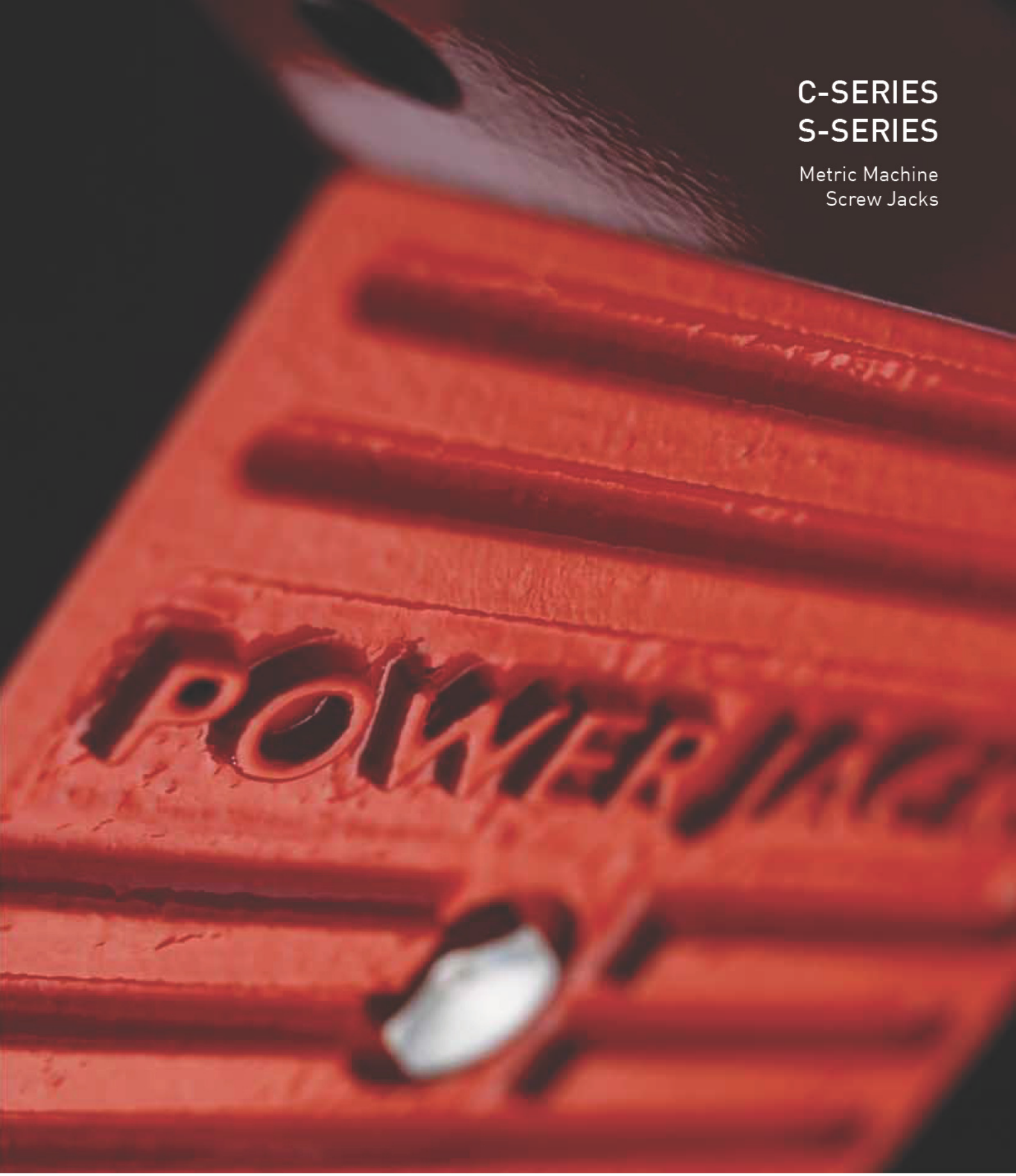


C-SERIES
S-SERIES

Metric Machine
Screw Jacks

POWER JACKS

Power Jacks
More than just a screw jack

Power Jacks are a manufacturer focused on providing customers with the best engineered solution for precision linear actuation, power transmission and mechanical jacking.

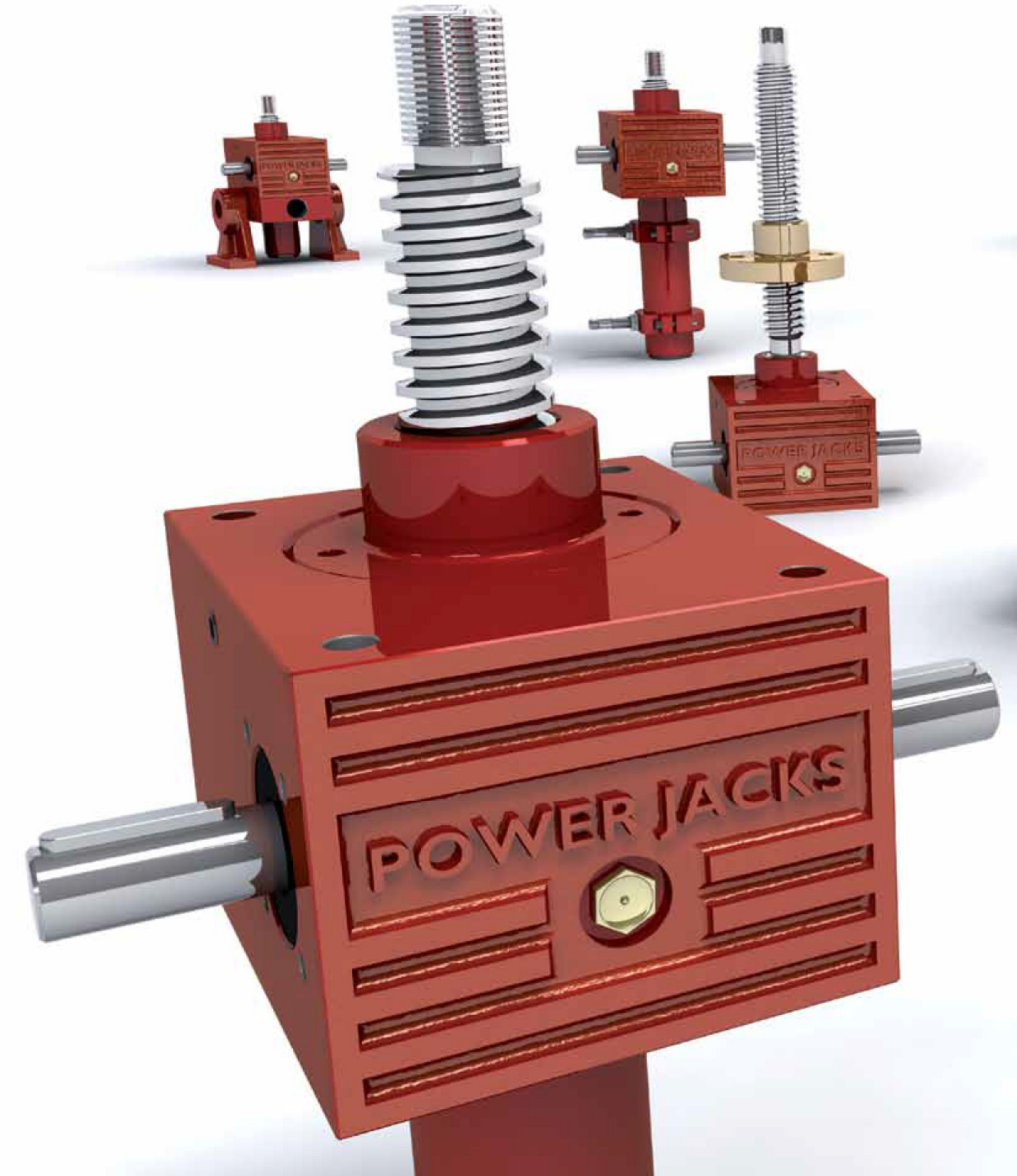
Our expertise has been built on a history of engineering craftsmanship and design dating back to 1903. The facility in Scotland is the UK's largest screw jack manufacturing facility, that uses the latest engineering technologies to deliver quality products (BS EN ISO 9001:2008) that offer reliability, performance and economy.

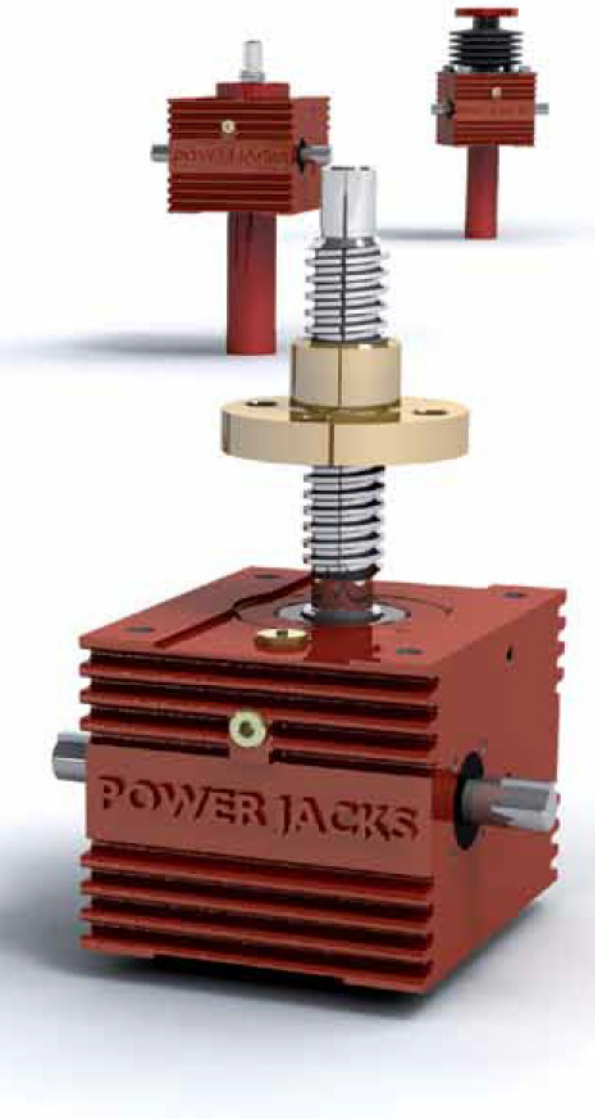
Power Jacks is synonymous with screw jack technology and its development. We have been involved with Screw Jacks since the product was invented in the late 1930's and this gives us unparalleled experience in the design and manufacture of both standard and special designs.

Complimenting the screw jacks the Power Jacks portfolio also includes the design and manufacture of spiral bevel gearboxes, electric linear actuators and planetary roller screws. This enables us to offer our customers a complete linear motion and power transmission system and solution.

We know our customers demand our engineering expertise to help find a solution for their applications. We take pride in designing and delivering the best solution.
This is what defines the Power Jacks range.

Contents





Standard Cubic

High Peformance

Compact
Durable
Versatile
Dynamic

Introducing the new C-Series Screw Jack range from Power Jacks, delivering new levels of versatility and quality.

Created by a team of experienced design engineers, the focus was to provide our customers with a new compact cubic Screw Jack, which offers versatility in mounting methods. In addition to this, we wanted to design a jack that had the perfect combination of excellent performance, a long lasting service life, durability, flexibility and an extensive accessory list. Perfect for industrial applications operating individually or as a multi unit jacking system.

Over 140 Million Standard Configurations.

4 Standard Screw Jack Designs

- Standard
- Anti-Backlash*
- Anti-Rotation*
- Safety Nut

Anti-Rotation can be combined with standard, anti-backlash and safety nut designs.
* Translating screw configurations.

Gearbox Housing
Is one of the most functional features of the C-Series screw jack. Using a rugged cast housing made of either a highly durable SG Iron or Aluminium. This provides a strong housing that firmly and accurately holds the gear set in a reservoir of chosen lubricant suited to the most industrial demands.

