

# 762-763 VALVE WITH TCR ACTUATOR

## FEATURES

The 762-763+TCR ball valve is designed for the automatic opening / closing of pipes with medium pressure, non-loaded industrial fluids. The 762-763 valve is a full-bore split-body valve, EC 2014/68-, ATEX-, fire safe- and ISO 15848-1-approved. Its size is standardised according to EN 558-1 series 27. The ISO 5211 mounting pad enables the actuator to be directly assembled. The latter is suitable for S3-S4 type service factor, installed indoors or outdoors under shelter.

## AVAILABLE MODELS

**762:** 1.0619 carbon steel body.

**763:** 1.4408 SS body.

DN 15 to DN 125 diameters.

**DN 15 to DN 50:** PN16/40 RF flange connections.

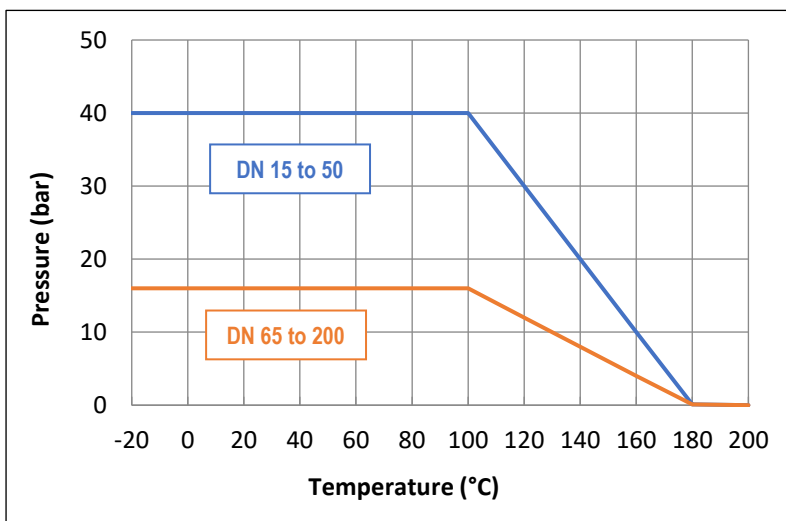
**DN 65 to DN 125:** PN16/40 RF flange connections.

**Supply voltages:** 12V DC, 24V DC, 24V AC and 230V AC.



## LIMITS OF USE

<b>Fluid pressure: PS</b>	<b>DN 15 to 50:</b> 40 bar (20°C) <b>DN 65 to 125:</b> 16 bar (20°C)
<b>Fluid temperature: WT</b>	-20°C / 200°C
<b>Ambient temperature</b>	- 10°C / + 50°C
<b>Service factor</b>	S4 - 50% (TCR 02N-05N-11N)
	S3 - 85% (TCR 20N-40N)



Information given as an indication only, and subject to possible modifications



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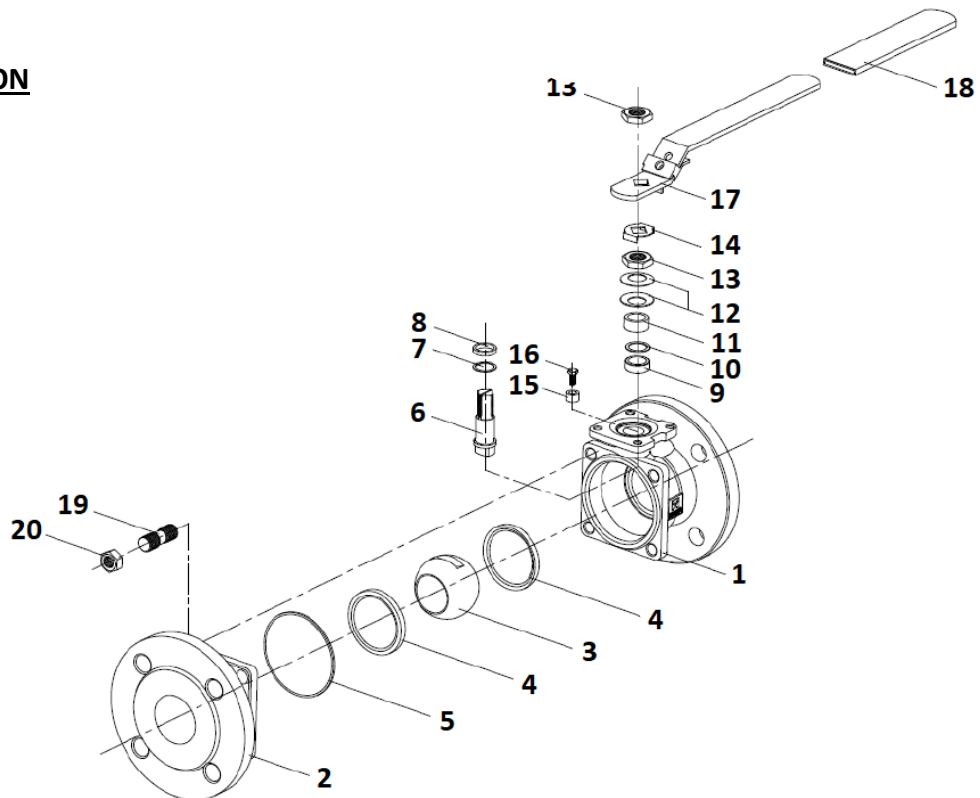
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## DIRECTIVES AND MANUFACTURING STANDARDS

OBJECT	Standard	ON	OBJECT	Standard
Pressure Equipment Directive 2014/68/EC	<b>DN 15 and 20:</b> not subject		Final test	NKS 12266
	<b>DN 25 to 200:</b> category II	0035	Material certificate	NKS 10204
Size	EN 12516-1		Steel grades	EN 1503-1
Flange dimensions	EN 1092-1		Face-to-face dimension	EN 558-1 series 27
Fire safe	API 607		Connection Motorisation	ISO 5211:

