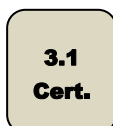


BUTTERFLY VALVES 1133-1135 + TCR ELECTRICAL ACTUATOR

FEATURES

The 1133 and 1135 butterfly valves are intended for the automatic opening/closing of pipes for various common fluids. The valve body is made of grey cast iron. Different configurations of butterfly and sleeve materials allow it to be used in different applications. " Lug " type with threaded ears, mounting between PN10/16 flanges. The long neck allows mounting on insulated pipes. The ISO 5211 plate allows direct mounting of the TCR actuator. This is suitable for service factors of type S3-S4 with indoor or outdoor installation under a shelter.



AVAILABLE MODELS

DN 50 to DN 250.

Connections between PN10/16 flanges.

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

LIMITS OF USE

Fluid pressure: PS	16 bar
Fluid temperature: TS	According to the table below
Prohibited Uses	Steam, natural gas
Room temperature	-20°C / +60°C
Service factor	S4 - 50% (TCR02N-05N-11N)
	S3 - 85% (TCR20N-40N)



Ref .	Butterfly	Cuff	Example applications	TS min	TS max
1133	St. steel	EPDM	Demineralized water - alkaline (130°C peak)	-15°C	+110°C
1135	GS Font	EPDM	Cold water - hot water (130°C peak)	-15°C	+110°C

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



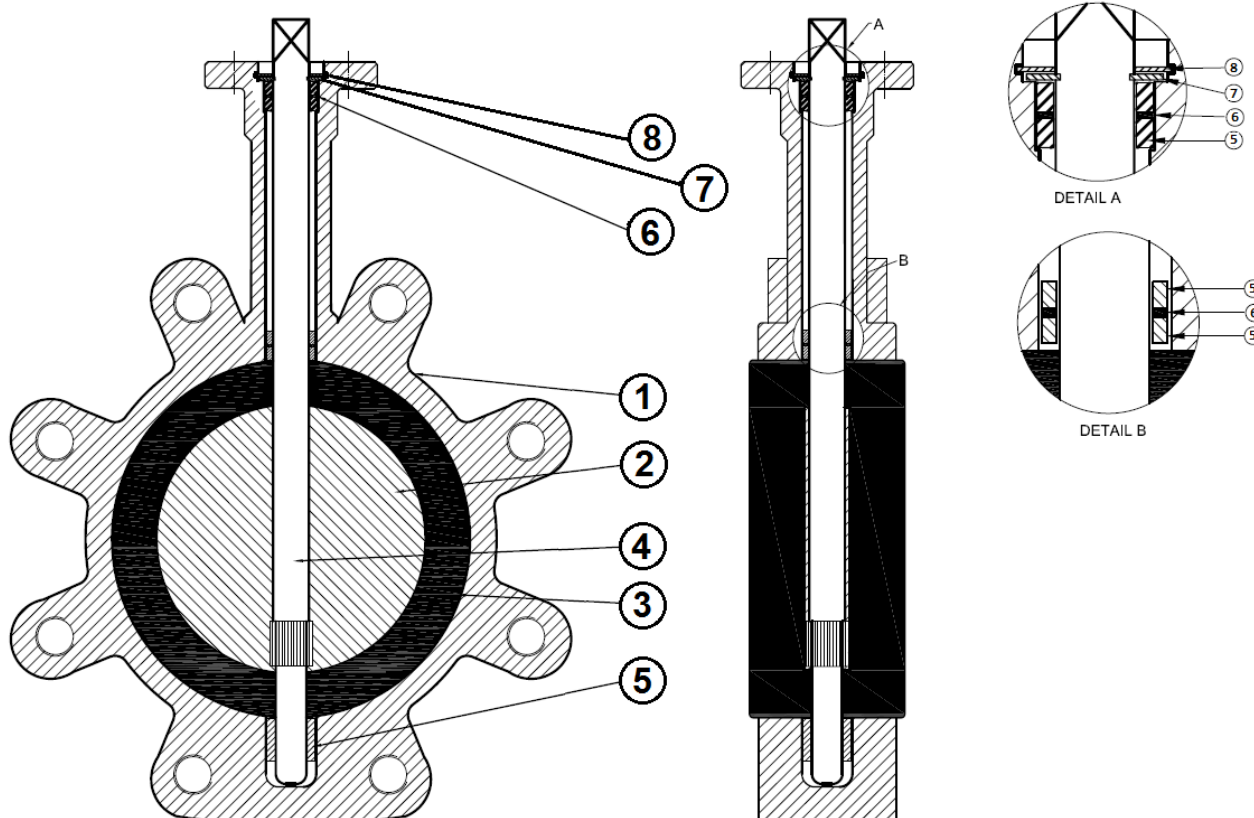
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BUTTERFLY VALVES 1133-1135 + TCR ELECTRICAL ACTUATOR

