

## FEATURES

- High flow due to angled seat design
- Anti-waterhammer design (fluid entry under the disc)
- Actuator rotatable through 360°
- In option closing of the valve in case of power failure
- Fluid isolation between electrical actuator and valve body
- LED valves status display
- The valves satisfy Pressure Equipment Directive 2014/68/EU, article 3.3
- The motorised valves comply with the essential requirements of EMC Directive 2014/30/EU (EN-IEC 61000-6-2 and EN-IEC 61000-6-4) and Low Voltage Directive 2014/35/EU (EN-IEC 60730)
- Vacuum operation up to 10<sup>-2</sup> mbar
- The valves satisfy all relevant EC Directives and with the provisions of the Directive RoHS 2

## GENERAL

**Differential pressure** See «SPECIFICATIONS» [1 bar =100 kPa]  
**Maximum allowable pressure** 10 bar  
**Ambient temperature range** -10°C to +50°C

**Maximum viscosity** -10°C to +40°C (for steam at 145°C)  
**Actuating time** 600 cSt (mm<sup>2</sup>/s)  
 < 1,3 s (opening) / < 1,3 s (closing)

fluids (*)	temperature range (TS)	seal materials (*)
air and gas groups 1 & 2	-10°C to +90°C	NBR (nitrile)
water, oil, liquids groups 1 & 2		
steam	up to +145°C	FPM (fluoroelastomer)

## CONSTRUCTION

MATERIALS IN CONTACT WITH FLUID		
(*) Ensure that the compatibility of the fluids in contact with the materials is verified		
	NBR / PBT «K»	FPM / 316L «X»
<b>Valve body</b>	AISI 316L	AISI 316L
<b>Stuffing box housing</b>	PBT, GF reinforced	AISI 316L
<b>Stem valve</b>	AISI 316L	AISI 316L
<b>Stuffing box packing</b>	NBR	FPM
<b>Wiper seal</b>	NBR	FPM
<b>Disc seal</b>	NBR	FPM

## OTHER MATERIALS

<b>Top cover operator</b>	Translucent polyamide (PA)
<b>AC to DC housing (AC)</b>	PA66, GF reinforced

## ELECTRICAL CHARACTERISTICS

<b>Connector</b>	Spade plug (cable Ø 6-10 mm)
<b>Connector specification</b>	ISO 4400 / EN 175301-803, form A
<b>Motor consumption</b>	12 W in operation, 0 W hold Max. peak current: 0,7 A
<b>Visualisation valve (switching)</b>	LED
<b>Electrical safety (adapter AC to DC)</b>	IEC 335 (EN-IEC 60730), class 2
<b>Electrical enclosure protection</b>	IP65 (EN 60529)
<b>Standard voltages</b>	DC (=) : 24V ±10 %, max. ripple 5%
(EN-IEC 61131-2)	AC (~) : 110V to 250V / 50-60 Hz 24V to 48V ±10 % / 50-60 Hz

## RECOMMENDATION FOR MAXIMUM DUTY CYCLE

### FOR NBR / PBT «K» VERSION

<b>Ambient temperature:</b>	<b>+20°C</b>	9 cycles/min <sup>(1)</sup>
	<b>+50°C (max.)</b>	4 cycles/min <sup>(1)</sup>

