MXT-6730-1160-1162-1163-1164-1168

LUG BUTTERFLY VALVE

Reinforced lug from DN200 to DN1400 :

Size :	DN 32 to 1400 mm
Ends :	Between flanges ISO PN10/16
Min Temperature :	- 10°C (with EPDM seat)
Max Temperature :	+ 110°C (with EPDM seat)
Max Pressure :	16 Bars up to DN300
Specifications :	Long neck for isolation Lug type Full crossing stem ISO 5211 mounting pad

Materials : Ductile iron EN GJS 500-7 body

LUG BUTTERFLY VALVE

SPECIFICATIONS :

- Long neck for isolation
- ISO 5211 mounting pad
- Lug type (reinforced Lug from DN200 to DN1400)
- Between flanges ISO PN10
- On request, between flanges ISO PN16 or ISO PN20 ANSI150
- Full crossing stem
- Removable seat
- Stainless steel disc up to DN100
- Ductile iron epoxy coated disc +/- 40 µ from DN125 to 300, ductile iron rilsan coated disc +/- 300 µ over for 1160 and 1162 types
- 9 positions lever with locking device up to DN200, stop in all positions but non lockable from DN250 to 300
- Rilsan coated body color RAL 5024 , 250-300 microns thickness
- Stem extension 75 mm length (option)
- Square lever 30x30 mm for special key (option)

USE :

- Fluids : Depending of the seat
- For temporary using, can be used at the end of the pipe (6 bars max)
- Min and max Temperature Ts : Depending of the seat
- Max Pressure PN : 16 bars up to DN300 , 10 bars over

RANGE :

- With lever from DN 32 to DN 300
- Naked stem from DN 350 to DN1400
- IP65 Gear box possible (**Ref. 1197**) from DN 32 to DN 1400
- IP65 chain gear box possible (**Ref. 1194**) from DN 32 to DN 500
- On request, stem extension with special length (**Ref. 98665**)
- On request, stainless steel handle and bolting **Ref. 9831250-9831264**

ENDS:

- Between flanges ISO PN10 (on request ISO PN16 or ISO PN20 ANSI150)

TORQUE VALUES (in Nm with safety coefficient of 30 % included) at 10 Bars :

DN	32/40	50	65	80	100	125	150	200	250	300	350	400
Torque (Nm)	9	11	20	29	47	82	130	210	360	475	760	1300

DN	450	500	600	700	750	800	900	1000	1100	1200	1300	1400
Torque (Nm)	1600	2340	3300	4600	5800	7400	11000	13600	14200	16400	17800	19200

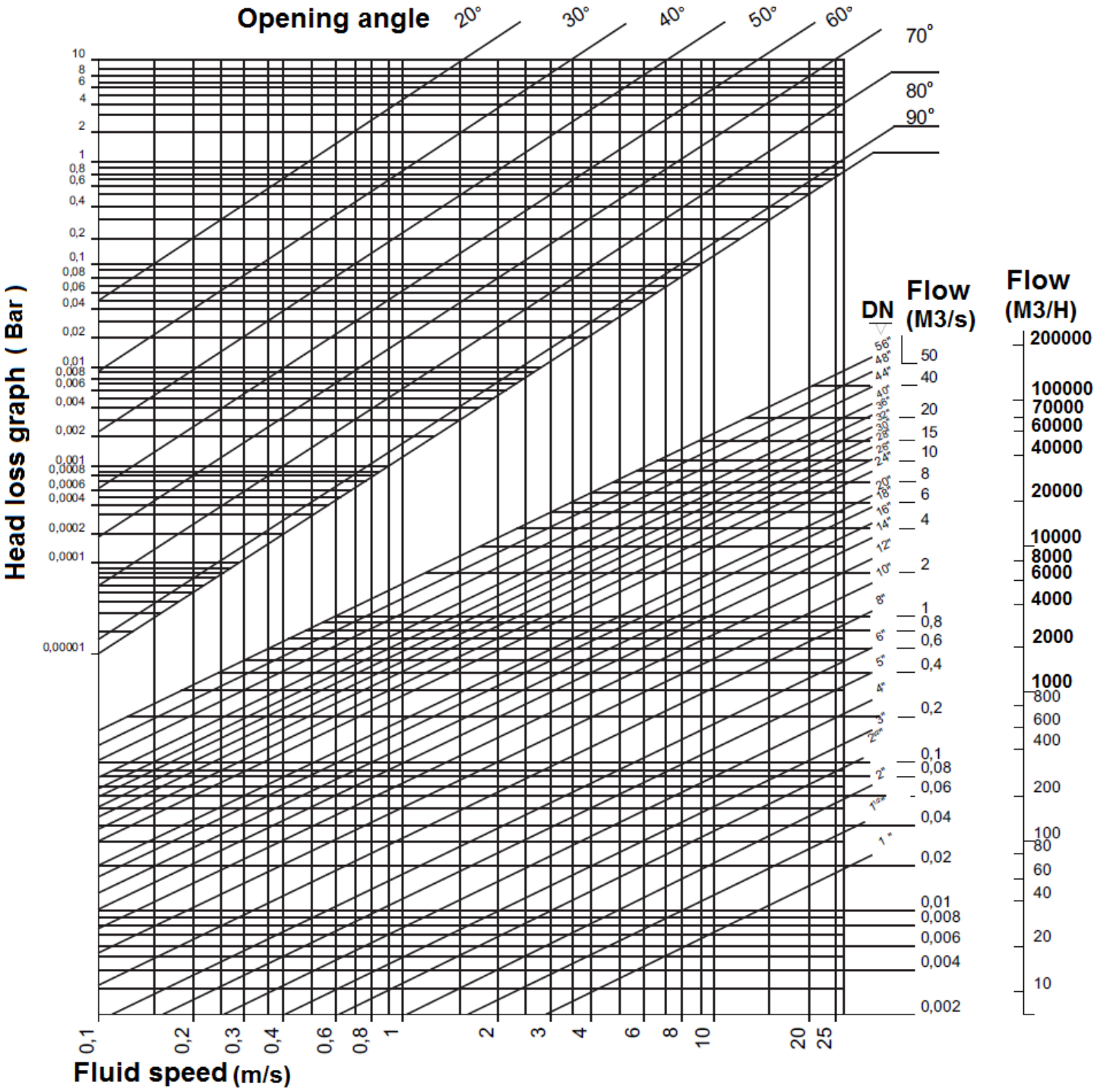
FLOW COEFFICIENT Kvs (m3 / h) :

DN	32/40	50	65	80	100	125	150	200	250	300	350	400
Kvs (m3/h)	70	109	200	334	551	901	1427	2383	3825	5659	8177	10659

DN	450	500	600	700	800	900	1000	1200	1300	1400
Kvs (m3/h)	12562	16021	22737	32443	43263	53873	64407	97341	119770	129808

LUG BUTTERFLY VALVE

HEAD LOSS GRAPH :



LUG BUTTERFLY VALVE

COMPATIBILITY :

Types	Elastic ring	Min/Max Temperature	Applications	Not Advisable
1160	EPDM	-10°C + 110°C	Cold and hot water	Hydrocarbon, steam, gas, acids, oil, freon
1162	NBR	-10°C + 90°C	Non aromatic hydrocarbon, fuel, water, natural gas, grease, oil, compressed air, glycol	Gas in atmospheric condition, petrol, premium gasoline, acetone, acetic acid and solvent
1163	EPDM	-10°C + 110°C	Cold and hot water, sea water, alcohol, hydroxyd of soda, demineralized water, mercury, alcalins	Hydrocarbon, steam, gas, acids, oil, Freon
1164	FKM	-5°C + 180°C	Acids, grease, hydrocarbon, petrol, premium gasoline, Argon, glycerin, oil, carbon dioxide, biogas	Steam and hot water (130°C max), freon, amoniac, acetylene
1168	White NBR	-10°C + 90°C	Oil, grease	Gas in atmospheric condition, petrol, premium gasoline, acetone, acetic acid and solvent

The above information are given with sincerity and are result of a long experience.
Each case is particular and they can not engage our responsability.
We advise to proceed with real condition use trials.

OTHER MODELS ON REQUEST :

BODY
Cast iron EN GJL-250
Ductile iron EN GJS-500-7
ASTM A216 WCB
SS 304
ASTM A351 CF8M
Bronze aluminium
Aluminium
Bronze
Other alloy
Special Coated
Dry cleaned
Special painting

STEM
SS 420
SS 304
SS 316
Hastelloy
Other alloy

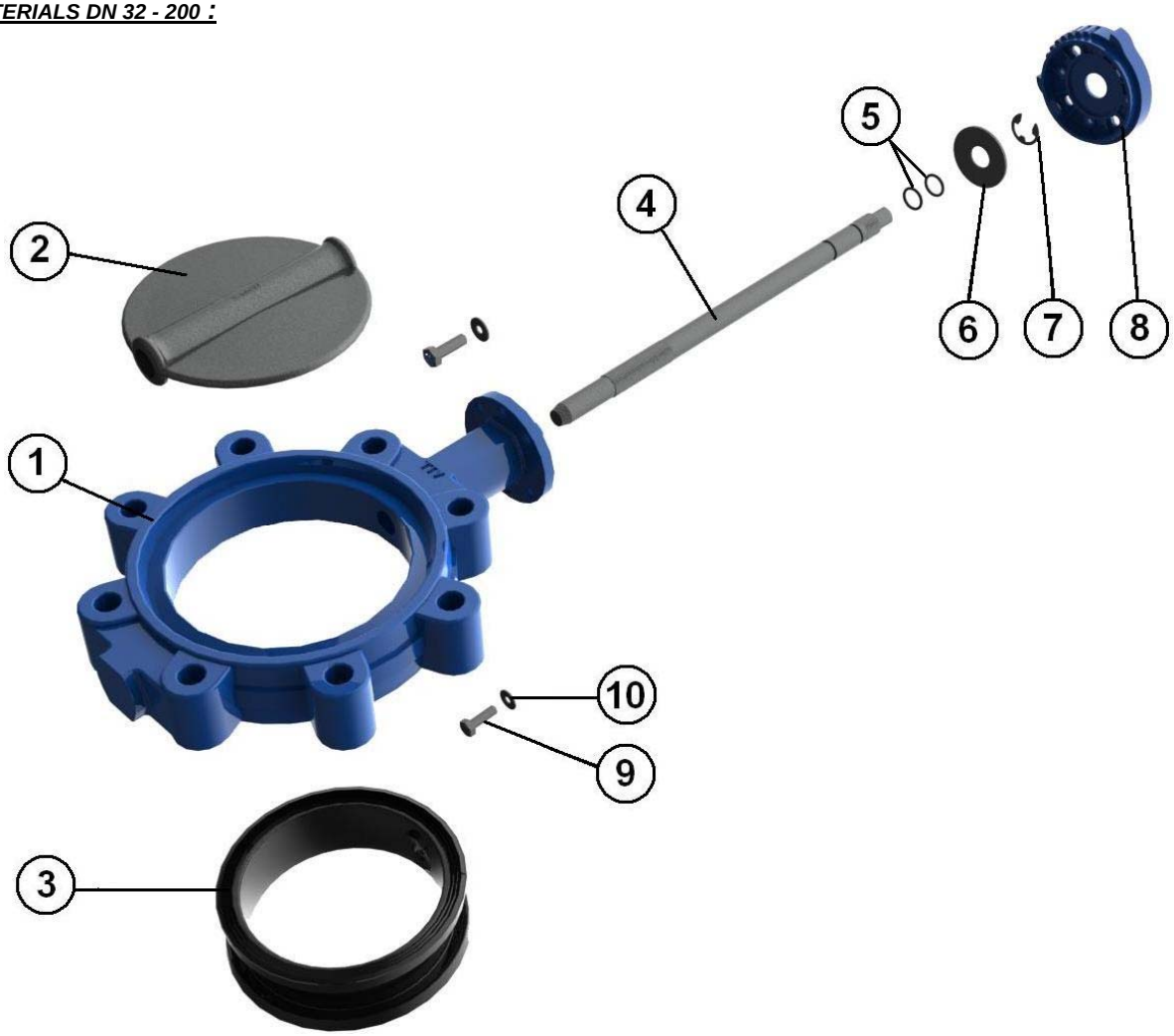
DISC
Cast iron EN GJL-250
Ductile iron ENGJS-500-7
ASTM A216 WCB
SS 304
ASTM A351 CF8M
S.S. polish
Aluminium
Cupro aluminium
Bronze
Uranus B6
Monel
Inconel
Hastelloy
Duplex
Halar coated

ELASTIC RING
EPDM
EPDM HT
NBR
FKM
Hypalon®
Silicone
Silicone food
Silicone steam
White NBR
Carbox. NBR
Natural rubber
Neoprene
Nordel
Glued seat
Vulcanized

HANDLING
Aluminium lever
S.S. lever
Square
Gear box
S.S. gear box
Chain gear box
Electric
Pneumatic
Stem extension on request

LUG BUTTERFLY VALVE

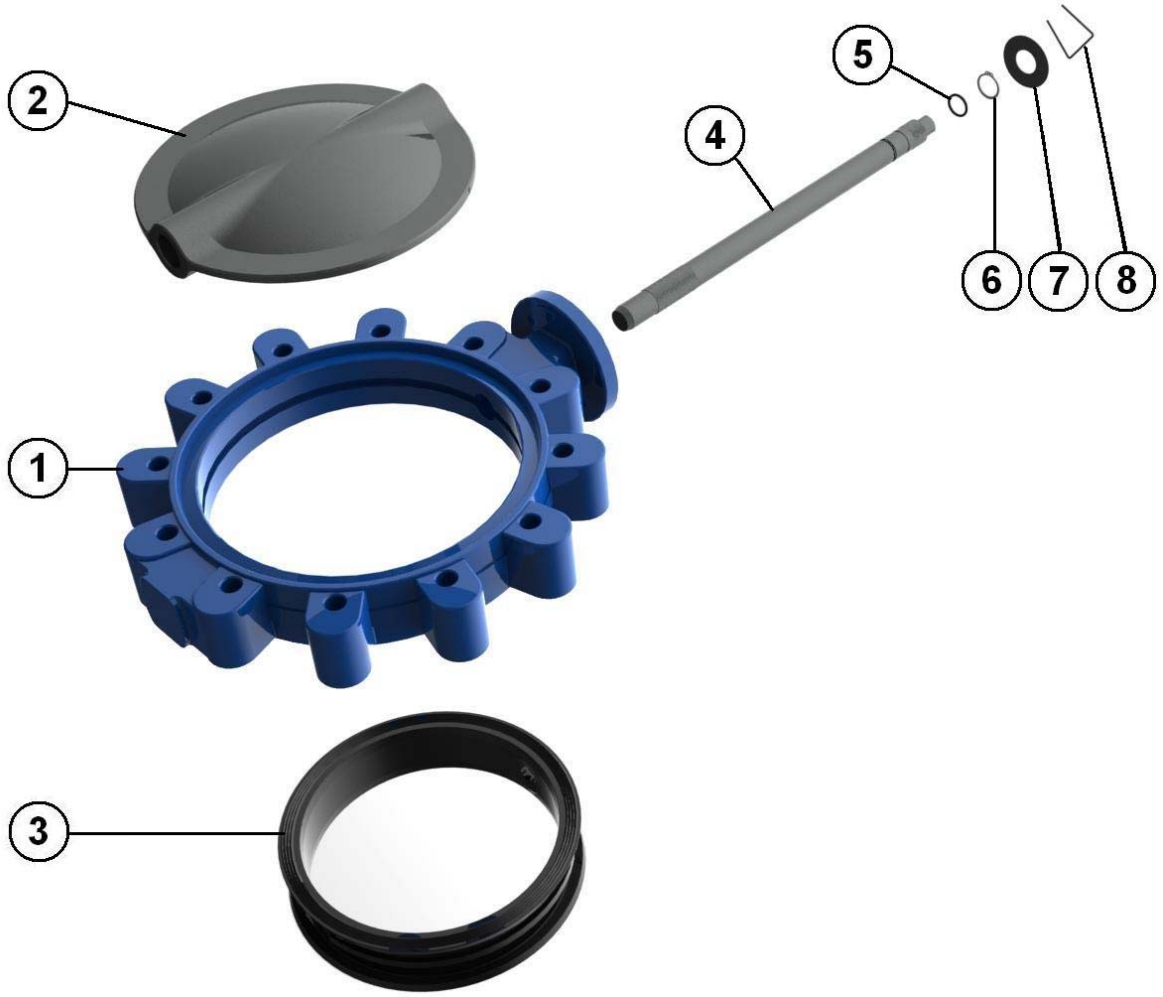
MATERIALS DN 32 - 200 :



		Materials				
Item	**Designation**	**1160**	**1162**	**1163**	**1164**	**1168**
1	Body	Ductile iron EN GJS-500-7				
2	Disc DN32-100	ASTM A351 CF8M				
2	Disc DN125-200	EN GJS 500-7	EN GJS 500-7	ASTM A351 CF8M		
3	Elastic ring	EPDM	NBR	EPDM	FKM	White NBR
4	Stem	SS 420	SS 420	SS 304	SS 304	SS 304
5	O ring	EPDM	NBR	EPDM	FKM	NBR
6	Ring	Steel	Steel	Steel	Steel	Steel
7	Circlips	Steel	Steel	Steel	Steel	Steel
8	Plate	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
9	Plate screw	5.6	5.6	5.6	5.6	5.6
10	Washer	Steel	Steel	Steel	Steel	Steel
	Lever	Aluminium				

