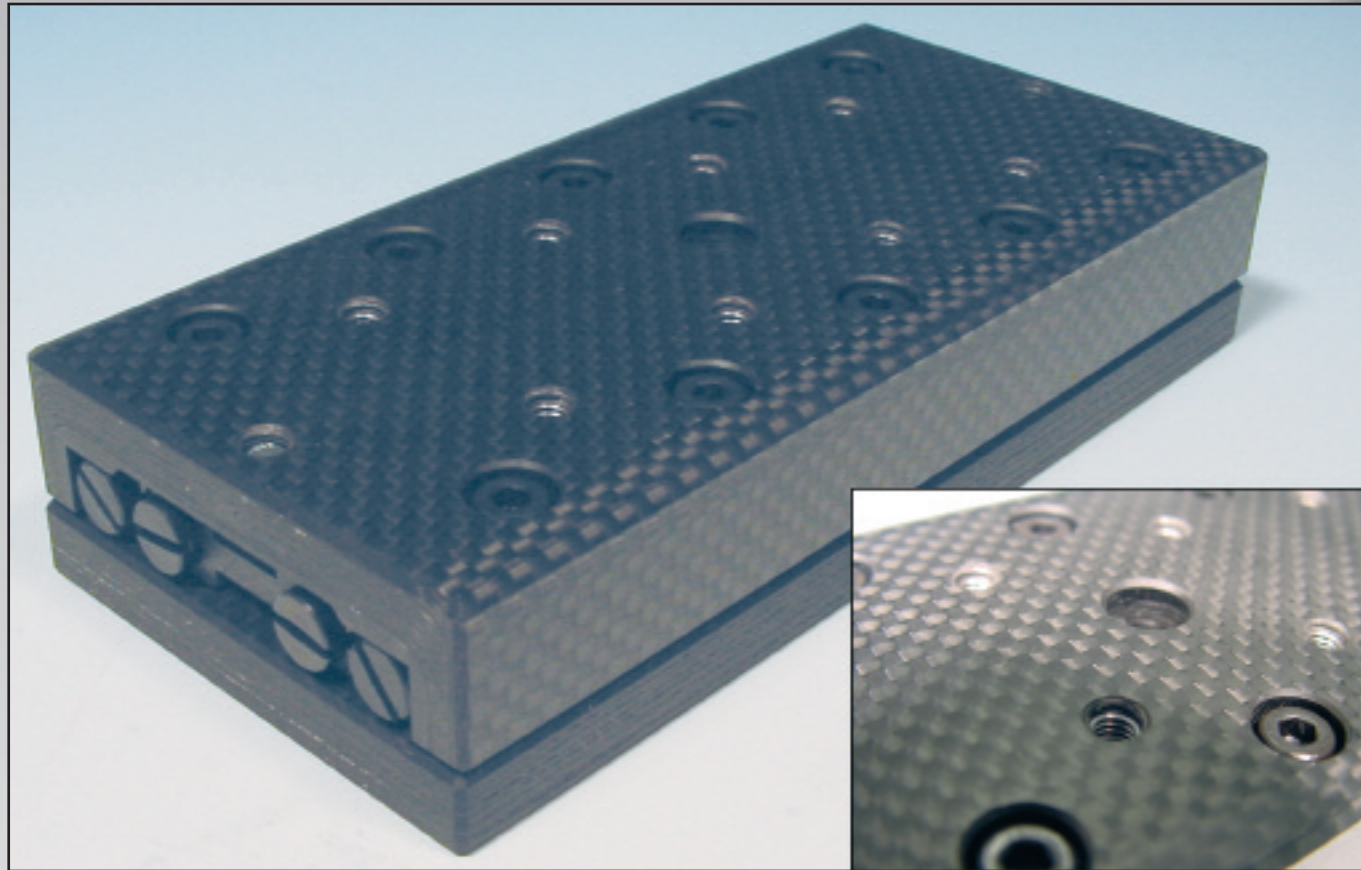


Linear Slides RT.U



What are Composites?

