WORM
GEAR BOX

The 2024 A1 Version Data Is Subject To Change Without Prior Notice

LITONG
ACTUATION

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LITONG
ACTUATION

Application

BUTTERFLY VALVE

BALL VALVE

PLUG VALVE

WORM
GEAR BOX

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Company **Introduction**

Zhejiang Litong Valve Actuation Co., Ltd, a technology-oriented enterprise, integrates R&D, production, sales and service as a whole, specializes in valve worm gear and bevel gear products.

Since founded in 2018, we have vigorously developed ERP informatization, digital management, intelligent manufacturing, 6S site management, and have passed ISO9001 quality management system, established laboratory and testing center with advanced manufacturing facilities and testing equipment. Testing equipment include dynamic torque test stand, static torque test stand, high- & low-temp test station, waterproof test stand, metallographic analyzer, hardness detector, spectral analyzer, etc., to ensure product quality and performance.

We will continue to improve quality, adhere to technological innovation, and constantly improve management level to provide our customer with better quality products and services.

Main Products

We produce quarter-turn and multi-turn gearbox optional with Ductile Iron, Carbon Steel, Low -temp Carbon Steel, Stainless Steel and other special body materials. Torque range of quarter-turn gearbox covers from 400Nm~300000Nm, multi-turn from 500Nm~30000Nm. With default application to ambient temperature, high-temp, low-temp, and cryogenic application can also be customized, same for default IP67 waterproof grade, IP68 or higher grade also can be customized.

Certification

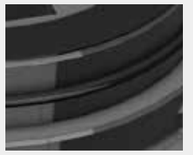
- Worm Gear Torque & Water-proof IP 67 Report
- Worm Gear Water-proof IP 68 Report
- Worm Gear Water-proof IP 65 Report
- Practical New Patent – Single Stage Gear Design
- Practical New Patent – Double Stage Gear Design
- Patent - Appearance Design

ISO 9001 Quality Management System Certificate

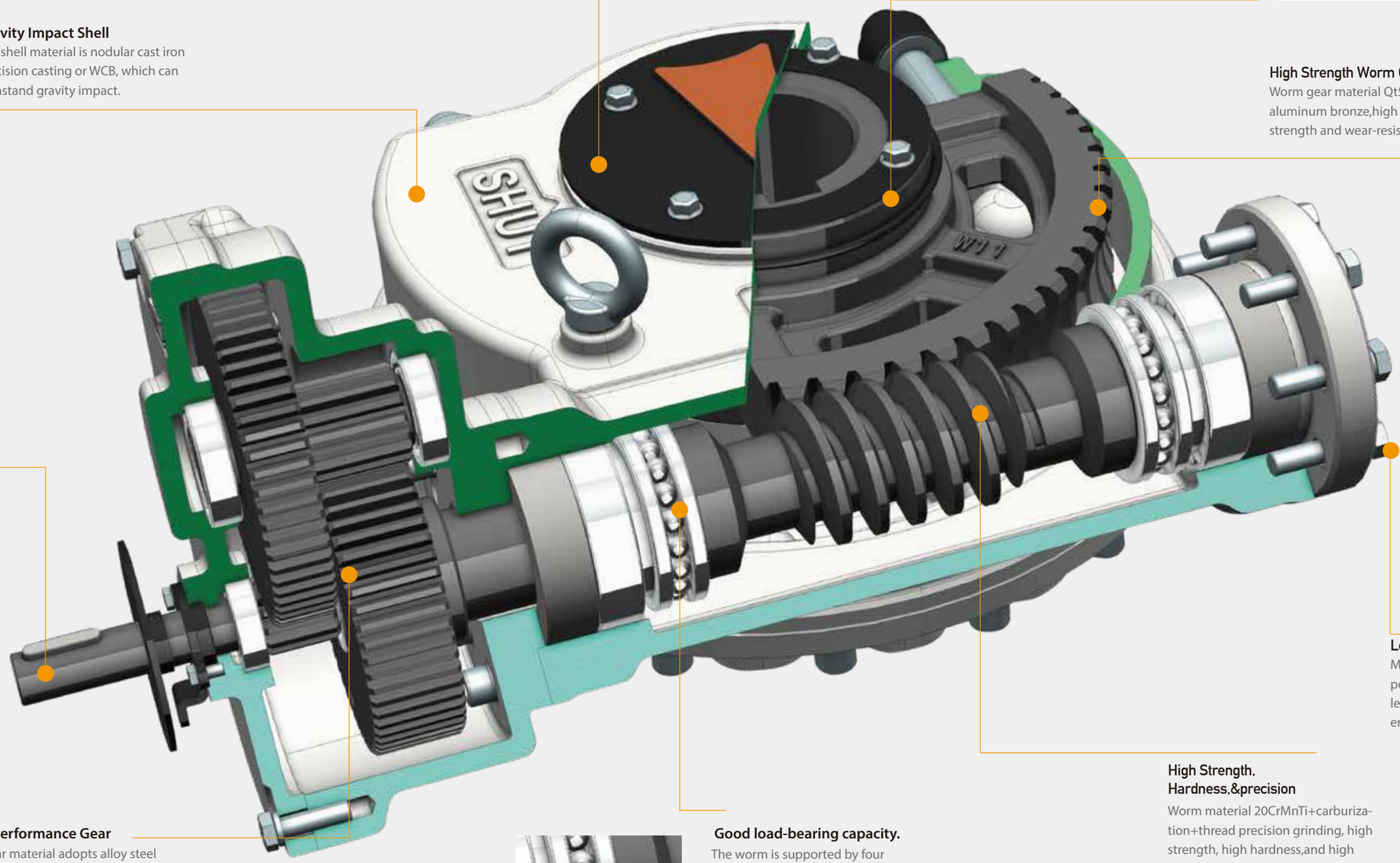
PRODUCT FEATURE

Carbon Steel Indicator
The indicator is made of carbon steel material, and it's position can be slightly adjusted. The factory default is two colors, which is more intuitive.

Fully Sealed Design
The product is fully sealed in design,using O-ring, sealing gasket, sealant, etc. The conventional water proof grade can reach IP67, and the water proof grade can be customized to Ip68



Gravity Impact Shell
The shell material is nodular cast iron precision casting or WCB, which can withstand gravity impact.



High Strength Worm Gear
Worm gear material Qt500 or aluminum bronze,high strength and wear-resistant

Electrophoresis
Electrophoresis or blackening of input shaft for rust prevention treatment

Level 8.8
Mechanical performance level of fasteners:8.8

High Strength, Hardness,&precision
Worm material 20CrMnTi+carburization+thread precision grinding, high strength, high hardness,and high precision.Improve gear wear resistance and engagement, greatly improving efficiency.

High Performance Gear
The gear material adopts alloy steel 20CrMnTi heat treatment or 40Cr heat treatment,which has high performance, good strength, and long service life.

Good load-bearing capacity.
The worm is supported by four bearings at both ends.which can withstand the axial and radial forces generated by the gear and has good load-bearing capacity.

