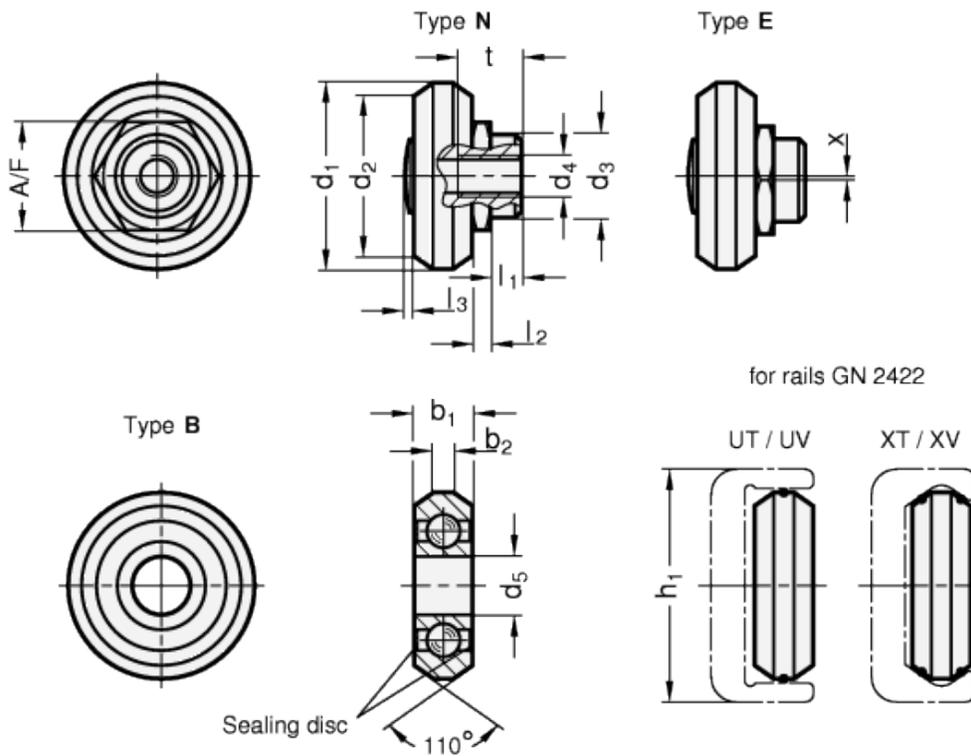


GN 2426

Rollers



technical informations

Specification

Type

- Type B: Rollers with bore
- Type N: Normal roller with centric bearing pivot
- Type E: Eccentric roller with eccentric bearing Pivot

Roller

- Anti-friction bearing steel, hardened
- Dust and splash water protected

- permanent lubrication

Sealing disc
Plastic NBR 2RS

Bearing pivot
Steel
zinc plated, blue passivated

Information

Rollers GN 2426 are suitable for making individual and space-saving roller guide systems in connection with rails GN 2422.

The outer surfaces of the rollers are slightly ball-shaped, resulting in an accurate and linear run across four contact points in connection with the appropriately shaped fixed bearing rails (Type XT or XV). The same applies to floating bearing rails (Type UT or UV), but with only two contact points.

Combined with the rail, clearance freedom or the initial tension of several rollers can be selected during assembly by using the eccentrically adjustable roller (Type E). The necessary fork wrench is available separately under standard GN 2424.1.

The sealed and permanently lubricated rollers guarantee a long service life and ultimate running performance.