## CONSTRUCTION



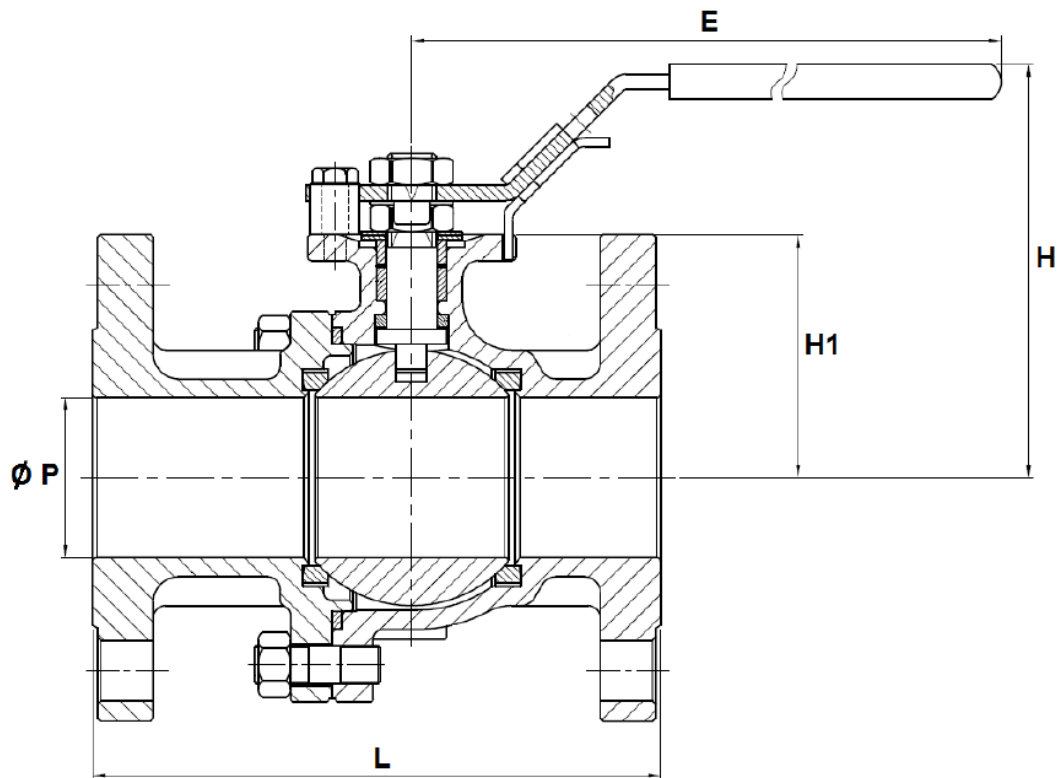
No.	Name	Steel 762	Stainless steel 763	No.	Name	Steel 762	Stainless steel 763
1	Body	1.0619 steel	1.4408 SS	12	Belleville washers	301 SS	
2	Ends	1.0619 steel	1.4408 SS	13	Nut	304 SS	
3	Ball	1.4408 SS		14	Lock washer	304 SS	
4	Seat	Glass loaded PTFE		15	Pointer	304 SS	
5	Body gasket	Graphite		16	Stop screw	304 SS	
6	Stem	ASTM A276 316 SS		17	Handle	304 SS	
7	Ring	Carbon loaded PTFE		18	Sheath	PVC	
8	Ring	Carbon loaded PTFE		19	Stud	304 SS	
9	CG gasket	Graphite		20	Nut	304 SS	
10	CG gasket	Carbon loaded PTFE					

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## DIMENSIONS (mm)



DN	15	20	25	32	40	50	65	80	100	125	150	200
Ø P	15	20	24	30	38	50	64	76	98	125	150	200
L	115	120	125	130	140	150	170	180	190	325	350	400
E	158	158	196	196	245	261	400	400	400	743	743	925
H	76.5	78.1	92	96	109.1	115.6	188	194	215	239.6	256.5	323.5
H1	39	42.5	52	56	66	73	86.5	91.5	113.5	147	170	201
Weight (kg)	2.3	3	4	5.5	7	9.3	14.4	17.5	23.3	36.7	52	78

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## TCR ELECTRICAL MOTORISATION

The TCR motorisation proposed as standard comprises:

- IP67 plastic housing for actuator and steel gear box,
- a safety coefficient of 1.3 minimum compared to the nominal torque of the valve,
- an upstream / downstream pressure difference  $\Delta P=10$  bar max.

The actuator's assembly is direct.

DN	Actuator	Power 230V AC / 24V AC/DC	Time 230V AC	Time 24 V AC-DC	Standard equipment of the actuator
15	TCR-02N	15	10s	10s	2 adjustable limit switches 2 dry auxiliary contacts Thermal protection of the motor 2-3W anti-condensation resistance Stand-by manual control with key 3D Position visual indicator Electrical connection: <b>TRC02:</b> 1 x PE M10 + 1.5m cable <b>TCR05:</b> 1 x PE M20 + 1.5m cable <b>TCR11:</b> 2 x PE M14 + 1.5m cable <b>TCR20:</b> 2 x PE M20 + 1.5m cable <b>TCR40:</b> 2 x PE M20 + 1.5m cable
20	TCR-02N	15	10s	10s	
25	TCR-05N	25	12s	12s	
32	TCR-05N	25	12s	12s	
40	TCR-05N	25	12s	12s	
50	TCR-11N	100	10s	10s	
65	TCR-11N	100	10s	10s	
80	TCR-20N	50	25s	25s	
100	TCR-40N	80	25s	25s	
125	TCR-40N	80	25s	25s	

For any other operating conditions, please contact us.