PRODUCT INTRODUCTION

Quarter-turn valve actuation, we have three series, LT-Q, W, DW. LT-Q and W series used for manual operation, DW used for MOV. Most LT-Q Series' shaft is split type. W Series & DW both are integral type shaft. Worm gear assembly is bottom entry type. All three series are made of investment casting, attractive appearance, robust, can meet industrial level requirement.

Application

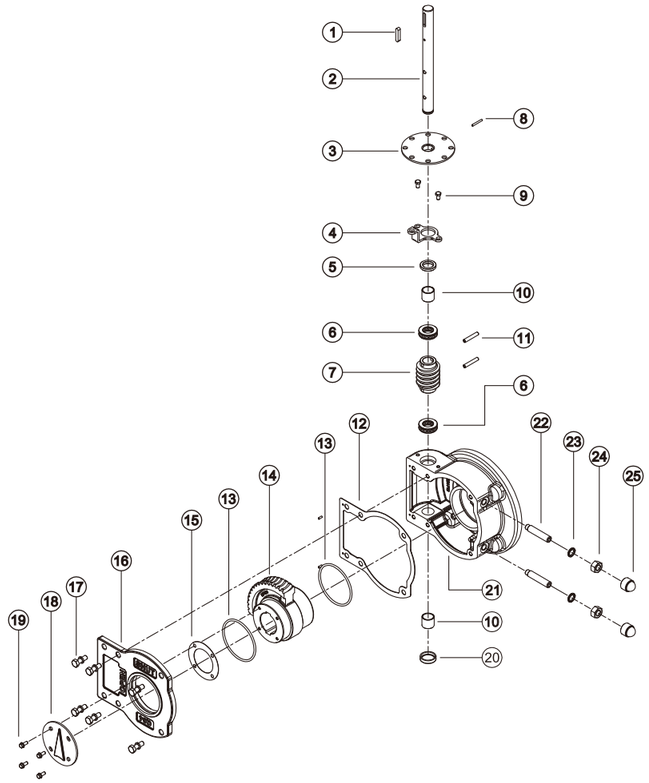
Worm gear applicable to quarter turn valve such as Ball Valves, Butterfly Valves and Plug Valves.

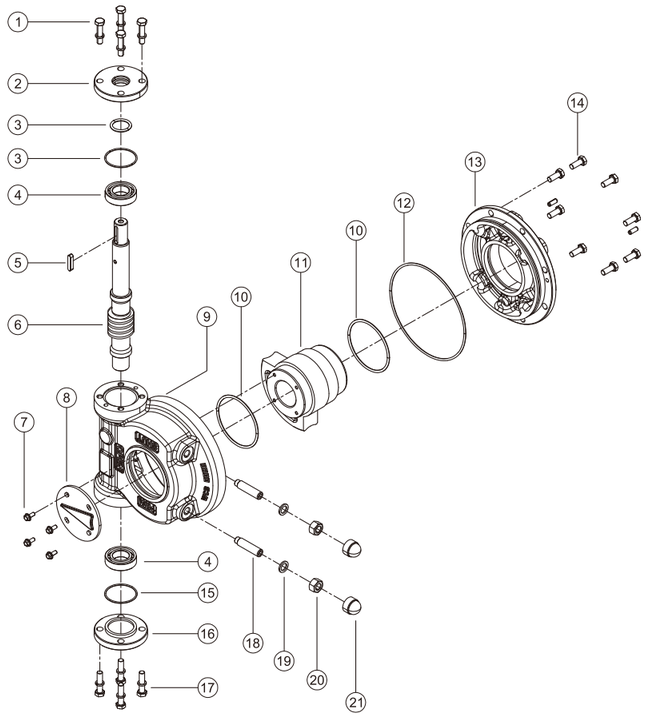
Product Customization

- Water-proof grade: IP 68.
- Aluminium bronze worm gear.
- Stainless steel or special material shaft.
- Application to low-temp conditions -29°C, -46°C, -60°C, etc.
- Ductile iron, WCB, Low-temp Carbon Steel, Stainless Steel body material.
- Handwheel position can be designed in left side.
- Handwheel diameter can be customized per operation force.

Product features

- Complete models, each model with multiple mounting flange choice, so to provide better choice.
- Flange connection conforms with ISO 5211.
- Fully enclosed design, internal one-time grease injection for long term service.
- Standard with locking device.
- Travel: 0-90°(±5°adjustable)
- Default application temperature: -20°C to + 120°C.
- Wate-proof grade: IP 67
- Shaft key, flat hole, square, trapezoidal thread optional for connection with valves.
- Default handwheel position on right.
- Handwheel clockwise rotation to close valve, anti-clockwise rotation to open valve, same as normal practice.





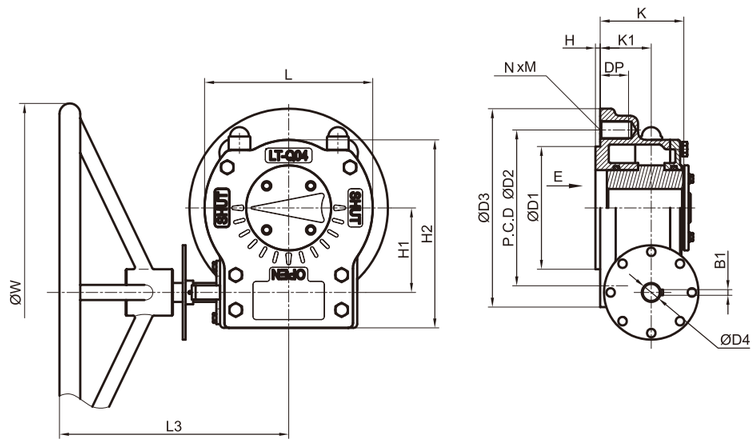
BOM List of LT-Q Series

S/N	Name	Bill of Material	
		China GB	ASTM
1	Key	GB/T699 45#	ASTMA29M-1045
2	Shaft	GBIT699 45#	ASTMA29M-1045
3	Locking Piece	GB/T700 Q235	ASTM A570 Gr.A
4	Locking Bracket	GB/T700 Q235	ASTM A570 Gr.A
5	Grease Seal	NBR	NBR
6	Bearing	GB/T18254 GCr	ASTM A295-52100
7	Shaft Bushing	GB/T699 45#	ASTM A29M-1045
8	Pin	GB/T93 65Mn	AIS11066
9	Bolt	GB169945#	ASTMA29M-1045
10	Sleeve	SF-1	SF-1
11	Pin	GB/T93 65Mn	AIS11066
12	Gasket	NBR	NBR
13	Q-ring	NBR	NBR
14	Worm Gear	GB/T12227 Q500	ASTMA53680-55-06
15	Gasket	NBR	NBR
16	Cover	GB/T12227 QT450-10 GBT12229 WCB	ASTM A536 65-45-12 ASTM A216 WCB
17	Bolt	GB1699 45#	ASTMA29M-1045
18	Position Indicator	GB/T700 Q235	ASTM A570 Gr.A
19	Bolt	GB/69945#	ASTM A29M-1045
20	Cap	NBR	NBR
21	Body	GB/T12227 QT450-10 GBT12229 WCB	ASTM A536 65-45-12 ASTM A216 WCB
22	Limit Screw	GB/T699 45#	ASTMA29M-1045
23	Gasket	NBR	NBR
24	Nut	GB/T699 45#	ASTM A29M-1045
25	Cap	PE	PE

