

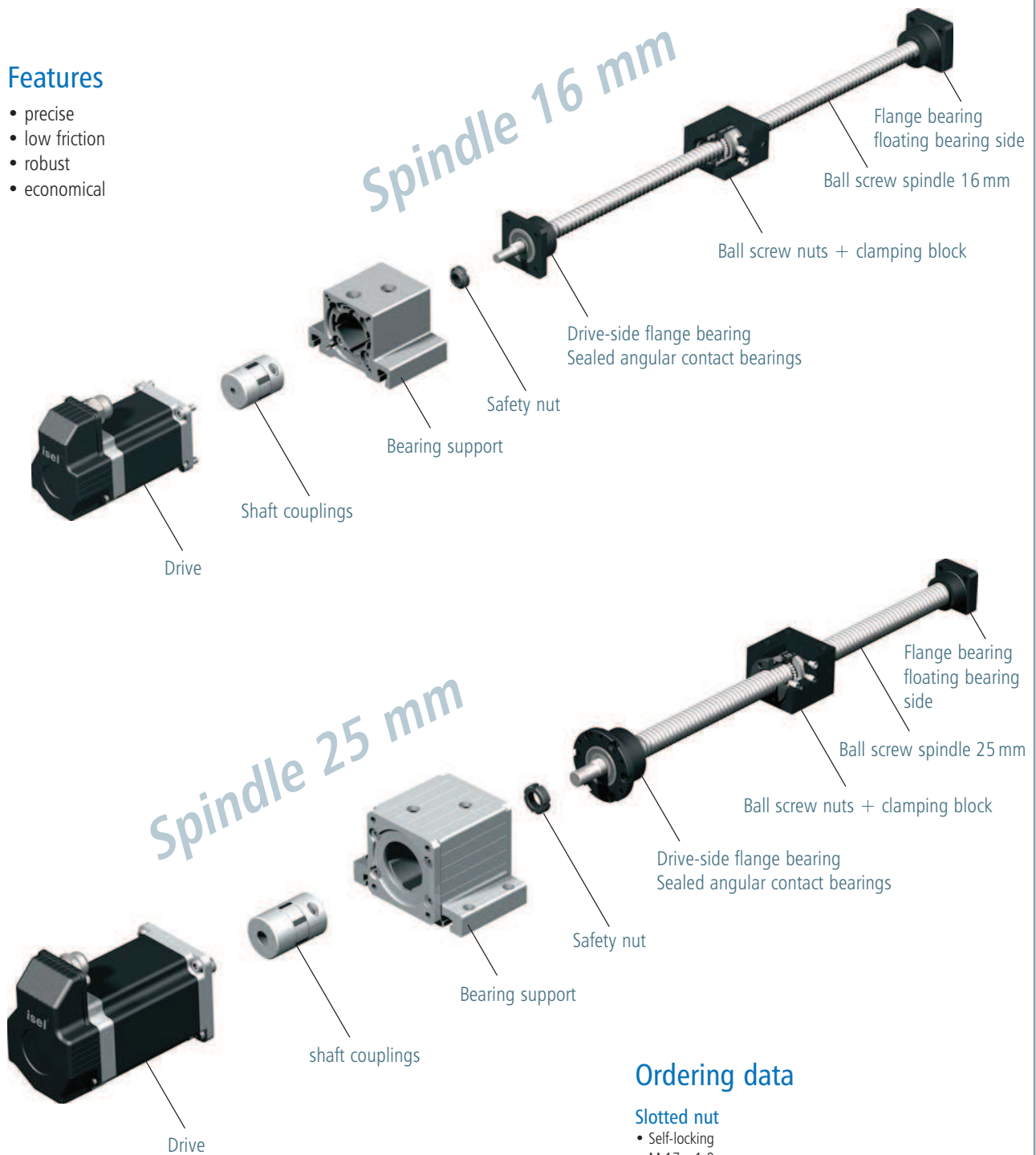
# Drive elements

## Linear drive

The most common variable when using linear drives is whether the spindles are driven directly or via toothed-belt.