\* indicative time for actuator running empty

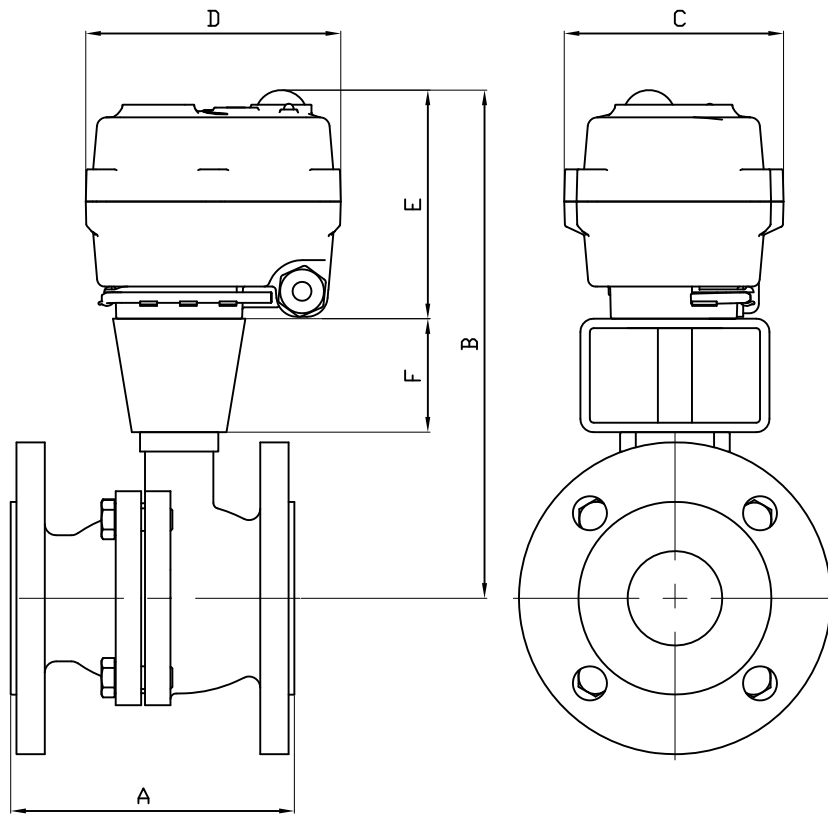
## MOTORISATION OPTIONS

There are many options, so please contact our sales service for more information on these:

2	Actuator dimensioned for an upstream / downstream pressure difference $\Delta P$ greater than 10 bar
3	NF actuator – return via condenser – TCR-KT32
4	High-speed actuator - TRC-NH
5	Smart actuator with manoeuvring time adjustment - TCR-C
6	Control actuator – TCR-T
7	NF control actuator – return via condenser – TCR-T-KT32
8	Field bus actuator - TCR-B
9	Actuator with in-built timer – TCR-D
10	Wireless actuator – TCR-R

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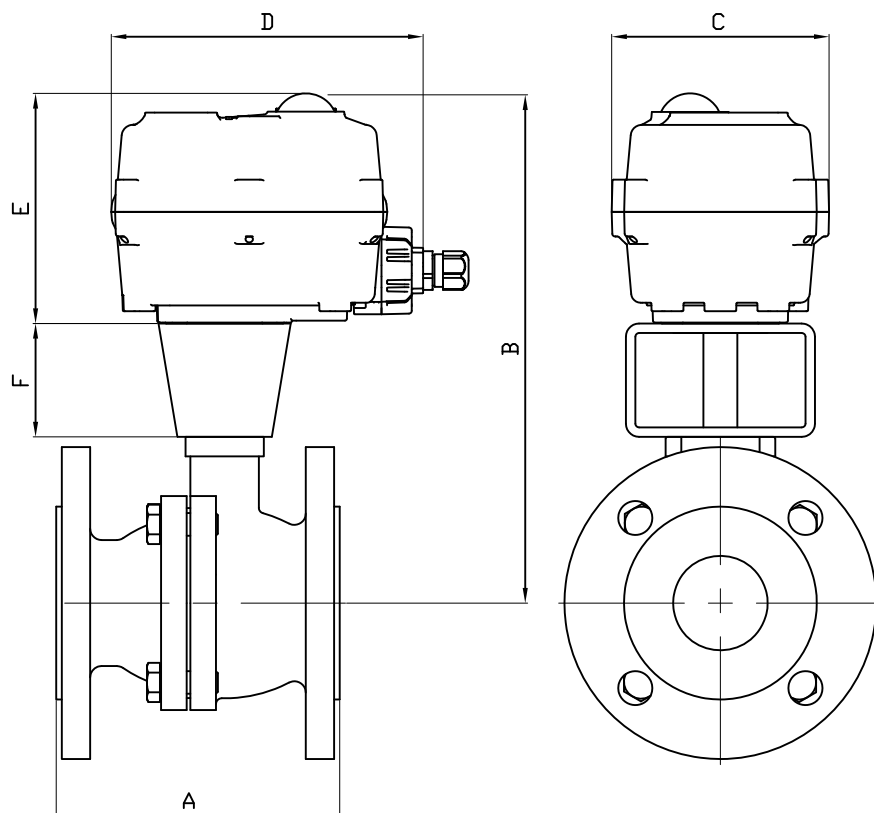


TCR-02-05

DN	15	20	25	32	40
SERVO	TCR02	TCR02	TCR05	TCR05	TCR05
A	115	120	125	130	140
B	189	192.5	233	237	247
C	70	70	111	111	111
D	104	104	132	132	132
E	90	90	121	121	121
F	60	60	60	60	60
KG	3.4	4.1	5.9	7.6	8.8

Informations données à titre indicatif et sous réserve de modifications éventuelles  
data subject to alteration


				DN15-40 et TCR02 TCR05 uniquement	18/03/2021	B
				Pour DN50 TCR11 ald TCR05	18/09/2019	A
Ech: /	Date :10/09/2019	Dessiné par :E.D.	Tolérances générales : +/- 0.2	Modifications	Date	REV.
ROBINET A TOURNANT SPHERIQUE 762-763HTM/BALL VALVE 762-763HTM + SERVOMOTEUR TCR02-TCR05/ ELECTRIC ACTUATOR TCR02-TCR05				Matière :		
				Poids (Kg) :		
				Traitement : SANS		
				Plan n° Ens 1388B		
45, Rue du Ruisseau 38297 SAINT QUENTIN FALLAVIER						



