

Emer-flex Coupling FAQ



***“How long can the maximum length of the Long spacer type be made?”**

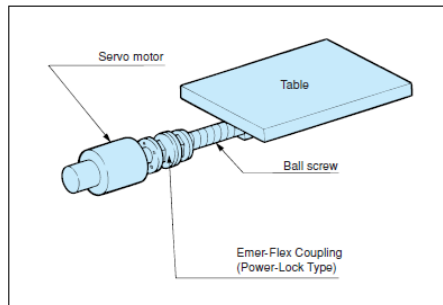
***“Can the Power Lock type be used with a hollow shaft?”**

***“Within what temperature range can the Emerflex be used?”**

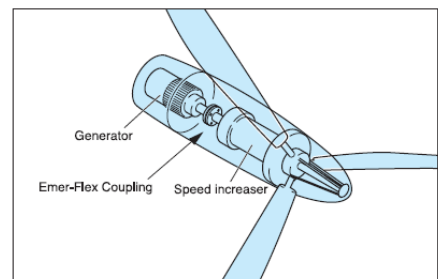
These common questions and concerns have been put in a Frequently Asked Questions format for your convenience. We hope that by using this pamphlet you will be able to find solutions to your common queries, while gaining a better understanding of our product.

We have summed up your common questions here.

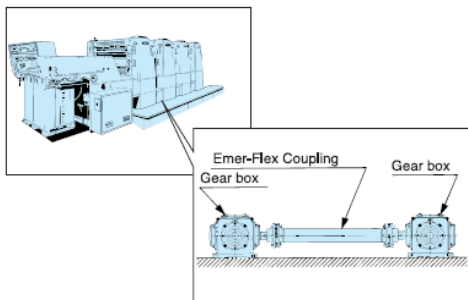
NC machining centers



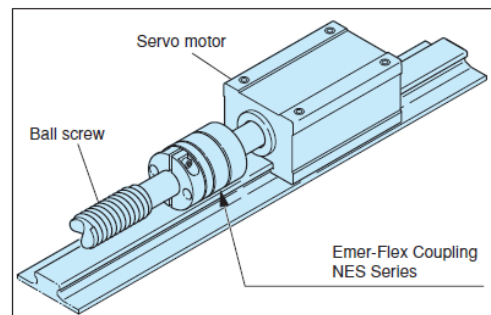
Windmills



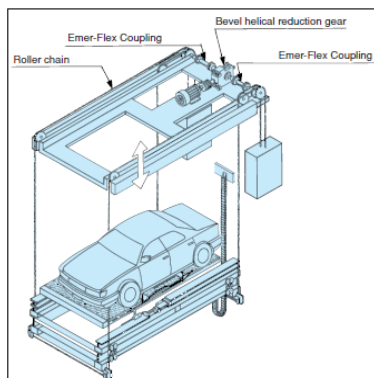
Printing presses



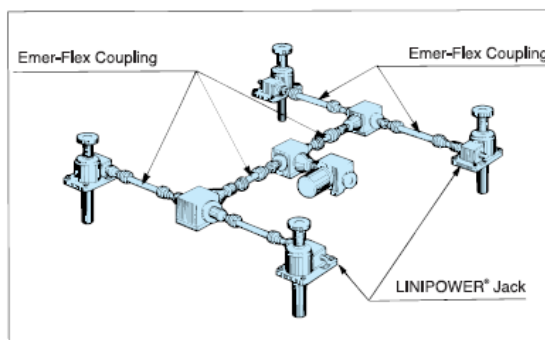
Robots



Elevator-type vertical parking lots



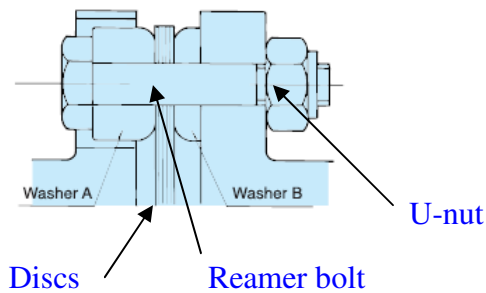
Lifters



Q.1 Why does the Emer-flex require no lubrication and have no backlash?

A.1 Emer-flex coupling transmits the power by the friction force with discs due to the tightening of reamer bolts and U-nuts.

Therefore, there is no backlash or sliding, and lubrication is not necessary.



Q.2 What happens when the torque which exceeds allowable torque is applied?

A.2 The allowable torque is determined by the friction force with discs due to the tightening of reamer bolts and U-nuts.

If overload higher than the allowable torque is applied, slippage may occur and cause the coupling to break.

Furthermore, in some cases the allowable torque may decline due to the tightening method, so please refer to our catalog for details.

Q.3 What happens when the U-nuts are tighten without a torque wrench?

A.3 The value of the allowable torque is specified for when the U-nuts are tightened according to the stipulated tightening torque. If the torque wrench is not used for tightening, the coupling may slip due to lack of tightening, or it may cause deformation due to too much tightening. As this may be a cause of damage or accident, always use a torque wrench and tighten according the stipulated tightening torque.

Q.4 For high speed rotation does the dynamic balance need to be adjusted?

A.4 Sometimes the dynamic balance must be adjusted if the generation of vibration or noise become problem.

If the JIS balance rating and rotational speed is indicated, the possibility of dynamic balance can be examined.

Q.5 How large is the allowable value of the parallel misalignment for the single type?

A.5 The single type can only absorb the angular misalignment, and cannot absorb the parallel misalignment.

The single type is recommended only for the application of the precise installation with servo motor such as the NC machine tool.

For general application, use spacer type.

Q.6 Is tapered bore available?

A.6 Yes, if the tapered bore is 16mm (1/10 taper) or 11mm (1/10 taper).

