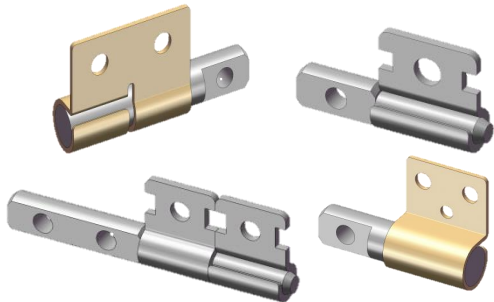




ΑΔΥΛΠΕΧ

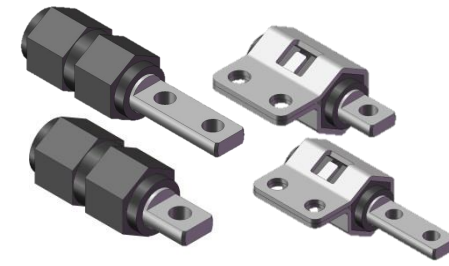


# Advanexhinges



Advanex Europe

Part of the Advanex Global Network



Advanex HexaTorq torque controlling hinges now set the industry standard for reliable, cost effective motion control.

With two ranges of friction hinges, HexaTorq and SureTorq we can provide our customers with a one-stop shop for any and all hinge needs.

## HexaTorq Range

This range of free stop hinges are innovative, high quality, metal and plastic resin hinge assemblies that offer an exceptional smoothness of motion.

Available in a range of standardised sizes, and available with or without integral mounting brackets, to meet most application requirements.

Conventional spring type hinges used in high temperature environments or cyclic applications require regular lubrication to prevent damage to mating parts.

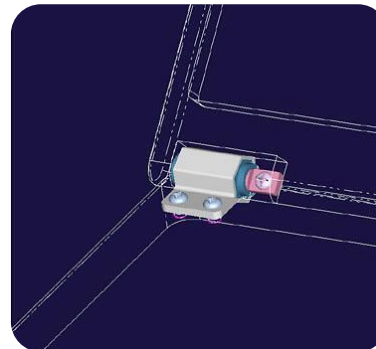
The HexaTorq constant torque design, utilising a modern engineered plastic resin, requires no lubrication.

Extensive design & durability testing has found that in either elevated temperature or constant cyclic applications HexaTorq hinges experience a predictable drop-off in torque, and will then return to pre-set torque values after a minimal cool down period. This means no damage to your expensive part!

By utilising our motion control HexaTorq series of hinges you can significantly reduce your typical design to manufacture time cycle. Add those savings right to your bottom line!

The HexaTorq standard range offers..

- **Consistent Torque Life** - Designed for 30,000 Cycles without failure
- **Highly Durable Hinges** - Virtually no Wear & Tear
- **No Spring Back** - Holds Position during full range of motion
- **Maximised Space & Weight savings** - Lightweight & Compact
- **Standardised Design** - 6 Torque Ranges & several mounting options
- **Corrosion Resistant** - Stainless Steel & Resin Material
- **Easy mounting without brackets** - Hex Configuration
- **No Foreign Object Damage** - No metal on metal, no particulates
- **Eliminates contamination or corrosion** - No Lubrication Required



HexaTorq Free-Stop Hinge  
in laptop application

# HexaTorq standard range provides savings by..



**Light-Weight and Compact**  
Maximised space and weight savings.



**Foreign Object Debris (FOD)-Free Design.**  
No metal-to-metal friction means no foreign object damage from material particles.



**Consistent Torque**  
Designed for 30,000 cycles or more without failure!



**Highly Durable Hinges**  
Virtually no Wear & Tear

## Markets Supplied by Advanex Europe

As there are so many markets for our standard range of hinges it would be virtually impossible to list every single application our products go into.

Below are some of the key areas we provide for

- Computers
- Medical / Pharmaceutical equipment
- Automotive / Motorsport
- Aerospace / Satellites
- Telecommunications
- Defence / Security
- Agriculture
- Environmental
- Office Equipment
- Building & Construction
- Food & Beverage
- Railway Industries
- Health & Safety





ADVAPLEX

## HexaTorq Characteristics

Of all the advantages, of the HexaTorq, the most significant are the free positioning, lack of lubrication and the high durability and component life.

