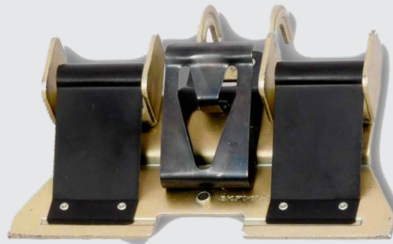


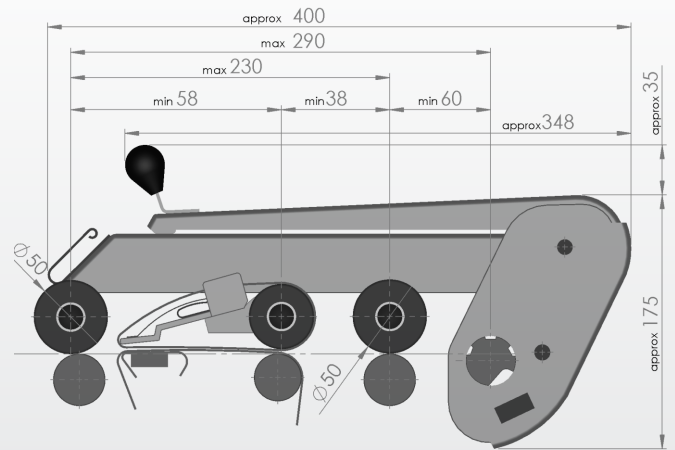
Precision components for spinning machines



Drafting and spindles  
for worsted spinning machines

QUALITY • RELIABILITY • INNOVATION

# Weighting arms for worsted ring frames



**T**eraSpin weighting arms for worsted ring frames are characterised by their **robust design and corrosion resistant finish**. These weighting arms are built to **last the lifetime of the ring frame**. The loading springs used on TeraSpin weighting arms are pre-calibrated for specified loads and also **last the lifetime of the worsted ring frame**. Each weighting arm exerts the same load on the top rollers irrespective of how long it is in use or at what position in the machine it is fastened.

### Appropriate combination of cradle and top rollers

Cradle	Top roller at front and back position	Apron top roller	Recommended top apron size (mm) <sup>(1)</sup>	Fibre length (mm)
OH 554 - 000075	LP 314-000075	LP 316-000075	84.1 x 32 x 1 <sup>(2)</sup>	Upto 200

### Top roller loading and cot diameter

Roller position	Bottom roller ø (mm) <sup>(3)</sup>	Cot ø (mm) <sup>(4)</sup>	Top roller Load in daN			Weighting element
			Black	Green	Red	
Front	32-35	50	20	27	35	MD 5
Middle (with apron)	27-30	48 <sup>(5)</sup>	9	12	15	XR 5-1
Rear	32-35	50	20	25	30	ME 5

Note: All dimensions are in mm

<sup>1</sup> Apron is not in the scope of supply

<sup>2</sup> One can use aprons of different thicknesses

<sup>3</sup> Dia. of bottom rollers depends on machine manufacturers

<sup>4</sup> Top roller cot dia. indicates the dia. of newly mounted cots and they are not in the scope of supply

<sup>5</sup> Top apron roller is recessed

### Models:

PK 1601-01 YB : Yellow passivation with black knob

PK 1601-01 SB : Silver passivation with black knob

### Features

- Reliable loading through leveraged force of helical coil springs
- Choice of load selection on each top roller
- Partial load release

### Benefits

- Consistent quality of yarn
- No height gauge setting required after cot buffing within the specified range of the cot diameters
- No pressure loss or pressure variation
- Suitable for a wide variety of fibres and yarn counts
- Virtually maintenance-free
- Long service life

