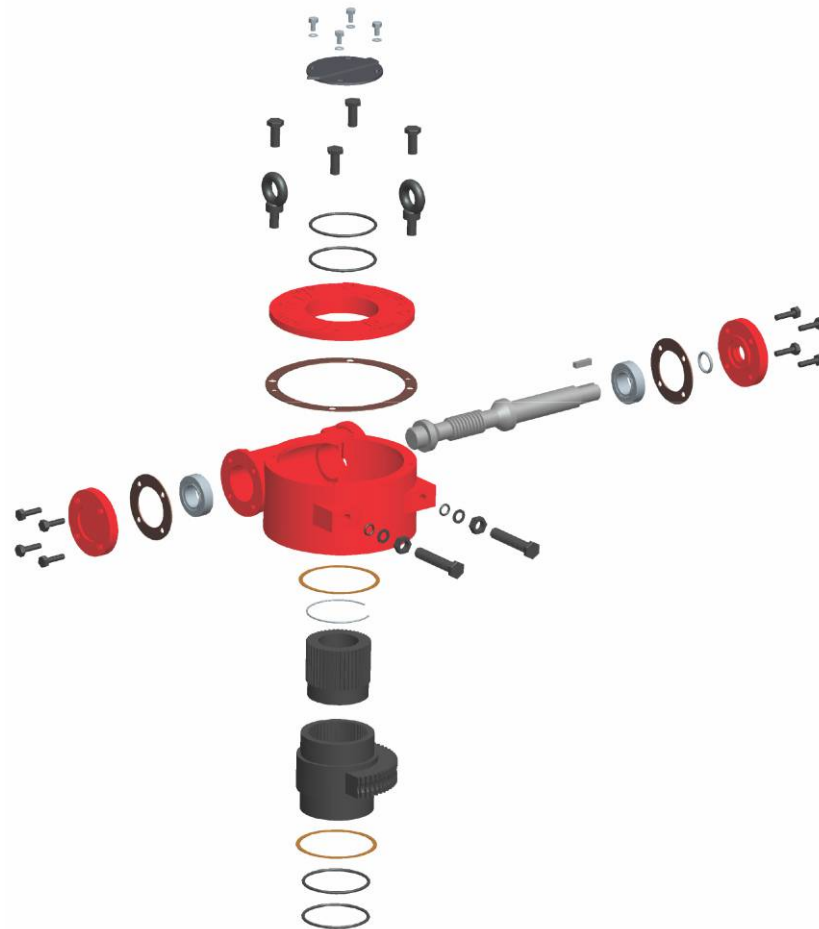




1710 Series Quarter-turn Worm Gear Operators with Spline for Electrical & Manual Operations



Quarter-turn Worm Gear Operators for Electrical and Manual Operations

Q-Tork 1710 series Spline
Quarter-turn Worm Gear
Operators are designed for
Electrical & Manual operation

Application

1710 series Spline Worm Gear
Operators are suitable for Ball,
Butterfly & Plug Valve.

Features & Benefits

- Splined Bush provides accurate positioning – valve stem & worm wheel
- Option of multiple gear ratios
- Higher M. A. for better performance
- Manual ⇌ Electrical interchangeability
- Submersibility to IP-67 as standard
- Stroke # 0 to 90° (± 5°) adjustable
- Critical components are heat treated for endurance life
- Reduced frictional losses – worm wheel & Casing
- High performance TRB's and DGBB's
- Buna "N" 'O' ring
- Temperature range # -30° to +120° C
- Environmental friendly high performance grease