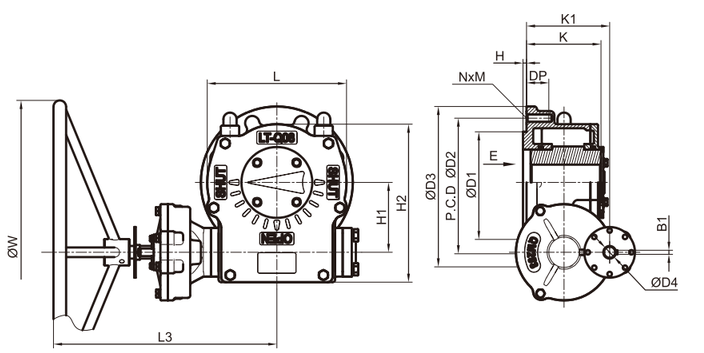
BOM List of W Series

S/N	Name	Bill of Material	
		China GB	ASTM
1	Bolt	GB/699 45#	ASTM A29M-1045
2	Gland	GB/T12227 QT450-10 GB/T12229 WCB	ASTM A536 65-45-12 ASTM A216 WCB
3	O-ring	NBR	NBRI
4	Bearing	GBJT18254 GCr15	ASTM A295-52100
5	Key	GB/T700 Q235	ASTM A570 Gr.A
6	Shaft	GB/T699 45#	ASTM A29M-1045
7	Bolt	GB/699 45#	ASTM A29M-1045
8	Position Indicator	GB/T700 Q235	ASTM A570 Gr.A
9	Body	GB/T12227 QT450-10 GB/T12229 WCB	ASTM A536 65-45-12 ASTM A216 WCB
10	O-ring	NBR	NBR
11	Worm Gear	GB/T12227 QT500-7	ASTM A536 80-55-0
12	O-ring	NBR	NBR
13	Bottom Cover	GB/T12227 QT450-10 GB/T12229 WCB	ASTM A536 65-45-12 ASTM A216 WCB
14	Bolt	GB/699 45#	ASTM A29M-1045
15	O-ring	NBR	NBR
16	Gland	GBTT12227 QT450-10 GB/T12229 WCB	ASTM A536 65-45-12 ASTM A216 WCB
17	Bolt	GB/699 45#	ASTM A29M-1045
18	Limit Screw	GB/T699 45#	ASTM A29M-1045
19	Gasket	NBR	NBR
20	Nut	GB/T699 45#	ASTM A29M-1045
21	Cap	PE	PE

LT-Q Series



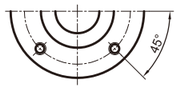
Type A *(Single-stage drive)*



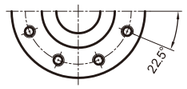
Type B *(Double-stage drive)*

E/Direction

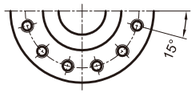
Location Distribution of Flange Holes: 4 Bolts



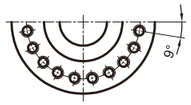
Location Distribution of Flange Holes: 8 Bolts



Location Distribution of Flange Holes: 12 Bolts



Location Distribution of Flange Holes: 20 Bolts

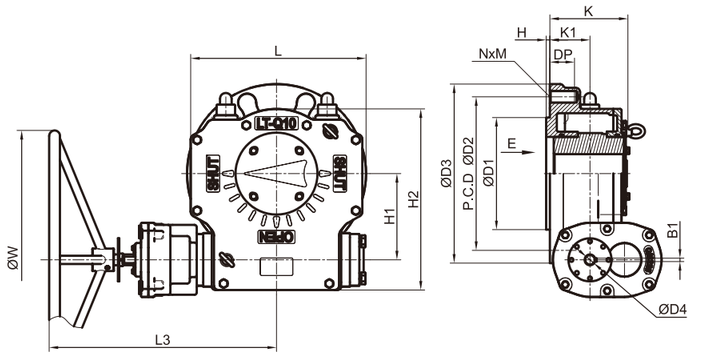


LT-Q Series

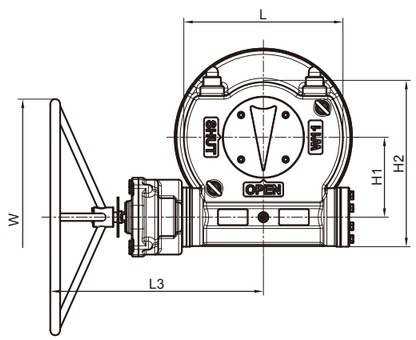
Type	Model	Technical Parameters						Mounting Flange Dimension					Outline Dimension			Handwheel Dimension		
		Optional Mounting Flange	Ratio	Output Torque Nm	Input Torque Nm	Amplification Coeffi-cient ±15%	Max Stem mm	D1	D2	NxM-DP	D3	H	K	K1	L3	D4	B1	W
A	LT-Q01	F07	26:1	400	47	8.5	28	55	70	4×M8-12	90	3	64	34	186	15	5	250
		F10						70	102	4×M10-15	125	3						
	LT-Q02	F10	36:1	800	73	11	35	70	102	4×M10-15	125	3	72	41	193	18	6	320
		F12						85	125	4×M12-18	150	3						
		F14						100	140	4×M16-24	175	3	74	43	207			
	LT-Q03	F12	50:1	1300	87	15	45	85	125	4×M12-18	150	3	82	48	251	20	6	360
		F14						100	140	4×M16-24	175	3						
		F16						130	165	4×M20-30	210	3						
	LT-Q03A	F12	41:1	1600	130	12.3	45	85	125	4×M12-18	150	3	82	48	251	20	6	460
		F14						100	140	4×M16-24	175	3						
		F16						130	165	4×M20-30	210	3						
	LT-Q04	F14	57:1	1900	112	17	50	100	140	4×M16-24	175	3	88	54	251	20	6	460
		F16						130	165	4×M20-30	210	3						
		F20						160	200	8×M16-24	255	3	90	54	271			
	LT-Q04A	F14	47:1	2100	150	14.1	50	100	140	4×M16-24	175	3	88	54	251	20	6	500
		F16						130	165	4×M20-30	210	3						
		F20						160	200	8×M16-24	255	3	90	54	271			
	LT-Q05	F16	62:1	2350	127	18.5	65	130	165	4×M20-30	210	4	100	60	279	25	8	500
		F20						160	200	8×M16-24	255	4						
		F25						200	254	8×M16-24	300	4						
	LT-Q05A	F16	56:1	3000	179	16.8	65	130	165	4×M20-30	210	4	100	60	309	25	8	600
		F20						160	200	8×M16-24	255	4						
		F25						200	254	8×M16-24	300	4						
	LT-Q06	F16	68:1	3500	156	22.5	70	130	165	4×M20-30	210	4	100	60	309	25	8	600
		F20						160	200	8×M16-24	255	4						
		F25						200	254	8×M16-24	300	4						
B	LT-Q05B	F16	152:1	4000	89	45	65	130	165	4×M20-30	210	4	100	123	352	25	8	500
		F20						160	200	8×M16-24	255	4						
		F25						200	254	8×M16-24	300	4			364			
	LT-Q06B	F16	184:1	5500	95	58	70	130	165	4×M20-30	210	4	100	123	352	25	8	500
		F20						160	200	8×M16-24	255	4						
		F25						200	254	8×M16-24	300	4						
	LT-Q07B	F16	216:1	6500	130	50	80	130	165	4×M20-30	210	4	116	131	386	25	8	600
		F25						200	254	8×M16-24	300	4						
	LT-Q07C	F20	250:1	7500	132	57	85	160	200	8×M16-24	300	4	137	157	426	25	8	600
		F25						200	254	8×M16-24	300	4						
	LT-Q08	F25	275:1	8500	116	73	95	200	254	8×M16-24	300	4	147	164	436	25	8	600
		F30						230	298	8×M20-30	350	4						
	LT-Q08B	F25	330:1	9500	108	88	95	200	254	8×M16-24	300	4	147	179	438	25	8	600
		F30						230	298	8×M20-30	350	4						
	LT-Q09B	F25	378:1	11000	116	95	115	200	254	8×M16-24	300	4	151	182	456	25	8	600
		F30						230	298	8×M20-30	350	4						
	LT-Q10B	F25	360:1	15000	165	91	115	200	254	8×M16-24	300	4	151	182	468	25	8	600
		F30						230	298	8×M20-30	350	4						
		F35						260	356	8×M30-45	415	5	174	205	468			

