

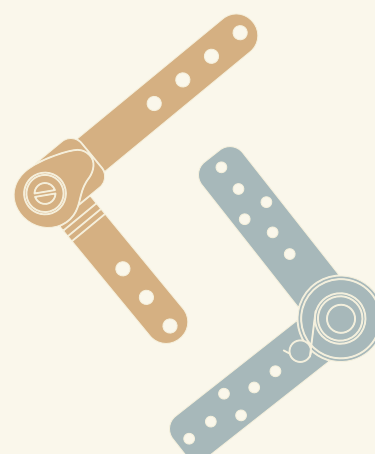


Heart & Technology

PRODUCT OF JAPAN

LS•IS GEAR

CATALOGUE Rev.4



The Koyo Philosophy

Craftsmanship with Heart and Technology

Koyo has over the past 100 years created and manufactured 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 & safety.

We will continue to work hard to win the trust and respect of our customers and the partners all over the world.



Heart & Technology

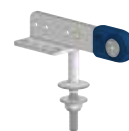
CONTENTS

LS SERIES

IS SERIES

P.03-04

LS200- α



P.05-06

Features of LS Series

P.07-10

LS100-MP



P.11-14

LS200-MP



P.15-16

LS300-MP



P.17-18

Features of IS Series

P.19-20

IS250



P.21

**Value Added IS
(IS250-SS45-15-90)**



P.22

**Value Added IS
(IS450Y)**



P.23

**Value Added IS
(IS150LT)**



P.24

**Value Added IS
(IS150T)**



P.25

IS Options



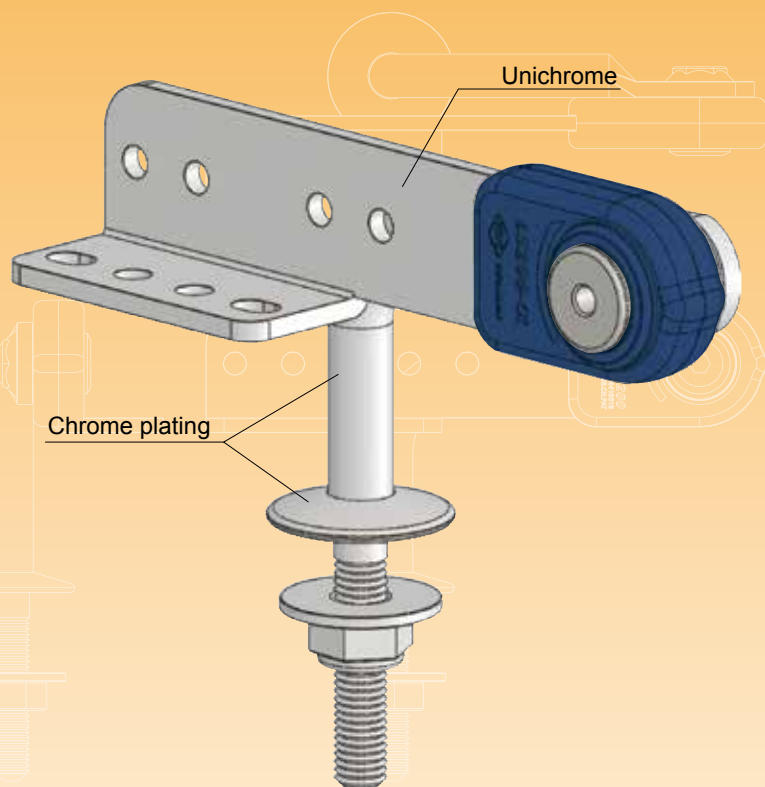
P.26

Company Information

LS

LS200- α

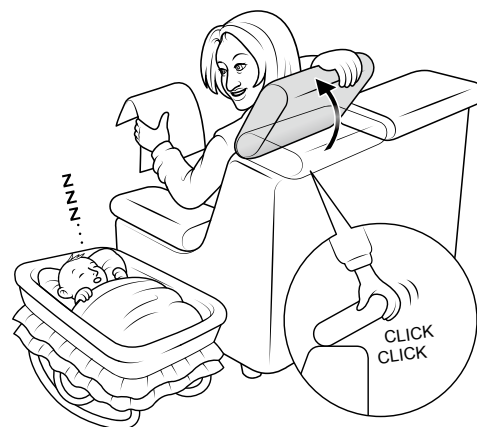
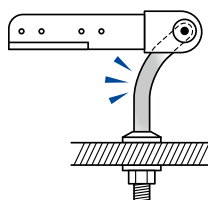
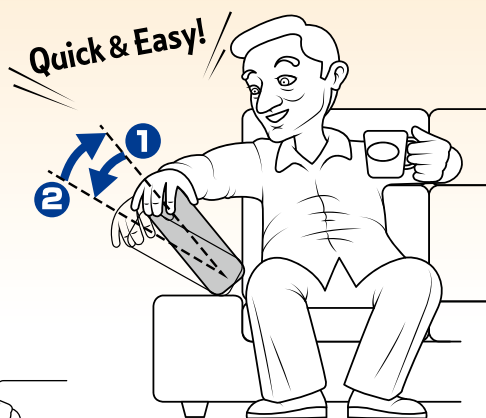
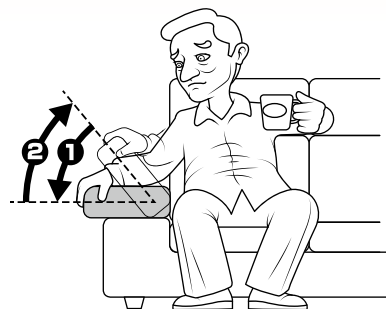
Innovative Free-Lock Mechanism



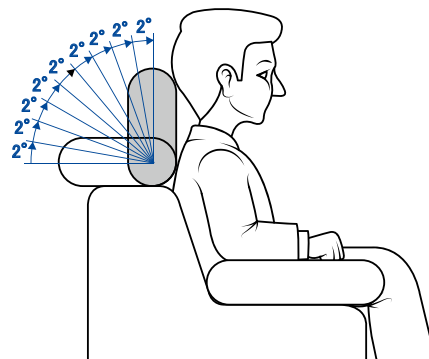
LS200- α -90L-32AF

DURABILITY: 200N·m

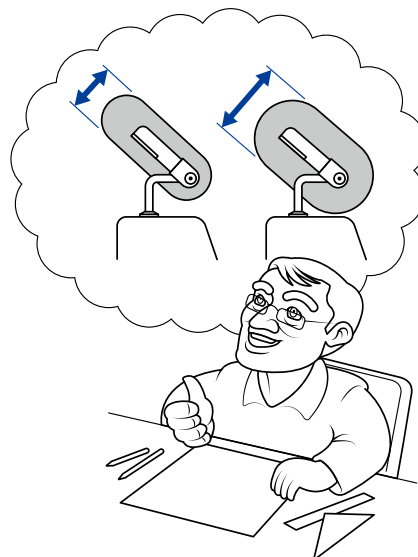
EASIER ANGLE ADJUSTMENT
POSSIBLE IN BETWEEN
WITHOUT FLATTENING
THE ARMREST



QUIETER CLICK



2°ULTRA FINE PITCH GEAR FITS
YOU BETTER



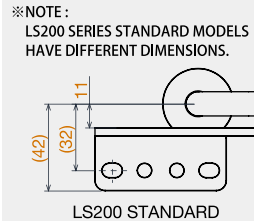
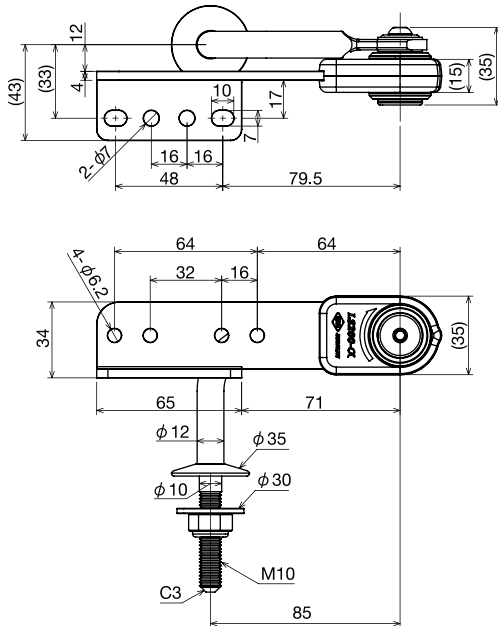
NO CONCERN ABOUT URETHANE
THICKNESS NEEDED, EASIER TO
DESIGN THE SOFA

STILL FUNCTIONAL EVEN AFTER ANY
POSSIBLE DEFORMATION IN USE

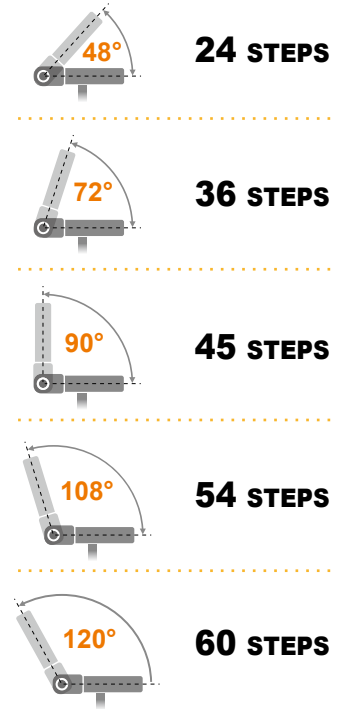
LS200- α gear

DRAWING

LS200- α -90L-32A F

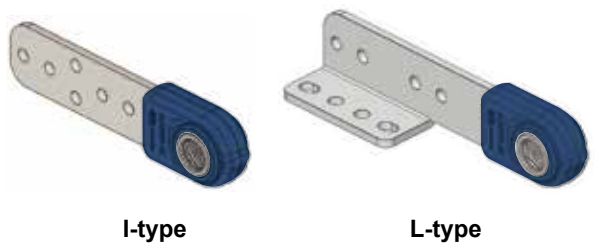
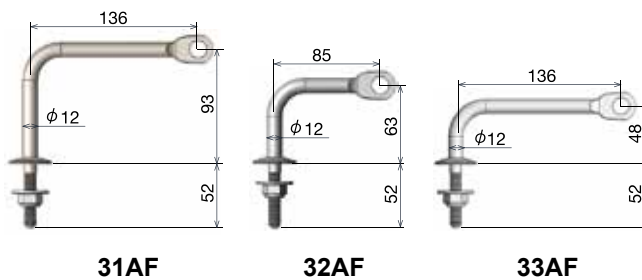


GEAR STEPS

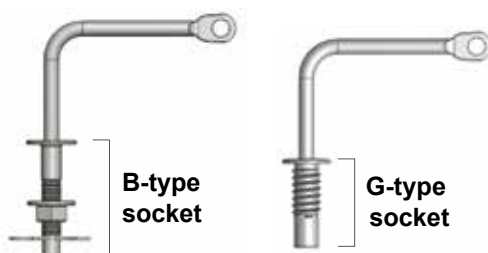


ARMS

AF type



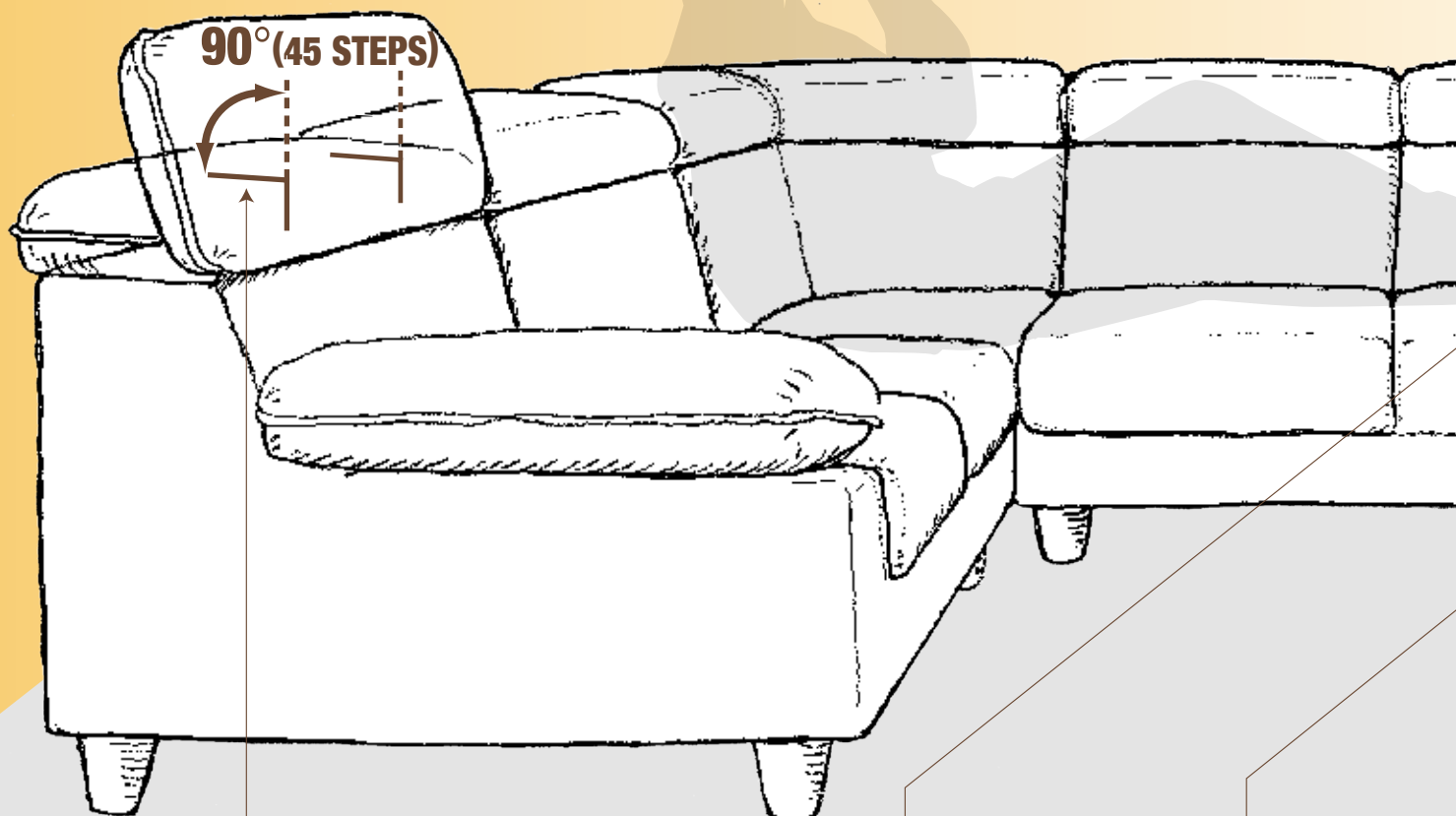
B-type & G-type also available



PACKING SPEC

	Set / Carton	Weight / Set	Weight / Carton	L × W × H / Carton (mm)
LS200- α -90L-32AF	15	0.92kg	14.3kg	250 × 330 × 160