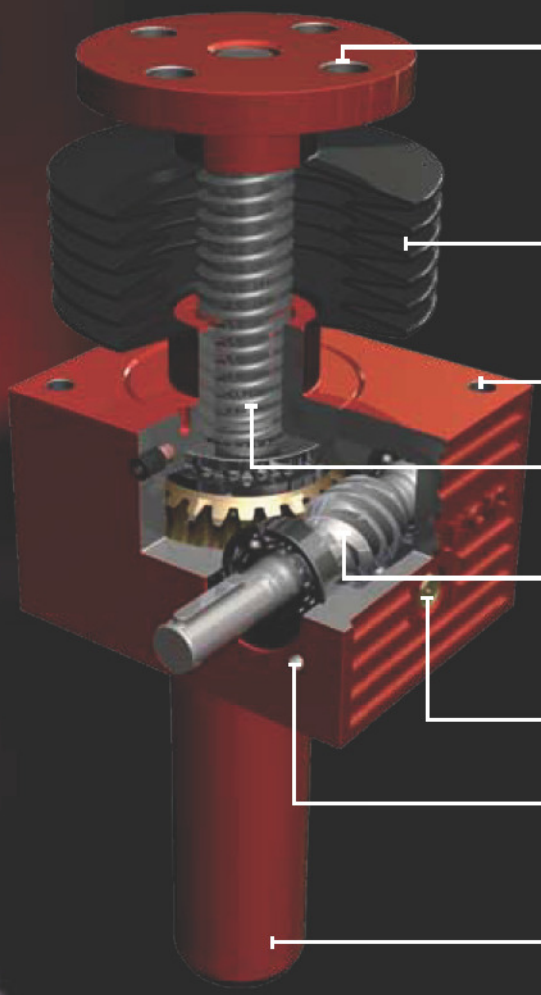
Reliable Worm Gear set
Proven design used in millions of screw jacks.

Forced Grease Lubrication
Of lead screw. Radial lubrication holes on the worm gear allow the worm shaft to force grease through directly onto the lead screw threads.This lowers friction and operating temperature while increasing life.

Corrosion Protection
To suit all economic needs.

- Standard Industrial Paint Finish
- Arduous Environment Paint Finish
- Customer Specified Paint
- Plated Finish

C-SERIES
Features



Translating and Rotating Screw Configurations

4 End Fittings as Standard:
- Top Plate
- Clevis End
- Fork End
- Rod End

Bellows Boot Screw Protection
prevents ingress of dirt and debris onto screw threads.

Mounting Bolt Holes on 2 Faces

Precision Machined Lead Screw
available in standard material or stainless steel.

Worm Shaft Material
available in standard, plated or stainless steel.

Grease Application Point

Integral Accessory Bolt Holes
allow mounting of accessories to worm shaft.

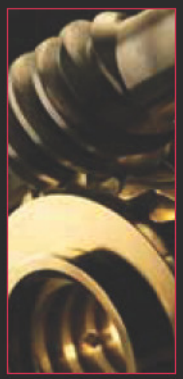
Cover Pipe Fitted as Standard
protects lead screw from damage and stops ingress of dirt and debris. Cover pipe also acts as grease reservoir for normal operation.

Special Features

2 Screw Lead Options
for each screw jack size

Over 140 million standard configurations

Worm Shaft Extensions
as standard double (both sides) or optionally single extension (one side)



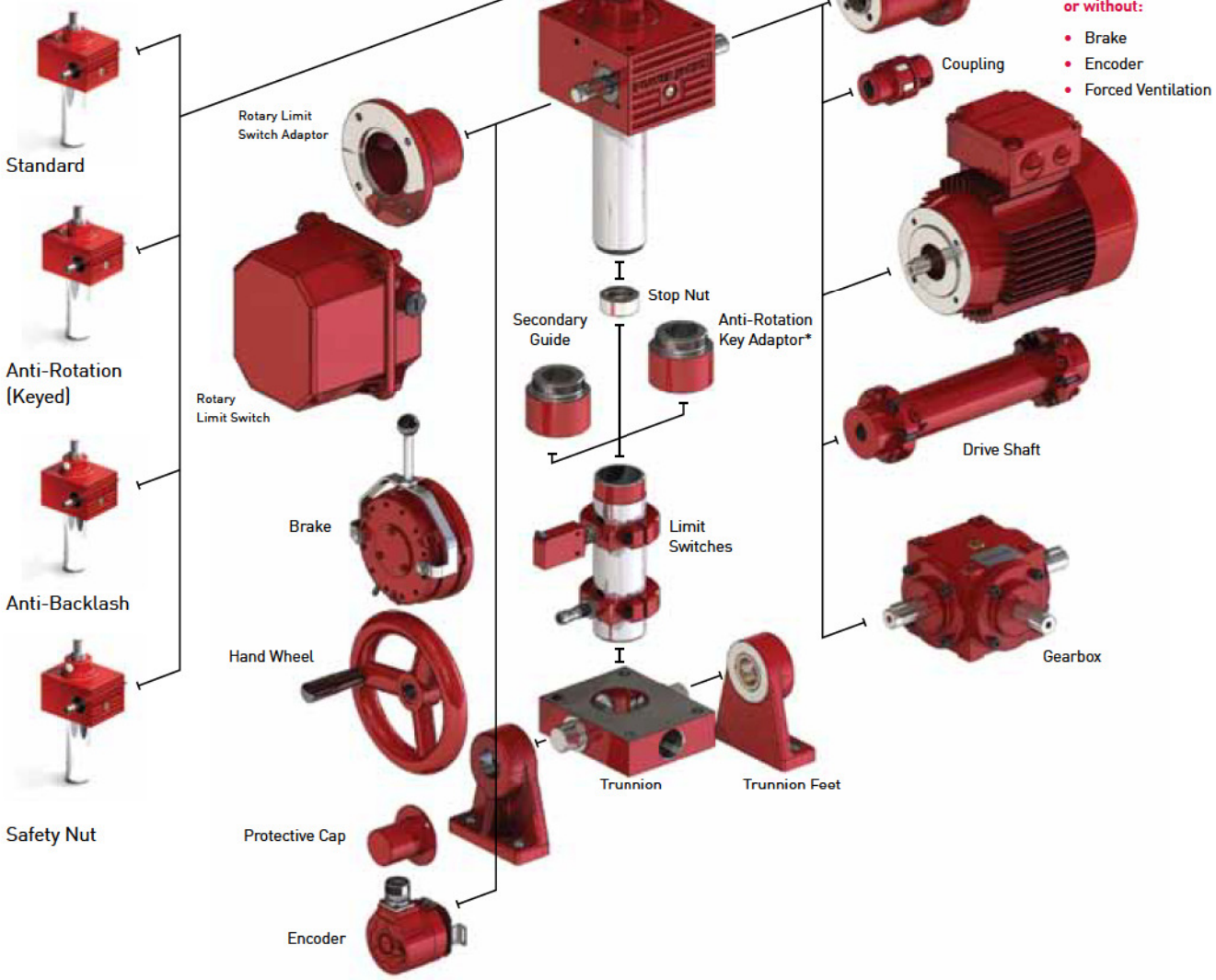
2 Gear Ratio Options
for each screw jack size

Aluminium Bronze Worm Gear
accurately hobbed for greater gear contact

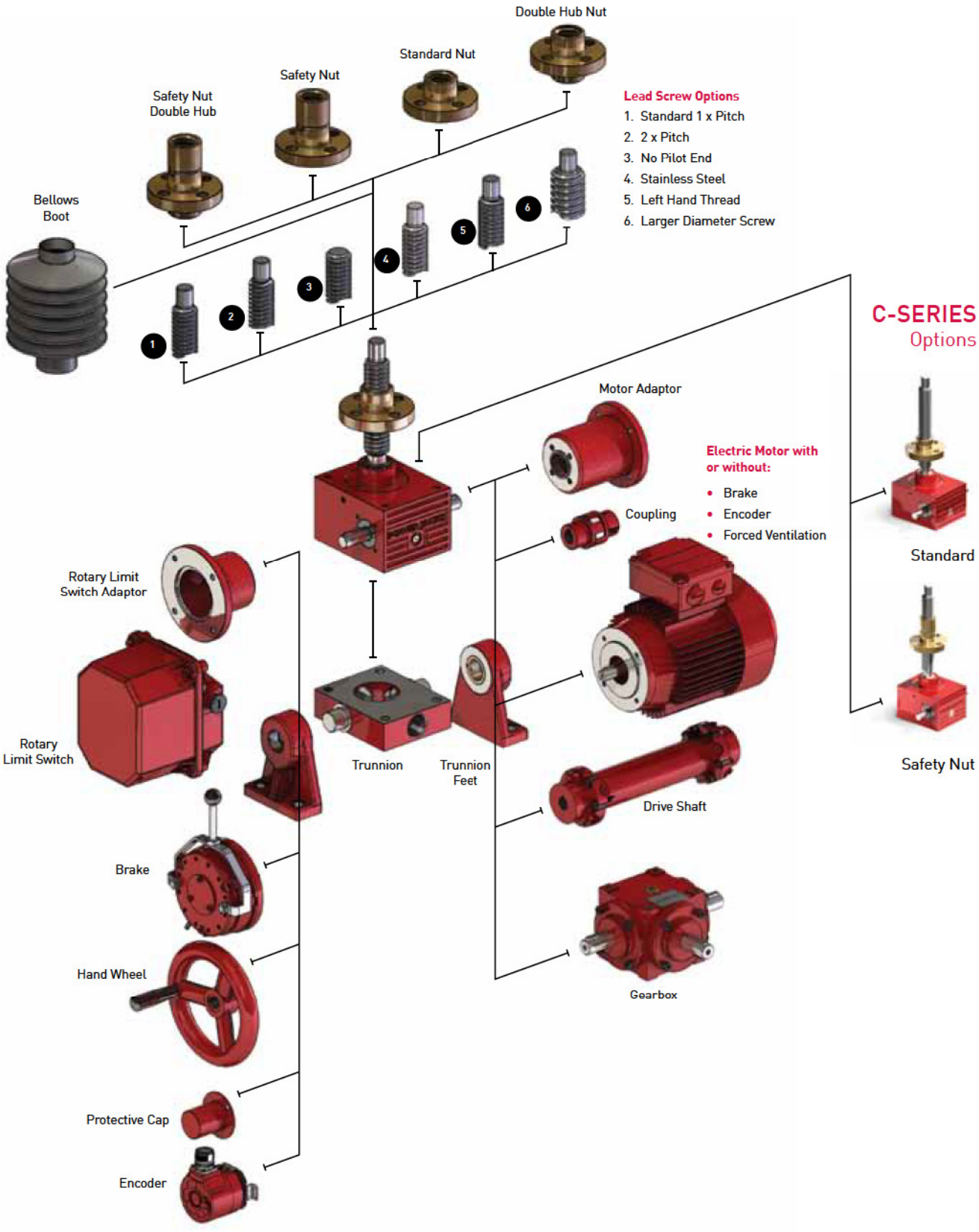
Optimum lubrication
via 2 integrated systems

Delivering impressive rotary
to linear motion performance

C-SERIES
Options



*For use with Anti-Backlash and some safety nut models only.


