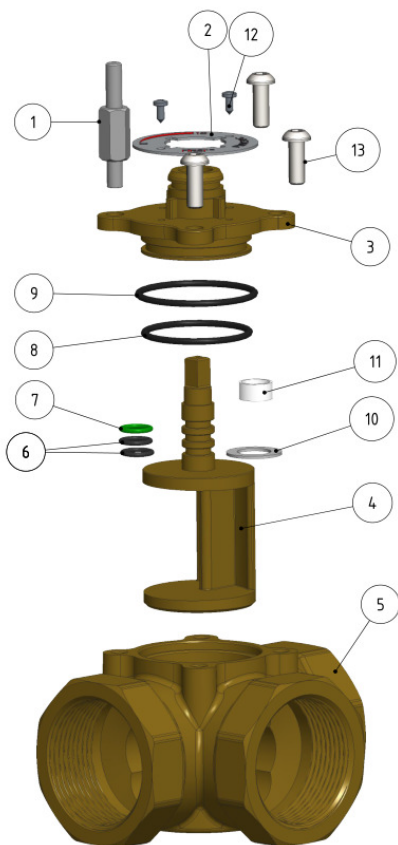
2.6 Cross section diagram – materials

2.6.1 DN15-DN25



Pos.	Pieces	Name	Material
1	1	Rotor	CW617N
2	1	Valve body	CW617N
3	2	o-ring 8,73x1,78	EPDM
4	1	o-ring 8,73x1,78	FKM
5	1	o-ring 23,3x2,4	EPDM
6	1	o-ring 27x2,5	EPDM
7	1	Valve cover	CW617N
8	1	Washer	PTFE
9	2	Screw M5x10	Steel Zn

2.6.2 DN32-DN50



Pos.	Pieces	Name	Material
1	1	Spacer	Steel Zn
2	1	Index plate	Al
3	1	Valve cover	CW617N
4	1	Rotor	CW617N
5	1	Valve body	CW617N
6	2	o-ring 8,73x1,78	EPDM
7	1	o-ring 8,73x1,78	FKM
8	1	o-ring 23,3x2,4	EPDM
9	1	o-ring 27x2,5	EPDM
10	1	washer	PTFE
11	1	washer	PTFE
12	2	Screw 2.9x6.5	DIN7981 A2k
13	3	Screw M6x16	ISO7380Zn

Dimensions in mm

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3. Technical data

3.1 Pressure rating

Max differential pressure:	1 bar mixing / 2 bar diverting
Max working pressure:	6 bar
PN class:	PN10
Close off pressure:	2 bar

3.2 Operating and shipping temperatures

Min fluid temperature:	-10°C
Max fluid temperature:	+110 °C (continuous); +130 °C (only water / glycol solutions): (short time peaks, 1)
Min / Max room temperature:	+1°C ÷ +60°C
Storage and shipping temperature:	-20 ÷ +60°C (1) Duration 30 minutes, once a day, 60 times a year

3.3 Pressure drops (Kvs)

Flow coefficient (EN 1267)	DN15 Kvs =3 DN20 Kvs =7 DN25 Kvs =11 DN32 Kvs =15 DN32 Kvs =25 DN32 Kvs =40
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3.4 Operating torque

Max spindle operating torque:	< 2Nm (Pinlet = 1 bar – Poutlet = 0) at 20°C
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3.5 Valve durability

Endurance: (min. number of cycles):	30.000
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3.6 Leakages (external)

Leakages on the housing, spindle:	no leakages are allowed.
Test P11 According to EN 12266-1:	2003 standard

3.7 Leakages (internal)

Leakages on rotor:	in % of flow: 0.1%
Test P12 According to EN 12266-1:	2003 standard

3.8 Compatibility with fluids

The following fluids can be used with valve: drinking water, water, glycol <= 50 %, not aggressive fluids.