TCR-11-20-40

DN	50	65	80	100	125
SERVO	TCR11	TCR11	TCR20	TCR40	TCR40
A	150	170	180	190	325
B	255	288.5	343.5	365.5	419
C	115	115	160	160	160
D	165	165	270	270	270
E	122	122	172	172	172
F	60	80	80	80	100
KG	13.1	20.1	24.5	30.3	44.9

Informations données à titre indicatif et sous réserve de modifications éventuelles  
data subject to alteration

Ech: /	Date :16/03/2021	Dessiné par :E.D.	Tolérances générales : +/- 0.2	Modifications	Date	REV.
ROBINET A TOURNANT SPHERIQUE 762-763HTM/BALL VALVE 762-763HTM + SERVO-MOTEUR TCR11-40/ ELECTRIC ACTUATOR TCR11-40				Matière :		
				Poids (Kg) :		
 45, Rue du Ruisseau 38297 SAINT QUENTIN FALLAVIER				Traitement : SANS		
				Plan n° Ens 1470		

# TCR-N ELECTRICAL ACTUATOR

## FEATURES

The TCR-N electric actuators are intended for motorising ¼ turn valves with a torque of 15, 20, 50, 110, 200 or 400 Nm. With a compact construction and plastic housing, they are especially well suited for motorising ball valves and butterfly valves. Several variants offer advanced functions. IP67 leak-tightness: to be used indoors and, possibly, outdoors under a shelter. Possible installation in parallel. Manual control with a key.

## AVAILABLE MODELS

Supply voltages: 230V AC, 24V AC/DC, 12V DC.

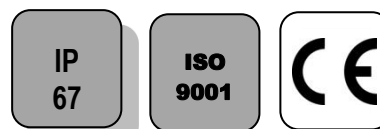


## LIMITS OF USE

IP Code	IP 67
Ambient temperature	- 20°C / +60°C
Service factor	S4 - 50% (TCR 02-05-11)
	S3 - 85% (TCR 20-40)

## MECHANICAL FEATURES

Gear box	treated steel pinions
Torques	15 - 20 - 50 - 110 - 200 - 400 Nm
Angle of rotation	90° +/- 2°
Declutching	Without (TCR 02-05-11)
	With (TCR 20-40)
Override control	By key



Actuator	TCR 02N			TCR 05N		
	Torques (Nm)	15	20	20	50	
Voltage	12V DC	24V AC-DC	95-265V AC-DC	12VDC	24V AC-DC	95-265V AC-DC
Manoeuvring time (s)	15	10	10	12	12	12
ISO 5211:	F03/F05 - star 11			F05/F07 - star 14		

Actuator	TCR 11N			TCR 20N			TCR 40N		
	Torques (Nm)	110			200			400	
Voltage	12V DC	24V AC-DC	95-265V AC-DC	12VDC	24V AC-DC	95-265V AC-DC	12V DC	24V AC-DC	95-265V AC-DC
Manoeuvring time (s)	10	10	10	25	25	25	25	25	25
ISO 5211:	F05/F07 - star 17			F07/F10 - star 22			F07/F10 - star 22		

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# TCR-N ELECTRICAL ACTUATOR

## ELECTRICAL FEATURES

Actuator	TCR 02N	TCR 05N
Motor protection	Thermal switch	
Limit switches	2 adjustable switches	
Auxiliary switches	2 adjustable dry switches	
Anti-condensation	integrated	
Electrical connection	PE M10 + 1.5m cable	PE M20 + 1.5m cable

Actuator	TCR 02N			TCR 05N		
Voltage	12V DC	24V AC-DC	95-265V AC-DC	12V DC	24V AC-DC	95-265V AC-DC
Power (W)	15	15	15	25	25	25
Current (A)	1,5	1,5	0,09	1,67		0,18 - 0,37
Fuse Protection (A)	5	5	1	8		1 - 2

Actuator	TCR 11N	TCR 20N	TCR 40N
Motor protection	Thermal switch		
Limit switches	2 adjustable switches		
Auxiliary switches	2 adjustable dry switches		
Anti-condensation	Integrated		
Electrical connection	2 x PE M14 + 1,5m cable	2 x PE M20 + 1.5m cable	2 x PE M20 + 1,5m cable

Actuator	TCR 11N			TCR 20N			TCR 40N		
Voltage	12V DC	24V AC-DC	95-265V AC-DC	12V DC	24V AC-DC	95-265V AC-DC	12V DC	24V AC-DC	95-265V AC-DC
Power (W)	100	100	100	50	50	50	80	80	80
Current (A)	2,5		0,3 - 0,6	2		0,22	3,3		0,36
Fuse Protection (A)	5		2 - 3	3		5	8		2

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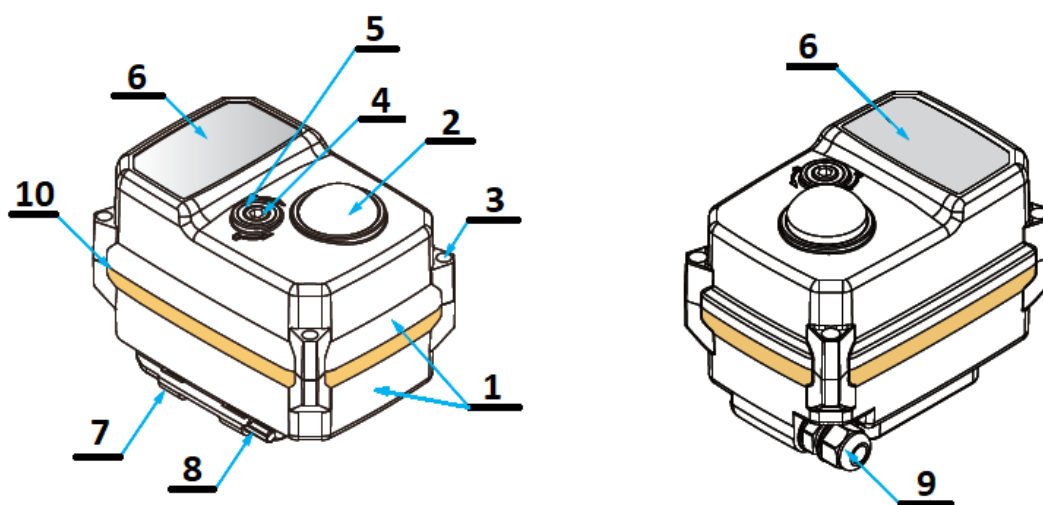