Double Hub Nut
Standard Nut
Safety Nut
Safety Nut Double Hub
Bellows Boot
Lead Screw Options
1. Standard 1 x Pitch
2. 2 x Pitch
3. No Pilot End
4. Stainless Steel
5. Left Hand Thread
6. Larger Diameter Screw
C-SERIES Options
Motor Adaptor
Electric Motor with or without:
• Brake
• Encoder
• Forced Ventilation
Coupling
Standard
Safety Nut
Rotary Limit Switch Adaptor
Rotary Limit Switch
Trunnion
Trunnion Feet
Drive Shaft
Brake
Hand Wheel
Gearbox
Protective Cap
Encoder

C-SERIES
Screw Jack Product Code

Example

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
C	M	T	0	2	5	0	7	5	0	T	B	1	1	0	0	P	T	0	0	0	B	3	P	0

1 Screw Jack Type
C = C-Series Screw Jack

2 Screw Type
M = Machine Screw

3 Screw Configuration
T = Translating Screw
R = Rotating Screw

4,5,6 Capacity (kN)
010 = 10kN
025 = 25kN
050 = 50kN
100 = 100kN

7,8,9,10 Stroke (mm)
e.g.0750 = 750mm

11 End Type
E = Threaded End
C = Clevis
T = Top Plate
F = Fork End
R = Rod End
A = Plain End#9
P = Pilot End#1
N = No Pilot#1

12 Gearbox Mounting
B = Base Mount
T = Trunnion Mount Standard#2
U = T + Trunnion Feet
X = Trunnion Mount 90°#3
Y = X + Trunnion Feet

13 Lead Screw Pitch
1 = Option 1 Lead#4
2 = Option 2 Lead#4
3 = Option 1 Left Hand#5
4 = Option 2 Left Hand#5

14 Gear Ratio
1 = Option 1 Ratio
2 = Option 2 Ratio

15 Features
0 = None
K = Anti-Rotation (keyed)
C = Secondary Guide
R = Anti-Backlash
Y = Anti-Backlash & Anti-Rotation (keyed)
H = Double Hub Nut#1

16 Cover Pipe
0 = Cover Pipe
N = No Cover Pipe

17 Stop Nut
0 = No Stop Nut
P = Full Power Stop Nut

18 Safety Nut
0 = No Safety Nut
T = Safety Nut Tension
C = Safety Nut Compression

19 Worm Shaft Type
0 = Standard Material
N = Nickel Plated
C = Chrome Plated
S = Stainless Steel

20 Worm Shaft Ends
0 = Both
L = Left Hand Side Only
R = Right Hand Side Only

21 Lead Screw Material
0 = Standard
S = Stainless Steel
L = Large Diameter#1, #8
T = Large Diameter Stainless Steel #1, #8

22 Lead Screw Cover
0 = None
B = Bellows Boot (fabric)

23 Drive
0 = Side Bolt Holes (both sides)
M = Motor #6, #8
B = Brake Motor #6, #8
H = Hand Wheel
1 = Side Bolt Holes - LHS
2 = Side Bolt Hols - RHS
3 = No Side Bolt Holes
A = Motor Adaptor #6, #8

24 Limit Switch #7, #8
0 = None
L = Electro-Mechanical Limit Switch
R = Rotary Cam Limit Switch
P = Proximity Sensor

25 Extra Design #8
0 = None
S = Design Notes

Notes:
#1. Rotating screw models only.
#2. Trunnions on same side as worm shaft (standard).
#3. Trunnions at 90° to worm shaft.
#4. Standard right hand thread form. Worm shaft turns clockwise to extend screw.
#5. Left hand thread form. Worm shaft turns anti-clockwise to extend screw.
#6. Includes motor adaptor and coupling. IEC motor adaptor is standard.
#7. Limit switch mounting included.
#8. Design notes required to detail device/item specification.
#9. Plain end "A" has same dimensions as "E-threaded end" except no thread form.

Performance

Screw Jack Model [4]			CM-010		CM-025		CM-050		CM-100	
Capacity	kN		10		25		50		100	
Lead Screw[1]	Diameter (mm)		20		30		40		55	
	Lead	Option	1	2	1	2	1	2	1	2
		mm	5	10	6	12	9	18	12	24
Gear Ratios	Option 1		5:1		6:1		6:1		8:1	
	Option 2		20:1		24:1		24:1		24:1	
Turn of worm for travel of lead screw	Option 1	1 Turn	1mm	2mm	1mm	2mm	1.5mm	3mm	1.5mm	3mm
	Option 2	4 Turn	1mm	2mm	1mm	2mm	1.5mm	3mm	2mm	4mm
Maximum Input Power (kW)	Option 1		0.375		1.5		3		3.75	
	Option 2		0.19		0.375		0.55		1.125	
Start up torque at full load (Nm)[2]	Option 1		6.8	9.4	19.8	26.4	56.0	76.0	115.9	156.6
	Option 2		3.0	4.1	8.7	11.7	25.5	34.7	60.5	81.9
Maximum Through Torque (Nm)[7]	Option 1		20.4		59.4		168.0		347.7	
	Option 2		9.0		26.1		76.5		181.5	
Static Efficiency[3]	Option 1		0.236	0.339	0.201	0.302	0.213	0.314	0.206	0.305
	Option 2		0.133	0.192	0.113	0.171	0.117	0.172	0.132	0.195
Dynamic Efficiency[3]	Option 1		0.306	0.424	0.264	0.383	0.281	0.398	0.272	0.388
	Option 2		0.194	0.268	0.167	0.242	0.172	0.244	0.190	0.271
Lead Screw Restraining Torque (Nm)[5]	-		22	30	76	102	210	290	575	780
Worm Shaft Radial Load (N)[6]			325		380		740		1000	
Maximum Input Speed (rpm)	-		1800		1800		1800		1800	
Gear Case Material			Aluminium		SG Iron		SG Iron		SG Iron	
Weight (kg) – stroke = 150mm	Translating		3.0		8.3		19.5		36.0	
	Rotating		3.1		8.7		20.2		40.2	
Weight (kg) – per extra 25mm	Translating		0.11		0.21		0.32			
	Rotating		0.05		0.11		0.19		0.36	

Axial Backlash

Typical Axial Backlash Values:

- Standard Screw Jack is 0.12mm to 0.23mm
- Screw Jack with Anti-Backlash feature is adjustable to a minimum of 0.025mm.

Useful Formulae

$$\text{Input Speed (rpm)} = \frac{\text{Linear Speed (mm/min)} * \text{Gear Ratio}}{\text{Lead of Screw (mm)}}$$

$$\text{Input Power (kW)} = \frac{\text{Load (kN)} * \text{Lead(mm)} * \text{Input Speed(rpm)}}{60000 * \text{Efficiency} * \text{Gear Ratio}}$$

$$\text{Input Torque (Nm)} = \frac{\text{Load (kN)} * \text{Lead(mm)}}{2 * \pi * \text{Efficiency} * \text{Gear Ratio}}$$

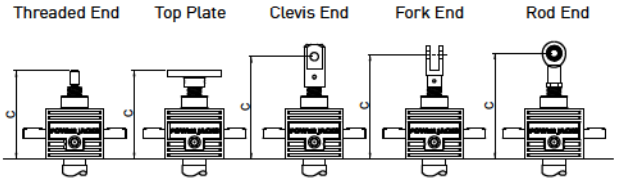
Notes:

1. All metric machine screws have a trapezoidal thread form.
2. For loads of 25% to 100% of screw jack capacity, torque requirements are approximately proportional to the load.
3. Efficiency values for standard grease lubricated worm gear box and lifting screw.
4. All C-Series screw jacks have grease lubricated gearbox and lead screw as standard.
5. Torque required to prevent the lead screw or lead nut from rotating if no anti-rotation device fitted.
6. Radial force applied midway along worm shaft key at 90° to key.
7. Maximum transmittable torque through worm shaft, not through gear set.

Performance

Screw Jack Model [4]			CM-010	
Capacity	kN		10	
Lead Screw[1]	Diameter (mm)		20	
	Lead (mm)		5	10
Gear Ratios	Option 1		5:1	
	Option 2		20:1	
Turn of worm for travel of lead screw	Option 1	1 Turn	1mm	2mm
	Option 2	4 Turn	1mm	2mm
Maximum Input Power (kW)	Option 1		0.375	
	Option 2		0.19	
Start up torque at full load (Nm)[2]	Option 1		6.8	9.4
	Option 2		3.0	4.1
Maximum Through Torque (Nm)[7]	Option 1		20.4	
	Option 2		9.0	
Static Efficiency[3]	Option 1		0.236	0.339
	Option 2		0.133	0.192
Dynamic Efficiency[3]	Option 1		0.306	0.424
	Option 2		0.194	0.268
Maximum Input Speed (rpm)	1800			
Gear Case Material	Aluminium			
Weight (kg) – stroke = 150mm	CMT		3.0	
	CMR		3.1	
Weight (kg) – per extra 25mm	CMT		0.11	
	CMR		0.05	

CMT010 Closed Height



Closed Height 'C'	Threaded End	Top Plate	Clevis End	Fork End	Rod End
CMT010	130	130	150	153	155
Stroke (mm)	With Bellow Boots (B)				
0 - 500	150	150	170	173	175
501 - 1000	180	180	200	203	205
1001 - 1500	210	210	230	233	235
1501 - 2000	290	290	310	313	315

CMT010 Stop Nut

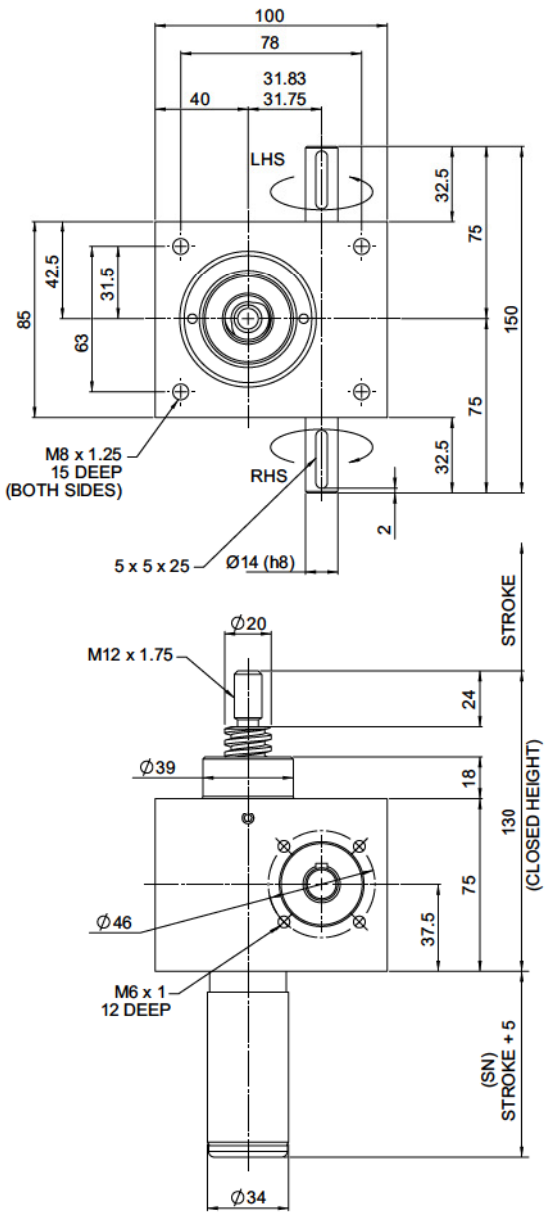
Stop nut provides a full power mechanical stop at the end of the lead screw. To be used as a safety feature in emergency conditions.

SN = Stroke + 25mm

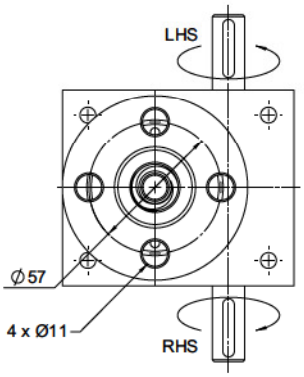
Note:

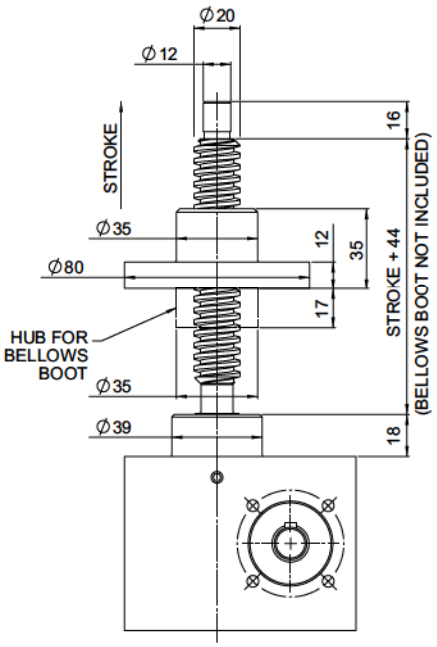
1. All dimension in millimetres unless otherwise stated.
2. Designs subject to change without notice.

