SWL/JW Worm Screw Jack

08 / 2015

Note!

1. The structure scheme, appearance diagram and other attached diagrams in sample are examples, there is no strict proportion requirement. If you need exact dimension of certain types, please contact our sales dept.. (The unmarked dimension units are mm).

2. Gear unit has been tested before delivered, users should add lubrication oil before running.

3. We can only refer to the marked oil in the mannul. Actual oil filling level should be the same with the mark on oil immersion lens.

4. Lubrication oil viscosity should be selected according to working conditions and ambient temperature.

5. To prevent accidents, all the rotation parts should be added with protective covers according to safety regulation of the nation and region.

Profile

SWL series jacks play an active role across various fields including iron and steel, stage setting, medical equipment, and liquid crystal /PDP devices. In addition, specifications and options are offered for selection according to the variety of application and intended purpose.

Indication

1. Configuration

Mode 1-Travelling screw shaft
Mode 2-Travelling nut

2. Installation type

A---Screw rod (or travelling nut) upwoard
B---Screw rod (or travelling nut) downward

3. Output option(end fitting)

There are 4 output options for mode 1.: I(rod type end fitting), II(table type end fitting), III(screw shaft end), IV(I type end fitting).
There are 2 output options for mode 2.: I(rod type end fitting), II(screw shaft end).

4. Ratio

Normal ratio(P); Low ratio(L)

5. Lifting capacity

2.5, 5, 10, 15, 20, 25, 35(*10kN).

6. Protection of screw shaft

Mode1: Plain mode; Anti-rotation;
Mode2: Plain mode;

7. Type designation

SWL 2.5 M — 1 A — II 500 FZ

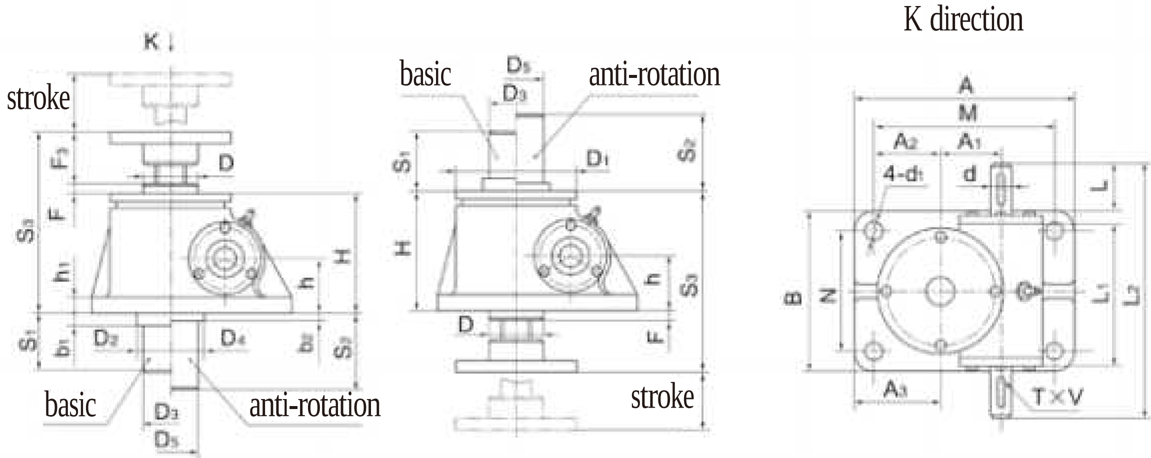
- FZ — Protection of screw shaft code
- 500 — Troke(mm)
- II — Output option code
- A — Installation type
- 1 — Configuration
- M — Ratio
- 2.5 — Lifting capacity(*10kN)
- SWL — SWL series

SWL

Outline dimension

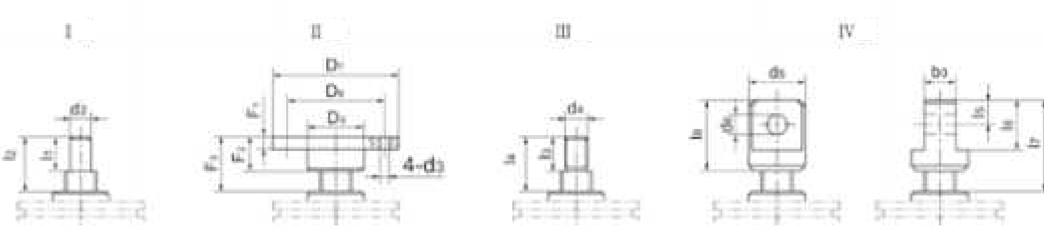
Configuration

Installation A　　Installation B　　K direction



Size	S_1	S_2	S_3*	A	B	M	N	H	h	h_1	d(k6)	d_1	GB1096	L	L_1	L_2	D	D_1	D_2	D_3	D_4	D_5	A_1	A_2	A_3	b_1	b_2	F
SWL2.5	stroke+20	stroke+80	150.5	165	120	135	90	97	45	12	16	14	5 × 5 × 28	32	110.5	190	48	98	70	45	98	62	45.2	50	65	20	20	8.5
SWL5		stroke+90	193	212	155	168	114	130	61.5	18	20	17	6 × 6 × 27	30	132	228	65	122	90	62	110	62	56.2	58	80	25	18	12
SWL10 SWL15		stroke+100	230	235	200	190	155	150	70	16	25	21	8 × 7 × 38	42	172	280	80	150	100	80	130	80	66.8	63.5	86	17	18	6.5
SWL20		stroke+120	262	295	215	240	160	176	87	20	28	28	8 × 7 × 45	51	213.5	322	100	185	120	80	170	78	72	95	122.5	35	31	6
SWL25		stroke+150	317	360	260	280	190	217	102	25	32	34	10 × 8 × 45	51	221	355	130	205	150	110	200	110	97	95	130	30	40	8
SWL35		stroke+150	350	430	280	360	210	240	115	30	38	35	10 × 8 × 65	75	265	430	150	260	180	123	210	169	120	135	170	35	40	10

Output option(end fitting)

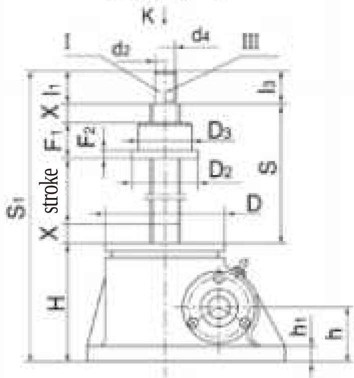


Size	Output option																			
	I			II							III			IV						
	d_2(k6)	1_1	1_2	D_7	D_8	D_9	d_3	F_1	F_2	F_3*	d_4	1_3	1_4	d_5	d_6(H8)	b_3	1_5	1_6	1_7*	1_8
SWL2.5	20	30	45	98	75	40	14	12	30	45	M22 × 1.5-6g	30	45	50	25	30	25	50	85	70
SWL5	25	40	51	122	85	50	17	18	40	51	M30 × 2-6g	39	51	65	35	42	37.5	75	117	105
SWL10 SWL15	40	50	73.5	150	105	65	21	20	50	73.5	M42 × 2-6g	50	73.5	90	50	60	50	100	153.5	130
SWL20	50	60	80	185	140	90	26	20	60	80	M48 × 2-6g	48	80	110	60	75	60	120	170	150
SWL25	70	63	92	205	155	100	27	25	63	92	M70 × 3-6g	63	92	130	70	90	70	140	204	175
SWL35	80	80	100	260	200	130	33	30	80	100	M80 × 3-6g	80	100	150	80	105	80	160	240	220

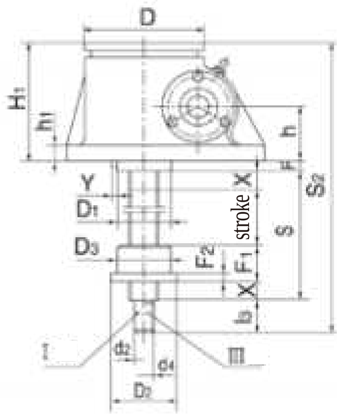
Note: The above dimension of S3, F3, I7 is without dust hood. Please refer to JWM dimension if dust hood is needed.

Output option(end fitting)

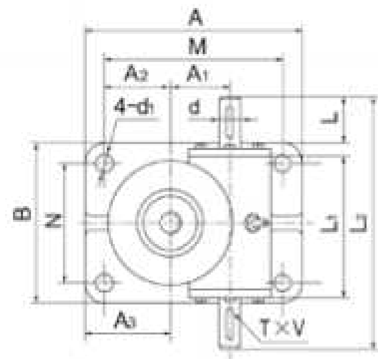
Installation A



Installation B



K direction

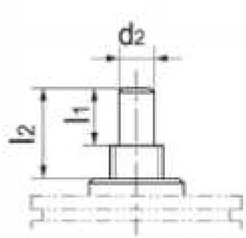


Size	S	S_1	S_2	A	B	M	N	H	H_1	h	h_1	d(k6)	d_1	GB1096	L	L_1	L_2	D	D_1	A_1	A_2	A_3	F	安全裕度 X	Y
SWL2.5	stroke+85	stroke+215	stroke+238.5	165	120	135	90	100	97	45	12	16	14	5 × 5 × 28	32	110.5	190	98	68	45.2	50	65	26.5	20	3
SWL5	stroke+100	stroke+270	stroke+300	212	155	168	114	131	131	61.5	14	20	17	6 × 6 × 27	30	132	228	122	83	56.2	58	80	30	20	3
SWL10 SWL15	stroke+125	stroke+335	stroke+359	235	200	190	155	160	150	70	16	25	21	8 × 7 × 38	42	172	280	150	110	66.8	63.5	86	34	25	1
SWL20	stroke+150	stroke+404	stroke+430	295	215	240	160	194	181	87	20	28	28	8 × 7 × 45	51	213.5	322	185	140	72	95	122.5	39	25	3
SWL25	stroke+170	stroke+476	stroke+513	350	260	280	190	226	211	102	25	32	35	10 × 8 × 45	51	221	355	205	160	97	95	140	52	25	3
SWL35	stroke+205	stroke+535	stroke+580	430	280	360	210	250	250	115	30	38	35	10 × 8 × 65	75	265	430	260	180	120	135	170	45	30	4

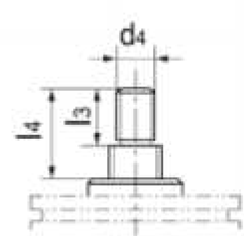
SWL

Output option(end fitting) and traveling nut dimension

I



III



Size	Traveling nut dimension				Output type			
					I		III	
	D_2	D_3 (h9)	F_1	F_2	d_2(k6)	l_1	d_4	l_3
SWL2.5	80	50	45	15	20	30	M22 × 1.5-6g	30
SWL5	87	70	60	18	25	40	M30 × 2-6g	39
SWL10 SWL15	110	90	75	25	40	50	M42 × 2-6g	50
SWL20	120	90	100	30	50	60	M48 × 2-6g	60
SWL25	155	130	120	35	70	63	M70 × 3-6g	63
SWL35	190	150	145	35	80	80	M80 × 3-6g	80

Reference table for standard use

Size		SWL2.5	SWL5	SWL10	SWL15	SWL20	SWL25	SWL35
Max. lifting(kN)		25	50	100	150	200	250	350
Outer screw diameter		Tr30 × 6	Tr40 × 7	Tr58 × 12		Tr65 × 12	Tr90 × 16	Tr100 × 20
Max. suspending(kN)		25	50	99		166	250	350
Ratio	P	1/6	1/8	3/23		1/8	3/32	3/32
	M	1/24	1/24	1/24		1/24	1/32	1/32
Screw movement/ per revolution of input shaft(mm)	P	1.0	0.875	1.565		1.56	1.5	1.875
	M	0.250	0.292	0.5		0.5	0.5	0.625
The max. stroke while lifting(mm)		1500	2000	2500		3000	3500	4000
The max. stroke while lifting(mm)	Without guide	250	385	500	400	490	850	820
	With guide	400	770	1000	800	980	1700	1640
Input shaft torque for max. loading(N·m)	P	18	39.5	119	179	240	366	464
	M	8.86	19.8	60	90	122	217	253
Overall efficiency	P	22	23	20.5		19.5	16	18
	M	11	11.5	13		12.8	9	11
Power(kW)		P=T × n/9550 { T: torque(N · m); n: speed(r/min) }						
Jack weight(without screw shaft)(kgs)		7.3	16.2	25		36	70.5	87
Screw shaft weight per 100mm(kgs)		0.45	0.82	1.67		2.15	4.15	5.20
Lubrication		合成钙钠基润滑脂 ZGN-1 或 ZGN-2（-20℃ ~ +100℃）						
Lubrication weight		0.1	0.3	0.5		0.75	1.1	1.9

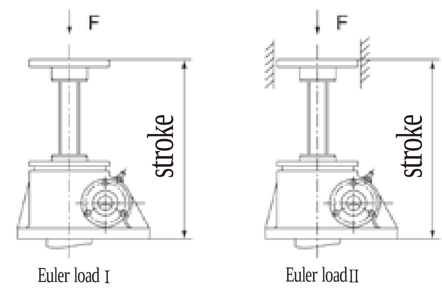
SWL

Screw shaft speed (lifting) and allowable load

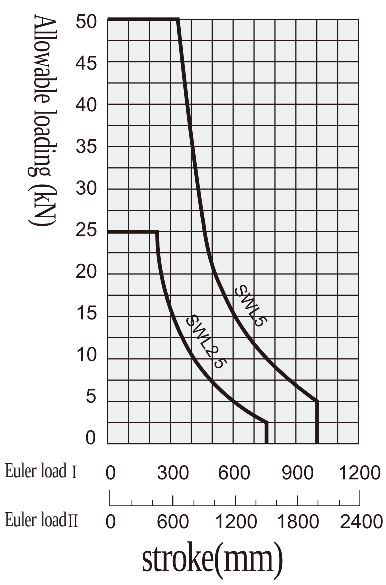
Size	Load (kN)	Lifting speed m/min (P)	Screw shaft speed r/min	Lifting speed m/min (L)	Screw shaft speed r/min	Size	Load (kN)	Lifting speed m/min (P)	Screw shaft speed r/min	Lifting speed m/min (L)	Screw shaft speed r/min
SWL2.5	25			0.0125	50	SWL20	200	0.15	100	0.10	200
	20			0.15	600		160	0.15	100	0.15	300
	15			0.188	750		120	0.30	200	0.15	300
	10			0.25	1000		100	0.30	200	0.25	500
	5			0.45	1800		75	0.45	300	0.375	750
SWL5	50	0.044	50	0.0146	50		50	0.75	500	0.50	1000
	40	0.264	300	0.175	600		25	1.50	1000	0.90	1800
	30	0.264	300	0.219	750	SWL25	250	0.075	50	0.025	50
	20	0.526	600	0.292	1000		200	0.15	100	0.10	200
	10	0.876	1000	0.525	1800		160	0.15	100	0.15	300
	5	1.575	1800	0.525	1800		130	0.30	200	0.15	300
SWL10	100	0.288	200	0.15	300		100	0.45	300	0.25	500
	75	0.432	300	0.25	500		75	0.45	300	0.30	600
	50	0.432	300	0.375	750		50	0.90	600	0.50	1000
	35	0.864	600	0.90	1800	SWL35	350	0.094	50	0.0313	50
	20	1.44	1000	0.90	1800		300	0.104	100	0.125	200
	10	2.592	1800	0.90	1800		250	0.208	100	0.188	300
SWL15	150	0.072	50	0.025	50		200	0.416	200	0.188	300
	100	0.288	200	0.15	300		150	0.624	300	0.313	500
	80	0.288	200	0.25	500		100	0.624	300	0.47	750
	60	0.432	300	0.30	600		50	1.248	600	0.626	1000
	40	0.720	500	0.50	1000						
	20	1.44	1000	0.90	1800						
	10	2.592	1800	0.90	1800						

Note: Above data is gotten in the case of operating in 20℃ ambient temperature, with in 20%ED.
When speed over above data, parts would be over heat.

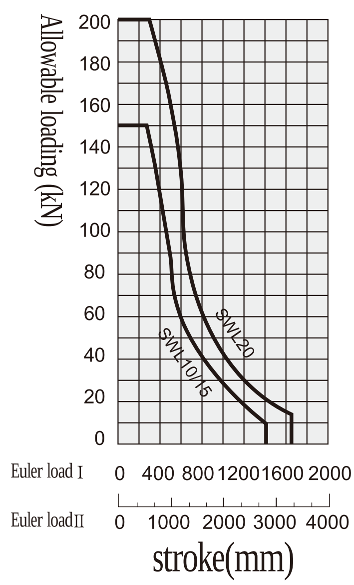
Associated graph of allowed loading of point distance



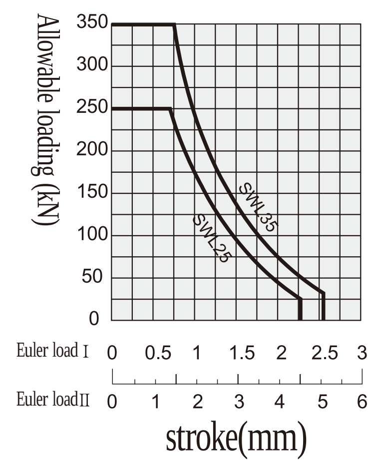
Graph 1



Graph 2



Graph 3



Graph 4

SWL

Type Selection:

According graph1-graph4 to select the appropriate screw jack size based on a specific load and stroke. Then verify the lifting speed via "Screw shaft speed (lifting) and allowable load " chart.

Example:
Known criteria: The load of the lifting platform: 20kN, stroke: 400mm, lifting speed: 0.65m/min.
Selection steps:
1. According to graph 2, SWL5 meets the requirement F=20kN, stroke=400mm.
2. According to the chart "Screw shaft speed (lifting) and allowable load " chart, SWL5 does not meet the speed requirement, and SWL10 is qualified, so SWL is selected.

Explanation:

1. When load is lighter, the stroke could be longer(Check it from graph2-graph4).
2. The allowable input torque, power, speed would be changed while the loading is changed.
3. Mode 1 uses grease lubrication, please add sufficient grease while temperature increasing.
4. The giving efficiency is a parameter in the grease-lubricated case.
5. The lubrication grease should be exchanged in time.
6. Ambient temperature: -20℃to 80℃.
7. SWL can be self-locked in stillness state.

JW series screw jack overview:

JWM (Machine type)

LOW SPEED **LOW FREQUENCY**

JWM (trapezoidal screw) is suitable for low speed and low frequency.

Main components: Precision trapezoid screw pair and high precision worm-gears pair.

1) Economical:
   Compact design, easy operation, convenient maintenance.
2) Low speed, low frequency:
   Be suitable for heavy load, low speed, low service frequency.
3) Self-locking
   Machine type screw jack come with a self locking device, it may be not effective with vibration or shock. Use a brake under such conditions.

Braking device equipped for self-lock will be of malfunction accidentally when large jolt & impact load occur.






JWB (General ball screw)

HIGH SPEED **HIGH FREQUENCY**

JWB (General ball screw) is suitable for high speed, high frequency and excellent performance.

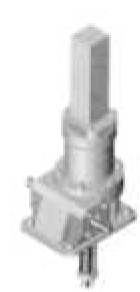
Main components: Precision ball screw pair and high precision worm-gears pair.

1) High efficiency
   Rolling friction improve efficiency greatly. A little drive power, more drive force.
2) High speed
   Compared with JWM, the speed is raise up more.
3) Lifetime longer
   High precision ball screw can make JWB's lifetime longer by 3 times comparing with JWB.

