Innovation in Motion TSUBAKI

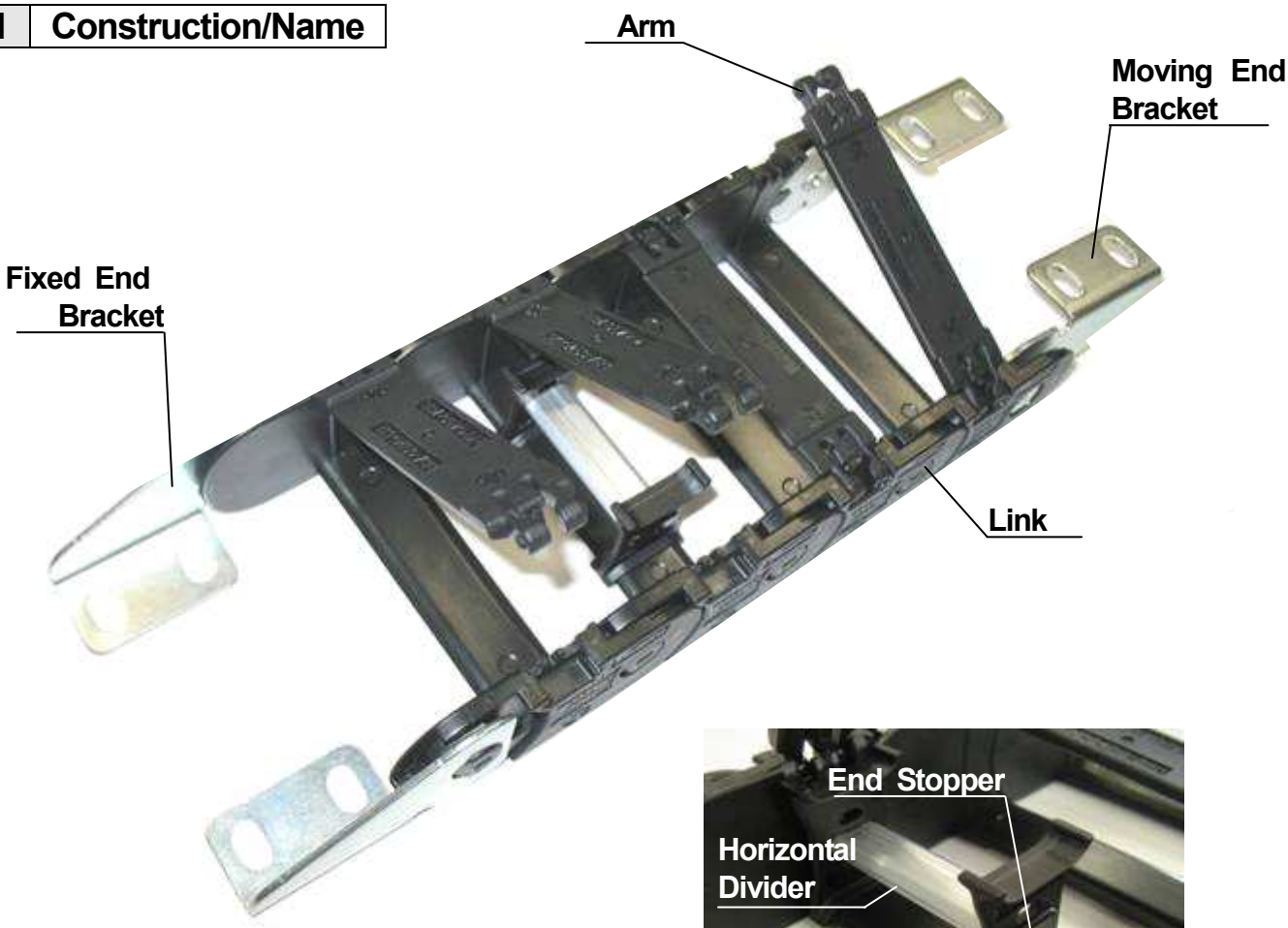
TSUBAKI Instruction Manual

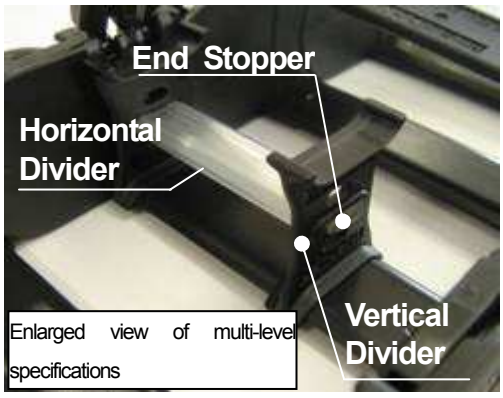
CABLEVEYOR™

TKP45H25・TKP58H39

Thank you for your purchase of the “Tsubaki Cableveyor”.
These instructions cover from delivery to set-up. Read these instructions thoroughly before starting.

1 Construction/Name





Enlarged view of multi-level specifications

2 Tools Needed

- Flat-head Screwdriver (6mm tip)
- Protective Gear (Safety Glasses, Gloves, Safety Shoes, Etc.)
- Plastic Hammer

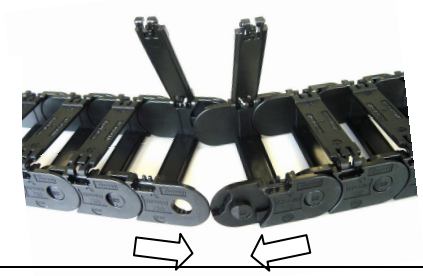
3 Before Beginning

Ensure you have received the product you ordered and that it was undamaged during delivery.
Wear the appropriate clothing and protective gear (safety glasses, gloves, safety shoes, etc.) while working.
The following parts are shipped separately and will require assembly during installation.

