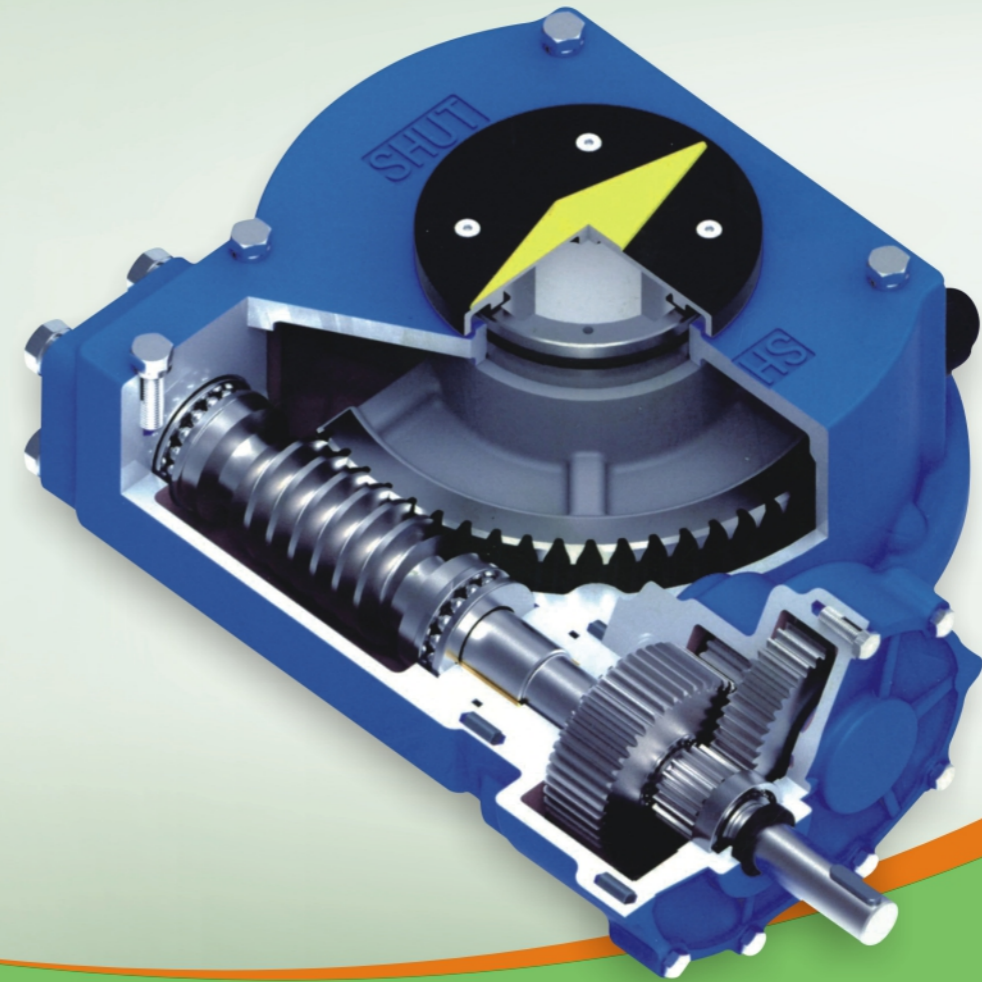


**ZHEJIANG JIMAI  
AUTO-TECH CO.,LTD.**

Professional manufacturer of worm gear  
actuators/pneumatic actuators



**JMG SERIES  
WORM GEAR ACTUATOR**



**ZHEJIANG JIMAI AUTO-TECH CO.,LTD.**

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**ZHEJIANG JIMAI  
AUTO-TECH  
CO.,LTD.**



**JMG SERIES**  
WORM GEAR ACTUATOR

ZHEJIANG  
JIMAI AUTO-TECH  
CO.,LTD.

**STRICT ON QUALITY  
SURVIVE ON QUALITY  
PROMOTE BY CREDIBILITY**

**「QUALIFICATION RATE 99.9%」**



## COMPANY INTRODUCTION

Zhejiang Jimai Auto-tech Co.,Ltd is a professional company that produces worm gear actuators and pneumatic actuators, which integrates research, development, production and sales. With years of rich production experience and strict adherence to the ISO9001 international quality assurance system, JIMAI products have always been at the advanced level at home and abroad. JIMAI products have advantages like wide variety, complete specifications, beautiful appearance and so on. Our main equipment includes more than 30 machining centers, over 60 turning milling composite machine and CNC lathes. With total more than 120 equipment, JIMAI greatly improve the overall performance of actuators. The products are widely used in industries such as petroleum, chemical, food area.

“Quality first and service first” are the principles that JIMAI people adhere to. We wholeheartedly provides customers with high-quality products and good services. JIMAI people is ambitious and pragmatic, to keep up with the times and face the world with professional technology and advanced equipment. We welcome domestic and foreign customers to negotiate and establish business to seek economic and technological cooperation.

