



Heart & Technology



**KOYO** :The original solution  
for your sofa  
Catalogue Rev.5

## The KOYO Philosophy

KOYO was established in 1926 and started to manufacture a wide variety of functional components that make the furniture and equipment we use today more user-friendly. Our mission is to blend Heart and Technology to make a contribution to global markets through a corporate focus on human values, developing products of superior quality and safety. We will continue to work hard to win the trust and respect of our customers and our partners all over the world.



## Craftsmanship with Heart & Technology



unbreakable  
GEAR

SOUND  
zero



EL series



P.03-04 JAPAN QUALITY

P.05-06 Product Spec List

P.07-12 Sound Zero

P.13-16 Unbreakable

P.17-20  $\alpha$  Gear

P.21-22 LS Gear 300N·m

P.23-26 LS Gear 200N·m

P.27-30 LS Gear 100N·m

P.31-32 IS Gear 450N·m

P.33-38 IS Gear 250N·m

P.39-40 Stretch

P.41-46 EL Series

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P.49 Joint

# JAPAN QUALITY

KOYO has been improving our production efficiency and our quality standard based on our Kaizen, 5S (Seiri, Seiton, Seisou, Seiketsu, Shitsuke) principles. We are to make our best efforts to supply our products throughout the world.



Head Office (Osaka, Japan)

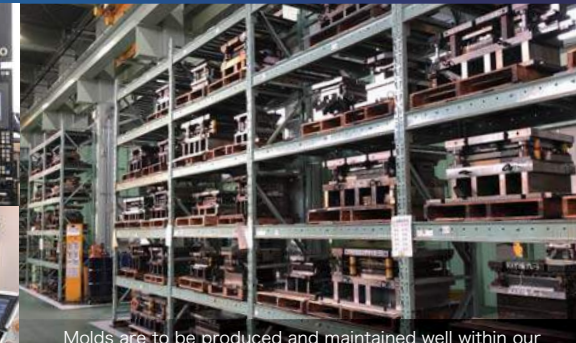
KOYO head factory is located in Sakai City, Osaka, Japan. Sakai is an industrial center of traditional craftsmanship.



Our core planning, development, and evaluation are concentrated at our Japan factory.



KOYO flexible production is endorsed by own made precision molds with our "Made in Japan" equipment.



Molds are to be produced and maintained well within our engineering teams. This is to help support our production in a timely manner.



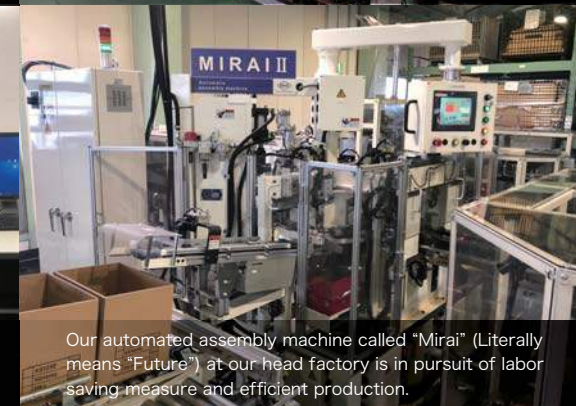
Our products have been made of Japanese selected high tension steel.



Our newest servo-press machines realized the most efficient stamping process.



At our quality department, critical dimensions are to be inspected by ultra-precision machine and 3D image measuring equipment.



Our automated assembly machine called "Mirai" (Literally means "Future") at our head factory is in pursuit of labor saving measure and efficient production.



China Factory (Guangdong)



Vietnam Factory (Hanoi)

The labor oriented assembly process is to be completed at our China and Vietnam factories. Overseas facilities are managed and operated by members of the KOYO head office and established delivery system according to any needs around the world.

(Assembly line at Vietnam Factory)



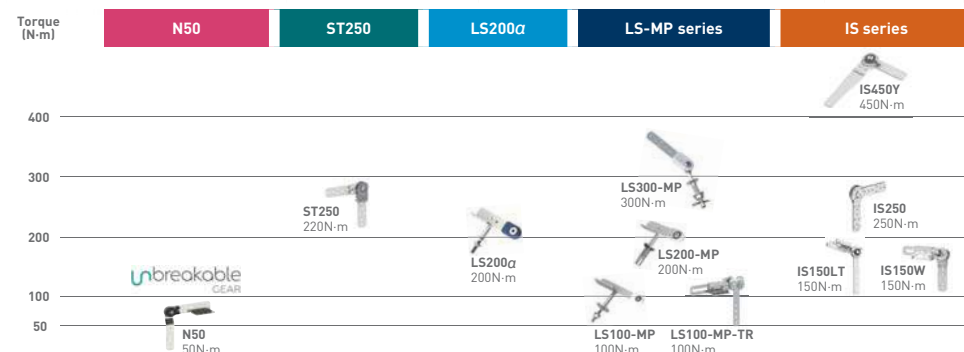
Quality control management system, based on ISO 9001

## Product Spec List

| Product                                                                                                      | Feature                                                                           | Strength (N·m) | Steps         | Pitch | Range of movement | Repetition | Socket | Spring | Stretchable (mm) |
|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------|---------------|-------|-------------------|------------|--------|--------|------------------|
|  <b>ST250</b><br>P.07-12    |  | 220            | 15<br> <br>60 | 2°    | 30°<br> <br>120°  | 10,000     | ○      | ○      | —                |
|  <b>N50</b><br>P.13-16      |  | 50             | 9<br> <br>18  | 5°    | 45°<br> <br>90°   | —          | ○      | —      | —                |
|  <b>LS200α</b><br>P.17-20   |  | 200            | 24<br> <br>60 | 2°    | 48°<br> <br>120°  | 50,000     | ○      | —      | —                |
|  <b>LS300-MP</b><br>P.21-22 | Micro Pitch<br>+Strong                                                            | 300            | 15<br> <br>60 | 2°    | 30°<br> <br>120°  | 50,000     | ○      | —      | —                |
|  <b>LS200-MP</b><br>P.23-26 | Micro Pitch                                                                       | 200            | 15<br> <br>60 | 2°    | 30°<br> <br>120°  | 50,000     | ○      | ○      | —                |
|  <b>LS100-MP</b><br>P.27-30 | Micro Pitch<br>+Compact                                                           | 100            | 10<br> <br>40 | 3°    | 30°<br> <br>120°  | 50,000     | ○      | ○      | —                |
|  <b>IS450Y</b><br>P.31-32  | Fine Pitch<br>+Strong                                                             | 450            | 5<br> <br>15  | 6°    | 30°<br> <br>90°   | 10,000     | —      | ○      | —                |
|  <b>IS250</b><br>P.33-38  | Fine Pitch                                                                        | 250            | 5<br> <br>15  | 6°    | 30°<br> <br>90°   | 10,000     | ○      | ○      | —                |
|  <b>IS150LT</b><br>P.39   | Fine Pitch<br>+80mm Stretch                                                       | 150            | 15            | 6°    | 90°               | 10,000     | —      | ○      | 80               |
|  <b>IS150W</b><br>P.39    | Fine Pitch<br>+50mm Stretch                                                       | 150            | 20            | 6°    | 120°              | 10,000     | ○      | ○      | 50               |

| Product                                                                                                        | Feature                                          | Strength (N·m) | Steps     | Pitch     | Range of movement | Repetition | Socket | Spring | Stretchable (mm) |
|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------|-----------|-----------|-------------------|------------|--------|--------|------------------|
|  <b>LS100-MP-TR</b><br>P.40 | Micro Pitch<br>+Stretch                          | 100            | 40        | 3°        | 120°              | 50,000     | —      | ○      | 50               |
|  <b>EL-02H</b><br>P.41-42   | Motorized<br>+Stretch<br>for headrest            | —              | Free      | —         | 116°              | —          | —      | —      | 80               |
|  <b>MA-02H</b><br>P.43-44   | Manual<br>+Stretch<br>for headrest               | 100×2Pcs       | 30        | —         | 100°              | 50,000     | —      | —      | 76               |
|  <b>EL-03H</b><br>P.45      | Motor lift<br>+Angle adjustment<br>for headrest  | —              | Selective | Selective | Selective         | —          | —      | —      | —                |
|  <b>MA-03H</b><br>P.46      | Manual lift<br>+Angle adjustment<br>for headrest | —              | Selective | Selective | Selective         | —          | —      | —      | —                |
|  <b>AL</b><br>P.47-48       | Pushing button                                   | 50             | —         | 10°       | —                 | —          | —      | —      | —                |
|  <b>MS-2</b><br>P.49       | Detachable                                       | —              | —         | —         | —                 | —          | —      | —      | —                |

Torque (N·m)



# SOUND zero

## ST250

### Packing Spec

|                  |             |
|------------------|-------------|
| Pcs / Carton     | 50          |
| Weight / Pc      | 0.29kg      |
| Weight / Carton  | 15kg        |
| L×W×H/Carton(mm) | 250×330×150 |

Model Name **ST250-90-90**

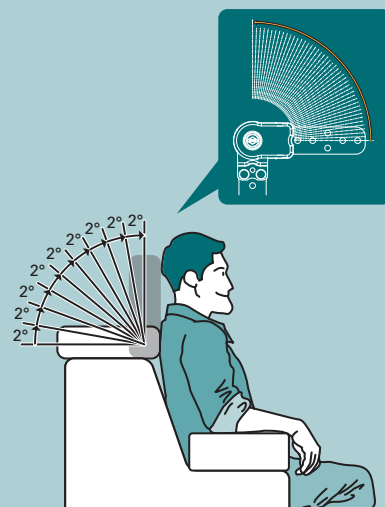
Series Movable Range Zero Position



### “Silent Gear”



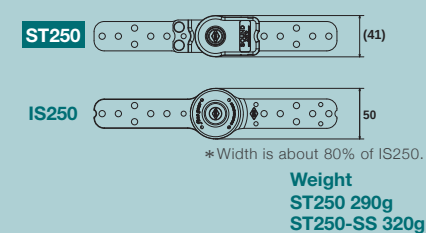
### Micro Pitch of 2° per Step.