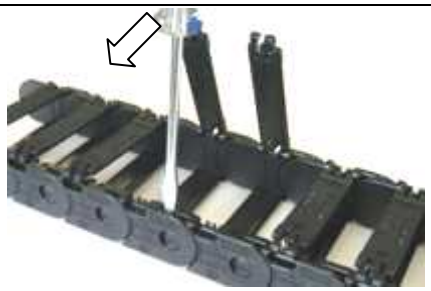
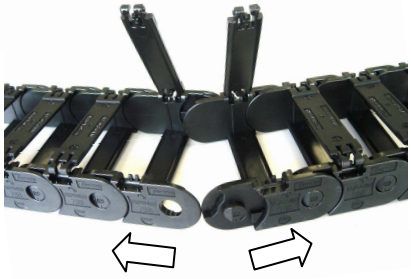
- Transfer end fittings, fixed end fittings
- Vertical divider
- Multi-lever divider

4 Connecting

The Tsubaki Cableveyor® may be shipped in sections depending on packing and shipping considerations. Connect the sections to the desired length as per the following steps. Be sure to open the arms when connecting.

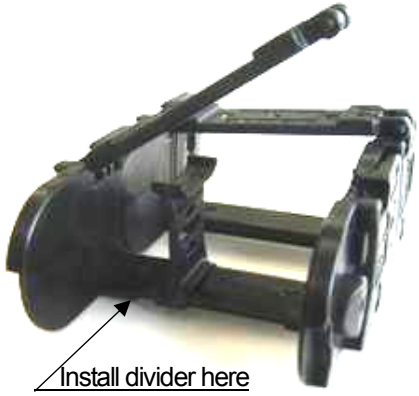
		
1) Match the proper direction.	2) Overlap the links and insert the pins so they all face one direction.	3) Push in the other side.

5 Separating

 Separate here		
1) Open two arms before separating.	2) Insert a flat-head screwdriver in the slot between links (see photo) and pull towards you to remove pin from hole.	3) Using the other pin as a support, bend the cableveyor approx. 45 degrees to remove.