"HOW TO USE" & "HOW IT WORKS"

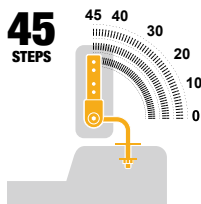


LS200-MP

SUITABLE ADJUSTMENT FOR HEAD REST



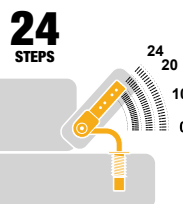
(Low back-High back)



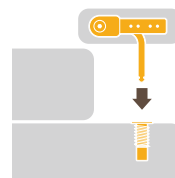
IDEAL FOR ARM REST



(Angle adjustment)



DETACHABLE SOCKET

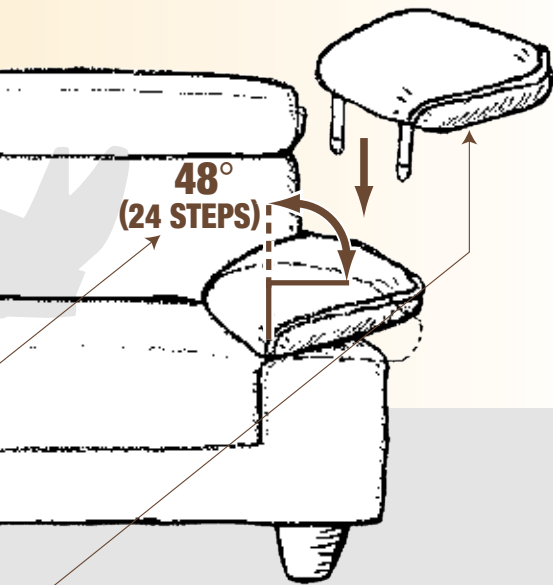
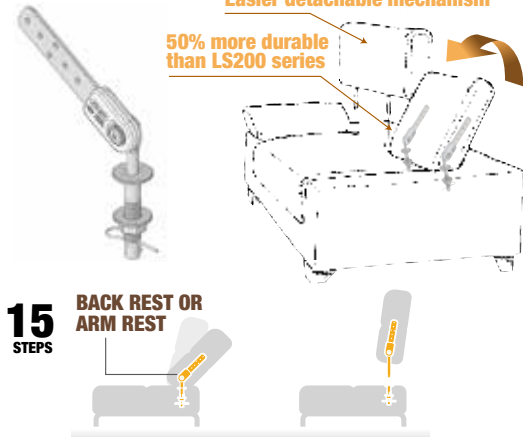


LS300-MP

IDEAL FOR BACK REST OR
LARGE SIZED ARM REST

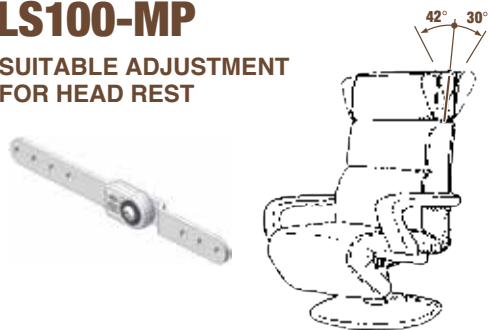
Easier detachable mechanism

50% more durable
than LS200 series



LS100-MP

SUITABLE ADJUSTMENT
FOR HEAD REST



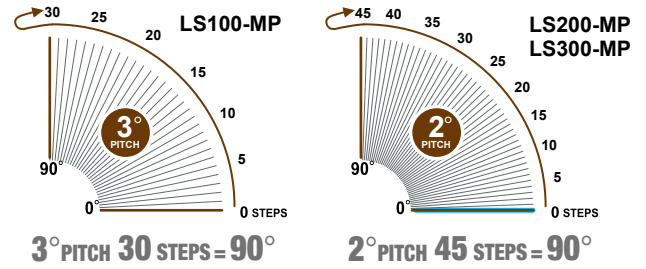
24 or 15
STEPS

HEAD REST

5 MAJOR ADVANTAGES

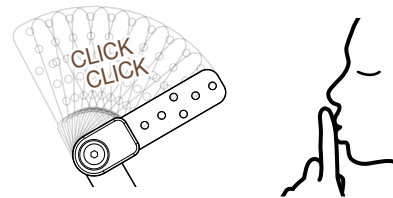
織

FINE PITCH GEAR



靜

QUIETER CLICK



強

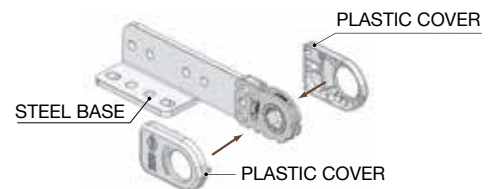
POWERFUL & DURABLE

LS100-MP → 100N·m
LS200-MP → 200N·m
LS300-MP → 300N·m
MORE THAN
50,000 CYCLES



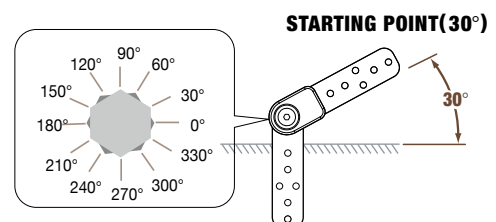
被

PROTECTED BY SAFETY PLASTIC COVER



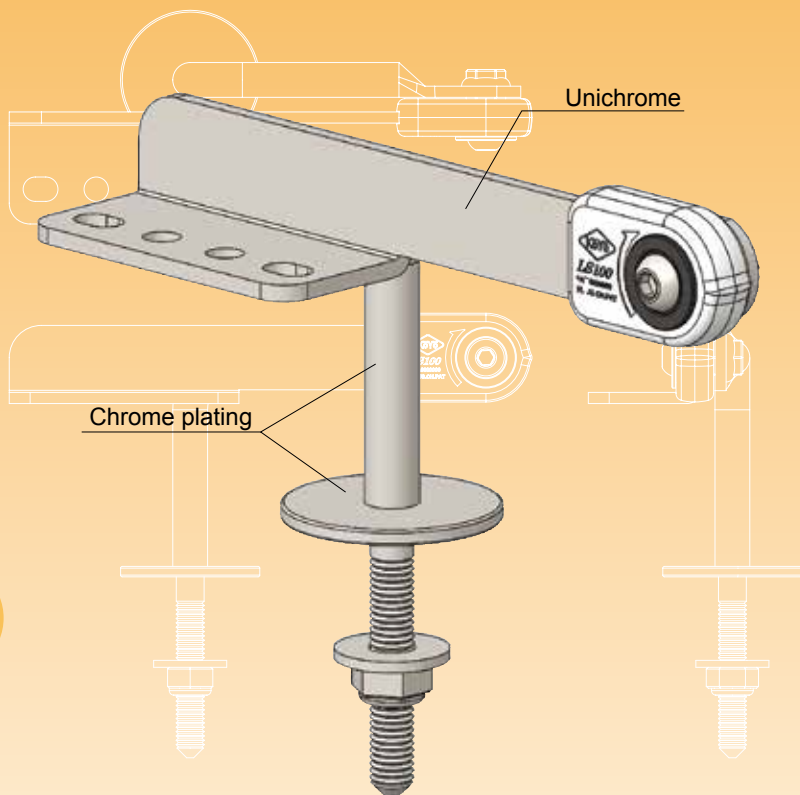
始

FLEXIBLE STARTING POINT



LS100-MP

Compact and Durable Solution

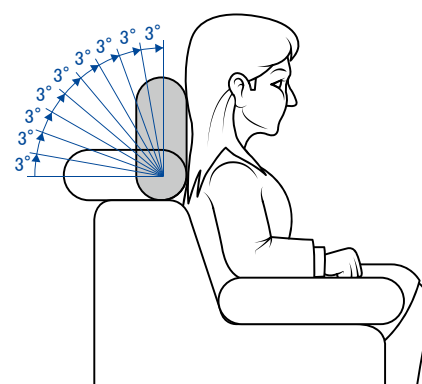
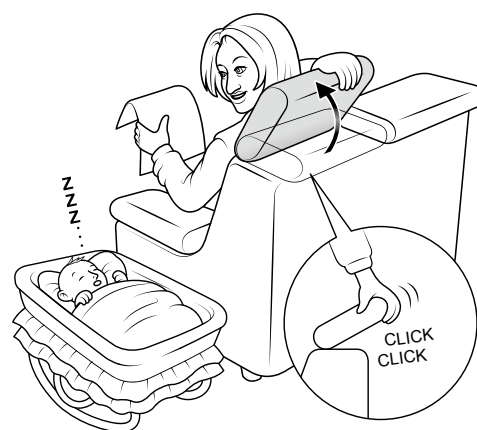


LS100-MP90L-30A

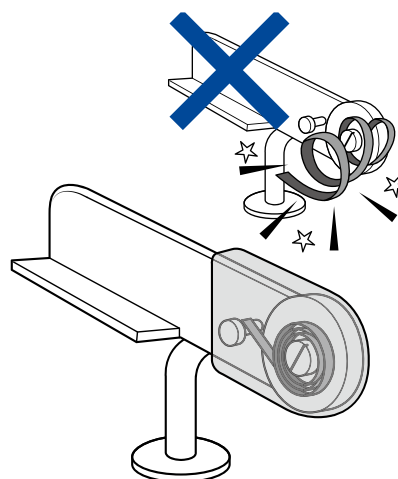
DURABILITY: 100N·m



DEAL FOR HEADRESTS DUE TO ITS
COMPACT SIZE AND DURABILITY



3°ULTRA FINE PITCH GEAR FITS
YOU BETTER



SAFETY DESIGN NEVER TO EXPOSE
THE SPRING OUTSIDE

PACKING SPEC

	Set / CartonW	eight / Set	Weight / Carton	L×W×H/ Carton(mm)
LS100-MP90L-A180	50	0.26kg	14kg	250 × 330 × 150
LS100(S)-MP72L-A180	50	0.26kg	15kg	250 × 330 × 150
LS100-MP90L-P31G	15	0.78kg	12kg	250 × 330 × 150
LS100-MP90L-30A	15	0.56kg	9kg	250 × 330 × 150

LS100-MP

VARIATION

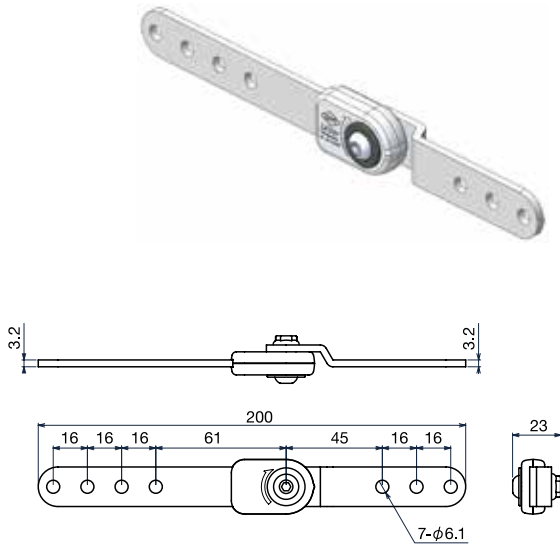
MODEL NAME
MODEL No.
(combination code) e.g.)