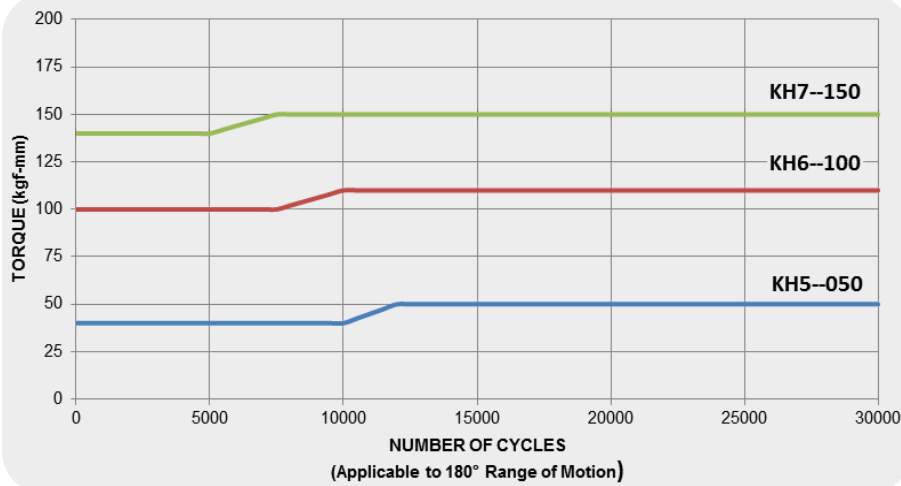
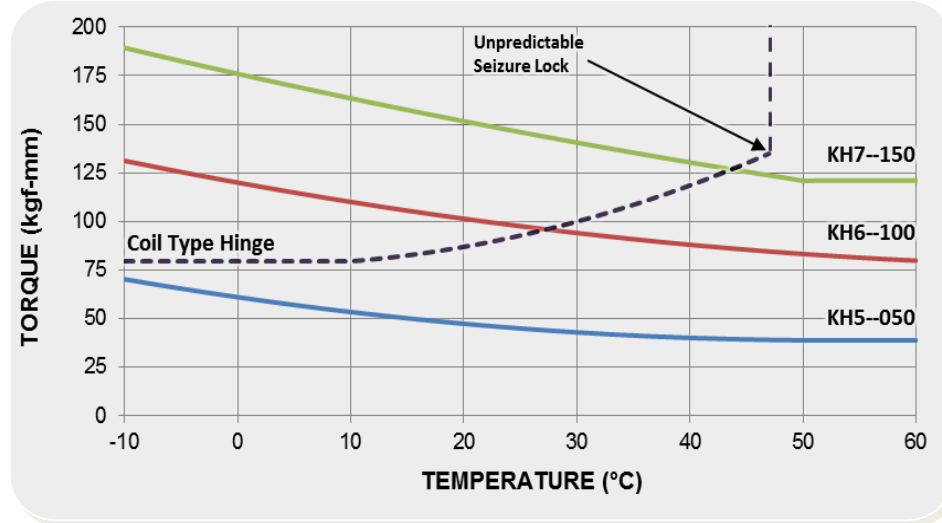
## Temperature Characteristics

Conventional spring coil hinges can, unpredictably, lose their lubrication and seize up, causing significant damage to mating parts.

This can often occur in high temperature environments or where continual cycling increases the temperature within the hinge.

The HexaTorq design, utilising the modern engineered plastic resin, requires no lubrication.

In fact tests show in elevated temperature application the HexaTorq hinges show a predictable drop-off in torque and will then return to their pre-set values after a minimal cool down period. This unique concept cause no expense on replacing the damaged hinge or mating parts.



## Durability Characteristics

The HexaTorq standard range has undergone extensive in-house life cycle trials and testing to allow confidence in its long term durability.

The combination of stainless steel and plastic resin removes the need for lubrication and creates a product incorporating seizure prevention and high durability levels.

# Part Number Creation:

Part Number Example: the example below consists of a KATO® HEXATORQ hinge with a Torque Rating of 50 Kgf-mm, with a Bracket, Righthand Mounting and with a Shaft Diameter of 5.0 mm and 2 Holes in the shaft.

