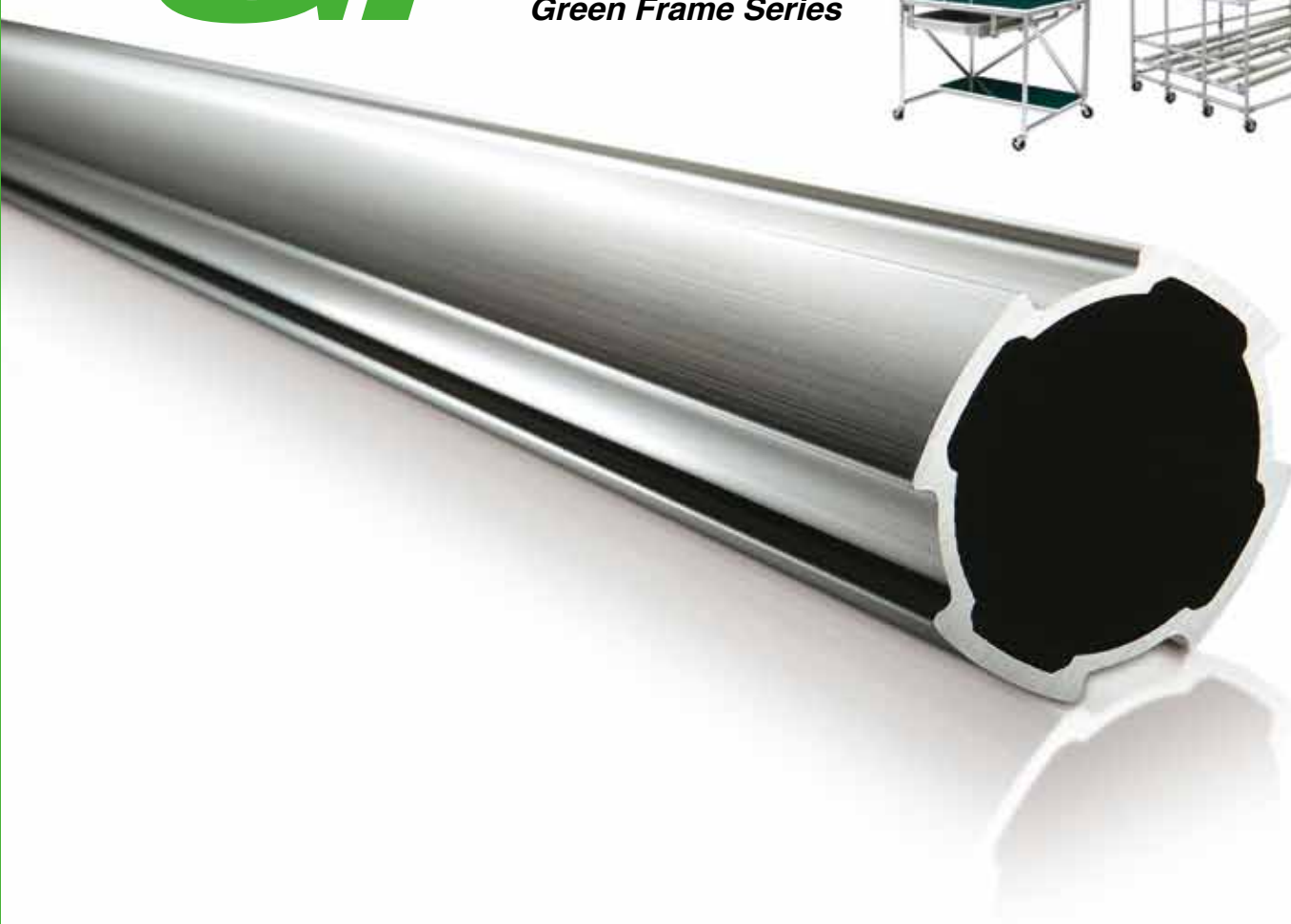


SUS

**GF** **2010 - 2011**  
*Green Frame Series*



SUS







# So free, so clean.

Tubular aluminum frames offer unlimited possibilities for system creation.



GF-series structural aluminum frames have been designed as a material for work boards, trolleys, chuters, and racks, to offer the optimum adaptability to factory automation.

Its unique sectional form is most suited for simple and fast assemblies and modifications with use of a single bolt. This offers the maximum flexibility to unexpected additions and layout changes frequently required in manufacturing sites.

The lightweight aluminum frame, with elegant alumite treatment, will help you to maintain aesthetic appearance of the factory for long. What's more, the aluminum is an excellent material for recycling and reuse.

Perfect freedom to choose the best combination of frames and accessories allows for a customized system that will satisfy your needs.

Environment-conscious and human-friendly.  
Green frames support varying kinds of factories.

Increased productivity with reduced  
man-hours for assembly

## Easy to assemble

GF Frames are best suited for setting up work boards and chuters without complicated steps. A single bolt is used to tighten or loosen joint connectors, for easy assembly and disassembly.

---

All frames and connecting parts are  
made of aluminum

## Lightweight

Frames and connectors made of lightweight aluminum, with only one third of steel density, allow for creation of extra-light systems. The superior mobility of aluminum chuters and trolleys will reduce workload of your employees.

---



Environment-friendly with  
recycling and reuse

## Recycling

Aluminum is a highly recyclable material. Disposal can be made easily because connecting parts are also made of aluminum. In addition, the GF series, with the use of bolts for connection, is a reusable system that makes simple assembly and disassembly possible.

---

Versatility with varying  
accessory parts

## Multi-functional

GF series can be used for a wide variety of applications. Varying combinations with joint and/or accessory parts allow for addition of diverse functions to work boards, chuters, trolleys, racks, partitions, and clean booths. As parts can also be mounted after assembly is once complete, the GF series will meet needs for unexpected modifications.

---

**GF**  
Green Frame



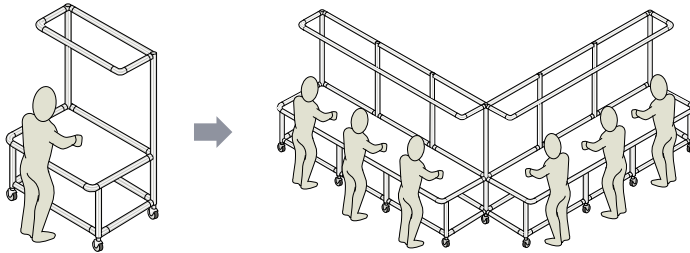
# A broad range of applications are available to meet individual needs.

## Example 1 Work board

### Easy to modify layout

Work board combination can flexibly be modified according to working space and staffing conditions of a cell production system.

Individual work boards can easily be connected for line works, and vice versa.



Individual work board for one person

Connected work boards for line work



## Example 3 Trolley

### Reuse with easy disassembly

Convenient for transport of parts and works. The lightweight aluminum frames reduce operator workload and offer freedom to modify size as well as shape of the composition.







# GF-series aluminum frames and resin-coated steel frames

## 1 Environment

**GF**

- Great recyclability
- While resin-coated steel frames are difficult to reuse, GF-series aluminum frames achieve a superb recyclability.

3 Standard Frame Sizes are available

## 3 Weight

Resin-coated steel frames



400 g

- Frame: 520 g/m
- Metal joint: 145 g

Weight reduced by 40%



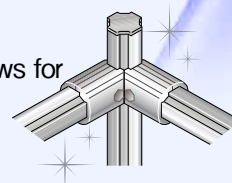
230 g

- Frame: 367 g/m
- Multi connector: 61 g

## 4 Aesthetic

**GF**

Alumite treatment allows for "maintenance-free", excellent appearance that lasts for long.

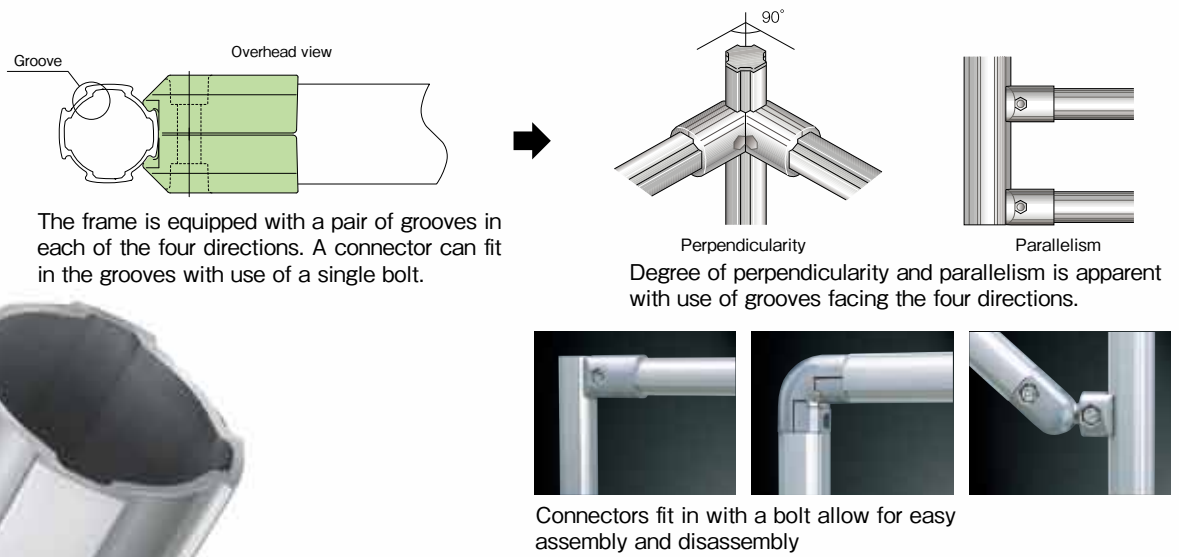


### Resin-coated steel pipes

Resin-coating causes resin deterioration and dust generation

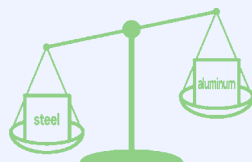


## 2 Assembly time shorter by 2/3 (SUS data)



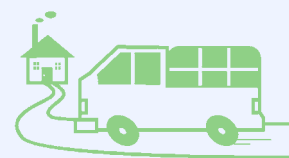
## Green frame features

Green frames and connectors are made of aluminum



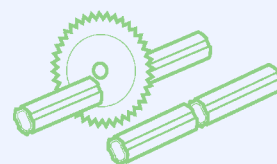
### Aluminum weighs one third of steel

Increased speed enabled by the lightweight tools results in high efficiency (a green frame weighs two thirds of a steel and plastic frame).



### Quick to deliver

We respond to urgent orders.



### A broad range of sizes available

Length can be selected within a range between 100 and 4,000 mm.

Green frames will be delivered with all parts necessary for the desired unit.

## WORK BOARD A

P16—



with racks

## WORK BOARD B

P20—



with racks

## WORK BOARD C

P24—



with height adjustment function

## WORK BOARD OPTIONS

P25—



## TROLLEY

P28—



## TROLLEY FOR LENGTHY CARGO

P35—



## FLIP-UP TROLLEY

P36—



## CAGE TROLLEY

P37—



## BOX ROLLER

P34—



Unit products  
P.16—



28 mm  
N-series  
P.50—



43 mm  
G-series  
P.88—



19 mm  
S-series  
P.102—



Panel  
P.108—



Assembling method  
P.122—



For information on individual frames and parts, refer to page 46.

Note that some items may not be available, or specification may vary in some countries.  
Please contact your sales representative.

MOBILE PARTITION P38—	RACK P40—	CHUTER P42—	CLEAN BENCH P44—
			
			CLEAN BOOTH P44—
			
			PARTS CONTAINER STAND P45—
			

UNIT PRODUCTS

GF FRAMES & PARTS

WORK BOARD

TROLLEY

PARTITION

RACK

CHUTER

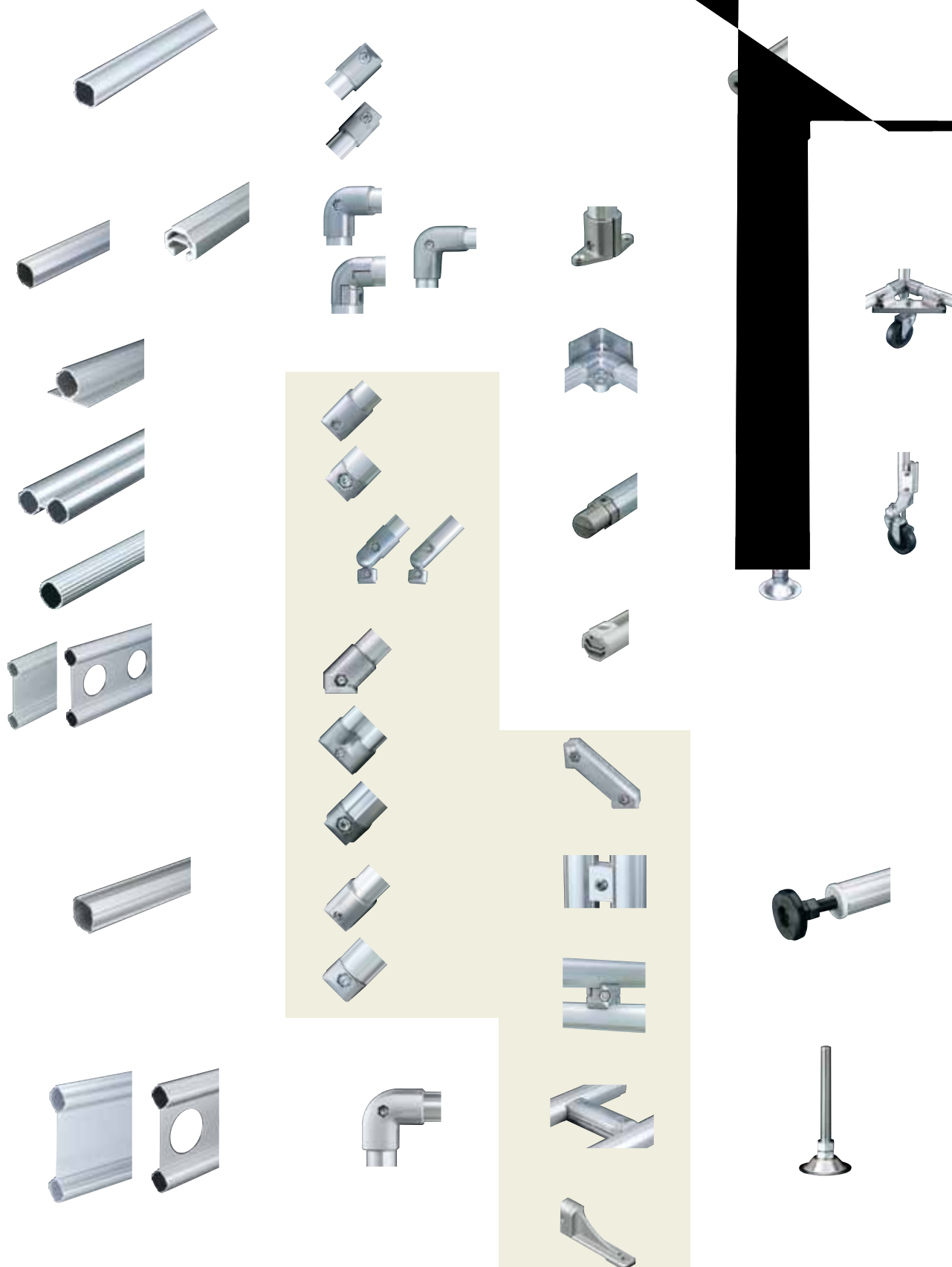
CLEAN UNIT

STAND

The following items must be specified:

- Item number (example: GFM-001)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).



Unit products  
P.16-



28 mm  
N-series  
P.50-



43 mm  
G-series  
P.88-



19 mm  
S-series  
P.102-










































































































































































































































































Panel  
P.108-



Assembling method  
P.122-

Note that some items may not be available, or specification may vary in some countries.  
Please contact your sales representative.

The GF Series includes PAT. and PAT.P. items

Casters		Accessory Parts	
Screw Axis/Frame Caster/Caspad	Fixed Caster/Free Caster/Hammer Lock	 Cap P103	
 Caster P62   Frame Caster P62   Caspad P65	For installation to Green Frame L Slot   Fixed Caster P63,P94   Free Caster P63,P94   Hammer Lock P65,P95  For installation to N-series   Fixed Caster φ100 M6 P64   Free Caster φ100 with Brake M6 P64   Caster Fix P64	For N-series only   Cap P82   Board Holder F P71   GF Slider P74   Offset Connector P73   Slider Connector P67   Parts Holder P73,P97   Connector Piece P73,P97   Cap P82   Board Holder G P97   Frame Guard G P98	 Board Holder P71   Double Saddle P74   Hook Connector R P78   Connector Knob Bolt P79   Panel Hold P72   Plate Connector P72   Single Saddle P74   Pipe Holder P77   Corocon Hook P68   Lamp Bracket P79   Aluminum Name Plate P78   Name Plate P78   Cable Duct P86,P99   Tools & Tooling P107   Screw/Bolt/Nut P106
 Caster Axis P93   Frame Caster P93   Caspad P95		For N-series/G-series   Board Holder P71   Double Saddle P74   Hook Connector R P78   Connector Knob Bolt P79   Panel Hold P72   Plate Connector P72   Single Saddle P74   Pipe Holder P77   Corocon Hook P68   Lamp Bracket P79   Aluminum Name Plate P78   Name Plate P78   Cable Duct P86,P99   Tools & Tooling P107   Screw/Bolt/Nut P106	 Tool Bracket P76   Catch P81   Frame Bumper P82   Corocon P67   Frame Guard P82   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85   Hinge Connector P75,P98   Ring Runner P83   Parts Container P83   Board Level Kit P84   Hinge P80   Board Lifter Kit P85  



# UNIT PRODUCTS

Note that some items may not be available,  
or specification may vary in some countries.  
Please contact your sales representative.

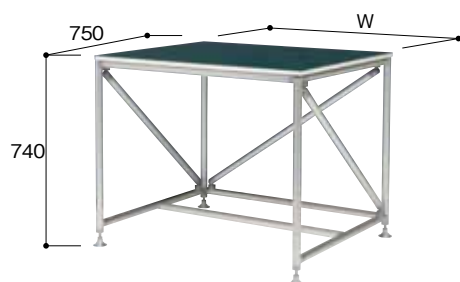
# WORK BOARD Work Board A Normal Type



## Work Board A Normal Type

### For sitting work

Load capacity: 100 kg



\* W900 type

Name	Work Board A for Sitting Work (H=740)		
W(mm)	750	900	1200
Item number	<b>GFM-001</b>	<b>GFM-002</b>	<b>GFM-003</b>

#### ■ Components

**Frame:** Green Frame

**Connector:** Multi Connector Inner Type, Free Connector Inner Type

**Top board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder

**Bottom:** Foot Connector M12 (resin type) x 4, Adjuster M12 x 4

\* For conductive and/or RoHS-compliant types, please contact.

### For standing work

Load capacity: 100 kg



\* W900 type

Name	Work Board A for Standing Work (H=900)		
W(mm)	750	900	1200
Item number	<b>GFM-004</b>	<b>GFM-005</b>	<b>GFM-006</b>

#### ■ Components

**Frame:** Green Frame

**Connector:** Multi Connector Inner Type, Free Connector Inner Type

**Top board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder

**Bottom:** Foot Connector M12 (resin type) x 4, Adjuster M12 x 4

\* For conductive and/or RoHS-compliant types, please contact.

### For moving work

Load capacity: 100 kg



\* W900 type

Name	Work Board A for Moving Work (H=840)		
W(mm)	750	900	1200
Item number	<b>GFM-007</b>	<b>GFM-008</b>	<b>GFM-009</b>

#### ■ Components

**Frame:** Green Frame

**Connector:** Multi Connector Inner Type, Free Connector Inner Type

**Top board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder

**Bottom:** Frame Caster  $\phi 75$  x 2, Frame Caster  $\phi 75$  with Brake x 2

\* For conductive and/or RoHS-compliant types, please contact.



Unit products  
P.16-



28 mm  
N-series  
P.50-



43 mm  
G-series  
P.88-



19 mm  
S-series  
P.102-



Panel  
P.108-



Assembling method  
P.122-

# Work Board A Rigid Type

## Work Board A Rigid Type

### For sitting work

Load capacity: 130 kg



\* W1200 type

Name	Work Board A Rigid Type for Sitting Work (H=740)		
W (mm)	750	900	1200
Item number	<b>GFM-201</b>	<b>GFM-202</b>	<b>GFM-203</b>

#### ■ Components

**Frame:** Green Frame G, Green Frame

**Connector:** Multi Connector (Inner) G, Free Connector Inner Type

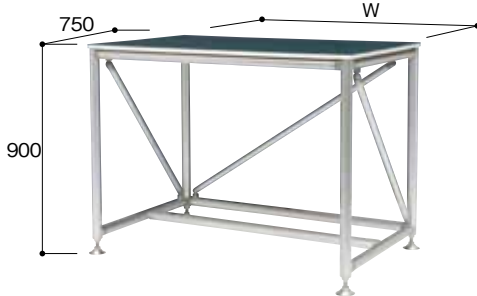
**Top board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder G (Inner)

**Bottom:** Foot Connector M16G x 4, Adjuster B M16 x 4

\* For conductive and/or RoHS-compliant types, please contact.

### For standing work

Load capacity: 130 kg



\* W1200 type

Name	Work Board A Rigid Type for Standing Work (H=900)		
W (mm)	750	900	1200
Item number	<b>GFM-204</b>	<b>GFM-205</b>	<b>GFM-206</b>

#### ■ Components

**Frame:** Green Frame G, Green Frame

**Connector:** Multi Connector (Inner) G, Free Connector Inner Type

**Top board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder G (Inner)

**Bottom:** Foot Connector M16G x 4, Adjuster B M16 x 4

\* For conductive and/or RoHS-compliant types, please contact.

### For moving work

Load capacity: 130 kg



\* W1200 type

Name	Work Board A Rigid Type for Moving Work (H=840)		
W (mm)	750	900	1200
Item number	<b>GFM-207</b>	<b>GFM-208</b>	<b>GFM-209</b>

#### ■ Components

**Frame:** Green Frame G, Green Frame

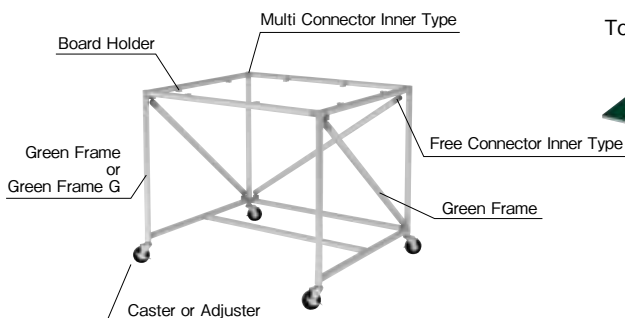
**Connector:** Multi Connector (Inner) G, Free Connector Inner Type

**Top board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder G (Inner)

**Bottom:** Frame Caster  $\phi$ 100 x 2, Frame Caster  $\phi$ 100 with Brake x 2

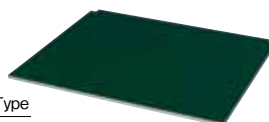
\* For conductive and/or RoHS-compliant types, please contact.

### Work board A construction



### Work board A options

Top board (work board)



Drawer/Slide



Power Connector

For details on options, refer to pages 25 and 26.

The following items must be specified:

- Item number (example: GFM-001)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).



# WORK BOARD Work Board A with Rack/Normal Type



## Work Board A with Rack/Normal Type

### For sitting work

Load capacity: 100 kg



\* W900 type

Name	Work Board A with Rack for Sitting Work (H=740)		
W (mm)	750	900	1200
Item number	<b>GFM-010</b>	<b>GFM-011</b>	<b>GFM-012</b>

#### ■ Components

**Frame:** Green Frame

**Connector:** Multi Connector Inner Type, Free Connector Inner Type

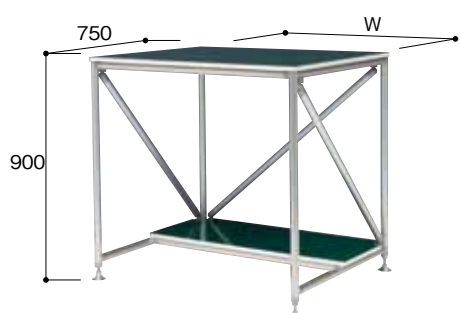
**Top board/rack board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder

**Bottom:** Foot Connector M12 (resin type) x 4, Adjuster M12 x 4

\* For conductive and/or RoHS-compliant types, please contact.

### For standing work

Load capacity: 100 kg



\* W900 type

Name	Work Board A with Rack for Standing Work (H=900)		
W (mm)	750	900	1200
Item number	<b>GFM-013</b>	<b>GFM-014</b>	<b>GFM-015</b>

#### ■ Components

**Frame:** Green Frame

**Connector:** Multi Connector Inner Type, Free Connector Inner Type

**Top board/rack board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder

**Bottom:** Foot Connector M12 (resin type) x 4, Adjuster M12 x 4

\* For conductive and/or RoHS-compliant types, please contact.

### For moving work

Load capacity: 100 kg



\* W900 type

Name	Work Board A with Rack for Moving Work (H=840)		
W (mm)	750	900	1200
Item number	<b>GFM-016</b>	<b>GFM-017</b>	<b>GFM-018</b>

#### ■ Components

**Frame:** Green Frame

**Connector:** Multi Connector Inner Type, Free Connector Inner Type

**Top board/rack board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder

**Bottom:** Frame Caster  $\phi 75$  x 2, Frame Caster  $\phi 75$  with Brake x 2

\* For conductive and/or RoHS-compliant types, please contact.



Unit products  
P.16-



28 mm  
N-series  
P.50-



43 mm  
G-series  
P.88-



19 mm  
S-series  
P.102-

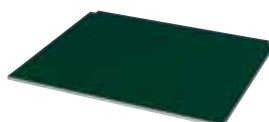
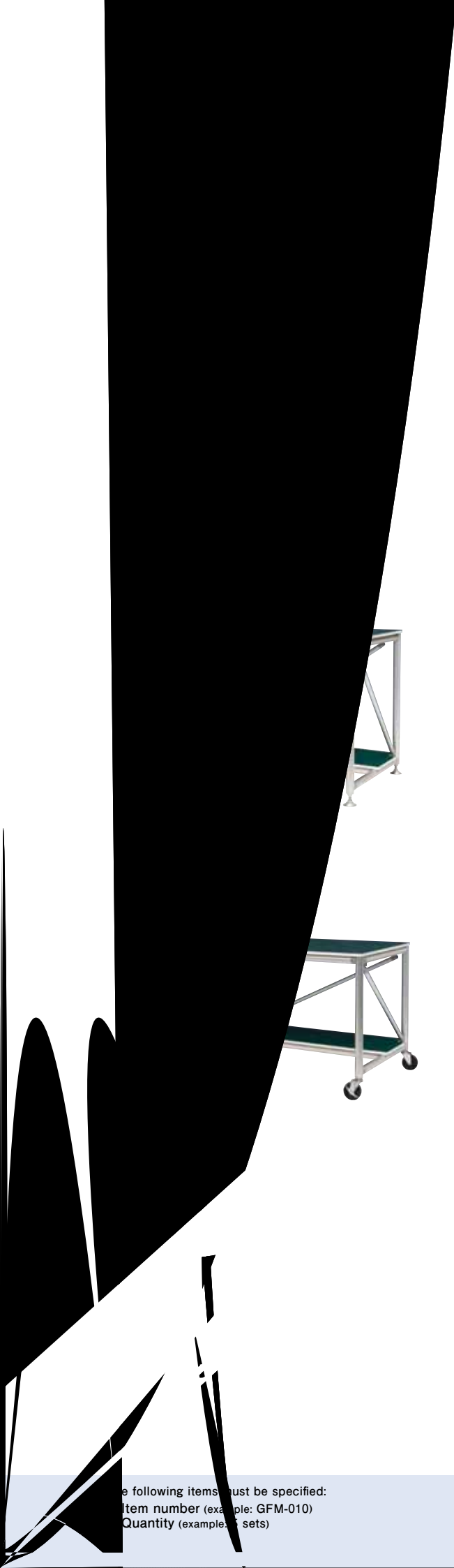


Panel  
P.108-



Assembling method  
P.122-





The following items must be specified:  
Item number (example: GFM-010)  
Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).

