

783-4-5-6 VALVE WITH TCR ACTUATOR

FEATURES

783-5+TCR (L-hole) and 784-6 +TCR (T-hole) stainless steel 3-way ball valves are ideal for clean industrial fluid lines. Floating ball construction for DN 25 to 100. The 783-4-5-6 valve is CE 2014/68 approved. The ISO 5211 plate enables direct mounting of the TCR actuator. The TCR actuator is perfectly suited to industrial use, both indoors and outdoors under cover.

AVAILABLE MODELS

Réf.	Materials	Holes
783	carbon steel 1.0619	L
784	carbon steel 1.0619	T
785	stainless steel 1.4408	L
786	stainless steel 1.4408	T

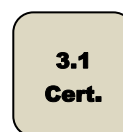
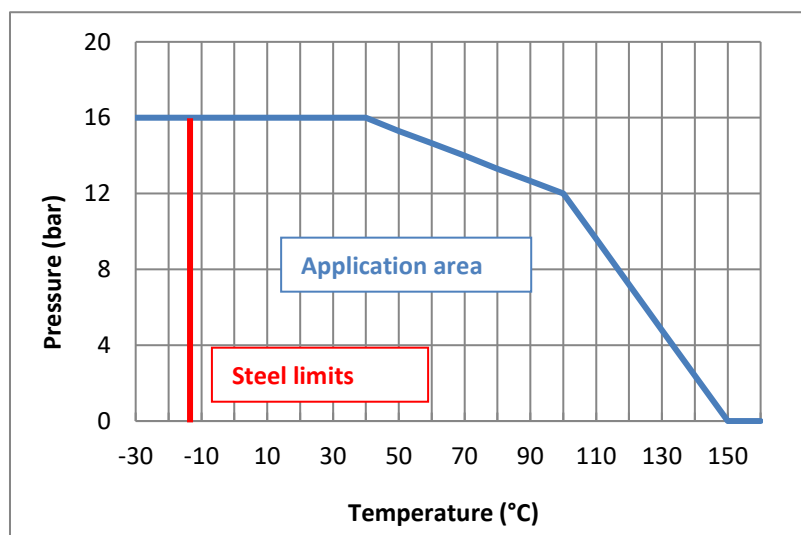
Diameters DN 25 to DN 100.

Flanged connections PN16 RF.

Voltages: 12VDC, 24VAC-DC et 230V.

LIMITS OF USE

Fluid pressure: PS	16 bar (20°C)
Fluid temperature: WT°	<u>steel</u> : -20°C / +150°C <u>stainless steel</u> : -30°C / +150°C
Room temperature	- 20°C / + 60°C
Duty cycle	S4 - 50% (TCR 02N-05N-11N)
	S3 - 85% (TCR 20N-40N)



Information given as an indication only and subject to possible modifications

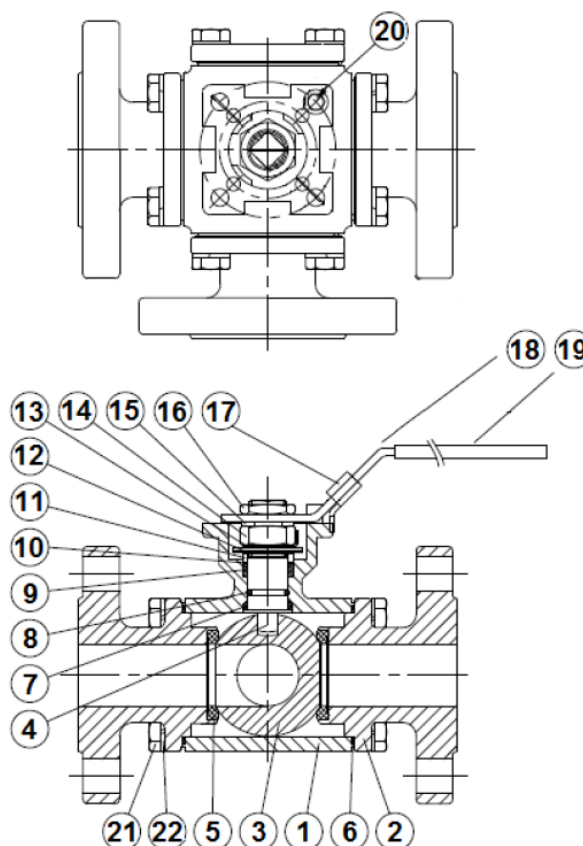
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DIRECTIVES AND MANUFACTURING STANDARDS

OBJET	Standard	NB	OBJET	Standard
Pressure Equipment Directive 2014/68/EC	Category II	0035	Material certificate	EN 10204
Sizing	EN 12516-1		Alloy grade	EN 1503-1
Flange dimensions	EN 1092-1		Final testing	EN 12266
Motorization connection	ISO 5211			

