



### Advantages of Hydrostatic Over Ballscrews

- Speed comparable to a linear motor
- Very low friction when machining, virtually frictionless during positioning
- Steps in the 0.1 micron range are possible
- No backlash when reversing direction
- Slip-stick effect is eliminated
- Wear is eliminated because there is no metal-to-metal contact during operation
- No loss of accuracy or stiffness even under full load and oscillating motion
- Friction does not vary when reversing direction
- Very long service life

### Unique Technical Features

- High accuracy when transferring rotary motion into linear motion
- Nut is suspended on hydrostatic oil pockets
- Internal flow control
- Only one hydraulic connection required
- Dimensions of leadscrew similar to ballscrew size
- No seal wear or friction
- Adaptable to a machine's parameters:
  - Axial load (can be different in both directions)
  - Maximum RPM
  - Required stiffness
  - Viscosity and temperature of hydraulic oil

### Sizes of Hydrostatic Leadscrews†

Size	50	63	80	100	125	160
Loadability at 5 turns/100 bar, 50% reserve	22 kN	34 kN	51 kN	77 kN	120 kN	200 kN
Minimum stiffness at 5 turns/100 bar	2.5 kN/μm	3.7 kN/μm	5.5 kN/μm	8.5 kN/μm	12.5 N/μm	20 kN/μm
Min. pitch with v max.	10 mm 30 m/min	12 mm 30 m/min	16 mm 30 m/min	20 mm 30 m/min	20 mm 30 m/min	25 mm 30 m/min
	20 mm 65 m/min	25 mm 65 m/min	32 mm 65 m/min	40 mm 65 m/min		
Pitch with v max.	30 mm 100 m/min					

### Technical Features of Size 50‡

Number of turns per unit						
	1/1	2/2	3/3	4/4 <sup>1</sup>	5/5 <sup>2</sup>	
Approximate features for maximum axial force and axial stiffness for size 50	25 bar	1100 N 160 N/μm	2200 N 320 N/μm	3300 N 480 N/μm	4400 N 640 N/μm	5500 N 800 N/μm
	32 bar	1400 N 200 N/μm	2800 N 400 N/μm	4200 N 600 N/μm	5600 N 800 N/μm	7000 N 1000 N/μm
	40 bar	1750 N 250 N/μm	3500 N 500 N/μm	5250 N 750 N/μm	7000 N 1000 N/μm	8800 N 1250 N/μm
Axial force with 50% reserve	50 bar	2200 N	4400 N 630 N/μm	6600 N 950 N/μm	8800 N 1260 N/μm	11000 N 1600 N/μm
	63 bar		5500 N 800 N/μm	8300 N 1200 N/μm	11100 N 1600 N/μm	13800 N 2000 N/μm
At pump pressure	80 bar		7000 N 1000 N/μm	10500 N 1500 N/μm	14000 N 2000 N/μm	17600 N 2500 N/μm
	100 bar		8800 N	13200 N	17600 N	22000 N

†All dimensions shown in mm.  
All features are customizable and can be adapted to loads up to 500 kN.  
Size 40 will be available.

‡<sup>1</sup> not available with pitch 30 mm  
<sup>2</sup> only with pitch 10 mm