On request
- Sealing discs, sheet metal Profile with gap seal (2Z)

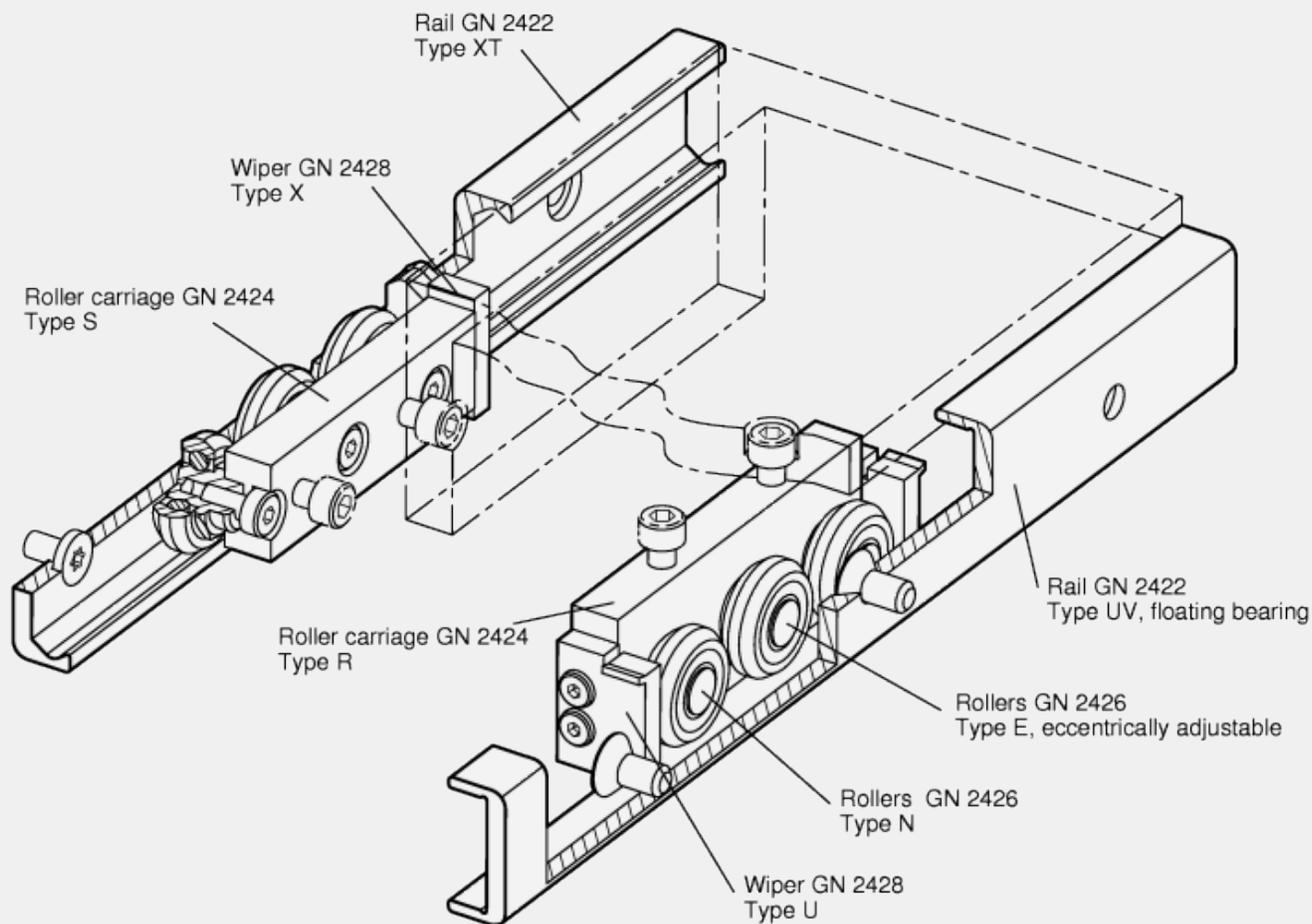
Roller guide systems

Roller guide systems allow the reliable and economical linear movement of hardware modules. Their outstanding attributes are low-maintenance operation, long service life and quiet running. These are attributes which make roller guide systems indispensable components for efficient and safe devices and plants with low energy need.

