SAURER.
Temco

BEARING ELEMENTS.

—

COMPONENTS, ONLY BETTER.

EN

COMPONENTS, ONLY BETTER.

Saurer Components is a world-leading supplier of components for filament and staple fiber spinning applications. With its headquarters in Fellbach, Germany, the group has six established brands; Accotex, Daytex, Fibrevision, Heberlein, Temco and Texparts and prides itself on supplying high-quality, reliable component products to the textile industry.

Saurer Components has approximately 950 employees world-wide with manufacturing facilities and sales offices in the Americas, Europe and Asia. Via a network of experienced representatives it ensures prompt service and close contact with customers in spinning mills as well as leading machine manufacturers.

Bearing Technology

Temco has been developing and manufacturing roller bearings for demanding and sophisticated applications for over 50 years. Our integrated bearing concept is especially successful, because it means that a very cost-effective solution can be implemented for applications which have very sophisticated requirements regarding revs, installation space or load capacities

The conventional bearing

Standard bearing designs mostly use conventional bearings. In this case, the standard bearing is positioned between the shaft and the bearing housing. This design of bearing is limited, however in the areas of running speed, lifespan and starting torque. For this reason, bearings designed in this way often need changing on a regular basis.

Integrated bearings

The integration of the internal orbital paths in the shaft and the external orbital path in the bearing housing mean an extremely compact and stable bearing construction results. This results in a wide range of decisive advantages.

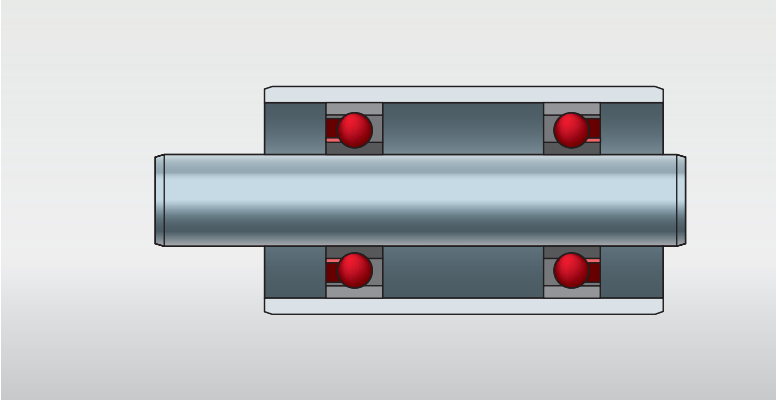
Technical advantages

- A clearly higher load rating with the same dimensions and therefore improved lifespan, and also smaller dimensions with the same load rating
- The pre-finished solution results in a reduced installation outlay and reduced installation errors
- No change to the dimensions / shape of the integrated bearing on installation in the housing
- Reduction in the shape and bearing tolerances in the installation section
- Possible dimensions:
  - Shafts -Ø 4 – 75 mm
  - Outer ring Ø 10 – 100 mm
  - Shaft length up to 600 mm
- Higher limiting speeds compared with standard roller bearings
- Low starting torque, easy-gliding, energy saving
- Application-specific lubrication possible
- Lifetime lubrication
- High grease reservoir
- Relubrication is possible
- Superior sealing
- The smaller dimensions of the bearing unit enable housings that are more compact
- Higher rigidity of the whole system (shaft, housing)

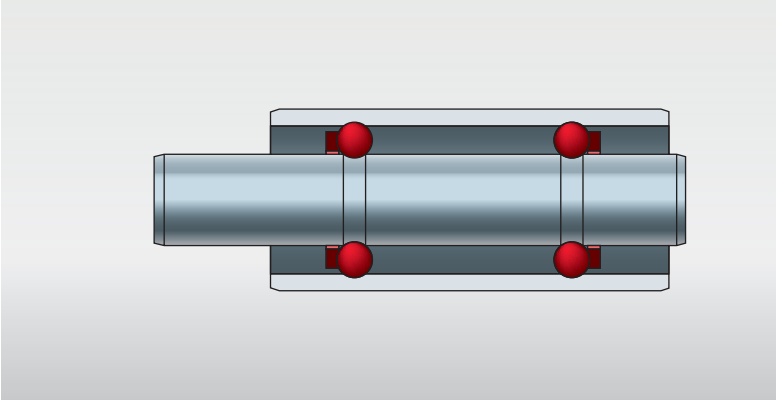
Economic advantages

- Low cost overall solution possible through integrated storage unit
- Reduced purchasing expenditure
- Longer lifespan
- Maintenance work and machine downtimes substantially reduced
- Up to 60% less friction leading to energy savings at the same shaft diameter and the same load rating

