

Quarter-turn Gearboxes



Suitable for Valves Type



BUTTERFLY



BALL



PLUG



GLOBE

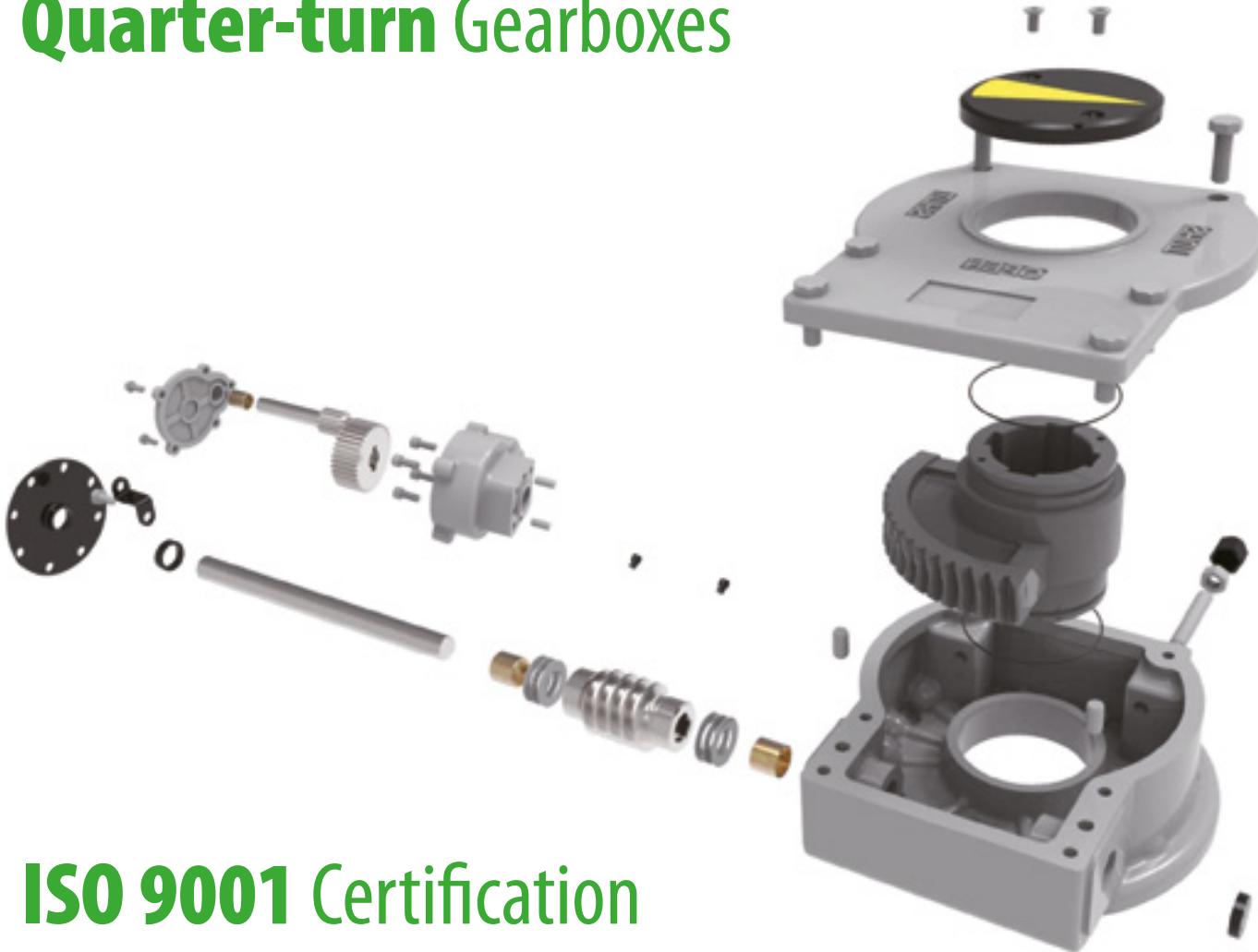


GATE



MECCFOR
MECHANICAL COMPONENTS SUPPLIES

Quarter-turn Gearboxes



ISO 9001 Certification

DAS CERTIFICATION



Certificate of Registration

This is to certify that the
QUALITY MANAGEMENT SYSTEM
of
MECCFOR SRL
for
Mechanizing and Supply of Mechanical Components
has been assessed and registered against the provisions of
ISO 9001:2015
International Standard

19 January 2012

19 January 2012

19 January 2012

19 January 2012

Formulas

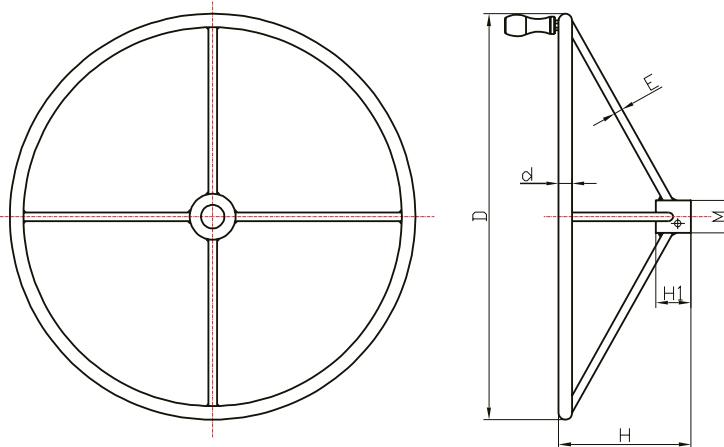
- MECHANICAL ADVANTAGE=OUTPUT TORQUE/INPUT TORQUE

$$= (\text{GEAR RATIO} \times \text{EFFICIENCY \%}) / 100$$
- EFFICIENCY(%)=OUTPUT TORQUE x 100/ INPUTTORQUE X GEAR RATIO
- OUTPUT TORQUE(N.m)=INPUT TORQUE X MECHANICAL ADVANTAGE
- INPUT TORQUE(N.m)=OUTPUT TORQUE /MECHANICAL ADVANTAGE
- NUMBER OF TURNS TO CLOSE =GEAR RATIO /4
- HANDWHEEL RIM EFFORT(N) =INPUT TORQUE X 2(N.m)

$$/ \text{HANDWHEEL DIAMETER(m)}$$
- HANDWHEEL DIAMETER(m) =INPUT TORQUE X 2(N.m)

$$/ \text{HANDWHEEL RIM EFFORT(N)}$$
- OPERATING TIME(SEC)=(RATIO X 60/RPM)/4

Handwheel Dimensions



D	d	E	H	H1	M
Ø700	28	16	150	50	50
Ø600	25	16	150	50	50
Ø500	25	16	150	45	40
Ø400	20	16	130	40	40
Ø350	20	16	115	40	40
Ø300	20	16	105	35	40
Ø200	16	16	80	35	30

WBS Series Product Structure

1

The installation of pointer disk on the top of the worm gear can clearly indicate the opening and closing position of the valve

2

The worm gear made of Ductile iron QT500-7 has the characteristics of high strength and wear resistance

3

The mechanical limit screw is set in the open / close direction to accurately limit the valve stroke

4

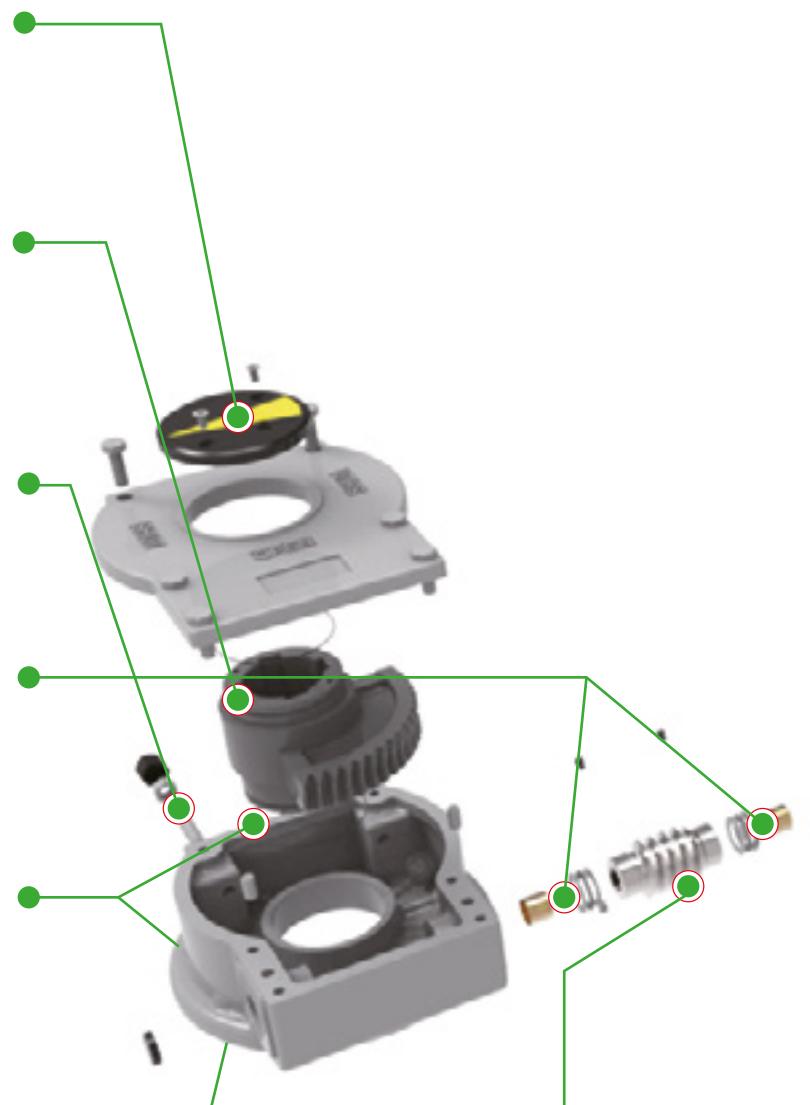
High precision worm and bearing close fit, significantly improve the transmission efficiency