## CORPORATE CULTURE

### Enterprise Spirit

Continuously innovating

### Enterprise objectives

Produce first-class products to customers

### Enterprise policy

Survive with quality, develop with speed

### Enterprise philosophy

Team spirit and excellent service

### Enterprise development

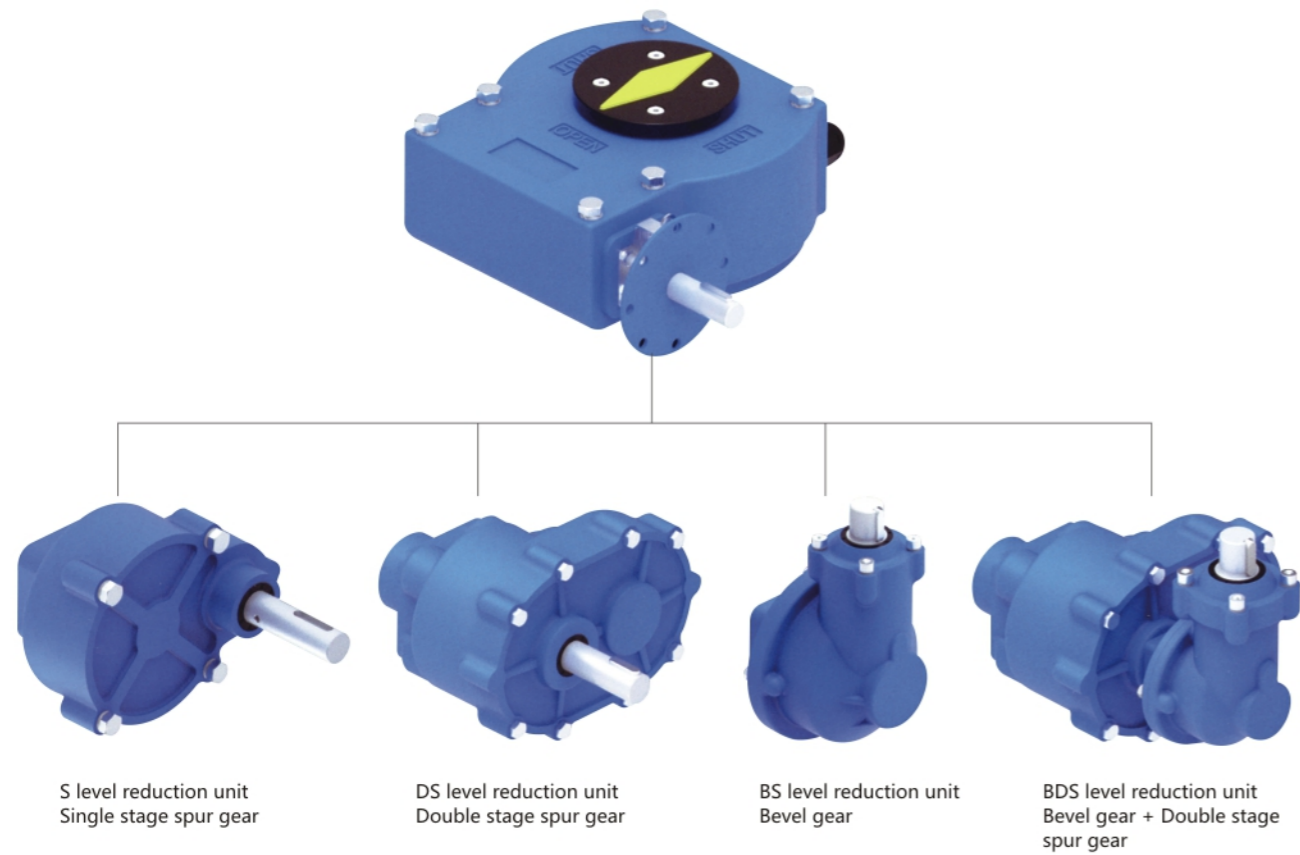
Continuously innovate and improve to provide high-quality products

### Enterprise Value

Professional,enthusiastic,innovative,contributing and responsible

# ENTERPRISE QUALIFICATION





The high-efficiency JMG series worm gear actuators are developed based on modular design, standardization and generalization, which can help to shorten the produce launch cycle, reduce cost and improve product quality. The worm gear actuator can flexibly adjust the speed ratio according to different control requirements of valves.

The JMG series worm gear actuators maintain high component versatility, making the production process easier. The connecting flange can meet different standards ISO5211, ISO5210,JB2920. Also, JMG series can do quarter turn and multi turn based on customer requirements.



JMG Series: Quarter turn manual worm gear actuator



JMG-S Series: Quarter turn manual worm gear actuator



JMG-DS Series: Quarter turn manual worm gear actuator

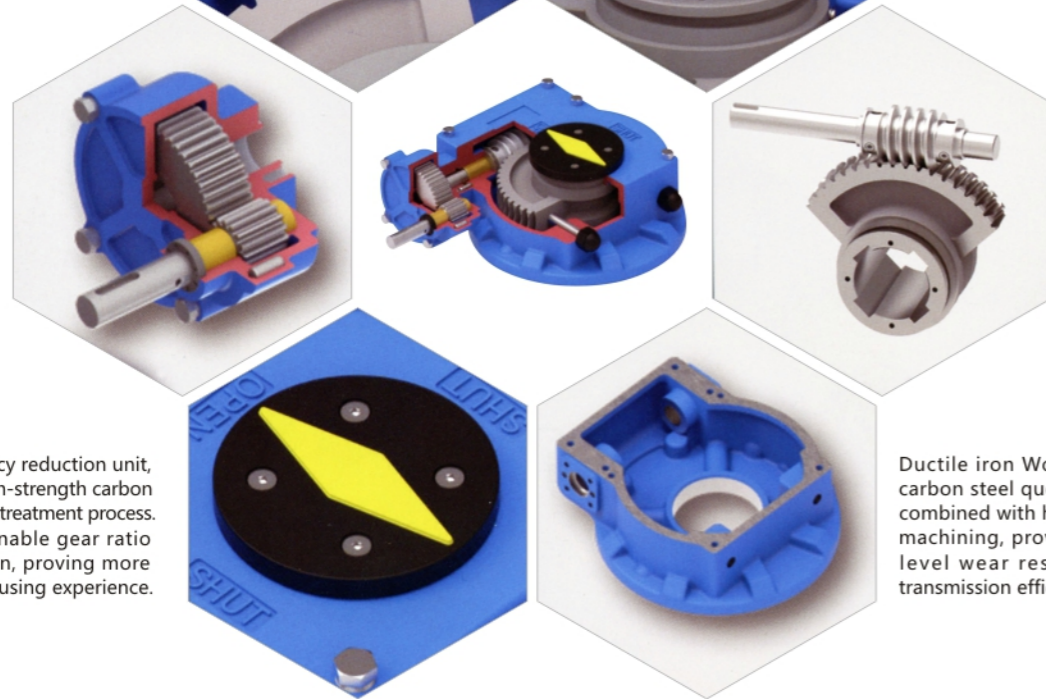


JMG-BS Series: (worm gear+bevel gear) Quarter turn manual worm gear actuator

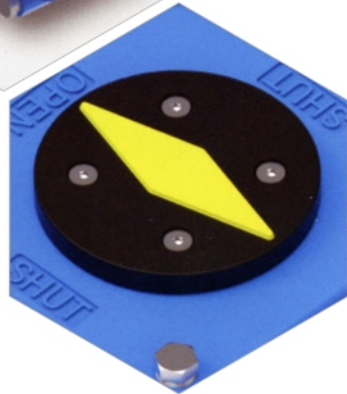
High quality bearing, improving efficiency and service life. Worm and shaft are fixed by four bolts, proving higher security.