LUG BUTTERFLY VALVE

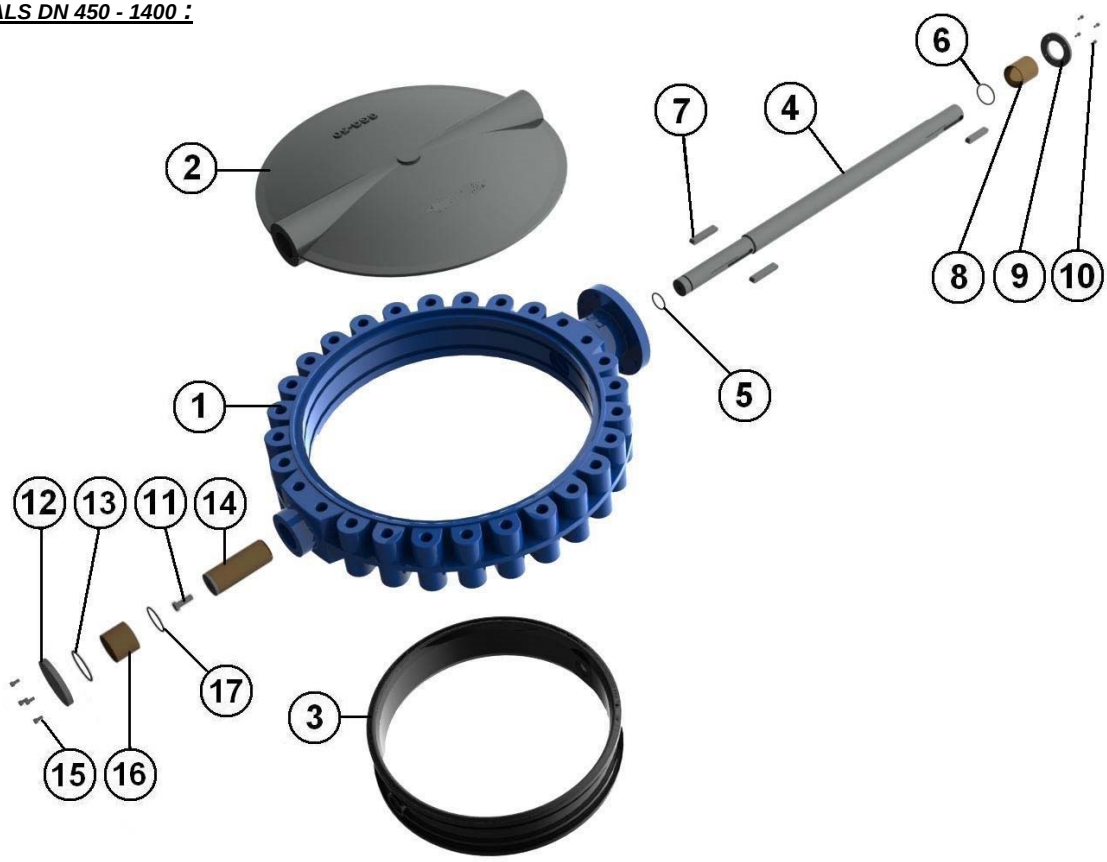
MATERIALS DN 250 - 400 :



		Materials				
Item	**Designation**	**1160**	**1162**	**1163**	**1164**	**1168**
1	Body	Ductile iron EN GJS-500-7				
2	Disc	ENGJS500-7	ENGJS500-7	ASTM A351 CF8M		
3	Elastic ring	EPDM	NBR	EPDM	FKM	White NBR
4	Stem	SS 420	SS 420	SS 304	SS 304	SS 304
5	O ring	EPDM	NBR	EPDM	FKM	NBR
6	Circlips	Steel	Steel	Steel	Steel	Steel
7	Ring	Steel	Steel	Steel	Steel	Steel
8	Spring	Steel	Steel	Steel	Steel	Steel
Lever (up to DN300)		Aluminium				

LUG BUTTERFLY VALVE

MATERIALS DN 450 - 1400 :



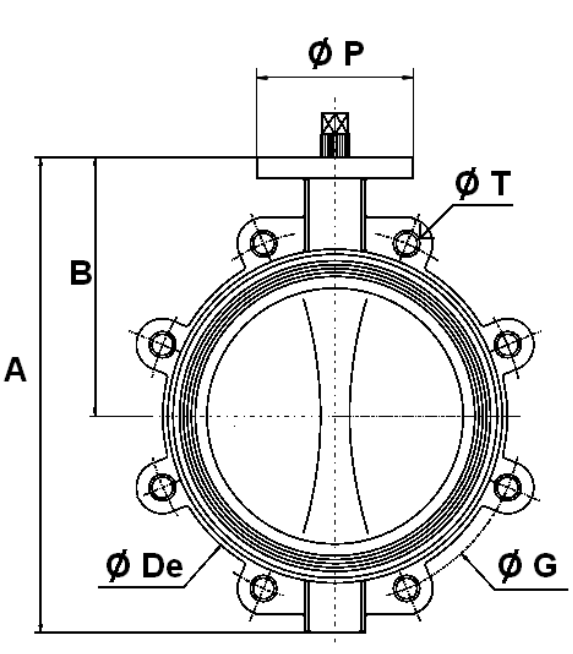
		Materials				
Item	**Designation**	**1160**	**1162**	**1163**	**1164**	**1168**
1	Body	Ductile iron EN GJS-500-7				
2	Disc	ENGJS500-7	ENGJS500-7	ASTM A351 CF8M		
3	Elastic ring	EPDM	NBR	EPDM	FKM	White NBR
4	Stem	SS 420	SS 420	SS 304	SS 304	SS 304
5	O ring	EPDM	NBR	EPDM	FKM	NBR
6	O ring	EPDM	NBR	EPDM	FKM	NBR
7	Pin	ST - 60	ST – 60	ST – 60	ST – 60	ST – 60
8	Socket	BRONZE	BRONZE	BRONZE	BRONZE	BRONZE
9	Ring	F1110	F1110	F1110	F1110	F1110
10	Screw	5.6	5.6	5.6	5.6	5.6
11	Screw	5.6	5.6	5.6	5.6	5.6
12	Cap	F1110	F1110	F1110	F1110	F1110
13	O ring	EPDM	NBR	EPDM	FKM	NBR
14	Socket	F1110	F1110	F1110	F1110	F1110
15	Screw	5.6	5.6	5.6	5.6	5.6
16	Socket	BRONZE	BRONZE	BRONZE	BRONZE	BRONZE
17	O ring	EPDM	NBR	EPDM	FKM	NBR

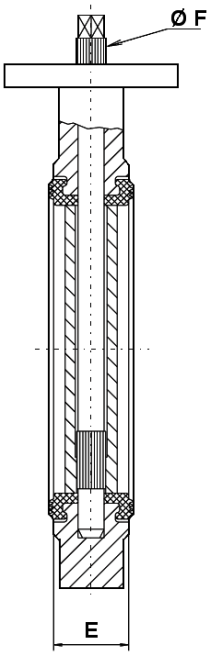
LUG BUTTERFLY VALVE

SIZE ISO PN10 (in mm) :

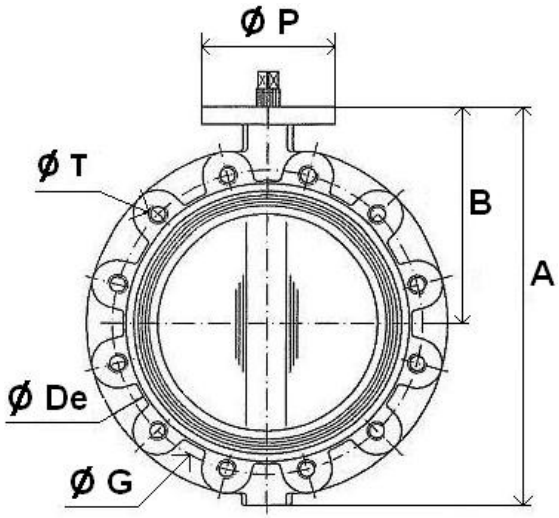
- **Valves DN 32 - 400 :**

DN 32 -150





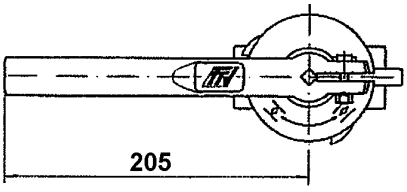
DN 200 - 400



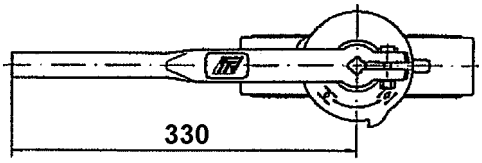
DN	32/40	50	65	80	100	125	150	200	250	300	350	400
A	205	224	241	256	294	327	354	438	462	524	580	660
B	140	154	160	172	185	204	214	256	248	282	300	340
Ø De	83	102	115	136	157	192	220	275	329	378	436	487
E	33	43	46	46	52	56	56	60	68	78	78	102
Ø F	10.5	10.5	14.5	16.5	16.5	18.5	18.5	22.5	25.5	30.5	30.5	35.5
Ø G	100/110	125	145	160	180	210	240	295	350	400	460	515
Ø P	88	88	88	88	88	105	105	105	150	150	170	170
Ø T	4xM16	4xM16	4xM16	8xM16	8xM16	8xM16	8xM20	8xM20	12xM20	12xM20	16xM20	16xM24
Weight (Kg)	2.7	4.1	4.7	6.1	7.9	10.9	11.85	18.5	31.8	47.80	53	77

- **Levers :**

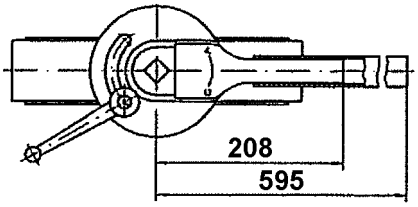
DN 40 – 100



DN 125 – 200



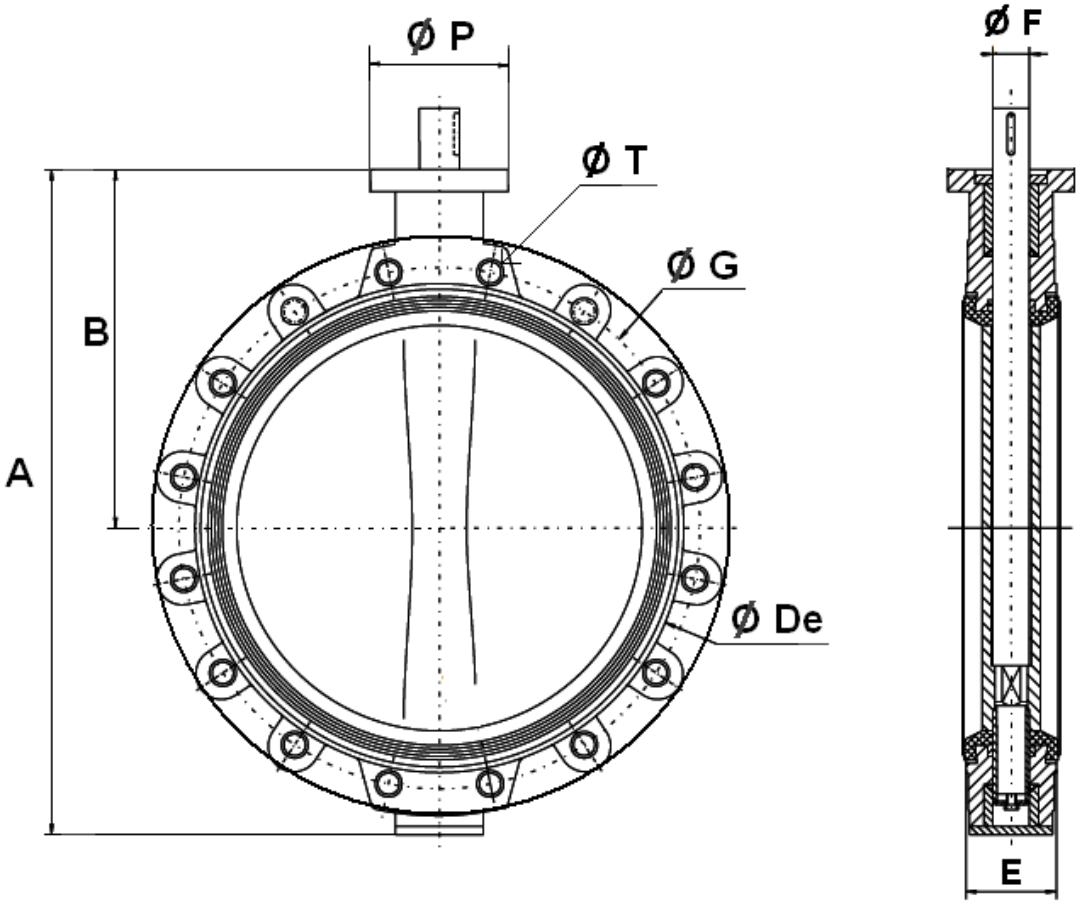
DN 250 - 300



LUG BUTTERFLY VALVE

SIZE ISO PN10 (in mm) :

- **Valves DN 450 - 1400 :**

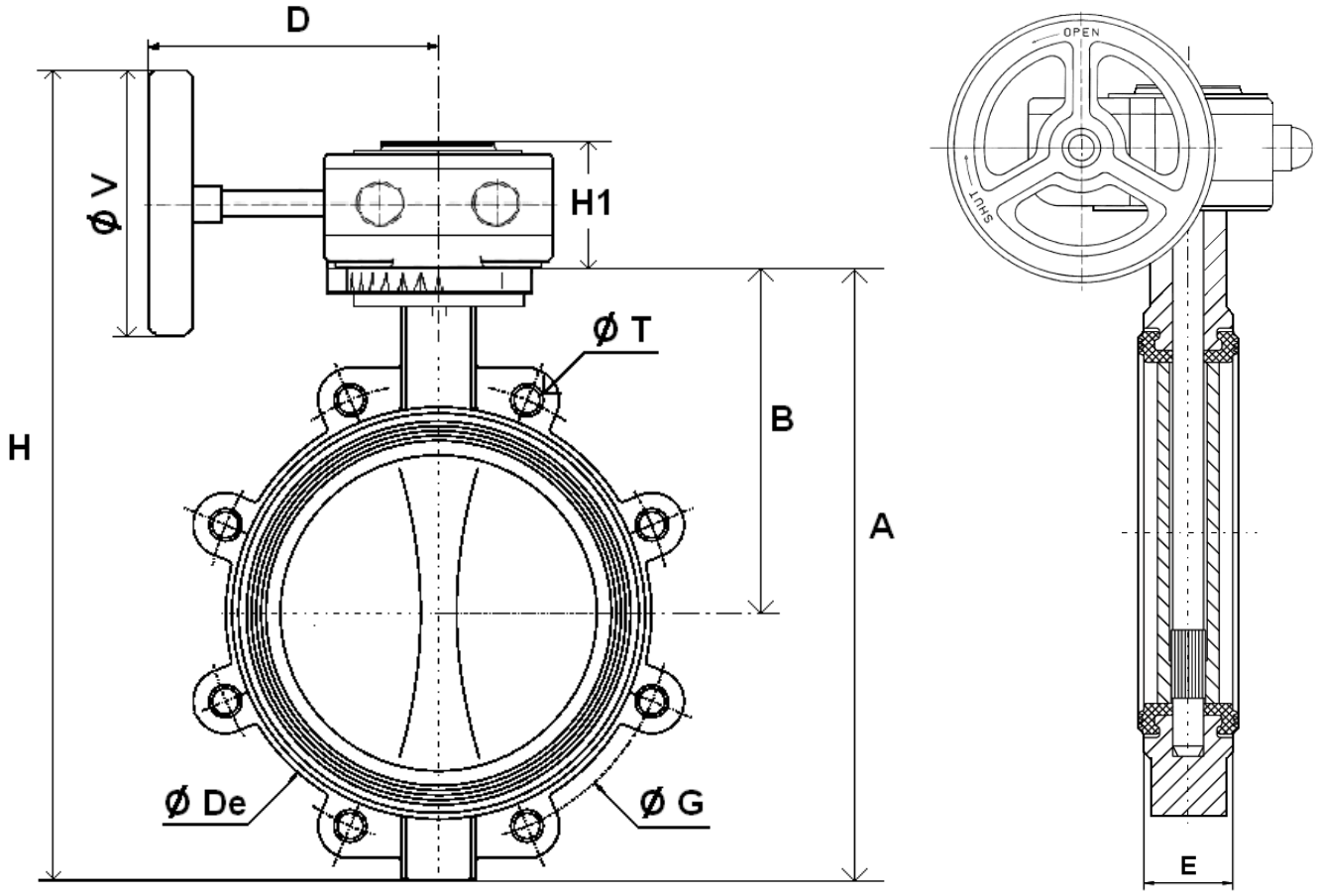


DN	450	500	600	700	750	800	900	1000	1100	1200	1300	1400
A	738	822	965	1100	1150	1248	1325	1457	1580	1720	1910	1990
B	394	440	507	575	600	655	685	754	815	873	1005	1025
Ø De	538	593	695	804	860	911	1010	1124	1225	1330	1460	1530
E	114	127	154	165	190	190	203	216	216	254	360	360
Ø F	50	50	60	60	65	65	80	80	80	100	120	120
Ø G	565	620	725	840	900	950	1050	1160	1270	1380	-	1590
Ø P	175	175	250	300	300	300	300	300	300	300	350	350
Ø T	20xM24	20xM24	20xM27	24xM27	24xM30	24xM30	28xM30	28xM33	32xM33	32xM36	-	36xM39
Weight (Kg)	110	135	210	290	360	450	550	760	1020	1460	2330	2450