Composite materials are combinations from two or more materials with different, often complementary properties. They consist of a "matrix" phase and a reinforcing phase.

Our drive to develop Carbon Fiber Slides

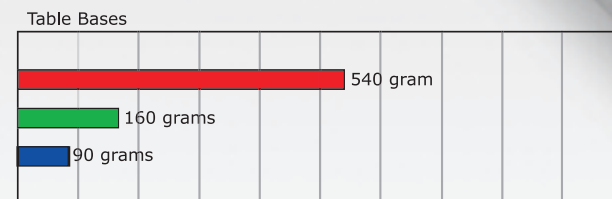
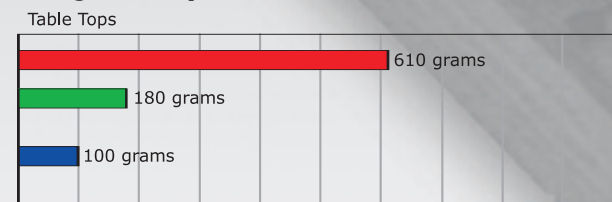
At the start our goal was to achieve an ultra-lightweight "ready-to-install" slide which can match the specifications of the aluminum crossed roller slides and meet the demands for higher dynamics as in high-speed component placements where mass and rigidity is an ongoing issue.

PM ultra-light slides are made from special selected carbon fiber composites, our specially developed carbon-fiber polymers can achieve a stiffness and strength that is similar to that of aluminum and a weight which is only 20% of that of steel. Through the years PM engineers have built up extensive composite knowledge which found its roots in the defense and aircraft industry.

Rigidity

PM engineers designed outstanding carbon-fiber layers in the tables which utilize the same specifications on accuracy and rigidity as aluminum slides.

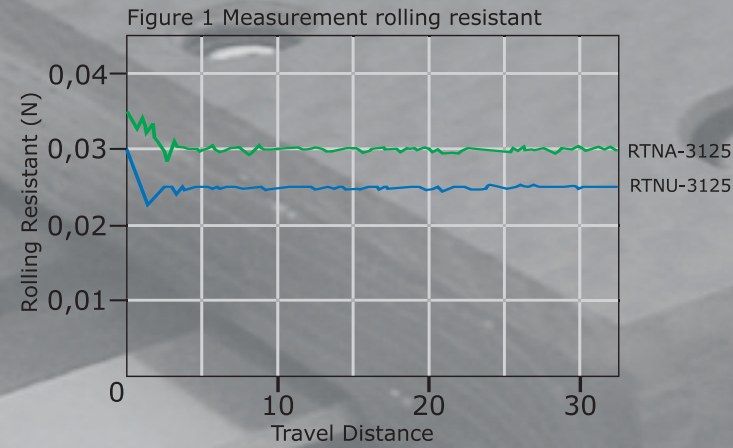
Weight Comparison Chart



■ Steel model RTN-3125
■ Aluminum model RTNA-3125
■ Composite model RTNU-3125

Ultra-Smooth Motion

Below diagrams show the results of the measurements of rolling resistance done with a standard linear slide model RTNA-3075 with 37mm travel and the ultra-light linear slide RTNU-3075. Both tables are lubricated with oil and have equal preload settings. As a result we can see that the rolling resistance of the composite slides are exceptionally low resulting from the significant reduction in moving mass and the precision finishing of the reference surfaces.



Lubrication

Initial lubrication is already applied at the PM factory so they are ready to move. This lubrication can reach a maximum of 30.000km or 1 year of travel, whichever comes first, under normal operating conditions in which the load ratio C/P is 10 and velocity 1m/s.

Operating Speed & Temperature

RTNU slides are suitable for speeds up to 50 m/min while the temperature has to be between -20°C to +80°C.

