

PARALLEL PLUS

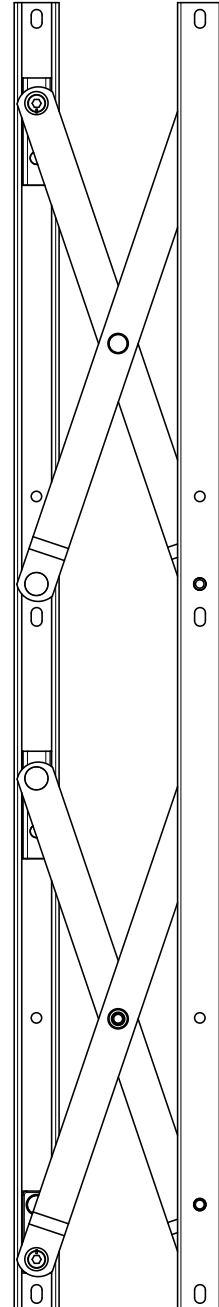
Parallel Opening Hinge

Securistyle parallel hinges provide natural ventilation whilst maintaining aesthetically pleasing sightlines for modern façade design.

- Parallel opening windows provide ultimate natural ventilation by allowing a balanced air flow around the entire opening
- Capable of achieving the requirements of EN 12101-2:2003 Smoke and heat control systems. Specification for natural smoke and heat exhaust ventilators
- Can be connected to a building management system as part of an automated solution for climate control
- Utilises Securistyle's patented control stay technology
- Can be operated manually or using electric actuators
- Unique patented parallelism adjustment facility
- Patented synchronisation method on larger hinge sizes
- Sash adjustment feature for use with heavier vents
- Hinge mechanism is fully concealed when the sash is closed
- Tested to operate for 20,000 cycles
- Manufactured from high grade Austenitic stainless steel for maximum performance even in the most corrosive environment
- 12 year guarantee

Applications

- A high performance parallel opening hinge range for curtain walled and structurally glazed buildings



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Due to our policy of continual product improvement we reserve the right to alter specifications without notice.

It is the responsibility of the window manufacturer to ensure that the finished window meets the required performance and safety specification.

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CONTENTS - Parallel Hinges

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HINGES

VENT SIZE AND WEIGHT CHART - Parallel Hinges

RECOMMENDATIONS FOR A MANUALLY OPERATED VENT FITTED WITH A SINGLE HINGE MOUNTED EACH SIDE

Hinge Code	Max. Vent Weight (Kg)	Min. Vent Height (mm)	Max. Vent Height (mm)
PX0350	100	350	750
PX0450	100	450	1000
PX0670	200	670	1500
PX0950	200	930	2000

Note: Vent height and width is measured from rebate to rebate (not overall size or outer frame size) - this is the minimum distance required to fit the hinge. For optimum performance use the largest hinge that will fit in the available space (consideration may have to be made for locking points or other hardware)

Note: The above table is for guidance only; please contact Securistyle Technical Department for advice regarding project specific hardware specifications.

Note: Two operating handles to be positioned centrally, one on each vertical side unless otherwise agreed with and specified by Securistyle Technical Department.

MAXIMUM OPENING DISTANCES FOR MANUAL AND MOTORISED VENTS

Hinge	Max. Manual Opening Motion (mm)	Max. Motorised Opening Motion (mm)	Manual Limit Stop Required
PX0350	150	180	C8700
PX0450	150	250	C8571
PX0670	150	150	C8688
PX0950	150	250	C8571

Note: Opening Motion is the movement measured from the closed position to the recommended open position for the type of operation stated.

Note: The above table is for guidance only; please contact Securistyle Technical Department for advice regarding project specific opening distances.

Note: For larger motorised vents please contact Securistyle Technical Department for advice regarding project specific hardware specifications.

Note: Operating motors must have synchronised movement.

Note: The motor operating devices must arrest the opening motion of the vent at the maximum specified opening distance.