Note: It can not self-locking,braking devices or motor with braking devices are necessary when choosing JWB.



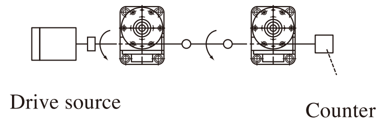


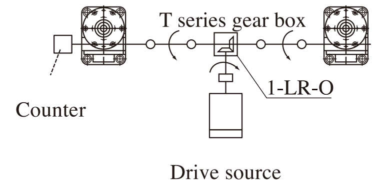
Arrangement type examples:

Two sets interlock：

LInear

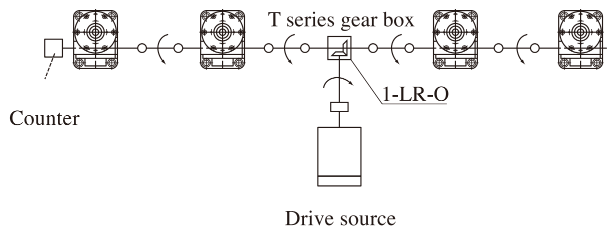


Layout T

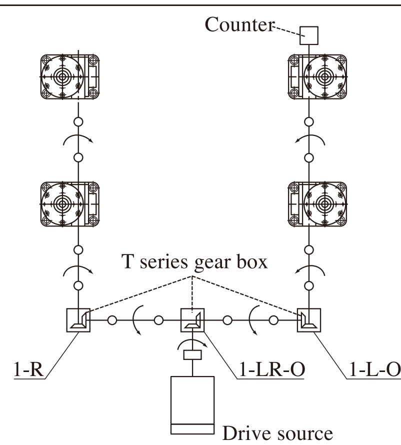


Four sets interlock:

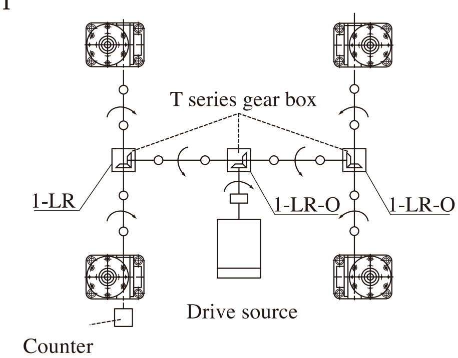
Layout T



Layout U

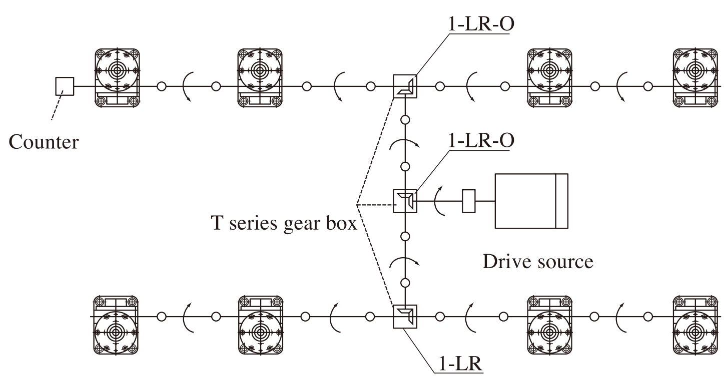


Layout H

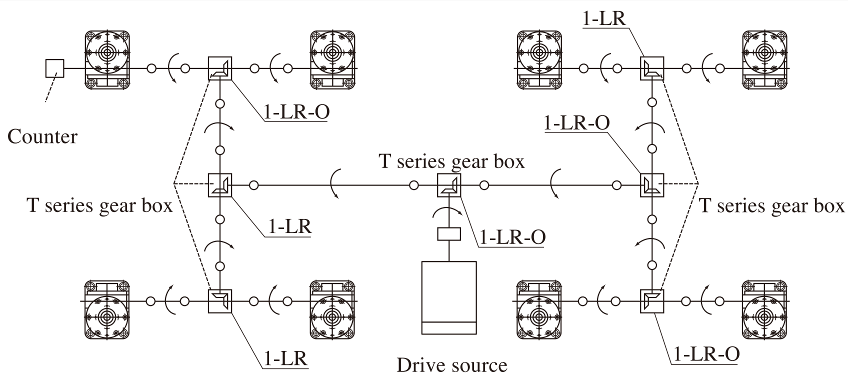


Eight sets interlock:

Layout H



Layout 2H



JW

Type desination

Ba

JW M 050 US – A H 100 J M C – I

- JW — JW series
- M — M(Machine type) / B(Ball screw type)
- 050 — Size
- US — US--Standard use for lifting / DS--Standard use for suspending / UM--Screw shaft anti-rotation specification for lifting / DM--Screw shaft anti-rotation specification for suspending
- A — Input shaft direction, A or B. It's would be omitted while it's bidirectional input shaft
- H — Ratio
- 100 — Stroke(mm)
- J — J Bellows
- M — Output option: B I M
- C — Support-mounted / Normal foot-mounted isn't marked
- I — Mounting positions Ⅰ、Ⅱ、Ⅲ

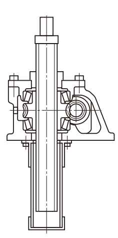
Plain mode (US, DS)

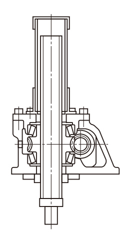
Worm wheel rotating, threaded spindles travel up and down.

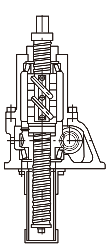
Ordinary mounting mode is applied here,

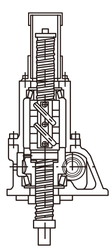
US: UPRISE DS: DROP

- ∗ Select US or DS according to the load and mounting positions.
- ∗ Anti-rotation measures must be taken because torque on screw will be caused when screw traveling up and down.


US


DS

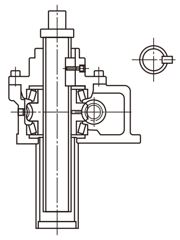

US

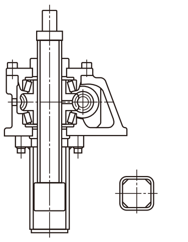

DS

With Anti-rotation device.

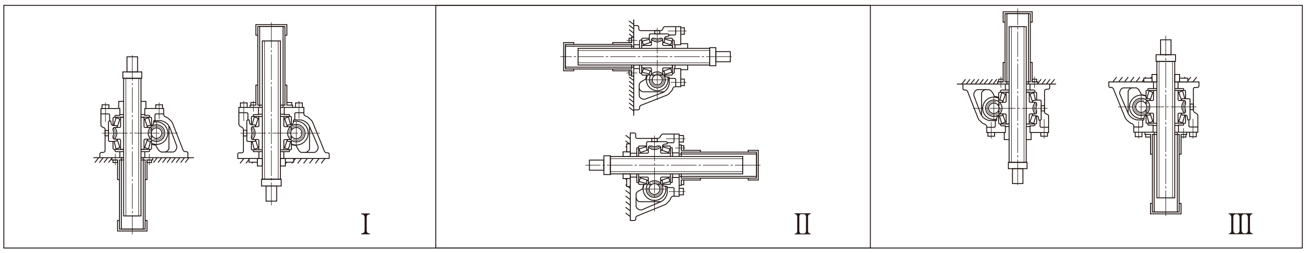
UM: UPRISE DM: DROP

- ∗ No rotation of screw, which only travel up and down.
- ∗ Select UM or DM according to the load and mounting positions.


(JWM100-JWM200)
UM


(JWM010-JWM050) (JWB010-JWB200)
DM

Mounting positions



Note: In mounting position , the class of the foundation bolts should be greater than 10.9.

Illustration of type with traveling nut

JW M 025 UR - A H 100 P I

- JW: JW series
- M: M(Machine type) / B(Ball screw type)
- 025: Size
- UR: UR-Traveling nut lifting / DR-Traveling nut suspending
- A: Input shaft direction, A or B. It's would be omitted while it's bidirectional input shaft
- H: Ratio
- 100: Stroke(mm)
- P: P R
- I: Mounting positions I、II、III

JW with Traveling nut

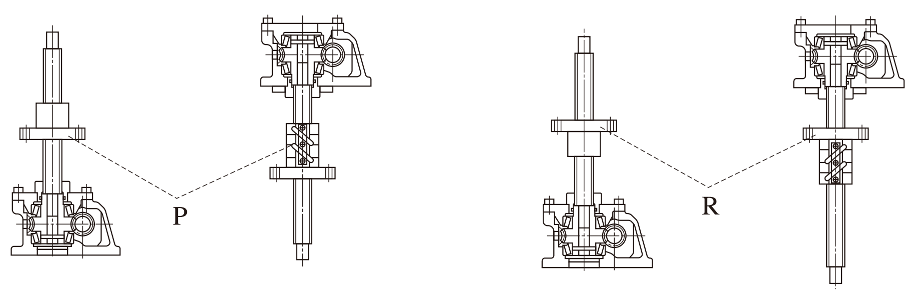
In general, Jack need enough space for screw's traveling journey and dust-hood. Using traveling nut can help jack realize longer traveling journey in limited space. The top end fittings are column, it can be a supporting point for a good transmission effect when a long traveling journey is selected.

UR: uprise DR: drop

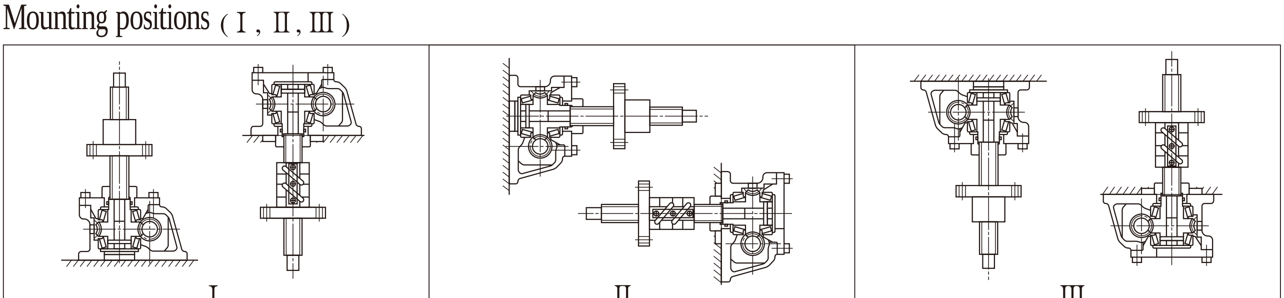
Select UR or DR according to the load and mounting positions.

Mounting direction of traveling nut (P, R)

The mounting direction of traveling nut should be signed on drawing when selecting types.



Mounting positions (I , II , III)



Note: In mounting position , the class of the foundation bolts should be greater than 10.9.

JWM(Machine type) basic parameter:

Size		JWM010	JWM025	JWM050	JWM100	JWM150	JWM200	JWM300	JWM500	JWM750	JWM1000
Max. loading(kN)		9.80	24.5	49.0	98.0	147	196	294	490	735	980
Screw rod external diamter(mm)		20	26	40	50	55	65	85	120	130	150
Screw bottom diameter (mm)		14.8	19.7	30.5	38.4	43.4	49.3	67	102	112	127
Screw rod bolt distance L1 (mm)		4	5	8	10	10	12	16	16	16	20
Ratio i	H Speed	5	6	6	8	8	8	$10\frac{2}{3}$	$10\frac{2}{3}$	$10\frac{2}{3}$	12
	L Speed	20	24	24	24	24	24	32	32	32	36
Comprehensive efficiency η	H Speed	21	21	22	22	20	20	19	15	13	13
	L Speed	12	12	14	15	14	13	11	10	8	8
Allowable input max. power (kW)	H Speed	0.49	1.0	2.0	2.8	3.1	5.0	8.4	13.4	14.4	21.4
	L Speed	0.36	0.46	0.63	1.4	2.2	3.2	4.6	5.7	7.2	9.4
Empty-loading torque T0(N·m)		0.29	0.62	1.4	2.0	2.6	3.9	9.8	19.6	29.4	39.2
Allowable input shaft torque* (N・m)		19.6	49.0	153.9	292.0	292.0	292.0	735.0	1372.0	1764.0	2450.0
Input shaft torque for max. loading** (N·m)	H Speed	6.2	16.1	48.7	90.7	149.0	238.1	400.1	856.0	1380.5	2040.9
	L Speed	2.9	7.4	20.0	45.3	72.3	124.0	244.0	453.3	761.3	1278.3
Screw shaft(traveling nut) movement/ per revolution of input shaft (mm)	H Speed	0.80	0.83	1.33	1.25	1.25	1.50	1.50	1.50	1.50	1.67
	L Speed	0.20	0.21	0.33	0.42	0.42	0.50	0.50	0.50	0.50	0.56
Allowable input shaft rotation speed(rpm)for max. loading (rpm)	H Speed	750	600	400	300	200	200	200	150	100	100
	L Speed	1200	600	300	300	290	250	180	120	90	70
Screw rod rotation torque during max. loading(N·m)		20.1	65.1	201.5	503.6	813.2	1287.7	2531.9	5551.3	8921.8	13878.3

"*" Allowable torque on input shaft of the gear unit.
"**" Including non-loading torque value.

JW

JWB (General ball screw) basic arameter table: p

Size		JWB010	JWB025	JWB050	JWB100	JWB150	JWB200	JWB300	JWB500
Max. loading(kN)		9.80	24.5	49.0	98.0	147	196	294	490
Screw rod external diamter(mm)		20	25	40	50	55	65	80	100
Screw bottom diameter (mm)		17.5	21.4	31.3	39.1	43.1	55.7	74.8	87
Screw rod bolt distance L1 (mm)		5	8	10	12	12	12	16	20
Ratio i	H Speed	5	6	6	8	8	8	$10\frac{2}{3}$	$10\frac{2}{3}$
	L Speed	20	24	24	24	24	24	32	32
Comprehensive efficiency η	H Speed	61	62	64	63	63	62	56	60
	L Speed	34	35	39	43	43	41	34	38
Allowable input max. power (kW)	H Speed	0.54	1.3	2.2	3.6	4.0	5.5	8.9	13.3
	L Speed	0.27	0.63	1.0	1.9	2.1	2.8	4.1	6.5
Empty-loading torque T0(N·m)		0.29	0.62	1.37	1.96	2.65	3.92	9.81	19.6
Keeping torque (N·m)	H Speed	1.27	4.31	10.78	19.6	39.2	51.0	68.6	140.1
	L Speed	0.26	0.91	2.4	5.8	11.8	15.0	19.5	41.2
Allowable input shaft torque* (N・m)		19.6	49.0	153.9	292.0	292.0	292.0	735.0	1372.0
Input shaft torque for max. loading** (N·m)	H Speed	2.8	9.0	21.5	39.1	77.0	104.5	169.6	317.5
	L Speed	1.4	4.3	9.6	20.4	39.6	54.2	98.5	177.9
Screw shaft(traveling nut) movement/ per revolution of input shaft (mm)	H Speed	1	1.33	1.67	1.5	1.5	1.5	1.5	1.88
	L Speed	0.25	0.33	0.42	0.5	0.5	0.5	0.5	0.63
Allowable input shaft rotation speed(rpm)for max. loading (rpm)	H Speed	1500	1400	1000	890	500	500	500	400
	L Speed	1500	1400	1000	890	500	500	400	350
Screw rod rotation torque during max. loading(N·m)		8.7	34.7	86.7	208.2	416.3	555.1	1040.9	2081.7

"*" Allowable torque on input shaft of the gear unit.
"**" Including non-loading torque value.

Notes:

◆None of static, dynamic or shock loads should exceed the max permissible load. Selection of a jack with sufficient capacity must be based on safety factor, stroke and screw stability.

◆Make sure that the speed matches the load. Verify the max permissible load, external permissible load and permitted rotary speed of the screw. In case these figures exceed those of the product, severe damage may occur in the machine.

◆The surface temperature of the reduction part and the travelling nut should be within −15～80℃.

◆Permissible speed of the input shaft is 1500r/min. Higher speed are not allowed.

◆J screw jacks are not designed for continuous duty circle. The unit of %ED for single screw jack is 30min J (Trapezoid screw) duty circle must be less than 20%ED

$$ED=\frac{\text{work time in one load circle}}{\text{work time in one load circle+rest time in one load circle}}\times 100\%$$

◆ If several screw jacks are arranged in an axial line, verify the strength of the input shaft and make sure the torque of each jack stay within the permissible input torque.

◆ Make sure the starting torque of the drive source is greater than 200% of the service torque.

◆ When working under below 0℃, the screw jack must be guaranteed by sufficient drive source, for its efficiency decreases as a result of the viscosity change in the grease.

◆ J has self−locking function theoretically, but may break down when working under heavy shock circumstance. So an additional break or a drive source with brake is recommended.

◆ The normal ambient environment: ambient temperature −10 to 40℃, ample space, good ventilation, altitude not exceeding 1000m and normal plant dust.

◆ When working in places with volume of dust, bellows should be supplied to guard the screw. In the open air, use the covers to protect the machine against rains and sunlight.

◆ Do not halt the screw jack intentionally during its operation, for it may cause severe damage to the product.

Type Selection:

Determination of screw jack type

(1) Calculation of total equivalent load Ws (N)

$Ws = Wmax \cdot f1(N)$

Driven Machine Factor :

Load Characteristic	Example	Factor for driven machine
Uniform load, small inertia	Shifting device for switches, valves and conveyors	$1.0 < f1 \leq 1.3$
Moderate shock load, medium inertia	Moving devices and elevators	$1.3 < f1 \leq 1.5$
Heavy shock load, large inertia	Transport goods with trolley; keep the positions of calendering roller	$1.5 < f1 \leq 3.0$

(2) Calculation of equivalent load of single jac kW(N):

$$W = \frac{Ws}{\text{Arrangment factor} \cdot \text{Number of jacks in arrangement} \quad fd}$$

Arrangement factor(fd)

Number of jacks in arrangement	1	2	3	4	5~8
Arrangement factor	1	0.95	0.9	0.85	0.8

(3) Initial selection of jack type

Make an initial selection of jack type by fully considering load, speed, travel, efficiency and drive source.

(4) Make final determination of screw jack type in view of stroke, ambient environment and top end fittings.

Verification of input power:

If the input power required is greater than the permissible input power, increase the size of the screw jack or decrease the speed of the screw.