- Precision finished components provide travel accuracies of up to 2 microns
- Carbon fiber top
- Crossed roller bearings for ultra smooth and precise motion
- Carbon fibre base
- Ultra-fine factory preload setting
- Crossed roller cages Two standards type for horizontal (AA) and vertical mounting orientation (DD)
- Almost absent of rolling friction (approx. 2 gr. displacement force)

Available Product Range

Ultra-light slides are matching dimensions with the aluminum crossed roller slides RTNA/RTLA which are published in our product catalog Precision Slides. We are also able to make the slides according to competitors dimensions as well to customer print



Fitting Orientation

RT.U slides are available with two types of cages depending on mounting orientation. In the event of horizontal fitting the slides are supplied with a cost-effective steel and lightweight cage type AA. Vertical models are, for strength reason, supplied with brass cage type DD to take up the higher load forces due to gravity.

Standard / Long Stroke

Each slide is available in two strokes, normal (RTNU) and long stroke (RTL). Main different is the cage length and allowable load and moment load rating.

Fitting Holes

Ultra-light slides are supplied with a standard configuration threaded holes (type helicoil) in the table and countersunk holes in the base. These holes allow an ease and fast assembly into the machine.

Supporting Surface

RT.U slides are precision devices and require proper mounting to perform at rated specifications. They have to be mounted on rigid and fine-machined, preferable by fine-milling, flat surfaces, free of deformation and supported over their entire base length.

Anti-Cage Creep

For extreme dynamic applications the RT.U slides can be delivered with the ACC-solution. The ACC-solution does not affect the rolling resistance, does not affect the accuracy and increase the operational life to its limits. The ACC-solution is selected by world leading manufacturers as the best anti-cage creep solution available in the market.



The all metal design provides dependable service in the most demanding applications where other designs that contain plastic components may fall.

Made to Custom Order

We manufacture the carbon-fiber slide in both standard and custom specifications, offering you maximum flexibility and custom focused solutions. Manufacturing starts after all technical details are clear. Our engineers are on call to assist you to find the right solution.

High-speed Durability Evaluation Data

- Operating Conditions:
- Model Part # RTNU-3125
 - Applied load 15kg
 - Standard factory preload
 - Speed 35m/min
 - Acceleration 20m/s²
 - Moving distance 20.000 km
 - Standard oil lubrication, no service lubrication applied

Test Results:
No abnormalities inspected after 20.000km of travel.



ADVANTAGE 1

Weight Saving up to 55%
The ultra-light sliding tables offers about 55% lower mass compared to aluminum slides by using high-technology composites. Energy consumption for driving can be reduced by using downsized motors.

ADVANTAGE 2

Ultra-smooth Motion
Since all mounting surfaces and fitting edges of the lightweight slides are finished by precision grinding the accuracy is equal to that from the aluminum linear slides.

ADVANTAGE 3

Drop in Replacement
The ultra-light series are 100% interchangeable with the industry standard slides from the major manufactures.

ADVANTAGE 4

Ultra-high Dynamics
Exceptional low moving mass in combination with first class crossed roller ways offers excellent performance at higher accelerations up to 25G.