LS100-MP90L-P32G

SERIES MICRO PITCH ARM TYPE
BASE TYPE MOVABLE RANGE

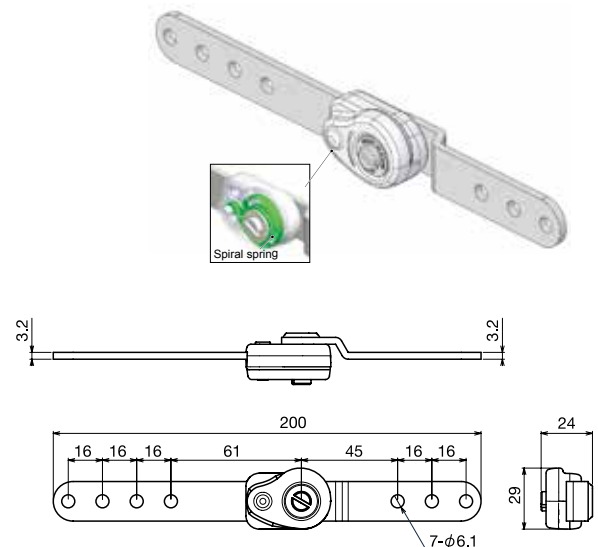
LS100-MP90I-A180

Durability : 100N·m
Gear steps : 10/16/24/30/36/40steps



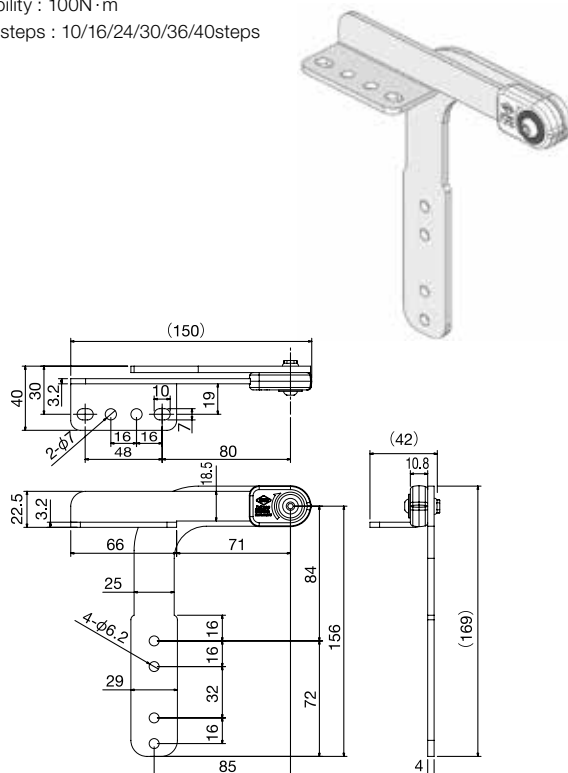
LS100(S)-MP72I-A180

Durability : 100N·m
Gear steps : 10/16/24steps



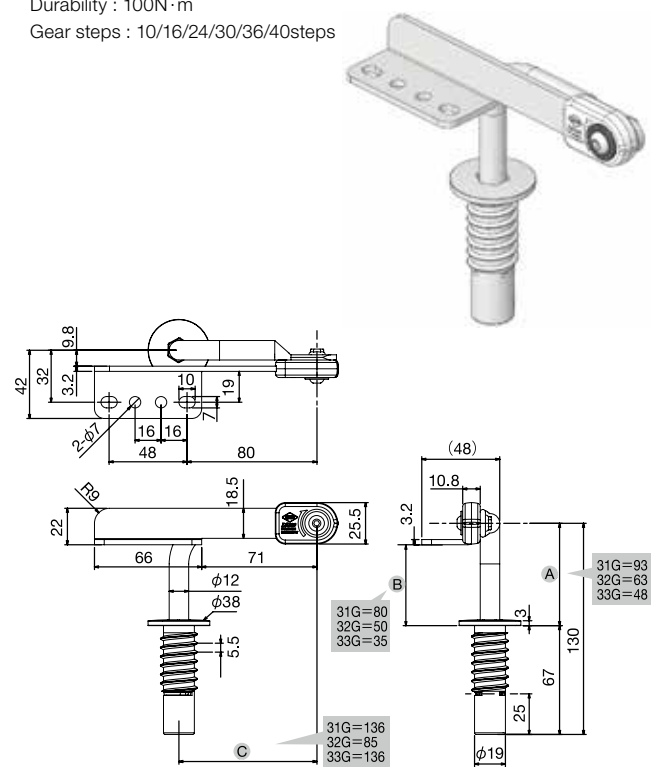
LS100-MP90L-10

Durability : 100N·m
Gear steps : 10/16/24/30/36/40steps



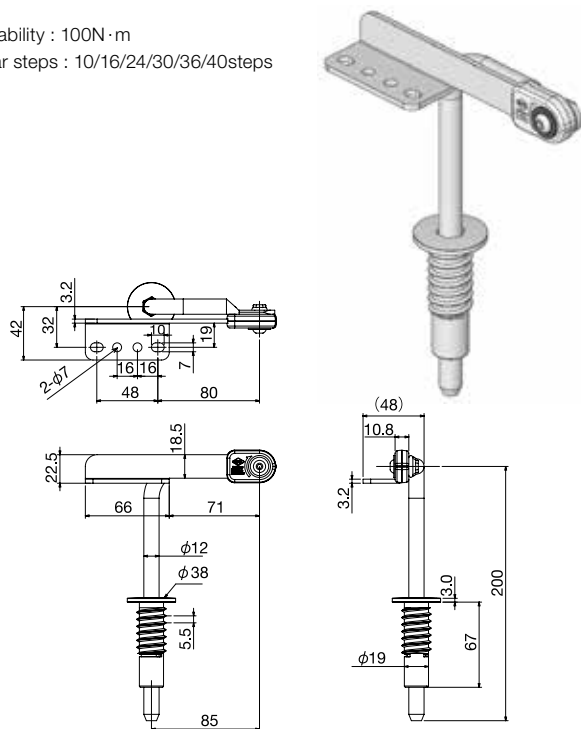
LS100-MP90L-P31G~P33G

Durability : 100N·m
Gear steps : 10/16/24/30/36/40steps



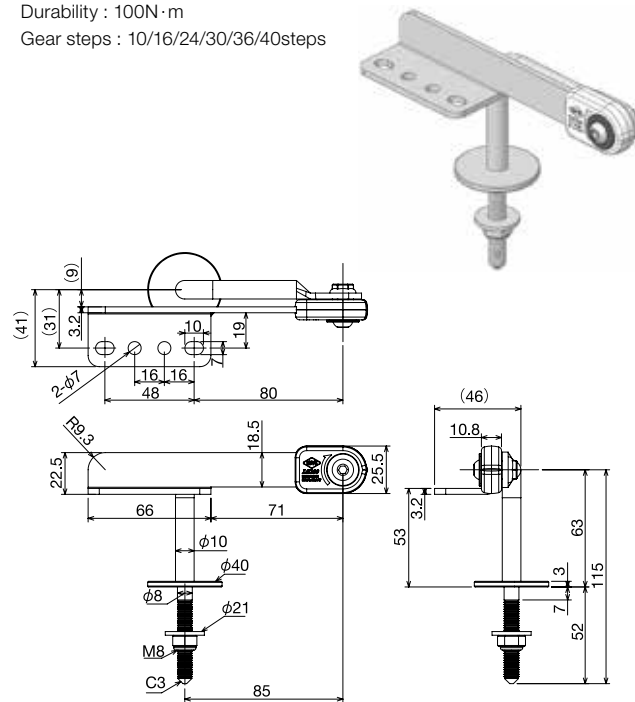
LS100-MP90L-P35H

Durability : 100N·m
Gear steps : 10/16/24/30/36/40steps



LS100-MP90L-30A

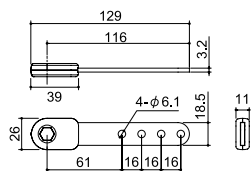
Durability : 100N·m
Gear steps : 10/16/24/30/36/40steps



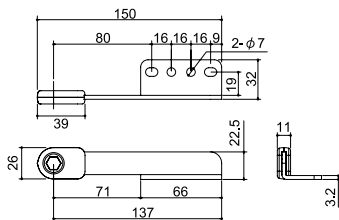
BASES

礎

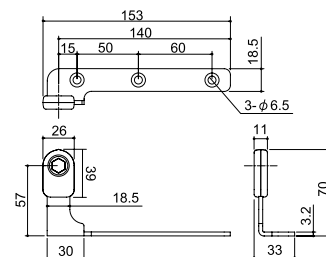
I-type



L-type



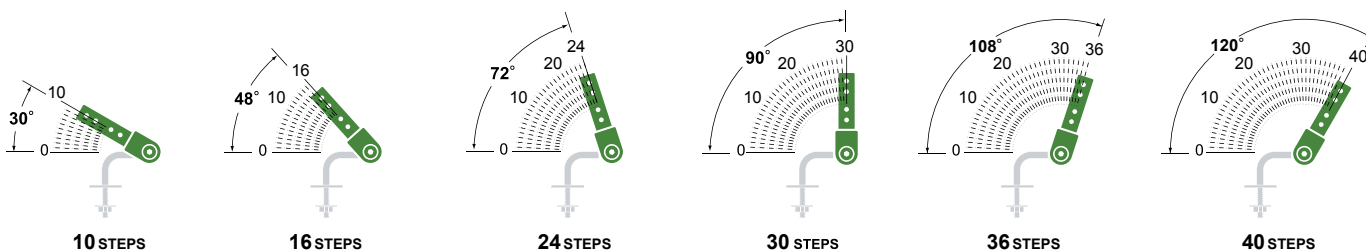
Z-type



GEAR STEPS

段

The 30, 36 & 40 steps are only applicable for non-spring model.
The previous 6°pitch models are limitedly available upon request.
(The color of plastic covers : dark green)

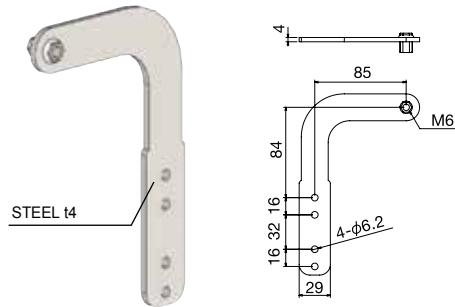


ARMS

腕

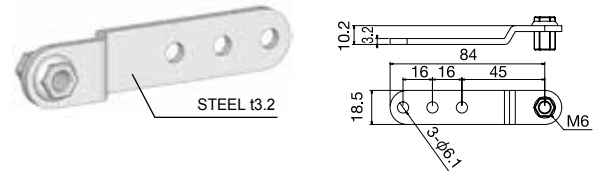
No.10

FINISH : Chrome Plating



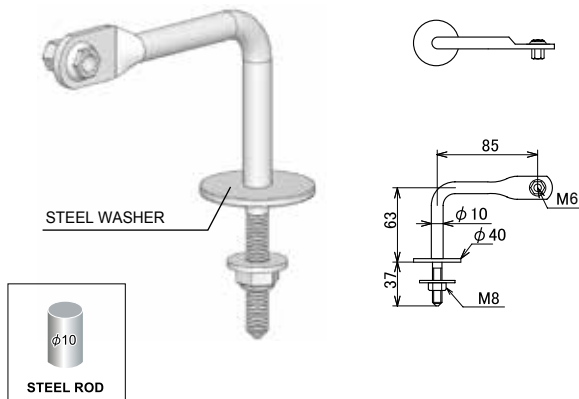
No.A

FINISH : Unichrome Plating



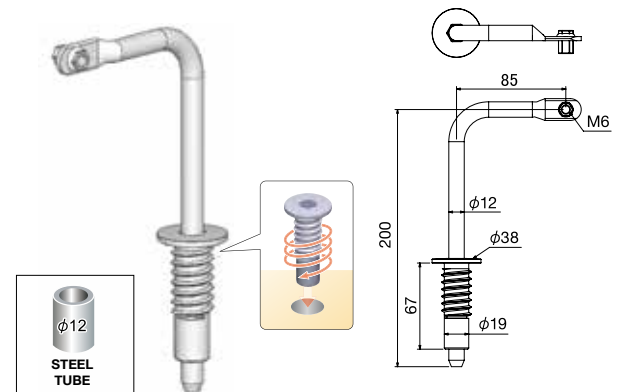
No.30A

FINISH : Chrome Plating



No.P35H

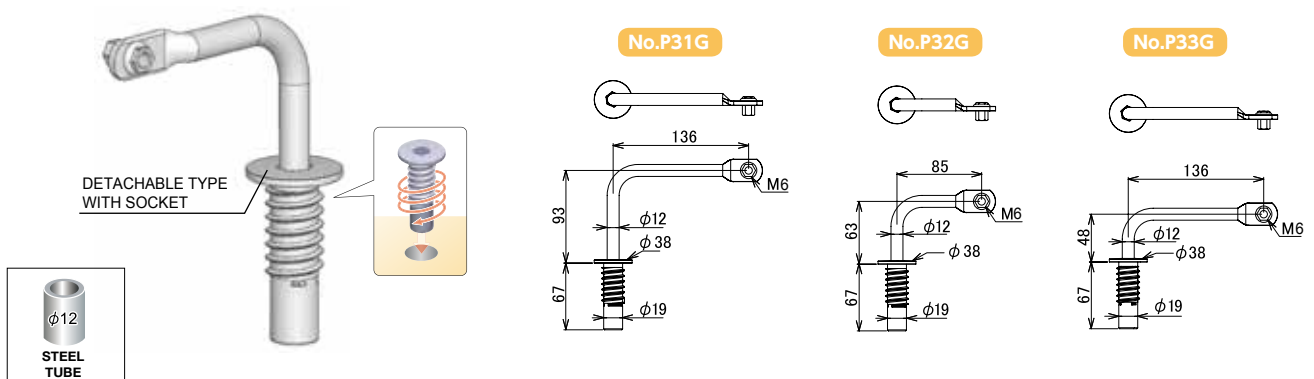
FINISH : Chrome plating



10

No. P31G~P33G

FINISH : Chrome plating



LS200-MP

VARIATION

MODEL NAME

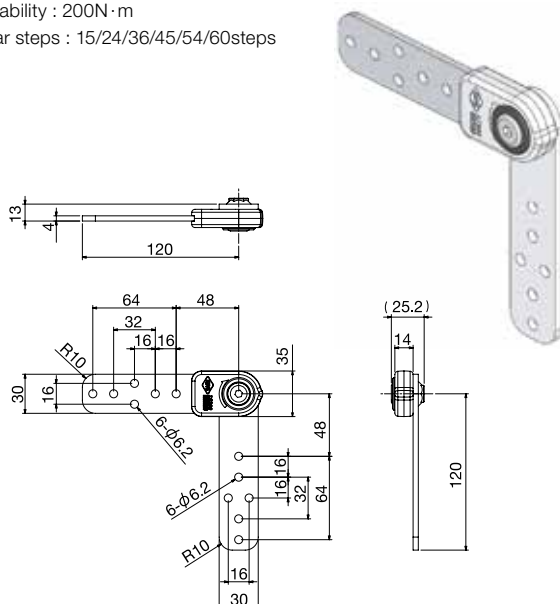
MODEL No.
(combination code) e.g.)

