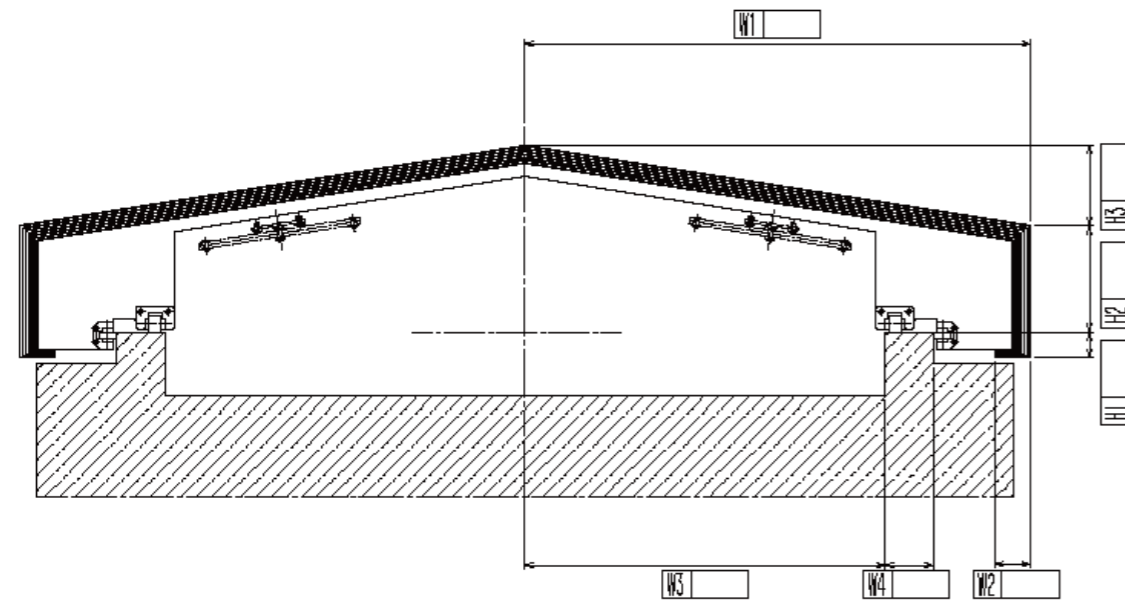


Arched Shuttle Guard - EO Series

A new addition to the horizontal cubed models, the EO Series Shuttle Guards further minimize weight and standardize components while maintaining all functions. EO Series Shuttle Guards ensure quick delivery and cost reduction. Shuttle Guards can be procured as new machinery as well as when replacing components in current machinery.

EO Series Dimension Schematic

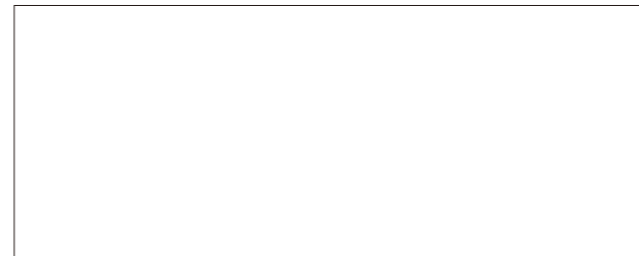


*TSH confers with the customer concerning dimensions represented as blank spaces in the figure and flange-mounted shape prior to manufacture and delivery.

【Sales】

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【Agent】



Chip-protective telescopic cover boasts minimal weight and high follow-up capability.

ShuttieGuard

Shuttle Guard



TSH
TOKYO SEIMITSU HATSUJO Co., Ltd.

5 cover functions boosting machine tool capability

1 Light weight

Weight reduction minimizes inertial force during high-speed work and quick speed changes.

2 Shock resistance during operation

Shock resistance is key to preserving the high-precision movement of machine tools.

3 Responsive to varying types of waste chips

Handles various types of chip waste, from hard/fine to thick/extensive.

4 Motion stabilizing design

The TSH motion stabilizing design easily responds to the greater L/D dimensions of today's increasingly compact machine tools.

5 Easy maintenance

Disposable wipers are replaced easily, safely, and at the client's convenience.

1 Light Weight

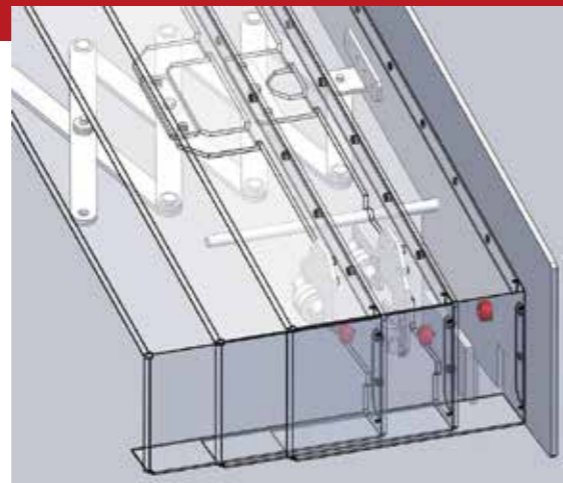
Superior tensile strength and solid SUS materials minimize weight.