DIRECTIVES AND MANUFACTURING STANDARDS

OBJECT	Standard	NB	OBJECT	Standard
EC Pressure Directive 2014/68	Cat. III module H	0035	Final test	API 598
Face-to-face dimensions	ISO 5752 series 20		Motorization Connection	ISO 5211
Flange dimensions	EN 1092-1			



CONSTRUCTION

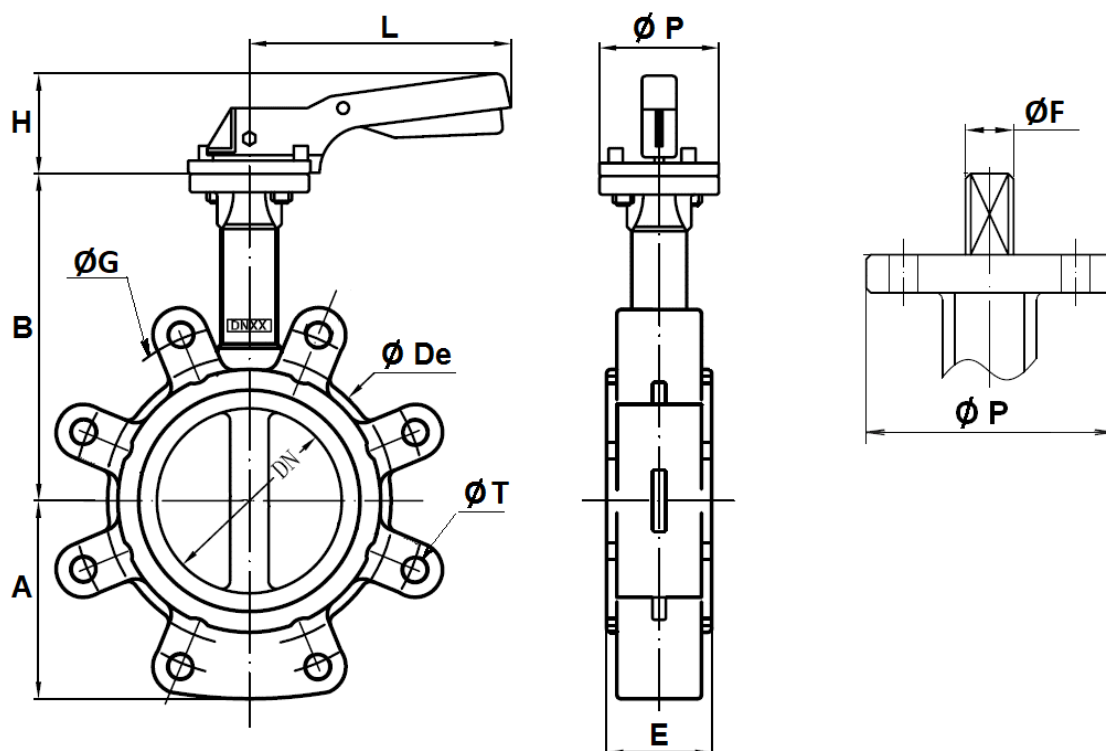
No.	Designation	1133	1135
1	Body	Grey cast iron EN GJL-250	
2	Seat	EPDM	EPDM
3	Disc	Stainless steel 1.4408	EN GJS-400-15 nickel-plated cast iron
4	Stem	Stainless steel 416	
5	Landings	PTFE	
6	O-ring	EPDM	EPDM
7	Circlips	Steel	
8	Circlips	Steel	

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BUTTERFLY VALVES 1133-1135 + TCR ELECTRICAL ACTUATOR

DIMENSIONS (mm)



DN	50	65	80	100	125	150	200	250
A	77	88	95	107	122	144	171	205
B	137	142	158	180	192	215	242	280
Ø DE	95	109	127	152	180	207	260	315
E	43	46	46	52	56	60	68	78
H	70	70	70	70	71	71	40	44
Ø F	9	9	9	11	14	14	17	22
Ø G	125	145	160	180	210	240	295	350
Ø P	65	65	65	65	90	90	125	150
Ø T	4xM16	4xM16	4xM16	8xM16	8xM16	8xM20	8xM20	12xM20
Weight (kg)	3.13	3.73	4.98	5.64	9.06	10.96	16.67	31.4

FLOW COEFFICIENT Kv (m³/h)

DN	50	65	80	100	125	150	200	250
Kv	98	167	258	512	872	1347	2675	4555

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BUTTERFLY VALVES 1133-1135 + TCR ELECTRICAL ACTUATOR

TCR ELECTRIC MOTORIZATION

The TCR engine offered as standard is understood to be:

- IP67 servomotor, aluminum housing, PA66 plastic cover and steel reducer.
- safety coefficient 1.3 minimum in relation to the nominal torque of the valve.
- upstream/downstream pressure difference $\Delta P=10$ bar max.

The servo motor mounting is straightforward.