Calculation of input power required:

Input speed required	n_1(r / min)	$n_1 = \frac{V}{L_1} \times i$
Input torque required	T_1(N · m)	$T_1 = \frac{W \times L_1}{2\pi \times i \times \eta} + T_0$
Input power required	P_1(kW)	$P_1 = \frac{T_1 \times n_1}{9550}$

V : Elevator screw shaft (flexible nut) lifting speed (m/min)
L_1: Screw rod pitch (m) i: Ratio
w: Equivalent load of single elevator (N) π : Circular constant
η : Comprehensive efficiency of elevator T_0: Empty loading torque (N · m)
(L_1、i、η、T_0 Refer to basic foundation table)

Verification of the screw stability

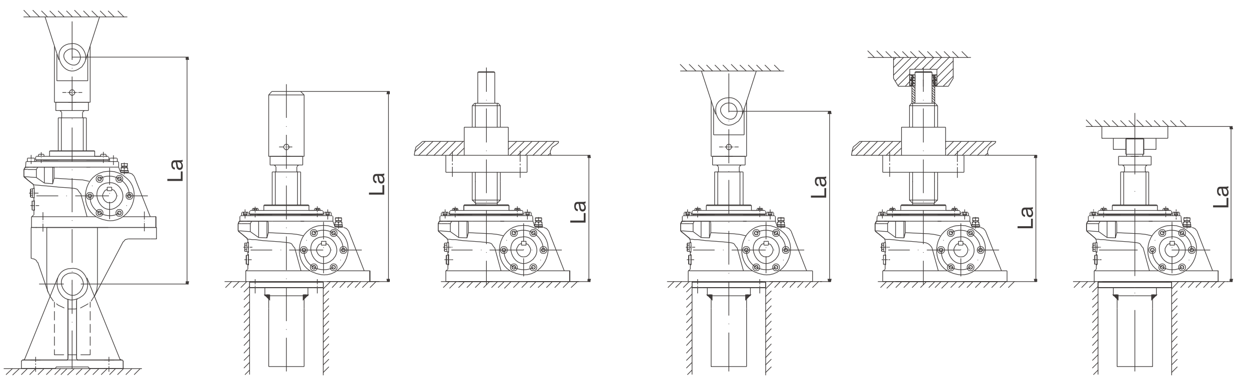
Verify the screw stability when the axial compression load exists. If the load is greater than the critical load, increase the sizes before calculation.

The critical load is calculated with the following formula:

$$P_{CR}=fm\times\left(\frac{d^2}{La}\right)^2 \quad \text{确保 ensure} \quad P_{CR}>W\times S_F(S_F=4)$$

P_{CR}: critical load
d: screw root diameter mm(see the table of technical data)
fm: support factor
La: distance between action points, mm
W: equivalent load of single jack(N)
S_F: safety factor(generally $S_F=4$)

For verification of the screw stability, choose La(based on the sizes) and fm (support factor) as follows



Two end supporting $fm=10\times10^4$ Foundation solid shaft end freedom $fm=10\times10^4$ Foundation fixed shaft end support or fixing $fm=10\times10^4$

Verification of critical speed:

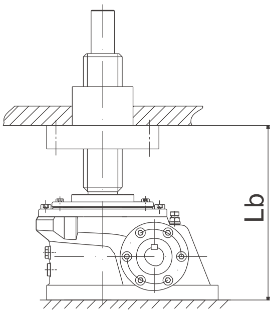
If select travelling nut type, the rotary speed of the screw must be lower than the critical speed; if vice versa, increase the size before calculation.

$$n_c = \frac{96 \times fn \times d \times 10^6}{Lb^2} \qquad n_s = \frac{n_1}{i}$$

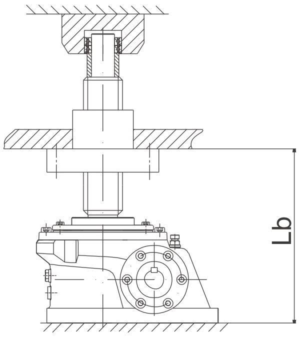
n_c: critical speed r/min
d: screw root diameter mm(see the table of basic parameters)
f_n: length factor
L_b: distance between supports, mm
n_s: screw speed
n_1: input speed r/min
i: ratio(see the table of basic parameters)

Lb (as per the sizes) and fn (length factor) are as follows in verifying the rotary speed of screw.

Movable shaft end fn=0.36



Supporting shaft end fn=1.56



Calculation example: J200NU−1200HA−D1 Input speed is 1200r/min，run under shaft end support, check according to outline dimension and transmisson capacity：
i=9.667 d=52 Lb=1432

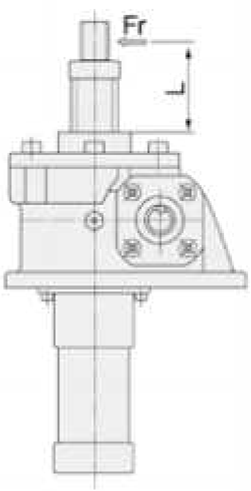
$$n_s = \frac{n_1}{i} = \frac{1200}{9.667} = 124 \text{ r/min}$$

$$n_c = \frac{96 \times fn \times d \times 10^6}{Lb^2} = \frac{96 \times 1.56 \times 52 \times 10^6}{(1432)^2} = 3798 \text{ r/min}$$

n_c=3798 r/min>124 r/min ....ok

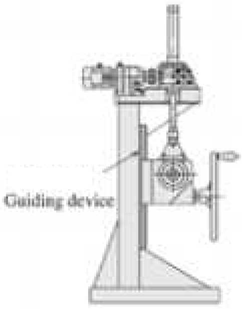
When there is radial load, please add guiding device.

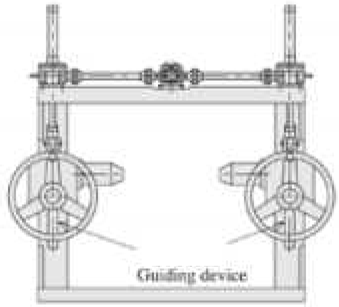
Permissible radial force for JWM:

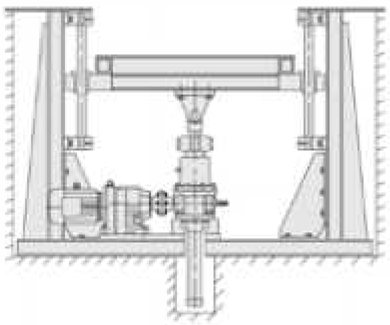


Fr(N) / L (mm) \ Size	010	025	050	100	150	200	300	500	750	1000
100	318	570	2500	4010	4610	8210	38200	85300	73500	186200
200	159	290	1250	2010	2300	4110	23000	50400	56800	145000
300	106	190	830	1340	1540	2740	15300	33600	46100	104700
400	79	140	620	1000	1150	2050	11400	25200	39300	78500
500	64	110	500	800	920	1640	9100	20200	33900	62800
600	53	100	420	670	770	1370	7600	16800	29900	52300
700	51	90	360	570	660	1170	6500	14400	26700	44800
800	48	90	310	500	580	1030	5700	12600	24100	39200
900	45	90	280	450	510	910	5000	11200	22000	34800
1000	42	90	250	400	460	820	4500	10100	20200	31300

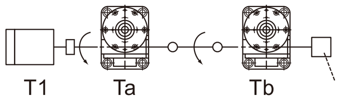
When there is an excess of permissible radial force in JWM, please add a guiding device. See the illustration as below:







When two or more screw jacks are arranged in the same axial line as below, verify the strength of the input shaft of each jack.

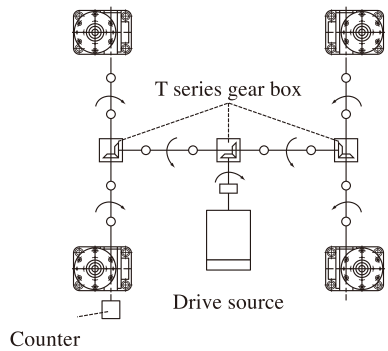


Ta: Input torque required for jack a.
Tb: Input torque required for jack b.
The torque required by motor T1=Ta+Tb<permissible input torque of jack a.

Examples of type selection:

Known criteria:

1. The axial load of the lifting platform: 88kN, lifting speed: 600mm/min, stroke: 260mm.
2. Normal motor: 4 pole, speed n1=1452r/min.
3. Load characteristic: moderate, operating 8h/d, starts per hour: 2.
4. Mounting mode: 4 jacks, layout H, foot-mounted with fixed shaft end.
5. Radial load, guiding device on one side of the jack.



Selection steps:

1. Calculation of the total equivalent load Ws(driven machine factor f1=1.3), Ws=Wmax*f1=88200*1.3=114660N
2. Calculation of equivalent load of single jack:

$$W=\frac{114660}{4\times0.85}=33724N$$

3. Initial selection of jack type:

JWB050USH selected after considering speed, efficiency, drive source, load and stroke allowance(In reference to the table of technical data, permissible load and distance between action points. If H/L ratio is difficult to determine, use H ratio temporarily)

4. Verification of input power of single jack.

(1)Input power required by single jack:

① $n_1=\frac{V}{L_1}\times i=\frac{0.60}{0.010}\times6=360r/min$

② $T_1=\frac{W\times L_1}{2\pi\times i\times\eta}+T_0=\frac{33724\times0.010}{2\times3.14\times6\times0.64}+1.37=15.4Nm$

③ $P_1=\frac{T_1\times n_1}{9550}=\frac{15.4\times360}{9550}=0.58kW$

(2) According to the table of technical data, P max=2.0kW>P1 is ok

… …OK

5. Verification of the screw stability:

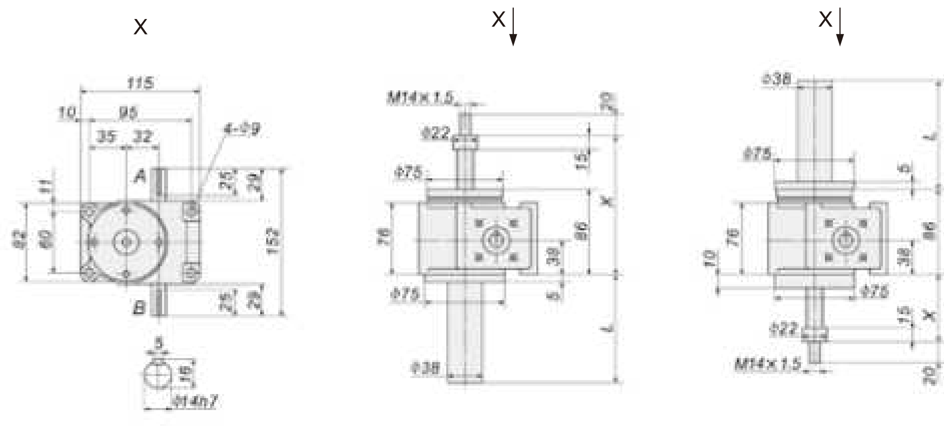
d=31.3　　La=604+33=637　　$fm=20\times10^4$　　SF=4

$$P_{CR}=fm\times\left(\frac{d^2}{La}\right)^2=20\times10^4\times\left(\frac{31.3^2}{637}\right)^2=473073N$$

$$P_F=\frac{P_{CR}}{SF}=\frac{473073}{4}=118268>W=33724$$

… …OK

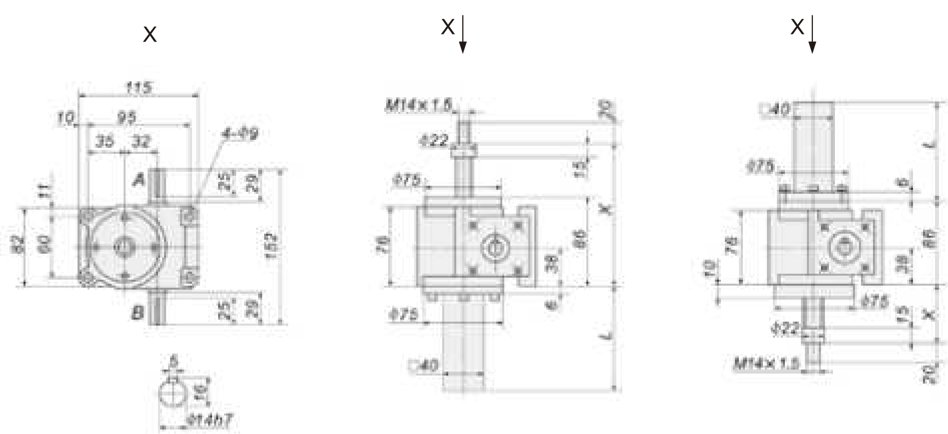
JWM010



JWM010US JWM010DS

(mm) Journey	US X MIN	US X MAX	US X(1) MIN	US X(1) MAX	L	m (kg)
100	101	201	161	261	194	5.5
200	101	301	161	361	294	5.7
300	101	401	201	501	434	6.1
400	101	501	201	601	534	6.3
500	101	601	236	736	669	6.6
600	101	701	236	836	769	6.9
800	101	901	271	1071	1004	7.5

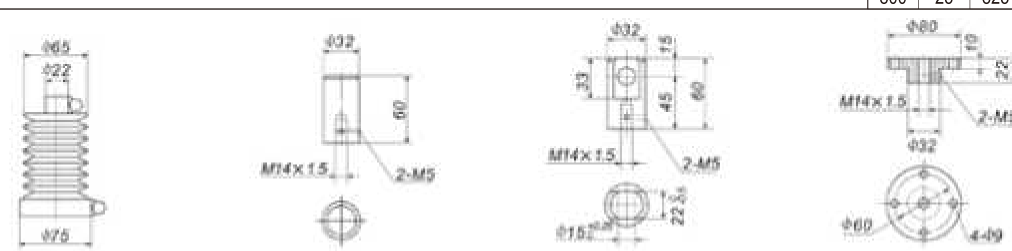
(mm) Journey	DS X MIN	DS X MAX	DS X(1) MIN	DS X(1) MAX	L	m (kg)
100	25	125	75	175	194	5.5
200	25	225	75	275	294	5.7
300	25	325	115	415	434	6.1
400	25	425	115	515	534	6.3
500	25	525	150	650	669	6.6
600	25	625	150	750	769	6.9
800	25	825	185	985	1004	7.5



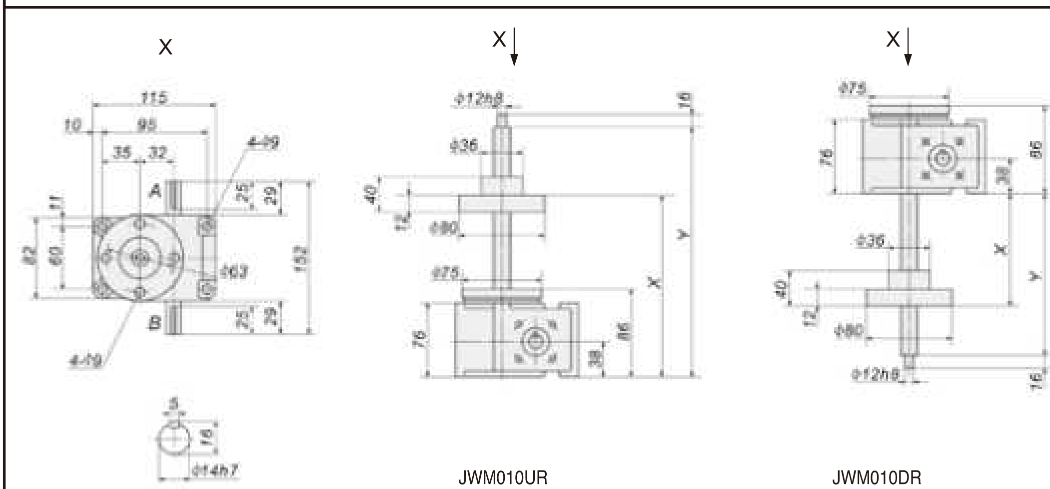
JWM010UM JWM010DM

(mm) Journey	UM X MIN	UM X MAX	UM X(1) MIN	UM X(1) MAX	L	m (kg)
100	101	201	161	261	194	6.6
200	101	301	161	361	294	7.2
300	101	401	201	501	434	8.1
400	101	501	201	601	534	8.8
500	101	601	236	736	669	9.6
600	101	701	236	836	769	11
800	101	901	271	1071	1004	12

(mm) Journey	DM X MIN	DM X MAX	DM X(1) MIN	DM X(1) MAX	L	m (kg)
100	25	125	75	175	194	6.6
200	25	225	75	275	294	7.2
300	25	325	115	415	434	8.1
400	25	425	115	515	534	8.8
500	25	525	150	650	669	9.6
600	25	625	150	750	769	11
800	25	825	185	985	1004	12



J B I M



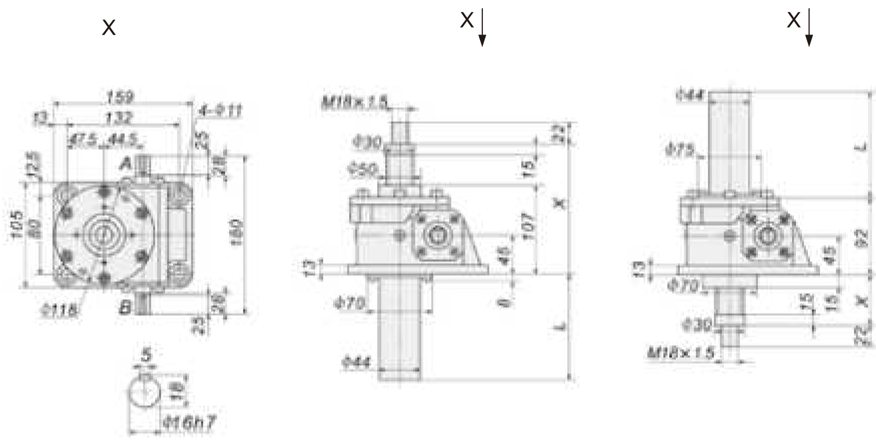
JWM010UR JWM010DR

(mm) Journey	UR X MIN	UR X MAX	Y	m (kg)
100	108	208	246	5.9
200	108	308	346	6.1
300	108	408	446	6.2
400	108	508	546	6.4
500	108	608	646	6.6
600	108	708	746	6.8
800	108	908	946	7.2

(mm) Journey	DR X MIN	DR X MAX	Y	m (kg)
100	50	150	160	5.9
200	50	250	260	6.1
300	50	350	360	6.2
400	50	450	460	6.4
500	50	550	560	6.6
600	50	650	660	6.8
800	50	850	860	7.2

Note: "X(1)" is the dimension of jack with bellows.