LS200-MP90L-32G

SERIES MICRO PITCH ARM TYPE BASE TYPE MOVABLE RANGE

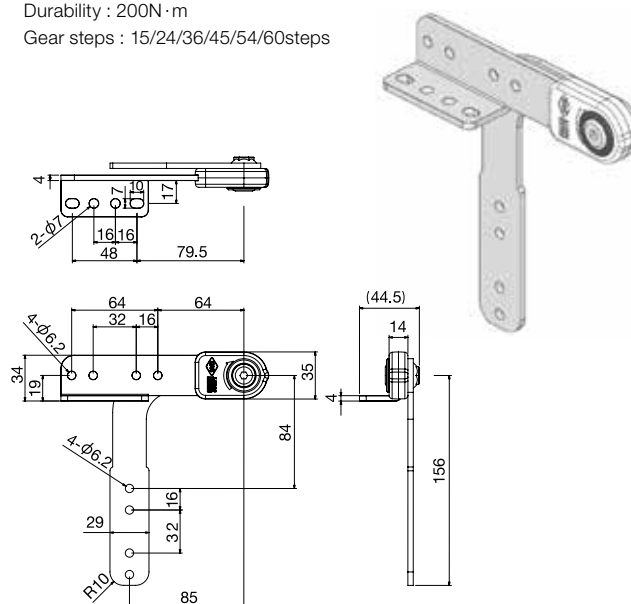
LS200-MP90I-R11

Durability : 200N·m
Gear steps : 15/24/36/45/54/60steps



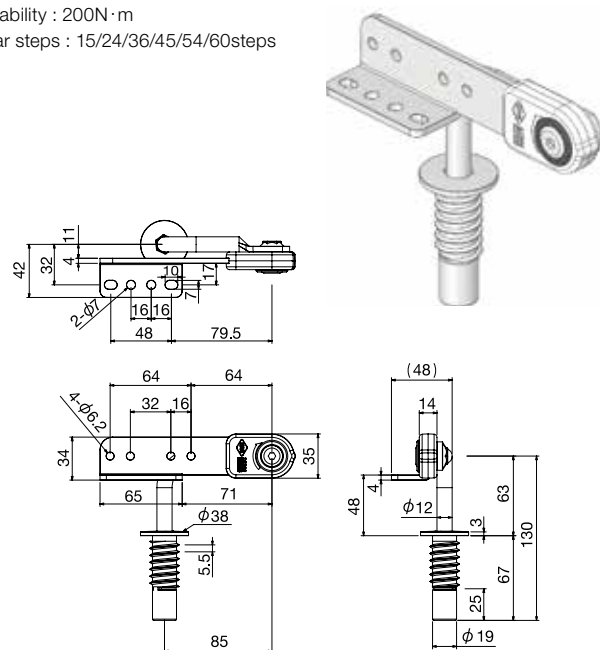
LS200-MP90L-10

Durability : 200N·m
Gear steps : 15/24/36/45/54/60steps



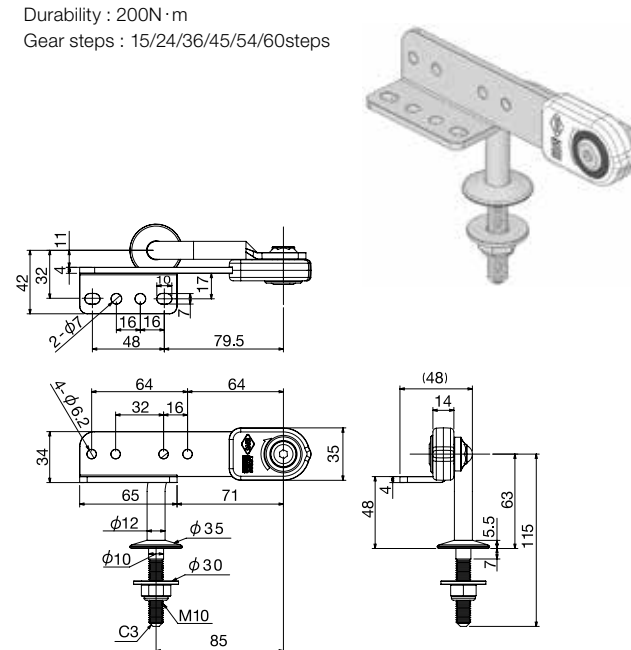
LS200-MP90L-32G

Durability : 200N·m
Gear steps : 15/24/36/45/54/60steps

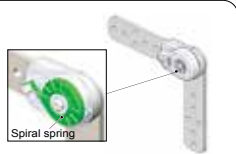


LS200-MP90L-32AF

Durability : 200N·m
Gear steps : 15/24/36/45/54/60steps



SPIRAL SPRING TYPES
ARE AVAILABLE.



PACKING SPEC

	Set / Carton	Weight / Set	Weight / Carton	L×W×H/Carton(mm)
LS200-MP90L-32AF	15	0.9kg	14kg	250×330×160

BASES

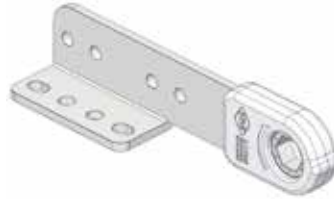
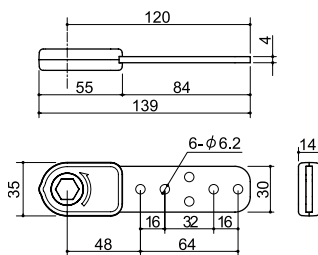


You can choose any base shape among 6 types below to meet your application.
The 15,24,36,45,54 & 60 steps are available for all the bases.

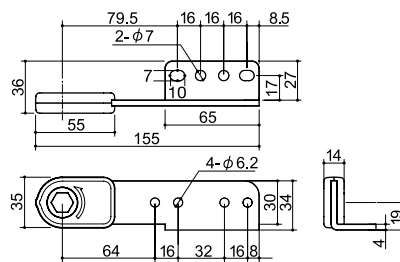
FINISH : Unichrome plating



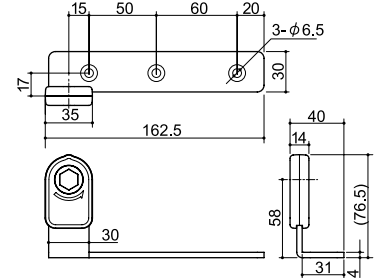
I- type



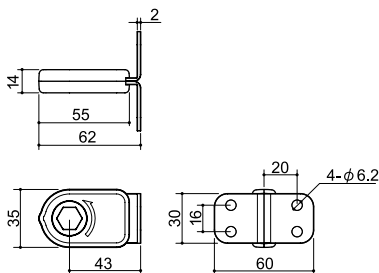
L- type



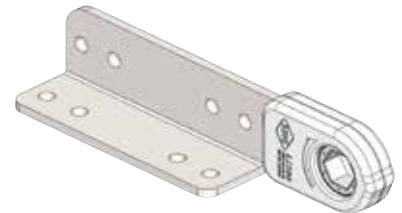
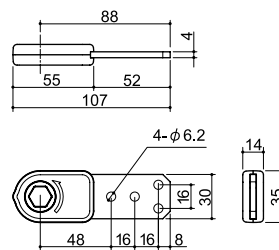
Z- type



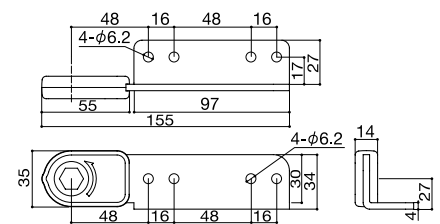
S- type



IC- type



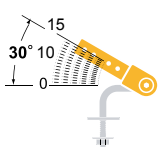
T- type



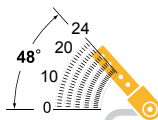
GEAR STEPS



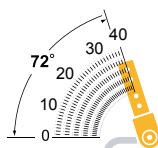
The previous 6°pitch models are limitedly available upon request.
(The color of plastic covers : dark gray)



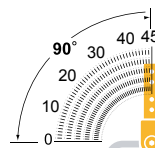
15 STEPS



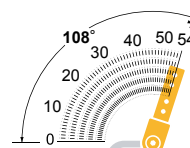
24 STEPS



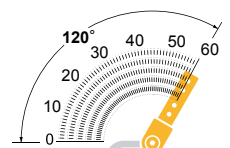
36 STEPS



45 STEPS



54 STEPS

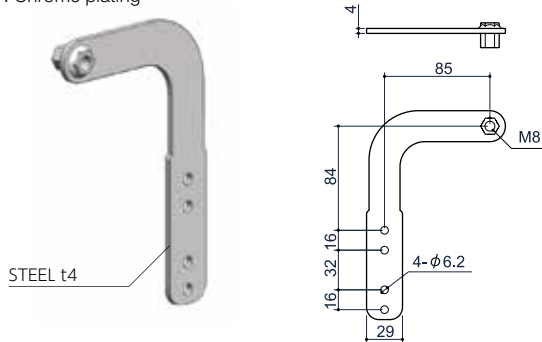


60 STEPS

Various shape of arms would help furnish your furniture.
You can enhance your options usable to meet the wood frame shape furnished.

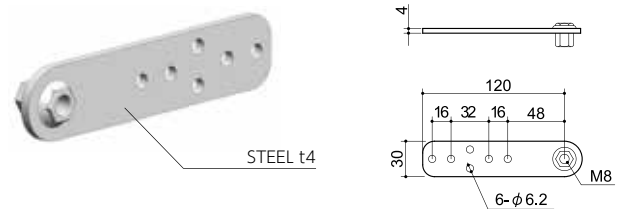
No.10

FINISH : Chrome plating



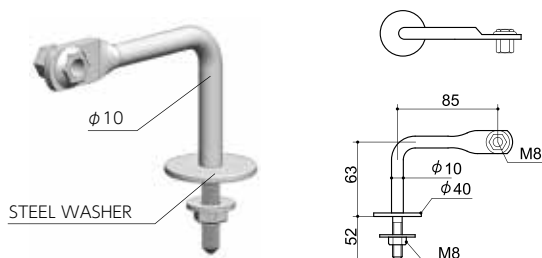
No.11

FINISH : Unichrome plating



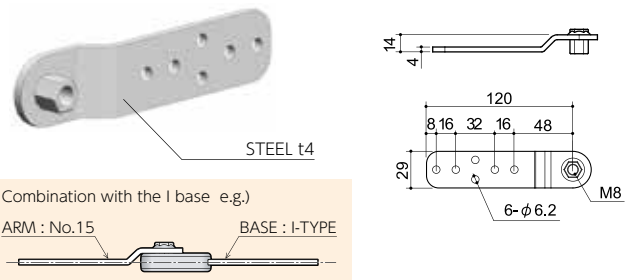
No.30A

FINISH : Chrome plating



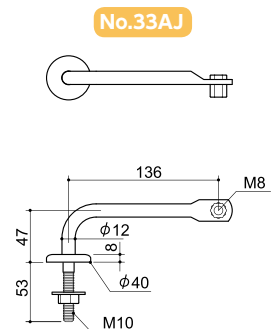
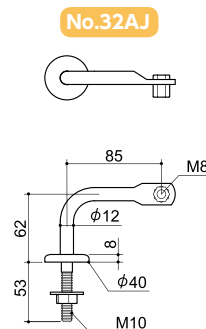
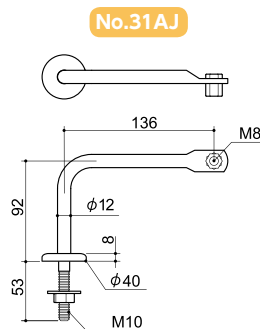
No.15