# WORK BOARD

## Work Board B Normal Type

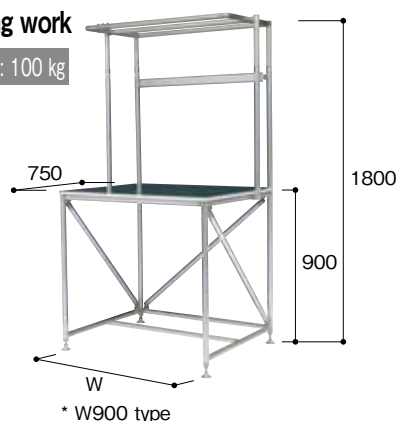
Optimum system for cell production



### Work Board B Normal Type

#### For standing work

Load capacity: 100 kg



Name	Work Board B for Standing Work		
W (mm)	750	900	1200
Item number	<b>GFM-019</b>	<b>GFM-020</b>	<b>GFM-021</b>

#### Components

**Frame:** Green Frame, Green Frame F50

**Connector:** Multi Connector Inner Type, Free Connector Inner Type, Angle Connector Inner Type, Cross Connector

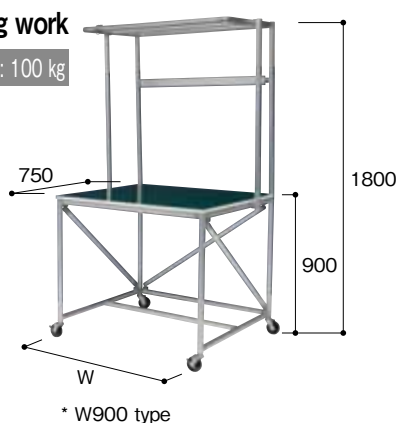
**Top board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder

**Bottom:** Foot Connector M12 (resin type) x 4, Adjuster M12 x 4

\* For conductive and/or RoHS-compliant types, please contact.

#### For moving work

Load capacity: 100 kg



Name	Work Board B for Moving Work		
W (mm)	750	900	1200
Item number	<b>GFM-022</b>	<b>GFM-023</b>	<b>GFM-024</b>

#### Components

**Frame:** Green Frame, Green Frame F50

**Connector:** Multi Connector Inner Type, Free Connector Inner Type, Angle Connector Inner Type, Cross Connector

**Top board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder

**Bottom:** Frame Caster  $\phi 75 \times 2$ , Frame Caster  $\phi 75$  with Brake x 2

\* For conductive and/or RoHS-compliant types, please contact.



Unit products  
P.16-



28 mm  
N-series  
P.50-



43 mm  
G-series  
P.88-



19 mm  
S-series  
P.102-



Panel  
P.108-



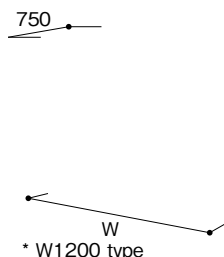
Assembling method  
P.122-

# Work Board B Rigid Type

## Work Board B Rigid Type

### For standing work

Load capacity: 130 kg



Name	Work Board B Rigid Type for Standing Work		
W (mm)	750	900	1200
Item number	<b>GFM-219</b>	<b>GFM-220</b>	<b>GFM-221</b>

#### Components

**Frame:** Green Frame G, Green Frame, Green Frame F50

**Connector:** Multi Connector (Inner) G, Free Connector Inner Type, Cross Connector, Multi Connector Inner Type

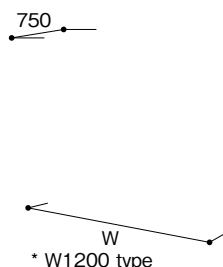
**Top board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder G (Inner)

**Bottom:** Foot Connector M16G x 4, Adjuster B M16 x 4

\* For conductive and/or RoHS-compliant types, please contact.

### For moving work

Load capacity: 130 kg



Name	Work Board B Rigid Type for Moving Work		
W (mm)	750	900	1200
Item number	<b>GFM-222</b>	<b>GFM-223</b>	<b>GFM-224</b>

#### Components

**Frame:** Green Frame G, Green Frame, Green Frame F50

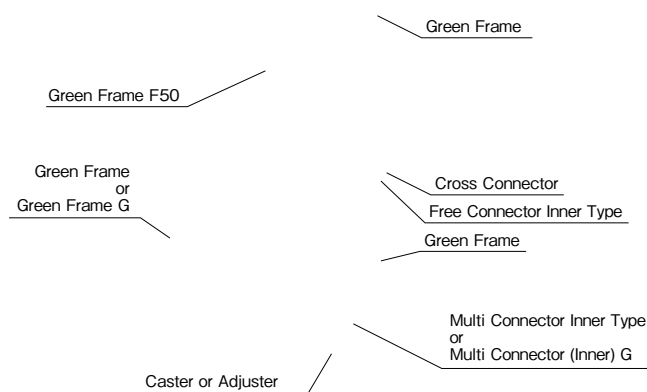
**Connector:** Multi Connector (Inner) G, Free Connector Inner Type, Cross Connector, Multi Connector Inner Type

**Top board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder G (Inner)

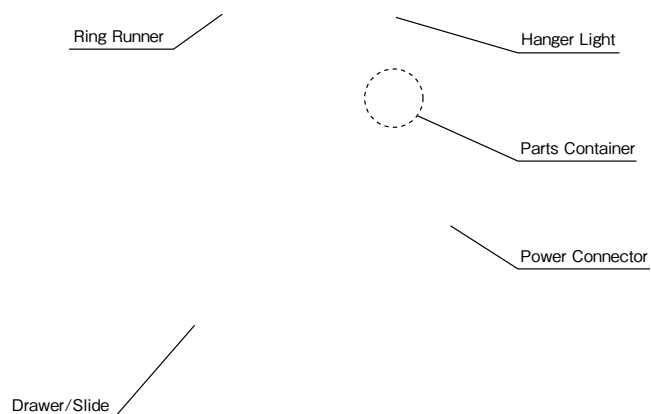
**Bottom:** Frame Caster  $\phi 100$  x 2, Frame Caster  $\phi 100$  with Brake x 2

\* For conductive and/or RoHS-compliant types, please contact.

### Work board B construction



### Work board B options



Top board (work board)

For details on options, refer to pages 25 and 26

The following items must be specified:

- Item number (example: GFM-019)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).



# Work Board B with Rack Rigid Type

## Work Board B with Rack Rigid Type

### For standing work

Load capacity: 130 kg



Name	Work Board B with Rack Rigid Type for Standing Work		
W (mm)	750	900	1200
Item number	<b>GFM-225</b>	<b>GFM-226</b>	<b>GFM-227</b>

#### Components

**Frame:** Green Frame G, Green Frame, Green Frame F50

**Connector:** Multi Connector (Inner) G, Free Connector Inner Type, Cross Connector, Multi Connector Inner Type

**Top board/rack board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder G (Inner)

**Bottom:** Foot Connector M16G x 4, Adjuster B M16 x 4

\* For conductive and/or RoHS-compliant types, please contact.

### For moving work

Load capacity: 130 kg



Name	Work Board B with Rack Rigid Type for Moving Work		
W (mm)	750	900	1200
Item number	<b>GFM-228</b>	<b>GFM-229</b>	<b>GFM-230</b>

#### Components

**Frame:** Green Frame G, Green Frame, Green Frame F50

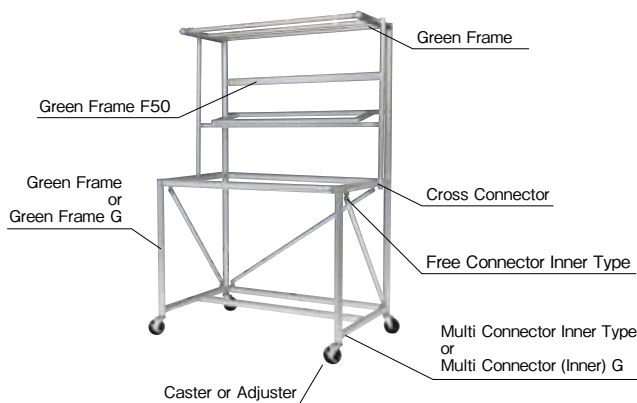
**Connector:** Multi Connector (Inner) G, Free Connector Inner Type, Cross Connector, Multi Connector Inner Type

**Top board/rack board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder G (Inner)

**Bottom:** Frame Caster  $\phi 100 \times 2$ , Frame Caster  $\phi 100$  with Brake x 2

\* For conductive and/or RoHS-compliant types, please contact.

### Work board B construction



### Work board B options



Top board (work board)

Rack board (work board)

Inclined rack (work board)

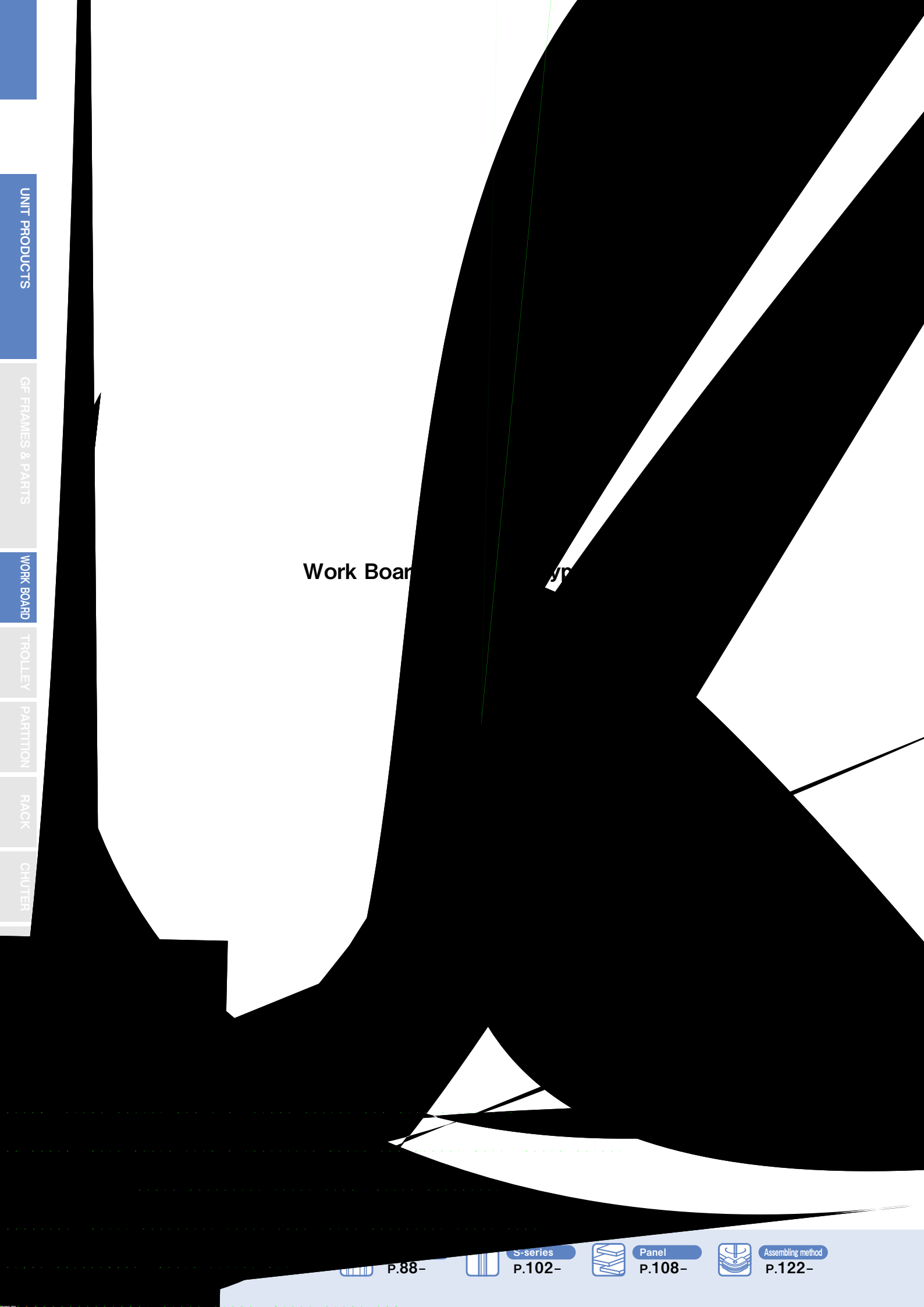


For details on options, refer to pages 25 and 26.

The following items must be specified:

- Item number (example: GFM-025)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).



Work Board Type



P.88-



S-series  
P.102-



Panel  
P.108-



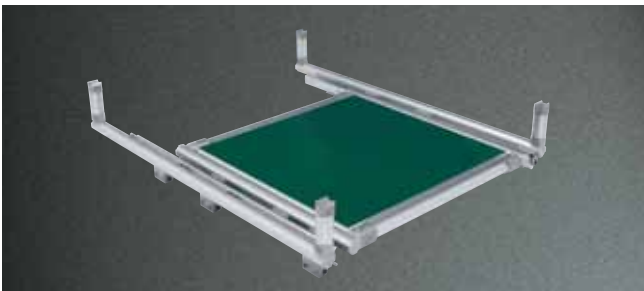
Assembling method  
P.122-



The following items must be specified:

- Item number (example: GFM-031)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).



Unit products  
P.16-



28 mm  
N-series  
P.50-



43 mm  
G-series  
P.88-



19 mm  
S-series  
P.102-

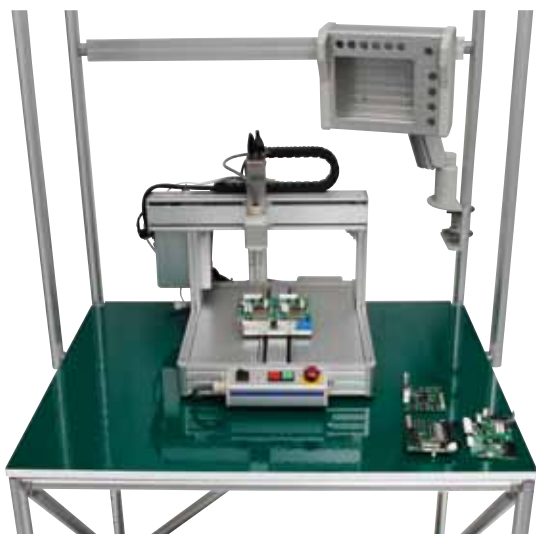


Panel  
P.108-



Assembling method  
P.122-





**XA Desktop 3 Axis Type**



**Aluminum Box for T-Box Flat Panel**

**IF Intelligent Parts Feeder**



**Aluminum Box for S-Box Switch**

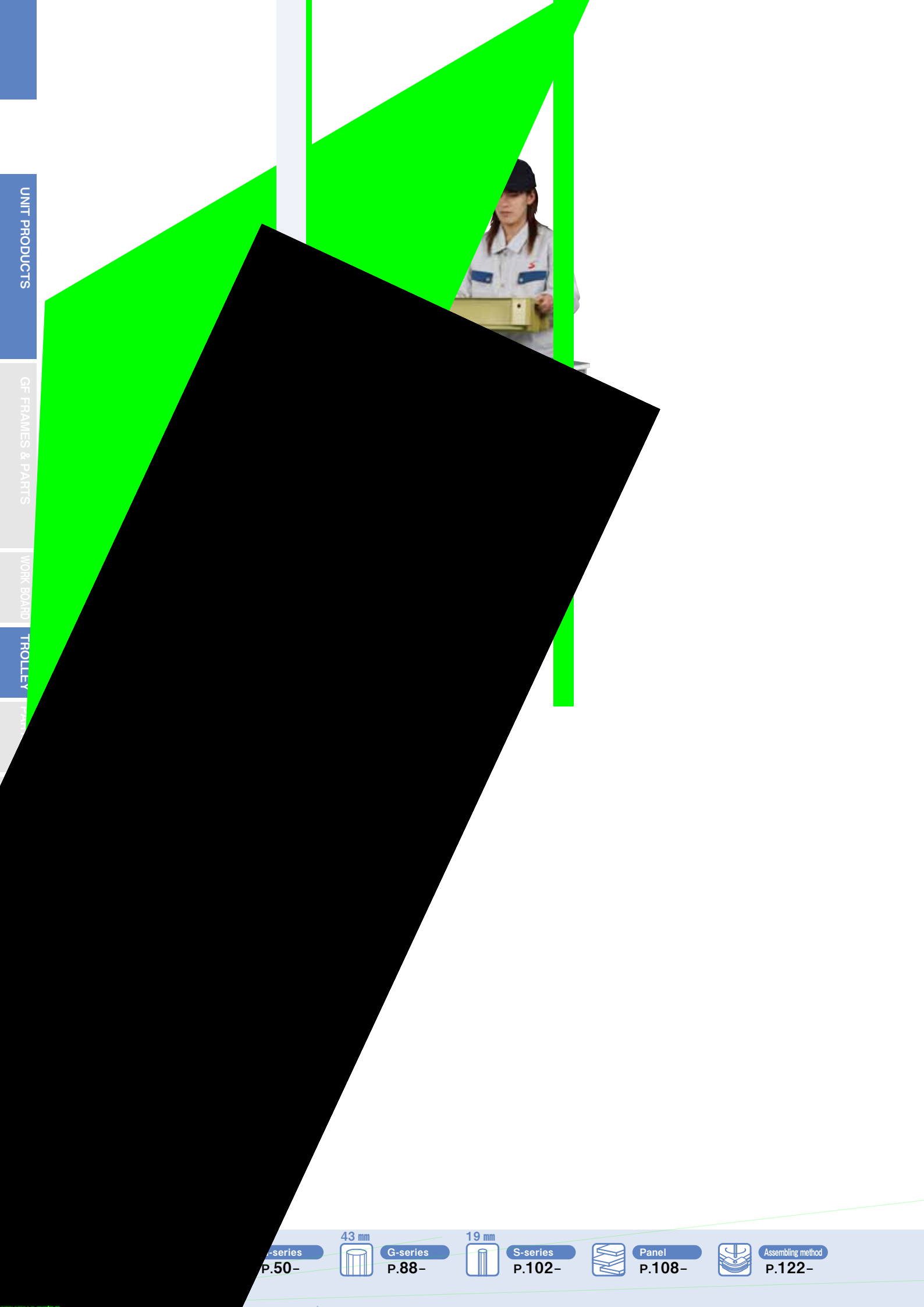


For details on cell production devices, refer to page 116.

The following items must be specified:

- Item number (example: GFM-X01)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).



UNIT PRODUCTS

GF FRAMES & PARTS

WORK BOARD

TROLLEY

PARTS

S-series  
P.50-



43 mm

G-series  
P.88-



19 mm

S-series  
P.102-



Panel  
P.108-



Assembling method  
P.122-

The following items must be specified:

- Item number (example: GFM-403)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).



# Trolley B Hammer Lock Type

## Trolley B Hammer Lock Type

### Work board Hammer lock type

Load capacity: 60 kg (up to 50 kg/rack)



\* 900 x 600 x 880 mm

Name	Trolley B Work Board Hammer Lock Type		
W×D×H(mm)	600×400×600	600×400×810	900×600×880
Item number	<b>GFM-419</b>	<b>GFM-420</b>	<b>GFM-421</b>

#### Components

**Frame:** Green Frame, Green Frame L Slot

**Connector:** Multi Connector Inner Type, Multi Connector Outer Type, Angle Connector Inner Type

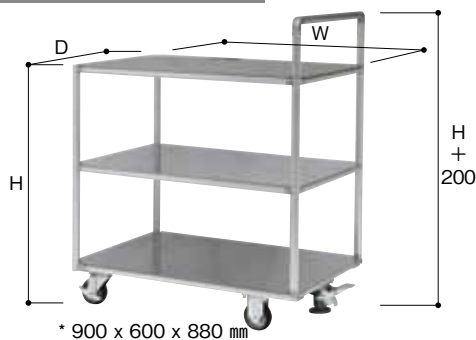
**Top board/rack board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder, Frame Guard

**Bottom:** Free Caster φ100 with Brake x 2, Fixed Caster φ100 x 2

\* For conductive and/or RoHS-compliant types, please contact.

### Stainless panel Hammer lock type

Load capacity: 60 kg (up to 50 kg/rack)



\* 900 x 600 x 880 mm

Name	Trolley B Stainless Panel Hammer Lock Type		
W×D×H(mm)	600×400×600	600×400×810	900×600×880
Item number	<b>GFM-422</b>	<b>GFM-423</b>	<b>GFM-424</b>

#### Components

**Frame:** Green Frame, Green Frame L Slot

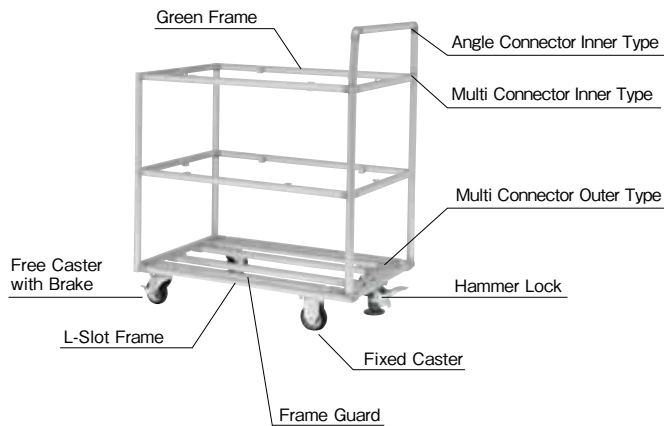
**Connector:** Multi Connector Inner Type, Multi Connector Outer Type, Angle Connector Inner Type

**Top board/rack board:** Stainless Panel N02B t=1.5, Board Holder, T Nut S, Truss Head Screw, Frame Guard

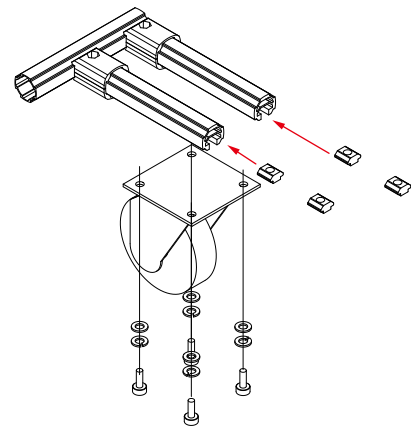
**Bottom:** Free Caster φ100 with Brake x 2, Fixed Caster φ100 x 2

\* For conductive and/or RoHS-compliant types, please contact.

### Trolley construction



#### Fixed/free caster attachment



The following items must be specified:

- Item number (example: GFM-413)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).



# Trolley C Hammer Lock Type

## Trolley C Hammer Lock Type

### Work board Hammer lock type

Load capacity: 60kg (up to 50kg/rack)



\* 900 x 600 x 1,080 mm

Name	Trolley C Work Board Hammer Lock Type		
W×D×H (mm)	600×400×800	600×400×1010	900×600×1080
Item number	<b>GFM-431</b>	<b>GFM-432</b>	<b>GFM-433</b>

#### ■ Components

**Frame:** Green Frame, Green Frame L Slot

**Connector:** Multi Connector Inner Type, Multi Connector Outer Type, Angle Connector Inner Type

**Top board/rack board:** Work Board t=16.5 (Particle Board and Rubber Mat), Board Holder, Frame Guard

**Bottom:** Free Caster φ100 with Brake x 2, Fixed Caster φ100 x 2, Hammer Lock 100

\* For conductive and/or RoHS-compliant types, please contact.

### Stainless panel Hammer lock type

Load capacity: 60kg (up to 50kg/rack)



\* 900 x 600 x 1,080 mm

Name	Trolley C Stainless Panel Hammer Lock Type		
W×D×H (mm)	600×400×800	600×400×1010	900×600×1080
Item number	<b>GFM-434</b>	<b>GFM-435</b>	<b>GFM-436</b>

#### ■ Components

**Frame:** Green Frame, Green Frame L Slot

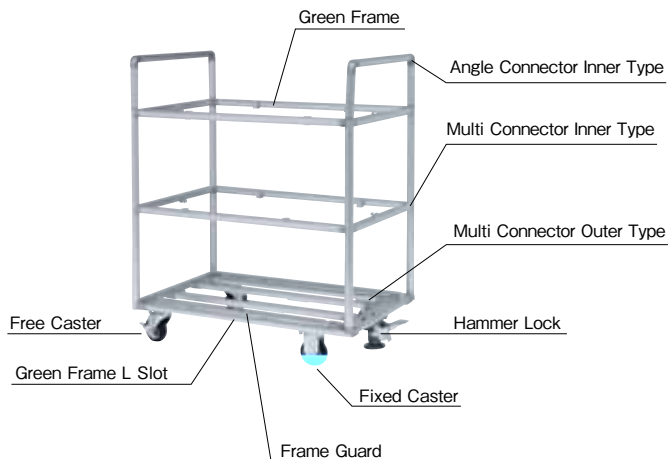
**Connector:** Multi Connector Inner Type, Multi Connector Outer Type, Angle Connector Inner Type

**Top board/rack board:** Stainless Panel NO2B t=1.5, Board Holder, T Nut S, Truss Head Screw, Frame Guard

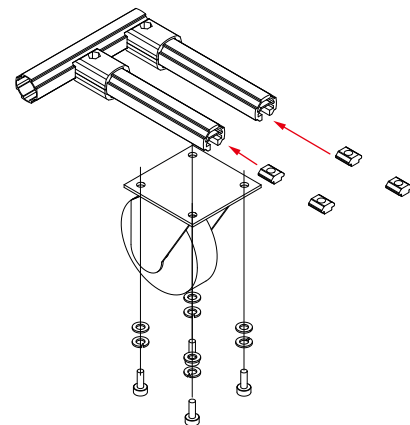
**Bottom:** Free Caster φ100 with Brake x 2, Fixed Caster φ100 x 2

\* For conductive and/or RoHS-compliant types, please contact.

### Trolley construction



#### Fixed/free caster attachment



The following items must be specified:

- Item number (example: GFM-427)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).



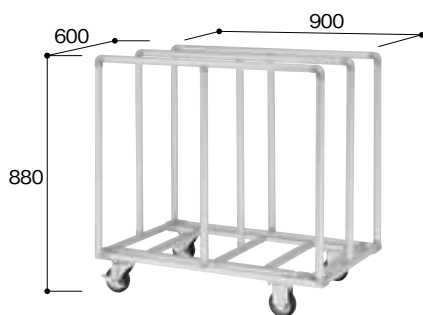


# Trolley for Lengthy Cargo



## Trolley for Lengthy Cargo

### Trolley for lengthy cargo



Name	Trolley for Lengthy Cargo
Item number	<b>GFM-439</b>

#### ■ Components

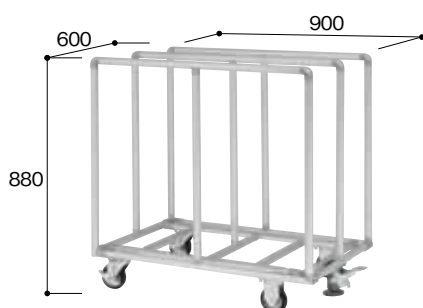
**Frame:** Green Frame, Green Frame L Slot

**Connector:** Multi Connector Inner Type, Multi Connector Outer Type, Angle Connector Inner Type

**Bottom:** Free Caster  $\phi 100$  with Brake x 2, Fixed Caster  $\phi 100$  x 2

\* For conductive and/or RoHS-compliant types, please contact.