The product range includes all components necessary for making roller guide systems which are compact and easy to assemble and install. All roller guide systems consist of one outer rail with rollers or roller carriages moving inside this rail. Rails are the foundations for roller guide systems. They can be made as fixed or floating bearing versions, with the fixed bearing variant guiding the rollers running inside the rail on two levels, while the floating bearing variant doing so only on one level. By combining both versions, any misalignments or parallelism errors in the connected construction can be compensated. Complex preliminary work caused by the precision machining of surrounding parts can so be kept to a minimum. Both rail versions can be attached in two different ways: cylindrical countersunk holes or 90° conical holes for the self-centering assembly are available.

Roller carriages are available in 3 different types of construction, differing by their radial or axial assembly option, their material and their degree of sealing. All roller carriages are fitted with 3 rollers, with the middle one always supplied with an eccentrically adjustable bearing pivot for determining the initial tension or the clearance/play inside the rail. Depending on rail version, a wiper is mounted on either end of the roller carriage.

Rollers are similar in structure to deep-groove ball bearings, with a non-detachable bearing pivot used as fixing element. For special applications, rollers and wipers can also be supplied separately from the roller carriages under separate standards. All design variants are available in the nominal rail dimensions $h_1 = 18, 28, 35$ and 43 mm. Beyond the standard range, they can also be supplied in lengths of up to 3600 mm in one piece, or as combined rails for individual and customised requirements.



Rollers for rails

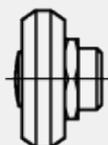
To safeguard maximum flexibility, roller guide systems are made from the elements listed below. Depending on requirement, the appropriate components can be supplied in the desired quantity. As the rails and the roller carriages must be assembled separately in many applications, these items will be supplied non-assembled and packed separately. On request, fully pre-assembled roller guide systems including rails GN 2422 and roller carriages GN 2424 are available.

Type B



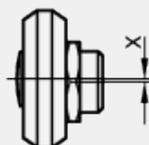
Roller with bore

Type N

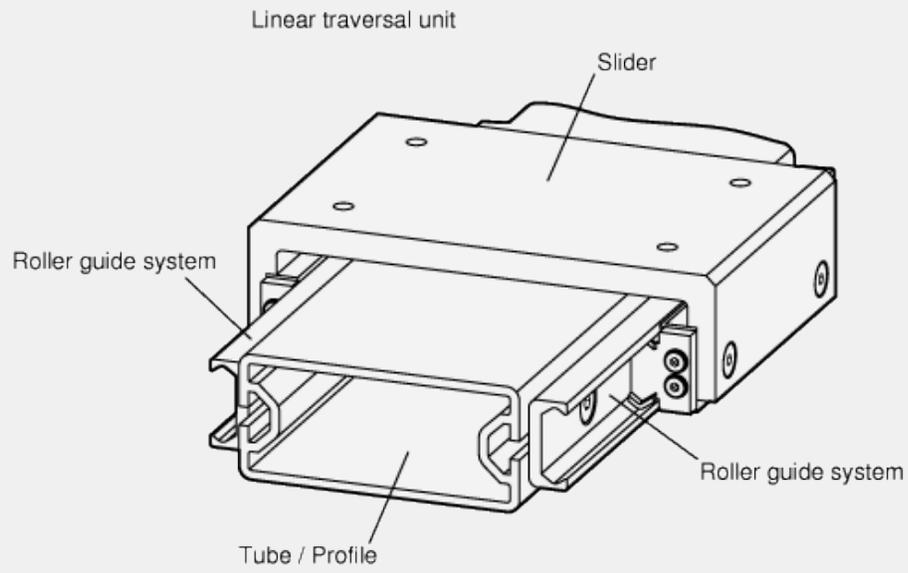
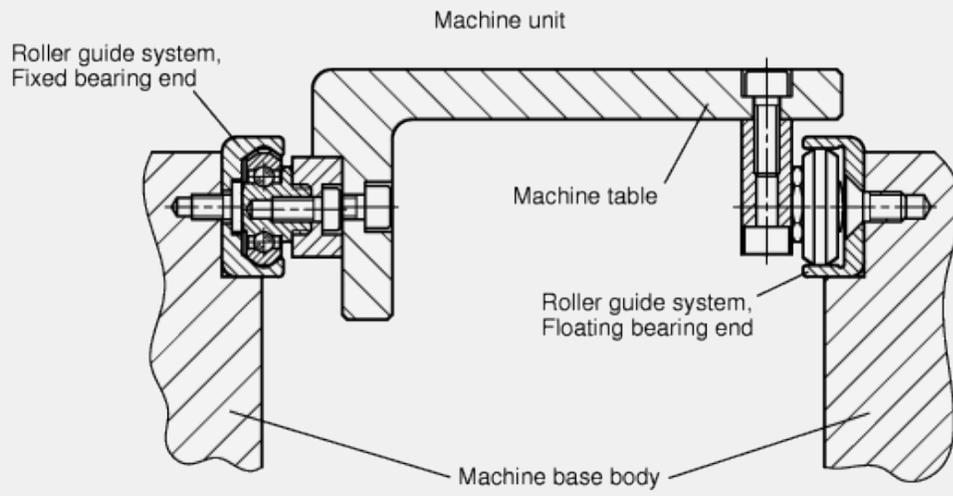