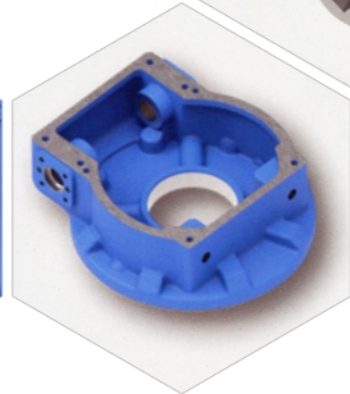
Adopt O-ring seal. Sealing plate are made by rubber material, providing excellent waterproof and dust-proof protection.



High efficiency reduction unit, adopting high-strength carbon steel heating treatment process. Using reasonable gear ratio configuration, proving more comfortable using experience.



Adopting high-strength plastic indicator panel, it can Intuitive indication of valve opening position.



Worm box adopts high strength ductile iron and surface is treated by epoxy spraying. With ISO 5211 standard valve connection flange, easier to install.

Ductile iron Worm gear and carbon steel quenched worm, combined with high-precision machining, providing higher level wear resistance and transmission efficiency.

**JMG series worm gear**

widely used for ball valve, butterfly valve, plug valves and so on



**Product Features**

- Torque range 260N.m to 58000N.m
- 20 different models
- High transmission efficiency
- Manual and pipe network application
- 90° degree rotation (±5°)
- Stable self-locking design
- Superior gear contact ratio
- Weather proof level: IP67 (option:IP68)
- Temp range: -45°C~+180°C

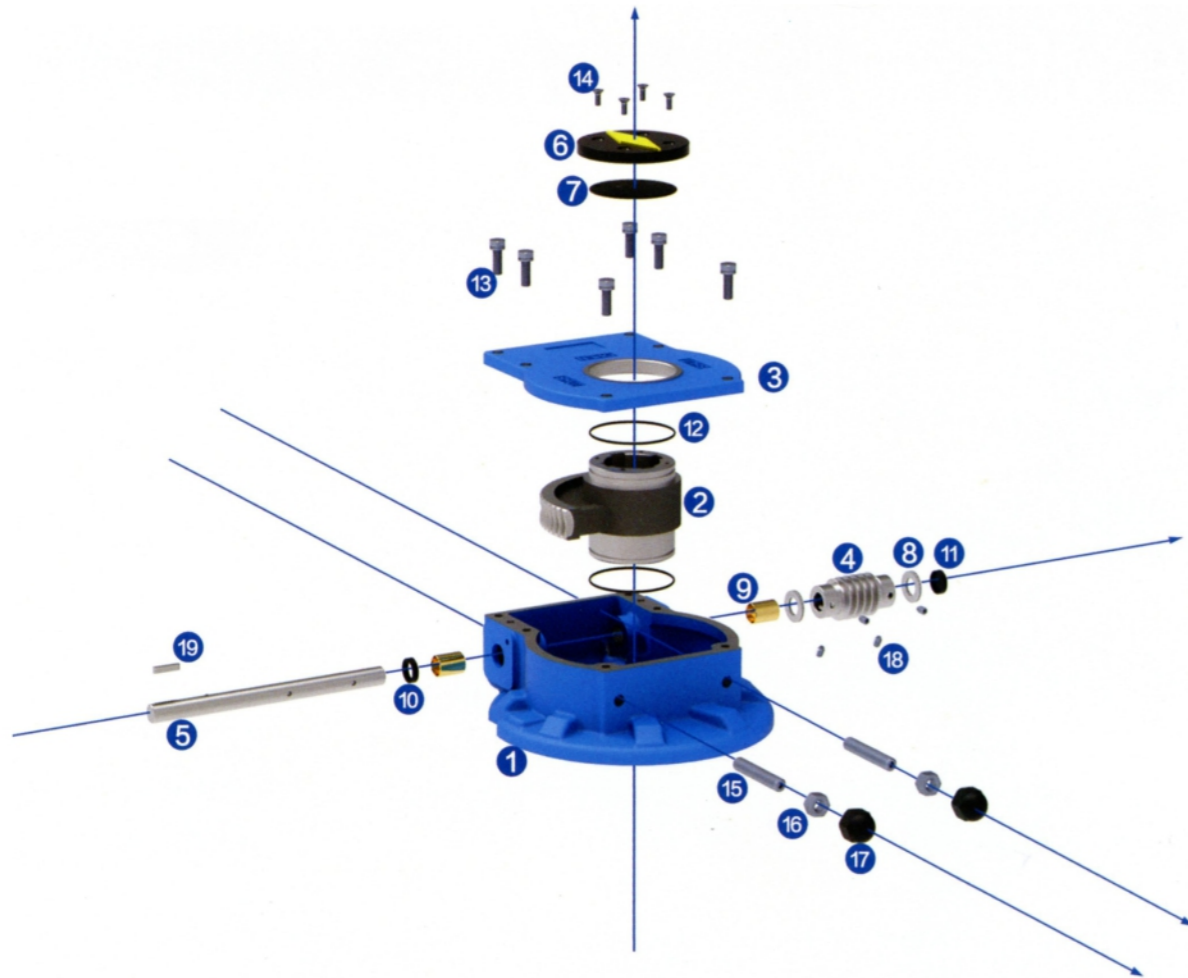
**JMG series worm gear**

widely used for ball valve, butterfly valve, plug valves and so on

**Product Features**

- Torque range 260N.m to 58000N.m
- High transmission efficiency
- Electric, manual and pipe network application
- 90° degree rotation (±5°)
- Stable self-locking design
- Speed ratio can adjust based on working condition
- Valve steam and bush optional
- Weather proof level: IP67 (option:IP68)
- Temp range: -45°C~+180°C