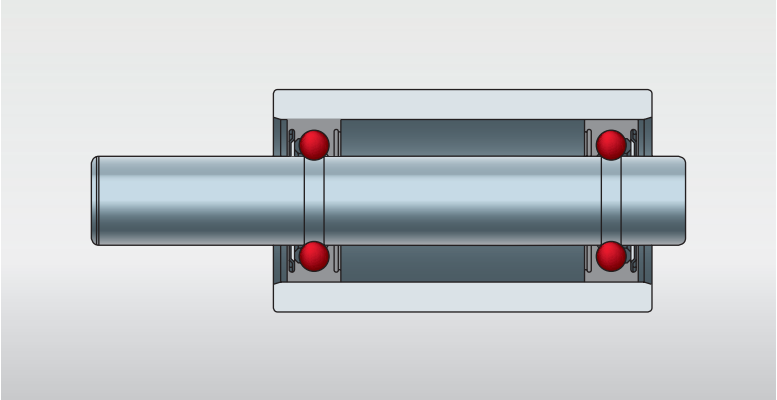
Conventional bearing



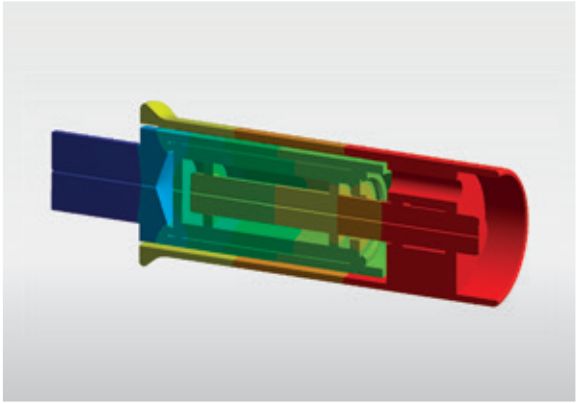
Integrated bearing

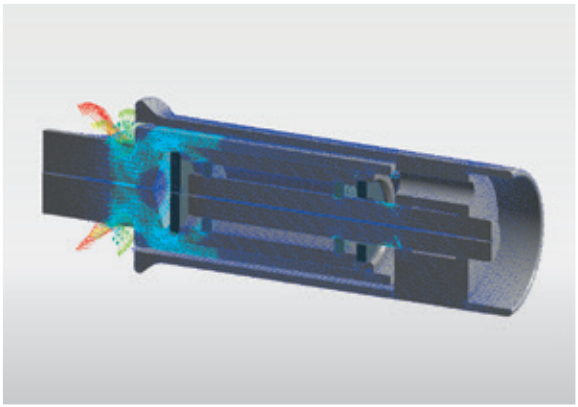


Partially integrated bearing



Integrated Bearings





Examples of integrated solutions
The installation of standard bearings (catalogue goods) always represents a technical compromise. When using integrated bearings these are adapted exactly to the customer's application. This results in a solution that is technically and commercially optimal.
When limited installation space, high loads, revs and temperatures, low friction moments and energy requirements come into play, Temco can offer customers the best possible, individualized solution.