6

The cover of worm gear box and secondary reduction box are made of ductile iron, and the joint parts are sealed with O-ring or skeleton oil seal, and the waterproof grade reaches IP67.

7

The valve connection is designed according to ISO5211-2017 standard, which is convenient for users to match



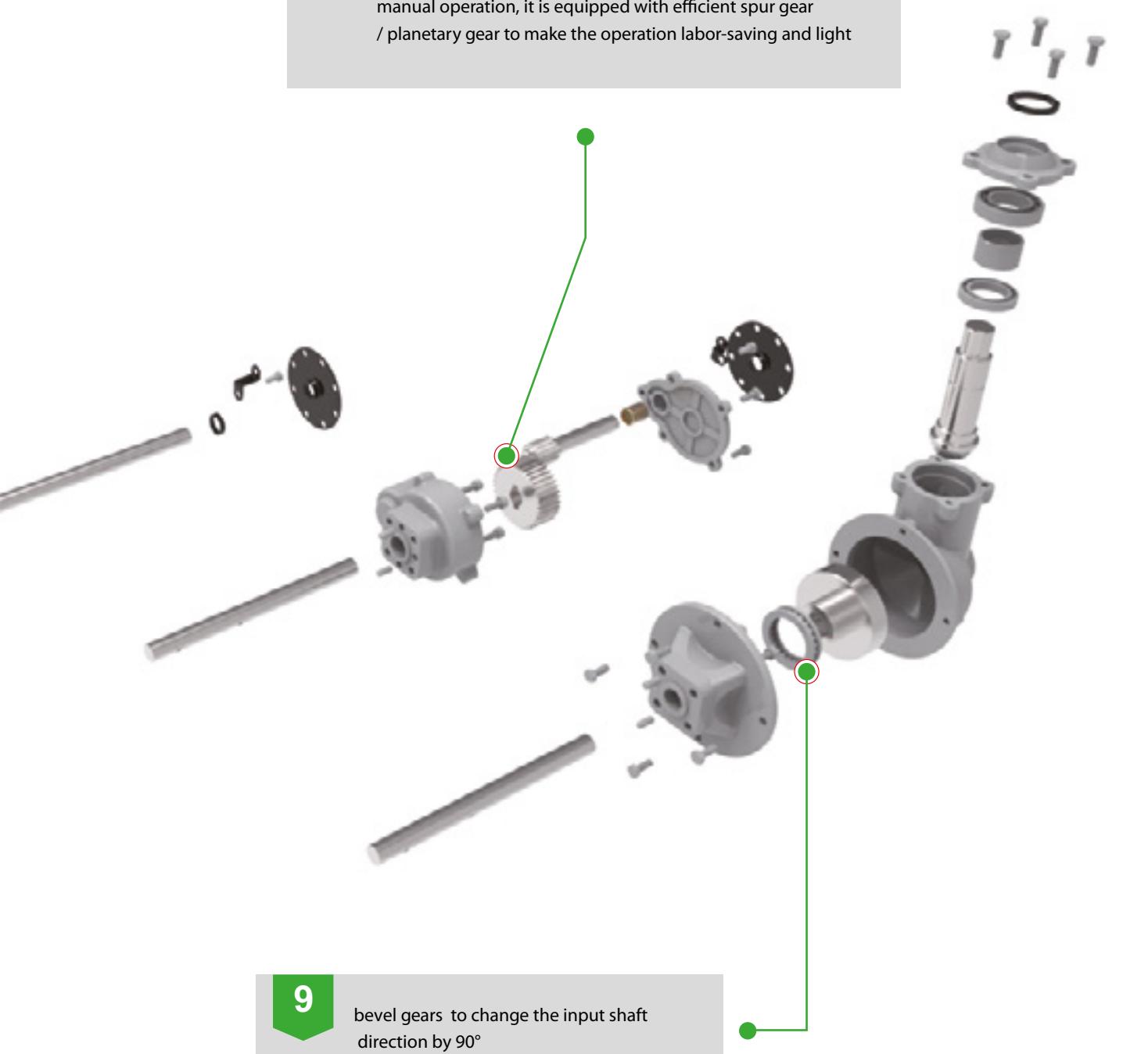
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The worm is made of 20CrMnTi material, carburized, Quenched and grinded, which is highly efficient, firm and wear-resistant



5

For products with large operating torque, when used for manual operation, it is equipped with efficient spur gear / planetary gear to make the operation labor-saving and light



9

bevel gears to change the input shaft direction by 90°

WBS Series Parameter Chart

Model	N·m	Ratio	N· m	M.A.	Valve Connection
WBS10	350	29	40	8.70	F05/F07
WBS20	520	37	47	11.10	F07/F10
WBS21	850	38	72	11.78	F10/F12/F14
WBS30	1350	40	109	12.40	F12/F14/F16
WBS55	2000	47	137	14.57	F14/F16
WBS66	2500	55	142	17.60	F14/F16/F20
WBS88	3000	61	159	18.91	F16/F20/F25
WBS99	3500	69	164	21.39	F20/F25
WBS88 -BR3.2	4000	167	89	45.09	F16/F20/F25
WBS99 -BR2.5	4500	153	105	42.85	F20/F25
WBS99 -BR3.2	5000	186	96	52.08	F20/F25
WBS195 -BR3.5	6500	182	128	50.96	F16/F20/F25
WBS295 -BR5	8500	295	103	82.60	F25/F30
WBS300 -BR6	11000	348	117	93.96	F25/F30
WBS680 -BR8	16000	519	114	140.13	(F30/F25)
WBS780 -BR11	23500	627	134	175.56	F30/F35
WBS980 -BR16	30000	959	116	258.93	F30/F35/F40
WBS1080 -BR21	36000	1110	116	310.80	(F30/F35)/F40
WBS1180 -PR29	55000	1658	123	447.66	F35/F40/F48
WBS1190 -PR35	70000	2228	116	601.56	F40/F48
WBS1280 -PR53	90000	2769	120	747.63	F40/F48
WBS1380 -PR53	120000	3621	127	941.46	F48/F60
WBS1380 -PR54	150000	3655	152	986.85	F48/F60
WBS1480 -BR126	300000	7317	158	1902.42	F60/F48
WBS1580 -BR146	600000	9533	242	2478.58	F60/F80

1. Left Input) **Standard**
 CW input-CW output is common
 standard Operating position
 "LC"



2. Left Input)
 CW input-CCW output Operating
 Operating position
 "LCC"



3. (Right Input)
 CW input-CW output is common
 standard Operating position
 "RC"

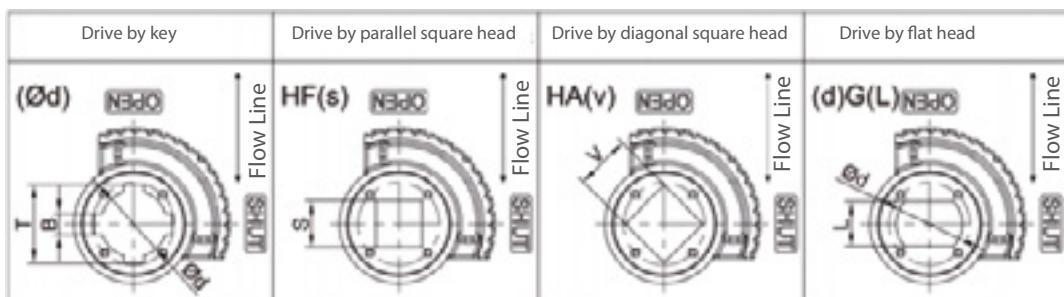


4. (Right Input)
 CW input-CW output is common
 standard Operating position
 "RCC"