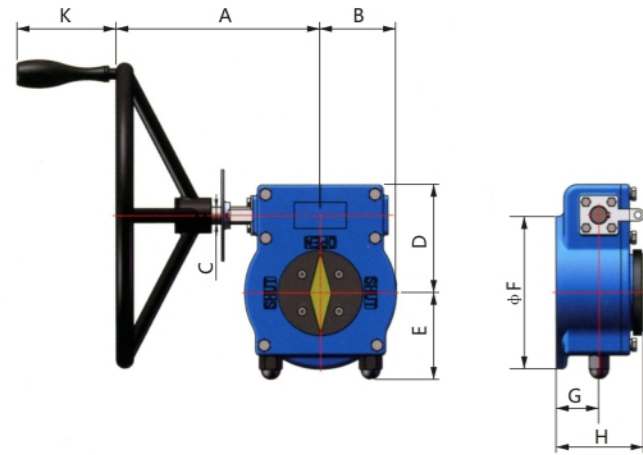
Nos	Part name	Standard			
		Material	GB	JIS	ASTM
1	Worm Box	Ductile iron	QT450-10	FCD-450	65-45-12
2	Worm gear	Ductile iron	QT500-7	FCD-500	80-55-06
3	Box cover	Ductile iron	QT450-10	FCD-450	65-45-12
4	Worm	Alloy steel	40Cr	Scr440	ASTM5140
5	Shaft	Alloy steel	40Cr	SCr440	ASTM5140
6	Indicator	Aluminum alloy	YL112	ADC12	SG100B
7	Sealing plate	BUNA-N	NBR	NBR	NBR
8	Thrust bearing	Bearing steel	GCr15	SUJ2	A295-52100
9	Bearing	Carbon steel	20+PTFE	S20C+PTFE	A576-1020+PTFE
10	Oil seal	BUNA-N	NBR	NBR	NBR
11	Cover oil seal	BUNA-N	NBR	NBR	NBR
12	O-ring	BUNA-N	NBR	NBR	NBR
13	Hexagon bolt	Alloy steel	45	SCM435	A322-4135
14	Screw	Alloy steel	45	SCM435	A322-4135
15	Hexagon nut	Alloy steel	45	SCM435	A322-4135
16	Hexagon nut	Carbon steel	45	S45C	A576-1045
17	Nut cover	BUNA-N	NBR	NBR	NBR
18	Set screw	Alloy steel	45	SCM435	A322-4135
19	Flat key	Carbon steel	45	S45C	A576-1045

JMG Manual series technical parameter								
Model	Speed ratio	Input torque	Output torque	Amplitude factor	Connection flange	Max. Valve steam Diam	Max.Install Height	Handwheel Diam
JMG15	27	32	260	8.1	F05/F07/F10	20	55	200
JMG20	37	47	520	11.1	F07/F10/F12	28	58	250
JMG21	38	75	850	11.3	F10/F12/F14	36	63	300
JMG30	40	113	1350	11.9	F12/F14/F16	48	85	350
JMG55	47	142	2000	14.1	F12/F14/F16	53	90	400
JMG58	55	152	2500	16.4	F14/F16/F20	62	95	500
JMG88	61	164	3000	18.3	F16/F20/F25	65	105	500
JMG88-S32	167	90	4200	46.7	F16/F20/F25	65	105	500
JMG100-S32	177	111	5500	49.5	F16/F20/F25	72	110	500
JMG195-S32	167	139	6500	46.8	F16/F20/F25	80	115	600
JMG195-S40	208	129	7500	58.1	F16/F20/F25	80	115	600
JMG280-S50	280	108	8500	78.7	F25/F30	90	136	600
JMG300-S50	290	117	9500	81.2	F25/F30	95	145	600
JMG300-DS60	348	117	11000	94.0	F25/F30	95	145	600
JMG680-DS60	372	139	14000	100.7	(F25)F30/F35	115	148	600
JMG680-DS80	519	121	17000	140.5	(F25)F30/F35	115	148	600
JMG780-DS100	587	145	23000	158.6	F30/F35	125	157	600
JMG980-DS120	731	152	30000	204.1	F30/F35	140	180	700
JMG1080-DS150	1110	116	36000	310.8	F30/F35/F40	145	190	700
JMG1090-DS150	1453	111	45000	405.4	F35/F40	160	190	700
JMG1180-PG290	1658	123	55000	447.6	F35/F40/F48	180	205	700
JMG1190-PG350	2228	116	70000	601.5	F40/F48	200	210	700
JMG1280-PG530	2769	120	90000	747.6	F40/F48	210	225	700
JMG1380-PG530	3621	127	120000	941.4	F48/F60	260	257	700
JMG1380-PG540	3655	152	150000	986.8	F48/F60	260	257	700

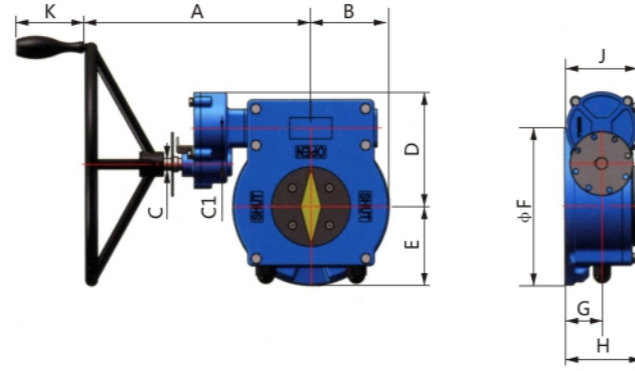
1.The outer circle flange is based on large flange size. Ex.(F25)F30, standard will be F30, Diam is 350.

