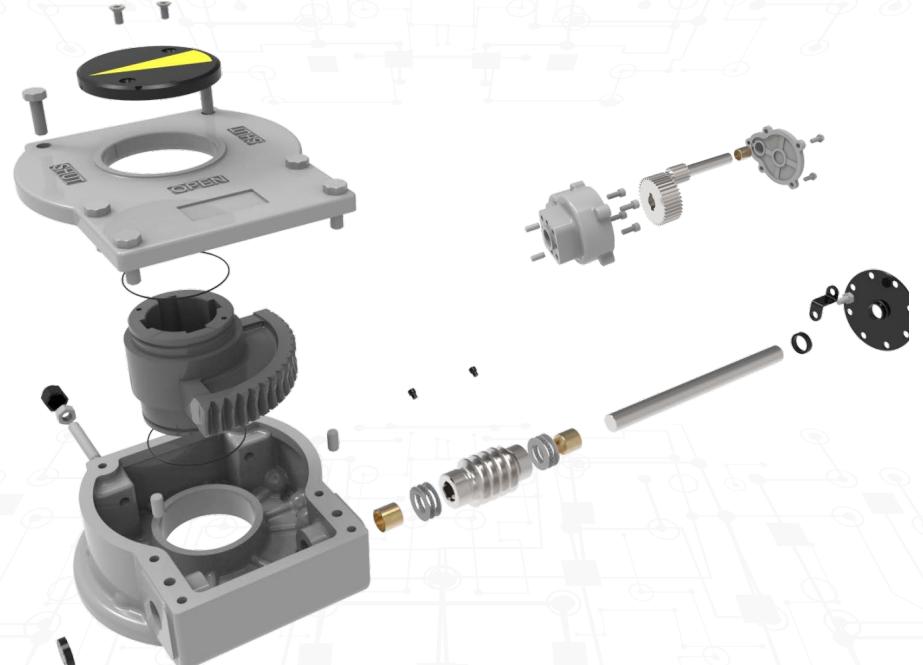


D	d	E	H	H1	M
Ø700	28	16	150	50	50
Ø600	25	16	150	50	50
Ø500	25	16	150	45	40
Ø400	20	16	130	40	40
Ø350	20	16	115	40	40
Ø300	20	16	105	35	40
Ø200	16	16	80	35	30

FORMULAS

- MECHANICAL ADVANTAGE=OUTPUT TORQUE/INPUT TORQUE
=(GEAR RATIO X 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)
/HANDWHEEL DIAMETER(m)
- HANDWHEEL DIAMETER(m) =INPUT TORQUE X 2(N.m)
/HANDWHEEL RIM EFFORT(N)
- OPERATING TIME(SEC)=(RATIO X 60/RPM)/4

Quarter-turn Gearboxes



WBS Series

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

Application

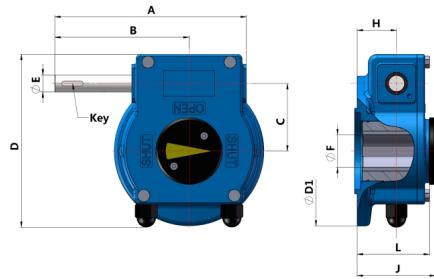
WBGEARS WQG-D series operator are quarter-turn devices intended for the operation of ball, plug and butterfly valves. The gearboxes are suitable for manual application.

Features

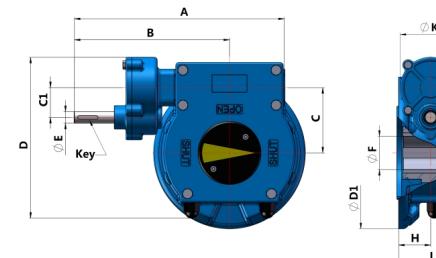
- Padlockable handwheel
- Protected steel input shaft
- 15 models up to 90000NM in output
- Enclosure: IP67
- Temperature: -20°C~120°C
- Stroke: 0-90° (±5°adjustable)



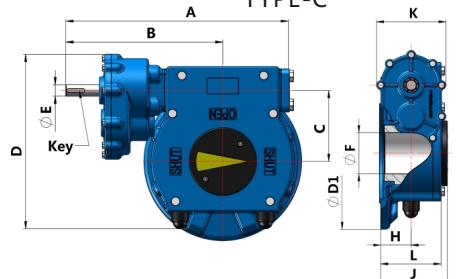
TYPE-A



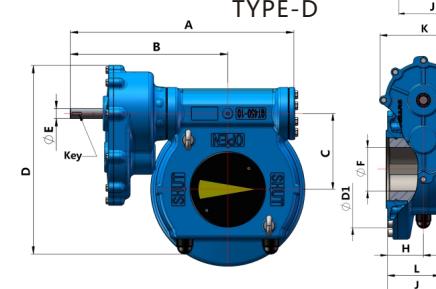
TYPE-B



TYPE-C



TYPE-D



- The WBGEARS gearboxes are virtually maintenance-free, without visual grease leakage, neither grease change nor seal replacement nor relubrication is required.