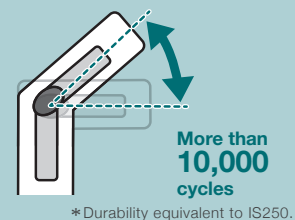
### Durability



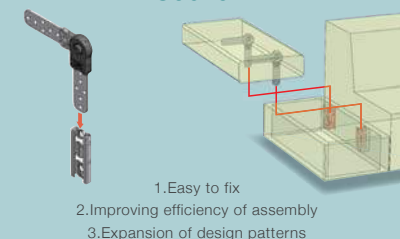
### Design



### Repetition



### Socket

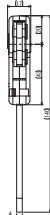
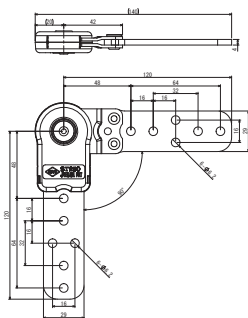


## Specification

ST250-90-90



Finish : Unichrome plating

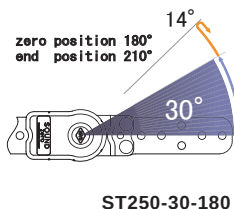
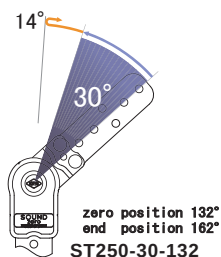
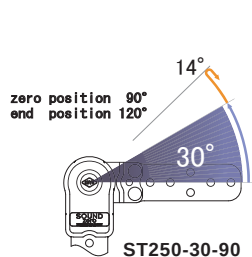


### Packing Spec

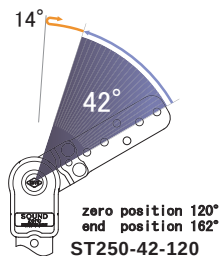
|                   |             |
|-------------------|-------------|
| Pcs / Carton      | 50          |
| Weight / Pc       | 0.29kg      |
| Weight / Carton   | 15kg        |
| LxWxH(Carton)(mm) | 250x330x150 |

## Movable Range with Gear Steps

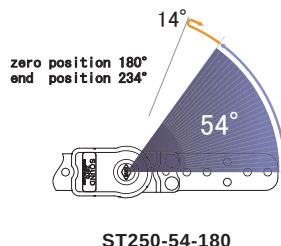
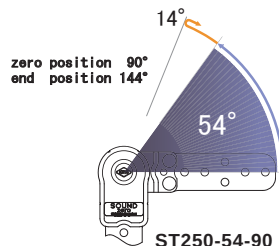
### 30° (15 steps)



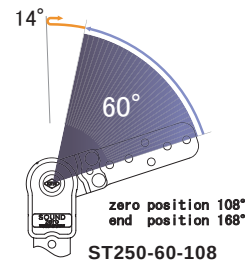
### 42° (12 steps)



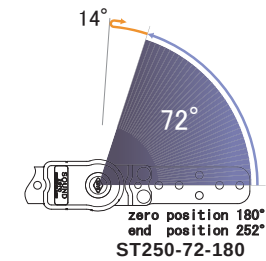
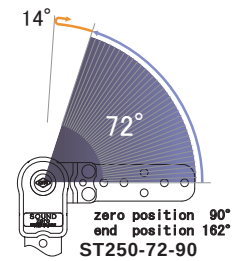
### 54° (27 steps)



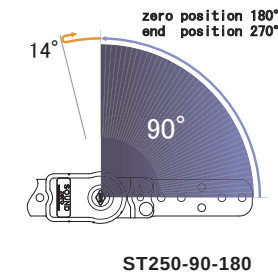
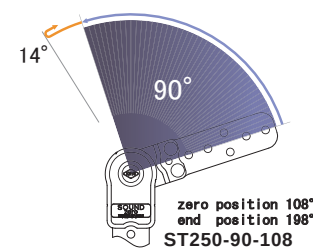
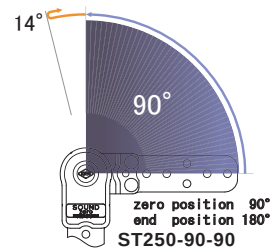
### 60° (30 steps)



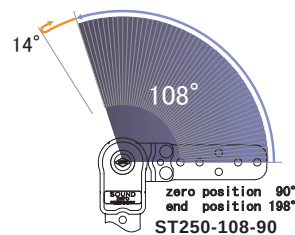
### 72° (36 steps)



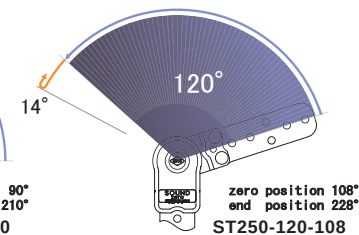
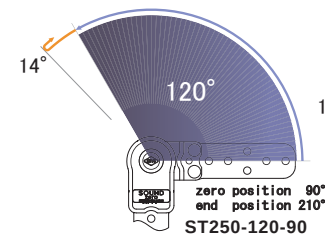
### 90° (45 steps)



### 108° (54 steps)

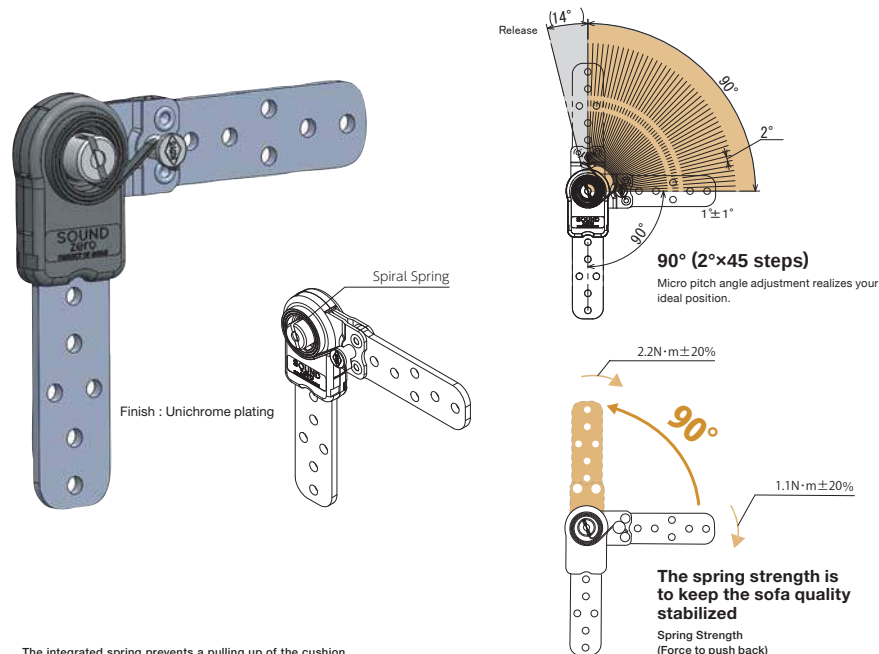


### 120° (60 steps)

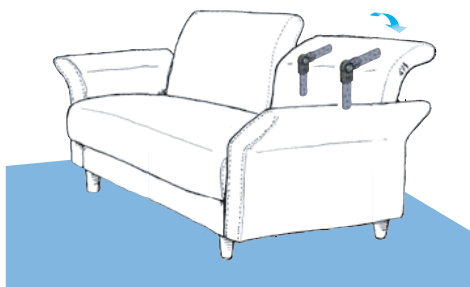


## ST250 Spring Type

The available motion patterns for this model are the same as for the ST250 series.  
Please refer to pages 9-10.



The integrated spring prevents a pulling up of the cushion by the upholstery and pushes the cushion down, so it will rest in a flat position when released.



| Sets / Carton | Weight / Set | Weight / Carton | LxWxH/Carton(mm) |
|---------------|--------------|-----------------|------------------|
| 20            | 0.65kg       | 13.3kg          | 250×330×150      |

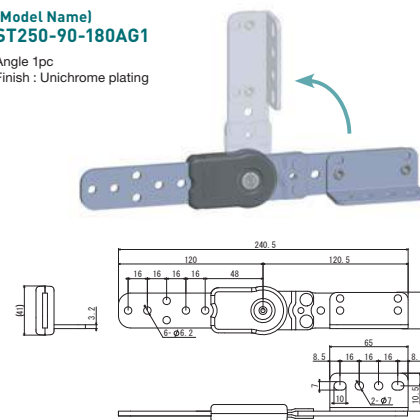
## ST Options

### Angle Riveted Type

The available motion patterns for this model are the same as for the ST250 series. Please refer to pages 9-10.

(Model Name)  
**ST250-90-180AG1**

Angle 1pc  
Finish : Unichrome plating



| Sets / Carton | Weight / Set | Weight / Carton | LxWxH/Carton(mm) |
|---------------|--------------|-----------------|------------------|
| 25            | 0.8kg        | 20.5kg          | 250×330×150      |

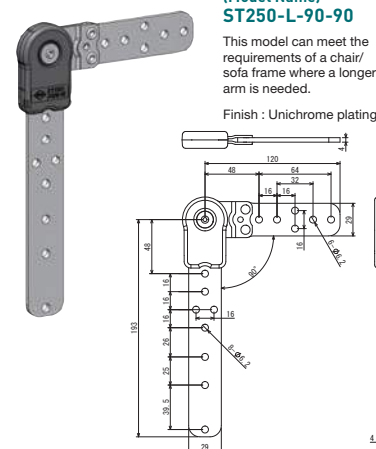
### Long Arm Type

The available motion patterns for this model are the same as for the ST250 series. Please refer to pages 9-10.

(Model Name)  
**ST250-L-90-90**

This model can meet the requirements of a chair/sofa frame where a longer arm is needed.

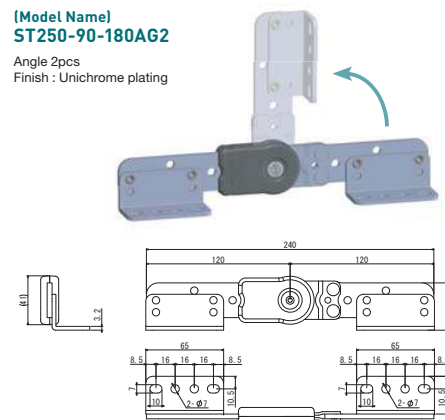
Finish : Unichrome plating



| Pcs / Carton | Weight / Pc | Weight / Carton | LxWxH/Carton(mm) |
|--------------|-------------|-----------------|------------------|
| 50           | 0.35kg      | 18kg            | 250×330×150      |

(Model Name)  
**ST250-90-180AG2**

Angle 2pcs  
Finish : Unichrome plating



| Sets / Carton | Weight / Set | Weight / Carton | LxWxH/Carton(mm) |
|---------------|--------------|-----------------|------------------|
| 20            | 0.93kg       | 19.1kg          | 250×330×150      |

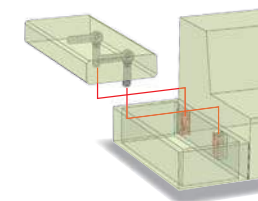
## Socket



This is developed as a knock down fitting for headrests & armrests.  
This socket allows quick and easy assembly of reclining parts.