FINISH : Unichrome plating



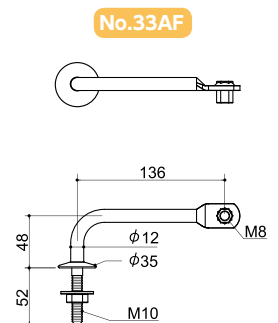
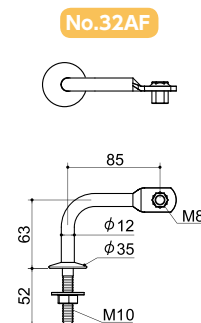
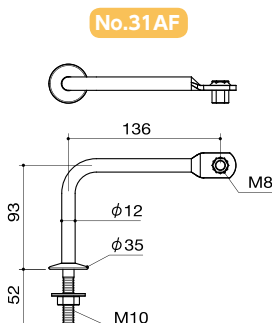
No.31~33AJ

FINISH : Chrome plating



No.31~33AF

FINISH : Chrome plating

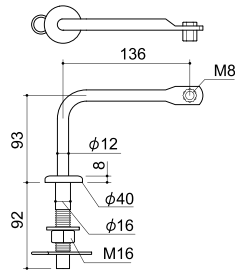


No.31~33BJ

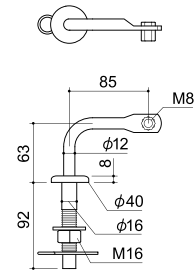
FINISH : Chrome plating



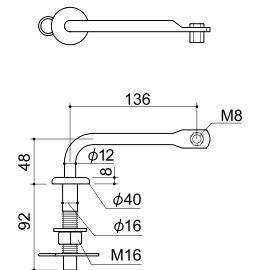
No.31BJ



No.32BJ



No.33BJ

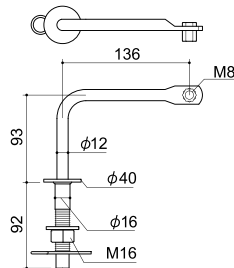


No.31~33B

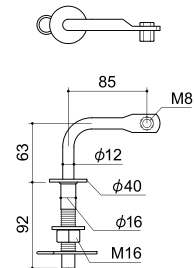
FINISH : Chrome plating



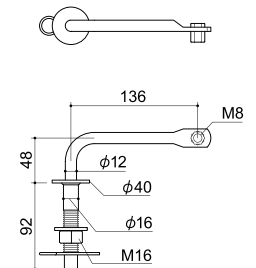
No.31B



No.32B

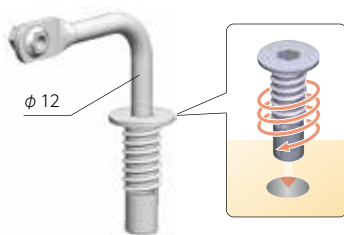


No.33B

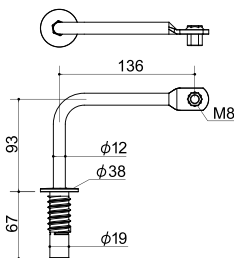


No.31~33G

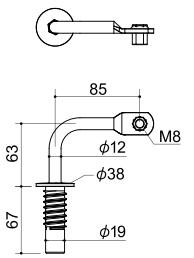
FINISH : Chrome plating



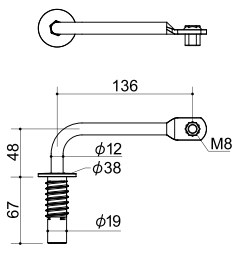
No.31G



No.32G



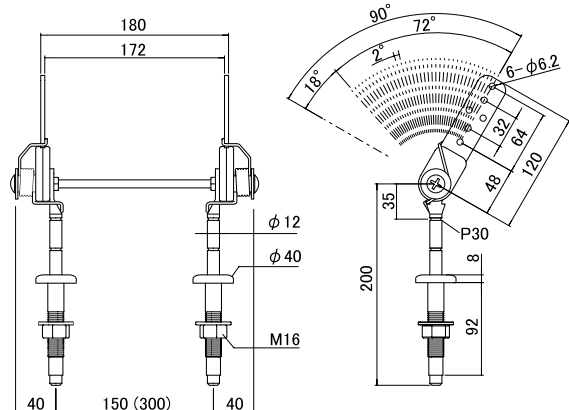
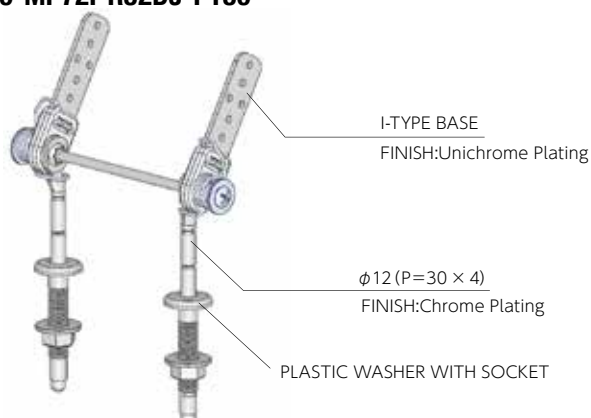
No.33G



HEAD REST TYPE



LS200-MP72I-R52DJ-P150



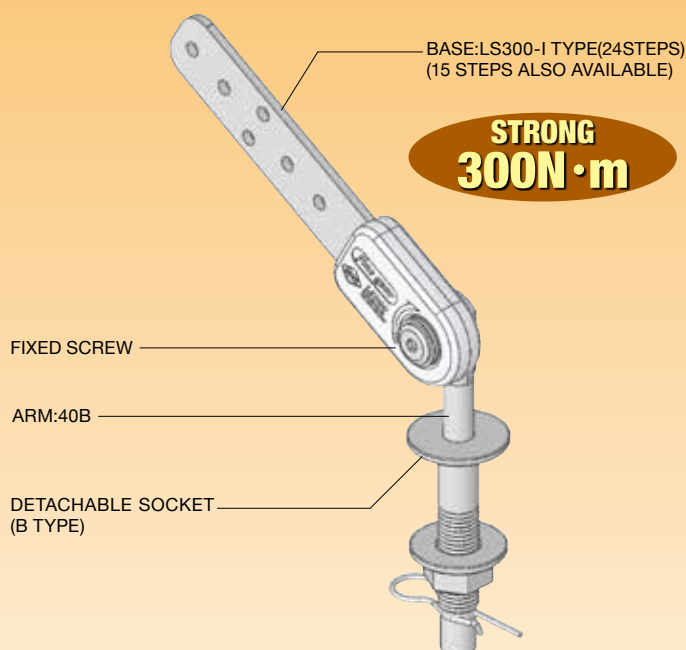
LS300-MP_{series}

Powerful

High durability

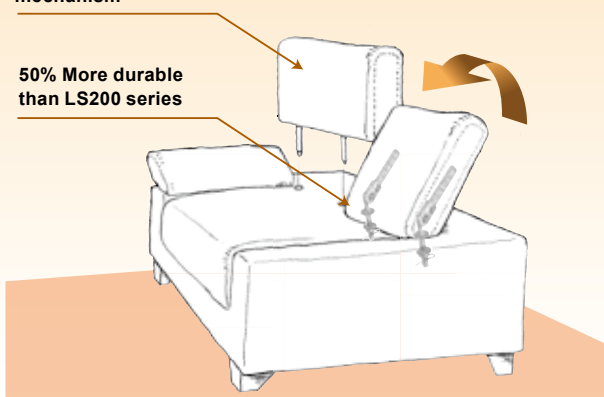
300N·m

LS300-MP48I-40B (LS300-MP30I-41B)



Easier detachable mechanism

50% More durable than LS200 series



MODEL NAME

MODEL No.
(combination code) e.g.)

LS300-MP48I-40B

SERIES

MICRO
PITCH

ARM TYPE
BASE TYPE
MOVABLE RANGE

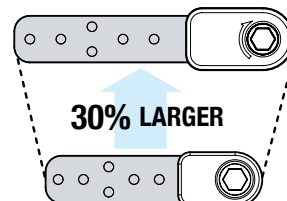
PACKING SPEC

	Set / Carton	Weight / Set	Weight / Carton	L × W × H / Carton(mm)
LS300-MP48I/MP30I	25	1.0kg	26.5kg	300 × 400 × 190

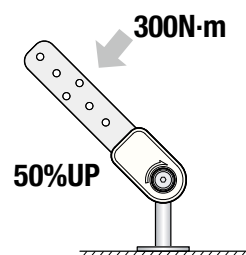
POINT

特

- 1 30% Increased in size in comparison with LS200-MP series



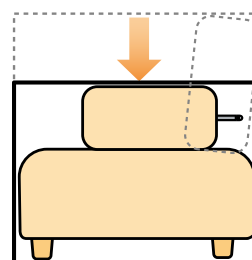
- 2 Improved durability by 50% in comparison with LS200-MP series



- 3 Easy separate assembly possible for the back rest and the seat



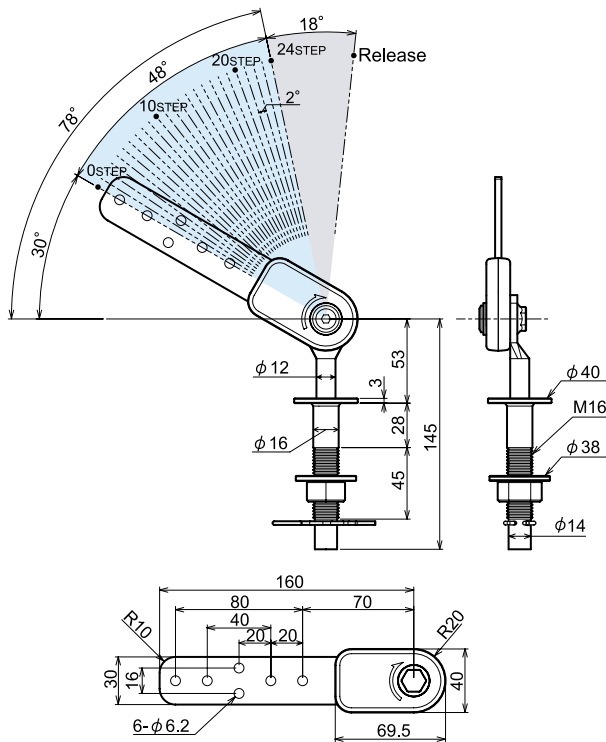
- 4 Compact packing saving your shipping cost



Ideal for Back Rest or Large Sized Arm Rest

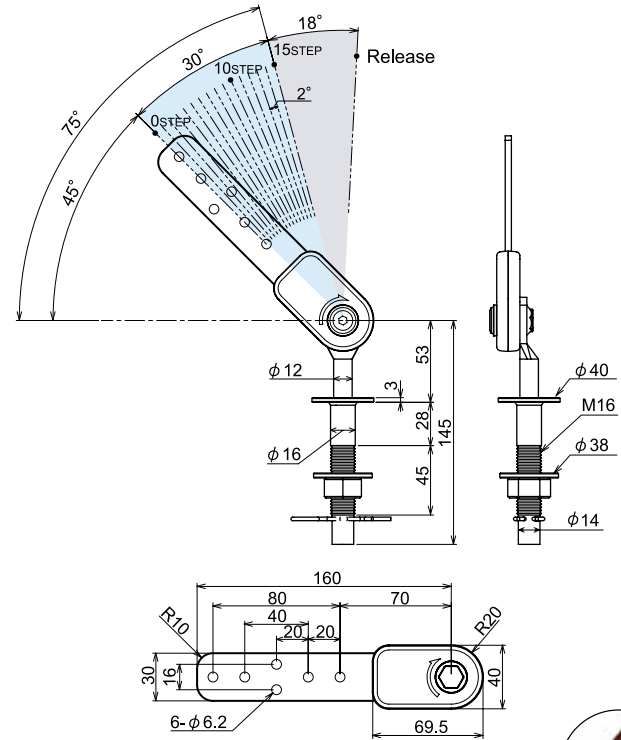
LS300-MP48I-40B

FINISH : Unichrome plating



LS300-MP30I-41B

FINISH : Unichrome plating



※ 36,45,54and60 steps also available
The previous 6°pitch models are limitedly available upon request.
(The color of plastic covers : brown)