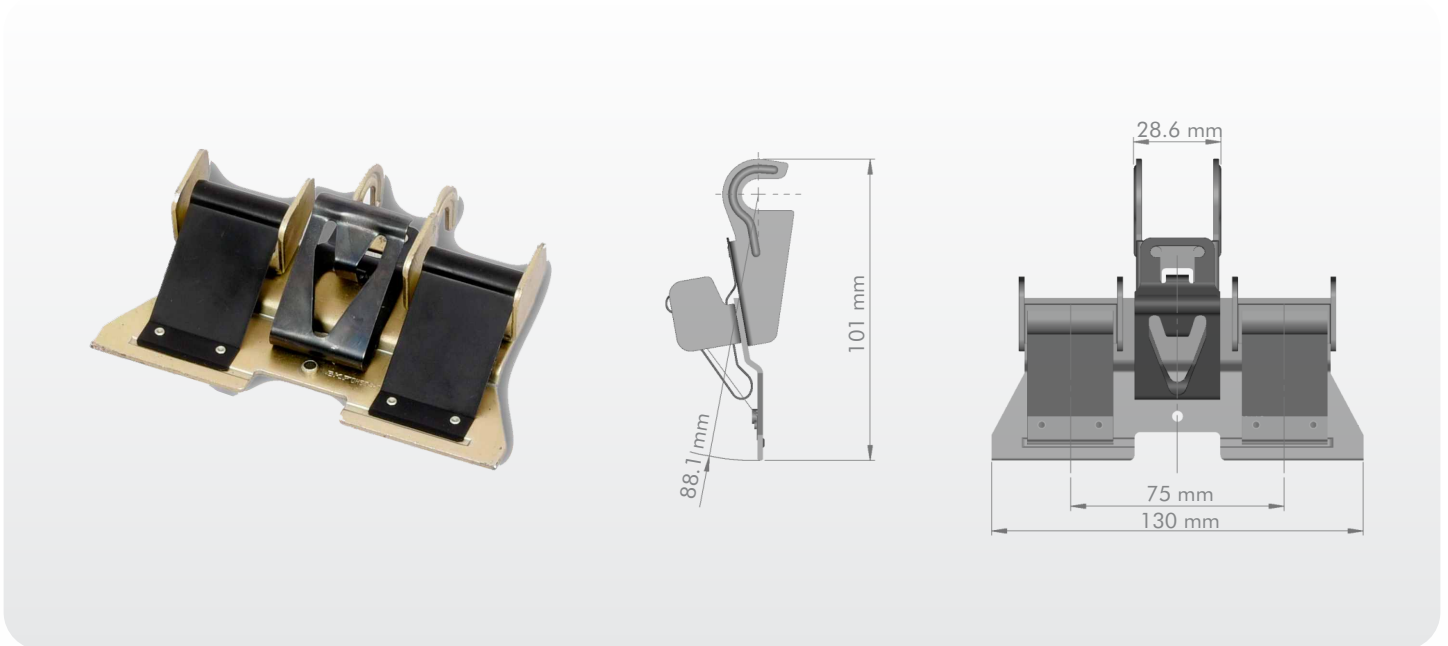
### Application/s

Machine : Worsted ring frames with 3-roller-double apron drafting system

Process : Spinning

Raw material/s: Wool and its blends with man-made fibres and dry-spun bast fibres

## Cradles for worsted drafting



**C**radles discharge the important function: keeping the apron in position over the rotating apron top roller so that fibres are effectively guided in the main draft zone.

### Worsted ring frame cradles

OH 554-000075 (metal cradle, 75 mm gauge)

Cradle	Suitable apron top roller
OH 554 – 000075	LP 316-000075

#### Features

- Rigid and stable structure for use under mill conditions
- Design ensures gentle nipping and effective fibre control

#### Benefits

- Consistent yarn quality
- Maintenance-free

#### Application/s

Machine : Worsted ring frame  
 Process : Spinning  
 Weighting arm/s: TeraSpin PK 1601-01  
 Raw material/s : Wool and its blends with man-made fibres and dry spun bast fibres  
 Fibre length : Up to 200 mm max.

## Top rollers for worsted drafting



**T**op rollers consist of a pair of anti-friction, double row ball bearings having a common axle. **Each top roller is manufactured such that the clearance between the hardened arbour and shell is perfectly matched with appropriately sized double row steel balls.** The top rollers made for ring frames and speed frames are injected with just the right amount of a special grease – TRG 5. The ends are fitted with a uniquely designed seal to prevent leaks while in operation.