CMT010

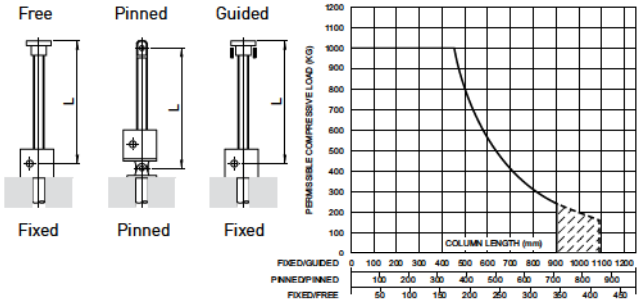


CMR010

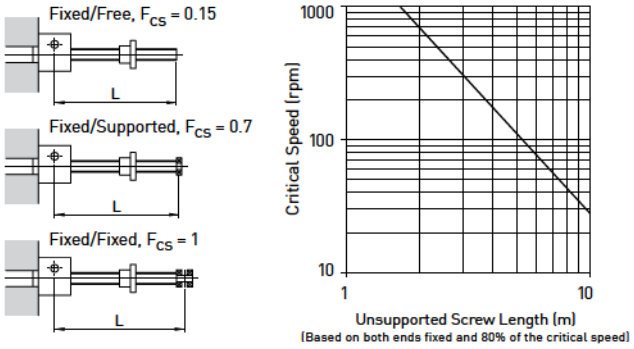




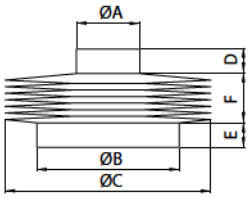
Column Strength



Critical Screw Speed



Bellows Boot

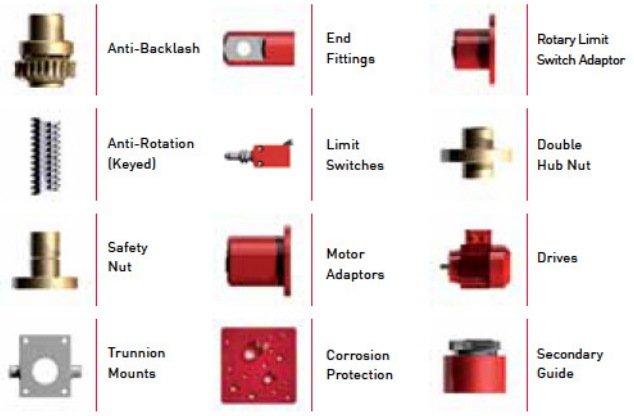


	ØA	ØB	ØC	D	E
CMT010	30	39	110	15	15
CMR010	35	39	110	15	15

Stroke	1 – 500	501 – 1000	1001 – 1500	1500 – 2000
F	30	60	90	170*

*control tapes fitted ØC=110

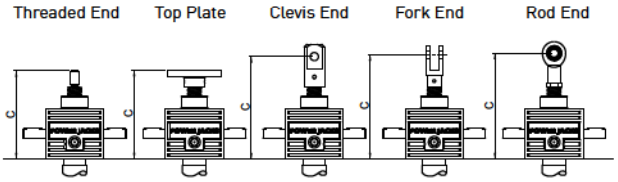
Accessories & Options



Performance

Screw Jack Model [4]			CM-025	
Capacity	kN		25	
Lead Screw[1]	Diameter (mm)		30	
	Lead (mm)		6	12
Gear Ratios	Option 1		6:1	
	Option 2		24:1	
Turn of worm for travel of lead screw	Option 1	1 Turn	1mm	2mm
	Option 2	4 Turn	1mm	2mm
Maximum Input Power (kW)	Option 1		1.5	
	Option 2		0.375	
Start up torque at full load (Nm)[2]	Option 1		19.8	26.4
	Option 2		8.7	11.7
Maximum Through Torque (Nm)[7]	Option 1		59.4	
	Option 2		26.1	
Static Efficiency[3]	Option 1		0.201	0.302
	Option 2		0.113	0.171
Dynamic Efficiency[3]	Option 1		0.264	0.383
	Option 2		0.167	0.242
Maximum Input Speed (rpm)	1800			
Gear Case Material	SG Iron			
Weight (kg) – stroke = 150mm	CMT		8.3	
	CMR		8.7	
Weight (kg) – per extra 25mm	CMT		0.21	
	CMR		0.11	

CMT025 Closed Height



Closed Height 'C'	Threaded End	Top Plate	Clevis End	Fork End	Rod End
CMT025	145	145	170	195	192
Stroke (mm)	With Bellow Boots (B)				
0 - 500	165	165	190	215	212
501 - 1000	190	190	215	240	237
1001 - 1500	215	215	240	265	262
1501 - 2000	245	245	270	295	292

CMT025 Stop Nut

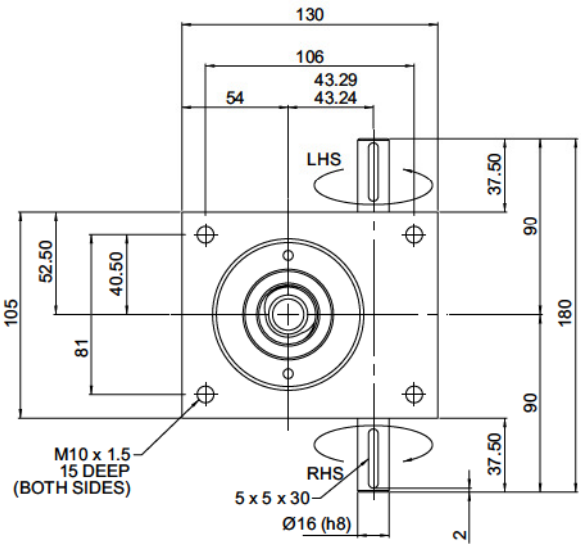
Stop nut provides a full power mechanical stop at the end of the lead screw. To be used as a safety feature in emergency conditions.

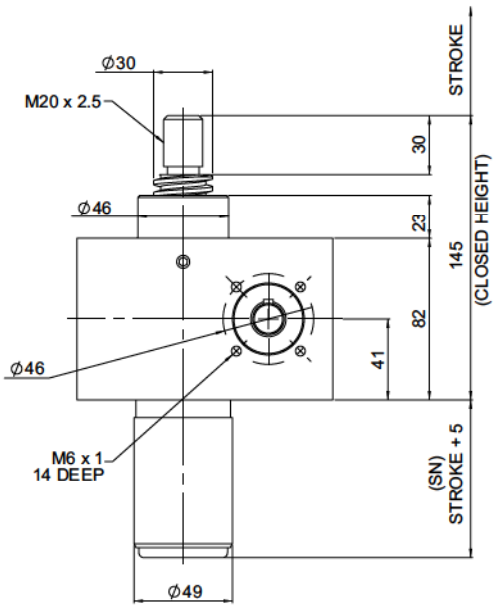
SN = Stroke + 21mm

Note:

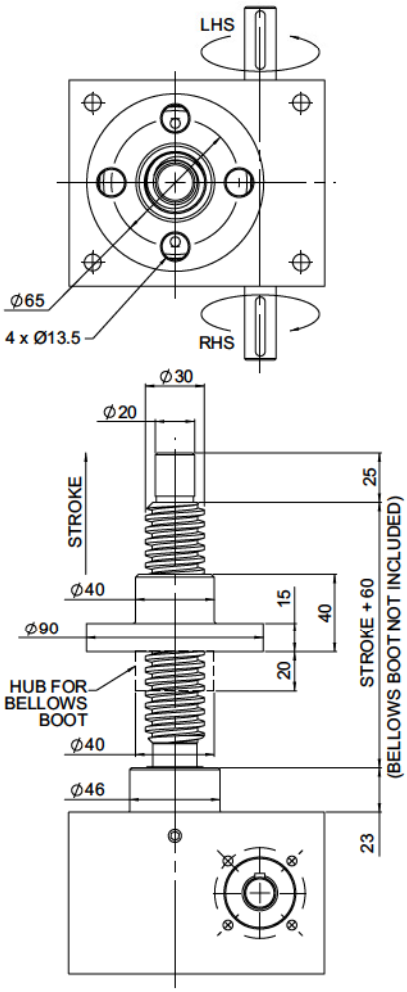
1. All dimension in millimetres unless otherwise stated.
2. Designs subject to change without notice.

CMT025

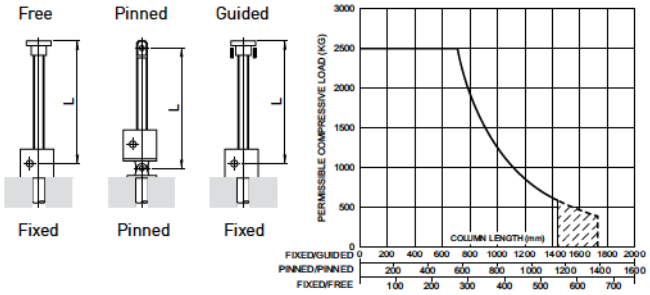




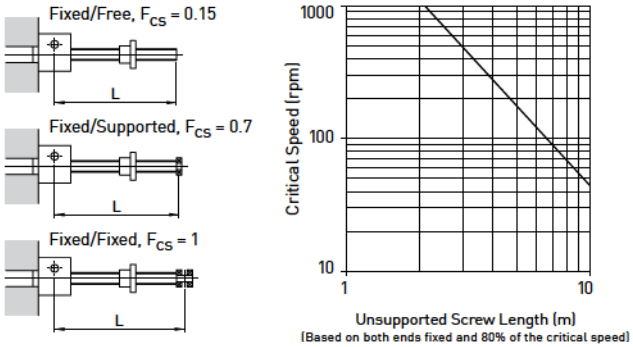
CMR025



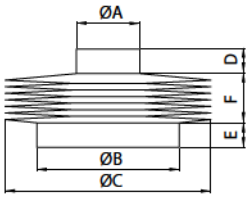
Column Strength



Critical Screw Speed



Bellows Boot

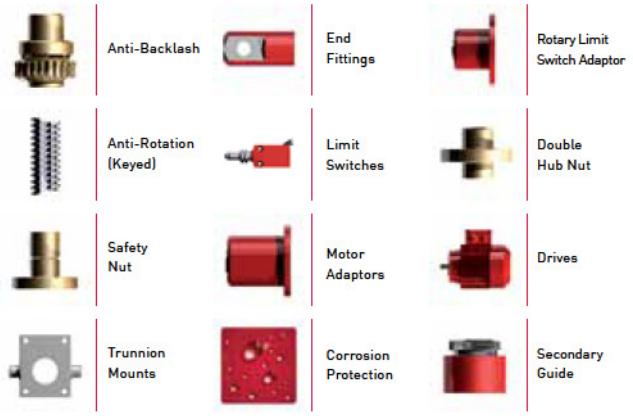


	ØA	ØB	ØC	D	E
CMT025	40	46	120	15	15
CMR025	40	46	120	15	15

Stroke	1 – 500	501 – 1000	1001 – 1500	1500 – 2000
F	30	55	80	110*

*control tapes fitted ØC=150

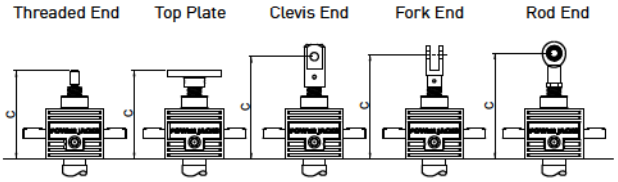
Accessories & Options



Performance

Screw Jack Model [4]			CM-050	
Capacity	kN		50	
Lead Screw[1]	Diameter (mm)		40	
	Lead (mm)		9	18
Gear Ratios	Option 1		6:1	
	Option 2		24:1	
Turn of worm for travel of lead screw	Option 1	1 Turn	1.5mm	3mm
	Option 2	4 Turn	1.5mm	3mm
Maximum Input Power (kW)	Option 1		3	
	Option 2		0.55	
Start up torque at full load (Nm)[2]	Option 1		56.0	76
	Option 2		25.5	34.7
Maximum Through Torque (Nm)[7]	Option 1		168.0	
	Option 2		76.5	
Static Efficiency[3]	Option 1		0.213	0.314
	Option 2		0.117	0.172
Dynamic Efficiency[3]	Option 1		0.281	0.398
	Option 2		0.172	0.244
Maximum Input Speed (rpm)	1800			
Gear Case Material	SG Iron			
Weight (kg) – stroke = 150mm	CMT		19.5	
	CMR		20.2	
Weight (kg) – per extra 25mm	CMT		0.32	
	CMR		0.19	