DN	Servomotor	Power (W) 230V AC / 24V AC-DC	Time (s)* 230V AC - DC	Time (s)* 24V AC - DC	Standard Servomotor Equipment
50	TCR-05N	25	12s	12s	2 adjustable limit switches 2 dry auxiliary contacts Engine thermal protection 2-3W regulated anti-condensation resistance Emergency manual key control 3D Visual Position Indicator Electrical connection: TCR05 : 1 x PE M20 + 1.5 m cable TCR11 : 2 x PE M14 + 1.5 m cable TCR20 : 2 x PE M20 + 1.5 m cable TCR40 : 2 x PE M20 + 1.5 m cable
65	TCR-05N	25	12s	12s	
80	TCR-05N	25	12s	12s	
100	TCR-11N	100	10s	10s	
125	TCR-11N	100	10s	10s	
150	TCR-20N	50	25s	25s	
200	TCR-40N	80	25s	25s	
250	TCR-40N	80	25s	25s	

For any other conditions of service, please contact us.

*indicative time of the servomotor at no load

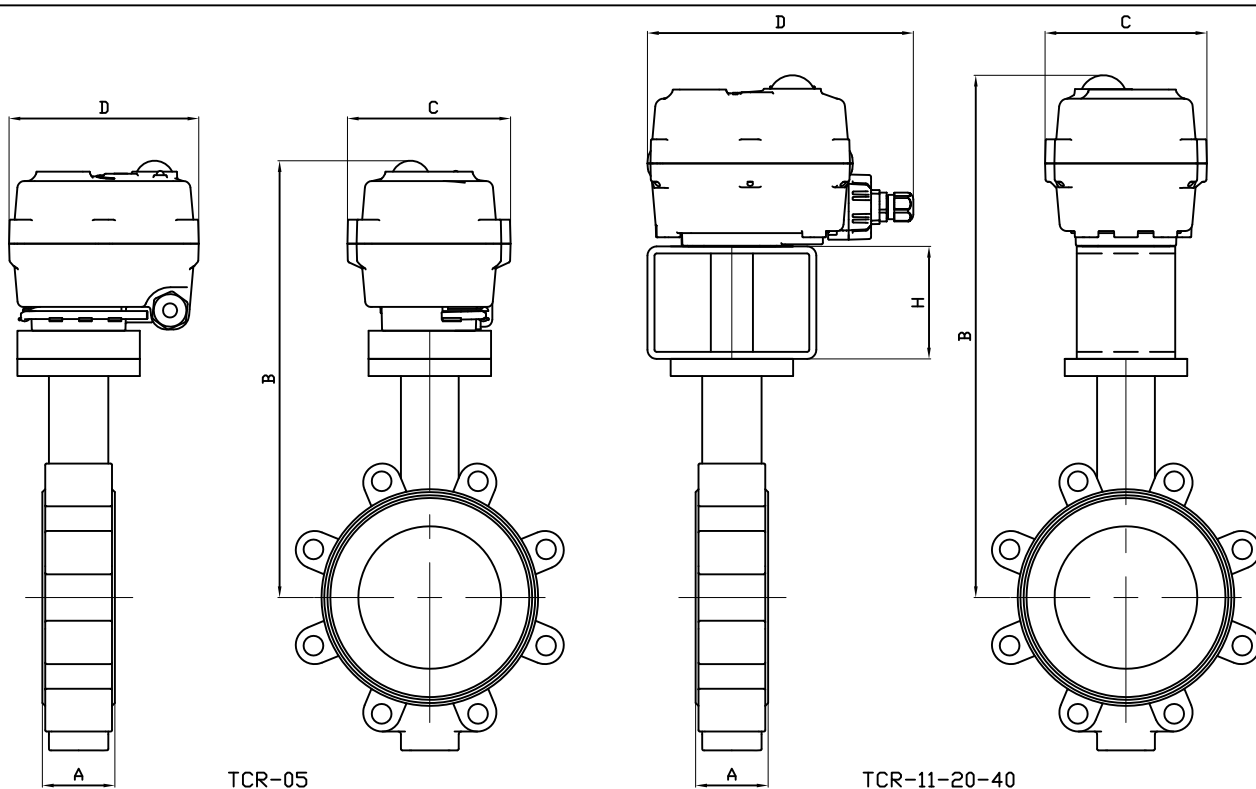
ENGINE OPTIONS

There are many options for which we ask you to consult our sales department:

1	Servomotor sized for upstream/downstream pressure difference ΔP greater than 10 bar
2	NC servomotor – capacitor return - TCR-KT32
3	Fast Servo Motor - TRC-NH
4	Intelligent servo motor with operating time adjustment - TCR-C
5	Regulation servomotor - TCR-T
6	NC regulation servomotor - capacitor return - TCR-T-KT32
7	Servo motor with fieldbus - TCR-B
8	Servo motor with integrated timer - TCR-D
9	Servo motor with wireless control - TCR-R