Please contact Securistyle Technical Department for full hardware specification for any project involving Parallel Plus hinges.

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HINGES

FITTING INSTRUCTIONS: Position and Clearances

Parallel Hinges

- 9.1.1 The hinges are designed to be fitted between two flat and parallel rigid faces that conform to the measurements shown below.
- 9.1.2 Each hinge should be fitted with the vent track parallel to the vent profile and the frame track parallel to the frame profile.
- 9.1.3 Any sash and frame up stands must be within the maximum dimensions shown below.

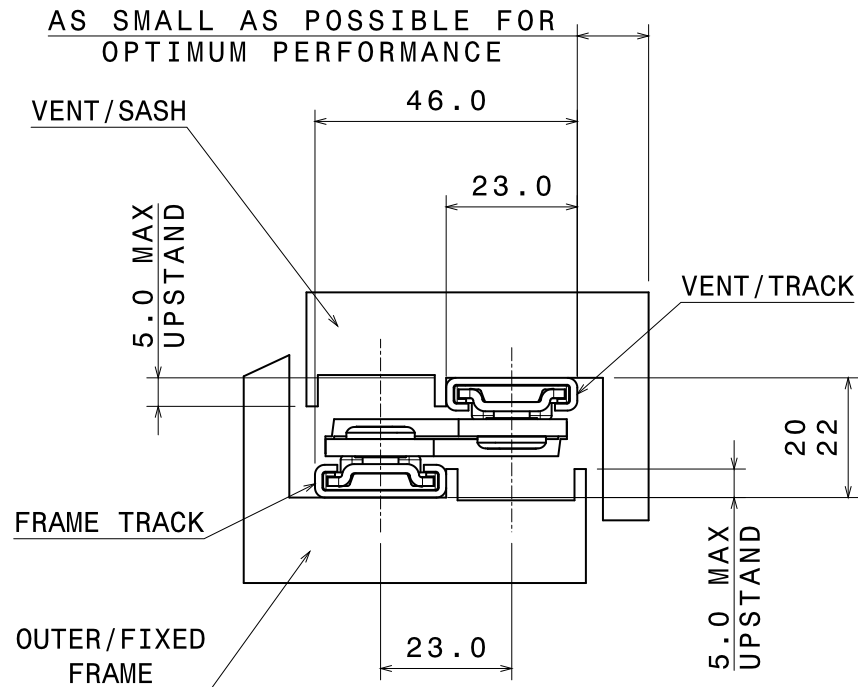


Fig. 1

Not to Scale, All dimensions in mm

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HINGES

FITTING INSTRUCTIONS: Hardware Layout

Parallel Hinges

- 9.1.4 The side mounted hinges should be fitted with the fixed pivots to the bottom. The track incorporating the tie bar should be fitted to the vent profile.
- 9.1.5 The control stays should be fitted to the top rail of the window if only one control stay is required or top and bottom if two are required.
Note: An example of the configuration for 3 x PX0670 is shown below. (See Fig. 2)
- 9.1.6 If two chain drive motors are used they must be fitted centrally on the shortest sides of the vent opposite each other. If four chain drive motors are used they must be positioned close to each vent corner (unless otherwise specified).
- 9.1.7 On manually operated vents use two operating handles mounted centrally on the vertical sides of the vent if the vent does not exceed 1500mm wide. Otherwise contact Securistyle Technical Department).
- 9.1.8 Parallel hinges do not provide weather sealing; if the window is manually operated this should be provided by a separate perimeter lock. If the window is motor operated this can be provided by either the motors or a synchronised motor operated separate perimeter lock.