LUG BUTTERFLY VALVE

SIZE ISO PN10 (in mm) :

- **Valves with gear box DN 32 - 400 :**

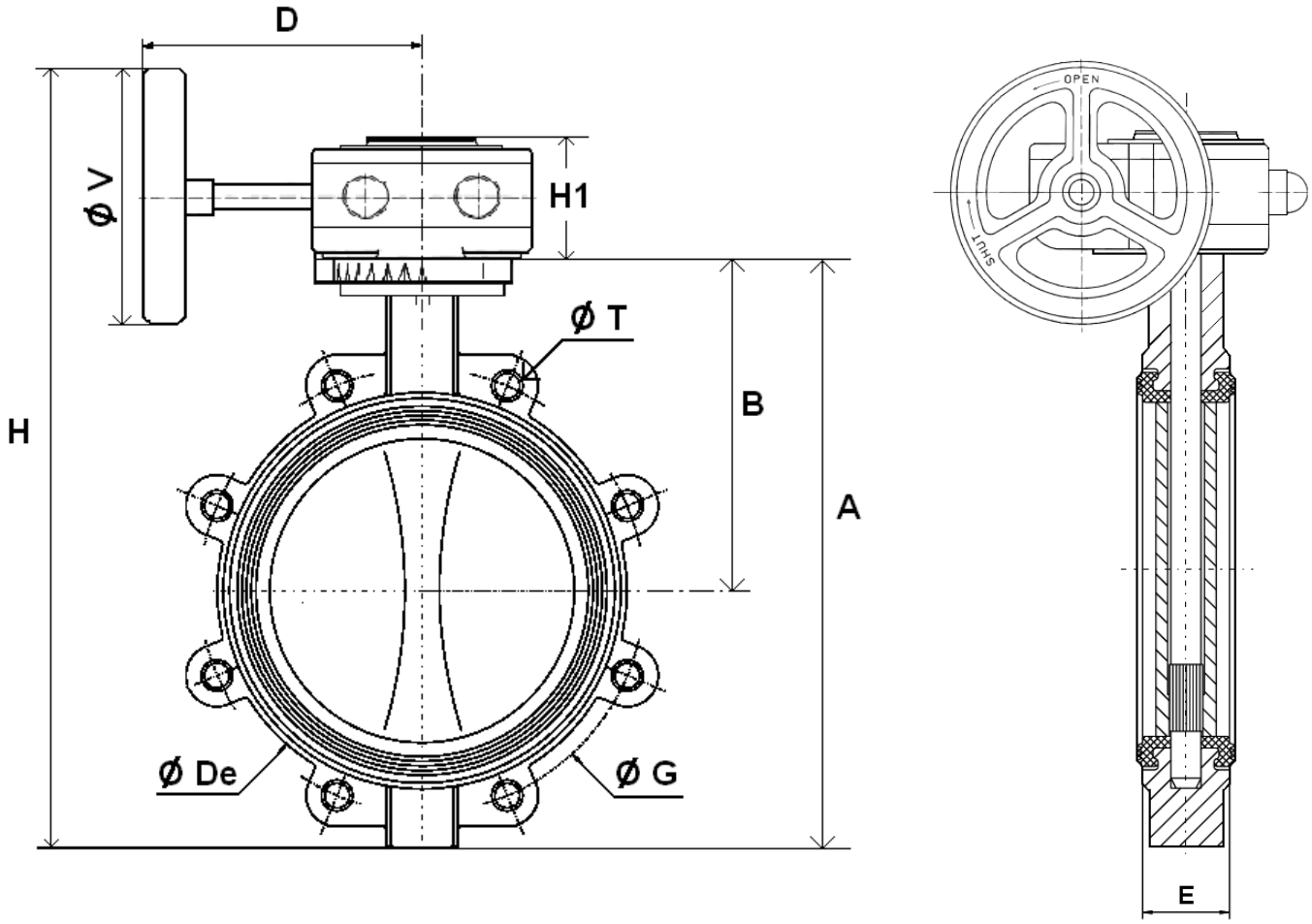


DN	32/40	50	65	80	100	125	150	200	250	300	350	400
A	205	224	241	256	294	327	354	438	462	524	580	660
B	140	154	160	172	185	204	214	256	248	282	300	340
Ø De	83	102	115	136	157	192	220	275	329	378	436	487
D	120	120	120	120	120	136	136	136	223	223	345	345
E	33	43	46	46	52	56	56	60	68	78	78	102
H	303	322	339	354	392	455	482	566	648	710	829	909
H1	58	58	58	58	58	58	58	58	74	74	98	98
Ø G	100/110	125	145	160	180	210	240	295	350	400	460	515
Ø T	4xM16	4xM16	4xM16	8xM16	8xM16	8xM16	8xM20	8xM20	12xM20	12xM20	16xM20	16xM24
Ø V	140	140	140	140	140	200	200	200	300	300	400	400
Weight (Kg)	4.05	5.45	6.05	7.45	9.25	12.65	13.6	20.25	35.8	51.8	62.5	86.5

LUG BUTTERFLY VALVE

SIZE ISO PN10 (in mm) :

- **Valves with gear box DN 450 - 1400 :**

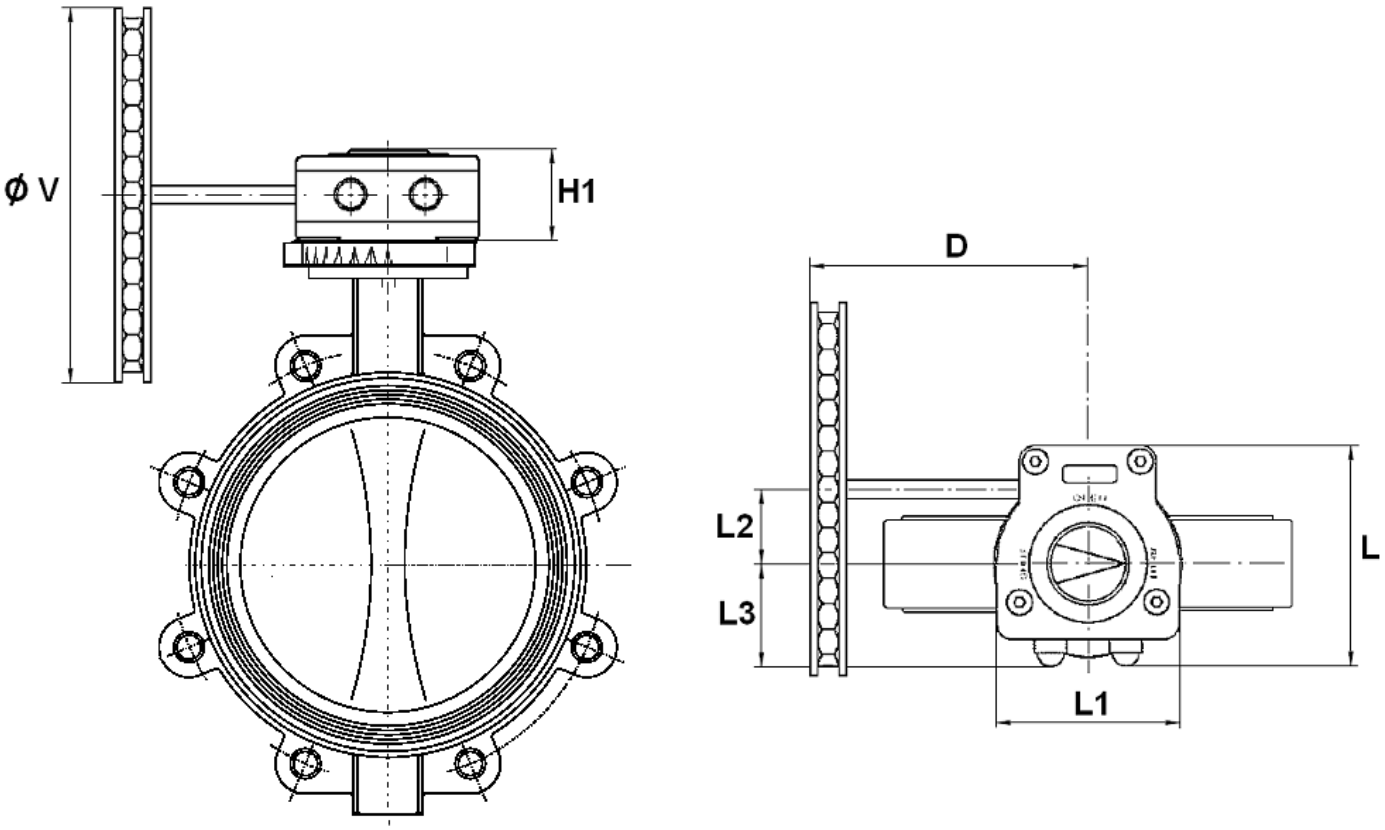


DN	450	500	600	700	750	800	900	1000	1100	1200	1300	1400
A	738	822	965	1100	1150	1248	1325	1457	1580	1720	1910	1990
B	394	440	507	575	600	655	685	754	815	873	1005	1025
Ø De	538	593	695	804	860	911	1010	1124	1225	1330	1460	1530
D	364	386	421	440	440	438	492	492	492	550	605	605
E	114	127	154	165	190	190	203	216	216	254	360	360
H	1083	1171	1376	1409	1459	1657	1688	1820	1943	2178	2260	2429
H1	90	98	122	117	117	117	125	125	125	115	178	178
Ø G	565	620	725	840	900	950	1050	1160	1270	1380	-	1590
Ø T	20xM24	20xM24	20xM27	24xM27	24xM30	24xM30	28xM30	28xM33	32xM33	32xM36	-	36xM39
Ø V	600	600	700	500	500	700	600	600	600	800	700	700
Weight (Kg)	128.8	161.8	248.3	339	409	501.3	624.8	834.8	1094.8	1546.5	2562	2682

LUG BUTTERFLY VALVE

SIZE ISO PN10 (in mm) :

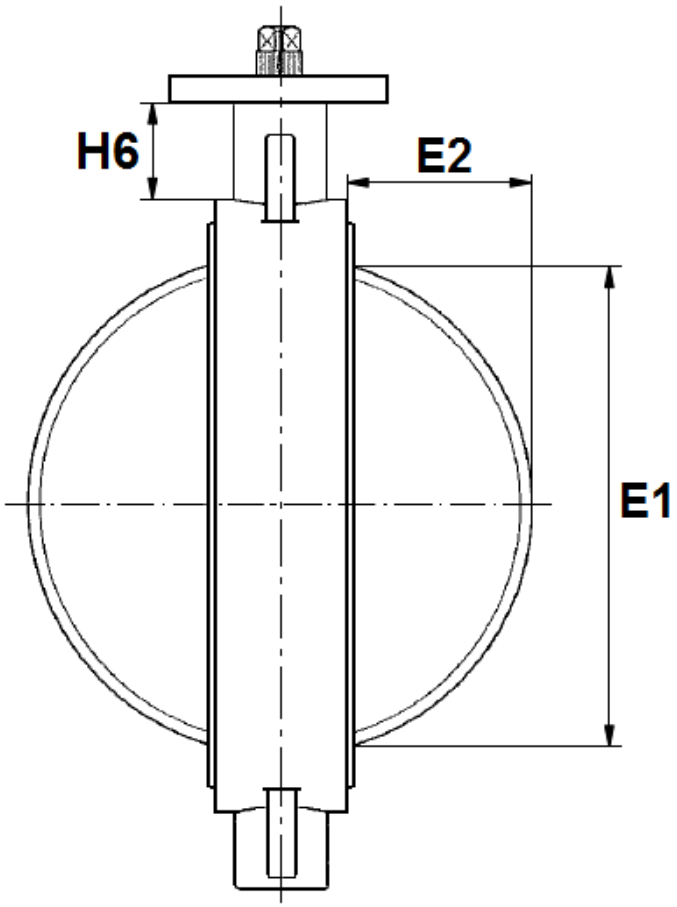
- **Valves with chain gear box :**



DN	32/40	50	65	80	100	125	150	200	250	300	350	400	450	500
D	120	120	120	120	120	126	126	126	214	214	331	331	350	365
H1	58	58	58	58	58	58	58	58	77	77	88	88	90	98
L	130	130	130	130	130	130	130	130	177.5	177.5	222	222	232	267
L1	100	100	100	100	100	100	100	100	146	146	175	175	204	227
L2	50	50	50	50	50	50	50	50	60	60	80	80	86	104.5
L3	58	58	58	58	58	58	58	58	82.5	82.5	85	85	100	110
Ø V	125	125	125	125	125	210	210	200	300	300	400	400	500	500
Weight (Kg)	5.05	6.45	7.05	8.45	10.25	13.65	14.6	21.25	38.6	54.6	67.3	91.3	136.2	168.7

LUG BUTTERFLY VALVE

NECK AND DISC SIZE (in mm) :



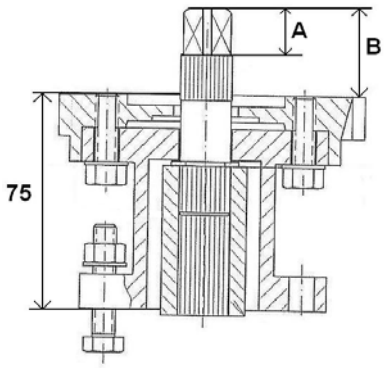
DN	32/40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
E1	23	24.5	46	65	85	109	136	188	238	289	331	385	424	479	575
E2	3.5	3.5	9.5	17	24	33.5	45.5	69	90	110.5	131	148	162.5	184	221
H6	76	82	80	80	88	93	89	99	71	76	69	80	96	119	127

DN	700	750	800	900	1000	1100	1200	1300	1400
E1	680	721	777	850	957	1052	1146	1261	1368
E2	267.5	278	305	335.5	382.5	429	460	475.5	527.5
H6	148	140	170	150	162	175	176	240	228

LUG BUTTERFLY VALVE

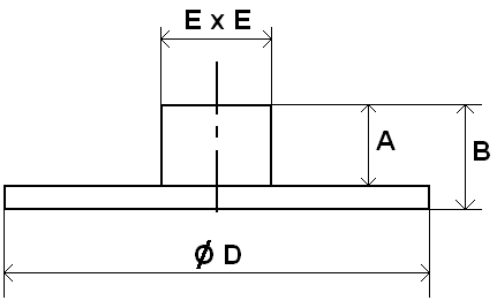
SIZE (in mm) :

- **Stem extension for isolation (75 mm) :**



DN	32-50	65	80-100	125-150	200
A	19	19	19	17	17
B	34	34	34	34	34
Weight (Kg)	0.8	0.8	0.9	0.9	1

- **Square lever for special key (30x30 mm) :**

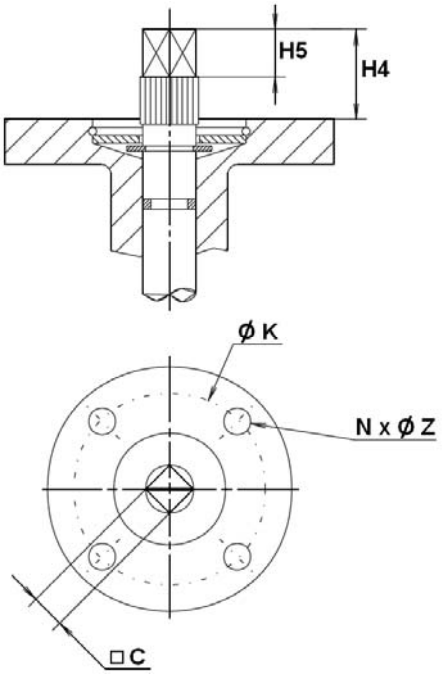


DN	32-50	65	80-100	125-150	200
A	20	20	20	20	20
B	31	31	32	32	32
Ø D	107	107	107	107	107
E x E	30 x 30	30 x 30	30 x 30	30 x 30	30 x 30
Weight (Kg)	0.88	0.88	0.88	0.88	0.88