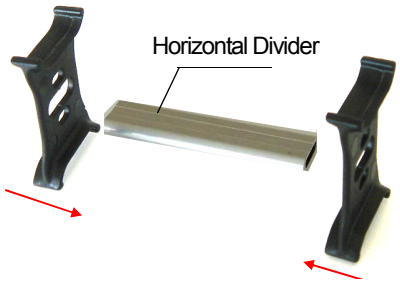
6 Installing Dividers

Vertical dividers and multi-level divider sets (both DSA and DSB types) are installed in the cableveyor when inserting cables or hoses.
Note: Dividers and multi-level divider sets are installed every second link. Check the number to be fit in one place.



1) Installing Vertical Dividers
Install directly onto the link. Divider is secure when there is a snap sound.

*Vertical dividers are symmetrical.



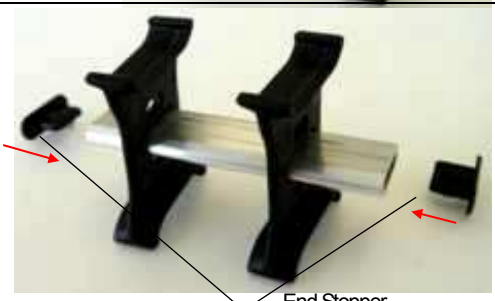
DSA Set-up

*Only possible with center hole on TKP45H25

2) Installing Multi-level Dividers (DSA type)

A. Pass the horizontal divider through the hole of the vertical divider.
*Requires two or more vertical dividers

B. Install the above set directly onto the link.
* Insert cables/hoses first if cable/hose end connectors are bigger than the divider space.
* Be careful not to cut hand on horizontal divider cross-section.
* Align vertical dividers so that cables/hoses lay straight.



DSB Set-up

*On TKP45H25 can only be attached in the middle

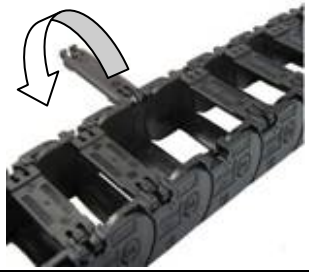
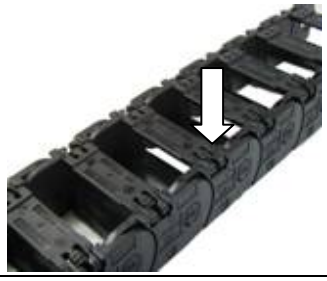
3) Installing Multi-level Dividers (DSB type)

A. Pass the horizontal divider through the hole of the vertical divider.
*Requires two or more vertical dividers

B. Attach the end stopper on both ends of the horizontal divider.

C. Install the above set directly onto the link.
* Insert cables/hoses first if cable/hose end connectors are bigger than the divider space.
* Be careful not to cut hand on horizontal divider cross-section.
* Align vertical dividers so that cables/hoses lay straight.
* Do not lose end stoppers.

7 Inserting Cables/Hoses, Closing Arms

		
1) Lift up the arm, remove any twists in the cable/hose, and insert in the cableveyor. * Refer to “Cable/Hose Wiring” below for details.	* Exercise caution, as arm is easily removable from link if twisted 180 degrees. If arm is removed from link, reinsert into link, ensuring it faces the correct way. (Stamped side faces out.)	2) Press arm end with hand or tap with plastic hammer until it snaps into place.

