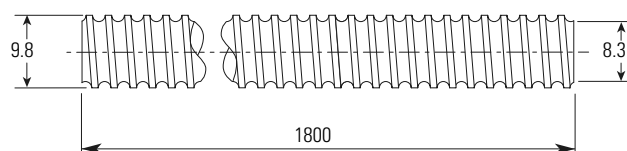




Ø 10 x 2 mm Miniature Metric Ball Screws – Rolled

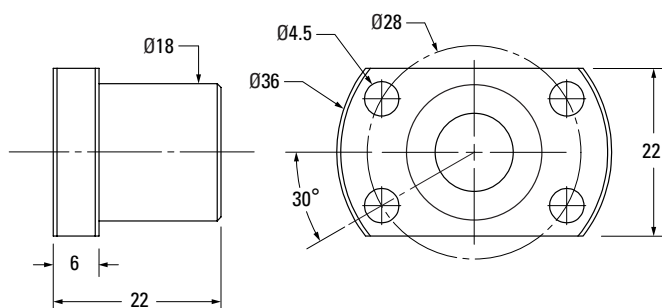
Ball Screw



Nominal Ball Screw Diameter	10 mm
Nominal Ball Screw Lead	2 mm
Thread Direction	Right Hand
Screw Material	CF53
Screw Weight	0.59 kg/m
Nominal Ball Diameter	1.588 mm
Lead Accuracy ⁽¹⁾ T7 Part Number	190-9680

Ball screws can be cut to the length you require. Specify ball screw part number and overall length at time of order

Flanged Ball Nut

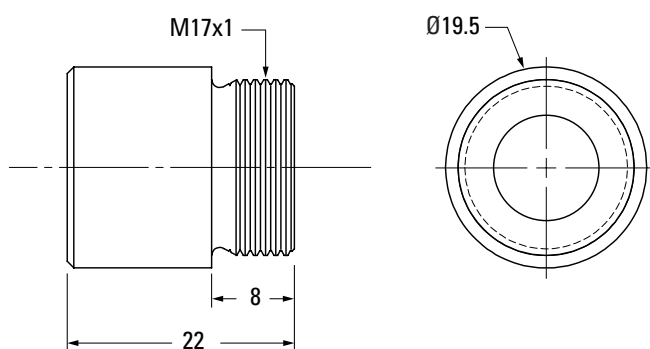


Thread Direction	Right Hand
Nut Material	1.7131 (ESP 65)
Dynamic Load	2.0 kN
Max. Static Load	3.4 kN
Torque to Raise 1 kN	0.35 Nm
Nut Weight	0.1 kg
Preload Classes ⁽²⁾	Z2
Standard max. Backlash (Z2)	0.05 mm
Ball Return Type	Multi Circuit Liner
Number of Balls	90
Wiper Type	N/A
Part Number	8103-448-039

(1) T7 = 52 µm / 300 mm

(2) Z2 = no preload, clearance held to max. indicated in table (standard unless specified)

Threaded Ball Nut



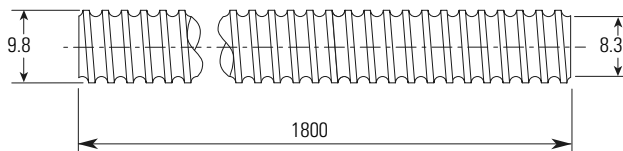
Thread Direction	Right Hand
Nut Material	1.7131 (ESP 65)
Dynamic Load	2.0 kN
Max. Static Load	3.4 kN
Torque to Raise 1 kN	0.35 Nm
Nut Weight	0.1 kg
Preload Classes ⁽²⁾	Z2
Standard max. Backlash (Z2)	0.05 mm
Ball Return Type	Multi Circuit Liner
Number of Balls	90
Wiper Type	N/A
Part Number	8103-448-022

(1) T7 = 52 µm / 300 mm

(2) Z2 = no preload, clearance held to max. indicated in table (standard unless specified)