### Trolley for lengthy cargo Hammer lock type



Name	Trolley for Lengthy Cargo Hammer Lock Type
Item number	<b>GFM-440</b>

#### ■ Components

**Frame:** Green Frame, Green Frame L Slot

**Connector:** Multi Connector Inner Type, Multi Connector Outer Type, Angle Connector Inner Type

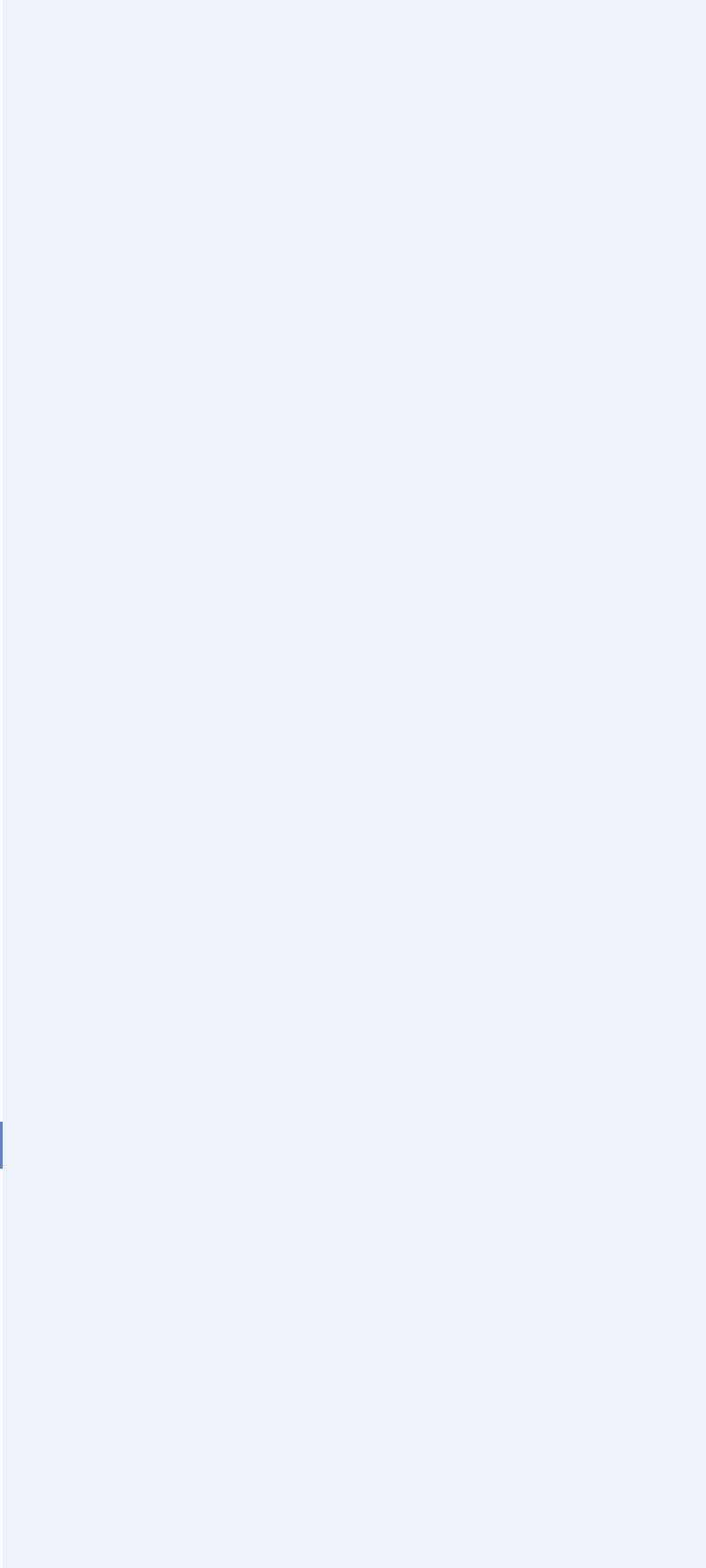
**Bottom:** Free Caster  $\phi 100$  with Brake x 2, Fixed Caster  $\phi 100$  x 2, Hammer Lock 100

\* For conductive and/or RoHS-compliant types, please contact.

The following items must be specified:

- Item number (example: GFM-437)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).



Unit products  
P.16-



28 mm  
N-series  
P.50-



43 mm  
G-series  
P.88-



19 mm  
S-series  
P.102-



Panel  
P.108-



Assembling method  
P.122-

# Cage Trolley



Collapsible type  
Can be stored stacked on top of each other.

## Cage Trolley

### Cage trolley



Name	Cage Trolley
Item number	<b>GFM-443</b>

#### ■ Components

**Frame:** Green Frame, Green Frame L Slot

**Connector:** Multi Connector Inner Type, Multi Connector Outer Type, Bridge Connector, Angle Connector Inner Type, Fixed Hinge, Aluminum Flat Bar, Hinge Connector, Hook Connector R

**Base board:** Aluminum Checked Steel Plate t=3, Board Holder, Frame Guard

**Bottom:** Frame Caster  $\phi$ 75 with Brake x 4

\* For conductive and/or RoHS-compliant types, please contact.

The following items must be specified:

- Item number (example: GFM-441)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).



Unit products  
P.16-



28 mm

N-series  
P.50-



43 mm

G-series  
P.88-



19 mm

S-series  
P.102-



Panel  
P.108-



Assembling method  
P.122-

## Mobile Partition



Name	Mobile Partition PET Transparent/Aluminum Composite Plate Type
H (mm)	1800
Item number	<b>GFM-805</b>

### ■ Components

**Frame:** Green Frame

**Connector:** Multi Connector Inner Type, Angle Connector Inner Type

**Bottom:** Frame Caster  $\phi 50$  with Brake x 4

**Panel:** PET Transparent t=3, Aluminum Composite Panel t=3

\* For conductive and/or RoHS-compliant types, please contact.



Name	Mobile Partition PET Transparent
H (mm)	1000
Item number	<b>GFM-806</b>

### ■ Components

**Frame:** Green Frame

**Connector:** Multi Connector Inner Type, Angle Connector Inner Type

**Bottom:** Frame Caster  $\phi 50$  with Brake x 4

**Panel:** PET Transparent t=3

\* For conductive and/or RoHS-compliant types, please contact.

The following items must be specified:

- Item number (example: GFM-801)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).

# RACK Rack 1200

UNIT PRODUCTS

GF FRAMES & PARTS

WORK BOARD

TROLLEY

PARTITION

RACK

CHUTER

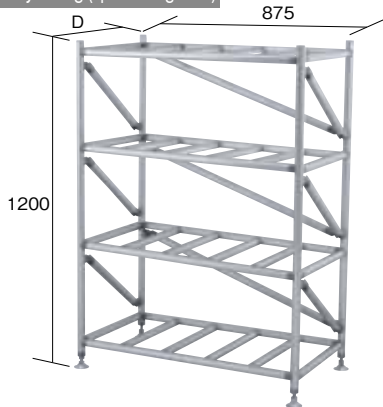
CLEAN UNIT

STAND



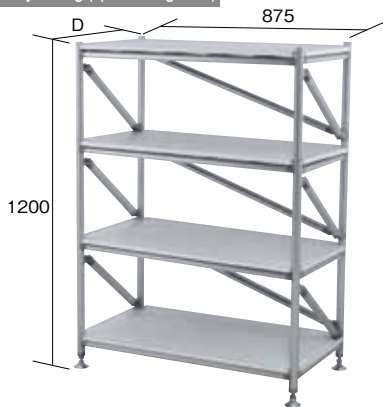
## Rack H1200

Load capacity: 80 kg (up to 40 kg/rack)



\* D=450

Load capacity: 80 kg (up to 40 kg/rack)



\* D=450

Name	Rack H1200	
D (mm)	300	450
Item number	<b>GFM-A00</b>	<b>GFM-A01</b>

### Components

**Frame:** Green Frame

**Connector:** Multi Connector Inner Type, Free Connector Inner Type

**Bottom:** Foot Connector M12 (resin type x 4), Adjuster M12 x 4

\* For conductive and/or RoHS-compliant types, please contact.

Name	Rack Melamine Board Deck H1200	
D (mm)	300	450
Item number	<b>GFM-A02</b>	<b>GFM-A03</b>

### Components

**Frame:** Green Frame

**Connector:** Multi Connector Inner Type, Free Connector Inner Type

**Deck:** Melamine Board t=17

**Bottom:** Foot Connector M12 (resin type x 4), Adjuster M12 x 4

\* For conductive and/or RoHS-compliant types, please contact.



Unit products  
P.16-



28 mm  
N-series  
P.50-



43 mm  
G-series  
P.88-



19 mm  
S-series  
P.102-



Panel  
P.108-



Assembling method  
P.122-

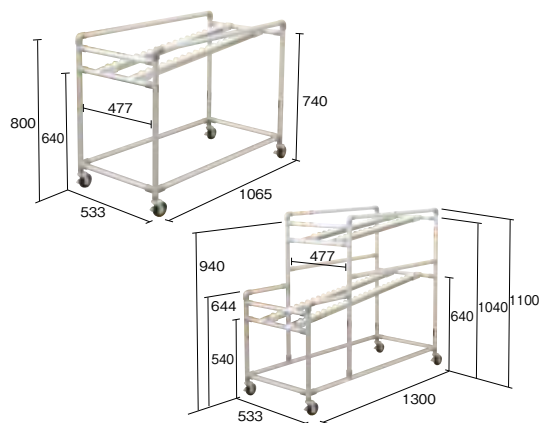
The following items must be specified:

- Item number (example: GFM-A00)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).



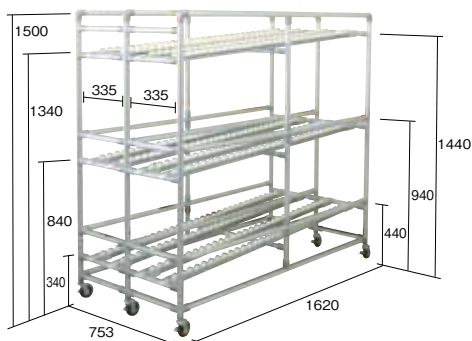
## Chuter



Name	Chuter 1 Line 1 Tier	Chuter 1 Line 2 Tiers (Asymmetric)
Item number	<b>GFM-C00</b>	<b>GFM-C01</b>

■ **Components**  
**Frame:** Green Frame  
**Connector:** Multi Connector Outer Type, Angle Connector Outer Type  
**Bottom:** Foot Connector M12 (resin type), Free Caster  $\phi 75$  with Brake x 4  
**Sliding part:** Corocon x 4, Corocon Hook x 4

\* For conductive and/or RoHS-compliant types, please contact.



Name	Chuter 2 Lines 3 Tiers
Item number	<b>GFM-C02</b>

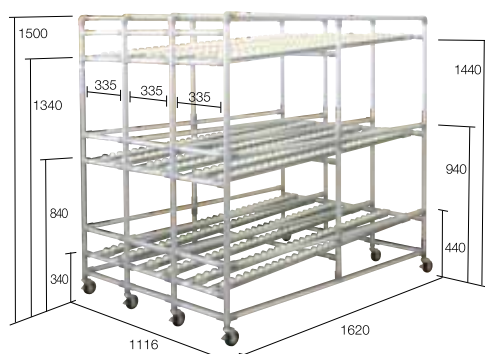
■ **Components**  
**Frame:** Green Frame  
**Connector:** Multi Connector Outer Type, Angle Connector Outer Type  
**Bottom:** Foot Connector M12 (resin type), Free Caster  $\phi 75$  with Brake x 6  
**Sliding part:** Corocon x 6, Corocon Hook x 6

\* For conductive and/or RoHS-compliant types, please contact.





## Chuter



Name	Chuter 3 Lines 3 Tiers
Item number	<b>GFM-C03</b>

### ■ Components

**Frame:** Green Frame

**Connector:** Multi Connector Outer Type, Angle Connector Outer Type

**Bottom:** Foot Connector M12 (resin type), Free Caster  $\phi 75$  with Brake x 8

**Sliding part:** Corocon x 8, Corocon Hook x 8

\* For conductive and/or RoHS-compliant types, please contact.

### Example of use



The following items must be specified:

- Item number (example: GFM-C00)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).

# SIMPLE CLEAN BENCH/BOOTH

UNIT PRODUCTS

GF FRAMES & PARTS

WORK BOARD

TROLLEY

PARTITION

RACK

CHUTER

CLEAN UNIT

STAND



Simple Clean Bench



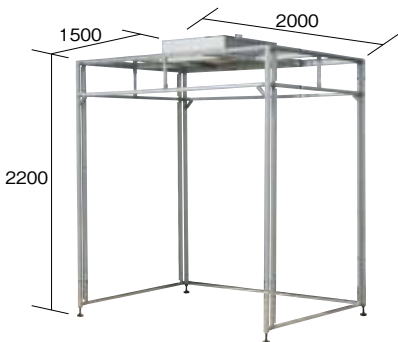
Name	Simple Clean Bench
Item number	GFM-E00

- Components
- Frame: Green Frame
- Connector: Multi Connector Outer Type, Point Connector, Stand Connector
- Clean Fan: Clean Fan Unit 3 m<sup>3</sup>

\* Panels are not included

\* For conductive and/or RoHS-compliant types, please contact.

Simple Clean Booth



Name	Simple Clean Booth
Item number	GFM-G00

- Components
- Frame: Green Frame, Green Frame L Slot, Green Frame F50
- Connector: Multi Connector Outer Type, Multi Connector Inner Type, Point Connector
- Clean Fan: Clean Fan Unit 10 m<sup>3</sup>

\* Panels and vinyl curtains are not included

\* For conductive and/or RoHS-compliant types, please contact.



Unit products  
P.16-



28 mm  
N-series  
P.50-



43 mm  
G-series  
P.88-



19 mm  
S-series  
P.102-



Panel  
P.108-

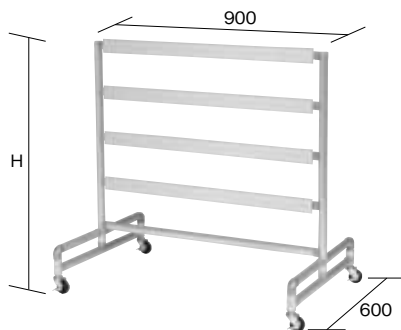


Assembling method  
P.122-

# PARTS CONTAINER STAND



Parts Container Stand



\* H=900

Name	Parts Container Stand		
H (mm)	600	900	1200
Item number	<b>GFM-J00</b>	<b>GFM-J01</b>	<b>GFM-J02</b>

## ■ Components

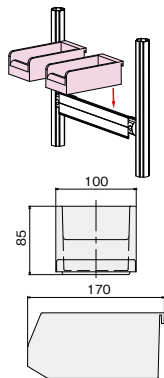
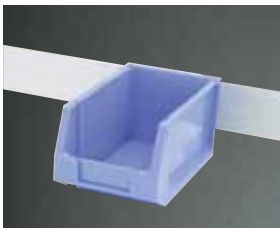
**Frame:** Green Frame, Green Frame F50

**Connector:** Multi Connector Inner Type, Angle Connector Inner Type

**Bottom:** Frame Caster  $\phi 75$  with Brake x 4

\* For conductive and/or RoHS-compliant types, please contact.

## Parts container



Material: Polypropylene (blue)

Name	Parts Container
Item number	<b>GFA-A07</b>

The following items must be specified:

- Item number (example: GFM-E00)
- Quantity (example: 5 sets)

- Specifications can be customized.
- Assembled products can also be delivered for a fee.
- For details on unit components, refer to parts section (page 46-).
- For purchasing parts, refer to parts section (page 46-).





**N**SERIES  
28  
External diameter

# **N**SERIES 28

**GF FRAMES & PARTS** External diameter

Note that some items may not be available,  
or specification may vary in some countries.  
Please contact your sales representative.

# Frame selection

UNIT PRODUCTS

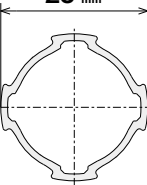
GF FRAMES & PARTS

N SERIES 28

G SERIES 43

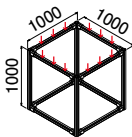
S SERIES 19

External diameter  
28 mm

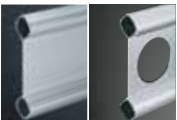
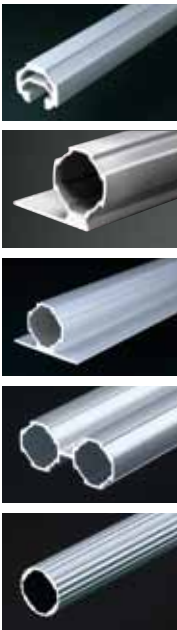
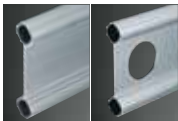


For general works

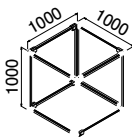
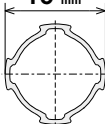
Work boards  
Trolleys  
Racks  
Chutres



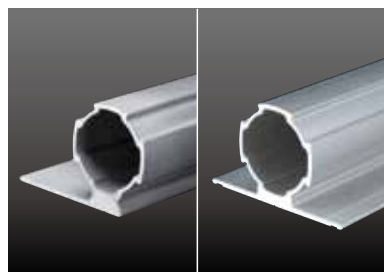
Uniformly-distributed load: 1,239 N



External diameter  
19 mm







Unit products  
P.16-



28 mm  
N-series  
P.50-



43 mm  
G-series  
P.88-



19 mm  
S-series  
P.102-



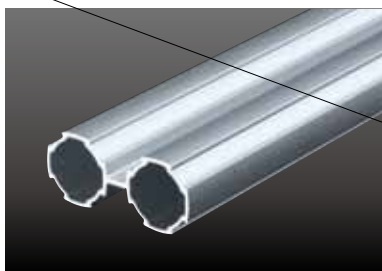
Panel  
P.108-



Assembling method  
P.122-



## Green Frame W



### Material/Technical data

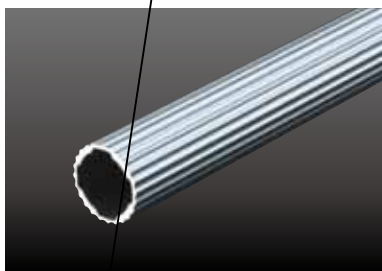
**Material:** Aluminum extrusion with alumite treatment  
**Environment:** RoHS compliant  
**Geometrical moment of inertia:**  
 $I_x = 11.66 \times 10^4 \text{ mm}^4$   
 $I_y = 2.31 \times 10^4 \text{ mm}^4$   
**Section modulus:**  
 $Z_x = 3.59 \times 10^3 \text{ mm}^3$   
 $Z_y = 1.65 \times 10^3 \text{ mm}^3$   
**Unit weight:** 0.79 kg/m  
**Resistance value:**  $10^{9-11} \Omega$  (antistatic level)



Name	Green Frame W L=100–4,000mm
Item number	<b>GFF-003</b>

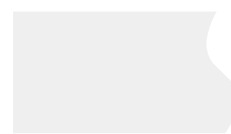
\* Use inner type caps

## Green Frame Slide



### Material/Technical data

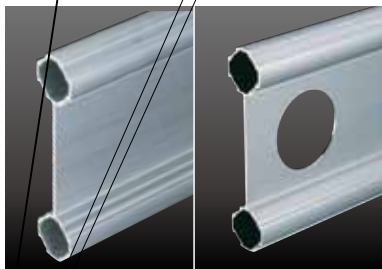
**Material:** Aluminum extrusion with alumite treatment  
**Environment:** RoHS compliant  
**Geometrical moment of inertia:**  
 $I_x = 1.47 \times 10^4 \text{ mm}^4$   
 $I_y = 1.47 \times 10^4 \text{ mm}^4$   
**Section modulus:**  
 $Z_x = 1.01 \times 10^3 \text{ mm}^3$   
 $Z_y = 1.01 \times 10^3 \text{ mm}^3$   
**Unit weight:** 0.46 kg/m  
**Resistance value:**  $10^{9-11} \Omega$  (antistatic level)



Name	Green Frame Slide L=100–4,000mm
Item number	<b>GFF-006</b>

\* Use inner type connectors/caps

## Green Frame P100



### Material/Technical data

**Material:** Aluminum extrusion with alumite treatment  
**Environment:** RoHS compliant  
**Geometrical moment of inertia:**  
**GFF-001**  $I_x = 76.81 \times 10^4 \text{ mm}^4$   $I_y = 2.32 \times 10^4 \text{ mm}^4$   
**GFF-002**  $I_x = 74.72 \times 10^4 \text{ mm}^4$   $I_y = 2.31 \times 10^4 \text{ mm}^4$   
**Section modulus:**  
**GFF-001**  $Z_x = 12.00 \times 10^3 \text{ mm}^3$   $Z_y = 1.65 \times 10^3 \text{ mm}^3$   
**GFF-002**  $Z_x = 11.68 \times 10^3 \text{ mm}^3$   $Z_y = 1.65 \times 10^3 \text{ mm}^3$   
**Unit weight:** 1.13 kg/m 1.02 kg/m  
**Resistance value:**  $10^{9-11} \Omega$  (antistatic level)

Name	Green Frame P100 Rigid Type (picture at left) L=100–4,000mm	Green Frame P100 Lightweight Type (picture at right) L=4,000mm
Item number	<b>GFF-001</b>	<b>GFF-002</b>

Use as beam material  
for large booths.

\* Use inner type connectors/caps

For custom size orders, the following items must be specified:

- Item number (example: GFF-000)
- Length (example: L=800)
- Quantity (example: 5 sets)

## Multi Connector Outer Type

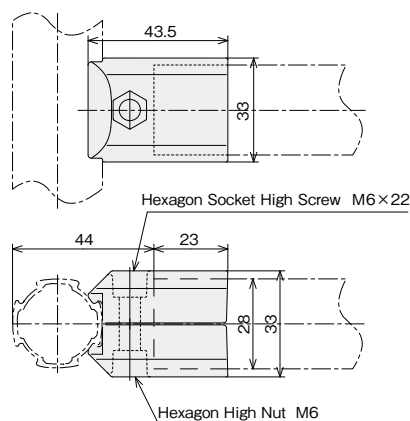


### Material/Technical data

**Material:** Aluminum die-cast  
**Environment:** RoHS compliant  
**Weight:** 61g

- Most units can be built just using multi connectors only.
- Simply tighten the bolt with a wrench.

Name	Multi Connector Outer Type
Item number	GFJ-000



## Angle Connector Outer Type

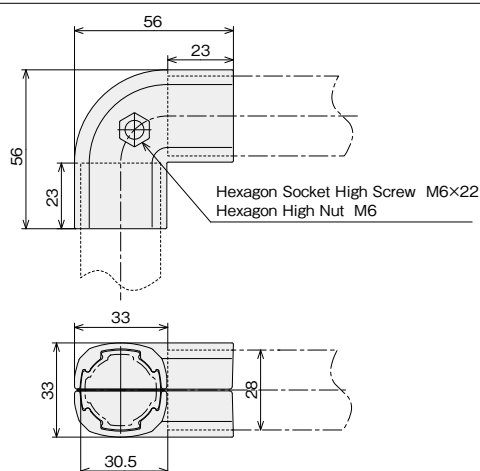


### Material/Technical data

**Material:** Aluminum die-cast  
**Environment:** RoHS compliant  
**Weight:** 96g

- Use for a right-angle corner.

Name	Angle Connector Outer Type
Item number	GFJ-005



## Free Connector Outer Type

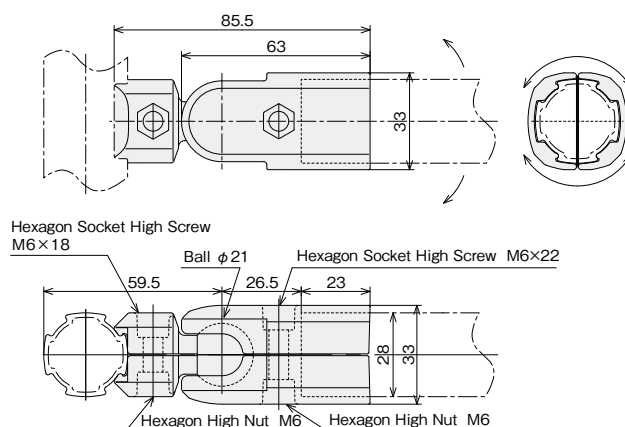


### Material/Technical data

**Material:** Aluminum die-cast  
**Environment:** RoHS compliant  
**Weight:** 127g

- Parts such as reinforcing stays can be attached at a desired angle.