Note: Optional mounting flange marked with () can't do raised face, only flat face or concave face.

LT–Q series



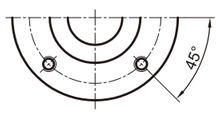
Type C *(Multi-stage Drive)*



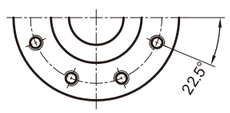
Type D *(Multi-stage Drive)*

E/Direction

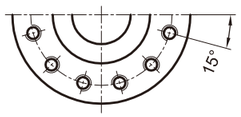
Location Distribution of Flange Holes: 4 Bolts



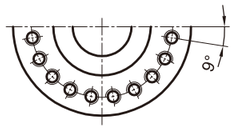
Location Distribution of Flange Holes: 8 Bolts



Location Distribution of Flange Holes: 12 Bolts



Location Distribution of Flange Holes: 20 Bolts

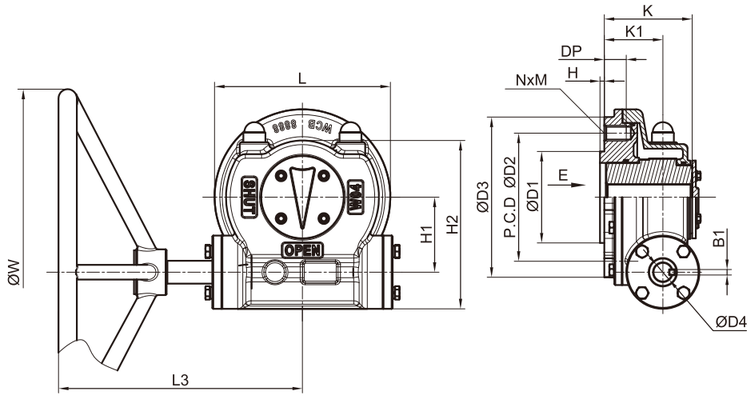


LT–Q series

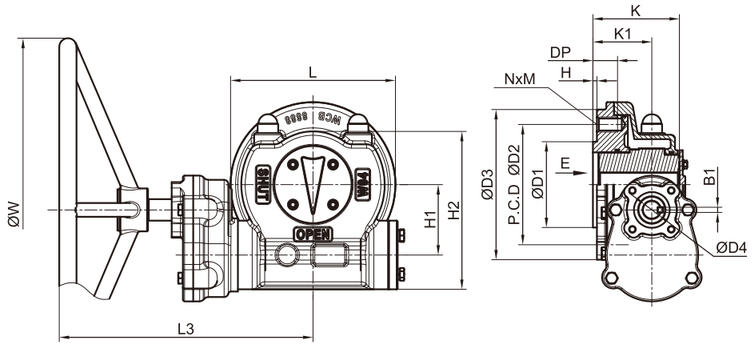
Type	Model	Technical Parameters						Mounting Flange Dimension					Outline Dimension			Handwheel Dimension		
		Optional Mounting Flange	Ratio	Output Torque Nm	Input Torque Nm	Amplification Coefficient ±15%	Max. Stem mm	D1	D2	NxM–DP	D3	H	K	K1	L3	D4	B1	W
C	LT-Q09	F25	467:1	13500	104	130	115	200	254	8×M16-24	300	4	151	77	492	25	8	600
		F30						230	298	8×M20-30	350	4						
	LT-Q10	F25	560:1	18000	115	157	115	200	254	8×M16-24	300	4	151	77	504	25	8	600
		F30						230	298	8×M20-30	350	4						
		F35						260	356	8×M30-45	415	5	174	100	504			
D	LT-QW11B	F25	804:1	24000	109	221	130	200	254	8×M16-24	350	4	183	122	541	25	8	600
		F30						230	298	8×M20-30		4						
		F35						260	356	8×M30-45	415	4						
	LT-QW11	F25	960:1	30000	115	264	130	200	254	8×M16-24	350	4	183	122	541	25	8	600
		F30						230	298	8×M20-30		4						
		F35						260	356	8×M30-45	415	4						
	LT-QW12B	F25	932:1	35000	136	256	130	200	254	8×M16-24	350	4	185	124	556	25	8	700
		F30						230	298	8×M20-30		4						
		F35						260	356	8×M30-45	415	4						
		F40						300	406	8×M36-54	475	4						
	LT-QW12	F25	1110:1	40000	132	305	130	200	254	8×M16-24	350	4	185	124	556	25	8	700
		F30						230	298	8×M20-30		4						
		F35						260	356	8×M30-45	415	4						
		F40						300	406	8×M36-54	475	4						
	LT-QW12D	F35	1110:1	40000	132	305	150	260	356	8×M30-45	415	4	203	135	556	25	8	700
		F40						300	406	8×M36-54	475	4						
	LT-QW13	F30	1506:1	52000	132	394	150	230	298	8×M20-30	415	5	205	132	622	25	8	700
		F35						260	356	8×M30-45		5						
		F40						300	406	8×M36-54	475	5						
	LT-QW14	F30	1753:1	65000	142	459	150	230	298	8×M20-30	415	5	217	144	687	25	8	800
		F35						260	356	8×M30-45		5						
		F40						300	406	8×M36-54	475	5						
	LT-QW15	F35	2044:1	85000	160	528	180	260	356	8×M30-45	475	5	245	158	739	25	8	800
		F40						300	406	8×M36-54		5						
		F48						370	483	12×M36-54	560	5						
	LT-QW15B	F35	3452:1	120000	145	850	180	260	356	8×M30-45	475	5	245	158	812	25	8	800
		F40						300	406	8×M36-54		5						
		F48						370	483	12×M36-54	560	5						
	LT-QW16B	F48	3835:1	140000	165	860	210	370	483	12×M36-54	560	5	277	174	847	25	8	800
		F60						470	603	20×M36-54	686	5						
	LT-QW17B	F48	6163:1	200000	165	1212	290	370	483	12×M36-54	560	5	290	183	989	25	8	800
		F60						470	603	20×M36-54	686	5						
	LT-QW18B	F48	7352:1	250000	170	1470	310	370	483	12×M36-54	560	5	316	195	1029	25	8	800
		F60						470	603	20×M36-54	686	5						

Note: Optional mounting flange marked with () can't do raised face, only flat face or concave face.