2.Detailed flange connection dimension is on page 14.

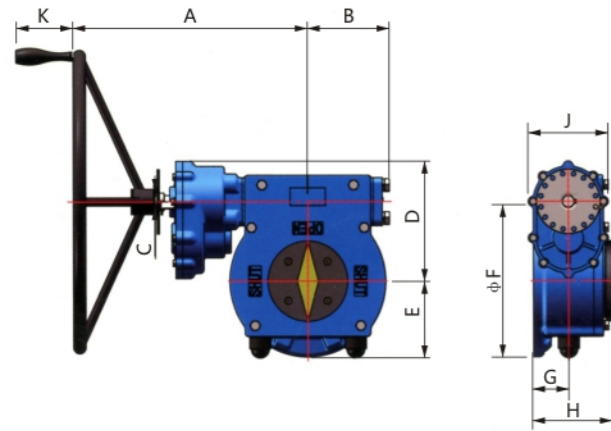
3.Handwheel is installed on the left



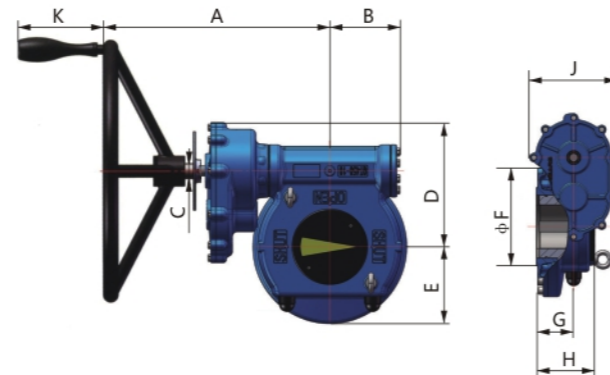
**A Type**



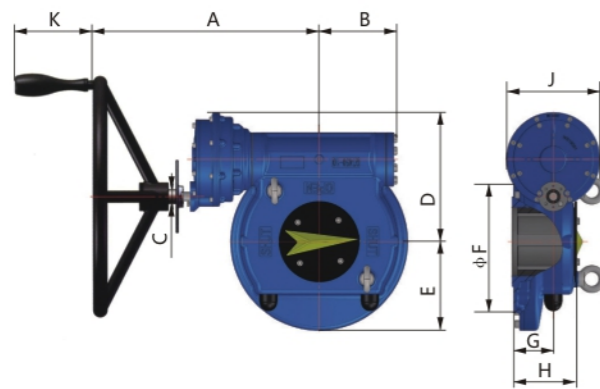
**B Type**



**C Type**



**D Type**



**E Type**



Dimension of JMG manual series

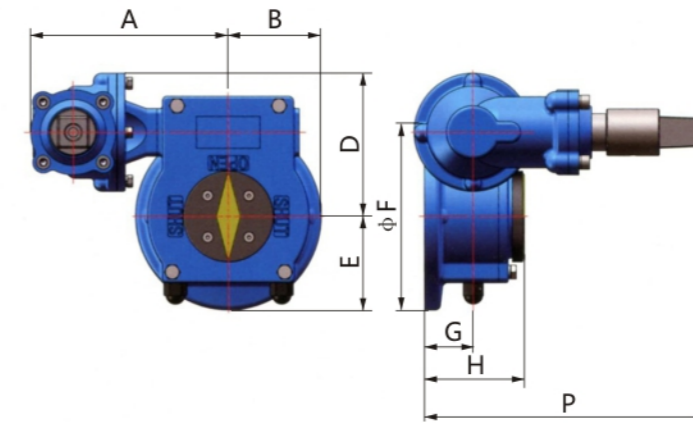
Type	Model	Connection flange	Flange outer Diam	A	B	C	C1	D	E	G	H	J	K
A	JMG15	(F05)F07	90	135	45	12	/	62	50	30	61	/	/
		F10	125	140	60	12	/	62	60	30	61	/	/
	JMG20	F07	90	167	52	15	/	79	65	32	69	/	/
		F10	125	185	63	15	/	79	60	29	65	/	/
	JMG21	F12	150	185	75	15	/	80	70	28	65	/	/
		F10	125	220	63	15	/	88	75	40	80	/	/
		F14	175	230	90	15	/	88	85	41	85	/	/
	JMG30	F12	150	230	75	20	/	115	84	46	95	/	114
		F14	175	230	88	20	/	115	88	46	95	/	114
		F16	210	236	105	20	/	115	105	46	95	/	114
	JMG55	(F12)F14	175	252	88	20	/	125	95	50	101	/	114
		F16	210	252	102	20	/	125	105	50	101	/	114
JMG58	F14	175	282	100	20	/	138	100	55	106	/	114	
	F16	210	282	105	20	/	138	105	55	106	/	114	
	F20	260	282	130	20	/	138	130	55	106	/	114	
JMG88	F16	210	295	115	20	/	155	105	55	118	/	114	
	F20	260	295	130	20	/	155	130	55	118	/	114	
	F25	300	295	150	20	/	155	155	55	118	/	114	
JMG88-S32	F16	210	390	115	20	60	155	105	55	118	118	114	
	F20	260	390	130	20	60	155	130	55	118	118	114	
	F25	300	390	150	20	60	155	155	55	118	118	114	
JMG100-S32	F16	210	385	117	20	60	180	110	58	121	118	114	
	F20	260	385	135	20	60	180	130	58	121	118	114	
JMG195-S32	F25	300	385	150	20	60	180	150	58	121	118	114	
	F16	210	395	130	20	60	190	125	62	128	118	114	
	F20	260	395	130	20	60	190	133	62	128	118	114	
JMG195-S40	F25	300	395	150	20	60	190	150	62	128	118	114	
	F16	210	395	130	20	70	200	125	62	125	143	114	
JMG280-S50	F20	260	395	130	20	70	200	133	62	125	143	114	
	F25	300	395	150	20	70	200	150	62	125	143	114	
	F25	300	430	155	25	90	250	145	80	150	212	114	
JMG300-S50	F30	350	430	155	25	90	250	170	80	150	212	114	
	F25	300	440	162	25	90	265	150	70	160	212	114	
JMG300-DS60	F30	350	440	162	25	90	265	175	70	160	212	114	
	F25	300	475	162	25	/	235	150	70	160	160	114	
JMG680-DS60	F30	350	475	162	25	/	235	175	70	160	160	114	
	F30	350	500	195	25	/	265	196	75	165	160	114	
	F35	415	500	195	25	/	265	196	96	190	160	114	
JMG680-DS80	F30	350	500	195	25	/	265	196	75	165	160	114	
	F35	415	500	195	25	/	265	196	96	190	160	114	
JMG780-DS100	F30	350	545	210	30	/	295	175	90	180	210	114	
	F35	415	545	210	30	/	295	208	105	180	210	114	
JMG980-DS120	(F30)F35	415	590	225	30	/	325	205	105	195	210	114	
	F35	415	610	220	30	/	380	235	145	200	290	114	
JMG1080-DS150	F40	475	610	220	30	/	380	235	145	215	290	114	
	(F35)F40	475	618	255	30	/	394	272	124	205	290	114	
E	JMG1180-PG290	(F35)F40	475	643	264	30	/	432	297	133	221	314	114
	JMG1190-PG350	(F40)F48	560	661	281	30	/	477	310	138	220	345	114
	JMG1280-PG530	(F40)F48	560	700	302	30	/	519	315	138	231	407	114
	JMG1380-PG530	(F48)F60	686	740	350	30	/	603	302	158	265	407	114
	JMG1380-PG540	(F48)F60	686	850	350	30	/	701	302	158	265	604	114