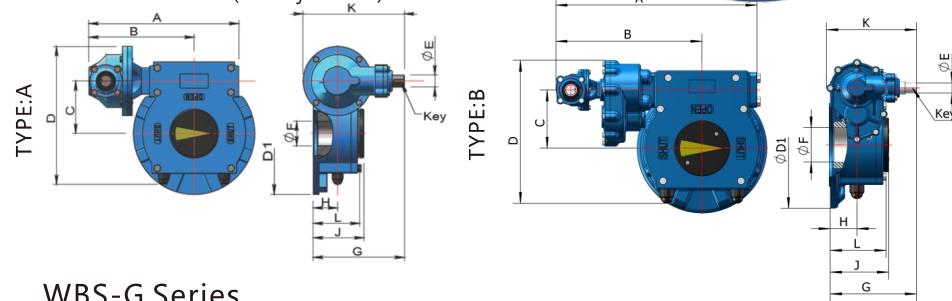
TYPE	Model	Ratio	Max. Stem Dia.	TECHNICAL DATA			APPEARANCE SIZE													
				output torque Nm	input	M.A. ±15%	Flange	D1	L _{max}	A	B	C	C1	D	K	H	J	E	Key	hand wheel
A	WBS10	44:1	20	350	30	11	F05	65	57	167	125	44	-	122	-	29	64	15	6	200
							F07	90	57	167	125	44	-	122	-	29	64	15	6	200
	WBS20	37:1	28	520	47	11	F07	90	57	185	134	52	-	140	-	29	64	15	6	200
							F10	125	57	185	134	52	-	140	-	29	64	15	6	200
B	WBS21	38:1	36	850	75	11	F10	125	68	200	142	62	-	162	-	36	74	15	6	300
							F12	150	63	200	142	62	-	162	-	31	69	15	6	300
	WBS30	40:1	45	1350	113	12	F14	175	73	216	150	62	-	162	-	41	79	15	6	300
							F12	150	85	219	152	79	-	202	-	46	93	20	6	350
C	WBS55	47:1	50	2000	142	14	F14	175	91	241	163	89	-	223	-	50	99	20	6	400
							F16	210	91	241	163	89	-	223	-	50	99	20	6	400
	WBS56	55	55	2500	160	16	F14	175	89	248	170	101	-	237	-	51	97	20	6	500
							F16	210	89	248	170	101	-	237	-	51	97	20	6	500
D	WBS58	61:1	65	3000	164	18	F16	210	105	290	192	112	-	267	-	55	115	20	6	500
							F20	260	108	290	192	112	-	267	-	58	118	20	6	500
	WBS88-BR3.2	167:1	65	4500	108	42	F25	300	105	290	192	112	-	267	-	55	115	20	6	500
							F16	210	105	367	269	112	51	276	104	55	115	20	6	500
E	WBS195-BR3.2	167:1	80	6500	156	42	F20	260	117	391	281	129	51	307	104	62	125	20	6	600
							F25	300	117	391	281	129	51	307	104	62	125	20	6	600
	WBS300-BR5	290:1	95	9500	130	73	F16	210	145	473	325	157	90	412	212	70	153	25	8	600
							F30	350	145	473	325	157	90	412	212	70	153	25	8	600
F	WBS300-BR6	348:1	95	11000	158	70	F25	300	145	500	351	157	-	385	160	70	153	25	8	600
							F30	350	145	500	351	157	-	385	160	70	153	25	8	600
	WBS680-BR8	519:1	110	16000	154	104	F30(F25)	350	148	563	383	182	-	424	160	71	156	25	8	600
							F30	350	175	600	398	200	-	465	210	96	193	30	8	600
G	WBS780-BR11	627:1	130	23500	175	126	F35	415	175	600	398	200	-	465	234	96	193	30	8	600
							F30	350	178	661	654	222	-	546	268	107	185	30	8	700
	WBS980-BR16	959:1	140	30000	145	206	F35	415	184	661	654	222	-	546	268	107	191	30	8	700
							F40	560	188	661	654	222	-	546	268	107	196	30	8	700
H	WBS1080-BR21	1110:1	145	36000	150	240	F35(F30)	415	180	690	477	230	-	570	290	119	190	30	8	700
							F40	560	180	690	477	230	-	570	290	152	223	30	8	700
	WBS1180-BR29	1658:1	180	55000	155	354	F35	415	205	768	518	275	-	650	314	133	221	30	8	700
							F40	475	205	768	518	275	-	650	314	133	221	30	8	700
I	WBS1280-BR53	2574:1	210	90000	160	562	F48	560	225	860	575	315	-	780	407	138	231	30	8	700
							F40	475	225	860	575	315	-	780	407	138	231	30	8	700