Ø 10 x 2 mm Miniature Metric Ball Screws – Rolled

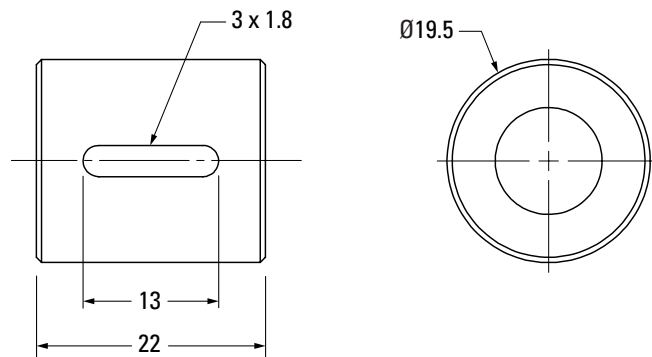
Ball Screw



Nominal Ball Screw Diameter	10 mm
Nominal Ball Screw Lead	2 mm
Thread Direction	Right Hand
Screw Material	CF53
Screw Weight	0.59 kg/m
Nominal Ball Diameter	1.588 mm
Lead Accuracy ⁽¹⁾ T7 Part Number	190-9680

Ball screws can be cut to the length you require. Specify ball screw part number and overall length at time of order

Cylindrical Ball Nut



Thread Direction	Right Hand
Nut Material	1.7131 (ESP 65)
Dynamic Load	2.0 kN
Max. Static Load	3.4 kN
Torque to Raise 1 kN	0.35 Nm
Nut Weight	0.1 kg
Preload Classes ⁽²⁾	Z2
Standard max. Backlash (Z2)	0.05 mm
Ball Return Type	Multi Circuit Liner
Number of Balls	90
Wiper Type	N/A
Part Number	8103-448-052

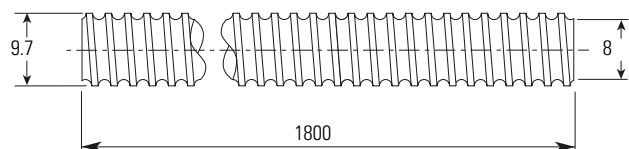
(1) T7 = 52 µm / 300 mm

(2) Z2 = no preload, clearance held to max. indicated in table (standard unless specified)



Ø 10 x 3 mm Miniature Metric Ball Screws – Rolled

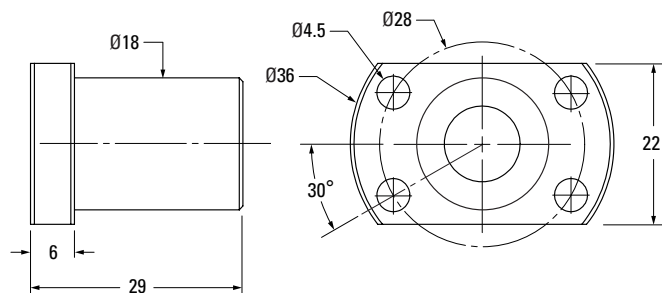
Ball Screw



Nominal Ball Screw Diameter	10 mm
Nominal Ball Screw Lead	3 mm
Thread Direction	Right Hand
Screw Material	CF53
Screw Weight	0.58 kg/m
Nominal Ball Diameter	1.984 mm
Lead Accuracy ⁽¹⁾ T7 Part Number	190-9681

Ball screws can be cut to the length you require. Specify ball screw part number and overall length at time of order

Flanged Ball Nut

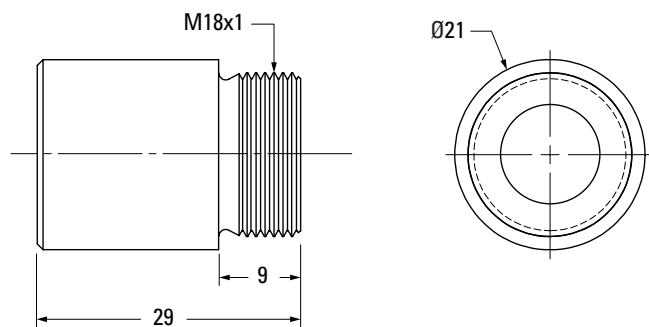


Thread Direction	Right Hand
Nut Material	1.7131 (ESP 65)
Dynamic Load	4.8 kN
Max. Static Load	8.6 kN
Torque to Raise 1 kN	0.53 Nm
Nut Weight	0.1 kg
Preload Classes ⁽²⁾	Z2
Standard max. Backlash (Z2)	0.05 mm
Ball Return Type	Multi Circuit Liner
Number of Balls	98
Wiper Type	N/A
Part Number	8103-448-040