### Features

- precise
- low friction
- robust
- economical



### Ordering data

#### Slotted nut

- Self-locking
- M 17 x 1.0 mm

Part no.: **890259 0011**

# Recirculating ball spindles $\varnothing$ 16, 20, 25, 32 mm



## Features

- rolled, hardened and polished
- Material CF 53, inductively hardened (HRC  $60 \pm 2$ ); (for detailed information see DIN 17212)
- Spindle pitches: 2.5 / 4 / 5 / 10 and 20 mm ( $\varnothing$  16 mm) 5 / 10 / 20 mm ( $\varnothing$  20, 25 mm) 5 mm ( $\varnothing$  32 mm)
- Lengths see available lengths
- End machining to isel standard or according to customer specification (see "Available lengths")
- Produced to DIN 69051, Part 3, Tolerance class 7

## Options

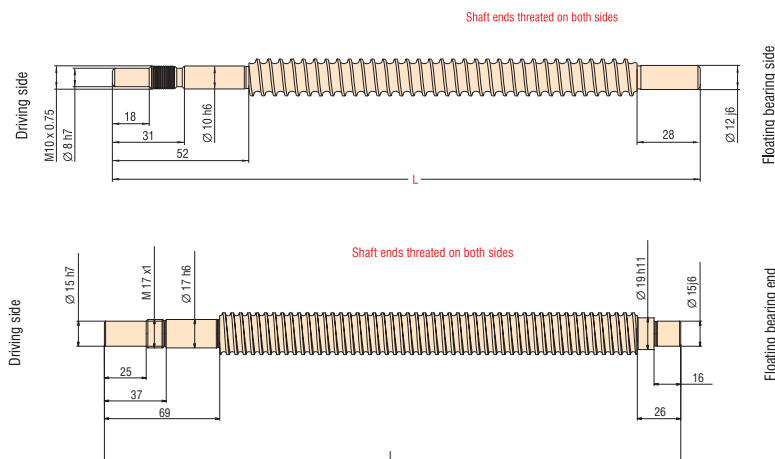
- **End machining according to customer specification**
- **Available in other lengths**

## Ordering key

		<b>2 1 1 1 X X X X X X</b>		
<b>Diameter</b> <b>3</b> = 16 mm <b>4</b> = 25 mm <b>5</b> = 20 mm <b>6</b> = 32 mm (only available with a spindle pitch = 5 mm)	<b>Spindle pitch</b> <b>2</b> = 2.5 mm (only for $\varnothing$ 16mm) <b>3</b> = 4 mm (only for $\varnothing$ 16mm) <b>4</b> = 5 mm <b>5</b> = 10 mm <b>6</b> = 20 mm	<b>End machining</b> <b>0</b> = not machined <b>1</b> = one-sided <b>5</b> = both-sided suitable for all feeds (Aluminium profile lengths +78 mm)	<b>Lengths</b> e.g. <b>045</b> = 452 mm <b>086</b> = 868 mm <b>305</b> = 3052 mm (rounded to the final digit)	

See "Available lengths" for permissible combinations.

## Dimensioned drawings



## Available lengths $\varnothing$ 16

### Without end machining

in 100 mm raster

- 352 to 3052 mm

Special length to

Drawing: 211 13X 0998

### Two-sided end machining

in 100 mm raster

- 368 mm to 3068 mm

Special length to dimensioned drawing:

211 13X XXXX

## Available lengths $\varnothing$ 25

### Without end machining

in 100 mm raster

- 500 to 3000 mm

Special length in accordance with drawing: 211

14X 0999

### Two-sided end machining

in 100 mm raster

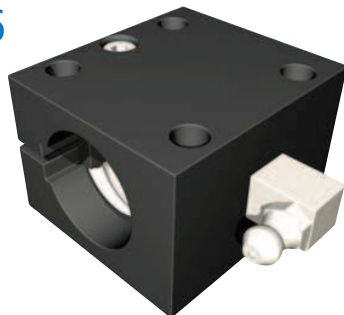
- 295 to 2995 mm

Special length in accordance

with drawing: 21114X XXXX

# Ball screw nut with single-path return

## Rectangle nut-Ø16



### Features

- Material 16MnCr5 or 20MnCr5, pressed, hardened, polished
- Versions for recirculating ball spindle Ø16 mm
- Nut pitches: 2.5 / 4 / 5 / 10 mm
- Balls are rerouted internally
- As block housing with base fixing
- Regreasing through grease nipples 90°, 0°