WBS-G Series

WBS-G Series, bevel gearbox designed primarily to be used on "WBS" quarter series gearboxes to change the input shaft direction by 90° for underground application.

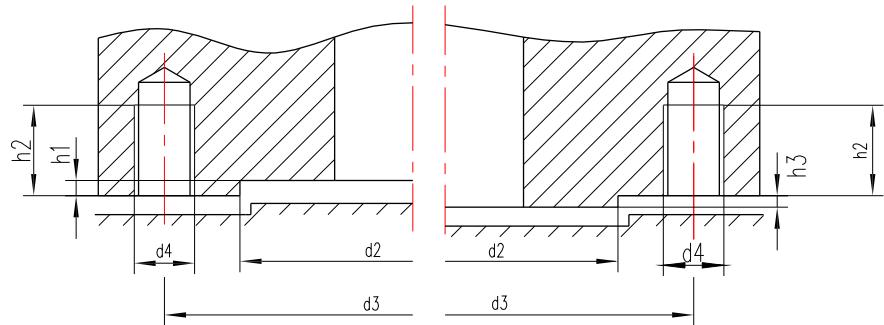
Features

- Underground application
- Handwheel, t-type lever available, customer design
- 8models up to 16000NM in output
- Enclosure:IP67
- Temperature: -20°C~120°C
- Stroke: 0-90° ($\pm 5^\circ$ adjustable)

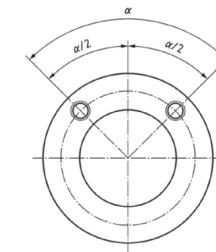


WBS-G Series

TYPE	TECHNICAL DATA						APPEARANCE SIZE													
	Model	Ratio	Max. Stem Dia.	output	input	M.A. ±15%	Flange	D1	L _{max}	A	B	C	D	E	H	J	G	K	Key	hand wheel
A	WBS21-G	46:1	36	850	75	11	F10	125	68	218	160			36	74	167				
							F12	150	63	218	160	62	186	20	31	71	162	180	6	200
							F14	175	73	235	169				41	79	172			
	WBS30-G	62:1	45	1350	90	15	F14(F12)	175	85	215	184	79	223		46	93	203	212		300
							F16	210		267	192									
	WBS55-G	72:1	55	2000	115	17	F14	175	91	273	195	89	243		50	99	206	212		350
B	WBS88-G	128:1	65	4000	150	27	F16	210												
							F20	260	105	340	245	112	303		55	113	234	258		400
							F25	300												
	WBS195-G	128:1	80	5000	180	28	F16	210												
							F20	260	117	370	260	129	333	28	62	125	241	258	8	600
	WBS300-G	238:1	95	8500	170	50	F25	300	145	450	293	157	420		70	153	280	324		600
B	WBS300-SG	535:1	95	11000	152	65	F30	350	145	539	391	157	385		70	153	249	260		600
	WBS680-SG	572:1	110	16000	145	110	F30(F25)	350	148	603	456	182	424		71	156	228	260		



WBGEARS Connection-size							
Flange	d2	d3	h3	h1	d4	h2	Dowel pin
F05	35	50	2.5	3	4-M6	9	-
F07	55	70	2.5	3	4-M8	12	-
F10	70	102	2.5	3	4-M10	15	10-8
F12	85	125	2.5	3	4-M12	18	10-8
F14	100	140	3	4	4-M16	24	12-9
F16	130	165	3	5	4-M20	30	12-9
F20	160	200(225)	3	5	8-M16	24	12-9
F25	200	254	3	5	8-M16	24	16-13
F30	230	298	3	5	8-M20	30	20-13
F35	260	356	3	5	8-M30	45	24-13
F40	300	406	5	8	8-M36	54	24-13
F48	370	483	5	8	12-M36	54	24-13
F60	470	603	5	8	20-M36	54	30-15