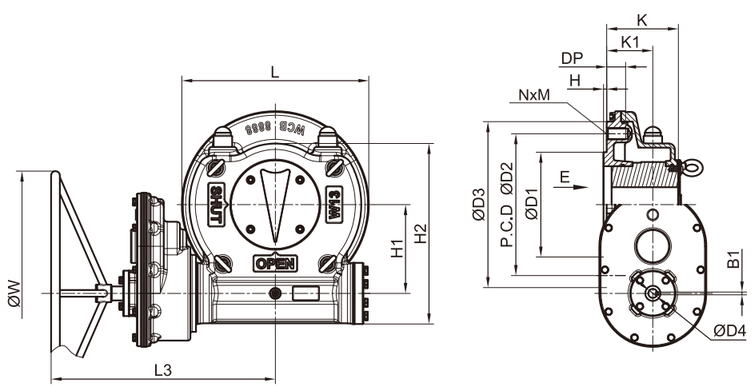
W series



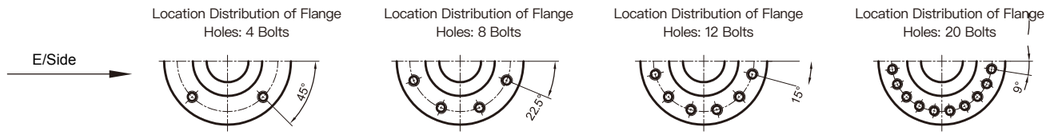
Type A *(Single-stage drive)*



Type B *(Double-stage drive)*



Type C *(Multi-stage drive)*

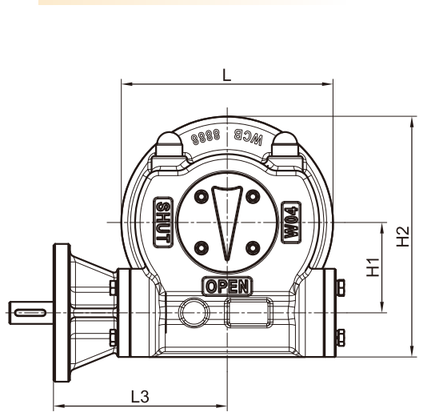


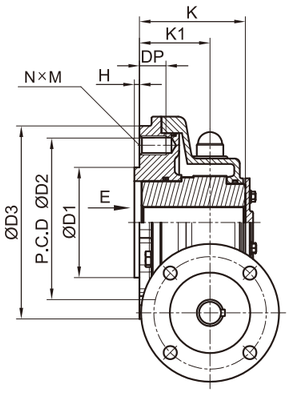
W series

Type	Model	Ratio	Technical parameter						Standard Flange Dimension					Standard Flange Outline Dimension			Handwheel Dimension		
			Output Torque Nm	Input Torque Nm	Amplification Coeffi-cient ±15%	Stand-ard flange	Optional flange	Max. stem mm	D1	D2	N×M-DP	D3	H	K	K1	L3	D4	B1	W
A	W03	44:1	1300	92	14.1	F12	(F10)-F14	45	85	125	4×M12-18	150	3	85	53	271	20	6	360
	W04	52:1	1800	120	15	F14	F12-(F16)	50	100	140	4×M16-24	175	3	88	58	279	20	6	460
	W05	51:1	2400	153	15.7	F16	(F12)-F14	65	130	165	4×M20-30	210	3	96	63	308	25	8	500
	W06	52:1	3200	189	16.9	F20	(F14)-F16-F25	70	160	200	8×M16-24	255	3	103	68	348	25	8	600
	W07	60:1	4200	240	17.5	F25	F16-F20	85	200	254	8×M16-24	300	3	114	75	382	25	8	600
B	W03-1S	110:1	1500	50	30	F12	(F10)-F14	45	85	125	4×M12-18	150	3	85	53	282	20	6	320
	W04-1S	130:1	2100	66	32	F14	F12-F16	50	100	140	4×M16-24	175	3	88	58	320	20	6	360
	W05-1S	192:1	3600	72	50	F16	(F12)-F14	65	130	165	4×M20-30	210	3	96	63	361	25	8	460
	W06-1S	195:1	4900	91	54	F20	(F14)-F16-F25	70	160	200	8×M16-24	255	3	103	68	371	25	8	500
	W07-1S	225:1	6500	116	56	F25	F16-F20	85	200	254	8×M16-24	300	3	114	75	414	25	8	600
C	W08-1SS	468:1	9000	80	113	F25	F20	95	200	254	8×M16-24	300	4	116	75	447	25	8	600
	W09-1SS	572:1	13500	88	154	F30	F25	100	230	298	8×M20-30	350	4	133	88	470	25	8	600
	W10-1SS	675:1	18000	105	172	F30	F25	115	230	298	8×M20-30	350	4	139	88	490	25	8	600
	W11-1SS	900:1	30000	120	249	F35	F25-F30	130	260	356	8×M30-45	415	4	183	122	569	25	8	600
	W12-1SS	1042:1	40000	138	289	F35	F25-F30-F40	130	260	356	8×M30-45	415	4	185	124	584	25	8	700
	W12D-1SS	1042:1	40000	138	289	F40	F35	150	300	406	8×M36-54	475	4	203	135	584	25	8	700
	W13-1SS	1506:1	52000	132	394	F40	F30-F35	150	300	406	8×M36-54	475	4	205	132	622	25	8	700
	W14-1SS	1753:1	65000	142	459	F40	F30-F35-F40	150	300	406	8×M36-54	475	5	217	144	687	25	8	800
	W15-1SS	2044:1	85000	160	528	F48	F35-F40	180	370	483	12×M36-54	560	5	245	158	739	25	8	800
	W15B-1SS	3452:1	120000	145	850	F48	F35-F40	180	370	483	12×M36-54	560	5	245	158	812	25	8	800
	W16B-1SS	3835:1	140000	165	860	F60	F48	210	470	603	20×M36-54	686	5	277	174	847	25	8	800
	W17B-1SS	6163:1	200000	165	1212	F60	F48	290	470	603	20×M36-54	686	5	290	183	989	25	8	800
	W18B-1SS	7352:1	250000	170	1470	F60	F48	310	470	603	20×M36-54	686	5	316	195	1029	25	8	800

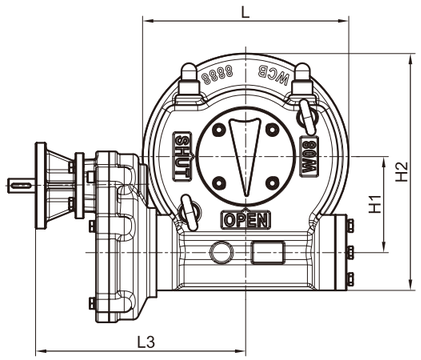
Note: Optional mounting flange marked with () can't do raised face, only flat face or concave face.

