

Manöverdon (Electrical Actuator type ITQ 010-300)



Product Overview

- **Self locking** - Provided by double worm gearing to keep position of valve unchanged against reverse torque from valve.
- **Motor** - Specially designed induction motor to generate high starting torque and high efficiency equipped with thermal protector to prevent damage from over heating.
- **Torque switches** - Protects actuator from damage caused by overload from the driven valve over the whole travel. 1 for each open/close.
- **Manual override** - Auto / Manual switchable lever and hand wheel engagement for emergency manual operation.
Drive force automatically resorted by motor start, unless lever padlocked to prevent this occurring.
- **External mechanical stopper** - Prevents over run of travel angle when limit switch fails.
- **Removable drive bushing and ISO5211 mounting base** - (F07~F16) for easy mounting on valve.

STANDARD SPECIFICATION

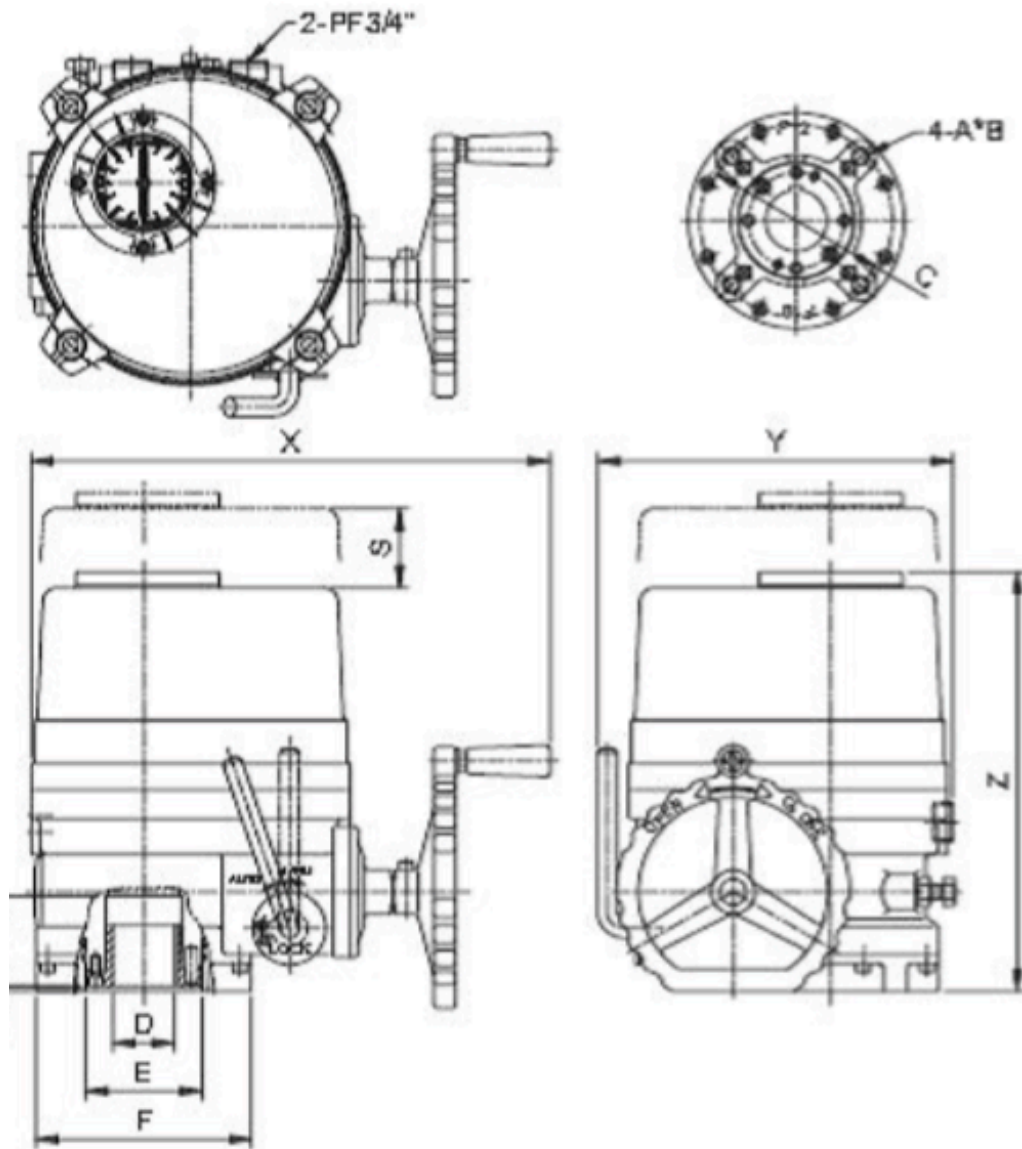
Enclosure	Weatherproof IP67, NEMA 4X and 6, O-ring sealed
Main power supply	110 / 220 VAC / 1 phase / 50/60 Hz, 380 / 440 VAC / 3 phases / 50/60 Hz \pm 10%, 24 VDC
Duty cycle ON/OFF	S2: 10 – 30 min
Duty cycle modulating	S4: 30-50%, 300-1200 start/hour
Motor	Induction motor
Limit switches	4 pcs. Adjustable travel switches (SPDT 250VAC/10A rating)
Torque switches	2 pcs. 1 for open and 1 for closing (SPDT 250VAC/10A rating except for ITQ 010)
Stall protection/ set. Temp.	Built in thermal protection, open 150°C \pm 5°C, 97°C \pm 15°C
Travel angle	90° \pm 5° (0° - 100°)
Position indicator	Continious mechanical indicator with arrow
Manual override	De-clutchable
Self locking	Provided by double worm gearing (no brake)
Mechanical stopper	1 each for each travel end (open and close), external and adjustable
Space heater	5W (110/220VAC) for anti-condensation
Cable entries	2 – PF x ¾" TAP
Terminal block	Screw and lever push type (spring loaded)
Ambient temperature	Basic actuator: -20°C – +70°C, c/w control options: -10°C – +60°C
Ambient humidity	90% RH max. (non-condensing)
Anti vibration	XYZ 10g. 02-34Hz. 30 minutes
Housing	Hard anodized aluminum casting
External coating	Dry powder polyester

