1 Performance Summaries

	Actuator output speeds							
rpm at 50 Hz rpm at 60 Hz	18 21	24 29	36 43	48 57	72 86	96 115	144 173	192 230
Actuator size	Torque[3] Nm / lbf.ft							
IQ10	34	34	34	34	34	34		
	25	25	25	25	25	25		
IQ12	81	81	81	68	48	41		
	60	60	60	50	35	30		
IQ18	108	108	89[1]	80[1]	69[1]	60[1]	49[1]	39[1]
	80	80	66[1]	59[1]	51[1]	44[1]	36[1]	29[1]
IQ19	135	135	135	135	135			
	100	100	100	100	100			
IQ20	203	203	203	203	176	142	102[2]	
	150	150	150	150	130	105	75[2]	
IQ25	400	400	298	244	244	230	149[2]	140[1]
	295	295	220	180	180	170	110[2]	103[1]
IQ35	610	610	542	474	474	366	257[2]	257[1]
	450	450	400	350	350	270	190[2]	190[1]
IQ40	1,020	1,020	845	680	680	542	406[2]	
	750	750	625	500	500	400	300[2]	
IQ70	1,490	1,490	1,290	1,020	1,020	745	645[2]	542[2]
	1,100	1,100	950	750	750	550	475[2]	400[2]
IQ90	2,030	2,030	1,700	1,355	1,355	1,020	865[2]	730[2]
	1,500	1,500	1,250	1,000	1,000	750	640[2]	540[2]
IQ91							1,355[2]	1,355[2]
							1,000[2]	1,000[2]
IQ95		3,000						
		2,200						

Notes:

1 Please see Section 7.1 for power supply availability.

2 Due to the effects of inertia and drive nut wear, speeds not recommended for direct mounted gate valve applications.

3 Torque rating is maximum torque setting in both directions. Stall torque will be 1.4 to 2.0 times this value depending on speed and voltage.

If maximum torque is required for more than 20% of valve travel, refer to Rotork.

IQS and IQD Performance Summary

IQS - Performance Data

Actuator output speeds

rpm at 50 Hz rpm at 60 Hz	18 21	24 29	36 43	48 57	72 86	96 115	144 173
Actuator size	Torque[2] Nm		lbf.ft				
IQS12	65	60	45	40	30	25	
	48	44	33	30	22	18	
IQS20	165	130	130	125	100	80	60[1]
	122	96	96	92	74	59	44[1]
IQS35[3]	450	400	350	320	230	190	135[1]
	332	295	258	236	170	140	100[1]

IQD - Performance Data

Actuator output speeds

rpm	18	24	36	48
Actuator size	Torque[2] Nm	lbf.ft		
IQD10	34	34	31	27
	25	25	23	20
IQD12	68	68	61	54
	50	50	45	40
IQD18		108		
		80		
IQD20	163	163	136	108
	120	120	100	80
IQD25	305	305	257	203
	225	225	190	150

DC supply voltage

	24 V	48 V	110 V
IQD10	✔	✔	✔
IQD12	✗	✔	✔
IQD18	✗	✔	✔
IQD20	✗	✗	✔
IQD25	✗	✗	✔

Notes:

1 Actuator output speed 144/173 rpm is not recommended for direct mounted gate valve applications.

2 Torque rating is maximum torque setting in both directions. Stall torque will be 1.4 to 2.0 times this value depending on speed and voltage.

3 IQS35 not available at 115 Volts.

If maximum torque is required for more than 20% of valve travel, refer to Rotork.

Performance Summary

Mechanical Data

Actuator size IQ, IQS, IQD, IQM		10 12 18	19 20 25	35	40 70 (90)[1]	(40)[1] (70)[1] 90	91	95
Flange size	ISO5210	F10	F14	F16	F25	F30	F25	F30
	MSS SP-102	FA10	FA14	FA16	FA25	FA30	FA25	FA30
Approximate weight[2]	kg	31	54	75	145	160	150	160
	lbs	68	119	165	320	353	331	353

Group "A" Couplings – Torque and Thrust

Thrust rating	kN	44	100	150	220	445	N/A	445
	lbf	10,000	22,480	33,750	50,000	100,000	N/A	100,000

Aluminium bronze drive couplings supplied pilot bored for machining - Maximum stem acceptance diameter:

A (Z3)[3] Rising	mm	32	51	67	73	83	N/A	83
	in	1¼	2	2⅝	2⅞	3¼	N/A	3¼
A (Z3)[3] Non-rising	mm	26	38	51	57	73	N/A	73
	in	1	1½	2	2¼	2⅞	N/A	2⅞
Pilot bore[4]	mm	15	20	25	33	38	N/A	38