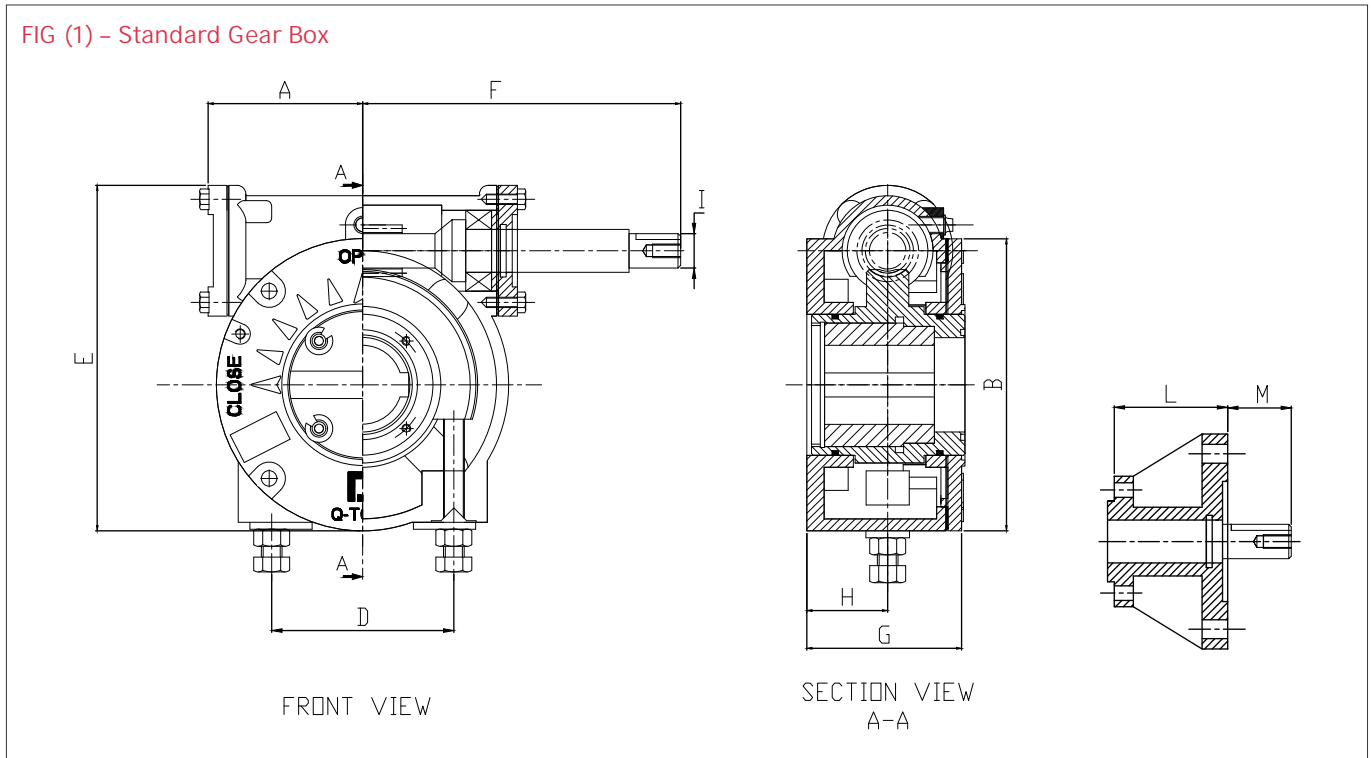
- Light weight with rugged design, Maintenance free
- Standard Gearboxes epoxy primer powder coated hand wheel

Optional

- MOC # Carbon Steel, Stainless Steel, LCC, LCB
- Chain Wheel operation
- Locking arrangement
- Stainless Steel - Input shaft
- Worm Wheel - Al Bronze