Max. Bore d (mm)	Parallel square s (mm)	Diagonal square v (mm)	Handwheel diameter	RIM Effort(N)	Max. stem height (mm)	weight
20	13	18	200	402	57	2.3
28	20	26	200	468	57	3.6
36	26	34	300	481	63	6
45	33	43	350	622	85	12.5
50	36	51	400	686	91	13
55	43	54	500	568	89	14.5
65	47	59	500	635	105	23.7
70	55	66	500	655	106	28.5
65	47	59	500	355	105	27.4
70	55	66	500	420	106	35
70	55	66	500	384	106	35
80	54	68	600	425	117	37
90	63	75	600	343	141	57
95	70	82	600	390	145	64
110	88	103	600	381	148	90
130	98	117	600	446	175	126
140	101	119	700	331	178	169
145	115	137	700	331	180	220
180	125	152	700	351	205	276
200	147	173	700	332	210	365
210	163	186	700	344	225	430
260	217	234	700	364	257	530
260	217	234	700	434	257	750
310	219	239	800	394	312	1390
380	268	290	800	605	328	2500

Note: The Valve/Gearbox in the fully closed position



WBS Series

WBS Part-turn Gearbox Series

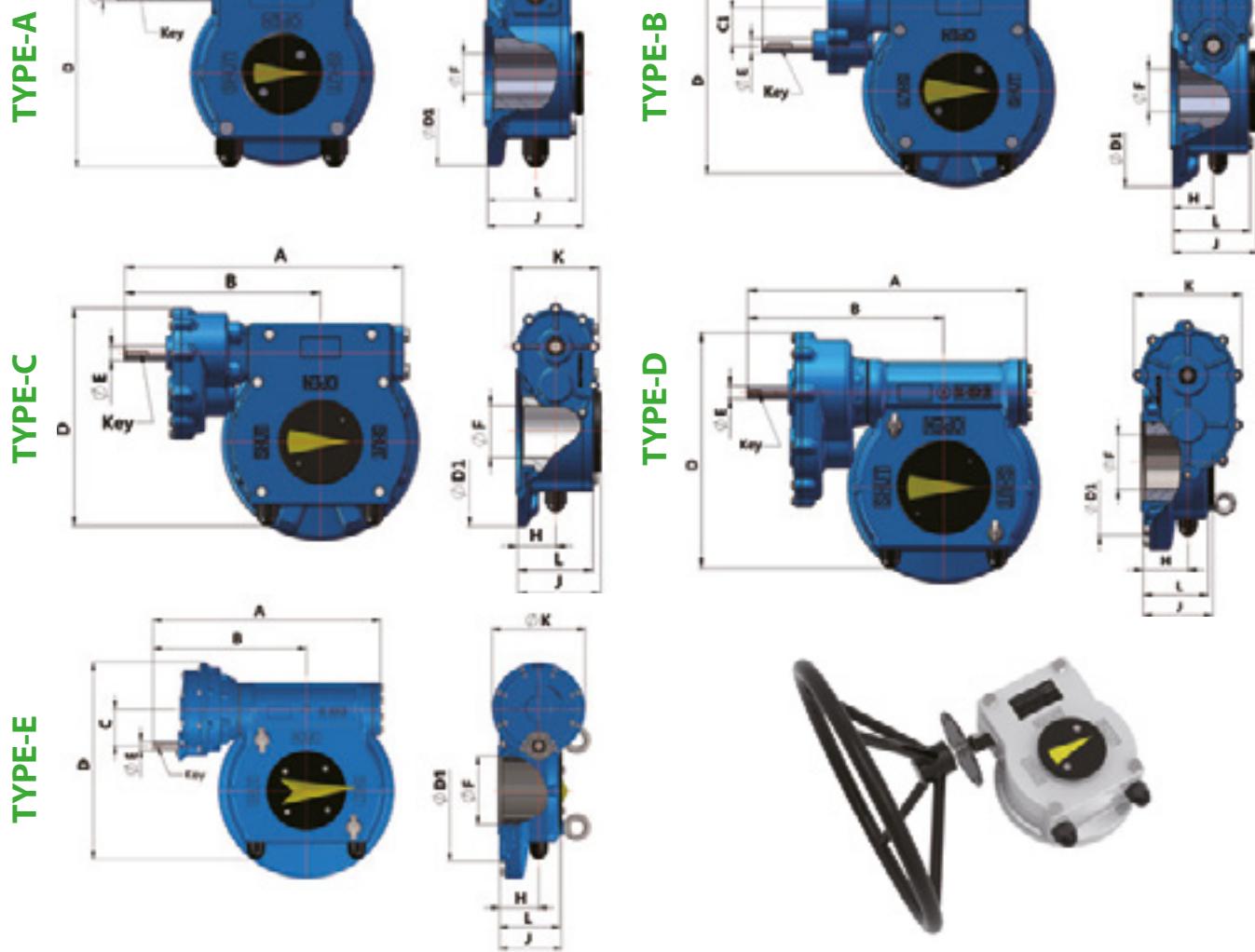
The WBGEARS Series' WBS' quarter-turn gear operators are rugged, industrial grade products manufactured with ductile iron .

Applications

WBS series operator are quarter-turn devices intended for the operation of ball, plug and butterfly valves. The gearboxes are suitable for manual application.

Features

- Padlockable handwheels
- Protected steel input shaft (stainless steel optional)
- 25 models up to 600000Nm in output.
- Standard Enclosure: IP67
- Temperature: -20°C to +80°C
- Stroke: 0-90° ($\pm 5^\circ$ adjustment)

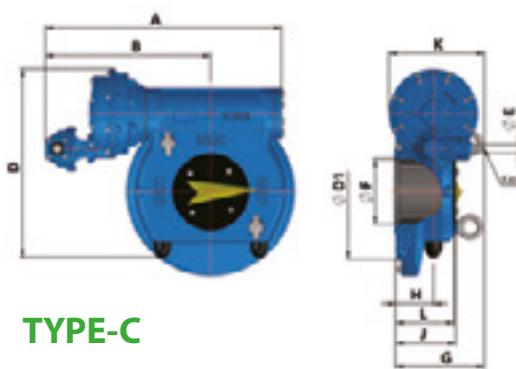
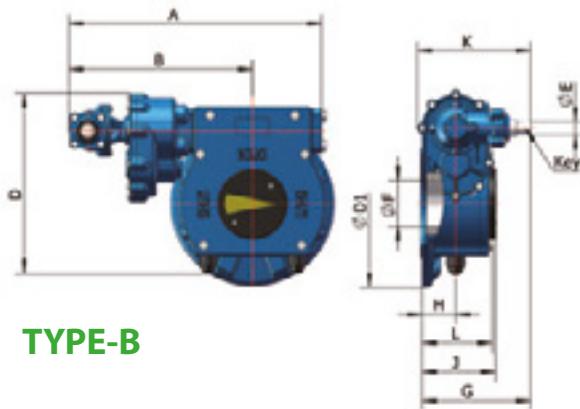
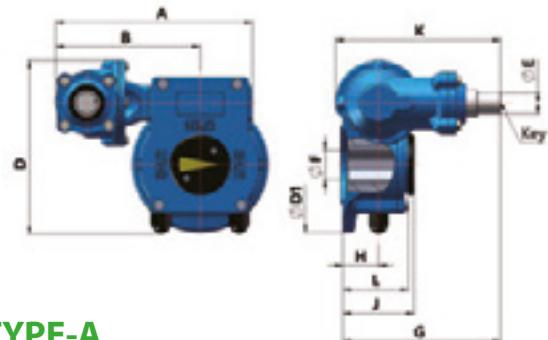