CMT050 Closed Height



Closed Height 'C'	Threaded End	Top Plate	Clevis End	Fork End	Rod End
CMT050	195	195	220	260	254
Stroke (mm)	With Bellow Boots (B)				
0 - 500	215	215	240	280	274
501 - 1000	235	235	260	300	294
1001 - 1500	260	260	285	325	319
1501 - 2000	325	325	350	390	384

CMT050 Stop Nut

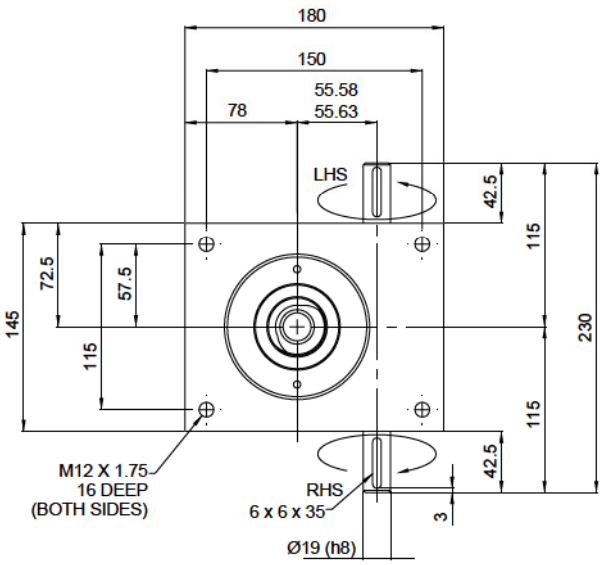
Stop nut provides a full power mechanical stop at the end of the lead screw. To be used as a safety feature in emergency conditions.

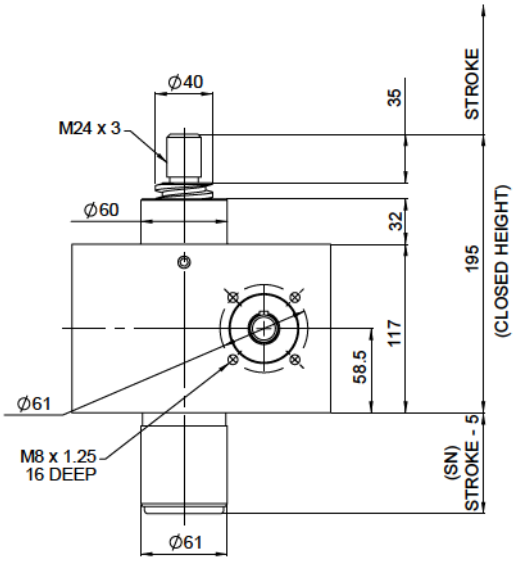
SN = Stroke + 34mm

Note:

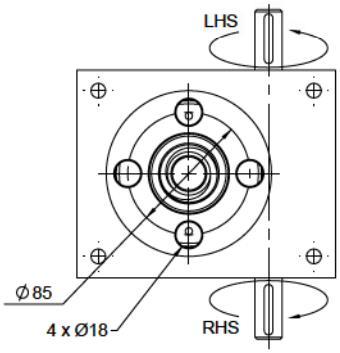
1. All dimension in millimetres unless otherwise stated.
2. Designs subject to change without notice.

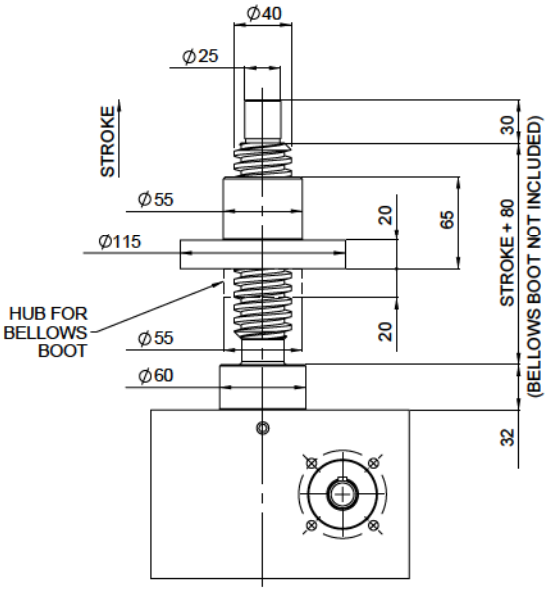
CMT050



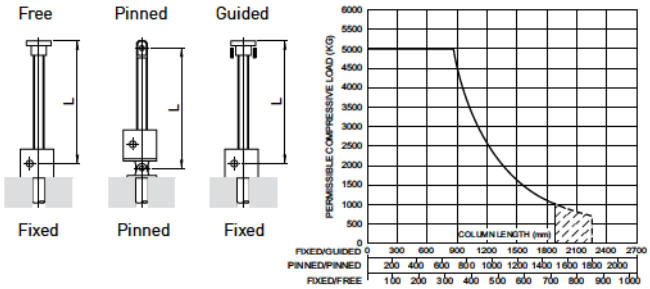


CMR050

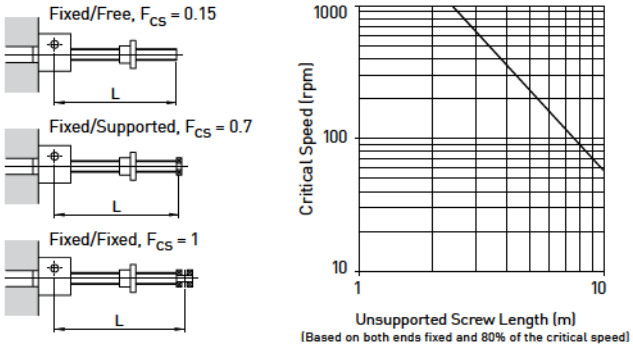




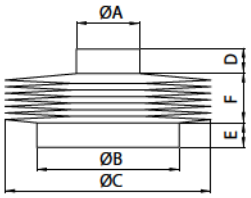
Column Strength



Critical Screw Speed



Bellows Boot



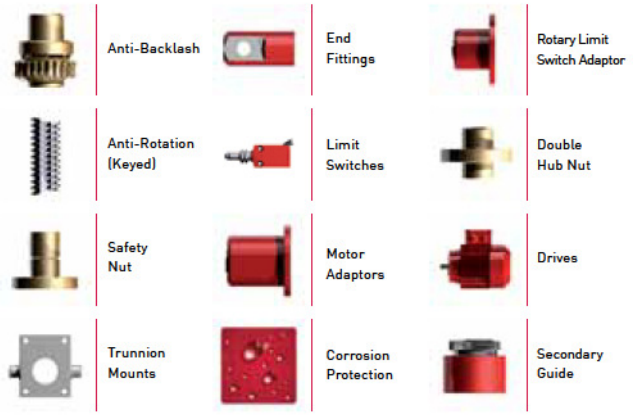
	ØA	ØB	ØC	D	E
CMT050	50	60*	140	15	15
CMR050	55	60	140	15	15

*ØB=70 for an anti-backlash models

Stroke	1 – 500	501 – 1000	1001 – 1500	1500 – 2000
F	30	50	75	140**

**control tapes fitted ØC=140

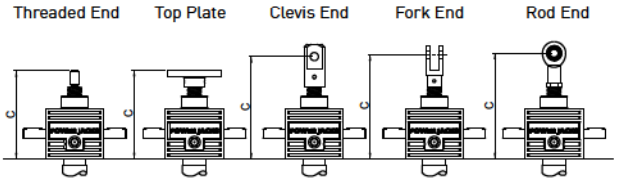
Accessories & Options



Performance

Screw Jack Model [4]			CM-100	
Capacity	kN		100	
Lead Screw[1]	Diameter (mm)		55	
	Lead (mm)		12	24
Gear Ratios	Option 1		8:1	
	Option 2		24:1	
Turn of worm for travel of lead screw	Option 1	1 Turn	1.5mm	3mm
	Option 2	4 Turn	2mm	4mm
Maximum Input Power (kW)	Option 1		3.75	
	Option 2		1.125	
Start up torque at full load (Nm)[2]	Option 1		115.9	156.6
	Option 2		60.5	81.9
Maximum Through Torque (Nm)[7]	Option 1		347.7	
	Option 2		181.5	
Static Efficiency[3]	Option 1		0.206	0.305
	Option 2		0.132	0.195
Dynamic Efficiency[3]	Option 1		0.272	0.388
	Option 2		0.190	0.271
Maximum Input Speed (rpm)	1800			
Gear Case Material	SG Iron			
Weight (kg) – stroke = 150mm	CMT		36.0	
	CMR		40.2	
Weight (kg) – per extra 25mm	CMT		0.57	
	CMR		0.36	

CMT100 Closed Height



Closed Height 'C'	Threaded End	Top Plate	Clevis End	Fork End	Rod End
CMT100	250	250	295	354	335
Stroke (mm)	With Bellow Boots (B)				
0 - 500	270	270	315	374	355
501 - 1000	290	290	335	394	375
1001 - 1500	315	315	360	419	400
1501 - 2000	380	380	425	484	465

CMT100 Stop Nut

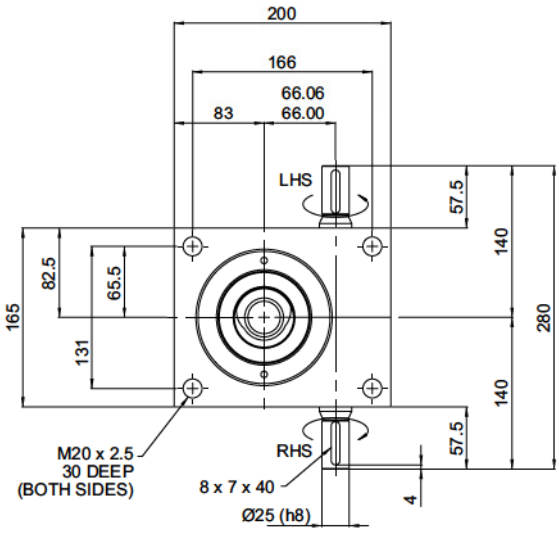
Stop nut provides a full power mechanical stop at the end of the lead screw. To be used as a safety feature in emergency conditions.

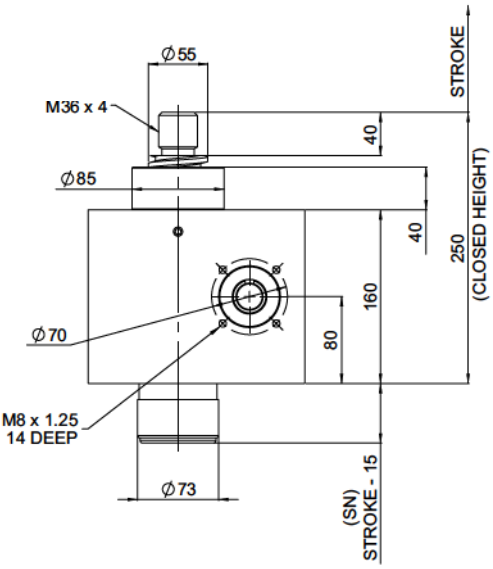
SN = Stroke + 37mm

Note:

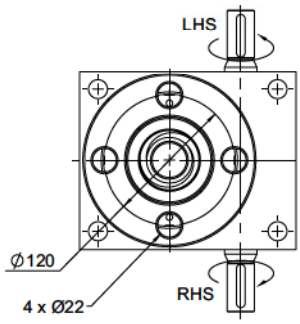
1. All dimension in millimetres unless otherwise stated.
2. Designs subject to change without notice.