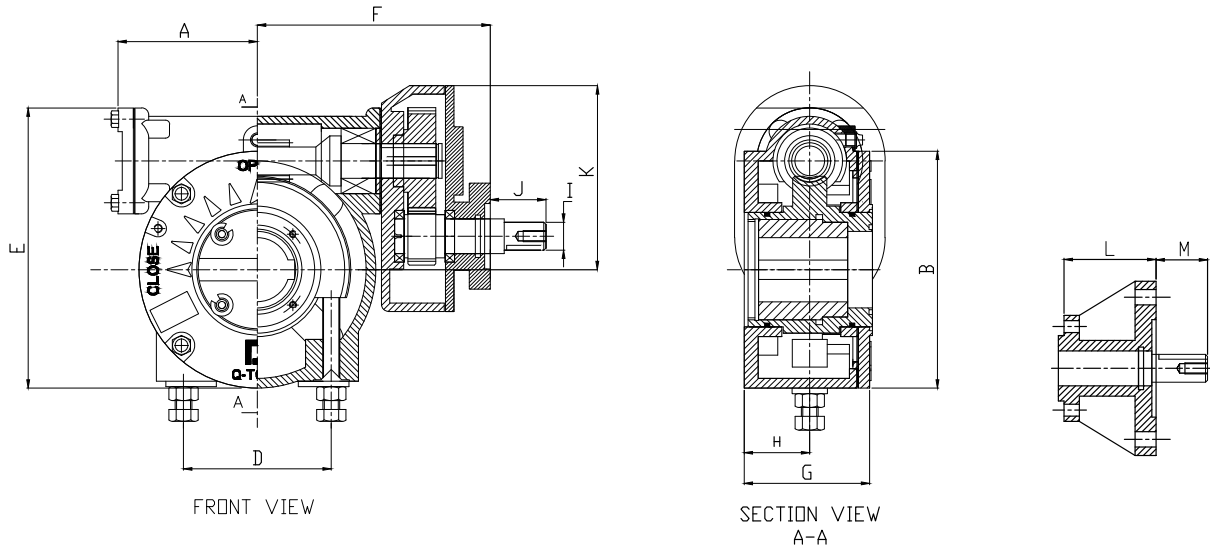
Dimensional Specifications

FIG (1) - Standard Gear Box



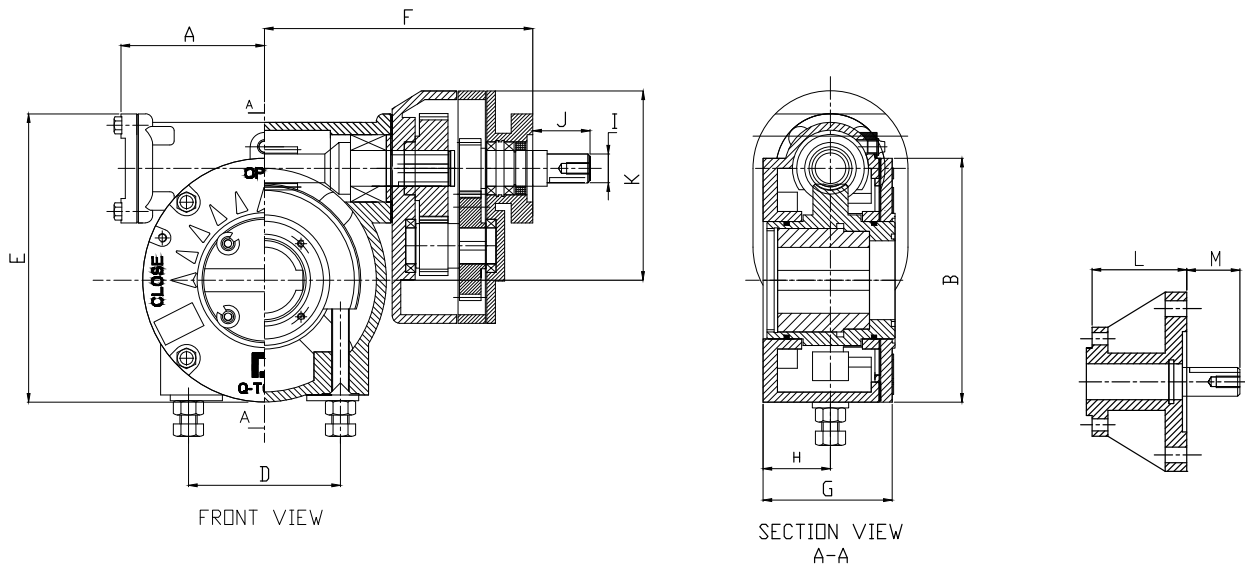
Sr. No.	Model	A	B	D	E	F	G	H	I	L	M
1	QEBC-00	84	104	57	133	136	77	36.5	12	35	50
2	QEBC-01	80	135	77	162.5	149	87	44.5	20	66	50
3	QEBC-02	90	170	100	201	159	90	47	20	66	50
4	QEBC-03	107	205	110	232	188	105	58	20	66	50
5	QEBC-04	118	230	130	258.6	210	113	64	30	66	50
6	QEBC-06	140.8	265	145	314.5	230	141	67	30	85	70
7	QEBC-08	162.8	305	165	350.6	240	148.3	72.5	30	85	70
8	QEBC-10	172.8	324	160	370	250	151.8	76	30	85	70
9	QEBC-13	174	350	200	414	267.5	169	77	40	130	90
10	QEBC-16	196	367	220	440.5	289	178	80	40	130	90
11	QEBC-19	216	410	240	474.5	293	194.3	88	40	130	90
12	QEBC-24	237.8	455.7	295	536.5	329	202.3	88	40	130	90
13	QEBC-32	277.8	525	310	597	350	210.8	95	40	130	90
14	QEBC-42	266	540	330	625.5	381	235	116.5	50	165	90
15	QEBC-54	301	604.7	340	674.5	484	253	130.5	50	165	90
16	QEBC-63	301	619	400	706	429.8	253.3	130.5	50	165	90
17	QEBC-84	321	661	390	740.5	480.8	299	156	50	165	90
18	QEBC-98	345.8	740	460	847	532	280	138.5	60	180	110
19	QEBC-146	390.8	808.7	500	934.5	577	305.8	147	60	180	110