Type	Model	Valve Connection	D1	L _{max}	A	B	C1	D	K	H	J	E	key	Handwheel
A	WBS10	F05	65	57	167	125	-	122	-	29	64	15	6*20	200
		F07	90	57	167	125	-	122	-	29	64	15	6*20	200
	WBS20	F07	90	57	185	134	-	140	-	29	64	15	6*20	200
		F10	125	57	185	134	-	140	-	29	64	15	6*20	200
	WBS21	F10	125	68	200	142	-	162	-	36	74	15	6*20	300
		F12	150	63	200	142	-	162	-	31	71	15	6*20	300
		F14	175	73	216	150	-	162	-	41	79	15	6*20	300
	WBS30	F12	150	85	219	152	-	202	-	46	93	20	6*30	350
		F14	175	85	219	152	-	202	-	46	93	20	6*30	350
		F16	210	85	235	160	-	202	-	46	93	20	6*30	350
	WBS55	F14	175	91	241	163	-	223	-	50	99	20	6*30	400
		F16	210	91	241	163	-	223	-	50	99	20	6*30	400
		F14	175	89	248	170	-	237	-	51	97	20	6*30	500
	WBS66	F16	210	89	248	170	-	237	-	51	97	20	6*30	500
		F20	260	89	248	170	-	237	-	51	97	20	6*30	500
		F16	210	105	290	192	-	267	-	55	115	20	6*30	500
	WBS88	F20	260	108	290	192	-	267	-	58	118	20	6*30	500
		F25	300	105	290	192	-	267	-	55	115	20	6*30	500
		F20	260	106	300	202	-	290	-	55	113	20	6*30	500
	WBS99	F25	300	106	300	202	-	290	-	55	113	20	6*30	500
		F16	210	105	367	269	51	276	104	55	115	20	6*25	500
		F20	260	108	367	269	51	276	104	58	118	20	6*25	500
	WBS88-BR3.2	F25	300	105	367	269	51	276	104	55	115	20	6*25	500
		F16	210	105	367	269	51	290	104	55	113	20	6*25	500
		F20	260	108	367	269	51	290	104	55	113	20	6*25	500
B	WBS99-BR2.5/3.2	F25	300	106	367	269	51	290	104	55	113	20	6*25	500
		F20	260	106	367	269	51	290	104	55	113	20	6*25	500
	WBS195-BR3.5	F16	210	117	387	277	72	326	142	62	125	20	6*25	600
		F20	260	117	387	277	72	326	142	62	125	20	6*25	600
		F25	300	117	387	277	72	326	142	62	125	20	6*25	600
	WBS295-BR5	F25	300	141	455	313	90	385	212	70	153	25	8*25	600
		F30	350	141	455	313	90	385	212	70	153	25	8*25	600
	WBS300-BR6	F25	300	145	500	351	-	385	160	70	153	25	8*25	600
		F30	350	145	500	351	-	385	160	70	153	25	8*25	600
	WBS680-BR8	F30(F25)	350	148	563	383	-	424	160	71	156	25	8*25	600
	WBS780-BR11	F30	350	175	628	428	-	465	210	96	193	30	8*30	600
		F35	415	175	628	428	-	465	210	96	193	30	8*30	600
C	WBS980-BR16	F30	350	178	661	454	-	546	268	107	185	30	8*30	700
		F35	415	184	661	454	-	546	268	107	191	30	8*30	700
		F40	560	188	661	454	-	546	268	107	196	30	8*30	700
	WBS1080-BR21	F35(F30)	415	180	690	477	-	570	290	119	190	30	8*30	700
		F40	560	213	690	477	-	570	290	152	223	30	8*30	700
	WBS1180-PR29	F35	415	205	768	518	-	650	314	133	221	30	8*30	700
		F40	475	205	768	518	-	650	314	133	221	30	8*30	700
		F48	560	205	768	518	-	650	314	133	211	30	8*30	700
	WBS1190-PR35	F40	475	210	800	536	-	758	345	138	220	30	8*30	700
		F48	560	210	800	536	-	758	345	138	220	30	8*30	700
	WBS1280-PR53	F40	475	225	860	575	-	780	407	138	231	30	8*30	700
		F48	560	225	860	575	-	780	407	138	231	30	8*30	700
D	WBS1380-PR53	F48	560	257	945	615	-	995	407	158	265	40	12*50	700
		F60	686	257	945	615	-	995	407	158	265	40	12*50	700
	WBS1380-PR54	F48	560	257	1055	725	-	995	604	158	265	40	12*50	700
		F60	686	257	1055	725	-	995	604	158	265	40	12*50	700
	WBS1480-BR126	F60	686	321	1450	970	240	1150	547	210	330	40	12*50	800
		F80	900	321	1450	970	240	1150	547	210	330	40	12*50	800
	WBS1580-BR146	F60	686	416	1728	1148	360	1500	770	266	430	60	18*50	800
		F80	900	416	1728	1148	360	1500	770	266	430	60	18*50	800

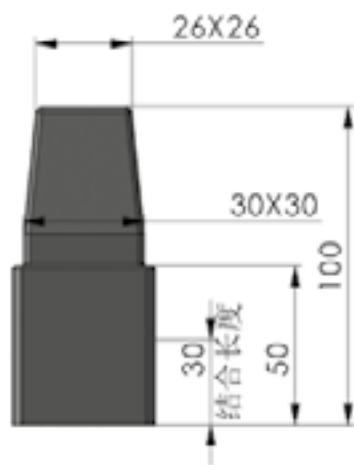
WBS-G Series

- Buried Application
- Handwheel, T-bar operation are available, customized high
- The torque is the same as the WBS series up to 600000Nm for larger torque size, please consult Weber
- Gearbox IP67 Seal
- Temperature: -20°C to +80°C
Stroke: 0-90° ($\pm 5^\circ$ adjuschart)



T-shaped lever

Pipe network connection
square head

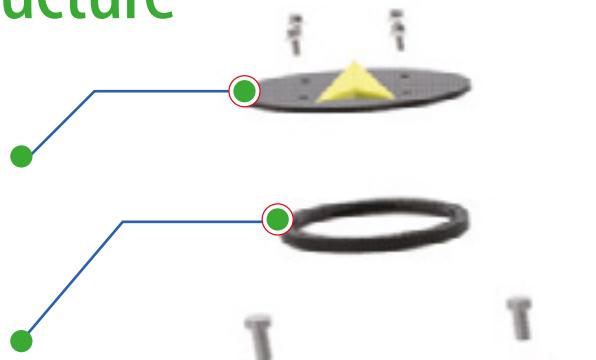


TYPE	Technical data						Dimensions												
	Model	ratio	Bore Max	Output	Input	M.A. ±10%	Valve Connection	D1	L max	A	B	D	E	H	J	G	K	key	Handwheel
								Nm											
A	WBS20-SR0.5	46:1	28	520	50	10	F07	90	57	185	134	167	20	29	64	160	180	6*20	200
							F10	125	57	185	134	167	20	29	64	160	180	6*20	200
	WBS21-SR0.5	47:1	36	850	75	11	F10	125	68	200	142	186	20	36	74	167	180	6*20	300
							F12	150	63	200	142	186	20	31	71	162	180	6*20	300
							F14	175	73	216	150	186	20	41	79	172	180	6*20	300
	WBS30-SR1	62:1	45	1350	90	15	F12	150	85	219	152	223	28	46	93	203	212	8*30	350
							F14	175	85	219	152	223	28	46	93	203	212	8*30	350
							F16	210	85	235	160	223	28	46	93	203	212	8*30	350
	WBS55-SR1	72:1	50	2000	115	17	F14	175	91	241	163	243	28	50	99	206	212	8*30	400
							F16	210	91	241	163	243	28	50	99	206	212	8*30	400
B	WBS66-SR1	85:1	55	2500	125	20	F14	175	89	248	170	250	28	51	97	208	208	8*30	500
							F16	210	89	248	170	250	28	51	97	208	208	8*30	500
	WBS88-SR2	128:1	65	4000	150	27	F16	210	105	367	269	303	28	55	115	234	258	8*30	500
							F20	260	108	367	269	303	28	58	118	234	258	8*30	500
							F25	300	105	367	269	303	28	55	115	234	258	8*30	500
	WBS99-SR2	143:1	70	5000	146	34	F20	260	106	377	279	325	28	95	113	234	258	8*30	500
							F25	300	106	377	279	325	28	95	113	234	258	8*30	500
							F16	210	117	391	281	333	28	62	125	241	258	8*30	600
	WBS195-SR2	128:1	80	6500	241	27	F20	260	117	391	281	333	28	62	125	241	258	8*30	600
							F25	300	117	391	281	333	28	62	125	241	258	8*30	600
C	WBS295-SR4	263:1	90	8500	135	63	F25	300	141	455	313	449	28	70	153	280	324	8*30	600
							F30	350	141	455	313	449	28	70	153	280	324	8*30	600
	WBS300-SR4	232:1	95	9500	190	50	F25	300	145	500	351	420	28	70	153	280	324	8*30	600
							F30	350	145	500	351	420	28	70	153	280	324	8*30	600
	WBS300-BR6-SR1	535:1	95	11000	79	139	F25	300	145	500	351	385	28	70	153	249	260	8*30	600
							F30	350	145	500	351	385	28	70	153	249	260	8*30	600
	WBS680-BR6-SR1	572:1	110	16000	99	162	F25	300	148	563	383	424	28	71	156	250	260	8*30	600
							F30	350	148	563	383	424	28	71	156	250	260	8*30	600
	WBS780-BR11-SR2	1093:1	130	23500	83	283	F30	350	175	666	475	474	28	96	193	275	284	8*30	600
							F35	415	175	666	475	474	28	96	193	275	284	8*30	600
D	WBS980-BR16-SR2	1328:1	140	30000	81	370	F30	350	178	709	502	552	28	107	185	286	313	8*30	600
							F35	415	184	709	502	552	28	107	191	286	313	8*30	600
							F40	475	188	709	502	552	28	107	196	286	313	8*30	600
	WBS1080-BR21-SR2	1550:1	145	36000	86	419	F35(F30)	415	180	715	512	572	28	119	190	298	323	8*30	600
							F40	475	213	715	512	572	28	119	223	298	323	8*30	600
	WBS1180-PR29-SR2	2463:1	180	55000	86	640	F35	415	205	817	567	663	28	133	221	312	336	8*30	600
							F40	475	205	817	567	663	28	133	221	312	336	8*30	600
							F48	560	205	817	567	663	28	133	211	312	336	8*30	600
	WBS1190-PR35-SR2	2692:1	200	70000	96	729	F40	475	210	837	585	758	28	138	220	317	351	8*30	600
							F48	560	210	837	585	758	28	138	220	317	351	8*30	600
E	WBS1280-PR53-SR2	4010:1	210	90000	80	1125	F40	475	225	909	624	787	28	138	231	317	382	8*30	600
							F48	560	225	909	624	787	28	138	231	317	382	8*30	600
	WBS1380-PR53-SR2	5244:1	260	120000	85	1411	F48	560	257	816	626	995	28	158	265	337	481	8*30	600
							F60	686	257	816	626	995	28	158	265	337	481	8*30	600
	WBS1380-PR54-SR2	5284:1	260	150000	105	1428	F48	560	257	1078	626	995	28	158	265	337	481	8*30	600
							F60	686	257	1078	626	995	28	158	265	337	481	8*30	600
	WBS1480-BR126-SR2	10101:1	310	300000	110	2727	F48	560	321	1530	1020	1150	28	210	330	389	453	8*30	600
							F60	686	321	1530	1020	1150	28	210	330	389	453	8*30	600
	WBS1580-BR146-SR2	18518:1	380	600000	120	5000	F60	686	416	1777	1200	1500	28	266	430	445	564	8*30	600
							F80	900	416	1777	1200	1500	28	266	430	445	564	8*30	600