(1) T7 = 52 µm / 300 mm

(2) Z2 = no preload, clearance held to max. indicated in table (standard unless specified)

Threaded Ball Nut



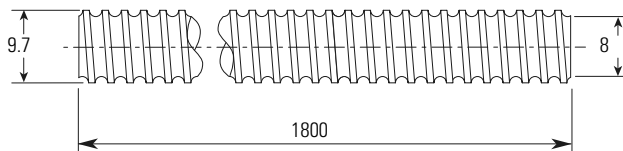
Thread Direction	Right Hand
Nut Material	1.7131 (ESP 65)
Dynamic Load	4.8 kN
Max. Static Load	8.6 kN
Torque to Raise 1 kN	0.53 Nm
Nut Weight	0.1 kg
Preload Classes ⁽²⁾	Z2
Standard max. Backlash (Z2)	0.05 mm
Ball Return Type	Multi Circuit Liner
Number of Balls	98
Wiper Type	N/A
Part Number	8103-448-023

(1) T7 = 52 µm / 300 mm

(2) Z2 = no preload, clearance held to max. indicated in table (standard unless specified)

Ø 10 x 3 mm Miniature Metric Ball Screws – Rolled

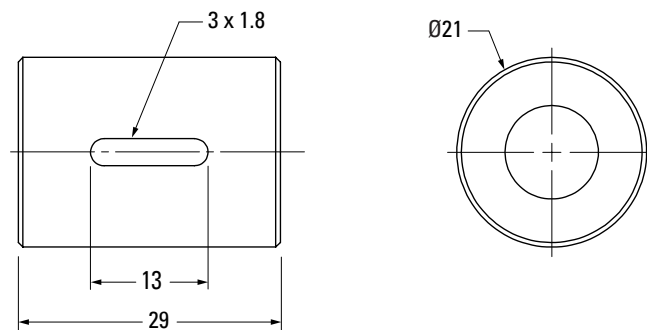
Ball Screw



Nominal Ball Screw Diameter	10 mm
Nominal Ball Screw Lead	3 mm
Thread Direction	Right Hand
Screw Material	CF53
Screw Weight	0.58 kg/m
Nominal Ball Diameter	1.984 mm
Lead Accuracy ⁽¹⁾ T7 Part Number	190-9681

Ball screws can be cut to the length you require. Specify ball screw part number and overall length at time of order

Cylindrical Ball Nut



Thread Direction	Right Hand
Nut Material	1.7131 (ESP 65)
Dynamic Load	4.8 kN
Max. Static Load	8.6 kN
Torque to Raise 1 kN	0.53 Nm
Nut Weight	0.1 kg
Preload Classes ⁽²⁾	Z2
Standard max. Backlash (Z2)	0.05 mm
Ball Return Type	Multi Circuit Liner
Number of Balls	98
Wiper Type	N/A
Part Number	8103-448-053

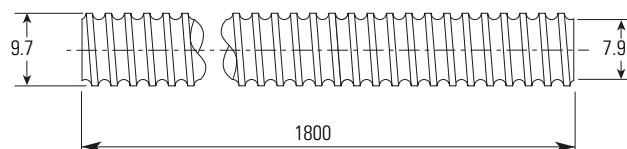
(1) T7 = 52 µm / 300 mm

(2) Z2 = no preload, clearance held to max. indicated in table (standard unless specified)



Ø 10 x 10 mm Miniature Metric Ball Screws – Rolled

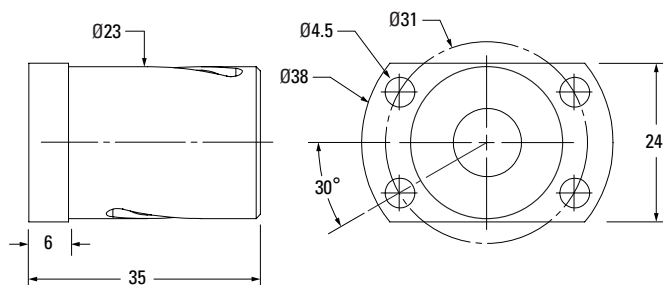
Ball Screw



Nominal Ball Screw Diameter	10 mm
Nominal Ball Screw Lead	10 mm
Thread Direction	Right Hand
Screw Material	CF53
Screw Weight	0.58 kg/m
Nominal Ball Diameter	1.984 mm
Lead Accuracy ⁽¹⁾ T7 Part Number	190-9689

