

Features and Structure

QZAK

■ Compact design

Guiderail is round shaft. The rail has spot facings to fix with hexagon socket head cap screws. As a bearing carriage is solid type, installation is possible in the minimum space.

■ Suits to high speed operation by low friction

This item suits to high-speed operation (1m/s and over), because friction drag is low. The reason of low friction is that the shaft has no raceway groove unlike linear guides. Therefore lubrication with surplus grease is unnecessary unlike linear guides. This item also suits to clean surroundings, because lubrication with oil is sufficient.

■ Compatibility

Since tolerance between bearings and rails is compatibility, gauging mark between a bearing and a rail is unnecessary. Laborsaving of parts management and shortening of assembly time can be achieved.

■ Prevention of balls omission

Since this item has structure with prevention of balls omission, there are no bothers about balls omission in assembly. However, when you insert a bearing into a rail,

slide a bearing carefully in parallel.

■ Maintenance is simple

Bearings are delivered in the state which Li-soap based grease is beforehand enclosed with. However, please supply grease or oil periodically from oil hole of one side.

Types

QZAK

1.LGR:

This is the standard size series currently most generally used. This is suitable for electricity, an electron, and a semiconductor process industry.

2.MLGR:

This is rustproof type of LGR. This is suitable for environment where rust is not allowed.

Precision Standards

The following table1 shows precision standards for the LGR and MLGR series.

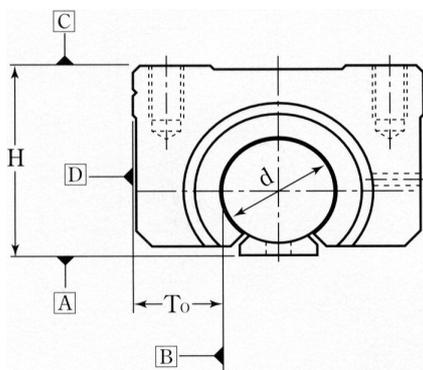
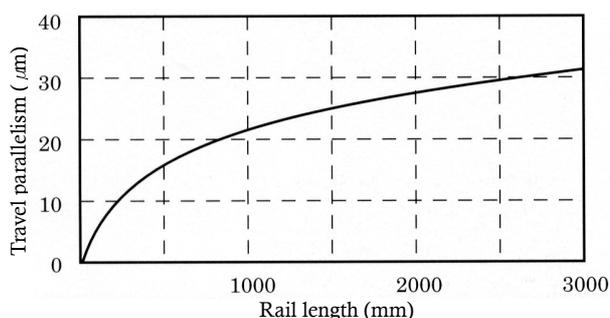


Table1: Precision standards unit:mm

Item	accuracy
H tolerance	±0.040
H deviation between paired rails	0.030
T ₀ tolerance	±0.040
T ₀ deviation between paired rails	0.030
C-face travel parallelism against A-face D-face travel parallelism against B-face	See Fig1.
Radial clearance	0~+0.020

Fig1: Travel parallelism



<Note>

The bolting torque of hexagon socket head cap screw should obey the value of maximum bolting torque on a table3 strictly.

Applicable temperature: -20°C~+150°C

Seals and retainers are heat-resistant material.

Rated Life

The rated life of the LGR and MLGR series can be calculated by the following formula.

$$L_{10} = \left(\frac{C}{f_s \cdot P} \right)^3 \cdot 50km \quad (1)$$

L₁₀: Rated Life km

C: Basic dynamic load rating N

P: Acting radial load N

f_s: Impulse, vibration and/or speed factor; see table2

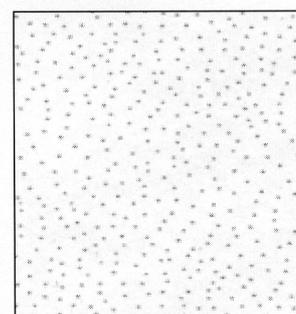
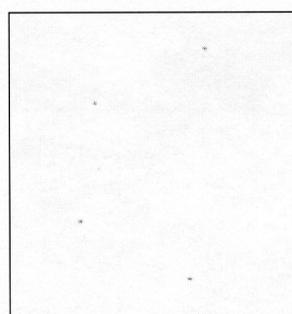
Table2: Impulse, vibration and speed factor

Conditions	f _s
When the reciprocating motion speed is V=300mm/sec or less without impact or vibration	1~1.5
When the reciprocating motion speed is V=1000mm/sec or less with slight impact or vibration	1.5~2.0
When the reciprocating motion speed is V=1000mm/sec or more with heavy impact or vibration	2.0~4.0

Effect against Rust

MLGR(RateNo=9.8)

SUS440C(RateNo=5.0)



Test Result

Specimen	No.	Test Time (hr)								
		2hr	5hr	8hr	16hr	24hr	36hr	48hr	72hr	96hr
Rustproof MLGR Series	1	10	9.8	9.8	9.8	9.8	9.5	9.5	9.5	9.5
	2	10	10	10	10	9.8	9.8	9.8	9.8	9.8
	3	10	9.8	9.8	9.8	9.8	9.8	9.5	9.5	9.5
Stainless Steel SUS440C or QD51	1	9.0	8.0	7.0	6.0	6.0	6.0	6.0	5.0	5.0
	2	9.0	8.0	8.0	8.0	7.0	6.0	6.0	5.0	5.0
	3	8.0	7.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0

The OZAK MLGR series of rustproof type features carriages with the most outstanding corrosion resistance and with highest degree treatment of uniformity. The series have a clearly superior resistance to corrosion than the conventional stainless steel made of steel grade SUS440C by the above test results.