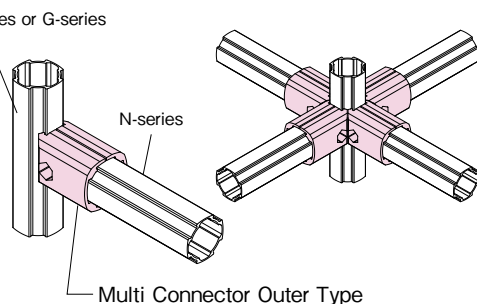
Name	Free Connector Outer Type
Item number	GFJ-002



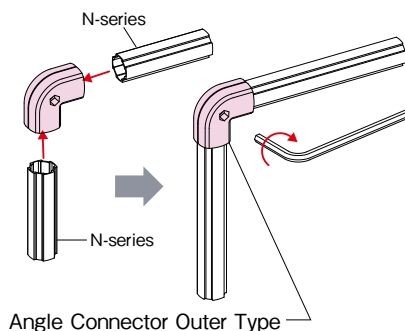
## Installation with outer connectors and compatible frames

\* For frame length, refer to page 126

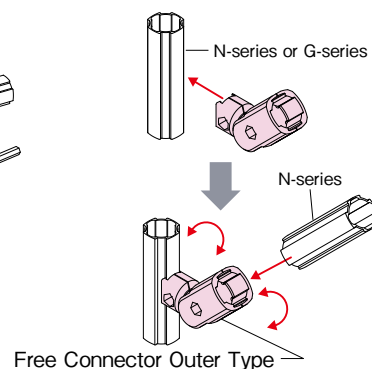
N-series or G-series



Multi Connector Outer Type



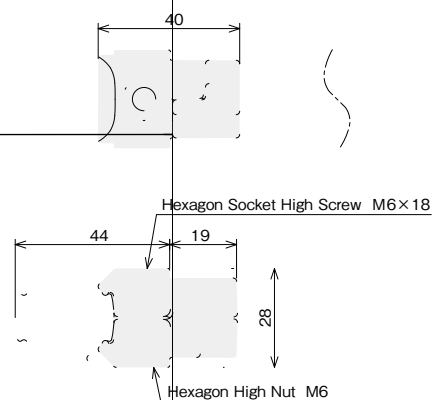
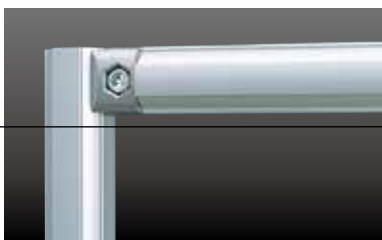
Angle Connector Outer Type



Free Connector Outer Type



## Multi Connector Inner Type



## Angle Connector Inner Type



## Free Connector Inner Type



## Installation with inner connectors and compatible frames

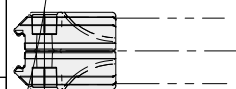
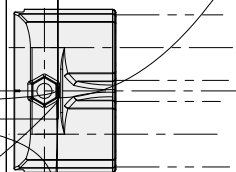
\* For frame length, refer to page 126

Multi Connector Inner Type

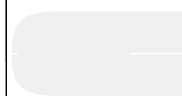
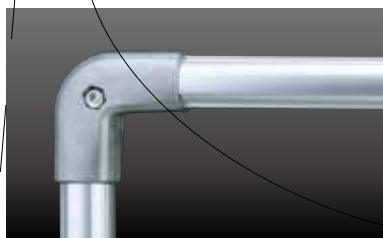
Angle Connector Inner Type

Free Connector Inner Type

## Multi Connector (Outer) W



## Angle Connector (Outer) E

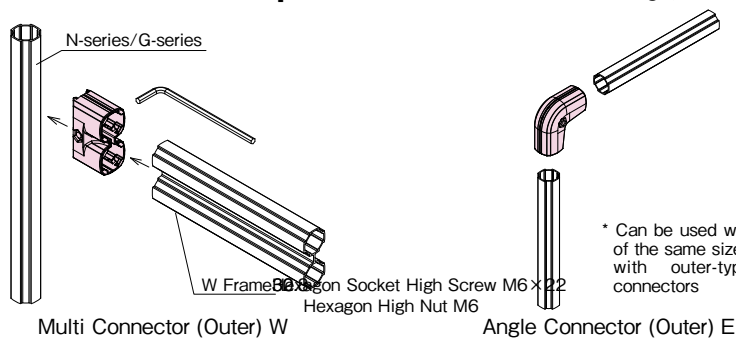


## Multi Connector (Inner) R

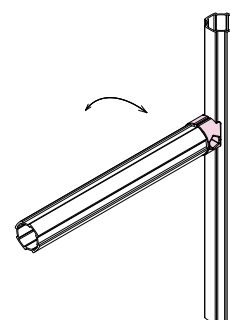


## Installation and compatible frames

\* For frame length, refer to page 126



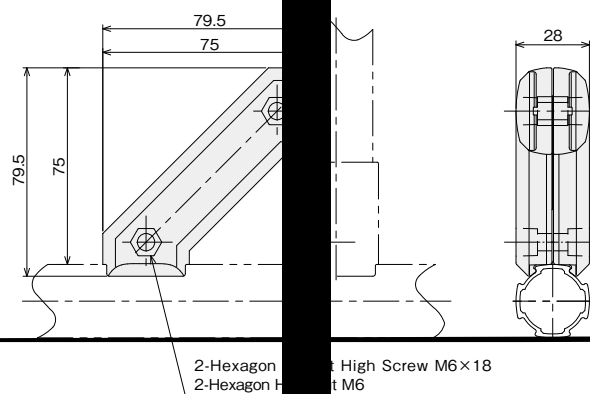
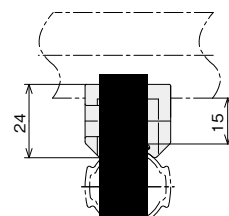
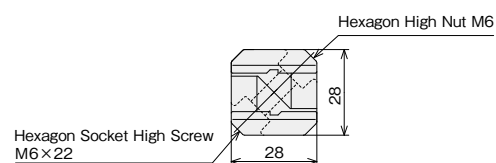
\* Can be used with frames of the same size as those with outer-type multi connectors



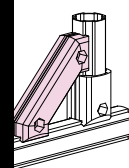
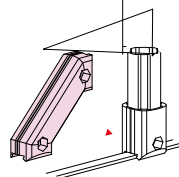
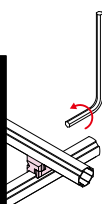
\* Frames can be rotated and fixed at a desired angle

Multi Connector (Inner) R





**Installation and compatible frames** \* For frame length, refer to page 126



## 45-Degree Connector Outer Type

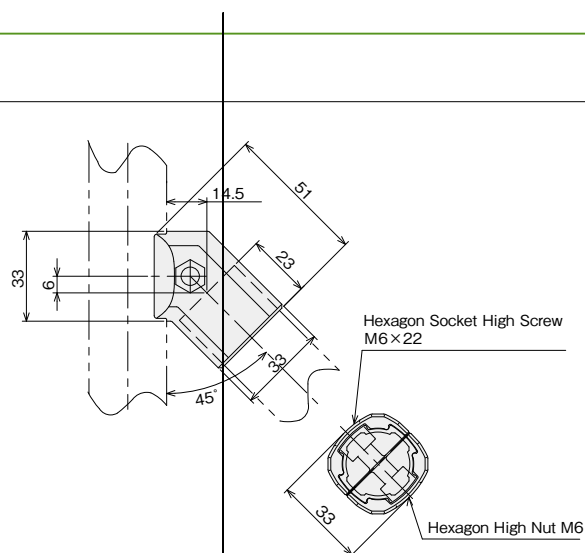


### Material/Technical data

**Material:** Aluminum die-cast  
**Environment:** RoHS compliant  
**Weight:** 61 g

- Use with reinforcing stays.

Name	45-Degree Connector Outer Type
Item number	GFJ-007



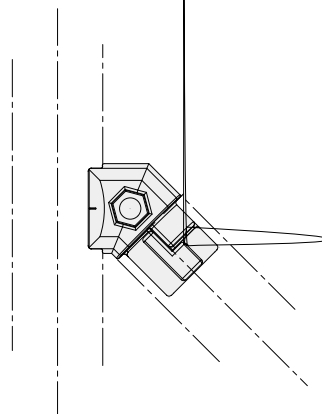
## 45-Degree Connector Inner Type



### Material/Technical data

**Material:** Aluminum die-cast  
**Environment:** RoHS compliant  
**Weight:** 55 g

Name	45-Degree Connector Inner Type
Item number	GFJ-220



## Multi Connector Long Inner Type



### Material/Technical data

**Material:** Aluminum die-cast  
**Environment:** RoHS compliant  
**Weight:** 82 g

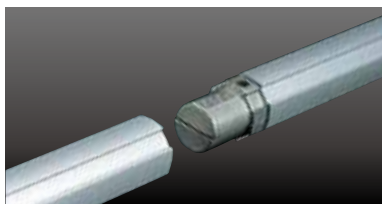
- For Simplified reinforcement

Name	Multi Connector Long Inner Type
Item number	GFJ-215

Installation and compatible frames \* For frame length, refer to page 126

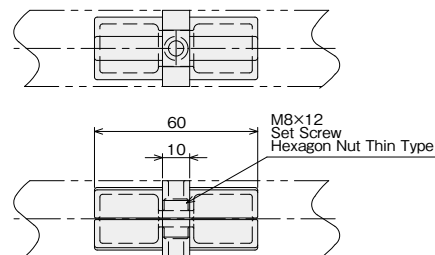


## Straight Connector



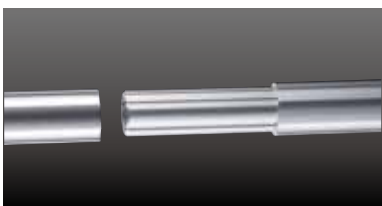
■ Material/Technical data  
Material: Stainless steel  
Environment: RoHS compliant  
Weight: 113 g

- Use to join frames and units.



Name	Straight Connector
Item number	GFJ-A17

## Straight Joint

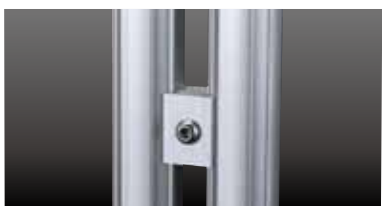


■ Material/Technical data  
Material: Aluminum extrusion  
Environment: RoHS compliant  
Weight: 28 g

- For pipe joint with no pull out force

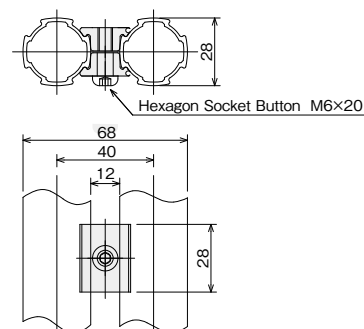
Name	Straight Joint
Item number	GFJ-A46

## Double Connector



■ Material/Technical data  
Material: Aluminum extrusion  
Environment: RoHS compliant  
Weight: 25 g

- Use to align and join frames.



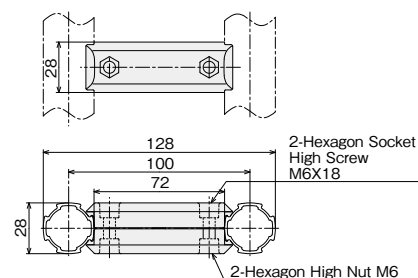
Name	Double Connector
Item number	GFJ-A42

## Bridge Connector



■ Material/Technical data  
Material: Aluminum die-cast  
Environment: RoHS compliant  
Weight: 112 g

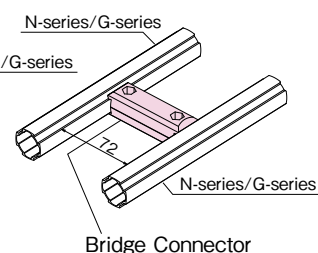
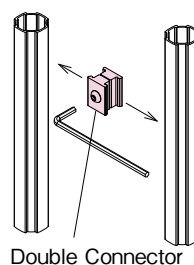
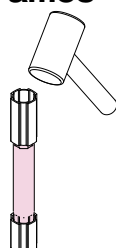
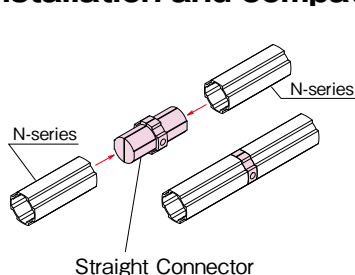
- Use to secure frame fixations.



Name	Bridge Connector
Item number	GFJ-A00

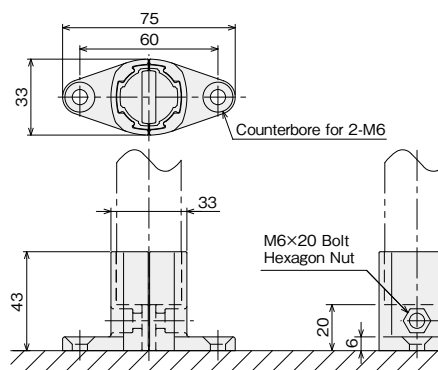
## Installation and compatible frames

\* For frame length, refer to page 126





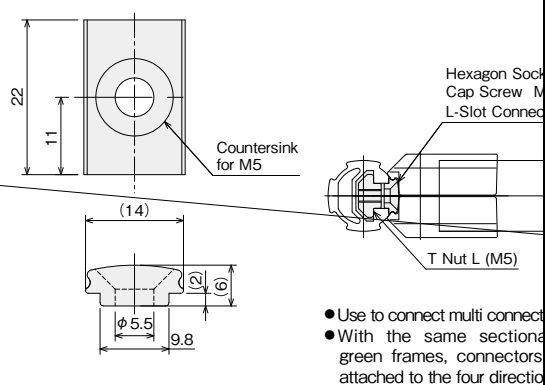
## Stand Connector



## Pipe Stand A

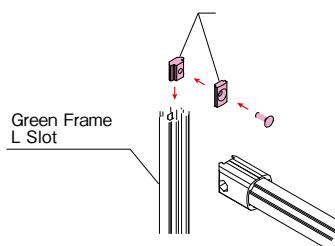
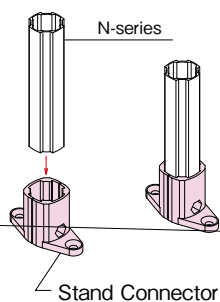


## L-Slot Connector Piece



## Installation and compatible frames

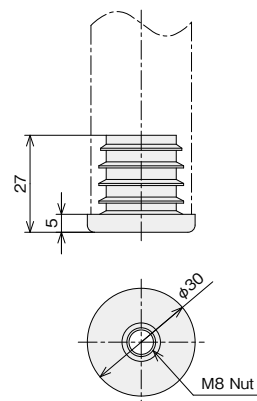
\* For frame length, refer to page 126



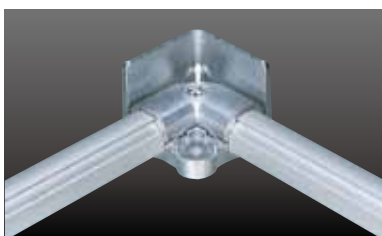
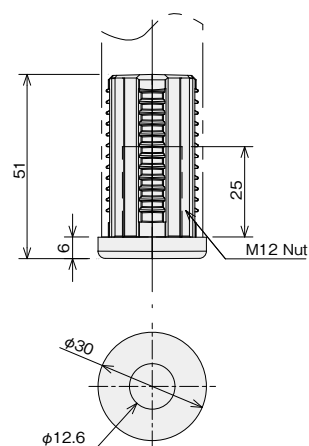
L-Slot Connector Piece



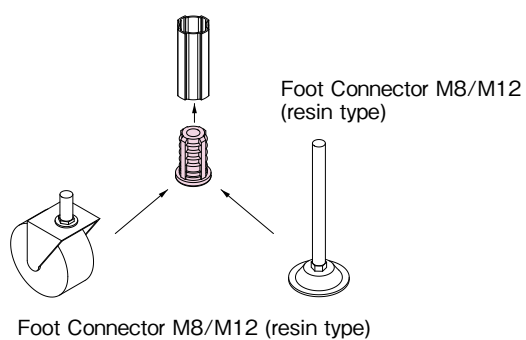
## Foot Connector M8



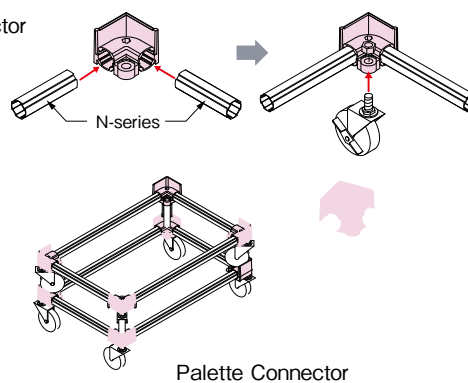
## Foot Connector M12 (Resin Type)



## Foot connector installation



## Palette Connector





UNIT PRODUCTS



GF FRAMES & PARTS



Nseries 28mm  
External diameter



Gseries 43mm  
External diameter

Sseries 19mm  
External diameter



Unit products  
P.16-

28mm



N-series  
P.50-

43mm



G-series  
P.88-

19mm



S-series  
P.102-



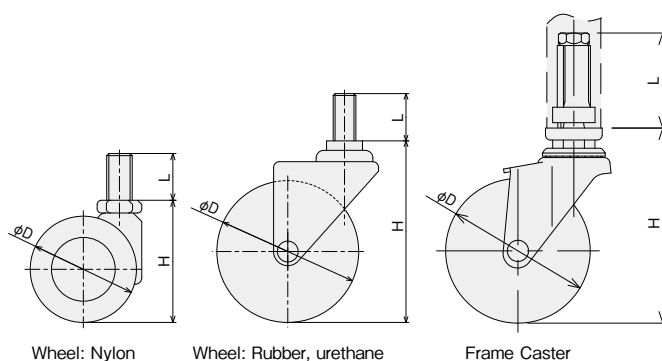
Panel  
P.108-



Assembling method  
P.122-



## Casters for N-Series Frames



Wheel: Nylon

Wheel: Rubber, urethane

Frame Caster

● Environment: **RoHS** compliant

### Size/Weight

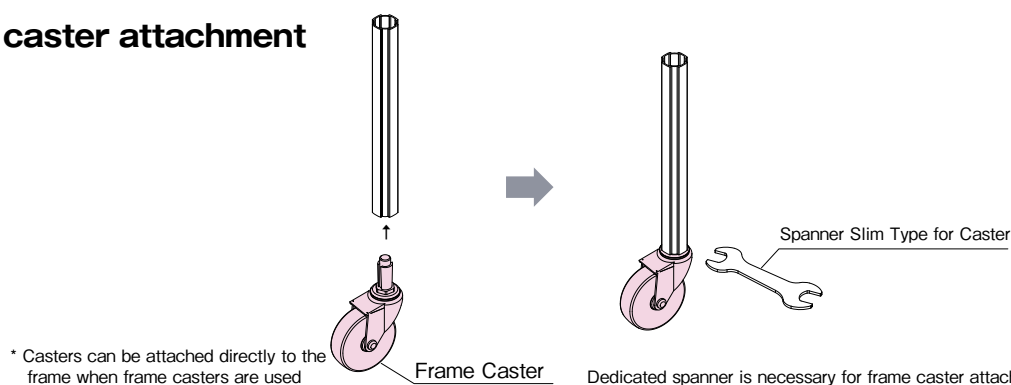
Size / Weight			Screw Axis Caster M12 / M8 (For Adjuster Caster Connector/Palette Connector/Foot Connector)						Frame Caster (for N-Series)					
Diameter (D)	Material		without brake	with brake	Load capacity	L (mm)	H (mm)	Weight (g)	without brake	with brake	Load capacity	L (mm)	H (mm)	Weight (g)
φ50	Nylon	Item number	<b>GFN-513</b> *	<b>GFN-512</b> *	600N	22	57.5	130						
	Rubber	Item number	<b>SFA-701</b> *	<b>SFA-702</b> *	300N	14	67	154 (165)	<b>GFN-515</b>	<b>GFN-514</b>	300N	47	74	225 (260)
φ75	Rubber	Item number	<b>GFN-525</b> *	<b>GFN-523</b> *	400N	25	96	282 (312)	<b>GFN-529</b>	<b>GFN-527</b>	400N	47	101	316 (352)
	Urethane	Item number	<b>GFN-537</b> *	<b>GFN-541</b> *	500N	25	95	282 (312)						
	Conductive	Item number	<b>GFN-526</b> *	<b>GFN-524</b> *	240N	25	95	316 (352)	<b>GFN-530</b>	<b>GFN-528</b>	240N	48	100	316 (352)
φ100									<b>GFN-506</b>	<b>GFN-505</b>	500N	47	132	650 (719)

\* Use the Foot Connector M8 for installation of N-series frames when φ50 rubber/caster screws are used

\* Weights with brake are indicated in blue text

\* Non-RoHS-compliant

## Frame caster attachment



\* Casters can be attached directly to the frame when frame casters are used

Dedicated spanner is necessary for frame caster attachment. Refer to page 107.



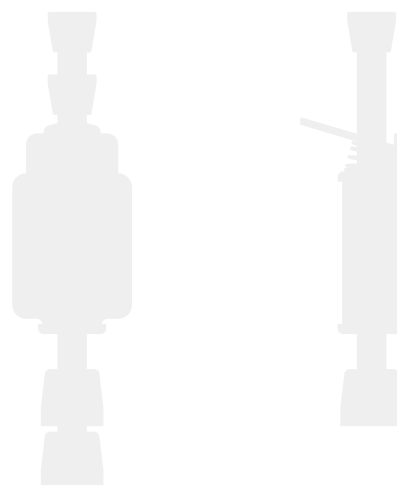




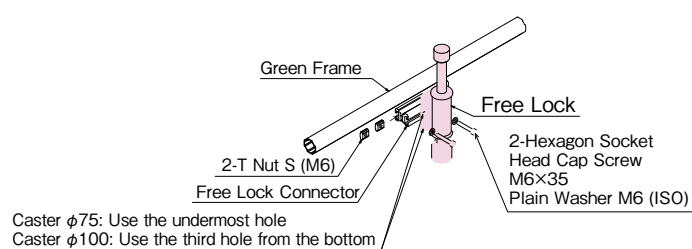




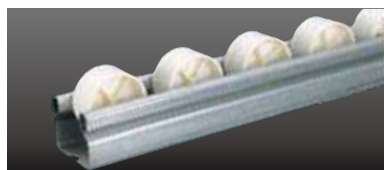
## Free Lock 75/100 Kit



## Free lock installation

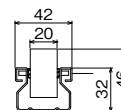


## Corocon

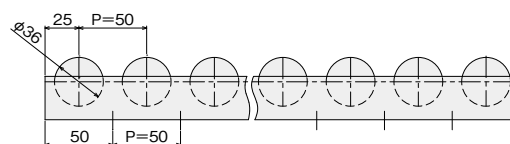


### Material/Technical data

**Material:** Frame: SPHC  
**Wheel:** Polypropylene (Normal Type)  
Conductive Polypropylene (Conductive Type)  
**Weight:** 1200 g/m  
**Load capacity:** 10 kg (per wheel)



Name	Corocon 1000 L=1,000 mm	Corocon 1500 L=1,500 mm	Corocon 3000 L=3,000 mm	Corocon (Adjustable Cut) L=300-2,950 mm (in units of 50 mm)
Item number	Normal Conductive Type	<b>GFC-001</b> <b>GFC-019</b>	<b>GFC-002</b> <b>GFC-020</b>	<b>GFC-000</b> <b>GFC-018</b>
				<b>GFC-003</b> <b>GFC-021</b>



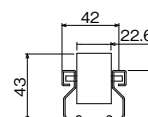
\* For Corocon sizes, refer to page 123

## Corocon 3323P37

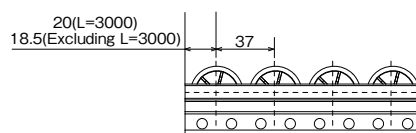


### Material/Technical data

**Material:** Frame: SPCC  
Wheel: HDPE  
**Weight:** 1400 g/m  
**Load capacity:** 10 kg (per wheel)



Name	Corocon 3323P37 L=3,000 mm	Corocon (Adjustable Cut) L=296-2,960 mm
Item number	<b>GFC-027</b>	<b>GFC-028</b>

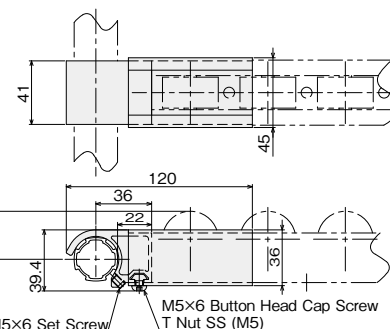


## Corocon Hook



### Material/Technical data

**Material:** Aluminum extrusion  
**Environment:** RoHS compliant  
**Weight:** 103 g



Name	Corocon Hook
Item number	<b>GFC-200</b>

## Slider Connector

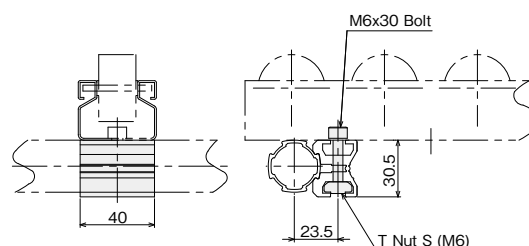


### Material/Technical data

**Material:** Aluminum extrusion  
**Environment:** RoHS compliant  
**Weight:** 51 g

### Supplied accessories

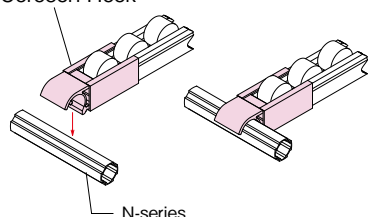
T Nut S M6 (with anti-skid cap): 1 pc  
Hexagon Socket Head Cap Screw  
M6x30 (unichromate): 1 pc



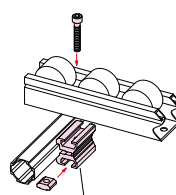
Name	Slider Connector
Item number	<b>GFJ-A24</b>

## Corocon attachment

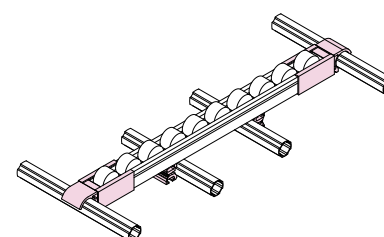
Corocon Hook



N-series



Slider Connector



- Attach corocon hooks on both sides of a corocon.
- Use slider connectors for heavy load or long transport distance.

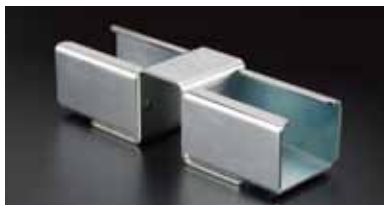
## Corocon Hook A



## Corocon Hook B



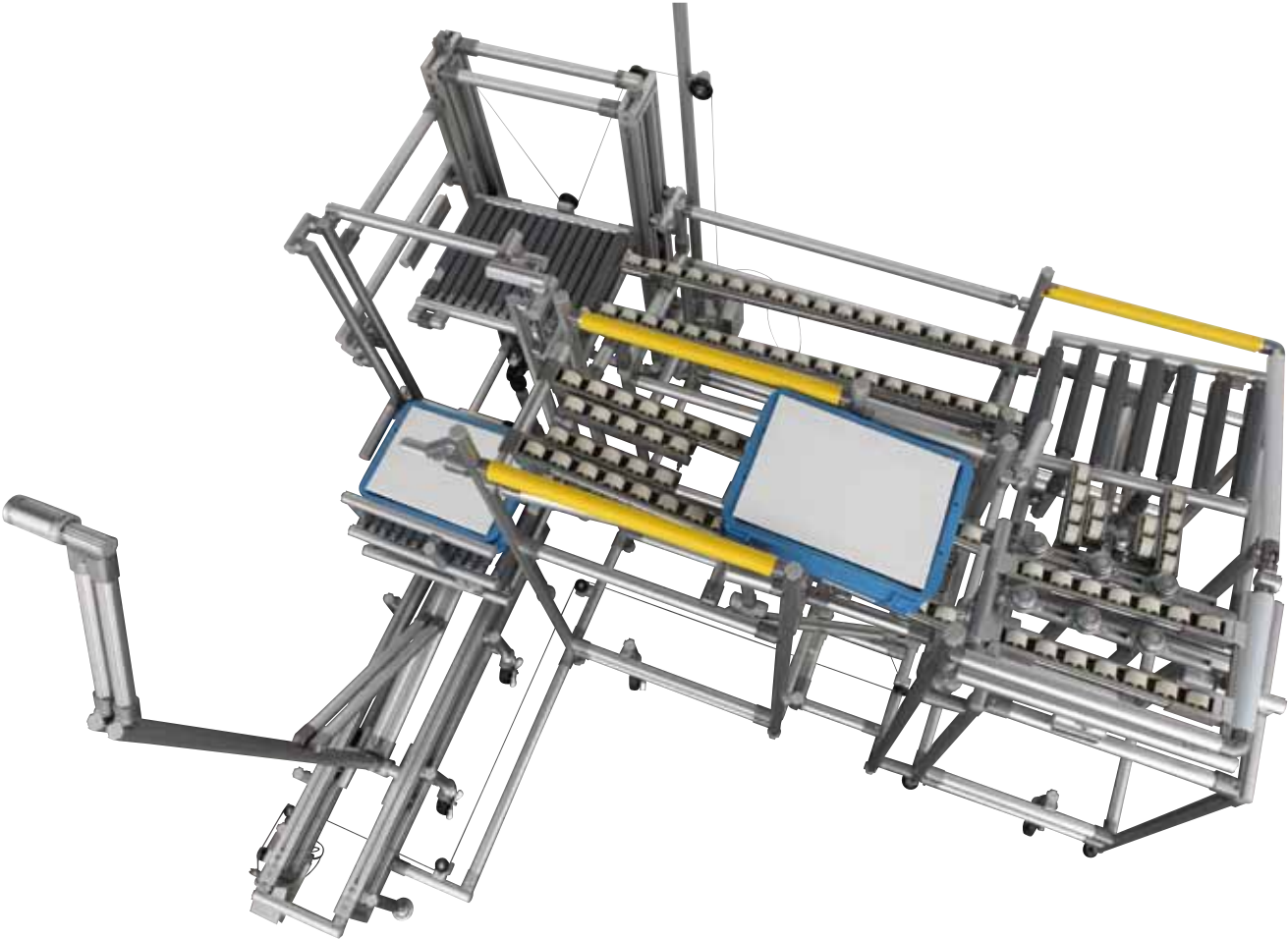
## Corocon Hook C



## Corocon Hook D







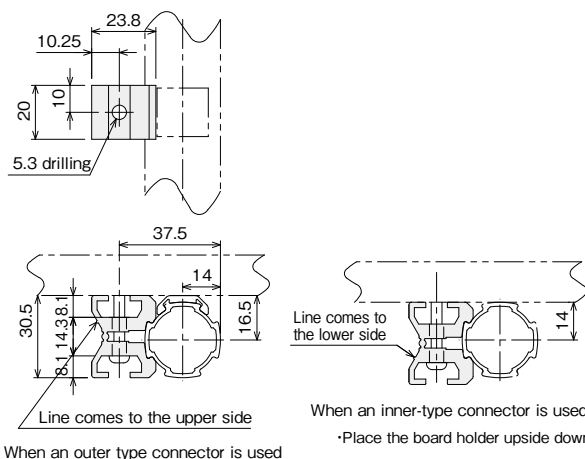
## Board Holder



### Material/Technical data

**Material:** Aluminum extrusion  
**Environment:** RoHS compliant  
**Weight:** 18 g

- Nut S (M6) cannot be used.



