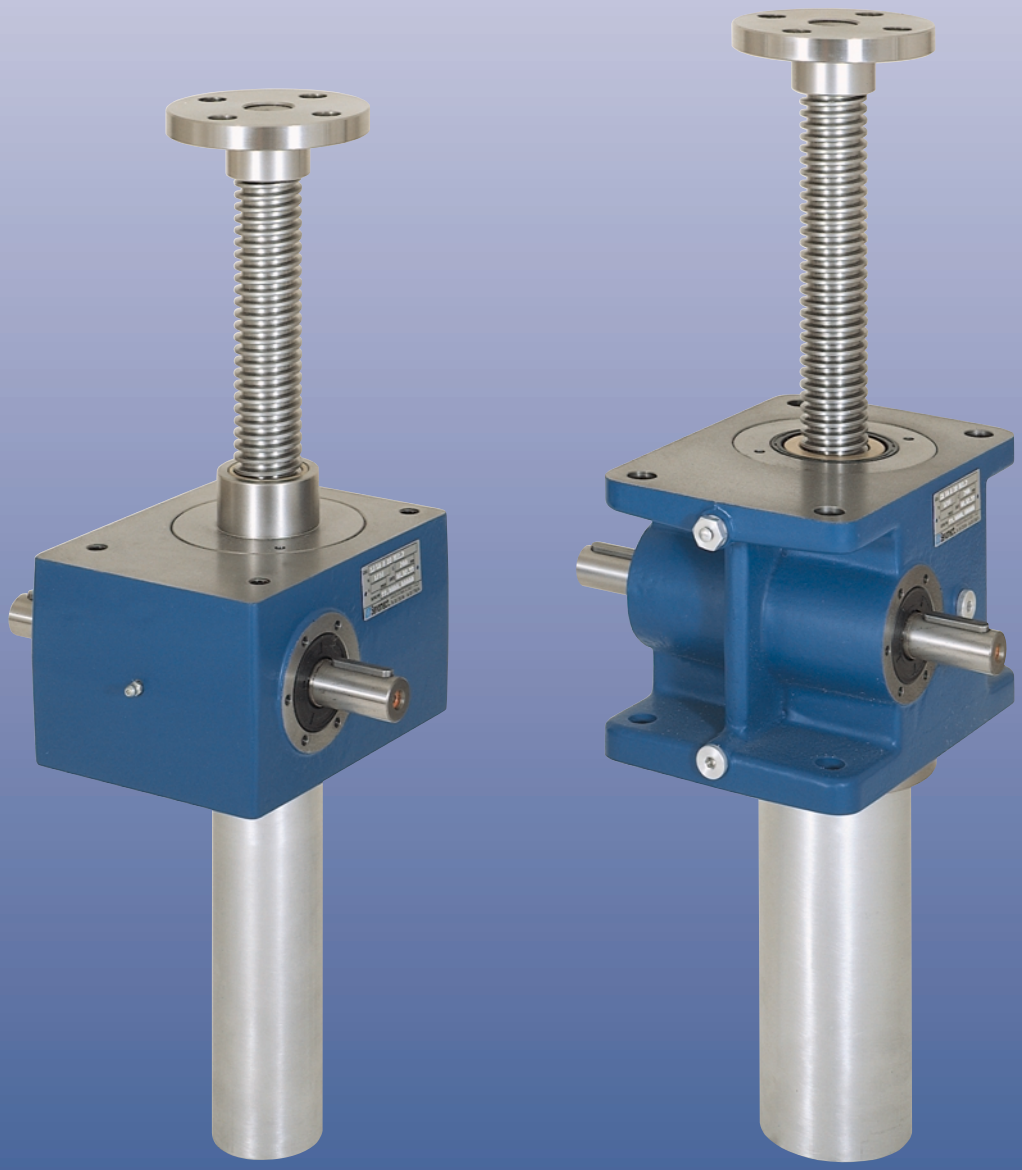
Servomech®

NEW IDEAS IN LINEAR MOTION

# Screw Jacks



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TÜV MANAGEMENT SERVICE ISO 9002

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Servomech

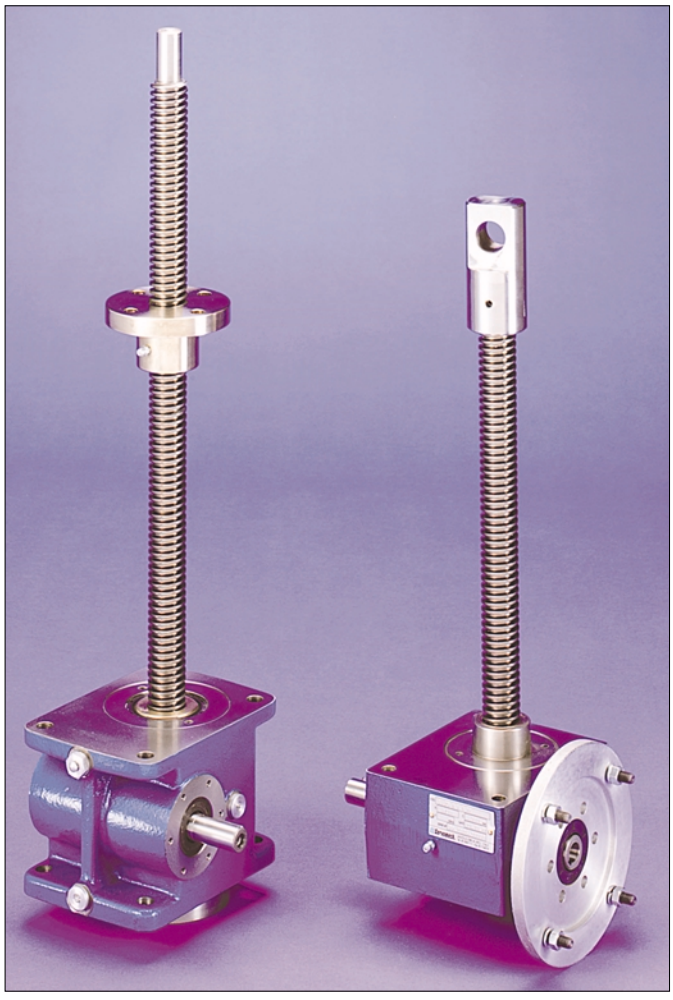
# Servomech screwjacks

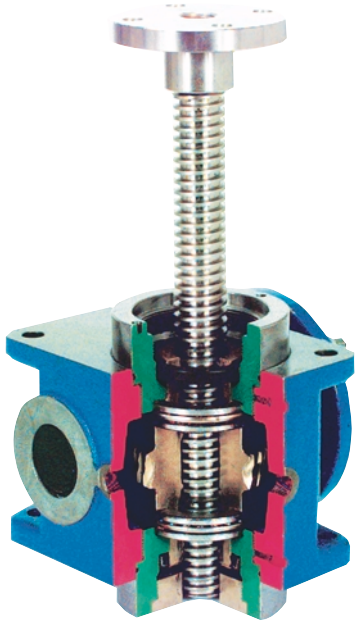
*new ideas in linear motion*



## SUMMARY

- ★ ***forces from 5 kN to 350 kN***
- ★ ***speeds up to 150 mm/s***
- ★ ***maximum duty cycle 30%***
- ★ ***free shaft or motorised input***
- ★ ***ac or dc motors***
- ★ ***travelling nut or travelling screw***





*Choose series MA for:*
- *high duty cycles*
- *higher linear speeds*
- *input speeds above 1500 r/min*
- *long life oil lubricant*
- *1, 2 or 3 start threads*
- *optional ballscrews*

*Choose series SJ for:*
- *lower duty cycles*
- *lower costs*
- *compact dimensions*
- *easy mounting*
- *long life grease lubricant*

Founded in 1989, Servomech has become a leading force worldwide for industrial linear motion. The Servomech product range covers both actuators and screwjacks with max. forces from 500 N to 350 kN. Screwjacks make up the heavier end of this range with housing designs either in monobloc aluminium or cast iron. Quality construction suits long life in industrial applications.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# Models

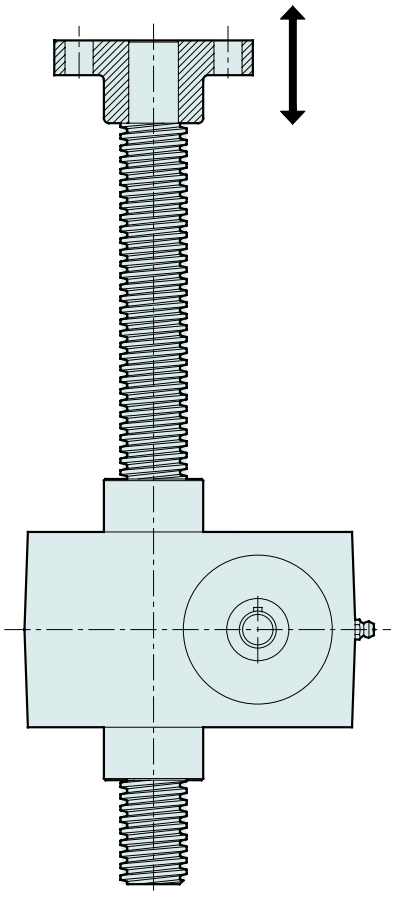
For both SJ and MA screwjacks there is a choice between two models:

**Model A** travelling screw

**Model B** travelling nut

Your choice here depends on the configuration of the application, also the options required. Performance is the same for both models.

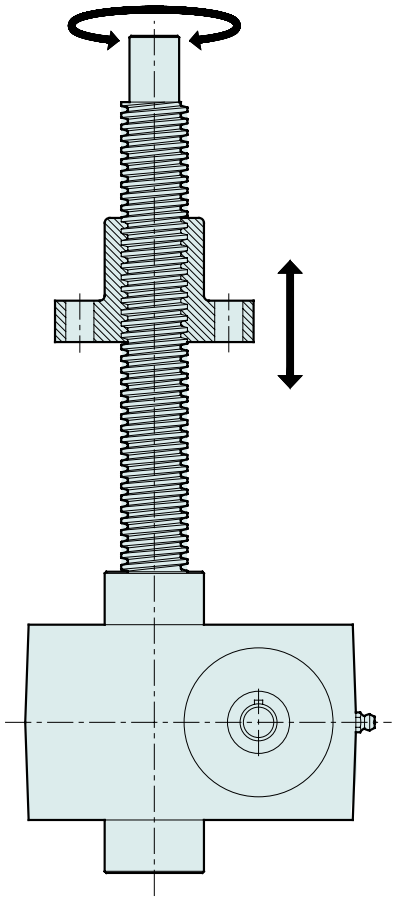
Servomech screwjacks can be operated in vertical or horizontal planes, or angles in-between. Input options are male shaft, motor flange or second shaft.



*Model A – travelling screw*

Travelling screw models operate with the screw being driven through the centre of the wormwheel. In operation, the screw does not rotate. Space must be available for the screw to protrude below the gearhousing when in a fully closed position.

Typical options: protective tube
bellows
safety bronze nut
stop nut
variable screw end fixings
limit switches



*Model B – travelling nut*

Travelling nut models have the screw fixed to the wormwheel. In operation the screw rotates with the wormwheel, driving the nut up and down. Overall dimensions for this combination remain fixed.

Typical options: safety travelling nut
bellows

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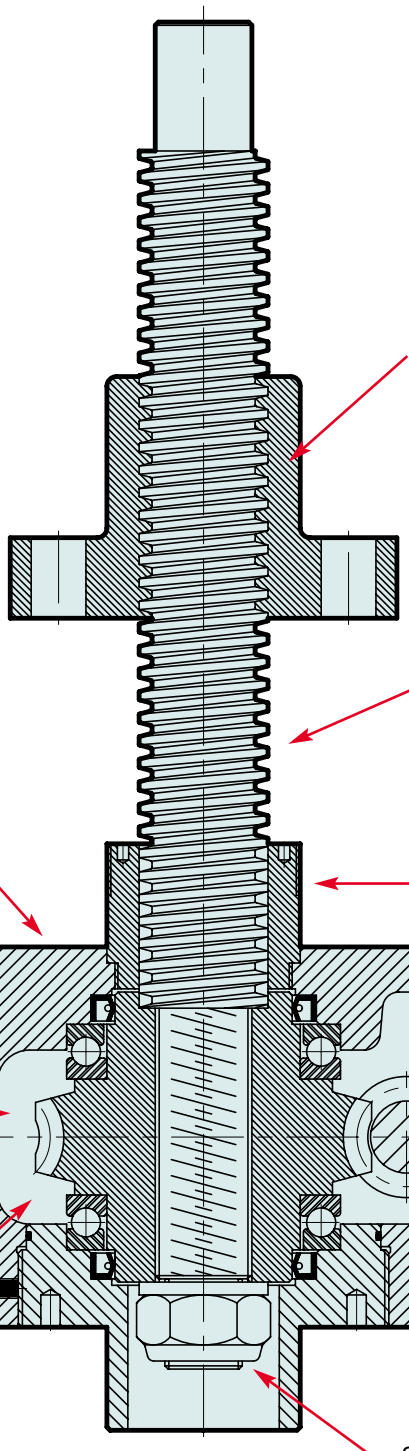
# SJ screwjacks

This modern design features a compact gearhousing. Compared to series MA the series SJ gives a lower duty cycle, and costs are lower.

- Load capacities ranging from 5 kN to 200 kN
- Linear speeds up to 40 mm/s
- Input speeds up to 1500 r/min
- Simple, compact monobloc housing for simple mounting
- Wide range of input versions available.
- Maximum 20% duty over a 10 minute period at 20ºC

*Example SJ model B travelling nut*



Aluminium bronze travelling nut for long life

C43 steel for long life and increased strength

Tapped mounting holes top and bottom, alternative through holes, for ease of mounting

Guide bush top and bottom as standard to resist radial loads on acme thread and gearing increasing efficiency. Also used to mount bellows.

True involute bronze worm wheel for long life and efficiency increased

True involute hardened and ground steel worm

Wide range of gear ratios for optimal solutions

Gearhousings grease-filled for life. Compact monobloc housing for simple mounting

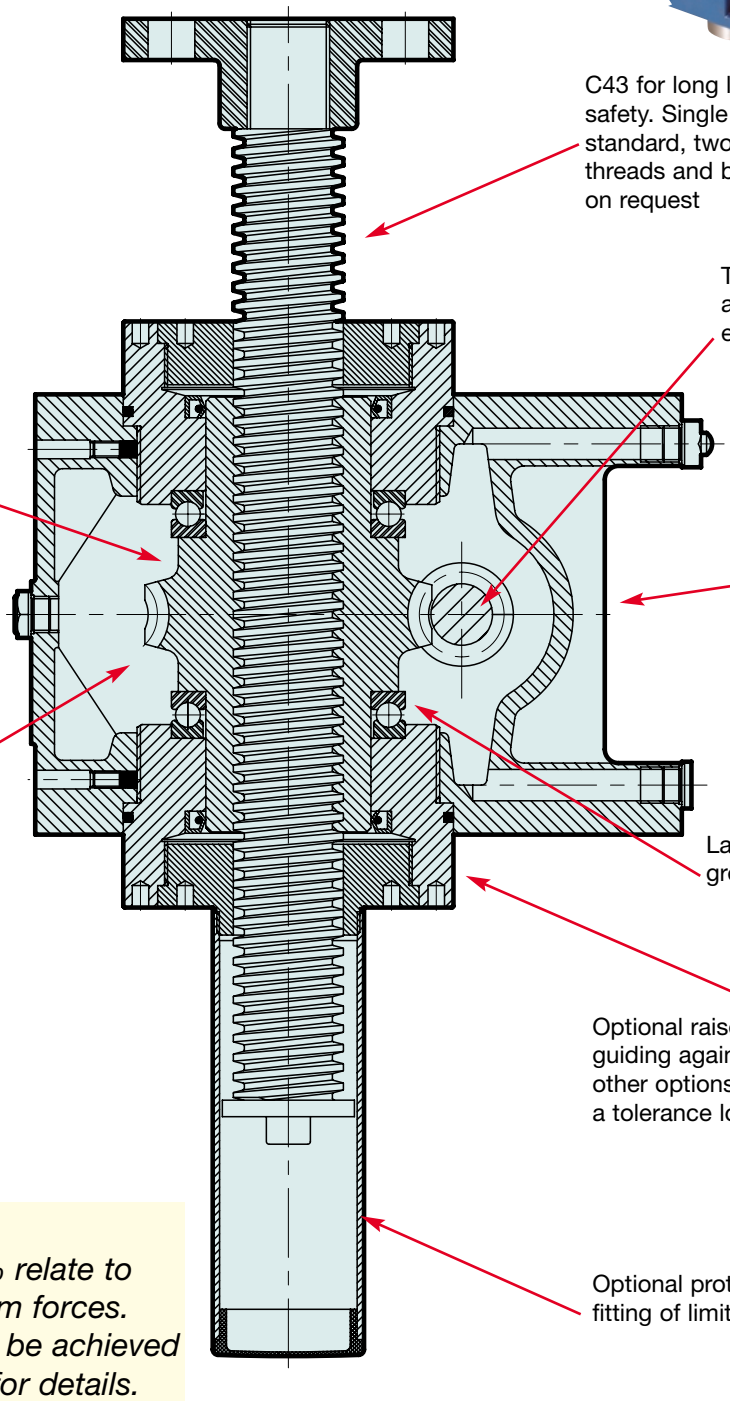
Screw fixed to wormwheel by opposing threads and pinned for increased safety

# MA screwjacks

Series MA screwjacks with gearhousings designed to suit more arduous applications with high forces and duty cycles.

- Load capacities ranging from 5 kN to 350 kN
- Linear speeds up to 75mm/s (up to 150mm/s on request)
- Input speeds up to 3000 r/min
- Maximum 30% duty over a 10 minute period at 20ºC
- High speed and high duty applications, two and three start threads or ballscrews are available
- Extensive range of options features and accessories

*Example*
*MA model A*
*travelling screw*



C43 for long life and increased safety. Single start threads as standard, two start or three start threads and ballscrews available on request

True involute worm and wheel for higher efficiency

Long bronze wormwheel for increased rigidity, duty, life and efficiency

Ribbed housing allows effective heat dissipation giving increased duty

Oil lubricated for better heat dissipation, allowing higher input speeds and giving a longer life and increased efficiency

Larger thrust bearings for greater load capacities

Optional raised cover for increased guiding against radial load, and other options. May also be used as a tolerance location spigot.

Optional protective tube allows fitting of limit switches

## Duty cycles

*Limits of 20% and 30% relate to operation with maximum forces. Higher duty cycles can be achieved with lower forces, ask for details.*

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# SJ screwjacks

*Performance summary*

This modern design features a compact aluminium gearhousing. Compared to series MA the performance is similar except for a lower duty cycle, and costs are lower.

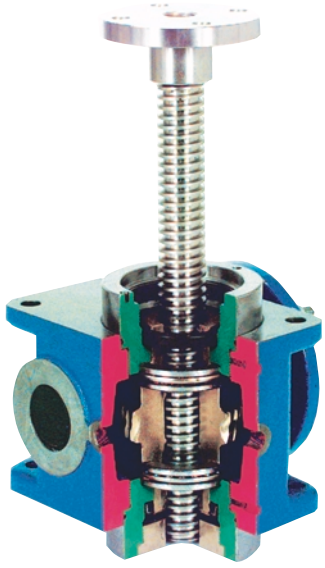
- Load capacities ranging from 5 kN to 200 kN
- Linear speeds up to 40 mm/s
- Input speeds up to 1500 r/min
- Simple, compact monobloc housing for simple mounting
- Wide range of input versions available.
- Maximum 20% duty over a 10 minute period at 20ºC

## Series SJ Technical Specification

| SIZE | | SJ 5 | SJ 10 | SJ 25 | SJ 50 | SJ 80 | SJ 200 | |
|---|---|---|---|---|---|---|---|---|
| Max lifting load | kN | 5 | 10 | 25 | 50 | 80 | 200 | |
| Acme lift screw | dia × pitch | Tr 18 × 4 | Tr 22 × 5 | Tr 30 × 6 | Tr 40 × 7 | Tr 55 × 9 | Tr 70 × 12 | Tr 80 × 12 |
| Available ratios | RH | 1 : 4 | – | – | – | – | – | |
| | RV | 1 : 6.25 | 1 : 4 | 1 : 6 | 1 : 7 | 1 : 7 | 1 : 7 | |
| | RN | 1 : 12.5 | 1 : 16 | 1 : 18 | 1 : 14 | 1 : 14 | – | |
| | RL | 1 : 25 | 1 : 24 | 1 : 24 | 1 : 28 | 1 : 28 | 1 : 28 | |
| Stroke [mm] for 1 input turn | RH | 1 | – | – | – | – | – | |
| | RV | 0.64 | 1.25 | 1 | 1 | 1.28 | 1.71 | |
| | RN | 0.32 | 0.31 | 0.33 | 0.5 | 0.64 | – | |
| | RL | 0.16 | 0.21 | 0.25 | 0.25 | 0.32 | 0.43 | |
| Max permissible operating power [kW] | RH | 0.40 | – | – | – | – | – | |
| | RV | 0.40 | 0.60 | 1.2 | 2.4 | 2.5 | 4 | |
| | RN | 0.20 | 0.30 | 0.7 | 1.7 | 1.8 | – | |
| | RL | 0.17 | 0.25 | 0.6 | 1.2 | 1.2 | 3.2 | |
| Max starting torque required at full load [Nm] | RH | 3.8 | – | – | – | – | – | – |
| | RV | 2.5 | 9 | 19.9 | 44.1 | 77 | 325 | 360 |
| | RN | 1.7 | 3.5 | 8.3 | 24.8 | 47 | – | – |
| | RL | 1 | 2.5 | 7.6 | 18 | 34 | 125 | 138 |
| Starting efficiency | RH | 0.25 | – | – | – | – | – | – |
| | RV | 0.25 | 0.26 | 0.20 | 0.18 | 0.18 | 0.19 | 0.17 |
| | RN | 0.21 | 0.20 | 0.16 | 0.15 | 0.15 | – | – |
| | RL | 0.16 | 0.16 | 0.13 | 0.11 | 0.11 | 0.12 | 0.11 |
| Running efficiency at 1500 r/min | RH | 0.35 | – | – | – | – | – | – |
| | RV | 0.34 | 0.36 | 0.34 | 0.32 | 0.33 | 0.36 | 0.35 |
| | RN | 0.29 | 0.28 | 0.27 | 0.28 | 0.29 | – | – |
| | RL | 0.25 | 0.25 | 0.25 | 0.23 | 0.24 | 0.25 | 0.24 |
| Reactive torque of screw at max load [Nm] | | 8 | 20 | 65 | 165 | 368 | 1180 | 1300 |
| Housing material | | Aluminium alloy EN 1706 - AB-AlSi10Mg T6 | | Cast iron EN 1561 - GJL-250 | | | | |
| Weight without screw and protection tube [kg] | | 1.5 | 2.3 | 10.4 | 25 | 35 | 75 | |
| Weight for every 100 mm of screw [kg] | | 0.16 | 0.23 | 0.45 | 0.8 | 1.6 | 2.5 | 3.4 |

*Efficiency figures at other speeds on page 9*

# MA screwjacks



Series MA screwjacks with gearhousings designed to suit more arduous applications with high forces and duty cycles.