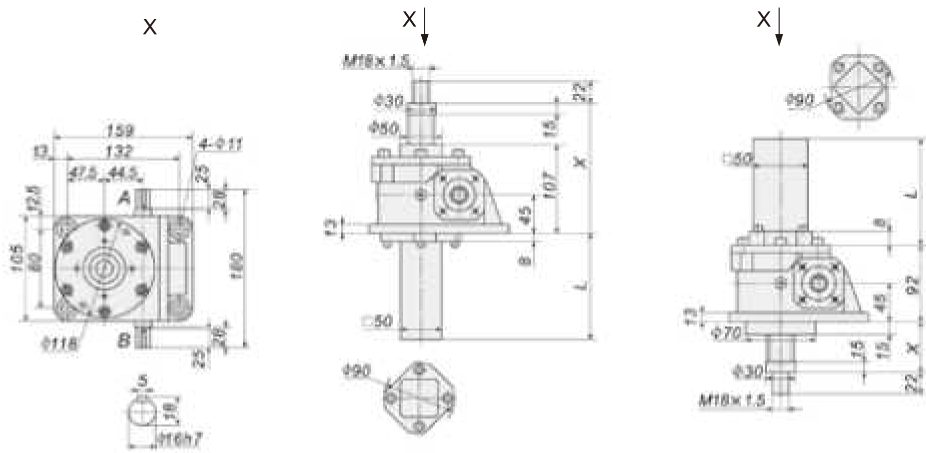
JWM025



JWM025US JWM025DS

Journey (mm)	U S					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	132	232	147	247	149	7.7
200	132	332	147	347	249	8.1
300	132	432	167	467	369	8.5
400	132	532	167	567	469	8.9
500	132	632	187	687	589	9.4
600	132	732	187	787	689	9.8
800	132	932	207	1007	909	11
1000	132	1132	227	1227	1129	12

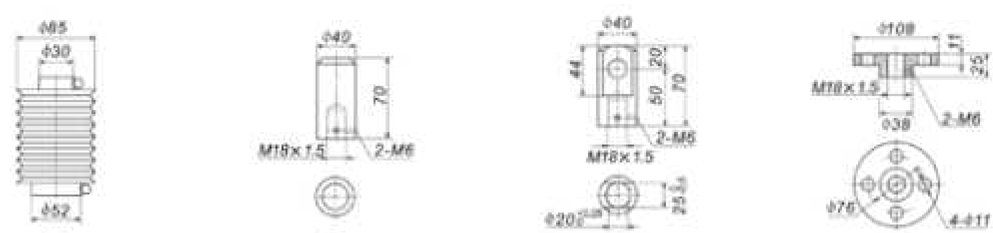
Journey (mm)	D S					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	57	157	149	7.7
200	42	242	57	257	249	8.1
300	42	342	77	377	369	8.5
400	42	442	77	477	469	8.9
500	42	542	97	597	589	9.4
600	42	642	97	697	689	9.8
800	42	842	117	917	909	11
1000	42	1042	137	1137	1129	12



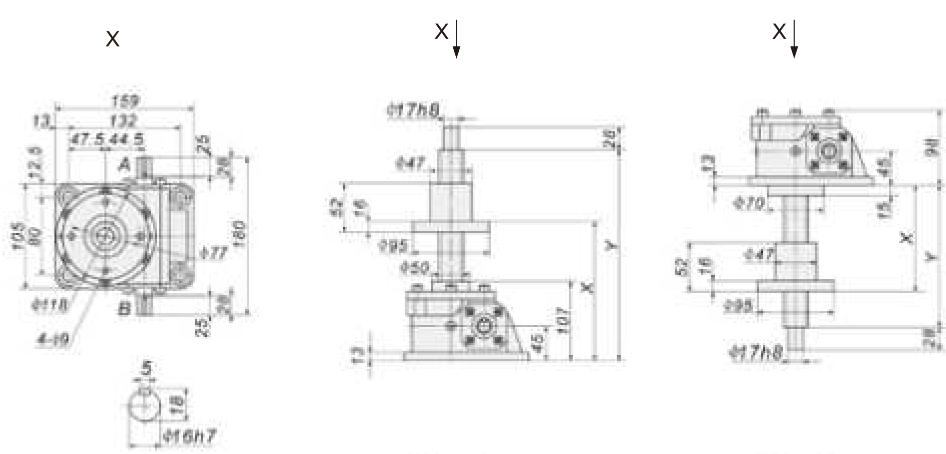
JWM025UM JWM025DM

Journey (mm)	U M					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	132	232	147	247	175	10
200	132	332	147	347	275	12
300	132	432	167	467	395	13
400	132	532	167	567	495	14
500	132	632	187	687	615	15
600	132	732	187	787	715	17
800	132	932	207	1007	935	19
1000	132	1132	227	1227	1155	21

Journey (mm)	D M					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	57	157	175	10
200	42	242	57	257	275	12
300	42	342	77	377	395	13
400	42	442	77	477	495	14
500	42	542	97	597	615	15
600	42	642	97	697	715	17
800	42	842	117	917	935	19
1000	42	1042	137	1137	1155	21



J B I M



JWM025UR JWM025DR

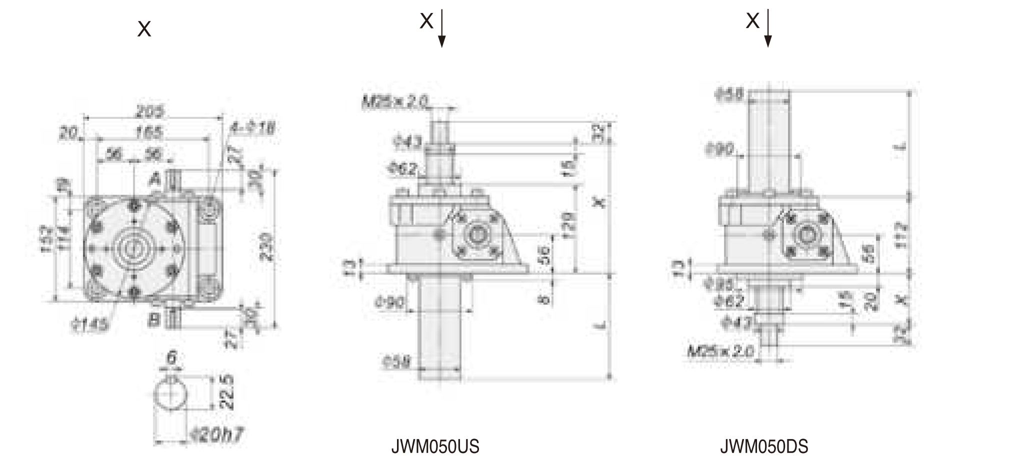
Journey (mm)	U R			
	X		Y	m (kg)
	MIN	MAX		
100	133	233	279	9.2
200	133	333	379	9.5
300	133	433	479	9.9
400	133	533	579	11
500	133	633	679	11
600	133	733	779	11
800	133	933	979	12
1000	133	1133	1179	13

Journey (mm)	D R			
	X		Y	m (kg)
	MIN	MAX		
100	79	179	189	9.2
200	79	279	289	9.5
300	79	379	389	9.9
400	79	479	489	11
500	79	579	589	11
600	79	679	689	11
800	79	879	889	12
1000	79	1079	1089	13

Note: "X(1)" is the dimension of jack with bellows.

JW

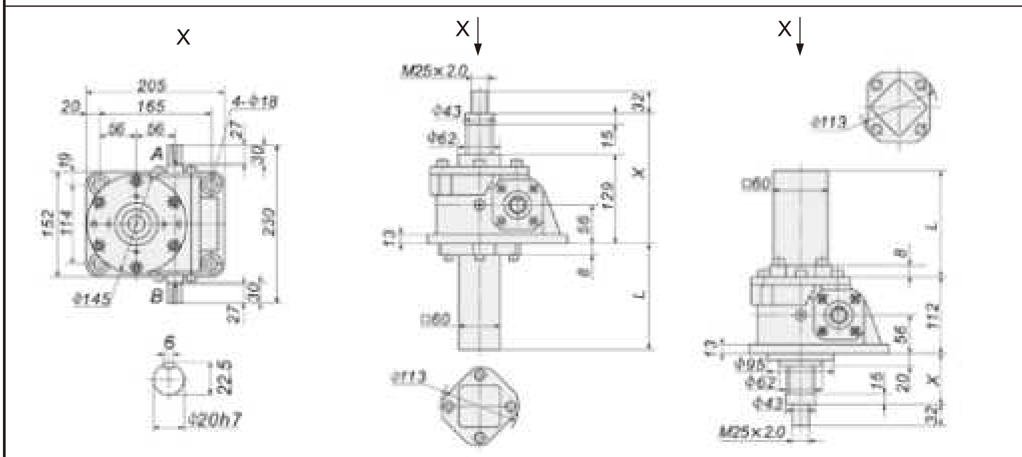
JWM050



JWM050US JWM050DS

(mm) Journey	U S					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	154	254	169	269	147	18
200	154	354	169	369	247	19
300	154	454	189	489	367	20
400	154	554	189	589	467	21
500	154	654	209	709	587	22
600	154	754	209	809	687	23
800	154	954	229	1029	907	25
1000	154	1154	249	1249	1127	27

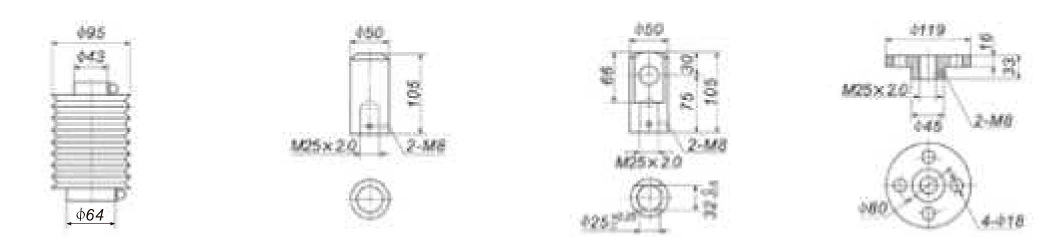
(mm) Journey	D S					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	57	157	147	18
200	42	242	57	257	247	19
300	42	342	77	377	367	20
400	42	442	77	477	467	21
500	42	542	97	597	587	22
600	42	642	97	697	687	23
800	42	842	117	917	907	25
1000	42	1042	137	1137	1127	27



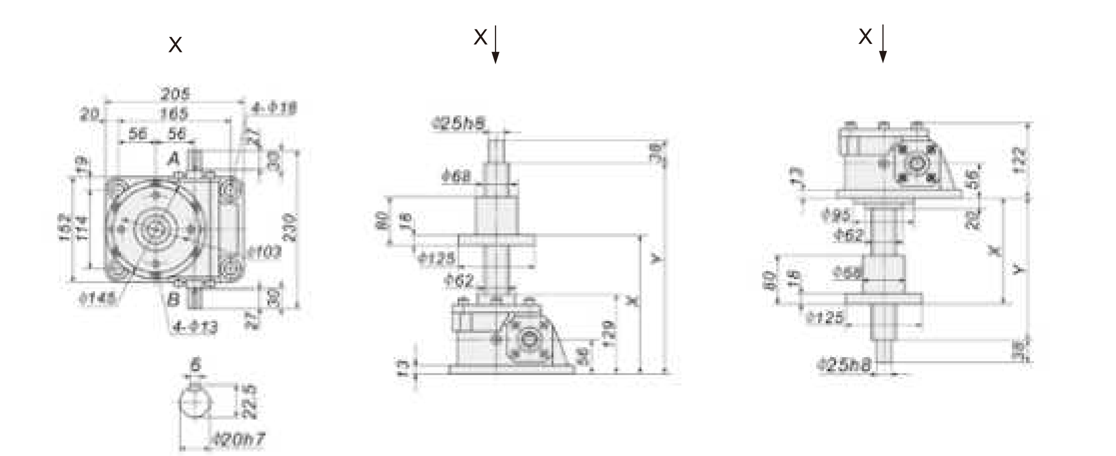
JWM050UM JWM050DM

(mm) Journey	U M					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	154	254	169	269	175	22
200	154	354	169	369	275	24
300	154	454	189	489	395	26
400	154	554	189	589	495	28
500	154	654	209	709	615	30
600	154	754	209	809	715	32
800	154	954	229	1029	935	36
1000	154	1154	249	1249	1155	40

(mm) Journey	D M					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	57	157	175	22
200	42	242	57	257	275	24
300	42	342	77	377	395	26
400	42	442	77	477	495	28
500	42	542	97	597	615	30
600	42	642	97	697	715	32
800	42	842	117	917	935	36
1000	42	1042	137	1137	1155	40



J B I M



JWM050UR JWM050DR

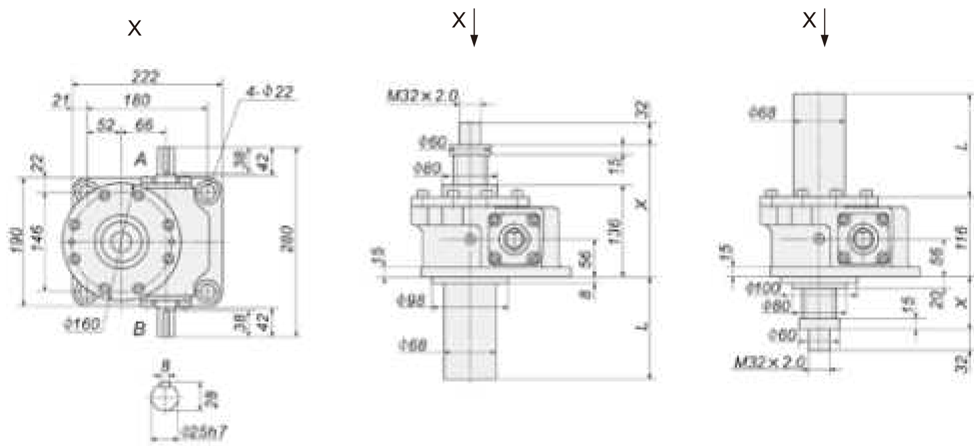
(mm) Journey	U R			
	X		Y	m (kg)
	MIN	MAX		
100	157	257	330	22
200	157	357	430	22
300	157	457	530	23
400	157	557	630	24
500	157	657	730	25
600	157	757	830	26
800	157	957	1030	27
1000	157	1157	1230	29

(mm) Journey	D R			
	X		Y	m (kg)
	MIN	MAX		
100	107	207	218	22
200	107	307	318	22
300	107	407	418	23
400	107	507	518	24
500	107	607	618	25
600	107	707	718	26
800	107	907	918	27
1000	107	1107	1118	29

Note: "X(1)" is the dimension of jack with bellows.

JW

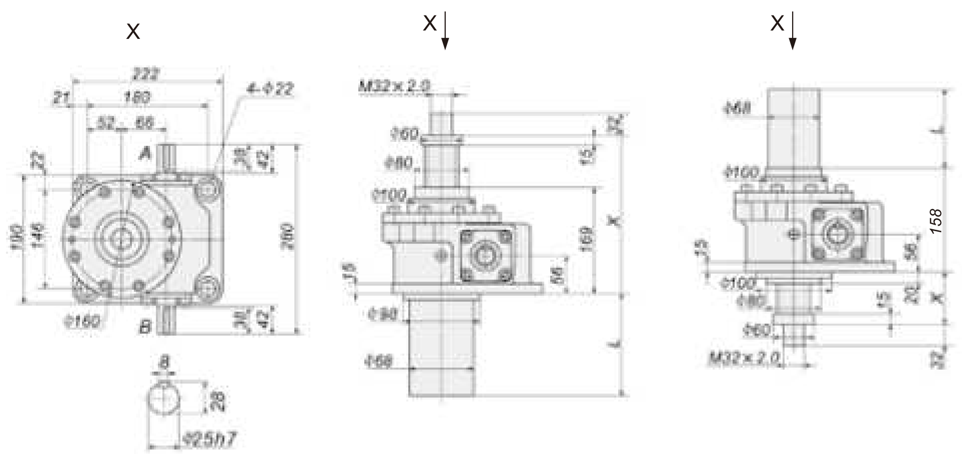
JWM100



JWM100US JWM100DS

Journey (mm)	U S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	161	261	171	271	151	27
200	161	361	171	371	252	29
300	161	461	186	486	366	32
400	161	561	186	586	466	34
500	161	661	211	711	591	37
600	161	761	211	811	691	40
800	161	961	226	1026	906	45
1000	161	1161	236	1236	1116	50
1200	161	1361	261	1461	1341	56

Journey (mm)	D S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	42	142	52	152	151	27
200	42	242	52	252	252	29
300	42	342	67	367	366	32
400	42	442	67	467	466	34
500	42	542	92	592	591	37
600	42	642	92	692	691	40
800	42	842	107	907	906	45
1000	42	1042	117	1117	1116	50
1200	42	1242	142	1342	1341	56

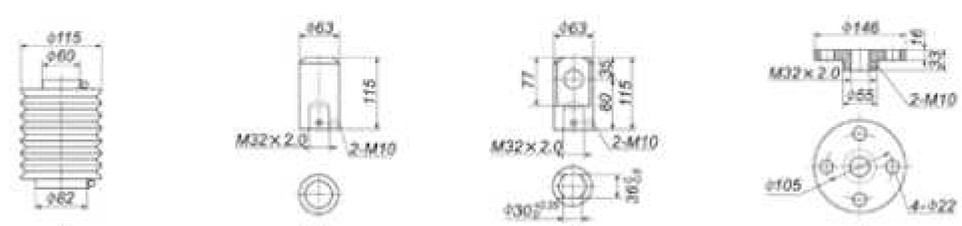


JWM100UM JWM100DM

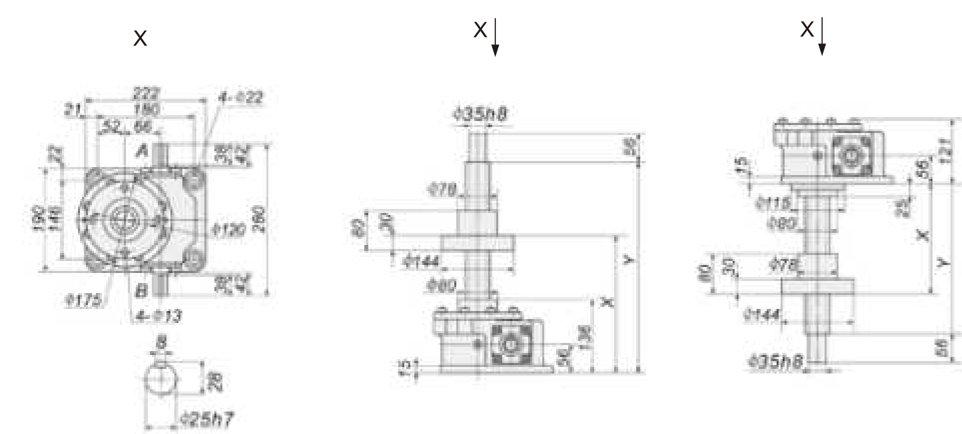
Journey (mm)	U M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	194	294	204	304	151	30
200	194	394	204	404	252	32
300	194	494	219	519	366	35
400	194	594	219	619	466	37
500	194	694	244	744	591	40
600	194	794	244	844	691	43
800	194	994	259	1059	906	48
1000	194	1194	269	1269	1116	53
1200	194	1394	294	1494	1341	58

Journey (mm)	D M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	42	142	52	152	151	30
200	42	242	52	252	252	32
300	42	342	67	367	366	35
400	42	442	67	467	466	37
500	42	542	92	592	591	40
600	42	642	92	692	691	43
800	42	842	107	907	906	48
1000	42	1042	117	1117	1116	53
1200	42	1242	142	1342	1341	58

JW



J B I M



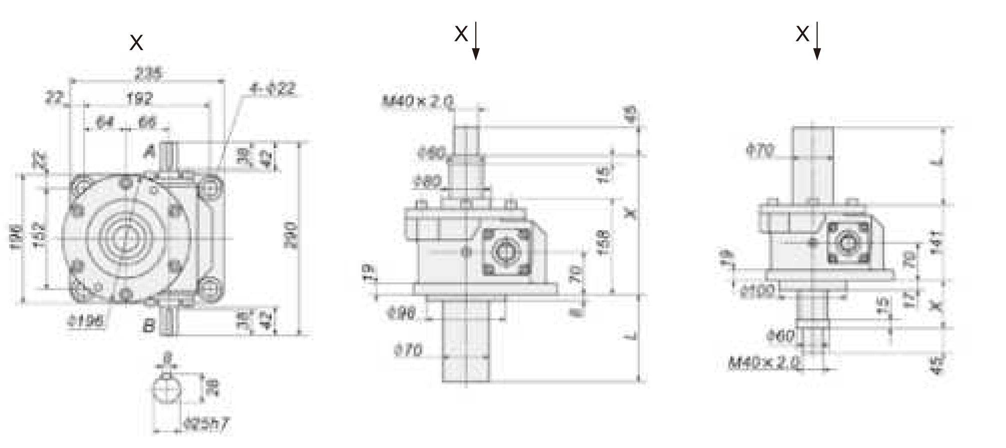
JWM100UR JWM100DR

Journey (mm)	U R X MIN	X MAX	Y	m (kg)
100	184	284	344	32
200	184	384	444	33
300	184	484	544	34
400	184	584	644	36
500	184	684	744	37
600	184	784	844	38
800	184	984	1044	41
1000	184	1184	1244	43
1200	184	1384	1444	45

Journey (mm)	D R X MIN	X MAX	Y	m (kg)
100	115	215	225	32
200	115	315	325	33
300	115	415	425	34
400	115	515	525	36
500	115	615	625	37
600	115	715	725	38
800	115	915	925	41
1000	115	1115	1125	43
1200	115	1315	1325	45

Note: "X(1)" is the dimension of jack with bellows.