Name	Board Holder
Item number	GFJ-A22

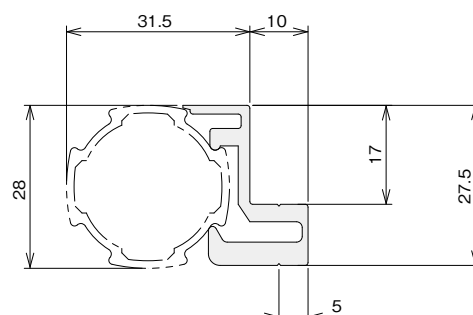
## Board Holder F



### Material/Technical data

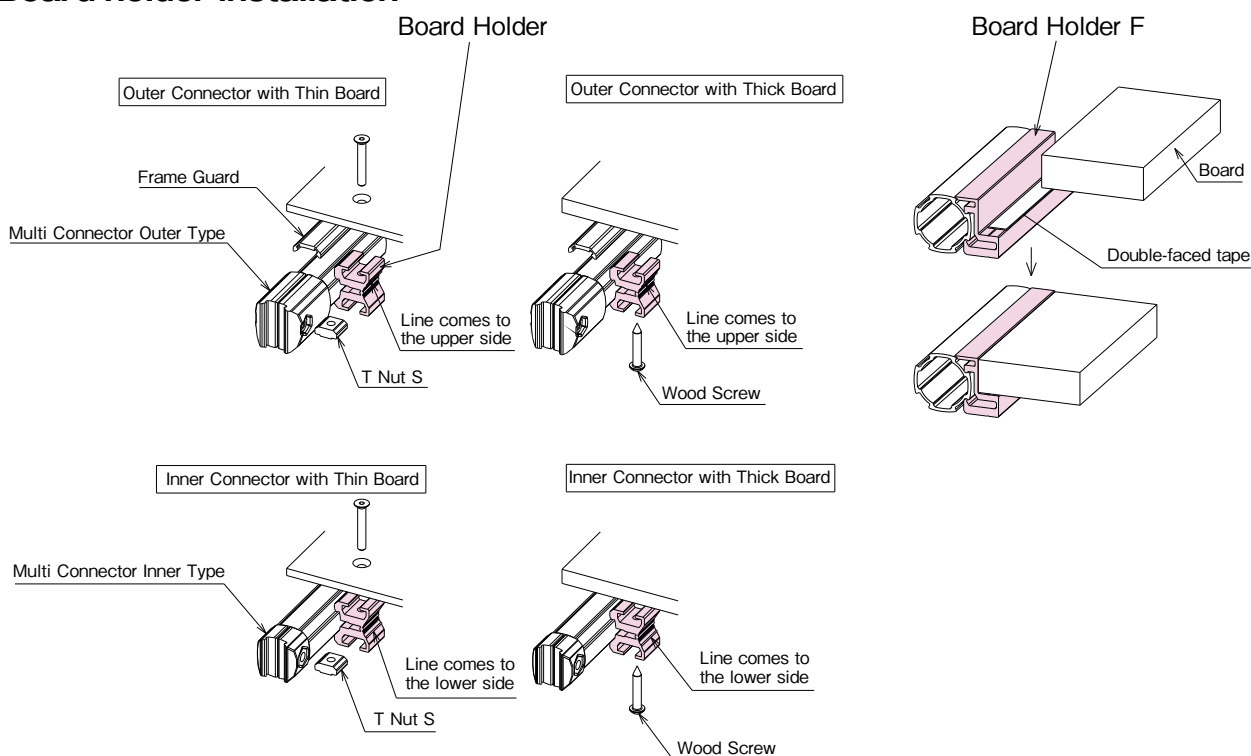
**Material:** Aluminum extrusion  
**Environment:** RoHS compliant  
**Weight:** 0.45 kg/m

- Work boards (t=16.5) can be installed to the frame surface.
- Can be fixed using double-faced tapes.
- For work board installation, refer to page 129



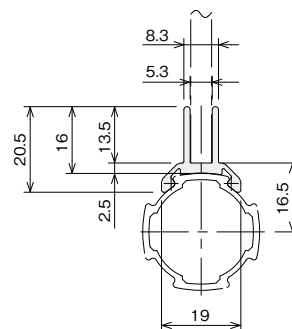
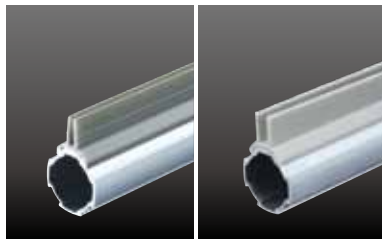
Name	Board Holder F (Cut Type) L=100–4,000 mm
Item number	GFF-A01

## Board holder installation

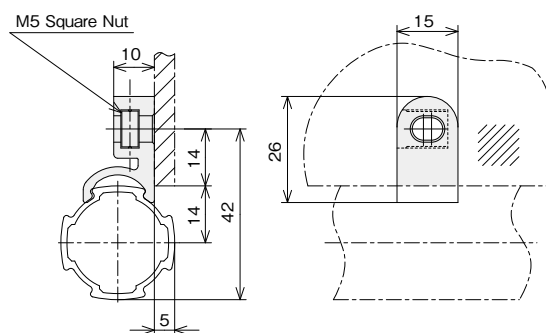


\* For T Nut information, refer to page 106 For Frame Guard information, refer to page 82 For screw information, refer to page 106 For board information, refer to page 108  
\* For installation, refer to page 123

## Panel Hold (for t=3/t=5)



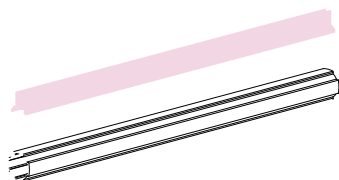
## Plate Connector



## Panel Side Hold Outer t3 / Panel Side Hold Base



## Panel installation



\* Screws are required  
for panel installation

\* For panel information, refer to page 108 \* For panel sizes, refer to page 123







Single Saddle / Double Saddle



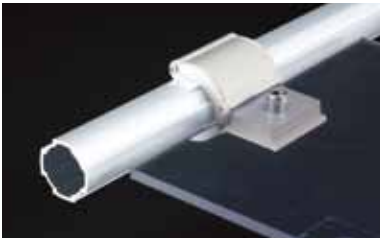
Single Saddle

Double Saddle

GF Slider F-F



GF Slider P-F



Installation

Single Saddle

Double Saddle

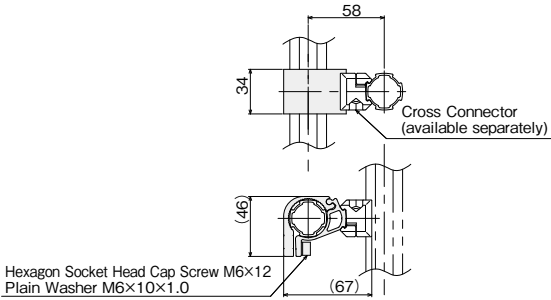
GF Slider F-F

GF Slider P-F





Tool Bracket



Impact Holder Kit H-Type



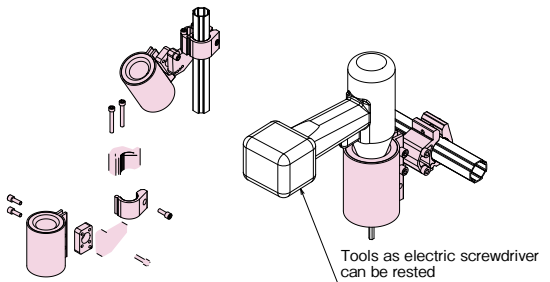
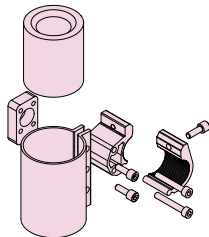
Impact Holder Kit V-Type



Urethane Holder / Urethane Rubber



Installation

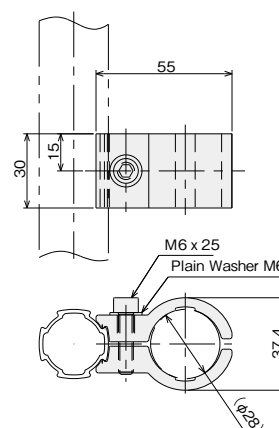


## Pipe Holder



### Material/Technical data

**Material:** Aluminum extrusion  
**Environment:** RoHS compliant  
**Weight:** 68 g



Name	Pipe Holder
Item number	<b>GFA-001</b>

## Parallel Holder

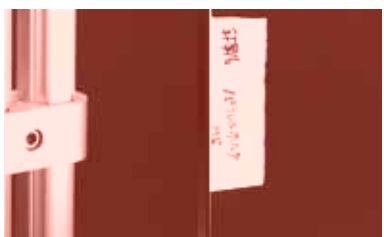


### Material/Technical data

**Material:** Aluminum extrusion  
**Environment:** RoHS compliant  
**Weight:** 64 g

Name	Parallel Holder
Item number	<b>GFJ-A47</b>

## Parallel Holder HS



### Material/Technical data

**Material:** Aluminum extrusion  
**Environment:** RoHS compliant  
**Weight:** 144 g

Name	Parallel Holder HS
Item number	<b>GFJ-A49</b>

## Installation

## Name Plate Kit



### Material/Technical data

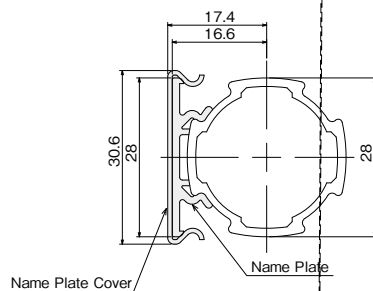
#### Name Plate

**Material:** Polypropylene (gray)  
**Environment:** RoHS compliant  
**Weight:** 17 g(300 mm)·87 g(1550 mm)

#### Name Plate Cover

**Material:** ABS transparent  
**Environment:** RoHS compliant  
**Weight:** 12 g(300 mm)·59 g(1550 mm)

Name	Name Plate Kit L=300	Name Plate L=1,550	Name Plate Cover L=1,550
Item number	<b>GFK-J00</b>	<b>GFA-806</b>	<b>GFA-807</b>



## Aluminum Name Plate

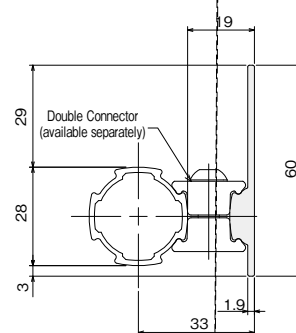


### Material/Technical data

**Material:** Aluminum extrusion  
**Environment:** RoHS compliant  
**Weight:** 101 g

- Use a double connector for installation to a frame.
- \* Corners are processed with R3-rounding
- \* Double Connectors must be purchased separately

Name	Aluminum Name Plate (L=205)
Item number	<b>GFA-A12</b>



## Hang Hook Connector



### Material/Technical data

**Material:** Aluminum extrusion  
**Environment:** RoHS compliant  
**Weight:** 23 g

- Used for hook on and fix frames

\* Mounting direction is only as illustrated at right hand

Name	Hang Hook Connector
Item number	<b>GFJ-A30</b>

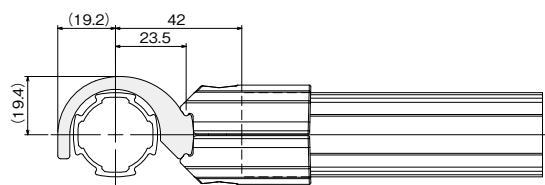
## Hook Connector R



### Material/Technical data

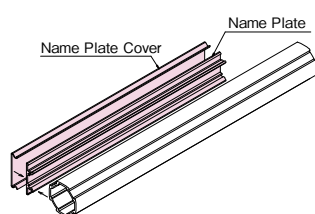
**Material:** Aluminum extrusion  
**Environment:** RoHS compliant  
**Weight:** 23 g

- Use to hook frames.

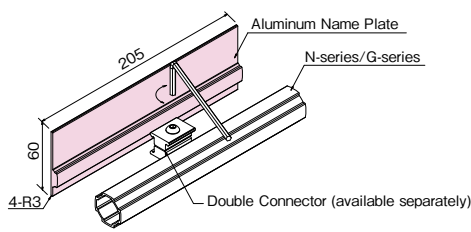


Name	Hook Connector R
Item number	<b>GFJ-A32</b>

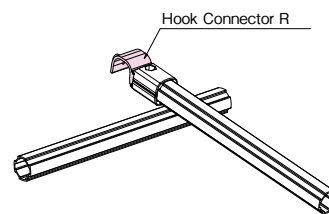
## Installation



Name Plate/Name Plate Cover



Aluminum Name Plate

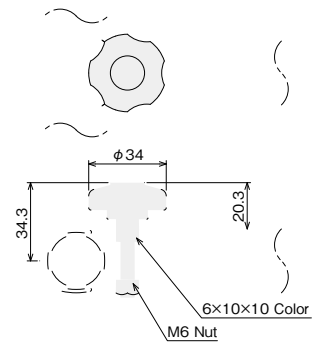


• Connector that hooks and fixes frames.

Hook Connector R

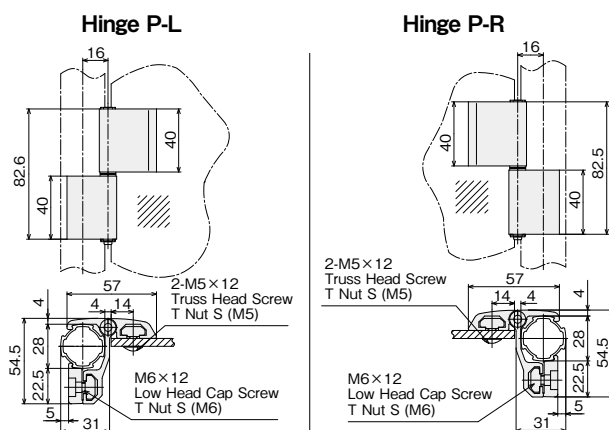
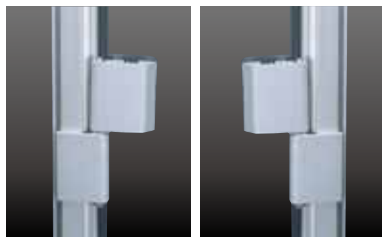


# Connector Knob Bolt

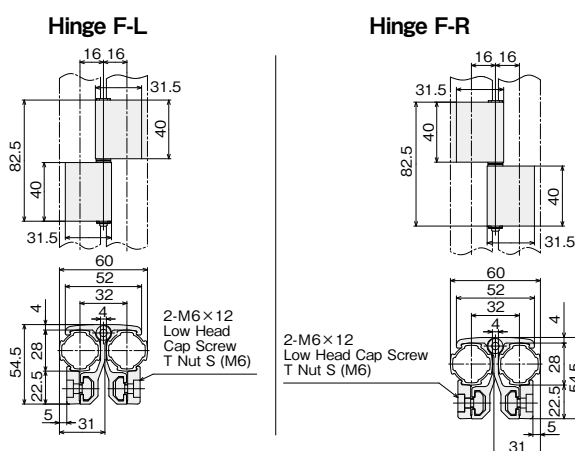


Connector Knob Bolt

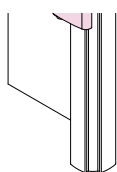
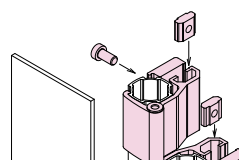
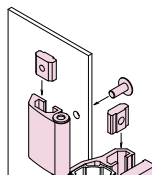
### Hinge P-L/Hinge P-R



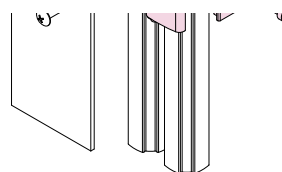
### Hinge F-L/Hinge F-R



### Door installation

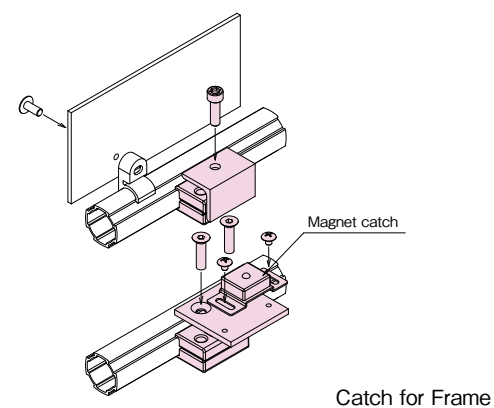
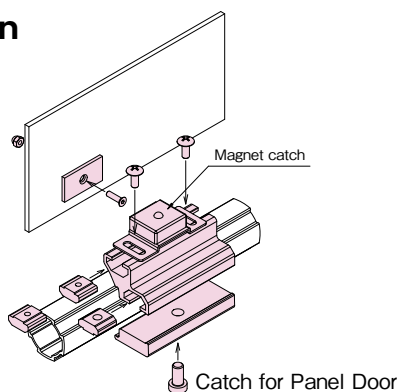


Hinge P-L  
Hinge P-R



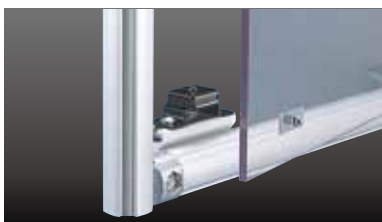
Hinge F-L  
Hinge F-R

### Catch installation





### Catch for Panel Door



### Catch for Panel Door with Switch



### Catch for Frame



### Catch for Frame with Switch



UNIT PRODUCTS



GF FRAMES & PARTS



N SERIES  
External diameter  
28

Frame Bumper



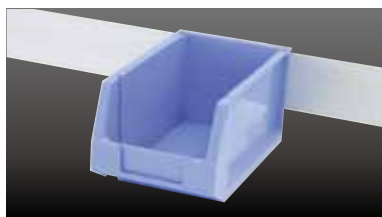
G SERIES  
External diameter  
43

S SERIES  
External diameter  
19

Frame Guard

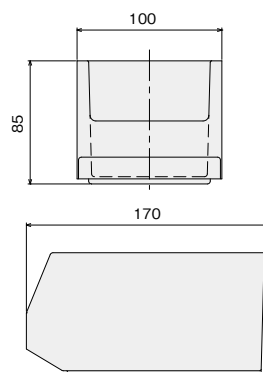


## Parts Container



■ Material/Technical data  
Material: Polypropylene (blue)  
Weight: 100 g

Name	Parts Container
Item number	<b>GFA-A07</b>

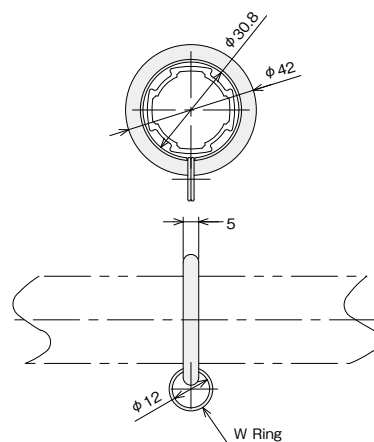


## Ring Runner

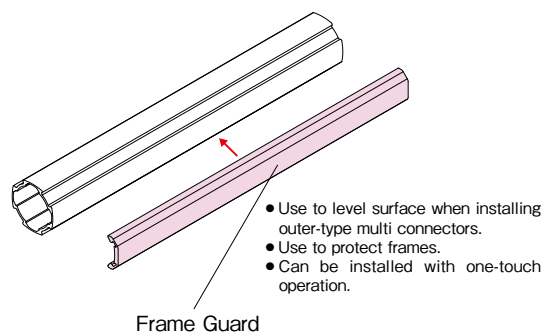
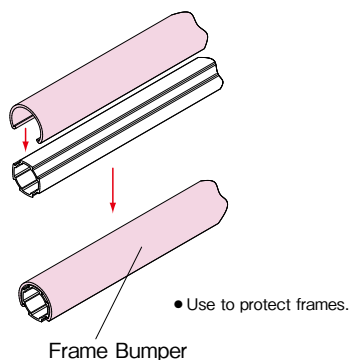


■ Material/Technical data  
Material: Steel (nickel-plated), polyacetal resin  
Environment: RoHS compliant  
Weight: 17 g

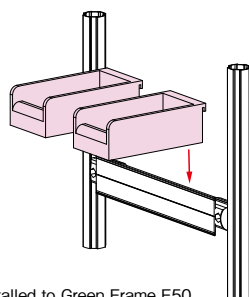
Name	Ring Runner
Item number	<b>GFA-A06</b>



## Installation

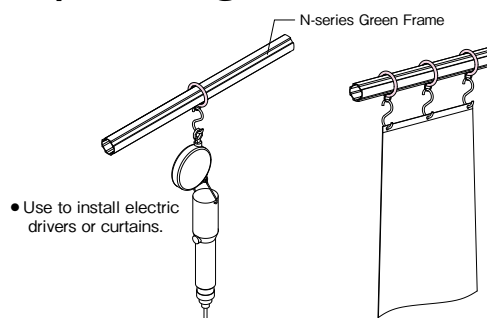


## Parts container installation



\* Can be installed to Green Frame F50

## Example of Ring Runner use



## Board Level Kit



### How to use



Use to loosen the three hand

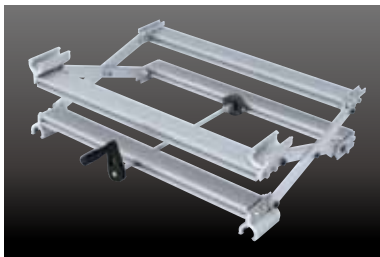
### Design standard

#### Note:

- Values with \* are sizes of unit products using N-series frames (28 mm). For A, use outer-type multi d
- Table height can be adjusted in three levels within 20 (minimum pitch is 40 mm).
- Up to six adjustment levels are available when Hook items are used.
- For assistance, please contact.



## Board Lifter Kit



Example of use



### How to use

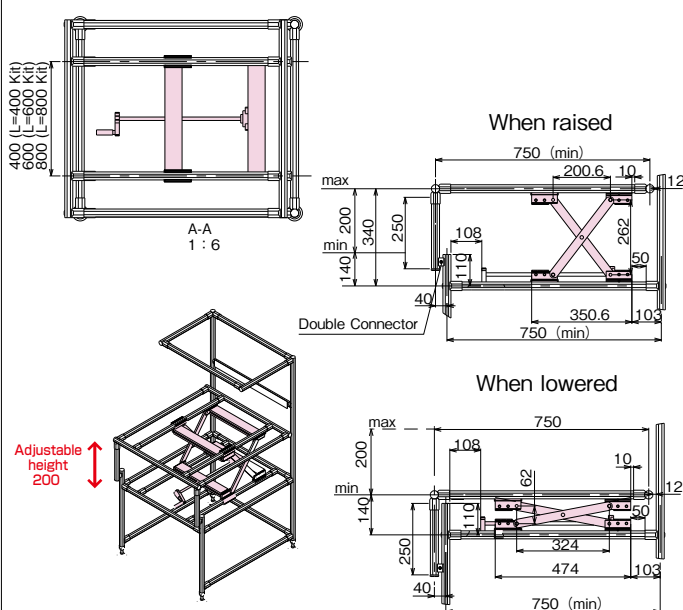


Just rotate the handle to rise or lower.

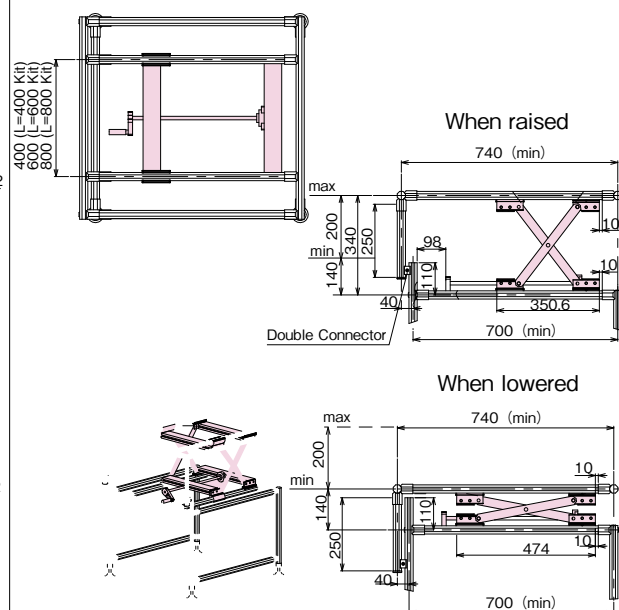


### Design standard (example)

Work Board A



Work Board B



Cable Duct



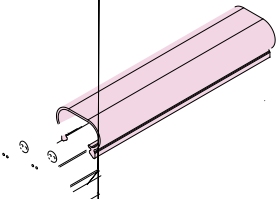
Cable Lock



Installation

- Use to store cables.
- Can be installed to a frame with one-touch operation.

- Use to fix cables.
- Can be installed to a frame with one-touch operation.
- Cable band is not included.



Cable Duct

Cable Lock



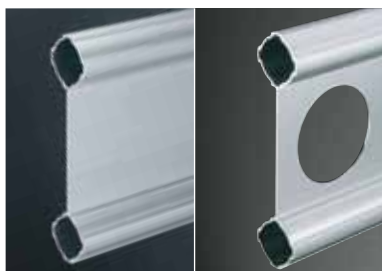
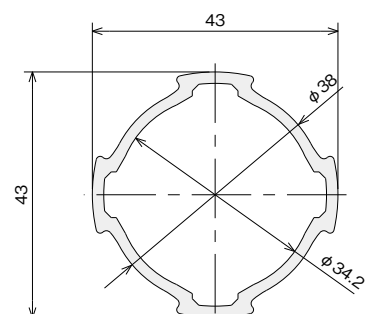


G SERIES 43  
External diameter

# G SERIES 43

GF FRAMES & PARTS External diameter

Note that some items may not be available,  
or specification may vary in some countries.  
Please contact your sales representative.