### Load factors

Pitch	Nominal Ø	dynamic load factor	static load factor
2.5 mm	16 mm	3500 N	5500 N
4.0 mm	16 mm	4600 N	7200 N
5.0 mm	16 mm	4600 N	7200 N
10.0 mm	16 mm	4200 N	6500 N

### Ordering data

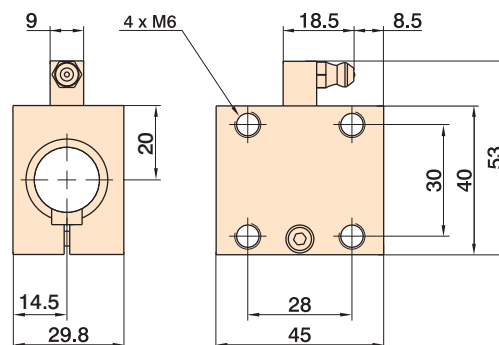
only for spindles Ø16

Pitch	Part no.
2.5 mm	213 003 1003
4.0 mm	213 003 1004
5.0 mm	213 003 1005
10.0 mm	213 003 1010

with matching:  
dirt scraper

- VE 2 unit Part no.: 213500 0001

### Dimensioned drawings



## Round nut – Ø16 Ø25



### Features

- Material 16MnCr5, ground
- Versions for recirculating ball spindles Ø16 and Ø25 mm
- Nut pitches: 2.5 / 4 / 5 / 10 mm  
20 mm (Ø 16 mm), 5/10 and 20 mm (Ø25 mm)
- Balls are rerouted internally
- The version with nut pitch 20 mm is supplied with scrapers

### Load factors

Pitch (mm)	Nominal Ø (mm)	Dyn. load factor (N)	Static load factor (N)
2.5	16	3500	5500
4.0	16	4600	7200
5.0	16	4600	7200
10.0	16	4200	6500

5.0	25	5100	12600
10.0	25	5100	12600
20	25	3570	8800

### Ordering data

only for spindles Ø25

Pitch	Part no.
5.0 mm	213 700 0005
10.0 mm	213 700 0010
20.0 mm	213 700 0020

with matching:  
dirt scraper

- VE 2 unit  
Part no.: 213700 9000

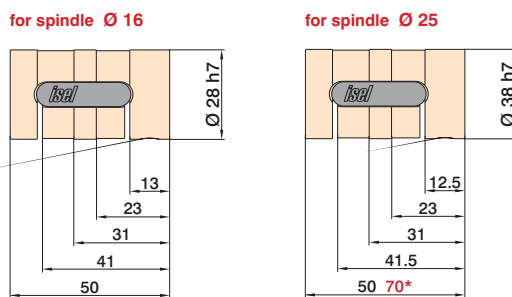
only for spindles Ø16

Pitch	Part no.
2.5 mm	213 503
4.0 mm	213 514
5.0 mm	213 505
10.0 mm	213 510
20.0 mm	213 520

with matching:  
dirt scraper

- VE 2 unit  
Part no.: 213500 0001

### Dimensioned drawings

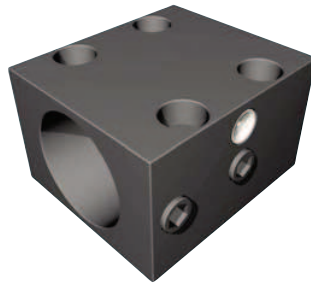


\*) At pitch = 20

# Clamping blocks for round nut with single-path return



Flange securing



Base securing

## Features

- Material steel, gunmetal finish
- Versions for recirculating ball spindles  $\varnothing 25$  and  $\varnothing 16$  mm
- Nut pitches  
5/10 and 20 mm ( $\varnothing 25$  mm)  
2.5/4/5/10 and 20 mm ( $\varnothing 16$  mm)
- Recirculating ball nuts are adjustable for no-play
- Clamping blocks for base and flange securing