Normal roller with central bearing pivot

Type E



Eccentric roller with eccentric bearing pivot

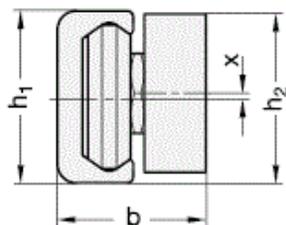


Roller guide systems

Tolerance for mounted roller guide systems

In the combination of rails GN 2422 and roller carriages GN 2424, the following dimensions / tolerances exist.

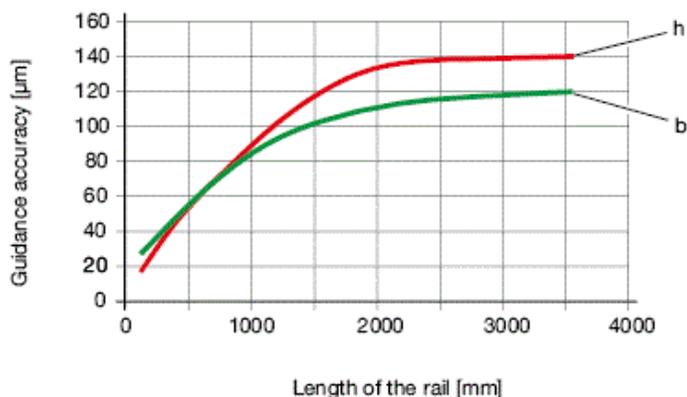
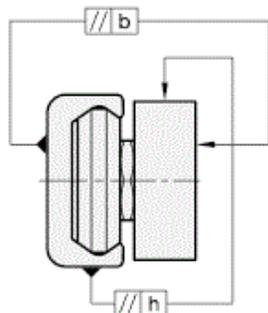
If several roller carriages are set for reversal into one rail, an offset x can occur between the roller carriages which must be added to the dimension h_2 .



	h_1	b	h_2	x
18	+0,25/-0,10	+0,15/-0,16	+0,25/-0,25	±0,20
28	+0,25/-0,10	+0,25/-0,10	+0,15/-0,35	±0,20
35	+0,35/-0,10	+0,25/-0,10	+0,10/-0,30	±0,20
43	+0,36/-0,10	+0,25/-0,10	+0,20/-0,35	±0,20

Guidance accuracy

Roller guide systems feature the linear guidance accuracy shown in the diagram.



