



Keeping the World Flowing

IQTF actuators benefit from the advanced design of the IQ range multi-turn and part-turn actuators, resulting in a light weight, compact and resilient actuator designed for long life applications in the field.

IQTF provides the reliability, accuracy and high resolution movement required in arduous applications associated with oil and gas field and general process control.

IQTF actuators have low output speeds for increased positional accuracy and are designed for limited turn or stroke valve applications such as control valves. IQTF is available with output options for rising stem linear valves, valves requiring a multi-turn output actuator and also part-turn valves requiring more than 90° such as 180° and 270° diverter valves.

- › Explosionproof to international standards
- › Water ingress protection, not reliant on terminal cover or cable gland sealing – double-sealed to IP66/68 20 m for 10 days
- › Rapid and secure commissioning even without power, via non-intrusive and intrinsically safe *Bluetooth*® setting tool
- › Safe, motor-independent, handwheel operation available at all times
- › Continuous position tracking at all times, even without power
- › Detailed trend analysis and diagnostic data available for asset management
- › Oil bath lubrication provides extended life and the ability to mount in any orientation
- › Real time valve and actuator performance information viewable on screen
- › Backed by Rotork Global Support



IQTF Range

Full-turn Intelligent Electric Choke and Control Valve Actuators

IQTF-A optimised for rising stem applications

IQTF-B optimised for non-rising stem applications

IQTF-L optimised for direct drive linear applications



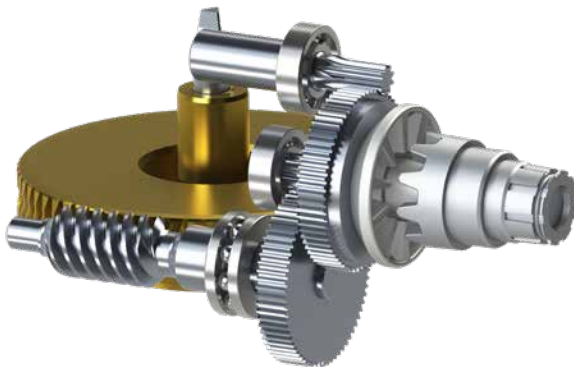
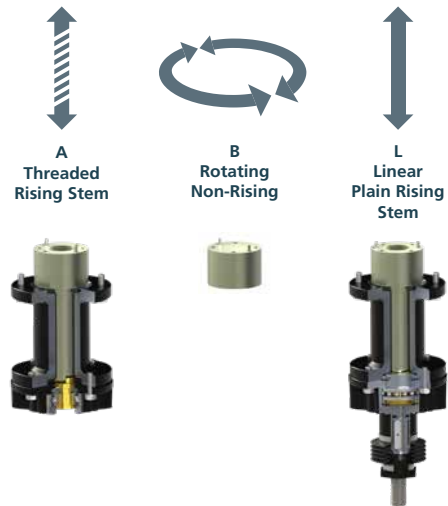
Drive Output

To meet all the requirements of choke and control valve drive mechanisms, three drive outputs are available conforming to actuator interface standards ISO 5210 for multi-turn and linear output drives.

- **A – Threaded rising stem; torque and thrust**
- **B – Rotating non-rising; torque only**
- **L – Linear plain rising stem; thrust only**

Drive outputs A, B and L have been extensively tested and have a long installed pedigree with IQ actuators. Optimised for choke and control application, they provide reliable and flexible drives for all valve types.

The performances for the IQTF choke and control actuator with drives A, B and L are shown on the following pages. Where higher operating times or longer strokes are required, please refer to Rotork.



IQTF full turn gear wheel and drive train

The IQTF multi-turn 360° gear wheel provides multi-turn, self locking operation for limited turns applications.

Performance

- Adjustable speed, including slow mode for accurate positioning
- High accuracy and high resolution micro-step movement
- Adjustable torque/thrust protection
- Extended duty cycle for modulating applications
- 1,800 starts/hour at 75% rated torque/thrust
- 0.1% resolution
- 0.3% accuracy

Overall accuracy and resolution will be a function of the control method used and valve characteristics.

IQTF choke and control – A, B and L output: weights

Nominal Weight	F05 / FA05		F07 / FA07		F10 / FA10		F14 / FA14		F16 / FA16	
	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs
IQTF A	-	-	-	-	30	66	35	77	-	-
IQTF B	22	49	22	49	22	49	37	82	39	86
IQTF L	-	-	-	-	32	71	37	82	-	-

Performance and Mechanical Data

IQTF choke and control – A output: torque and thrust

Drive designed for rising, threaded stem valve types. Torque and thrust.