Ball screws can be cut to the length you require. Specify ball screw part number and overall length at time of order

Flanged Ball Nut

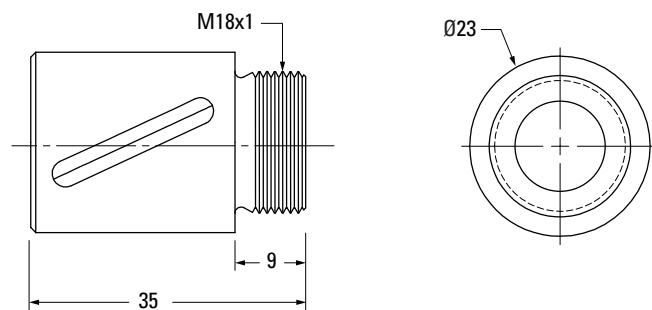


Thread Direction	Right Hand
Nut Material	1.7131 (ESP 65)
Dynamic Load	2.9 kN
Max. Static Load	5.2 kN
Torque to Raise 1 kN	1.77 Nm
Nut Weight	0.1 kg
Preload Classes ⁽²⁾	Z2
Standard max. Backlash (Z2)	0.05 mm
Ball Return Type	Internal
Number of Balls	76
Wiper Type	N/A
Part Number	8103-448-042

(1) T7 = 52 µm / 300 mm

(2) Z2 = no preload, clearance held to max. indicated in table (standard unless specified)

Threaded Ball Nut



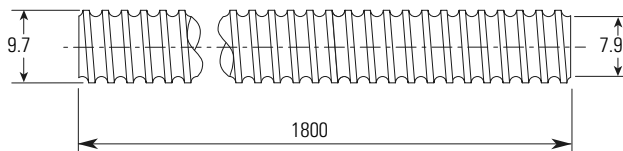
Thread Direction	Right Hand
Nut Material	1.7131 (ESP 65)
Dynamic Load	2.9 kN
Max. Static Load	5.2 kN
Torque to Raise 1 kN	1.77 Nm
Nut Weight	0.1 kg
Preload Classes ⁽²⁾	Z2
Standard max. Backlash (Z2)	0.05 mm
Ball Return Type	Internal
Number of Balls	76
Wiper Type	N/A
Part Number	8103-448-030

(1) T7 = 52 µm / 300 mm

(2) Z2 = no preload, clearance held to max. indicated in table (standard unless specified)

Ø 10 x 10 mm Miniature Metric Ball Screws – Rolled

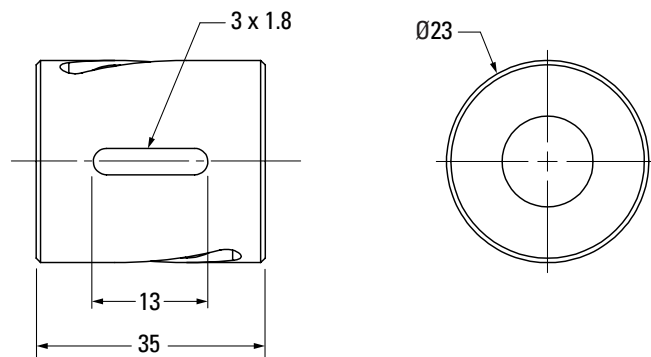
Ball Screw



Nominal Ball Screw Diameter	10 mm
Nominal Ball Screw Lead	10 mm
Thread Direction	Right Hand
Screw Material	CF53
Screw Weight	0.58 kg/m
Nominal Ball Diameter	1.984 mm
Lead Accuracy ⁽¹⁾ T7 Part Number	190-9689

Ball screws can be cut to the length you require. Specify ball screw part number and overall length at time of order