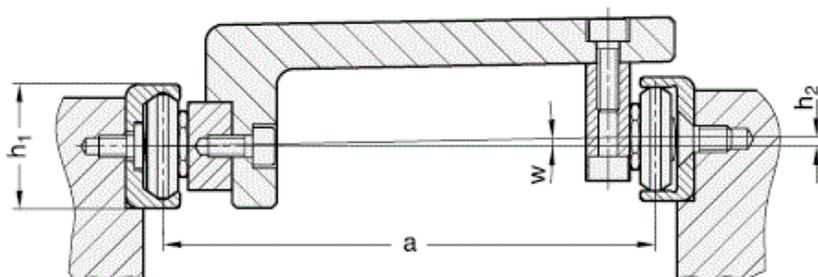
Permissible height offset

The fixed and floating bearing principle ensures that misalignments in the base construction are compensated. When using Type UV / UT and XV / XT rails, certain limits should not be exceeded, however. The following table shows the maximum permissible angle of the height offset of the fixed and floating bearing rails. Please note that the load rating must be reduced by 30% once the specified value is reached.

To calculate h_2 , the following equation should be used: $h_2 = a \times \tan w$, with the tabular values shown below used for w .

Example: $h_1 = 43$, $a = 650$ mm, w max. = $0,171^\circ$

$$h_2 = 650 \text{ mm} \times \tan 0,171^\circ = 1,94 \text{ mm}$$

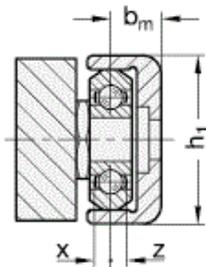


h_1	w max.
18	$0,057^\circ$
28	$0,143^\circ$
35	$0,151^\circ$
43	$0,171^\circ$

Permissible lateral offset

It is possible to compensate angular defects and the offset of mounting surface with the help of the fixed and floating bearing rails. The permissible offset of rollers and roller carriages in the Type UT / UV rails is given by the values for x and z. The reference is the nominal middle of the raceway b_m .

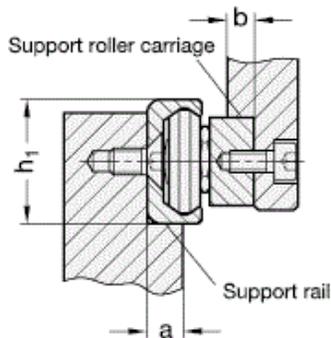
A parallelism or angular error can so be compensated across the whole length of the rail length which corresponds to an offset from the sum of the values for x and z.



h_1	b_m	x	z
18	6,3	1,1	0,3
28	8,6	1,3	0,7
35	10,5	2,7	1,3
43	14,5	2,5	1,5

Support widths

To guarantee the proper running motion, outside dimensions must be observed during the assembly of roller guide systems. Suitable elements include supports at the rail and at the roller carriage which should not be smaller than the widths a or b. Also, forces acting from the outside can so be transferred reliably from the roller guide system without exposing the fixing screw to shear stress.

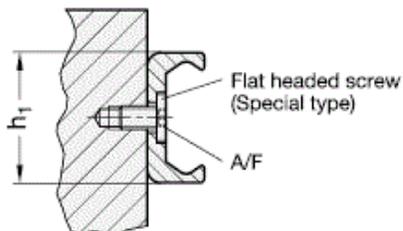


h_1	a	b
18	5	4
28	8	4
35	11	5
43	14	5

Tightening torque

When setting countersinks in the rails Type UT and XT, make sure that the mounting holes of the attachment surfaces are sufficiently sunk.

The specified tightening torque of the flat headed screws must be maintained.



h_1	Screw	A/F Drive	Tightening torque
18	M 4 x 8	T20	3 Nm
28	M 5 x 10	T25	9 Nm
35	M 6 x 12	T30	14 Nm
43	M 8 x 16	T40	24 Nm

Traversal speed

Depending on application and installation length, the maximum traversal speed of roller guide systems is 7 m/s.

Lubrication

Once the roller carriage has been placed in the rail, it is recommended to slightly grease the raceway surfaces of the rail with a heavy duty lubricant for linear guide systems such as Klüberplex BE 31-222 using a brush.