Pipe network series technical parameter

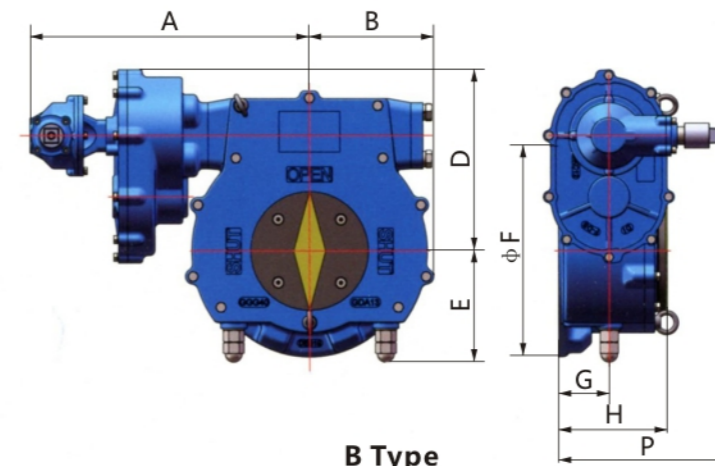
Model	Speed ratio	Input torque	Output torque	Amplitude factor	Connection flange	Max. Valve steam Diam	Max.Install Height	Handwheel Diam
JMG21-BS05	47	71	850	12.0	F10/F12/F14	36	63	200
JMG30-BS10	62	85	1350	15.9	F12/F14/F16	48	85	300
JMG55-BS10	72	109	2000	18.3	(F12)F14/F16	53	90	350
JMG58-BS10	85	115	2500	21.7	F16/F20	62	95	400
JMG88-BS20	128	123	4000	32.5	(F14)F16/F20/F25	65	105	400
JMG100-BS20	135	160	5500	34.4	(F16)F20/F25	72	110	500
JMG195-BDS10	320	98	7500	76.5	F16/F20/F25	80	115	500
JMG280-BS40	194	172	8500	49.4	F25/F30	90	136	600
JMG300-BS40	201	185	9500	51.4	F25/F30	95	145	600
JMG300-BDS10	535	86	11000	127.9	F25/F30	95	145	600
JMG680-BDS10	572	124	17000	137.1	(F25)F30/F35	115	148	600
JMG780-BDS20	966	99	23000	232.3	F30/F35	125	157	600
JMG980-BDS20	1241	101	30000	297.0	(F30)F35	140	180	600
JMG1080-BDS20	1650	101	40000	396.0	(F30)F35/F40	150	195	600
JMG1180-BDS20	1981	97	46000	474.2	(F35)F40	160	230	600
JMG1280-BDS20	2186	111	58000	522.5	(F35)F40	170	230	600

- 1.The outer circle flange is based on large flange size. Ex.(F25)F30, standard will be F30, Diam is 350.
- 2.Detailed flange connection dimension is on page 14.
- 3.Can provide handwheel and pipe network adapter