- Load capacities ranging from 5 kN to 350 kN
- Linear speeds up to 75mm/s (up to 150mm/s on request)
- Input speeds up to 3000 r/min
- Maximum 30% duty over a 10 minute period at 20ºC
- High speed and high duty applications, two and three start threads or ballscrews are available
- Extensive range of options features and accessories

## Series MA Technical Specification

| SIZE | | MA 5 | MA 10 | MA 25 | MA 50 | MA 80 | MA 100 | MA 200 | MA 350 |
|---|---|---|---|---|---|---|---|---|---|
| Max lifting load | kN | 5 | 10 | 25 | 50 | 80 | 100 | 200 | 350 |
| Acme lift screw | dia × pitch | Tr 18 × 4 | Tr 22 × 5 | Tr 30 × 6 | Tr 40 × 7 | Tr 55 × 9 | Tr 60 × 12 | Tr 70 × 12 | Tr 100 × 16 |
| Ratio | RV | 1 : 4 | 1 : 5 | 1 : 6 | 1 : 7 | 1 : 7 | 1 : 8 | 1 : 8 | 3 : 32 |
| | RN | 1 : 16 | 1 : 20 | 1 : 18 | 1 : 14 | 1 : 14 | 1 : 24 | 1 : 24 | 1 : 16 |
| | RL | 1 : 24 | 1 : 25 | 1 : 24 | 1 : 28 | 1 : 28 | 1 : 32 | 1 : 32 | 1 : 32 |
| Stroke [mm] for 1 input turn | RV | 1 | 1 | 1 | 1 | 1.28 | 1.5 | 1.5 | 1.5 |
| | RN | 0.25 | 0.25 | 0.333 | 0.5 | 0.64 | 0.5 | 0.5 | 1 |
| | RL | 0.166 | 0.20 | 0.25 | 0.25 | 0.32 | 0.375 | 0.375 | 0.5 |
| Max permissible operating power [kW] | RV | 0.40 | 0.60 | 1.2 | 2.4 | 2.5 | 3 | 4.5 | 8 |
| | RN | 0.20 | 0.30 | 0.7 | 1.7 | 1.8 | 2.6 | 4 | 7 |
| | RL | 0.17 | 0.25 | 0.6 | 1.2 | 1.2 | 2.3 | 3.8 | 6.8 |
| Max starting torque required at full load [Nm] | RV | 3.8 | 7.2 | 19.9 | 44.1 | 77 | 120 | 282 | 525 |
| | RN | 1.2 | 2.6 | 8.3 | 24.8 | 47 | 62 | 133 | 400 |
| | RL | 1 | 2.3 | 7.6 | 18 | 34 | 50 | 109 | 280 |
| Starting efficiency | RV | 0.21 | 0.22 | 0.20 | 0.18 | 0.18 | 0.20 | 0.17 | 0.16 |
| | RN | 0.16 | 0.15 | 0.16 | 0.15 | 0.15 | 0.13 | 0.12 | 0.14 |
| | RL | 0.13 | 0.14 | 0.13 | 0.11 | 0.11 | 0.12 | 0.11 | 0.10 |
| Running efficiency at 1500 r/min | RV | 0.36 | 0.37 | 0.34 | 0.32 | 0.31 | 0.36 | 0.33 | 0.32 |
| | RN | 0.28 | 0.28 | 0.27 | 0.28 | 0.27 | 0.29 | 0.26 | 0.29 |
| | RL | 0.25 | 0.27 | 0.25 | 0.23 | 0.22 | 0.26 | 0.24 | 0.24 |
| Reactive torque of screw at max load [Nm] | | 8 | 20 | 65 | 165 | 368 | 525 | 1180 | 2880 |
| Housing material | | Aluminium alloy EN 1706 - AB-AlSi10Mg T6 | | Spheroidal graphite iron EN 1563 - GJS-500-7 | | | | | |
| Weight without screw and protection tube [kg] | | 2.2 | 4.3 | 13 | 26 | 26 | 48 | 75 | 145 |
| Weight for every 100 mm of screw [kg] | | 0.16 | 0.23 | 0.45 | 0.8 | 1.6 | 1.8 | 2.5 | 5.2 |

*Efficiency figures at other speeds on page 12*

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# Screwjack selection

*Our screwjack engineers are happy to make selections for your given full application data*

**Step 1** Choose between series SJ and MA based on those maximum performance figures.

| | | SJ | MA |
|---|---|---|---|
| Load | kN | 200 | 350 |
| Output speed | mm/s | 40 | 150 |
| Duty cycle | % | 20 | 30 |
| Input speed | r/min | 1500 | 3000 |

*Where higher figures are required, speak to our engineers*

**Step 2** Choose between model A – travelling screw and model B – travelling nut – see page 1

**Step 3** Make initial size selection based on the buckling capacity of the acme screw. See pages 13-15. Where loads are pull and not push, move on to Step 4

Data required:
- Load, in kN
- Length of screw
- Mounting details

Three mounting possibilities:
- unguided page 13
- semi-guided page 14
- fully guided page 15

**Step 4** Using the performance tables for SJ (pages 8-9) or MA (pages 10-12), make a selection based on the force and lifting speed required.

Note the ratio:
- RH very low
- RV low (high speed)
- RN medium
- RL high (low speed)

If motorised, the input speed is normally 1500 r/min although 900 r/min is possible. Two pole motors at 3000 r/min can be used with MA screwjacks

**Step 5** From the same performance tables check the input torque and power required.

Values in red indicate a derating of duty is required, speak to our engineers

For motorised screwjack, select a motor of next highest available power. See also connection possibilities on page 17

**Step 6** Temperature factor – if ambient temperatures are 21º to 40ºC, obtain a derating factor. For temperatures below 0ºC and above 40ºC, speak to our engineers.

| Ambient | Derating factor |
|---|---|
| 0-20ºC | 1.0 |
| 30ºC | 0.83 |
| 40ºC | 0.67 |

Multiply the derating factor by the maximum operating power given on pages 4-5. Check the result is above the power required, obtained in step 5, otherwise choose a larger size

**Step 7** Model B – travelling nut only – at high output speeds and with long screws, critical speed limits may apply, see page 16.

The critical speed also depends on the way the screw is guided

Where the input speed is 1500 r/min or less, there will be no critical speed problems up to at least 1.2m (unguided) or 2.2m (guided)

**Step 8** Select the input configuration required. See page 17. Where required consider motor specification. see page 33.

| Version 1 | Version 2 | Version 3 | Version 4 |
|---|---|---|---|
| Free shaft input | Double free shaft input | Motor flange input | Motor flange and free shaft input |

**Step 9** Complete the ordering sheet by specifying the other options required. See pages 18-19.

Model A – travelling screw
- handing of input
- safety bronze nut
- bellows
- stainless steel acme screw
- trunnion support
- raised covers
- bronze guide bushes
- end fixings
- protective tube
- limit switches
- stop nut
- backlash adjustment

Model B – travelling nut
- handing of input
- safety travelling nut
- bellows
- stainless steel acme screw
- trunnion support
- raised covers

Application – to raise a casting to address a cutting tool with a motorised actuator, screw to be fully guided.

| | |
|---|---|
| Load | 1 kN |
| Speed | 25 mm/s |
| Stroke | 400 mm |
| Duty | 10 % |
| Ambient | 20ºC |

Application – to lift a shutter with an unguided screw and motorised actuator with second shaft. Limited space below.

| | |
|---|---|
| Load | 60 kN |
| Speed | 8 mm/s |
| Stroke | 1000 mm |
| Duty | 25 % |
| Ambient | 30ºC |

| | | |
|---|---|---|
| Select series SJ as the application parameters are all within the maximum SJ performance | **Step 1** | Select series MA, as the duty cycle is above 20% |
| Select travelling screw which can lift the centre of the casting | **Step 2** | Select travelling nut MB as no space is required below the screwjack housing |
| Using the graph for buckling capacity on page 15, full guided screw, we find the SJ5 has ample capacity. | **Step 3** | Using the graph on page 13 for unguided screws, selection is MA200 |
| From the performance table for the SJ5, select ratio RH with a 4 pole motor speed at 1500 r/min will give 25 mm/s | **Step 4** | From the performance table for the MA200, select ratio RN with a 6-pole motor speed 1000 r/min, which gives 8 mm/s |
| With the load of 1000 N, power required is 0.06 kW, with input torque of 0.4 Nm | **Step 5** | With the load of 60 kN and calculating between the 50 kN and 100 kN values, power required is 2.04 kW and input torque 19.5 Nm |
| At 20ºC ambient there is a factor of 1.0 which can be ignored | **Step 6** | At 30ºC the derating factor is 0.83. From page 5, the maximum permissible operating power for MA200 RN is 4 kW. This power is derated by 0.83 giving 3.32 kW. This is acceptable, as it is above the power required at step 5 |
| Critical speeds do not apply with model A travelling screw | **Step 7** | From the critical speed graph on page 16 for unguided screws, we find for the MA200 at 1m stroke the limit is above 200 mm/s. Therefore, there is not a problem. |
| Version 3 motor flange input required, specify the type of motor, e.g. 0,09 kW ac 3-phase 4-pole 56 frame | **Step 8** | Version 4 motor flange with second free input shaft required. Motor 2.2 kW ac 1-phase 6-pole 112 frame |
| Options required for example:<br>• flange end P<br>• bellows B<br>• protective tube T<br>• limit switches FCM(NC) | **Step 9** | Options required for example:<br>• bronze travelling safety nut SBC<br>• bellows above and below nut B+B<br>• acme thread with cylindrical end N |
| SJ5 A RH Vers.3 (56 B14) C400 P B / T FCM(NC) | | MA200 B RN Vers.4 (112 B5) C1000 MB+SBC N B+B |

*Based upon the linear speed needed and maximum dynamic load applied, pick the effective lifting speed and input torque - power required from the relevant screwjack table below. Intermediate figures for input torque - power can be calculated by direct interpolation.*

**PLEASE, NOTE!** The red figures in the tables indicates operational restrictions due to thermal limits. Selection of screw jacks using these figures should only be carried out in consultation with our office.
When your selection is made within the areas shaded red, you will need to reduce duty cycle or choose the next size screwjack in order to allow effective heat dissipation.

$n_1$ = *input speed* *T1= input torque required* *P1 = input power required*

## SJ 5

LIFTING LOAD

| $n_1$ | Lifting speed mm/s | | | | 5 kN Ratios | | | | | | | | 3 kN Ratios | | | | | | | | 1 kN Ratios | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | RH | | RV | | RN | | RL | | RH | | RV | | RN | | RL | | RH | | RV | | RN | | RL | |
| | | | | | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ |
| r/min | RH | RV | RN | RL | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW |
| 1500 | 25.0 | 16.0 | 8.0 | 4.0 | 1.9 | 0.29 | 1.3 | 0.20 | 0.7 | 0.12 | 0.5 | 0.07 | 1.1 | 0.17 | 0.8 | 0.12 | 0.4 | 0.07 | 0.3 | 0.04 | 0.4 | 0.06 | 0.3 | 0.04 | 0.1 | 0.02 | 0.1 | 0.01 |
| 1000 | 16.7 | 10.7 | 5.3 | 2.7 | 2.0 | 0.21 | 1.4 | 0.14 | 0.8 | 0.09 | 0.5 | 0.05 | 1.2 | 0.12 | 0.8 | 0.09 | 0.5 | 0.05 | 0.3 | 0.03 | 0.4 | 0.04 | 0.3 | 0.03 | 0.2 | 0.02 | 0.1 | 0.01 |
| 750 | 12.5 | 8.0 | 4.0 | 2.0 | 2.1 | 0.16 | 1.4 | 0.11 | 0.8 | 0.07 | 0.5 | 0.04 | 1.3 | 0.10 | 0.8 | 0.07 | 0.5 | 0.04 | 0.3 | 0.03 | 0.4 | 0.03 | 0.3 | 0.02 | 0.2 | 0.01 | 0.1 | 0.01 |
| 500 | 8.3 | 5.3 | 2.7 | 1.3 | 2.3 | 0.12 | 1.5 | 0.08 | 0.9 | 0.05 | 0.6 | 0.03 | 1.4 | 0.07 | 0.9 | 0.05 | 0.5 | 0.03 | 0.3 | 0.02 | 0.5 | 0.02 | 0.3 | 0.02 | 0.2 | 0.01 | 0.1 | 0.01 |
| 300 | 5.0 | 3.2 | 1.6 | 0.8 | 2.4 | 0.08 | 1.6 | 0.05 | 1.0 | 0.03 | 0.6 | 0.02 | 1.5 | 0.05 | 1.0 | 0.03 | 0.6 | 0.02 | 0.4 | 0.01 | 0.5 | 0.02 | 0.3 | 0.01 | 0.2 | 0.01 | 0.1 | 0.01 |
| 100 | 1.7 | 1.1 | 0.5 | 0.3 | 2.8 | 0.03 | 2.0 | 0.02 | 1.1 | 0.01 | 0.7 | 0.01 | 1.7 | 0.02 | 1.2 | 0.01 | 0.7 | 0.01 | 0.4 | 0.01 | 0.6 | 0.01 | 0.4 | 0.01 | 0.2 | 0.01 | 0.1 | 0.01 |
| 50 | 0.8 | 0.5 | 0.3 | 0.1 | 3.1 | 0.02 | 2.0 | 0.01 | 1.2 | 0.01 | 0.7 | 0.01 | 1.8 | 0.01 | 1.2 | 0.01 | 0.7 | 0.01 | 0.4 | 0.01 | 0.6 | 0.01 | 0.4 | 0.01 | 0.2 | 0.01 | 0.1 | 0.01 |

## SJ 10

LIFTING LOAD

| $n_1$ | Lifting speed mm/s | | | 10 kN Ratios | | | | | | 8 kN Ratios | | | | | | 6 kN Ratios | | | | | | 2 kN Ratios | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RV | | RN | | RL | | RV | | RN | | RL | | RV | | RN | | RL | | RV | | RN | | RL | |
| | | | | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ |
| r/min | RV | RN | RL | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW |
| 1500 | 31.3 | 7.8 | 5.2 | 5.6 | 0.87 | 1.8 | 0.28 | 1.3 | 0.21 | 4.4 | 0.70 | 1.4 | 0.22 | 1.1 | 0.17 | 3.3 | 0.52 | 1.1 | 0.17 | 0.8 | 0.13 | 1.1 | 0.17 | 0.4 | 0.06 | 0.3 | 0.04 |
| 1000 | 20.8 | 5.2 | 3.5 | 5.5 | 0.63 | 1.8 | 0.19 | 1.4 | 0.15 | 4.7 | 0.49 | 1.5 | 0.15 | 1.1 | 0.12 | 3.5 | 0.37 | 1.1 | 0.12 | 0.8 | 0.09 | 1.2 | 0.12 | 0.4 | 0.04 | 0.3 | 0.03 |
| 750 | 15.6 | 3.9 | 2.6 | 6.0 | 0.47 | 1.9 | 0.15 | 1.5 | 0.11 | 4.8 | 0.38 | 1.5 | 0.12 | 1.2 | 0.09 | 3.6 | 0.28 | 1.2 | 0.09 | 0.9 | 0.07 | 1.2 | 0.10 | 0.4 | 0.03 | 0.3 | 0.02 |
| 500 | 10.4 | 2.6 | 1.7 | 6.4 | 0.34 | 2.0 | 0.11 | 1.6 | 0.08 | 5.1 | 0.27 | 1.6 | 0.08 | 1.3 | 0.07 | 3.9 | 0.20 | 1.2 | 0.06 | 1.0 | 0.05 | 1.3 | 0.07 | 0.4 | 0.02 | 0.3 | 0.02 |
| 300 | 6.3 | 1.6 | 1.1 | 6.6 | 0.21 | 2.1 | 0.07 | 1.7 | 0.05 | 5.3 | 0.17 | 1.7 | 0.05 | 1.3 | 0.04 | 4.0 | 0.13 | 1.3 | 0.04 | 1.0 | 0.03 | 1.3 | 0.04 | 0.4 | 0.01 | 0.3 | 0.01 |
| 100 | 2.1 | 0.5 | 0.4 | 7.1 | 0.08 | 2.3 | 0.02 | 2.0 | 0.02 | 5.7 | 0.06 | 1.8 | 0.02 | 1.6 | 0.02 | 4.3 | 0.05 | 1.4 | 0.02 | 1.2 | 0.01 | 1.4 | 0.02 | 0.5 | 0.01 | 0.4 | 0.01 |
| 50 | 1.1 | 0.3 | 0.2 | 7.4 | 0.04 | 2.5 | 0.01 | 2.1 | 0.01 | 5.9 | 0.03 | 2.0 | 0.01 | 1.7 | 0.01 | 4.4 | 0.02 | 1.5 | 0.01 | 1.3 | 0.01 | 1.5 | 0.01 | 0.5 | 0.01 | 0.4 | 0.01 |

## SJ 25

LIFTING LOAD

| $n_1$ | Lifting speed mm/s | | | 25 kN Ratios | | | | | | 20 kN Ratios | | | | | | 15 kN Ratios | | | | | | 5 kN Ratios | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RV | | RN | | RL | | RV | | RN | | RL | | RV | | RN | | RL | | RV | | RN | | RL | |
| | | | | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ |
| r/min | RV | RN | RL | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW |
| 1500 | 25.0 | 8.3 | 6.3 | 11.7 | 1.83 | 4.8 | 0.76 | 3.9 | 0.61 | 9.3 | 1.47 | 3.9 | 0.60 | 3.1 | 0.49 | 7.0 | 1.10 | 2.9 | 0.45 | 2.3 | 0.37 | 2.3 | 0.37 | 1.0 | 0.15 | 0.8 | 0.12 |
| 1000 | 16.7 | 5.6 | 4.2 | 12.2 | 1.28 | 5.0 | 0.53 | 4.1 | 0.43 | 9.8 | 1.03 | 4.0 | 0.42 | 3.3 | 0.34 | 7.3 | 0.77 | 3.0 | 0.32 | 2.5 | 0.26 | 2.4 | 0.26 | 1.0 | 0.11 | 0.8 | 0.09 |
| 750 | 12.5 | 4.2 | 3.1 | 12.7 | 1.00 | 5.2 | 0.41 | 4.2 | 0.33 | 10.2 | 0.80 | 4.2 | 0.33 | 3.4 | 0.27 | 7.6 | 0.60 | 3.1 | 0.24 | 2.5 | 0.20 | 2.5 | 0.20 | 1.0 | 0.08 | 0.9 | 0.07 |
| 500 | 8.3 | 2.8 | 2.1 | 13.5 | 0.71 | 5.5 | 0.29 | 4.5 | 0.24 | 10.8 | 0.56 | 4.4 | 0.23 | 3.6 | 0.19 | 8.1 | 0.42 | 3.3 | 0.17 | 2.7 | 0.14 | 2.7 | 0.14 | 1.1 | 0.06 | 0.9 | 0.05 |
| 300 | 5.0 | 1.7 | 1.3 | 14.1 | 0.44 | 5.8 | 0.18 | 4.8 | 0.15 | 11.3 | 0.35 | 4.6 | 0.15 | 3.9 | 0.12 | 8.5 | 0.27 | 3.5 | 0.11 | 2.9 | 0.09 | 2.8 | 0.09 | 1.2 | 0.04 | 1.0 | 0.03 |
| 100 | 1.7 | 0.6 | 0.4 | 15.1 | 0.16 | 6.5 | 0.07 | 5.5 | 0.06 | 12.1 | 0.13 | 5.2 | 0.05 | 4.4 | 0.05 | 9.0 | 0.09 | 3.9 | 0.04 | 3.3 | 0.03 | 3.0 | 0.03 | 1.3 | 0.01 | 1.1 | 0.01 |
| 50 | 0.8 | 0.3 | 0.2 | 15.8 | 0.08 | 6.9 | 0.04 | 6.0 | 0.03 | 12.6 | 0.07 | 5.5 | 0.03 | 4.8 | 0.02 | 9.5 | 0.05 | 4.1 | 0.02 | 3.6 | 0.02 | 3.2 | 0.02 | 1.4 | 0.01 | 1.2 | 0.01 |

Max duty cycle for series SJ is 20% over a 10 minute period at 20ºC ambient

## SJ 50

LIFTING LOAD

| $n_1$ | Lifting speed mm/s | | | 50 kN | | | | | | 35 kN | | | | | | 25 kN | | | | | | 10 kN | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ratios | | | | | | Ratios | | | | | | Ratios | | | | | | Ratios | | | | | |
| | | | | RV | | RN | | RL | | RV | | RN | | RL | | RV | | RN | | RL | | RV | | RN | | RL | |
| | | | | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ |
| r/min | RV | RN | RL | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW |
| 1500 | 25.0 | 12.5 | 6.3 | 25.0 | 3.92 | 14.4 | 2.26 | 8.5 | 1.34 | 17.5 | 2.74 | 10.0 | 1.58 | 6.0 | 0.94 | 12.5 | 1.96 | 7.2 | 1.13 | 4.3 | 0.67 | 5.0 | 0.78 | 2.9 | 0.45 | 1.7 | 0.27 |
| 1000 | 16.7 | 8.3 | 4.2 | 26.5 | 2.78 | 15.3 | 1.60 | 9.1 | 0.96 | 18.6 | 1.94 | 10.7 | 1.12 | 6.4 | 0.67 | 13.3 | 1.39 | 7.6 | 0.80 | 4.6 | 0.48 | 5.3 | 0.56 | 3.1 | 0.32 | 1.8 | 0.19 |
| 750 | 12.5 | 6.3 | 3.1 | 27.4 | 2.15 | 16.0 | 1.25 | 9.5 | 0.74 | 19.2 | 1.51 | 11.1 | 0.87 | 6.6 | 0.52 | 13.7 | 1.08 | 7.9 | 0.62 | 4.7 | 0.37 | 5.5 | 0.43 | 3.2 | 0.25 | 1.9 | 0.15 |
| 500 | 8.3 | 4.2 | 2.1 | 28.8 | 1.51 | 16.4 | 0.86 | 10.0 | 0.52 | 20.2 | 1.06 | 11.5 | 0.60 | 7.0 | 0.37 | 14.4 | 0.75 | 8.2 | 0.43 | 5.0 | 0.26 | 5.8 | 0.30 | 3.3 | 0.17 | 2.0 | 0.11 |
| 300 | 5.0 | 2.5 | 1.3 | 30.5 | 0.96 | 17.4 | 0.55 | 10.8 | 0.34 | 21.3 | 0.67 | 12.2 | 0.38 | 7.6 | 0.24 | 15.2 | 0.48 | 8.7 | 0.27 | 5.4 | 0.17 | 6.1 | 0.19 | 3.5 | 0.11 | 2.1 | 0.07 |
| 100 | 1.7 | 0.8 | 0.4 | 33.0 | 0.35 | 19.3 | 0.20 | 12.5 | 0.13 | 23.1 | 0.24 | 13.5 | 0.14 | 8.8 | 0.09 | 16.5 | 0.17 | 9.7 | 0.10 | 6.3 | 0.07 | 6.6 | 0.07 | 3.9 | 0.04 | 2.5 | 0.03 |
| 50 | 0.8 | 0.4 | 0.2 | 35.0 | 0.18 | 21.0 | 0.11 | 13.6 | 0.07 | 24.3 | 0.13 | 14.5 | 0.08 | 9.5 | 0.05 | 17.4 | 0.09 | 10.3 | 0.05 | 6.8 | 0.04 | 7.0 | 0.04 | 4.1 | 0.02 | 2.7 | 0.01 |

## SJ 80

LIFTING LOAD

| $n_1$ | Lifting speed mm/s | | | 80 kN | | | | | | 60 kN | | | | | | 40 kN | | | | | | 20 kN | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ratios | | | | | | Ratios | | | | | | Ratios | | | | | | Ratios | | | | | |
| | | | | RV | | RN | | RL | | RV | | RN | | RL | | RV | | RN | | RL | | RV | | RN | | RL | |
| | | | | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ |
| r/min | RV | RN | RL | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW |
| 1500 | 32 | 16.0 | 8.0 | 50.2 | 7.88 | 29.1 | 4.57 | 16.3 | 2.56 | 37.6 | 5.91 | 21.8 | 3.43 | 12.2 | 1.92 | 25.1 | 3.94 | 14.6 | 2.29 | 8.15 | 1.28 | 12.5 | 1.97 | 7.28 | 1.14 | 4.07 | 0.64 |
| 1000 | 21.4 | 10.7 | 5.3 | 53.4 | 5.59 | 30.2 | 3.16 | 17.0 | 1.78 | 40.0 | 4.19 | 22.6 | 2.37 | 12.7 | 1.33 | 26.7 | 2.80 | 15.1 | 1.58 | 8.49 | 0.89 | 13.3 | 1.40 | 7.55 | 0.79 | 4.24 | 0.44 |
| 750 | 16.1 | 8.0 | 4.0 | 53.8 | 4.22 | 32.6 | 2.56 | 17.7 | 1.39 | 40.3 | 3.17 | 24.4 | 1.92 | 13.3 | 1.04 | 26.9 | 2.11 | 16.3 | 1.28 | 8.86 | 0.70 | 13.4 | 1.06 | 8.15 | 0.64 | 4.43 | 0.35 |
| 500 | 10.7 | 5.3 | 2.7 | 58.2 | 3.05 | 34.0 | 1.78 | 18.5 | 0.97 | 43.7 | 2.29 | 25.5 | 1.33 | 13.9 | 0.73 | 29.1 | 1.52 | 17.0 | 0.89 | 9.26 | 0.48 | 14.6 | 0.76 | 8.49 | 0.44 | 4.63 | 0.24 |
| 300 | 6.4 | 3.2 | 1.6 | 63.7 | 2.00 | 35.1 | 1.10 | 22.3 | 0.70 | 47.7 | 1.50 | 26.3 | 0.83 | 16.8 | 0.53 | 31.8 | 1.00 | 17.5 | 0.55 | 11.2 | 0.35 | 15.9 | 0.50 | 8.77 | 0.28 | 5.58 | 0.18 |
| 100 | 2.1 | 1.1 | 0.5 | 66.2 | 0.69 | 37.6 | 0.39 | 24.0 | 0.25 | 49.7 | 0.52 | 28.2 | 0.30 | 18.0 | 0.19 | 33.1 | 0.35 | 18.8 | 0.20 | 12.0 | 0.13 | 16.6 | 0.17 | 9.40 | 0.10 | 5.99 | 0.06 |
| 50 | 1.1 | 0.5 | 0.3 | 69.0 | 0.36 | 40.7 | 0.21 | 25.5 | 0.13 | 51.7 | 0.27 | 30.6 | 0.16 | 19.1 | 0.10 | 34.5 | 0.18 | 20.4 | 0.11 | 12.7 | 0.07 | 17.2 | 0.09 | 10.2 | 0.05 | 6.37 | 0.03 |