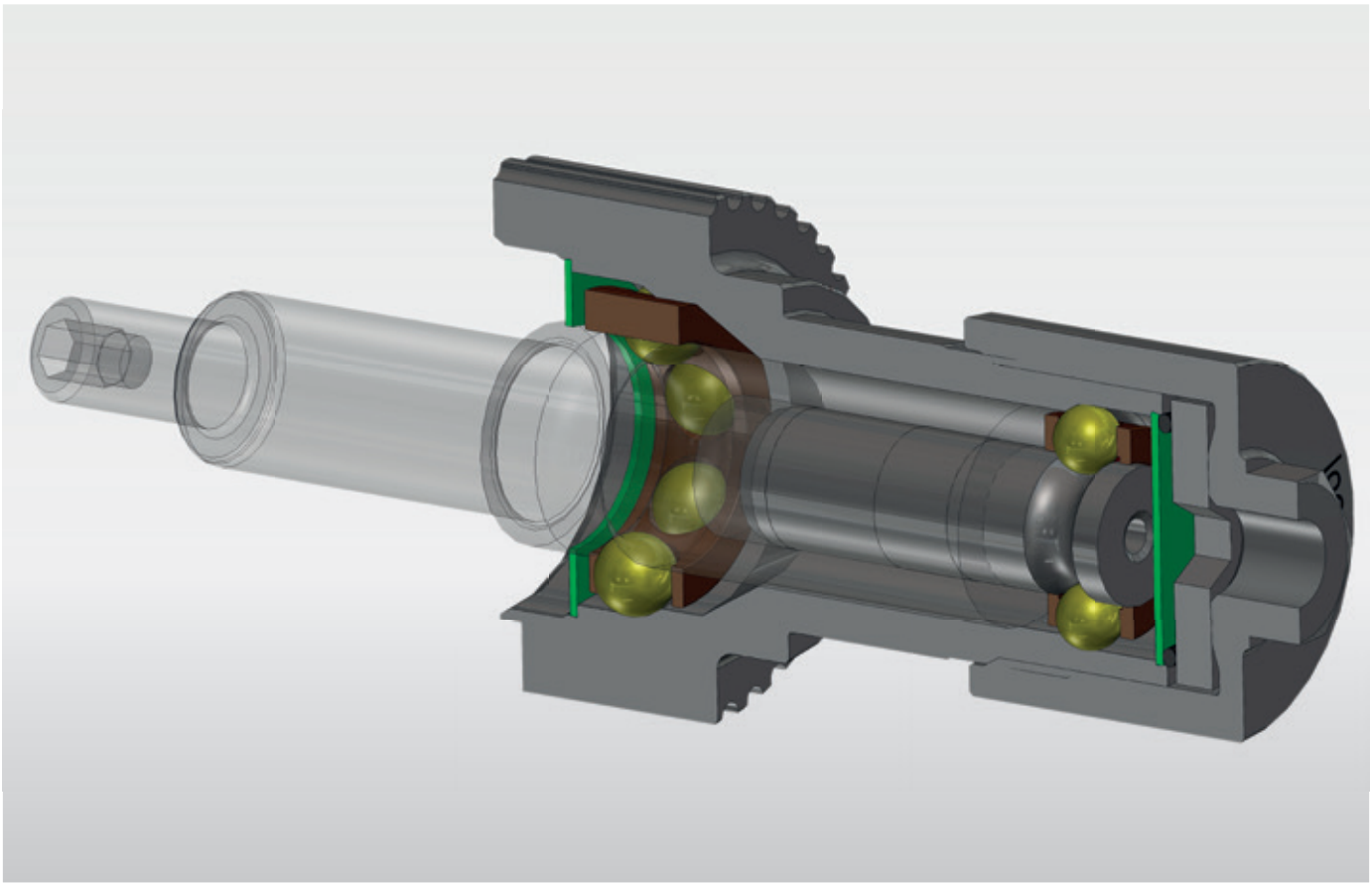
To be able to master extreme requirements, Temco is able to draw on its wide ranging experience with special greases, PEEK cages, Chronidur, Niro and ceramic ball bearings, etc.

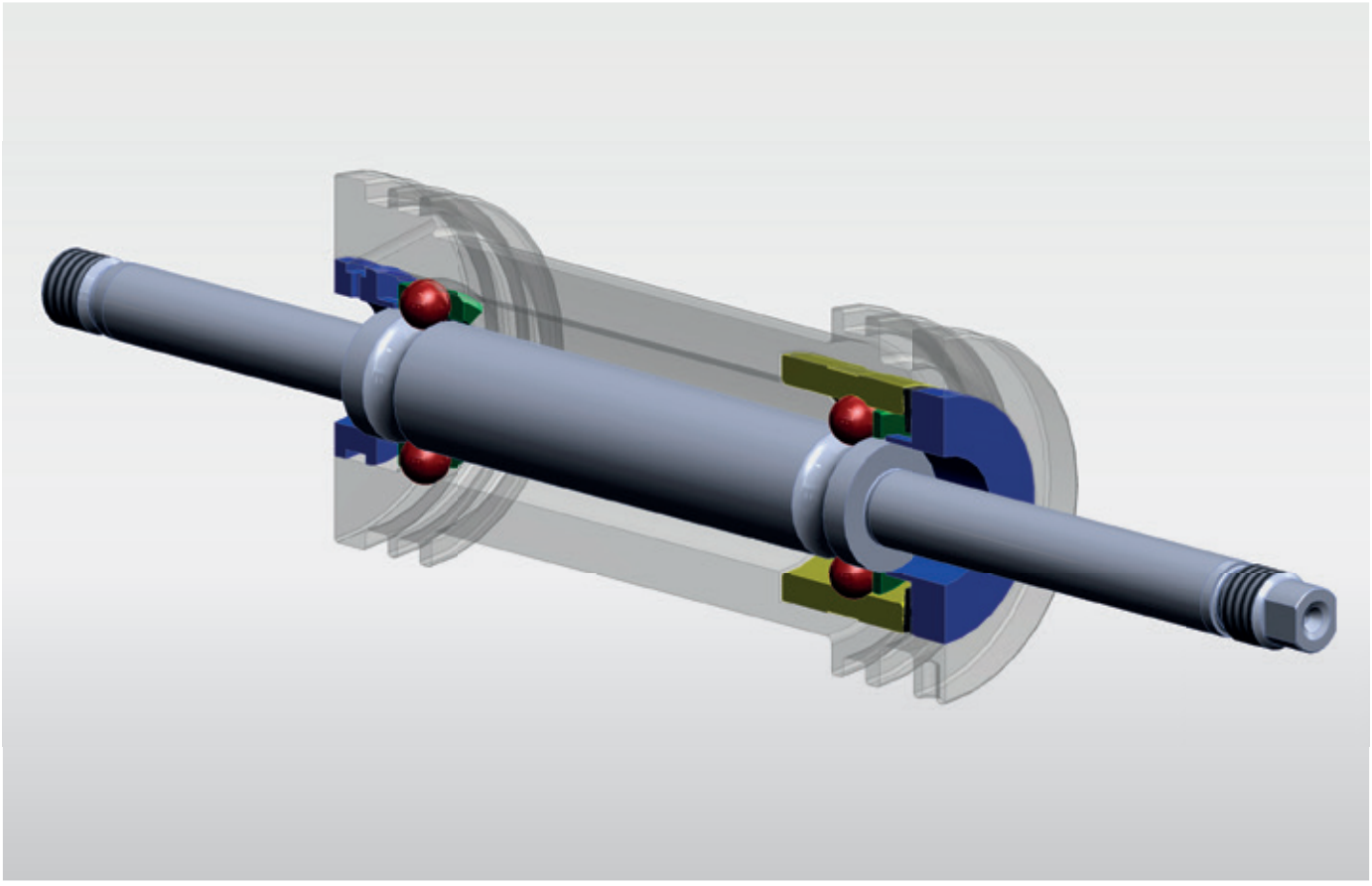
Some of these constructional solutions are shown adjacent as examples.