Finish : Unichrome plating

**One-touch operation**  
Just insert a gear into the socket



- 1.Easy to fix
- 2.Improving efficiency of assembly
- 3.Expansion of design patterns



LS200α

#### Packing Spec

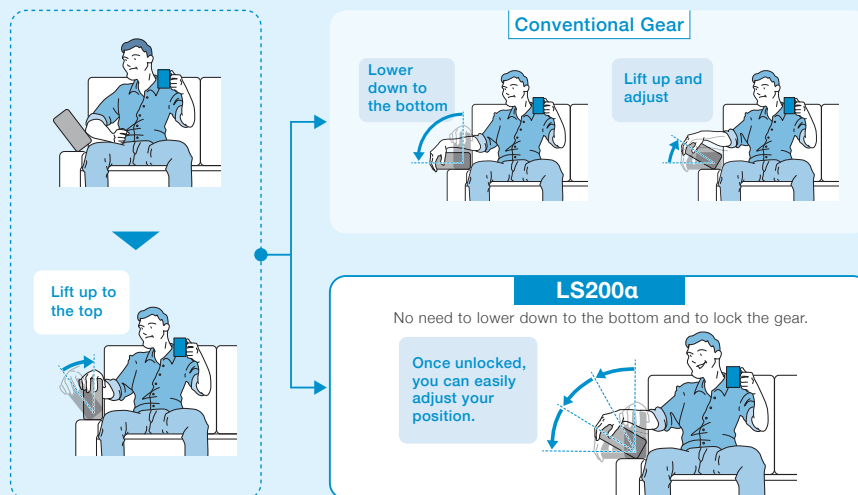
|                  |             |
|------------------|-------------|
| Sets / Carton    | 15          |
| Weight / Set     | 0.92kg      |
| Weight / Carton  | 14.3kg      |
| L×W×H/Carton(mm) | 250×330×160 |

Model Name **LS200α-90L-32AF**

Base Type  
Series Movable Range Arm Type



### Innovative Free-Lock Mechanism

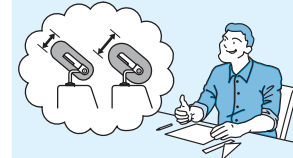


### Quieter Click



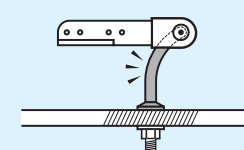
Operational noise is minimized.

### Fit



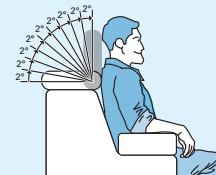
No concern about urethane thickness needed, easier to design the sofa

### Flexibility



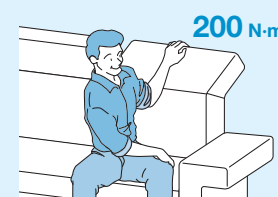
Still functional even after any possible deformation in use

### Micro Pitch



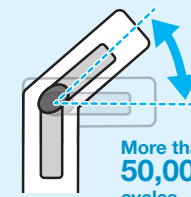
2" ultra fine pitch gear ensures better fit.

### Durability



200 N-m

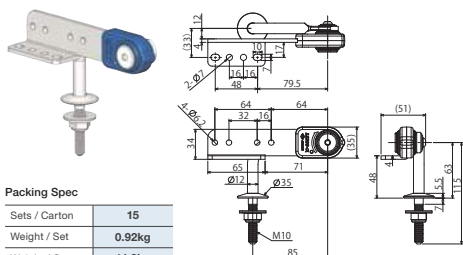
### Repetition



More than 50,000 cycles

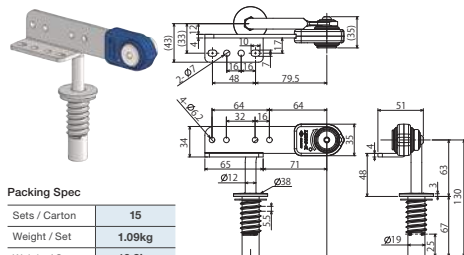
## Specification

### LS200α-90L-32AF



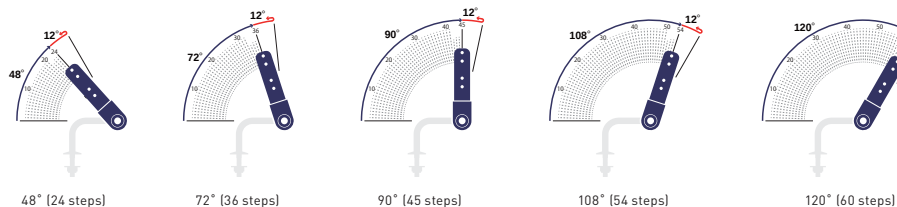
|                   |             |
|-------------------|-------------|
| Packing Spec      |             |
| Sets / Carton     | 15          |
| Weight / Set      | 0.92kg      |
| Weight / Carton   | 14.3kg      |
| LxWxH(Carton)(mm) | 250x330x160 |

### LS200α-90L-32G

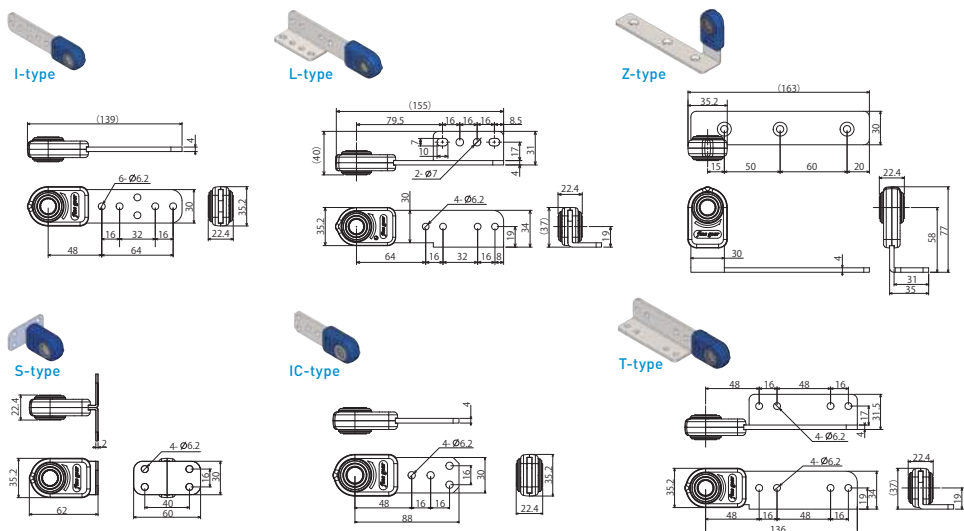


|                   |             |
|-------------------|-------------|
| Packing Spec      |             |
| Sets / Carton     | 15          |
| Weight / Set      | 1.09kg      |
| Weight / Carton   | 16.8kg      |
| LxWxH(Carton)(mm) | 250x330x160 |

## Movable Range with Gear Steps



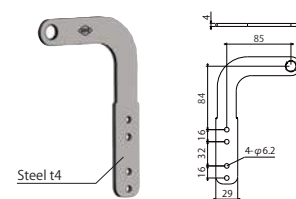
## Bases



## Arms

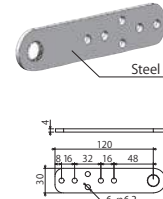
### No.10

Finish : Chrome plating



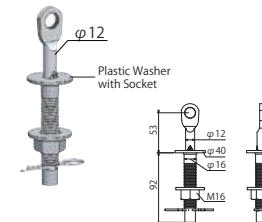
### No.11

Finish : Unichrome plating

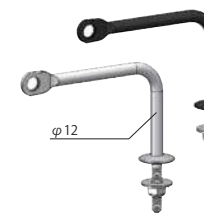


### No.40B

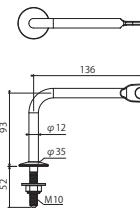
Finish : Unichrome plating



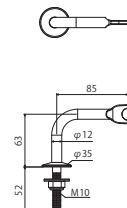
### No.31AF~33AF



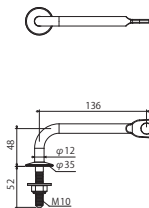
Chrome plating  
Black finishing



No.31AF  
No.31AF (BK)



No.32AF  
No.32AF (BK)

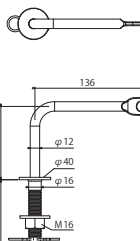


No.33AF  
No.33AF (BK)

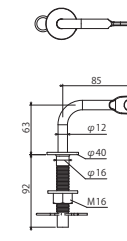
### No.31B~33B



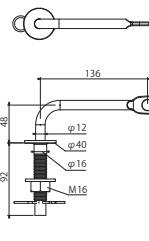
Chrome plating  
Black finishing



No.31B  
No.31B (BK)

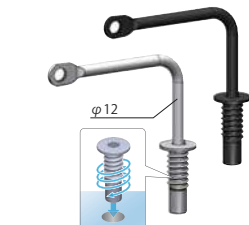


No.32B  
No.32B (BK)

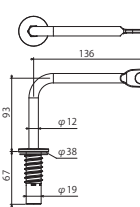


No.33B  
No.33B (BK)

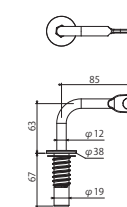
### No.31G~33G



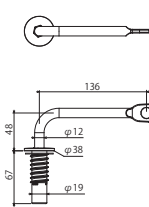
Chrome plating  
Black finishing



No.31G  
No.31G (BK)



No.32G  
No.32G (BK)



No.33G  
No.33G (BK)

# Powerful Micro Pitch Gear

LS300-MP

## Packing Spec

|                  |             |
|------------------|-------------|
| Sets / Carton    | 15          |
| Weight / Set     | 1.02kg      |
| Weight / Carton  | 15.8kg      |
| L×W×H/Carton(mm) | 250×330×150 |

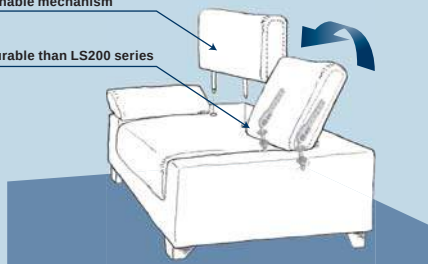
Model Name **LS300-MP48I-40B**

Series: LS300-MP, Micro Pitch Type: 48I, Base Type: 40B, Movable Range: I, Arm Type: B

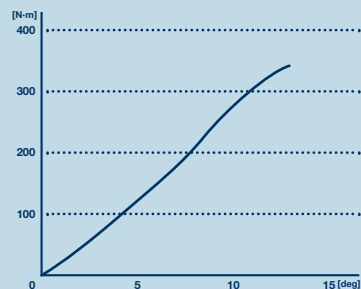
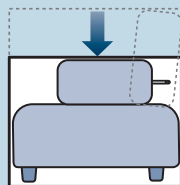


## Easier detachable mechanism

50% more durable than LS200 series



Compact packing saving your shipping cost



We started to load the torque until breakage of LS300-MP. This graph shows the strength.

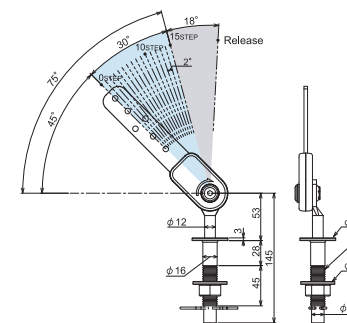
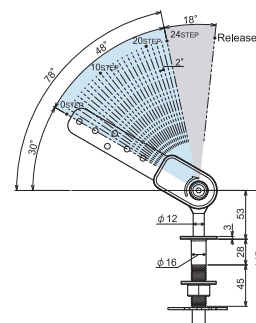
## Specification

LS300-MP48I-40B

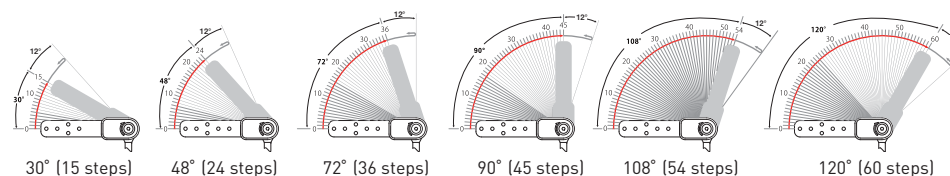
Finish : Unichrome plating

LS300-MP30I-41B

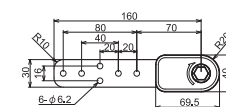
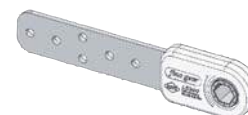
Finish : Unichrome plating



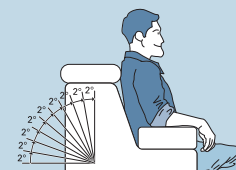
## Movable Range with Gear Steps



## Base



## Micro Pitch



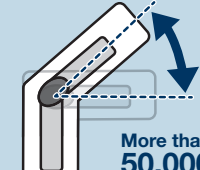
2° ultra fine pitch gear ensures better fit.