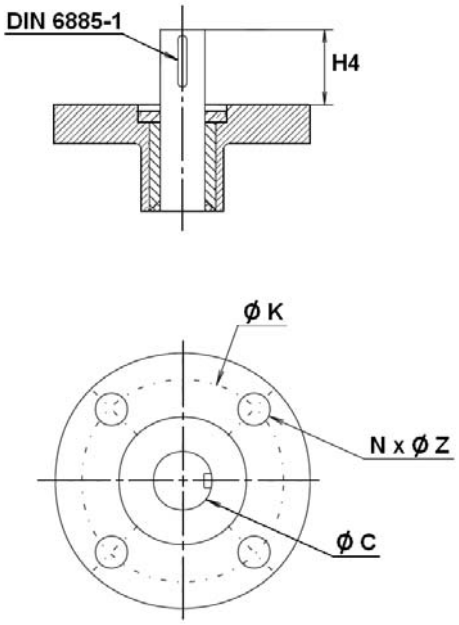
LUG BUTTERFLY VALVE

ISO MOUNTING PAD AND STEM SIZE (in mm) :

DN 32 – 400



DN 450 - 1400



DN	32/40	50	65	80	100	125	150	200	250	300	350	400
H4	30	30	30	30	30	30	30	30	40	40	40	40
H5	17	17	17	17	17	17	17	17	20	20	20	20
C	8	8	9	11	11	14	14	17	19	22	22	27
Ø K	70	70	70	70	70	70	70	70	102	102	140	140
ISO	F07	F07	F07	F07	F07	F07	F07	F07	F10	F10	F14	F14
N x Ø Z	4 x 9	4 x 9	4 x 9	4 x 9	4 x 9	4 x 9	4 x 9	4 x 9	4 x 11	4 x 11	4 x 18	4 x 18

DN	450	500	600	700	750	800	900	1000	1100	1200	1300	1400
H4	80	80	90	90	110	110	110	110	110	110	120	120
Ø C	50	50	60	60	65	65	80	80	80	100	120	120
Ø K	140	140	165	254	254	254	254	254	254	254	298	298
ISO	F14	F14	F16	F25	F25	F25	F25	F25	F25	F25	F30	F30
N x Ø Z	4 x 18	4 x 18	4 x 22	8 x 18	8 x 18	8 x 18	8 x 18	8 x 18	8 x 18	8 x 18	8 x 22	8 x 22

LUG BUTTERFLY VALVE

STANDARDS :

- Fabrication according to ISO 9001:2008
- DIRECTIVE 97/23/CE : CE N° 0038
  Risk Category III module H
- Tests according to ISO 5208, A class
- Between flanges according to EN 1092-1 PN10
- ISO 5211 mounting pad
- Length according to ISO 5752 short series 20, EN 558 series 20 (NF 29305),BS 5155 Wafer short/medium, DIN 3202 part 3, series K1
- ATEX Group II Category 2 G/2D Zone 1 & 21 Zone 2 &22 (optional marking)
- French water agreement **A.C.S. N° 07 ACC LY 504** for types **1160** and **1163** from **DN32 to 400**
- Approval certificate Russian **GOST-R**
- Approval certificate **Marine Lloyd's** N° 99/00131 from DN40 to 600
- Approval certificate **Marine ABS,** N° MD1935037 up to DN1400
- Approval certificate **Marine DNV,** N° P-13614
- Approval certificate **Marine BUREAU VERITAS,** N° 14087/B0 BV from DN32 to 1000
- OTAN agreement (N° 286B)

ADVICE : Our opinion and our advice are not guaranteed and MXT shall not be liable for the consequences of damages. The customer must check the right choice of the products with the real service conditions.

INSTALLATION INSTRUCTIONS

GENERAL GUIDELINES :

- Ensure that the valves to be used are appropriate for the conditions of the installation (type of fluid,pressure and temperature).
- Be sure to have enough valves to be able to isolate the sections of piping as well as the appropriate equipment for maintenance and repair.
- Ensure that the valves to be installed are of correct strenght to be able to support the capacity of their usage.
- **Installation of all circuits should ensure that their function can be automatically tested on a regular basis (at least two times a year).**

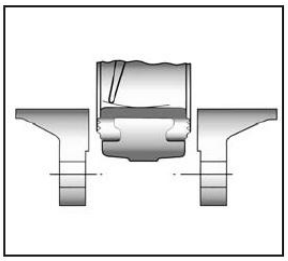
INSTALLATION INSTRUCTIONS :

- **Before installing the valves,clean and remove any objects from the pipes** (in particular bits of sealing and metal) which could obstruct and block the valves.

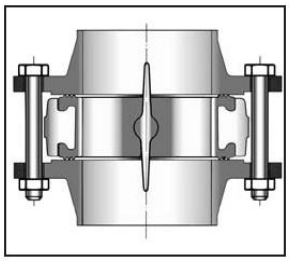
LUG BUTTERFLY VALVE

INSTALLATION INSTRUCTIONS (SUITE):

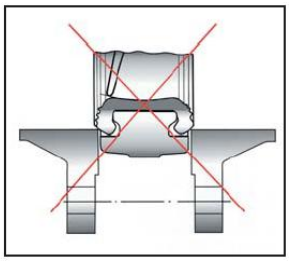
- **Ensure that both connecting pipes either side of the valve (upstream and downstream) are aligned (if they're not,the valves may not work correctly).**
- **Make sure that the two sections of the pipe (upstream and downstream) match,the valve unit will not absorb any gaps.Any distortions in the pipes may affect the thightness of the connection,the working of the valve and can even cause a rupture.**To be sure,place the kit in position to ensure the assembling will work.
- **If sections of piping do not have their final support in place,they should be temporarily fixed.This is to avoid unnecessary strain on the valve.**
- The valve must be inserted between flanges with disc half opened but the disc must not overpass the valve thickness. Position the bolts to keep centered the valve. Then open fully the valve and tighten the bolts. **See graph under**.



Half open valve introduction



Complete opened disc valves when screw tightening



- Tighten the bolts in cross.
- The disc must move easily inside the pipe.
- Valves must be opened during cleaning operation.
- Tests must be done with a cleaned pipe.
- Tests must be done with opened valve. Test pressure must not be higher than the valve specification according to EN 12266-1.
- Then open slowly the valve.
- **Do not mount butterfly valves with stainless steel pressed collars and turning flanges without strias.**
- **And not on flat face flanges without strias (example : painted cast iron fittings)**

MAINTENANCE :

- We recommend to operate fully the valve 1 to 2 times per year.

- During maintenance operation, ensure that the pipe isn't under pressure, that there's no fluid in the pipe and that the valve is isolated. If there's a fluid in the pipe , evacuate it. Ensure that there are no risks due to the temperature or the fluid (like acids). If the fluid is corrosive , inert the installation before maintenance operation.

TCR-N ELECTRICAL ACTUATOR

FEATURES

The TCR-N electric actuators are intended for motorising ¼ turn valves with a torque of 15, 20, 50 or 110 Nm. With a compact construction and plastic housing, they are especially well suited for motorising small size ball 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%

MECHANICAL FEATURES

Gear box	treated steel pinions
Torques	15 - 20 - 50 - 110 Nm
Angle of rotation	90° +/- 2°
Declutching	without
Override control	By key

IP 67 | ISO 9001 | CE

Actuator	**TCR 02N**			**TCR 05N**			**TCR 11N**		
Torques (Nm)	15	20	20	50			110		
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)	15	10	10	12	12	12	10	10	10
ISO 5211:	F03/F04/F05 - star 11			F05/F07 - star 14			F05/F07 - star 17		

ELECTRICAL FEATURES

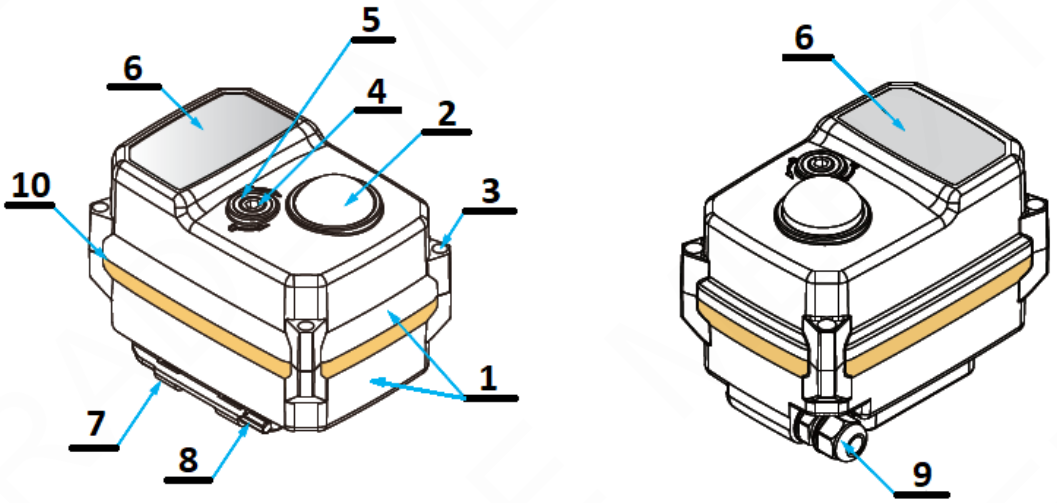
Actuator	**TCR 02N**	**TCR 05N**	**TCR 11N**
Motor protection	Thermal switch		
Limit switches	2 adjustable switches		
Auxiliary switches	2 adjustable dry switches		
Anti-condensation	integrated		
Electrical connection	PE M10 + 1.5m cable	PE M20 + 1.5m cable	2 x PE M14

Actuator	**TCR 02N**			**TCR 05N**			**TCR 11N**		
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)	15	15	15	25	25	25	100	100	100
Current (A)	1,5	1,5	0,09	1,67		0,18 - 0,37	2,5		0,3 - 0,6
Fuse Protection (A)	5	5	1	8		1 - 2	5		2 - 3

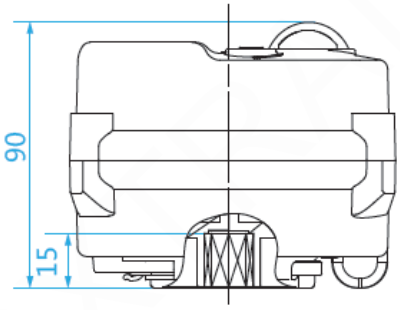
TCR-N ELECTRICAL ACTUATOR

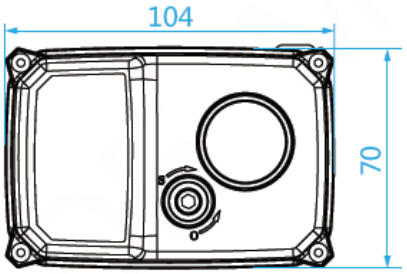
CONSTRUCTION (TCR-02N)

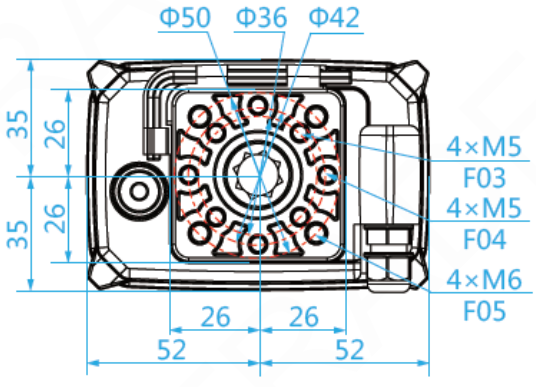
TCR-02N					
No.	**Name**	**Material**	**No.**	**Name**	**Material**
1	Casing + lid	Plastic (ABS)	**6**	Rating plate	PVC
2	Position indicator	Polycarbonate plastic	**7**	Key support	Plastic (ABS)
3	Screw x 4	Aisi 304	**8**	Hex key	Steel
4	Backup control stem	Aisi 304	**9**	Packing gland	Nylon
5	Gasket	NBR	**10**	Cover gasket	NBR
Weight (kg): 0.620					



DIMENSIONS (mm)



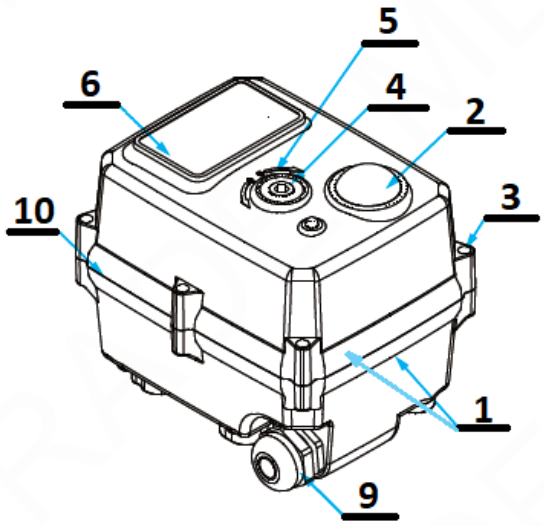


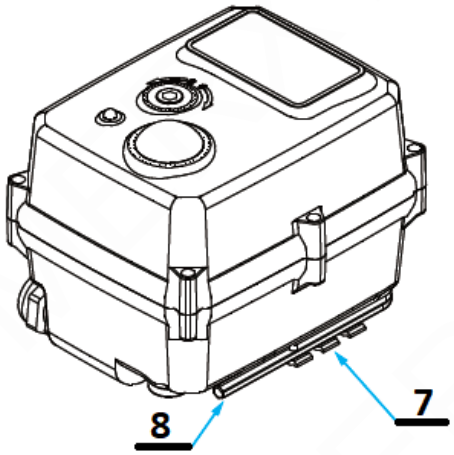


TCR-N ELECTRICAL ACTUATOR

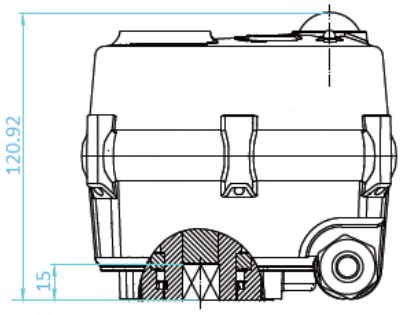
CONSTRUCTION (TCR-05N)

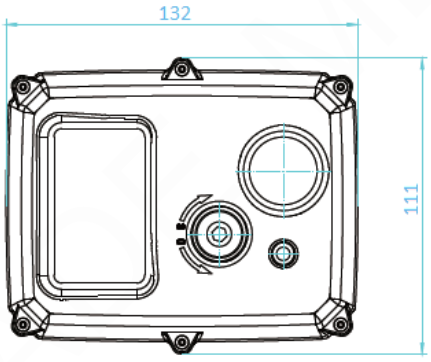
TCR-05N					
No.	**Name**	**Material**	**No.**	**Name**	**Material**
1	Casing + lid	Plastic (ABS)	**6**	Rating plate	PVC
2	Position indicator	Polycarbonate plastic	**7**	Key support	Plastic (ABS)
3	Screw x 6	Aisi 304	**8**	Hex key	Steel
4	Backup control stem	Aisi 304	**9**	Packing gland	Nylon
5	Gasket	NBR	**10**	Cover gasket	NBR
Weight (kg): 1.800					

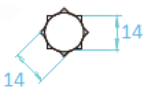


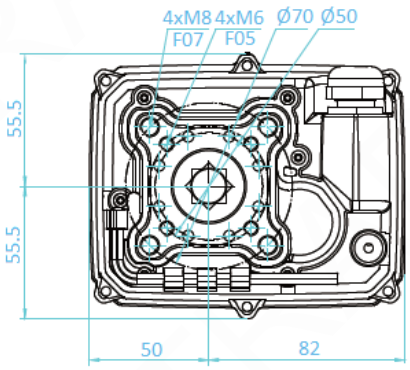


DIMENSIONS (mm)





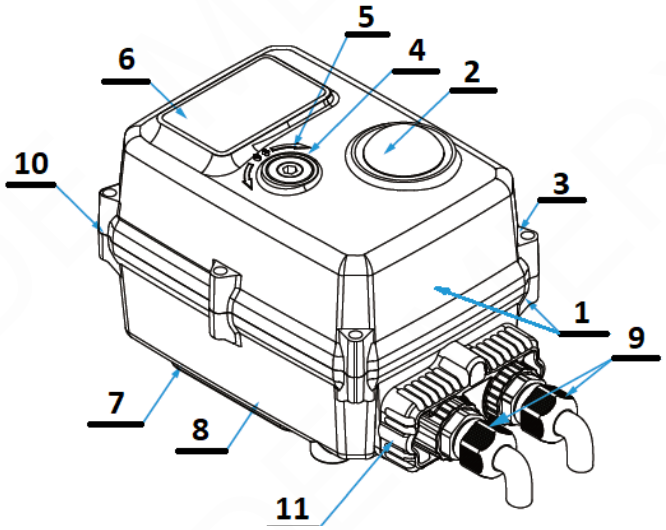




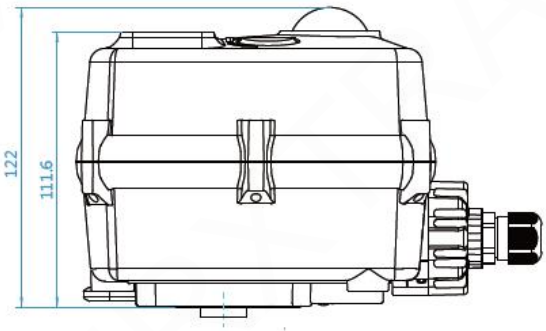
TCR-N ELECTRICAL ACTUATOR

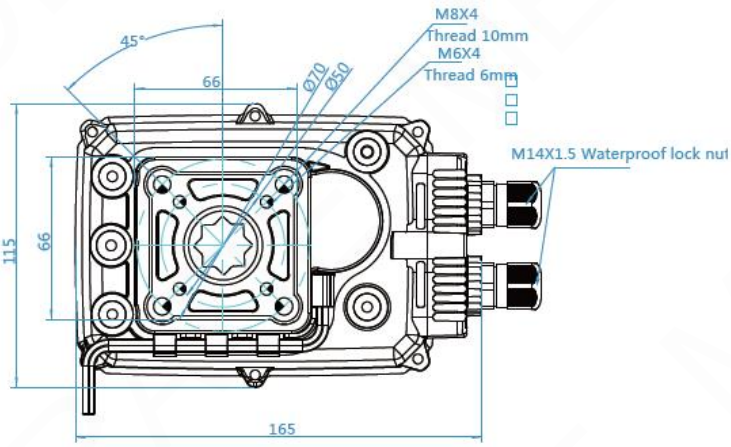
CONSTRUCTION (TCR-11N)