Cylindrical Ball Nut



Thread Direction	Right Hand
Nut Material	1.7131 (ESP 65)
Dynamic Load	2.9 kN
Max. Static Load	5.2 kN
Torque to Raise 1 kN	1.77 Nm
Nut Weight	0.1 kg
Preload Classes ⁽²⁾	Z2
Standard max. Backlash (Z2)	0.05 mm
Ball Return Type	Internal
Number of Balls	76
Wiper Type	N/A
Part Number	8103-448-055

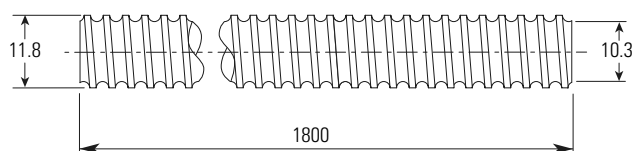
(1) T7 = 52 µm / 300 mm

(2) Z2 = no preload, clearance held to max. indicated in table (standard unless specified)



Ø 12 x 2 mm Miniature Metric Ball Screws – Rolled

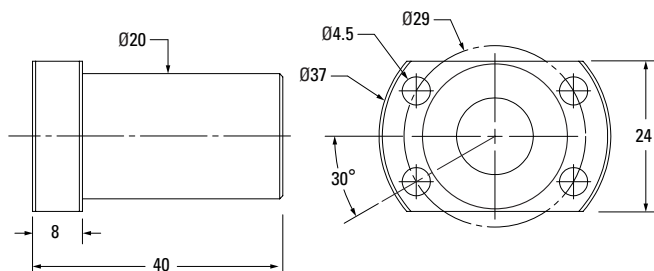
Ball Screw



Nominal Ball Screw Diameter	12 mm
Nominal Ball Screw Lead	2 mm
Thread Direction	Right Hand
Screw Material	CF53
Screw Weight	0.86 kg/m
Nominal Ball Diameter	1.588 mm
Lead Accuracy ⁽¹⁾ T7 Part Number	190-9690

Ball screws can be cut to the length you require. Specify ball screw part number and overall length at time of order

Flanged Ball Nut

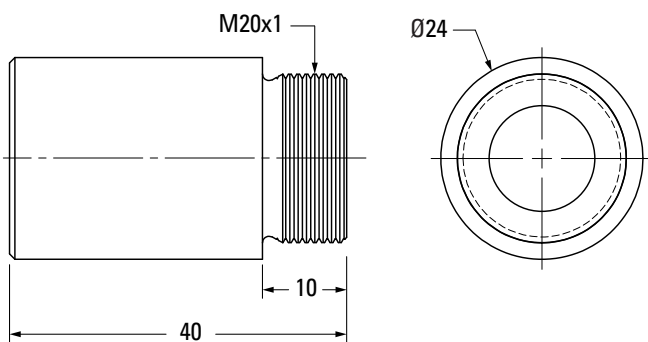


Thread Direction	Right Hand
Nut Material	1.7131 (ESP 65)
Dynamic Load	6.8 kN
Max. Static Load	13.1 kN
Torque to Raise 1 kN	0.35 Nm
Nut Weight	0.1 kg
Preload Classes ⁽²⁾	Z2
Standard max. Backlash (Z2)	0.05 mm
Ball Return Type	Multi Circuit Liner
Number of Balls	198
Wiper Type	N/A
Part Number	8105-448-043

(1) T7 = 52 µm / 300 mm

(2) Z2 = no preload, clearance held to max. indicated in table (standard unless specified)

Threaded Ball Nut



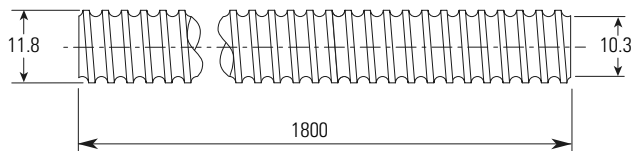
Thread Direction	Right Hand
Nut Material	1.7131 (ESP 65)
Dynamic Load	6.8 kN
Max. Static Load	13.1 kN
Torque to Raise 1 kN	0.35 Nm
Nut Weight	0.1 kg
Preload Classes ⁽²⁾	Z2
Standard max. Backlash (Z2)	0.05 mm
Ball Return Type	Multi Circuit Liner
Number of Balls	198
Wiper Type	N/A
Part Number	8105-448-031