Design configuration expertise

The constructional configuration of the bearings is completed using specialist software. This is optimized and expanded on a continual basis in cooperation with technical universities.

The construction of the shaft-bearing system is optimized during the configuration with the help of the 'finite element calculation method' (FEM). This means the loads can be determined with exact precision. The temperature development and its distribution can also be calculated theoretically and adjusted to protect the system. The dynamic behavior of the bearing system and the occurrence of the critical revs are also calculated and adapted to the customer requirements through changes to the configuration where necessary.





Guide rollers FR

Designs
The Temco guide rollers include various jacket shapes and materials and are equipped with or without a shaft. They are characterized by their compact building method with a low rotating mass and low bearing friction moment. Yarn speeds of up to 6000 m/min are possible.

Lubrication / sealing
The lubricant has been specially selected to satisfy the requirements of guide rollers, thus ensuring smooth running and a long lifespan.
The guide rollers are equipped with a special dust shield cover on either end.

Shells / surface
The shells are made of steel, aluminium or innovative synthetic material. We also provide guide rollers with chromium-plated or ceramic-coated jackets for special applications.

Guide rollers are suitable for use as guide elements in all areas of machine construction. They are maintenance-free.

Motordriven spindle MSE

Design
The spindle with a one-sided, integrated bearing is designed for speeds up to 36000 rpm. The especially by Temco developed damping system provides a vibration-free running and a significant longer lifetime. The shaft Ø 16.65 mm can be designed in lengths up to 450 mm as well as a hollow shaft with bore from 3 up to 9 mm.

Lubrication / sealing
The bearing is sealed on both ends and provided with lifetime lubrication.

Motor data
3 ~50V, 600 Hz asynchronous motor with a power of 200 W. Can be equipped with thermal protection.
Further motor data and dimensions are also possible.

The motor spindle MSE for cover spinning process, consisting of integrated bearing, asynchronous motor, bobbin pot as option and bobbin fixing system “one hand adaptor”, is used in the latest generation of cover spinning machines.

Supporting rollers SW

Designs / bearing constructions
Temco supporting rollers are manufactured in all usual designs and dimensions. Their construction is optimized to satisfy all application requirements of the individual winding machine. They are suitable for speeds up to 50 000 rpm.
Depending on the application, there are partially integrated and fully integrated bearings.

Lubrication / sealing
All supporting roller models are provided with lifetime lubrication. Temco's supporting rollers are equipped with a non-contact gap-type seal on both ends.

Shell / surfaces
The jacket is constructed from either steel or aluminium. The chromium plated roller surface with an orange peel effect surface ensures good friction conditions.