WQG Series Product Structure

1

All series are equipped with steel indicator, strong and beautiful



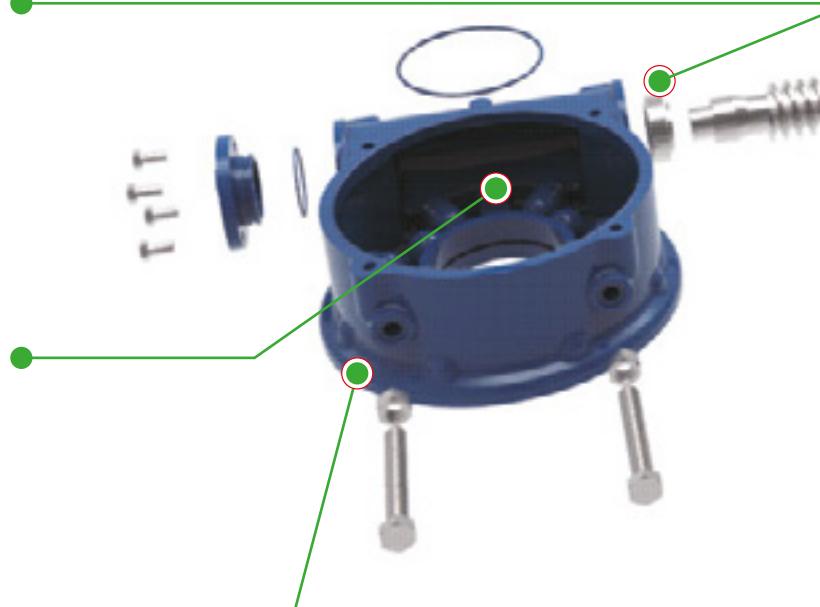
2

Skeleton oil seal is more reliable and durable than O-ring



4

High precision grinding worm and tapered roller bearing are closely matched, which can significantly improve the transmission efficiency



6

The cover of the worm gear box and the secondary reduction box is made of cast steel, and each joint part is sealed with O-ring or skeleton oil seal, and sealed to IP67

7

The valve connection is designed according to ISO5211-2017 standard, which is convenient for users to match



5

For the products with large operating torque
the high-efficiency spur gear/ planetary
gear is configured to effectively reduce
the input torque



8

Input flanges for motorisation

WQG Series

WQG Part-turn Gearbox Series

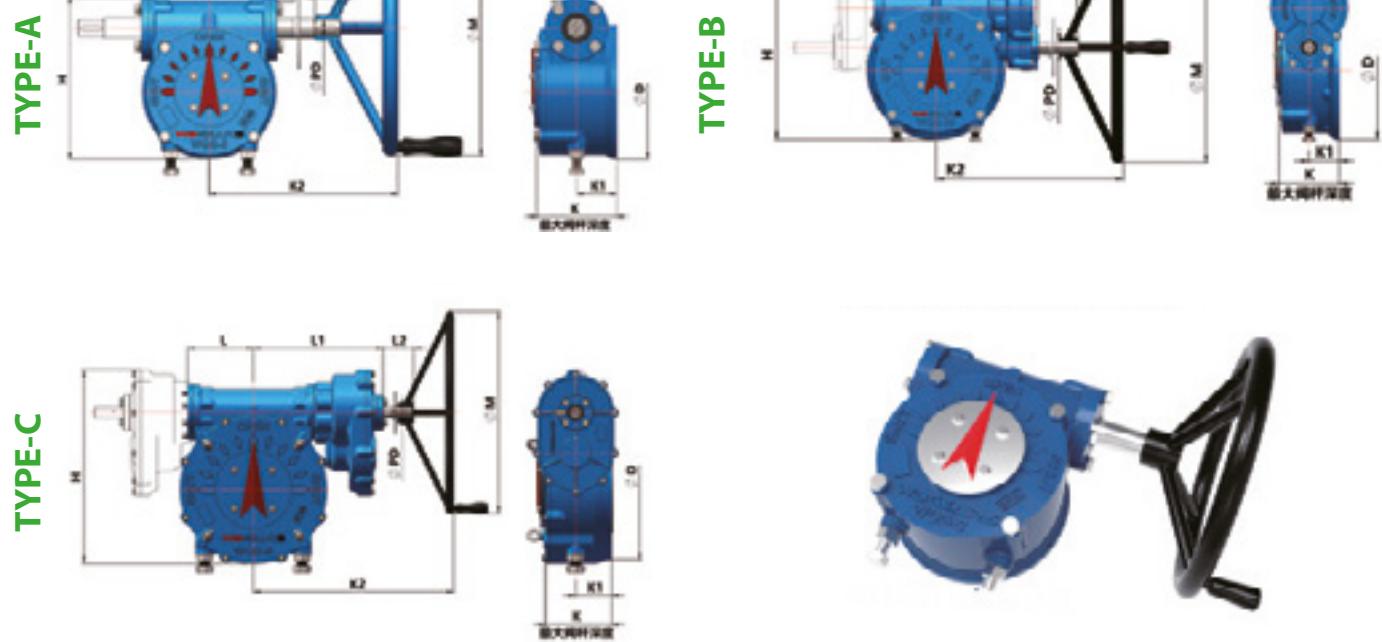
WQG series gear box, cast steel box, solid structure, meet the requirements of industrial grade. The products use high performance tapered roller bearings, which are suitable for chemical industry, power plants, water plants, heating equipment and most industrial fields.