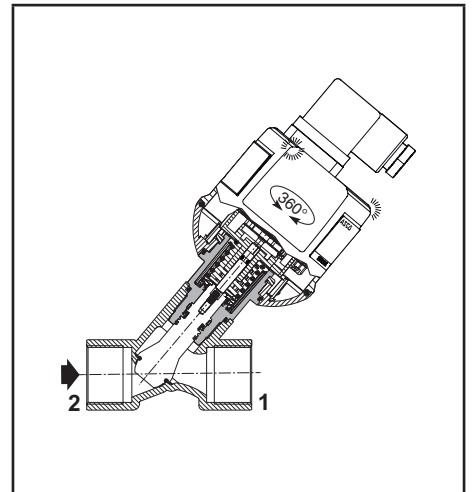
## RECOMMENDATION FOR MAXIMUM DUTY CYCLE

### FOR FPM / 316L «X» VERSION

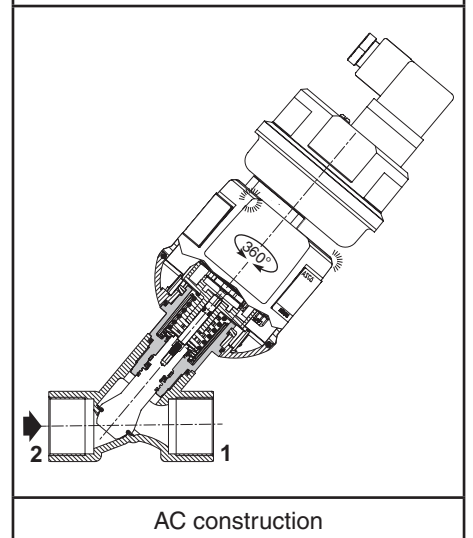
<b>Ambient temperature:</b>	<b>+20°C</b>	9 cycles/min <sup>(1)</sup>	<b>fluid temp.:</b>	<b>+20°C</b>
	<b>+50°C (max.)</b>	4 cycles/min <sup>(1)</sup>		<b>+50°C</b>
	<b>+50°C (max.)</b>	2 cycles/min <sup>(1)</sup>		<b>+120°C</b>
	<b>+40°C (max.)</b>	2 cycles/min <sup>(1)</sup>		<b>+145°C</b>

(\*) Ensure that the compatibility of the fluids in contact with the materials is verified.

<sup>(1)</sup> For other cycles, contact us.