Group "B" couplings – Non-thrust
Steel drive couplings - Maximum stem acceptance diameter:

B1 Fixed bore	mm	42	60	80	100	120	100	N/A
B3 Fixed bore	mm	20	30	40	50	50	50	N/A
B4 (max)	mm	20	32	44	60	60	60	N/A
	in	¾	1¼	1¾	2¼	2¼	2¼	N/A

Handwheels: IQ, IQS, IQD, IQM, IQML, IQL

Actuator size	10, 12, 18	19, 20	25	35	40	70, 90, 91	95
Standard ratio	1:1	1:1	13.3:1[5]	22.25:1	15:1	30:1	45:1
Option ratio	5:1	13.3:1	1:1[6]	N/A	30:1	45:1	30:1[6]

Notes:

1 IQ40 and IQ70 have an F25/FA25 base fitted as standard. F30/FA30 can be fitted as an option. IQ90 B3 and B4 couplings are only available with F25/FA25. IQ90 A coupling is only available with F30/FA30.
2 Approximate net weights of standard build actuators. Actual weight will be dependent on specification and options fitted.
3 Rotork standard "Z3" option is extended below baseline allowing additional reach. Refer to Section 2.
4 Solid coupling option available on request.
5 IQM25 and IQML25 standard ratio is 1:1.
6 Rimpull does not meet the requirements of EN12570. May be used for lower torque applications or where higher handwheel forces are acceptable.

IQT, IQTM and IQTF Performance Summary

Performance and Mechanical Data

The below performance information is for actuators with B type couplings. For alternative flange, coupling and weight information on IQTF actuators - refer to PUB002-006.

Actuator	IQTF50	IQTF100	IQT125 IQTF125 IQTM125	IQT250 IQTF250 IQTM250	IQT500 IQTF500 IQTM500	IQT1000 IQTF1000 IQTM1000	IQT2000 IQTF2000 IQTM2000	IQT3000 IQTF3000 IQTM3000
Torque								
Max Nm	50	100	125	250	500	1,000	2,000	3,000
Min Nm	20	40	50	100	200	400	800	1,200
Max lbf.ft	37	74	92	185	369	738	1,476	2,214
Min lbf.ft	15	30	37	74	148	295	590	886
Modulating Torque (IQTM and IQTF only)								
Nm	25	50	62.5	125	250	500	1,000	1,000
lbf.ft	18.5	37	46	92.5	184.5	369	738	738
Operating Time (IQT and IQTM only)								
90° Min	–	–	5	8	15	30	60	60
90° Max	–	–	20	32	60	120	240	120
Operating Speed Range (IQTF only)								
rpm	2.5 - 10	1.5 - 6	0.75 - 3	0.5 - 1.88	0.25 - 1.0	0.125 - 0.5	0.125 - 0.25	0.125 - 0.25
max turns, min rpm	22	22	12	7.5	3.75	1.88	1.88	1.88
max turns, max rpm	22	22	22	22	15	8	4	4

Flange																
ISO 5211	F05*	F07*	F10	F05*	F07*	F10	F05*	F07*	F10	F07*	F10	F10	F12	F14	F14	F16
MSS SP-101	FA05*	FA07*	FA10	FA05*	FA07*	FA10	FA05*	FA07*	FA10	FA07*	FA10	FA10	FA12	FA14	FA14	FA16
Weight																
kg	22			22			22			22		22	37		37	39
lbs	49			49			49			49		49	82		82	86
Couplings** Spindle acceptance																
Bore & key max mm	22	28	42	22	28	42	22	28	42	28	42	42	60		60	60
Bore & key max in	0.87	1.1	1.65	0.87	1.1	1.65	0.87	1.1	1.65	1.1	1.65	1.65	2.36		2.36	2.36
Square AF max mm	14	19	32	14	19	32	14	19	32	19	32	32	41		41	46
Square AF max in	0.56	0.75	1.25	0.56	0.75	1.25	0.56	0.75	1.25	0.75	1.25	1.25	1.62		1.62	1.81
Handwheel																
Turns for 90°	26			26			88			88		88	83		83	83

IQT / IQTM / IQTF 24 VDC (17-37 Volts) Performance
Torque outputs for 24 VDC are the same as above, however speed varies with load.
* Optional flanges F05, FA05, F07 and FA07 use a base adapter plate. Required base type must be specified.
** Couplings are supplied blank for machining by valve maker.