Position of holes

Flange type	$\alpha/2$
F07~F16	45°
F25~F40	22.5°
F48	15°
F60	9°

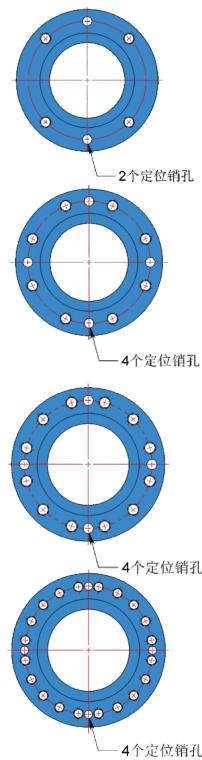
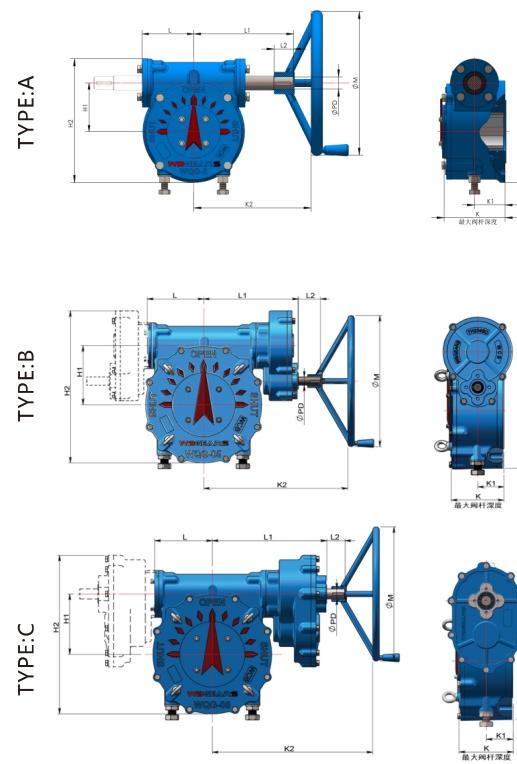
WQG Series

Application

WBGEARS WQG Series operators are devices intended for the operation of ball, plug and butterfly valves. The gearboxes are suitable for manual and motorised applications.

Features

- Totally enclosed gearing
- Tapered roller bearings supporting worm shaft
- 13 models up to 120000NM in output
- Enclosure:IP67
- Temperature: -20°C to +80°C



TYPE	TECHNICAL DATA						APPEARANCE SIZE												
	Model	Ratio	Max. Stem Dia	input	output	M.A ±15%	Valve Connection	D	H1	H2	K _{max}	K1	K2	L	L1	L2	PD	Key	Hand wheel
				Torque(Nm)															
A	WQG-00	38:1	40	1500	140	11	F12(F10)	150	75	190	95	46	250	86	170	35	20	6	350
	WQG-1	44:1	50	2000	160	13	F14(F12)	175	84	212	106	55	270	96	180	35	20	6	400
	WQG-2	52:1	60	2600	170	15	F16(F14)	210	100	255	125	63	306	107	206	40	25	8	500
B	WQG-2S	158:1	60	3500	100	35	F16(F14)	210	100	286	125	63	361	107	191	80	25	8	400
	WQG-3	164:1	75	4500	120	38	F20(F16)	260	117	331	122	59	386	122	206	80	25	8	500
	WQG-35	224:1	80	6500	120	54	F25(F20-F16)	300	135	369	131	66	400	136	220	80	25	8	500
C	WQG-4	340:1	100	10500	150	70	F25(F20-F16)	300	156	401	153	72	469	150	284	80	25	8	600
	WQG-5	420:1	115	15000	175	86	F30(F25)	350	180	450	160	77	491	172	306	80	25	8	600
	WQG-55	855:1	125	23500	140	168	F30(F25)	350	203	515	163	79	548	182	356	87	30	8	600
	WQG-6	892:1	140	32000	170	188	F35(F30)	415	230	576	204	107	576	196	387	87	30	8	600
	WQG-7	1360:1	180	51000	170	300	F40(F35)	475	280	710	224	122	632	233	445	87	30	10	800
	WQG-8	2128:1	210	81000	175	463	F48(F40)	560	327	855	257	140	734	290	547	87	30	10	800
	WQG-9	2941:1	250	120000	160	750	F60(F48)	686	373	925	268	135	766	332	579	87	30	10	800

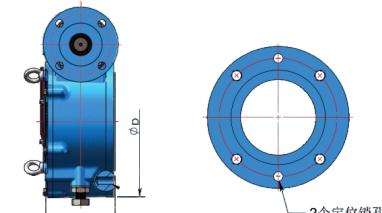
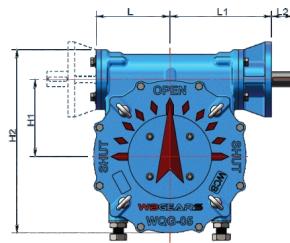
WQG-D Series

WBGEARS WQG-D Series operators are suitable for motorised applications.

