

Schneeberger press release Monorail MR 4S

New profiled guideways shine with the four S's

Schneeberger's high precision Monorail MR roller guideways are used worldwide for a broad range of mechanical engineering applications: from simple handling tasks to difficult machining processes. The newest generation, the MR 4S series, introduces four major improvements relating to the distribution of lubricants, dirt resistance, shock resistance, and serviceability.

When it is a matter of achieving the highest accuracy in a small space, the Monorails are the best choice. They ensure that linear movements are always performed at high speed and with great accuracy. The preferred areas of application include medical devices, metrologic systems, and laser technology as well as in nanotechnology, microelectronics, and the semiconductor industries. Eight rail widths and four carriage sizes are available. The user has a choice of two accuracy and preload classes.

The new MR 4S series of monorail roller guideways from Schneeberger features a use-oriented lubrication system supported by a wide range of different interfaces. In addition, the type and method of lubrication can be specifically assigned externally. The lubricators and front plate are seal-welded to form pressure-tight lubrication channels, which considerably improves lubrication when operating in idle.

To prevent the ingress of dirt and the loss of lubricant, the carriages are equipped with double-lipped wipers all around. The fixing of the double-lipped cross wiper mounted on the front plate has also been optimized in the new MR 4S series. These plates, in turn, are supported on both sides along the entire cross-section, which ensures reliable functionality even under extreme loads. In addition, the new version is especially easy to service: After first removing the steel front plate, the cross wipers can be exchanged by pulling them up and over the rail in an axial direction.

Another key feature of the MR 4S Monorail guideway are the shock resistant carriages. For example, the front plate is made from stainless steel. It covers a plastic front plate to provide additional protection against damage and contamination. Both plates are fastened to the body of the carriage using the same four screws. This improves stability and ensures continuously good running characteristics. To further improve reliability under heavy loads, even the heavily stressed carriage bodies have been optimized to counteract fatigue stress of notched parts that may occur.

The Monorail MR series is available in the sizes 25, 35, 45, 55 and 65 and the maximum length is 6000 mm (per single rail). The sixth size, the MR 100 is especially strong and is suitable for loads of 150 tons and more. It has a maximum single part length of 3000 mm. Greater travel distances can easily be achieved by linking a number of rail segments together.

All Monorail MR sizes are similar in design. The body of the carriages and the rails are made of high-quality hardened steel. Specially shaped rollers are used as rolling elements which contributes to extreme rigidity and the high dynamic and static load carrying capacity. In the standard version, the carriages can be accelerated by up to 50 m/s² during normal use and are designed for speeds of up to 3 m/s. Each size is available in a variety of accuracy classes – from G3 (standard), G2, and G1 to the high-precision class, G0. A wide range of accessories and options are available. Expanded operations in combination with the Schneeberger AMS distance measuring system have proven to be especially practical.



Fig. 1: Four of the new Schneeberger Monorail MR 4S series advantages: An optimized lubrication system, ease of maintenance, shock resistant, and dirt repellent.

Schneeberger boilerplate

Established in 1923, SCHNEEBERGER today stands for pioneering innovations in the field of linear motion technology. The product and manufacturing program includes linear guideways and profile rail guideways as well as measuring systems, gear racks, slides, positioning systems and mineral casting. The company operates worldwide as an established OEM supplier in a variety of industrial sectors – from the solar, semiconductor and electrical industries to the machine tool and medical devices sectors. Schneeberger's sales offices and exclusive distributors are located in all major industrialized countries so that local customer support is always guaranteed.

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