Applications

WQG series gearboxes provide a variety of connection flange options, suitable for ball valves, butterfly valves, plug valves

Features

- Totally enclosed gear transmission
- Worm supported by round chain roller bearings
- 16 models up to 120000Nm.
- Standard Enclosure:IP67
- Temperature: -20°C to +80°C
- Stroke: 0-90° ($\pm 5^\circ$ adjustment)



T Y P E	Technical parameter						Valve Connection	外形尺寸 Dimensions											
	Model	ratio	BoreMax	Output	Input	M.A. ±10%		D	H	K max	K1	K2	L	L1	L2	PD	Key	Handwheel	
Nm																			
A	WQG-00	38:1	40	1500	127	12	F12(F10)	150	190	95	46	250	86	170	35	20	6	350	
	WQG-1	44:1	50	2000	146	14	F14(F12)	175	212	106	55	270	96	180	35	20	6	400	
	WQG-2	52:1	60	2600	156	16	F16(F14)	210	255	125	63	306	107	206	40	25	8	500	
B	WQG-2S	158:1	60	3500	76	46	F16(F14)	210	286	125	63	361	107	191	80	25	8	400	
	WQG-3	164:1	75	4500	100	46	F20(F16)	260	331	122	59	386	122	206	80	25	8	500	
	WQG-35	224:1	80	6500	100	65	F25(F20-F16)	300	369	131	66	400	136	220	80	25	8	500	
C	WQG-4	340:1	100	10500	106	99	F25(F20-F16)	300	401	153	72	469	150	284	80	25	8	600	
	WQG-5	420:1	115	15000	123	122	F30(F25)	350	450	160	77	491	172	306	80	25	8	600	
	WQG-55	855:1	125	23500	123	250	F30(F25)	350	515	163	79	548	182	356	87	30	8	600	
C	WQG-6	892:1	140	32000	128	260	F35(F30)	415	515	204	107	576	196	387	87	30	8	600	
	WQG-65	1064:1	140	40000	133	299	F35(F30)	415	576	204	107	576	196	387	87	30	8	600	
	WQG-7	1360:1	180	51000	134	383	F40(F35)	475	576	224	122	632	233	445	87	30	10	700	
C	WQG-75	1765:1	190	64000	134	574	F40	560	788	235	122	705	248	491	90	30	10	700	
	WQG-8	2128:1	210	81000	140	574	F48(F40)	686	855	257	140	734	290	547	87	30	10	800	
	WQG-85	2634:1	210	100000	140	714	F48(F40)	686	855	257	140	734	290	547	87	30	10	800	
D	WQG-9	2941:1	250	120000	151	764	F48	560	925	268	135	766	332	579	87	30	10	800	
							F60	686											

WQG-D Series

WQG-D series gear box, used with electric actuator, cast steel box, solid structure, meet the requirements of industrial grade.

The products use high performance tapered roller bearings, which are suitable for chemical industry, power plants, water plants, heating equipment and most industrial fields.



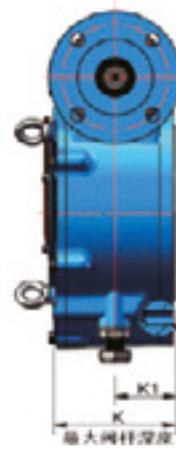
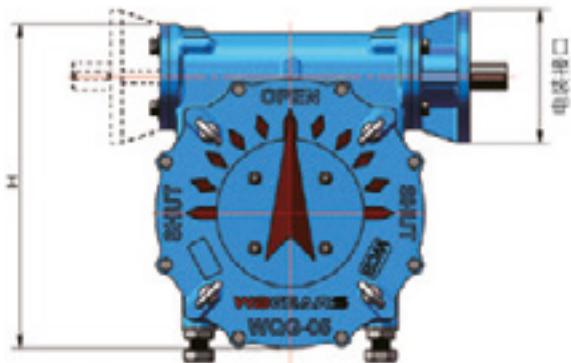
Applications

WQG-D series gearboxes provide a variety of connection flange options, suitable for Ball valve, butterfly valve, plug valve

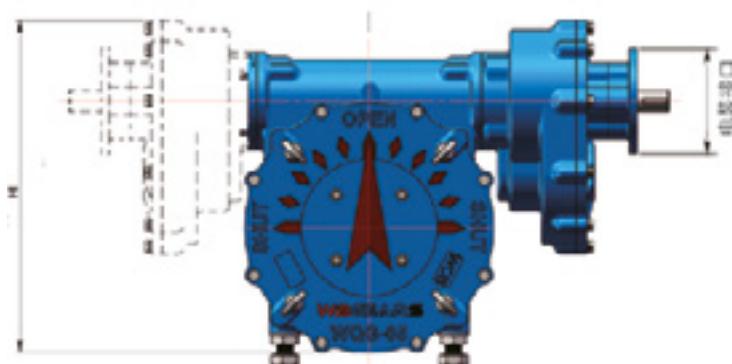
Features

- With different spur gear reducers to achieve different Ratio
- Input flanges are available
- 16 models up to 120000Nm.
- Standard Enclosure:IP67
- Temperature: -20°C to +80°C
- Stroke: 0-90° ($\pm 5^\circ$ adjustment)

TYPE-A



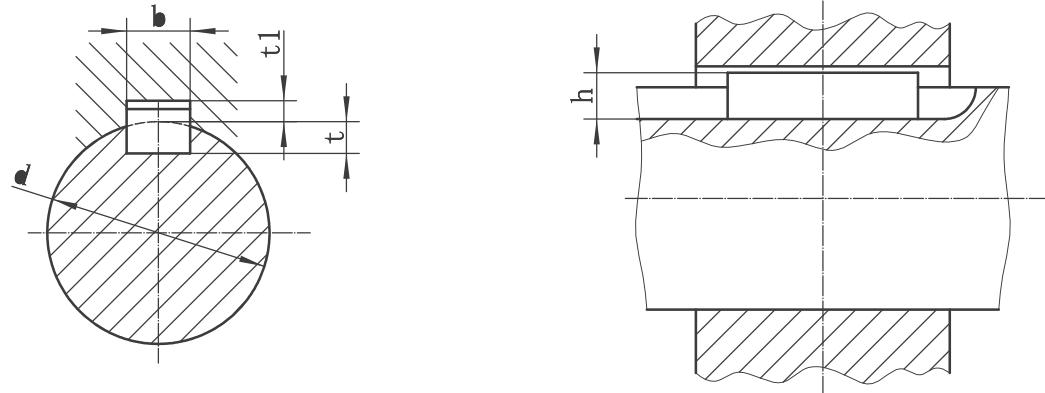
TYPE-B



Type	Model	Valve Connection	Max. Stem Value	Ratio	Motorised Selection				
					Input (N.m)	Output (N.m)	M.A.(±15%)	JB2920	ISO5210
A	W Q G-00D	F12[F10]	40	38:1	150	1500	10	Z10	F10
B	W Q G-00SD			76:1	68	1500	22	Z10	F10
				99:1	48	1350	28	Z10	F10
A	W Q G-1D	F14[F12]	50	44:1	150	2000	13	Z15	F14
B	W Q G-1SD			88:1	81	2000	25	Z10	F10
				114:1	68	2000	29	Z10	F10
A	W Q G-2D	F16[F14]	60	52:1	200	3000	15	Z20	F14
				106:1	100	3000	30	Z10	F10
				125:1	100	3500	35	Z10	F10
B	W Q G-2SD			158:1	81	3500	43	Z10	F10
				208:1	60	3500	58	Z10	F10
				260:1	48	3500	73	Z10	F10
				312:1	40	3500	88	Z10	F10
A	W Q G-3D	F20[F16]	75	54:1	300	4500	15	Z30	F14
				110:1	150	4500	30	Z15	F14
				130:1	125	4500	36	Z15	F14
B	W Q G-3SD			164:1	100	4500	45	Z10	F10
				216:1	81	4500	56	Z10	F10
				234:1	68	4500	66	Z10	F10
				270:1	60	4500	75	Z10	F10
				324:1	48	4500	94	Z10	F10
A	W Q G-35D	F25[F20-F16]	80	56:1	450	7000	16	Z45	F14/F16
				114:1	200	6500	33	Z20	F14
				135:1	176	6500	37	Z20	F14
				160:1	150	6500	43	Z15	F14
B	W Q G-35SD			170:1	150	7000	47	Z15	F14
				208:1	108	6500	60	Z10	F10
				224:1	100	6500	65	Z10	F10
				243:1	100	6500	65	Z10	F10
				280:1	81	6500	80	Z10	F10
				336:1	68	6500	96	Z10	F10
A	W Q G-4D	F25[F20-F16]	100	56:1	600	10000	17	Z60	F16
				126:1	300	10500	35	Z30	F14
				167:1	200	9500	48	Z20	F14
				179:1	200	10500	53	Z20	F14
C	W Q G-4SD			196:1	150	8500	57	Z15	F14
				243:1	150	10500	70	Z15	F14
				340:1	108	10500	97	Z10	F10
				392:1	100	10500	105	Z10	F10
				429:1	81	10500	130	Z10	F10
				672:1	48	9000	188	Z10	F10
A	W Q G-5D	F30[F25]	115	60:1	900	15000	17	Z90	F25
				118:1	450	15000	33	Z45	F14
C	W Q G-5SD			145:1	400	15000	38	Z30	F14
				179:1	300	15000	50	Z30	F14
				223:1	250	15000	60	Z30	F14