CONSTRUCTION



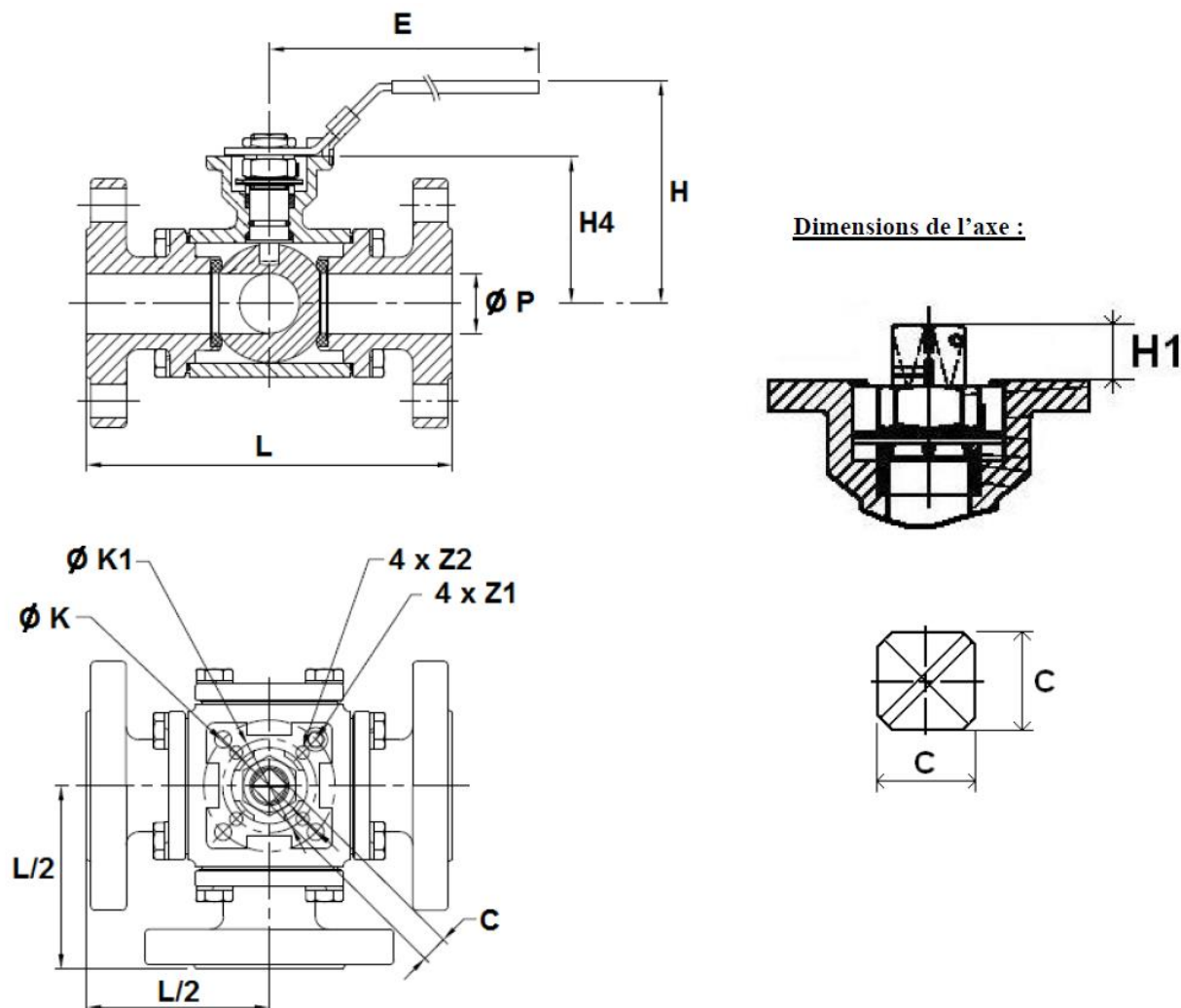
N°	Désignation	783-784 acier	785-786 inox	N°	Désignation	Matière
1	Body	Steel 1.0619	St Steel 1.4408	12	Belleville washer	St Steel 410
2	Ends	Steel 1.0619	St Steel 1.4408	13	Brake washer	St Steel 304
3	Ball	Inox 1.4308	St Steel 1.4408	14	P.E. nut	St Steel 304
4	Stem	Inox 304	St Steel 316	15	Handle washer	St Steel 304
5	Seat	PTFE+15% GF		16	Handle screw	St Steel 304
6	O-ring	PTFE		17	Locking devise	St Steel 304
7	Washer	PTFE		18	Lever	St Steel 304
8	Joint torique	FKM		19	Handle sleeve	Plastic
9	Gland packing	PTFE		20	Thrust stop	St Steel 304
10	P.E. gasket	PTFE+25% graphoil		21	End cap screws	St Steel 304
11	Valve gland	St Steel 304		22	End cap washer	St Steel 304

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783-4-5-6 VALVE WITH TCR ACTUATOR

DIMENSIONS (mm) (DN25 to DN40)