# TCR-N ELECTRICAL ACTUATOR

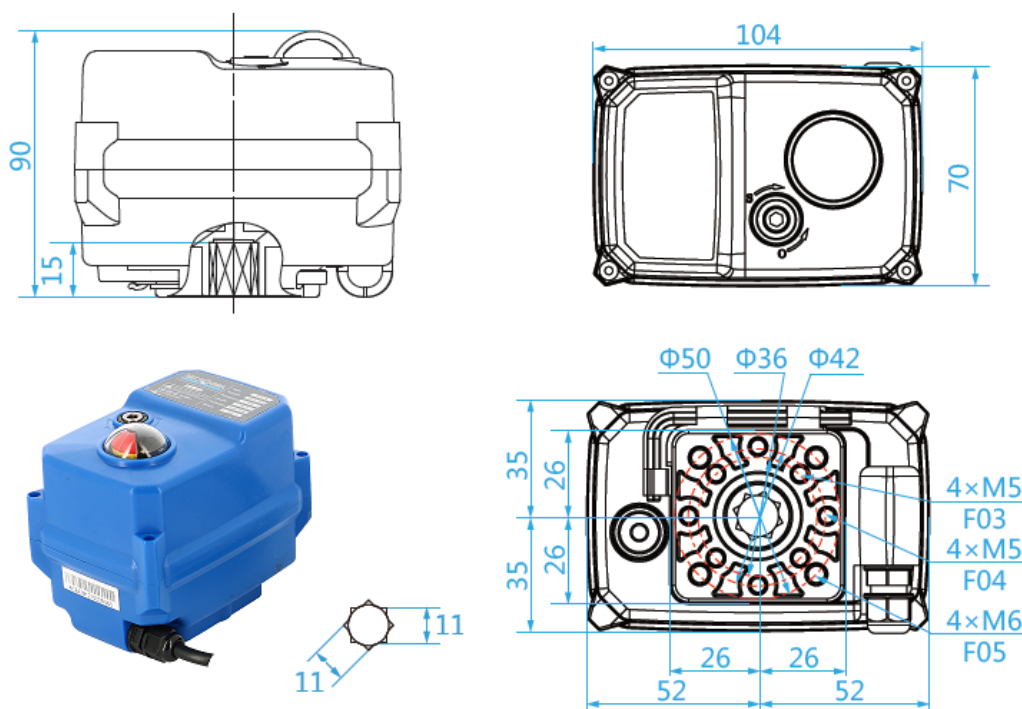
## CONSTRUCTION (TCR-02N)

TCR-02N					
No.	Name	Material	No.	Name	Material
1	Casing + lid	Plastic (ABS)	6	Rating plate	PVC
2	Position indicator	Polycarbonate plastic	7	Key support	Plastic (ABS)
3	Screw x 4	Aisi 304	8	Hex key	Steel
4	Backup control stem	Aisi 304	9	Packing gland	Nylon
5	Gasket	NBR	10	Cover gasket	NBR

Weight (kg): 0.620



## DIMENSIONS (mm)



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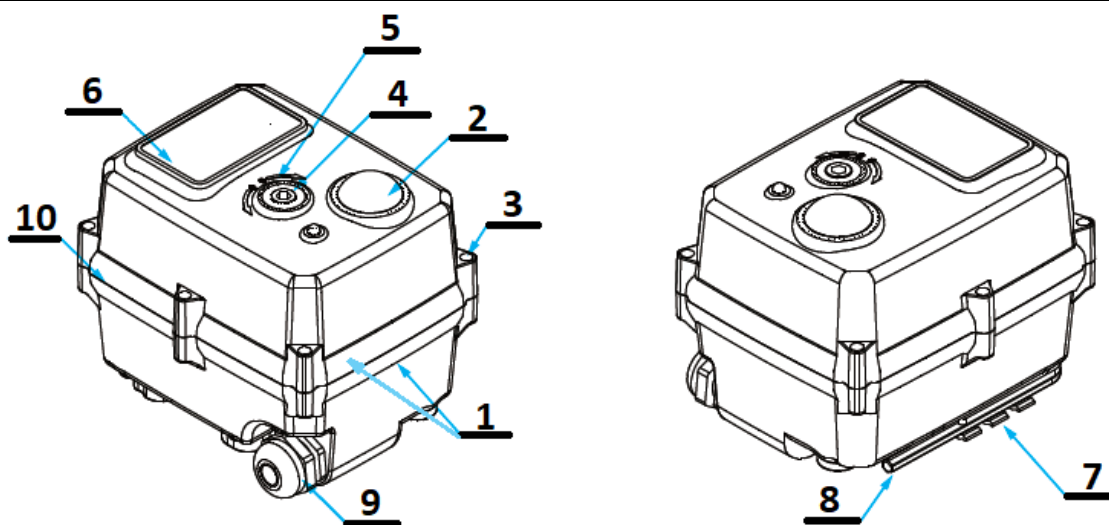
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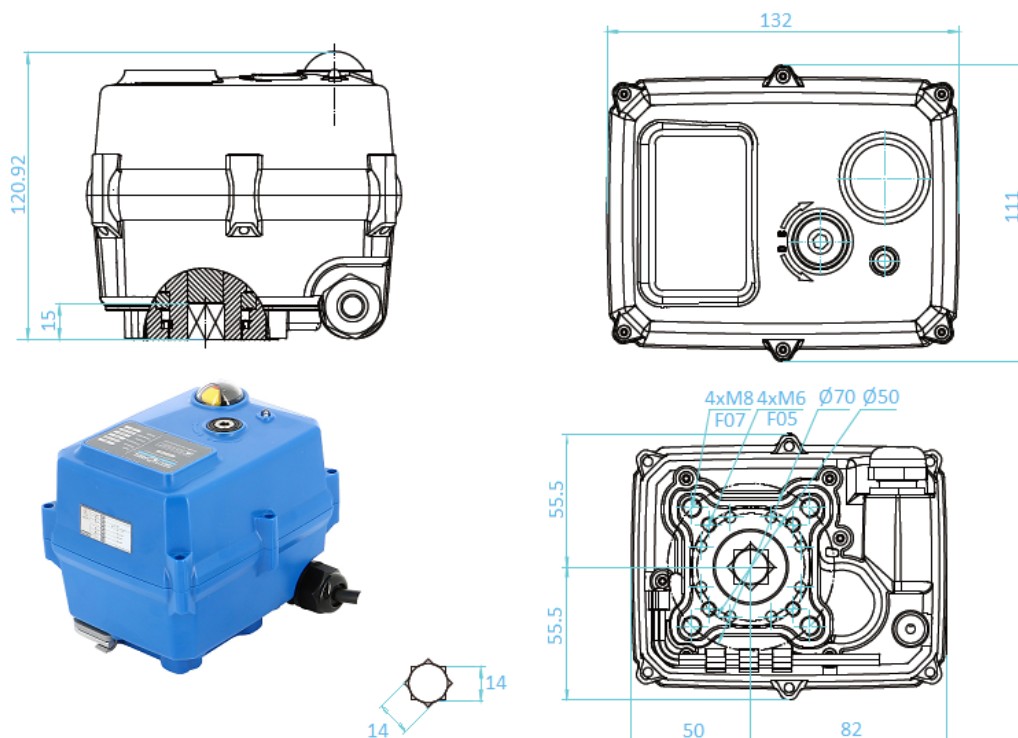
## CONSTRUCTION (TCR-05N)

