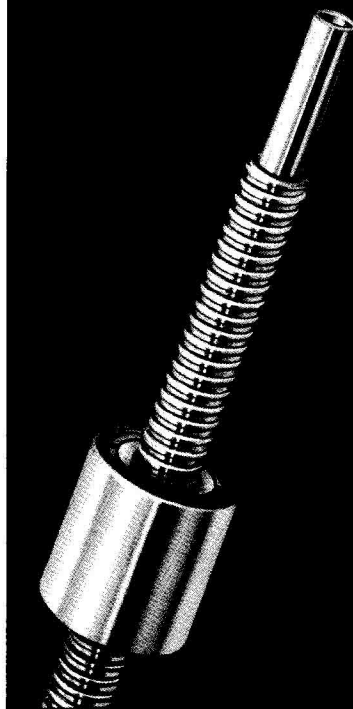
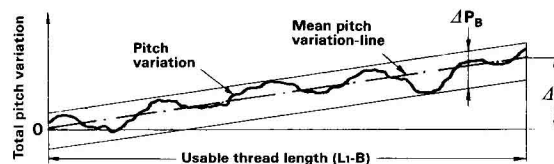
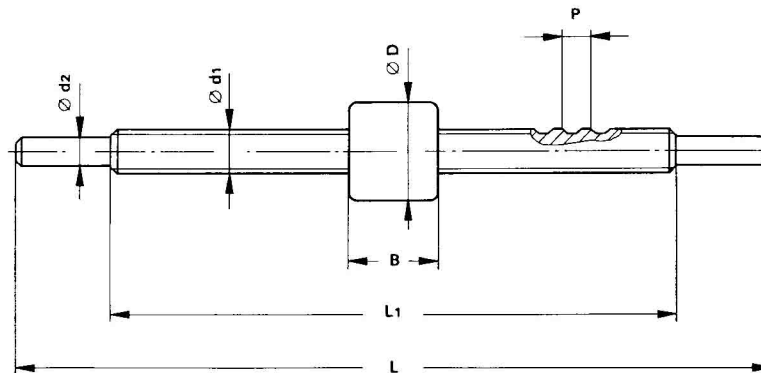


# Metric series

## ED

# Miniature precision ball screws

The high precision assembly consists of a Threaded Spindle, Nut and balls. The balls roll between the thread form of the Spindle and Nut in a recirculatory system allowing an infinite movement of Nut and Spindle, with the minimum of friction.



Reference	Nut		Balls φ mm	Screw					Axial load ratings			
	D mm	B mm		d1 mm	P mm	d2 mm	L mm	L1 mm	dyn C N	lbs	stat. Co N	lbs
ED 410X / V 404X	10	10	0,794	4,25	1,0	3	70	50	352	79	169	38
ED 513X / V 501X	13	12	1,0	5,8	1,25	4	100	75	538	121	284	64
ED 616X / V 601X	16	14	1,191	7,4	1,5	6	140	110	762	171	447	100
ED 822X / V 801X	22	18	1,588	10,5	2,0	8	190	150	1283	288	835	188
ED 1028X / V 1001X	28	22	2,0	13,6	2,5	10	260	210	1935	435	1326	298

Technical data	ED 410X V 404X	ED 513X V 501X	ED 616X V 601X	ED 822X V 801X	ED 1028X V 1001X	
Tolerance of outside diameter of nut D	0 -6	0 -6	0 -6	0 -9	0 -9	$\mu\text{m}$
Tolerance of the spigot diameter $d_2$	0 -8	0 -8	0 -8	0 -8	0 -8	$\mu\text{m}$
Max pitch variation per 25 mm $\Delta P_{25}$	5	5	5	5	5	$\mu\text{m}/25\text{ mm}$
Max band width $\Delta P_B$	5	5	5	5	5	$\mu\text{m}$
Max eccentricity of the nut on the screw	10	10	12	14	16	$\mu\text{m}$
Efficiency average values	80-85	80-87	80-89	81-91	83-92	%
Axial play	0 ÷ 5 $\mu\text{m}$ Preload on request					

Special sizes on request

**High precision miniature ballscrews have important advantages of which several are listed as follows:**

- Spindle with ground thread.
- Maximum efficiency due to the effect of rolling friction between spindle and nut.
- Low starting torque as well as low running torque, both requiring minimum of effort.
- Hardened metals of highest quality are used throughout assuring long life.
- High precision conversion of rotary to linear movement.
- Standard: backlash of a few microns  
Optional: zero backlash or preload of the nuts.

**Applications**

- In the manufacture of equipment and high precision instruments where a rotary movement is to be converted into a linear movement (or vice-versa).
- In X-Y co-ordinate systems.
- In variable speed transmission.
- In transfer components of servo units and remote controls.