**K H 5 2 B 050 R**

Type:  
KH = KATO Hinge

Shaft Diameter (mm):  
5.0, 6.0 or 7.0

No of Shaft Holes:  
1 or 2

Style:  
A=Without  
B=with Bracket (Require Mounting Suffix)

Mounting (Bracketed Only):  
L=Lefthand, R=Righthand

Torque Rating (kgf-mm):  
25, 50, 75, 100, 125 or 150



## Calculating Torque Requirements

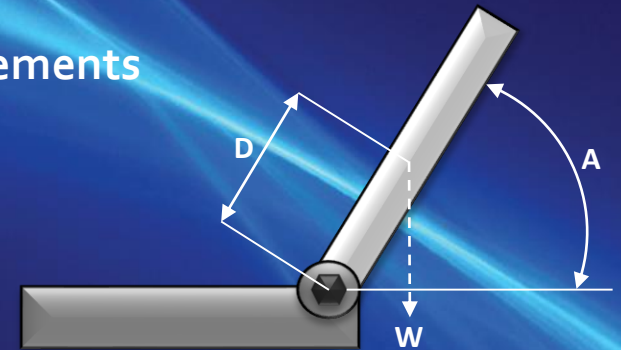
Please use the following formula:

$$\text{Torque} = W \times D \times \cos(A)$$

Example:  $W = 2$  Kgs,  $D = 75$  mm,  $A = 0^\circ$

$$\begin{aligned} \text{Torque} &= (2) \times (75) \times \cos(0) \\ &= 150 \text{ kgf-mm} \end{aligned}$$

**Note:**  
If Two hinges are used:  $150 / 2 = 75$  kgf-mm  
To convert Kgf-mm to lbf-in multiply by 0.0868



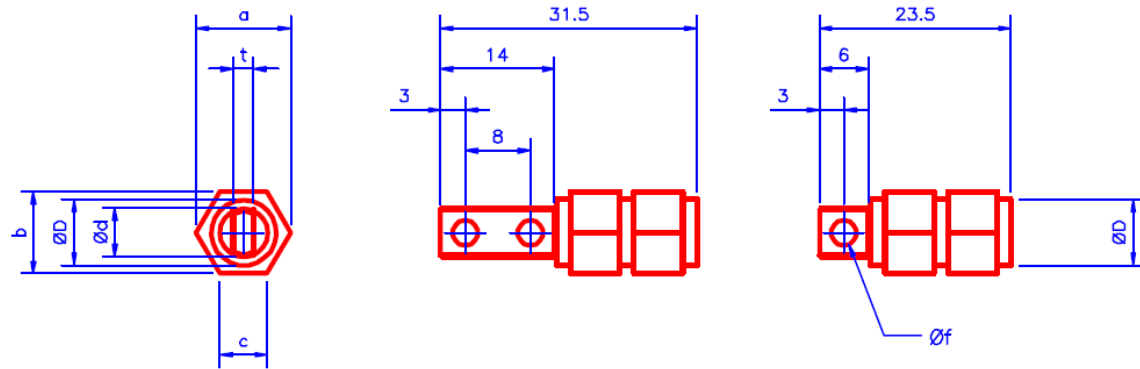
$A$  = Angle

$D$  = Distance to Centre of Gravity

$W$  = Weight of Object to be Supported

## Hexatorq "A" Series

The "A" Series range of HexaTorq offers a simple solution for the more common applications.



Model.No	Torque		Without Bracket			Diameter			t
	kgf-mm	lbf-in	a	b	c	D	d	f	
KH51A025 KH52A025	25	2.2	9.3	8.2	4.8	7.0	5.0	2.7	2.0
KH51A050 KH52A050	50	4.3	9.3	8.2	4.8	7.0	5.0	2.7	2.0
KH61A075 KH62A075	75	6.5	11.6	10.2	5.8	8.1	6.0	3.2	2.5
KH61A100 KH62A100	100	8.7	11.6	10.2	5.8	8.1	6.0	3.2	2.5
KH71A125 KH72A125	125	10.9	14.0	12.2	7.0	10.2	7.0	3.2	3.0
KH71A150 KH72A150	150	13.0	14.0	12.2	7.0	10.2	7.0	3.2	3.0