(1) T7 = 52 µm / 300 mm

(2) Z2 = no preload, clearance held to max. indicated in table (standard unless specified)

Ø 12 x 2 mm Miniature Metric Ball Screws – Rolled

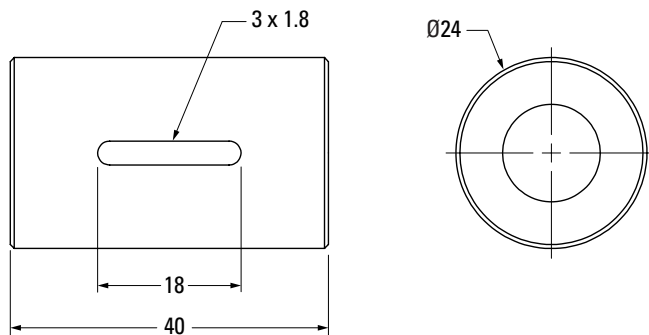
Ball Screw



Nominal Ball Screw Diameter	12 mm
Nominal Ball Screw Lead	2 mm
Thread Direction	Right Hand
Screw Material	CF53
Screw Weight	0.86 kg/m
Nominal Ball Diameter	1.588 mm
Lead Accuracy ⁽¹⁾ T7 Part Number	190-9690

Ball screws can be cut to the length you require. Specify ball screw part number and overall length at time of order

Cylindrical Ball Nut



Thread Direction	Right Hand
Nut Material	1.7131 (ESP 65)
Dynamic Load	6.8 kN
Max. Static Load	13.1 kN
Torque to Raise 1 kN	0.35 Nm
Nut Weight	0.1 kg
Preload Classes ⁽²⁾	Z2
Standard max. Backlash (Z2)	0.05 mm
Ball Return Type	Multi Circuit
Number of Balls	198
Wiper Type	N/A
Part Number	8105-448-056

(1) T7 = 52 µm / 300 mm

(2) Z2 = no preload, clearance held to max. indicated in table (standard unless specified)



Metric Miniature Rolled Ball Screws — PRM Series

4mm to 14mm Diameter, Lead Accuracy: $\pm 52\mu\text{m}/300\text{mm}$



Type A



Type B

Non-Preloaded, Rolled Ball Screw Assemblies

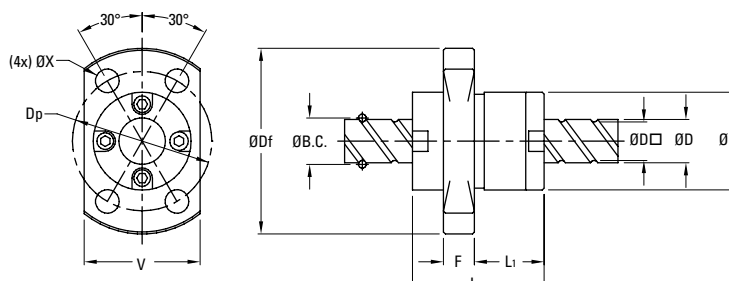
- Cost-effective solution in a small envelope, ideal for use in small spaces
- Clearance held to max .02mm
- Two nut styles (Type A & B) provide optimum performance in low and high lead assemblies