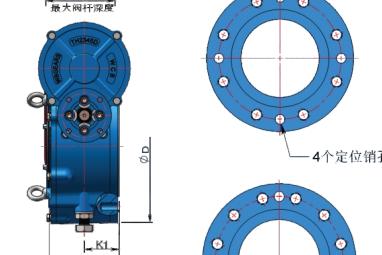
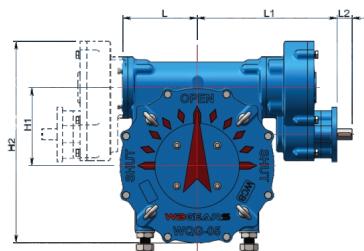
- Input flanges for motorisation
- Comprehensive gear ratios combined with a selection of auxiliary input spur gear reducers



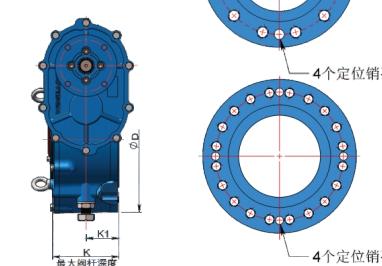
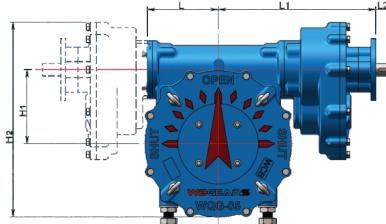
TYPE:A



TYPE:B



TYPE:C



Type	Model	Ratio	Max. Stem Dia.	Output torque (Nm)	Valve Connection	D	H1	H2	K _{max}	K1	L	L1	L2
A	WQG-00D	38	40	1500	F12(F10)	150	75	190	95	46	86	135	40
A	WQG-1D	44	50	2000	F14(F12)	175	84	212	106	55	96	145	40
A	WQG-2D	52	60	3000	F16(F14)	210	100	255 286	125	63	107	180	45
B	WQG-2D	105-158										228	40
A	WQG-3D	54	75	4500	F20(F16)	260	117	297 331	122	59	122	195	45
B	WQG-3D	164-216										243	40
A	WQG-35D	56	80	6500	F25(F20-F16)	300	135	335 369	131	66	136	209	45
B	WQG-35D	170-224										257	40
A	WQG-4D	56	100	10500	F25(F20-F16)	300	156	376 401	153	72	150	320	50
C	WQG-4D	167-392										320	40
A	WQG-5D	60	115	15000	F30(F25)	350	180	425 450	160	77	172	235	50
C	WQG-5D	179-420										306	40
A	WQG-55D	57	125	23500	F30(F25)	350	203	470 495	163	79	182	245	50
C	WQG-55D	170-855										353	40
A	WQG-6D	64	140	32000	F35(F30)	415	230	531 565	204	107	196	272	75
C	WQG-6D	256-892										435	50
A	WQG-7D	68	180	51000	F40(F35)	475	280	640 666	204	122	233	310	75
C	WQG-7D	272-1360										473	50
A	WQG-8D	62	210	81000	F48(F40)	560	327	752 779	257	140	290	372	85
C	WQG-8D	459-1375										540	50
A	WQG-9D	64	250	120000	F60(F48)	686	373	802 925	268	135	332	436	90
C	WQG-9D	365-2941										574	50

Model	RATIO	Input Shaft Diameter(mm)				
		F10	F14	F16	F25	F30
WQG-00D	38	20	25			
WQG-1D	44	-	25			
WQG-2D	52	-	30			
WQG-2D	105-158	20	20			
WQG-3D	54	-	30			
WQG-3D	164-216	20	20			
WQG-35D	56	-	30	30		
WQG-35D	170-224	20	20			
WQG-4D	56	-	-	30		
WQG-4D	167-392	20	20			
WQG-5D	60	-	-	30	30	
WQG-5D	179-420	20	30			
WQG-55D	57	-	-	40	40	
WQG-55D	170-855	20	30	40	50	
WQG-6D	64	-	-	-	50	50
WQG-6D	256-892	20	30	40	50	50
WQG-7D	68	-	-	-	50	50
WQG-7D	272-1360	20	30	40	50	50
WQG-8D	62	-	-	-	50	50
WQG-8D	459-1375	20	30	40	50	50
WQG-9D	64	-	-	-	50	50
WQG-9D	365-2941	20	30	40	50	50