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DN	50	65	80	100	125
SERVO	TCR05	TCR05	TCR05	TCR11	TCR11
A	43	46	46	52	56
B	283.5	289	305	328	340
C	111	111	111	115	115
D	132	132	132	165	165
H	26	26	26	26	26
KG	4.1	4.5	5.4	7.6	8.9

DN	150	200	250
SERVO	TCR20	TCR40	TCR40
A	56	60	68
B	413	429	532
C	160	160	160
D	270	270	270
H	26	15	80
KG	17.1	22.8	37.5

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

				Ajout DN150-200-250	29/03/2021	A
Ech: /	Date : 29/01/2020	Dessiné par : E.D.	Tolérances générales : +/- 0.2	Modifications	Date	REV.
ROBINET A PAPILLON 1135/BUTTERFLY VALVE 1135 + SERVOMOTEUR TCR/ELECTRIC ACTUATOR TCR				Matière :		
				Poids (Kg) :		
				Traitement : SANS		
				Plan n° Ens 1422A		

45, Rue du Ruisseau
38297 SAINT QUENTIN FALLAVIER

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.

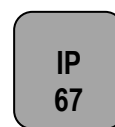
LIMITS OF USE

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

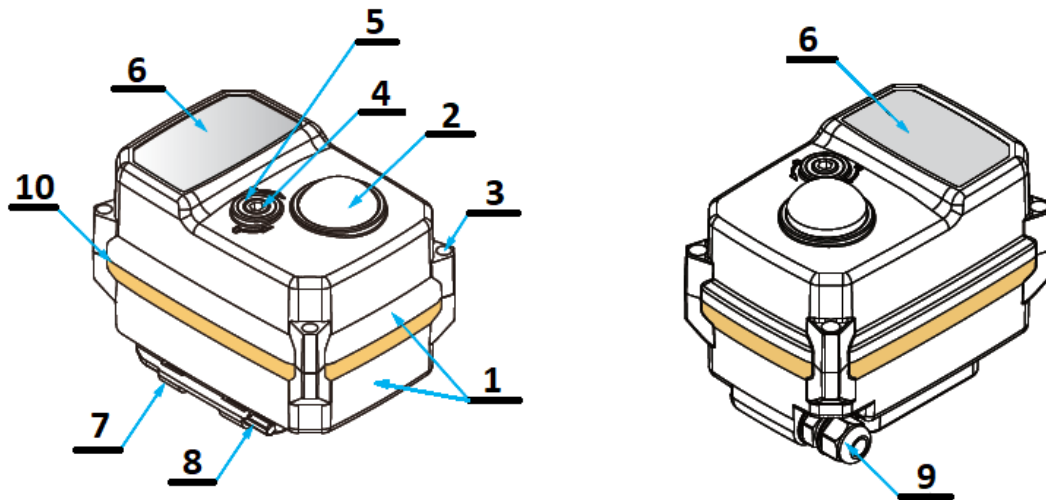
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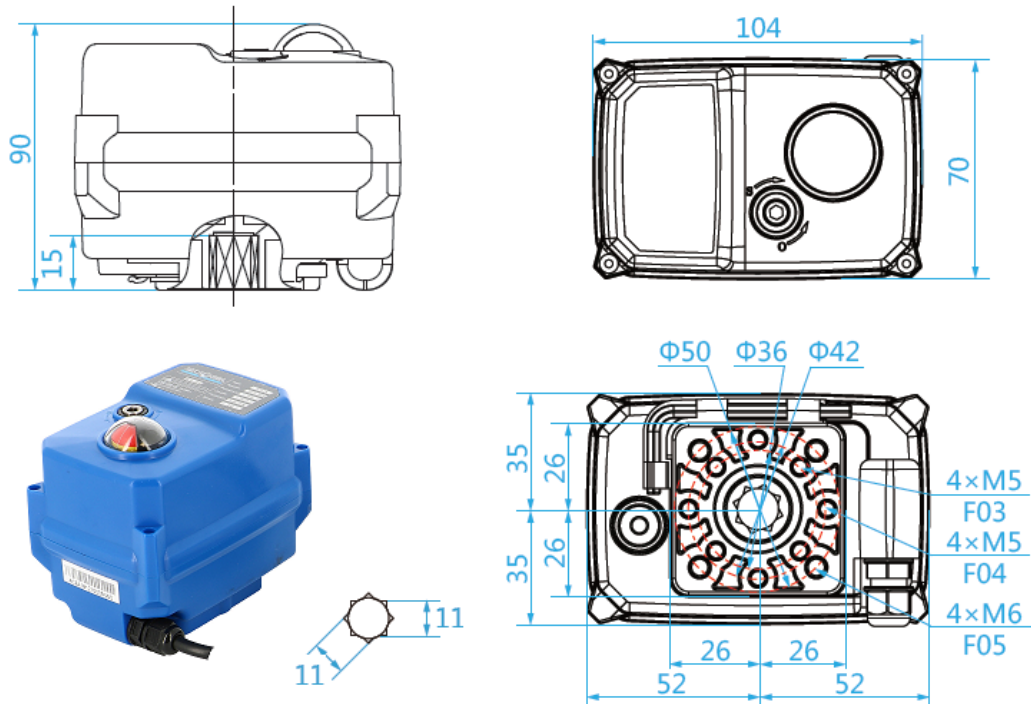
TCR-N ELECTRICAL ACTUATOR