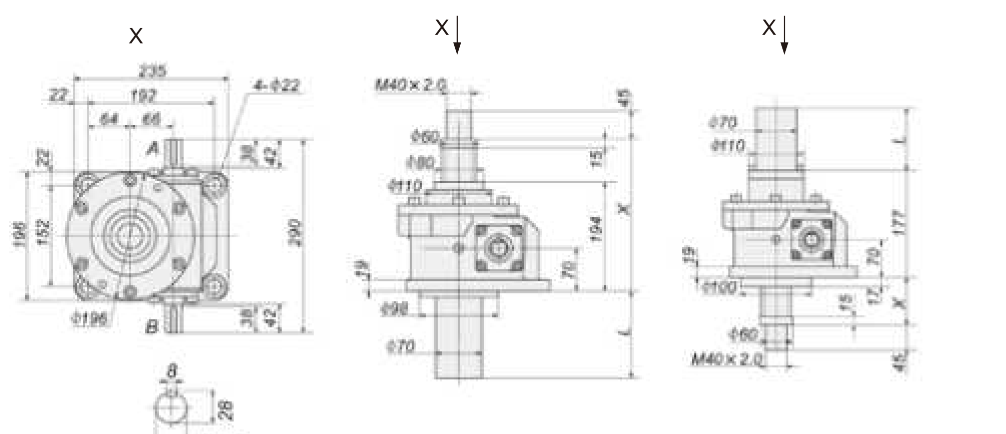
JWM150



JWM150US JWM150DS

(mm) Journey	US					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	183	283	193	293	151	33
200	183	383	193	393	252	35
300	183	483	208	508	366	38
400	183	583	208	608	466	41
500	183	683	233	733	591	45
600	183	783	233	833	691	47
800	183	983	248	1048	906	53
1000	183	1183	258	1258	1116	59
1200	183	1383	283	1483	1341	65

(mm) Journey	DS					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	33
200	42	242	52	252	252	35
300	42	342	67	367	366	38
400	42	442	67	467	466	41
500	42	542	92	592	591	45
600	42	642	92	692	691	47
800	42	842	107	907	906	53
1000	42	1042	117	1117	1116	59
1200	42	1242	142	1342	1341	65

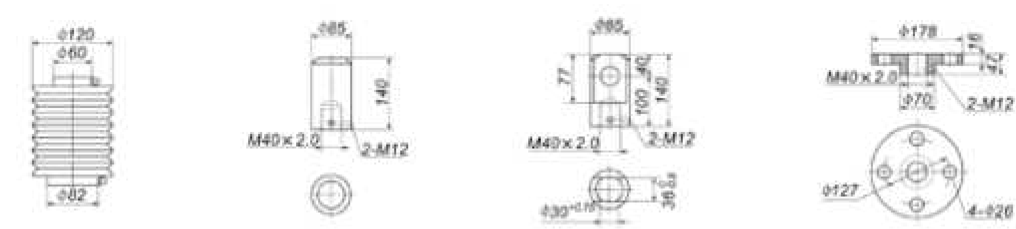


JWM150UM JWM150DM

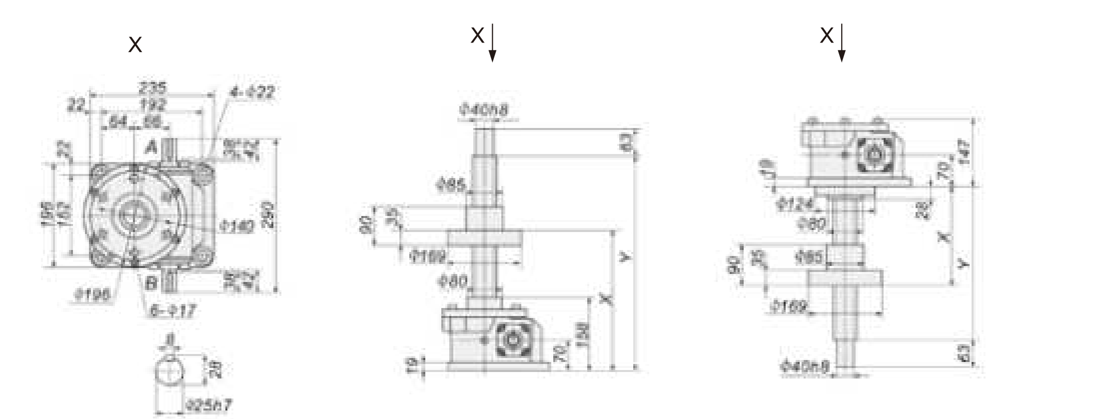
(mm) Journey	UM					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	219	319	229	329	151	37
200	219	419	229	429	252	40
300	219	519	244	544	366	43
400	219	619	244	644	466	46
500	219	719	269	769	591	49
600	219	819	269	869	691	52
800	219	1019	284	1084	906	58
1000	219	1219	294	1294	1116	64
1200	219	1419	319	1519	1341	69

(mm) Journey	DM					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	37
200	42	242	52	252	252	40
300	42	342	67	367	366	43
400	42	442	67	467	466	46
500	42	542	92	592	591	49
600	42	642	92	692	691	52
800	42	842	107	907	906	58
1000	42	1042	117	1117	1116	64
1200	42	1242	142	1342	1341	69

JW



J B I M



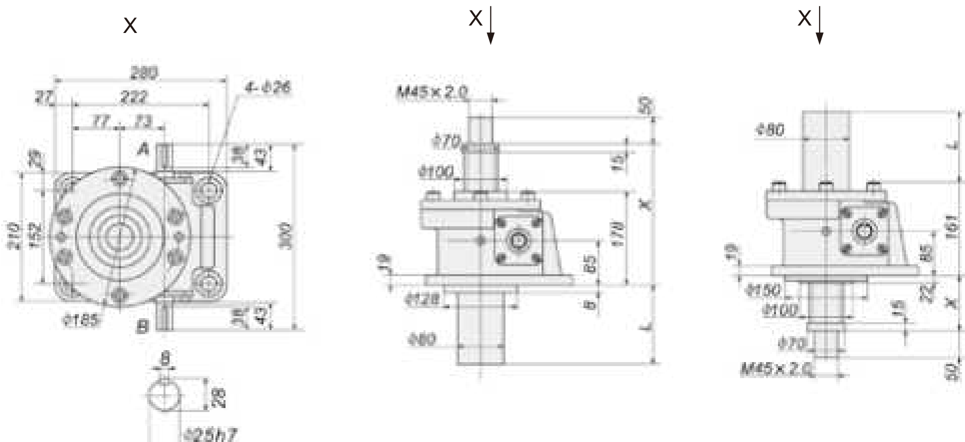
JWM150UR JWM150DR

(mm) Journey	UR			
	X		Y	m (kg)
	MIN	MAX		
100	214	314	379	40
200	214	414	479	42
300	214	514	579	43
400	214	614	679	45
500	214	714	779	46
600	214	814	879	48
800	214	1014	1079	51
1000	214	1214	1279	54
1200	214	1414	1479	57

(mm) Journey	DR			
	X		Y	m (kg)
	MIN	MAX		
100	128	228	239	40
200	128	328	339	42
300	128	428	439	43
400	128	528	539	45
500	128	628	639	46
600	128	728	739	48
800	128	928	939	51
1000	128	1128	1139	54
1200	128	1328	1339	57

Note: "X(1)" is the dimension of jack with bellows.

JWM200

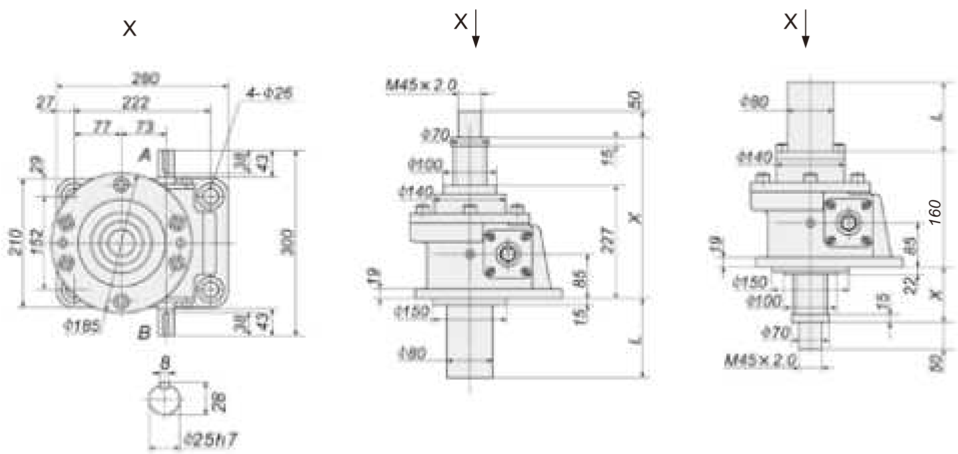


JWM200US

JWM200DS

(mm) Journey	U S					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	203	303	213	313	151	42
200	203	403	213	413	252	45
300	203	503	228	528	366	49
400	203	603	228	628	466	53
500	203	703	253	753	591	57
600	203	803	253	853	691	60
800	203	1003	268	1068	906	67
1000	203	1203	278	1278	1116	74
1200	203	1403	303	1503	1341	81

(mm) Journey	D S					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	42
200	42	242	52	252	252	45
300	42	342	67	367	366	49
400	42	442	67	467	466	53
500	42	542	92	592	591	57
600	42	642	92	692	691	60
800	42	842	107	907	906	67
1000	42	1042	117	1117	1116	74
1200	42	1242	142	1342	1341	81



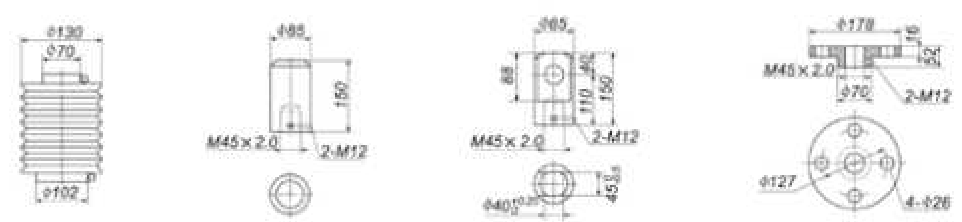
JWM200UM

JWM200DM

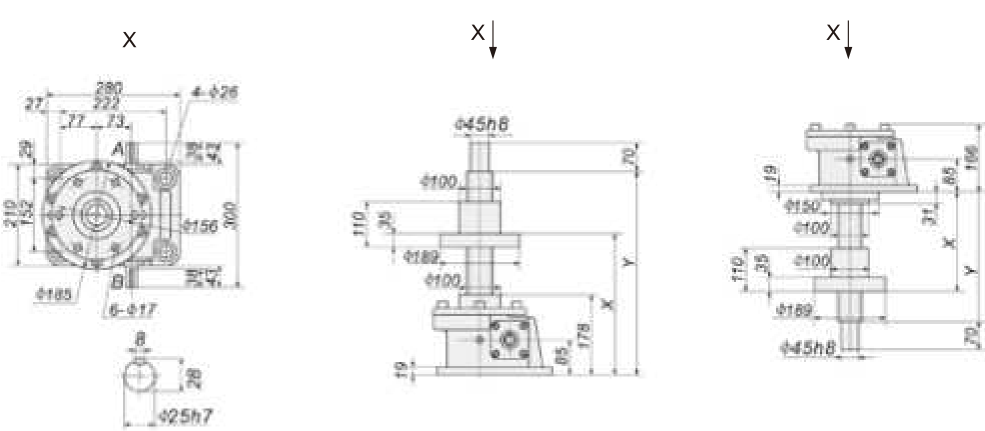
(mm) Journey	U M					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	252	352	262	362	151	51
200	252	452	262	462	252	55
300	252	552	277	577	366	58
400	252	652	277	677	466	62
500	252	752	302	802	591	66
600	252	852	302	902	691	69
800	252	1052	317	1117	906	76
1000	252	1252	327	1327	1116	83
1200	252	1452	352	1552	1341	90

(mm) Journey	D M					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	51
200	42	242	52	252	252	55
300	42	342	67	367	366	58
400	42	442	67	467	466	62
500	42	542	92	592	591	66
600	42	642	92	692	691	69
800	42	842	107	907	906	76
1000	42	1042	117	1117	1116	83
1200	42	1242	142	1342	1341	90

JW



J B I M



JWM200UR

JWM200DR

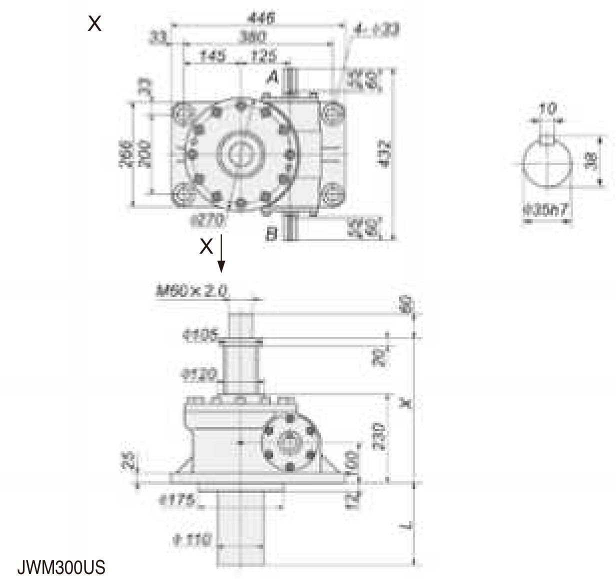
(mm) Journey	U R			
	X		Y	m (kg)
	MIN	MAX		
100	237	337	422	56
200	237	437	522	58
300	237	537	622	60
400	237	637	722	62
500	237	737	822	64
600	237	837	922	66
800	237	1037	1122	71
1000	237	1237	1322	75
1200	237	1437	1522	79

(mm) Journey	D R			
	X		Y	m (kg)
	MIN	MAX		
100	151	251	261	56
200	151	351	361	58
300	151	451	461	60
400	151	551	561	62
500	151	651	661	64
600	151	751	761	66
800	151	951	961	71
1000	151	1151	1161	75
1200	151	1351	1361	79

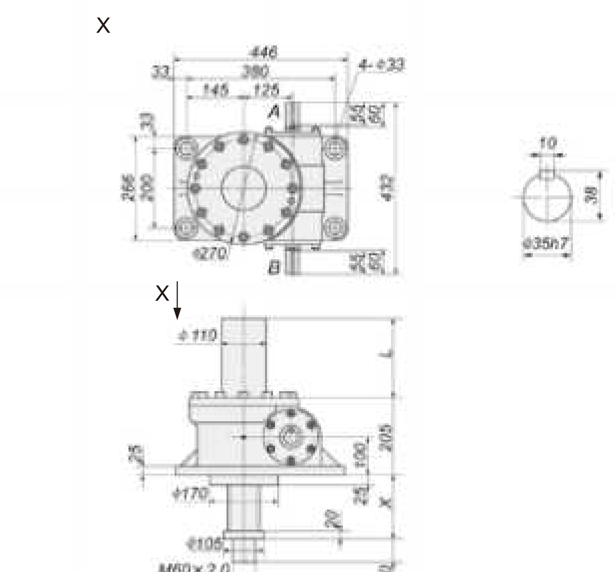
Note: "X(1)" is the dimension of jack with bellows.

JWM300

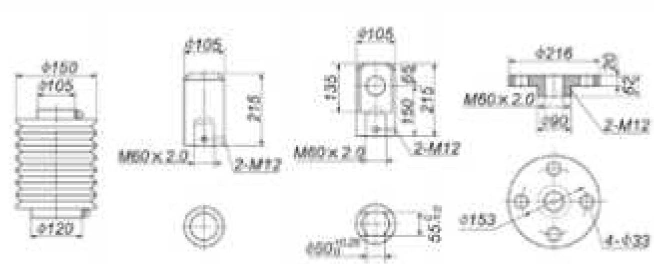
(mm) Journey	U S					D S					m (kg)
	X		X(1)		L	X		X(1)		L	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX		
100	255	355	265	365	160	55	155	65	165	160	118
200	255	455	265	465	260	55	255	65	265	260	123
300	255	555	280	580	375	55	355	80	380	375	128
400	255	655	280	680	475	55	455	80	480	475	134
500	255	755	295	795	590	55	555	95	595	590	139
600	255	855	295	895	690	55	655	95	695	690	145
800	255	1055	310	1110	905	55	855	110	910	905	155
1000	255	1255	330	1330	1125	55	1055	130	1130	1125	167
1200	255	1455	340	1540	1335	55	1255	140	1340	1335	177
1500	255	1755	365	1865	1660	55	1555	165	1665	1660	194



JWM300US



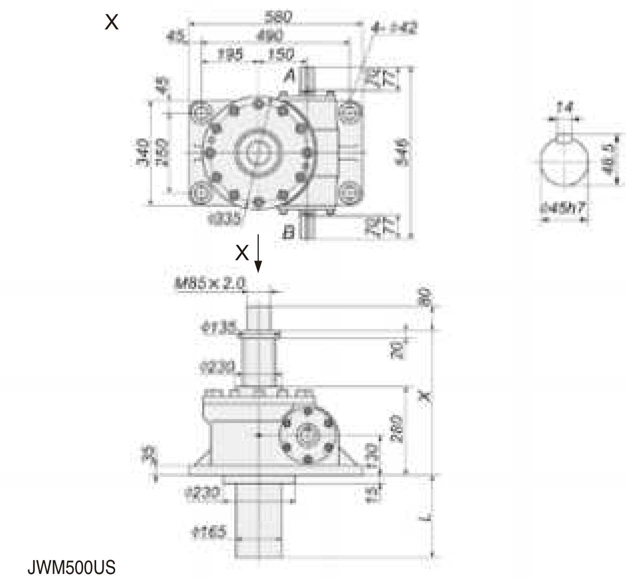
JWM300DS



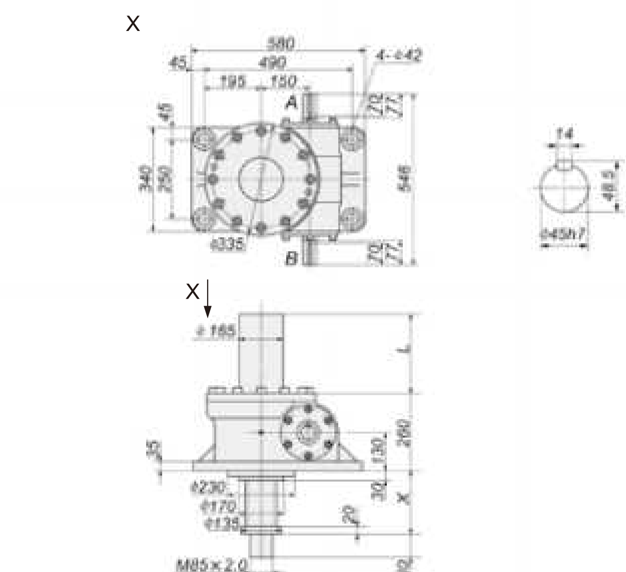
J B I M

JWM500

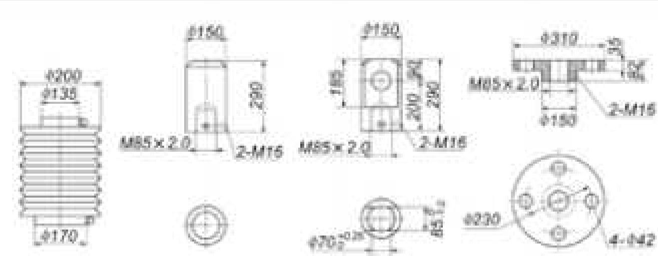
(mm) Journey	U S					D S					m (kg)
	X		X(1)		L	X		X(1)		L	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX		
100	315	415	320	420	165	55	155	60	160	165	248
200	315	515	320	520	265	55	255	60	260	265	260
300	315	615	340	640	385	55	355	80	380	385	273
400	315	715	340	740	485	55	455	80	480	485	284
500	315	815	350	850	595	55	555	90	590	595	297
600	315	915	350	950	695	55	655	90	690	695	308
800	315	1115	365	1165	910	55	855	105	905	910	332
1000	315	1315	380	1380	1125	55	1055	120	1120	1125	357
1200	315	1515	390	1590	1335	55	1255	130	1330	1335	380
1500	315	1815	410	1910	1665	55	1555	150	1650	1665	417
2000	315	2315	445	2445	2190	55	2055	185	2185	2190	477