## SJ 200

LIFTING LOAD

| $n_1$ | Lifting speed mm/s | | 200 kN | | | | 150 kN | | | | 100 kN | | | | 50 kN | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | RV | | RL | | RV | | RL | | RV | | RL | | RV | | RL | |
| | | | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ |
| r/min | RV | RL | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW |
| 1500 | 42.9 | 10.7 | 156 | 24.5 | 56.8 | 8.93 | 117 | 18.4 | 42.6 | 6.70 | 78.0 | 12.3 | 28.4 | 4.46 | 39.0 | 6.12 | 14.2 | 2.23 |
| 1000 | 28.6 | 7.1 | 171 | 17.9 | 65.0 | 6,80 | 128 | 13.4 | 48.7 | 5.10 | 85.3 | 8.93 | 32.5 | 3.40 | 42.6 | 4.46 | 16.2 | 1.70 |
| 750 | 21.4 | 5.4 | 182 | 14,3 | 68,2 | 5,35 | 136 | 10.7 | 51.2 | 4.02 | 91.0 | 7.14 | 34.1 | 2.68 | 45.5 | 3.57 | 17.1 | 1.34 |
| 500 | 14.3 | 3.6 | 195 | 10.2 | 71.8 | 3.76 | 146 | 7.65 | 53.9 | 2.82 | 97.5 | 5.10 | 35.9 | 1.88 | 48.7 | 2.55 | 18.0 | 0.94 |
| 300 | 8.6 | 2.1 | 218 | 6.86 | 80.3 | 2.52 | 164 | 5.14 | 60.2 | 1.89 | 110 | 3.43 | 40.1 | 1.26 | 54.6 | 1.71 | 20.1 | 0.63 |
| 100 | 2.6 | 0.7 | 248 | 2.60 | 97.5 | 1.02 | 186 | 1.95 | 73.1 | 0.77 | 124 | 1.30 | 48.7 | 0.51 | 62.0 | 0.65 | 24.4 | 0.26 |
| 50 | 1.4 | 0.4 | 273 | 1.43 | 105 | 0.55 | 205 | 1.07 | 78.7 | 0.42 | 137 | 0.71 | 52.5 | 0.27 | 68.2 | 0.36 | 26.3 | 0.14 |

# Series SJ – efficiency figures

| n1 [r/min] | SJ 5 Ratios | | | | SJ 10 Ratios | | | SJ 25 Ratios | | | SJ 50 Ratios | | | SJ 80 Ratios | | | SJ 200 Ratios | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RH | RV | RN | RL | RV | RN | RL | RV | RN | RL | RV | RN | RL | RV | RN | RL | RV | RL |
| 1500 | 0.35 | 0.34 | 0.29 | 0.25 | 0.36 | 0.28 | 0.25 | 0.34 | 0.27 | 0.25 | 0.32 | 0.28 | 0.23 | 0.33 | 0.29 | 0.24 | 0.35 | 0.24 |
| 1000 | 0.33 | 0.32 | 0.28 | 0.24 | 0.34 | 0.27 | 0.24 | 0.32 | 0.26 | 0.24 | 0.30 | 0.26 | 0.22 | 0.31 | 0.27 | 0.23 | 0.32 | 0.21 |
| 750 | 0.32 | 0.31 | 0.27 | 0.23 | 0.33 | 0.26 | 0.23 | 0.31 | 0.25 | 0.23 | 0.29 | 0.25 | 0.21 | 0.30 | 0.26 | 0.22 | 0.30 | 0.20 |
| 500 | 0.30 | 0.29 | 0.26 | 0.21 | 0.31 | 0.25 | 0.21 | 0.29 | 0.24 | 0.22 | 0.28 | 0.24 | 0.20 | 0.29 | 0.25 | 0.21 | 0.28 | 0.19 |
| 300 | 0.29 | 0.28 | 0.25 | 0.20 | 0.30 | 0.24 | 0.20 | 0.28 | 0.23 | 0.20 | 0.26 | 0.23 | 0.18 | 0.27 | 0.24 | 0.19 | 0.25 | 0.17 |
| 100 | 0.27 | 0.26 | 0.23 | 0.17 | 0.28 | 0.22 | 0.17 | 0.26 | 0.20 | 0.18 | 0.24 | 0.21 | 0.16 | 0.25 | 0.22 | 0.17 | 0.22 | 0.14 |
| 50 | 0.26 | 0.25 | 0.21 | 0.16 | 0.27 | 0.20 | 0.16 | 0.25 | 0.19 | 0.17 | 0.23 | 0.19 | 0.15 | 0.24 | 0.20 | 0.16 | 0.20 | 0.13 |
| Starting | 0.22 | 0.22 | 0.19 | 0.15 | 0.23 | 0.18 | 0.14 | 0.2 | 0.16 | 0.13 | 0.18 | 0.15 | 0.11 | 0.20 | 0.17 | 0.13 | 0.17 | 0.11 |

*Based upon the linear speed needed and maximum dynamic load applied, pick the effective lifting speed and input torque - power required from the relevant screwjack table below. Intermediate figures for input torque - power can be calculated by direct interpolation.*

**PLEASE, NOTE!** The red figures in the tables indicates operational restrictions due to thermal limits. Selection of screw jacks using these figures should only be carried out in consultation with our office.
When your selection is made within the areas shaded red, you will need to reduce duty cycle or choose the next size screwjack in order to allow effective heat dissipation.

$n_1$ = *input speed* *T1= input torque required* *P1 = input power required*

## MA 5

LIFTING LOAD

| $n_1$ | Lifting speed mm/s | | | 5kN Ratios RV $T_1$ | 5kN RV $P_1$ | 5kN RN $T_1$ | 5kN RN $P_1$ | 5kN RL $T_1$ | 5kN RL $P_1$ | 4kN RV $T_1$ | 4kN RV $P_1$ | 4kN RN $T_1$ | 4kN RN $P_1$ | 4kN RL $T_1$ | 4kN RL $P_1$ | 3kN RV $T_1$ | 3kN RV $P_1$ | 3kN RN $T_1$ | 3kN RN $P_1$ | 3kN RL $T_1$ | 3kN RL $P_1$ | 1kN RV $T_1$ | 1kN RV $P_1$ | 1kN RN $T_1$ | 1kN RN $P_1$ | 1kN RL $T_1$ | 1kN RL $P_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| r/min | RV | RN | RL | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW |
| 3000 | 50.0 | 12.5 | 8.3 | 2.0 | 0.63 | 0.7 | 0.20 | 0.5 | 0.15 | 1.6 | 0.50 | 0.5 | 0.16 | 0.4 | 0.12 | 1.2 | 0.38 | 0.4 | 0.12 | 0.3 | 0.09 | 0.4 | 0.13 | 0.1 | 0.04 | 0.1 | 0.03 |
| 1500 | 25.0 | 6.3 | 4.2 | 2.2 | 0.35 | 0.7 | 0.11 | 0.5 | 0.08 | 1.8 | 0.28 | 0.6 | 0.09 | 0.4 | 0.07 | 1.3 | 0.21 | 0.4 | 0.07 | 0.3 | 0.05 | 0.4 | 0.07 | 0.1 | 0.02 | 0.1 | 0.02 |
| 1000 | 16.7 | 4.2 | 2.8 | 2.3 | 0.24 | 0.7 | 0.08 | 0.6 | 0.06 | 1.9 | 0.20 | 0.6 | 0.06 | 0.4 | 0.05 | 1.4 | 0.15 | 0.4 | 0.05 | 0.3 | 0.03 | 0.5 | 0.05 | 0.1 | 0.01 | 0.1 | 0.01 |
| 750 | 12.5 | 3.1 | 2.1 | 2.4 | 0.19 | 0.7 | 0.05 | 0.6 | 0.05 | 1.9 | 0.15 | 0.6 | 0.05 | 0.5 | 0.04 | 1.4 | 0.11 | 0.4 | 0.04 | 0.3 | 0.03 | 0.5 | 0.04 | 0.1 | 0.01 | 0.1 | 0.01 |
| 500 | 8.3 | 2.1 | 1.4 | 2.5 | 0.13 | 0.8 | 0.04 | 0.6 | 0.03 | 2.0 | 0.11 | 0.6 | 0.03 | 0.5 | 0.03 | 1.5 | 0.08 | 0.5 | 0.02 | 0.4 | 0.02 | 0.5 | 0.03 | 0.1 | 0.01 | 0.1 | 0.01 |
| 300 | 5.0 | 1.3 | 0.8 | 2.6 | 0.08 | 0.8 | 0.03 | 0.7 | 0.02 | 2.1 | 0.07 | 0.7 | 0.02 | 0.5 | 0.02 | 1.6 | 0.05 | 0.5 | 0.02 | 0.4 | 0.01 | 0.5 | 0.02 | 0.2 | 0.01 | 0.1 | 0.01 |
| 100 | 1.7 | 0.4 | 0.3 | 2.8 | 0.03 | 0.9 | 0.01 | 0.8 | 0.01 | 2.2 | 0.02 | 0.7 | 0.01 | 0.6 | 0.01 | 1.7 | 0.02 | 0.5 | 0.01 | 0.5 | 0.01 | 0.6 | 0.01 | 0.2 | 0.01 | 0.1 | 0.01 |

## MA 10

LIFTING LOAD

| $n_1$ | Lifting speed mm/s | | | 10kN Ratios RV $T_1$ | 10kN RV $P_1$ | 10kN RN $T_1$ | 10kN RN $P_1$ | 10kN RL $T_1$ | 10kN RL $P_1$ | 8kN RV $T_1$ | 8kN RV $P_1$ | 8kN RN $T_1$ | 8kN RN $P_1$ | 8kN RL $T_1$ | 8kN RL $P_1$ | 6kN RV $T_1$ | 6kN RV $P_1$ | 6kN RN $T_1$ | 6kN RN $P_1$ | 6kN RL $T_1$ | 6kN RL $P_1$ | 2kN RV $T_1$ | 2kN RV $P_1$ | 2kN RN $T_1$ | 2kN RN $P_1$ | 2kN RL $T_1$ | 2kN RL $P_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| r/min | RV | RN | RL | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW |
| 3000 | 50.0 | 12.5 | 10.0 | 3.9 | 1.22 | 1.3 | 0.42 | 1.1 | 0.36 | 3.1 | 0.98 | 1.1 | 0.33 | 0.9 | 0.29 | 2.3 | 0.73 | 0.8 | 0.25 | 0.7 | 0.21 | 0.78 | 0.24 | 0.3 | 0.08 | 0.2 | 0.07 |
| 1500 | 25.0 | 6.3 | 5.0 | 4.4 | 0.68 | 1.4 | 0.23 | 1.2 | 0.19 | 3.5 | 0.55 | 1.1 | 0.18 | 0.9 | 0.15 | 2.6 | 0.41 | 0.9 | 0.13 | 0.7 | 0.11 | 0.9 | 0.14 | 0.3 | 0.04 | 0.2 | 0.04 |
| 1000 | 16.7 | 4.2 | 3.3 | 4.6 | 0.48 | 1.5 | 0.16 | 1.2 | 0.13 | 3.6 | 0.38 | 1.2 | 0.13 | 1.0 | 0.10 | 2.7 | 0.29 | 0.9 | 0.09 | 0.7 | 0.08 | 0.9 | 0.10 | 0.3 | 0.03 | 0.2 | 0.03 |
| 750 | 12.5 | 3.1 | 2.5 | 4.7 | 0.37 | 1.6 | 0.12 | 1.3 | 0.10 | 3.8 | 0.30 | 1.2 | 0.10 | 1.0 | 0.08 | 2.8 | 0.22 | 0.9 | 0.07 | 0.8 | 0.06 | 0.9 | 0.07 | 0.3 | 0.02 | 0.2 | 0.02 |
| 500 | 8.3 | 2.1 | 1.7 | 5.0 | 0.26 | 1.6 | 0.09 | 1.4 | 0.07 | 4.0 | 0.21 | 1.3 | 0.07 | 1.1 | 0.06 | 3.0 | 0.16 | 1.0 | 0.05 | 0.8 | 0.04 | 1.0 | 0.05 | 0.3 | 0.02 | 0.3 | 0.01 |
| 300 | 5.0 | 1.3 | 1.0 | 5.1 | 0.16 | 1.8 | 0.05 | 1.5 | 0.05 | 4.1 | 0.13 | 1.4 | 0.04 | 1.2 | 0.04 | 3.1 | 0.10 | 1.1 | 0.03 | 0.9 | 0.03 | 1.0 | 0.03 | 0.3 | 0.01 | 0.3 | 0.01 |
| 100 | 1.7 | 0.4 | 0.3 | 5.5 | 0.06 | 2.0 | 0.02 | 1.6 | 0.02 | 4.4 | 0.05 | 1.6 | 0.02 | 1.3 | 0.01 | 3.3 | 0.03 | 1.2 | 0.01 | 1.0 | 0.01 | 1.1 | 0.01 | 0.4 | 0.01 | 0.3 | 0.01 |

## MA 25

LIFTING LOAD

| $n_1$ | Lifting speed mm/s | | | 25kN Ratios RV $T_1$ | 25kN RV $P_1$ | 25kN RN $T_1$ | 25kN RN $P_1$ | 25kN RL $T_1$ | 25kN RL $P_1$ | 20kN RV $T_1$ | 20kN RV $P_1$ | 20kN RN $T_1$ | 20kN RN $P_1$ | 20kN RL $T_1$ | 20kN RL $P_1$ | 15kN RV $T_1$ | 15kN RV $P_1$ | 15kN RN $T_1$ | 15kN RN $P_1$ | 15kN RL $T_1$ | 15kN RL $P_1$ | 5kN RV $T_1$ | 5kN RV $P_1$ | 5kN RN $T_1$ | 5kN RN $P_1$ | 5kN RL $T_1$ | 5kN RL $P_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| r/min | RV | RN | RL | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW |
| 3000 | 50.0 | 16.7 | 12.5 | 10.5 | 3.29 | 4.4 | 1.39 | 3.6 | 1.12 | 8.4 | 2.63 | 3.5 | 1.11 | 2.8 | 0.89 | 6.3 | 1.97 | 2.7 | 0.83 | 2.1 | 0.67 | 2.1 | 0.66 | 0.9 | 0.28 | 0.7 | 0.22 |
| 1500 | 25.0 | 8.3 | 6.3 | 11.7 | 1.83 | 4.8 | 0.76 | 3.9 | 0.61 | 9.3 | 1.47 | 3.9 | 0.60 | 3.1 | 0.49 | 7.0 | 1.10 | 2.9 | 0.45 | 2.3 | 0.37 | 2.3 | 0.37 | 1.0 | 0.15 | 0.8 | 0.12 |
| 1000 | 16.7 | 5.6 | 4.2 | 12.2 | 1.28 | 5.0 | 0.53 | 4.1 | 0.43 | 9.8 | 1.03 | 4.0 | 0.42 | 3.3 | 0.34 | 7.3 | 0.77 | 3.0 | 0.32 | 2.5 | 0.26 | 2.4 | 0.26 | 1.0 | 0.11 | 0.8 | 0.09 |
| 750 | 12.5 | 4.2 | 3.1 | 12.7 | 1.00 | 5.2 | 0.41 | 4.2 | 0.33 | 10.2 | 0.80 | 4.2 | 0.33 | 3.4 | 0.27 | 7.6 | 0.60 | 3.1 | 0.24 | 2.5 | 0.20 | 2.5 | 0.20 | 1.0 | 0.08 | 0.9 | 0.07 |
| 500 | 8.3 | 2.8 | 2.1 | 13.5 | 0.71 | 5.5 | 0.29 | 4.5 | 0.24 | 10.8 | 0.56 | 4.4 | 0.23 | 3.6 | 0.19 | 8.1 | 0.42 | 3.3 | 0.17 | 2.7 | 0.14 | 2.7 | 0.14 | 1.1 | 0.06 | 0.9 | 0.05 |
| 300 | 5.0 | 1.7 | 1.3 | 14.1 | 0.44 | 5.8 | 0.18 | 4.8 | 0.15 | 11.3 | 0.35 | 4.6 | 0.15 | 3.9 | 0.12 | 8.5 | 0.27 | 3.5 | 0.11 | 2.9 | 0.09 | 2.8 | 0.09 | 1.2 | 0.04 | 1.0 | 0.03 |
| 100 | 1.7 | 0.6 | 0.4 | 15.1 | 0.16 | 6.5 | 0.07 | 5.5 | 0.06 | 12.1 | 0.13 | 5.2 | 0.05 | 4.4 | 0.05 | 9.0 | 0.09 | 3.9 | 0.04 | 3.3 | 0.03 | 3.0 | 0.03 | 1.3 | 0.01 | 1.1 | 0.01 |

**Max duty cycle for series MA is 30% over a 10 minute period at 20ºC ambient**

*Based upon the linear speed needed and maximum dynamic load applied, pick the effective lifting speed and input torque - power required from the relevant screwjack table below. Intermediate figures for input torque - power can be calculated by direct interpolation.*

**PLEASE, NOTE!** The red figures in the tables indicates operational restrictions due to thermal limits. Selection of screw jacks using these figures should only be carried out in consultation with our office.
When your selection is made within the areas shaded red, you will need to reduce duty cycle or choose the next size screwjack in order to allow effective heat dissipation.

$n_1$ = *input speed* *T1= input torque required* *P1 = input power required*

## MA 50

LIFTING LOAD

| $n_1$ | Lifting speed mm/s | | | 50kN Ratios RV $T_1$ | RV $P_1$ | RN $T_1$ | RN $P_1$ | RL $T_1$ | RL $P_1$ | 35kN Ratios RV $T_1$ | RV $P_1$ | RN $T_1$ | RN $P_1$ | RL $T_1$ | RL $P_1$ | 25kN Ratios RV $T_1$ | RV $P_1$ | RN $T_1$ | RN $P_1$ | RL $T_1$ | RL $P_1$ | 10kN Ratios RV $T_1$ | RV $P_1$ | RN $T_1$ | RN $P_1$ | RL $T_1$ | RL $P_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| r/min | RV | RN | RL | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW |
| 3000 | 50.0 | 25.0 | 12.5 | 21.5 | 6.76 | 12.4 | 3.91 | 7.7 | 2.40 | 15.1 | 4.73 | 8.7 | 2.73 | 5.4 | 1.68 | 10.8 | 3.38 | 6.2 | 1.95 | 3.8 | 1.20 | 4.3 | 1.35 | 2.5 | 0.78 | 1.5 | 0.48 |
| 1500 | 25.0 | 12.5 | 6.3 | 25.0 | 3.92 | 14.4 | 2.26 | 8.5 | 1.34 | 17.5 | 2.74 | 10.0 | 1.58 | 6.0 | 0.94 | 12.5 | 1.96 | 7.2 | 1.13 | 4.3 | 0.67 | 5.0 | 0.78 | 2.9 | 0.45 | 1.7 | 0.27 |
| 1000 | 16.7 | 8.3 | 4.2 | 26.5 | 2.78 | 15.3 | 1.60 | 9.1 | 0.96 | 18.6 | 1.94 | 10.7 | 1.12 | 6.4 | 0.67 | 13.3 | 1.39 | 7.6 | 0.80 | 4.6 | 0.48 | 5.3 | 0.56 | 3.1 | 0.32 | 1.8 | 0.19 |
| 750 | 12.5 | 6.3 | 3.1 | 27.4 | 2.15 | 16.0 | 1.25 | 9.5 | 0.74 | 19.2 | 1.51 | 11.1 | 0.87 | 6.6 | 0.52 | 13.7 | 1.08 | 7.9 | 0.62 | 4.7 | 0.37 | 5.5 | 0.43 | 3.2 | 0.25 | 1.9 | 0.15 |
| 500 | 8.3 | 4.2 | 2.1 | 28.8 | 1.51 | 16.4 | 0.86 | 10.0 | 0.52 | 20.2 | 1.06 | 11.5 | 0.60 | 7.0 | 0.37 | 14.4 | 0.75 | 8.2 | 0.43 | 5.0 | 0.26 | 5.8 | 0.30 | 3.3 | 0.17 | 2.0 | 0.11 |
| 300 | 5.0 | 2.5 | 1.3 | 30.5 | 0.96 | 17.4 | 0.55 | 10.8 | 0.34 | 21.3 | 0.67 | 12.2 | 0.38 | 7.6 | 0.24 | 15.2 | 0.48 | 8.7 | 0.27 | 5.4 | 0.17 | 6.1 | 0.19 | 3.5 | 0.11 | 2.1 | 0.07 |
| 100 | 1.7 | 0.8 | 0.4 | 33.0 | 0.35 | 19.3 | 0.20 | 12.5 | 0.13 | 23.1 | 0.24 | 13.5 | 0.14 | 8.8 | 0.09 | 16.5 | 0.17 | 9.7 | 0.10 | 6.3 | 0.07 | 6.6 | 0.07 | 3.9 | 0.04 | 2.5 | 0.03 |

## MA 80

LIFTING LOAD

| $n_1$ | Lifting speed mm/s | | | 80kN Ratios RV $T_1$ | RV $P_1$ | RN $T_1$ | RN $P_1$ | RL $T_1$ | RL $P_1$ | 60kN Ratios RV $T_1$ | RV $P_1$ | RN $T_1$ | RN $P_1$ | RL $T_1$ | RL $P_1$ | 40kN Ratios RV $T_1$ | RV $P_1$ | RN $T_1$ | RN $P_1$ | RL $T_1$ | RL $P_1$ | 20kN Ratios RV $T_1$ | RV $P_1$ | RN $T_1$ | RN $P_1$ | RL $T_1$ | RL $P_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| r/min | RV | RN | RL | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW |
| 3000 | 64.3 | 32.1 | 16.1 | 42.0 | 13.2 | 24.8 | 7.80 | 15.1 | 4.74 | 31.5 | 9.90 | 18.6 | 5.85 | 11.3 | 3.56 | 21.0 | 6.60 | 12.4 | 3.90 | 7.00 | 2.37 | 10.5 | 3.30 | 6.21 | 1.95 | 3.77 | 1.99 |
| 1500 | 32.1 | 16.1 | 8.0 | 50.2 | 7.88 | 29.1 | 4.57 | 16.3 | 2.56 | 37.6 | 5.91 | 21.8 | 3.43 | 12.2 | 1.92 | 25.1 | 3.94 | 14.6 | 2.29 | 8.15 | 1.28 | 12.5 | 1.97 | 7.28 | 1.14 | 4.07 | 0.64 |
| 1000 | 21.7 | 10.7 | 5.4 | 53.4 | 5.59 | 30.2 | 3.16 | 17.0 | 1.78 | 40.0 | 4.19 | 22.6 | 2.37 | 12.7 | 1.33 | 26.7 | 2.80 | 15.1 | 1.58 | 8.49 | 0.89 | 13.3 | 1.40 | 7.55 | 0.79 | 4.24 | 0.44 |
| 750 | 16.1 | 8.0 | 4.0 | 53.8 | 4.22 | 32.6 | 2.56 | 17.7 | 1.39 | 40.3 | 3.17 | 24.4 | 1.92 | 13.3 | 1.04 | 26.9 | 2.11 | 16.3 | 1.28 | 8.86 | 0.70 | 13.4 | 1.06 | 8.15 | 0.64 | 4.43 | 0.35 |
| 500 | 10.7 | 5.4 | 2.7 | 58.2 | 3.05 | 34.0 | 1.78 | 18.5 | 0.97 | 43.7 | 2.29 | 25.5 | 1.33 | 13.9 | 0.73 | 29.1 | 1.52 | 17.0 | 0.89 | 9.26 | 0.48 | 14.6 | 0.76 | 8.49 | 0.44 | 4.63 | 0.24 |
| 300 | 6.4 | 3.2 | 1.6 | 63.7 | 2.00 | 35.1 | 1.10 | 22.3 | 0.70 | 47.7 | 1.50 | 26.3 | 0.83 | 16.8 | 0.53 | 31.8 | 1.00 | 17.5 | 0.55 | 11.2 | 0.35 | 15.9 | 0.50 | 8.77 | 0.28 | 5.58 | 0.18 |
| 100 | 2.1 | 1.1 | 0.5 | 66.2 | 0.69 | 37.6 | 0.39 | 24.0 | 0.25 | 49.7 | 0.52 | 28.2 | 0.30 | 18.0 | 0.19 | 33.1 | 0.35 | 18.8 | 0.20 | 12.0 | 0.13 | 16.6 | 0.17 | 9.40 | 0.10 | 5.99 | 0.06 |

## MA 100

LIFTING LOAD

| $n_1$ | Linear speed mm/s | | | 100kN Ratios RV $T_1$ | RV $P_1$ | RN $T_1$ | RN $P_1$ | RL $T_1$ | RL $P_1$ | 80kN Ratios RV $T_1$ | RV $P_1$ | RN $T_1$ | RN $P_1$ | RL $T_1$ | RL $P_1$ | 50kN Ratios RV $T_1$ | RV $P_1$ | RN $T_1$ | RN $P_1$ | RL $T_1$ | RL $P_1$ | 20kN Ratios RV $T_1$ | RV $P_1$ | RN $T_1$ | RN $P_1$ | RL $T_1$ | RL $P_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| r/min | RV | RN | RL | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW |
| 3000 | 75.0 | 25.0 | 18.8 | 58.2 | 18.3 | 24.9 | 7.81 | 19.9 | 6.25 | 46.6 | 14.6 | 19.9 | 6.25 | 15.9 | 5.00 | 29.1 | 9.15 | 12.4 | 3.91 | 10.0 | 3.12 | 11.6 | 3.66 | 5.0 | 1.56 | 4.0 | 1.25 |
| 1500 | 37.5 | 12.5 | 9.4 | 66.5 | 10.4 | 28.2 | 4.43 | 22.5 | 3.54 | 53.2 | 8.36 | 22.6 | 3.55 | 18.0 | 2.83 | 33.2 | 5.22 | 14.1 | 2.22 | 11.3 | 1.77 | 13.3 | 2.09 | 5.6 | 0.89 | 4.5 | 0.71 |
| 1000 | 25.0 | 8.3 | 6.3 | 70.8 | 7.42 | 30.0 | 3.14 | 24.1 | 2.52 | 56.7 | 5.93 | 24.0 | 2.52 | 19.2 | 2.02 | 35.4 | 3.71 | 15.0 | 1.57 | 12.0 | 1.26 | 14.2 | 1.48 | 6.0 | 0.63 | 4.8 | 0.50 |
| 750 | 18.8 | 6.3 | 4.7 | 73.5 | 5.77 | 31.3 | 2.46 | 25.3 | 1.99 | 58.8 | 4.61 | 25.1 | 1.97 | 20.2 | 1.59 | 36.7 | 2.88 | 15.7 | 1.23 | 12.6 | 0.99 | 14.7 | 1.15 | 6.3 | 0.49 | 5.0 | 0.40 |
| 500 | 12.5 | 4.2 | 3.1 | 77.0 | 4.03 | 32.9 | 1.72 | 26.6 | 1.39 | 61.6 | 3.23 | 26.3 | 1.38 | 21.3 | 1.12 | 38.5 | 2.02 | 16.4 | 0.86 | 13.5 | 0.70 | 15.4 | 0.81 | 6.6 | 0.34 | 5.3 | 0.28 |
| 300 | 7.5 | 2.5 | 1.9 | 82.3 | 2.59 | 35.2 | 1.11 | 28.7 | 0.90 | 65.9 | 2.07 | 28.2 | 0.88 | 22.9 | 0.72 | 41.2 | 1.29 | 17.6 | 0.55 | 14.3 | 0.45 | 16.5 | 0.52 | 7.0 | 0.22 | 5.7 | 0.18 |
| 100 | 2.5 | 0.8 | 0.6 | 89.1 | 0.93 | 40.0 | 0.42 | 33.0 | 0.34 | 71.3 | 0.75 | 32.0 | 0.33 | 26.4 | 0.28 | 44.5 | 0.47 | 20.0 | 0.21 | 16.5 | 0.17 | 17.8 | 0.19 | 8.0 | 0.08 | 6.6 | 0.07 |

Max duty cycle for series MA is 30% over a 10 minute period at 20ºC ambient

*Based upon the linear speed needed and maximum dynamic load applied, pick the effective lifting speed and input torque - power required from the relevant screwjack table below. Intermediate figures for input torque - power can be calculated by direct interpolation.*

**PLEASE, NOTE!** The red figures in the tables indicates operational restrictions due to thermal limits. Selection of screw jacks using these figures should only be carried out in consultation with our office.
When your selection is made within the areas shaded red, you will need to reduce duty cycle or choose the next size screwjack in order to allow effective heat dissipation.