●Cable/Hose Wires

1) Cables and hoses should be flexible and should be suited to repeated flexing and wear.
2) Install cables and hoses so that they are not twisted. Cables and hoses will twist if they are drawn in a spiral pattern from a drum or coil. (See Image. 1)
   Install cables or hoses in cableveyor so that they are straight. (See Image. 2)
3) Necessary Cable/Hose Length
   Cable length is usually
   (Pitch x Link No.) + Installation length = Nec. cableveyor length
   When using hoses, length will depend on pressure during use.
   {(Pitch x Link No.) + Installation length} x 1.015 = Nec. hose length
   The 1.015 coefficient factors in contraction considerations. This number will vary by hose type – consult the hose manufacturer for details.
4) Install the cables and hoses so that they can freely move; i.e., so that they are not pressed up against the loose part on the articulating portion/outer circumference of the cableveyor, and so that the cables are a little loose (they lift up from the inside of the cableveyor). (See Image. 3 and 4.)
5) Clamp the fixed or travel end along the inside length of the cableveyor to prevent unnecessary tension on the cable or hose. (See Image. 4)
   Do not fix the cable or hose inside the cableveyor.
6) When using a multi-level divider, cable/hose length and inner and outer circumference will not be equal. Ensure necessary length above center line for each cable or hose.
7) Lay cable and hoses side by side – do not stack them. In cableveyors with attachable dividers, arrange the cables and hoses along the dividers.
   However, when using a multi-level divider, cables and hoses are subjected to increased sliding and wear. Ensure that cables are not stacked.
8) When using a multi-level divider, cable/hose length and inner and out circumferences will not be equal. Ensure necessary length above center line for each cable or hose.

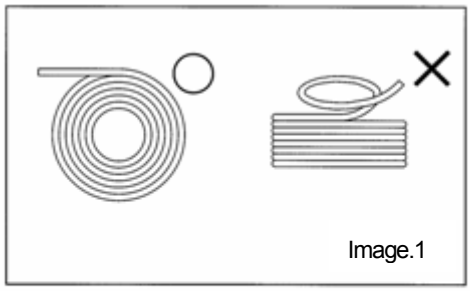


Image.1

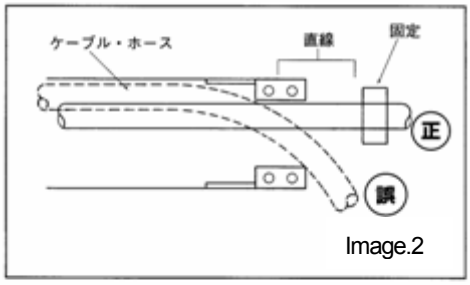


Image.2

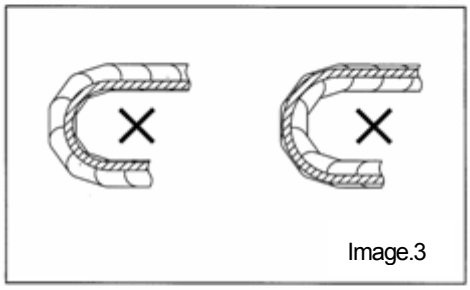


Image.3

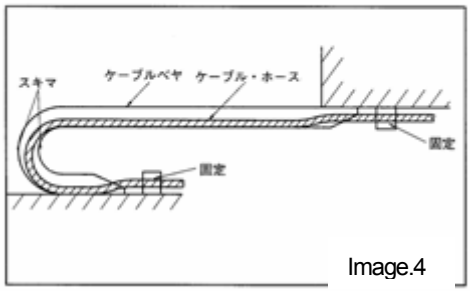
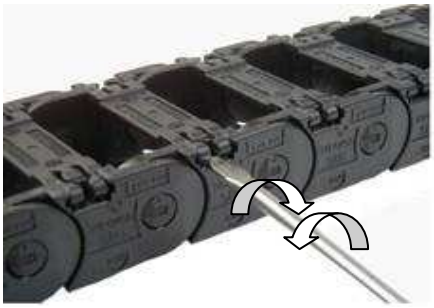
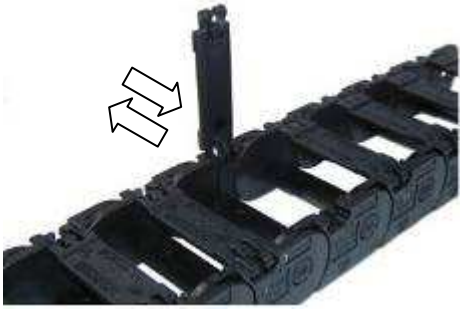