TCR-05N					
No.	Name	Material	No.	Name	Material
1	Casing + lid	Plastic (ABS)	6	Rating plate	PVC
2	Position indicator	Polycarbonate plastic	7	Key support	Plastic (ABS)
3	Screw x 6	Aisi 304	8	Hex key	Steel
4	Backup control stem	Aisi 304	9	Packing gland	Nylon
5	Gasket	NBR	10	Cover gasket	NBR


Weight (kg): 1.800



## DIMENSIONS (mm)



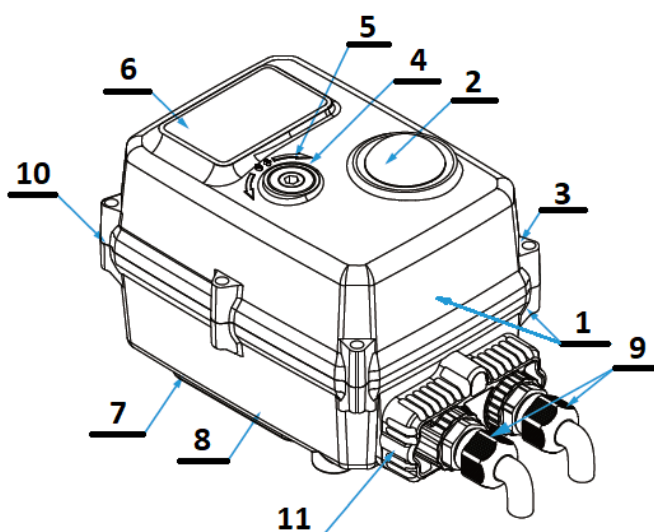
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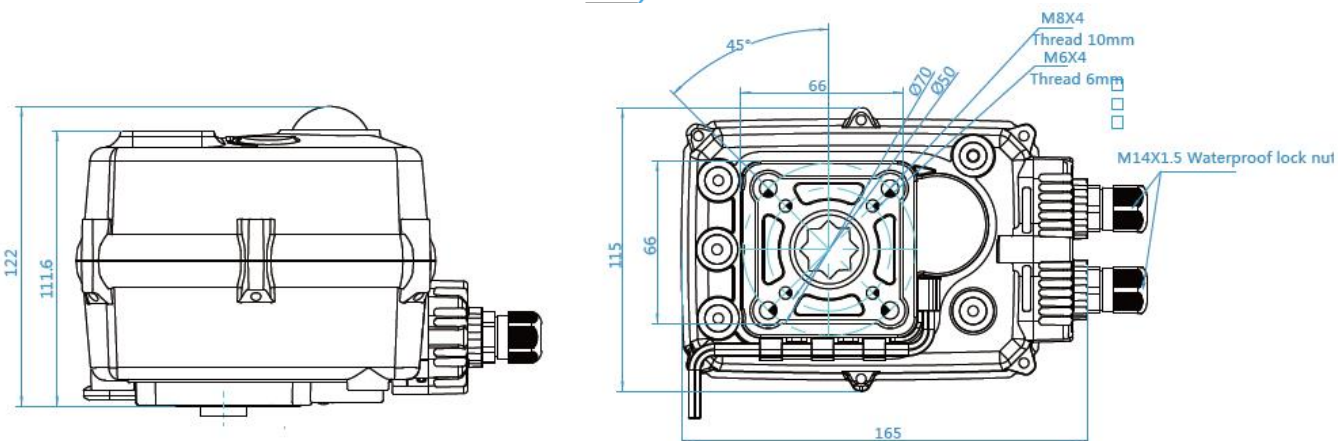
# TCR-N ELECTRICAL ACTUATOR

## CONSTRUCTION (TCR-11N)

TCR-11N					
No.	Name	Material	No.	Name	Material
1	Casing + lid	Plastic (ABS)	6	Rating plate	PVC
2	Position indicator	Polycarbonate plastic	7	Key support	Plastic (ABS)
3	Screw x 6	Aisi 304	8	Hex key	Steel
4	Backup control stem	Aisi 304	9	X 2 Packing gland	Nylon
5	Gasket	NBR	10	Cover gasket	NBR
Weight (kg): 2.200			11	Cable gland unit	Plastic (ABS)