- Notes:**
1. All dimensions in millimetres (mm)
  2. Style Designator - A = No Bracket / B = Bracketed
  3. To convert Torque from kgf-mm to lbf-in, multiply by 0.0868



KH71A150

## HexaTorq "A" Series



KH51A025

### "A" Series 1 Hole Fixing



KH52A050



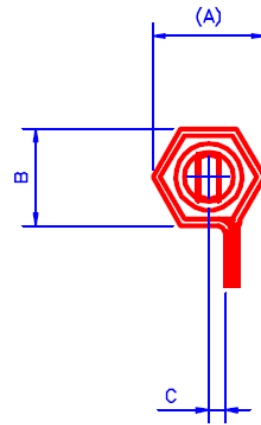
KH72A125

### "A" Series 2 Hole Fixing

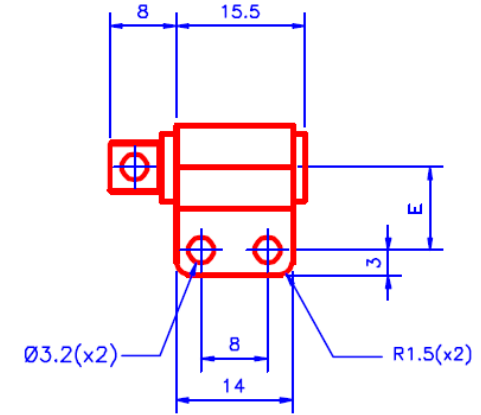
## HexaTorq "B" Series

The "B" Series range of HexaTorq provides the bracket mounting for more complex applications.

Available in left or right hand mounting options



(Left Hand Mounting Shown)



Model.No	Torque		Bracket Type				Diameter			t
	kgf-mm	lbf-in	A(REF)	B	C	E	D	d	f	
KH51B025 KH52B025	25	2.2	11.2	9.8	1.5	9	7.0	5.0	2.7	2.0
KH51B050 KH52B050	50	4.3	11.2	9.8	1.5	9	7.0	5.0	2.7	2.0
KH61B075 KH62B075	75	6.5	13.4	11.8	2	10	8.1	6.0	3.2	2.5
KH61B100 KH62B100	100	8.7	13.4	11.8	2	10	8.1	6.0	3.2	2.5
KH71B125 KH72B125	125	10.9	16.1	14.2	2.5	11	10.2	7.0	3.2	3.0
KH71B150 KH72B150	150	13.0	16.1	14.2	2.5	11	10.2	7.0	3.2	3.0

- Notes:**
1. All dimensions in millimetres (mm)
  2. Style Designator - A = No Bracket / B = Bracketed
  3. To convert Torque from kgf-mm to lbf-in, multiply by 0.0868





**"B" Series - 1 Hole Fixing – Right Hand Mounting**



**KH71B125L**

## HexaTorq "B" Series

To specify Right or Left hand mounting please specify "R" or "L" after part number



**KH61B100R**

**"B" Series  
1 Hole Fixing**



**"B" Series - 2 Hole Fixing – Left Hand Mounting**



**KH72B150L**



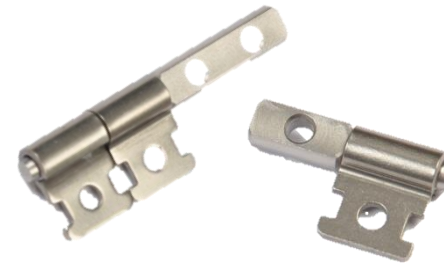
**KH52B025R**

**"B" Series  
2 Hole Fixing**



ADVANCE

## SureTorq Hinges



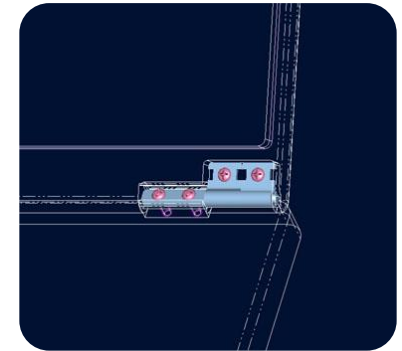
The SureTorq range of free stop hinges has been developed to suit a multitude of applications and provide our customers with a stock range of high quality, stainless steel, positioning hinges.