### Worsted ring frame top rollers

LP 314-000075    LP 314-000825  
LP 316-000075    LP 316-000825

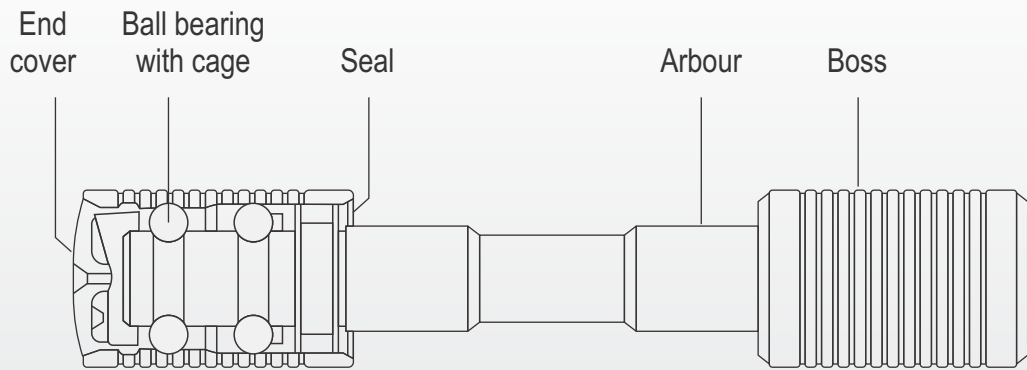
#### Features

- Sturdy double row ball bearings with low friction
- Through hardened components
- Proven and effective U-type seal
- Controlled radial clearances
- Lubricated with precise amount of special grease TRG 5

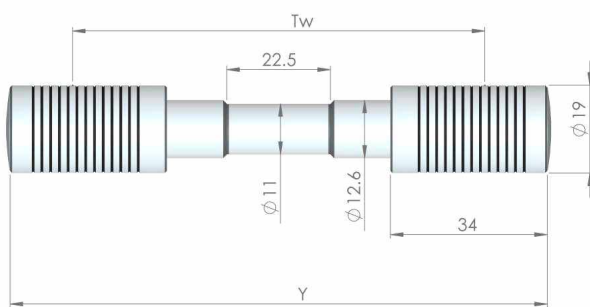
#### Benefits

- Higher load carrying capacity
- Smooth rolling of top rollers resulting in better and consistent yarn quality
- Smoother rotation leading to longer service life
- No ingress of contamination
- Reduced maintenance – extend re-lubrication intervals due to TRG 5 grease

## Top rollers for worsted drafting



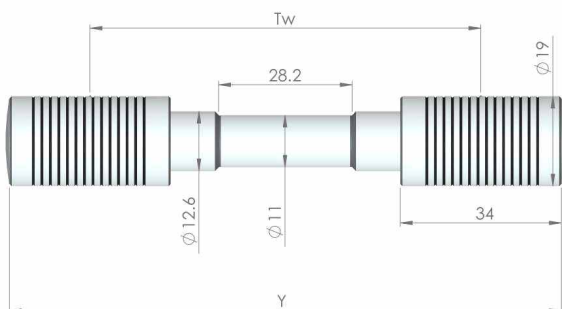
Double row ball bearings with specially designed end seals to prevent grease leakage during use



Type – Ref. No.	Gauge Tw (mm)	Total length Y (mm)	Colour of end cover
LP 314-000075	75	109	Orange
LP 314-000825	82.5	116.5	Orange

### Application/s

Position/s : Front and rear top roller  
 Machine : Worsted ring frames  
 Process : Spinning  
 Weighting arm/s: TeraSpin and SKF PK 1601-01  
 Raw material/s : Wool and its blends with man-made fibres and dry spun bast fibres  
 Fibre length : Up to 200 mm max.



Type – Ref. No.	Gauge Tw (mm)	Total length Y (mm)	Colour of end cover
LP 316-000075	75	109	Orange
LP 316-000825	82.5	116.5	Orange

### Application/s

Position/s : Middle (apron) top roller  
 Machine : Worsted ring frames  
 Process : Spinning  
 Weighting arm/s: TeraSpin and SKF PK 1601-01  
 Raw material/s : Wool and its blends with man-made fibres and dry spun bast fibres  
 Fibre length : Up to 200 mm max.