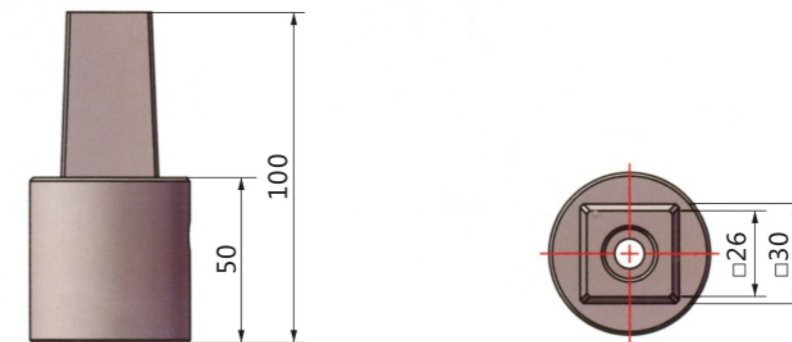
Appearance of Pipe Network Series



A Type

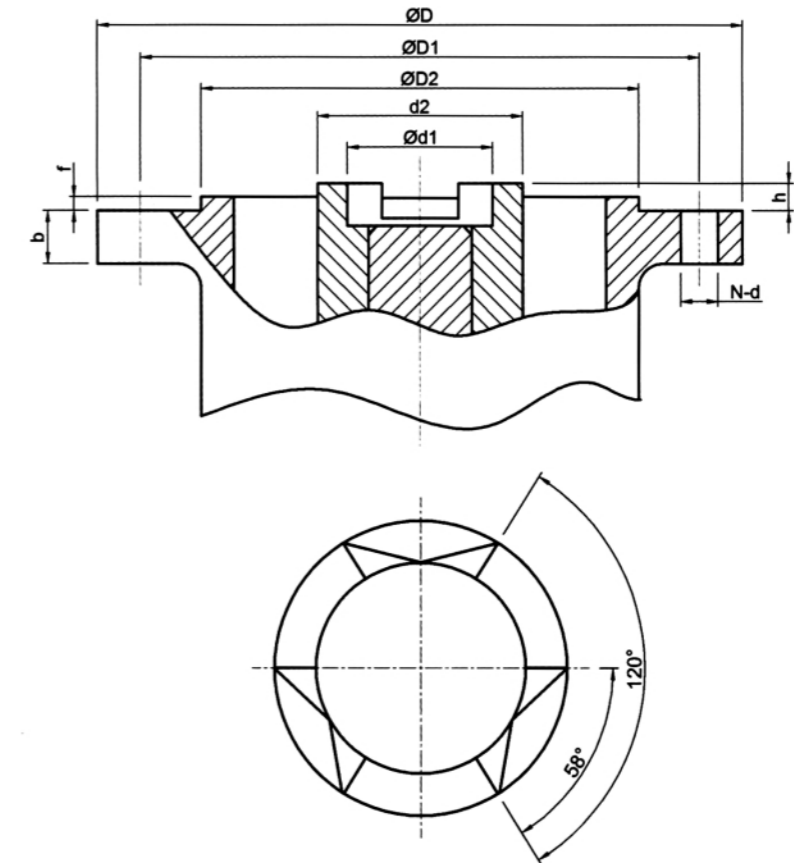


B Type

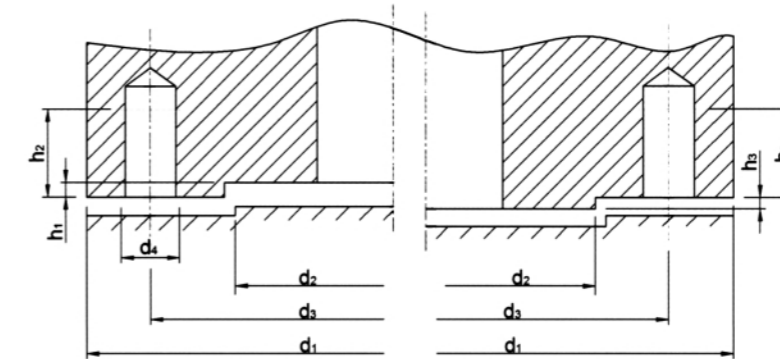
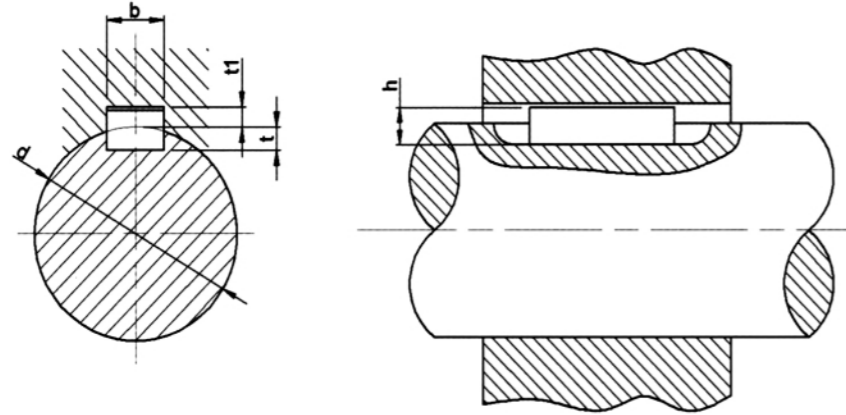


Pipe network adapter dimension

Dimension of pipe network series										
Type	Model	Connecting flange	Flange outer Diam	A	B	D	E	G	H	P
A	JMG21-BS05	F10	125	166	63	107	63	36	80	242
		F12	150	166	75	107	75	31	73	237
		F14	175	175	88	107	88	41	81	247
	JMG30-BS10	F12	150	186	75	135	82	46	95	272
		F14	175	186	88	135	88	46	95	272
		F16	210	195	105	135	105	46	95	272
	JMG55-BS10	(F12)F14	175	197	88	145	100	49.5	101	276
		F16	210	197	109	145	105	49.5	101	276
	JMG58-BS10	F16	210	205	105	157	105	53.5	106	280
		F20	260	205	130	157	130	53.5	106	280
	JMG88-BS20	(F14)F16	210	250	113	191	105	55	118	304
		F20	260	250	130	191	130	55	118	304
		F25	300	250	150	191	150	55	118	304
	JMG100-BS20	(F16)F20	260	250	130	200	130	58	121	307
		F25	300	250	150	200	150	58	121	307
	JMG195-BDS10	F16	210	335	128	200	127	62	127	288
		F20	260	335	130	200	130	62	127	288
		F25	300	335	150	200	150	62	127	288
	JMG280-BS40	F25	300	290	160	250	170	70.5	149	350
		F30	350	290	175	250	175	74.5	153	354
JMG300-BS40	F25	300	295	165	265	150	70	160	350	
	F30	350	295	175	265	175	70	160	350	
JMG300-BDS10	F25	300	395	165	237	150	70	160	296	
	F30	350	395	175	237	175	70	160	296	
JMG680-BDS10	(F25)F30	350	425	195	262	196	71	165	297	
	F35	415	425	208	262	208	96	190	322	
JMG780-BDS20	F30	350	480	210	295	175	77	168	326	
	F35	415	480	210	295	208	97	188	346	
JMG980-BDS20	(F30)F35	415	515	225	320	210	95	220	345	
JMG1080-BDS20	(F30)F35	415	550	245	360	210	100	237	350	
	F40	475	550	245	360	238	113	250	363	
JMG1180-BDS20	(F35)F40	475	567	260	400	240	119	272	370	
JMG1280-BDS20	(F35)F40	475	590	295	440	255	122	275	390	

