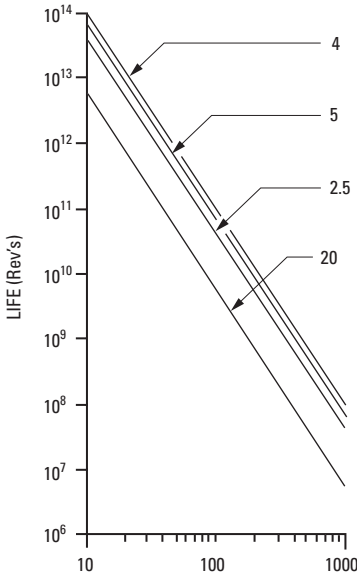




LIFE EXPECTANCY



SPECIFICATIONS

Pitch	Diameter	Number of Ball Circuits	Axial Load (N)	
			Dynamic (C _a)	Static
2.5	2	4	3500	5500
4	2.5	2	2600	4200
5	3.5	2	4600	7200
10	3.5	2	4200	6500
20	3.5	2	1900	2500

$$L = \left[\frac{C_a}{F_m} \right]^3 \times 10^6$$

L = life expectancy expressed in number of revolutions

C_a = dynamic load rating (N), see specifications table

F_m = average axial load (N)

Example: For 10 mm pitch screw, C_a = 4200 N carrying an average axial load, F_m = 200 N (45 lbs.) the expected life is:

$$L = \left[\frac{4200}{200} \right]^3 \times 10^6 = 9.261 \times 10^9 \text{ revolutions.}$$

At an average of 1000 rpm this will result in:

$$\frac{9.261 \times 10^9 \text{ revolutions}}{1000 \text{ rpm}} \times \frac{1 \text{ hour}}{60 \text{ minutes}} = 154,000 \text{ hours}$$

of expected operational life. Note that the nature of the motion (jerky, smooth, etc.) will affect the life expectancy.

FORCE / TORQUE

$$M = \frac{F \times p}{2000 \times \pi \times 0.9}$$

M = torque applied to screw (Nm)

p = screw pitch (mm)

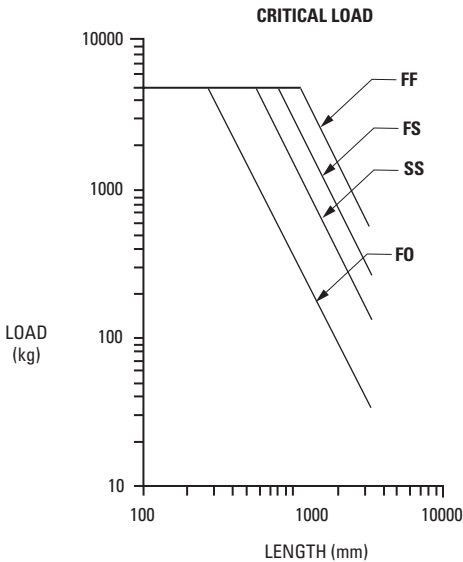
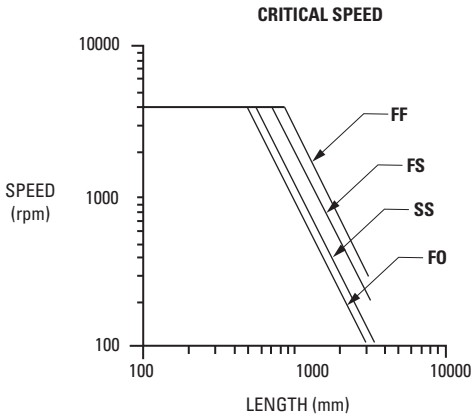
F = resulting linear force (N)

Example: For a force of 200 N (45 lbs.) with a 10 mm pitch screw, the required torque is:

$$M = \frac{200 \times 10}{2000 \times \pi \times 0.9} = 0.35 \text{ Nm} \approx 50 \text{ oz. in.}$$

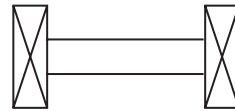
LOAD AND SPEED LIMITS ON
16 mm BALL SCREWS