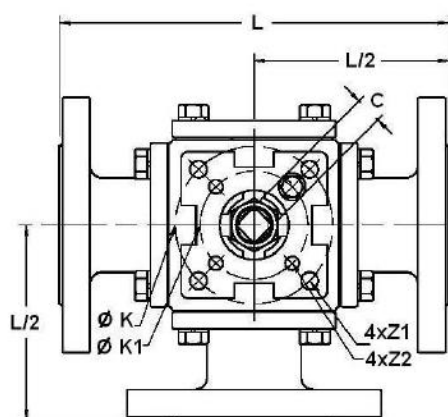
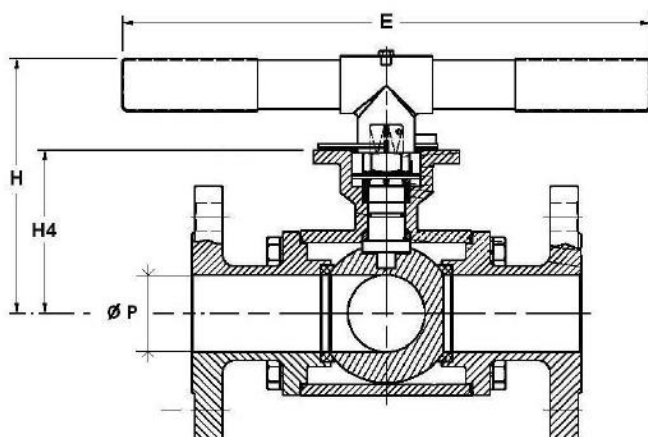
DN	25	32	40
ØP	25	32	38
L	185	195	232
L/2	92.5	97.5	116
E	218	235	235
H	102	118.5	127
H1	11.5	15.2	14.3
H4	64	79	88.5
C	11	14	14
ØK	50	70	70
ØK1	-	50	50
4 x Z1	4x7	4x9	4x9
4 x Z2	-	4x7	4x7
Weight (kg)	7.5	10.9	14.9

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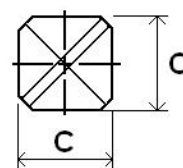
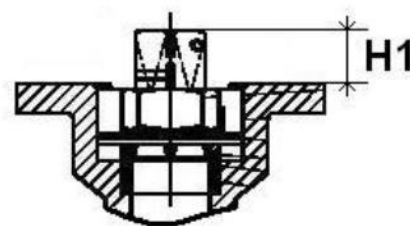
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783-4-5-6 VALVE WITH TCR ACTUATOR

DIMENSIONS (mm) (DN50 à DN80)



Dimensions de l'axe :



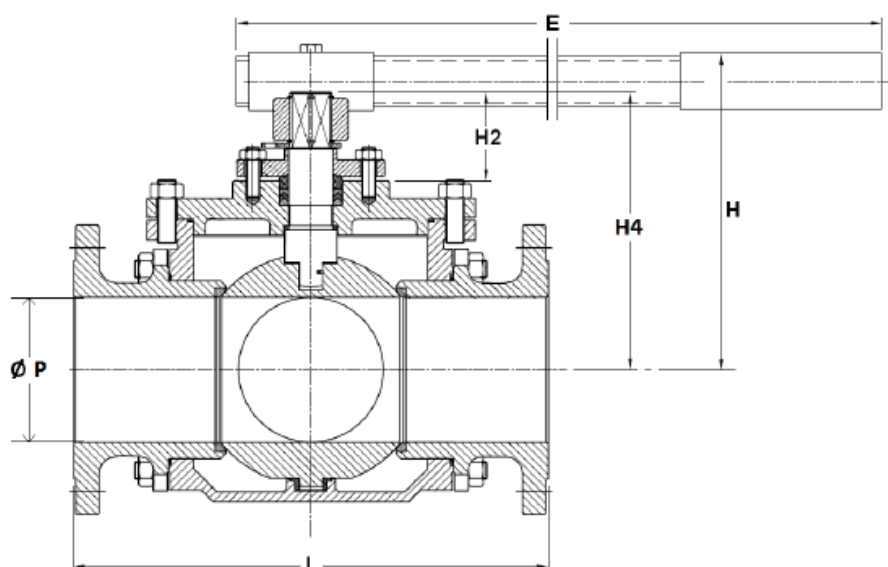
DN	50	65	80
ØP	50	65	76
L	253	270	292.2
L/2	126.5	135	146.1
E	400	400	400
H	154.8	166.2	173.8
H1	17.8	17.5	17.5
H4	105.8	117.3	128
C	17	17	17
Ø K	102	102	102
Ø K1	70	70	70
4 x Z1	4x11	4x11	4x11
4 x Z2	4x9	4x9	4x9
Weight (kg)	19	23.75	34.5

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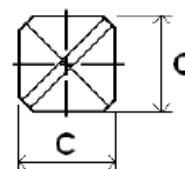
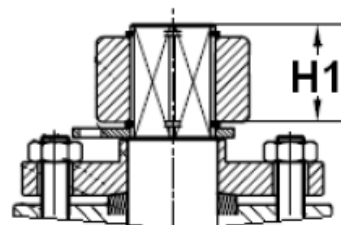
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783-4-5-6 VALVE WITH TCR ACTUATOR

DIMENSIONS (mm) DN100



Dimensions de l'axe :



DN	100
$\varnothing P$	100
L	360
L/2	180
E	600
H	212
H1	33
H2	70
H4	183
C	27
$\varnothing K$	125
4 x Z	4xM12x1,75
Weight (kg)	67.4

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TCR ELECTRIC MOTORIZATION

The TCR engine offered as standard is for:

- Actuator with IP67 plastic housing and steel gearbox,
- safety factor at least 1.3 relative to the valve's nominal torque,
- upstream/downstream pressure difference $\Delta P=10$ bar max.

Direct actuator mounting.