3.9 Marking (hot stamped inscriptions)

According to drawings

3.10 Date of manufacturing

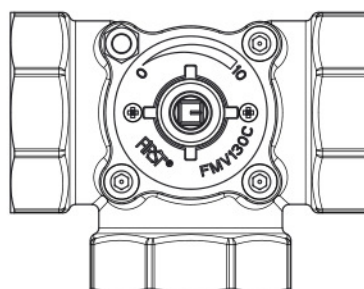
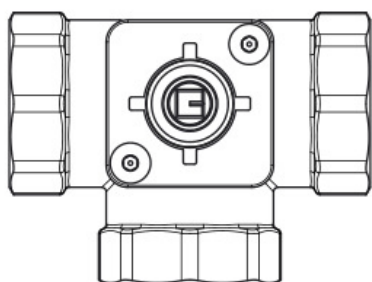
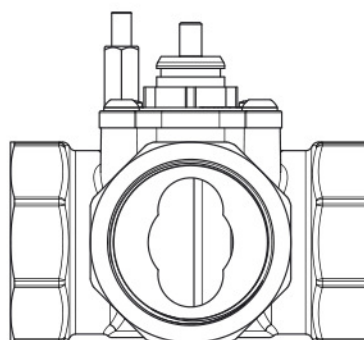
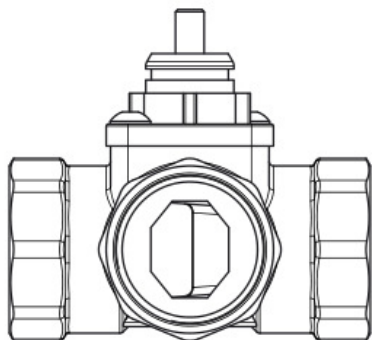
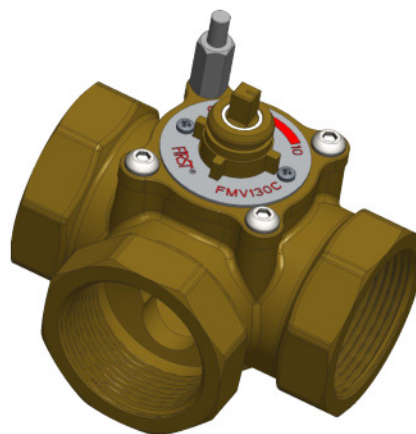
Each valve is indelibly marked with date of manufacturing
(yy/ww – year/week)

3.11 Delivery conditions

Factory default position

DN15-DN25

DN32-DN50



3.12 Approvals

- The Pressure Equipment Directive 97/23/EC
- RoHS2 Directive 2011/65/EC

3.13 Strength of the body

Visually detectable leakage from any external surface of the shell is not permitted.
Test P10 According to EN 12266-1:2003 standard