FIG (2) – Standard Gear Box with Single Reduction Unit



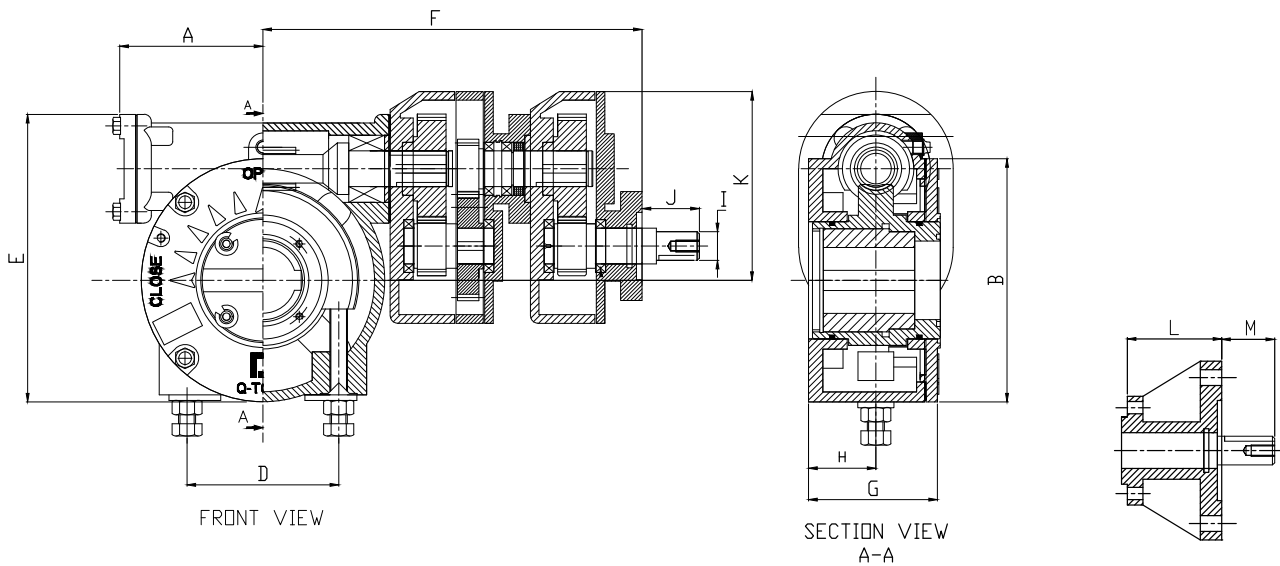
Sr. No.	Model	A	B	D	E	F	G	H	I	J	K	L	M
1	QEBC-02	90	170	100	201	176.5	90	47	20	40	187	66	50
2	QEBC-03	107	205	110	232	193.6	105	58	20	40	200.5	66	50
3	QEBC-04	118	230	130	258.6	204	113	64	30	40	214.5	66	50
4	QEBC-06	140.8	265	145	314.5	265	141	67	30	40	212	85	70
5	QEBC-08	162.8	305	165	350.6	288	148.3	72.5	30	40	228	85	70
6	QEBC-10	172.8	324	160	370	297.4	151.8	76	30	40	238	85	70
7	QEBC-13	174	350	200	414	347.5	169	77	40	50	280	130	90
8	QEBC-16	196	367	220	440.5	369	178	80	40	50	294	130	90
9	QEBC-19	216	410	240	474.5	389	194.3	88	40	50	310	130	90
10	QEBC-24	237.8	455.7	295	536.5	408.1	202.3	88	40	50	338	130	90
11	QEBC-32	277.8	525	310	597	448.1	210.8	95	40	50	368	130	90
12	QEBC-42	266	540	330	625.5	490.3	235	116.5	50	50	414	165	90
13	QEBC-54	301	604.7	340	674.5	525	253	130.5	50	50	439	165	90
14	QEBC-63	301	619	400	706	519.3	253.3	130.5	50	50	455	165	90
15	QEBC-84	321	661	390	740.5	529.5	299	156	50	50	465	165	90
16	QEBC-98	346	740	460	847	625.8	280	138.5	60	50	574	180	110
17	QEBC-146	390.8	808.7	500	934.5	670	305.8	147	60	50	603	180	110

FIG (3) – Standard Gear Box with Double Reduction Unit



Sr. No.	Model	A	B	D	E	F	G	H	I	J	K	L	M
1	QEBC-02	90	170	100	201	197.5	90	47	20	40	187	66	50
2	QEBC-03	107	205	110	232	214.6	105	58	20	40	200.5	66	50
3	QEBC-04	118	230	130	258.6	225.4	113	64	30	40	214.5	66	50
4	QEBC-06	140.8	265	145	314.5	293.6	141	67	30	40	212	85	70
5	QEBC-08	162.8	305	165	350.6	316	148.3	72.5	30	40	228	85	70
6	QEBC-10	172.8	324	160	370	325.6	151.8	76	30	40	238	85	70
7	QEBC-13	174	350	200	414	381.9	169	77	40	50	280	130	90
8	QEBC-16	196	367	220	440.5	403.3	178	80	40	50	294	130	90
9	QEBC-19	216	410	240	474.5	423.3	194.3	88	40	50	310	130	90
10	QEBC-24	237.8	455.7	295	536.5	441.2	202.3	88	40	50	338	130	90
11	QEBC-32	277.8	525	310	597	483.3	210.8	95	40	50	368	130	90
12	QEBC-42	266	540	330	625.5	533	235	116.5	50	50	414	165	90
13	QEBC-54	301	604.7	340	674.5	567	253	130.5	50	50	439	165	90
14	QEBC-63	301	619	400	706	567.3	253.3	130.5	50	50	455	165	90
15	QEBC-84	321	661	390	740.5	576.6	299	156	50	50	465	165	90
16	QEBC-98	346	740	460	847	670.8	280	138.5	60	50	574	180	110
17	QEBC-146	390.8	808.7	500	934.5	715	305.8	147	60	50	603	180	110