## DIMENSIONS (mm)



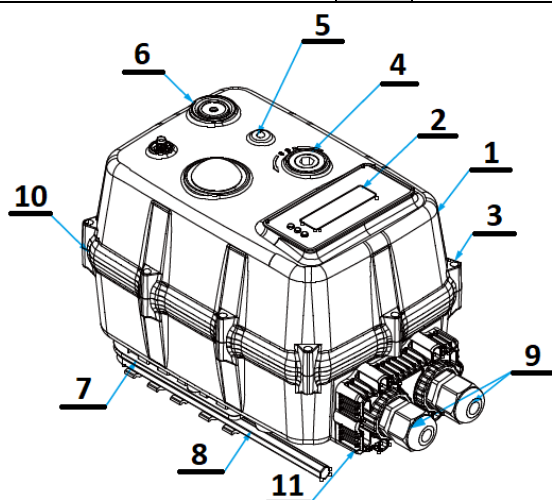
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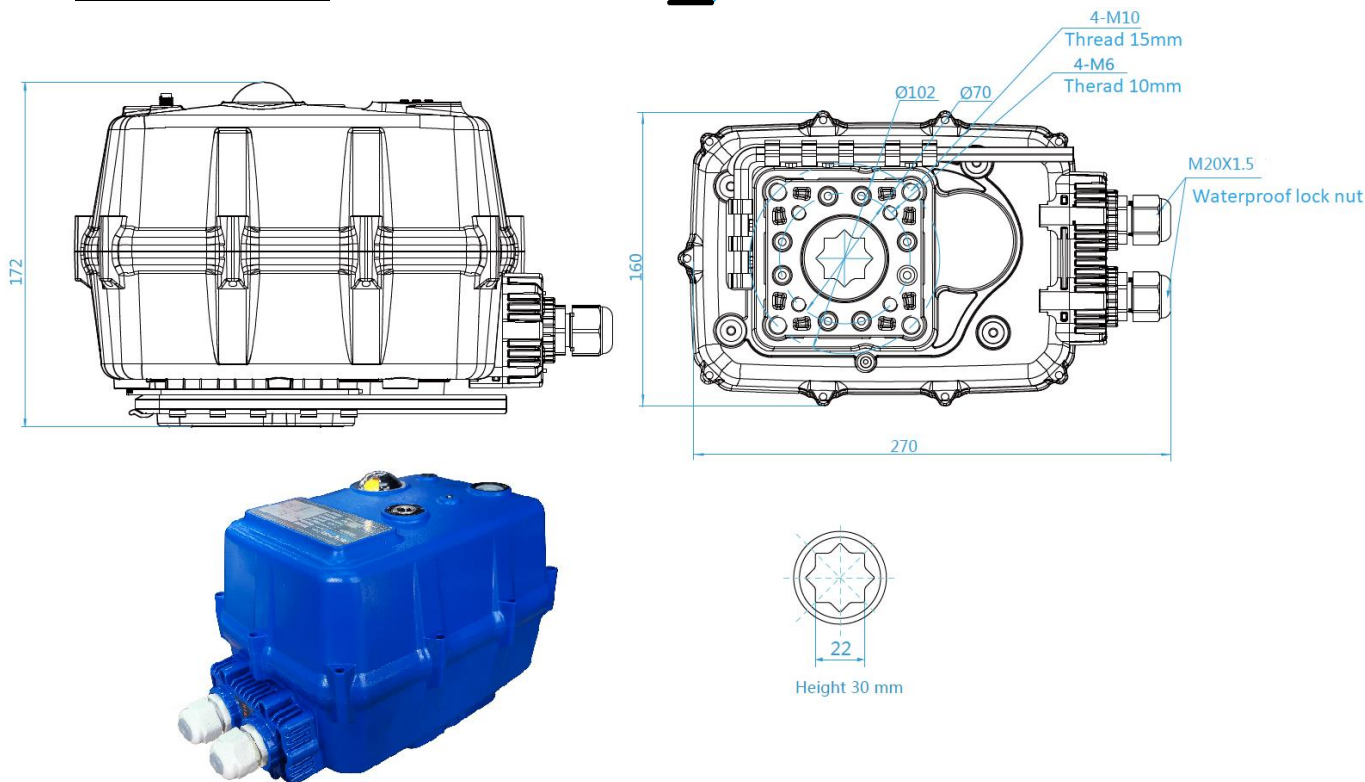
# TCR-N ELECTRICAL ACTUATOR

## CONSTRUCTION (TCR-20N / TCR-40N)

TCR-20N / TCR-40N					
No.	Name	Material	No.	Name	Material
1	Casing + lid	PC + PET	6	Clutch	Polyoxymethylene POM
2	Position indicator	Polycarbonate plastic	7	Key support	Plastic ABS
3	Screw x 6	Aisi 304	8	Hex key	Steel
4	Backup control stem	Aisi 304	9	X 2Packing gland	Nylon
5	LED	Transparent PC	10	Cover gasket	NBR
Weight (Kg) : 6,000			11	Cable gland unit	Plastic ABS