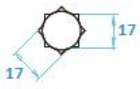
TCR-11N					
No.	**Name**	**Material**	**No.**	**Name**	**Material**
1	Casing + lid	Plastic (ABS)	**6**	Rating plate	PVC
2	Position indicator	Polycarbonate plastic	**7**	Key support	Plastic (ABS)
3	Screw x 6	Aisi 304	**8**	Hex key	Steel
4	Backup control stem	Aisi 304	**9**	X 2Packing gland	Nylon
5	Gasket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



DIMENSIONS (mm)



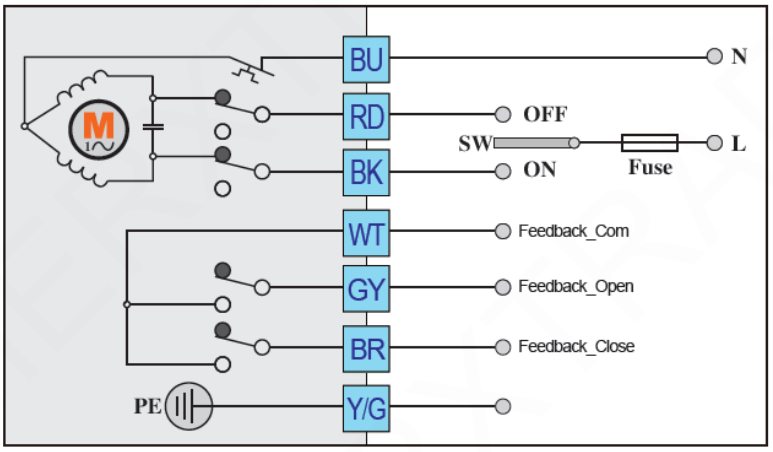


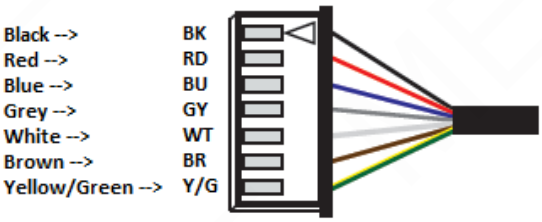


TCR-N ELECTRICAL ACTUATOR

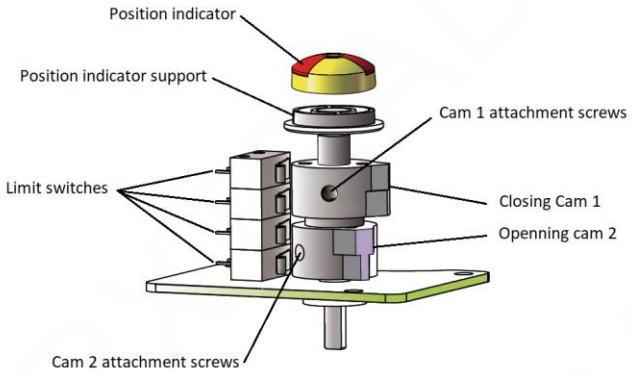
WIRING DIAGRAM

BU	Neutral (Blue)
RD	Closing control (Red)
BK	Opening control (Black)
WT	Information return to common (White) Dry switch: 230V AC max 50 mA 230V DC max 500 mA
GY	Opening return information (Grey) Dry switch: 230V AC max 50 mA 230V DC max 500 mA
BR	Closing return information (Brown) Dry switch: 230V AC max 50 mA 230V DC max 500 mA
Y/G	Earth (Yellow / Green)

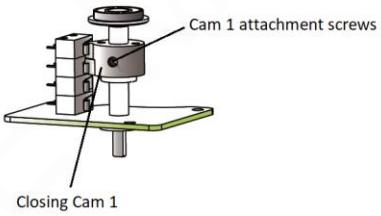




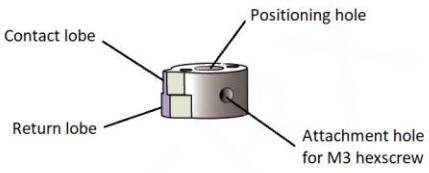
SWITCH SETTING



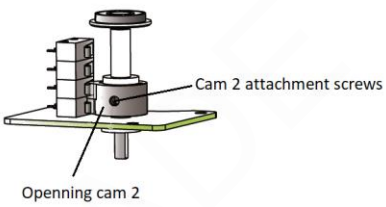
GENERAL VIEW



CLOSING CAM ADJUSTMENT



CAM DETAIL



OPENING CAM ADJUSTMENT

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.

TCR-N-KT CAPACITOR RETURN ELECTRICAL ACTUATOR

FEATURES

The TCR-N-KT electric actuators are intended for motorising ¼ turn valves with a torque of 15, 45, 95 or 110 Nm. **Capacitor return function**: the closing manoeuvre is provided by a capacitor. With a compact construction and plastic housing, they are especially well suited for motorising small size ball valves. 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.

IP 67 ISO 9001 CE

LIMITS OF USE

IP Code	IP 67
Ambient temperature	- 20°C / +60°C
Service factor	S4-50%

MECHANICAL FEATURES

Gear box	treated steel pinions
Torques	15 - 45 - 95 - 110 Nm
Angle of rotation	90° +/- 2°
Declutching	without
Override control	By key

Actuator	**TCR 02N-KT32**		**TCR 05N-KT32**		**TCR 11N-KT32**	
Torques (Nm)	15		45		110	95
Voltage	24V AC - DC	95-265V AC-DC	24V AC - DC	95-265V AC-DC	24V AC - DC	95-265V AC-DC
Manoeuvring time (s)	15	15	12	12	10	10
ISO 5211:	F03/F04/F05 - star 11		F05/F07 - star 14		F05/F07 - star 17	

ELECTRICAL FEATURES

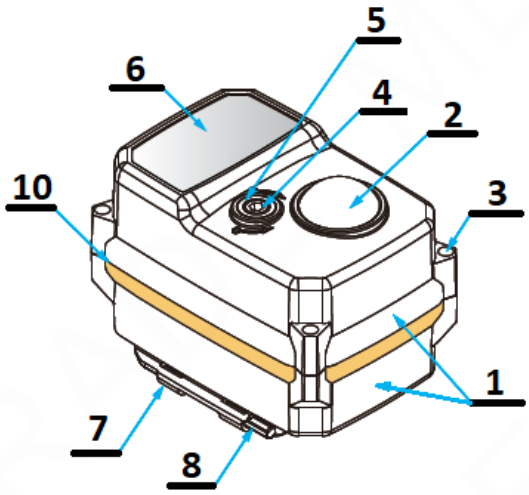
Actuator	**TCR 02N-KT32**	**TCR 05N-KT32**	**TCR 11N-KT32**
Motor protection	Thermal switch		
Limit switches	2 adjustable switches		
Auxiliary switches	2 adjustable dry switches		
Anti-condensation	integrated		
Electrical connection	PE M10 + 1.5m cable	PE M20 + 1.5m cable	2 x PE M14

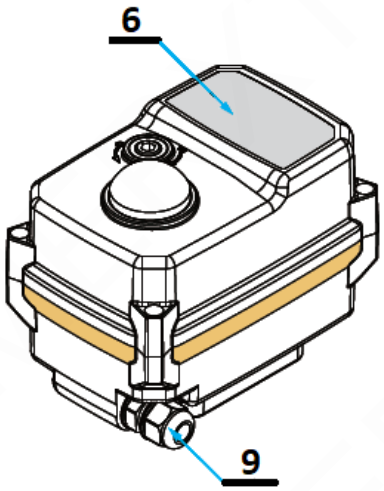
Actuator	**TCR 02N-KT32**		**TCR 05N-KT32**		**TCR 11N-KT32**	
Voltage	24V AC - DC	95-265V AC-DC	24V AC - DC	95-265V AC-DC	24V AC - DC	95-265V AC-DC
Power (W)	36	36	40	40	100	100
Current (A)	1,5	0,09	1,8	1,6	2,5	0,26 - 0,52
Fuse protection (A)	5	1	10	2	5	2

TCR-N-KT CAPACITOR RETURN ELECTRICAL ACTUATOR

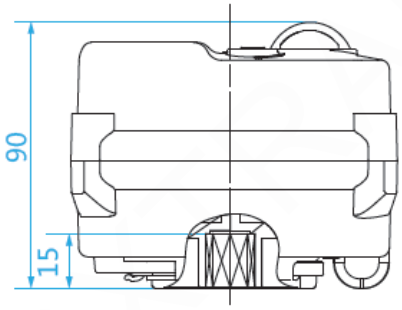
CONSTRUCTION (TCR-02N-KT32)

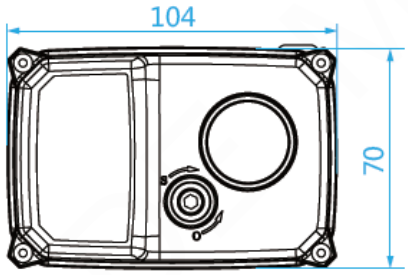
TCR-02N-KT32					
No.	**Name**	**Material**	**No.**	**Name**	**Material**
1	Casing + lid	Plastic (ABS)	**6**	Rating plate	PVC
2	Position indicator	Polycarbonate plastic	**7**	Key support	Plastic (ABS)
3	Screw x 4	Aisi 304	**8**	Hex key	Steel
4	Backup control stem	Aisi 304	**9**	Packing gland	Nylon
5	Gasket	NBR	**10**	Cover gasket	NBR
Weight (kg): 0.620					

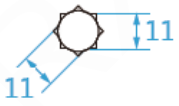


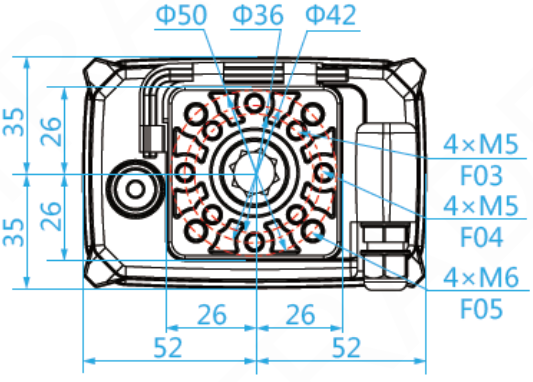


DIMENSIONS (mm)





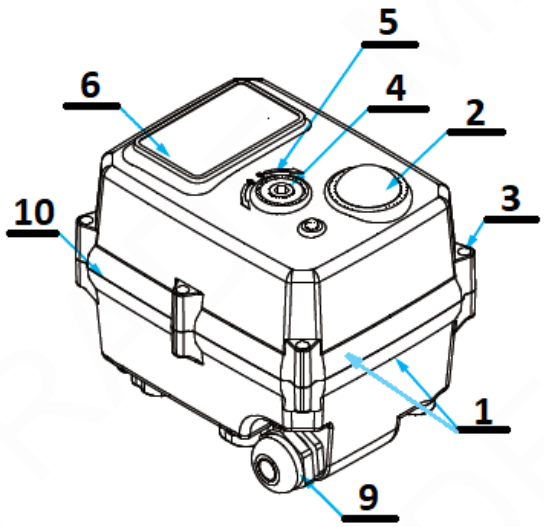


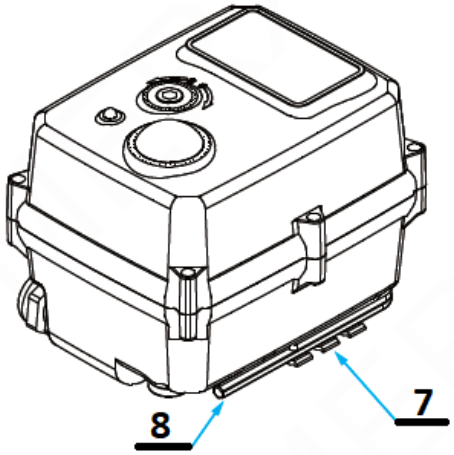


TCR-N-KT CAPACITOR RETURN ELECTRICAL ACTUATOR

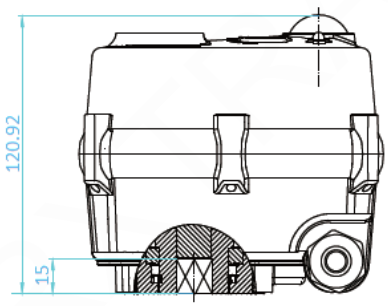
CONSTRUCTION (TCR-05N-KT32)

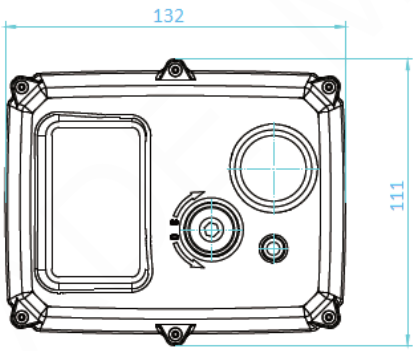
TCR-05N-KT32					
No.	**Name**	**Material**	**No.**	**Name**	**Material**
1	Casing + lid	Plastic (ABS)	**6**	Rating plate	PVC
2	Position indicator	Polycarbonate plastic	**7**	Key support	Plastic (ABS)
3	Screw x 6	Aisi 304	**8**	Hex key	Steel
4	Backup control stem	Aisi 304	**9**	Packing gland	Nylon
5	Gasket	NBR	**10**	Cover gasket	NBR
Weight (kg): 1.800					

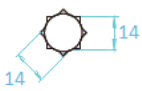


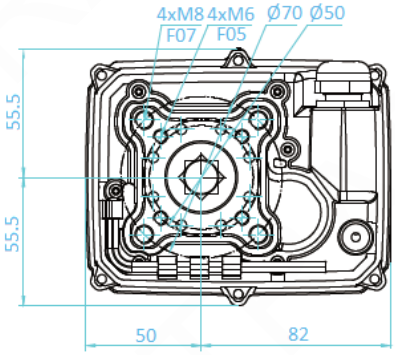


DIMENSIONS (mm)