DN	Actuator	power 230V ca / 24V ca-cc	Time 230V ca	Time 24 V ca-cc	Standard actuator equipment
25	TCR-05N	25	12s	12s	2 adjustable limit switches 2 dry auxiliary contacts Motor thermal protection 2-3W regulated anti-condensation resistor Key-operated manual override 3D visual position indicator Electrical connection: TRC02 : 1 x PE M10 + cable 1,5m TCR05 : 1 x PE M20 + cable 1,5m TCR11 : 2 x PE M14 + cable 1,5 m TCR20 : 2 x PE M20 + cable 1,5 m TCR40 : 2 x PE M20 + cable 1,5 m
32	TCR-05N	25	12s	12s	
40	TCR-11N	100	10s	10s	
50	TCR-20N	50	25s	25s	
65	TCR-40N	80	25s	25s	
80	TCR-40N	80	25s	25s	
100	TCR-40N	80	25s	25s	

For all other operating conditions, please consult us.

*Indicative actuator time with no charge

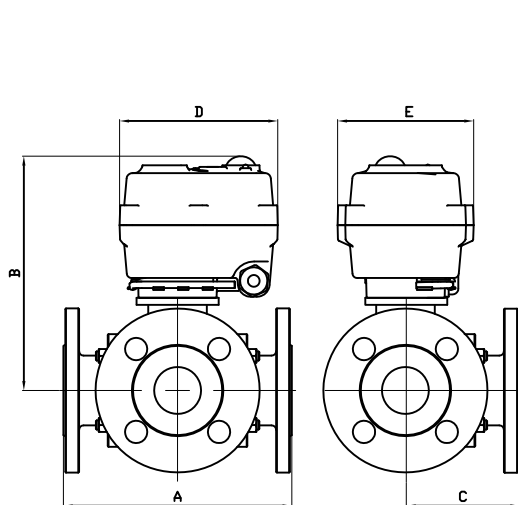
ACTUATION OPTIONS

There are many different options. Please contact our commercial department.

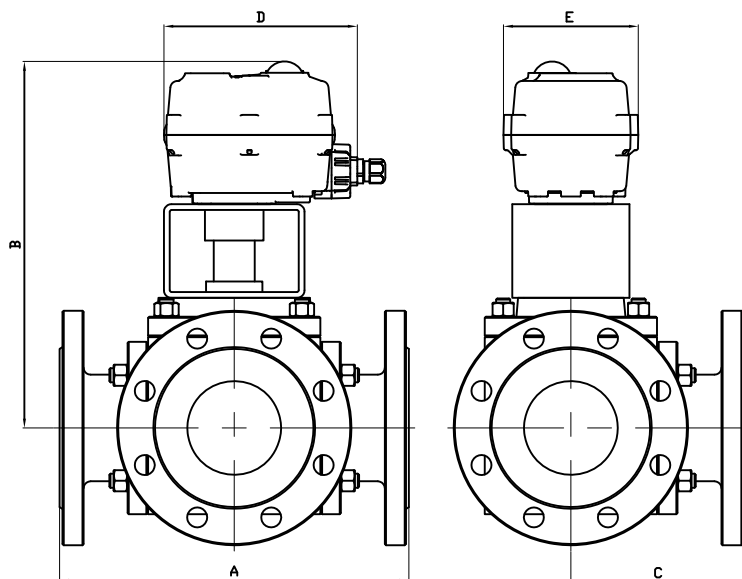
1	NC actuator - capacitor return - TCR-KT32
2	Quick-acting actuator - TRC-NH
3	Intelligent actuator with adjustable operating time - TCR-C
4	Regulating actuator - TCR-T
5	NC control actuator - capacitor return - TCR-T-KT32
6	Servomotor with field bus - TCR-B
7	Actuator with integrated timer - TCR-D
8	Actuator with wireless control - TCR-R

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TCR 05



TCR 11-20-40

DN	25	32	40	50	65	80	100
SERVO	TCR05	TCR05	TCR11	TCR20	TCR40	TCR40	TCR40
A	185	195	232	253	270	292.2	360
B	225	240	253.5	277.8	289.3	300	375*
C	92.5	97.5	116	126.5	135	146.1	180
D	132	132	165	270	270	270	270
E	111	111	115	160	160	160	160
POIDS KG	9.3	12.7	18	28.1	38.1	43.1	68.3

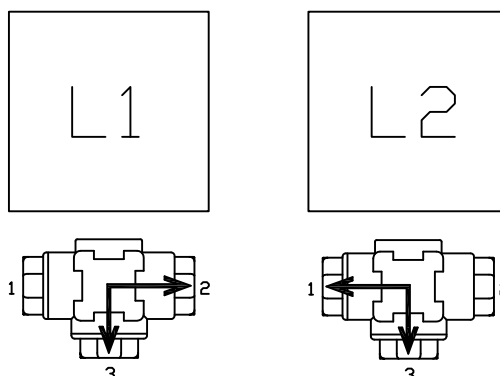
* Montage avec platine H=80mm

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

				Ajout DN50-65-80-100	24/03/2021	A
Ech: /	Date : 23/01/2020	Dessiné par : E.D.	Tolérances générales : +/- 0.2	Modifications	Date	REV.
ROBINET A TOURNANT SPHERIQUE 783-786MD/BALL VALVE 783-786MD + SERVOMOTEUR TCR/ELECTRIC ACTUATOR TCR				Matière :		
				Poids (Kg) :		
				Traitement : SANS		
				Plan n° Ens 1413A		