- Has triple the tensile strength of SPHC, and the custom material is four times harder, minimizing weight.
- Plate thickness is an ideal 0.5~1.5mm, based on cover size.

	Tensile strength (N/mm ²)	Hardness (Hv)	Weight comparison
SPHC	340	80	(t=2.3mm) 1
K-136 (TSH cover)	1100	350	(t=0.7mm) 0.3

2 Shock resistance during movement

- Simultaneous movement determined by pantograph
- Rubber dampers attached on the side that the covers are cohered work in the range that the covers stroke to minimize shock during operation.



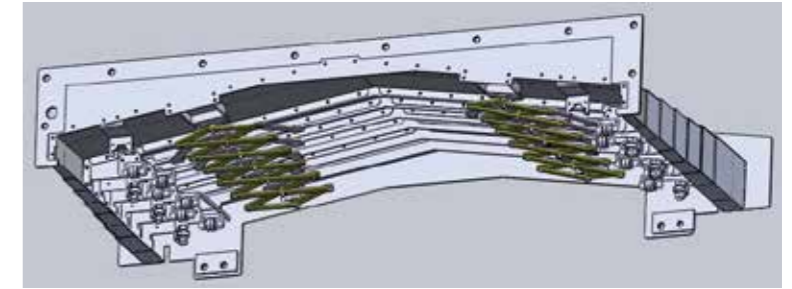
3 Responsive to various types of waste chips

The TSH metal wiper blades clear away chip and particle waste due to cutting and polishing, as well as the fluids used in the processes.

4 Motion stabilizing design

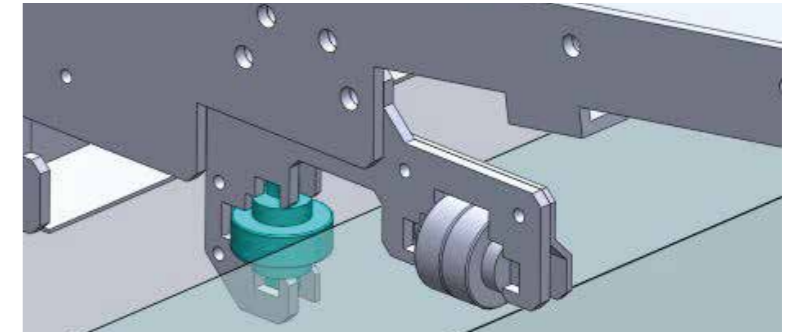
Double pantographs

Two rigid parallel pantographs ensure parallel simultaneous movement of each cover and secure stabilized operation.



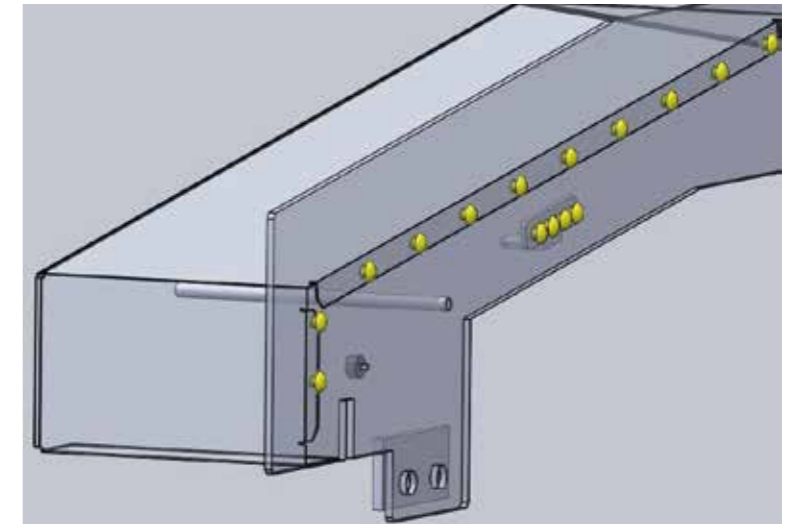
Direct roller holder & side roller

The direct roller holder, firmly attached to each cover's reinforced flange, greatly enhances resistance to external pressure for ongoing stability during operation. Meanwhile, the side rollers are ideally situated to supplement the two propulsion pantographs for stability.



Weld-free

Superior rivets minimize cover welding, eliminating warping to maintain accurate component shape and ensure stability during operation.



5 Easy maintenance

The TSH screwless QBC (Quick Blade Change) wiper is easily replaced, offering simplified maintenance (replacement) of damaged wipers and a greatly extended cover lifespan.



Remove old blade.

Cut replacement blade to appropriate length.

Insert replacement blade along guiding line.

Remove adhesive backing to complete replacement.