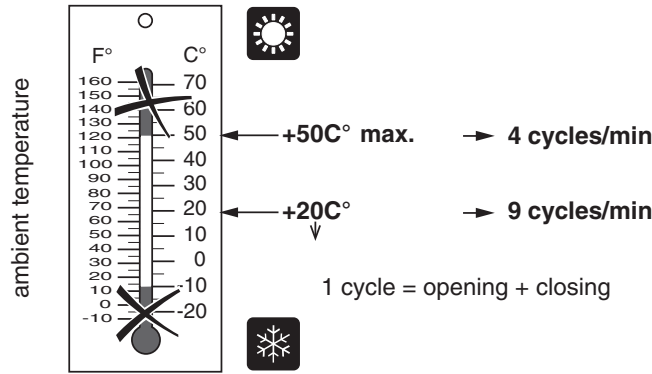
DC construction



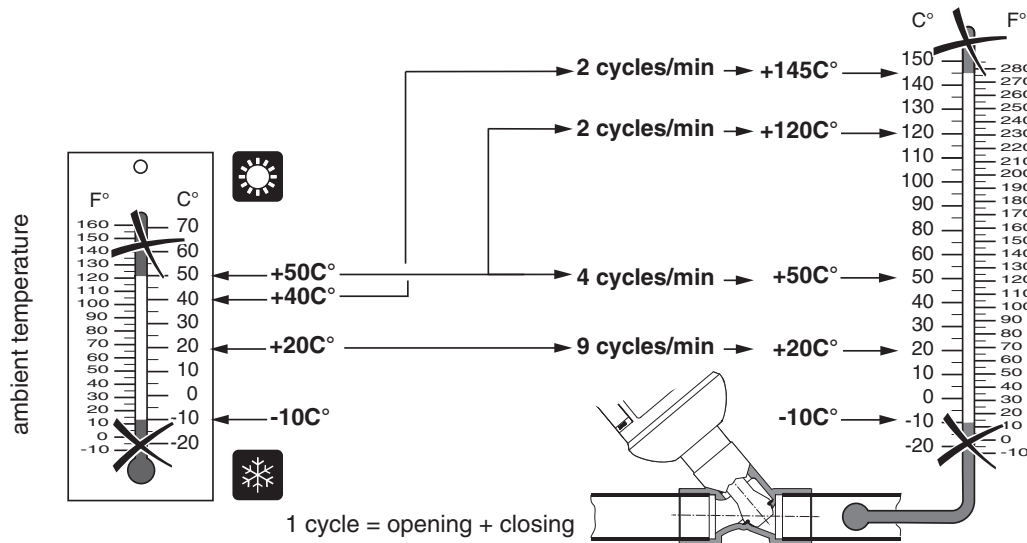
AC construction

**OPERATING CONDITIONS  
RECOMMENDATION FOR MAXIMUM DUTY CYCLE**

**NBR / PBT «K» version**



**FPM / 316L «X» version**



**ACCESSORIES**

**AC to DC adapter:** 110V to 250V/50-60 Hz  
code: **P290CA430078001**  
24V to 48V ±10 % / 50-60 Hz  
code: **P290CA438907001**

**OPTIONS**

**Fail closed (closing of the valve in case of power failure)**

**SPECIFICATIONS**

piping (ISO 6708)		flow coefficient Kv		operating pressure differential (bar)			operator diameter (mm)	thread type	dimensions / type (1)	15-DIGIT PRODUCT CODE			
pipe size	DN	(m³/h)	(l/min)	min.	max.					basic code	voltage code		
					air, water, oil (*)	steam					24 V...48 V / 50-60 Hz	110 V...250 V / 50-60 Hz	24 V/DC
<b>Motorised valve, entry under the disc - NBR / PBT «K» version</b>													
3/8	10	2,7	45	0	6	-	67	G*	1	<b>E290C52V0KA00</b>			
1/2	15	3,8	63	0	5	-	67	G*	1	<b>E290C53V0KA00</b>			
3/4	20	6	100	0	4	-	67	G*	1	<b>E290C54V0KA00</b>			
<b>Motorised valve, entry under the disc - FPM / 316L «X» version</b>													
3/8	10	2,7	45	0	6	4	67	G*	1	<b>E290C52V0XA00</b>			
1/2	15	3,8	63	0	5	4	67	G*	1	<b>E290C53V0XA00</b>			
3/4	20	6	100	0	4	4	67	G*	1	<b>E290C54V0XA00</b>			

(1) For dimensions, see drawing(s) for each construction type on the following page(s).

(\*) Ensure that the compatibility of the fluids in contact with the materials is verified.

All leaflets are available on: [www.asco.com](http://www.asco.com)

[Configurator - CAD Files](#)

**15-DIGIT PRODUCT CODE**

**E 290 C 5 4 V 0 K A00 V1**

**Pipe thread**

E = ISO 228/1 & ISO 7/1 (combination thread)  
8 = NPT (on request)

**Product series**  
290

**Revision letter**  
C = Initial release

**Function**  
5 = Standard

**DN**  
2 = DN 10  
3 = DN 15  
4 = DN 20

**Motorised operator dia.**  
V = Ø 67 mm

**Voltage**

V1 = 24 V DC - class B  
VW = 110 V...250 V 50/60 Hz - class B  
UA = 24 V...48 V 50/60 Hz - class B

**A00 = Standard Options**  
EFC = Fail closed

**Materials**

K = AISI 316L body,  
SS 316L stem,  
PBT stuffing box & NBR  
X = AISI 316L body,  
SS 316L stem,  
AISI 316L stuffing box & FPM