IQTF Linear Output Performance Summary

IQTF Choke and Control - L Output: Thrust Only

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

Size nomenclature example: IQTF50 F10**L**

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.

	Stem Lead	Base	Coupling	Rated Thrust		Max Stroke	mm /sec	
Size	mm			lbf	kN	mm	Max	Min
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.

IQTF choke and control – A output: torque and thrust

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

Size nomenclature example: IQTF50 F10**A**

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

	Rated Thrust		Rising Max Diameter	
Coupling Acceptance	kN	lbf.ft	mm	in
F10	44	10,000	32	1.25
F14	100	22,480	38	1.5

	Turns	Stroke	RPM		Rated Torque		Base
Size	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.

IQM and IQML Performance Summary

IQM Performance Data

Actuator size		Actuator output speeds									
	rpm at 50 Hz	18		24		36		48		72	
	rpm at 60 Hz	21		29		43		57		86	
	Torque	Nm	lbf.ft	Nm	lbf.ft	Nm	lbf.ft	Nm	lbf.ft	Nm	lbf.ft
IQM10	Modulating	17	12.5	17	12.5	15.6	11.5	13.6	10	-	-
	Seat	34	25	34	25	30	23	27	20	-	-
IQM12	Modulating	34	25	34	25	30	22	27	20	-	-
	Seat	61	45	54	40	54	40	48	35	-	-
IQM20	Modulating	81	60	81	60	68	50	54	40	47	35
	Seat	122	90	109	80	81	60	68	50	54	40
IQM25	Modulating	152	112.5	152	112.5	129	95	102	75	102	75
	Seat	204	150	204	150	163	120	136	100	136	100
IQM35	Modulating	271	200	271	200	253	187	203	150	203	150
	Seat	544	400	544	400	408	300	313	230	218	160

IQML Performance Data

Actuator size	Leadscrew dia/lead mm		Actuator output speeds									
		rpm at 50 Hz	18		24		36		48		72	
		rpm at 60 Hz	21		29		43		57		86	
		Linear Speed at	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz
		Thrust	kN	lbf	kN	lbf	kN	lbf	kN	lbf	kN	lbf
IQML10	25 / 3	mm/sec	0.9	1.1	1.2	1.5	1.8	2.2	2.4	2.9	-	-
		Modulating	7.9	1,785	7.9	1,785	7.3	1,643	6.4	1,429	-	-
		Seat	15.9	3,570	15.9	3,570	14.6	3,285	12.7	2,858	-	-
IQML12	25 / 3	mm/sec	0.9	1.1	1.2	1.5	1.8	2.2	2.4	2.9	-	-
		Modulating	15.9	3,571	15.9	3,571	14.0	3,143	12.7	2,857	-	-
		Seat	28.6	6,428	25.4	5,714	25.4	5,714	22.3	5,005	-	-
IQML20	38 / 7	mm/sec	2.1	2.5	2.8	3.4	4.2	5.0	5.6	6.7	8.4	10.0
		Modulating	22.8	5,128	22.8	5,128	19.0	4,274	15.2	3,419	13.3	2,991
		Seat	34.2	7,692	30.4	6,838	22.8	5,128	19.0	4,274	15.2	3,419
IQML20	38 / 15	mm/sec	4.5	5.4	6.0	7.3	9.0	10.8	12.0	14.3	18.0	21.5
		Modulating	17.6	3,947	17.6	3,947	14.6	3,289	11.7	2,632	10.2	2,303
		Seat	26.2	5,921	23.4	5,263	17.6	3,947	14.6	3,289	11.7	2,632
IQML25	38 / 7	mm/sec	2.1	2.5	2.8	3.4	4.2	5.0	5.6	6.7	8.4	10.0
		Modulating	42.8	9,615	42.8	9,615	36.1	8,120	28.5	6,410	28.5	6,410
		Seat	57.0	12,821	57.0	12,821	45.6	10,256	38.0	8,547	38.0	8,547
IQML25	38 / 15	mm/sec	4.5	5.4	6.0	7.3	9.0	10.8	12.0	14.3	18.0	21.5
		Modulating	32.9	7,401	32.9	7,401	27.8	6,250	21.9	4,934	21.9	4,934
		Seat	43.9	9,868	43.9	9,868	35.1	7,895	29.3	6,579	29.3	6,579

IQML size 10 and 12 have base size F10 and stroke length 115 mm / 4½ inches.
IQML size 20 and 25 have base size F14 and stroke length 110 mm / 4⅓ inches.