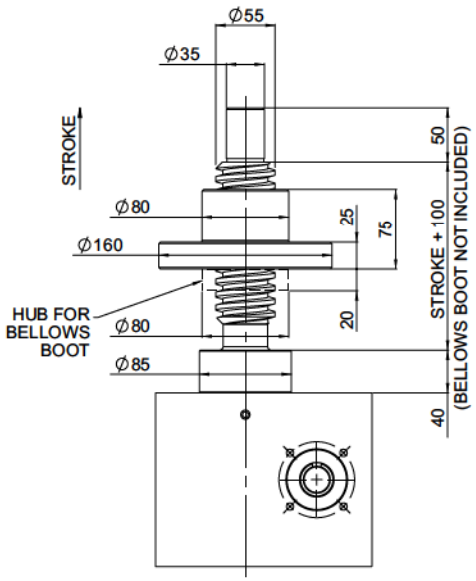
CMT100



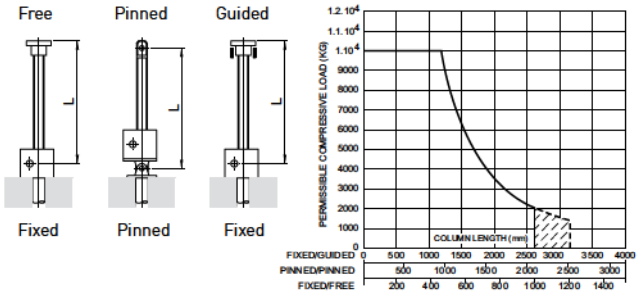


CMR100

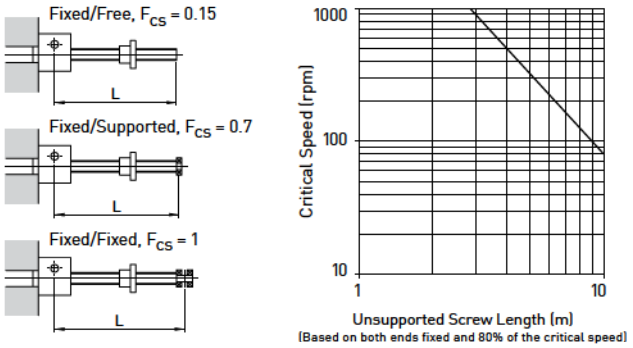




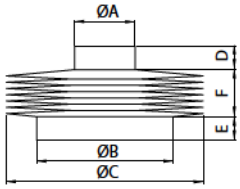
Column Strength



Critical Screw Speed



Bellows Boot

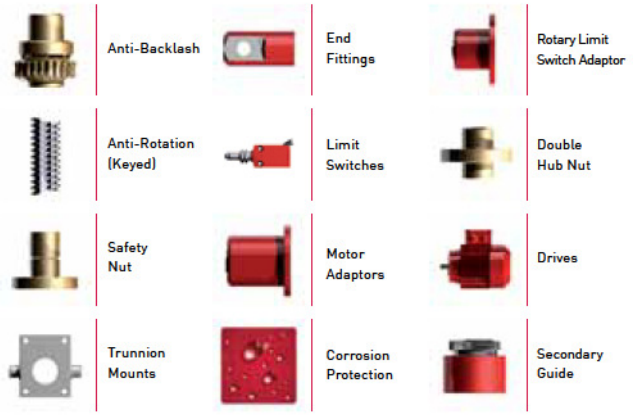


	ØA	ØB	ØC	D	E
CMT100	65	85	150	15	15
CMT100	80	85	150	15	15

Stroke	1 – 500	501 – 1000	1001 – 1500	1500 – 2000
F	30	50	75	140*

*control tapes fitted ØC=150

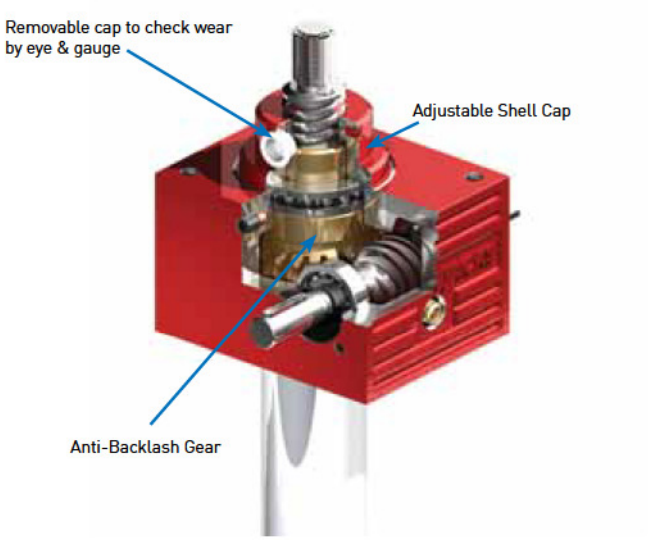
Accessories & Options



The Anti-Backlash feature provides a reliable method to regulate the axial backlash in a screw jack for applications where there is a reversal of loading from tension to compression. The amount of backlash between the screw and worm gear nut can be adjusted (adjust shell cap) to a desired amount or a practical minimum. To avoid binding and excessive wear do not adjust backlash to less than 0.025mm.

The Anti-Backlash feature also acts as a safety device, providing dual nut load carrying unit, when the worm gear becomes worn.

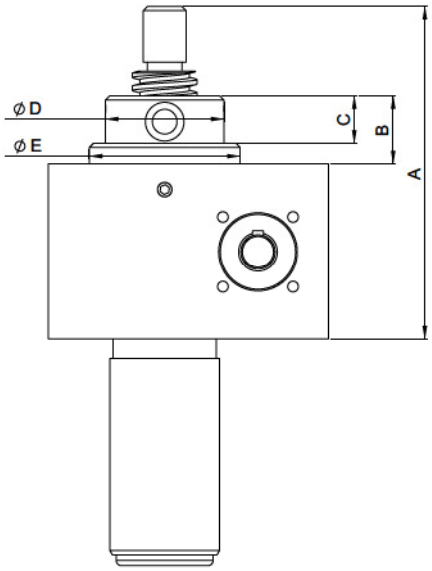
A visual wear indicator is included as standard on all models and a "feeler" gauge can be used to measure the wear. This can be upgraded to use a sensor on request (consult Power Jacks).



Dimensions for Anti-Backlash

The dimensions for these screw jacks are the same as the standard units except those detailed below.

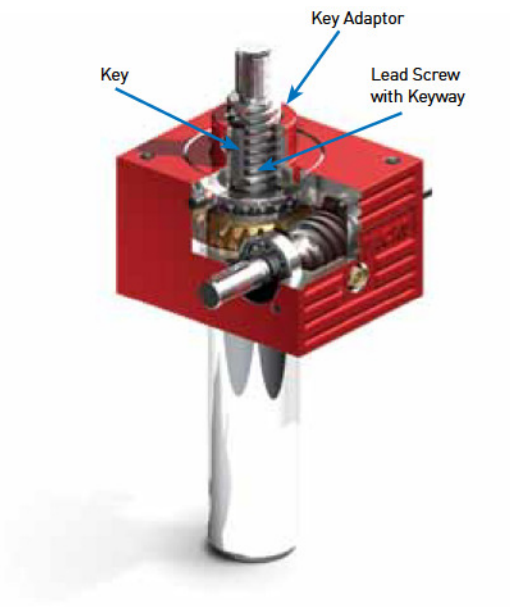
Model	CMT010-R	CMT025-R	CMT050-R	CMT100-R
A	140	155	205	260
B	32	32	40	50
C	10	22	28	37
ØD	39	55	70	85
ØE	54	70	95	110



Performance for Anti-Backlash

Model		CMT010-R		CMT025-R		CMT050-R		CMT100-R	
Lead Screw	Lead (mm)	5	10	6	12	9	18	12	24
Start-Up Torque at Full Load (Nm)	Option 1	7.5	10.4	21.9	29.2	62	85	129	175
	Option 2	3	4.6	9.8	13.0	28	39	67	90
Static Efficiency	Option 1	0.212	0.305	0.181	0.272	0.192	0.283	0.185	0.274
	Option 2	0.120	0.173	0.102	0.154	0.105	0.154	0.119	0.175
Dynamic Efficiency	Option 1	0.275	0.381	0.238	0.344	0.253	0.358	0.245	0.349
	Option 2	0.174	0.242	0.151	0.218	0.155	0.219	0.171	0.244
Weight (kg) – stroke = 150mm		3.4		8.8		20.2		36.8	

Note: Efficiency values for standard grease lubricated worm gear box and lifting screw.



The Anti-Rotation feature for translating screw jacks stops the lead screw from rotating without the need for end fixing. This is done by keying the lead screw. However the keyway in the screw will cause slightly greater than normal wear on the internal threads of the worm gear.

Benefits:

- Compact unit integrates anti-rotation into gearbox
- Dimensions are the same as the standard translating screw jack
- Standard round cover pipe for easy installation
- Proven industrial anti-rotation design

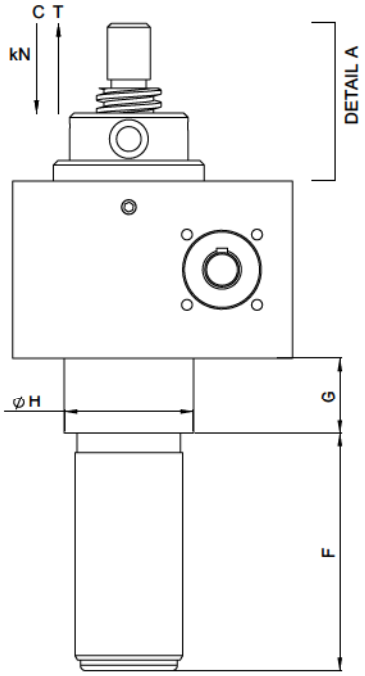
Performance for Anti-Rotation

Model		CMT010-K		CMT025-K		CMT050-K		CMT100-K	
Lead Screw	Lead (mm)	5	10	6	12	9	18	12	24
Start-Up Torque at Full Load (Nm)	Option 1	7.2	9.9	20.8	27.7	59	80	122	165
	Option 2	3.2	4.4	9.2	12.2	27	37	64	86
Static Efficiency	Option 1	0.224	0.322	0.191	0.287	0.203	0.299	0.196	0.290
	Option 2	0.124	0.182	0.107	0.162	0.111	0.163	0.125	0.185
Dynamic Efficiency	Option 1	0.291	0.403	0.251	0.364	0.267	0.378	0.258	0.368
	Option 2	0.184	0.255	0.159	0.230	0.164	0.232	0.180	0.257

Note: Efficiency values for standard grease lubricated worm gear box and lifting screw.
Weight is the same as standard unit.

Anti-Rotation with Anti-Backlash or Safety Nut

The anti-backlash and safety nut features can be combined with the anti-rotation feature into one screw jack. For this option the anti-rotation device is located in-line with the cover pipe.



Dimensions for Anti-Backlash with Anti-Rotation (Keyed)

Model	CMT010-Y	CMT025-Y	CMT050-Y	CMT100-Y
F	Stroke +5	Stroke +10	Stroke +15	Stroke +20
G	30	35.5	40	48
ØH	42.5	60	75	90

Dimensions for Safety Nut with Anti-Rotation (Keyed)

Load Direction - Tension (T)

Model	CMT010-KT	CMT025-KT	CMT050-KT	CMT100-KT
F	Stroke +5	Stroke +10	Stroke +15	Stroke +20
G	35	50	59	57
ØH	45	55	70	89

Detail A = Same as standard CMT screw jack

Load Direction - Compression (C)

Model	CMT010-KC	CMT025-KC	CMT050-KC	CMT100-KC
F	Stroke +5	Stroke +10	Stroke +15	Stroke +20
G	30	35.5	40	48
ØH	42.5	60	75	90

Detail A = Same as standard safety nut screw jack with compression load (Refer P22)

Performance for Anti-Backlash with Anti-Rotation

Model		CMT010-Y		CMT025-Y		CMT050-Y		CMT100-Y	
Lead Screw	Lead (mm)	5	10	6	12	9	18	12	24
Start-Up Torque at Full Load (Nm)	Option 1	8.3	11.5	24.8	33.0	65.6	89.3	136	184
	Option 2	3.8	5.3	10.3	13.7	30.0	40.9	70.3	95.2
Static Efficiency	Option 1	0.201	0.290	0.172	0.258	0.182	0.269	0.176	0.263
	Option 2	0.114	0.164	0.097	0.146	0.100	0.146	0.113	0.166
Dynamic Efficiency	Option 1	0.261	0.362	0.226	0.330	0.240	0.340	0.233	0.332
	Option 2	0.165	0.230	0.143	0.207	0.147	0.208	0.162	0.232
Weight (kg) – stroke = 150mm		3.15		8.75		20		37.3	

Note: Efficiency values for standard grease lubricated worm gear box and lifting screw.
Anti-Rotation with Safety Nut performance is the same as the Anti-Rotaton unit.