2.18.1 Torsion and bending moment test for valves

2.18.2 Torque According to EN 13828: 2003 standard (7.2.21)

2.18.3 Bending According to EN 13828: 2003 standard (7.2.22)

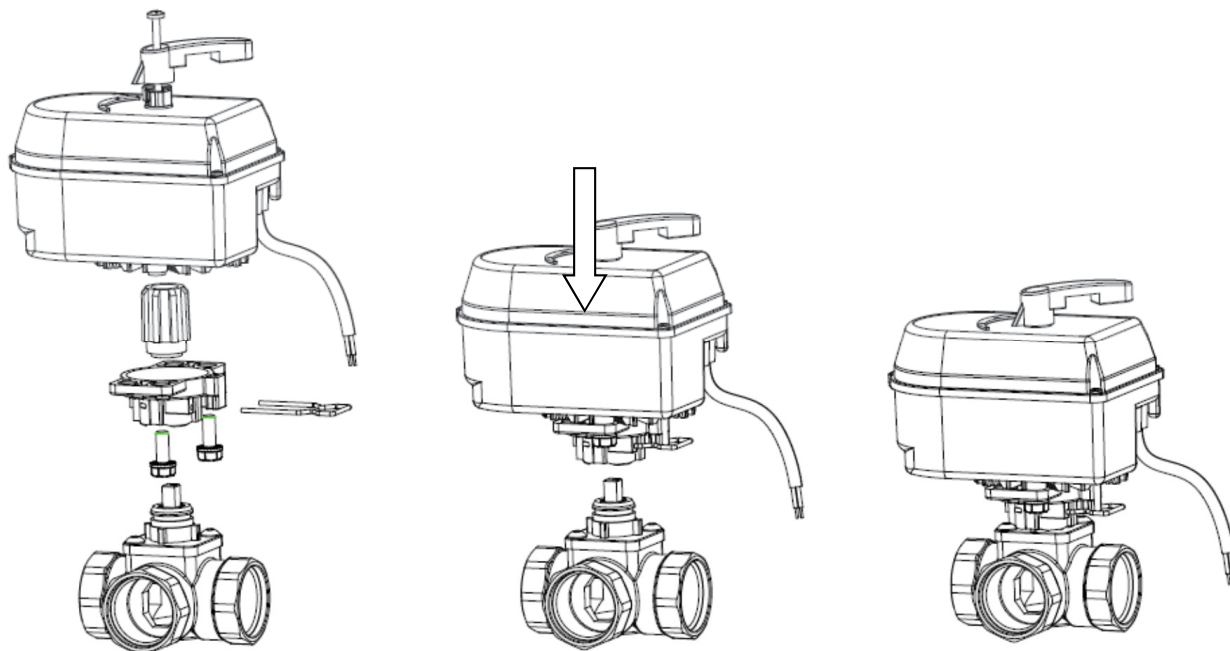
Dimensions in mm

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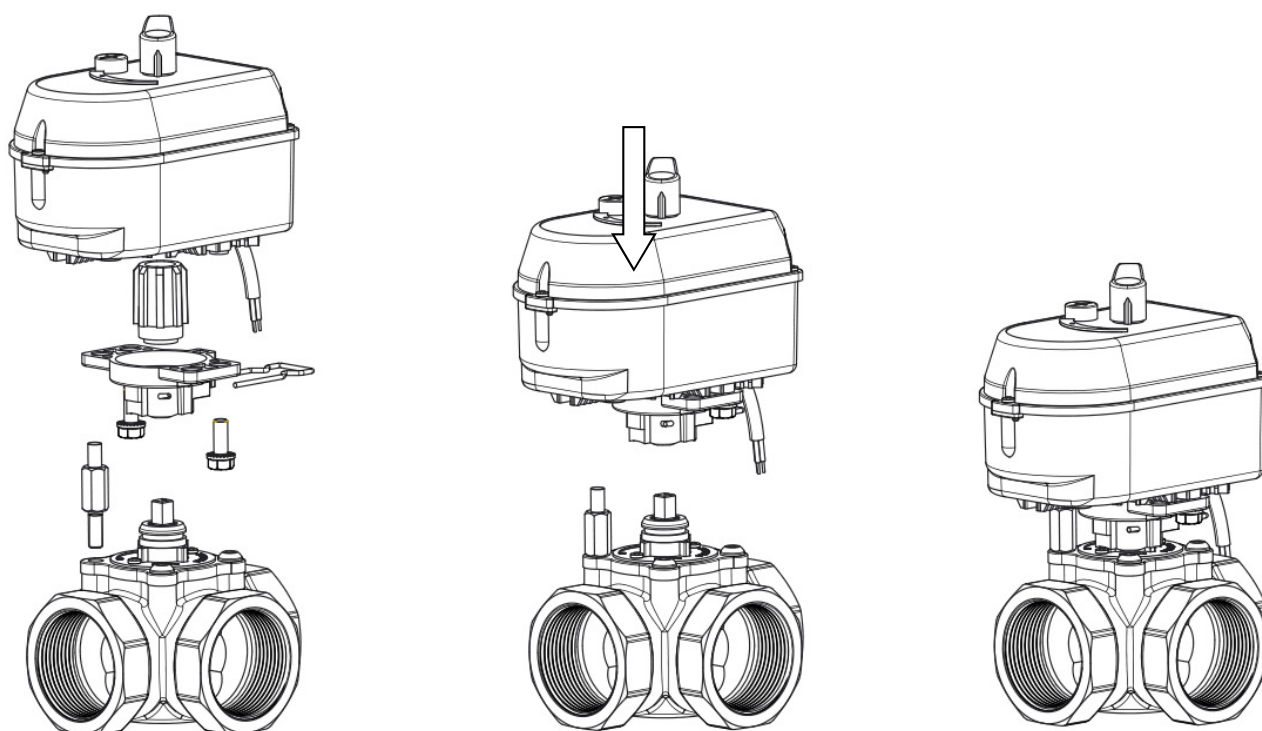
4. Mixing unit (valve-actuator):