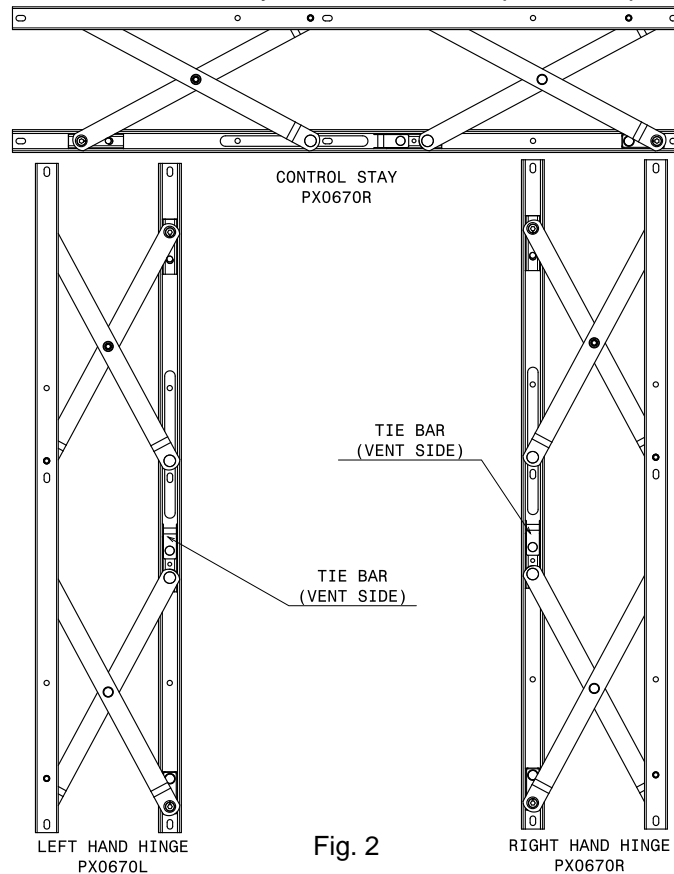


Fig. 2

Note: For other hinge configurations, e.g. multiple side mounted hinges or non rectangular vents, please contact Securistyle Technical Department.

Not to Scale, All dimensions in mm

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HINGES

FITTING INSTRUCTIONS: Installation

Parallel Hinges

- 9.1.9 All frame fixing holes should be pre drilled, referring to the screw hole position drawings in section 9.4. Where adjustment of the vent is required, only the vent fixings corresponding to the slotted screw holes should be pre drilled. Otherwise all vent fixings should be pre drilled.
- 9.1.10 Offer the hinges, including the control stay, up to the frame and fit all fixing screws. On the side mounted hinges the fixed pivots must be to the bottom of the hinge and the sliding pivots to the top of the hinge.
- 9.1.11 If the vent requires adjustment loosen the fixing screws on the vent and/or frame and reposition the vent as required. When the position of the vent is correct spot through the final fixing hole and fit remaining fixing screws, if not previously pre-drilled.
- 9.1.12 To arrest the outward motion of manually operated vents the required drop in limit stop must be fitted in the frame profile track as shown in Fig. 3.