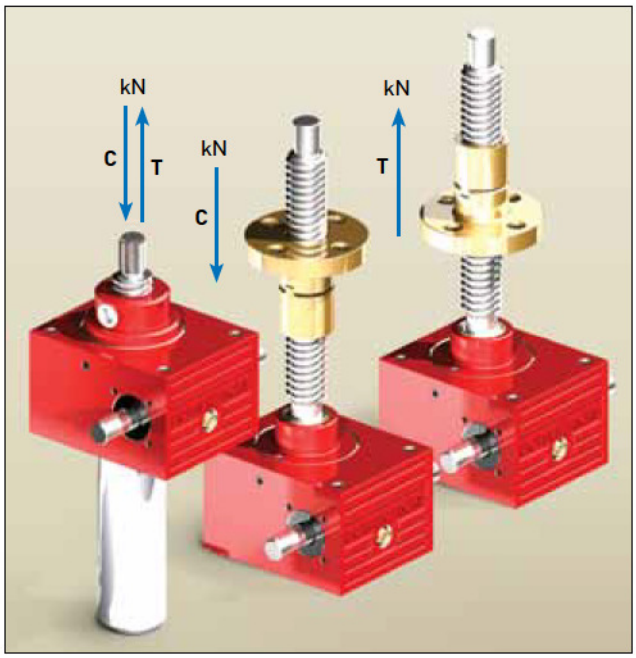
Power Jacks metric machine screw jacks can be fitted with a safety nut, which provides 2 safety roles:

1. In the event of excessive wear on the nut thread the load will be transferred from the standard nut to the safety nut. This will also provide visual wear indication as the gap between the safety nut decreases to zero as the standard lifting nut wears.

2. In the unlikely event of catastrophic nut thread failure the safety nut will sustain the load. The safety of industrial and human cargo is therefore improved.

There are several configurations for each safety nut device as they only work in one load direction. For this reason when ordering please supply a sketch of your application showing load directions.

C = Load direction - Compression
T = Load direction - Tension



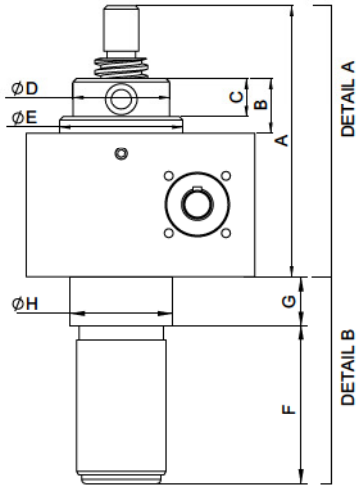
Translating Screw Jack with Safety Nut

The dimensions for these screw jacks are the same as the standard units except those detailed below.

Load Direction - Compression (C)

Model	CMT010-C	CMT025-C	CMT050-C	CMT100-C
A	140	155	205	250
B	32	33	40	40
C	10	22	28	40
ØD	39	55	70	85
ØE	54	70	95	85

Dimension F, G, ØH not applicable
Detail A = As per table
Detail B = Same as standard CMT screw jack



Load Direction - Tension (T)

Model	CMT010-T	CMT025-T	CMT050-T	CMT100-T
F	Stroke + 5	Stroke + 10	Stroke + 15	Stroke + 20
G	35	50	59	57
ØH	45	55	70	89

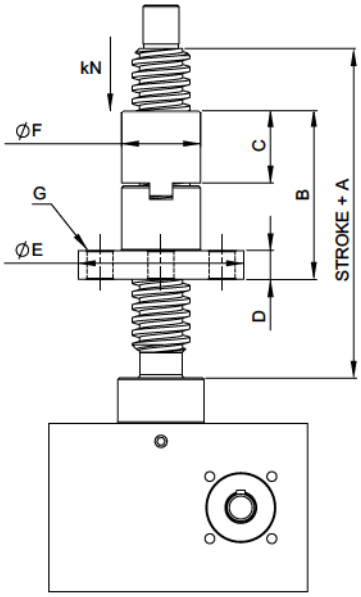
Dimension A, B, C, ØD, ØE not applicable
Detail A = Same as standard CMT screw jack
Detail B = As per table

Model	CMT010	CMT025	CMT050	CMT100
Wieght (kg)	2.9	8.0	18.6	34.7

Rotating Screw Jack with Saftey Nut

The dimensions for these screw jacks are the same as the standard units except those detailed below. A bellows boot hub can be provided on the flanged half of the safety nut.

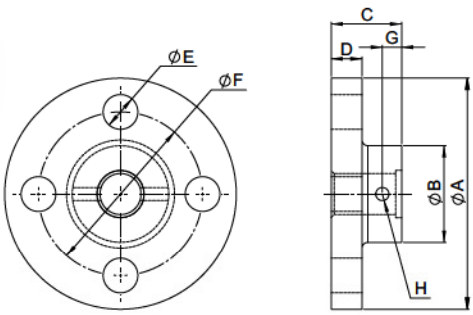
Model	CMR010	CMR025	CMR050	CMR100
A	Stroke +76	Stroke +95	Stroke +140	Stroke +170
B	66.5	75	125	145
C	30	33.5	58	67
D	12	15	20	25
ØE	80	90	115	160
ØF	35	40	55	80
G	4 x Ø11 Ø57 PCD	4 x Ø13.5 Ø65 PCD	4 x Ø18 Ø85 PCD	4 x Ø22 Ø120 PCD



PCD = Pitch Circle Diameter
Nut must be orientated correctly for load direction

Model	CMR010	CMR025	CMR050	CMR100
Weight (kg)	3.3	9.0	21.1	42.2

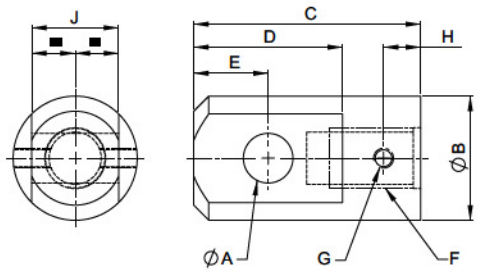
Top Plate



Capacity	10kN	25kN	50kN	100kN
ØA	Ø80	Ø100	Ø120	Ø150
ØB	Ø30	Ø40	Ø50	Ø65
C	25	31.5	36.5	42
D	10	12	16	20
ØE	Ø11	Ø13.5	Ø18	Ø22
ØF (PCD)	Ø55	Ø70	Ø85	Ø110
G	8	10	10	12
H	M6 x 1	M8 x 1.25	M8 x 1.25	M10 x 1.5
Weight (kg)	0.43	0.79	1.5	2.82

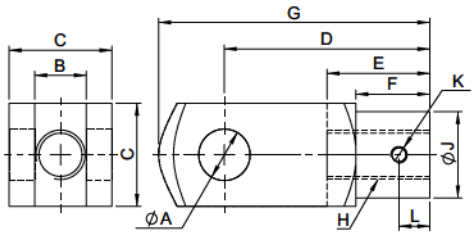
PCD = Pitch Circle Diameter

Clevis End



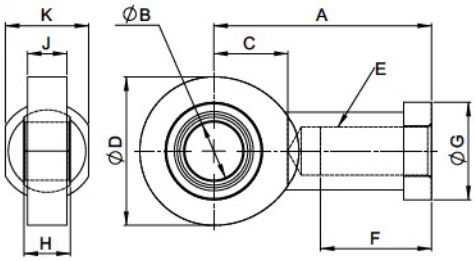
Capacity	10kN	25kN	50kN	100kN
ØA	Ø12	Ø16	Ø20	Ø22
ØB	Ø30	Ø40	Ø50	Ø65
C	63	79.5	91.5	120
D	36	46	60	66
E	18	23	30	33
F	M12 x 1.75 26 Deep	M20 x 2.5 32 Deep	M24 x 3 37 Deep	M36 x 4 42 Deep
G	M6 x 1	M8 x 1.25	M8 x 1.25	M10 x 1.5
H	15	15	15	20
J	20	30	35	40
Weight (kg)	0.26	0.57	1.0	2.1

Fork End



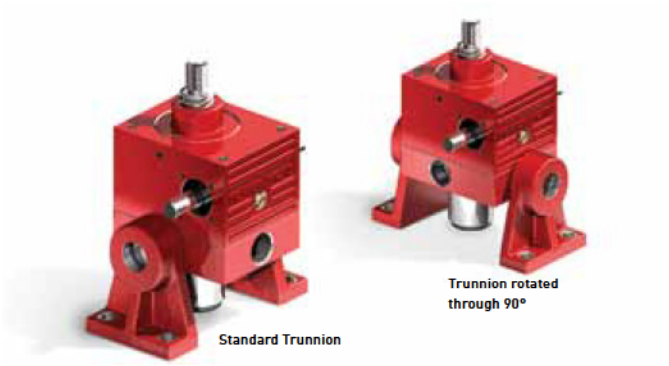
Capacity	10kN	25kN	50kN	100kN
ØA	Ø12	Ø20	Ø25	Ø35
B	12	20	25	35
C	24	40	50	70
D	48	80	100	144
E	24	40	50	72
F	18	30	36	54
G	62	105	132	188
H	M12 x 1.75	M20 x 2.5	M24 x 3	M36 x 4
ØJ	20	34	42	60
K	M6 x 1	M8 x 1.25	M8 x 1.25	M10 x 1.5
L	10	10	15	20
Weight (kg)	0.12	0.55	1.1	2.93

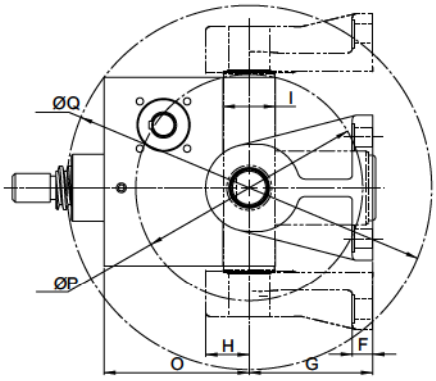
Rod End



Capacity	10kN	25kN	50kN	100kN
A	50	77	94	125
ØB	12	20	25	35
C	18	27	32	42
ØD	34	53	64	82
E	M12 x 1.75	M20 x 1.5	M24 x 2	M36 x 3
F	23	40	48	60
ØG	22	35	42	58
H	10	16	20	25
J	8	13	17	21
K	19	32	36	50
Weight (kg)	0.1	0.35	0.64	1.3

Note: Lead screw threaded end made to suit rod end.





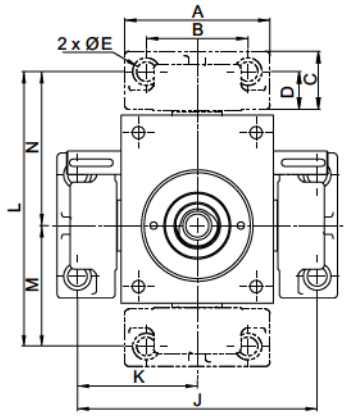
With Trunnion Feet

Trunnion mounts provide a pivot point at the gearbox of the screw jack.