Image.4

8 Opening Arms



1) Insert a flat-head screwdriver in between the arm end and link and twist to release arm.
***Use a screwdriver with a 6mm head.**

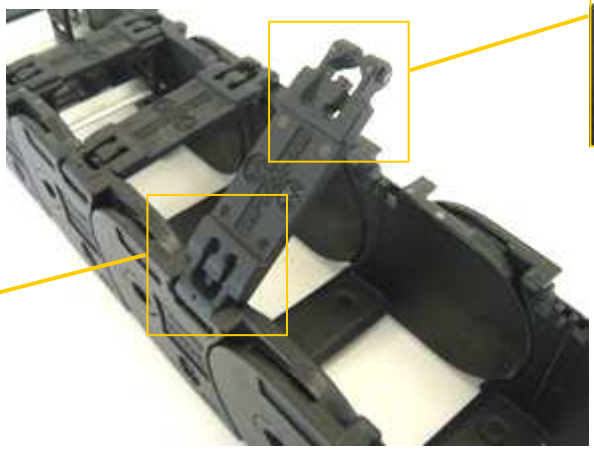


2) With the arm at a 90 degree angle, move horizontally (arrows) to remove or insert.
*Ensure removed arm faces right direction before inserting. (Stamping faces out.)

■ **Direction for Opening/Closing TKP45H25 Arm**
Arm can be opened and closed from either direction.

■ **Direction for Opening/Closing TKP58H39 Arm**
Open and close arm from the side with the space at the end. (See diagram below.)
Arm attaching direction and open/close direction can be changed.

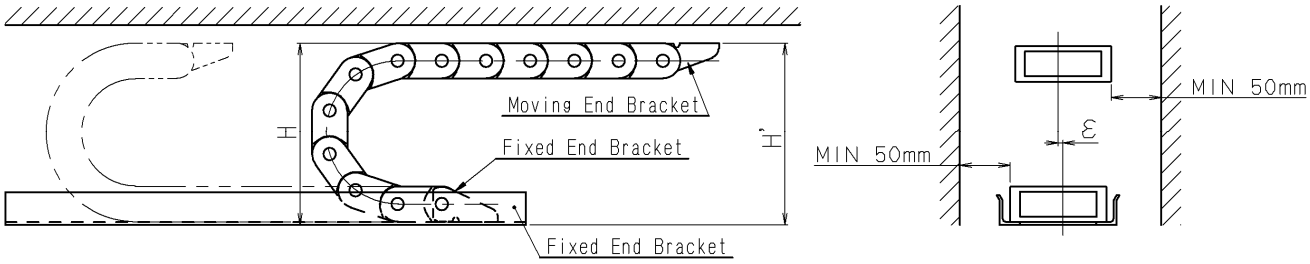
Enlarged View



Enlarge View of Hinge
(fixed)

9 Installation/Maintenance

Depending on the application there may be bulges or sags in the free span. Selecting your cableveyor using Tsubaki's Performance Diagram will eliminate usage problems.



3) The travel end installation height (H') for the machine or equipment should be the cableveyor's height (H) ; (10-30)
4) The cableveyor space height (h) should be H + 100.
5) Install a guide rail.
6) The error in installation faces of the moving end and fixed end fittings (ε) should be as per below.

Model	Installation Face Error (ε)
TKP45H25	4 mm or less
TKP58H28	6 mm or less

Check which end is the travel and which is the fixed end.

* See our cableveyor catalog for more details.

7) Do not use cables/hoses with wire braid casings, as both may become damaged from sliding action.
8) Foreign matter in the guide rail may cause damage. Please keep clean.