JWM500US



JWM500DS

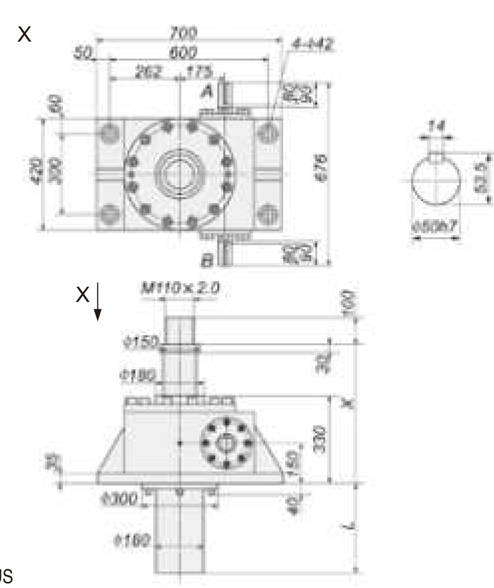


J B I M

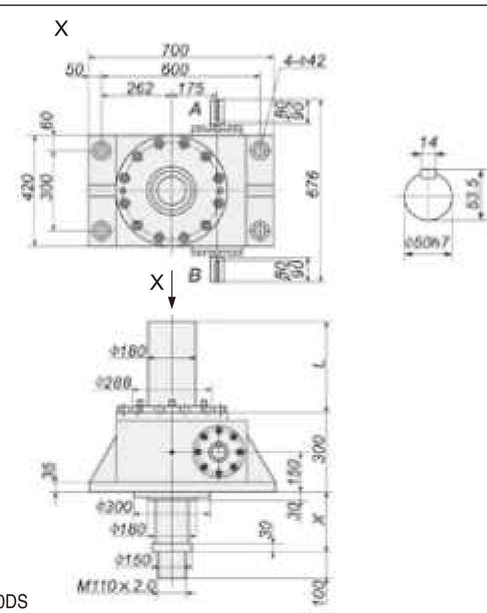
Note: "X(1)" is the dimension of jack with bellows.

JWM750

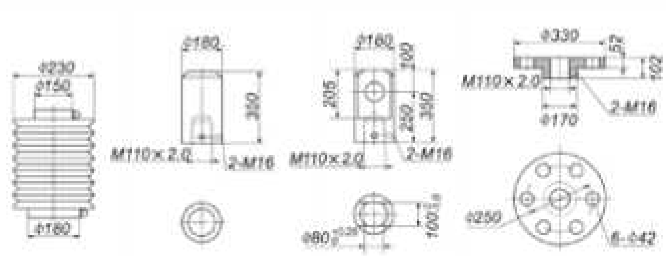
(mm) Journey	US					DS					m (kg)
	X		X(1)		L	X		X(1)		L	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX		
100	370	470	380	480	165	70	170	80	180	165	370
200	370	570	380	580	265	70	270	80	280	265	384
300	370	670	395	695	385	70	370	95	395	385	401
400	370	770	395	795	485	70	470	95	495	485	415
500	370	870	410	910	595	70	570	110	610	595	431
600	370	970	410	1010	695	70	670	110	710	695	445
800	370	1170	425	1225	910	70	870	125	925	910	476
1000	370	1370	435	1435	1125	70	1070	135	1135	1125	506
1200	370	1570	450	1650	1335	70	1270	150	1350	1335	536
1500	370	1870	465	1965	1665	70	1570	165	1665	1665	581
2000	370	2370	500	2500	2190	70	2070	200	2200	2190	657



JWM750US



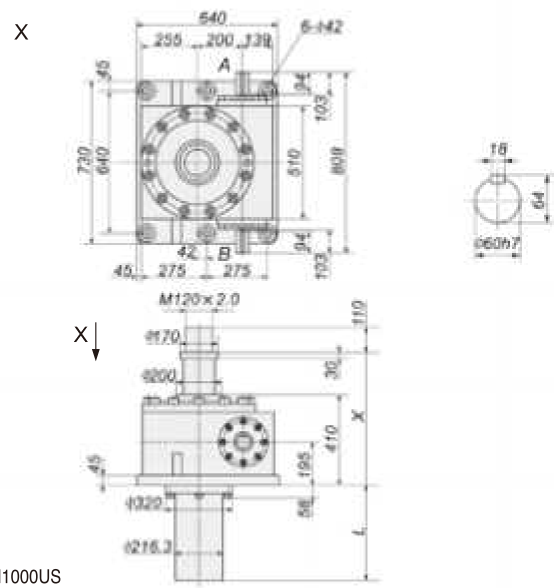
JWM750DS



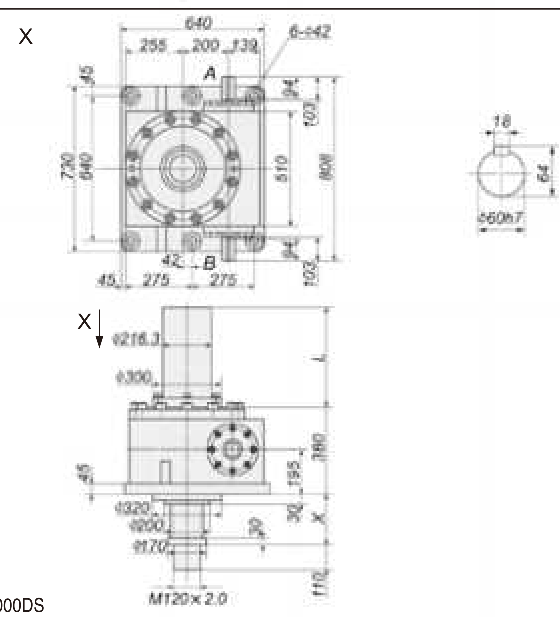
J B I M

JWM1000

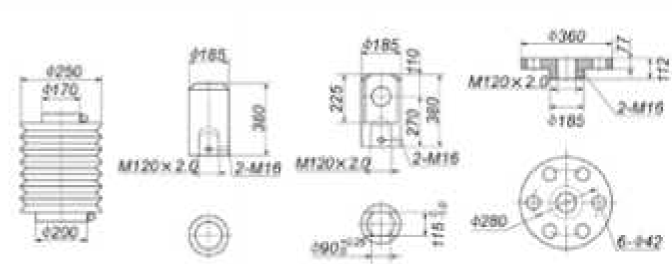
(mm) Journey	US					DS					m (kg)
	X		X(1)		L	X		X(1)		L	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX		
100	450	550	460	560	165	70	170	80	180	165	748
200	450	650	460	660	265	70	270	80	280	265	766
300	450	750	475	775	385	70	370	95	395	385	787
400	450	850	475	875	485	70	470	95	495	485	805
500	450	950	485	985	595	70	570	105	605	595	824
600	450	1050	485	1085	695	70	670	105	705	695	842
800	450	1250	500	1300	910	70	870	120	920	910	881
1000	450	1450	510	1510	1125	70	1070	130	1130	1125	918
1200	450	1650	525	1725	1335	70	1270	145	1345	1335	957
1500	450	1950	545	2045	1665	70	1570	165	1665	1665	1014
2000	450	2450	575	2575	2190	70	2070	195	2195	2190	1109



JWM1000US



JWM1000DS

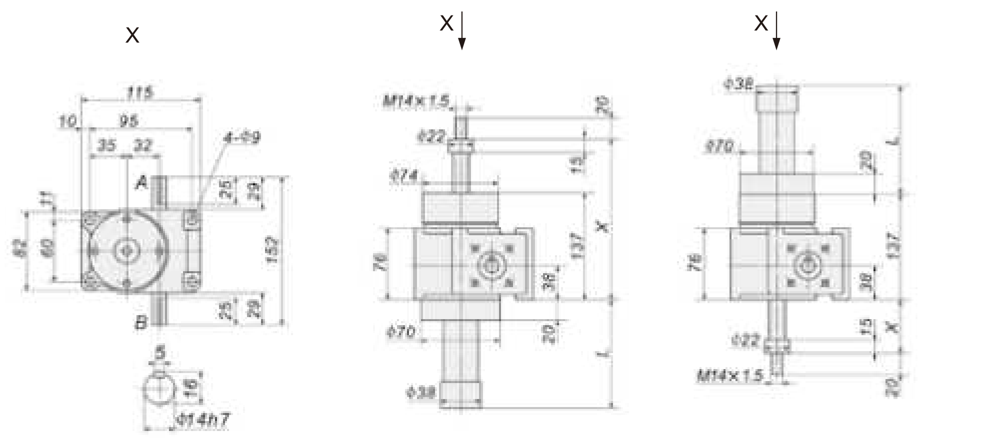


J B I M

Note: "X(1)" is the dimension of jack with bellows.

JW

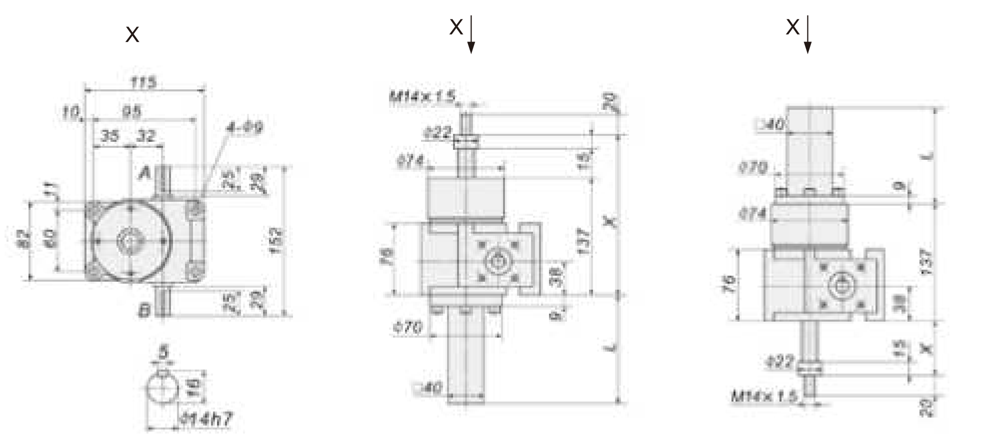
JWB010



JWB010US　　JWB010DS

(mm) Journey	U S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	162	262	212	312	194	6.7
200	162	362	212	412	294	7.0
300	162	462	252	552	434	7.4
400	162	562	252	652	534	7.6
500	162	662	287	787	669	8.0
600	162	762	287	887	769	8.2

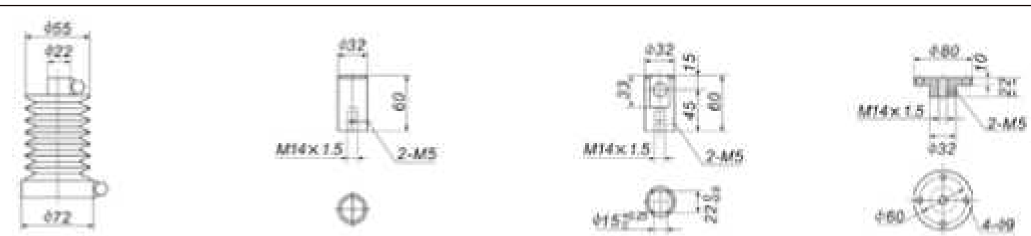
(mm) Journey	D S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	25	125	75	175	194	6.7
200	25	225	75	275	294	7.0
300	25	325	115	415	434	7.4
400	25	425	115	515	534	7.6
500	25	525	150	650	669	8.0
600	25	625	150	750	769	8.2



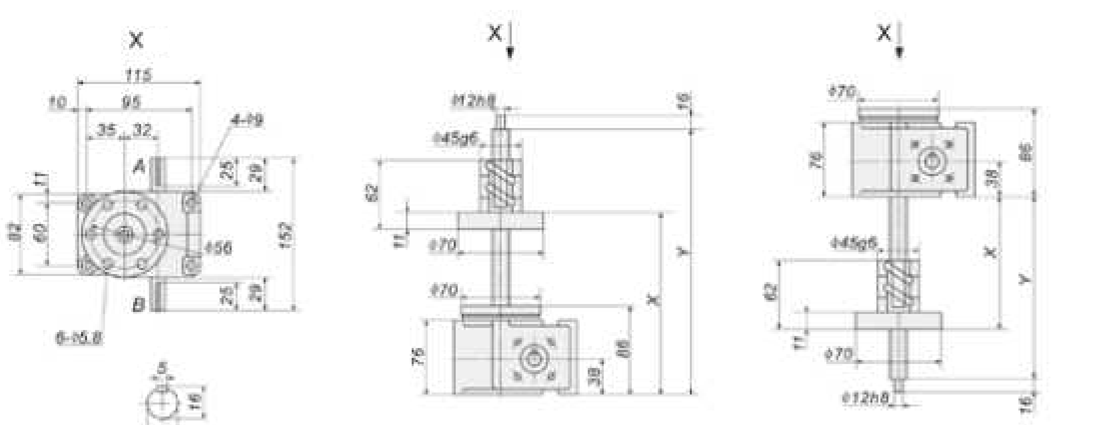
JWB010UM　　JWB010DM

(mm) Journey	U M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	162	262	212	312	194	7.5
200	162	362	212	412	294	8.2
300	162	462	252	552	434	9.1
400	162	562	252	652	534	9.8
500	162	662	287	787	669	11
600	162	762	287	887	769	12

行程 (mm) Journey	D M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	25	125	75	175	194	7.5
200	25	225	75	275	294	8.2
300	25	325	115	415	434	9.1
400	25	425	115	515	534	9.8
500	25	525	150	650	669	11
600	25	625	150	750	769	12



J　B　I　M



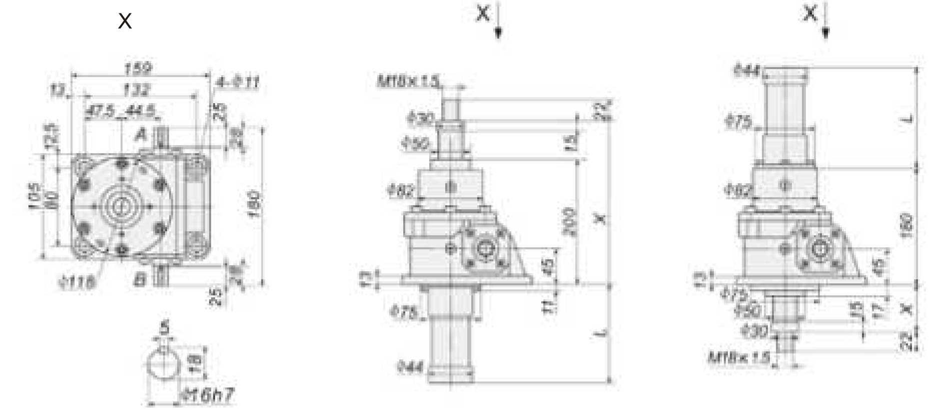
JWB010UR　　JWB010DR

(mm) Journey	U R X MIN	X MAX	Y	m (kg)
100	108	208	265	5.9
200	108	308	365	6.1
300	108	408	465	6.4
400	108	508	565	6.6
500	108	608	665	6.8
600	108	708	765	7.0

(mm) Journey	D R X MIN	X MAX	Y	m (kg)
100	69	169	179	5.9
200	69	269	279	6.1
300	69	369	379	6.4
400	69	469	479	6.6
500	69	569	579	6.8
600	69	669	679	7.0

Note: "X(1)" is the dimension of jack with bellows.