TECHNICAL DATA

Type	Torque (Nm)	Duty cycle S4 (%)	Operating time (sec.) 50 Hz / 60 Hz	Max. bore size Key / Square (ø) / (•)	Rated current (A) 1 fase 220 50 Hz / 60 Hz	Motor insulation class	ISO 5211 mounting flange	Weight (Kg)	No. of hand wheel turns
ITQ 010	100	40	21 / 18	22 / 20	0.52 / 0.58	F	F07	7	10
ITQ 016	160	30	26 / 22	25 / 23	0.85 / 0.90	F	F07/F10	15	12
ITQ 024	240	30	26 / 22	25 / 23	0.87 / 0.90	F	F07/F10	15	12
ITQ 035	350	30	31 / 26	40 / 34	0.92 / 0.95	F	F10/F12	20	14
ITQ 050	500	30	31 / 26	40 / 34	1.50 / 1.60	F	F10/F12	20	14
ITQ 080	800	30	39 / 32	48 / 40	2.05 / 2.20	F	F12/F14	25	17
ITQ 110	1100	30	39 / 32	48 / 40	2.15 / 2.30	F	F12/F14	25	17
ITQ 200	2000	30	59 / 50	75 / 64	2.95 / 3.15	F	F16	42	13
ITQ 300	3000	30	59 / 50	75 / 64	3.75 / 3.85	F	F16	42	13

Wiring diagram included with delivery

BASIC ACTUATOR DIMENSIONS



Type	Flange ISO5211	C	A	B	D(key)	D(square)	E	F	G	H	S	X	Y	Z
ITQ 010	F07	Ø70	M8	14	Ø22	• 20	Ø50	Ø88	3	37	100	258	172	220
ITQ 016	F07/F10	Ø70 / Ø102	M8 / M10	14 / 17	Ø25	• 23	Ø58,5	Ø125	3	57	115	338	229	259
ITQ 024	F07/F10	Ø70 / Ø102	M8 / M10	14 / 17	Ø25	• 23	Ø58,5	Ø125	3	57	115	338	229	259
ITQ 035	F10/F12	Ø102 / Ø125	M10 / M12	17 / 21	Ø40	• 34	Ø80	Ø148	3	62	145	357	244	288
ITQ 050	F10/F12	Ø102 / Ø125	M10 / M12	17 / 21	Ø40	• 34	Ø80	Ø148	3	62	145	357	244	288
ITQ 080	F12/F14	Ø125 / Ø140	M12 / M16	20 / 25	Ø48	• 40	Ø95	Ø178	3	67	170	380	287	313
ITQ 110	F12/F14	Ø125 / Ø140	M12 / M16	20 / 25	Ø48	• 40	Ø95	Ø178	3	67	170	380	287	313
ITQ 200	F16	Ø165	M20	32	Ø75	• 64	Ø135	Ø226	5	90	225	440	375	385
ITQ 300	F16	Ø165	M20	32	Ø75	• 64	Ø135	Ø226	5	90	225	440	375	385

OPTIONS

REMOTE MONITORING AND CONTROL	
PK	Potentiometer kit (output signal: 0-1 kΩ) High resolution potentiometer and precisely machined gearing are directly engaged with drive shaft to feed back continuous position of valve
CT	Current transmitter (output signal: 4-20 mA) Zero / span adjustment Convertible DIP switch (4 wire to 2 wire)
RPC	Remote position controller (by input and output signal) Input: 4-20 mA, 0-10VDC, 2-10VDC, 1-5VDC, 0-5VDC Output: 4-20 mA Auto-calibration Reverse operating direction
Local control unit	
Fail safe unit	

MECHANICAL	
EX	Explosion proof (Ex d II B T4)
ALS	Auxiliary limit switches (max. 2 for each travel end)
ATS	Auxiliary torque switches (max. 2 for each travel end) Except ITQ 010
EXT	Extended travel angle (up to 120°, 135°, 180°, 270°)