45, Rue du Ruisseau
38297 SAINT QUENTIN FALLAVIER

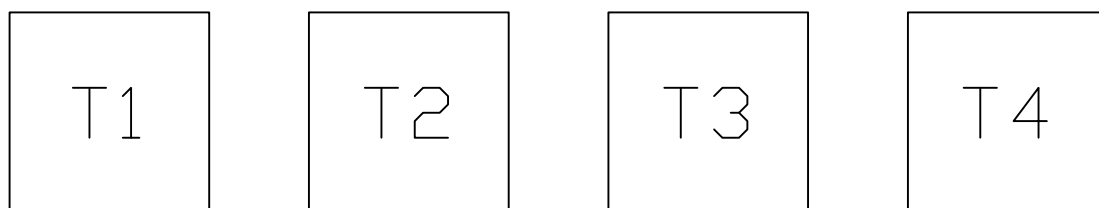
PERÇAGE EN L



Les flèches indiquent les voies en communication

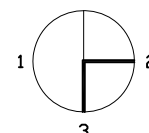
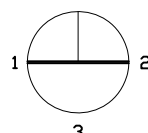
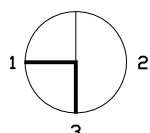
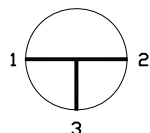
PERÇAGE EN T

Pour commander indiquer 2 positions successives



CORPS DU ROBINET

SPHERE DU ROBINET



Les flèches indiquent les voies en communication

Informations données à titre indicatif et sous réserve de modifications éventuelles

Ech: /	Date 06/07/2011	Dessiné par : E.D.	Tolérances générales : +/- 0.2	Modifications	Date	REV.
ROBINET A TOURNANT SPHERIQUE 3 VOIES POSITIONS POUR COMMANDE AVEC SERVOMOTEUR ELECTRIQUE				Matière :		
				Poids (Kg) :		
				Traitement : SANS		
				45, Rue du Ruisseau		
38297 SAINT QUENTIN FALLAVIER				Plan n° Ens 1117		

TCR-N ELECTRICAL ACTUATOR

FEATURES

The TCR-N electric actuators are intended for motorising $\frac{1}{4}$ 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.

Dual frequency : 50Hz, 60Hz.

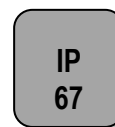
LIMITS OF USE

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

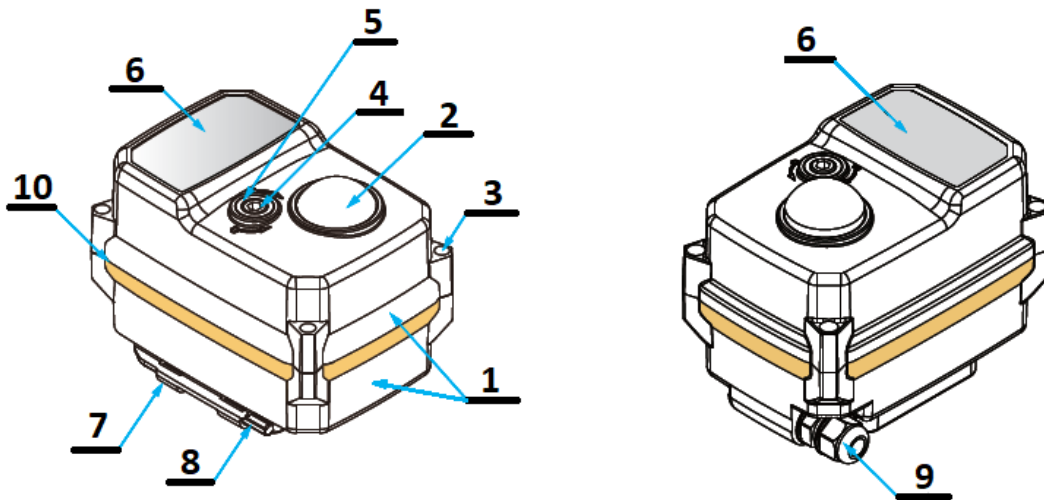
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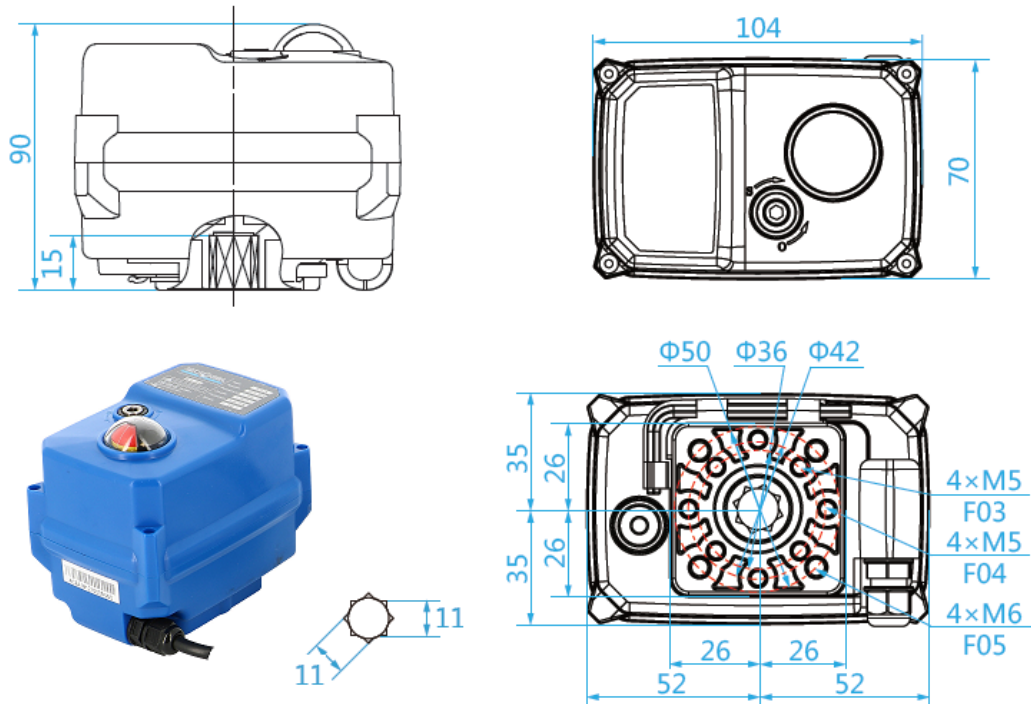
TCR-N ELECTRICAL ACTUATOR