Nominal Diameter (size)	Lead	Nut Type	Ball Screw and Nut Assembly P/N ⁽¹⁾	Suggested Bearing Size	Performance Data						
					Dynamic Load Capacity		Static Load Capacity		Max. Axial Backlash	Minor Diameter	Max. Length
(mm)	(mm)			(mm)	(kN)	(lbf)	(kN)	(lbf)	(mm)	(mm)	(mm)
4	1	B	PRM0401	N/A	0.6	126	0.8	178	0.02	3.3	100
5	4	B	PRM0504	N/A	0.5	106	0.7	162	0.02	4.3	220
6	1	B	PRM0601	4	0.7	153	1.2	270	0.02	5.3	265
6	6	A	PRM0606	4	0.9	196	1.5	326	0.02	5.2	265
8	1	B	PRM0801	6	0.8	175	1.7	371	0.02	7.3	360
8	2	B	PRM0802	6	2.4	540	4.1	922	0.02	6.6	360
8	5	B	PRM0805	6	1.9	416	3.0	674	0.02	6.6	360
8	8	A	PRM0808	6	2.2	495	3.8	854	0.02	6.7	360
8	12	A	PRM0812	6	2.2	495	4.0	899	0.02	6.7	360
10	2	B	PRM1002	6	2.7	607	5.3	1,191	0.02	8.6	355
10	10	A	PRM1010	6	3.3	742	5.9	1,326	0.02	8.4	405
10	15	A	PRM1015	6	3.3	742	6.4	1,439	0.02	8.4	405
10	20	A	PRM1020	6	2.1	472	4.0	899	0.02	8.7	405
12	2	B	PRM1202	8	3.0	674	6.4	1,439	0.02	10.6	395
13	12	A	PRM1312	8	5.0	1,124	9.9	2,226	0.02	11.0	700
13	20	A	PRM1320	8	5.0	1,124	10.7	2,405	0.02	11.0	700
14	2	B	PRM1402	8	3.2	719	7.5	1,686	0.02	12.6	445
14	4	B	PRM1404	8	5.7	1,281	11.6	2,608	0.02	11.8	445

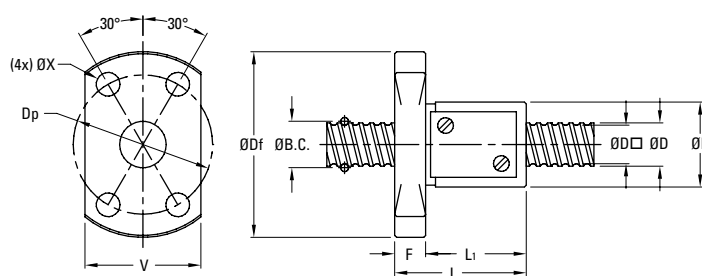
(1) All Miniature Rolled product is sold in matched sets as ball screw and nut assemblies. Please contact factory for sizes not listed.

Metric Miniature Rolled Ball Screws — PRM Series

Type A — End Cap Design



Type B — Return Plate Design



Nominal Diameter (size)	Lead (mm)	Nut Type	Nut Specifications								
			Outside Diameter D	Flange Outside Diameter Df	Overall Length L	Body Length L1	Flange Width F	Flange Flat Width V	Bolt Circle Diameter Dp	Mounting Hole Diameter X	Ball Diameter
			(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
4	1	B	11.0	24.0	17.0	13.0	4.0	15.0	18.0	3.4	0.80
5	4	B	12.0	24.0	22.0	18.0	4.0	16.0	18.0	3.4	0.80
6	1	B	13.0	26.0	17.0	13.0	4.0	16.0	20.0	3.4	0.80
6	6	A	14.0	27.0	17.0	8.0	4.0	16.0	21.0	3.4	1.00
8	1	B	16.0	29.0	17.0	13.0	4.0	18.0	23.0	3.4	0.80
8	2	B	20.0	37.0	24.0	19.0	5.0	22.0	29.0	4.5	1.59
8	5	B	18.0	31.0	28.0	24.0	4.0	20.0	25.0	3.4	1.59
8	8	A	18.0	31.0	20.0	10.0	4.0	20.0	25.0	3.4	1.59
8	12	A	18.0	31.0	27.0	17.0	4.0	20.0	25.0	3.4	1.59
10	2	B	23.0	40.0	24.0	19.0	5.0	25.0	32.0	4.5	1.59
10	10	A	23.0	40.0	24.0	13.0	5.0	25.0	32.0	4.5	2.00
10	15	A	23.0	40.0	33.0	22.0	5.0	25.0	32.0	4.5	2.00
10	20	A	20.0	37.0	23.0	13.0	5.0	22.0	29.0	4.5	1.59
12	2	B	25.0	42.0	24.0	19.0	5.0	27.0	34.0	4.5	1.59
13	12	A	28.0	45.0	30.0	17.0	5.0	30.0	37.0	4.5	2.38
13	20	A	28.0	45.0	43.0	29.0	5.0	30.0	37.0	4.5	2.38
14	2	B	26.0	45.0	25.0	19.0	6.0	28.0	36.0	5.5	1.59
14	4	B	30.0	49.0	33.0	27.0	6.0	32.0	40.0	5.5	2.38