Research and development have ensured these spring hinges are smaller and thinner than the industry standard offering lightweight alternatives for typical products such as Notebook PCs, Digital Cameras, PDA as well as several Medical and Dental devices.

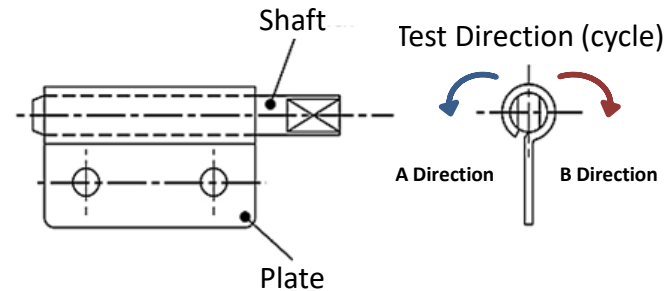
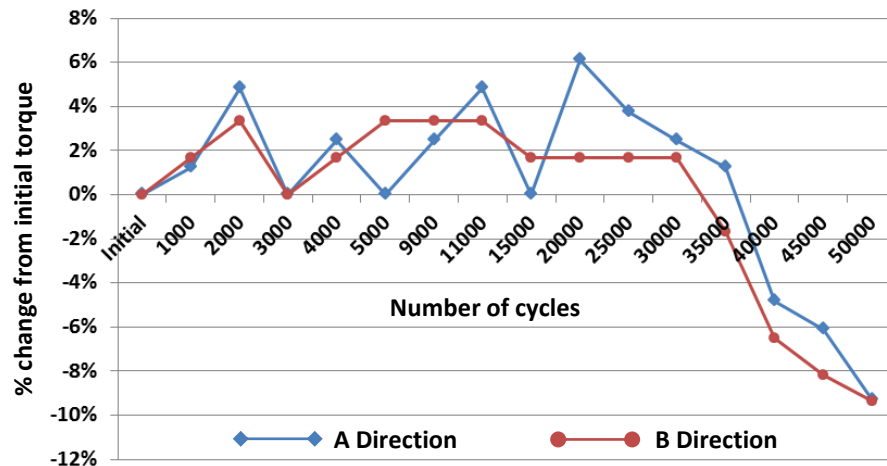
The SureTorq hinges will hold position at any angle within their working range. The entire standard range has been fully tested and inspected to provide peace of mind as well as significant savings in development and design costs.

The ST010 – ST040 Series are supplied with left and right hand mountings. The ST060 - ST080 Range are also available in left and right hand mounting as well as our unique bi-directional mounting.

Additionally the SureTorq range shows a very small percentage drop-off in initial torque even when cycled in dual directions, at 50,000 cycles – SureTorq hinges show less than a 10% drop off in performance.