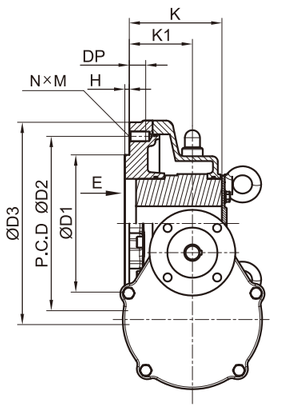
DW MOV Series



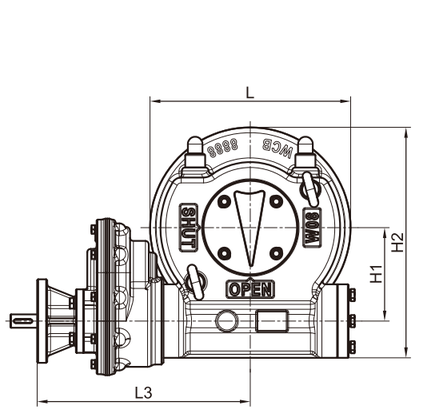


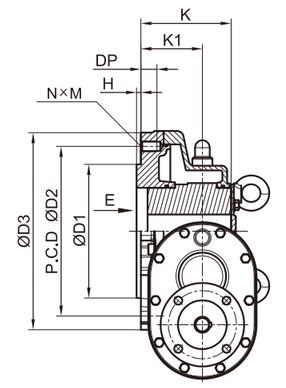
***Type A**(Single-stage drive)*



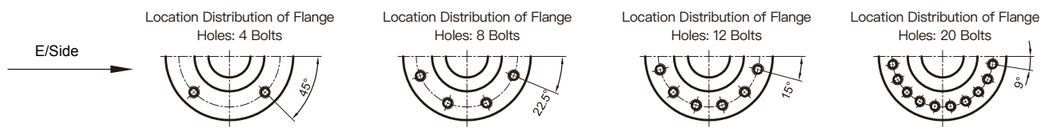


***Type B** (Double-stage drive)*





***Type C**(Multi-stage drive)*

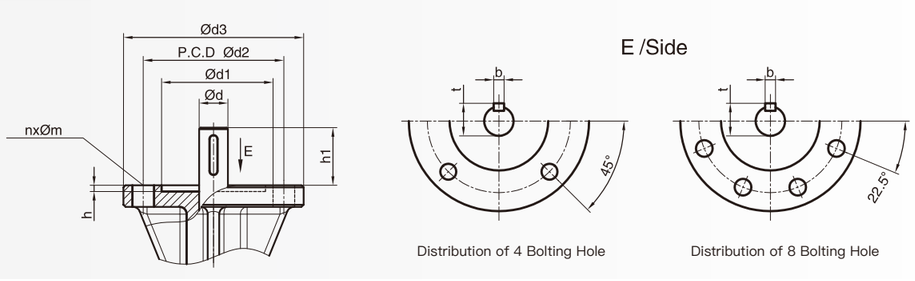


DW MOV Series

Type	Model	Technical Parameters								Standard Flange Dimension					Stan-dard Flange Outline Dimen-sion		Actuator Mounting Flange	
		Output Torque Nm	Input Torque Nm	Amplifi-cation Coeffi-cient ±15%	Std. Ratio	Optional Ratio Range	Stan-dard Flange	Optional Flange	Max Stem mm	D1	D2	N×M-DP	D3	H	K	K1	ISO 5210 Flange	JB 2920 Flange
A	DW03	1300	93	0.32	44:1	\	F12	(F10)-F14	45	85	125	4×M12-18	150	3	85	53	F10	2
B	DW03-1S		44	0.27	110:1	65~110											F10	2
A	DW04	2000	135	0.29	52:1	\	F14	F12-(F16)	50	100	140	4×M16-24	175	3	88	58	F10	2
B	DW04-1S		65	0.25	130:1	77~130											F10	2
A	DW05	3500	225	0.31	51:1	\	F16	(F12)-F14	65	130	165	4×M20-30	210	3	96	63	F10\F14	2\3
B	DW05-1S		70	0.26	192:1	88~192											F10\F14	2\3
A	DW06	4500	270	0.32	52:1	\	F20	(F14)-F16-F25	70	160	200	8×M16-24	255	3	103	68	F10\F14	2\3
B	DW06-1S		85	0.28	195:1	90～195											F10\F14	2\3
A	DW07	6500	375	0.29	60:1	\	F25	F16-F20	85	200	254	8×M16-24	300	3	114	75	F10\F14\F16	2\3\4
B	DW07-1S		120	0.25	225:1	103~225											F10\F14	2\3
A	DW08	9000	530	0.3	57:1	\	F25	F20	95	200	254	8×M16-24	300	4	116	75	F10\F14\F16	2\3\4
C	DW08-1SS		80	0.24	468:1	132~468											F10\F14	2\3
A	DW09	13500	800	0.34	50:1	\	F30	F25	100	230	298	8×M20-30	350	4	133	88	F14\F16	4\5
C	DW09-1SS		90	0.27	572:1	175~572											F10\F14	2\3
A	DW10	18000	960	0.32	59:1	\	F30	F25	115	230	298	8×M20-30	350	4	139	88	F14\F16	4\5
C	DW10-1SS		110	0.25	675:1	204~675											F10\F14	2\3
A	DW11	25000	1260	0.35	57:1	\	F35	F25-F30	130	260	356	8×M30-45	415	4	183	122	F16\F25	4\5
C	DW11-1SS		100	0.28	900:1	181~900											F10\F14\F16	2\3\4
A	DW12	35000	1520	0.35	66:1	\	F35	F25-F30-F40	130	260	356	8×M30-45	415	4	185	124	F16\F25	5\7
C	DW12-1SS		120	0.28	1042:1	209~1042											F10\F14\F16	2\3\4
A	DW12D	35000	1520	0.35	66:1	\	F40	F35	150	300	406	8×M36-54	475	4	203	135	F16\F25	5\7
C	DW12D-1SS		120	0.28	1042:1	209~1042											F10\F14\F16	2\3\4
A	DW13	48000	2400	0.33	61:1	\	F40	F30-F35	150	300	406	8×M36-54	475	5	205	132	F16\F25\F30	5\7
C	DW13-1SS		125	0.26	1506:1	332~1506											F10\F14\F16	2\3\4
A	DW14	60000	2600	0.33	71:1	\	F40	F30-F35	150	300	406	8×M36-54	475	5	217	144	F16\F25\F30	5\7
C	DW14-1SS		135	0.26	1753:1	387~1753											F10\F14\F16	2\3\4
A	DW15	80000	3700	0.32	68:1	\	F48	F35-F40	180	370	483	12×M36-54	560	5	245	158	F25\F30	7\8
C	DW15-1SS		155	0.26	2044:1	379~2044											F14\F16F25	3\4\5
A	DW15B	100000	5200	0.36	54:1	\	F48	F35-F40	180	370	483	12×M36-54	560	5	245	158	F25\F30	7\8
C	DW15B-1SS		315	0.29	1107:1	301~1107											F14\F16\F25	3\4\5
A	DW16B	140000	7300	0.32	60:1	\	F60	F48	210	470	603	20×M36-54	686	5	277	174	F25\F30\F35	8\9\10
C	DW16B-1SS		440	0.26	1230:1	335~1230											F14\F16\F25	3\4\5
A	DW17B	200000	10700	0.33	57:1	\	F60	F48	290	470	603	20×M36-54	686	5	290	183	F30\F35\F40	9\10
C	DW17B-1SS		700	0.26	1100:1	710~1230											F14\F16\F25	4\5
A	DW18B	250000	11500	0.32	68:1	\	F60	F48	310	470	603	20×M36-54	686	5	316	195	F30\F35\F40	9\10
C	DW18B-1SS		735	0.26	1312:1	847~1230											F14\F16\F25	4\5

