Cross Roller Tables - Overview

About Part Numbers
Part numbers of MISUMI Cross Roller Tables and Cross Roller Guides have been changed since the 2010 catalog. See the information below.

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Structure and Features

Cross Roller Tables
- Highly accurate and rigid cross roller tables with cross roller guides CRV integrated with accurately finished ground plates and bases.
- The linear motion bearing structure comprised of two 90-deg. V grooved rails and cylindrical rollers. The rollers are arranged alternately orthogonal to each other, and the structure is able to support moment loads in all directions.
- With no circulation of rolling elements, the Ball Slide Guides slide smoothly, accurately and quietly with little friction.

Ball Slide Guides

Stroke
The travel will be symmetrically 1/2 of the total stroke.

Cage Creep
When the table stops, inertia force applied to the cage may cause cage creep under the following conditions. To avoid cage creep, perform full stroke travel several times during use to align the cage in the center.
- Use in half stroke
- Use at high speed

Load Rating
Calculate the cross roller guide load ratings as below.

\[ L = \frac{f \cdot C}{I_{w} \cdot f_{T}} \]

Load Direction

Vertical Use of 1 Rail

Parallel Use of 2 Rails

Rated Life
Calculate the rated life of cross roller guide with the following formula.

\[ L_{H} = \frac{(L_{0} \cdot 10^{5})}{2 \cdot 6.8 \cdot n_{1} \cdot 60} \]

Load Factor Table

Condition of Use

Load Factor

Temperature Coefficient (ft)
If the Cross Roller Table temperature exceeds 107°C, the Cross Roller Table and shaft hardness decreases, resulting in more allowable load and shorter life than used at a room temperature. Please correct the rated life according to the temperature factors.

Fig. Temperature Coefficient

 gibt die Messwerte der Cross Roller Guide an.

Dial Indicator

Mount the dial indicator to the predetermined position (Fig. 3).

Adjust the table position to place the cage in the center.

Remove end stops and insert the cage from the end (Fig. 2).

Stroke the table and tighten the adjustment screws within the cage (a~e) with

Fig. Adjusting Screw

Repeat until the dial indicator value becomes and remains minimum.

Winter

Fig. 1

Spring

Fig. 2

Fig. 3

Dial Gauge

Fig. 4

Fig. 5

Fig. 6

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