**Port**

0 = 2 way

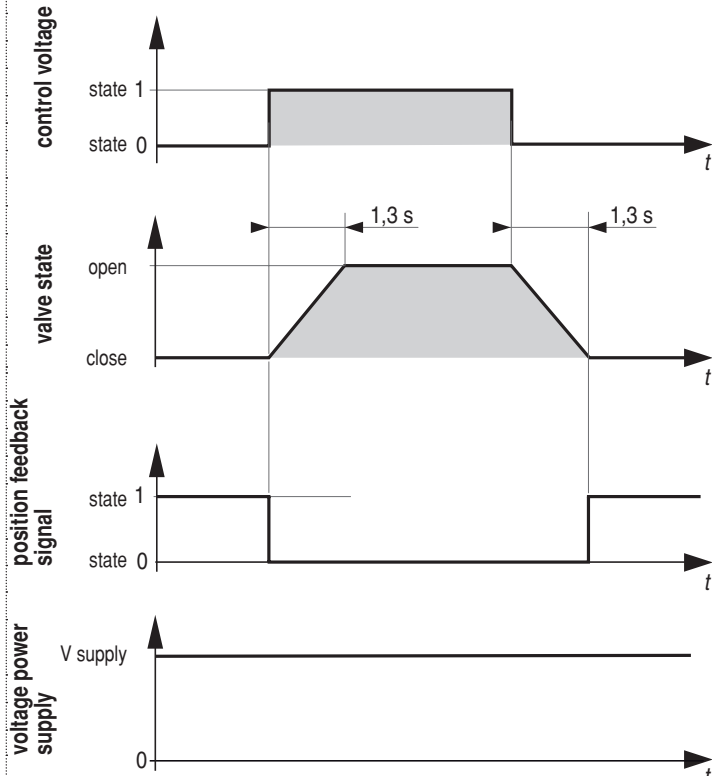
**INSTALLATION**

- The valves can be mounted in any position without affecting operation
- Pipe connections (G\*) have standard combination thread according to ISO 228/1 and ISO 7/1
- Other pipe connections are available on request
- Installation/maintenance instructions are included with each valve
- LED indicators for operating status display

status	valve OPEN	green
	valve CLOSED	orange
	valve moves to open	green flashing
	valve moves to close	orange flashing

### OPERATING DIAGRAM

standard



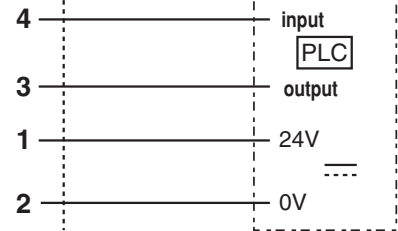
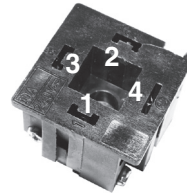
### WIRING DC

24 V ±10 % / DC

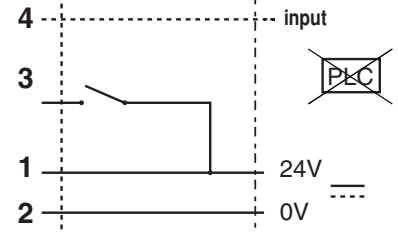
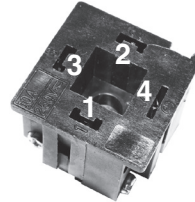


1	24 V / DC
2	0 V
3	control
4	feedback signal

With PLC

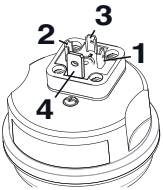


Without PLC



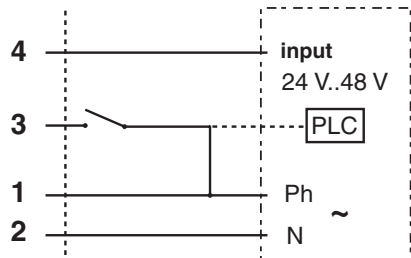
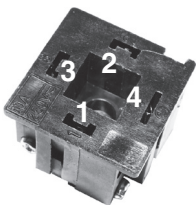
### WIRING AC

24 V...48 V ±10 % / AC 50/60 Hz

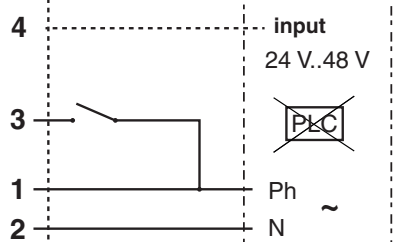
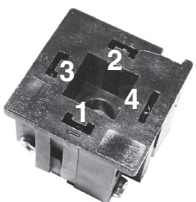