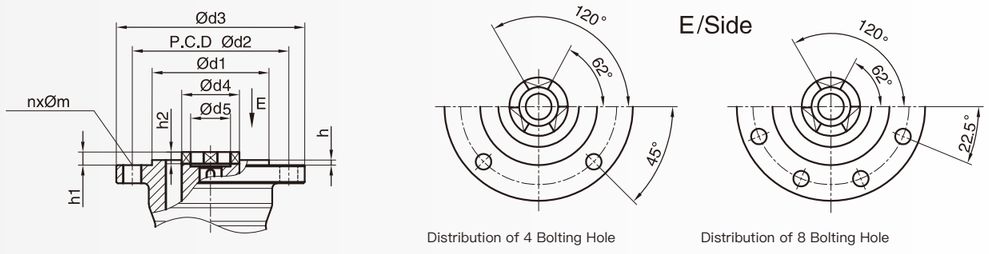
Note: Optional mounting flange marked with () can't do raised face, only flat face or concave face.

Flange Dimension to mount with ISO 5210 Electric Actuator



Flange Model	d1	d2	d3	n×m	h	d	b	h1	t
F10	70	102	125	4×12	3	20	6	40	22.5
F14	100	140	175	4×18	4	30	8	60	33
F16	130	165	210	4×22	5	30	8	60	33
						40	12	80	43
F25	200	254	300	8×18	5	40	12	80	43
						45	14	80	48.5
						50	14	80	53.5
F30	230	298	350	8×22	5	40	12	80	43
						45	14	80	48.5
						50	14	80	53.5
F35	260	356	415	8×33	5	60	18	100	64

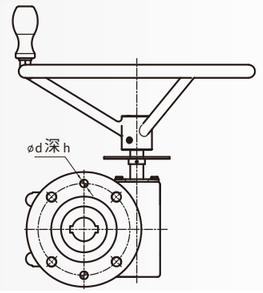
Flange Dimension to mount with JB 2920 Electric Actuator



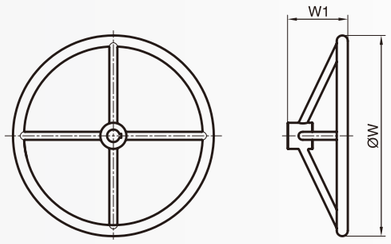
Flange Model	Actuator Model	d1	d2	d3	h	n×m	h1	d4	d5	h2
2	Z05\Z10	90	120	145	4	4×12	10	45	30	8
3	Z20\Z30	125	160	185	4	4×14	12	58	42	10
4	Z45\Z60	150	195	225	5	4×18	14	72	46	12
5	Z90\Z120	180	235	275	5	4×22	16	82	58	14
7	Z180\Z250	220	285	330	6	4×26	19	98	65	16
8	Z350\Z500	280	340	380	6	8×22	23	118	80	20
9	Z800	300	380	430	8	8×26	28	128	85	25
10	Z1000	360	450	510	8	8×33	33	158	105	30

Parameter of Mounting Flange & Locating Pin

Flange mode	Bore/d	Depth H
F10/F12/F14	8	6
F16/F20/F25/F30	10	6
F35/F40/F48	16	10
F60	20	25

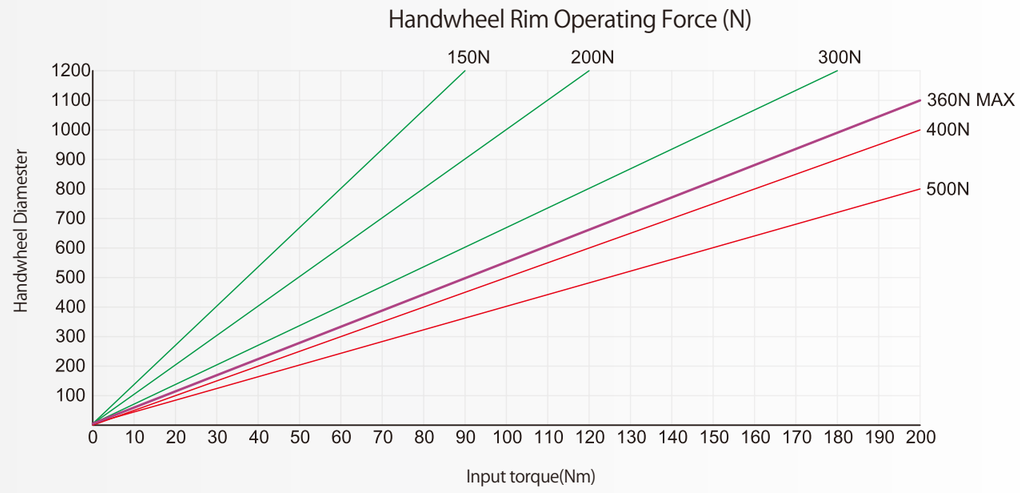


Handwheel Dimension



W	250	300	320	360	400	460	500	550	600	650	700	800	900	1000
W1	100	100	100	130	130	130	130	130	160	160	160	200	200	240

Handwheel & Operating Force Chart

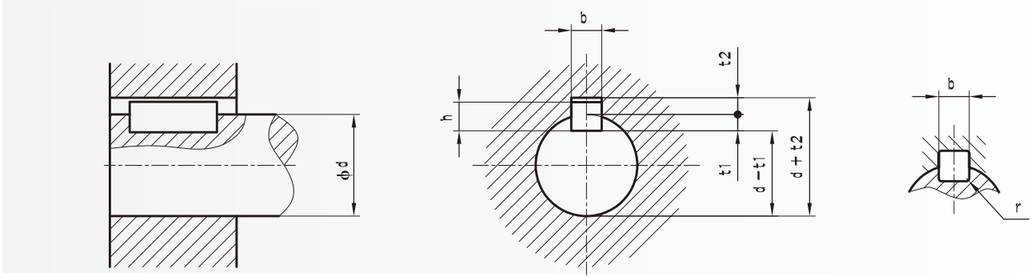


$$\text{Handwheel Diameter(mm)} = \frac{\text{Input torque(Nm)x1000x2}}{\text{Handwheel Rim Operating Force (N)}}$$

Soft Seated Trunnion Mounted Ball Valve (Q347F) (For reference only)