Type	Model	Valve Connection	Max.Bore	Ratio	Motorised selection						
					Input(N.m)	Output (N.m)	M.A.(±10%)	JB2920	ISO5210		
C	W Q G - 5 S D	F30[F25]	115	242:1	230	15000	65	Z30	F14		
				260:1	200	15000	75	Z20	F14		
				302:1	180	15000	83	Z20	F14		
				420:1	130	15000	115	Z15	F14		
				495:1	100	14000	140	Z10	F10		
A	W Q G - 5 S D	F30[F25]/F35	125	57:1	1200	20500	17	Z120	F25		
C	W Q G - 5 S D			148:1	600	23500	39	Z60	F16		
				170:1	450	21500	48	Z45	F16		
				197:1	450	23500	52	Z45	F16		
				229:1	300	20000	67	Z30	F14		
				247:1	300	21000	70	Z30	F14		
				285:1	300	23500	78	Z30	F14		
				310:1	250	22000	88	Z30	F14		
				345:1	200	20000	100	Z20	F14		
				392:1	200	22000	110	Z20	F14		
				430:1	200	23500	118	Z20	F14		
				475:1	150	20000	133	Z15	F14		
				556:1	150	23500	157	Z15	F14		
				855:1	100	23500	235	Z10	F10		
A	W Q G - 6 D	F35[F30]/F40	140	64:1	1800	32000	18	Z180	F30		
C	W Q G - 6 S D			128:1	900	32000	36	Z90	F25		
				163:1	700	32000	46	Z90	F25		
				224:1	500	32000	64	Z60	F16		
				256:1	450	32000	71	Z45	F16		
				320:1	300	27000	90	Z30	F14		
				399:1	300	32000	107	Z30	F14		
				576:1	200	32000	160	Z20	F14		
				661:1	150	28000	187	Z15	F14		
				703:1	150	30000	200	Z15	F14		
				778:1	150	32000	213	Z15	F14		
				892:1	125	32000	256	Z15	F14		
				1021:1	108	32000	296	Z15	F10		
A	W Q G - 6 5 D	F35[F30]/F40	140	54:1	2500	40000	16	Z250	F30		
C	W Q G - 6 5 S D			122:1	1200	40000	33	Z120	F25		
				166:1	900	40000	44	Z90	F25		
				216:1	600	36000	60	Z60	F25		
				248:1	600	40000	67	Z60	F16		
				337:1	450	40000	89	Z45	F16		
				354:1	400	40000	100	Z45	F16		
				486:1	300	40000	133	Z30	F14		
				558:1	244	38000	156	Z30	F14		
				656:1	203	37000	182	Z20	F14		
				753:1	176	37000	210	Z20	F14		
				861:1	150	36000	240	Z20	F14		
A	W Q G - 7 D	F40[F35]	180	68:1	2500	51000	20	Z250	F30		
C	W Q G - 7 S D			105:1	1800	51000	28	Z180	F25		
				154:1	1200	51000	43	Z120	F25		

Type	Model	Valve Connection	Max.Bore	Ratio	Motorised selection				
					Input(N.m)	Output (N.m)	M.A.(±10%)	JB2920	ISO5210
C	W Q G - 7SD	F40[F35]	180	154:1	1200	51000	43	Z120	F25
				209:1	900	51000	57	Z90	F25
				223:1	600	38000	63	Z90	F16
				272:1	600	46000	77	Z60	F16
				313:1	600	51000	85	Z60	F16
				354:1	450	45000	100	Z45	F16
				415:1	450	51000	113	Z45	F16
				578:1	300	48000	160	Z30	F14
				605:1	300	51000	170	Z30	F14
				735:1	250	51000	204	Z30	F14
				911:1	200	51000	255	Z20	F14
				1360:1	108	41000	380	Z10	F10
				1541:1	108	47000	435	Z10	F10
A	W Q G - 7D			65:1	3500	64000	18	Z350	F30
C	W Q G - 75SD	F40	190	129:1	1800	64000	36	Z180	F25
				193:1	1200	64000	53	Z120	F25
				259:1	900	64000	71	Z90	F25
				338:1	600	57000	95	Z60	F16
				380:1	600	64000	107	Z60	F16
				453:1	450	57000	127	Z45	F16
				515:1	450	64000	142	Z45	F16
				788:1	300	64000	213	Z30	F14
				1181:1	200	64000	320	Z20	F14
				1340:1	176	64000	364	Z15	F14
				1570:1	150	64000	427	Z15	F14
				1765:1	130	64000	492	Z15	F14
A	W Q G - 8D			62:1	3500	65000	19	Z350	F30
C	W Q G - 8SD	F48[F40]	210	240:1	1200	81000	68	Z120	F25
				322:1	900	81000	90	Z90	F25
				496:1	600	81000	135	Z60	F16
				635:1	450	81000	180	Z45	F16
				948:1	300	81000	270	Z30	F14
				1460:1	200	81000	405	Z20	F14
				1991:1	150	81000	540	Z15	F14
				2128:1	135	81000	600	Z15	F14
A	W Q G - 85D			55:1	5000	83000	17	Z500	F30
C	W Q G - 85SD	F48[F40]	210	194:1	1800	98000	54	Z180	F30
				301:1	1200	100000	83	Z120	F25
				393:1	900	100000	111	Z90	F25
				602:1	600	100000	167	Z60	F16
				824:1	450	100000	222	Z45	F16
				1220:1	300	100000	333	Z30	F14
				1767:1	200	100000	500	Z20	F14
				1888:1	190	100000	526	Z20	F14
A	W Q G - 9D			64:1	5000	96000	19	Z500	F30
C	W Q G - 9SD	F60[F48]	250	365:1	1200	125000	104	Z120	F25
				486:1	900	125000	139	Z90	F25
				576:1	750	120000	160	Z90	F16
				770:1	600	125000	208	Z60	F16
				1010:1	450	125000	278	Z45	F16
				2280:1	200	125000	625	Z20	F14
				2941:1	150	125000	833	Z15	F14