MS-1

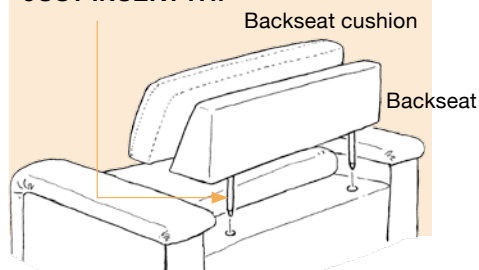
DETACHABLE SUPPORT FITTING FOR YOUR SOFA ASSEMBLY

FINISH : Unichrome plating

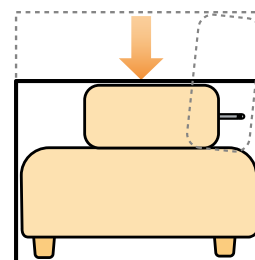


- SIMPLE & EASY SOLUTIONS FOR MOUNTING & DETACHING
- IDEAL OPTIONAL PARTS FOR BACK SEAT & ARM REST

**EASY INSTALLATION
JUST INSERT IT!!**



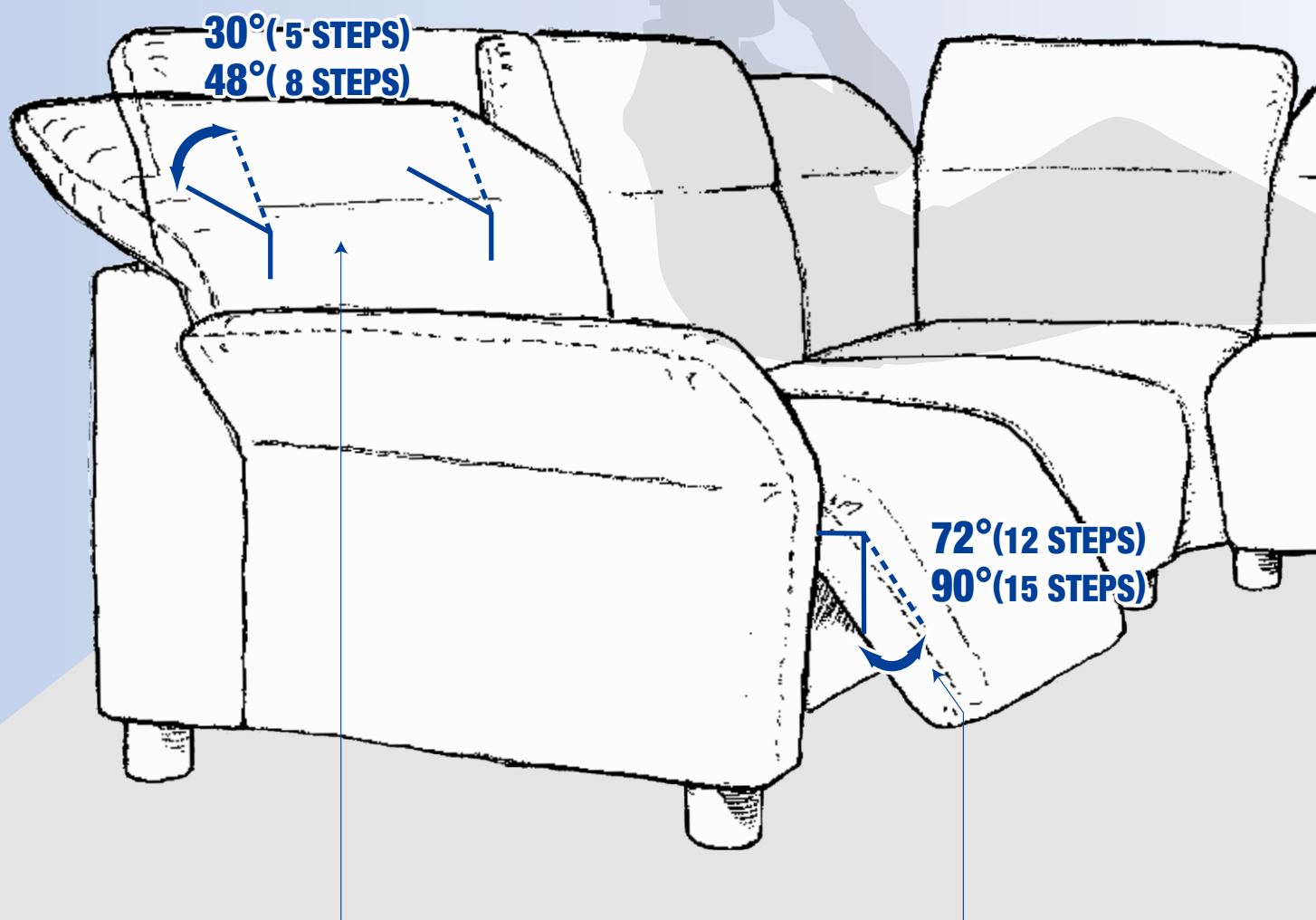
Easier assembly in
your factory



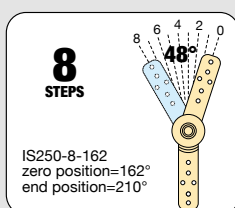
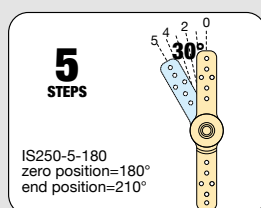
Compact packing,
saving your
shipping cost

WHERE TO INSTALL

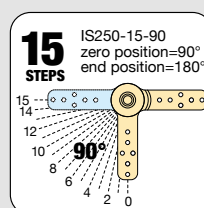
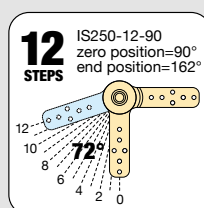
"IS" Gear fits perfectly into a wood frame sofa.



IDEAL ADJUSTMENT POSSIBLE FOR HEAD REST



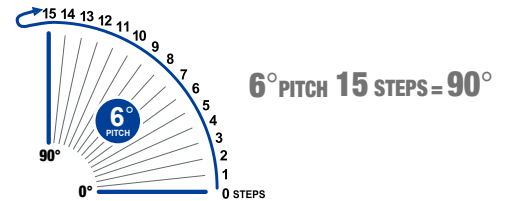
IDEAL FOR FOOT REST



5 MAJOR ADVANTAGES

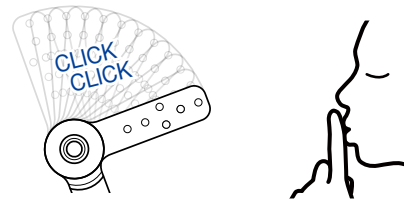
纖

FINE PITCH GEAR



靜

QUIETER CLICK



強

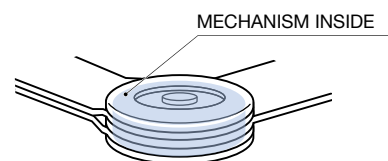
POWERFUL & DURABLE

IS150 → 150N·m
IS250 → 250N·m
IS450 → 450N·m
MORE THAN
10,000 CYCLES



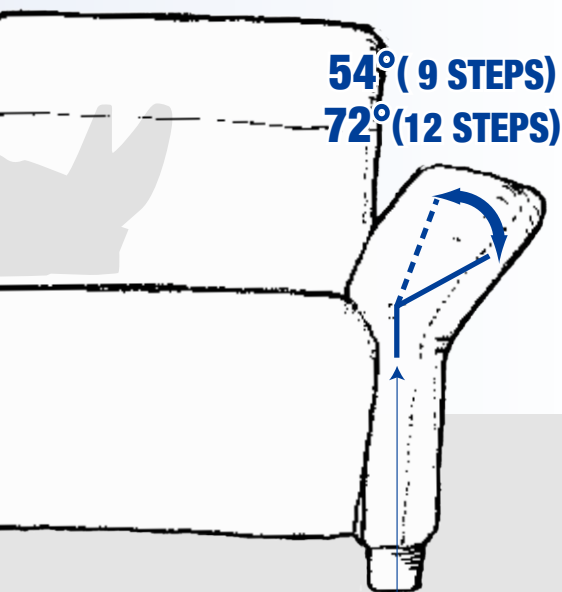
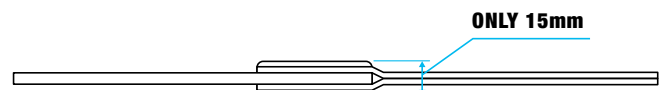
被

PROTECTION FOR INNER MECHANISM

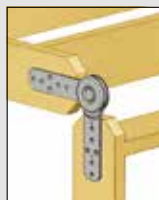
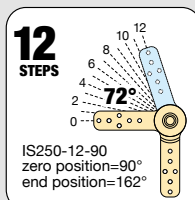
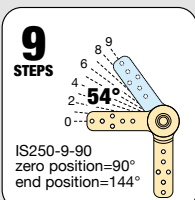


薄

SLIM DESIGN



IDEAL FOR ARM REST

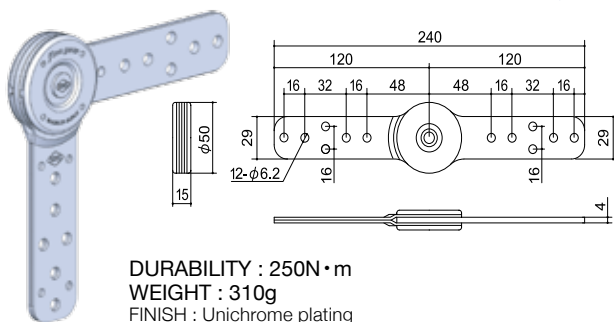


S

IS250series

STANDARD TYPE

規

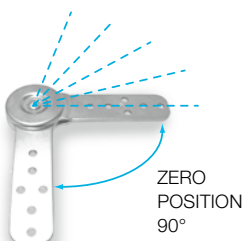


DURABILITY : 250N・m
WEIGHT : 310g
FINISH : Unichrome plating

PACKING SPEC

包

	PCS / Carton	Weight / PC	Weight/ Carton	L × W × H/ Carton(mm)
IS250-12-90	50	0.31kg	16kg	260 × 330 × 110



MODEL NAME

MODEL No.

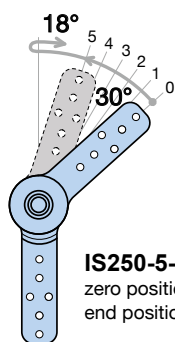
IS250 - 12 - 90

SERIES

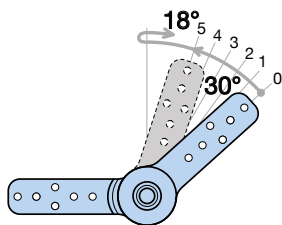
STEP

ZERO POSITION

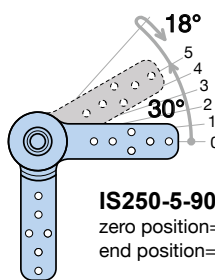
5-Steps



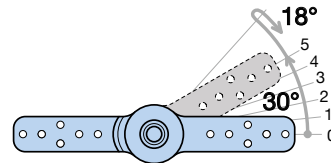
IS250-5-132
zero position=132°
end position= 162°



IS250-5-222
zero position=222°
end position= 252°

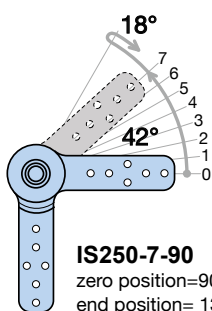


IS250-5-90
zero position= 90°
end position= 120°

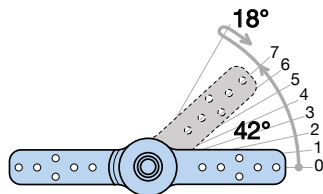


IS250-5-180
zero position=180°
end position= 210°

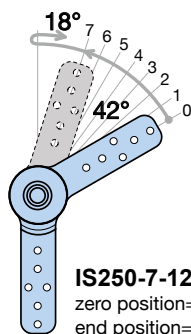
7-Steps



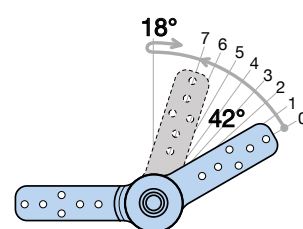
IS250-7-90
zero position=90°
end position= 132°



IS250-7-180
zero position=180°
end position= 222°

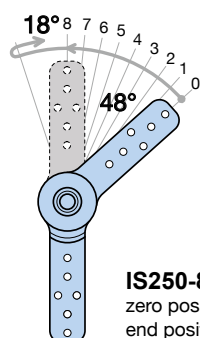


IS250-7-120
zero position=120°
end position= 162°

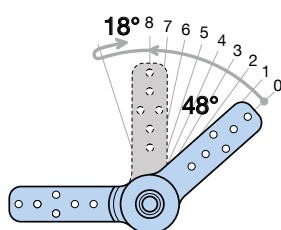


IS250-7-210
zero position=210°
end position= 252°

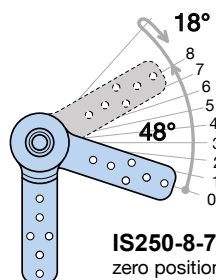
8-Steps



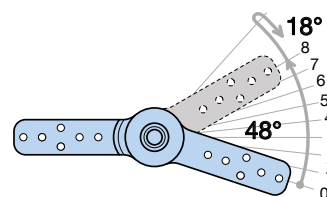
IS250-8-132
zero position= 132°
end position= 180°



IS250-8-222
zero position=222°
end position= 270°

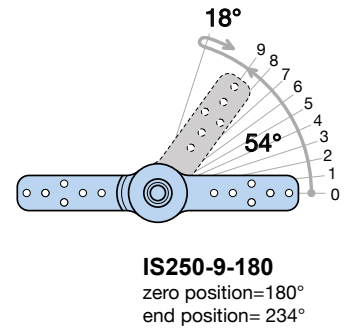
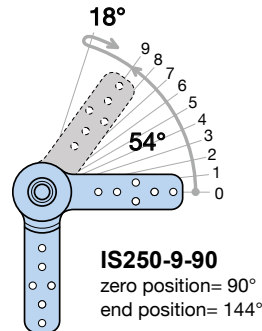
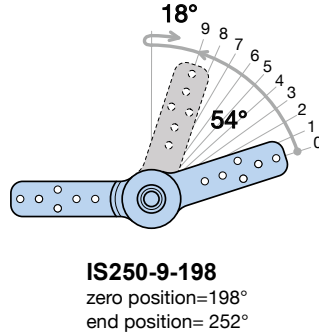
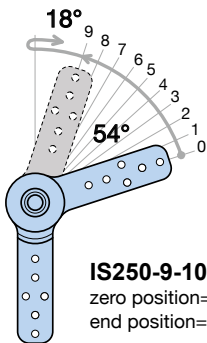