## Durability



For 500 mm backrest, 120 kg is durable as one set (2 pcs).

## Repetition



More than 50,000 cycles

# Leading Standard Gear

LS200-MP

## Packing Spec

|                  |             |
|------------------|-------------|
| Sets / Carton    | 15          |
| Weight / Set     | 1.04kg      |
| Weight / Carton  | 16.1kg      |
| L×W×H/Carton(mm) | 250×330×150 |

Model Name **LS200-MP90L-32G**

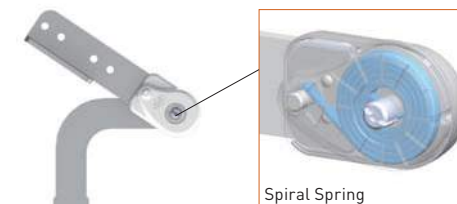
Series: LS200, Micro Pitch: MP, Base Type: 90L, Movable Range: 32, Arm Type: G



## Spring Type

Model Name **LS200(S)-MP90L-10**

Series: LS200(S), Micro Pitch: MP, Base Type: 90L, Movable Range: 10, Arm Type: S

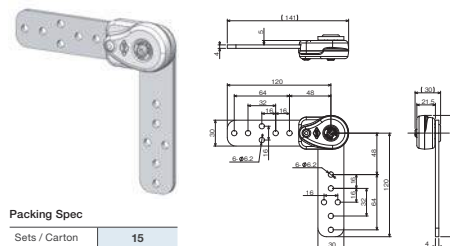


Spiral Spring

## Specification

**LS200(S)-MP90L-R11**

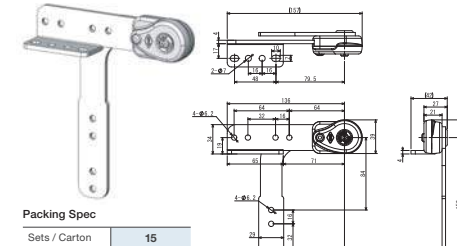
R11: Zero position 90°



### Packing Spec

|                  |             |
|------------------|-------------|
| Sets / Carton    | 15          |
| Weight / Set     | 0.65kg      |
| Weight / Carton  | 10.2kg      |
| L×W×H/Carton(mm) | 250×330×150 |

**LS200(S)-MP90L-10**



### Packing Spec

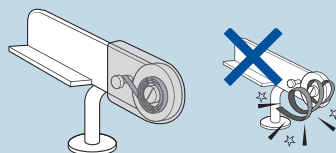
|                  |             |
|------------------|-------------|
| Sets / Carton    | 15          |
| Weight / Set     | 0.9kg       |
| Weight / Carton  | 13.9kg      |
| L×W×H/Carton(mm) | 250×330×150 |

## Quieter Click



Operational noise is minimized.

## Protected by Safety Plastic Cover



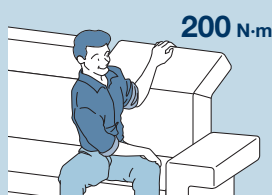
Safety design never to expose the inner parts outside

## Micro Pitch



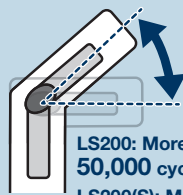
2° ultra fine pitch gear ensures better fit.

## Durability



200 N·m

## Repetition



LS200: More than 50,000 cycles  
LS200(S): More than 30,000 cycles

SOUND  
Zero

Unbreakable  
Steel

αGear

300N·m

LS Gear  
200N·m

100N·m

450N·m

IS Gear  
250N·m

Stretch

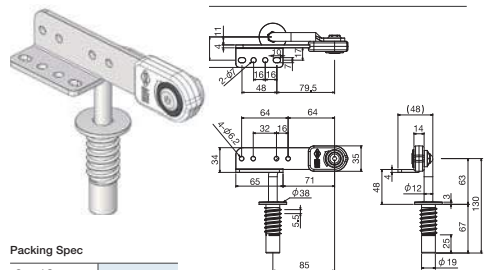
EL series

AL series

Joint

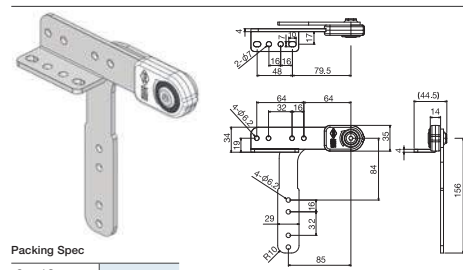
## Specification

### LS200-MP90L-32G



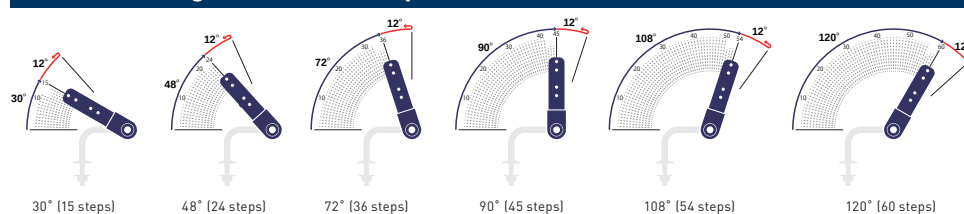
|                  |             |
|------------------|-------------|
| Packing Spec     |             |
| Sets / Carton    | 15          |
| Weight / Set     | 1.04kg      |
| Weight / Carton  | 16.1kg      |
| LxWxH/Carton(mm) | 250x330x150 |

### LS200-MP90L-10

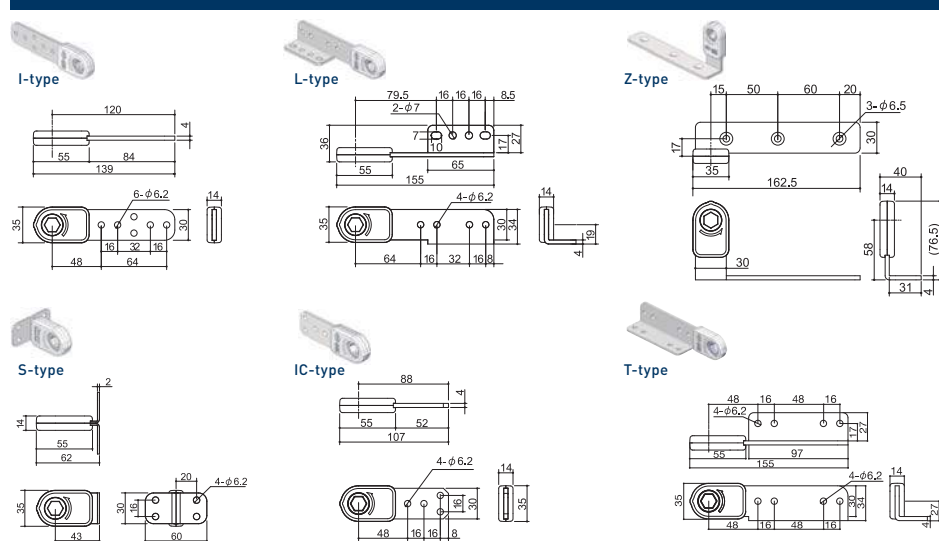


|                  |             |
|------------------|-------------|
| Packing Spec     |             |
| Sets / Carton    | 15          |
| Weight / Set     | 0.88kg      |
| Weight / Carton  | 13.7kg      |
| LxWxH/Carton(mm) | 250x330x150 |

## Movable Range with Gear Steps



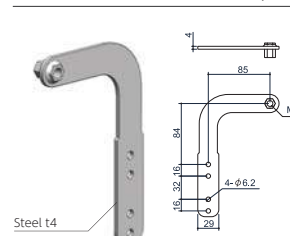
## Bases



## Arms

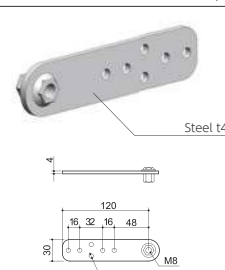
### No.10

Finish : Chrome plating



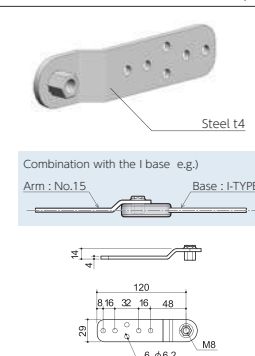
### No.11

Finish : Unichrome plating

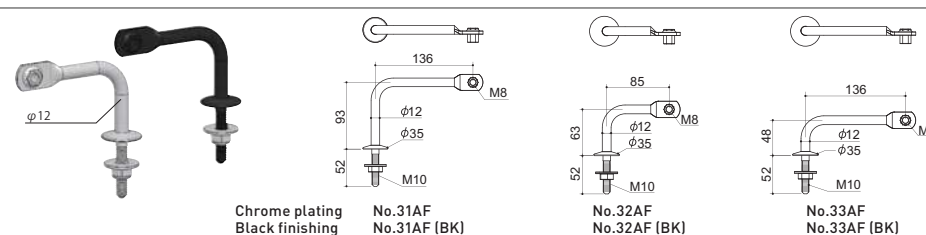


### No.15

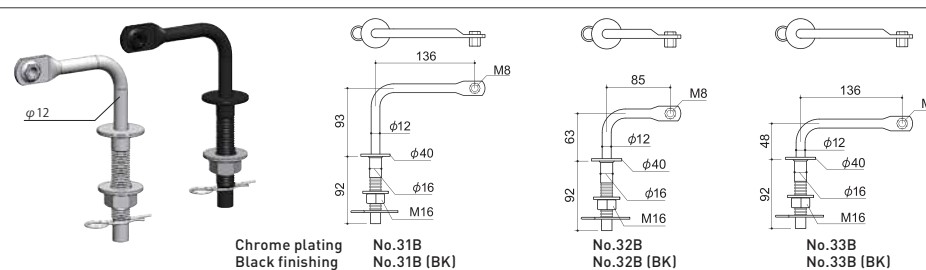
Finish : Unichrome plating



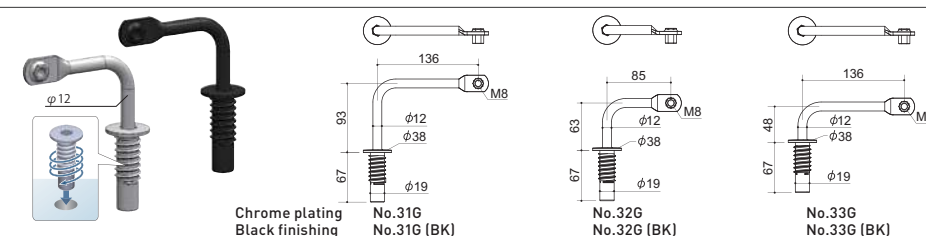
### No. 31AF~33AF



### No. 31B~33B



### No. 31G~33G



# Compact Micro Pitch Gear

LS100-MP

## Packing Spec

|                  |             |
|------------------|-------------|
| Sets / Carton    | 15          |
| Weight / Set     | 0.56kg      |
| Weight / Carton  | 9kg         |
| L×W×H/Carton(mm) | 250×330×150 |

Model Name **LS100-MP90L-30A**

Series: LS100, Micro Pitch: MP, Base Type: 90, Movable Range: L, Arm Type: 30A

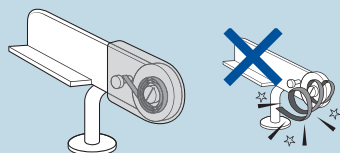


## Quieter Click



Operational noise is minimized.