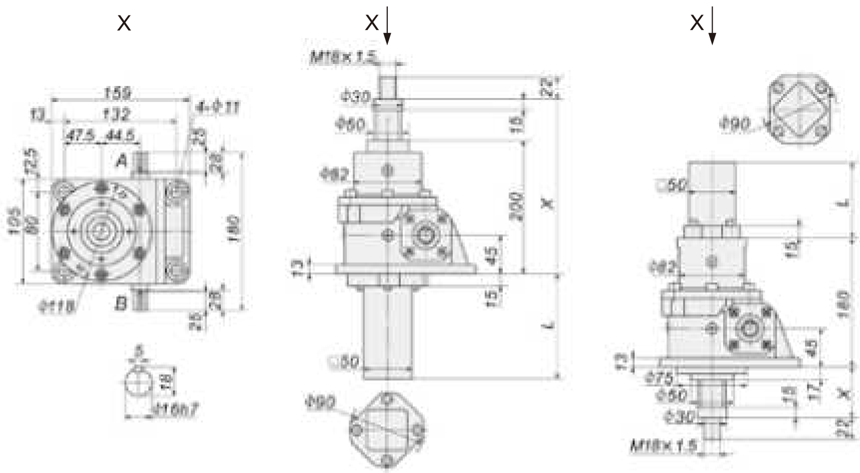
JWB025



JWB025US　　JWB025DS

(mm) Journey	X		X(1)		L	m (kg)
U S	MIN	MAX	MIN	MAX		
100	225	325	240	340	149	11
200	225	425	240	440	249	11
300	225	525	260	560	369	11
400	225	625	260	660	469	12
500	225	725	280	780	589	12
600	225	825	280	880	689	13
800	225	1025	300	1100	909	14

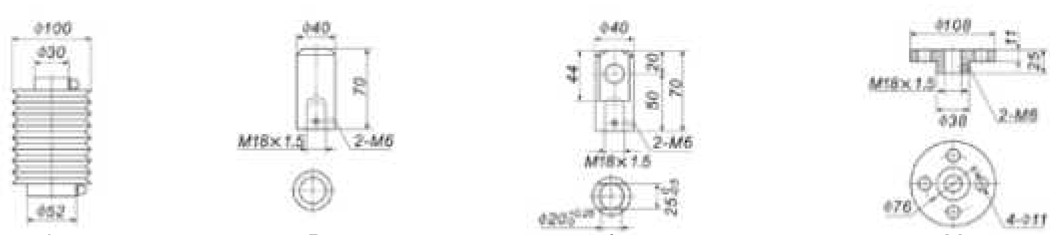
(mm) Journey	X		X(1)		L	m (kg)
D S	MIN	MAX	MIN	MAX		
100	42	142	57	157	156	11
200	42	242	57	257	256	11
300	42	342	77	377	376	11
400	42	442	77	477	476	12
500	42	542	97	597	596	12
600	42	642	97	697	696	13
800	42	842	117	917	916	14



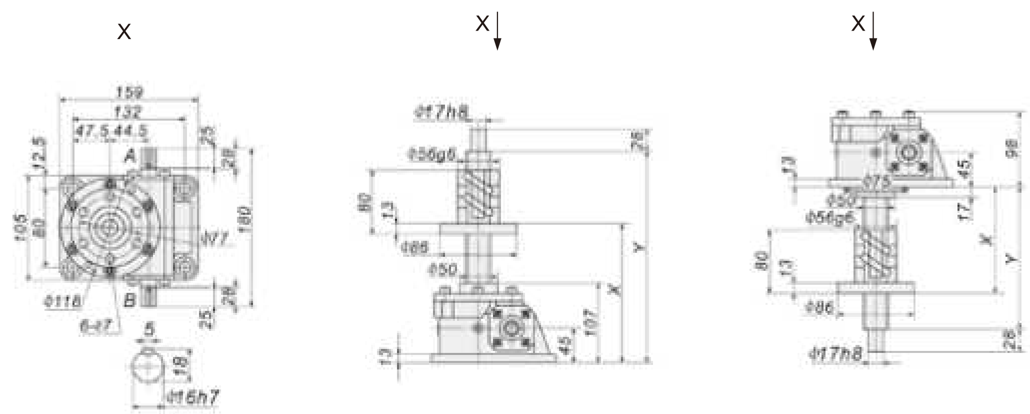
JWB025UM　　JWB025DM

(mm) Journey	X		X(1)		L	m (kg)
U M	MIN	MAX	MIN	MAX		
100	225	325	240	340	175	12
200	225	425	240	440	275	13
300	225	525	260	560	395	15
400	225	625	260	660	495	16
500	225	725	280	780	615	17
600	225	825	280	880	715	18
800	225	1025	300	1100	935	21

(mm) Journey	X		X(1)		L	m (kg)
D M	MIN	MAX	MIN	MAX		
100	42	142	57	157	182	12
200	42	242	57	257	282	13
300	42	342	77	377	402	15
400	42	442	77	477	502	16
500	42	542	97	597	622	17
600	42	642	97	697	722	18
800	42	842	117	917	942	21



J　　B　　I　　M



JWB025UR　　JWB025DR

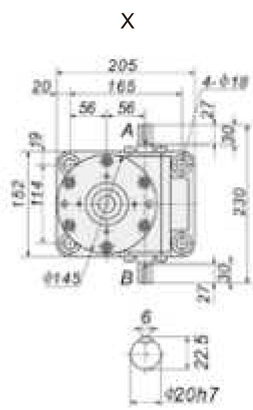
(mm) Journey	X		Y	m (kg)
U R	MIN	MAX		
100	133	233	309	9.2
200	133	333	409	9.5
300	133	433	509	9.9
400	133	533	609	11
500	133	633	709	11
600	133	733	809	11
800	133	933	1009	12

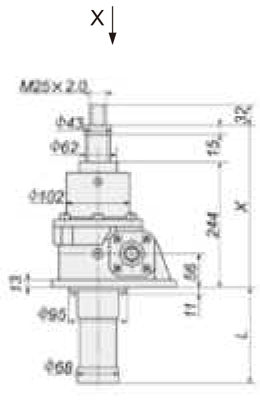
(mm) Journey	X		Y	m (kg)
D R	MIN	MAX		
100	108	208	219	9.2
200	108	308	319	9.5
300	108	408	419	9.9
400	108	508	519	11
500	108	608	619	11
600	108	708	719	11
800	108	908	919	12

Note: "X(1)" is the dimension of jack with bellows.

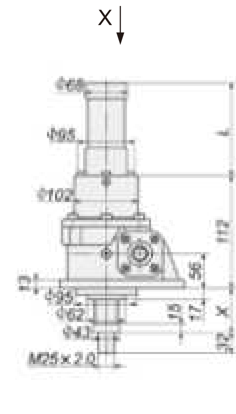
JW

JWB050





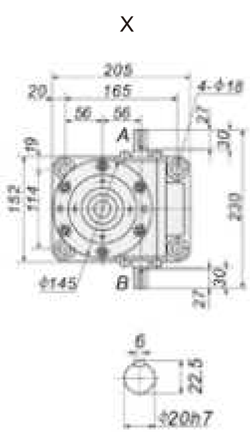
JWB050US

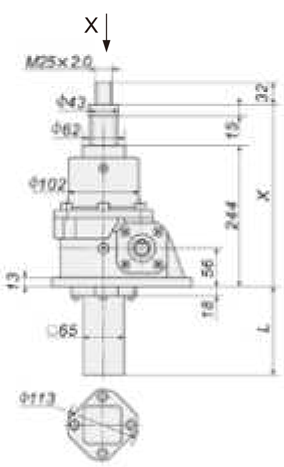


JWB050DS

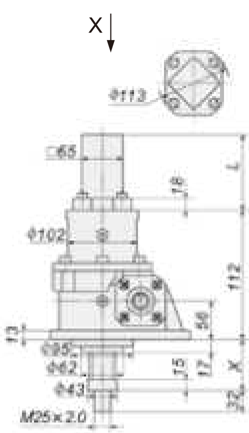
(mm) Journey	U S					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	269	369	284	384	147	23
200	269	469	284	484	247	23
300	269	569	304	604	367	24
400	269	669	304	704	467	25
500	269	769	324	824	587	26
600	269	869	324	924	687	27
800	269	1069	344	1144	907	29
1000	269	1269	364	1364	1127	30

(mm) Journey	D S					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	57	157	147	23
200	42	242	57	257	247	23
300	42	342	77	377	367	24
400	42	442	77	477	467	25
500	42	542	97	597	587	26
600	42	642	97	697	687	27
800	42	842	117	917	907	29
1000	42	1042	137	1137	1127	30





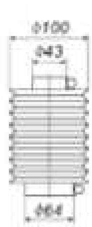
JWB050UM



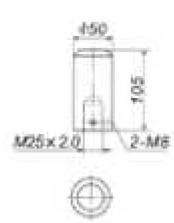
JWB050DM

(mm) Journey	U M					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	269	369	284	384	175	25
200	269	469	284	484	275	27
300	269	569	304	604	395	29
400	269	669	304	704	495	31
500	269	769	324	824	615	33
600	269	869	324	924	715	35
800	269	1069	344	1144	935	39
1000	269	1269	364	1364	1155	43

(mm) Journey	D M					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	57	157	175	25
200	42	242	57	257	275	27
300	42	342	77	377	395	29
400	42	442	77	477	495	31
500	42	542	97	597	615	33
600	42	642	97	697	715	35
800	42	842	117	917	935	39
1000	42	1042	137	1137	1155	43

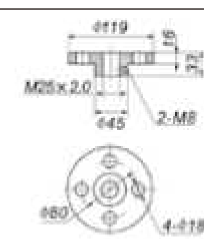


J

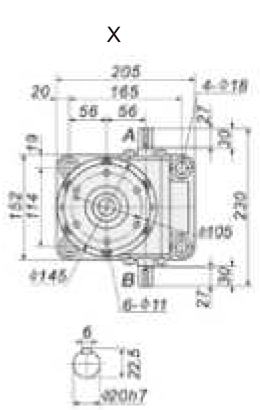


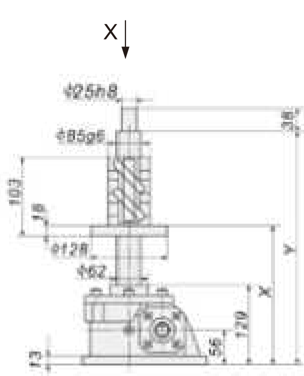
B

I

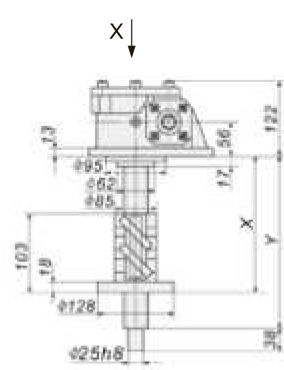


M





JWB050UR



JWB050DR

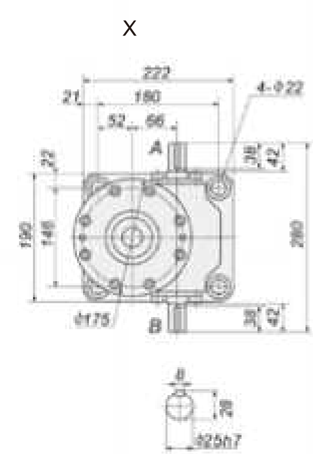
(mm) Journey	U R			
	X		Y	m (kg)
	MIN	MAX		
100	157	257	354	21
200	157	357	454	22
300	157	457	554	22
400	157	557	654	23
500	157	657	754	24
600	157	757	854	24
800	157	957	1054	26
1000	157	1157	1254	27

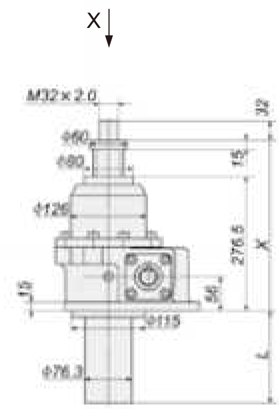
(mm) Journey	D R			
	X		Y	m (kg)
	MIN	MAX		
100	130	230	242	21
200	130	330	342	22
300	130	430	442	22
400	130	530	542	23
500	130	630	642	24
600	130	730	742	24
800	130	930	942	26
1000	130	1130	1142	27

JW

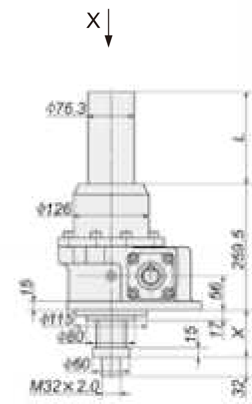
Note: "X(1)" is the dimension of jack with bellows.

JWB100





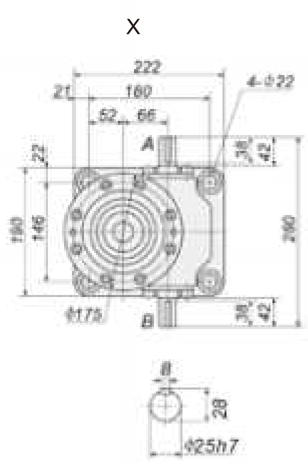
JWB100US

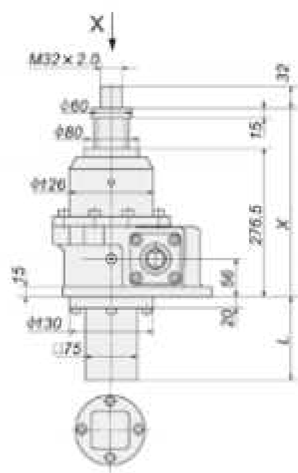


JWB100DS

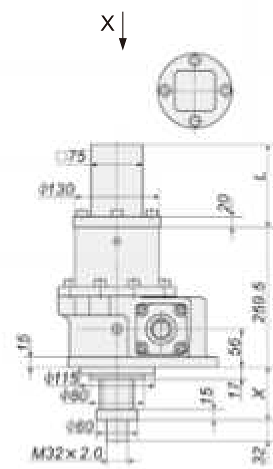
(mm) Journey	U S					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	302	402	312	412	151	36
200	302	502	312	512	252	38
300	302	602	327	627	366	41
400	302	702	327	727	466	43
500	302	802	352	852	591	46
600	302	902	352	952	691	48
800	302	1102	367	1167	906	53
1000	302	1302	377	1377	1116	58
1200	302	1502	402	1602	1341	63

(mm) Journey	D S					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	36
200	42	242	52	252	252	38
300	42	342	67	367	366	41
400	42	442	67	467	466	43
500	42	542	92	592	591	46
600	42	642	92	692	691	48
800	42	842	107	907	906	53
1000	42	1042	117	1117	1116	58
1200	42	1242	142	1342	1341	63





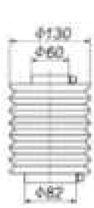
JWB100UM



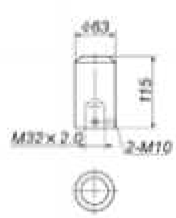
JWB100DM

(mm) Journey	U M					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	302	402	312	412	192	39
200	302	502	312	512	292	42
300	302	602	327	627	407	45
400	302	702	327	727	507	48
500	302	802	352	852	632	52
600	302	902	352	952	732	55
800	302	1102	367	1167	947	61
1000	302	1302	377	1377	1157	67
1200	302	1502	402	1602	1382	74

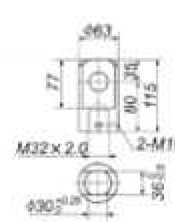
(mm) Journey	D M					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	192	39
200	42	242	52	252	292	42
300	42	342	67	367	407	45
400	42	442	67	467	507	48
500	42	542	92	592	632	52
600	42	642	92	692	732	55
800	42	842	107	907	947	61
1000	42	1042	117	1117	1157	67
1200	42	1242	142	1342	1382	74



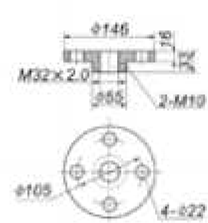
J



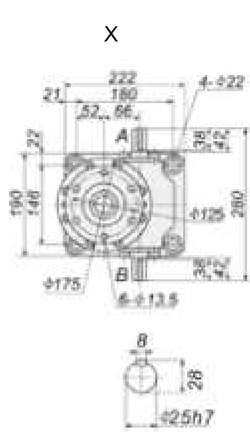
B

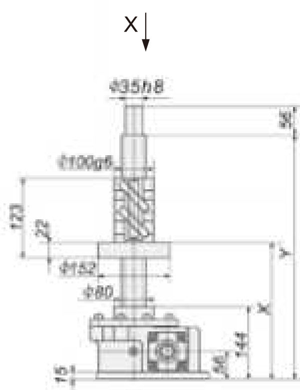


I

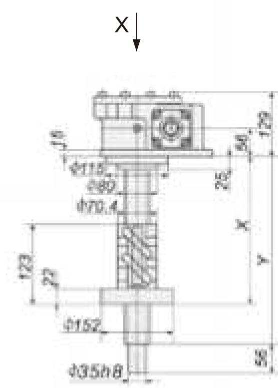


M





JWB100UR



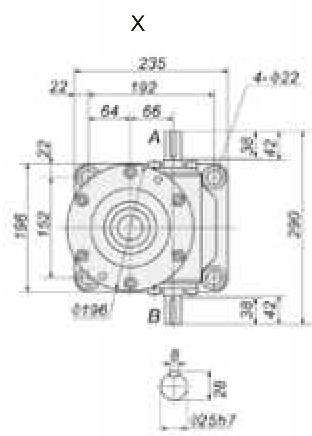
JWB100DR

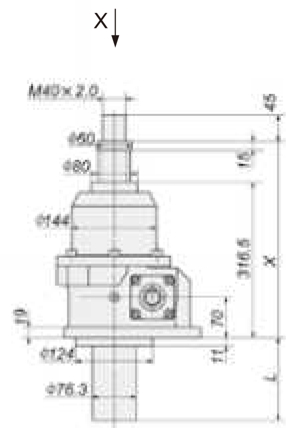
(mm) Journey	U R			
	X		Y	m (kg)
	MIN	MAX		
100	176	276	387	31
200	176	376	487	32
300	176	476	587	33
400	176	576	687	34
500	176	676	787	35
600	176	776	887	36
800	176	976	1087	39
1000	176	1176	1287	41
1200	176	1376	1487	43

(mm) Journey	D R			
	X		Y	m (kg)
	MIN	MAX		
100	158	258	268	31
200	158	358	368	32
300	158	458	468	33
400	158	558	568	34
500	158	658	668	35
600	158	758	768	36
800	158	958	968	39
1000	158	1158	1168	41
1200	158	1358	1368	43

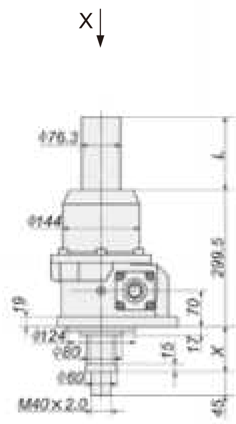
Note: "X(1)" is the dimension of jack with bellows.