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)



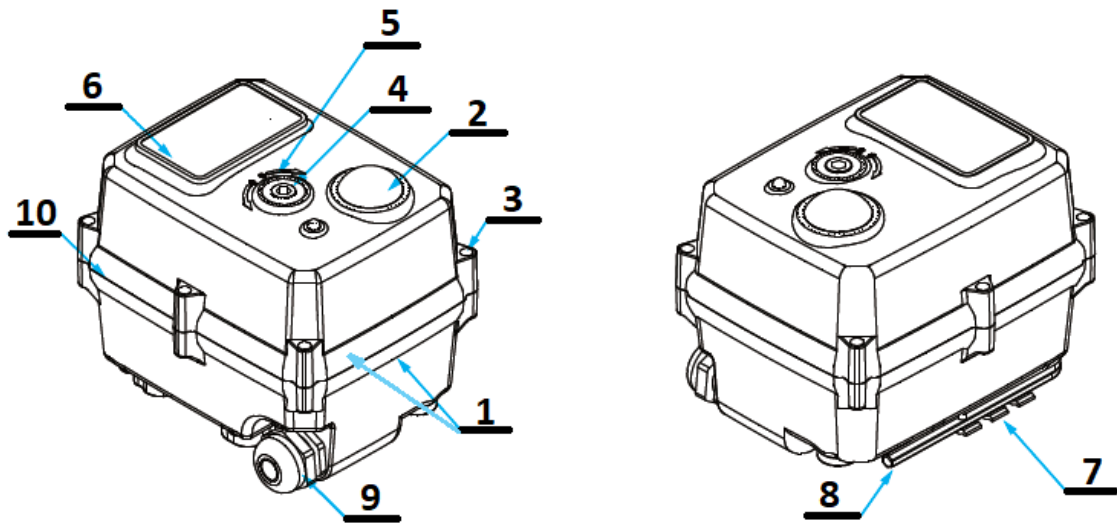
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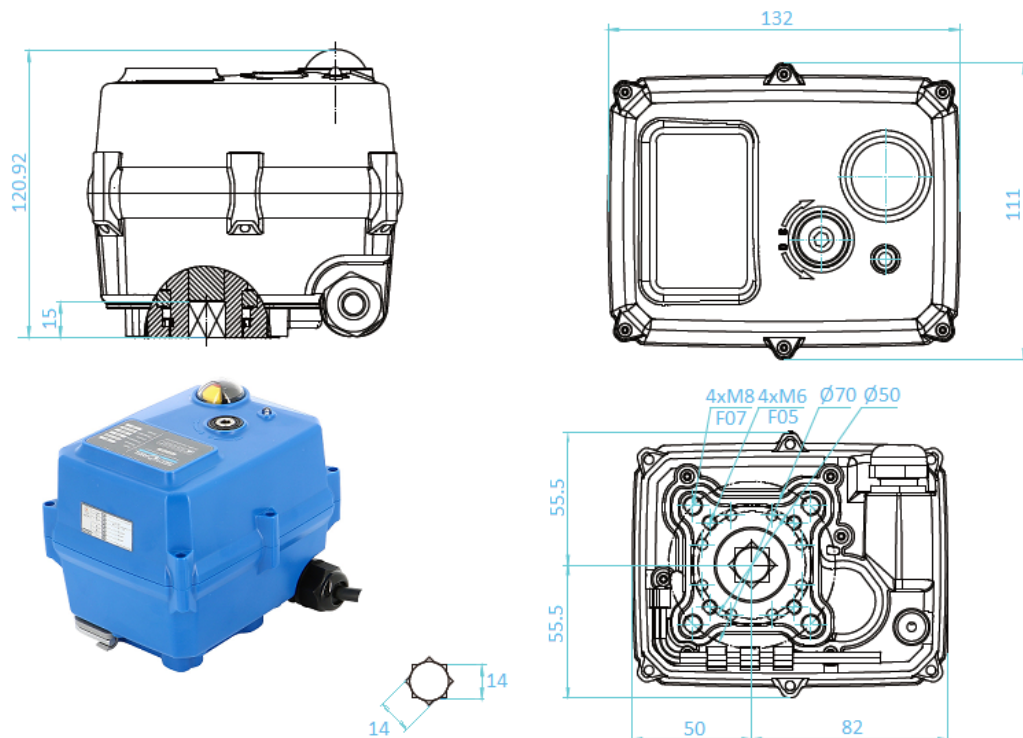
TCR-N ELECTRICAL ACTUATOR