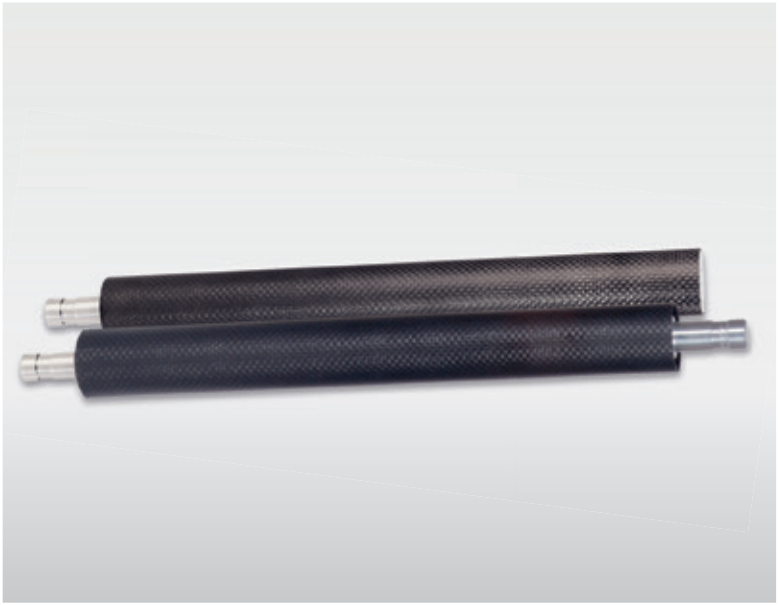
The application area for supporting rollers is for yarn support on winding machines. Low weight, reduced eccentric mass and hard chrome coatings are their main characteristics.

Deflection pulleys ULR / Deflection rollers ULW

Designs / bearing constructions
Deflection pulleys ULR are supported on one side. Deflection rollers ULW on both sides in the machine.
Both models are available in various weight- and speed categories and dimensions. The special construction method ensures high running smoothness, low weight and maximum stability. Outstanding precision enables extremely high speed with low vibration.

Lubrication / sealing
All bearings are sealed at both ends and are maintenance free due to lifetime lubrication.

Shells / surfaces
To reduce the mass moment of inertia, we use shells of aluminium and carbon fibre material which are combined with specific surface designs (e.g. non-adhesive coating).



Guidance and deflection of films and webs in the packaging industry or for the production of hygiene products, e.g. baby diapers

Separator rollers VR

Designs
Temco separator rollers are available in various dimensions and surfaces. They are characterized by low rotating mass and very low frictional torque. They are suitable for very high yarn forces and temperatures up to 260 C°.
Yarn speeds up to 6000 m/min are possible.

Lubrication / sealing
The adapted to the use lubrication ensures smooth running even at very high speeds.
The bearing is equipped with gap-type-seals and lids, that prevent air flow and the ingress of dirt safely.

Shells / surfaces
The shells are made of steel or aluminum.
Depending on the application, the separator rollers are hard chrome plated or ceramic coated.

In principle, separator rollers serve to support the production process without any negative effect on product quality. The bearings used must be of the highest quality to ensure low friction moment, durability and stable running.

Through the use of hybrid bearings and the most modern heat-resistant materials, this separator roller is designed especially for working areas, in which until now mainly energy-intensive air bearings are used.

Journal bearings SL / ZL

Designs
SL journal bearings are equipped with an open axis- or shaft end.
The ZL features a double sided axis- or shaft end. Shafts and housings are available in all usual dimensions. Their dimension, however, can be adapted to satisfy individual space requirements.

Bearing construction
Temco journal bearings are a double-row deep groove ball bearing. The inner raceways are integrated into the shaft while the outer raceways are integrated into the housing The sealing system is adapted to the particular application.

Lubrication / maintenance
Some models of our journal bearings are lubricated for life, others are suitable for relubrication. The selection of product and lubricant is dependent on the application.

Temco produces ready to use SL and ZL series journal bearings, which are suitable for a wide application area. The main characteristics are their pre-finished, compact design. When equipped with a jacket, these bearings are, for example, suitable as guide- or deflection rollers or serve as tension pulleys.

Saurer Components GmbH
Zweigniederlassung Hammelburg
Fuldaer Str. 19
97762 Hammelburg
Germany
T +49 9732 87 0
F +49 9732 87 310
sales.temco@saurer.com
www.saurer.com

Saurer (Jiangsu) Textile Machinery Company Limited
Shanghai Branch Company
36F, Tower B, The HQ
No. 100 Zunyi Road
Shanghai 200051
China
T +86 21 22262500
F +86 21 22262512
www.saurer.com