1	phase (Ph)
2	neutral (N)
3	control
4	feedback signal

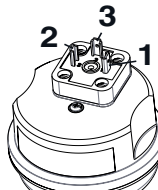
With PLC



Without PLC

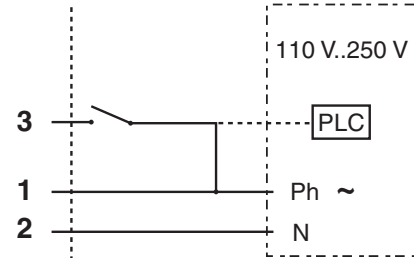
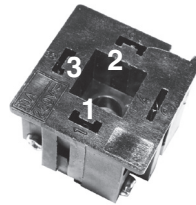


110 V...250 V / AC 50/60 Hz

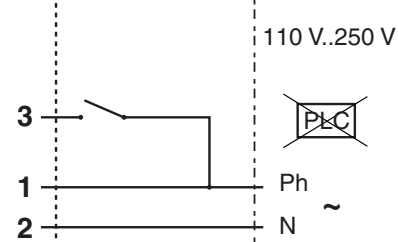
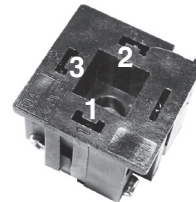


1	phase (Ph)
2	neutral (N)
3	control
-	-

With PLC

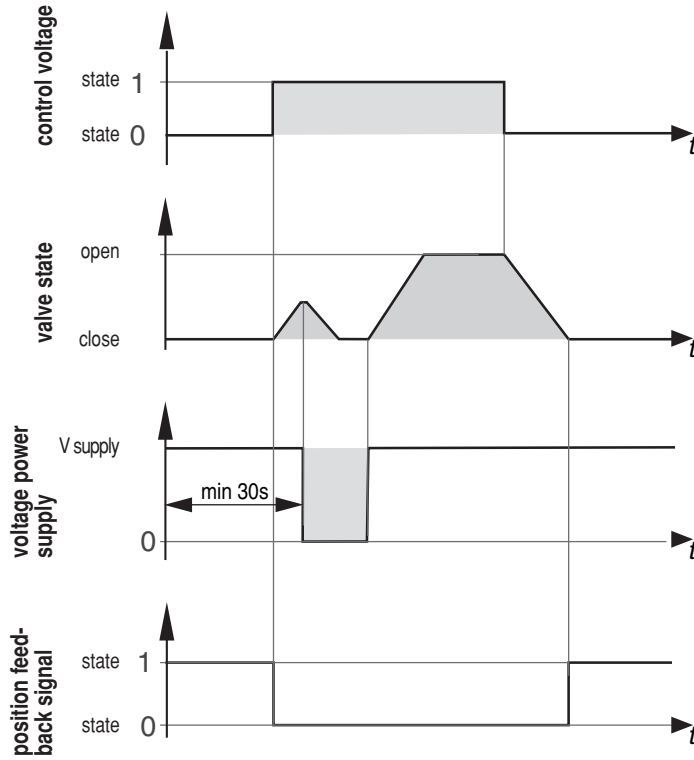


Without PLC



### OPERATING DIAGRAM

fail closed



(\*) Initialisation

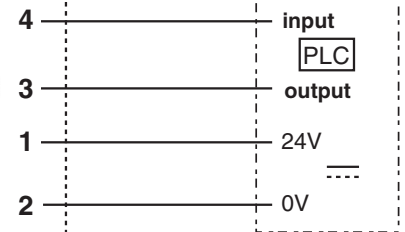
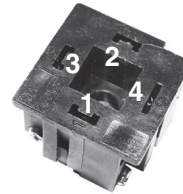
### WIRING DC