$n_1$ = *input speed* *T1= input torque required* *P1 = input power required*

## MA 200

LIFTING LOAD

| $n_1$ | Lifting speed mm/s | | | 200kN Ratios | | | | | | 150kN Ratios | | | | | | 100kN Ratios | | | | | | 50kN Ratios | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RV | | RN | | RL | | RV | | RN | | RL | | RV | | RN | | RL | | RV | | RN | | RL | |
| | | | | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ |
| r/min | RV | RN | RL | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW |
| 3000 | 75.0 | 25.0 | 18.8 | 126 | 39.5 | 51.3 | 16.1 | 42.6 | 13.4 | 94.2 | 29.6 | 38.5 | 12.1 | 32.0 | 10.1 | 62.8 | 19.7 | 25.7 | 8.06 | 21.3 | 6.70 | 31.4 | 9.87 | 12.8 | 4.03 | 10.7 | 3.35 |
| 1500 | 37.5 | 12.5 | 9.4 | 144 | 22.6 | 60.5 | 9.51 | 48.9 | 7.68 | 108 | 16.9 | 45.4 | 7.13 | 36.7 | 5.76 | 72.1 | 11.3 | 30.3 | 4.75 | 24.5 | 3.84 | 36.1 | 5.66 | 15.1 | 2.38 | 12.2 | 1.92 |
| 1000 | 25.0 | 8.3 | 6.3 | 153 | 16.0 | 65.0 | 6.80 | 52.1 | 5,48 | 114 | 12.0 | 48.7 | 5.10 | 39.1 | 4.09 | 76.5 | 8.01 | 32.5 | 3.40 | 26.1 | 2.73 | 38.3 | 4.01 | 16.2 | 1.70 | 13.0 | 1.36 |
| 750 | 18.8 | 6.3 | 4.7 | 159 | 12.5 | 68.6 | 5.39 | 54.8 | 4.30 | 119 | 9.37 | 51.4 | 4.04 | 41.1 | 3.22 | 79.6 | 6.25 | 34.3 | 2.69 | 27.4 | 2.15 | 39.8 | 3.12 | 17.1 | 1.35 | 13.7 | 1.07 |
| 500 | 12.5 | 4.2 | 3.1 | 167 | 8.77 | 71.4 | 3.74 | 57.7 | 3.02 | 125 | 6.58 | 53.5 | 2.80 | 43.2 | 2.26 | 83.8 | 4.39 | 35.7 | 1.87 | 28.8 | 1.51 | 41.9 | 2.19 | 17.8 | 0.93 | 14.4 | 0.75 |
| 300 | 7.5 | 2.5 | 1.9 | 178 | 5.62 | 76.1 | 2.39 | 61.8 | 1.94 | 134 | 4.21 | 57.1 | 1.79 | 46.4 | 1.46 | 89.4 | 2.81 | 38.1 | 1.20 | 30.9 | 0.97 | 44.7 | 1.40 | 19.0 | 0.60 | 15.5 | 0.49 |
| 100 | 2.5 | 0.8 | 0.6 | 195 | 2.05 | 87.3 | 0.92 | 72.3 | 0.76 | 146 | 1.54 | 65.9 | 0.69 | 54.3 | 0.57 | 97.8 | 1.02 | 44.0 | 0.46 | 36.2 | 0.38 | 48.9 | 0.51 | 22.0 | 0.23 | 18.1 | 0.19 |

## MA 350

LIFTING LOAD

| $n_1$ | Lifting speed mm/s | | | 350kN Ratios | | | | | | 250kN Ratios | | | | | | 150kN Ratios | | | | | | 100kN Ratios | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | RV | | RN | | RL | | RV | | RN | | RL | | RV | | RN | | RL | | RV | | RN | | RL | |
| | | | | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ | $T_1$ | $P_1$ |
| r/min | RV | RN | RL | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW | Nm | kW |
| 3000 | 75.0 | 50.0 | 25.0 | 214 | 67.3 | 164 | 51.5 | 96.0 | 30.2 | 153 | 48.1 | 117 | 36.8 | 68.6 | 21.6 | 91.8 | 28.8 | 70.2 | 22.1 | 41.2 | 12.9 | 61.2 | 19.2 | 46.8 | 14.7 | 27.5 | 8.62 |
| 1500 | 37.5 | 25.0 | 12.5 | 264 | 41.5 | 191 | 30.0 | 113 | 17.7 | 188 | 29.6 | 136 | 21.4 | 80.9 | 12.7 | 113 | 17.8 | 82.0 | 12.8 | 48.5 | 7.62 | 75.5 | 11.8 | 54.7 | 8.59 | 32.3 | 5.08 |
| 1000 | 25.0 | 16.7 | 8.3 | 281 | 29.4 | 201 | 21.1 | 120 | 12.6 | 201 | 21.0 | 144 | 15.1 | 86.1 | 9.02 | 120 | 12.6 | 86.5 | 9.00 | 51.7 | 5.41 | 80.4 | 8.42 | 57.7 | 6.04 | 34.4 | 3.61 |
| 750 | 18.8 | 12.5 | 6.3 | 293 | 23.0 | 210 | 16.5 | 127 | 9.99 | 209 | 16.4 | 150 | 11.7 | 90.8 | 7.13 | 125 | 9.87 | 90.1 | 7.07 | 54.5 | 4.28 | 83.8 | 6.58 | 60.1 | 4.72 | 36.3 | 2.85 |
| 500 | 12.5 | 8.3 | 4.2 | 308 | 16.1 | 223 | 11.7 | 134 | 7.04 | 220 | 11.5 | 159 | 8.37 | 96.1 | 5.03 | 132 | 6.92 | 95.9 | 5.02 | 57.7 | 3.02 | 88.1 | 4.61 | 63.9 | 3.35 | 38.4 | 2.01 |
| 300 | 7.5 | 5.0 | 2.5 | 331 | 10.4 | 242 | 7.61 | 144 | 4.53 | 236 | 7.44 | 173 | 5.43 | 103 | 3.24 | 142 | 4.46 | 103 | 3.26 | 61.8 | 1.94 | 94.7 | 2.98 | 69.2 | 2.17 | 41.2 | 1.29 |
| 100 | 2.5 | 1.7 | 0.8 | 369 | 3.87 | 269 | 2.82 | 166 | 1.75 | 264 | 2.76 | 192 | 2.01 | 119 | 1.25 | 158 | 1.66 | 115 | 1.21 | 71.5 | 0.75 | 105 | 1.11 | 76.9 | 0.80 | 47.6 | 0.50 |

**Max duty cycle for series MA is 30% over a 10 minute period at 20°C ambient**

# Series MA – efficiency figures

| n1 [r/min] | MA5 Ratios | | | MA10 Ratios | | | MA25 Ratios | | | MA50 Ratios | | | MA80 Ratios | | | MA100 Ratios | | | MA200 Ratios | | | MA350 Ratio | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RV | RN | RL | RV | RN | RL | RV | RN | RL | RV | RN | RL | RV | RN | RL | RV | RN | RL | RV | RN | RL | RV | RN | RL |
| 3000 | 0.40 | 0.31 | 0.27 | 0.41 | 0.30 | 0.28 | 0.38 | 0.30 | 0.28 | 0.37 | 0.32 | 0.26 | 0.39 | 0.33 | 0.27 | 0.41 | 0.32 | 0.30 | 0.38 | 0.31 | 0.28 | 0.39 | 0.34 | 0.29 |
| 1500 | 0.36 | 0.28 | 0.25 | 0.37 | 0.28 | 0.27 | 0.34 | 0.27 | 0.25 | 0.32 | 0.28 | 0.23 | 0.34 | 0.28 | 0.23 | 0.36 | 0.29 | 0.26 | 0.33 | 0.26 | 0.24 | 0.32 | 0.29 | 0.24 |
| 1000 | 0.34 | 0.27 | 0.24 | 0.35 | 0.26 | 0.25 | 0.32 | 0.26 | 0.24 | 0.30 | 0.26 | 0.22 | 0.31 | 0.26 | 0.21 | 0.34 | 0.26 | 0.25 | 0.31 | 0.24 | 0.23 | 0.29 | 0.27 | 0.23 |
| 750 | 0.33 | 0.26 | 0.23 | 0.34 | 0.25 | 0.25 | 0.31 | 0.25 | 0.23 | 0.29 | 0.25 | 0.21 | 0.30 | 0.25 | 0.20 | 0.32 | 0.25 | 0.24 | 0.30 | 0.23 | 0.22 | 0.28 | 0.26 | 0.22 |
| 500 | 0.31 | 0.25 | 0.21 | 0.32 | 0.24 | 0.23 | 0.29 | 0.24 | 0.22 | 0.28 | 0.24 | 0.20 | 0.27 | 0.23 | 0.19 | 0.31 | 0.24 | 0.22 | 0.28 | 0.22 | 0.21 | 0.27 | 0.25 | 0.21 |
| 300 | 0.30 | 0.24 | 0.20 | 0.31 | 0.23 | 0.22 | 0.28 | 0.23 | 0.20 | 0.26 | 0.23 | 0.18 | 0.25 | 0.22 | 0.17 | 0.29 | 0.23 | 0.21 | 0.27 | 0.21 | 0.19 | 0.25 | 0.23 | 0.19 |
| 100 | 0.28 | 0.22 | 0.17 | 0.29 | 0.20 | 0.19 | 0.26 | 0.20 | 0.18 | 0.24 | 0.21 | 0.16 | 0.24 | 0.20 | 0.15 | 0.27 | 0.20 | 0.18 | 0.24 | 0.18 | 0.16 | 0.22 | 0.21 | 0.17 |
| 50 | 0.27 | 0.20 | 0.16 | 0.28 | 0.19 | 0.18 | 0.25 | 0.19 | 0.17 | 0.23 | 0.19 | 0.15 | 0.22 | 0.18 | 0.15 | 0.25 | 0.18 | 0.16 | 0.23 | 0.17 | 0.15 | 0.22 | 0.20 | 0.15 |
| Starting | 0.21 | 0.16 | 0.13 | 0.22 | 0.15 | 0.14 | 0.2 | 0.16 | 0.13 | 0.18 | 0.15 | 0.11 | 0.18 | 0.15 | 0.11 | 0.2 | 0.13 | 0.12 | 0.17 | 0.12 | 0.11 | 0.16 | 0.14 | 0.10 |

# Screw buckling/size selection

The primary screwjack size selection factor is the buckling resistance of the screw. Also known as Euler curves, the graphs below give operating windows for each size of screwjack.

There are three mounting possibilities:

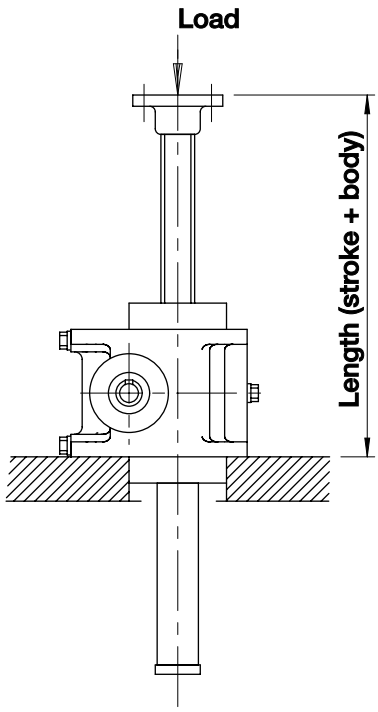

| | |
|---|---|
| *unguided* | *this page* |
| *semi-guided* | *page 14* |
| *fully guided* | *page 15* |

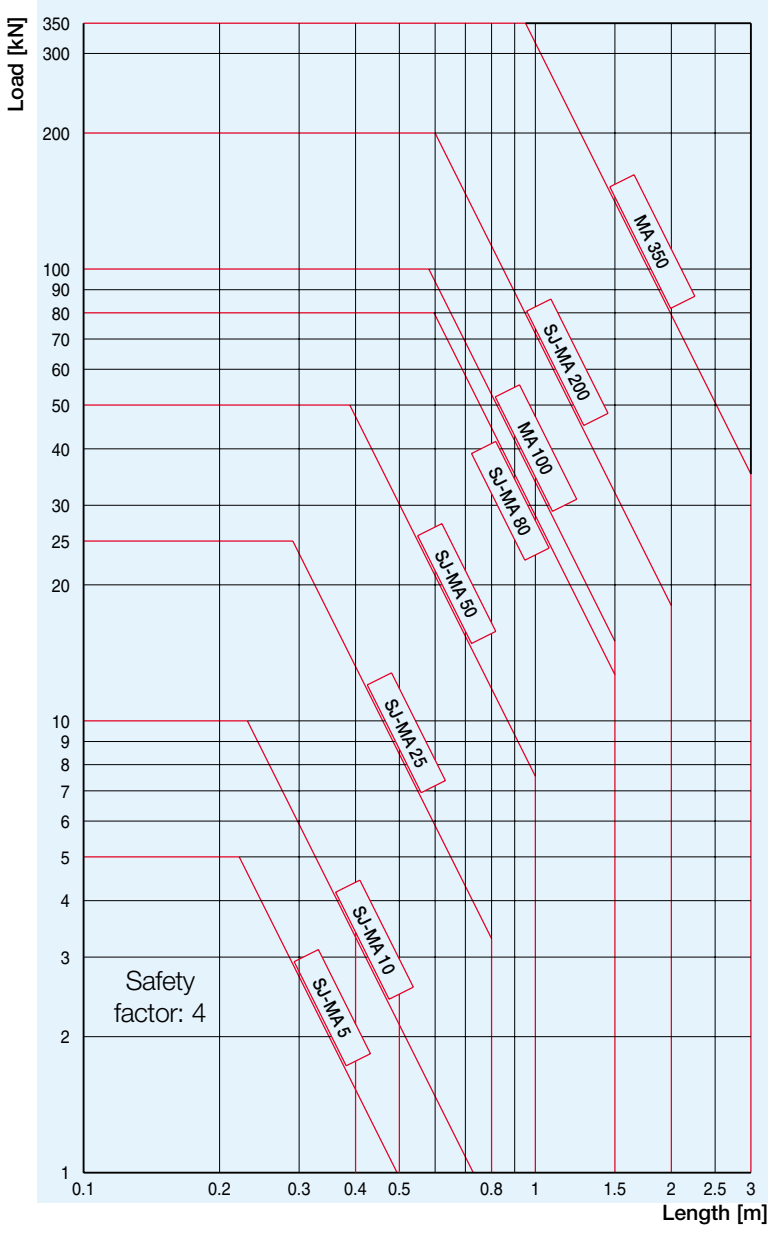

Buckling limits are relevant for compressive loads only.

The limits shown have a built-in safety factor. For safety critical applications, eg theatre lifts, discuss your safety factor requirements with our engineers.

Example

Select a screwjack to suit a load of 60 kN and a screw length of 1000 mm, graph indicates MA 200.



# Screw buckling/size selection

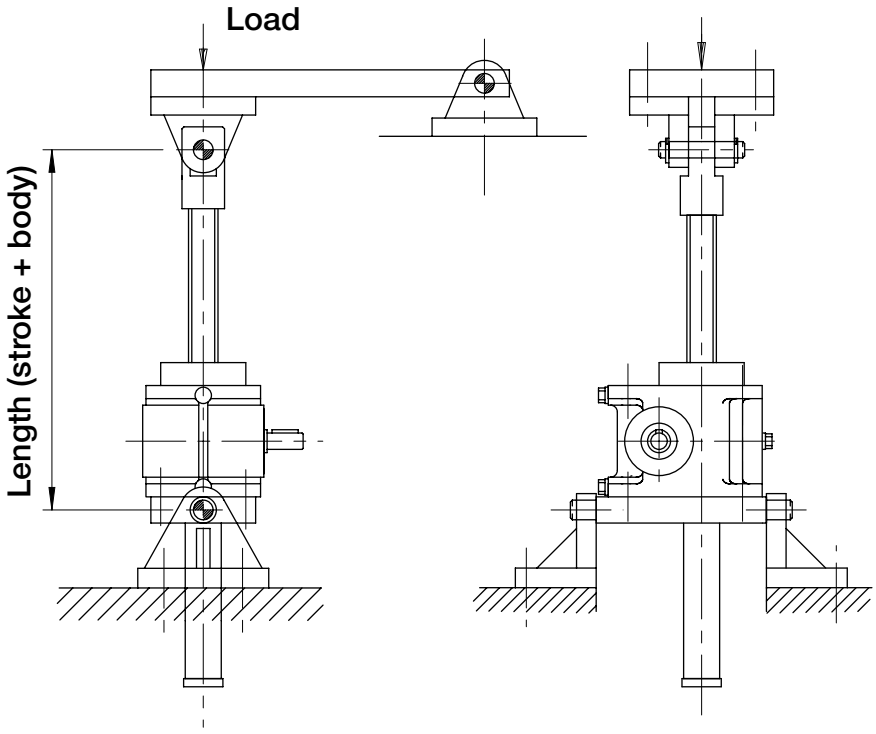
*Semi-guided*

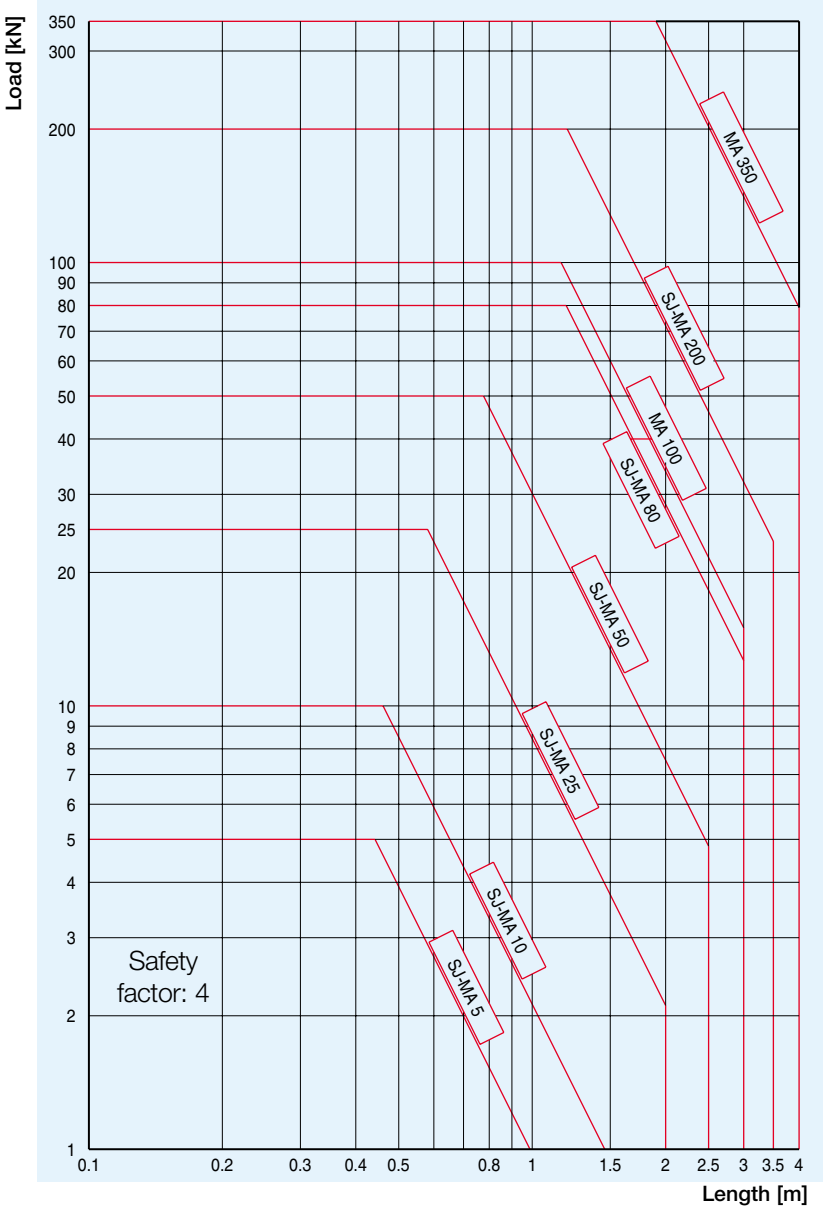
These building limits apply to screws that have partial guidance, e.g. guidance in one plane by pivoted joints.

The limits shown have a built-in safety factor. For safety critical applications, eg theatre lifts, discuss your safety factor requirements with our engineers.

Example

Select a screwjack to suit a load of 20 kN with a screw length of 1000 mm, graph indicates SJ or MA 50.



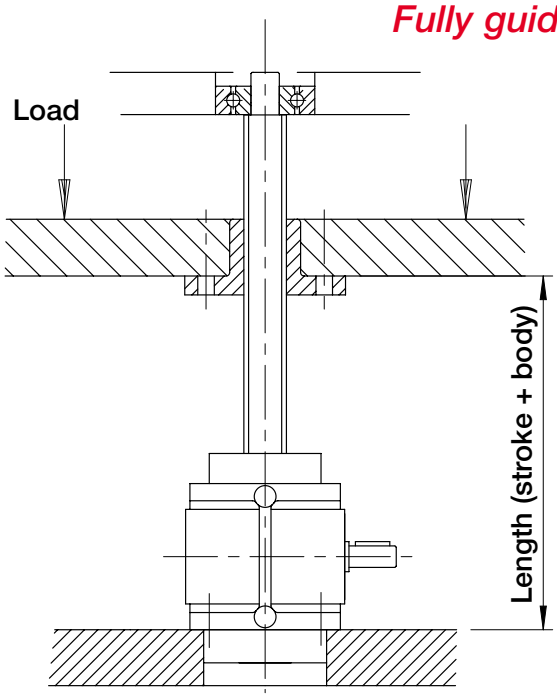



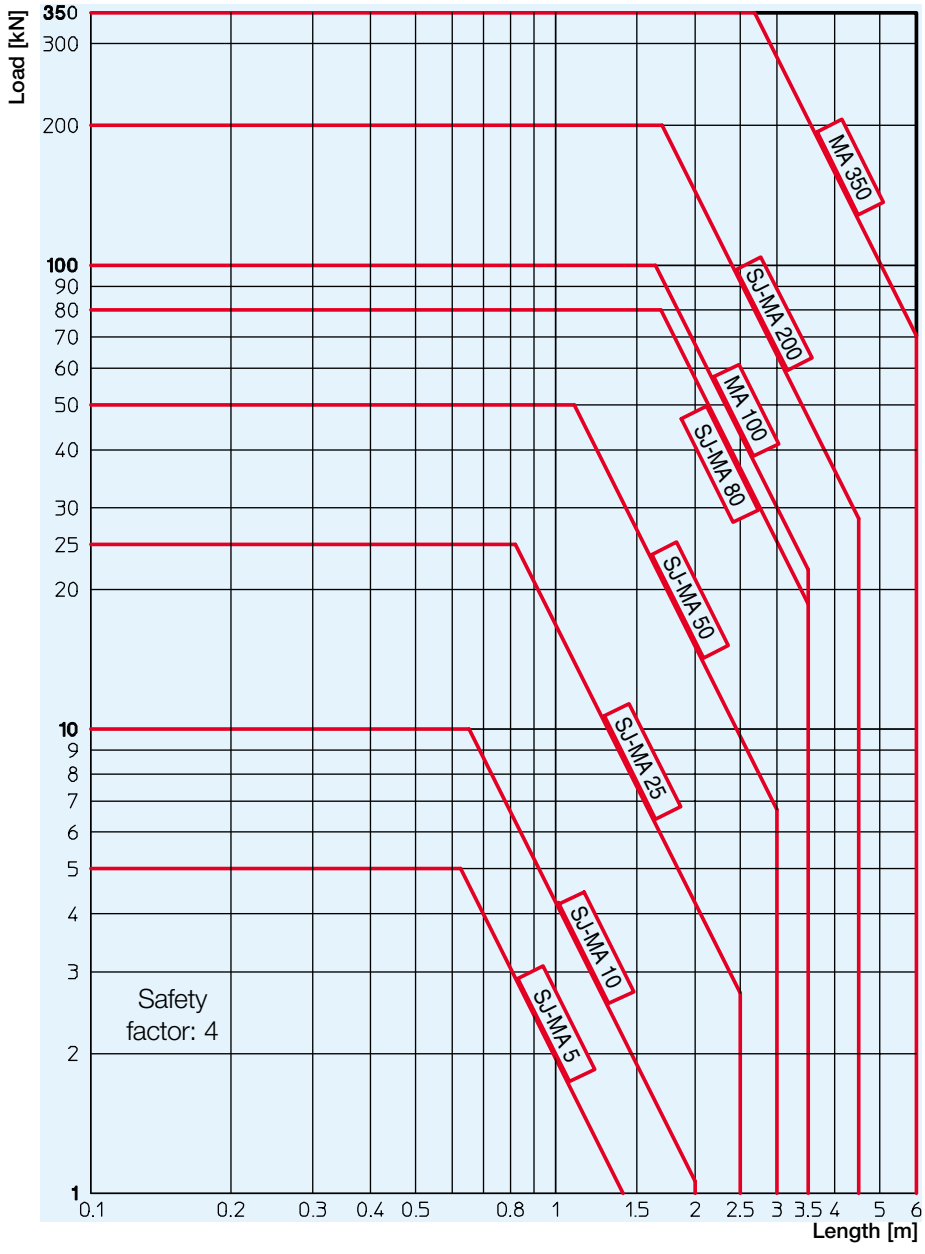
# Screw buckling/size selection

These building limits apply to both travelling screw and travelling nut models that have fully supported acme screws.