Unit products  
P.16-



N-series  
P.50-



G-series  
P.88-



S-series  
P.102-

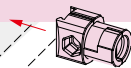
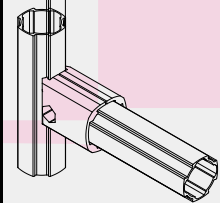
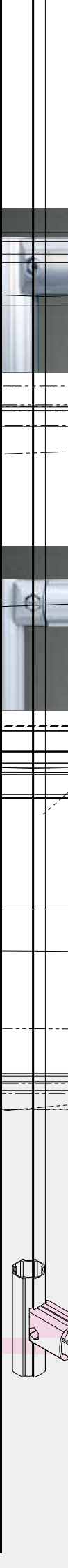


Panel  
P.108-



Assembling method  
P.122-





## Cross Connector

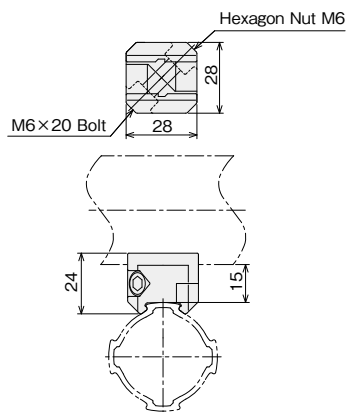


### Material/Technical data

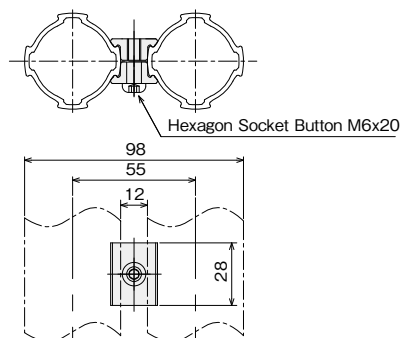
**Material:** Aluminum die-cast  
**Environment:** RoHS compliant  
**Weight:** 38 g

- Use to cross frames.

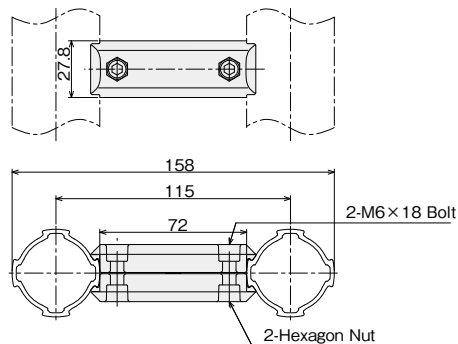
Cross Connector



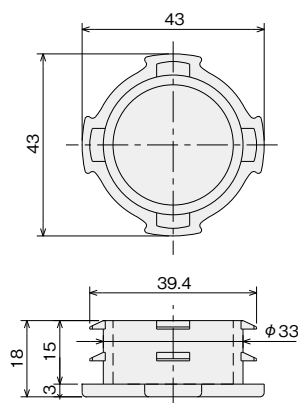
## Double Connector



## Bridge Connector



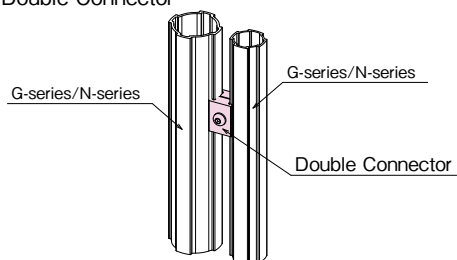
## Inner Cap G





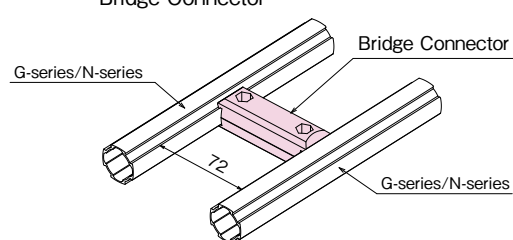
## Installation and compatible frames

Double Connector



- Use to align and join frames.

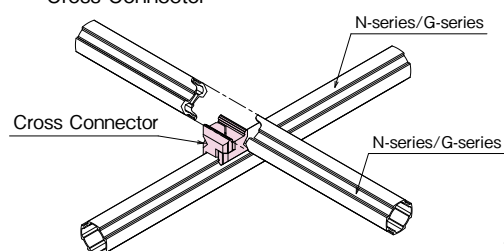
Bridge Connector



- Use to secure frame fixations.

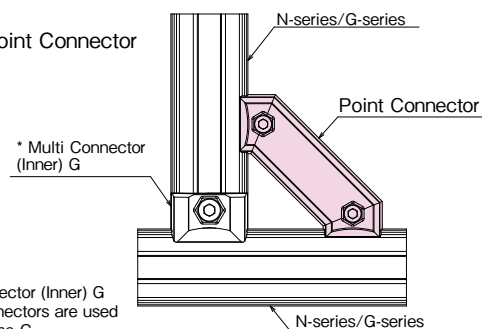
## Installation

Cross Connector



- Use to cross frames.

Point Connector



- \* Use Multi Connector (Inner) G when point connectors are used with Green Frame G.



**Point Connector**  
(For details, refer to page 55)

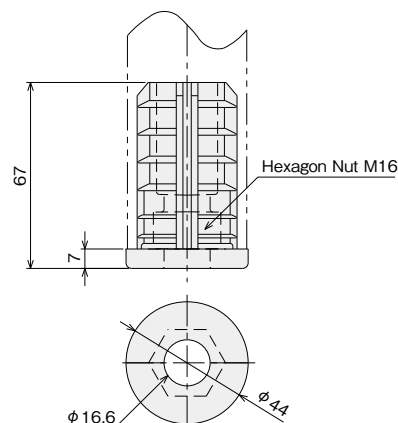
## Foot Connector M16G



\* Adjusters are available separately

### Material/Technical data

**Material:** Polyamide  
**Environment:** RoHS compliant  
**Weight:** 67 g



Name	Foot Connector M16 G
Item number	<b>GFN-E05</b>

## Adjuster B M16

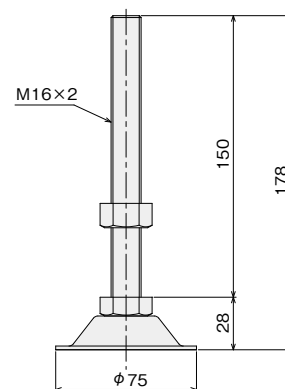


### Material/Technical data

**Material:** SPCC (Stainless)  
**Environment:** 375 g (375 g)  
**Load capacity:** 560 kg (560 kg)  
**Environment:** RoHS compliant  
 Stainless specifications are indicated in parenthesis

### Compatible foot connectors

Foot Connector M16G



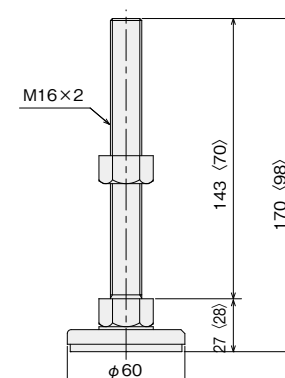
Name	Adjuster B M16	Adjuster B M16 (Stainless)
Item number	<b>SFK-589</b>	<b>SFK-589S</b>

## Adjuster M16/Adjuster M16S



### Material/Technical data

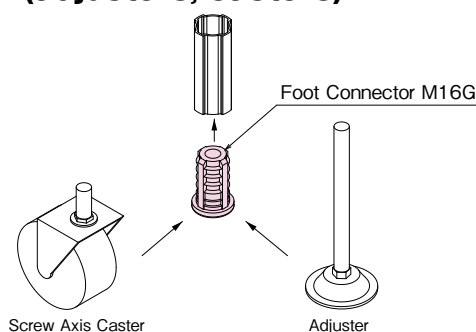
**Material:** SS400 black Zn  
 Base: Neoprene (polychloroprene)  
**Weight:** 386 g (240 g)  
**Load capacity:** 500 kg  
 Adjuster M16S specifications are indicated in parenthesis

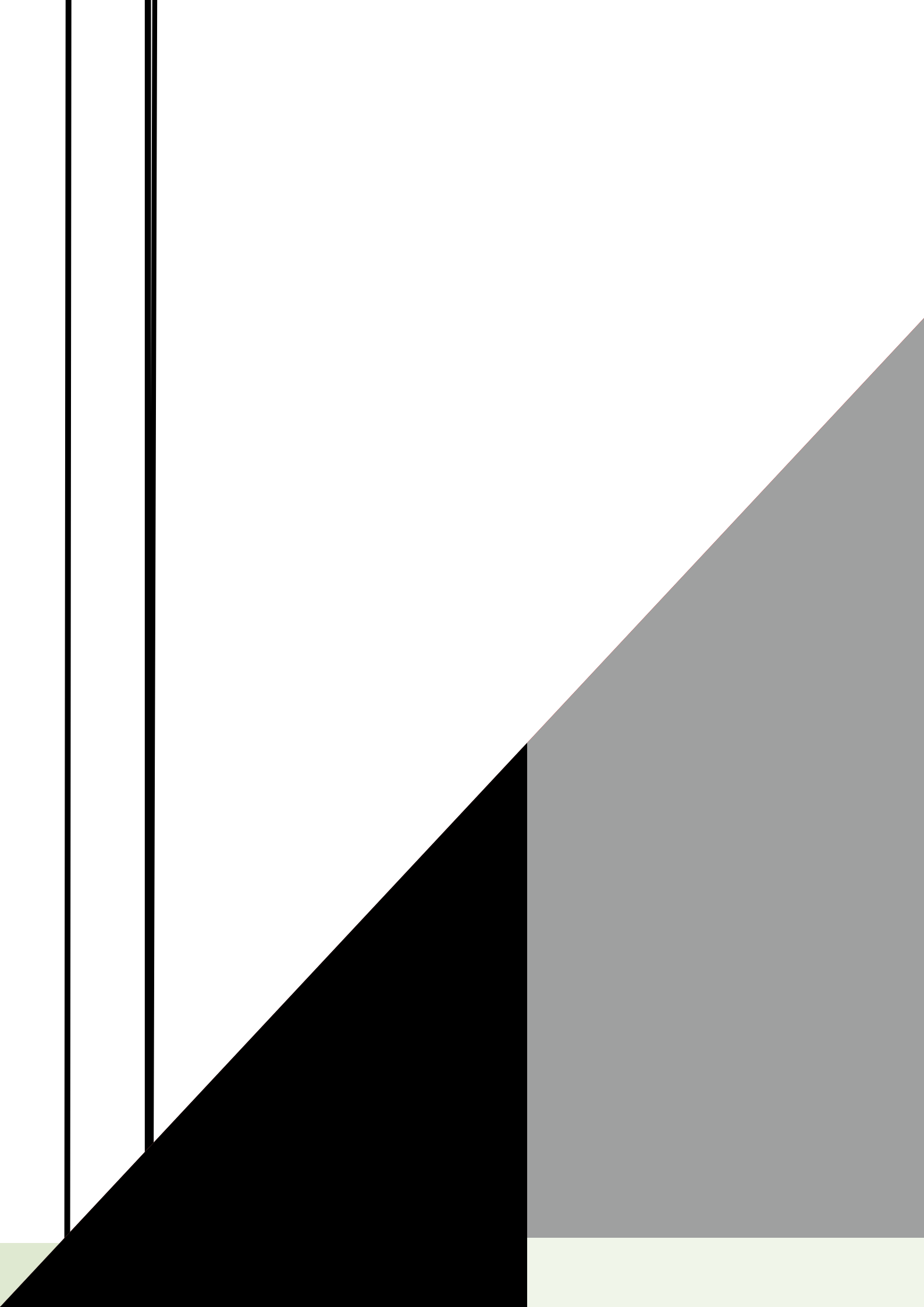


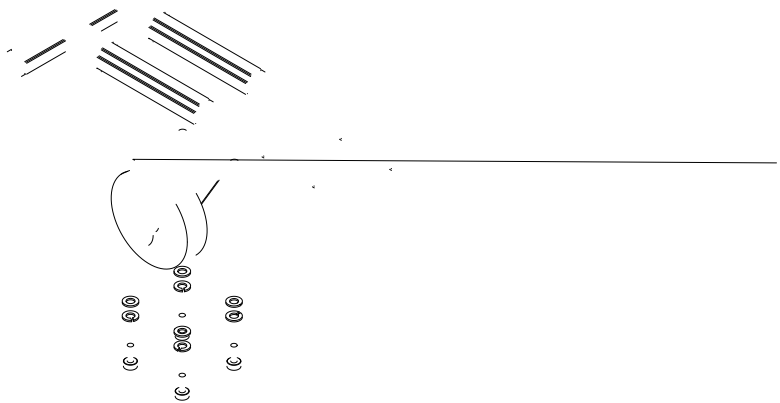
Name	Adjuster M16	Adjuster M16S
Item number	<b>SFK-596</b>	<b>SFK-596S</b>

\* Adjuster M16S dimensions are indicated in < >

## Foot connector installation (adjusters, casters)







Unit products  
P.16-



28 mm

N-series  
P.50-



43 mm

G-series  
P.88-



19 mm

S-series  
P.102-



Panel  
P.108-



Assembling method  
P.122-

## Caspad $\phi 75$ —M16



### Material/Technical data

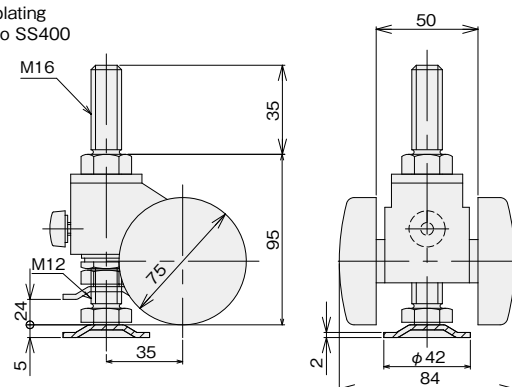
**Material:** Caster: Nylon (black)  
Adjuster Bolt: Unichromate plating  
equivalent to SS400

**Environment:** RoHS compliant

**Weight:** 392 g

### Compatible parts

Foot Connector M16G



Name	Caspad $\phi 75$ —M16
Item number	<b>SFA-704</b>

## Hammer Lock 100



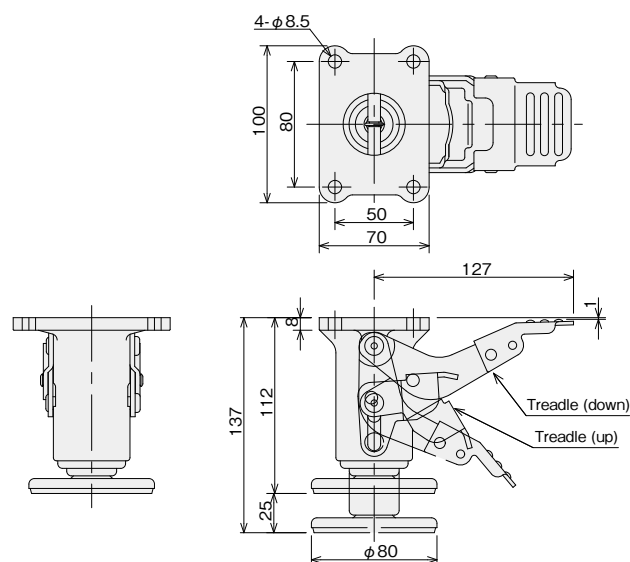
### Material/Technical data

**Material:** Resin, steel

**Weight:** 770 g

**Maximum load:** 200

\* For direct installation to Green Frame L Slots,  
refer to the following page



Name	Hammer Lock 100
Item number	<b>GFN-F00</b>

## Hammer Lock 150



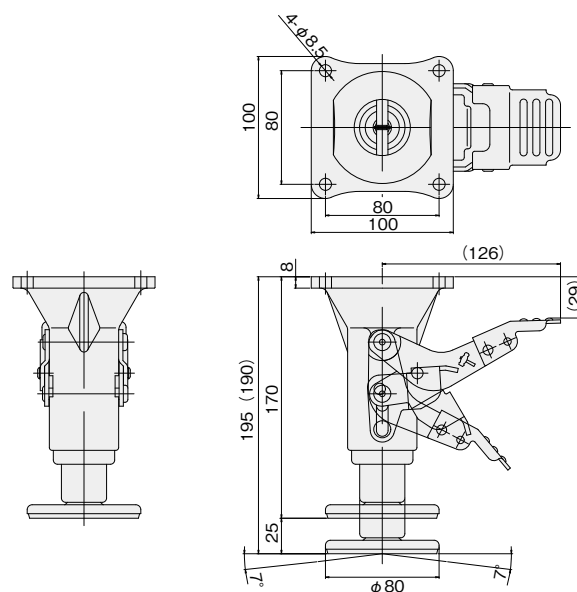
### Material/Technical data

**Material:** Resin, steel

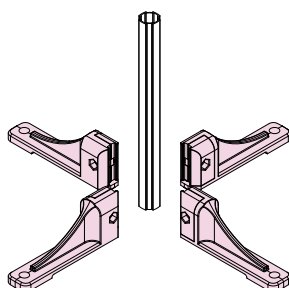
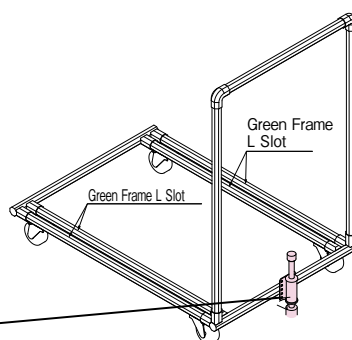
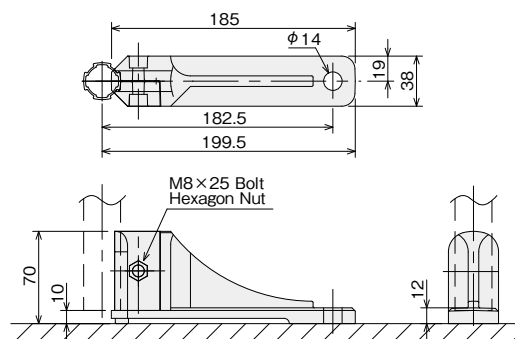
**Weight:** 850 g

**Maximum load:** 300 g

\* For direct installation to Green Frame L Slots,  
refer to the following page



Name	Hammer Lock 150
Item number	<b>GFN-F01</b>



Unit products  
P.16-



28 mm  
N-series  
P.50-



43 mm  
G-series  
P.88-



19 mm  
S-series  
P.102-

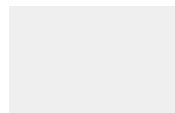
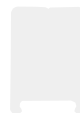
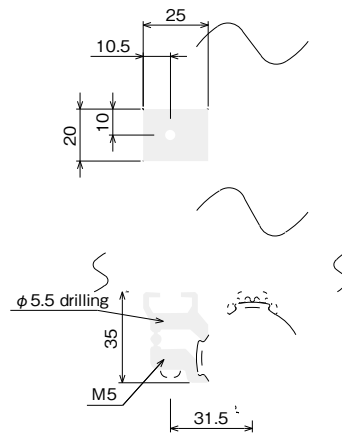
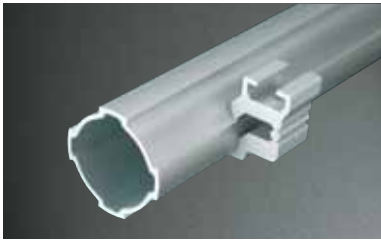


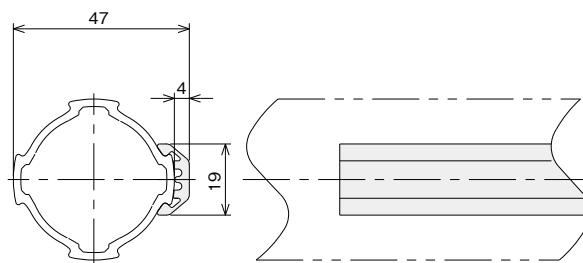
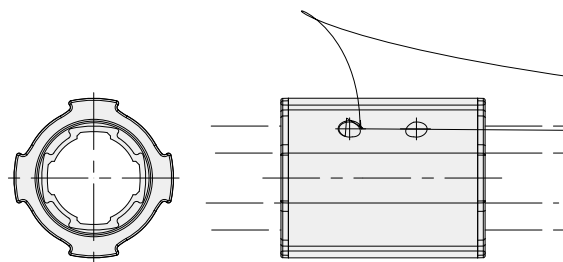
Panel  
P.108-



Assembling method  
P.122-







• Specification is 2 m. It can be cut with a nipper or cutter.



Unit products  
P.16-



28 mm  
N-series  
P.50-



43 mm  
G-series  
P.88-



19 mm  
S-series  
P.102-



Panel  
P.108-



Assembling method  
P.122-





# SERIES 19

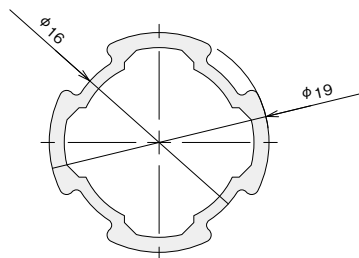
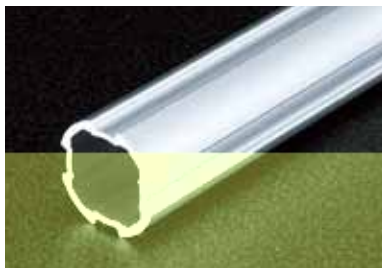
GF FRAMES & PARTS External diameter

Note that some items may not be available, or specification may vary in some countries. Please contact your sales representative.

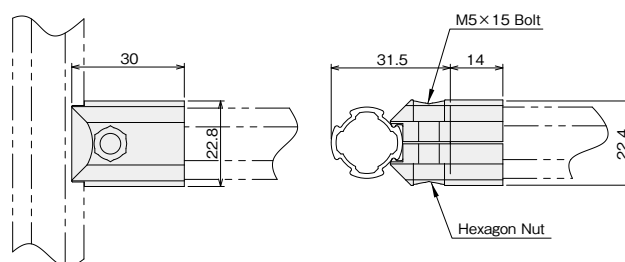


SERIES 19  
External diameter

## Green Frame S



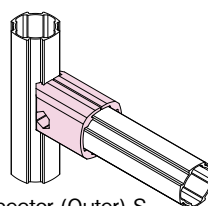
## Multi Connector (Outer) S



## Connector installation

\* For frame length, refer to page 126

- Simple-to-use connector that only requires tightening a single bolt with wrench.



Multi Connector (Outer) S



Unit products  
P.16-



28 mm  
N-series  
P.50-



43 mm  
G-series  
P.88-



19 mm  
S-series  
P.102-

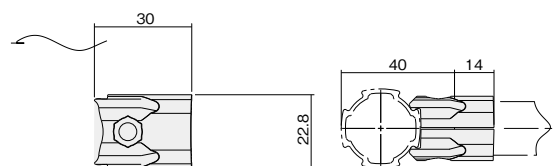


Panel  
P.108-



Assembling method  
P.122-

## GFS-GF Connector



## Inner Cap S



## Foot connector/Foot M6 installation

\* For frame length, refer to page 126





# Common Accessories

Note that some items may not be available,  
or specification may vary in some countries.  
Please contact your sales representative.

## T Nut S (with Anti-Skid Cap)



### Material/Technical data

**Material:** Stainless (T Nut S)  
with conductivity  
Polyamide  
(anti-skid cap)

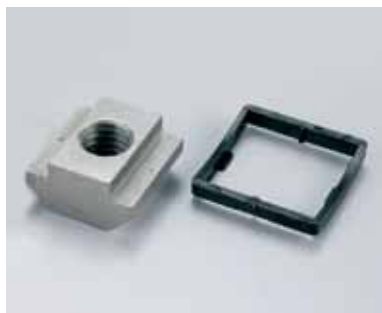
**Environment:** RoHS compliant

**Weight:** 8 g

Name	T Nut S M6	T Nut S M5	T Nut S M4	T Nut S M3
Item number	SFK-T07S	SFK-T06S	SFK-T05S	SFK-T04S

\* The T Nut S, with anti-skid cap, is for use with parts holders.

## T Nut L (with Anti-Skid Cap)



### Material/Technical data

**Material:** Stainless (T Nut L)  
with conductivity  
Polyamide  
(anti-skid cap)

**Environment:** RoHS compliant

**Weight:** 14 g

Name	T Nut L M8	T Nut L M6	T Nut L M5	T Nut L M4
Item number	SFK-T11S	SFK-T10S	SFK-T09S	SFK-T08S

\* The T Nut L, with an anti-skid cap, is for use with L-slot frames

## Wood Screw

Name	M4.1×32	M4.1×22
Item number	SFB-9C5	SFB-9C4

## Screw/Bolt

### Hexagon Socket Head Cap Screw

\* 3 Colors may vary somewhat with trivalent chrome due to the substance's nature. This is not a product defect.