## Spindles for worsted drafting



**T**eraSpin is one of the few manufacturers of complete spindles that make **spindles and inserts which enable ring frames to attain speeds up to 25,000 rpm (mechanical).**

TeraSpin spindles are specially designed for **smooth running at high spindle speeds.** Optimisation of various design parameters, a high level of manufacturing precision, and high-quality German components reduce the vibration and noise level of the spindle.

Spindles are available with many different design combinations:

- Aluminium plug type
- For manual doffing ring frames
- For auto-doffing ring frames
  - with knurling and cutters
  - with seal-band and cutters
- Suitable for
  - 4-spindle tape drives
  - tangential belt drives
- Equipped with
  - self-locking inserts or external locking hooks
  - spring type buttons or centrifugal type buttons

### HF 100

for spindle speeds of up to 25,000\* rpm (mechanical)

### HF 1

for spindle speeds of up to 22,000\* rpm (mechanical)

### HF 21

for spindle speeds of up to 20,000\* rpm (mechanical)

### HF 21C

for spindle speeds of up to 18,000\* rpm (mechanical)

*\*when used under the right conditions*

#### Features

- High level of manufacturing precision for all spindle components
- Only two-point contact (at footstep and neck bearing)
- Compact neck bearing manufactured with higher precision
- Optimised damping of spindle vibrations with improved design and German components
- Well proven conical footstep design manufactured with high precision
- Spring support for axial load

#### Benefits

- Low vibrations
- Low noise level
- Long life

## Distance clips (spacers) for worsted drafting



The opening between the lower edge of the cradle and the nose bar in the drafting zone of a ring frame needs to be maintained at an optimum level to get the best quality yarn. If the opening is too wide, it results in poor yarn quality, whereas if the opening is too narrow, it leads to undrafted sliver/roving which then causes more end breaks.

TeraSpin distance clips (spacers) are designed to maintain a precise opening between the lower edge of the cradle and the nose bar, thus ensuring the best quality yarn. TeraSpin provides various types of distance clips and each type of distance clip is customised to ensure a precise opening when fixed on the different cradles as shown in the table.

### TeraSpin distance clips (spacers) for worsted ring frames

Distance clips (spacers) for worsted ring frames		Opening (in mm) with cradle
Code	Colour	OH 554-000075
OLC 0964120	Black	2.6
OLC 0004587	Beige	3.7
OLC 0004588	Green	4.1
OLC 0004589	Pink	5.6

#### Application/s

Machine : Worsted ring frame  
 Process : Spinning  
 Weighting arm : TeraSpin PK 1601-01  
 Cradle : TeraSpin OH 554-000075

**T**eraSpin, a business unit of A.T.E. Enterprises Private Limited, manufactures precision components for spinning machines at its state-of-the-art eco-friendly manufacturing facility at Sari, near Ahmedabad in Western India. TeraSpin product range includes complete drafting systems (weighting arms, top rollers and cradles) for roving frames and ring frames and spindles for ring frames. TeraSpin also provides customised upgrades for roving frame and ring frame drafting.