## Protected by Safety Plastic Cover



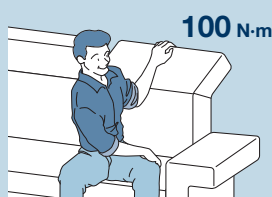
Safety design never to expose the inner parts outside

## Micro Pitch



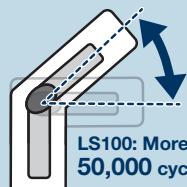
3° ultra fine pitch gear ensures better fit.

## Durability



100 N·m

## Repetition

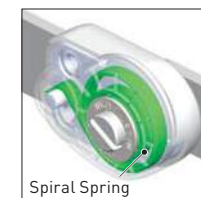


LS100: More than 50,000 cycles  
LS100(S): More than 20,000 cycles

## Spring Type

Model Name **LS100(S)-MP72I-A180**

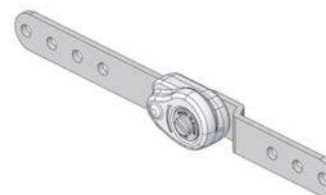
Series: LS100(S), Micro Pitch: MP, Base Type: 72, Movable Range: I, Arm Type: A180



Spiral Spring

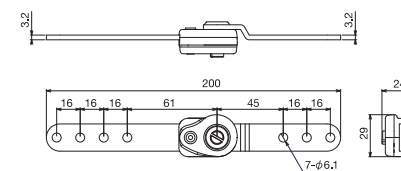
## Specification

LS100(S)-MP72I-A180



## Packing Spec

|                  |             |
|------------------|-------------|
| Sets / Carton    | 50          |
| Weight / Set     | 0.26kg      |
| Weight / Carton  | 15kg        |
| L×W×H/Carton(mm) | 250×330×150 |



SOUND  
Zero

Unbreakable  
Steel

αGear

300N·m

LS Gear  
200N·m

100N·m

450N·m

IS Gear  
250N·m

Stretch

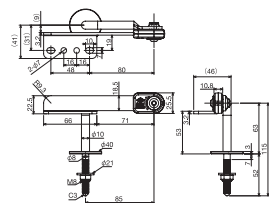
EL series

AL series

Joint

## Specification

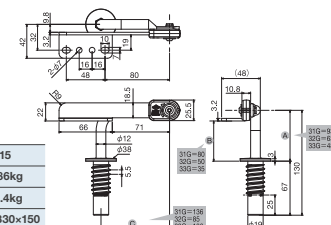
### LS100-MP90L-30A



#### Packing Spec

|                  |             |
|------------------|-------------|
| Sets / Carton    | 15          |
| Weight / Set     | 0.56kg      |
| Weight / Carton  | 9kg         |
| LxWxH/Carton(mm) | 250x330x150 |

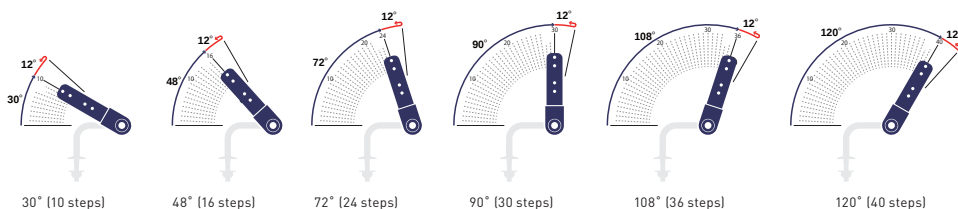
### LS100-MP90L-32G



#### Packing Spec

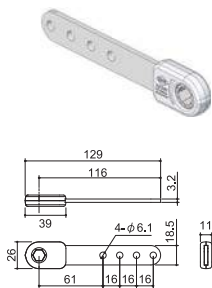
|                  |             |
|------------------|-------------|
| Sets / Carton    | 15          |
| Weight / Set     | 0.86kg      |
| Weight / Carton  | 13.4kg      |
| LxWxH/Carton(mm) | 250x330x150 |

## Movable Range with Gear Steps

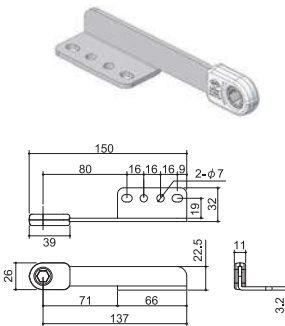


## Bases

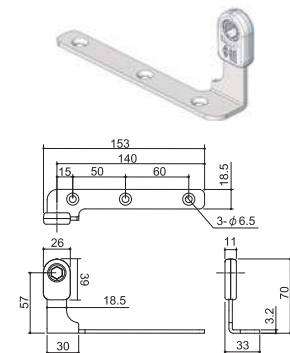
### I-type



### L-type



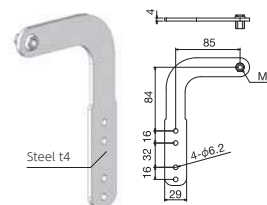
### Z-type



## Arms

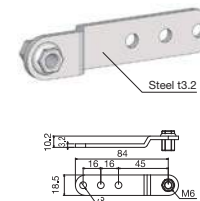
### No.10

Finish :  
Chrome plating

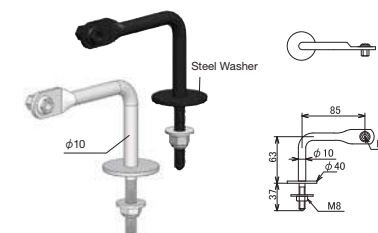


### No. A

Finish : Unichrome  
plating



### No.30A



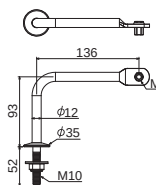
Chrome plating  
Black finishing

No.30A  
No.30A (BK)

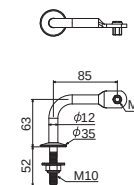
## No.31AF~33AF



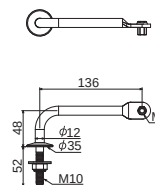
Chrome plating  
Black finishing



No.31AF  
No.31AF (BK)

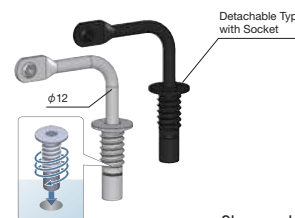


No.32AF  
No.32AF (BK)

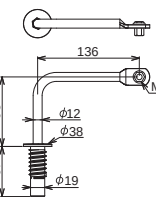


No.33AF  
No.33AF (BK)

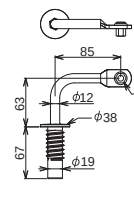
## No. 31G~33G



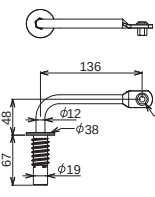
Chrome plating  
Black finishing



No.31G  
No.31G (BK)



No.32G  
No.32G (BK)



No.33G  
No.33G (BK)

# Most Powerful Gear

IS450Y

## Packing Spec

|                  |             |
|------------------|-------------|
| Pcs / Carton     | 40          |
| Weight / Pc      | 0.5kg       |
| Weight / Carton  | 20.5kg      |
| LxWxH/Carton(mm) | 250x330x150 |

Model Name **IS450Y-SS45-12-90**

Spring Type  
Zero Position  
Series Step

IS450Y-12-180  
(non-spring type)

IS450Y-SS45-12-90  
(spring type)



## Durability

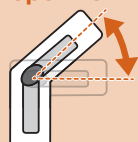
450 N·m



\*Only the 15 steps version has 15% lower durability.

## Repetition

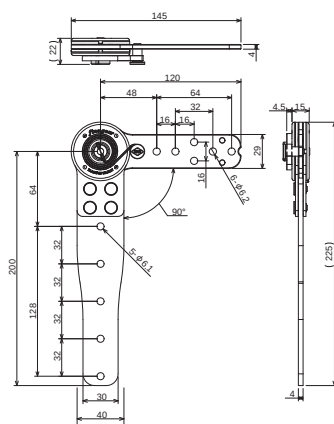
More than 10,000 cycles



## Specification

IS450Y-SS45-12-90

Finish : Unichrome



## Packing Spec

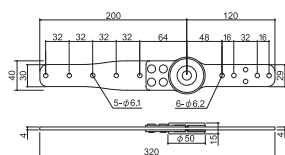
|                  |             |
|------------------|-------------|
| Pcs / Carton     | 40          |
| Weight / Pc      | 0.5kg       |
| Weight / Carton  | 20.5kg      |
| LxWxH/Carton(mm) | 250x330x150 |

IS450Y-12-180

Finish : Unichrome

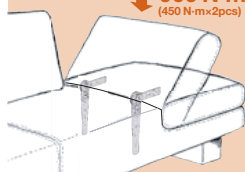
## Packing Spec

|                  |             |
|------------------|-------------|
| Pcs / Carton     | 50          |
| Weight / Pc      | 0.46kg      |
| Weight / Carton  | 23.5kg      |
| LxWxH/Carton(mm) | 250x330x150 |



## Strength

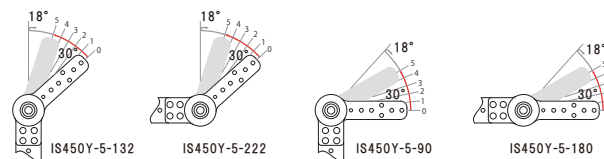
900 N·m  
(450 N·m x 2 pcs)



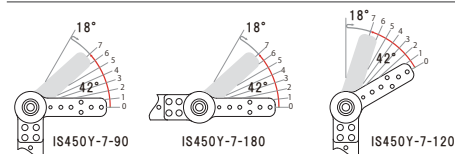
For 500mm backrest, 180kg is durable as one set (2 pcs).