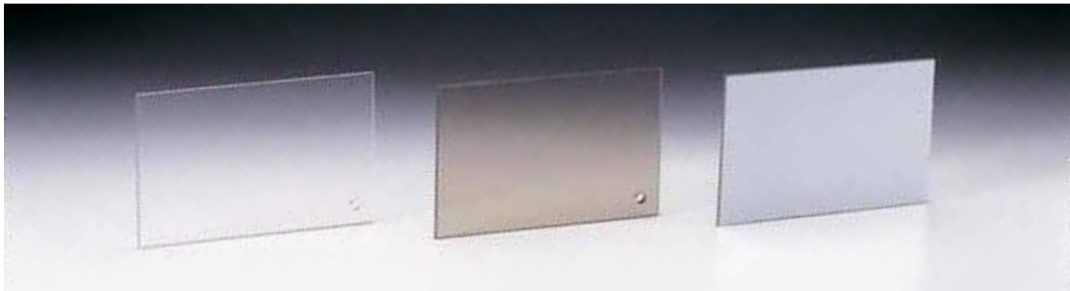
Unichrome plating	Length (mm)																
Size	6	8	10	12	14	15	16	18	20	22	25	30	35	40	45	60	80
M3	SFB-531	SFB-532	SFB-533	SFB-534	—	—	—	SFB-535	—	—	—	SFB-536	SFB-531A	—	—	—	—
M4	SFB-540	SFB-541	SFB-542	—	—	—	—	SFB-546	SFB-543	SFB-54D	SFB-544	—	—	—	SFB-545	—	—
M5	SFB-55E	SFB-550	SFB-551	SFB-55C	SFB-55A	SFB-554	—	SFB-55B	SFB-555	SFB-552	SFB-553	SFB-556	—	—	—	—	—
M6	—	SFB-56E	SFB-561	SFB-560	SFB-56B	SFB-562	SFB-569	SFB-56C	SFB-563	SFB-56A	SFB-566	SFB-564	—	SFB-565	—	SFB-56G	—
M8	—	—	—	SFB-580	—	SFB-581	—	SFB-589	SFB-582	—	SFB-583	SFB-584	—	SFB-588	SFB-58A	SFB-58B	SFB-58C
M10	—	—	—	—	—	—	—	—	SFB-929	—	—	—	—	—	—	—	—
M12	—	—	—	—	—	—	—	—	—	—	SFB-521	—	—	—	—	—	—

Stainless	Length (mm)																
Size	6	8	10	12	14	15	16	18	20	22	25	30	35	40	45	60	80
M3	SFB-531S	SFB-532S	SFB-533S	SFB-534S	—	—	—	SFB-535S	—	—	—	—	—	—	—	—	—
M4	SFB-540S	SFB-541S	SFB-542S	—	—	—	—	SFB-546S	SFB-543S	SFB-54DS	SFB-544S	—	—	—	SFB-545S	—	—
M5	SFB-55ES	SFB-550S	SFB-551S	SFB-55CS	SFB-55AS	SFB-554S	—	SFB-55BS	SFB-555S	SFB-552S	SFB-553S	SFB-556S	—	—	—	—	—
M6	—	SFB-56ES	SFB-561S	SFB-560S	SFB-56BS	SFB-562S	SFB-569S	SFB-56CS	SFB-563S	SFB-56AS	SFB-566S	SFB-564S	SFB-56PS	SFB-565S	—	SFB-56GS	—
M8	—	—	—	SFB-580S	—	SFB-581S	—	SFB-589S	SFB-582S	SFB-58DS	SFB-583S	SFB-584S	—	SFB-588S	SFB-58AS	SFB-58BS	SFB-58CS
M10	—	—	—	—	—	—	—	—	SFB-929S	—	—	—	—	—	—	—	—
M12	—	—	—	—	—	—	—	—	—	—	SFB-521S	—	—	—	—	—	—





Resin Panel

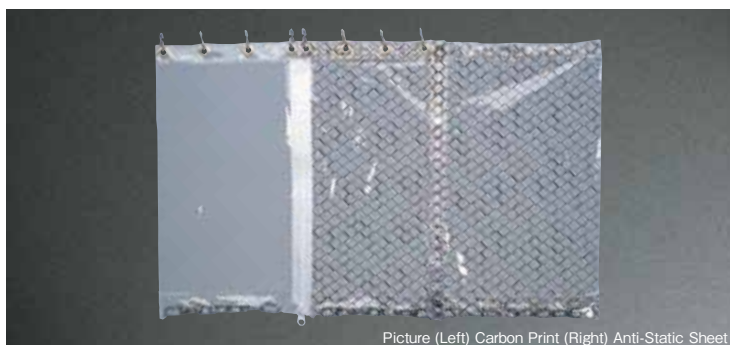


Products/Options

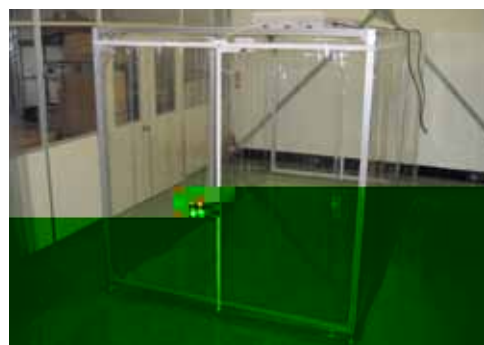
Name	Standard color	Panel thickness (mm)	Density	Atmospheric temperature	Maximum size
Polyvinyl Chloride (PVC)	Transparent	3 or 5	1.40	Up to 60 °C	1000×2000
Polyethylene Terephthalate (PET)	Transparent	3 or 5	1.27	Up to 70 °C	1000×2000
Acryl (PMMA)	Transparent	3 or 5	1.19	Up to 80 °C	1000×2000
Polycarbonate (PC)	Transparent	3 or 5	1.20	Up to 130 °C	1000×2000

\* If you require antistatic processing for panels, notify when requesting for quotation.





Picture (Left) Carbon Print (Right) Anti-Static Sheet



## Handling Items and Rough Indication for Selection

Name	Thickness (mm)	Standard Color	Surface Specific Resistivity <sup>※1</sup>	Gravity (g/cm <sup>3</sup> )	Flame Proofing Grade <sup>※2</sup>	Maximum Size(mm)
Anti-Static Sheet	0.3	Transparent	$10^{10}\Omega$	1.35	Flameproof 2nd Grade	5400×3100
Anti-Static Sheet	0.5					
Anti-Static Sheet (Carbon Print)	0.3	Transparent (Carbon Print) <sup>※</sup>	$10^6\Omega$	1.35	Flameproof 2nd Grade	5400×3100
Anti-Static Sheet (Carbon Print)	0.5					
Partition Sheet	0.3	Transparent	$10^{12}\Omega$	1.35	—	5400×3100
Partition Sheet	0.5					

○SUS meets the thickness other than those above, too. Please contact us.

※ Carbon Print is treated on one side. When you use, printed surface becomes outside. Please earth the carbon print.

# Panel Conductive Board

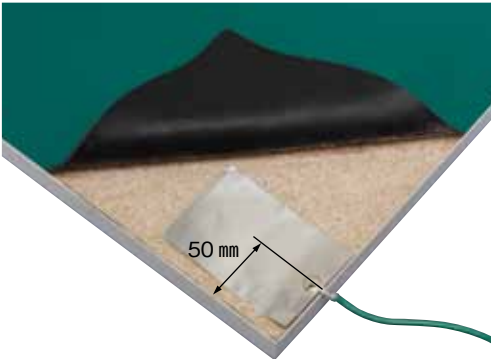
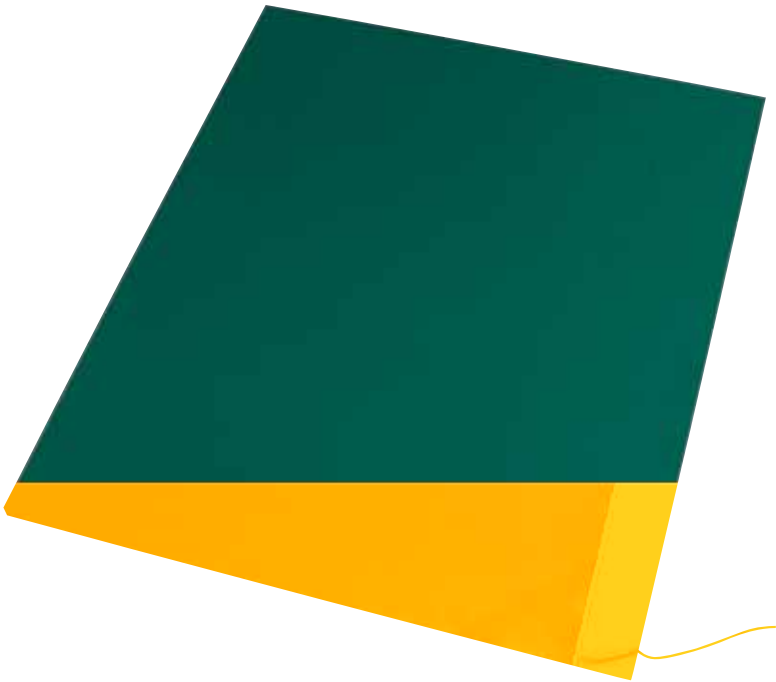
UNIT PRODUCTS

GF FRAMES & PARTS

N SERIES  
28 mm  
External diameter

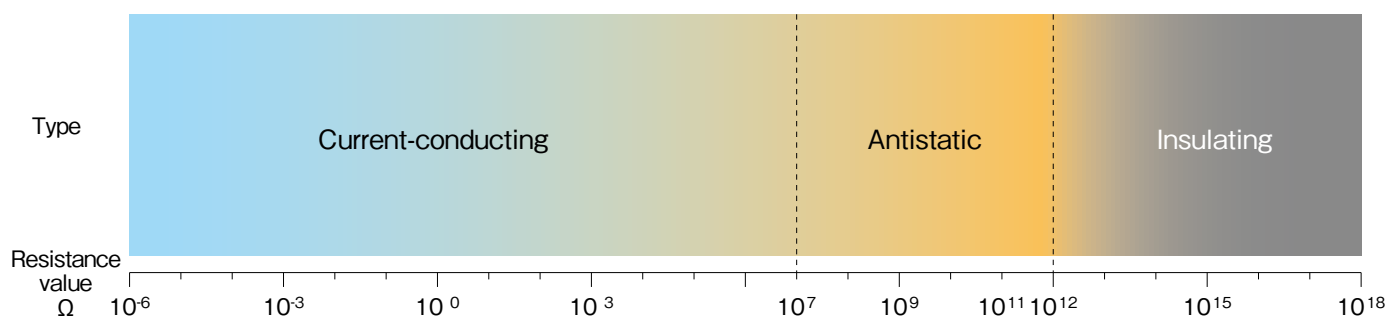
G SERIES  
43 mm  
External diameter

S SERIES  
19 mm  
External diameter



## Green Frames are antistatic

The alumite treatment applied to all Green Frames provides antistatic resistance values (when insulating parts are not used).



### GF Series

Standard specification

\* If you require current-conducting resistance values, refer to items on page 110.







# Sample Application

Note that some items may not be available,  
or specification may vary in some countries.  
Please contact your sales representative.

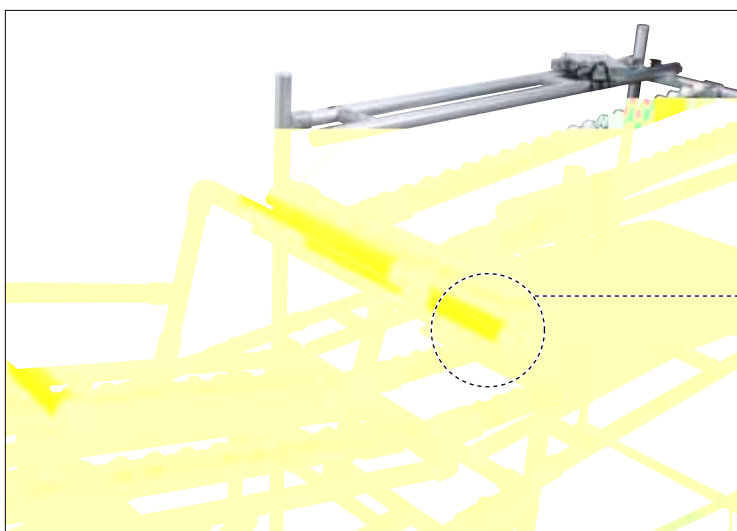
## Loop Chuter (Karakuri mechanism)

Takes containers from above into working areas, and then delivers them down to lower chuters after use.



### Receiving

Receives containers arriving from above.



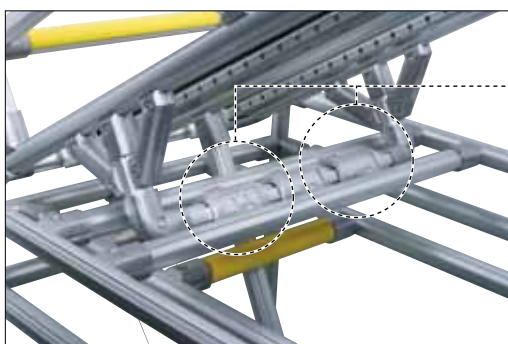
### Returning

Delivers containers to lower chuters after use.

### Connector Piece



Refer to page 73



### Hinge Connector and Hinge Connector Stopper

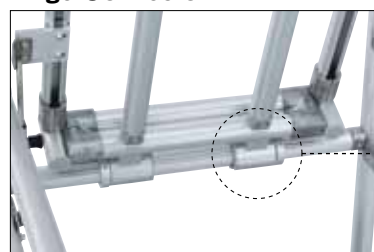
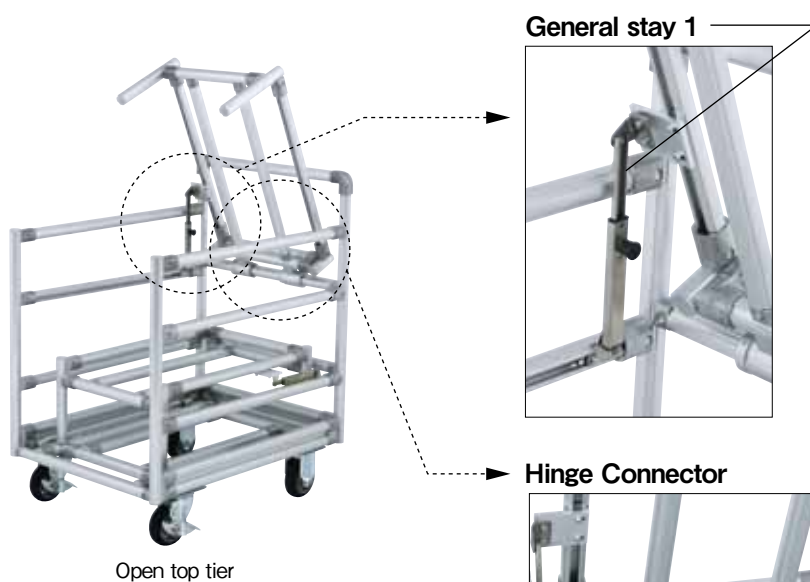


Refer to page 75



### 3-Tier Flip-Up Trolley

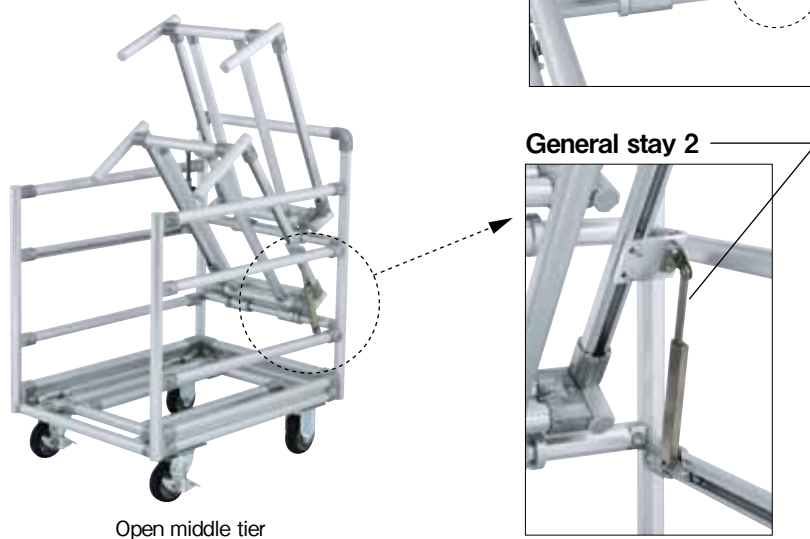
Example of a 3-tier flip-up trolley combined with stays available in the market.



Hinge Connector and Hinge Connector Stopper



Refer to page 75



## ccessory parts

28

G SERIES

43

S SERIES

19

External diameter

External diameter

External diameter

## XA Desktop Robot

### 3 Axis

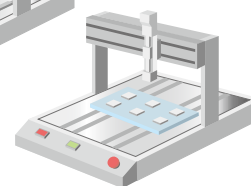
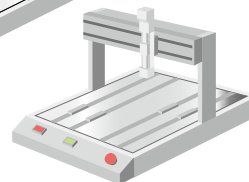
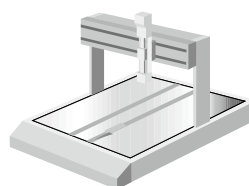


### 2 Axis



Speed	L (Low-speed)	H (High-speed)
Maximum speed (mm/sec)	50	200
Positioning repeatability (mm)	±0.02	±0.05
Homing repeatability	±0.02	
Resolution	0.005	0.02
Payload (kg) (Horizontal)	7.2	2.8
Payload (kg) (Vertical)	2.4	1.4
Motor	Pulse Motor in 1.8° step	
Encoder	Incremental Type	
Guide	Linear Guide	

### Desktop robotics custom order



#### Custom menu

- Special stroke
- Operation box custom order
- Table Twin Type and others

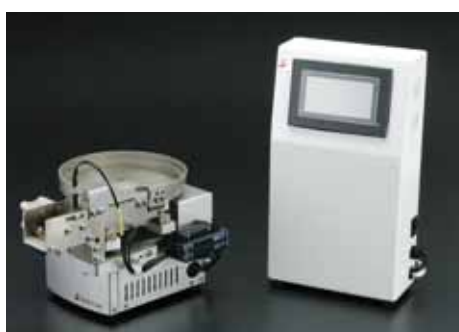
### Controller specification

Number of Position	Number of Programs	Deviation correction	Pushing function	Multi-task	Controlling method	Motor driver	Memory device	Communication device	Power supply voltage	Capacity
999	100	Yes	Yes	Yes	Semi-closed loop	2-Phase unipolar microstep	EEPROM	EIA RS232C compliant	DC24V ±5%	4.5A (3 axis) 3.0A (2 axis)

A wide range of screw types,  
from M1.6 to M6, is supported.

Customization is also possible for  
parts other than screws (\*)





# Technical Data

Note that some items may not be available,  
or specification may vary in some countries.  
Please contact your sales representative.



# Technical Data

## GF flexible volume

Supported beams on both sides

Supported beams on either side

**P**  
(N)

Load

**L**  
(mm)

Frame length

**E**  
(N/mm<sup>2</sup>)

Longitudinal elastic modulus (69972)

**I**  
(mm<sup>4</sup>)

Geometrical moment of inertia (1.15) Green Frame  
(5.07) Green Frame G  
(0.26) Green Frame S

**δ**  
(mm)

Flexible volume

$$\delta = \frac{PL^3}{48EI}$$

$$\delta = \frac{PL^3}{3EI}$$

Sample calculation

(Green frame)

**L=500 P=500N** (1 kgf=9.80665 N)

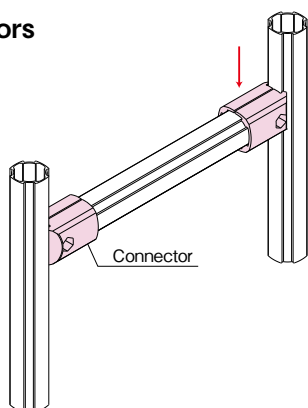
Supported beams on both sides

$$\delta = \frac{500 \times 500^3}{48 \times 69972 \times 1.15 \times 10^4} \approx 1.6 \text{ mm}$$

Type	Frame length (mm)	400	800	1200
Green Frame	Allowable load (N)	1453	726	484
Green Frame G	Allowable load (N)	4113	2056	1371
Green Frame S	Allowable load (N)	490	245	163

\* Centralized loading conditions with supported beams on both sides. (1 kgf=9.80665 N)  
Stress is calculated using the bearing capacity.

## Connectors

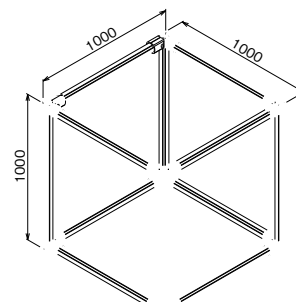
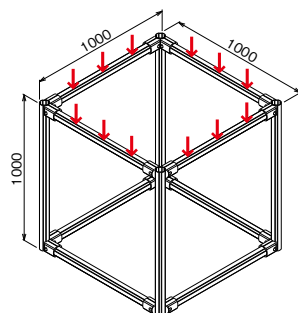


Allowable load (N)

Connector type	Green Frame	Green Frame G	Green Frame S
Outer Type	<b>800</b>	<b>2000</b>	<b>150</b>
Inner Type	<b>800</b>	<b>2000</b>	<b>100</b>

(1 kgf=9.80665 N) \* Connectors may be misaligned if load exceeds the above values

## Unit products

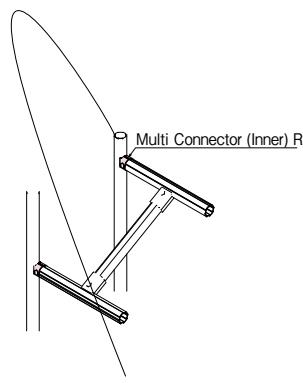
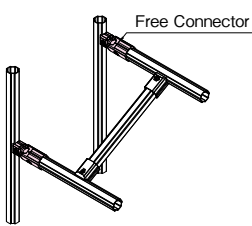
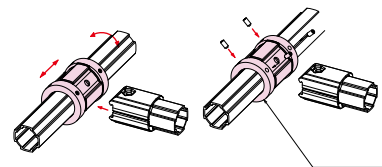
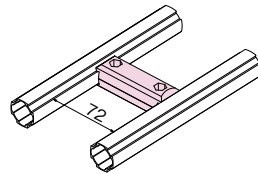
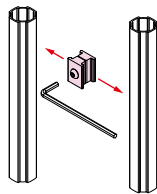
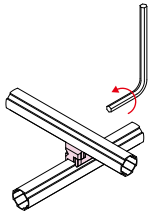
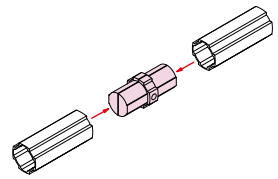
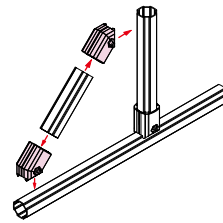
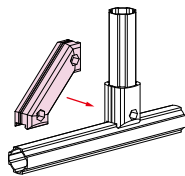
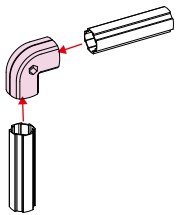
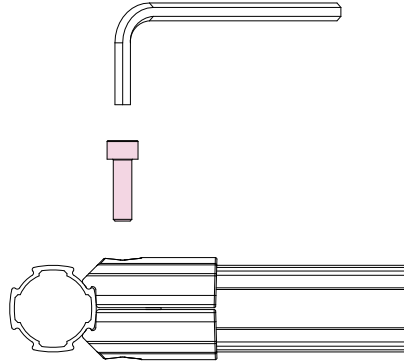
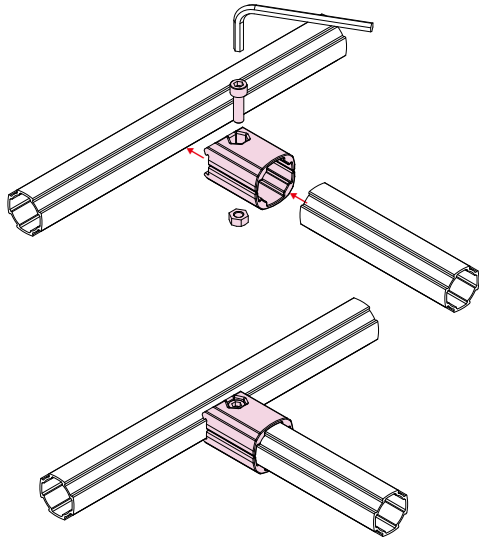


Uniformly-distributed load

Allowable load (N)

Green Frame	Green Frame G	Green Frame S
<b>1239</b>	<b>3509</b>	<b>418</b>

(1 kgf=9.80665 N)





## Panel Side Hold installation

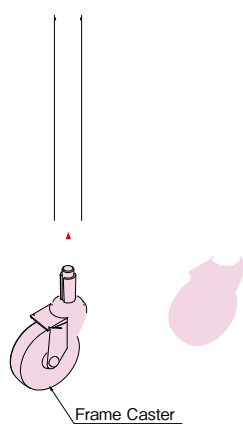
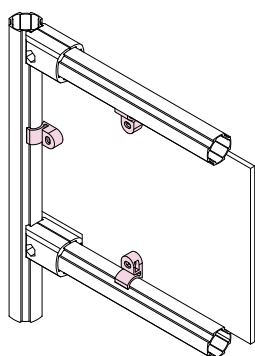
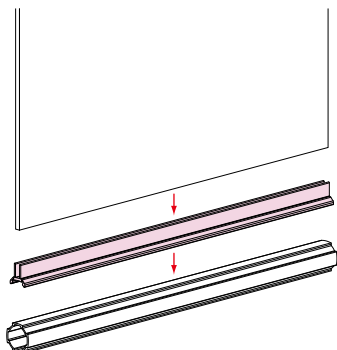
UNIT PRODUCTS

GF FRAMES & PARTS

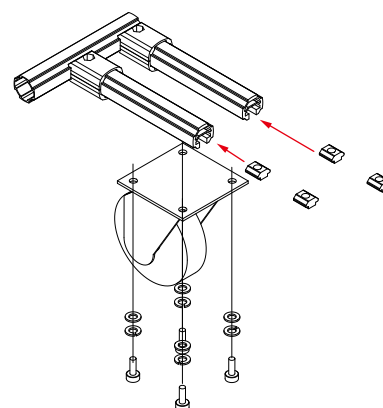
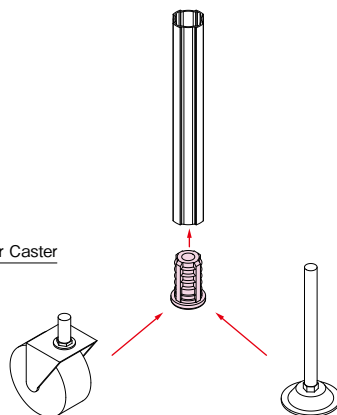
N SERIES  
External diameter 28

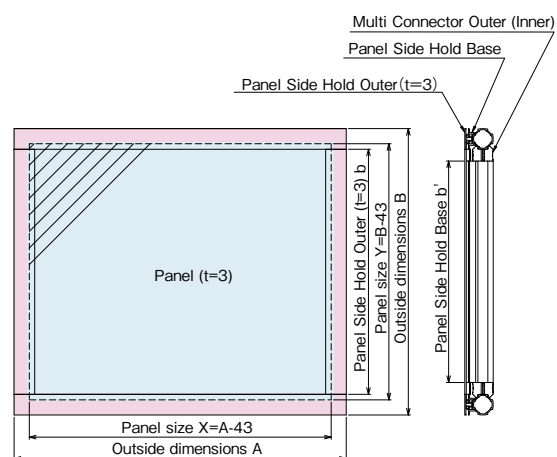
G SERIES  
External diameter 43

S SERIES  
External diameter 19



Spanner Slim Type For Caster





# Size Measurement

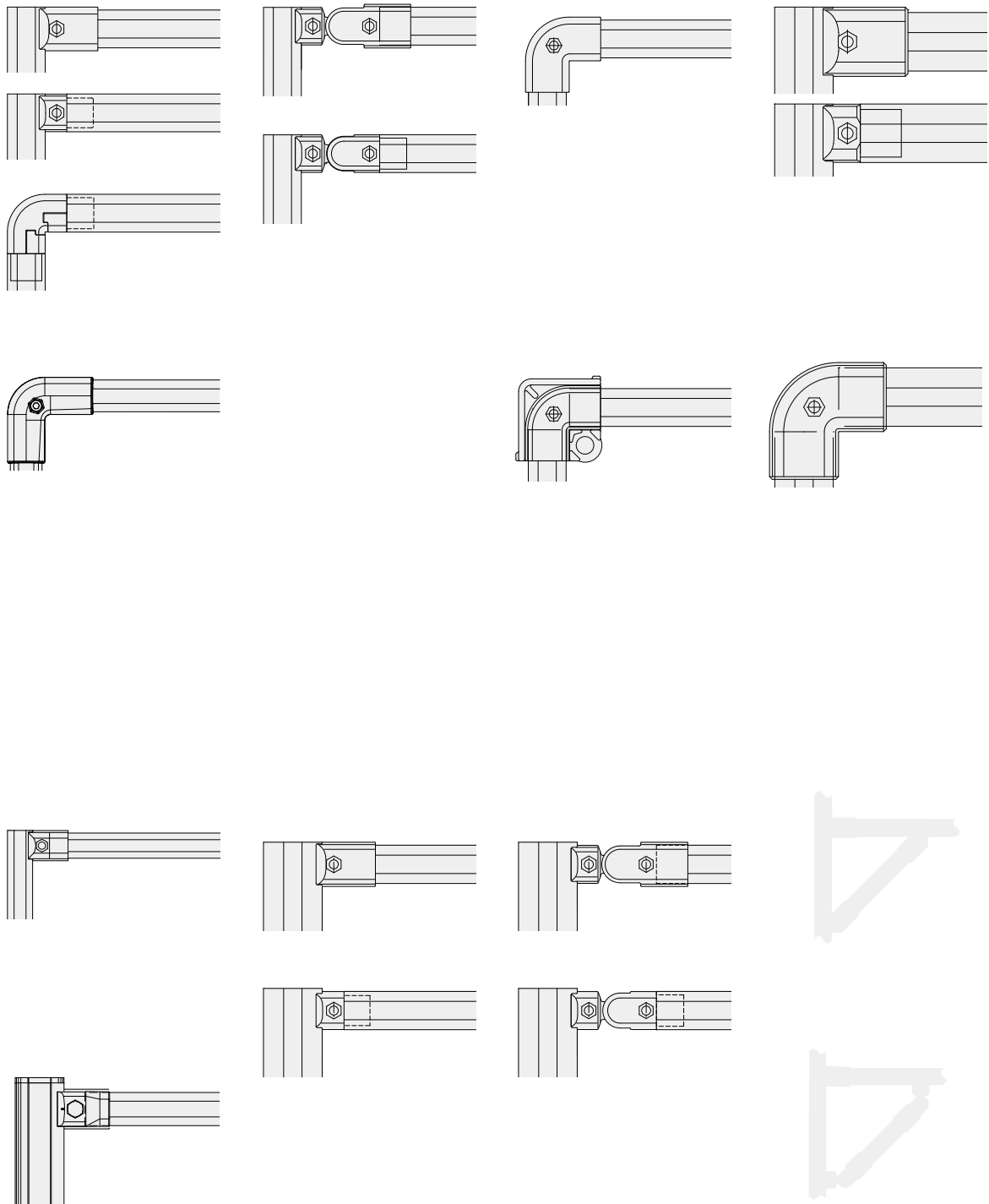
UNIT PRODUCTS

GF FRAMES & PARTS

N SERIES  
28  
External diameter

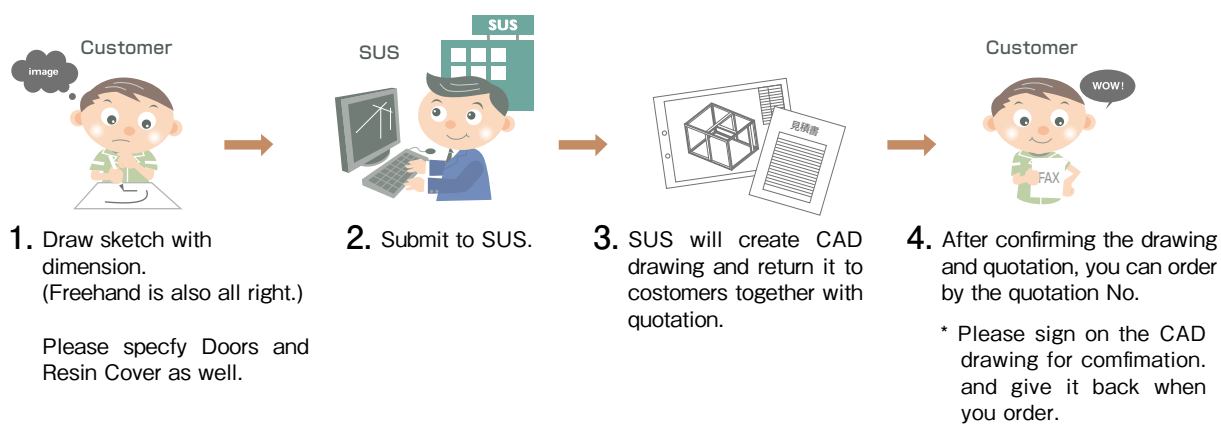
G SERIES  
43  
External diameter

S SERIES  
19  
External diameter



### ■ CAD Drawing service

Just send a draft sketch with dimensions to get a 3D-drawing with a list of necessary materials/parts.