- 2 Pivot Plane Options
- Supplied with or without Trunnion Feet
- Option of Male or Female Trunnions
- Trunnion mounts can be mounted on either side of the screw jacks gearbox

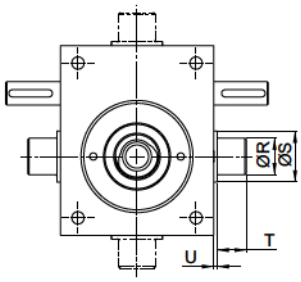
When the trunnions are on the same side as the worm shaft multiple screw jacks can be linked in line with a drive shaft and pivot around a common axis.

The trunnion mounts are connected to the screw jacks gearbox with 4 bolts.

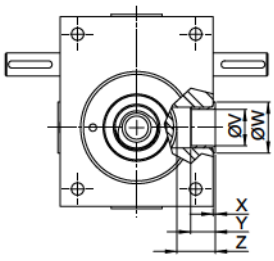


With Trunnion Feet

Model	C-010	C-025	C-050	C-100
A	70	100	140	170
B	42	70	100	120
C	34	40	55	70
D	21	26	35.5	43.5
ØE	11	13.5	18	22
F	12	14	20	25
G	65	85	120	130
H	20	30	42.5	47.5
I	30	36	50	60
J	134	164	226	265
K	67	82	113	132.5
L	149	189	261	300
M	64.5	83.5	118.5	133
N	84.5	105.5	142.5	167
O	90	100	142	190
ØP	124	156.5	210	242
ØQ	216.5	251.5	350	446.5
ØR	20 f7	25 f7	35 f7	45 f7
ØS	30	35	47	58
T	20	20	20	35
U	2.5	2.5	2.5	5
ØV	20	25	35	45
ØW	30	35	47	74
X	1.5	1.5	2	2
Y	16.5	16.5	26	32
Z	22	26	39	40

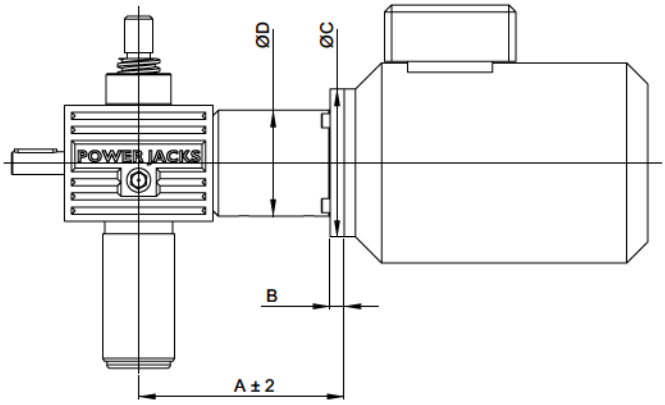


Male Trunnion



Female Trunnion

C-SERIES
Motor Adaptor



Mount an electric motor to the C-Series screw jack with the extensive range of motor adaptors designed to be used in conjunction with a flexible jaw coupling that connects the motor drive shaft to the screw jacks worm shaft.

Model	C-010					
IEC Frame	A	B	ØC	ØD	Coupling	Available
63 B5 D140	122.5	10	140	65	19/24 A14 A11	OR
63 B14 C90	122.5	10	90	65	19/24 A14 A11	S
71 B5 D160	122.5	10	160	65	19/24 A14 A14	OR
71 B14 C105	122.5	10	105	65	19/24 A14 A14	S
80 B5 D200	132.5	12	200	65	19/24 A14 A19	OR
80 B14 C120	132.5	12	120	65	19/24 A14 A19	S

Model	C-025					
IEC Frame	A	B	ØC	ØD	Coupling	Available
71 B5 D160	145.5	10	160	75	19/24 A16 A14	OR
71 B14 C105	145.5	10	105	75	19/24 A16 A14	S
80 B5 D200	145.5	12	200	75	19/24 A16 A19	OR
80 B14 C120	145.5	12	120	75	19/24 A16 A19	S
90 B5 D200	162.5	12	200	75	24/30 A16 A24	OR
90 B14 C140	162.5	12	140	75	24/30 A16 A24	S
100 B5 D250	174.5	12	250	75	24/30 A16 B28	OR
100 B14 C160	174.5	12	160	75	24/30 A16 B28	S

Model	C-050					
IEC Frame	A	B	ØC	ØD	Coupling	Available
80 B5 D200	172.5	12	200	86	19/24 A19 A19	OR
80 B14 C120	172.5	12	120	86	19/24 A19 A19	OR
90 B5 D200	192.5	12	200	95	24/30 A19 A24	OR
90 B14 C140	192.5	12	140	95	24/30 A19 A24	S
100 B5 D250	192.5	12	250	95	24/30 A19 B28	OR
100 B14 C160	192.5	12	160	95	24/30 A19 B28	S
112 B5 D250	192.5	12	250	95	24/30 A19 B28	OR
112 B14 C160	192.5	12	160	95	24/30 A19 B28	S
132 B5 D300	222.5	12	300	95	28/38 A19 B38	OR
132 B14 C200	222.5	12	200	95	28/38 A19 B38	S

Model	C-0100					
IEC Frame	A	B	ØC	ØD	Coupling	Available
90 B5 D200	208.5	12	200	100	24/30 A25 B24	OR
90 B14 C140	208.5	12	140	100	24/30 A25 B24	S
100 B5 D250	218.5	12	250	100	24/30 A25 B28	OR
100 B14 C160	218.5	12	160	100	24/30 A25 B28	S
112 B5 D250	218.5	12	250	100	24/30 A25 B28	OR
112 B14 C160	218.5	12	160	100	24/30 A25 B28	S
132 B5 D300	239.5	12	300	100	28/38 A25 B38	OR
132 B14 C200	239.5	12	200	100	28/38 A25 B38	S

Note:

1. NEMA Motor adaptors available on request
2. Motor adaptors are for the support of motor weight only
3. OR = On Request
4. S = Standard

C-SERIES

Limit Switches on Screw Jack Cover Pipe

Limit switches can be mounted on the screw jacks cover pipe to signal stroke positions such as end of travel. The switch is triggered by a cam or target disc on the end of the lead screw.

Features:

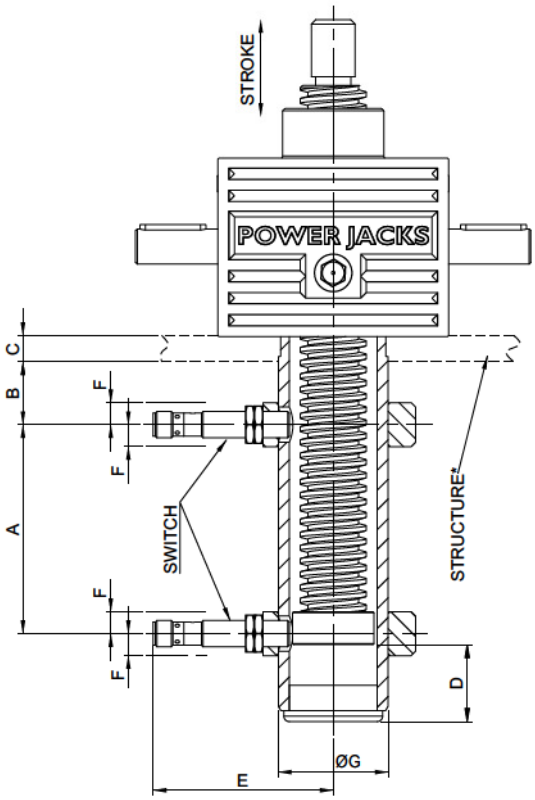
1. Inductive Proximity Sensors as standard. Others including electro-mechanical and safety rated available on request.
2. No contact, so no wearing parts.
3. 2 Wire sensor 24VDC for either Normally Closed (NC) or Normally Open (NO) switching.
4. Sensor has rugged one-piece Metal housing.
5. Optical setting aid
6. M12 Plug in connection for fast change-ability.
7. Sensor kit includes–sensor, mounting ring, target ring and modification to screw jack cover pipe.
8. Switch can have a fixed or adjustable mounting.
9. For full sensor details request Power Jacks design guide catalogue or download it from **www.powerjacks.com**

C-Series Screw Jack

Model	CMT010	CMT025	CMT050	CMT100
Switch Size	M8	M12	M12	M12
A (mm)	Stroke + 15	Stroke + 15	Stroke + 12	Stroke + 24
B (mm)	50	50	50	50
C (mm)	10	15	15	20
D (mm)	34	36	41	46
E (mm)± 5	78.5	84	89	100
F Adjustment (mm)	5	5	5	5
ØG (mm)	34	49	61	73

Note:

1. *Structure dimension (C) only required when screw jack is secured on this face. Not required if secured on opposite face.
2. All dimensions in mm unless otherwise stated.
3. Dimensions subject to change without notice.

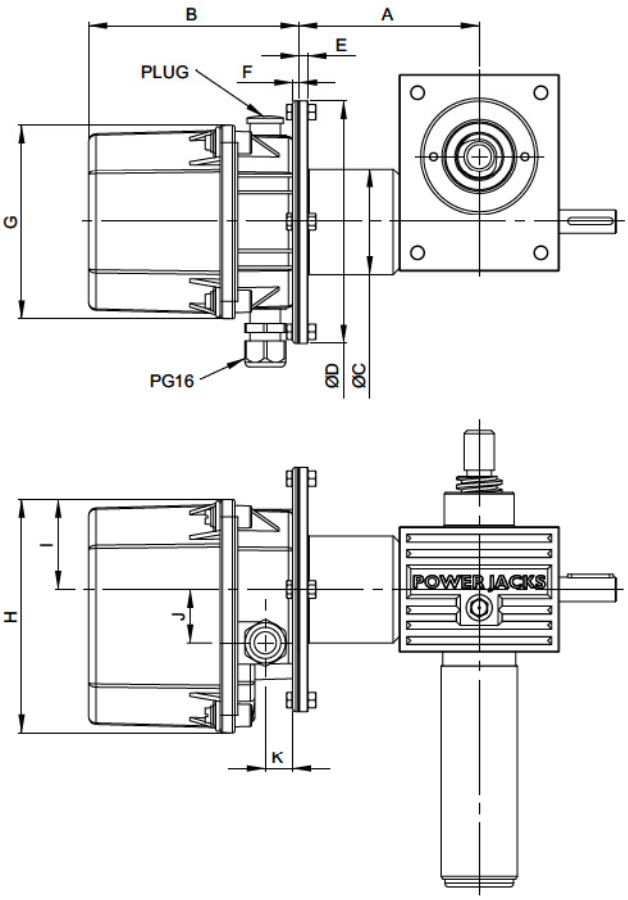


RLS-51 Rotary cam limit switches can be used as end of travel limit switches with the option of intermediate switches. Each limit switch is individually adjustable over the entire stroke of the screw jack.

- 2 to 8 limit switches in one unit
- Useable revolutions from 4 to 16000
- Switch types include:
  Changeover (Normally Closed/Open), Normally Closed, Gold or Silver contacts
- Maintenance free rotary cam gearbox
- Enclosure IP66 as standard
- Mounting options for B14 (face), B5 (flange) and B3 (foot)
- Available in 3 voltages 250VAC, 24VDC & 80VDC
- Maximum input speed 1800rpm
- Operating temperature –40°C to +80°C
- Options for potentiometer, anti-condensation heaters and encoders
- Stage technology option to VBG70

Mounted onto a screw jacks free worm shaft as an alternative where cover pipe mounted limit switches are not possible e.g. rotating screw jacks.

For full details on the RLS-51 limit switch request a brochure from Power Jacks or download details from **www.powerjacks.com**



Type	C-010	C-025	C-050	C-100
A	109	119	139	154
ØC	86	86	86	100
ØD	120	120	120	160
E	11	11	11	10

B		Switches			
Size	Revolutions	2	4	6	8
1	4.1, 6.5, 11	132	132	157	157
2	17.5, 29, 48	132	132	157	182
3	75, 125, 205	132	132	157	182
4	323, 540, 880	132	157	182	207
5	1384, 2288, 3735	132	157	182	207
6	5900, 9800, 16000	157	157	182	207

All Units					
F	G	H	I	J	K
4	128	153	59	35	18

Note:

1. All dimension in millimetres unless otherwise stated.
2. Designs subject to change without notice.