24 V ±10 % / DC

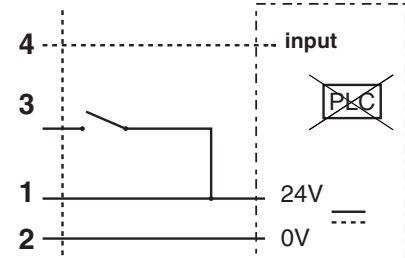
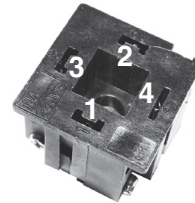


1	24 V / DC
2	0 V
3	control
4	feedback signal

With PLC

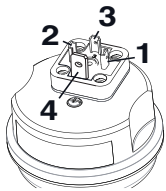


Without PLC



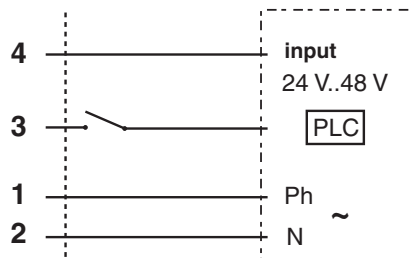
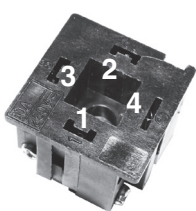
### WIRING AC

24 V...48 V ±10 % / AC 50/60 Hz

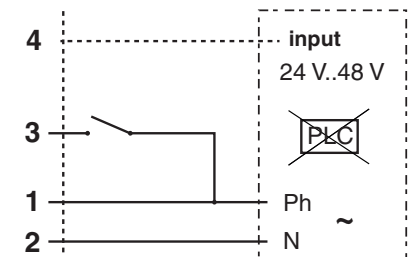
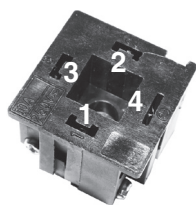


1	phase (Ph)
2	neutral (N)
3	control
4	feedback signal

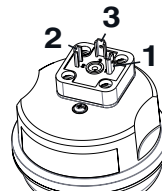
With PLC



Without PLC

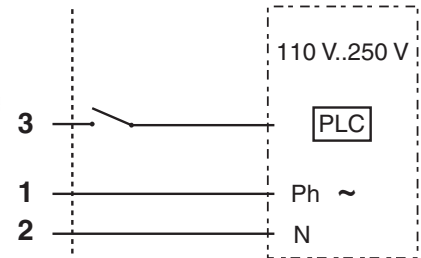
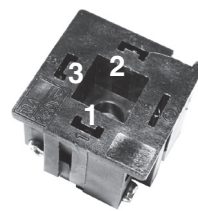


110 V...250 V / AC 50/60 Hz

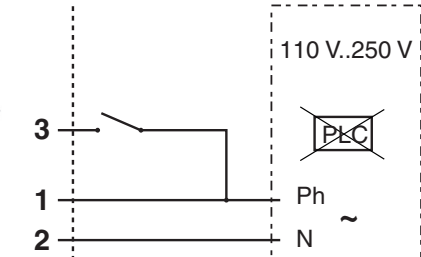
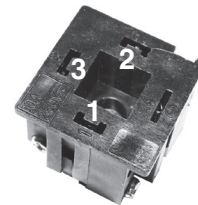