## Gear Steps with Movable Range

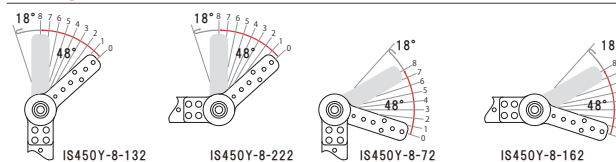
### 5 steps (30°)



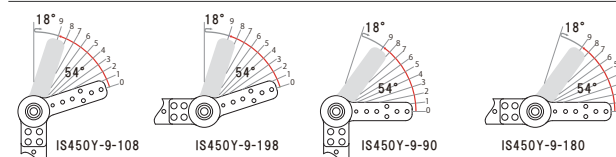
### 7 steps (42°)



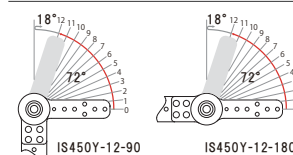
### 8 steps (48°)



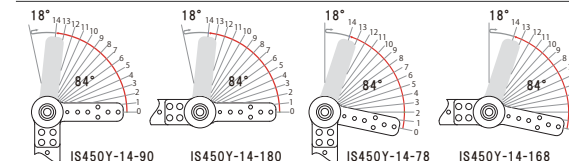
### 9 steps (54°)



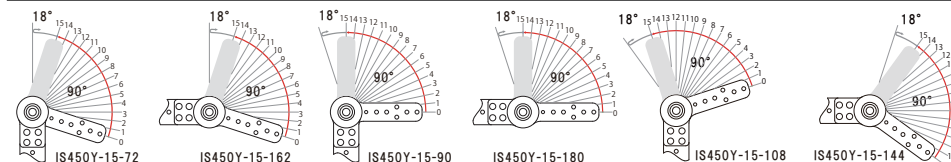
### 12 steps (72°)



### 14 steps (84°)



### 15 steps (90°)



# International Standard Gear

IS250

## Packing Spec

|                  |             |
|------------------|-------------|
| Pcs / Carton     | 50          |
| Weight / Pc      | 0.30kg      |
| Weight / Carton  | 15.5kg      |
| L×W×H/Carton(mm) | 250×330×105 |

Model Name **IS250-12-90**

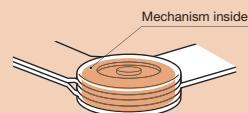
Step  
Series  
Zero Position



## Slim Design



## Protection for Inner Mechanism



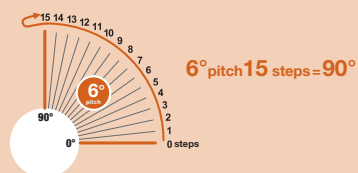
## Durability & Repetition

Durability  
250N·m

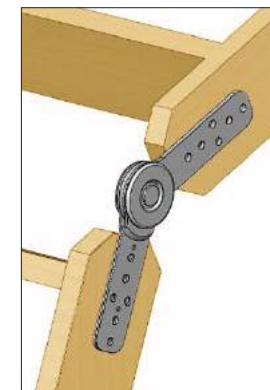
Repetition  
More than  
10,000 cycles



## Fine Pitch Gear



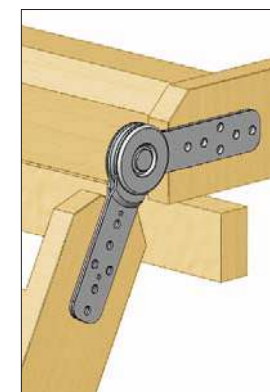
## Ideal adjustment possible for headrest



**5 steps**  
IS250-5-180  
zero position=180°  
end position=210°

**8 steps**  
IS250-8-162  
zero position=162°  
end position=210°

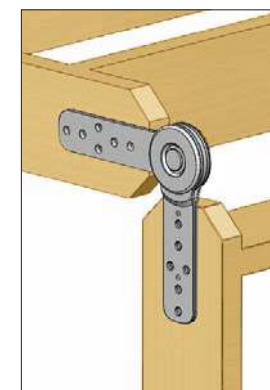
## Ideal for armrest



**9 steps**  
IS250-9-90  
zero position=90°  
end position=144°

**12 steps**  
IS250-12-90  
zero position=90°  
end position=162°

## Ideal for footrest



**12 steps**  
IS250-12-90  
zero position=90°  
end position=162°

**15 steps**  
IS250-15-90  
zero position=90°  
end position=180°

SOUND  
Zero  
Unbreakable  
Steel

αGear

300N·m

LS Gear

200N·m

100N·m

IS Gear

450N·m

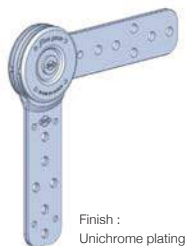
Stretch

EL series

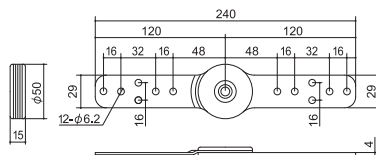
AL series

Joint

## Specification



Finish :  
Unichrome plating

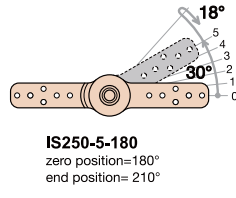
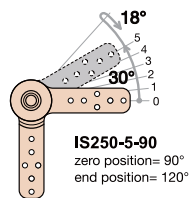
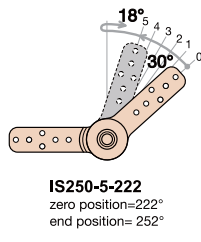
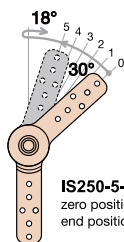


## Packing Spec

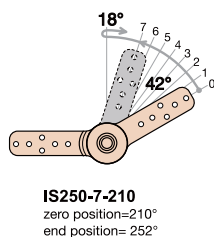
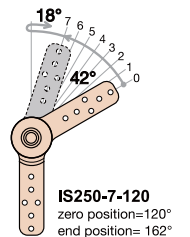
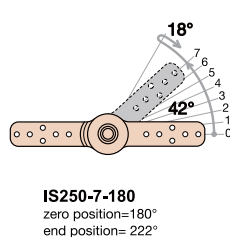
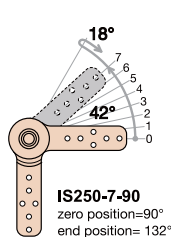
|                  |             |
|------------------|-------------|
| Pcs / Carton     | 50          |
| Weight / Pc      | 0.30kg      |
| Weight / Carton  | 15.5kg      |
| LxWxH/Carton(mm) | 250x330x105 |

## Gear Steps with Movable Range

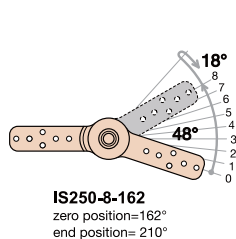
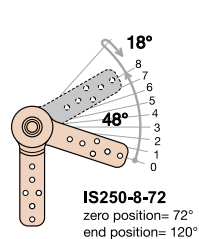
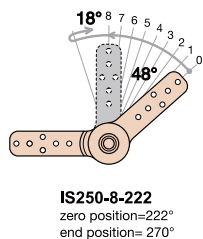
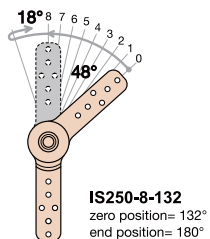
## 5 steps (30°)



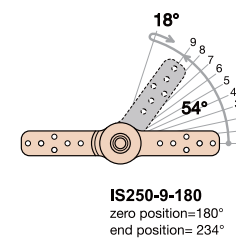
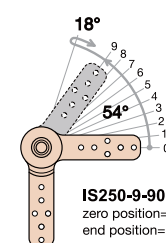
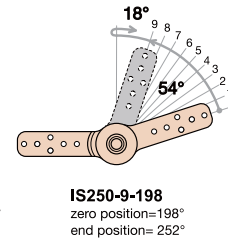
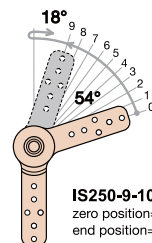
## 7 steps (42°)



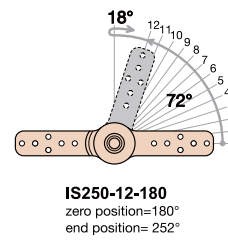
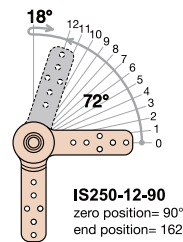
## 8 steps (48°)



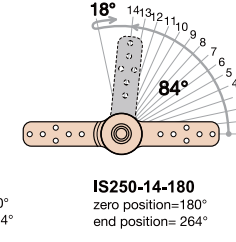
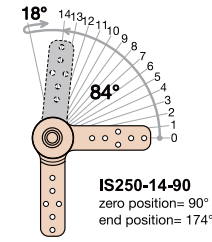
## 9 steps (54°)



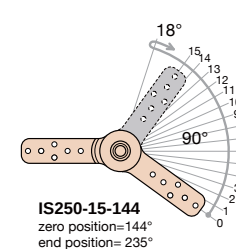
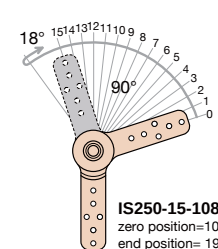
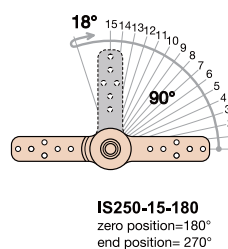
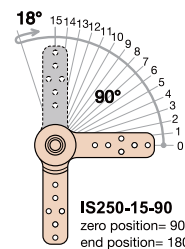
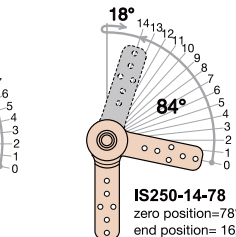
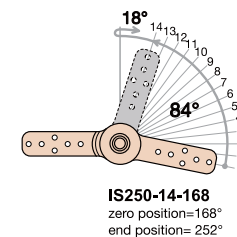
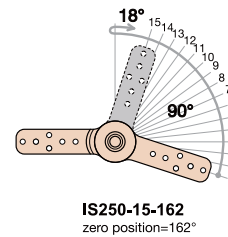
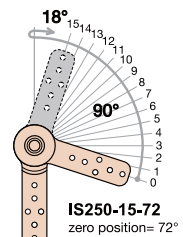
## 12 steps (72°)