IS250-8-72
zero position= 72°
end position= 120°

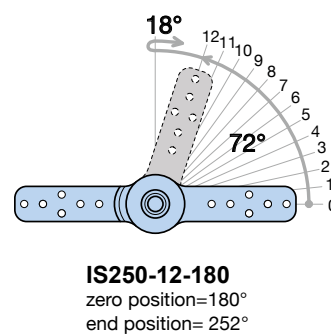
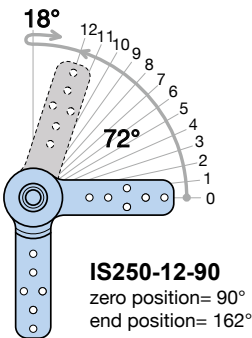


IS250-8-162
zero position=162°
end position= 210°

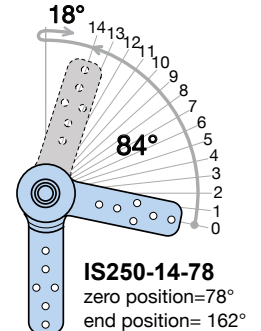
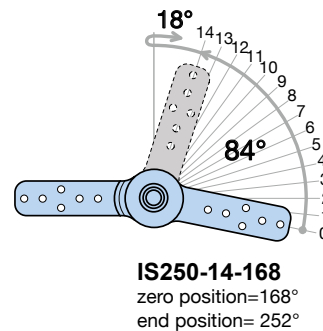
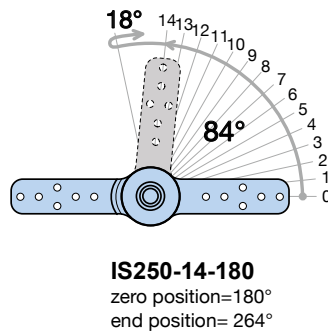
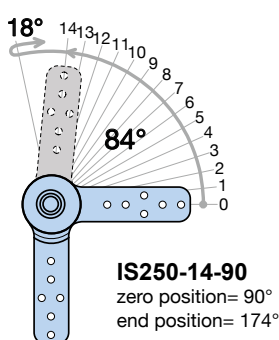
9-Steps



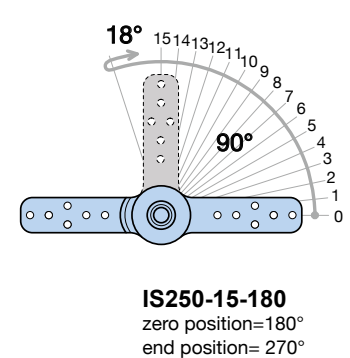
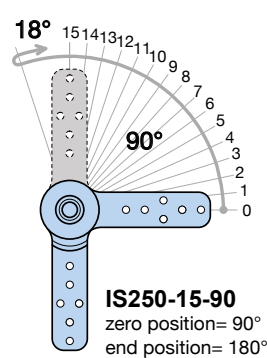
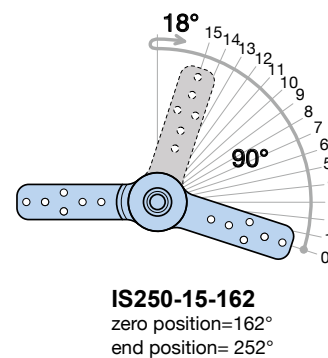
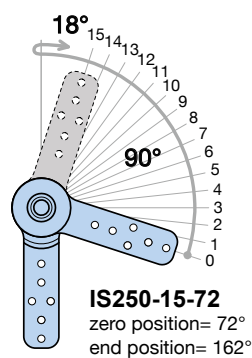
12-Steps



14-Steps



15-Steps



IS250-SS45-15-90

Preventing an Incorrect Movement from Pulling Strength of the Upholstery

Release

18°

90°

6°

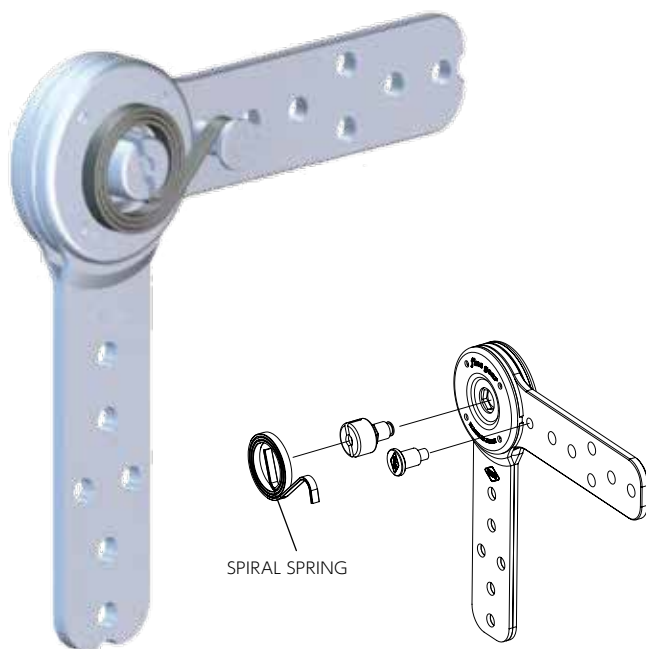
0°

90°

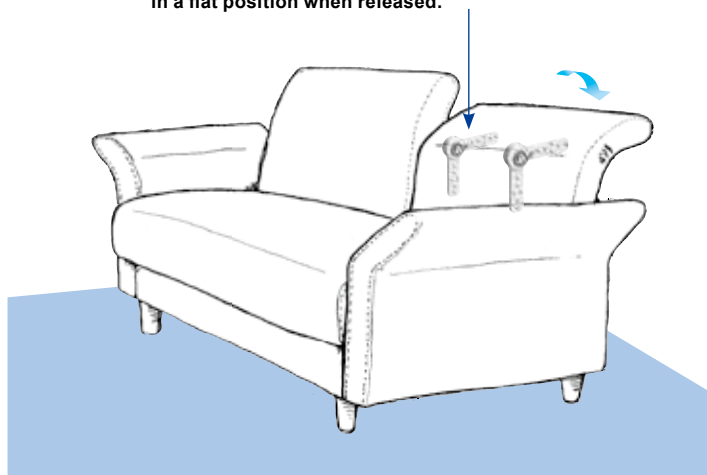
90° (6°×15 STEPS)

FINE PITCH ANGLE ADJUSTMENT

REALIZE YOUR IDEAL POSITION



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.



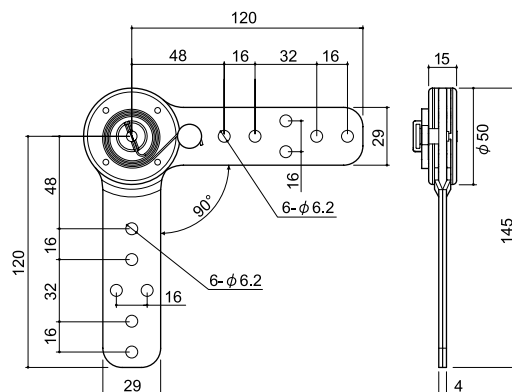
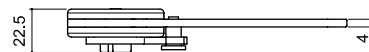
**THE SPRING STRENGTH IS
TO KEEP THE SOFA
QUALITY STABILIZED**

SPRING STRENGTH
(FORCE TO PUSH BACK)

DURABILITY : 250N · m

WEIGHT : 333g

FINISH : Unichrome plating



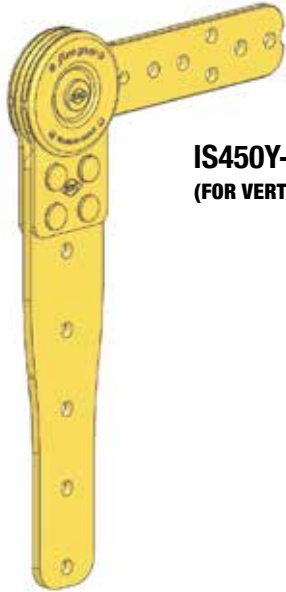
PACKING SPEC

	PCS / Carton	Weight / PC	Weight / Carton	L × W × H / Carton(mm)
IS250-SS45-15-90	40	0.33kg	14kg	250 × 330 × 105

Value Added IS

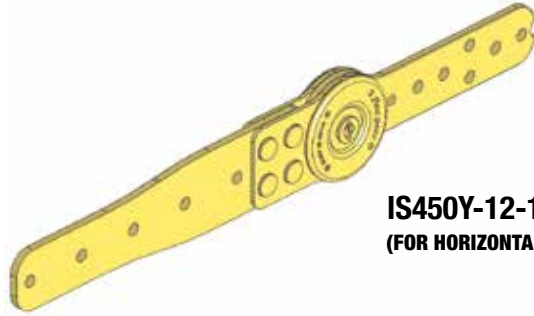
STRONG
450N·m

IS450Y-12-90



IS450Y-12-90
(FOR VERTICAL USE)

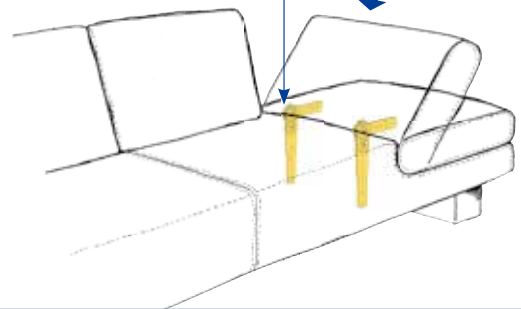
IS450Y-12-180



IS450Y-12-180
(FOR HORIZONTAL USE)

This gear is 1.8 times stronger than our regular model. Feel assured to use it for large armrests.

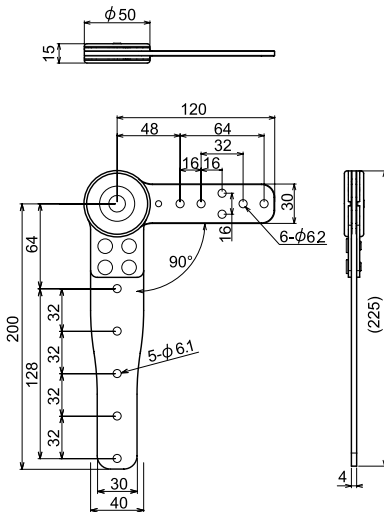
900N·m (450N×2PCS)



IS450Y-12-90

DURABILITY : 450N·m
WEIGHT : 460g

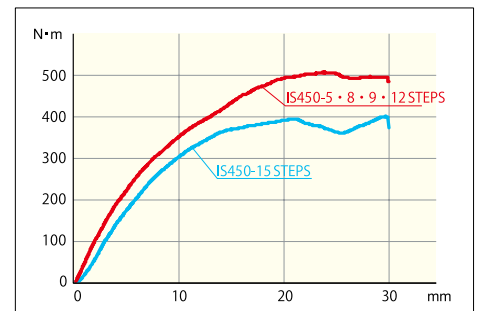
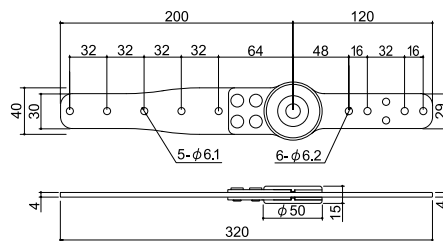
FINISH : Chromate plating



IS450Y-12-180

DURABILITY : 450N·m
WEIGHT : 465g

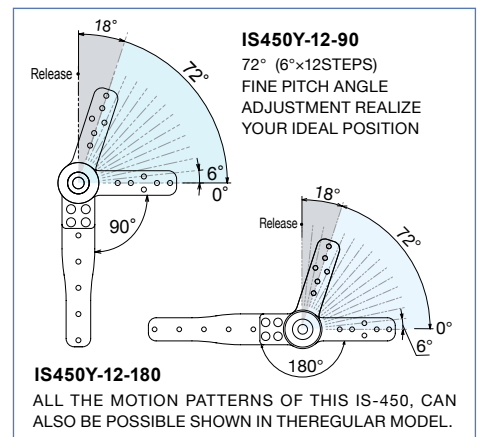
FINISH : Chromate plating

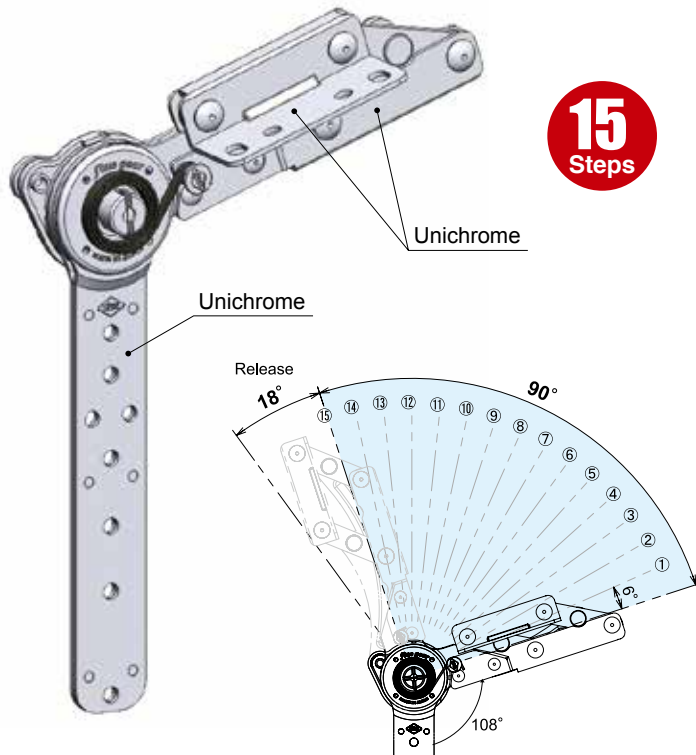


Note: Only 15 step version's durability is lowered by 15% from company's benchmark of 450N.m. Other steps are beyond that point.