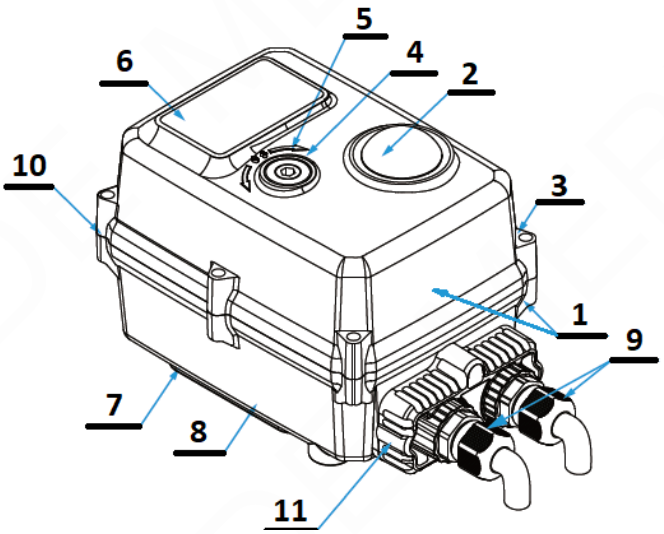




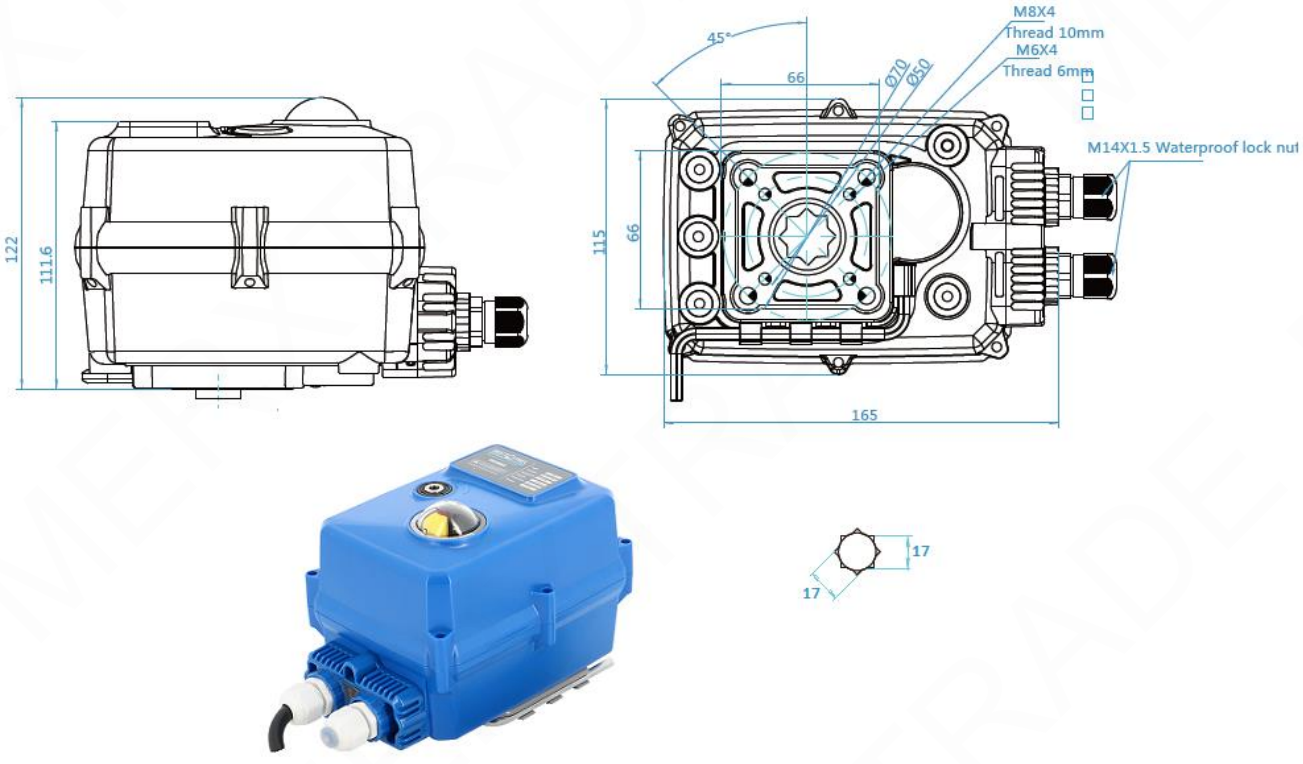
TCR-N-KT CAPACITOR RETURN ELECTRICAL ACTUATOR

CONSTRUCTION (TCR-11N-KT32)

TCR-11N-KT32					
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)



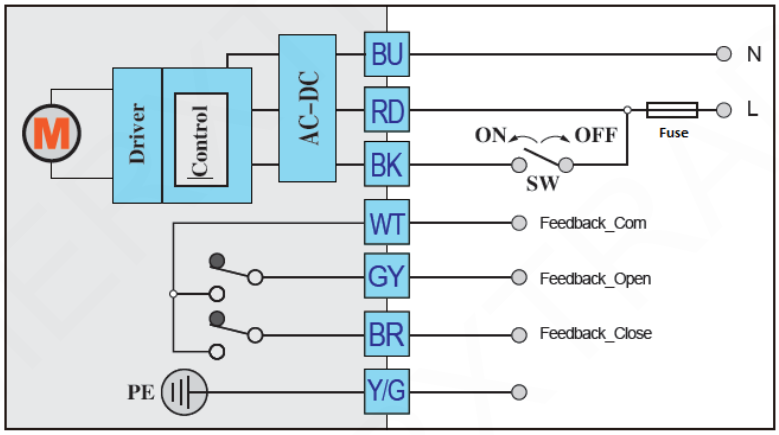
DIMENSIONS (mm)

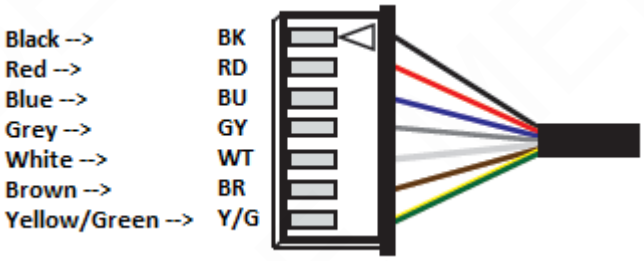


TCR-N-KT CAPACITOR RETURN ELECTRICAL ACTUATOR

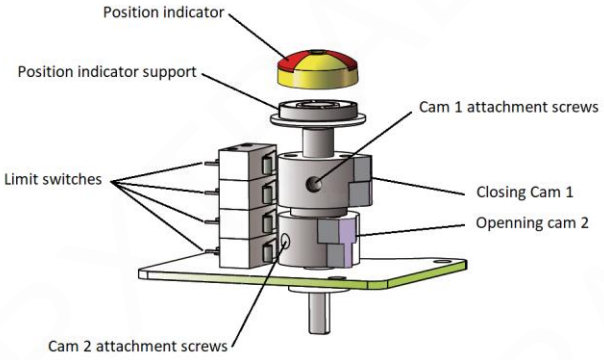
WIRING DIAGRAM

BU	Neutral / V (blue)
RD	Phase / V+ (Red)
BK	Control (Black)
WT	Information return to common (White) Dry switch: 230V AC max 50 mA 230V DC max 500 mA
GY	Opening return information (Grey) Dry switch: 230V AC max 50 mA 230V DC max 500 mA
BR	Closing return information (Brown) Dry switch: 230V AC max 50 mA 230V DC max 500 mA
Y/G	Earth (Yellow / Green)

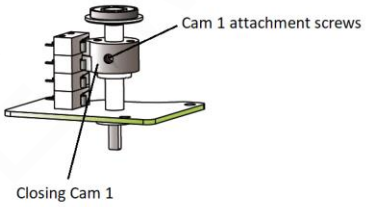




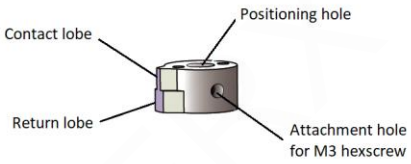
SWITCH SETTING



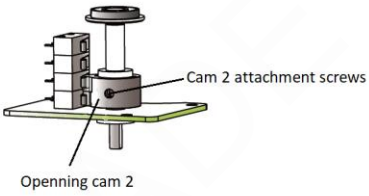
GENERAL VIEW



CLOSING CAM ADJUSTMENT



CAM DETAIL



OPENING CAM ADJUSTMENT

TCR-N-KT CAPACITOR RETURN 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.

TCR-02T CONTROL ELECTRICAL ACTUATOR

FEATURES

The TCR-02T electric actuator is intended for motorising ¼ turn valves with a torque of 20 Nm. **Control function**: this motor is used to control the position of the valve depending upon an a 4-20mA or 0-10V input signal. With a compact construction and plastic housing, they are especially well suited for motorising small size ball valves. IP67 leak-tightness: to be used indoors and, possibly, outdoors under a shelter. Possible installation in parallel. Manual control with a key. This actuator has many functions. Parameter setting is done directly on the screen.

AVAILABLE MODELS

Supply voltages: 230V AC, 24V AC/DC.
Control: 4-20mA, 0-20mA, 2-10V, 0-10V.

IP 67 ISO 9001 CE

LIMITS OF USE

IP Code	IP 67
Ambient temperature	- 20°C / +60°C
Service factor	S4-50%

MECHANICAL FEATURES

Gear box	treated steel pinions
Torques	20 Nm
Angle of rotation	90° +/- 2°
Declutching	without
Override control	By key

Actuator	**TCR 02T**	
Torques (Nm)	20	
Voltage	24V AC - DC	95-265V AC-DC
Adjustment signal	4-20mA	
Manoeuvring time (s)	10	10
ISO 5211:	F03/F04/F05 - star 11	

ELECTRICAL FEATURES

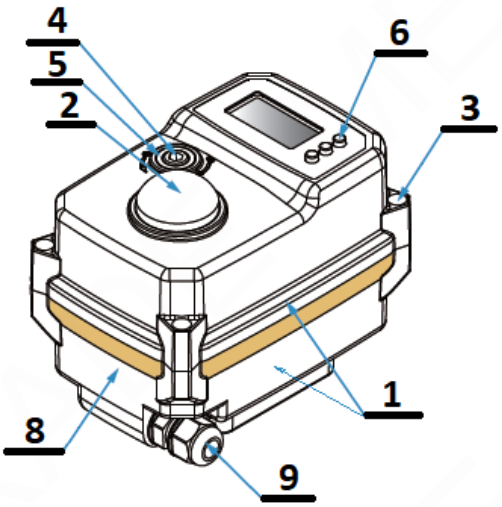
Actuator	**TCR 02T**
Motor protection	Thermal switch
Limit switches	2 adjustable switches
Anti-condensation	integrated
Electrical connection	PE M10 + 1.5m cable

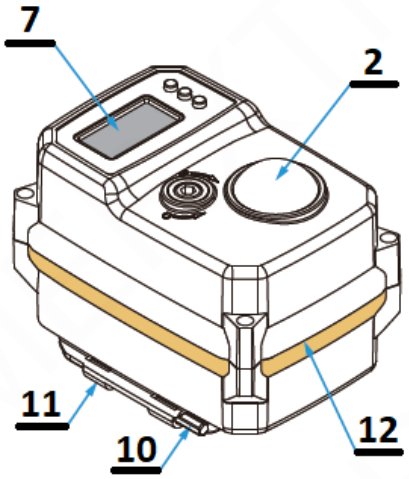
Actuator	**TCR 02T**	
Voltage	24V AC - DC	95-265V AC-DC
Power (W)	15	15
Current (A)	0,35	0,035 - 0,075
Fuse protection (A)	2	1

TCR-02T CONTROL ELECTRICAL ACTUATOR

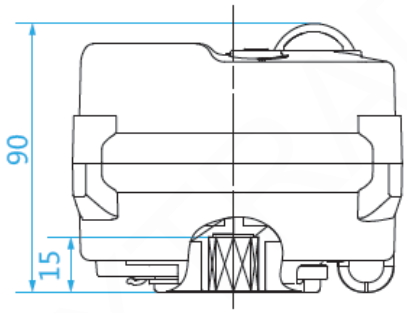
CONSTRUCTION (TCR-02T)

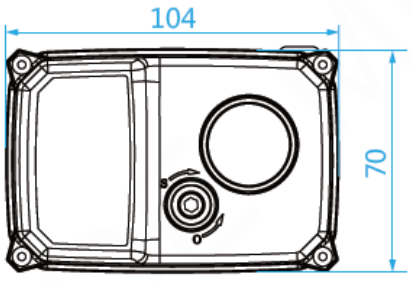
TCR-02T					
No.	**Name**	**Material**	**No.**	**Name**	**Material**
1	Casing + lid	Plastic (ABS)	**7**	1.3” LCD display	OLED
2	Position indicator	Polycarbonate plastic	**8**	Rating plate	PVC
3	Screw x 4	Ansi 304	**9**	Packing gland	Nylon
4	Backup control stem	Ansi 304	**10**	Hex key	Steel
5	Gasket	NBR	**11**	Key support	Plastic (ABS)
6	Adjustment button	Rubber	**12**	Cover gasket	NBR
Weight (kg): 0.620					

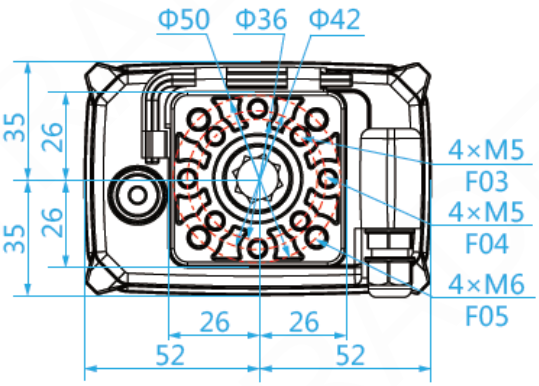




DIMENSIONS (mm)



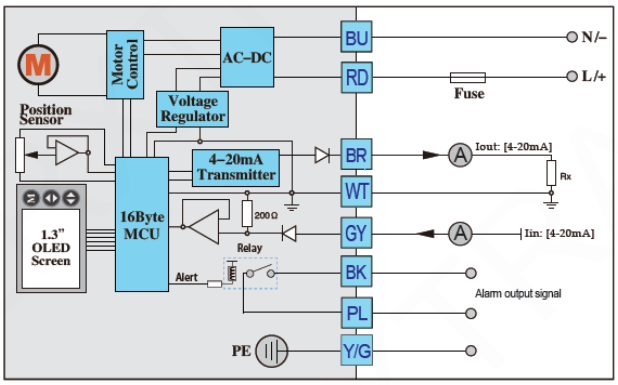


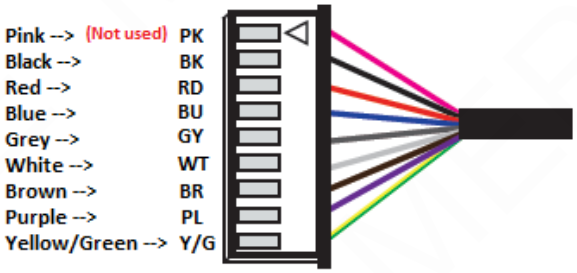


TCR-02T CONTROL ELECTRICAL ACTUATOR

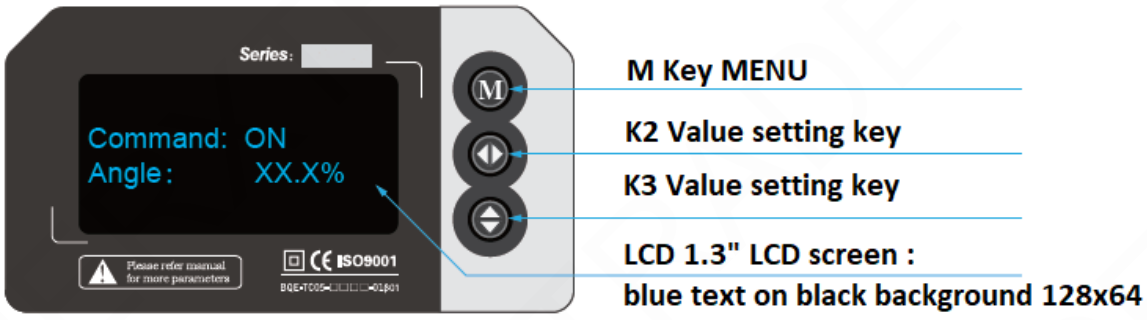
WIRING DIAGRAM (TCR 02T)

BU	Neutral (Blue)
RD	Phase (Red)
BR	Current control signal output (Brown)
WT	Common (White)
GY	Current control signal input (Grey)
BK	Alarm signal (Black)
PL	Alarm signal (Purple)
Y/G	Earth (Yellow / Green)





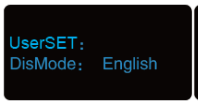
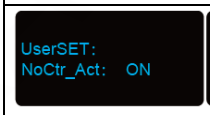
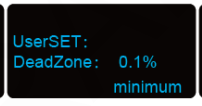
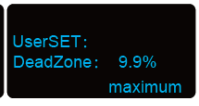
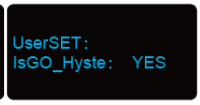
DESCRIPTION OF THE 1.3'' LCD SCREEN



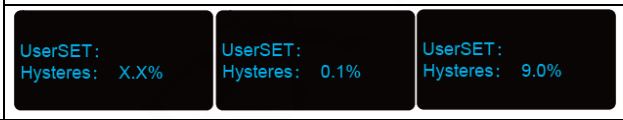
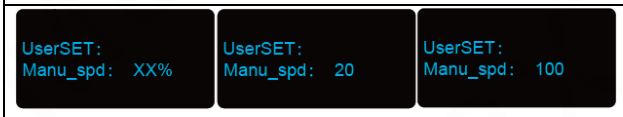
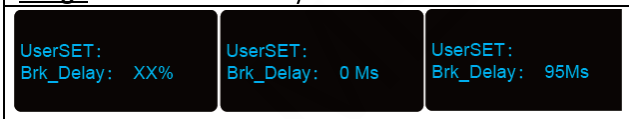
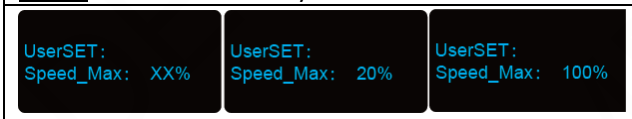
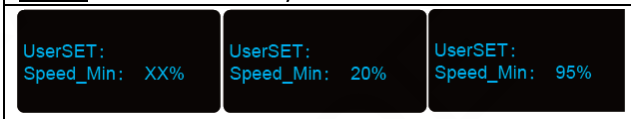
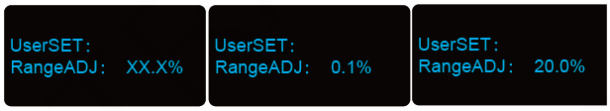
TCR-02T CONTROL ELECTRICAL ACTUATOR