The limits shown have a built-in safety factor. For safety critical applications, eg theatre lifts, discuss your safety factor requirements with our engineers.

Example
A load of 1 kN and stroke of 800 mm is within the capacity of the SJ or MA 5.



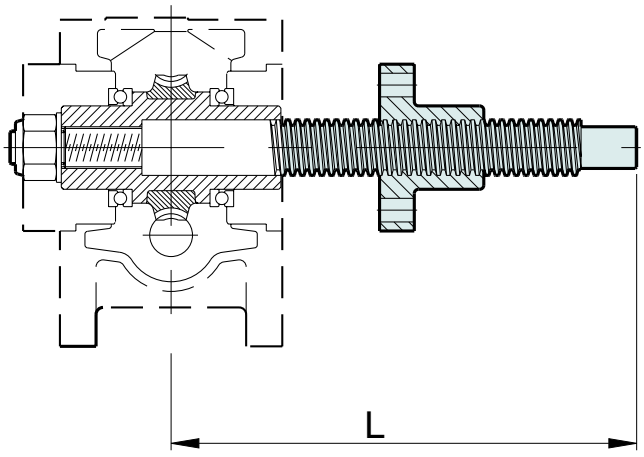



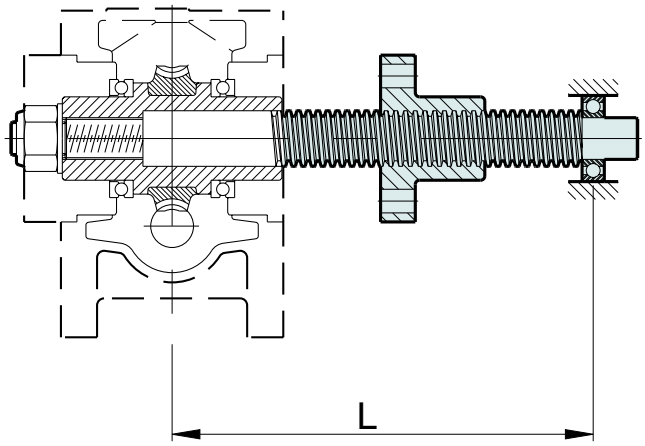
# Critical speed of acme screw

Travelling nut model B screwjacks are limited to a maximum screw speed. This depends on size, length of screw and the way the screw is guided. For most applications these limits are not relevant.

Example

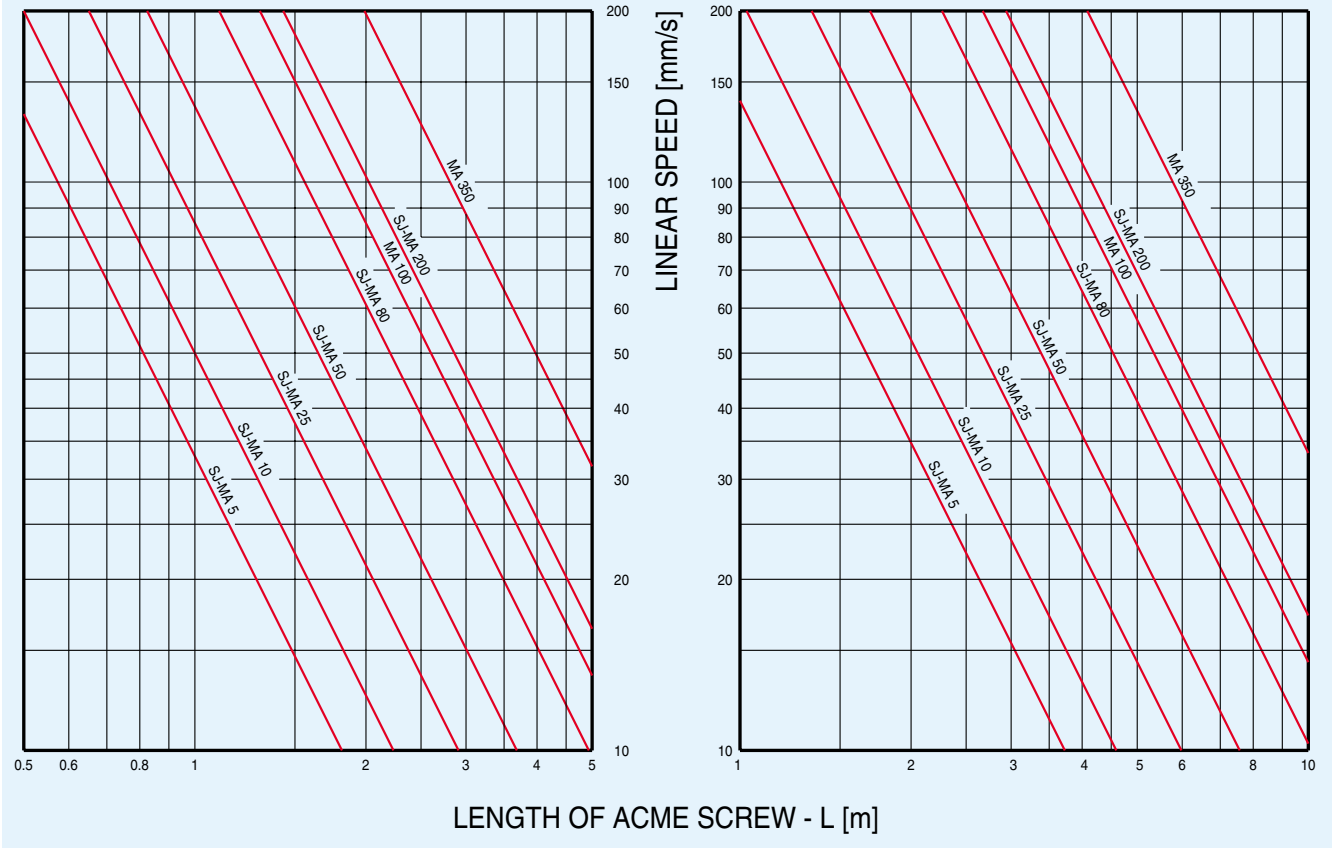
For a screwjack MA 50 with a 2 m screw length, the critical speed limit for an unguided screw is 34 mm/s.



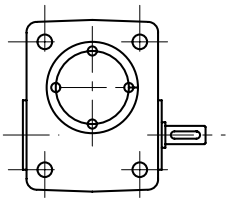




## Unguided screw

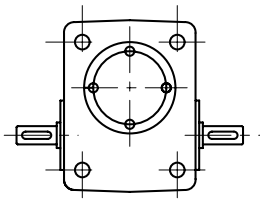
## Guided screw



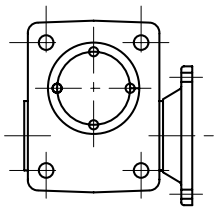
## Input versions



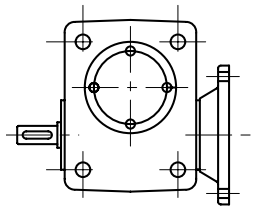
*Input version 1*
*free shaft*



*Input version 2*
*free shaft + 2nd shaft*

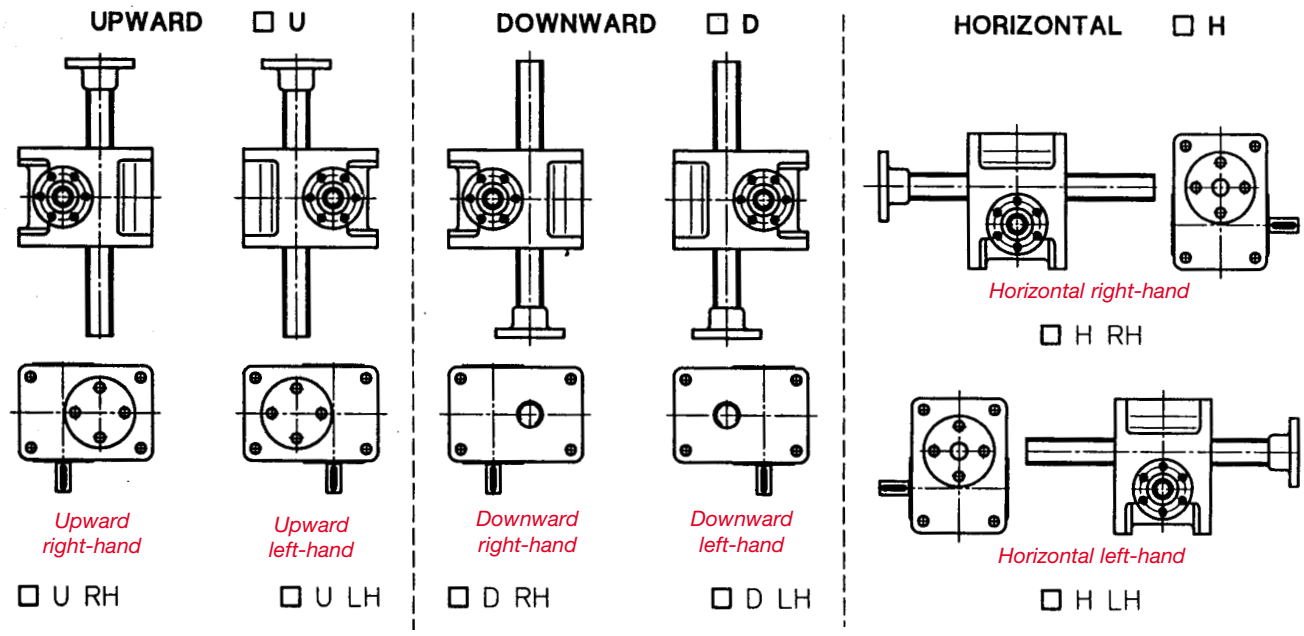


*Input version 3*
*motor flange*



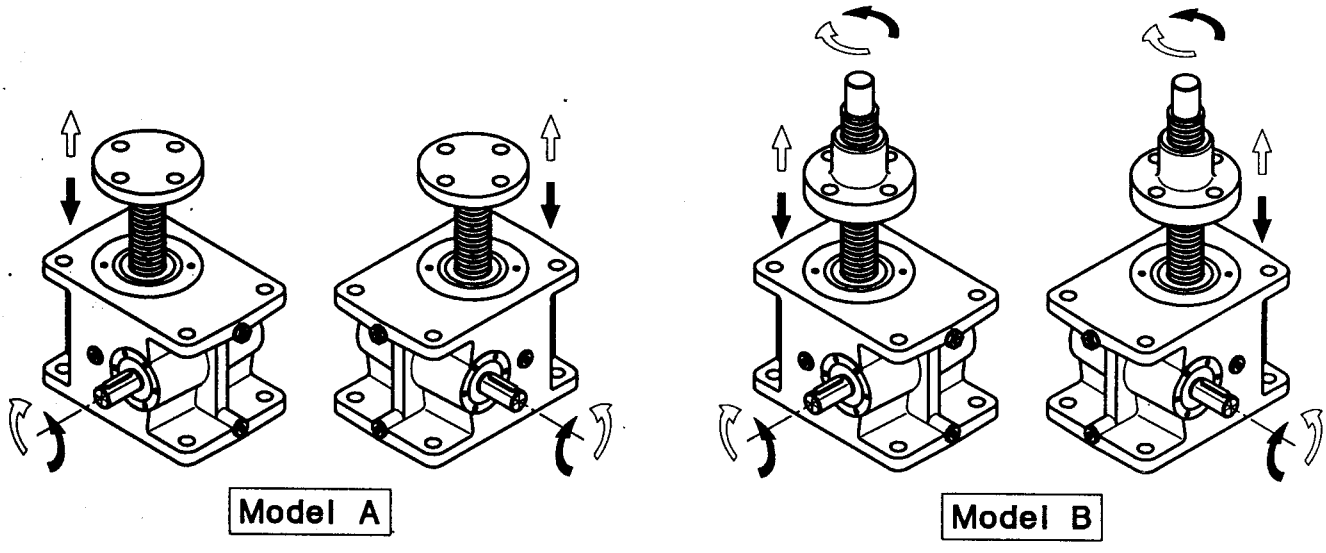
*Input version 4*
*motor flange + 2nd shaft*

## Mounting positions




*Note: Above views are in first angle (Continental) projection.*

## INPUT SHAFT ROTATION – SCREW OR NUT LIFTING DIRECTION



Servomech

# Ordering and specification

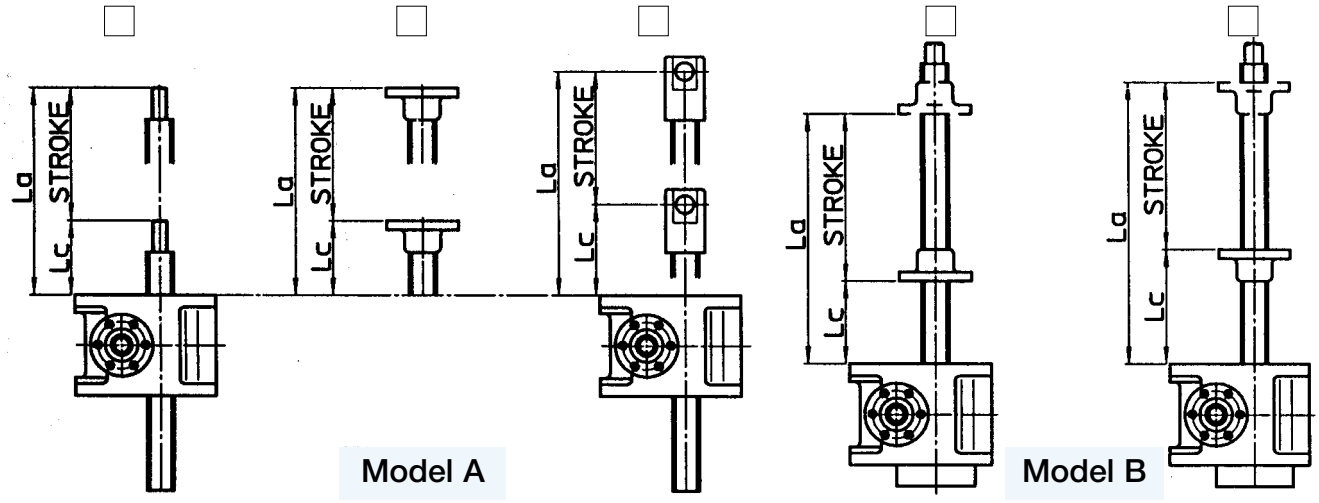
Complete the specification sheets on these pages and fax to Servomech for quotations. At the order stage we will normally supply an individual drawing.

*Fax to ++39 051734574*

## Main details

| | | |
|---|---|---|
| Type | | SJ or MA |
| Size | | From 5 to 350 |
| Model | | A - travelling screw or B - travelling nut |
| Ratio | | RH, RV, RN or RL |
| Input | Version | Version 1 - free shaft Version 2 - free shaft + 2nd shaft<br>Version 3 - motor flange Version 4 - motor flange + 2nd shaft |
| Stroke length | C | in mm |
| Mounting position/handing | | Upward (U), downward (D), horizontal (H) and right hand or left hand (RH or LH). See page 17 |
| Closed length Lc | | in mm |
| Extended length La | | in mm |

THREADED END ☐ FLANGE END ☐ ROD END ☐




## Motor details (optional for inputs type 3 and 4)

| | | |
|---|---|---|
| Motor frame size | | e.g. 56 or 132 |
| Motor flange | | e.g. B5 or B14 |
| Motor details | | Advise type (e.g. ac 4 pole), power, if braked (with brake voltage and if hand release), supply voltage, frequency, IP rating (55 is standard), other information. |
| Terminal box position | SK | Supply sketch of required position |

*For motor connection possibilities see page 32.*

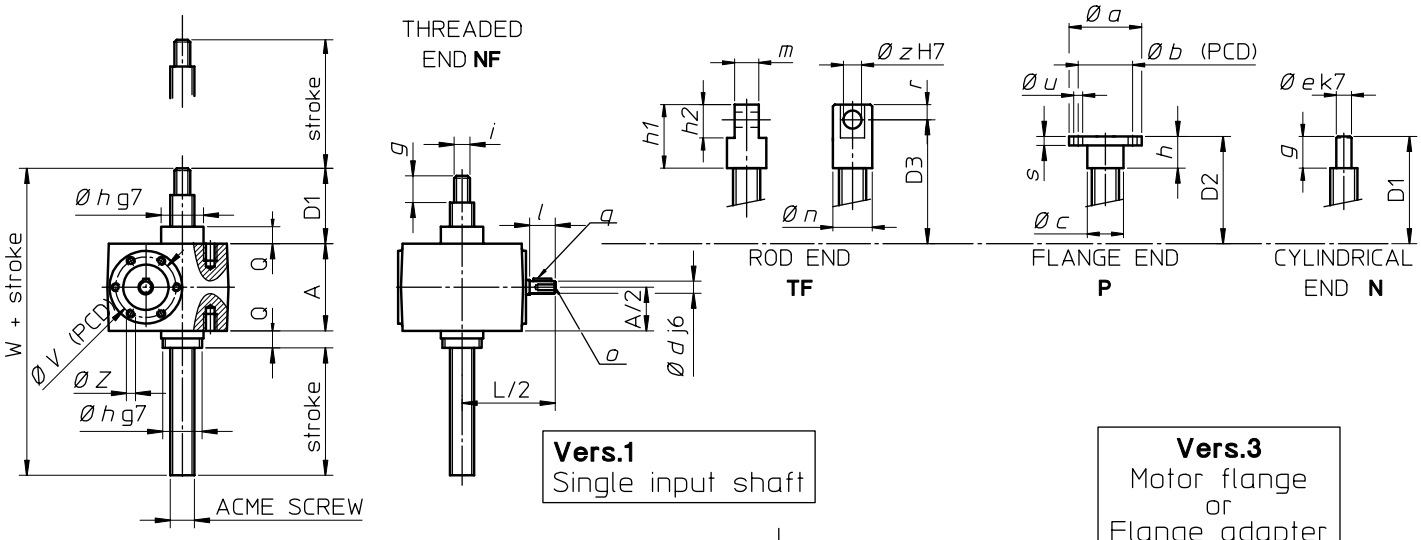
# Ordering and specification

## Options (tick as required)

| | | SJ model A travelling screw | SJ model B travelling nut | MA model A travelling screw | MA model B travelling nut | More details on page |
|---|---|---|---|---|---|---|
| Through mounting holes | | ☐ | ☐ | | | 31 |
| Raised cover CA | up | | | ☐ | ☐ | 24 |
| | down | | | ☐ | ☐ | |
| | both | | | ☐ | ☐ | |
| Bronze guide G | up | | | ☐ | ☐ | 24 |
| | down | | | ☐ | ☐ | |
| | both | | | ☐ | ☐ | |
| Protective tube | T | ☐ | | ☐ | | 24 |
| Bellows (supply sketch) | B | ☐ | ☐ | ☐ | ☐ | 25 |
| Stainless steel screw | SS | ☐ | ☐ | ☐ | ☐ | 24 |
| End fixings | | | | | | 20-23 |
| plain cylindrical end | N | ☐ | ☐ | ☐ | ☐ | |
| threaded | NF | ☐ | | ☐ | | |
| head flange | P | ☐ | | ☐ | | |
| rod end | TF | ☐ | | ☐ | | |
| Stop nut | SN | ☐ | | ☐ | | 32 |
| Safety nut | MSA | ☐ | | ☐ | | 26-27 |
| Safety travelling nut with wear indication | SBC | | ☐ | | ☐ | 26-27 |
| Magnetic limit switches | | | | | | |
| normally closed | FCM(NC) | ☐ | | ☐ | | 28 |
| normally open | FCM(NO) | ☐ | | ☐ | | 28 |
| Proximity limit switches | FCP | ☐ | | ☐ | | 29 |
| Anti-turn device | AR | ☐ | | ☐ | | 30 |
| Adjustable backlash | RMG | | | ☐ | | 30 |
| Trunnion mount | SC | ☐ | ☐ | ☐ | ☐ | 31 |

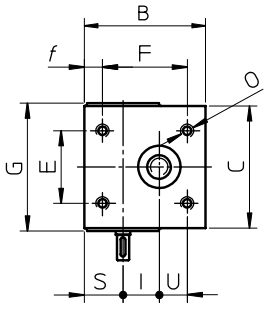
| SIZE | SJ 5 | SJ 10 | SJ 25 | SJ 50 | SJ 80 | SJ 200 | |
|---|---|---|---|---|---|---|---|
| ACME SCREW | Tr 18 × 4 | Tr 22 × 5 | Tr 30 × 6 | Tr 40 × 7 | Tr 55 × 9 | Tr 70 × 12 | Tr 80 × 12 |
| A | 62 | 76 | 82 | 118 | 160 | 176 | |
| B | 100 | 110 | 160 | 200 | 220 | 280 | |
| C | 86 | 96 | 130 | 160 | 170 | 230 | |
| D1 (closed) | 51 | 62 | 81 | 90 | 108 | 118 | |
| D2 (closed) | 52 | 63 | 83 | 92 | 110 | 120 | |
| D3 (closed) | 77 | 93 | 118 | 137 | 160 | 210 | |
| E | 52 | 63 | 81 | 115 | 134 | 180 | |
| E1 | 56 | 80 | 102 | 130 | 120 | 180 | |
| F | 60 | 78 | 106 | 150 | 175 | 230 | |
| F1 | 80 | 85 | 131 | 165 | 180 | 230 | |
| G | 90 | 100 | 136 | 165 | 165 | – | |
| I | 25 | 30 | 50 | 63 | 63 | 90 | |
| L | 135 | 165 | 221.5 | 269 | 269 | 350 | |
| O (thread × depth) | M8 × 14 | M8 × 15 | M10 × 15 | M12 × 16 | M20 × 30 | M30 × 45 | |
| ∅ O1 | 9 | 9 | 11 | 13 | 17 | 26.5 | |
| Q | 12 | 18 | 23 | 32 | 40 | 40 | |
| S | 37 | 40 | 50 | 59 | 74 | 75 | |
| U | 21 | 29 | 42 | 63 | 60 | 90 | |
| U1 | 28 | 30 | 48 | 60 | 63 | 90 | |
| ∅ V (PCD) | 46 | 46 | 64 | 63 | 63 | – | |
| W | 125 | 156 | 186 | 240 | 308 | 334 | |
| Z (thread × depth) | M6 × 13 (4 holes) | M5 × 10 | M5 × 10 | M6 × 14 | M6 × 14 | – | |
| Z1 | 111 | 127 | 151 | 185 | 228 | 268 | 248 |
| ∅ a | 68 | 75 | 100 | 120 | 150 | 180 | |
| ∅ a1 | 68 | 75 | 100 | 120 | 130 | 180 | 190 |
| ∅ b (PCD) | 45 | 55 | 75 | 85 | 110 | 130 | |
| ∅ b1 (PCD) | 50 | 56 | 75 | 90 | 105 | 140 | 150 |
| ∅ c | 25 | 30 | 40 | 50 | 70 | 85 | |
| ∅ c1 | 30 | 40 | 50 | 60 | 75 | 100 | 110 |
| ∅ d | 9 | 14 | 19 | 24 | 24 | 30 | |
| ∅ e | 12 | 15 | 20 | 30 | 40 | 50 | 60 |
| f | 23 | 21 | 36 | 35 | 22 | 25 | |
| f1 | 10 | 15 | 17 | 17 | 20 | 25 | |
| g | 19 | 24 | 38 | 38 | 48 | 58 | |
| h | 20 | 25 | 40 | 40 | 50 | 60 | |
| ∅ h | 30 | 38.7 | 46 | 60 | 90 | 120 | |
| h1 | 60 | 75 | 100 | 120 | 140 | 210 | |
| h2 | 30 | 40 | 50 | 70 | 80 | 120 | |
| i | M12 × 1.75 | M16 × 1.5 | M20 × 1.5 | M30 × 2 | M42 × 3 | M56 × 3 | |
| l | 20 | 30 | 40 | 50 | 50 | 55 | |
| m | 20 | 25 | 30 | 40 | 50 | 75 | |
| ∅ n | 32 | 38 | 48 | 68 | 78 | 108 | |
| o (thread × depth) | M4 × 8 | M6 × 14 | M8 × 16 | M8 × 16 | M8 × 16 | M10 × 18 | |
| q | 3 × 3 × 15 | 5 × 5 × 20 | 6 × 6 × 30 | 8 × 7 × 40 | 8 × 7 × 40 | 8 × 7 × 45 | |
| r | 15 | 20 | 25 | 35 | 40 | 60 | |
| s | 8 | 10 | 12 | 15 | 20 | 25 | |
| s1 | 12 | 12 | 15 | 25 | 20 | 35 | 30 |
| t1 | 40 | 45 | 50 | 75 | 100 | 130 | 110 |
| ∅ u × n° holes | ∅ 7 × 4 | ∅ 9 × 4 | ∅ 11 × 4 | ∅ 17 × 4 | ∅ 21 × 4 | ∅ 26 × 6 | |
| ∅ u1 × n° holes | ∅ 7 × 4 | ∅ 9 × 4 | ∅ 11 × 4 | ∅ 17 × 4 | ∅ 17 × 4 | ∅ 26 × 6 | ∅ 18 × 4 |
| ∅ z | 14 | 20 | 25 | 35 | 40 | 60 | |
| J1 | 56 B5/B14: 57.5 | 63 B5/B14: 62 | 63/71 B5: 102 | 80 B5: 100 | 80 B5: 100 | – | |
| J1s | 56 B5: 29<br>56 B14: 9 | 63 B5: 37<br>63 B14: 7 | 63 B5: 29<br>71 B5: 39 | 80 B5: 41 | 80 B5: 20 | – | |
| J2 | 63 B5: 98 | 71 B5: 122<br>71 B14: 131 | 80 B5: 182<br>80 B14: 176<br>90 B5: 182<br>90 B14: 182 | 90 B5: 200<br>90 B14: 200<br>100 B5: 220<br>100 B14: 220 | 90 B5: 200<br>90 B14: 200<br>100/112 B5: 220<br>100/112 B14: 220 | 100/112 B5: 252.5<br>100/112 B14: 252.5 | |
| J2s | 63 B5: 39 | 71 B5: 47<br>71 B14: 15 | 80 B5: 59<br>80 B14: 19<br>90 B5: 59<br>90 B14: 29 | 90 B5: 41<br>90 B14: 11<br>100 B5: 66<br>100 B14: 21 | 90 B5: 20<br>90 B14: –<br>100/112 B5: 45<br>100/112 B14: – | 100/112 B5: 37<br>100/112 B14: – | |

