

Types and Features

OZAK linear guides in this series, that are equipped with a round shaft, feature a supporting block. Its leg, designed to achieve the most stable construction, is attached to a rail. This series, with its bearings accommodated in a cast iron housing and designed into a high rigidity shape, provides a highly precise, smooth linear system.

- **GT (high-precision) series :**

This series, a popular guide unit with a slot installed in its housing, provides a guiding system without any jolts, after being mounted correctly with the adjusting bolts.

- **GH (high-precision) series:**

The series is specially treated on the inside diameter surface of its housing to maintain a proper clearance. Its compact shape allows customers to make easy use of its various applications.

- **GTC (commercial) series:**

The series, a commercial linear guide for general industrial machinery, uses a standard rail length to achieve a sharp reduction in production costs. A slot is installed in the housing for the clearance adjustment. The adjustment bolts maintain optimum conditions without jolts during operation.

- **GHC (commercial) series:**

This series is a low-cost commercial linear guide for general industrial use. It features a compact shape for easy use in various applications.

(Features)

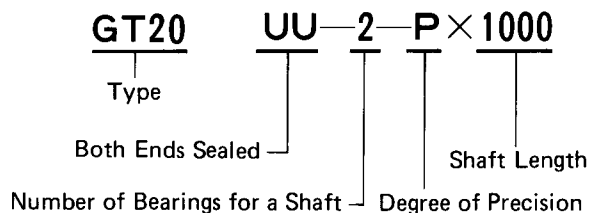
1. This series is equipped with roundshafts which promote high-precision processing and with supporting blocks in a stable leg construction. This series is less expensive than existing linear guides with their complicated shapes. Also, the series offers long term high precision operation.
2. The simple bolt-mounting installation of the supporting blocks shortens immensely required assembly time. The resulting finished product is a high-precision linear guide system.
3. Both parallel and horizontal adjustment during installation can be easily done due to the use of a round shaft which eliminates constraints on circulating steel balls caused by the deformed grooves present on existing linear guides.
4. **OZAK** linear guides, having less frictional resistance than existing guides with their deformed ball grooves, offer a smooth and stable operational performance.
5. This series is best suited for high speed operation due to the use of a round shaft which results in a better response to the infinite circulating motion of the balls.
6. The **OZAK** linear guides with their smooth joint surface allow installation in a short time, unlike the long guide rail products of other manufacturers.
7. Because both guide rails and bearings are perfectly interchangeable in this series, matchmarking between housing and rails or for a host machine is not required. Also, the rails are interchangeable when used in a long rail application, which helps to promote operational performance.

8. The guide bearing with both ends sealed is recommended for use in areas with heavy dust or foreign objects, etc. Also, an additional supply of grease in the sealed bearing will shorten required maintenance time.

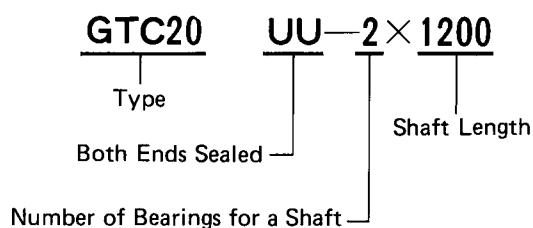
Numbering

The numbering system of the **OZAK** linear guides is as follows,

(High-precision Type)



(Commercial Type)



Precision and Fitting

Precision and Fitting

QZAK linear guides are composed of two different types, the high-precision type and the commercial type as shown in Table 70. In case a type of precision other than the high precision shown in Table 70 is required, please contact us.

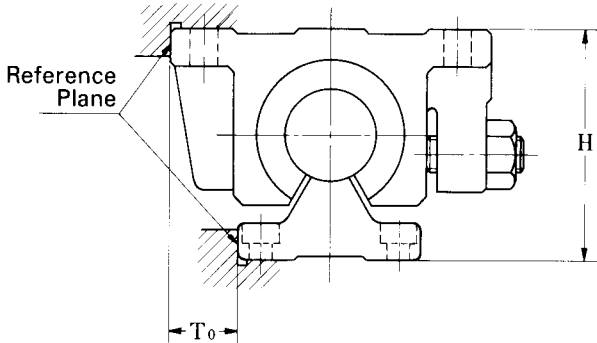


Table 70 : Units : mm

Precision Class	Commercial Class	High Precision Class
Marking	None	P
Allowable Size Difference for H	±0.2	±0.02
Allowable Size Difference for T ₀	±0.2	±0.025

Note 1) The values of the H tolerance given in this table are for when the supporting blocks are installed on the reference plane.

Note 2) The standard clearance between the bearings and the shaft is given in Table 71.

Table 71 : Standard Clearance Units : μm

Classification of Series	R	X̄
GT, GTC Series	± 5	0
GH, GHC Series	5 ~ 15	10

Both the GT and GTC series are equipped with clearance adjusting bolts. Prior to pre-loading, however, recheck the notes in Table 2 to prevent possible adverse effects on both the operational performance and service life of the bearings.

Rated Life

The rated life of both the GTC and GHC series can be obtained by using formulas, (1) and (2), P. 22.

Installation

A general method used to install two linear guides in parallel with each other on the same plane is shown in Fig. 22 based on the reference plane.

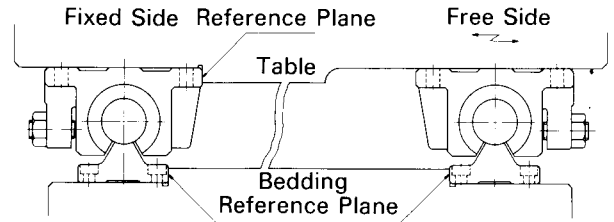
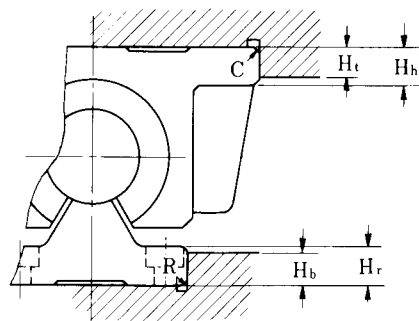


Fig. 22;

(Installation Method)

- 1) Securely tighten installation bolts of the supporting block rail on the fixed side, after setting the rail at the bedding reference plane.
- 2) Securely tighten the installation bolts of the supporting block rail on the free side, following parallel adjustment between the two rails.
- 3) Securely tighten the installation bolts of the housing on the fixed side, after setting the housing at the table reference plane.
- 4) Temporarily tighten the housing on the free side to keep it against the table.
- 5) Slowly assemble together the rails on the bedding and the housings of the table, keep them both horizontal. Do not force parts together or force together at an incorrect angle.
- 6) Finally, securely tighten the housing installation bolts on the free side, after manually driving over the whole stroke several times.

(Required Side Height and Corner Dimension of Installation Reference Plane)



$$H_b = H_r - 3\text{mm}$$

$$H_t = H_h - 3\text{mm}$$

$$R_b = 0.7R \text{ or less}$$

$$C_t = 0.5C \text{ or less}$$

Table 72 : Unit : mm

Series	H _r	H _h	R	C
GT, GH, GTC, GHC-20	8	8	1.5	1
GT, GH, GTC, GHC-25	9	10	1.5	1
GT, GH, GTC, GHC-30	10	12	1.5	1