Model		150Lb (2.0MPa)	300Lb (5.0MPa)	400Lb (6.8MPa)	600Lb (10.0MPa)	900Lb (15.0MPa)	1500Lb (25.0MPa)	2500Lb (42.0MPa)
LT-Q series	W-Q series							
LT-Q01		≤3" ≤DN75	≤3" ≤DN75	≤3" ≤DN75	≤3" ≤DN75	≤2 ≤DN50	≤2" ≤DN50	≤1" ≤DN25
LT-Q02	\	4" DN100	4" DN100	4" DN100	4" DN100	3" DN75	2" DN50	1" DN25
LT-Q03	Wo3	6" DN150	6" DN150	6" DN150	4"-6" DN100-150	4" DN100	3" DN75	2" DN50
LT-Q04	W04	8" DN200	8" DN200	6"-8" DN150-200	6" DN150	5" DN125	4" DN100	2" DN50
LT-Q05	W05	10" DN250	8"-10" DN200-250	6"-8" DN150-200	6"-8" DN150-200	6" DN150	4" DN100	3" DN75
LT-Q06	W06	10"-12" DN250-300	8"-10" DN200-250	8"-10" DN200-250	8" DN200	6"-8" DN150-200	6" DN150	3"-4" DN75-100
LT-Q05B	W05-1SS	12"-14" DN300-350	10"-12" DN250-300	8"-10" DN200-250	8"-10" DN200-250	6"-8" DN150-200	6" DN150	3"-4" DN75-100
LT-Q06B	W06-1SS	14"-16" DN350-400	12"-14" DN300-350	10"-12" DN250-300	10" DN250	6"-8" DN150-200	6"-8" DN150-200	4" DN100
LT-Q07B	W07-1SS	16"-18" DN400-450	14"-16" DN350-400	12"-14" DN300-350	10"-12" DN250-300	10" DN250	6"-8" DN150-200	4" DN100
LT-Q07	\	16"-18" DN400-450	16" DN400	14"-16" DN350-400	12"-14" DN300-350	10"-12" DN250-300	6"-8" DN150-200	6" DN150
LT-Q08	\	18"-20" DN450-500	16"-18" DN400-450	16"-18" DN400-450	14"-16" DN350-400	10"-12" DN250-300	8"-10" DN200-250	6" DN150
LT-Q08B	W08-1Ss	18"-20" DN450-500	18"-20" DN450-500	16"-18" DN400-450	14"-16" DN350-400	12"-14" DN300-350	8"-10" DN200-250	6" DN150
LT-Q09B	\	20"-22" DN500-550	20" DN500	18"-20" DN450-500	14"-16" DN350-400	12"-14" DN300-350	10"-12" DN250-300	6" DN150
LT-Q09	W09-1SS	22"-24" DN550-600	20"-22" DN500-550	20"-22" DN500-550	16"-18" DN400-450	14"-16" DN350-400	10"-12" DN250-300	6" DN150
LT-Q10	W10-1SS	26"-28" DN650-700	22"-24" DN550-600	20"-22" DN500-550	18"-20" DN450-500	16"-18" DN400-450	14"-16" DN350-400	8"-10" DN200-250
LT-QW11	W11-1SS	30"-32" DN750-800	26"-28" DN650-700	24"-26" DN600-650	22"-24" DN550-600	18"-20" DN450-500	14"-16" DN350-400	10"-12" DN250-300
LT-QW12	W12-1SS	34"-36" DN850-900	30"-32" DN750-800	28"-32" DN700-800	26"-28" DN650-700	20"-22" DN500-550	18"-20" DN450-500	10"-12" DN250-300
LT-QW13	W13-1SS	40"-42" DN1000-1050	34"-40" DN850-1000	32"-36" DN800-900	30"-32" DN750-800	24"-26" DN600-650	20"-22" DN500-550	14"-16" DN350-400
LT-QW14	W14-1SS	48" DN1200	40"-42" DN1000-1050	40"-42" DN1000-1050	32"-34" DN800-850	28"-30" DN700-750	22"-24" DN550-600	16"-18" DN400-450
LT-QW15	W15-1SS	48" DN1200	48" DN1200	40"-42" DN1000-1050	34"-36" DN850-900	32"-34" DN800-850	24"-26" DN600-650	18"-20" DN450-500
LT-QW15B	W15B-1SS	56" DN1400	48" DN1200	48" DN1200	40"-42" DN1000-1050	34"-36" DN850-900	26"-28" DN650-700	18"-20" DN450-500
LT-QW16B	W16B-1SS	56" DN1400	56" DN1400	48" DN1200	48" DN1200	40"-42" DN1000-1050	30"-32" DN750-800	20"-22" DN500-550

Shaft, bore diameter, flat key shall be selected according to GB/T1095.



Bore Size	Key Size		Keyway Dimension			
d	Width	Thickness	Shaft t1		Bore t2	
	b(h8)	h(h8)	Size	Tolerance	Size	Tolerance
>6～8	2	2	1.2	+0.10～+0.00	1	+0.10～+0.00
>8～10	3	3	1.8	+0.10～+0.00	1.4	+0.10～+0.00
>10～12	4	4	2.5	+0.10～+0.00	1.8	+0.10～+0.00
>12～17	5	5	3.0	+0.10～+0.00	2.3	+0.10～+0.00
>17～22	6	6	3.5	+0.10～+0.00	2.8	+0.10～+0.00
>22～30	8	7	4.0	+0.20～+0.00	3.3	+0.20～+0.00
>30～38	10	8	5.0	+0.20～+0.00	3.3	+0.20～+0.00
>38～44	12	8	5.0	+0.20～+0.00	3.3	+0.20～+0.00
>44～50	14	9	5.5	+0.20～+0.00	3.8	+0.20～+0.00
>50～58	16	10	6.0	+0.20～+0.00	4.3	+0.20～+0.00
>58～65	18	11	7.0	+0.20～+0.00	4.4	+0.20～+0.00
>65～75	20	12	7.5	+0.20～+0.00	4.9	+0.20～+0.00
>75～85	22	14	9.0	+0.20～+0.00	5.4	+0.20～+0.00
>85～95	25	14	9.0	+0.20～+0.00	5.4	+0.20～+0.00
>95～110	28	16	10.0	+0.20～+0.00	6.4	+0.20～+0.00
>110～130	32	18	11.0	+0.20～+0.00	7.4	+0.20～+0.00
>130～150	36	20	12.0	+0.30～+0.00	8.4	+0.30～+0.00
>150～170	40	22	13.0	+0.30～+0.00	9.4	+0.30～+0.00
>170～200	45	25	15.0	+0.30～+0.00	10.4	+0.30～+0.00
>200～230	50	28	17.0	+0.30～+0.00	11.4	+0.30～+0.00
>230～260	56	32	20.0	+0.30～+0.00	12.4	+0.30～+0.00
>260～290	63	32	20.0	+0.30～+0.00	12.4	+0.30～+0.00
>290～330	70	36	22.0	+0.30～+0.00	14.4	+0.30～+0.00
>330～380	80	40	25.0	+0.30～+0.00	15.4	+0.30～+0.00