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)



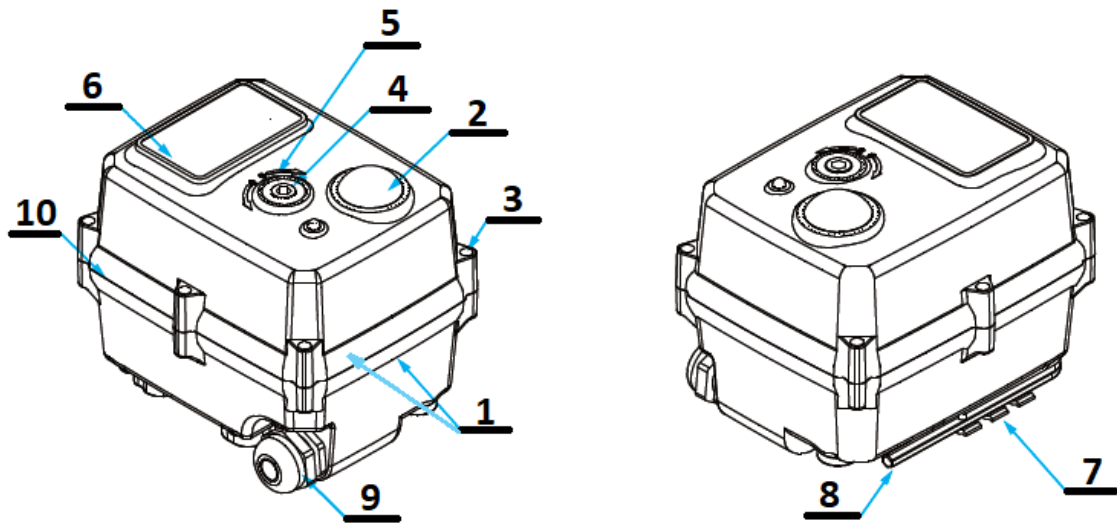
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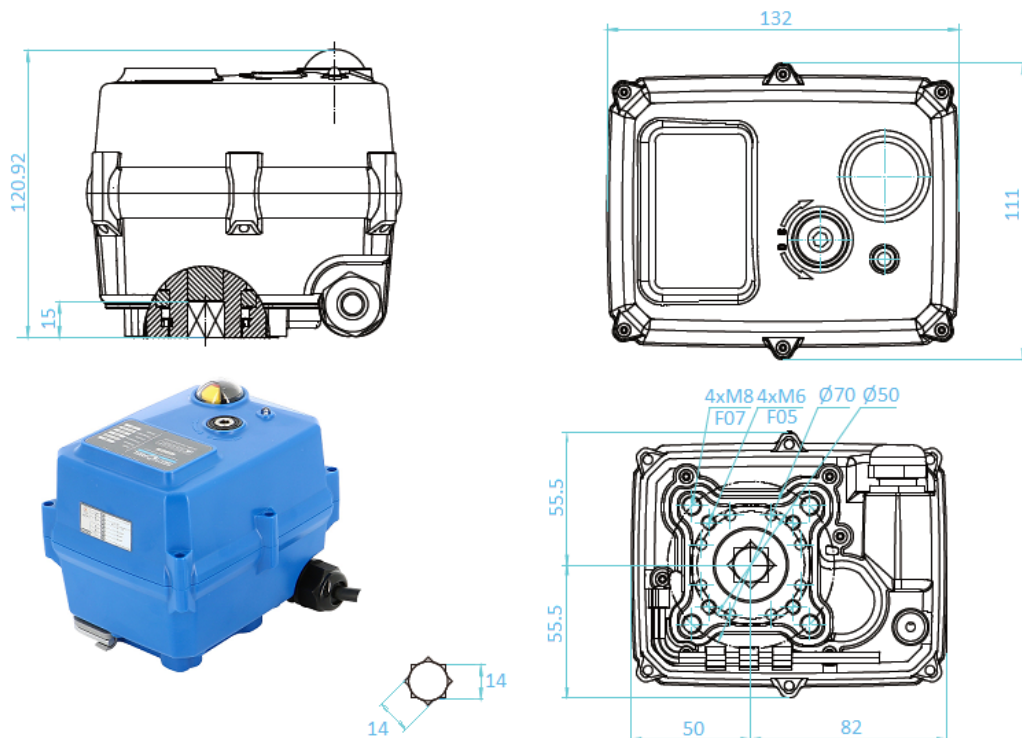
TCR-N ELECTRICAL ACTUATOR

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)