## Ordering data

Clamping block 2  $\varnothing 16$   
Flange securing

Pitch	Part no.
all	213 501

Clamping block 1  $\varnothing 16$   
Base securing

Pitch	Part no.
all	213 500

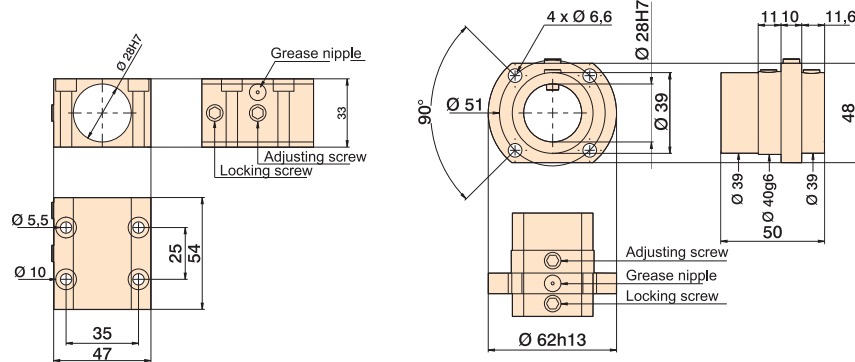
Clamping block 2  $\varnothing 25$   
Flange securing

Pitch	Part no.
5 / 10	213 700 9003
20	213 700 9004

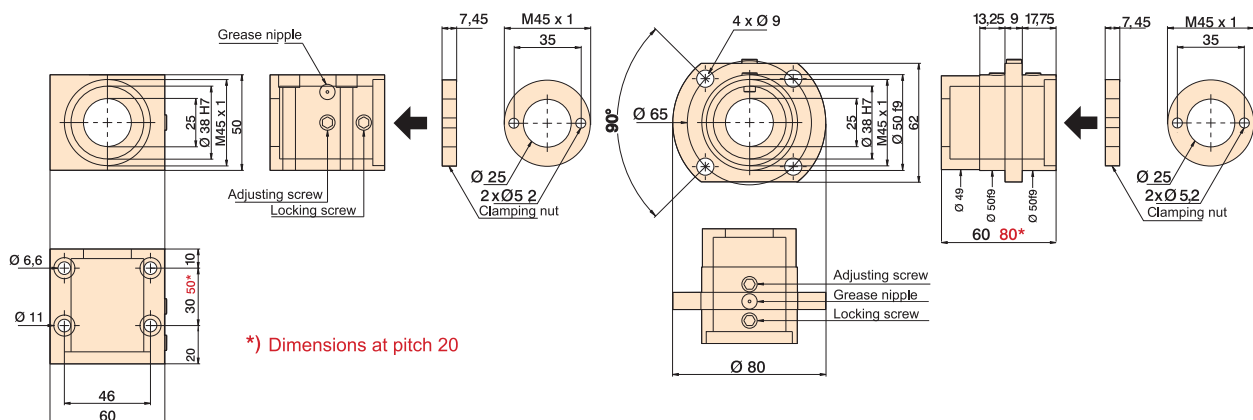
Clamping block 1  $\varnothing 25$   
Base securing

Pitch	Part no.
5 / 10	213 700 9001
20	213 700 9002

## Dimensioned drawings - spindle clamping blocks $\varnothing 16$

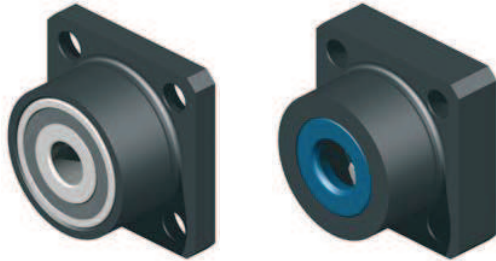


## Dimensioned drawings - spindle clamping blocks $\varnothing 25$



# Flange bearing

## for spindle $\varnothing$ 16 mm



Flange bearing  
drive side

Flange bearing  
floating bearing side

## Ordering data

Flange bearing, drive side  
Part no.: **216 504 0001**

Flange bearing, floating bearing side  
Part no.: **216 504 0002**

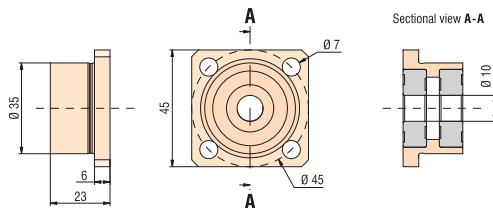
Safety nut  
M10 x 0.75 mm, self-locking  
Part no.: **890257 0011**