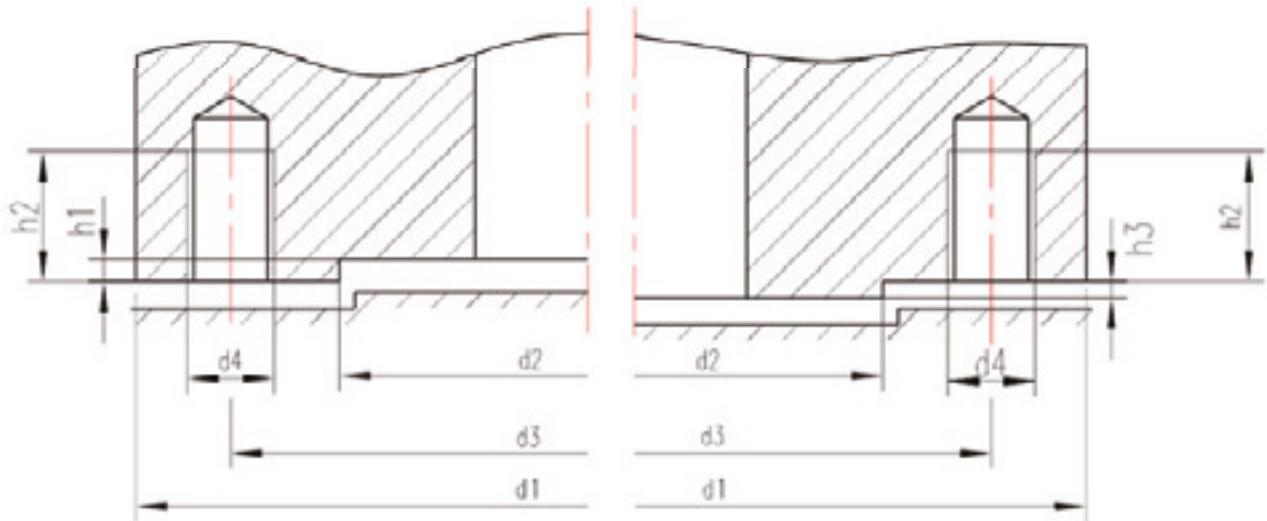


Shaft diameter	Key	keyway										r	
		Nominal diameter	bxh	b					Axis		t1		
				H9	D10	N8	JS9	F9					
6~8	2x2	2	0.03	0.06	-0.004		±	-0.006	1.2		1		
>8~10	3x3	3	0	0.02	-0.029	0.0125	-0.031	1.8		0.1	1.4	0.08 0.25	
>10~12	4x4	4	0.03	0.08	0		-0.012	2.5		0	1.8	0.1 0	
>12~17	5x5	5	0	0.03	-0.03	±0.015	-0.042	3			2.3		
>17~22	6x6	6						3.5			2.8	0.16 0.25	
>22~30	8x7	8	0.04	0.1	0	±0.018	-0.015	4			3.3		
>30~38	10x8	10	0	0.04	-0.036		-0.051	5			3.3		
>38~44	12x8	12						5			3.3		
>44~50	14x9	14	0.04	0.12	0	±	-0.018	5.5			3.8	0.25 0.4	
>50~58	16x10	16	0	0.05	-0.043	0.0215	-0.061	6			4.3		
>58~65	18x11	18						7	0.2	0	4.4	0.2 0	
>65~75	20x12	20						7.5			4.9		
>75~85	22x14	22	0.05	0.15	0	±0.0026	0.03	9			5.4		
>85~95	25x14	25	0	0.07	-0.052		0	9			5.4	0.4 0.6	
>95~110	28x16	28						10			6.4		
>110~130	32x18	32						11			7.4		
>130~150	36x20	36						12			8.4		
>150~170	40x22	40	0.06	0.18	0	±0.031	-0.026	13			9.4	0.7 1	
>170~200	45x25	45	0	0.08	-0.062		-0.088	15			10.4		
>200~230	50x28	50						17			11.4		
>230~260	56x32	56						20	0.3	0	12.4	0.3 0	
>260~290	63x32	63	0.07	0.22	0	±0.037	0.032	20			12.4	1.2 1.6	
>290~330	70x36	70	0	0.1	-0.074		0.106	22			14.4		
>330~380	80x40	80						25			15.4		
>380~440	90x45	90	0.09	0.26	0	±	-0.037	28			17.4	2 2.5	
>440~500	100x50	100	0	0.12	-0.087	0.0135	-0.124	31			19.5		

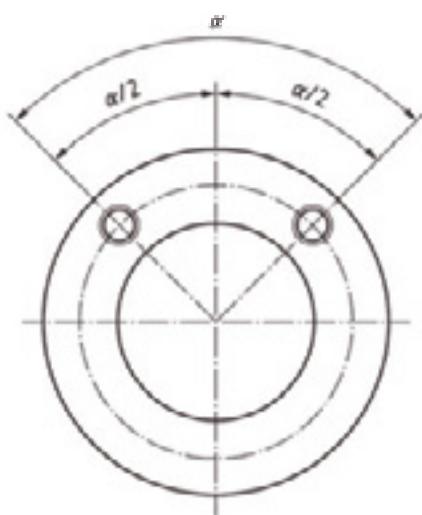
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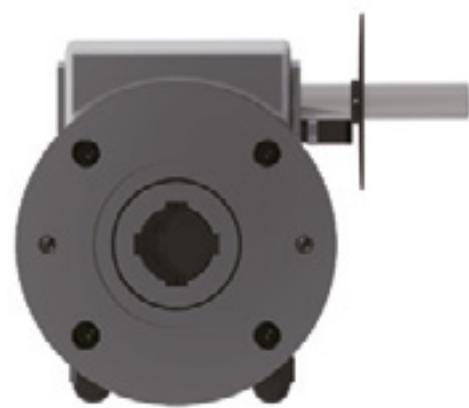
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-1996**



WBGEARS Connection-size								
Flange	d1	d2	d3	h3	h1	d4	h2	Dowel pin
F05	65	35	50	2.5	3	4-M6	9	-
F07	90	55	70	2.5	3	4-M8	12	-
F10	125	70	102	2.5	3	4-M10	15	10-8
F12	150	85	125	2.5	3	4-M12	18	10-8
F14	175	100	140	3	4	4-M16	24	12-9
F16	210	130	165	3	5	4-M20	30	12-9
F20	260	160	200 (225)	3	5	8-M16	24	12-9
F25	300	200	254	3	5	8-M16	24	16-13
F30	350	230	298	3	5	8-M20	30	20-13
F35	415	260	356	3	5	8-M30	45	25-13
F40	475	300	406	5	8	8-M36	54	25-13
F48	560	370	483	5	8	12-M36	54	25-13
F60	686	470	603	5	8	20-M36	54	30-15
F80	900	670	813	8	10	20-M42	63	30-15
F100	1200	870	1042	8	10	32-M42	63	35-20



Flange type	$\alpha/2$
F05-F16	45°
F25-F40	22.5°
F48	15°
F60-F80	9°
F100	5.625°



WBS series is limited to 2 locating pin holes in the figure

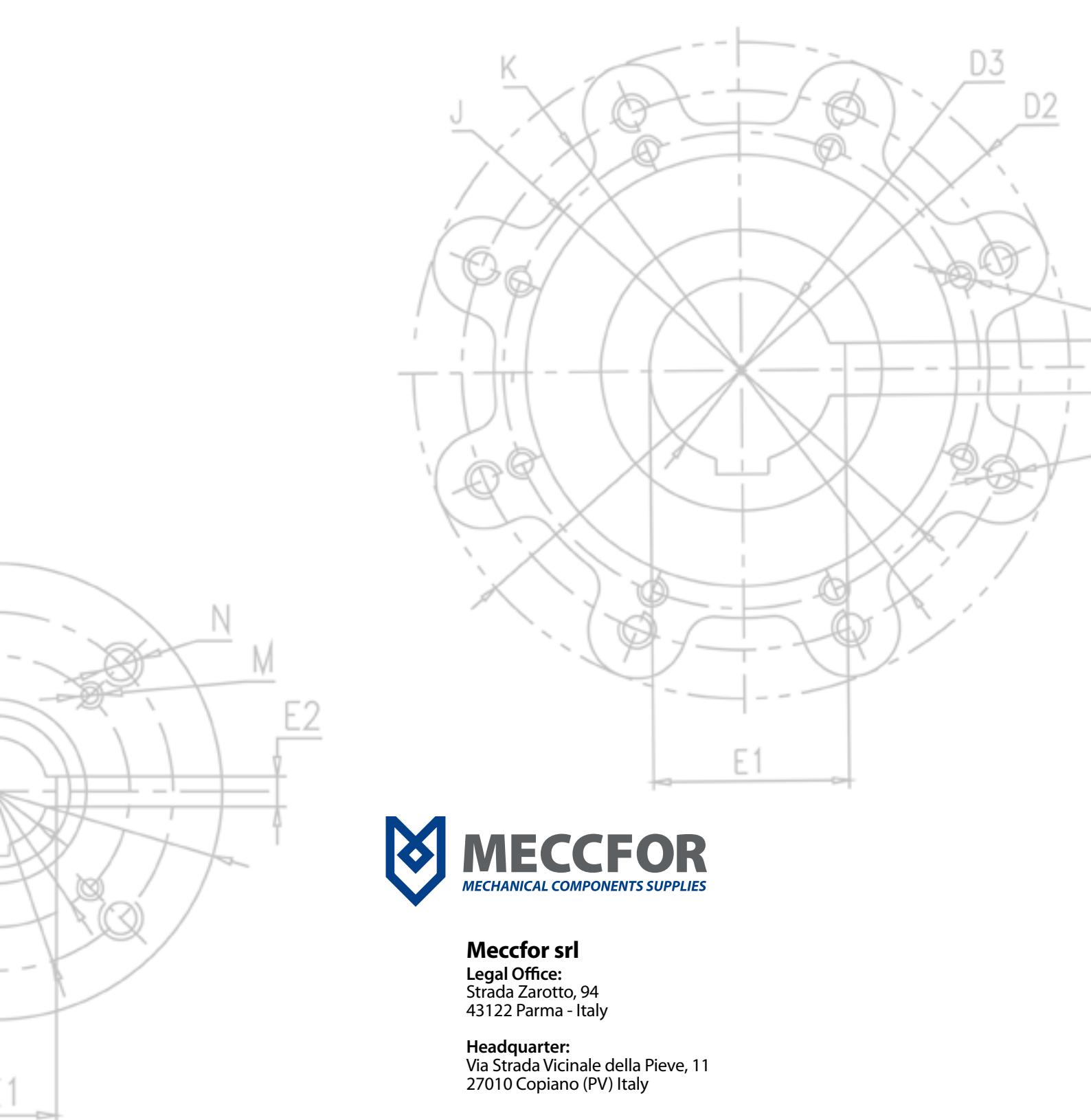


MECCFOR

MECHANICAL COMPONENTS SUPPLIES

Notes





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