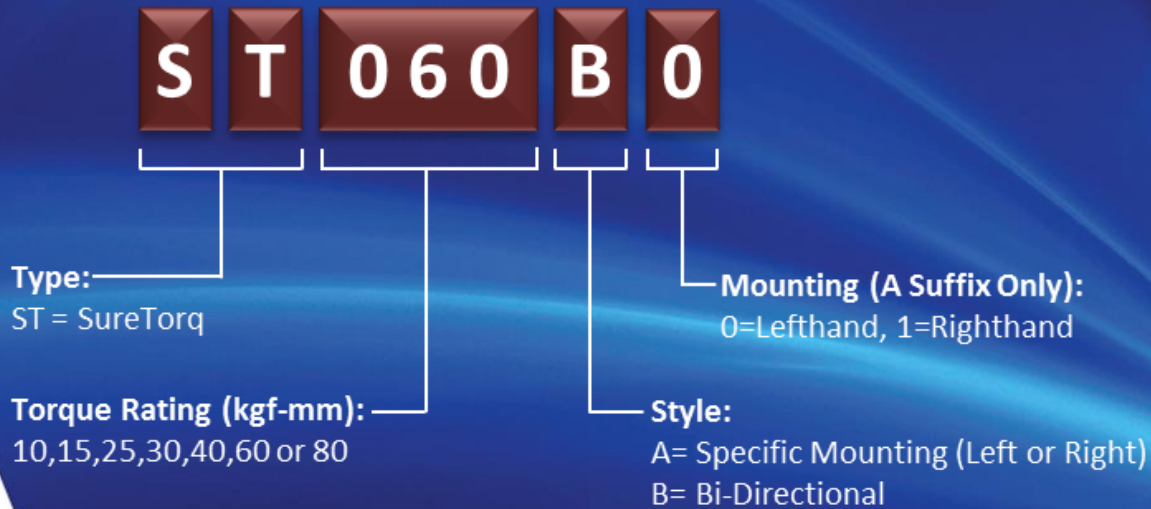


SureTorq Friction Hinge in laptop application



# Part Number Creation:

**Part Number Example:** the example consists of a KATO® SureTorq hinge with a Torque Rating of 60 Kgf-mm, with a Bracket, Bi-Directional Mounting.



SureTorq features a unique Bi-Directional mounting

**SureTorq standard range provides savings by..**



**Light-weight and compact**  
Maximised space and weight savings.



**Highly Durable Hinges**  
Virtually no Wear & Tear



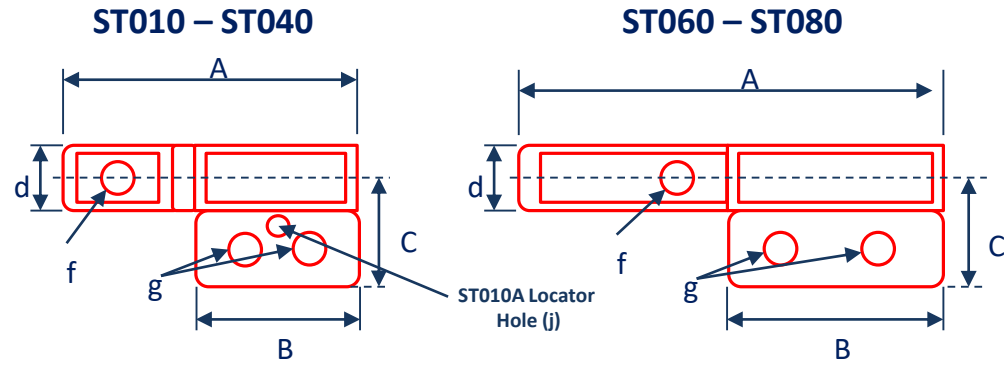
**Consistent torque**  
Designed for 30,000 cycles or more without failure!



ADVANCE

## SureTorq Range

The SureTorq range provides a thin, lightweight option for more general applications.



Model.No	Torque		Shaft				Bracket				Mounting Direction
	kgf-mm	lbf-in	A (Length)	Shaft Dia (d)	No Holes	Shaft Hole Dia (f)	B (Length)	C (Width)	No Holes	Bracket Hole Dia	
ST010A0 ST010A1	10	0.87	17	4	1	2.1	9	8.6	2	1.8	Left Right
ST015A0 ST015A1	15	1.30	23	4	1	2.1	15	9.5	2	2.2	Left Right
ST025A0 ST025A1	25	2.17	21	4	1	2.1	13	9.6	2	2.5	Left Right
ST030A0 ST030A1	30	2.60	18	4	1	2.2	10	8.0	2	2.8	Left Right
ST040A0 ST040A1	40	3.47	20	5	1	2.8	10	10.0	1	2.8	Left Right
ST060A0 ST060A1 ST060B0	60	5.21	33	4	2	2.2	20	8.0	2	2.8	Left Right Bi-Directional
ST080A0 ST080A1 ST080B0	80	6.94	39	5	2	2.8	20	10.0	2	2.8	Left Right Bi-Directional

- Please Note:**
1. All dimensions in millimetres (mm)
  2. ST010A Series includes additional locator hole (Ref j / Dia: 1.4mm)
  3. To convert Torque from kgf-mm to lbf-in, multiply by 0.0868

Entire STo10 – STo40 Range



STo40Ao – STo40A1

# SureTorq Series

STo10 – STo40  
Range



STo10Ao & STo10A1



STo60Ao



STo80Bo

STo60 – STo80  
Range



ADVANTECH

## Hold Type Hinges

Originally developed and supplied to the mobile phone "flip" phone market the Advanex range of Hold Type hinges are still popular for many customers as a low cost solution for opening & shutting of mobile terminals

The hold type range comes with 6 torque settings and ready to fit into almost any application and suitable for any product with a cover weight between 10g to 38g.