FIG (4) – Standard Gear Box with Triple Reduction Unit



Sr. No.	Model	A	B	D	E	F	G	H	I	J	K	L	M
1	QEBC-02	90	170	100	201	296	90	47	20	40	187	66	50
2	QEBC-03	107	205	110	232	313.4	105	58	20	40	200.5	66	50
3	QEBC-04	118	230	130	258.6	323.9	113	64	30	40	214.5	66	50
4	QEBC-06	140.8	265	145	314.5	431	141	67	30	40	212	85	70
5	QEBC-08	162.8	305	165	350.6	452	148.3	72.5	30	40	228	85	70
6	QEBC-10	172.8	324	160	370	462.2	151.8	76	30	40	238	85	70
7	QEBC-13	174	350	200	414	570	169	77	40	50	280	130	90
8	QEBC-16	196	367	220	440.5	592.2	178	80	40	50	294	130	90
9	QEBC-19	216	410	240	474.5	611.3	194.3	88	40	50	310	130	90
10	QEBC-24	237.8	455.7	295	536.5	631.2	202.3	88	40	50	338	130	90
11	QEBC-32	277.8	525	310	597	672.2	210.8	95	40	50	368	130	90
12	QEBC-42	266	540	330	625.5	778	235	116.5	50	50	414	165	90
13	QEBC-54	301	604.7	340	674.5	806	253	130.5	50	50	439	165	90
14	QEBC-63	301	619	400	706	806.6	253.3	130.5	50	50	455	165	90
15	QEBC-84	321	661	390	740.5	828.4	299	156	50	50	465	165	90
16	QEBC-98	346	740	460	847	981	280	138.5	60	50	574	180	110
17	QEBC-146	390.8	808.7	500	934.5	1025.3	305.8	147	60	50	603	180	110