1	phase (Ph)
2	neutral (N)
3	control
-	-

With PLC



Without PLC



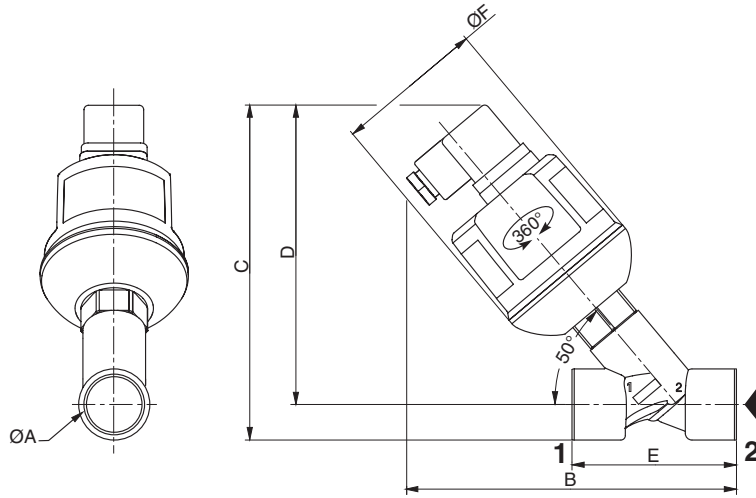
**DIMENSIONS (mm), WEIGHT (kg)** 

[Configurator - CAD Files](#)



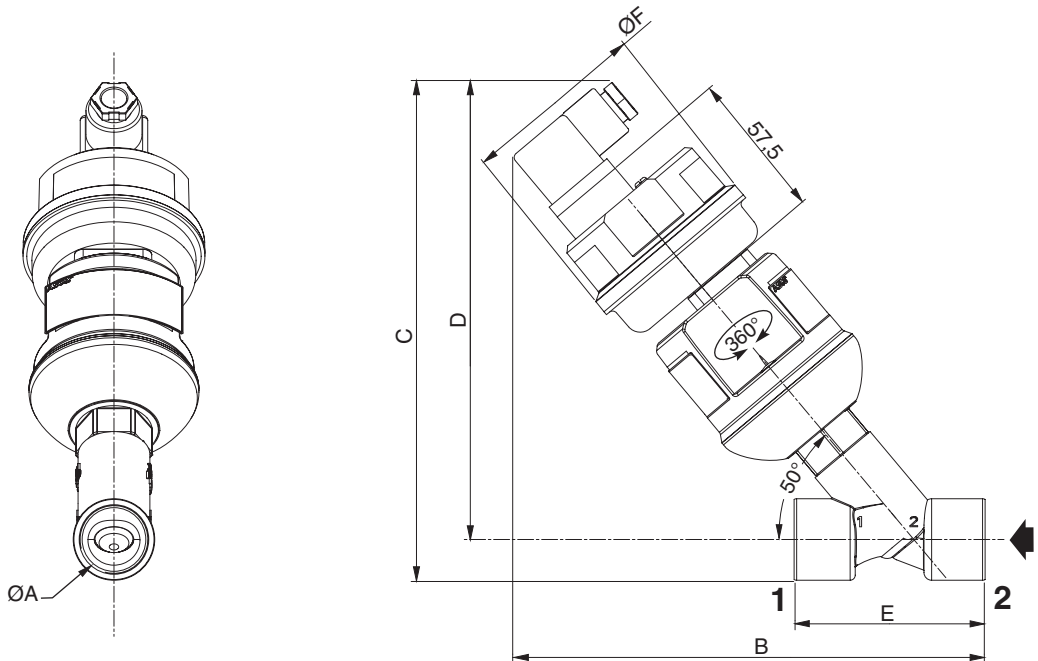
**TYPE 01**

DC version  
67 mm motorised operator  
Fluid entry: under the disc at 2  
ISO 4400 connector



**TYPE 02**

AC version (accessories)  
67 mm motorised operator with AC adapter  
Fluid entry: under the disc at 2  
ISO 4400 connector



type	Ø A	B	C	D	E	Ø F	weight <sup>(1)</sup>	
							NBR / PBT «K»	FPM / 316L «X»
<b>DC version</b>								
01	3/8	135	141	129	55	67	0,40	0,45
	1/2	142	145	131	65	67	0,45	0,55
	3/4	150	152	136	75	67	0,55	0,65
<b>AC version</b>								
02	3/8	171	189	175	55	71	0,50	0,60
	1/2	178	191	177	65	71	0,55	0,65
	3/4	186	196	180	75	71	0,65	0,75

<sup>(1)</sup> Incl. connector.