PACKING SPEC

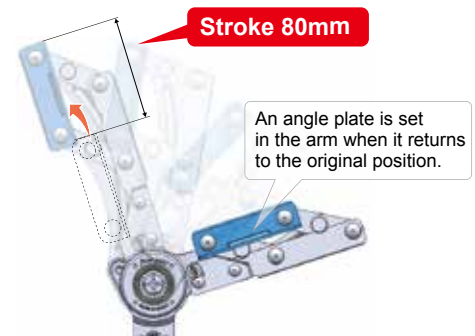
	PCS / Carton	Weight / PC	Weight / Carton	L × W × H / Carton (mm)
IS450Y-12-90	50	0.46kg	24kg	250 × 330 × 150
IS450Y-12-180	50	0.46kg	24kg	250 × 330 × 150





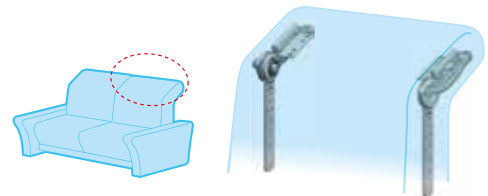
FEATURE

Stroke (80mm)



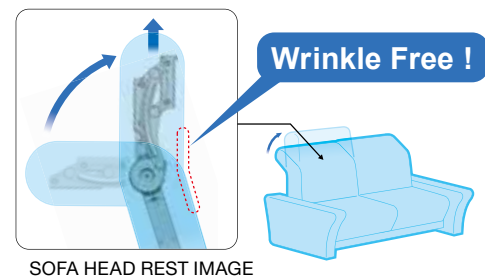
Application

Suitable for sofa headrest.



Wrinkle Free

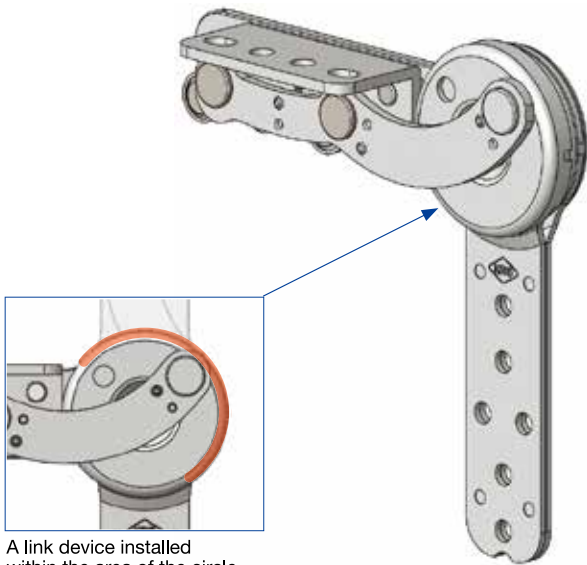
Not only a reclining motion, but a vertical stretching motion is also created



Value Added IS

IS150T-15-90

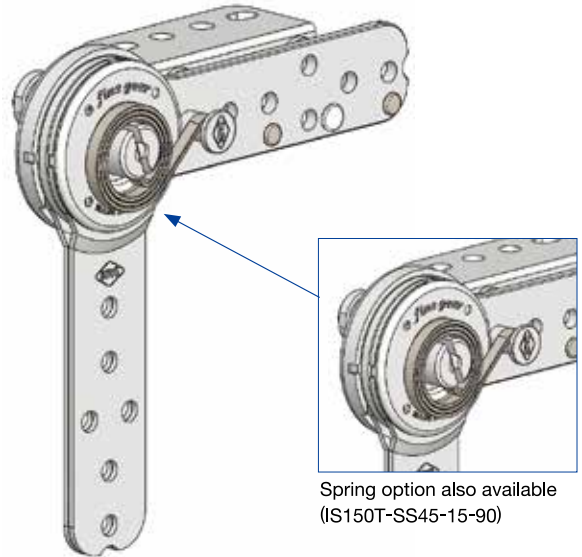
(Without Spring)



A link device installed within the area of the circle shaped component. Therefore, does not interfere with cloths.

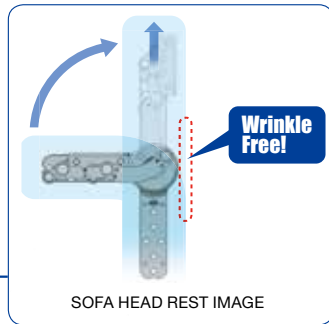
IS150T-SS45-15-90

(Spring Type)



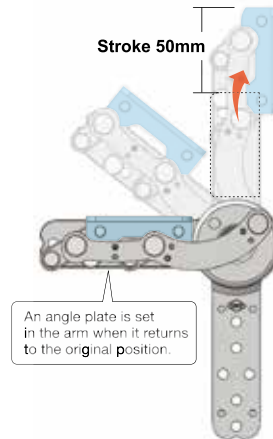
Spring option also available (IS150T-SS45-15-90)

Not only a reclining motion, but a vertical stretching motion is also created

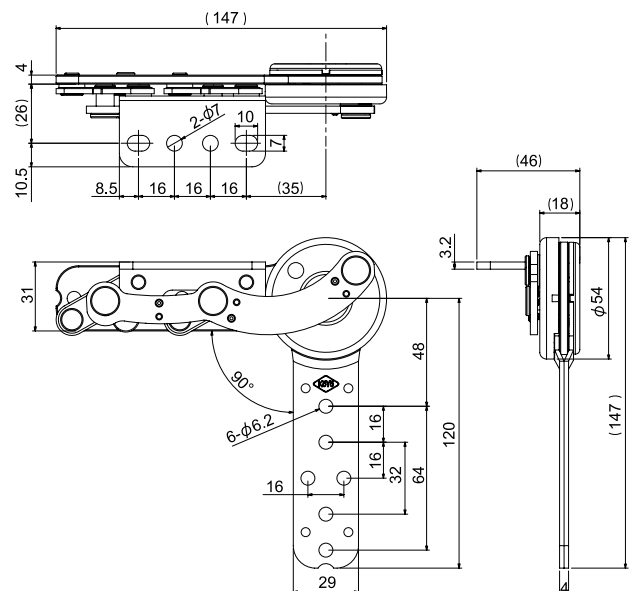


SOFA HEAD REST IMAGE

Stroke 50mm

**DURABILITY : 150N · m WEIGHT : 500g**

FINISH : Unichrome plating



PACKING SPEC

	Set / Carton	Weight / Set	Weight / Carton	L × W × H / Carton(mm)
IS150T-15-90	20	1.0kg	21kg	250 × 330 × 200
IS150T-SS45-15-90	20	1.1kg	23kg	250 × 330 × 200

S

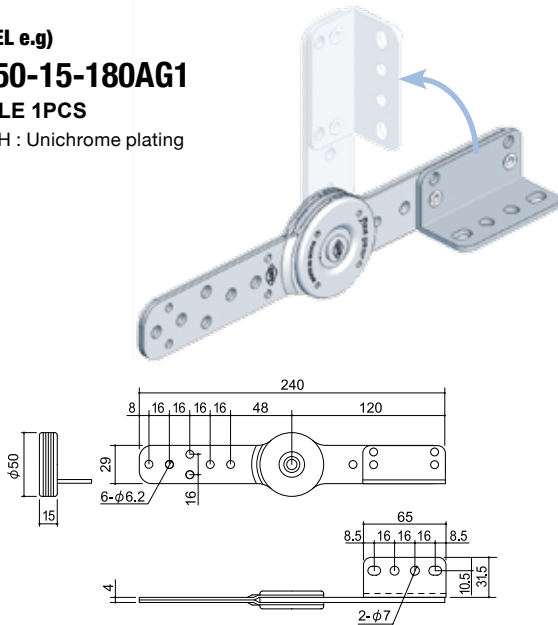
IS OPTIONS

ANGLE RIVETED TYPE

(MODEL e.g)

IS250-15-180AG1**ANGLE 1PCS**

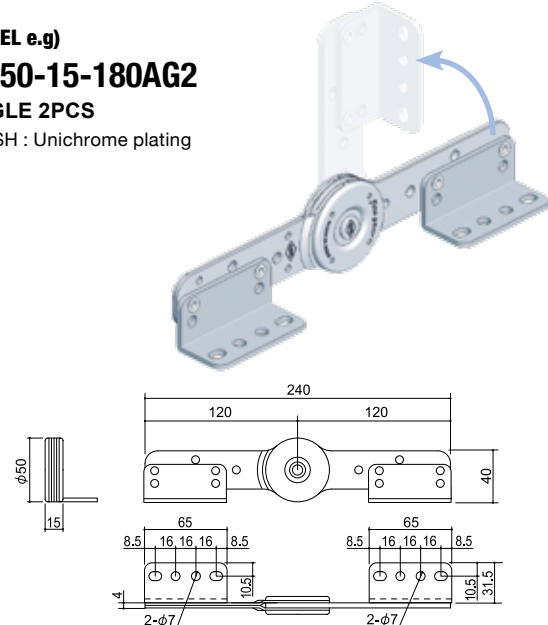
FINISH : Unichrome plating



(MODEL e.g)

IS250-15-180AG2**ANGLE 2PCS**

FINISH : Unichrome plating



PACKING SPEC

	Set / Carton	Weight / Set	Weight / Carton	L × W × H / Carton(mm)
IS250-15-180AG1	20	0.8kg	17kg	250 × 330 × 200

PACKING SPEC

	Set / Carton	Weight / Set	Weight / Carton	L × W × H / Carton(mm)
IS250-15-180AG2	20	1.0kg	21kg	250 × 330 × 200

LONG ARM TYPE

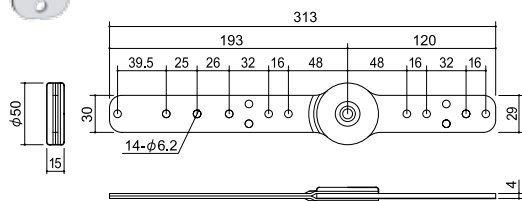


(MODEL e.g)

IS250-L-12-90

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

FINISH : Unichrome plating

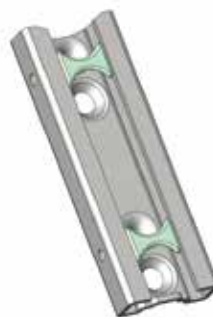


PACKING SPEC

	PCS / Carton	Weight / PC	Weight / Carton	L × W × H / Carton(mm)
IS250-L-12-90	50	0.37kg	19kg	250 × 330 × 150

SOCKET

OPTIONAL PARTS FOR IS250

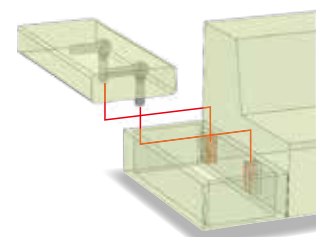


This is developed as a knock down fitting for headrests & armrests.

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

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 E mail: hiro@koyoeng.co.jp



ISO 9001 Certified



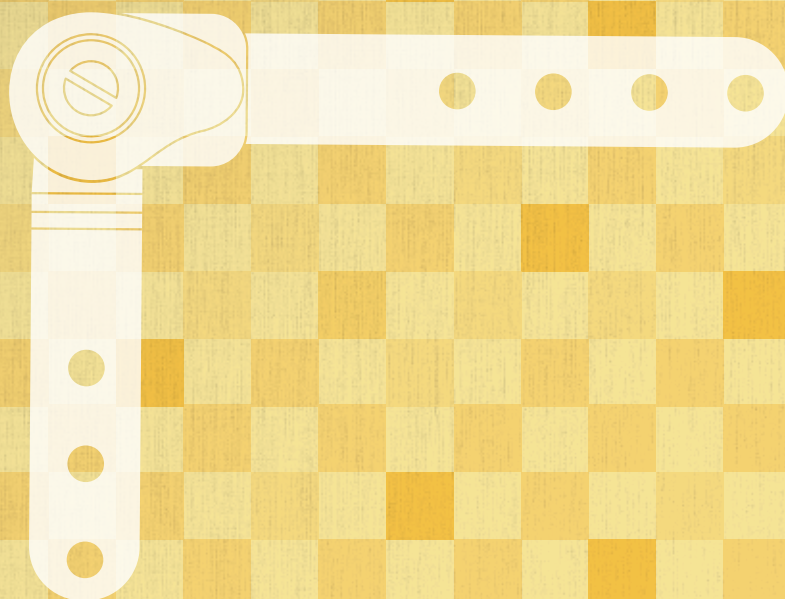
❶ HEAD OFFICE (OSAKA,JAPAN)



❷ CHINA FACILITY(GUANGDONG)



❸ GERMANY OFFICE (DÜSSELDORF)



Heart & Technology