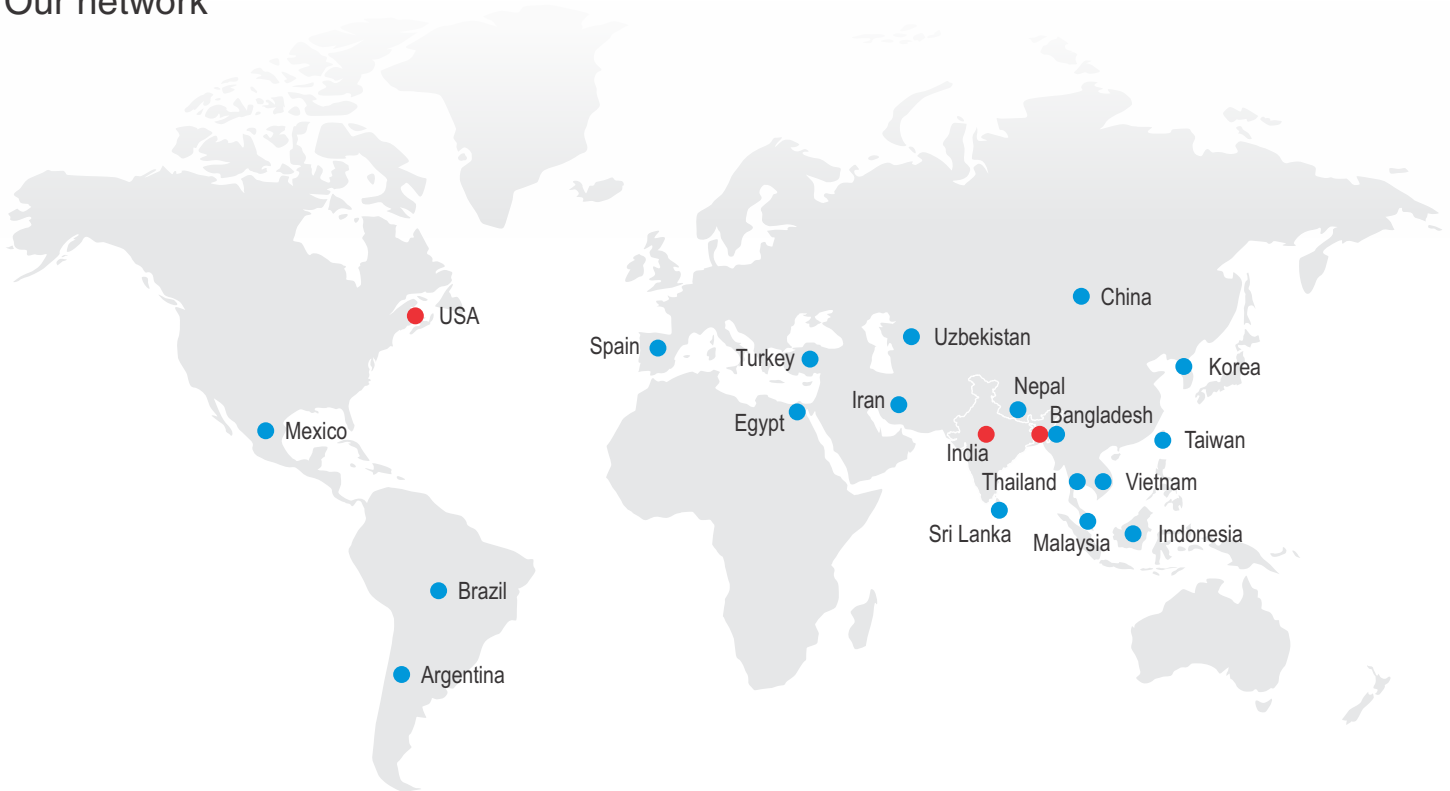
TeraSpin was formed with A.T.E.'s takeover of the textile machinery components business of SKF India Limited in the beginning of 2012. TeraSpin products are thus built on the strong foundation of SKF knowledge and expertise.

Through constant R&D at TeraSpin, these products have been further improved upon, thereby ensuring high performance and durability.

With a clear mandate of 'zero defect', 'zero rejection', 'excellence in quality', 'safety' and 'eco-friendly operations', TeraSpin has deployed a series of quality initiatives, such as ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018. Thus, we ensure the quality of our products at every stage of the production process. All products are manufactured with a high degree of automation that helps achieve consistent quality on a mass scale.

TeraSpin's products are used by OEMs as well as by spinning mills worldwide including countries like Canada, Mexico, Germany, Italy, Spain, Nigeria, Egypt, Turkey, Kenya, UAE, Iran, Uzbekistan, Nepal, Bangladesh, Vietnam, China, Korea, Taiwan, Japan, and Indonesia.

## Our network



Legend:

- A.T.E. Group offices/factories
- A.T.E. partner locations



### Manufactured by



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