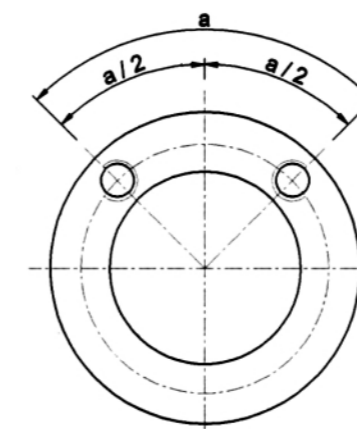


JB2920 Connection dimension											
Electric model	Frame size	D	D1	D2	b	f	h	d1	d2	d	n
Z5/Z10/Z15	2	145	120	90	12	4	8	30	45	12	4
Z20/Z30	3	185	160	125	15	4	10	42	58	14	4
Z45/Z60	4	225	195	150	20	5	12	50	72	18	4
Z90/Z120	5	275	235	180	25	5	14	62	82	22	4
Z180/Z250	7	330	285	220	30	6	16	72	98	26	4
Z350/Z500	8	380	340	280	35	6	20	80	118	22	8
Z650/Z800	9	430	380	300	40	8	25	85	128	26	8
Z1000/Z1200	10	510	450	360	45	8	30	105	158	33	8



Shaft Dia d (Nominal)	Key b×h Nominal	Nominal Keyseat									
		b Nominal	Width b					Depth h			
			Tolerance					t Shaft		t1 Keyway	
			Loose Fitting		Standard		Tight Fitting	Size	TOL	Size	TOL
6~8	2×2	2	+0.03	+0.06	-0.004	±0.0125	-0.006	1.2		1	
>8~10	3×3	3	0	+0.02	-0.029		-0.031	1.8		1.4	
>10~12	4×4	4	+0.03	+0.08	0	±0.015	-0.012	2.5	+0.1	1.8	+0.1
>12~17	5×5	5	0	+0.03	-0.03		-0.042	3		2.3	
>17~22	6×6	6						3.5		2.8	
>22~30	8×7	8	+0.04	+0.10	0	±0.018	-0.015	4		3.3	
>30~38	10×8	10	0	+0.04	-0.036		-0.051	5		3.3	
>38~44	12×8	12						5		3.3	
>44~50	14×9	14	+0.04	+0.15	0	±0.0215	-0.018	5.5		3.8	
>50~58	16×10	16	0	+0.05	-0.043		-0.061	6		4.3	
>58~65	18×11	18						7	+0.2	4.4	+0.2
>65~75	20×12	20						7.5		4.9	
>75~85	22×14	22	+0.05	+0.15	0	±0.026	-0.021	9		5.4	
>85~95	25×14	25	0	+0.07	-0.052		-0.074	9		5.4	
>95~110	28×16	28						10		6.4	
>110~130	32×18	32						11		7.4	
>130~150	36×20	36						12		8.4	
>150~170	40×22	40	+0.06	+0.18	0	±0.031	-0.026	13		9.4	
>170~200	45×25	45	0	+0.08	-0.062		-0.088	15		10.4	
>200~230	50×28	50						17		11.4	
>230~260	56×32	56						20		12.4	
>260~290	63×32	63	+0.07	+0.22	0	±0.037	-0.032	20	+0.3	12.4	+0.3
>290~330	70×36	70	0	+0.10	-0.074		-0.106	22		14.4	
>330~380	80×40	80						25		15.4	
>380~440	90×45	90	+0.09	+0.26	0	±0.0135	-0.037	28		17.4	
>440~500	100×50	100	0	+0.12	-0.087		-0.124	31		19.5	

Flange type	Dimension							
	d1 Outer Diam	d2 Concave convex surface	d3 Bolt Circle	d4 Bolt nos	h1 Concave Surface	h2 Bolt depth	h3 Convex surface	Dowel pin
F05	Φ90	/	Φ50	4-M6	/	8	/	/
F07	Φ90	Φ55	Φ70	4-M8	3	11	/	/
F10	Φ125	Φ70	Φ102	4-M10	3	13	2.5	Φ10Depth9
F12	Φ150	Φ85	Φ125	4-M12	3	16	2.5	Φ10Depth9
F14	Φ175	Φ100	Φ140	4-M16	4	21	3	Φ12Depth11
F16	Φ210	Φ130	Φ165	4-M20	5	26	3	Φ12Depth11
F20	Φ260	Φ160	Φ200	8-M16	5	21	3	Φ12Depth11
F25	Φ300	Φ200	Φ254	8-M16	5	21	3	Φ16Depth13
F30	Φ350	Φ230	Φ298	8-M20	5	26	3	Φ20Depth13
F35	Φ415	Φ260	Φ356	8-M30	5	39	3	Φ20Depth13
F40	Φ475	Φ300	Φ406	8-M36	8	47	5	Φ25Depth13
F48	Φ560	Φ370	Φ483	12-M36	8	47	5	Φ25Depth13
F60	Φ686	Φ470	Φ603	20-M36	8	47	5	Φ30Depth15



**Hole location**

Flange type	a/2
F03 to F16	45°
F20 to F40	22.5°
F48	15°
F60 to F80	9°
F100	5.625°