Check the lubricant film at regular intervals for any dirt or pollution, e.g. with metal chips.

In the event of visible pollution or clear discoloration of the lubricant, use a clean rag to clean the rails and the rollers and apply new lubricant.

Applying new lubricant is normally necessary once every year or after 100 km of running distance.

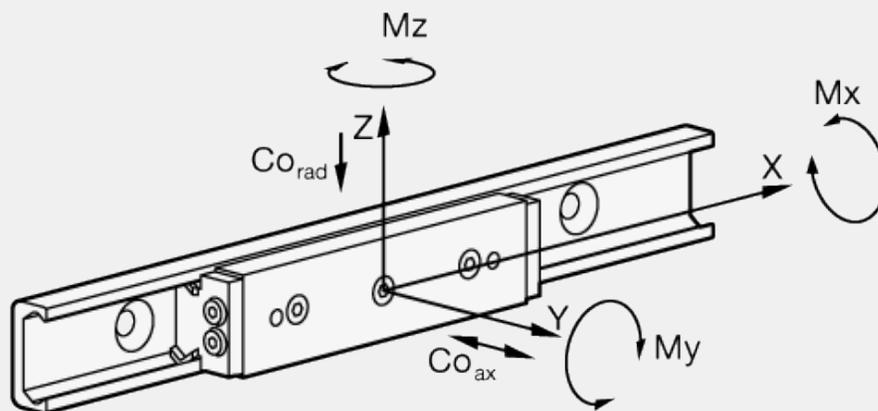
Operational temperatures

The components of the roller guide systems are suitable for use in the temperature range from -30 °C to 130 °C.

Load rating

The installation space, the desired mode of attachment and the load to be carried are the decisive factors when selecting the best possible roller guide system. The values given below will help in selecting the most suitable roller carriage or the most suitable rollers.

The details on load capacity are non-binding guide values given without liability and do not constitute a warranty of a certain quality. The user must determine in each individual case whether a product is suitable for the intended application. Environmental factors and ageing may influence the stated values.



Standard Elements	Main dimensions															Weight
Description	h_1	b_1	b_2	d_1	d_2	$d_{3-0.05}$	d_4	$d_{5-0.008}$	l_1	l_2	$l_{3 \max.}$	A/F	t	x	g	
GN 2426-18-B-2RS	18	4	1.6	14	12.4	-	-	5	-	-	-	-	-	-	4	
GN 2426-28-B-2RS	28	7	2.4	22.4	19.2	-	-	7	-	-	-	-	-	-	13	
GN 2426-35-B-2RS	35	7.5	3.3	28	25.1	-	-	8	-	-	-	-	-	-	23	
GN 2426-43-B-2RS	43	11	5	35	30.8	-	-	10	-	-	-	-	-	-	40	
GN 2426-18-N-2RS	18	-	-	14	12.4	6	M 4	-	1.8	1.5	0.5	8	5	-	4	
GN 2426-28-N-2RS	28	-	-	22.4	19.2	10	M 5	-	3.8	2.2	0.6	13	8	-	17	
GN 2426-35-N-2RS	35	-	-	28	25.1	12	M 5	-	4.2	2.5	0.7	15	9	-	32	
GN 2426-43-N-2RS	43	-	-	35	30.8	12	M 6	-	4.3	2.5	0.7	15	11	-	63	
GN 2426-18-E-2RS	18	-	-	14	12.4	6	M 4	-	1.8	1.5	0.5	8	5	0.4	4	
GN 2426-28-E-2RS	28	-	-	22.4	19.2	10	M 5	-	3.8	2.2	0.6	13	8	0.5	17	
GN 2426-35-E-2RS	35	-	-	28	25.1	12	M 5	-	4.2	2.5	0.7	15	9	0.7	32	
GN 2426-43-E-2RS	43	-	-	35	30.8	12	M 6	-	4.3	2.5	0.7	15	11	0.8	63	



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