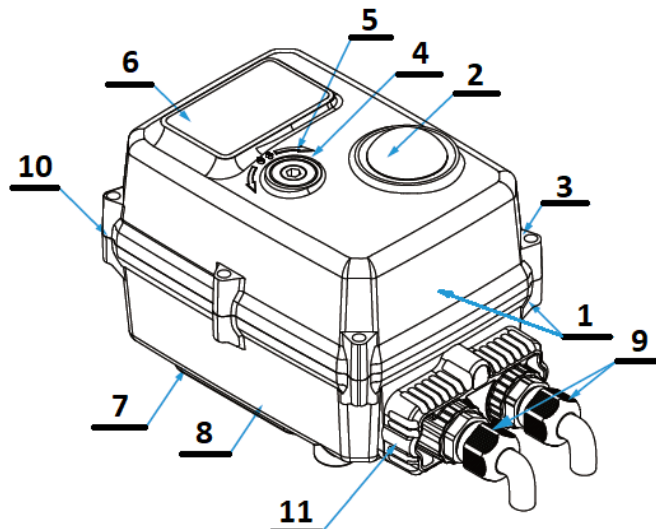
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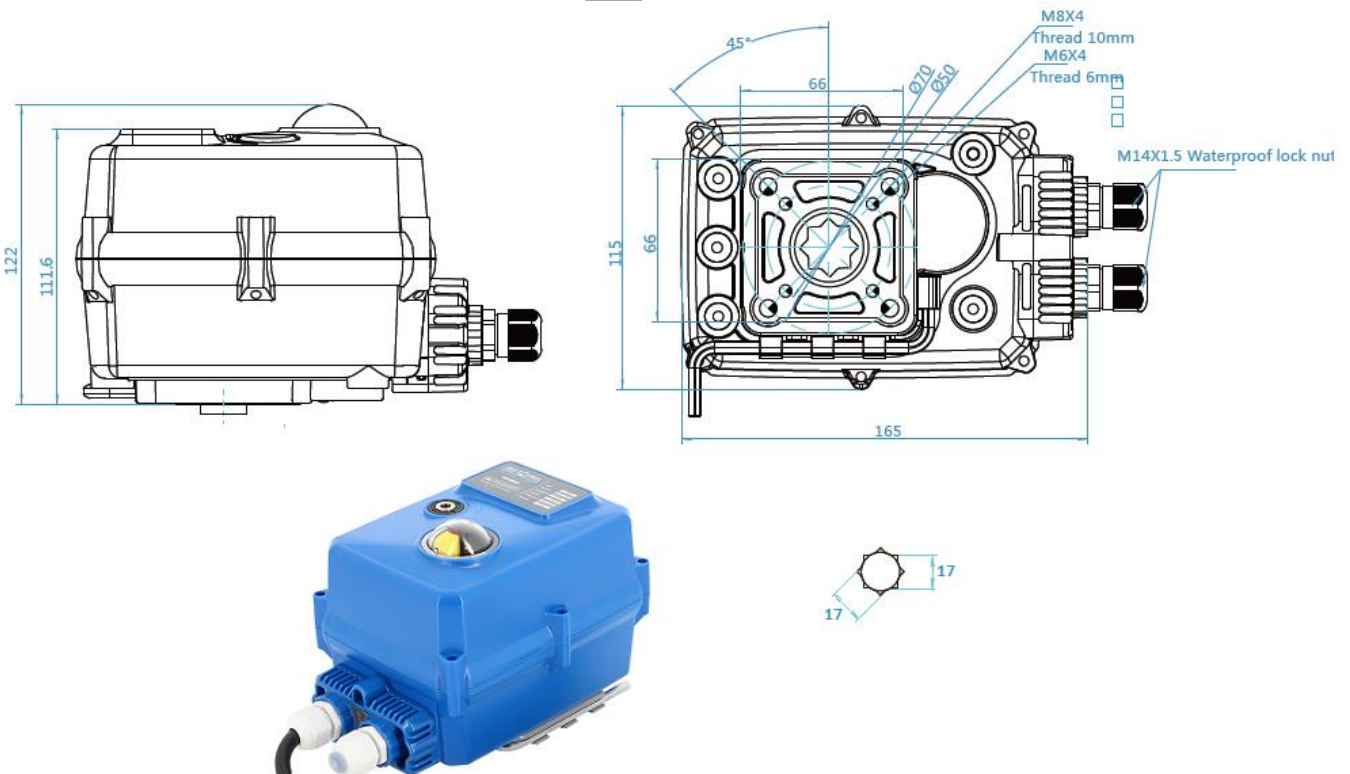
TCR-N ELECTRICAL ACTUATOR

CONSTRUCTION (TCR-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 2Packing gland	Nylon
5	Gasket	NBR	10	Cover gasket	NBR
Weight (kg): 2.200			11	Cable gland unit	Plastic (ABS)



DIMENSIONS (mm)