ACTUATOR SETTINGS

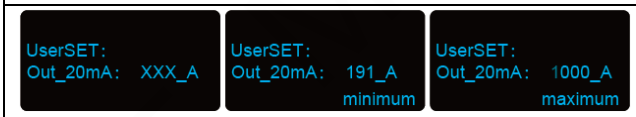
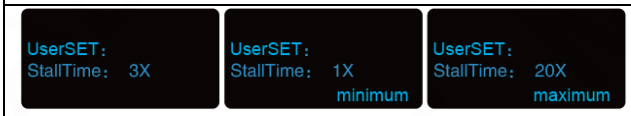
The following functions can have their parameters set from the menu accessible on the screen:

STEP	TITLE	FUNCTION AND VALUES
1	Entering the menu	Press the “M” button for more than 5 s.
2	Enter the password	Press the “M” button for more than 5 s. Enter the code “333” (use the keys K2 and K3) Press again the button “M”
		
3	Choice of language	English or Mandarin
		 
4	Choosing the direction of rotation of the actuator	**Direct**: 4mA = valve closed / 20 mA = valve open
		 
		Inverted: 4 mA = valve closed / 20 mA = valve open
5	Position by absence of any control signal	In the absence of a control signal, the valve can take 3 positions: ON, OFF or KEEP
		  
6	Dead band	This function is used to set the accuracy and the sensitivity of the control: the larger the band, the lower the accuracy; the narrower the band, the more oscillating the system can be. **Setting range:** 0.1 to 9.9% - **Setting by default**: 0.8%
		  
7	Hysteresis adjustment	This parameter setting is a prerequisite for the next. YES = adjustment is possible NO = no adjustment is possible (value by default)
		 

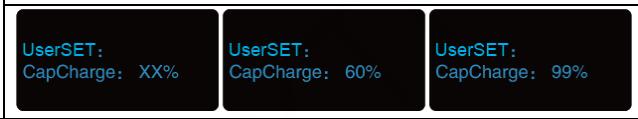
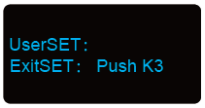
TCR-02T CONTROL ELECTRICAL ACTUATOR

8	Hysteresis value	If the previous parameter is “YES”, it is possible to set the hysteresis value between 0.1 and 9.9%. The value by default is 0.2%. Do not use the function if there is a play between the valve’s stem and the actuator’s square. 
9	Manual adjustment of the speed of rotation	This function is used for slowing down the motor. **Range**: 20-100% - Value by default = 100% 
10	Braking time	In order to increase the stability of the motor, the motor will slow down after a short time before reaching its setpoint value position. During current use, this function is not useful. **Range**: 0-95 ms – Value by default = 1 ms 
11	Setting the maximum speed	This setting affects the available torque. Without a special need, do not change it. **Range**: 20-100% - Value by default = 100% 
12	Setting the minimum speed	This setting affects the available torque. Without a special need, do not change it. **Range**: 20-95% - Value by default = 75% 
13	Setting the speed for the stroke	This setting is used for setting a % of the actuator stroke during which it will slow down before reaching the setpoint value position. **Range**: 0.1-20% - Value by default = 10% 
14	Redefining the 4 mA position	Used to set another position than 0% for the 4 mA value. This function is useful for valves with an opening angle different from 90°. **Range**: -50% +80% - Value by default = 0.0% 

TCR-02T CONTROL ELECTRICAL ACTUATOR

15	Redefining the 20 mA position	Used to set another position than 100% for the 20 mA value. This function is useful for valves with an opening angle different from 90°. **Range**: 20% +220% - Value by default = 100.0% 
16	Modification of the 4 mA output signal	If a deviation is found on the 4mA output signal, this function is used to adjust it. If the number is increased, the current is higher. If the number is decreased, the current is lower. **Range**: 000_481_A – Value by default 191_A **NB**: always limit the lower value to 20 mA 
17	Modification of the 20mA output signal	If a deviation is found on the 20mA output signal, this function is used to adjust it. If the number is increased, the current is higher. If the number is decreased, the current is lower. **Range**: 191_1000_A – Value by default 909_A 
18	Response time	Used to set the response speed of the valve. The smaller the value, the less sensitive the control. The bigger the value, the more sensitive it is. Increase the value when the response speed is too low. **Setting range:** 1x20x – Value by default 3x 
19	Checking the feed signal	The actuator periodically tests its electrical power supply. A change of a value will change the interval between two tests. In current use, there is no need to change this parameter.
20	Power supply position by default	This setting is not available on this version (see version T-KT) **Value by default**: KEEP 

TCR-02T CONTROL ELECTRICAL ACTUATOR

21	Capacitor charge	This setting is not available on this version (see version T-KT) **Value by default**: 95%
		
22	Alarm test	This function is used to control whether a defect alarm is broadcast or not. It is especially used for factory testing **Value by default**: ON
23	Exiting the menu	Press K3 to exit the menu The system will switch back in the automatic checking mode.
		

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.

TCR-05-11T CONTROL ELECTRICAL ACTUATOR

FEATURES

The TCR-05-11T electric actuator is intended for motorising ¼ turn valves with a torque of 50 or 110 Nm.
Control function: this motor is used to control the position of the valve depending upon an a 4-20mA or 0-10V input signal. With a compact construction and plastic housing, they are especially well suited for motorising small size ball valves. IP67 leak-tightness: to be used indoors and, possibly, outdoors under a shelter. Possible installation in parallel. Manual control with a key. This actuator offers many functions (see § parameter setting menu) Parameter setting is done directly on the screen.

AVAILABLE MODELS

Supply voltages : 230V AC, 24V AC/DC.
Control : 4-20mA, 0-20mA, 2-10V, 0-10V.

IP 67 ISO 9001 CE

LIMITS OF USE

IP Code	IP 67
Ambient temperature	- 20°C / +60°C
Service factor	S4-50%

MECHANICAL FEATURES

Gear box	treated steel pinions
Torques	50 - 110 Nm
Angle of rotation	90° +/- 2°
Declutching	without
Override control	By key

Actuator	**TCR 05T**		**TCR 11T**	
Torques (Nm)	50		110	
Voltage	24V AC - DC	95-265V AC-DC	24V AC - DC	95-265V AC-DC
Adjustment signal	4-20mA, 0-20mA, 2-10V, 0-10V			
Manoeuvring time (s)	12	12	10	10
ISO 5211:	F05/F07 - star 14		F05/F07 - star 17	

ELECTRICAL FEATURES

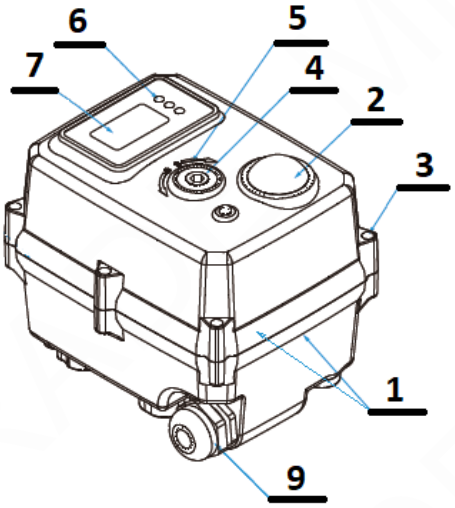
Actuator	**TCR 05T**	**TCR 11T**
Motor protection	Thermal switch	
Limit switches	2 adjustable switches	
Anti-condensation	integrated	
Electrical connection	PE M20 + 1.5m cable	2 x PE M14

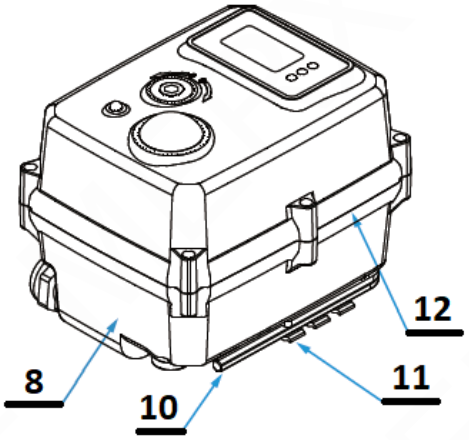
Actuator	**TCR 05T**		**TCR 11T**	
Voltage	24V AC - DC	95-265V AC-DC	24V AC - DC	95-265V AC-DC
Power (W)	25	25	100	100
Current (A)	0,83	0,18	2,2	0,26 - 0,52
Fuse protection (A)	4	2	10	2

TCR-05-11T CONTROL ELECTRICAL ACTUATOR

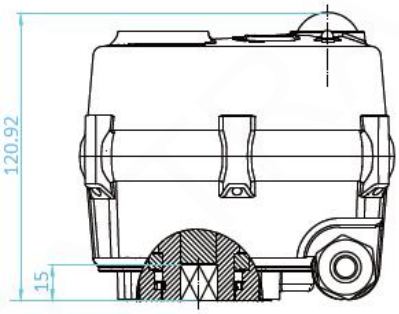
CONSTRUCTION (TCR-05T)

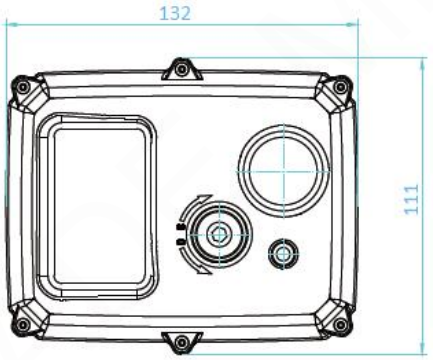
TCR-05T					
No.	**Name**	**Material**	**No.**	**Name**	**Material**
1	Casing + lid	Plastic (ABS)	**7**	1.3” LCD display	OLED
2	Position indicator	Polycarbonate plastic	**8**	Rating plate	PVC
3	Screw x 6	Ansi 304	**9**	Packing gland	Nylon
4	Backup control stem	Ansi 304	**10**	Hex key	Steel
5	Gasket	NBR	**11**	Key support	Plastic (ABS)
6	Adjustment button	Rubber	**12**	Cover gasket	NBR
Weight (kg): 1.800					

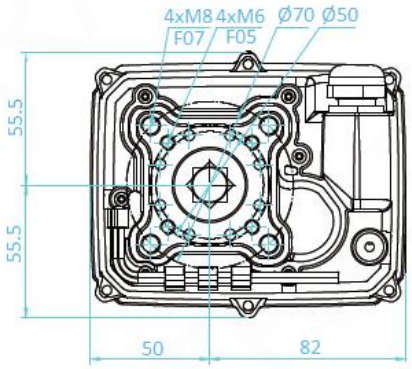




DIMENSIONS (mm)



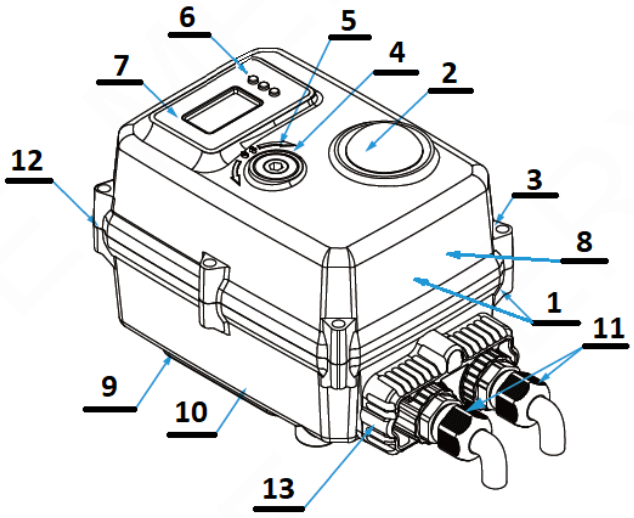




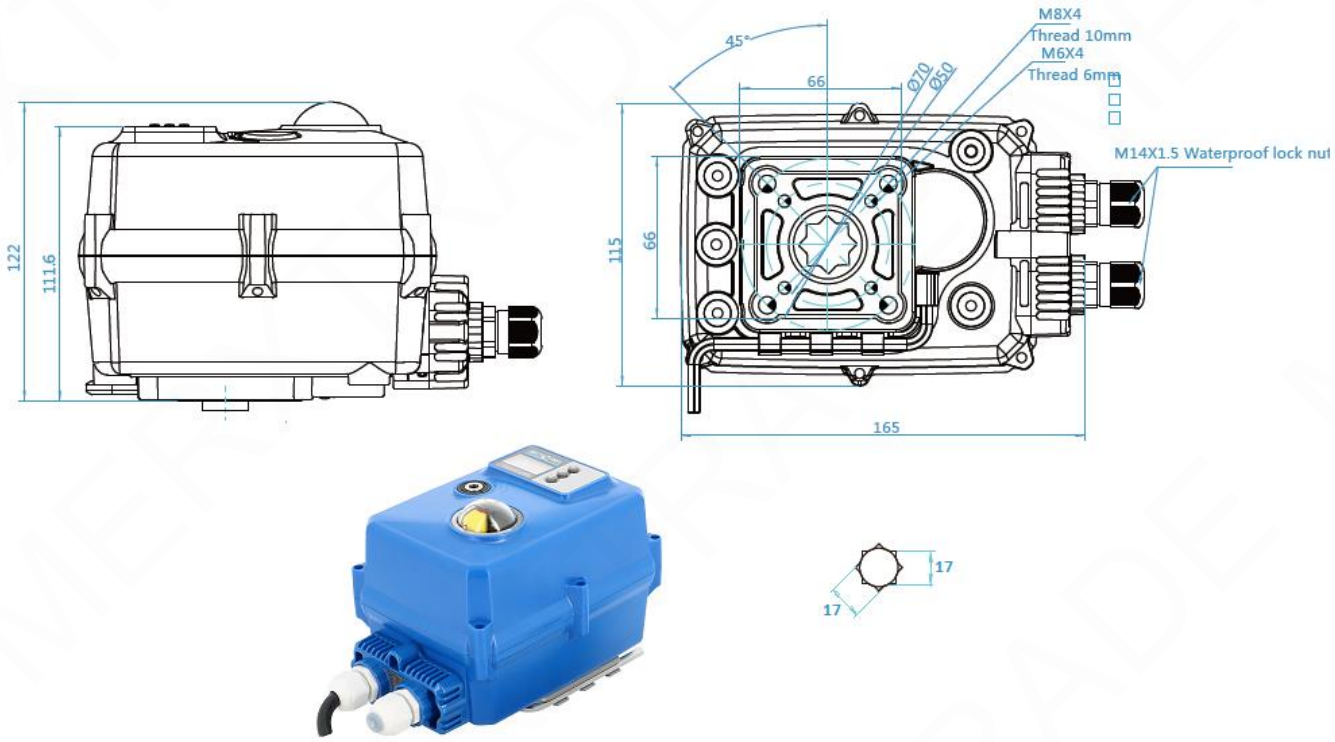
TCR-05-11T CONTROL ELECTRICAL ACTUATOR

CONSTRUCTION (TCR-11T)

TCR-11T					
No.	**Name**	**Material**	**No.**	**Name**	**Material**
1	Casing + lid	Plastic (ABS)	**7**	1.3" LCD display	OLED
2	Position indicator	Polycarbonate plastic	**8**	Rating plate	PVC
3	Screw x 6	Ansi 304	**9**	Key support	Plastic (ABS)
4	Backup control stem	Ansi 304	**10**	Hex key	Steel
5	Gasket	NBR	**11**	X 2Packing gland	Nylon
6	Adjustment button	Rubber	**12**	Cover gasket	NBR
Weight (kg): 2.200			**13**	Cable gland unit	Plastic (ABS)



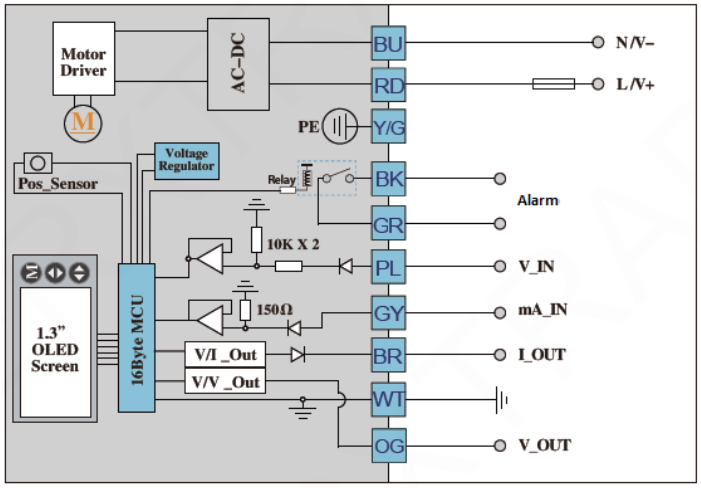
DIMENSIONS (mm)