## Model A - TRAVELLING SCREW

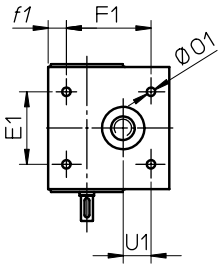



**Vers.1**
Single input shaft

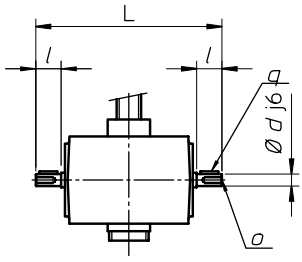
**Vers.3**
Motor flange
or
Flange adapter



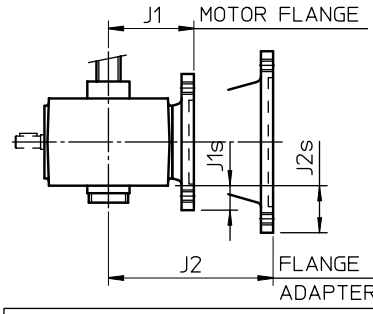

TAPPED MOUNTING HOLES




THROUGH MOUNTING HOLES

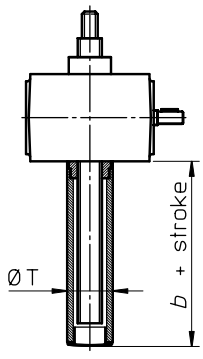



**Vers.2**
Double input shaft

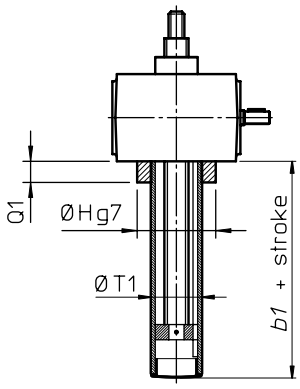



**Vers.4**
Motor flange
or
Flange adapter
\+ 2nd shaft

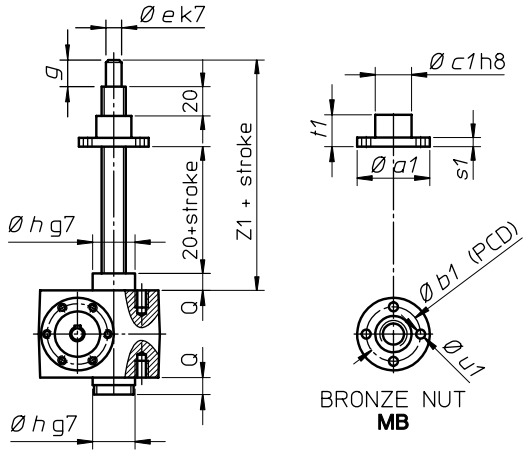
PROTECTIVE TUBE **T**




ANTI-TURN DEVICE **AR**

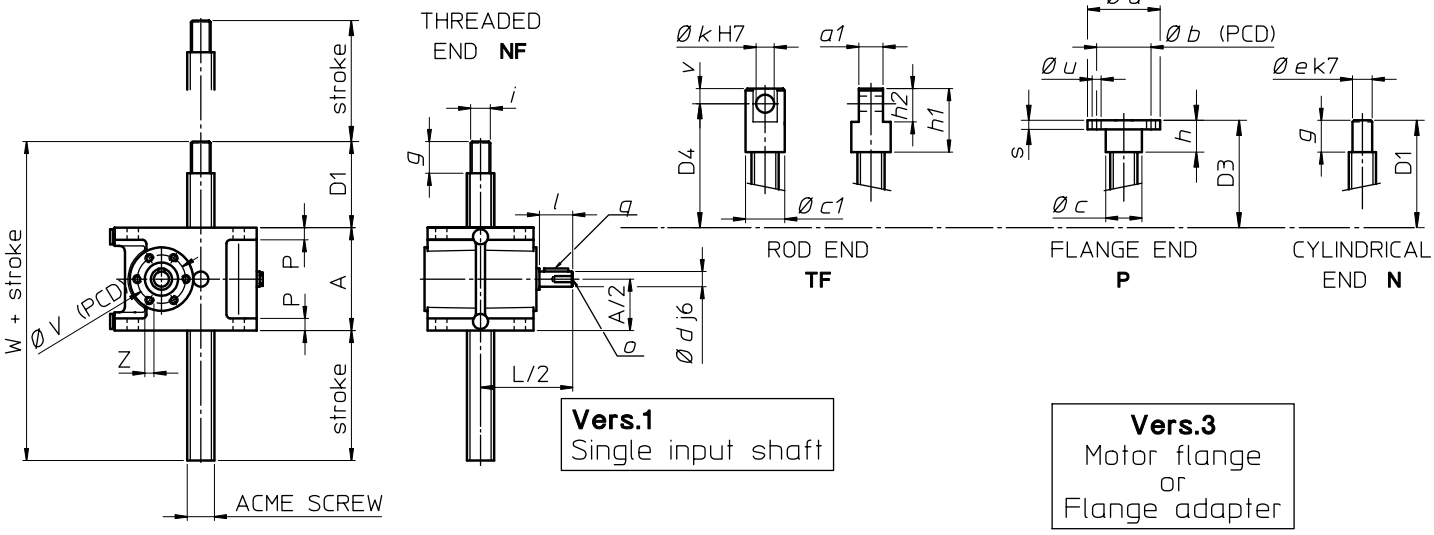



## Model B - TRAVELLING NUT

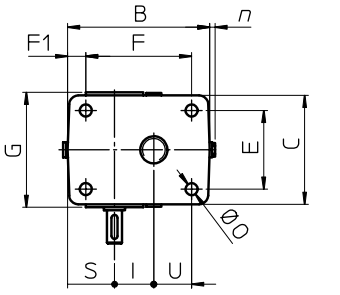


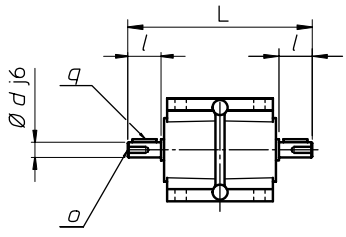

| SIZE | | SJ 5 | SJ 10 | SJ 25 | SJ 50 | SJ 80 | SJ 200 |
|---|---|---|---|---|---|---|---|
| ØT | | 35 | 40 | 50 | 65 | 102 | 130 |
| b | exec. T | 37 | 43 | 48 | 57 | 65 | 75 |
| | exec. T + SN | 87 | 93 | 128 | 137 | 155 | 155 |
| | exec. T + FCM | 86 | 93 | 98 | - | - | - |
| | exec. T + FCP | 87 | 93 | 98 | 107 | 115 | 115 |
| ØH | | 55 | 70 | 85 | 115 | - | - |
| Q1 | | 21 | 18 | 25 | 32 | - | - |
| ØT1 | | 45 | 55 | 70 | 90 | 100 | 140 |
| b1 | exec. AR | 86 | 88 | 105 | 112 | 165 | 175 |
| | exec. AR + FCP | 96 | 98 | 115 | 132 | 165 | 175 |

## Model A - TRAVELLING SCREW



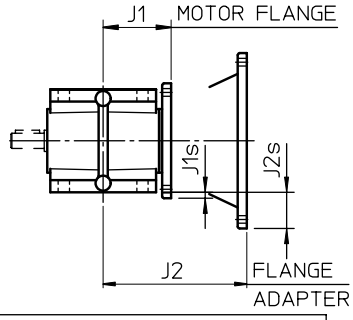

**Vers.1**
Single input shaft



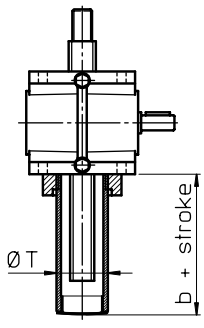

**Vers.2**
Double input shaft

**Vers.3**
Motor flange
or
Flange adapter

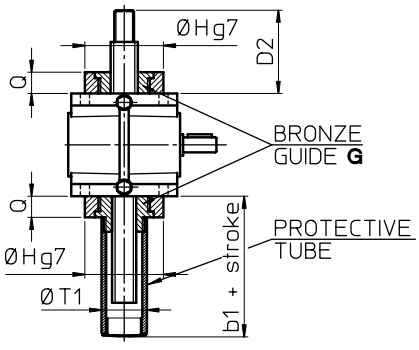



**Vers.4**
Motor flange
or + 2nd shaft
Flange adapter

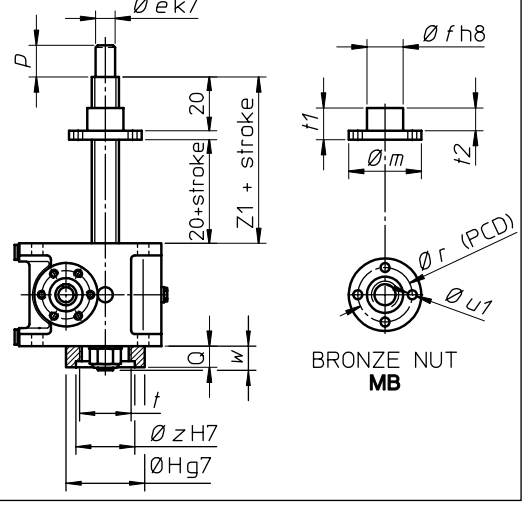
PROTECTIVE TUBE **T**




BRONZE GUIDES
+
PROTECTIVE TUBE **G/TG**




## Model B - TRAVELLING NUT




| SIZE | | MA 5 | MA 10 | MA 25 | MA 50 | MA 80 | MA 100 | MA 200 | MA 350 |
|---|---|---|---|---|---|---|---|---|---|
| ØT | | 45 | 55 | 70 | 90 | 90 | 110 | 150 | 180 |
| b | exec. T | 25 | 25 | 25 | 25 | 25 | 35 | 35 | 35 |
| | exec. T + SN | 75 | 75 | 105 | 105 | 115 | 105 | 115 | 135 |
| | exec. T + AR | 80 | 85 | 95 | 105 | 125 | 115 | 145 | 175 |
| | exec. T + FCM | 82 | 86 | - | - | - | - | - | - |
| | exec. T + FCP | 85 | 86 | 94 | 96 | 96 | 100 | 105 | 110 |
| | exec. T+AR+FCP | 90 | 96 | 114 | 126 | 146 | 140 | 175 | 210 |
| ØT1 (see NOTE) | | 36 (40) | 45 (50) | 55 | 55 | 90 | 90 | 90 | 160 |
| b1 | exec. TG | 50 | 51 | 59 | 61 | 61 | 65 | 90 | 125 |
| | exec. TG + FCM | 100 | 101 | 115 | - | - | - | - | - |
| | exec. TG + FCP | 100 | 101 | 109 | 111 | 111 | 115 | 140 | 165 |

NOTE: Values ØT1 under brackets referred to exec. TG + FCP

| SIZE | MA 5 | MA 10 | MA 25 | MA 50 | MA 80 | MA 100 | MA 200 | MA 350 |
|---|---|---|---|---|---|---|---|---|
| ACME SCREW | Tr 18 × 4 | Tr 22 × 5 | Tr 30 × 6 | Tr 40 × 7 | Tr 55 × 9 | Tr 60 × 12 | Tr 70 × 12 | Tr 100 × 16 |
| A | 80 | 100 | 126 | 160 | 160 | 200 | 230 | 280 |
| B | 124 | 140 | 175 | 235 | 235 | 276 | 330 | 415 |
| C | 80 | 105 | 130 | 160 | 160 | 200 | 230 | 300 |
| D1 (closed) | 39 | 44 | 58 | 58 | 68 | 68 | 78 | 98 |
| D2 (closed) | 54 | 60 | 82 | 84 | 94 | 98 | 113 | 138 |
| D3 (closed) | 40 | 45 | 60 | 60 | 70 | 70 | 80 | 100 |
| D4 (closed) | 65 | 75 | 95 | 105 | 120 | 150 | 170 | 220 |
| E | 62 | 80 | 100 | 120 | 120 | 150 | 175 | 230 |
| F | 95 | 110 | 140 | 190 | 190 | 220 | 270 | 330 |
| F1 | 12.5 | 14 | 17.5 | 23 | 23 | 26 | 30 | 42 |
| G | 100 | 114 | 136 | 165 | 165 | 205 | 256 | 326 |
| ∅ H | 65 | 80 | 100 | 120 | 120 | 160 | 190 | 240 |
| I | 30 | 40 | 50 | 63 | 63 | 80 | 100 | 125 |
| L | 149 | 179 | 221.5 | 269 | 269 | 330 | 378 | 490 |
| ∅ O | 9 | 9 | 13 | 17 | 17 | 21 | 28 | 34 |
| P | 10 | 12 | 15 | 19 | 19 | 22 | 26 | 30 |
| Q | 15 | 16 | 24 | 26 | 26 | 30 | 35 | 40 |
| S | 46.5 | 46 | 57.5 | 80 | 80 | 91 | 113 | 121 |
| U | 31 | 38 | 50 | 70 | 70 | 75 | 87 | 126 |
| ∅ V (PCD) | 42 | 46 | 64 | 63 | 63 | 74 | 110 | 118 |
| W | 119 | 144 | 184 | 218 | 228 | 268 | 308 | 378 |
| Z (thread × depth) | M5 × 10 | M5 × 12 | M5 × 10 | M6 × 14 | M6 × 14 | M6 × 14 | M10 × 20 | M10 × 25 |
| Z1 | 80 | 85 | 90 | 115 | 140 | 140 | 170 | 200 |
| ∅ a | 68 | 75 | 100 | 120 | 150 | 150 | 180 | 250 |
| a1 | 20 | 25 | 30 | 40 | 50 | 60 | 75 | 100 |
| ∅ b (PCD) | 45 | 55 | 75 | 85 | 110 | 110 | 130 | 180 |
| b1 | 50 | 51 | 59 | 61 | 61 | 65 | 70 | 75 |
| ∅ c | 25 | 30 | 40 | 50 | 70 | 70 | 85 | 115 |
| ∅ c1 | 32 | 38 | 48 | 68 | 78 | 90 | 108 | 138 |
| ∅ d | 10 | 14 | 19 | 24 | 24 | 28 | 32 | 38 |
| ∅ e | 12 | 15 | 20 | 30 | 40 | 40 | 50 | 70 |
| ∅ f | 30 | 40 | 50 | 60 | 75 | 80 | 100 | 150 |
| g | 19 | 24 | 38 | 38 | 48 | 48 | 58 | 78 |
| h | 20 | 25 | 40 | 40 | 50 | 50 | 60 | 80 |
| h1 | 60 | 75 | 100 | 120 | 140 | 180 | 210 | 280 |
| h2 | 30 | 40 | 50 | 70 | 80 | 100 | 120 | 160 |
| i | M12 × 1.75 | M16 × 1.5 | M20 × 1.5 | M30 × 2 | M42 × 3 | M42 × 3 | M56 × 3 | M80 × 3 |
| ∅ k | 14 | 20 | 25 | 35 | 40 | 50 | 60 | 80 |
| *l* | 22 | 30 | 40 | 50 | 50 | 60 | 60 | 80 |
| ∅ m | 68 | 75 | 100 | 120 | 130 | 150 | 180 | 250 |
| n | - | - | 10 | 10 | 10 | 12 | 10 | 10 |
| o (thread × depth) | M5 × 10 | M6 × 14 | M8 × 16 | M8 × 16 | M8 × 16 | M8 × 16 | M10 × 24 | M12 × 32 |
| p | 19 | 24 | 40 | 40 | 45 | 50 | 60 | 65 |
| q | 3 × 3 × 15 | 5 × 5 × 20 | 6 × 6 × 30 | 8 × 7 × 40 | 8 × 7 × 40 | 8 × 7 × 40 | 10 × 8 × 40 | 10 × 8 × 60 |
| ∅ r (PCD) | 50 | 56 | 75 | 90 | 105 | 120 | 140 | 200 |
| s | 8 | 10 | 12 | 15 | 20 | 20 | 25 | 35 |
| t | M45 × 1.5 | M55 × 1.5 | M70 × 2 | M90 × 2 | M90 × 2 | M110 × 2 | M150 × 3 | M180 × 3 |
| t1 | 40 | 45 | 50 | 75 | 100 | 100 | 130 | 160 |
| t2 | 28 | 33 | 35 | 50 | 80 | 70 | 95 | 115 |
| ∅ u × n° holes | ∅ 7 × 4 | ∅ 9 × 4 | ∅ 11 × 4 | ∅ 17 × 4 | ∅ 21 × 4 | ∅ 21 × 4 | ∅ 26 × 6 | ∅ 30 × 6 |
| ∅ u1 × n° holes | ∅ 7 × 4 | ∅ 9 × 4 | ∅ 11 × 4 | ∅ 17 × 4 | ∅ 17 × 4 | ∅ 21 × 4 | ∅ 26 × 6 | ∅ 30 × 6 |
| v | 15 | 20 | 25 | 35 | 40 | 50 | 60 | 80 |
| w | 15 | 17 | 25 | 36 | 38 | 41 | 42 | 45 |
| ∅ z | 50 | 60 | 77 | ß95 | 95 | 120 | 160 | 200 |
| J1 | 62 | 69 | 102 | 100 | 100 | 120 | 142 | – |
| J1s | 63 B5: 30<br>63 B14: 5 | 63 B5: 20<br>63 B14: – | 63 B5: 7<br>71 B5: 17 | 80 B5: 20 | 80 B5: 20 | 80 B5: –<br>90 B5: – | 90 B5: –<br>100/112 B5: 10 | – |
| J2 | 71 B5: 122<br>71 B14: 131 | 71 B5: 129<br>71 B14: 138 | 80/90 B5: 182<br>80 B14: 176<br>90 B14: 182 | 90 B5/B14: 200<br>100 B5/B14: 220 | 90 B5/B14: 200<br>112 B5/B14: 220 | 100/112 B5: 240<br>100/112 B14: 240 | 132 B5: 297 | – |
| J2s | 71 B5: 40<br>71 B14: 13 | 71 B5: 30<br>71 B14: 3 | 80/90 B5: 37<br>80 B14: –<br>90 B14: 7 | 90 B5: 20<br>100 B5: 45<br>90/100 B14: – | 90 B5: 20<br>112 B5: 45<br>B14: – | 112 B5: 25<br>112 B14: – | 132 B5: 35 | – |

# Screwjack options

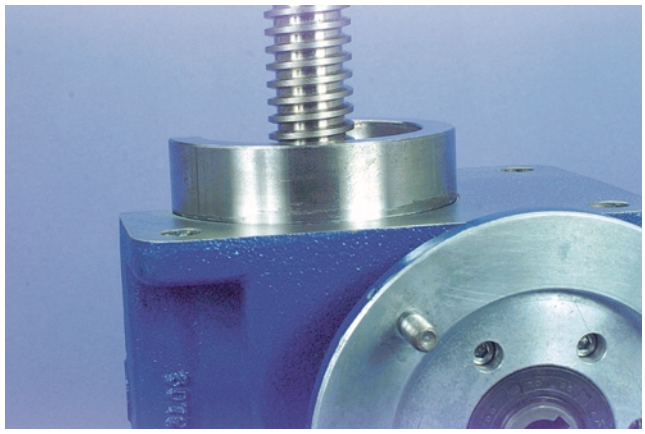
## Raised cover CA

Available for MA screwjacks, the steel raised covers with toleranced dimensions act as a centring register, also allow the fitting of bronze guide bushes, protective tubes and bellows. State whether required on top of housing, bottom or both.

With MA screwjacks model B travelling nut, a raised cover in the down position is recommended to protect the rotating end of the acme thread.

SJ screwjacks have raised cover as standard.

**Ordering code: raised cover CA and position**

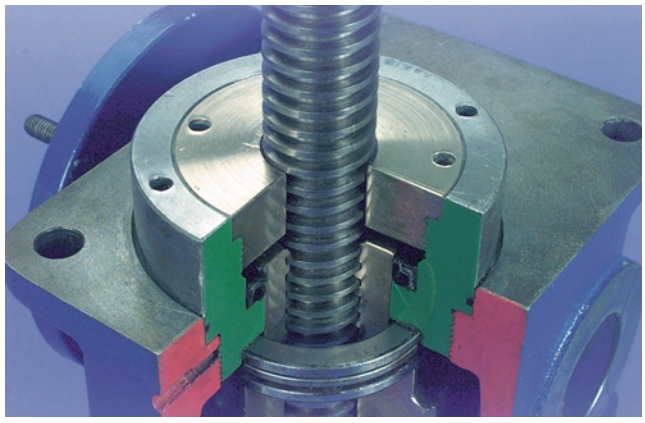


## Bronze guide G

Aluminium bronze guide bushes are available for MA screwjacks. They fit into the raised cover and accept lateral loads from the acme screw. Bronze guides are recommended where the screw is not fully guided and where the trunnion mount is used.

SJ screwjacks have bronzed guides fitted as standard.

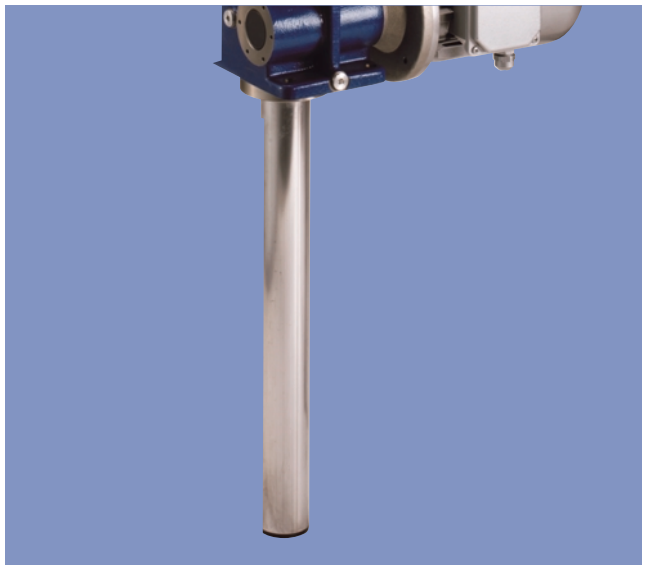
**Ordering code: bronze guide G and position**



## Protective tube T

Available for all travelling screw models, the protective tube encloses the acme screw below the housing. Material is aluminium or steel if anti-turn device is fitted. It connects to the housing by means of a raised cover, and allows the fitting of other options such as limit switches and anti-turn device.