### ■ Assembly service

Delivery of assembled products is also available.  
(Assembly/shipping costs will be charged separately)



\* If delivery of assembled products is required, please notify in the Order form.

## Introduction

We've lived on and benefited from the earth in so many ways.

However, environmental issues, such as global heating and pollution, caused by our economic activities are now so serious that the earth's regenerative capability has almost reached the limits.

Today, we need to realize the situation we are in, review our economic activities and material civilization, and work on the development of a sustainable society.

SUS Corporation addresses the global environmental protection as a key issue. Among our corporate principles, "Strive for effective utilization of the limited natural resources, and product manufacturing in harmony with environmental protection and the nature, with utmost effort toward the reuse of materials" bases on the spirit of environmentalism to protect resources.

With aluminum as an emblem of peace, SUS contributes to reduce environmental burden by developing and manufacturing standardized, earth-conscious products.

SUS prioritizes the use of parts and materials that generate minimum environmental burden, and promotes manufacturing of "RoHS-compliant" products.

Based on this philosophy, SUS has supplied high-quality products, at a reasonable price, with prompt delivery. And now, while maintaining the same service quality, SUS is proud to offer green and environment-friendly products.





# About RoHS

## What is RoHS

- 1 RoHS EU directive on the Restriction of the certain Hazardous Substances in electrical and electronic equipment
- 2 RoHS, a directive that defines and restricts the use of certain hazardous substances, was adopted in February 2003 by the European Union, and came into force on July 1, 2006. This Directive bans the placing on the EU market of controlled substances, with some exceptions. Products containing more than agreed levels of any of the controlled substances could be subject to product recall. The product, then, will practically be shut out from the European market.
- 3 RoHS restricts the use of the following six hazardous materials in five types:
  - 1)Lead
  - 2)Mercury
  - 3)Cadmium
  - 4)Hexavalent chromium
  - 5)Brominated flame retardants (PBB, PBDE)

For details, refer to the original "Environment Update" statement, from WEEE Handbook V, issued by Japan Machinery Center for Trade and Investment, in March 2003

### Article 2 Scope

3. This directory does not apply to spare parts used for repairing of electronic and electrical equipments, or reusing of electronic and electrical equipments, released before July 1, 2006.

### Article 4 Prevention

1. Member nations are obligated to ensure that electronic and electrical equipments on the market, on July 1, 2006 and after, do not contain more than the specified amount of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, or polybrominated diphenyl
2. This provision does not apply to use applications listed in the Appendix. ("This provision" means provision 4.1)

### Appendix

Usage of lead, mercury, cadmium, and hexavalent chromium exempted from Article 4-1

1. Mercury contained in small-sized fluorescent lamps, that does not exceed 5 mg
2. Mercury contained in general-use straight fluorescent lamps, that does not exceed the following
  - Halphosphate 10 mg
  - Triphosphate with normal lifetime 5 mg
  - Triphosphate with long life time 8 mg
3. Mercury contained in triphosphor fluorescent lamps for special purposes
4. Mercury contained in lights other than those specified in the Appendix
5. Lead contained in glasses used for cathode-ray tubes, electronic components, and fluorescent tubes
6. Lead content of up to 0.35 wt% in steel products, up to 0.4 wt% in aluminum materials, or up to 4 wt% in copper materials as alloy content
7. Lead contained in high-melting point solders (tin or lead solder alloy containing more than 85 % of lead)
  - Lead contained in solders used for switches, signals, or networks for electrical transmission, infrastructure device, and communication management
8. Surface treatment using cadmium, other than those restricted by directives 76/769/EEC, and revised 91/338/EEC on use and release of hazardous substances and their prescriptions
9. Hexavalent chromium used in vapor absorption refrigerator's carbon steel cooling systems for anticorrosion purposes

The threshold values, or allowable content ratio, of the hazardous substances restricted by RoHS is defined in the "Environment Update, Vol. 5, No.5", issued in January 2004, by the Japan Machinery Center for Trade and Investment, as follows:

A concentration value of up to 0.1 % by weight in homogenous material for lead, mercury, hexavalent chromium, PBB and PBDE, and of up to 0.01 % by weight in homogenous material for cadmium will be permitted. Homogeneous material means a component or material that cannot be mechanically disjointed into different materials by unscrewing, cutting, crushing, grinding, abrasive processes and similar procedures.

Therefore, surface treatment, such as plating, chromating and coating, are regarded as an independent homogeneous substance from the base material. (0.1 % is equivalent to threshold amount of 1000 ppm in the "Survey of the Ratio of Substances in Materials Delivered that Pose Risk to the Environment")

### Attachment 1: Examples of content of the six hazardous substances restricted by RoHS

Materials and parts that may contain any of the hazardous substances restricted by RoHS are as follows:

- 1) Polybrominated biphenyl (PBB)
- 2) Polybrominated diphenyl ether (PBDE)

Description	Organic brominated compounds
Restricted items	1 Flame retardants applied, for any purpose, to plastic items including plastic moldings and all types of cables

### 3) Hexavalent chromium (Cr.+6) compounds

Description	All substances, such as organic/inorganic compounds or salts, that base on hexavalent chromium [Chromium metal and chromium contained in alloy are exempted]
Restricted items	1 Packaging material for products and parts transport (refer to additional items on packaging materials below)
	2 Anticorrosive coating for plating surfaces, including chromate and alodine treatments.
	3 Colorants such as ink and coating materials
	4 Leather products and tanning agents

### 4) Lead (Pb) and its components

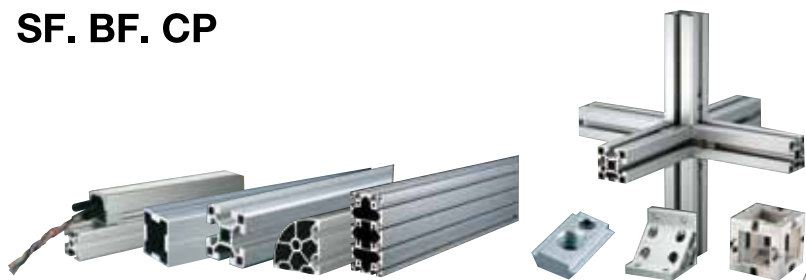
Description	All substances, such as metal, alloy, organic/inorganic compounds or salts, that include lead element
Restricted items	1 Packaging material for products and parts transport (refer to additional items on packaging materials below)
	2 Coating materials, colorants, and ink, used for printed-wiring boards, that contain lead.
	3 Small sealed lead battery (excluding SR44)
	4 Surface treatment for electronic external electrodes and lead terminals (including solder plating and spare solder for harness)
	5 AC adapters, power cords, connecting cords
	6 Stabilizers, colorants, and coating materials contained in plastic and rubber materials.
	7 Coating materials Ink
	8 High-melting solders for parts/device connectors (with lead content of 85 wt% or more)
	9 Electronic ceramic parts (piezoelectric materials, dielectric materials, magnetic materials—ferrite)
	10 Optical glasses, filter glasses, liquid-crystal glasses
	11 Electroless-nickel plating, stabilizers used for electroless-gold plating, lead used for additive agents,
	12 Glass materials used for electronic parts and fluorescent display tubes (Glass materials used for electronic parts: resistive elements, conductive pastes, adhesives, glass slits, sealants, etc.)
	13 C4: controlled, collapse, chip, connection Soldering paste
Measuring method	14 Alloys that contain lead exceeding the following allowance concentration (including soldering materials) ·Steel: less than 0.35 wt%      ·Aluminum alloy: less than 0.4 wt% ·Copper alloy: less than 4 wt%      ·Solder: less than 1,000 ppm
	1 Inductive connection: plasma emission spectroscopy device (ICP-AES, ICP-OES) Example: EN ISO 11885:1998
	2 Atomic absorption spectrometer (AAS) Example: EN ISO 5961:1995
	3 Inductive connection: plasma mass spectrometer (ICP-MS)



# Other Products Lineup

## Aluminum Component SF. BF. CP

Aluminum Frame	Aluminum Flat Frame
Aluminum Multipurpose Material	Accessory Part
Assembly Shipment	



## Panel, Clean room PF

Partition	Clean Unit
Various Panels	



## Safety Fence AZ



## Base Plate BP

Aluminum SS400	Optional Processing
Sur	



Sensor Adjustment Unit



# Item Number List

## Frame/Parts

New item number	Name	Page
GFA-000	Parts Holder	73/97
GFA-001	Pipe Holder	77
GFA-400	Inner Cap	82
GFA-401	Outer Cap	82
GFA-402	Inner Cap G	90
GFA-403	Inner Cap S	103
GFA-601	L-Slot Connector Piece	58
GFA-800G	Frame Guard (Gray) L=2000	82
GFA-800L	Frame Guard (Blue) L=2000	82
GFA-800M	Frame Guard (Green) L=2000	82
GFA-800R	Frame Guard (Red) L=2000	82
GFA-800V	Frame Guard (Ivory) L=2000	82
GFA-800Y	Frame Guard (Yellow) L=2000	82
GFA-801	Cable Duct L=2000	86/99
GFA-802G	Panel Hold (for t=5)	72
GFA-803G	Panel Hold (for t=3)	72
GFA-804G	Frame Bumper (White) L=2000	82
GFA-804Y	Frame Bumper (Yellow) L=2000	82
GFA-805G	Frame Guard G	98
GFA-806	Name Plate L=1550	78
GFA-807	Name Plate Cover L=1550	78
GFA-808	Panel Side Hold Base	72
GFA-809	Panel Side Hold Outer t3	72
GFA-A03	Connector Knob Bolt	79
GFA-A06	Ring Runner	83
GFA-A07	Parts Container	83
GFA-A12	Aluminum Name Plate	78
GFA-A14	Urethane Rubber	76
GFC-000	Corocon 3000 L=3000	67
GFC-001	Corocon 1000 L=1000	67
GFC-002	Corocon 1500 L=1500	67
GFC-003	Corocon (Adjustable Cut)	67
GFC-004	Mini Corocon 1000	69
GFC-005	Mini Corocon 2000	69
GFC-018	Corocon 3000 Conductive Type	67
GFC-019	Corocon 1000 Conductive Type	67
GFC-020	Corocon 1500 Conductive Type	67
GFC-021	Corocon (Adjustable Cut) Conductive Type	67
GFC-027	Corocon 3323P37	67
GFC-028	Corocon 3323P37 (Adjustable Cut)	67
GFC-200	Corocon Hook	67
GFC-201	Mini-Corocon Hook	69
GFC-208	Corocon Hook A	68
GFC-209	Corocon Hook B	68
GFC-210	Corocon Hook C	68
GFC-211	Corocon Hook D	68
GFC-A02	Corocon Stopper	69
GFE-010	Cable Lock	86/99
GFF-000	Green Frame Free size Cut Type	50
GFF-001	Green Frame P100 Free size Cut Type	51
GFF-002	Green Frame P100 Free size Cut Type (Light)	51
GFF-003	Green Frame W Free size Cut Type	51
GFF-004	Green Frame L Slot Free size Cut Type	50
GFF-005	Green Frame F50 Free size Cut Type	50

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GFF-006	Green Frame Slide Free size Cut Type	51
GFF-014	Green Frame F35 Free size Cut Type	50
GFF-200	Green Frame G Free size Cut Type	88
GFF-201	Green Frame G P150 Free size Cut Type	88
GFF-202	Green Frame G P150 Free size Cut Type (Light)	88
GFF-400	Green Frame S Free size Cut Type	102
GFF-A00	Picking JW Duct Base	79
GFF-A01	Board Holder F Cut Type	71
GFG-000	Spanner A Slim Type For Caster $\phi$ 75	107
GFG-001	Spanner B Slim Type For Caster $\phi$ 100	107
GFG-004	Deburr Tool	107
GFG-032	GF Handy Cutter	107
GFG-064	Jig for Handy Cutter	107
GFH-000	Lamp Bracket	79
GFH-003	Tool Bracket	76
GFH-013	Urethan Holder	76
GFJ-000	Multi Connector Outer Type	52
GFJ-002	Free Connector Outer Type	52
GFJ-005	Angle Connector Outer Type	52
GFJ-007	45-Degree Connector Outer Type	56
GFJ-010	Angle Connector (Outer) E	54
GFJ-012	Multi Connector (Outer) W	54
GFJ-014	Multi Connector (Outer) G	89
GFJ-016	Angle Connector (Outer) G	89
GFJ-018	Multi Connector (Outer) S	102
GFJ-020	GFS-GF Connector	103
GFJ-200	Multi Connector Inner Type	53
GFJ-202	Free Connector Inner Type	53
GFJ-204	Angle Connector Inner Type	53
GFJ-207	Multi Connector (Inner) R	54
GFJ-209	Multi Connector (Inner) G	89
GFJ-211	Multi Connector (Inner) S	102
GFJ-215	Multi Connector Long Inner Type	56
GFJ-220	45-Degree Connector Inner	56
GFJ-A00	Bridge Connector	57/90
GFJ-A04	Hinge Connector	75
GFJ-A07	Hinge Connector G	75/98
GFJ-A09	Hinge Connector Stopper	75
GFJ-A11	Cross Connector	55/90
GFJ-A13	Palette Connector	59
GFJ-A15	Point Connector	55
GFJ-A17	Straight Connector	57
GFJ-A19	Plate Connector	72
GFJ-A22	Board Holder	71
GFJ-A24	Slider Connector	67
GFJ-A25	Single Saddle	74
GFJ-A27	Double Saddle	74
GFJ-A31	Connector Piece	73/97
GFJ-A32	Hook Connector R	78
GFJ-A33	Board Holder G (Outer)	97
GFJ-A34	Board Holder G (Inner)	97
GFJ-A35	Offset Connector	73
GFJ-A36	Stand Connector	58
GFJ-A38	GF Slider F-F	74

New item number	Name	Page
GFJ-A41	GF Slider P-F	74
GFJ-A42	Double Connector	57/90
GFJ-A46	Straight Joint	57
GFJ-A47	Parallel Holder	77
GFJ-A49	Parallel Holder HS	77
GFJ-A52	Free Connector Fix Side	79
GFK-801	Spare Blade Kit	107
GFK-802	Impact Holder Kit V-Type	76
GFK-803	Impact Holder Kit H-Type	76
GFK-900	Board Level Kit	84
GFK-901	Board Lifter Kit L=400	85
GFK-902	Board Lifter Kit L=600	85
GFK-903	Board Lifter Kit L=800	85
GFK-E00	Leak Plate	110
GFK-F00	Green Frame L=4030×5pcs	50
GFK-F02	Green Frame L=1000×5pcs	50
GFK-F04	Green Frame L=2000×5 pcs	50
GFK-F06	Green Frame L=3000×5 pcs	50
GFK-J00	Name Plate Kit	78
GFK-N00	Ground Cable Kit	110
GFM-xxx	Unit Products	134
GFN-000	Small Diameter Adjuster M12	61
GFN-001	Small Diameter Adjuster M12 (Stainless)	61
GFN-500	Free Caster φ100 with Brake	63/94
GFN-501	Free Caster φ100 with Brake M6	64
GFN-502	Fixed Caster φ100	63/94
GFN-503	Fixed Caster φ100 M6	64
GFN-504	Free Caster φ100	63/94
GFN-505	Free Caster φ100	62
GFN-506	Frame Caster φ100	62
GFN-507	Free Caster φ150 with Brake	63/94
GFN-508	Free Caster φ100 with Brake (Urethane)	63/94
GFN-510	Free Caster φ150 (E)	63/94
GFN-511	Free Caster φ100 (Urethane)	63/94
GFN-512	Caster φ50 with Brake	62
GFN-513	Caster φ50	62
GFN-514	Frame Caster φ50 With Brake	62
GFN-515	Frame Caster φ50	62
GFN-516	Free Caster φ150 with Brake (E)	63/94
GFN-517	Free Caster φ150 with Brake (Urethane)	63/94
GFN-521	Free Caster φ150	63/94
GFN-522	Free Caster φ150 (Urethane)	63/94
GFN-523	Caster φ75 with Brake	62
GFN-524	Caster φ75 with Brake (E)	62
GFN-525	Caster φ75	62
GFN-526	Caster φ75 (E)	62
GFN-527	Frame Caster φ75 With Breke	62
GFN-528	Frame Caster φ75 With Breke (E)	62
GFN-529	Frame Caster φ75	62
GFN-530	Frame Caster φ75 (E)	62
GFN-531	Free Caster φ75 with Brake (E)	63/94
GFN-532	Free Caster φ75 with Brake	63/94
GFN-533	Free Caster φ75 with Brake (E)	63/94
GFN-537	Caster φ75 (Urethane)	62

New item number	Name	Page
GFN-538	Free Caster φ75 (E)	63/94
GFN-539	Free Caster φ75	63/94
GFN-540	Free Caster φ75 (Urethane)	63/94
GFN-541	Caster φ75 with Brake (Urethane)	62
GFN-542	Caster φ100 M 16 with Brake	93
GFN-543	Caster φ100 M 16 with Brake (E)	93
GFN-544	Caster φ100 M 16	93
GFN-545	Caster φ100 M 16 (E)	93
GFN-546	Free Caster φ100 E Conductive Type	63/94
GFN-547	Free Caster φ100 E with Brake Conductive Type	63/94
GFN-548	Fixed Caster φ100 E Conductive Type	63/94
GFN-550	Fixed Caster φ75	63/94
GFN-551	Fixed Caster φ75 (Urethane)	63/94
GFN-552	Fixed Caster φ75 (E)	63/94
GFN-553	Fixed Caster φ100 (Urethane)	63/94
GFN-554	Fixed Caster φ150	63/94
GFN-555	Fixed Caster φ150 (Urethane)	63/94
GFN-556	Fixed Caster φ150 (E)	63/94
GFN-C08	Adjuster Caster Connector A	60
GFN-C09	Adjuster Caster Connector B	60
GFN-C10	Caster Fix	64
GFN-E01	Foot Connector M8	59
GFN-E02	Foot Connector M12 (Resin Type)	59
GFN-E05	Foot Connector M16G	92
GFN-E07	Foot Connector S	103
GFN-E08	Base Stand	60
GFN-E15	Pipe Stand A	58
GFN-E17	Foot Connector M12 (Conductive Resin Type)	59
GFN-F00	Hammer Lock 100	65/95
GFN-F01	Hammer Lock 150	65/95
GFN-F02	Free Lock 75/100 Kit	66/96
GFP-000	Hinge P-L	80
GFP-004	Hinge P-R	80
GFP-005	Hinge F-L	80
GFP-007	Hinge F-R	80
GFQ-000	Catch for Panel Door with Switch	81
GFQ-003	Catch for Panel Door	81
GFQ-004	Catch for Frame with Switch	81
GFQ-007	Catch for Frame	81
GFW-012	Hook (Under)	84
SFA-601	Foot M6	103
SFA-602	Foot M8	61
SFA-701	Caster M8	62
SFA-702	Caster M8 with Brake	62
SFA-703	Caspad φ50—M12	65
SFA-704	Caspad φ75—M16	95
SFB-9C4	Wood Screw M4.1x22	106
SFB-9C5	Wood Screw M4.1x32	106
SFG-010	All-Purpose Plastic Cutter	107
SFG-012	All-Purpose Plastic Cutter with Angle	107
SFK-584	Adjuster M12	61
SFK-584U	Adjuster M12 (Stainless)	61
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# Item Number List

UNIT PRODUCTS
GF FRAMES & PARTS
N SERIES 28 External diameter
G SERIES 43 External diameter
S SERIES 19 External diameter

## Unit Products

GFM-001
GFM-002
GFM-003
GFM-004
GFM-005
GFM-006
GFM-007
GFM-008
GFM-009
GFM-010
GFM-011
GFM-012
GFM-013
GFM-014
GFM-015
GFM-016
GFM-017
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GFM-025
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GF -025

Note that some items may not be available, or specification may vary in some countries. Please contact your sales representative.

New item number	Name	Page
GFM-221	Work Board B Rigid Type for Standing Work W=1200	21
GFM-222	Work Board B Rigid Type for Moving Work W=750	21
GFM-223	Work Board B Rigid Type for Moving Work W=900	21
GFM-224	Work Board B Rigid Type for Moving Work W=1200	21
GFM-225	Work Board B with Rack Rigid Type for Standing Work W=750	23
GFM-226	Work Board B with Rack Rigid Type for Standing Work W=900	23
GFM-227	Work Board B with Rack Rigid Type for Standing Work W=1200	23
GFM-228	Work Board B with Rack Rigid Type for Moving Work W=750	23
GFM-229	Work Board B with Rack Rigid Type for Moving Work W=900	23
GFM-230	Work Board B with Rack Rigid Type for Moving Work W=1200	23
GFM-X01	Drawer Kit for GF Work Board	26
GFM-X02	Slide Table Kit for GF Work Board	26
GFM-401	Trolley A Work Board H=600	28
GFM-402	Trolley A Work Board H=810	28
GFM-403	Trolley A Work Board W900×D600×H880	28
GFM-404	Trolley A Stainless Panel H=600	28
GFM-405	Trolley A Stainless Panel H=810	28
GFM-406	Trolley A Stainless Panel W900×D600×H880	28
GFM-407	Trolley A Work Board Hammer Lock Type H=600	29
GFM-408	Trolley A Work Board Hammer Lock Type H=810	29
GFM-409	Trolley A Work Board Hammer Lock Type W900×D600×H880	29
GFM-410	Trolley A Stainless Panel Hammer Lock Type H=600	29
GFM-411	Trolley A Stainless Panel Hammer Lock Type H=810	29
GFM-412	Trolley A Stainless Panel Hammer Lock Type W900×D600×H880	29
GFM-413	Trolley B Work Board H=600	30
GFM-414	Trolley B Work Board H=810	30
GFM-415	Trolley B Work Board W900×D600×H880	30
GFM-416	Trolley B Stainless Panel H=600	30
GFM-417	Trolley B Stainless Panel H=810	30
GFM-418	Trolley B Stainless Panel W900×D600×H880	30
GFM-419	Trolley B Work Board Hammer Lock Type H=600	31
GFM-420	Trolley B Work Board Hammer Lock Type H=810	31
GFM-421	Trolley B Work Board Hammer Lock Type W900×D600×H880	31
GFM-422	Trolley B Stainless Panel Hammer Lock Type H=600	31
GFM-423	Trolley B Stainless Panel Hammer Lock Type H=810	31
GFM-424	Trolley B Stainless Panel Hammer Lock Type W900×D600×H880	31
GFM-425	Trolley C Work Board H=800	32
GFM-426	Trolley C Work Board H=1010	32
GFM-427	Trolley C Work Board W900×D600×H1080	32
GFM-428	Trolley C Stainless Panel H=800	32
GFM-429	Trolley C Stainless Panel H=1010	32
GFM-430	Trolley C Stainless Panel W900×D600×H1080	32
GFM-431	Trolley C Work Board Hammer Lock Type H=800	33
GFM-432	Trolley C Work Board Hammer Lock Type H=1010	33
GFM-433	Trolley C Work Board Hammer Lock Type W900×D600×H1080	33
GFM-434	Trolley C Stainless Panel Hammer Lock Type H=800	33
GFM-435	Trolley C Stainless Panel Hammer Lock Type H=1010	33
GFM-436	Trolley C Stainless Panel Hammer Lock Type W900×D600×H1080	33
GFM-437	Box Roller A	34
GFM-438	Box Roller B	34
GFM-439	Trolley for Lengthy Cargo	35
GFM-440	Trolley for Lengthy Cargo Hammer Lock Type	35
GFM-441	Flip-Up Trolley	36
GFM-442	Flip-Up Trolley Hammer Lock Type	36

## ■ Group Company

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