Gear Box Selection Data

Sr. No.	Model	Max Output Torque		Mechanical Advantage +/-10%	Gear Ratio	Turns to Close	ISO 5211 Valve Mounting	ISO 5211 Actuator Mounting	Maximum Stem Acceptance Dia (mm)	Recommended Hand wheel Dia (mm)
		Nm	Ft-lbf							
1	QEBC-00	480	354	11.8	32:1	8	F07	F10	20	200
	QEBC-00	480	354	12.8	34:1	8.5	F07	F10	20	200
	QEBC-00	480	354	13.1	36:1	9	F07	F10	20	200
2	QEBC-01	960	708	12.2	36:1	9	F07, F10	F10	28	350
	QEBC-01	960	708	13.8	38:1	9.5	F07, F10	F10	28	350
	QEBC-01	960	708	14.5	40:1	10	F07, F10	F10	28	350
3	QEBC-02	1380	1018	16.6	40:1	10	F10, F12	F10	46	350
	QEBC-02	1380	1018	17.4	47:1	11.8	F10, F12	F10	46	350
	QEBC-02/1R1	1380	1018	30.5	80:1	20	F10, F12	F10	46	350
	QEBC-02/2R1	1380	1018	55.8	160:1	40	F10, F12	F10	46	350
	QEBC-02/3R1	1380	1018	100.9	320:1	80	F10, F12	F10	46	350
4	QEBC-03	2400	1770	16.4	46:1	11.5	F10, F12, F14	F10	46	350
	QEBC-03	2400	1770	17.1	50:1	12.5	F10, F12, F14	F10	46	350
	QEBC-03	2400	1770	18.3	55:1	13.8	F10, F12, F14	F10	46	350
	QEBC-03/1R1	2400	1770	30.2	92:1	23	F10, F12, F14	F10	46	350
	QEBC-03/2R1	2400	1770	55.1	184:1	46	F10, F12, F14	F10	46	350
	QEBC-03/3R1	2400	1770	99.7	368:1	92	F10, F12, F14	F10	46	350
5	QEBC-04	3600	2655	18.5	54:1	13.5	F12, F14, F16	F10	65	500
	QEBC-04	3600	2655	15.1	50:1	12.5	F12, F14, F16	F10	65	500
	QEBC-04	3600	2655	16.6	48:1	12	F12, F14, F16	F10	65	500
	QEBC-04/1R1	3600	2655	34.2	108:1	27	F12, F14, F16	F10	65	500
	QEBC-04/2R1	3600	2655	62.5	216:1	54	F12, F14, F16	F10	65	500
	QEBC-04/3R1	3600	2655	113.1	432:1	108	F12, F14, F16	F10	65	500
6	QEBC-06	6000	4425	17.1	50:1	12.5	F14, F16, (F20)	F10, F14	75	600
	QEBC-06	6000	4425	15.4	46:1	11.5	F14, F16, (F20)	F10, F14	75	600
	QEBC-06/1R2	6000	4425	40.1	127.5:1	31.9	F14, F16, (F20)	F10, F14	75	600
	QEBC-06/2R2	6000	4425	93.4	325:1	81.3	F14, F16, (F20)	F10, F14	75	600
	QEBC-06/3R2	6000	4425	215.5	829:1	207.3	F14, F16, (F20)	F10, F14	75	600
7	QEBC-08	7800	5753	18.5	54:1	13.5	F16, F25	F10, F14	80	600
	QEBC-08	7800	5753	16.8	50:1	12.5	F16, F25	F10, F14	80	600
	QEBC-08	7800	5753	16.1	46:1	11.5	F16, F25	F10, F14	80	600
	QEBC-08/1R2	7800	5753	43.4	137.7:1	34.4	F16, F25	F10, F14	80	600
	QEBC-08/2R2	7800	5753	101	351.1:1	87.8	F16, F25	F10, F14	80	600
	QEBC-08/3R2	7800	5753	233.1	895.4:1	223.9	F16, F25	F10, F14	80	600
8	QEBC-10	9720	7169	18.5	56:1	14	F16, F25	F10, F14	85	700
	QEBC-10/1R2	9720	7169	43.4	142.8:1	35.7	F16, F25	F10, F14	85	700
	QEBC-10/2R2	9720	7169	101	364.1:1	91	F16, F25	F10, F14	85	700
	QEBC-10/3R2	9720	7169	233.1	928.6:1	232.1	F16, F25	F10, F14	85	700
9	QEBC-13	12600	9293	18.9	58:1	14.5	F16, F25	F10, F14, F16	95	700
	QEBC-13/1R3	12600	9293	52.2	174:1	43.5	F16, F25	F10, F14, F16	95	700
	QEBC-13/2R3	12600	9293	142.9	522:1	130.5	F16, F25	F10, F14, F16	95	700
	QEBC-13/3R3	12600	9293	387.8	1566:1	391.5	F16, F25	F10, F14, F16	95	700
10	QEBC-16	15600	11506	19.4	60:1	15	F16, F25	F10, F14, F16	95	700
	QEBC-16/1R3	15600	11506	53.5	180:1	45	F16, F25	F10, F14, F16	95	700
	QEBC-16/2R3	15600	11506	146.7	540:1	135	F16, F25	F10, F14, F16	95	700
	QEBC-16/3R3	15600	11506	398.1	1620:1	405	F16, F25	F10, F14, F16	95	700