JWB150





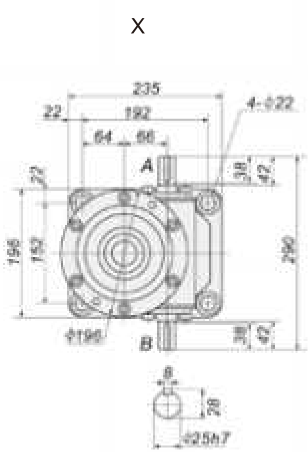
JWB150US

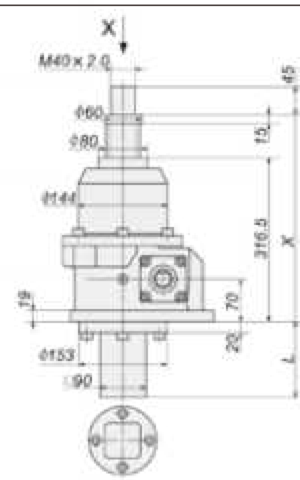


JWB150DS

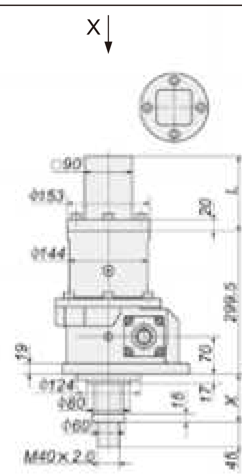
(mm) Journey	US X MIN	US X MAX	$X^{(1)}$ MIN	$X^{(1)}$ MAX	L	m (kg)
100	342	442	352	452	151	46
200	342	542	352	552	252	48
300	342	642	367	667	366	51
400	342	742	367	767	466	54
500	342	842	392	892	591	57
600	342	942	392	992	691	60
800	342	1142	407	1207	906	65
1000	342	1342	417	1417	1116	70
1200	342	1542	442	1642	1341	76

(mm) Journey	DS X MIN	DS X MAX	$X^{(1)}$ MIN	$X^{(1)}$ MAX	L	m (kg)
100	42	142	52	152	151	46
200	42	242	52	252	252	48
300	42	342	67	367	366	51
400	42	442	67	467	466	54
500	42	542	92	592	591	57
600	42	642	92	692	691	60
800	42	842	107	907	906	65
1000	42	1042	117	1117	1116	70
1200	42	1242	142	1342	1341	76





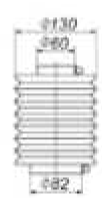
JWB150UM



JWB150DM

(mm) Journey	UM X MIN	UM X MAX	$X^{(1)}$ MIN	$X^{(1)}$ MAX	L	m (kg)
100	342	442	352	452	221	52
200	342	542	352	552	321	55
300	342	642	367	667	436	59
400	342	742	367	767	536	62
500	342	842	392	892	661	66
600	342	942	392	992	761	69
800	342	1142	407	1207	976	75
1000	342	1342	417	1417	1186	82
1200	342	1542	442	1642	1411	89

(mm) Journey	DM X MIN	DM X MAX	$X^{(1)}$ MIN	$X^{(1)}$ MAX	L	m (kg)
100	42	142	52	152	221	52
200	42	242	52	252	321	55
300	42	342	67	367	436	59
400	42	442	67	467	536	62
500	42	542	92	592	661	66
600	42	642	92	692	761	69
800	42	842	107	907	976	75
1000	42	1042	117	1117	1186	82
1200	42	1242	142	1342	1411	89



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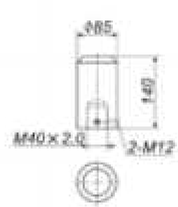

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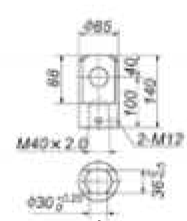

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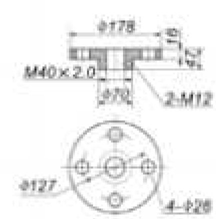

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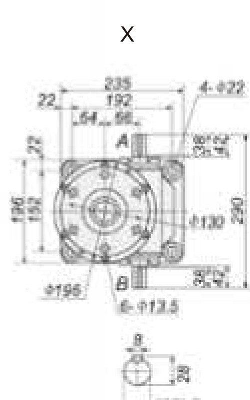
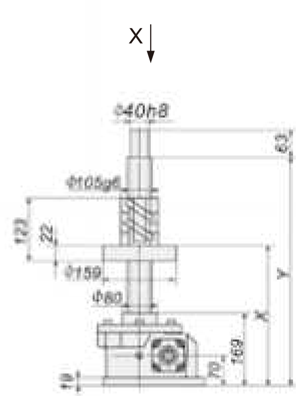
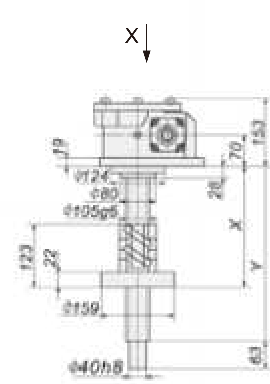




JWB150UR



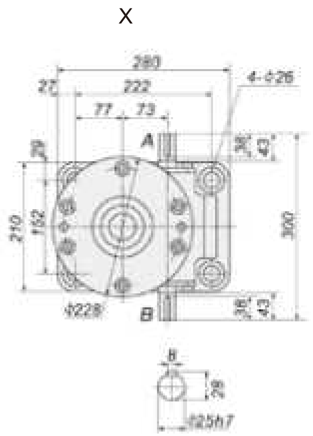
JWB150DR

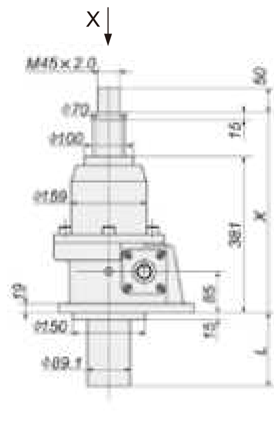
(mm) Journey	UR X MIN	UR X MAX	Y	m (kg)
100	201	301	412	41
200	201	401	512	42
300	201	501	612	43
400	201	601	712	45
500	201	701	812	46
600	201	801	912	47
800	201	1001	1112	50
1000	201	1201	1312	53
1200	201	1401	1512	55

(mm) Journey	DR X MIN	DR X MAX	Y	m (kg)
100	161	261	272	41
200	161	361	372	42
300	161	461	472	43
400	161	561	572	45
500	161	661	672	46
600	161	761	772	47
800	161	961	972	50
1000	161	1161	1172	53
1200	161	1361	1372	55

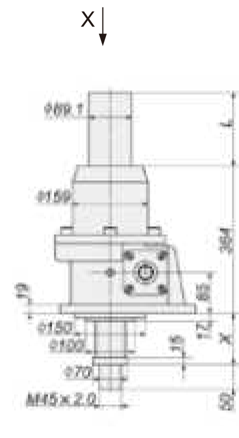
Note: "$X^{(1)}$" is the dimension of jack with bellows.

JWB200





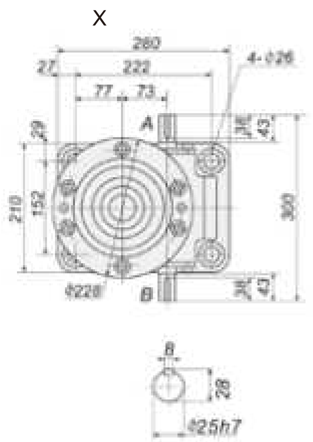
JWB200US

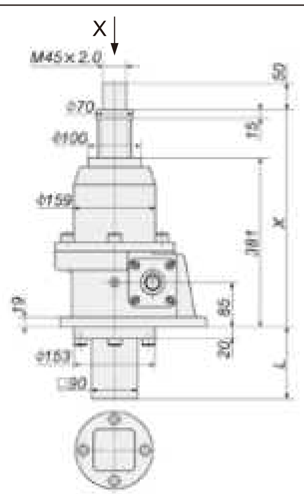


JWB200DS

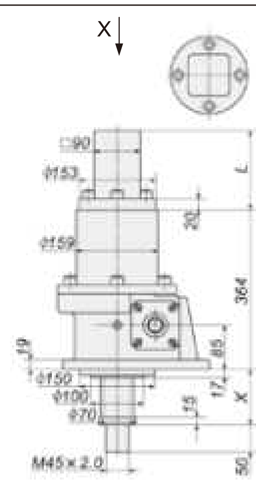
(mm) Journey	U S					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	406	506	416	516	151	65
200	406	606	416	616	252	68
300	406	706	431	731	366	72
400	406	806	431	831	466	76
500	406	906	456	956	591	80
600	406	1006	456	1056	691	83
800	406	1206	471	1271	906	90
1000	406	1406	481	1481	1116	97
1200	406	1606	506	1706	1357	105

(mm) Journey	D S					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	151	65
200	42	242	52	252	252	68
300	42	342	67	367	366	72
400	42	442	67	467	466	76
500	42	542	92	592	591	80
600	42	642	92	692	691	83
800	42	842	107	907	906	90
1000	42	1042	117	1117	1116	97
1200	42	1242	142	1342	1357	105





JWB200UM

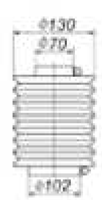


JWB200DM

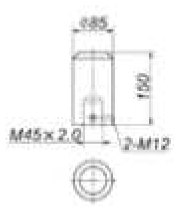
(mm) Journey	U M					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	406	506	416	516	230	72
200	406	606	416	616	330	76
300	406	706	431	731	445	80
400	406	806	431	831	545	84
500	406	906	456	956	670	89
600	406	1006	456	1056	770	93
800	406	1206	471	1271	985	102
1000	406	1406	481	1481	1195	110
1200	406	1606	506	1706	1420	119

(mm) Journey	D M					
	X		X(1)		L	m (kg)
	MIN	MAX	MIN	MAX		
100	42	142	52	152	230	72
200	42	242	52	252	330	76
300	42	342	67	367	445	80
400	42	442	67	467	545	84
500	42	542	92	592	670	89
600	42	642	92	692	770	93
800	42	842	107	907	985	102
1000	42	1042	117	1117	1195	110
1200	42	1242	142	1342	1420	119

JW



J



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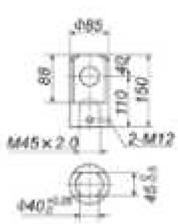

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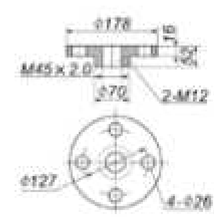
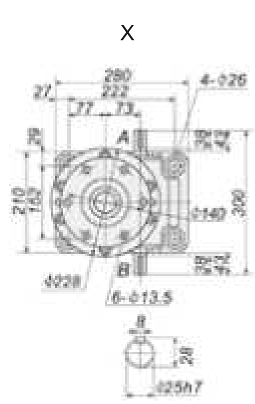
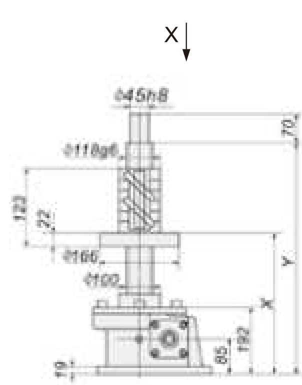
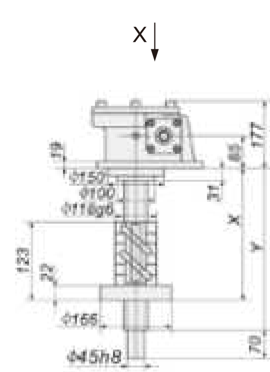


M





JWB200UR



JWB200DR

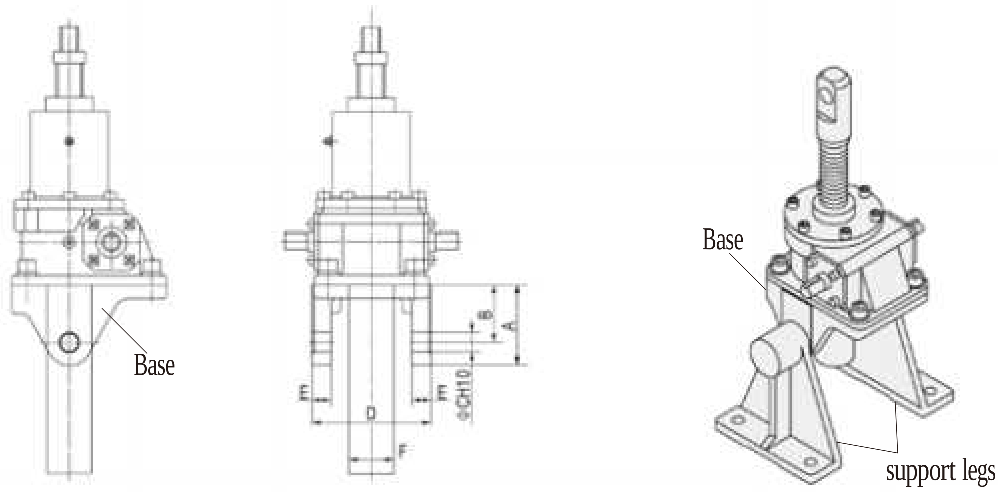
(mm) Journey	U R			
	X		Y	m (kg)
	MIN	MAX		
100	224	324	435	56
200	224	424	535	58
300	224	524	635	60
400	224	624	735	62
500	224	724	835	65
600	224	824	935	67
800	224	1024	1135	71
1000	224	1224	1335	76
1200	224	1424	1535	80

(mm) Journey	D R			
	X		Y	m (kg)
	MIN	MAX		
100	164	264	274	56
200	164	364	374	58
300	164	464	474	60
400	164	564	574	62
500	164	664	674	65
600	164	764	774	67
800	164	964	974	71
1000	164	1164	1174	76
1200	164	1364	1374	80

Note: "X(1)" is the dimension of jack with bellows.

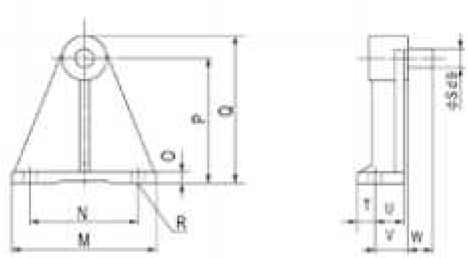
Accessories:

Base
Base are widely used in switching and inclining devices.

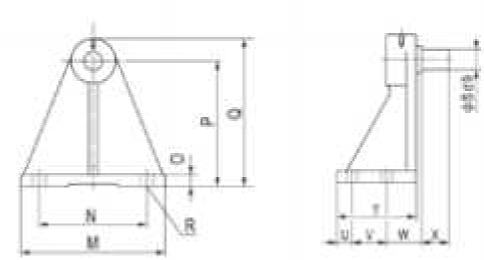


Size	A	B	C	D	E	F
010	75	60	15	86	15	35
025	100	75	20	115	20	45
050	105	75	25	158	25	58
100	145	100	40	201	30	76.3
150	155	105	50	224	44	76.3
200	173	110	63	244	50	89.1

Supporting legs
Bases and support legs are often used together to make lifting function in multiple directions



JW010-JW050



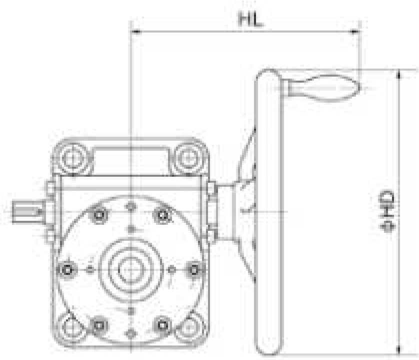
JW100-JW200

Size	M	N	O	P	Q	R	S	T	U	V	W	X
010	180	130	15	150	178	2–Φ18	15	25	40	45	17	–
025	180	130	15	150	178	2–Φ18	20	25	40	45	30	–
050	200	150	15	170	200	2–Φ18	25	25	40	45	35	–
100	280	220	22	240	290	4–Φ22	40	159	30	70	70	55
150	360	280	27	300	360	4–Φ33	50	195	40	85	85	70
200	400	320	30	380	450	4–Φ33	63	210	40	90	90	75

Handwheel

Handwheel is only for JWM operating in uniform load condition. Please do not use it with JWB.
The manual torque=Required input torque/radius of handwheel

JWM025US－H200MI	－	NV100
Jack desination		Handwheel code



Dimensions

(mm)

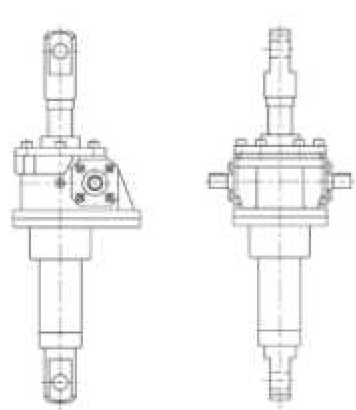
Size	NV80		NV100		NV200		NV250		NV450	
	HD	HL	HD	HL	HD	HL	HD	HL	HD	HL
JWM010	80	122	100	125	—	—	—	—	—	—
JWM025	—	—	100	140	200	198	—	—	—	—
JWM050	—	—	—	—	200	221	250	229	—	—
JWM100	—	—	—	—	—	—	250	242	450	295
JWM150	—	—	—	—	—	—	250	247	450	300
JWM200	—	—	—	—	—	—	—	—	450	304

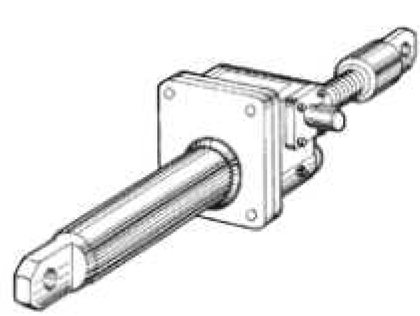
Note: The above handwheel picture is for reference only.

JW

Torque-arm-mounted

Applicable to opening and reversing devices.



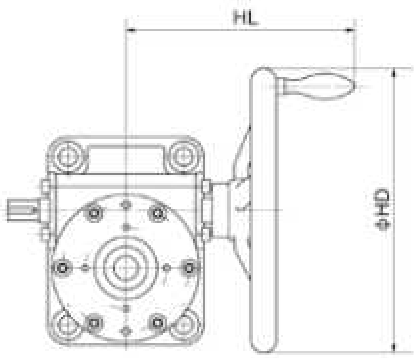


Handwheel

Handwheel is only for JWM operating in uniform load condition. Please do not use it with JWB.
The manual torque=Required input torque/radius of handwheel

JWM025US－H200MI － NV100

Jack desination | Handwheel code



Dimensions

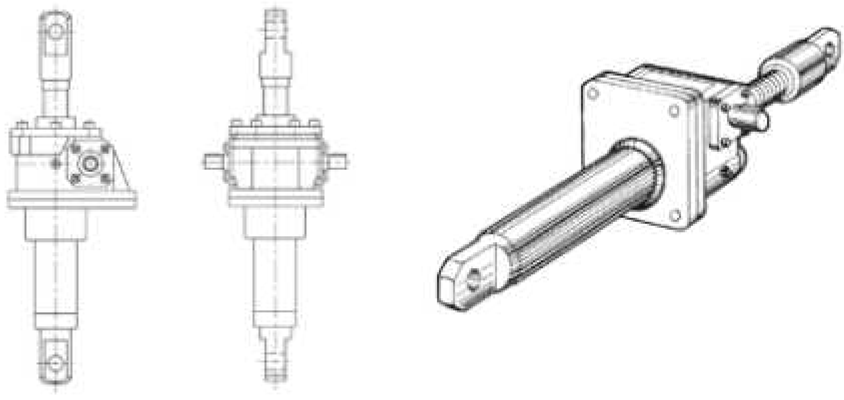
(mm)

Size	NV80		NV100		NV200		NV250		NV450	
	HD	HL	HD	HL	HD	HL	HD	HL	HD	HL
JWM010	80	122	100	125	—	—	—	—	—	—
JWM025	—	—	100	140	200	198	—	—	—	—
JWM050	—	—	—	—	200	221	250	229	—	—
JWM100	—	—	—	—	—	—	250	242	450	295
JWM150	—	—	—	—	—	—	250	247	450	300
JWM200	—	—	—	—	—	—	—	—	450	304

Note: The above handwheel picture is for reference only.

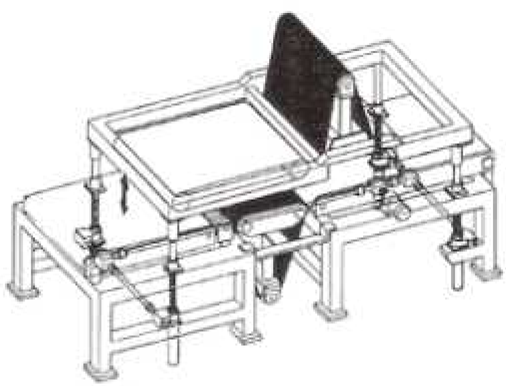
Torque-arm-mounted

Applicable to opening and reversing devices.

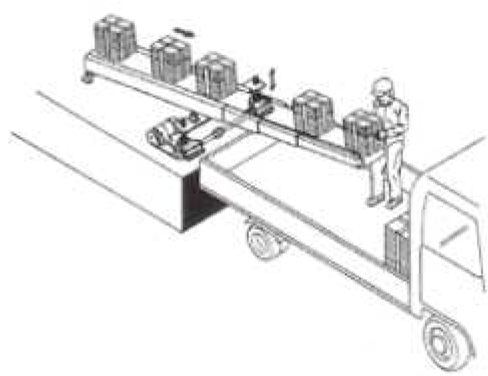


Application examples:

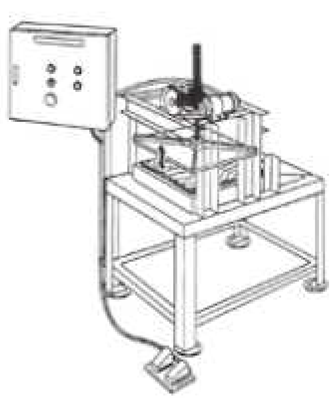
Lifting platform



Height adjustment of surface machining tool



Inclination adjustment of the apron converyor



Height adjustment of straightening machine

Auto opening of large windows or doors

REDSUN

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