PHONE: 516.328.3300 • FAX: 516.326.8827 • WWW.SDP-SI.COM



BEARING SUPPORT TYPES

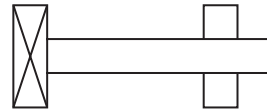
FF - Fixed, Fixed



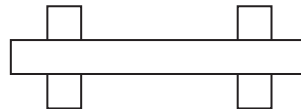
FO - Fixed, Open



FS - Fixed, Simple



SS - Simple, Simple



I

R

T

1

2

3

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7

8

9

10

11

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14

15

A

BALL SCREWS



HIGH LIFE EXPECTANCY
EXCELLENT COST PERFORMANCE RATIO

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> MATERIAL:

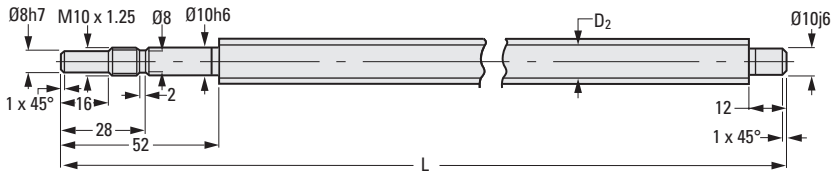
Cf 53 induction-hardened to HRC 62 ± 2

> SPECIFICATIONS:

Pitch accuracy ≤ 0.1 mm / 300 mm,
ISO class 7.
Screw pitches of 2.5, 4, 5, 10 and 20 mm.
Available with machined and unmachined
ends in lengths up to 3 m.
Ø16 mm, rolled and polished.

Produce greater than 90% efficiency in
converting rotary to linear motion.

Machined screws are designed to be held
by a double bearing on one side and on the
other side by either a floating bearing, or no
bearing and a guiding ball nut.



Root Diameter: $D_2 = 12.98$ for 5, 10, 20 mm Pitch
 $D_2 = 13.34$ for 2.5 mm Pitch

**METRIC COMPONENT
CATALOG NUMBER**

S 6 5 1 3 H M **L** **2**

Machining					Length	L**
0 – Unmachined					Code	Length (mm)
2 – Machined	Pitch Code (mm)					
	025 – 2.5				045 – 452	
	040 – 4				* 055 – 552	
	050 – 5				065 – 652	
	100 – 10				* 075 – 752	
	200 – 20				085 – 852	
					* 095 – 952	
					105 – 1052	

* These lengths are available machined only.

** Longer ball screws available on special request.

THIS ISEL BALL NUT IS A PATENTED ANTI-BACKLASH DESIGN

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> MATERIAL:

Balls - Hardened Steel HRC 63 ± 2
Ball Nut - Steel, Cf 53, ground, polished and hardened to HRC 62 ± 2

> SPECIFICATIONS:

Repeatability of 0.01 mm and accuracy of 0.1 mm/300 mm when used with our ball screws.
 Blank shaft is used to retain balls during shipment.
 Can be used with 16 mm ball screws; see index.
 Available in 2 heights of 25.3 mm and 28.5 mm.



Fig. 1



Fig. 2

Photographed with blank shaft to retain balls.

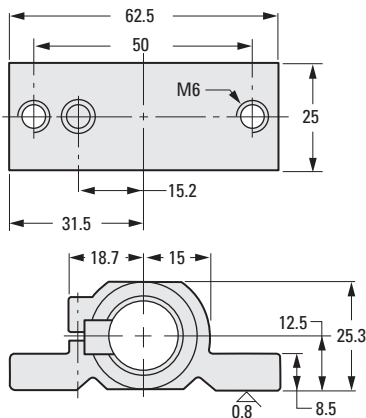


Fig. 1

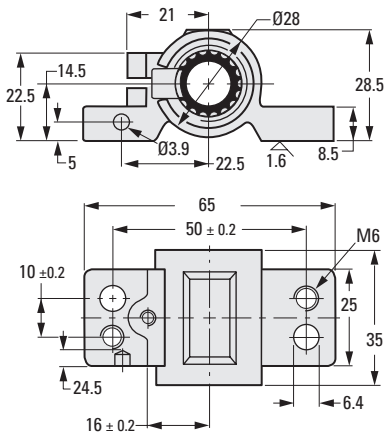


Fig. 2

METRIC COMPONENT

Catalog Number	Fig. No.	Pitch
S6653HM2130040	1	4
S6653HM2130050	1	5
S6653HM2130100	2	10
S6653HM2130200	2	20