Size nomenclature example: IQTF50 F10A

A – F10 / F14. Detachable aluminium bronze drive bush supplied blank for machining. Minimum 3 times thrust overload rating.



Coupling Acceptance	Rated Thrust		Rising Max Diameter	
	kN	lbf.ft	mm	in
F10	44	10,000	32	1.25
F14	100	22,480	44	1.7

Size	Turns	Stroke	RPM		Rated Torque		Base
	Max	Max (mm / in)	Max	Min	Nm	lbf.ft	
IQTF50 A	20	153/6	10	2.5	50	36.9	F10
IQTF100 A	20	153/6	6	1.5	100	73.8	F10
IQTF125 A	20	153/6	3	0.75	125	92.3	F14
IQTF250 A	20	153/6	1.88	0.47	250	184.5	F14

Torque is adjustable within the range 40% to 100% rated torque in 1% increments.

IQTF choke and control - B output: torque only

Drive designed for non-rising stem valves or part-turn/rotary input valves. Torque only.

Size nomenclature example: IQTF50 F10B

B – F05 / F07 / F10. Detachable plated steel drive bush supplied blank for machining. Coupling BX available. BX is extended to allow coupling where intermediate mounting adaptation is required - apply for details.



Coupling Acceptance	Bore & Key Max		Square AF Max	
	mm	in	mm	in
F05	22	0.87	14	0.56
F07	28	1.1	19	0.75
F10	42	1.65	32	1.25
F14	60	2.36	41	1.62

Size	Turns	RPM		Rated Torque		Base		
	Max	Max	Min	Nm	lbf.ft	STD	Option 1	Option 2
IQTF50 B	22	10	2.5	50	37	F10	F05	F07
IQTF100 B	22	6	1.5	100	74	F10	F05	F07
IQTF125 B	22	3	0.75	125	92	F10	F05	F07
IQTF250 B	22	1.88	0.5	250	185	F10	F07	–
IQTF500 B	15	1	0.25	500	369	F10	–	–
IQTF1000 B	8	0.5	0.125	1,000	738	F12	F14	–
IQTF2000 B	4	0.25	0.125	2,000	1,476	F14	–	–
IQTF3000 B	4	0.25	0.125	3,000	2,214	F16	–	–

Torque is adjustable within the range 40% to 100% rated torque in 1% increments.

Performance and Mechanical Data (cont'd)

IQTF choke and control - L output: thrust only

Drive designed for rising, plain stem valve types. Thrust only.

Size nomenclature example: IQTF50 F10L

L – F10 / F14. Threaded male coupling valve stem interface. Drives include anti-rotation keys, protection bellows and grease point. Factory greased using Total Multis MS2 high temperature grease.



Size	Stem Lead	Base	Coupling	Rated Thrust		Max Stroke	mm /sec	
	mm			lbf	kN		mm	Max
IQTF50 L	3	F10	M18 x 1.5	5,271	23.45	60	0.5	0.13
IQTF50 L	5	F10	M18 x 1.5	4,695	20.88	100	0.83	0.21
IQTF50 L	7	F10	M18 x 1.5	4,232	18.82	140	1.17	0.29
IQTF100 L	3	F10	M18 x 1.5	10,543	46.90	60	0.3	0.08
IQTF100 L	5	F10	M18 x 1.5	9,389	41.77	100	0.50	0.13
IQTF100 L	7	F10	M18 x 1.5	8,463	37.65	140	0.70	0.18
IQTF125 L	5	F14	M30 x 2	8,518	37.89	100	0.25	0.06
IQTF125 L	7	F14	M30 x 2	7,891	35.10	140	0.35	0.09
IQTF125 L	10	F14	M30 x 2	7,107	31.61	153	0.50	0.13
IQTF125 L	15	F14	M30 x 2	6,077	27.03	153	0.75	0.19
IQTF250 L	5	F14	M30 x 2	17,036	75.78	100	0.16	0.04
IQTF250 L	7	F14	M30 x 2	15,783	70.21	140	0.22	0.05
IQTF250 L	10	F14	M30 x 2	14,214	63.23	153	0.31	0.08
IQTF250 L	15	F14	M30 x 2	12,154	54.06	153	0.47	0.12

Thrust is adjustable in the range 40% to 100% rated thrust in 1% increments.

A full listing of the Rotork sales and service network is available on our website.

www.rotork.com

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