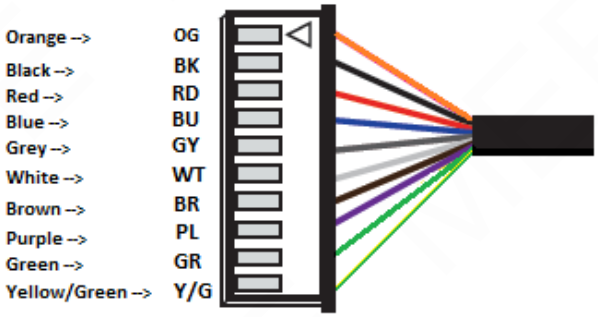


TCR-05-11T CONTROL ELECTRICAL ACTUATOR

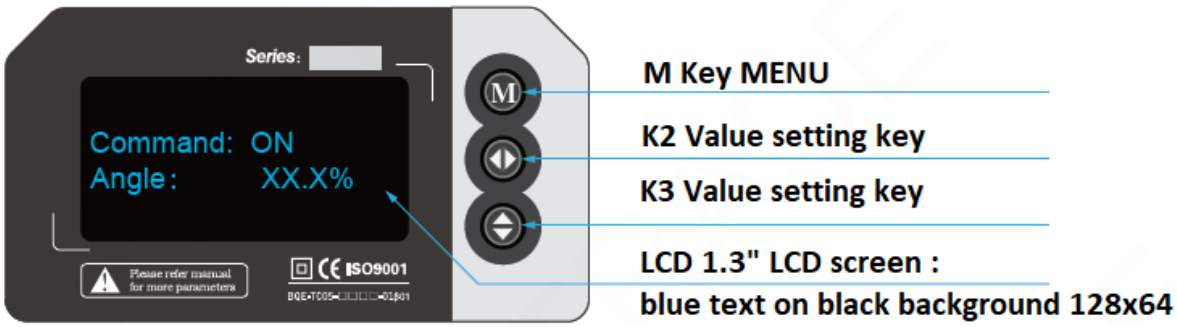
WIRING DIAGRAM

BU	Neutral (Blue)
RD	Phase (Red)
Y/G	Earth (Yellow / Green)
BK	Alarm (Black)
GR	Alarm (Green)
PL	Voltage control signal input (Purple)
GY	Current control signal input (Grey)
BR	Current control signal output (Brown)
WT	Signal control common (White)
OG	0-10V voltage control signal output (Orange)





DESCRIPTION OF THE 1.3'' LCD SCREEN



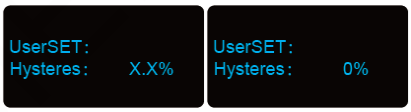
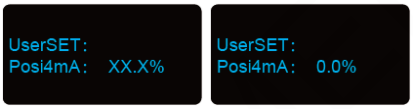
TCR-05-11T CONTROL ELECTRICAL ACTUATOR

PARAMETER SETTING MENU OF THE ACTUATOR

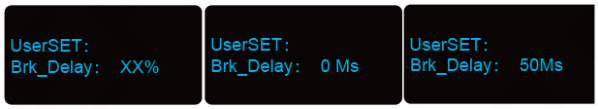
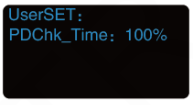
The following functions can have their parameters set from the menu accessible on the screen:

STEP	TITLE	FUNCTION AND VALUES
1	Standby screen	If the actuator did not receive any signal in the last 5 minutes, the screen switches to standby. Press any button for 5 s. Then reactivate the screen.
2	Enter the password	Press the “M” button for more than 5 s. Enter the code “333” (use the keys K2 and K3) Press again the button “M” 
3	Choice of language	English or Mandarin 
4	Choosing the control signal	Press “K3” to chose the control signal Possible signals: 4-20mA, 0-20mA, 2-10V, 0-10V Press “M” again to continue 
5	Choosing the direction of rotation of the actuator	Direct 4mA = valve closed / 20 mA = valve open Inverted 4 mA = valve closed / 20 mA = valve open 
6	Position by absence of any control signal	In the absence of a control signal, the valve can take 3 positions: ON, OFF or KEEP 
7	Dead band	This function is used to set the accuracy and the sensitivity of the control: the larger the band, the lower the accuracy; the narrower the band, the more oscillating the system can be. **Setting range:** 0.1 to 9.9% - **Setting by default**: 0.8% 

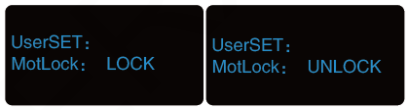
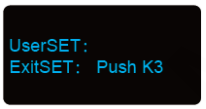
TCR-05-11T CONTROL ELECTRICAL ACTUATOR

8	Hysteresis adjustment	This parameter setting is a prerequisite for the next. YES = adjustment is possible NO = no adjustment is possible (value by default) 
9	Hysteresis value	If the previous parameter is "YES", it is possible to set the hysteresis value between 0.1 and 9.9%. The value by default is 0.2%. Do not use the function if there is a play between the valve's stem and the actuator's square. 
10	Redefining the 4 mA position	Used to set another position than 0% for the 4 mA value. This function is useful for valves with an opening angle different from 90°. **Range**: -50% +80% - **Value by default** = 0.0% 
11	Redefining the 20 mA position	Used to set another position than 100% for the 20 mA value. This function is useful for valves with an opening angle different from 90°. **Range**: +81% +220% - **Value by default** = 100.0% 
12	Manual adjustment of the speed of rotation	This function is used for slowing down the motor. **Range**: 20-100% - Value by default = 100% 
13	Setting the maximum speed	This setting affects the available torque. Without a special need, do not change it. **Range**: 20-100% - Value by default = 100% 
14	Setting the minimum speed	This setting affects the available torque. Without a special need, do not change it. **Range**: 20-95% - Value by default = 75% 

TCR-05-11T CONTROL ELECTRICAL ACTUATOR

15	Setting the speed for the stroke	This setting is used for setting a % of the actuator stroke during which it will slow down before reaching the setpoint value position. **Range**: 1-20% - Value by default = 10% 
16	Braking time	In order to increase the stability of the motor, the motor will slow down after a short time before reaching its setpoint value position. During current use, this function is not useful. **Range**: 0-50 ms – **Value by default** = 1 ms 
17	Modification of the output signal 4 mA	If a deviation is found on the 4mA output signal, this function is used to adjust it. If the number is increased, the current is higher. If the number is decreased, the current is lower. **Range**: 000_481_A – **Value by default** 191_A **NB**: always limit the lower value to 20 mA 
18	Modification of the 20mA output signal	If a deviation is found on the 20mA output signal, this function is used to adjust it. If the number is increased, the current is higher. If the number is decreased, the current is lower. **Range**: 191_1000_A – **Value by default** 909_A 
19	Response time	Used to set the response speed of the valve. The smaller the value, the less sensitive the control. The bigger the value, the more sensitive it is. Increase the value when the response speed is too low. **Setting range:** 1x20x – Value by default 3x 
20	Checking the feed signal	The actuator periodically tests its electrical power supply. A change of a value will change the interval between two tests. In current use, there is no need to change this parameter. 
21	Power supply position by default	This parameter setting is not available on this version (see version T-KT) **Value by default**: KEEP 

TCR-05-11T CONTROL ELECTRICAL ACTUATOR

22	Super-capacitor charge	This setting is not available on this version (see version T-KT) **Value by default**: 95% 
23	Actuator locking after the intervention of the super-capacitor	This parameter setting is not available on this version (see version T-KT) **Value by default**: UNLOCK 
24	Alarm test	This function is used to control whether a defect alarm is broadcast or not. It is especially used for factory testing **Value by default**: ON 
25	Exiting the menu	Press K3 to exit the menu The system will switch back in the automatic checking mode. 

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.

ELECTRIC ACTUATOR UV

GENERAL CHARACTERISTICS

The UV electric actuators are generally used on ¼ turn valves. The maximum output torque is between 150 Nm and 600 Nm. Its compact construction with an aluminium alloy enclosure and a plastic cover makes it convenient for the actuation of ball valves and butterfly valves. The UV electric actuators are equipped with a manual override activated by handwheel. Protection IP 65: possible use indoor and outdoor under shelter.

AVAILABLE ITEMS

IP 65 CE

Torque: 150 Nm, 250 Nm, 490 Nm and 600 Nm
Voltage: 230 V AC, 24 V AC and 24 V DC

LIMITS OF USE

Protection rating	IP 65
Temperature range	-10 °C / +60 °C
Service	S4 - 30% - 10 starts/h

MECHANICAL CHARACTERISTICS

Gears	Treated steel pinions
Rotation angle	90° +/- 5°
Declutching	N/A
Manual override	Handwheel

Electric actuator	UVC15		UVD25			UVF50	UVG60
Voltage	230 V AC	24 V AC	230 V AC	24 V AC	24 V DC	230 V AC	230 V AC
Torque	150 Nm		250 Nm			490 Nm	600 Nm
Operating time	8 s		20 s			30 s	30 s
ISO 5211 pad	F07		F07/F10			F10/F12	F10/F12
Star drive nut	17		22			27	27

ELECTRICAL CHARACTERISTICS

Motor protection	Thermal cut-out	**Anti-condensation**	Optional, 2 W heater
Limit switch	2 adjustable switches	**Electrical connection**	2 gland packs. ½'' PF
Auxiliary switch	2 adjustable dry switches, cutting capacity: 3 A @ 230 V AC / 0.3 A @ 250 V DC		

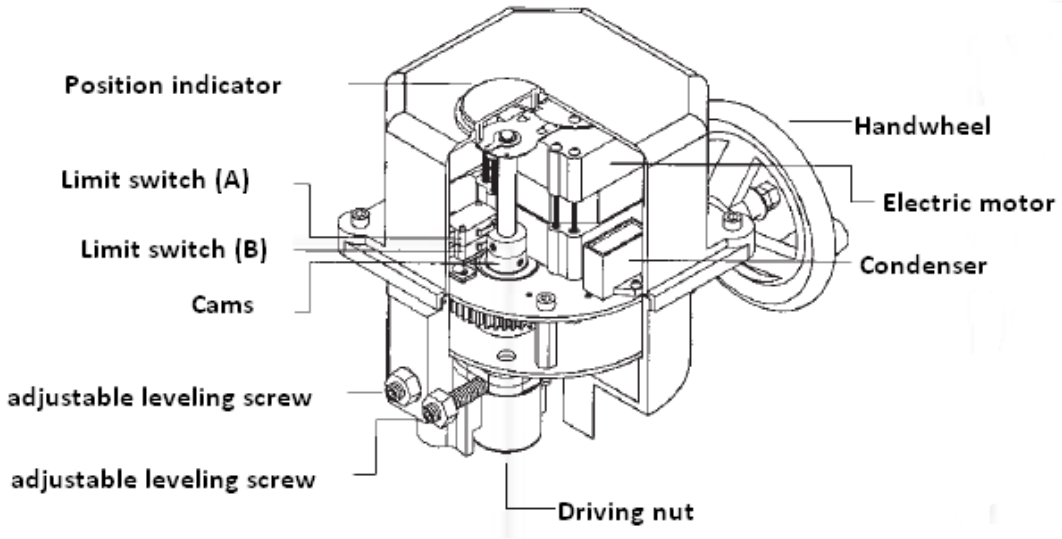
Electric actuator	UVC15		UVD25			UVF50	UVG60
Voltage	230 V AC	24 V AC	230 V AC	24 V AC	24 V DC	230 V AC	230 V AC
Power	25 W	30 W	25 W	30 W	30 W	40 W	60 W
Intensity	0.42 A	0.5 A	0.42 A	0.5 A	0.5 A	0.58 A	0.66 A

The following data is for information purpose only and may be subject to alteration without prior notice

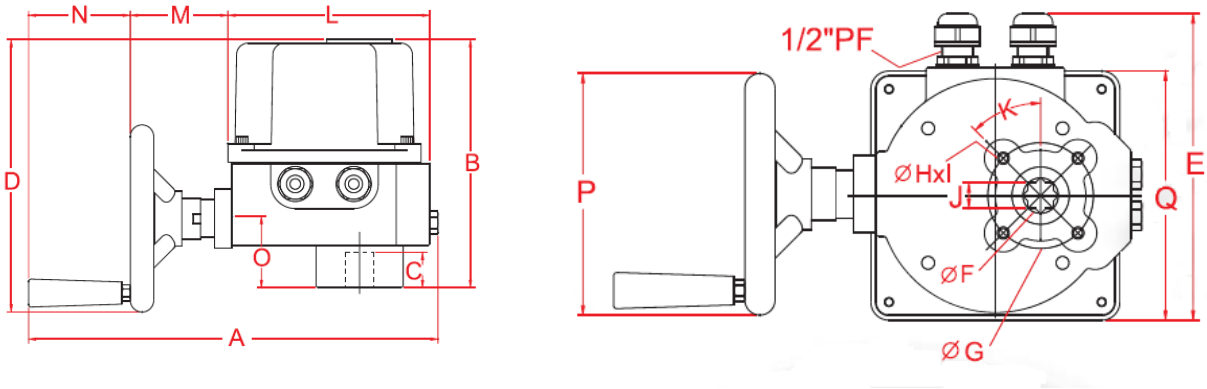
ELECTRIC ACTUATOR UV

CONSTRUCTION

Enclosure	Aluminium alloy	**Cams**	Treated steel
Cover	PA66 plastic	**Drive nut**	Steel
Worm gear	Treated steel	**Position indicator**	Plexiglas®
Handwheel	Steel		



DIMENSIONS (mm)



Dimension	A	B	C	D	E	G	J	L	M	N	O	P	Q
UVC15	350	215	30	236	203	70	17	173	84	87	59	160	165
UVD25	350	240*	30	235	203	102	22	173	84	87	85	160	165
UVF50	350	272	34	260	203	125	27	173	84	87	92	200	165
UVG60	350	272	34	260	203	125	27	173	84	87	92	200	165

* This dimension is 266 mm for the 24 V AC/DC version.

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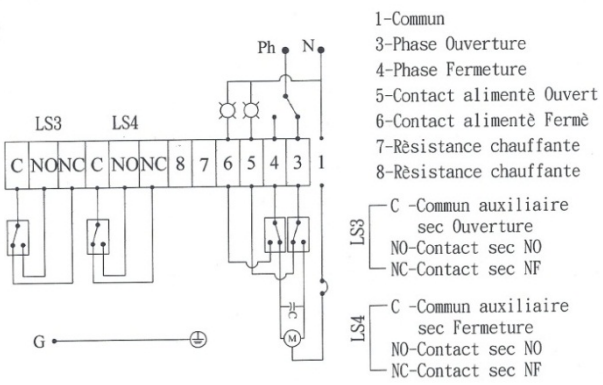
ELECTRIC ACTUATOR UV

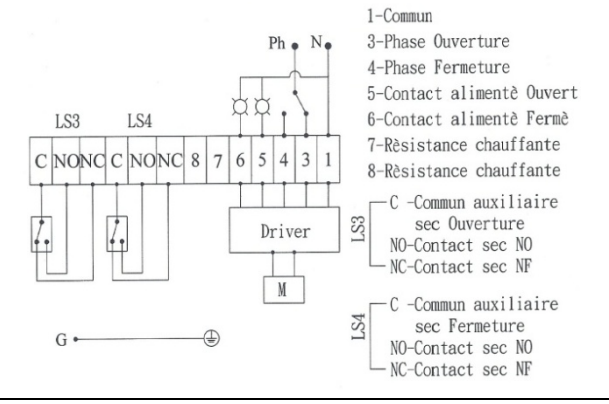
WIRING SCHEME 230 V AC

1	Common
3	Opening phase
4	Closing phase
5	Open powered contact
6	Close powered contact
7	Heater
8	Heater
C	Aux. common LS3 Opening
NO	Aux. NO contact LS3 Opening
NC	Aux. NC contact LS3 Opening
C	Aux. common LS4 Closing
NO	Aux. NO contact LS4 Closing
NC	Aux. NC contact LS4 Closing



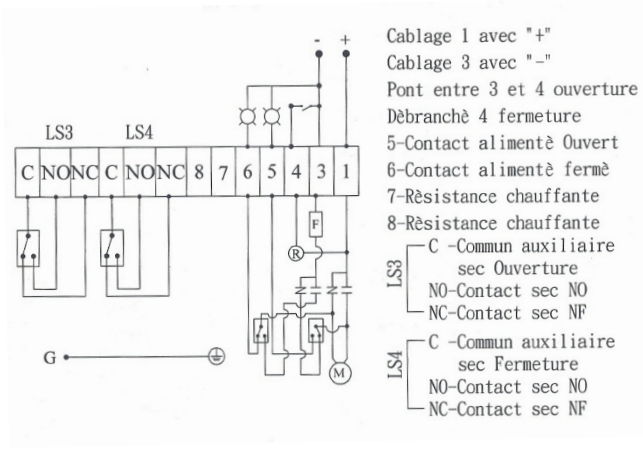
WIRING SCHEME 24 V AC

1	Common
3	Opening phase
4	Closing phase
5	Open powered contact
6	Close powered contact
7	Heater
8	Heater
C	Aux. common LS3 Opening
NO	Aux. NO contact LS3 Opening
NC	Aux. NC contact LS3 Opening
C	Aux. common LS4 Closing
NO	Aux. NO contact LS4 Closing
NC	Aux. NC contact LS4 Closing



WIRING SCHEME 24 V DC

	Wire 1 with +
	Wire 3 with -
	Bridge between 3 and 4 opening
	Disconnected 4 closing
5	Open powered contact
6	Close powered contact
7	Heater
8	Heater
D1	Aux. common #1
D2	Aux. NO contact #1
D3	Aux. NC contact #1
C1	Aux. common #2
C2	Aux. NO contact #2
C3	Aux. NC contact #2



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