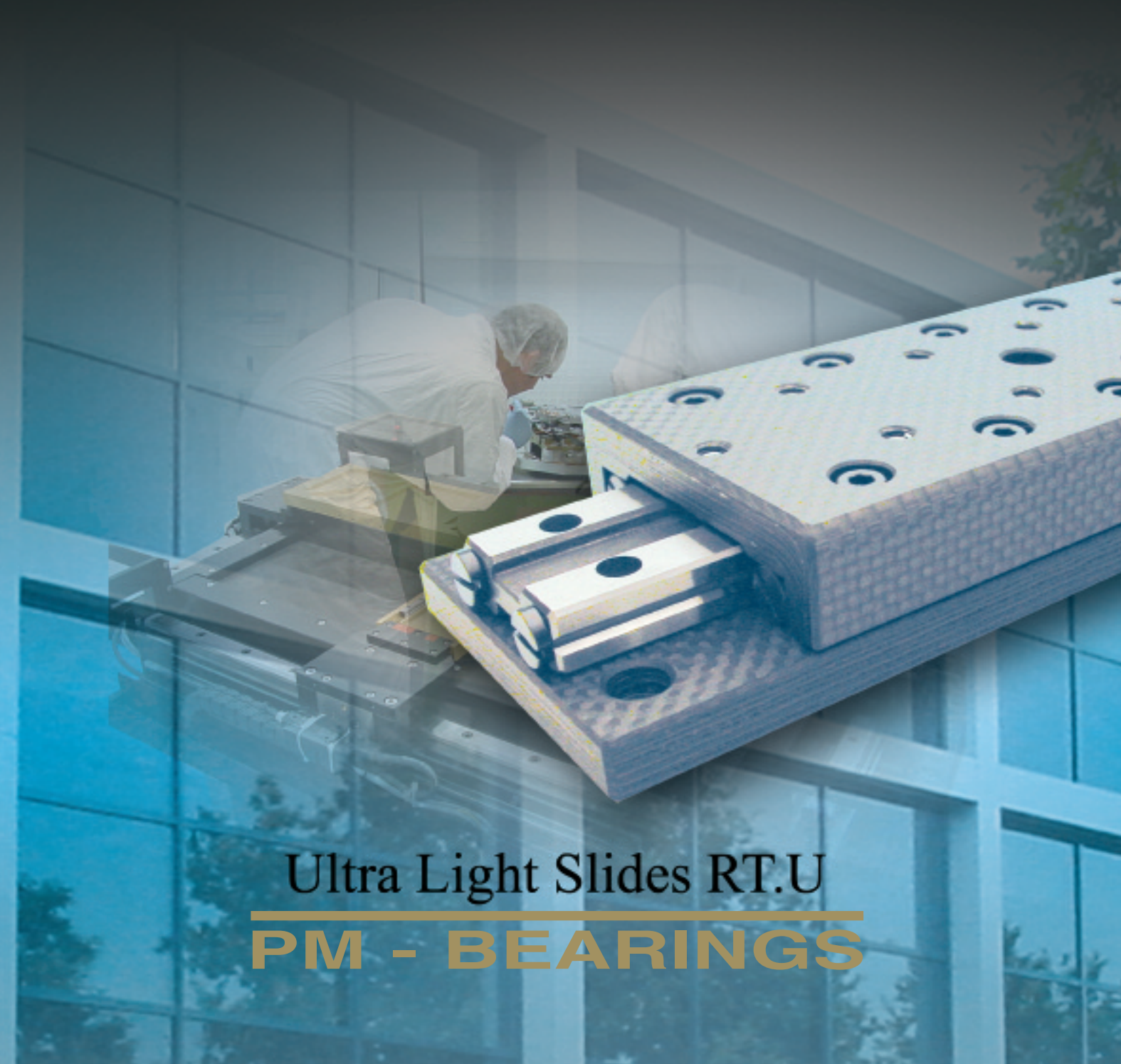
ADVANTAGE 5

High Stiffness
The layer arrangement is innovative designed to reach excellent rigidity in all directions.

Superior Quality
Incorporating PM linear slides into your application means that you can count on quality and reliability. Our standard rails and rolling elements are known for superior surface quality, our table parts are matching the same high and unexcelled quality standards. In 2005 PM was the first manufacturer who introduced ultra light series slides in the market. We do not only pay attention to surface finishing but we also pay a great attention to total quality. All our shipments are 100% inspected and tested for running performance and accuracy, before they leave our factory.

Focused on Innovation
Innovation and to be the best global linear bearing manufacturer at commercial pricing is our goal. Quality and service makes PM stand apart the competition.

All information and specifications shown in this brochure are based upon the latest available information at the time of printing. In line with our policy of continual product improvements PrecisieMetaal-Bearings BV reserves the right to make changes at any time, without notice, to design, material, specifications. PM-Bearings shall not be liable for any damages whatsoever, direct or indirect, based upon information in this brochure. For the latest details, please consult your local dealer.



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