**Ordering code: protective tube T**

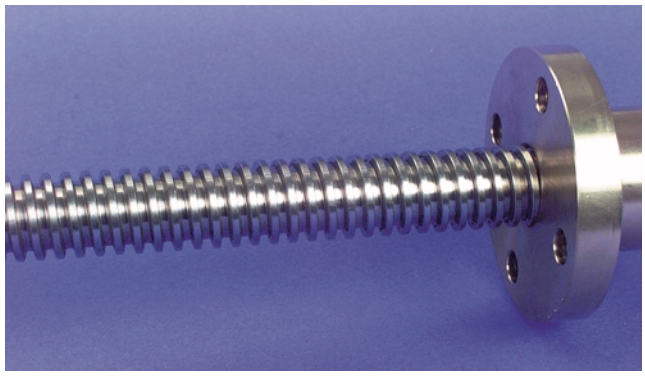


## Stainless steel screw SS

Both SJ and MA screwjacks can be provided with a stainless steel acme screw for use in arduous environments and food industry applications.

**Ordering code: stainless steel SS**

When stainless steel screws are specified, we can supply the flange end and rod end in stainless if requested.



# Screwjack options

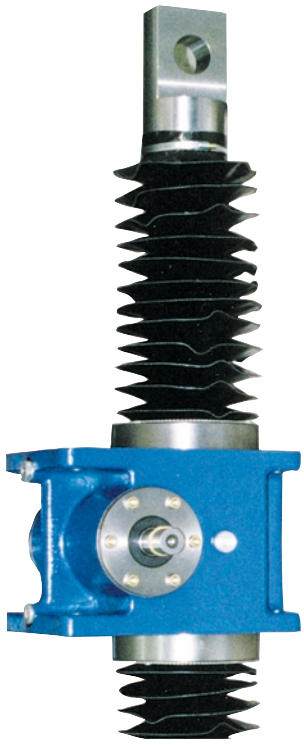
## Bellows B

Protective bellows are available to protect the acme screw from ingress of debris that might cause damage. They are available for both SJ and MA screwjacks.

Material is nylon with a PVC coating. A stock range is available at 300, 600 and 1000mm lengths. Other lengths can be manufactured to your requirements. Also other materials are possible.

*Note that bellows cause small changes to the closed and extended lengths. We will acknowledge orders with a certified drawing giving exact dimensions.*

**Ordering: order bellows B and supply a sketch of your requirements similar to these examples.**

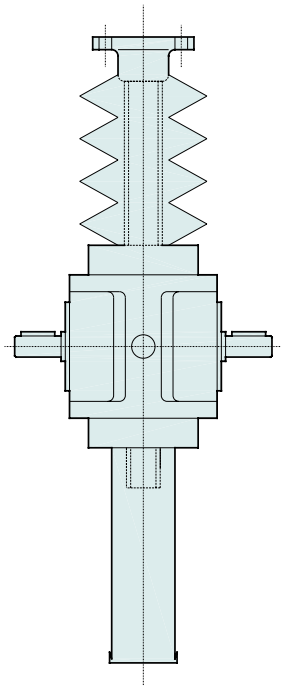


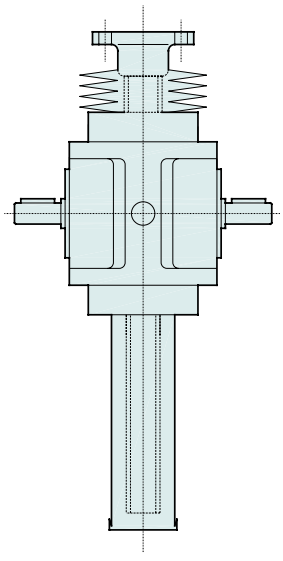
*MA screwjack model A with bellows and rod end*

## Screwjacks model A – travelling screw

Bellows are normally fitted to the top, protective tube below.

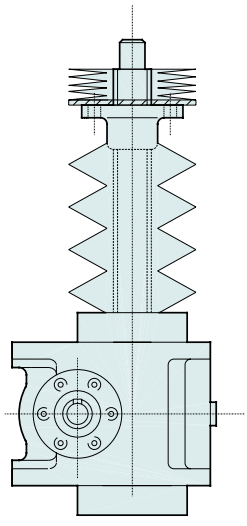
In some cases it may be required to also fit bellows below, instead of the protective tube.

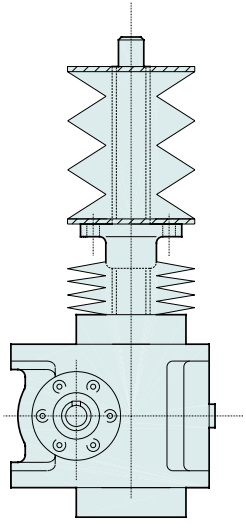




## Screwjacks model B – travelling nut

Bellows are normally fitted above and below the nut.
Some applications may require bellows in only one of these two positions.
The method of fixing the upper bellows is dependent on the application.





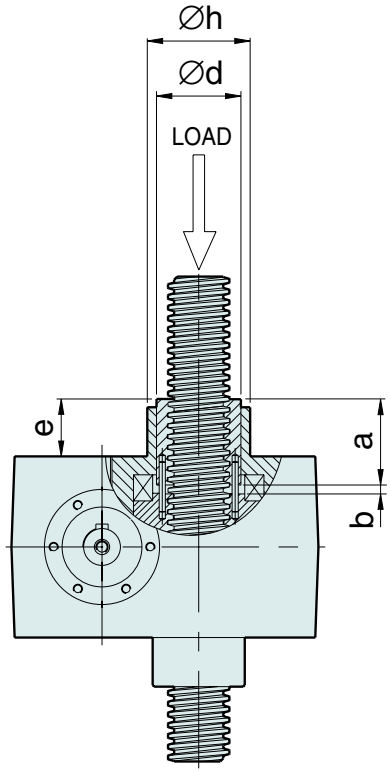
Safety nuts are a back-up feature to prevent the load dropping in an uncontrolled manner, in the event of either extreme wear or catastrophic nut failure. Safety nuts for travelling screw models are fitted inside the screwjack housing. Safety travelling nuts for travelling nut screwjacks are an extension to the standard nut and feature a wear indication.

For certain sizes, safety nuts increase the overall height of the screwjack and this should be allowed for.

Safety nuts work with one particular load direction as indicated on these drawings. According to the direction, the safety nuts can be inverted. When ordering, supply a sketch with the direction of forces.

**Option MSA** *Safety bronze nut for SJ model A travelling screw, available for sizes 10-80 only.*

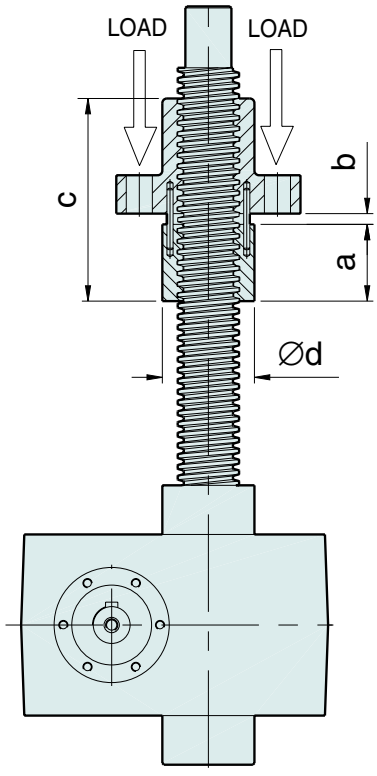
**Option SBC** *Safety travelling nut with wear indication for SJ model B travelling nut.*




## Safety bronze nut for SJ model A travelling screw — MSA

| Screwjack size | SJ 10 | SJ 25 | SJ 50 | SJ 80 | SJ 200 |
|---|---|---|---|---|---|
| a | 33 | 40 | 50 | 70 | 95 |
| b | 2.5 | 3 | 3.5 | 4.5 | 6 |
| Ød | 30 | 50 | 55 | 70 | 100 |
| e | 14.5 | 30.5 | 39.5 | 53.5 | 88 |
| Øh | 42 | 65 | 75 | 90 | 120 |

Dimension b (distance between wormwheel and safety nut) reduces with wear to the bronze nut.




## Safety travelling nut for SJ model B travelling nut — SBC

| Screwjack size | SJ 5 | SJ 10 | SJ 25 | SJ 50 | SJ 80 | SJ 200 Tr 70 × 12 | SJ 200 Tr 80 × 12 |
|---|---|---|---|---|---|---|---|
| a | 28 | 33 | 35 | 50 | 70 | 95 | |
| b | 2 | 2.5 | 3 | 3.5 | 4.5 | 6 | |
| c | 70 | 80.5 | 88 | 128.5 | 174.5 | 231 | 211 |
| Ød | 30 | 40 | 50 | 60 | 75 | 100 | 110 |

Dimension b (distance between bronze nut MB and safety nut SBC) reduces with wear to the bronze nut.

# Safety nuts

Safety nuts for MA screwjacks perform the same functions as described for SJ screwjacks. A wear indication is provided and on request limit switches can be fitted.

Safety nuts increase the overall height of the screwjack and this should be allowed for.

Safety nuts work with one particular load direction as indicated in these drawings. According to the direction, the safety nuts can be inverted. When ordering, supply a sketch with the direction of forces.

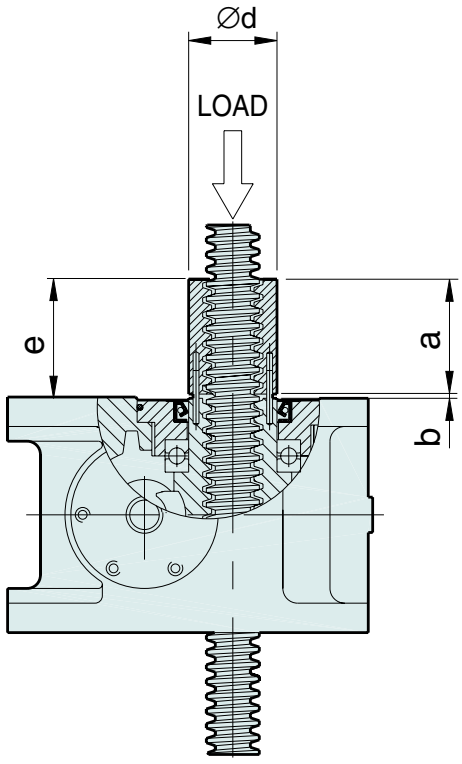
**Option MSA** *Safety bronze nut with wear indication for MA model A travelling screw.*

**Option SBC** *Safety travelling nut with wear indication for MA model B travelling nut.*

## Safety bronze nut for MA model A travelling screw — MSA

| Screwjack size | MA5 | MA10 | MA25 | MA50 | MA80 | MA100 | MA200 | MA350 |
|---|---|---|---|---|---|---|---|---|
| a | 28 | 33 | 35 | 50 | 70 | 70 | 95 | 115 |
| b | 2 | 2.5 | 3 | 3.5 | 4.5 | 6 | 6 | 8 |
| Ød | 30 | 35 | 50 | 60 | 70 | 80 | 100 | 140 |
| e | 29.5 | 35 | 37.5 | 52.5 | 73.5 | 75 | 100 | 122 |

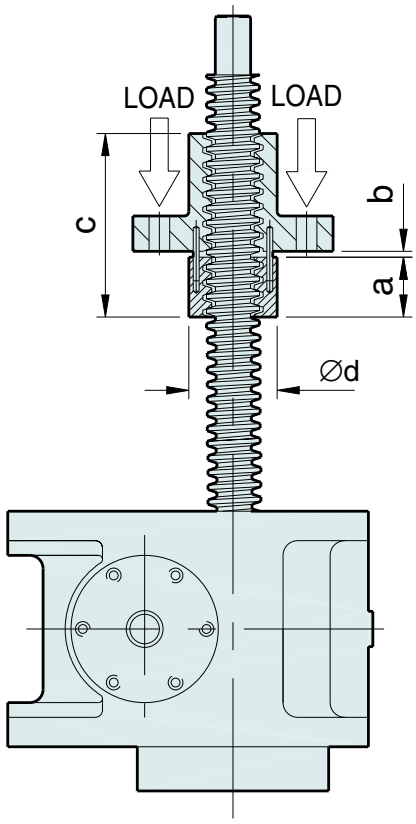
Dimension b (distance between wormwheel and safety nut) reduces with wear to the bronze nut.




## Safety travelling nut for MA model B travelling nut — SBC

| Screwjack size | MA5 | MA10 | MA25 | MA50 | MA80 | MA100 | MA200 | MA350 |
|---|---|---|---|---|---|---|---|---|
| a | 28 | 33 | 35 | 50 | 70 | 70 | 95 | 115 |
| b | 2 | 2.5 | 3 | 3.5 | 4.5 | 6 | 6 | 8 |
| c | 70 | 80.5 | 88 | 128.5 | 174.5 | 176 | 231 | 283 |
| Ød | 30 | 40 | 50 | 60 | 75 | 80 | 100 | 150 |

Dimension b (distance between bronze nut MB and safety nut SBC) reduces with wear to the bronze nut.



# Magnetic limit switches FCM



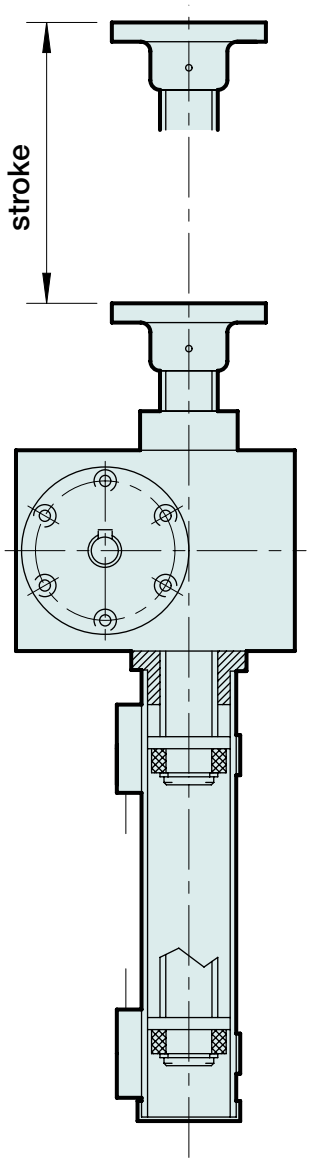
Magnetic stroke limit switches, fitted to the aluminium protective tube, sense a magnetic target ring positioned on the screw. They can be fitted to both SJ and MA screwjacks, model A travelling screw only.

- magnetic reed switches available NC or NO.
- 2 off supplied, also extra switches can be fitted.
- adjustable switch position, set by clamp.
- available up to size 25 only.
- LED indicator fitted.

## Operation

When the magnetic ring passes under the switch it changes state. This change of state occurs for a fixed distance called the switching band and then returns to its original state.

When used for stop signalling, the overrun of the screwjack may exceed the switching band of the switch. In this situation it may be necessary to latch the switch signal to ensure the unit continues to stop.




## Stopping accuracy

The accuracy of the stopping position depends on speed, the size and direction of the load, motor characteristics, brakes if present and control circuitry. For advice on a specific application speak to our engineers.

### Ordering codes

2 off normally closed magnetic switches FCM (NC).

2 off normally open magnetic switches FCM (NO).

## Technical details

| Switch detail | Switch type Normally closed | Normally open |
|---|---|---|
| Voltage range ac/dc | 3...130V | 3...130V |
| Max. voltage drop | 2.5V | 2.5V |
| Switching capacity W/VA | 20W/20VA | 10W/10VA |
| Max. switching current @ 25°C | 300mA | 300mA |
| Electric life (resistive load 20% of max) Number of operations | $1x10^6$ | $1x10^6$ |
| Repeatability mm | 0.1 | 0.1 |
| Switch off time ms | 1 | 0.6 |
| Switch on time ms | 0.1 | 0.1 |
| Temperature range °C | -30 to + 80 | -30 to +80 |
| Protection | IP67 | IP67 |
| Cable length m | 2 | 2 |

# Proximity limit switches FCP

Limit switches protect the machine and the screwjack from potential damage due to overstroking. They also give a control signal to indicate the cycle is complete.

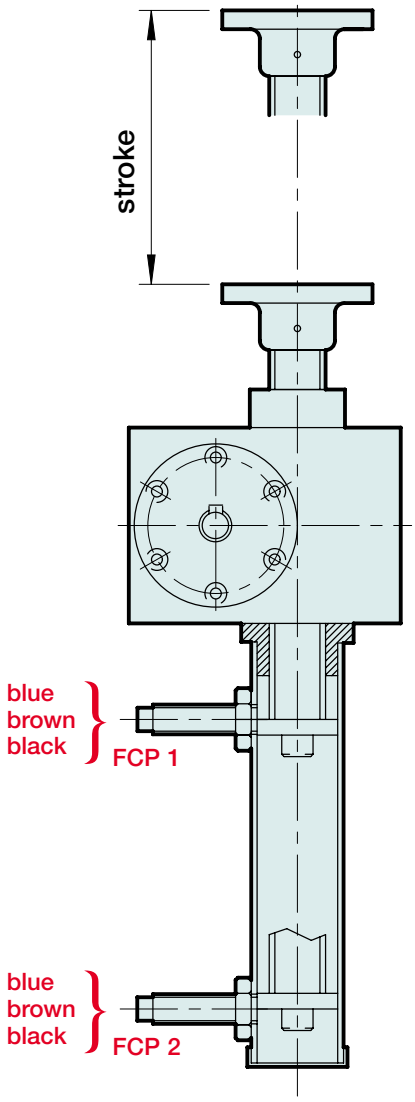
Proximity limit switches are inductive sensors to industrial standard dimensions which detect the movement of a metallic disc inside the protective tube. They can be used with SJ and MA screwjacks, Model A travelling screw only.

- normally closed PNP non-contacting switches
- 2 off supplied for end of stroke limits
- factory set and non-adjustable
- non-latching
- with LED indicator

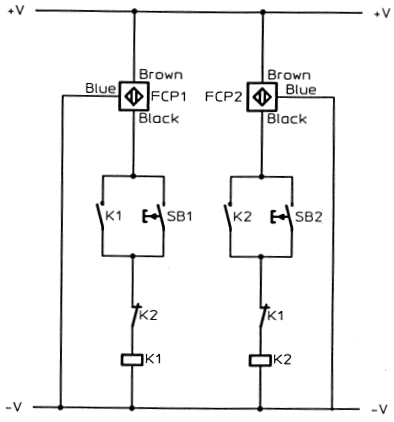
## Operation

When the magnetic ring passes under the switch it changes state. This change of state occurs for a fixed distance called the switching band and then returns to its original state.

When used for stop signalling, the overrun of the screwjack may exceed the switching band of the switch. In this situation it may be necessary to latch the switch signal to ensure the unit continues to stop.




## CONTROL CIRCUIT




## Ordering codes

2 off proximity limit switches FCP.

## Technical data

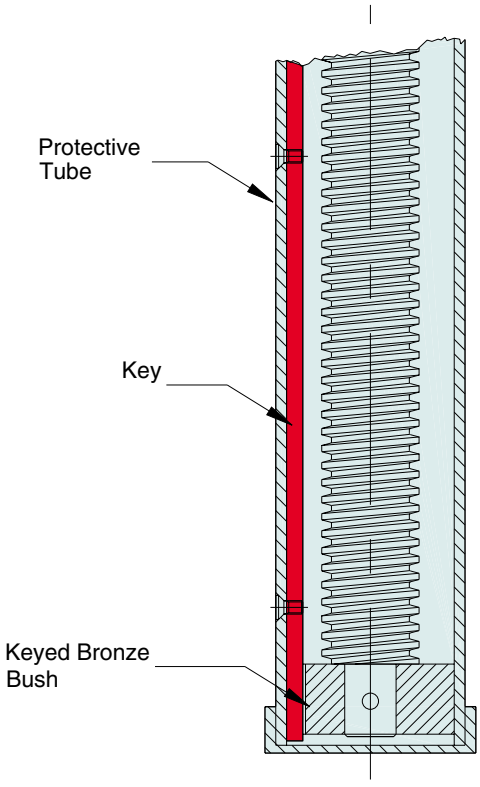
| | |
|---|---|
| **Rated voltage** | 10 to 30 V d.c. |
| **Hysterisis** | ≤ 10% |
| **Max. output current**<br>**Voltage drop**<br>**Current consumption** | 200 mA<br>≤ 1.8 V<br>≤ 10 mA |
| **Operating frequency** | 1000 Hz |
| **Repeatability** | 0.04 mm |
| **Working temperature** | –25 to 70°C |
| **Protection** | IP67 |
| **Cable length** | 2 m |
| **Cable section** | 3 x 0.14 mm² |

# Anti-turn device AR

The anti-turn device is available for model A travelling screw only.

It is necessary only when the load to be lifted may turn, i.e. the screw guidance does not prevent rotation. Within the protective steel tube is fitted a key, and a keyed bronze bush is fitted to the bottom of the screw. The bronze bush also acts as a stop nut.

**Ordering code: anti-turn device AR**




# Adjustable backlash RMG

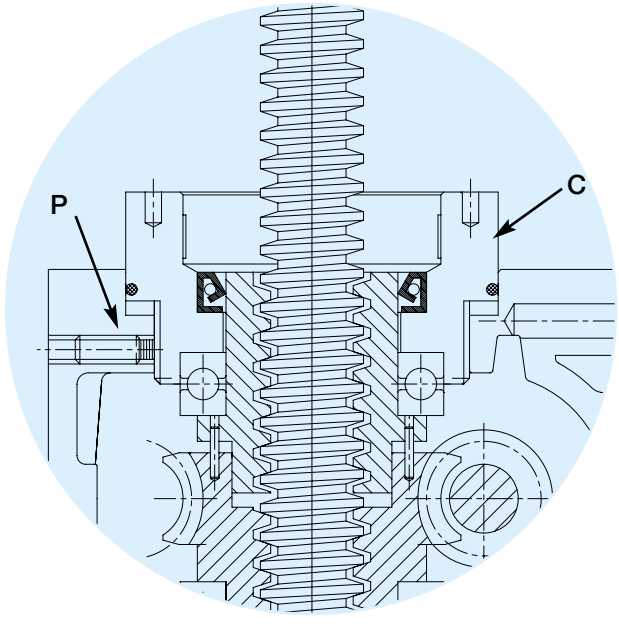
The adjustable backlash feature is available for MA screwjacks model A travelling screw only. It improves positioning accuracy by reducing axial backlash between the acme screw and the bronze nut. Wear during the life of the screwjack can be compensated.

Backlash adjustment is made by rotating nut C, and the setting by locking screw P.

**The adjustable backlash feature is especially useful where loads exist in both directions or there is vibration.**

*Note: as the axial backlash is reduced, the starting efficiency of the screwjack falls. Speak to our engineers for full details.*

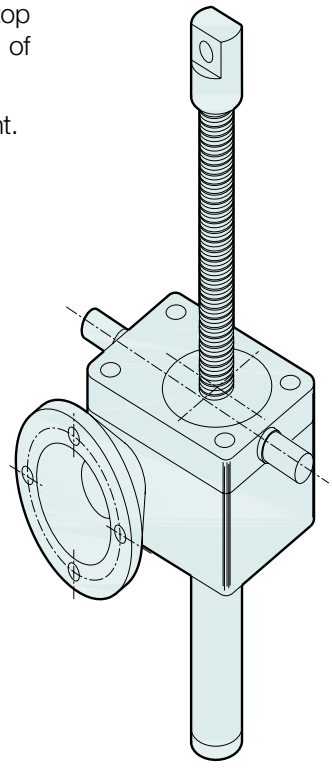
**Ordering code: adjustable backlash RMG**



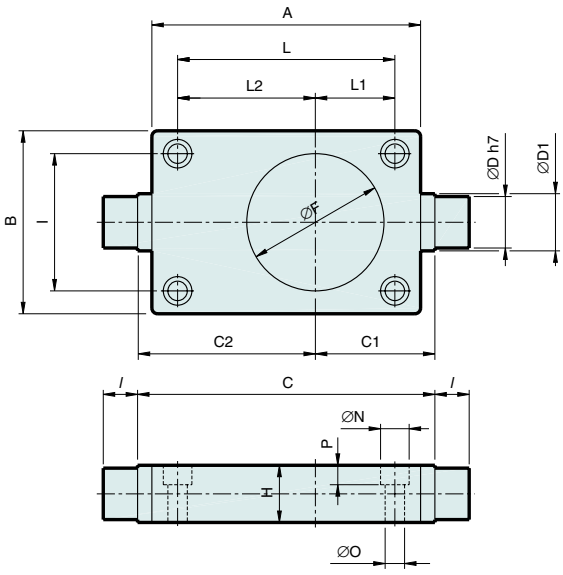
# Trunnion mount SC

The trunnion mount allows pivoting of the screwjack. It bolts on to either the top or the bottom of the screwjack housing, and is available for all models of screwjack.

We recommend for series MA bronze guides are fitted with the trunnion mount.