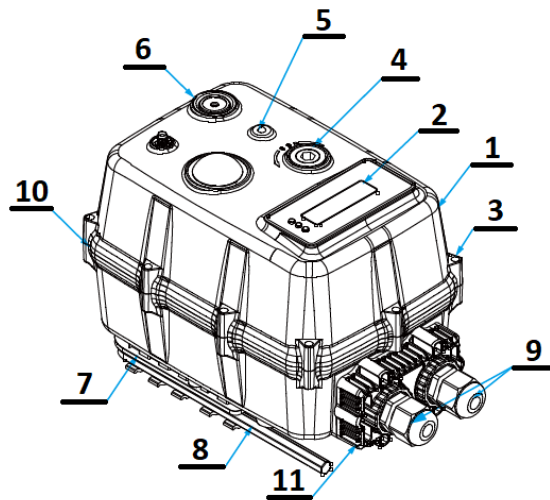
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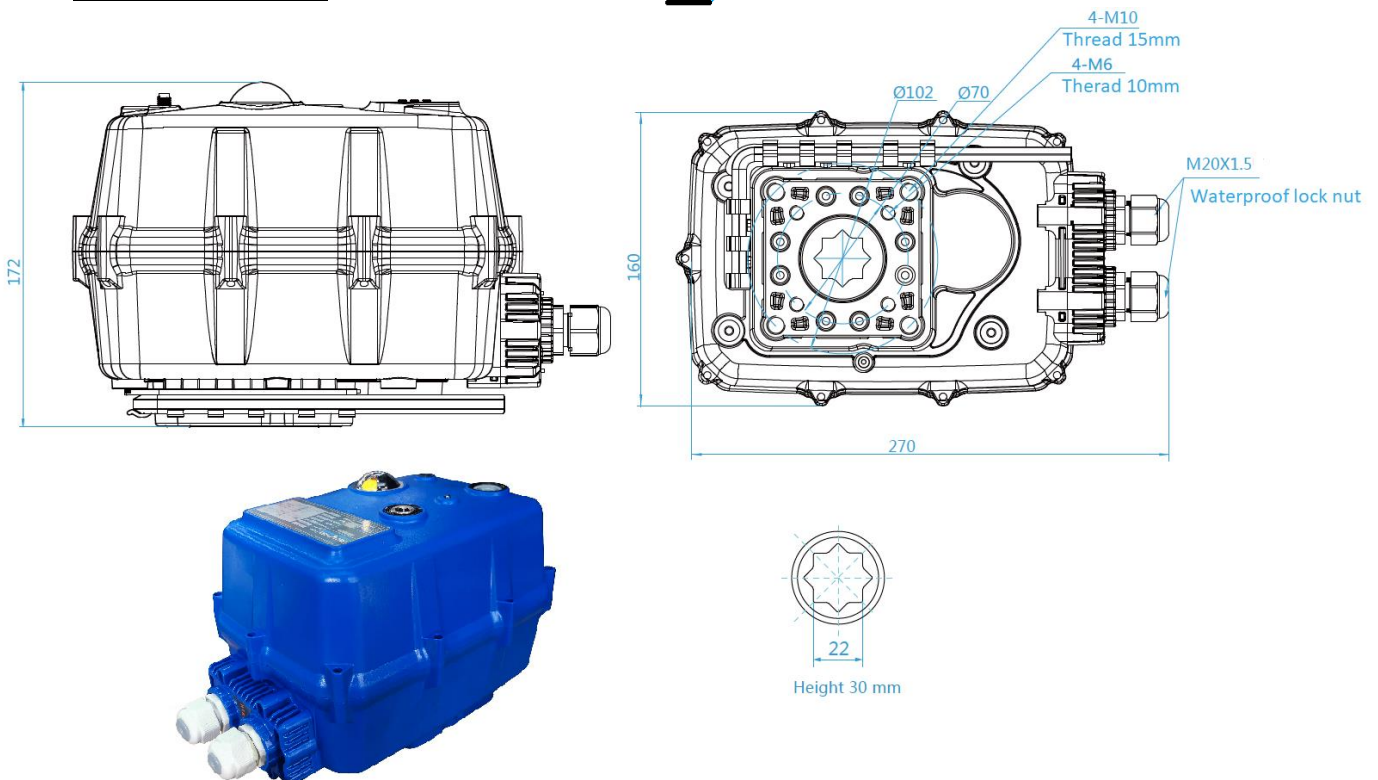
TCR-N ELECTRICAL ACTUATOR

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)