For other sizes, if a taper cage is supplied to us we can machine a tapered bore.

Q.7 Can the installation of the vertical type be used?

A.7 For the standard spacer type or the single type, yes it can be used.

In the case of the long spacer type, if the distance between the both ends of the hub (J dimensions) exceeds those written in the diagram below it will need a special structure to support its own weight. In such a case please consult TEM for details.

(mm)

Model No.	J Dimension	Model No.	J Dimension	Model No.	J Dimension
NEF04W	319	NEF130W	1910	NEH14W	1767
NEF10W	408	NEF210W	1924	NEH20W	1277
NEF18W	1171	NEF340W	2143	NEH30W	1747
NEF25W	1429	NEF540W	1542	NEH41W	1355
NEF45W	1386	NEF700W	1463		
NEF80W	1505	NEH09W	1153		

Q.8 “How long can the maximum length of the Long spacer type be made?”

A.8 For the Emerflex coupling long spacer type, the maximum length from end face to end face of hub is 6000mm.

However, sometimes an examination of usability is needed so please contact TEM.

Q. 9 Is it possible to adjust the phase of the keyway of left and right hubs?

A.9 If the phase of the keyway must be accurately adjusted, when ordering please indicate the “adjustment of the keyway phase specification.”

In this case, maximum phase difference is ±2 degrees.

If the higher precision of the phase of the keyway is required, the Power Lock specification is recommended.

Q.10 Can the stainless steel or electroless nickel-plated specifications be made as the rust prevention specification?

A.10 Mainly for clean room applications, electroless nickel-plated specification is standardized as a simple rust prevention. Also, the stainless steel specification is available, so please contact TEM.

Q.11 What is the G type which corresponds to the gear coupling?

A.11 Overall length and hub length of G type are same as gear coupling, so it can be replaced with gear coupling as is.

By replacing to the Emer-flex coupling, no lubrication becomes needed and the man-hours necessary for maintenance has been reduced. (Made To Order products)

Q.12 Within what ambient temperatures can the Emerflex coupling be used?

A.12

1 Highest: 200°C

1 Lowest: -30°C

Q.13 After installation of the Emer-flex coupling, the disc bends slightly in the axial direction. Is this ok?

A.13 When the U-nuts are tightened, if thrust load is applied to the coupling, the discs may bend back and forth in the axial direction. If this occurs there has been too much stress applied upon the discs, and it is not recommended to use as is. To fix the problem, loosen the U-nuts, and re-install the coupling so that there is no thrust load applied upon it.

Q.14 For the Power Lock specification the EL type is standard, however, can the other type of the Power Lock be installed?

A.14 Yes. However, the outside diameter of the hub must be checked to ensure that the hub outside diameter can handle the Power Lock surface pressure.

In general, a wide range shaft tolerance type KE Series or a small hub type TF Series are recommend.

Q. 15 Can the Power Lock specification type be used with a hollow shaft?

A.15 Based on the material strength and bore of the hollow shaft, the possibility can be examined. Contact TEM for more details.

Q.16 Are there any points of caution concerning the selection of the long spacer type?

A.16 When using the long spacer type with high rotational speed, it is necessary to check the rotational speed to avoid critical speed. When selecting, make sure the distance between the end face of the both hubs (J Dimension) and the intended rotational speed are within the allowable limits with the catalog. Contact TEM for more details.

Q.17 Are Emer-flex Coupling parts compatible?

A.17 The hubs, discs and bolts of the single type, spacer type and the long spacer type are the same, thus they are all compatible with one another.

Q.18 Can the Emer-flex coupling be painted?

A.18 If the Emer-flex coupling were painted it would change the dimensions of the outer diameter by increasing the paint film thickness. This will prevent proper centering and therefore cannot be recommended. If painting is absolutely necessary please contact TEM.

Q.19 Is there only one direction to insert the reamer bolts at the time of installation?

A.19 It does not matter from which direction the reamer bolts are installed. However, there is only one direction of installation for washer A and B, so please assemble according to the instructions in the manual or catalog.

Q. 20 Is the reamer bolts interchangeable with other similar goods on the market?

A.20 The reamer bolts are made specifically for use with the Emer-flex coupling and is therefore not interchangeable with other goods on the market. If the reamer bolts are necessary please place an order to TEM through your local distributor.

In response to a wide variety of needs;
Emer-flex Coupling Line-up

Compact, high precision NES series

The hub and spacer is made of super duralumin. Compact disc coupling.
High torsional rigidity so it following the movement of the servo motor. Ideal for high precision control.



NEF Clamp type

Friction connection created upon tightening the only one bolt per hub.
Compared to the Power Lock tightening type, the axial length is shorter and takes little space.



NEF Spacer type

Two disc sets type. Angular, parallel and axial misalignments can be easily absorbed.
Basic disc coupling type, can be used within a wide range.



NEF Power Lock type

Power Lock EL series (friction locking device) at hub, with the pressure flange, shafts are connected by friction.

Ideal for use with a servo motor due to easy phase adjustment, and it also has no backlash.



NEF Long spacer type

The floating shaft can be used when there is a distance between devices.

Ideal for use with the line shaft drive and miter gear box.



NEH Series

Large size series. Can be used for a torque of up to 176, 400N·m.



NEF Single type

1 set disc coupling can absorb angular and axial misalignments, however cannot absorb parallel misalignment.

Recommend only for the applications with high precision centering with servo motor, such as NC machine tool and NC wood working machine.

*For general applications, use the spacer type.



Other series'

Other couplings, such as the gear coupling compatible G-series, are available by MTO basis.

For further information, please contact our Overseas Sales Department at the numbers provided below.

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FAX: +81(75) 957-3122

Tsubaki Emerson Co.

Home page: <http://www.tsubaki-emerson.co.jp/>

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