### Ordering code: trunnion mount SC



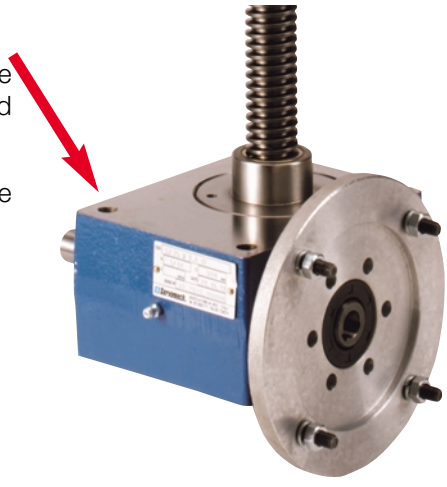

| Size | A | B | C -0.3 | C1 -0,15 | C2 -0,15 | ØD | ØD1 | ØF | H | I | L | L1 | L2 | / | M | N | O | P | [kg] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SJ 5 | 100 | 86 | 105 | 40.5 | 64.5 | 15 | 20 | 30 | 20 | 52 | 60 | 21 | 39 | 15 | 23 | 14 | 9 | 8.5 | 1.1 |
| SJ 10 | 110 | 96 | 115 | 42.5 | 72.5 | 20 | 25 | 38.7 | 25 | 63 | 78 | 29 | 49 | 20 | 21 | 14 | 9 | 8.5 | 1.6 |
| SJ 25 | 160 | 130 | 185 | 72.5 | 112.5 | 25 | 30 | 46 | 30 | 81 | 106 | 42 | 64 | 20 | 36 | 17 | 11 | 11 | 3.4 |
| SJ 50 | 200 | 160 | 215 | 85.5 | 129.5 | 35 | 40 | 60 | 40 | 115 | 150 | 63 | 87 | 30 | 35 | 19 | 13 | 13 | 7.3 |
| SJ 80 | 220 | 170 | 235 | 90.5 | 144.5 | 45 | 50 | 90 | 50 | 134 | 175 | 60 | 115 | 35 | 22 | 31 | 21 | 21 | 9 |
| SJ 200 | 280 | 230 | 300 | 125 | 175 | 70 | 90 | 120 | 120 | 180 | 230 | 90 | 140 | 75 | 25 | 48 | 32 | 31 | 40 |

| Size | A | B | C -0.3 | C1 -0,15 | C2 -0,15 | ØD | ØD1 | F | H | I | L | L1 | L2 | / | M | N | O | P | [kg] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MA 5 | 124 | 80 | 130 | 50.5 | 79.5 | 15 | 20 | 65 | 20 | 62 | 95 | 31 | 64 | 15 | 12.5 | 14 | 9 | 8.5 | 0.8 |
| MA 10 | 140 | 105 | 145 | 56.5 | 88.5 | 20 | 25 | 80 | 25 | 80 | 110 | 38 | 72 | 20 | 14 | 14 | 9 | 8.5 | 1.6 |
| MA 25 | 175 | 130 | 200 | 80 | 120 | 25 | 30 | 100 | 30 | 100 | 140 | 50 | 90 | 20 | 17.5 | 19 | 13 | 13 | 3.2 |
| MA 50-80 | 235 | 160 | 260 | 104.5 | 155.5 | 45 | 50 | 120 | 50 | 120 | 190 | 70 | 120 | 30 | 23 | 25 | 17 | 17 | 9.8 |
| MA 100 | 276 | 200 | 305 | 119.5 | 185.5 | 50 | 60 | 160 | 60 | 150 | 220 | 75 | 145 | 40 | 26 | 32 | 22 | 22 | 15.8 |
| MA 200 | 330 | 230 | 360 | 132 | 228 | 70 | 80 | 190 | 80 | 175 | 270 | 87 | 183 | 45 | 30 | 41 | 28 | 28 | 29 |
| MA 350 | 415 | 300 | 440 | 181.5 | 258.5 | 80 | 90 | 240 | 90 | 230 | 330 | 126 | 204 | 60 | 42 | 51 | 34 | 34 | 52 |

# Through mounting holes

Through mounting holes are available for series SJ screwjacks. They are clearance holes that run right through the housing and result in an increased rigidity of mounting.

Note that the hole spacing changes from the standard tapped holes. The spacing of through holes matches some alternative products.



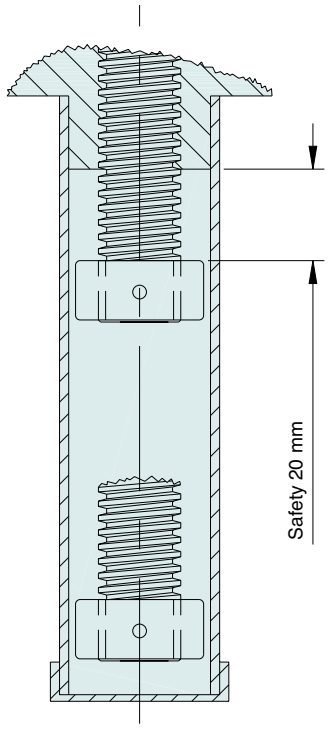
### Ordering code: housing with through mounting holes

# Stop nut SN

The stop-nut is available for all, model A travelling screwjacks.

It is a safety option to prevent the acme thread unscrewing clear of the screwjack housing. Under normal use the nut is not operative and should remain 20mm clear of the housing. Thus the stop-nut suits emergency use only, and after use a check should be made for damage.

**Ordering code: stop-nut SN**

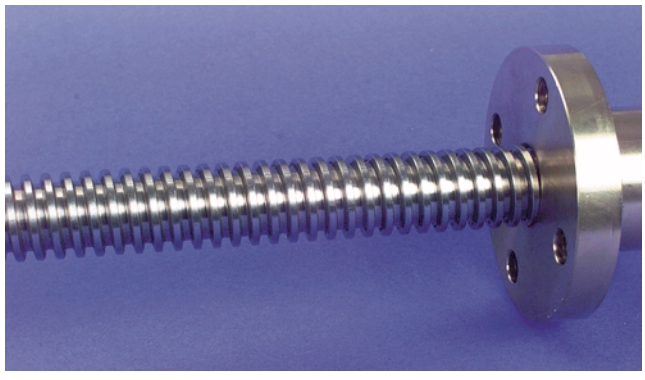



## Multi-start threads and ballscrews

Servomech screwjacks can readily be supplied with other threads, speak to our engineers for advice on these options.

Acme threads can be provided with 2 or 3 starts. This achieves higher linear speeds up to 150 mm/s, alternatively, reduced input speeds where low noise is important.

Ballscrews offer higher efficiencies and can be supplied to suit duty cycles between 30 and 100%.



## Motor connection possibilities

| Motor frame | SERIES SJ | | | | | | SERIES MA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SJ 5 | SJ 10 | SJ 25 | SJ 50 | SJ 80 | SJ 200 | MA5 | MA10 | MA25 | MA50 | MA80 | MA100 | MA200 |
| 56 B5 | F | | | | | | | | | | | | |
| 56 B14 | F | | | | | | | | | | | | |
| 63 B5 | B | F | F | | | | F | F | F | | | | |
| 63 B14 | | F | | | | | F | F | | | | | |
| 71 B5 | | B | F | | | | B | B | F | | | | |
| 71 B14 | | B | | | | | B | B | | | | | |
| 80 B5 | | | B | F | F | | | | B | F | F | F | |
| 80 B14 | | | B | | | | | | B | | | | |
| 90 B5 | | | B | B | B | | | | B | B | B | F | F |
| 90 B14 | | | B | B | B | | | | B | B | B | | |
| 100/112 B5 | | | | B | B | B | | | | B | B | B | F |
| 100/112 B14 | | | | B | B | B | | | | B | B | B | |
| 132 B5 | | | | | | | | | | | | | B |

*F = plug-in motor flange  B = bell-housing + coupling*

# INSTALLATION – MAINTENANCE – LUBRICANTS

1 The screw jack must be installed to only work with axial push or pull load.
No lateral radial load is permitted.
Fixing attachments must be evaluated carefully when designing the application.
Correct fixing and alignment prevent screw jack damage.

2 The SCREW JACKS CHECK SHEET (see pages 36 and 37), attached to every despatch, indicates the operation limits: screw jack minimum retracted length (Lc) and maximum extended length (La). Make sure that the application does not require a linear travel longer than the length fixed by these limits.

3 Before using the screw jack, the following checks must be done:
- verify the motor shaft turning direction and the related screw or nut linear motion direction,
- if the end stroke switches are present, check their position: they cannot exceed the given limits,
- make sure that the electric motor and the end stroke switches are connected correctly and that the right voltage is used.

4 For further information about installation, use and maintenance refer to the Use and Maintenance Manual (Cod. 10.1.001).

SERVOMECH screw jacks are supplied with the wormgear already lubricated and acme screw usually non lubricated. Apply lubricant on the acme screw before using the screw jack.

The SCREW JACK CHECK SHEET (attached to the despatch), indicates exactly which screw jack components require lubrication before installation and commissioning.

During screw jack operation, only apply the correct lubricant when necessary. PLEASE, NOTE: too much lubricant can affect screw jack performance and promote lubricant leakage!

The following table states the required lubricant types and quantity:

| SCREW JACK SIZE | WORM GEARBOX | | ACME SCREW - NUT |
|---|---|---|---|
| MA 5 | SHELL | 0.07 kg | SHELL DARINA Grease R2 |
| MA 10 | TVX COMPOUND B – GREASE | 0.14 kg | |
| MA 25 | SHELL TIVELA OIL WB | 0.35 *l* | |
| MA 50 | | 0.75 *l* | |
| MA 80 | | 0.75 *l* | |
| MA 100 | | 1.5 *l* | |
| MA 200 | | 2.3 *l* | |
| MA 350 | | 4 *l* | |
| SJ 5 | SHELL SUPER GREASE AM | 0.07 kg | |
| SJ 10 | | 0.14 kg | |
| SJ 25 | | 0.23 kg | |
| SJ 50 | SHELL TVX COMPOUND B – GREASE | 0.60 kg | |
| SJ 80 | | 0.50 kg | |
| SJ 200 | | 2 kg | |

Equivalent lubricants:

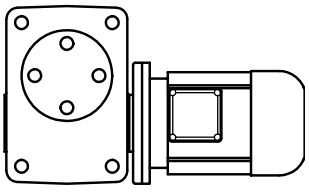
| TRADE MARK | LUBRICANT | | | |
|---|---|---|---|---|
| SHELL | TIVELA OIL WB | TVX COMPOUND B | SUPER GREASE AM | DARINA Grease R2 |
| AGIP | BLASIA S | GR SLL | GR SM | GREASE NF 2 |
| CASTROL | ALPHA SN | ALPHA GEL | SPHEEROL LMM | BNS GREASE |
| ESSO | – | TRASMISSION GREASE FP | MP GREASE MOLY | NORVA 275 |
| IP | TELESIA 150 | TELESIA COMPOUND B | BIMOL GREASE 481 | SILIS GREASE 2 |
| MOBIL | GLYCOYLE 30 | MOBILPLEX 44 | MOBIPLEX SPECIAL | MOBILTEMP 78 |
| TOTAL | – | CARTER SY 00 | MULTIS MS | – |

# Screwjack lifting systems

We can support you by selecting the complete drive solution for your screwjack systems:

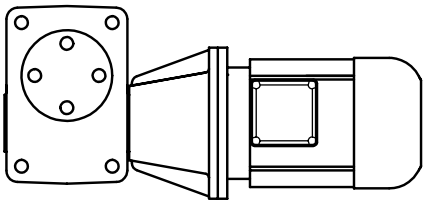
- screwjacks with appropriate motor flange and shaft inputs/handings
- ac, dc and servo motors
- inverter drives
- servo drives with features such as positioning and speed control
- spiral bevel right angle gear boxes
- torsionally rigid spacer couplings
- connecting shafts
- technical support such as:
  application lay-out,
  lifetime calculation,
  overall dimensions drawing in scale 1 : 1, available on CD-ROM or by E-mail.

## Single motorized jack



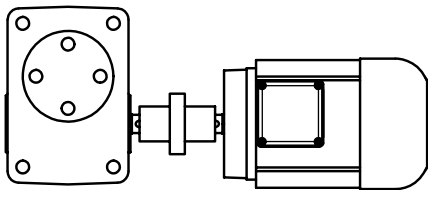
Screw jack with plug-in flange +

IEC B5 or B14 motor



Screw jack with bell housing and coupling +

IEC B5 or B14 motor

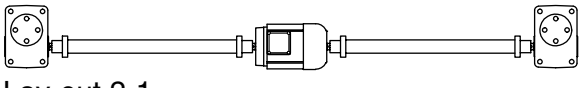


Screw jack with single shaft +

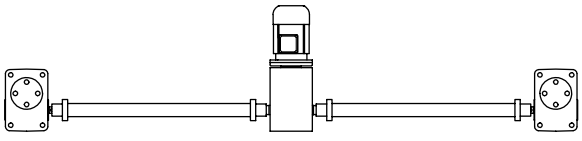
Coupling +

IEC B3 motor

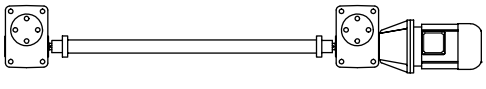
## LAY-OUT: Two lifting points systems



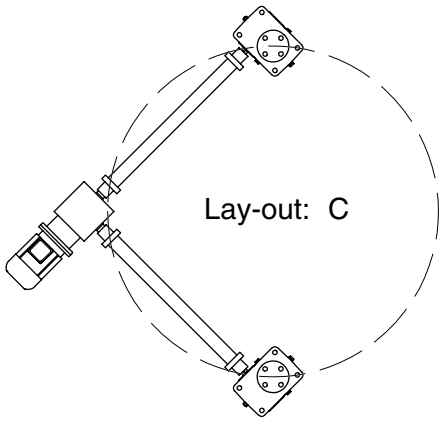
Lay-out 2-1



Lay-out 2-2

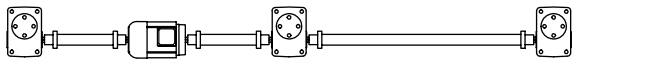


Lay-out 2-3

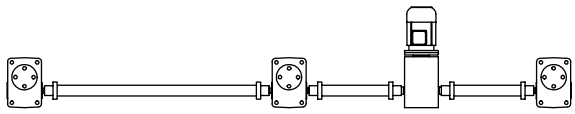


# Screwjack systems

## LAY-OUT: Three lifting points systems

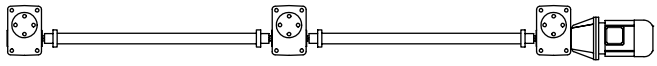


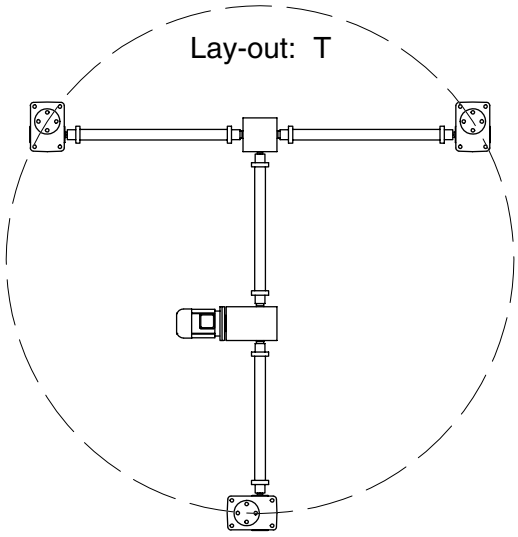
Lay-out 3-1



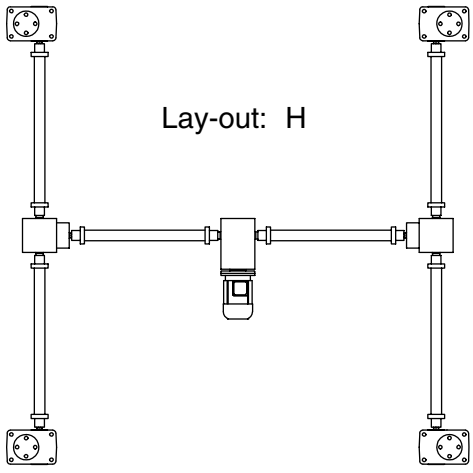
Lay-out 3-2

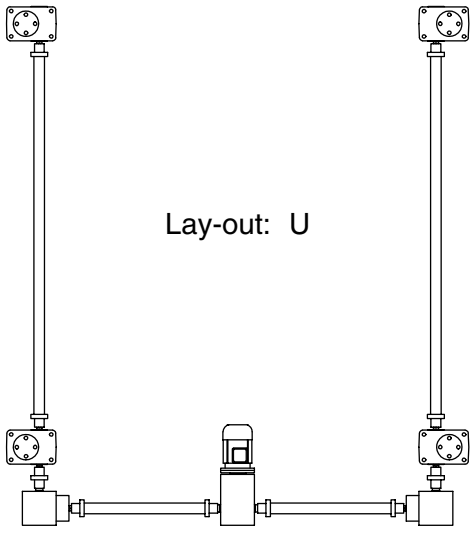
Lay-out 3-3



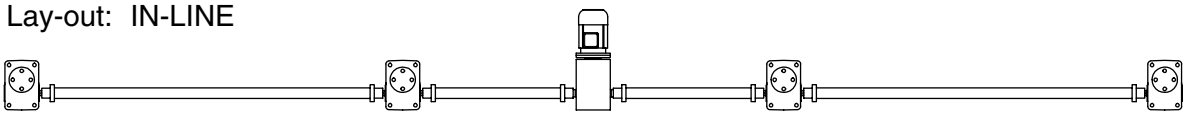



## LAY-OUT: Four lifting points systems




Lay-out: IN-LINE



| Servomech NEW IDEAS IN LINEAR MOTION | SCREW JACKS CHECK SHEET | M.09.03.M<br>Release 1 |
|---|---|---|

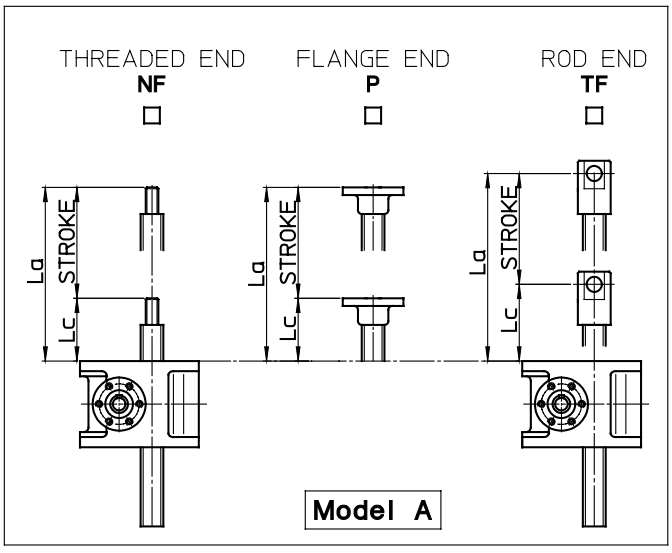
CODE: _____

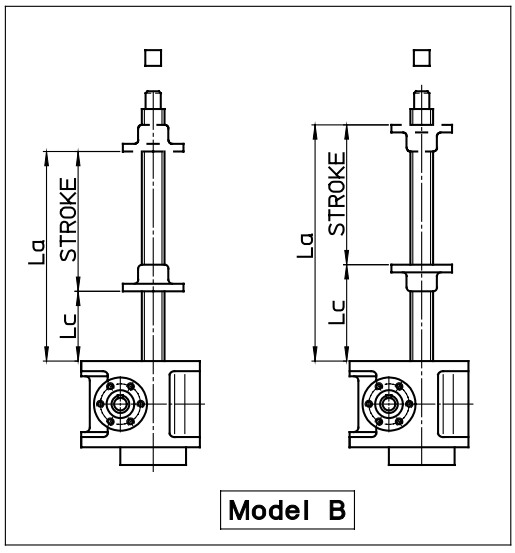
STROKE: _____

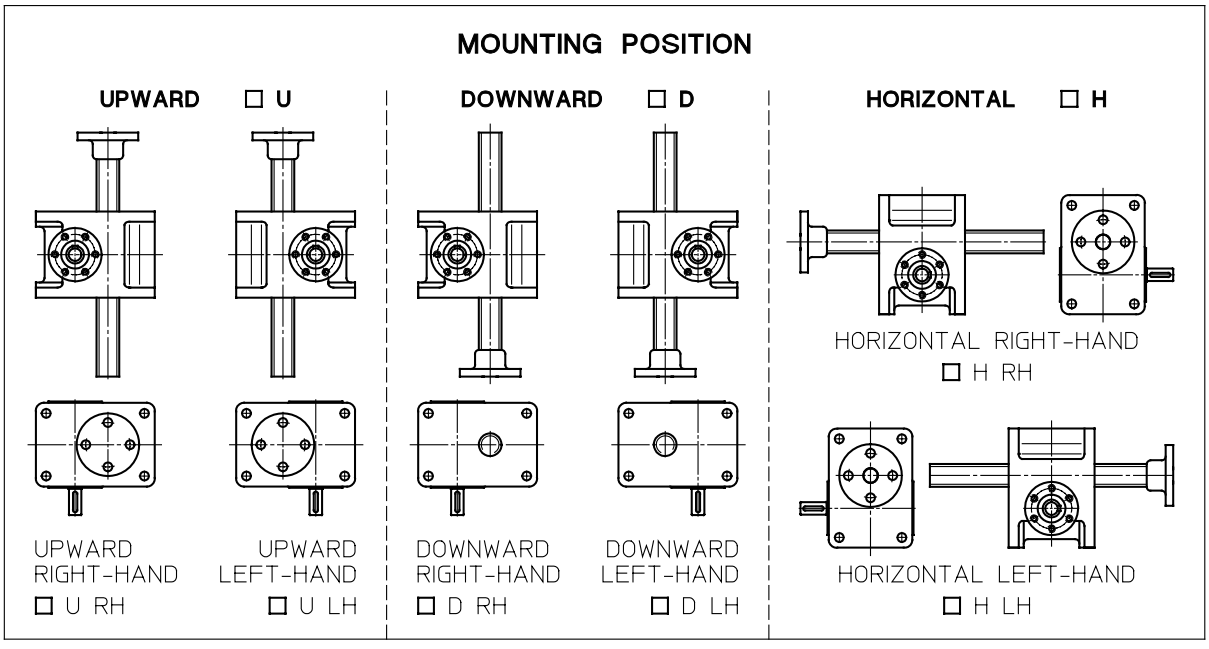
ACME SCREW: _____; BALL SCREW: _____

ACCESSORIES: _____

_____




## SCREW JACKS MAIN DIMENSIONS:

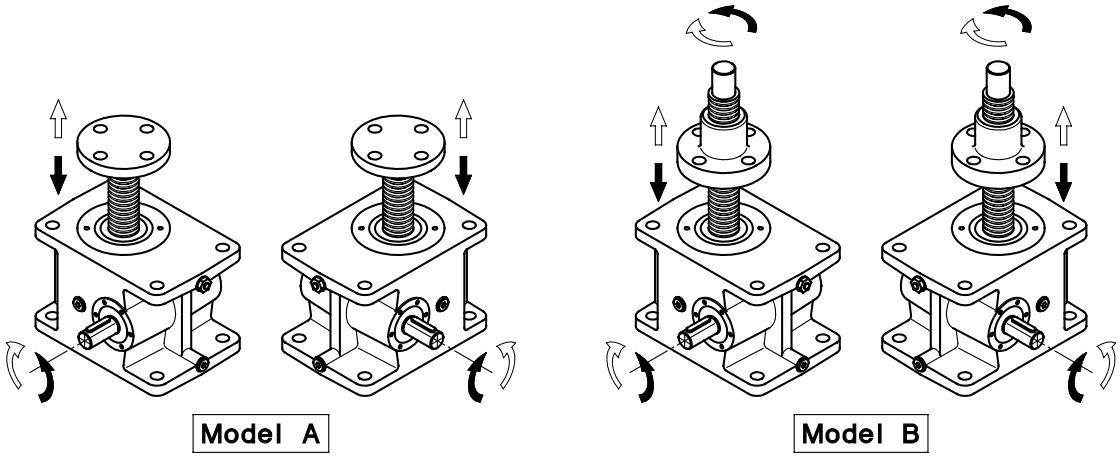
RETRACTED JACK LENGTH: **Lc** = _____ mm

EXTENDED JACK LENGTH: **La** = _____ mm

MAX. WORKING STROKE (La Lc): **C** = _____ mm

Servomech QC
**PASSED**
Date: _____
Signature: _____

**INPUT SHAFT ROTATION - SCREW OR NUT LIFTING DIRECTION**




## WARNING!

1. The values **Lc** (retracted jack length), **La** (extended jack length) and **C** (max. working stroke) are the extreme permissible values.
2. For a correct installation and commissioning of the screw jack see The Installation, Use and Maintenance Manual.
3. The following operations must be done **BEFORE** commissioning:
   - ensure that the breather plug is in the highest position respect to all other plugs;
   - lubricate acme or ball screw - nut;
   - connect the stroke limit device to the electric control circuit of the screw jack or lifting system;
   - check the lifting direction of the acme or ball screw (Model A) or nut (Model B).

NOTE: _____

WORMGEAR LUBRICANT: _____

SCREW - NUT LUBRICANT: _____

| EQUIVALENT LUBRICANTS | | | | |
|---|---|---|---|---|
| MARCA | LUBRICANT | | | |
| SHELL | TVX COMPOUND B | TIVELA OIL WB | SUPER GREASE AM | ALVANIA R2 |
| MOBIL | GLYCOYLE GREASE 00 | GLYCOYLE 30 | MOBILGREASE SPECIAL | MOBILUX 2 |
| CASTROL | ALPHA GEL | — | MS 3; SPHEEROL LMM | SPHEEROL APT |
| KLÜBER | — | — | — | ISOFLEX NBU 15 |

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