4.1 Connection to the actuator CRV230, CRV24 & CRE2

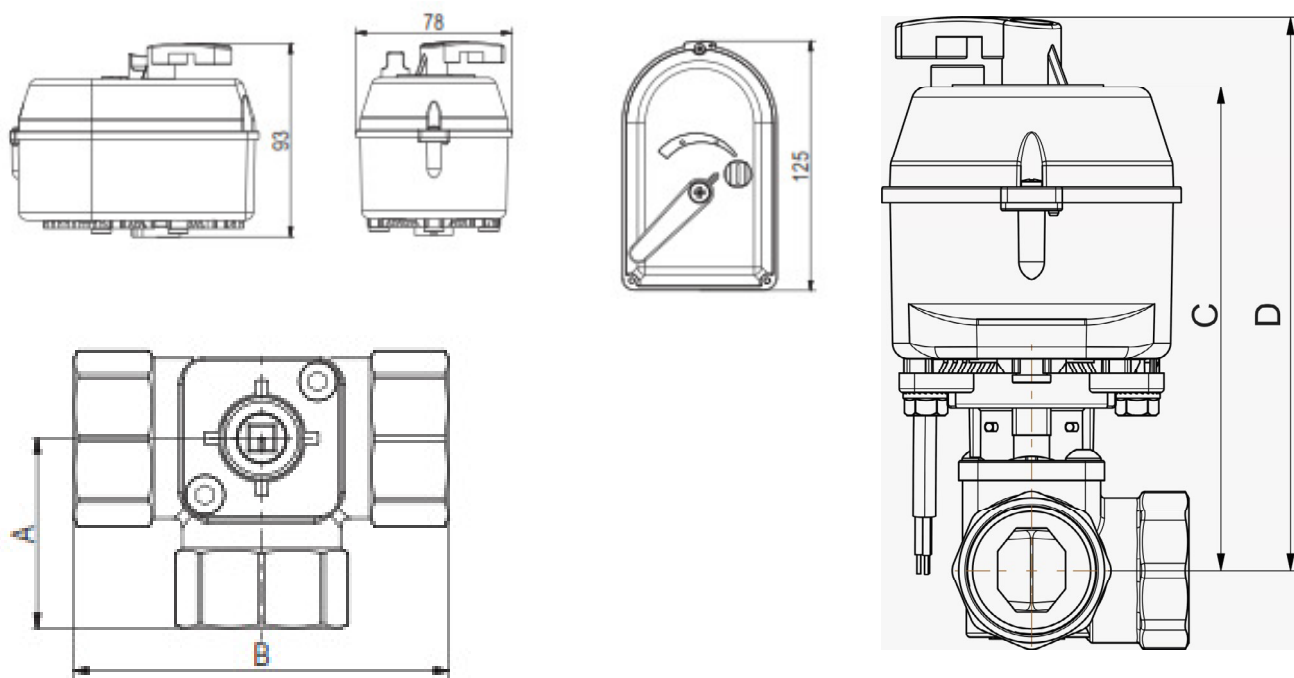
4.1.1.DN15-DN25



4.1.2 DN32-DN50



4.2. Dimensions of mixing unit (valve-actuator)



Rotary Mixing Unit (valve-actuator)

Type	DN	Kvs	Connection	A[mm]	B[mm]	C[mm]	D[mm]	Weight
CRM 15/3.0	15	3	Rp 1/2"	36	72	126	144	1,22
CRM 20/7.0	20	7	Rp 3/4"	36	72	126	144	1,28
CRM 25/11	25	11	Rp 1"	41	82	126	144	1,32
CRM 32/15	32	15	Rp 1 1/4"	47	94	132	149	1,65
CRM 40/25	40	25	Rp 1 1/2"	53	106	139	156	2,35
CRM 50/40	50	40	Rp 2"	60	120	140	158	2,93

5. Annex

5.1. Drawings of valves DN15-DN50

5.2. Drawings of mixing units (valve actuator) DN15-DN50