## DIMENSIONS (mm)

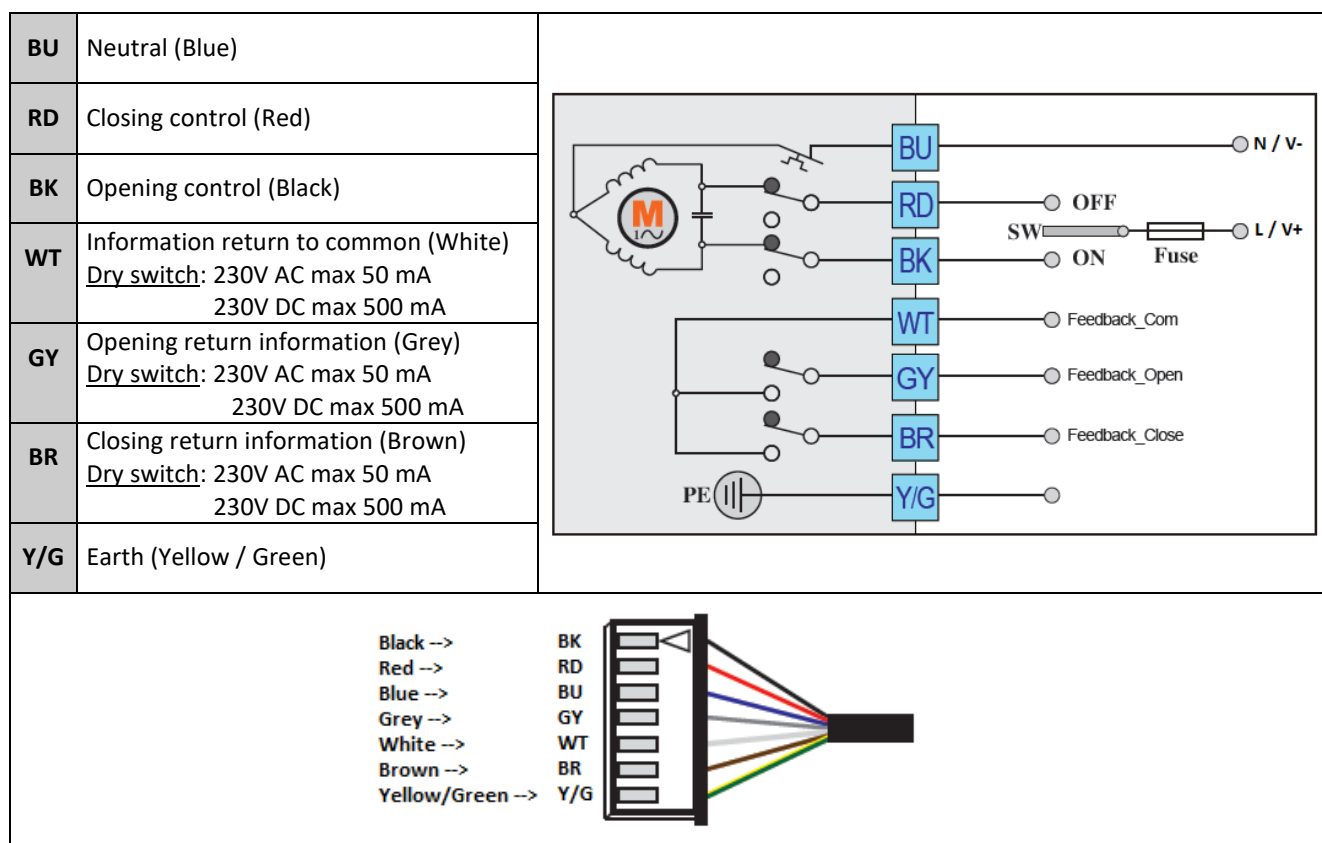


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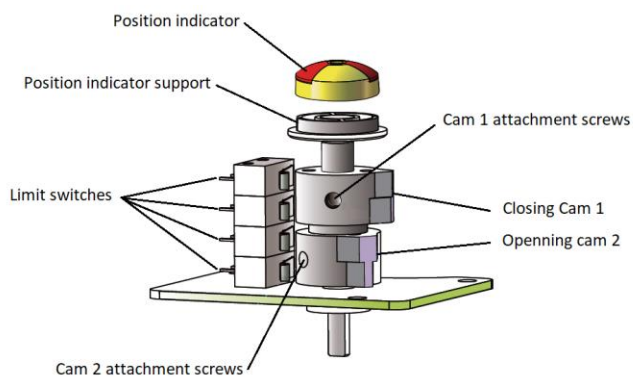
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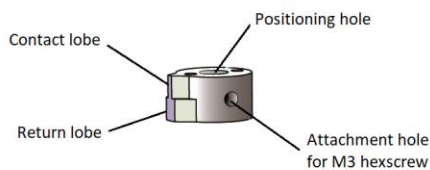
## WIRING DIAGRAM



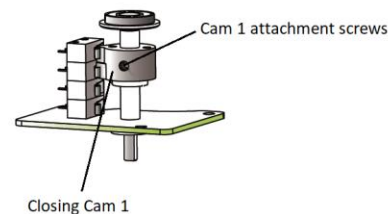
## SWITCH SETTING



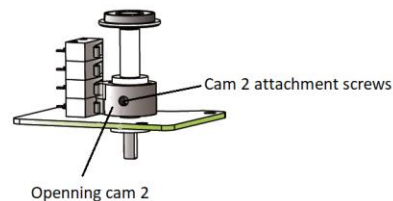
**GENERAL VIEW**



**CAM DETAIL**



**CLOSING CAM ADJUSTMENT**



**OPENING CAM ADJUSTMENT**

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# TCR-N ELECTRICAL ACTUATOR

## TROUBLESHOOTING

Defect met	Cause of defect	Method of solving
Inactive actuator	Non-connected electrical grid.	Connect to the electrical grid.
	Wrong voltage.	Check the actuator's voltage.
	Motor overheating.	Check the torque on the valve.
	Faulty connection.	Check the connection to the terminal box.
	Damaged start capacitor.	Contact the supplier for repair.
No switch signal	Faulty connection.	Check the connections.
	Damaged microswitch	Change the microswitch
Valve that is not fully closed	Use the return signal from the actuator check.	Receiving a return signal does not mean that the actuator is fully closed, hence do not cut the power supply.
	The hysteresis increases due to wear or between the actuator and the valve's stem.	Readjust the limit cams. Contact the supplier for repair.
Presence of humidity or water in the actuator	Unsuitable cable cross-section being used.	Contact the supplier for repair.
	The cable connection is not leak-tight.	
	Worn sealing gaskets.	
	Loose cover screws.	Dry the internal parts and tighten the cover screws.

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