## Features

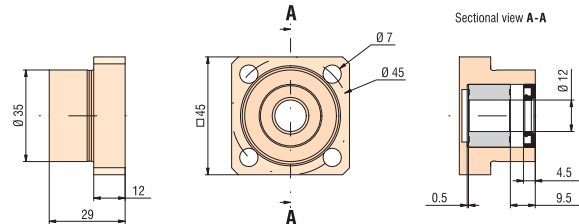
- Bearing, spindle drive side (fixed bearing side) and the spindle floating bearing side
- Flange bearing, drive side: bushing with two pressed angular contact ball bearings in an O-configuration
- Flange bearing, floating bearing side (counter-bearing): bushing with pressed needle bearing

## Dimensioned drawings

Flange bearing  
drive side



Flange bearing  
floating bearing side



## for spindle $\varnothing$ 25 mm



Flange bearing  
drive side

Flange bearing  
floating bearing side

## Ordering data

Flange bearing, drive side  
Part no.: **216 504 0006**

Flange bearing, floating bearing side  
Part no.: **216 504 0005**

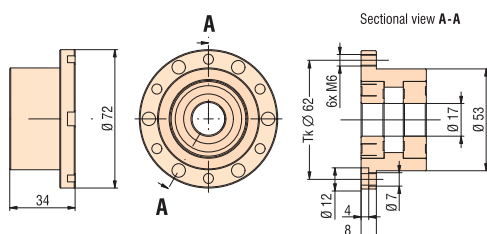
Safety nut  
M17 x 0.75 mm, self-locking  
Part no.: **890259 0011**

## Features

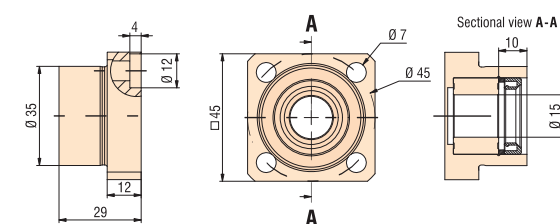
- Bearing, spindle drive side (fixed bearing side) and the spindle floating bearing side
- Flange bearing, drive side: bushing with two pressed angular contact ball bearings in an O-configuration
- Flange bearing, floating bearing side (counter-bearing): bushing with pressed needle bearing

## Dimensioned drawings

Flange bearing  
drive side

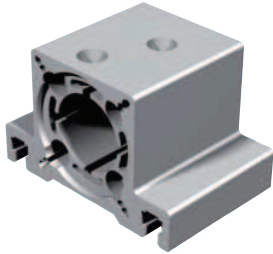


Flange bearing  
floating bearing side



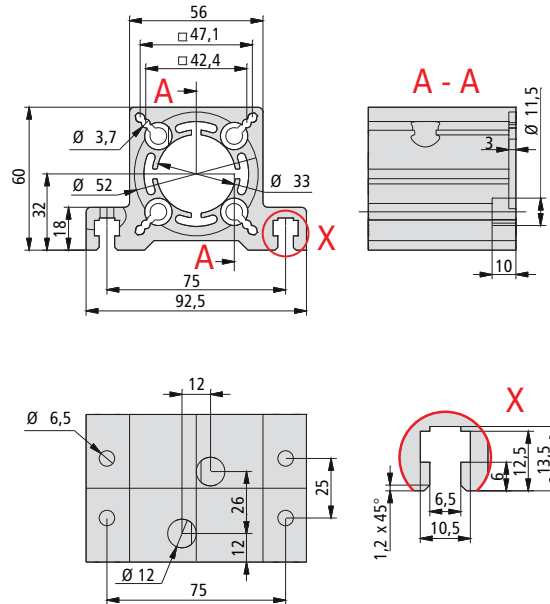
# Bearing supports

## Bearing support 1



- Aluminium profile compliant with DIN EN 12020-2
- As a parallel connection between the flange bearing and motor flange
- Flat milled securing surfaces
- Version for recirculating ball spindle  $\varnothing 16$  mm
- Universal securing options

Part no.: **216504 0007**



## Bearing support 2