Typical applications are for cosmetic devices, hand held devices and headsets.



FSCY50



FSCY45



FSCN50



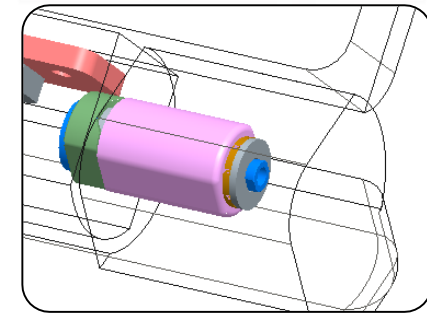
CLCY40



FLCN40(L/R)



Hold type hinge in "flip" phone headset.



# Advanex Hold Type Hinges

**FSCN50 Free Stop Type**

- Non-conductive
- One pc on one side per one unit
- 38g lid can be covered.
- Movable range

**Ø5**

Peak torque  
100 ± 30N·mm  
Free stop torque  
24 ± 8N·mm

\*Please consult us if you have any particular tolerance for torque.

**FLCN50 Flip Type (1pc per unit)**

- Non-conductive
- One pc on one side per one unit
- 10g lid can be covered.
- Movable range

**φ5**

\*Please consult us the mounting method.

**FSCY50 Free Stop Type (Conductive)**

- Conduction resistance level, less than 200Ωm
- One pc on one side per one unit
- 38g lid can be covered.
- Movable range

**Ø5**

Peak torque  
115 ± 30N·mm  
Free stop torque  
30 ± 10N·mm

Conductive Point

\*Please consult us if you have any particular tolerance for torque.

**FSCY45 Free Stop Type**

- Non-conductive
- One pc on one side per one unit
- 38g lid can be covered.
- Movable range

**φ4.5**

Peak torque  
100 ± 20N·mm  
Free stop torque  
28 ± 8N·mm

\*Please consult us if you have any particular tolerance for torque

\*Please consult us the mounting method.

**FLCN40 – L/R Flip Type (2 pcs per unit)**

- Non-conductive
- Two pcs for L & R per one unit
- 10g lid can be covered.
- Movable range

**φ4**

\*Please consult us the mounting method.

**CLCY40 Click Action Type (Conductive)**

- Conduction resistance level, less than 400Ωm
- One pc on one side per one unit
- 25g lid can be covered.
- Movable range

**φ4**

\*Please prepare stopper portion.

\*Please consult us the mounting method.

Hold Type (Flip Hinge) range provides savings by..



Light-weight and compact Maximised space and weight savings.



Standard Range Saving Time and Money on development costs



Highly Durable Hinges Virtually no Wear & Tear

## Design Made Easy!!

To better assist our customers with their design and development the entire Advanex range of HexaTorq and SureTorq hinges are available as SolidWorks® 3D models on our hinge website, [www.advanexhinges.com](http://www.advanexhinges.com)

Just simply follow the link at the top of webpage and 3D cad models are all listed by part.

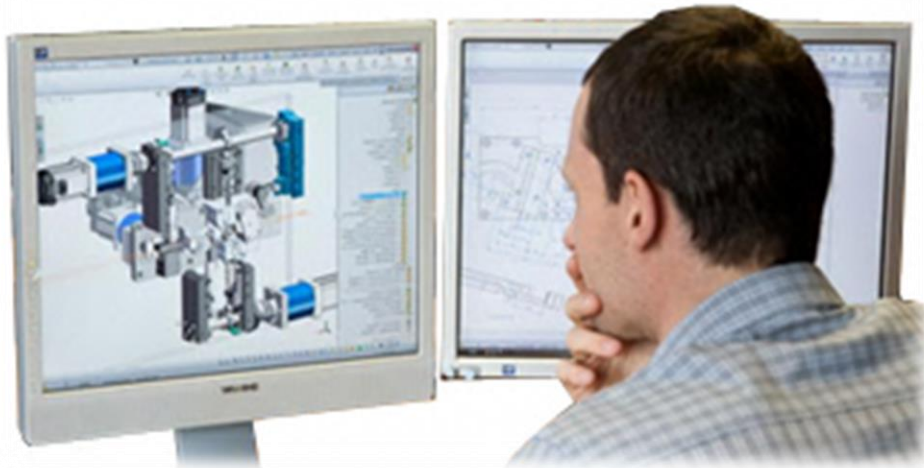
Also available on our website are a full range of pdf. technical drawings for both SureTorq and HexaTorq ranges.