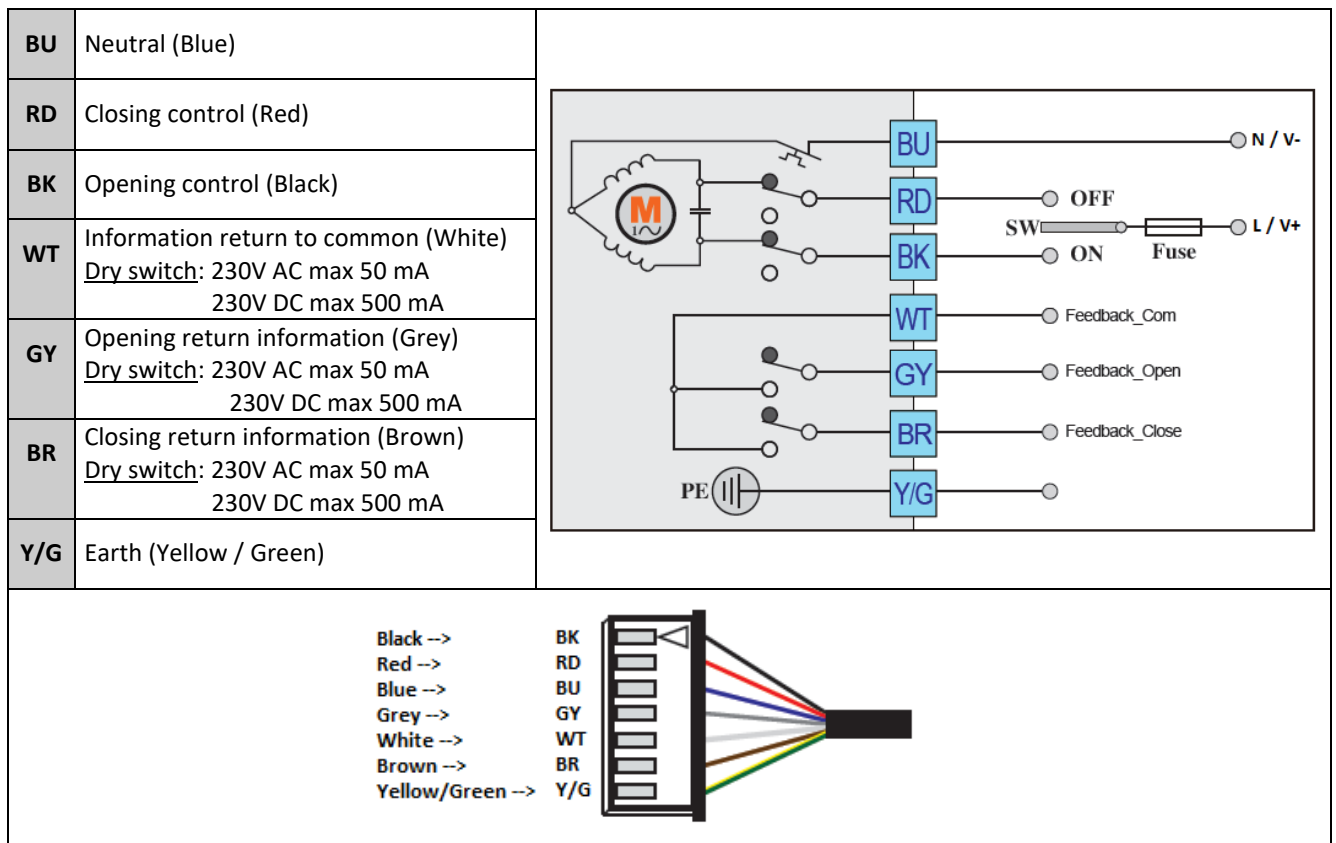


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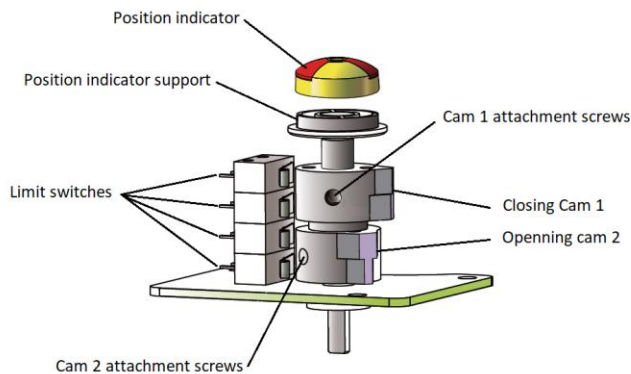
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TCR-N ELECTRICAL ACTUATOR

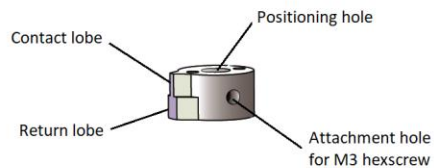
WIRING DIAGRAM



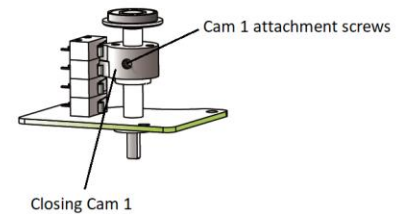
SWITCH SETTING



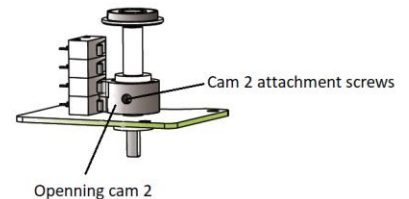
GENERAL VIEW



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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