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)



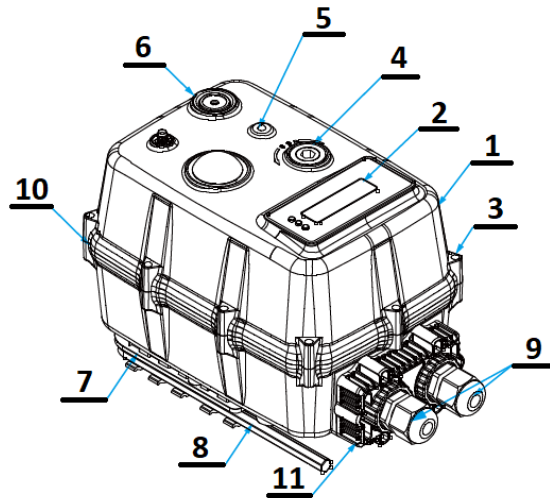
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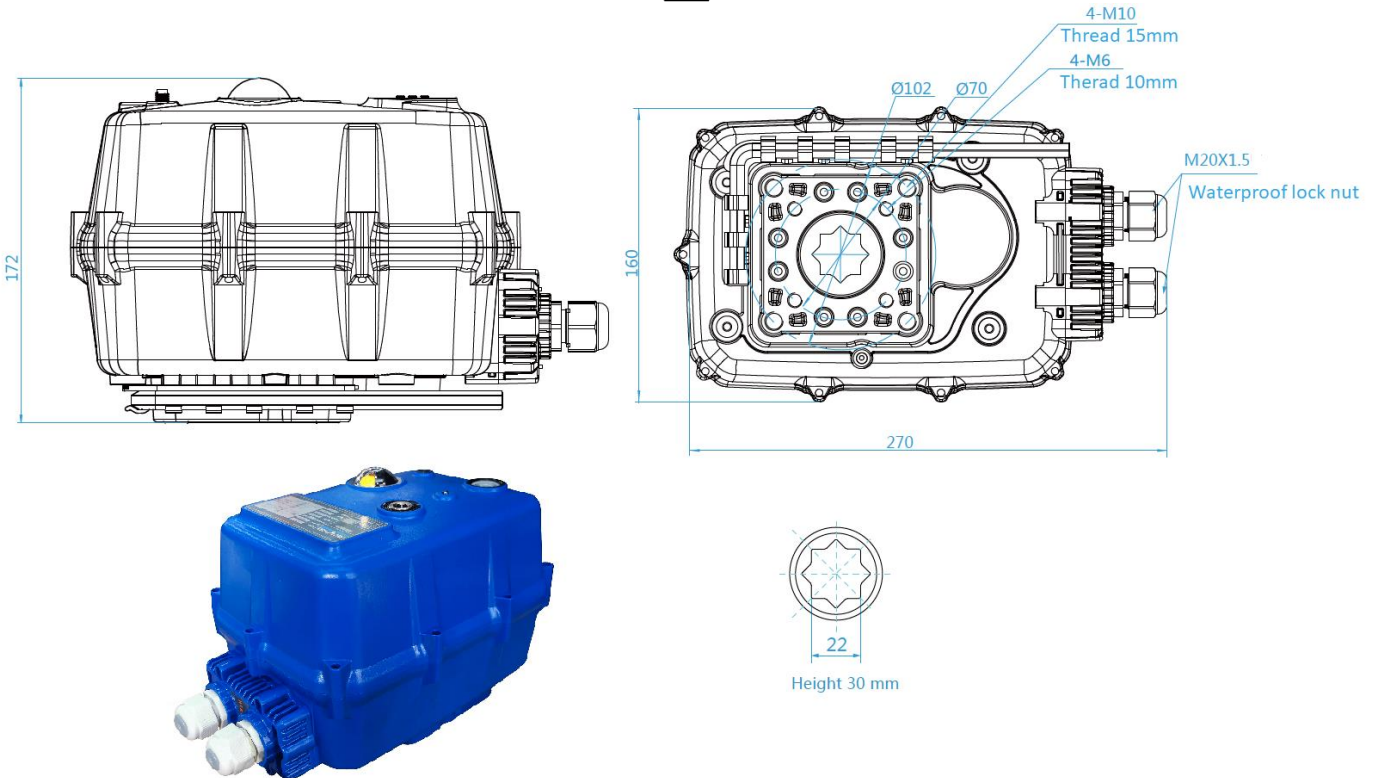
TCR-N ELECTRICAL ACTUATOR

CONSTRUCTION (TCR-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)