Remark # Max Output Torque includes safety factor

Gear Box Selection Data

Sr. No.	Model	Max Output Torque		Mechanical Advantage +/-10%	Gear Ratio	Turns to Close	ISO 5211 Valve Mounting	ISO 5211 Actuator Mounting	Maximum Stem Acceptance Dia (mm)	Recommended Hand wheel Dia (mm)
		Nm	Ft-lbf							
11	QEBC-19	19200	14161	20.2	60:1	15	F25, F30	F10, F14, F16	115	700
	QEBC-19/1R3	19200	14161	55.8	180:1	45	F25, F30	F10, F14, F16	115	700
	QEBC-19/2R3	19200	14161	152.7	540:1	135	F25, F30	F10, F14, F16	115	700
	QEBC-19/3R3	19200	14161	414.5	1620:1	405	F25, F30	F10, F14, F16	115	700
12	QEBC-24	24000	17701	21.4	66:1	16.5	F25, F30	F10, F14, F16	115	700
	QEBC-24/1R3	24000	17701	59.3	198:1	49.5	F25, F30	F10, F14, F16	115	700
	QEBC-24/2R3	24000	17701	162.5	594:1	148.5	F25, F30	F10, F14, F16	115	700
	QEBC-24/3R3	24000	17701	441.2	1782:1	445.5	F25, F30	F10, F14, F16	115	700
13	QEBC-32	32400	23897	22	68:1	17	F25, F30	F10, F14, F16	125	700
	QEBC-32/1R3	32400	23897	60.7	204:1	51	F25, F30	F10, F14, F16	125	700
	QEBC-32/2R3	32400	23897	166.3	612:1	153	F25, F30	F10, F14, F16	125	700
	QEBC-32/3R3	32400	23897	451.4	1836:1	459	F25, F30	F10, F14, F16	125	700
14	QEBC-42	42000	30978	23.2	68:1	17	F25, F30, F35	F16, F25	140	700
	QEBC-42/1R4	42000	30978	85.37	272:1	68	F25, F30, F35	F16, F25	140	700
	QEBC-42/2R4	42000	30978	311.77	1088:1	272	F25, F30, F35	F16, F25	140	700
	QEBC-42/3R4	42000	30978	1128.45	4352:1	1088	F25, F30, F35	F16, F25	140	700
15	QEBC-54	54000	39828	22	68:1	17	F30, F35, F40	F16, F25	180	700
	QEBC-54/1R4	54000	39828	81	272:1	68	F30, F35, F40	F16, F25	180	700
	QEBC-54/2R4	54000	39828	295.7	1088:1	272	F30, F35, F40	F16, F25	180	700
	QEBC-54/3R4	54000	39828	1070.1	4352:1	1088	F30, F35, F40	F16, F25	180	700
16	QEBC-63	62400	46024	23.2	70:1	17.5	F30, F35, F40	F16, F25	180	700
	QEBC-63/1R4	62400	46024	85.4	280:1	70	F30, F35, F40	F16, F25	180	700
	QEBC-63/2R4	62400	46024	311.8	1120:1	280	F30, F35, F40	F16, F25	180	700
	QEBC-63/3R4	62400	46024	1128.4	4480:1	1120	F30, F35, F40	F16, F25	180	700
17	QEBC-84	84000	61955	21.9	64:1	16	F35, F40, F48	F16, F25	210	700
	QEBC-84/1R4	84000	61955	80.6	256:1	64	F35, F40, F48	F16, F25	210	700
	QEBC-84/2R4	84000	61955	294.3	1024:1	256	F35, F40, F48	F16, F25	210	700
	QEBC-84/3R4	84000	61955	1065.2	4096:1	1024	F35, F40, F48	F16, F25	210	700
18	QEBC-98	98400	72576	24	70:1	17.5	F35, F40, F48	F25, F30	210	700
	QEBC-98/1R5	98400	72576	110.4	350:1	87.5	F35, F40, F48	F25, F30	210	700
	QEBC-98/2R5	98400	72576	504	1750:1	437.5	F35, F40, F48	F25, F30	210	700
	QEBC-98/3R5	98400	72576	2280	8750:1	2187.5	F35, F40, F48	F25, F30	210	700
19	QEBC-146	146400	107979	23.4	70:1	17.5	F40, F48	F25, F30	250	700
	QEBC-146/1R5	146400	107979	107.6	350:1	87.5	F40, F48	F25, F30	250	700
	QEBC-146/2R5	146400	107979	491.4	1750:1	437.5	F40, F48	F25, F30	250	700
	QEBC-146/3R5	146400	107979	2223	8750:1	2187.5	F40, F48	F25, F30	250	700

Remark # Max Output Torque includes safety factor