We can also supply IGES® and STEP® 3D formats for the HexaTorq range upon request.

Please email your request to [hingesales@advanexeurope.co.uk](mailto:hingesales@advanexeurope.co.uk) and a member of our team will respond accordingly.

Advanex have carried out extensive research and development and have fully tested our entire range of motion control hinges for performance and durability – effectively we've done the design work for you!

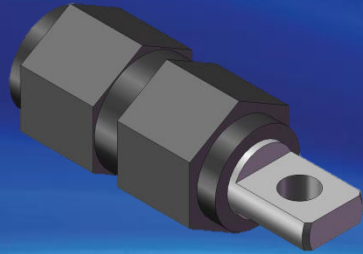
Saving you time and money!



SolidWorks  
IGES  
Step  
Technical Drawings



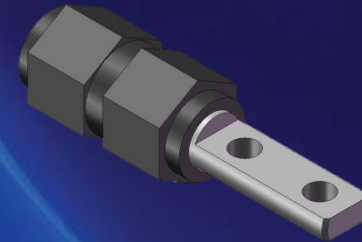
# HexaTorq and SureTorq Ranges - 3D CAD MODELS



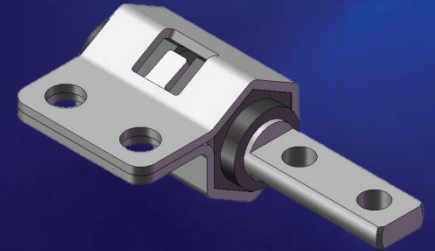
KH51A025



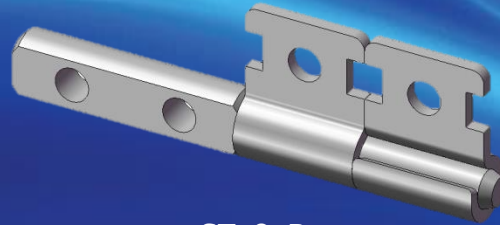
KH51B025R



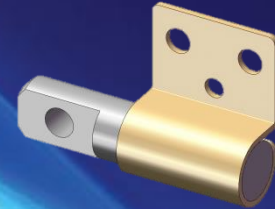
KH52A025



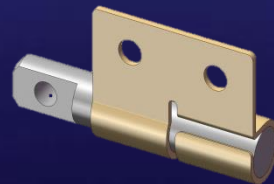
KH52B025R



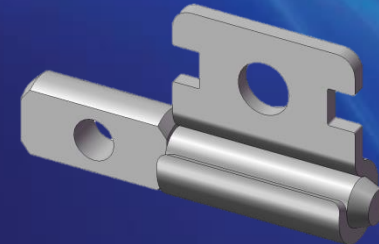
ST080Bo



ST010 to 250



ST015A1



ST030Ao

The slogan from April 2019 is

**“To be No.1 in the manufacture of precision metal components”**

- Advanex only produces quality products and delivers them on time -
- We should never forget that this is the essence of craftsmanship & teamwork -



## Advanex Group

As part of the Advanex Group we can provide our customers across the globe with a multitude of skills, innovation and customer support.

This global support network promotes the transfer of technology and equipment within the group.

With over 20 sites world-wide situated in Asia, Europe and the Americas we can offer local support to customers at their manufacturing or development sites whilst providing a global network of production and logistic support

## Environment

The Advanex Global Group is committed to the principles and practices of supporting environmental protection and the prevention of pollution by working in harmony with the needs of society and the environment .

Advanex are proud to hold the International Environment Management Standard

**Advanex Europe**  
Part of the Advanex Global Network

CoilThread® Inserts & Tools



Precision Coil Springs



Wire Forms & Shapes



Flat Springs & Pressing



Insert Mouldings



Standard Torque Hinges



Micro Engineered Springs



Insert Collars



Design & Development



Deep Drawing



**TECNIMETAL**  
SOLUZIONI, NON SOLO PRODOTTI

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