## 14 steps (84°)

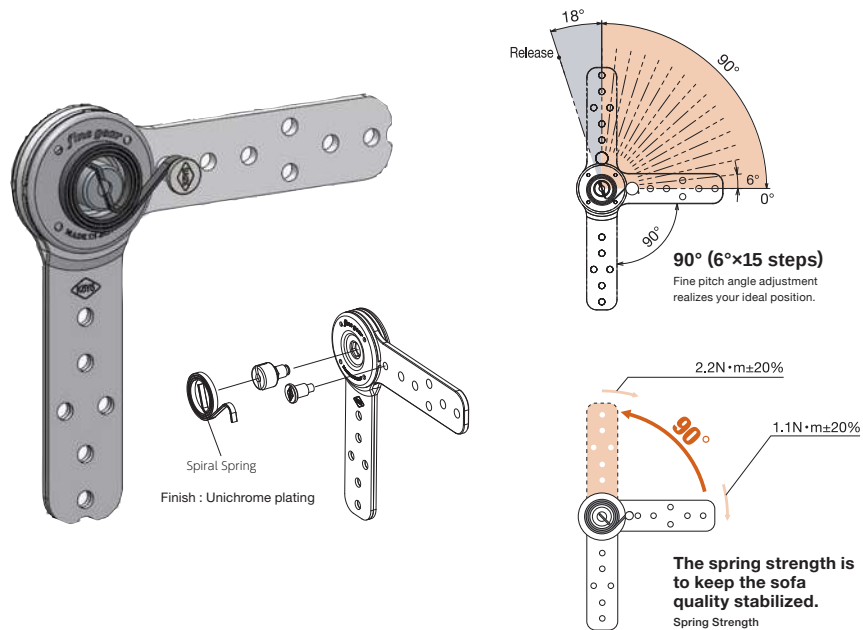


## 15 steps (90°)

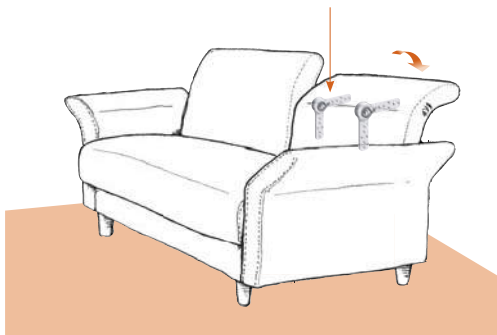


## IS250 Spring Type

The available motion patterns for this model are the same as for the IS250 series.  
Please refer to the pages 35-36.



The integrated spring prevents a pulling up of the cushion by the upholstery and pushes the cushion down, so it will rest in a flat position when released.



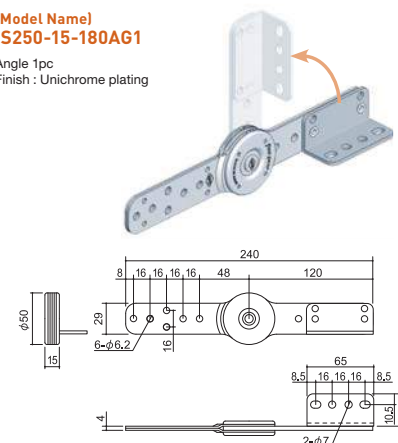
| Packing Spec |             |                 |                  |
|--------------|-------------|-----------------|------------------|
| Pcs / Carton | Weight / Pc | Weight / Carton | LxWxH/Carton[mm] |
| 40           | 0.33kg      | 13.7kg          | 250×330×105      |

## IS Options

**Angle Riveted Type** The available motion patterns for this model are the same as for the IS250 series. Please refer to the pages 35-36.

(Model Name)  
**IS250-15-180AG1**

Angle 1pc  
Finish : Unichrome plating

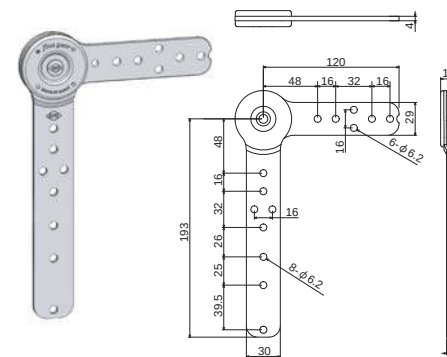


| Sets / Carton | Weight / Set | Weight / Carton | LxWxH/Carton(mm) |
|---------------|--------------|-----------------|------------------|
| 25            | 0.78kg       | 20kg            | 250×330×150      |

**Long Arm Type** The available motion patterns for this model are the same as for the IS250 series. Please refer to the pages 35-36.

(Model Name)  
**IS250-L-15-90**

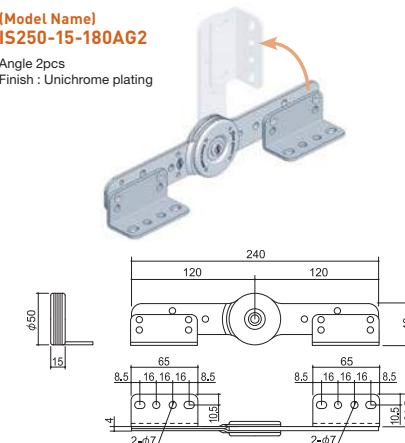
Finish : Unichrome plating



| Pcs / Carton | Weight / Pc | Weight / Carton | LxWxH/Carton(mm) |
|--------------|-------------|-----------------|------------------|
| 50           | 0.38kg      | 19.5kg          | 250×330×150      |

(Model Name)  
IS250-15-180AG2

Angle 2pcs  
Finish : Unichrome plating



| Pcs / Carton | Weight / Pc | Weight / Carton | LxWxH/Carton(mm) |
|--------------|-------------|-----------------|------------------|
| 40           | 0.48kg      | 19.7kg          | 250×330×15       |

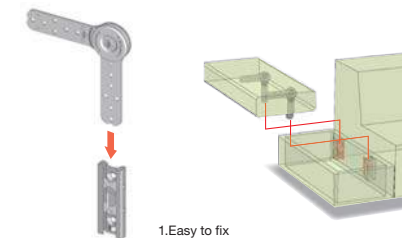
## Socket

Finish : Unichrome plating



This is developed as a knock down fitting for headrests & armrests.  
This socket allows quick and easy assembly of reclining parts.

**One-touch operation**  
Just insert a gear into the socket



1. Easy to fix
2. Improving efficiency of assembly
3. Expansion of design patterns

# 80mm Stretch Gear

IS150LT

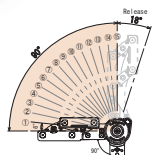


IS150LT-L-SS45-15-108

Durability: 150N-m  
Finish: Unichrome

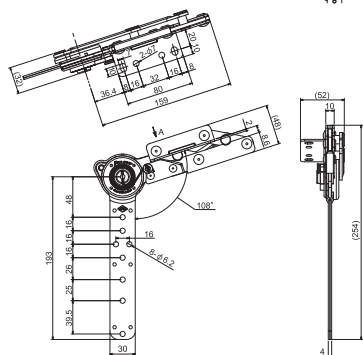
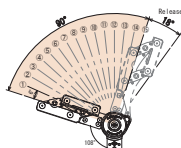
Model Name  
IS150LT-L-15-90  
(non-spring type)

IS150LT-L-SS45-15-90  
(spring type)



Model Name  
IS150LT-L-15-108  
(non-spring type)

IS150LT-L-SS45-15-108  
(spring type)



Packing Spec for IS150LT-L-SS45-15-90

| Sets / Carton | Weight / Set | Weight / Carton | LxWxH/Carton(mm) |
|---------------|--------------|-----------------|------------------|
| 10            | 1.5kg        | 15.5kg          | 250×330×180      |

# 50mm Stretch Gear

IS150W



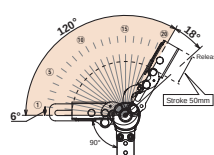
IS150W-20-90  
(non-spring type)

IS150W-SS45-20-90  
(spring type)

Durability: 150N-m  
Finish: Unichrome

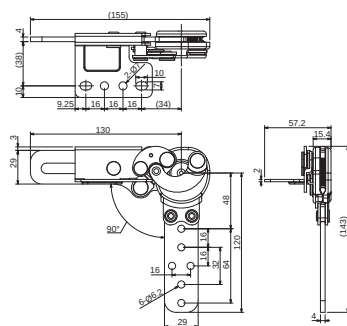
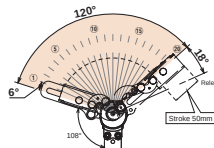
Model Name  
IS150W-20-90  
(non-spring type)

IS150W-SS45-20-90  
(spring type)



Model Name  
IS150W-20-108  
(non-spring type)

IS150W-SS45-20-108  
(spring type)



Packing Spec for IS150W-20-90

| Sets / Carton | Weight / Set | Weight / Carton | LxWxH/Carton(mm) |
|---------------|--------------|-----------------|------------------|
| 15            | 1kg          | 15.5kg          | 250×330×180      |

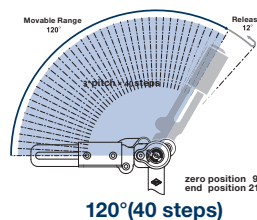
# Compact 50mm Stretch Gear

LS100-MP-TR

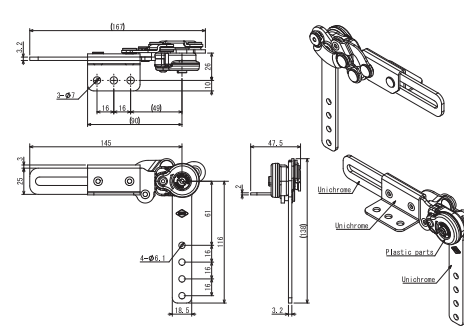


Durability: 100N-m  
Finish: Unichrome

Model Name  
LS100(S)-MP120TR-TA01(90)



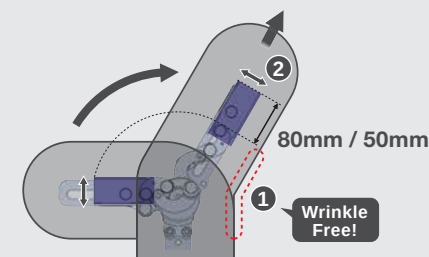
120°(40 steps)



Packing Spec

| Sets / Carton | Weight / Set | Weight / Carton | LxWxH/Carton(mm) |
|---------------|--------------|-----------------|------------------|
| 15            | 0.6kg        | 9.5kg           | 250×330×150      |

Stroke  
80mm(IS150LT) / 50mm(IS150W/LS100-MP-TR)

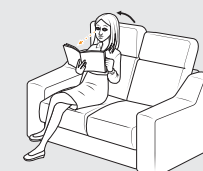


- When moving the gear, the angle plate slides up 80mm(50mm), which prevents the fabric from wrinkling.
- The angle plate slides along the gear base without extending its width. (IS150W/LS100-MP-TR)

Movable Range 120° (IS150W/LS100-MP-TR)



Movable Range 90°



Movable Range 120°

Create the comfortable angle

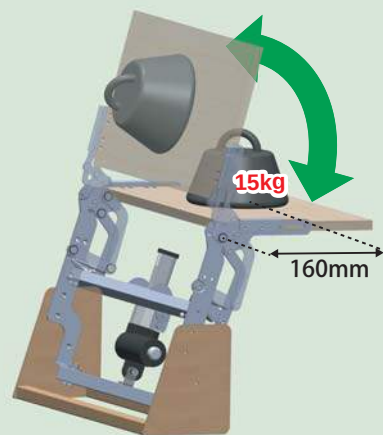
You can easily adjust the angle of the headrest to your favorite position for reading or watching TV.