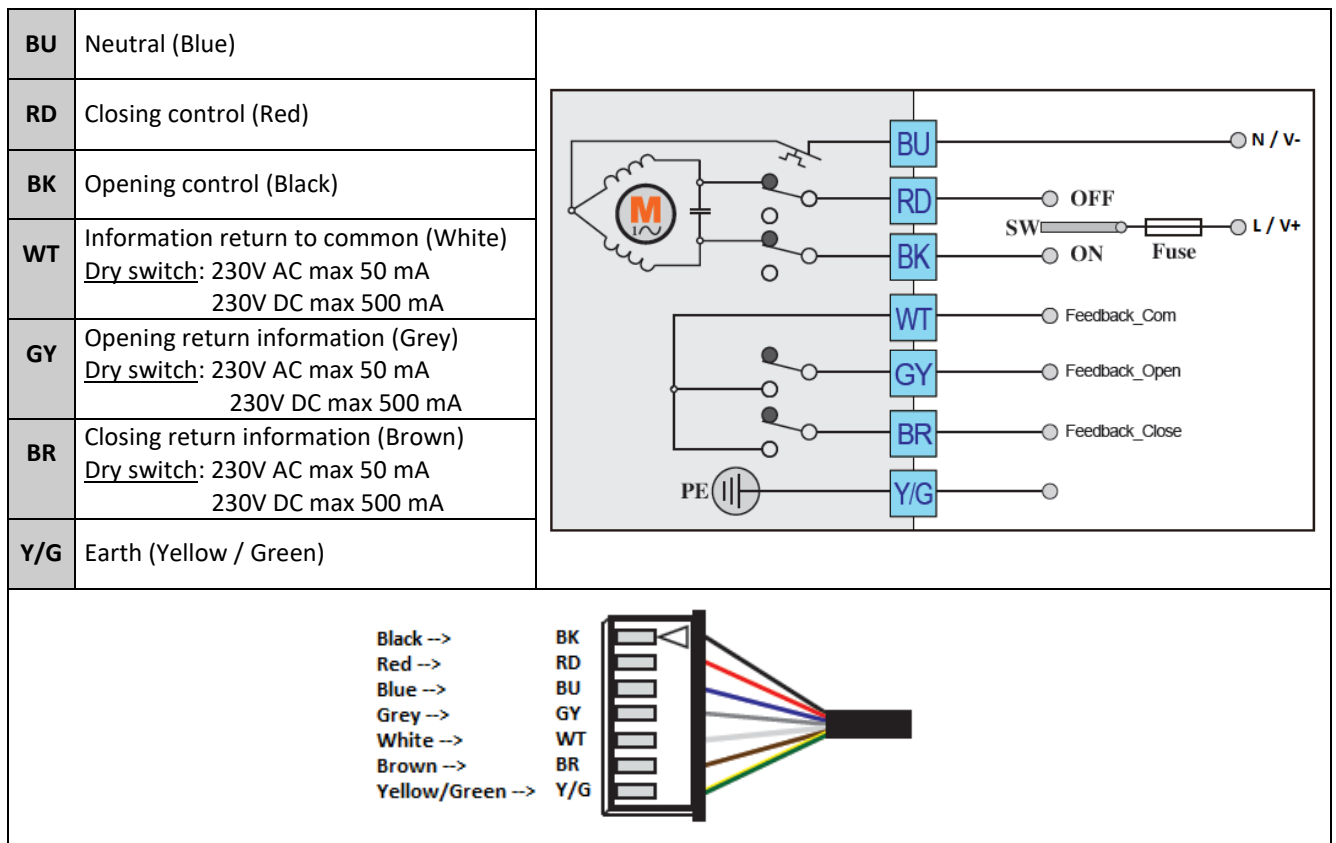


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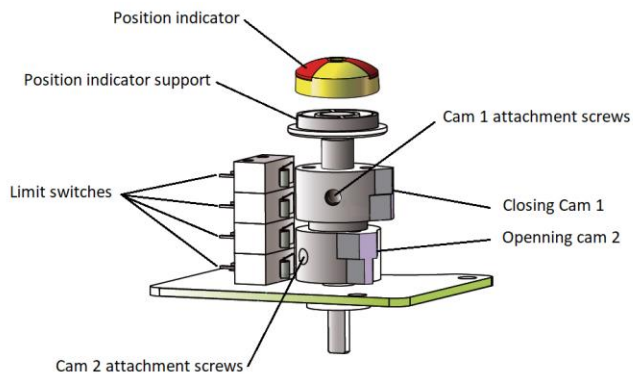
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TCR-N ELECTRICAL ACTUATOR

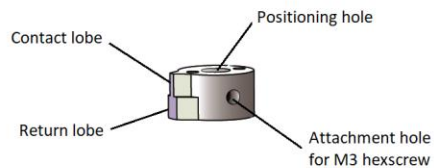
WIRING DIAGRAM



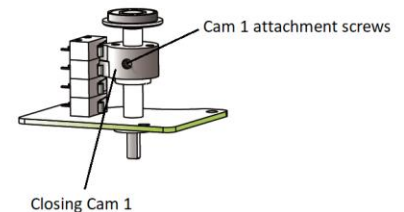
SWITCH SETTING



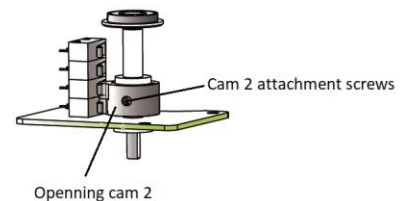
GENERAL VIEW



CAM DETAIL



CLOSING CAM ADJUSTMENT



OPENING CAM ADJUSTMENT

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	SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 70 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email : sectoriel@sectoriel.fr	Pages	7/8
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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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