# Motorized Angle Adjustable Gear

EL-02H

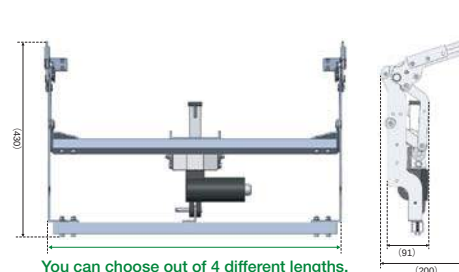


## Test Data

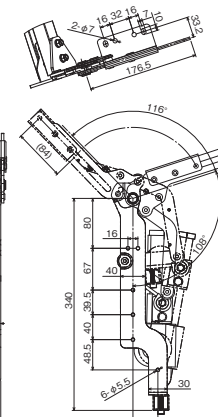
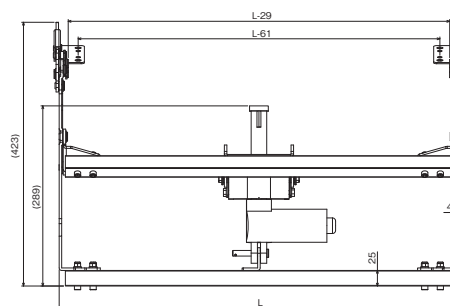


25,000 cycles while loading 15kg weight at 160mm from rotary axis.

## Specification



You can choose out of 4 different lengths.  
(565mm·641mm·680mm·791mm)



## Mechanical Components

EL-02H  
Arm parts/pair



EL-02H-T565 (641·680·791)  
EL-02H-B565 (641·680·791)

Joint pipe



EL-02H-AC  
Accessory



## Electric Accessories

EL-01H-ACT  
Linear actuator



EL-01H-PA  
Power adaptor



EL-01H-PC  
Power cable



EL-01H-CC  
Connection cable



EL-01H-YC  
Split cable



EL-01H-BA  
Plastic oval handset



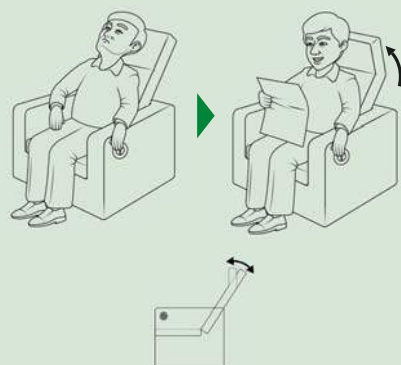
EL-01H-BB  
Aluminum oval handset



EL-01H-BC  
Soft touch handset



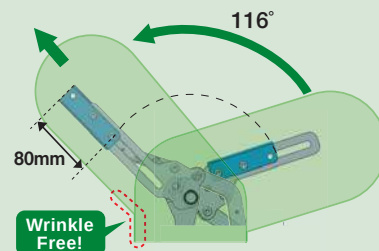
## Adjust the angle of the headrest by just pushing a button



## Motorized adjustment of the headrest

You can easily adjust the angle of the back and headrest to your favorite position for reading or watching TV.

## Stroke 80mm



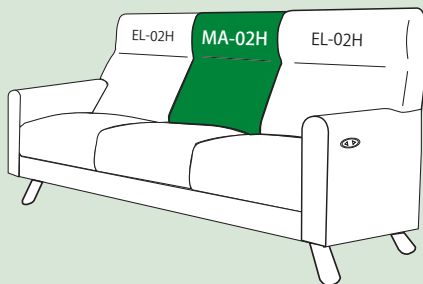
When moving the gear, the angle plate slides up 80mm, which prevents the fabric from wrinkling.

# Manual Angle Adjustable Gear

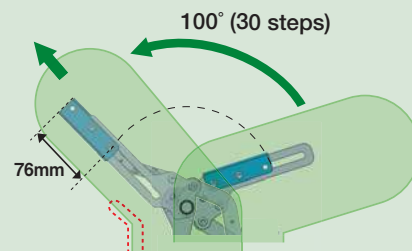
## MA-02H



For 3 seaters' sofa, you can locate the MA (manual) model between the EL (electric) ones, enabling manual adjustment in the same motion as EL-02H.



Stroke 76mm



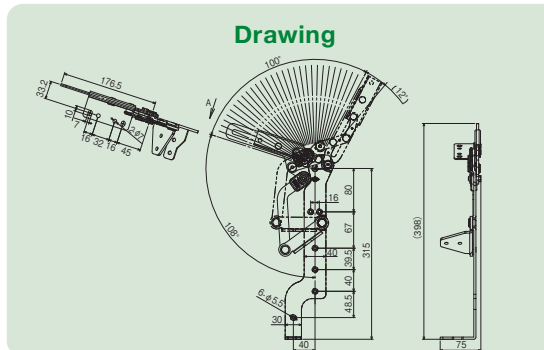
Wrinkle Free!

When moving the gear, the angle plate slides up 76mm, which prevents the fabric from wrinkling.

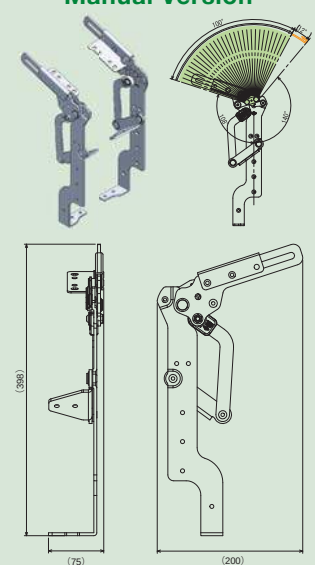
Durability



Drawing

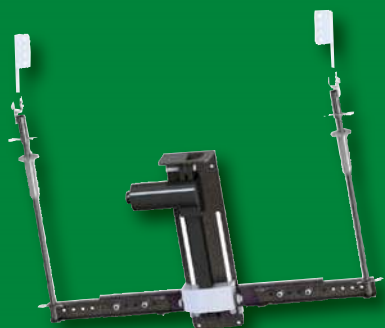


Manual Version

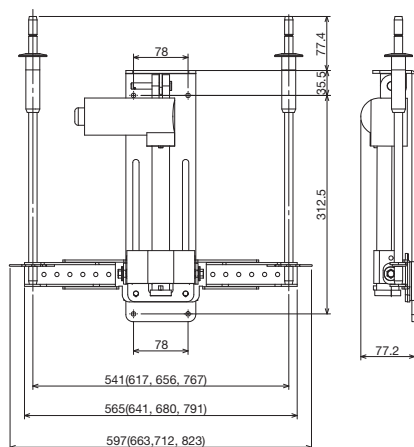


# Motorized Lift Up Mechanism

EL-03H

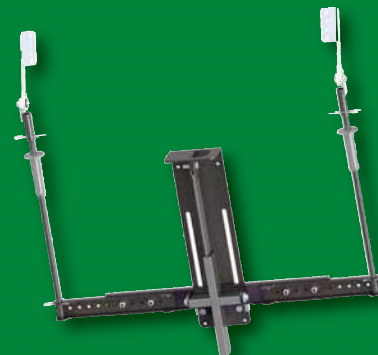


## Specification

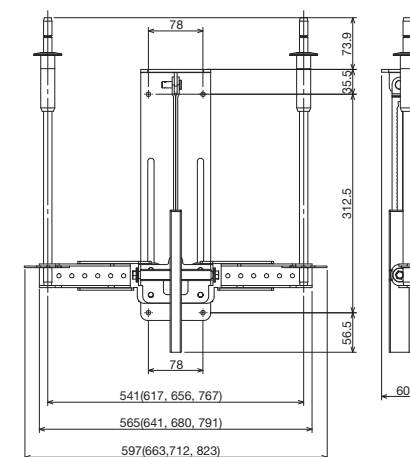


# Manual Lift Up Mechanism

MA-03H



## Specification



## Electric Accessories

EL-03H-ACT

Linear actuator



EL-01H-YC

Split cable



EL-01H-PA

Power adaptor



EL-01H-BA

Plastic oval handset



EL-01H-PC

Power cable



EL-01H-BB

Aluminium oval handset



EL-01H-CC

Connection cable



EL-01H-BC

Soft touch handset



## Optional Angle Adjustable Parts

MS-EL03



LS100-MP48L-EL03



LS200-MP48L-EL03



LS200a-48L-EL03

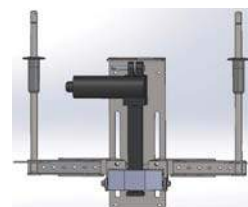


ST250-42-EL03



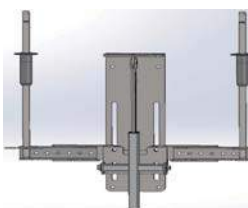
## Lift Up Mechanism

EL-03H



Motorized

MA-03H

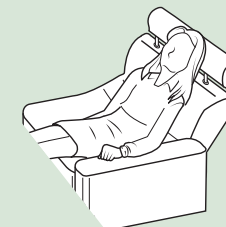


Manual

## Movability



Angle adjustment is possible. You can choose your desired gear among the options. Please refer to the chart.



Height adjustment is also possible. You can choose the motorized model (EL-03H) or the manual one (MA-03H).

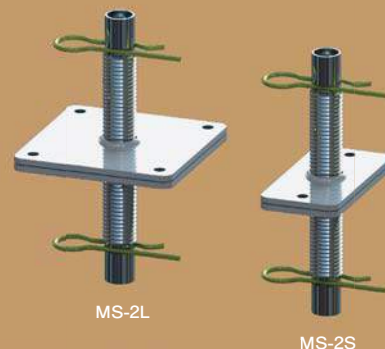
# Detachable Support Fitting for Your Sofa Assembly

## MS-2

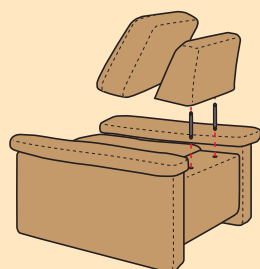
### Product Spec

|                     |           |
|---------------------|-----------|
| Finish              | Unichrome |
| Weight / Pc (MS-2L) | 0.45kg    |
| Weight / Pc (MS-2S) | 0.3kg     |

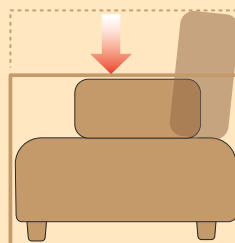
Model Name **MS-2L**  
Series Large or small



### Easier assembly in your factory

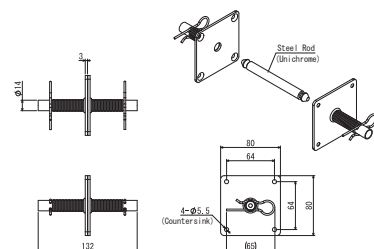


### Compact packing, saving your shipping cost

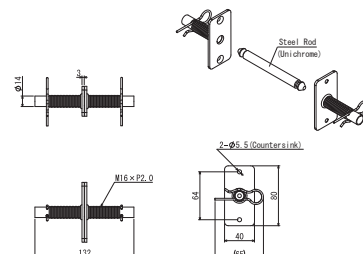


### Drawing

#### MS-2L



#### MS-2S



# KOYO Global Network



### Web Site

(English) <http://www.koyogear.com>  
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