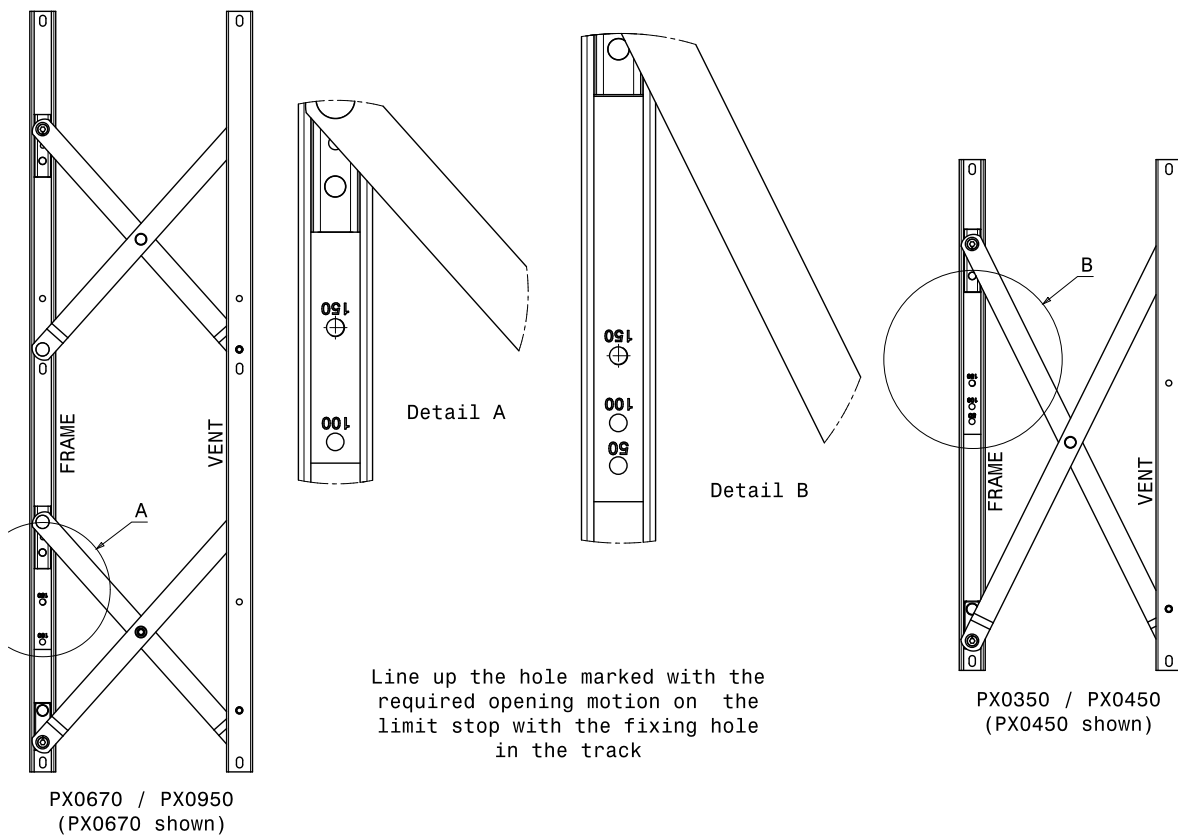


Fig. 3

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HINGES

FITTING INSTRUCTIONS: Installation

Fixing Screws

- 9.1.12 Use M5 pan head screws for fixing vent track and frame track on all Parallel hinges. Refer to Figure 3 below for dimensional constraints.

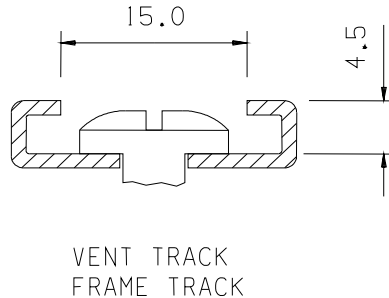


Fig. 3

- 9.1.13 When installing hinges the following points should be adhered to:-

- 9.1.13.1 All hinge fixings should go through sufficient thickness or into screw channels. If this cannot be achieved Rivnuts or similar should be used.
- 9.1.13.2 Screw manufacturer's recommendations must be adhered to at all times and if any instructions are supplied by window system manufacturers/suppliers, it is important they are followed.
- 9.1.13.3 Extreme care must be taken not to strip the thread as deterioration in performance will result.
- 9.1.13.4 Austenitic and certain types of modified Martensitic fixings provide superior corrosion resistance when subject to BS EN ISO 9227

Note: It is the responsibility of the window manufacturer to ensure that all fixing screws have adequate strength to support the weight of the sash and the forces exerted upon it over the full life of the window.

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FITTING INSTRUCTIONS: Installation

Adjustment

9.1.14 All Parallel Plus hinges feature adjustable pivots at the top and bottom of each track (see Fig. 4) which can be used to help maintain parallelism between the vent and frame. Adjustment is achieved as follows:

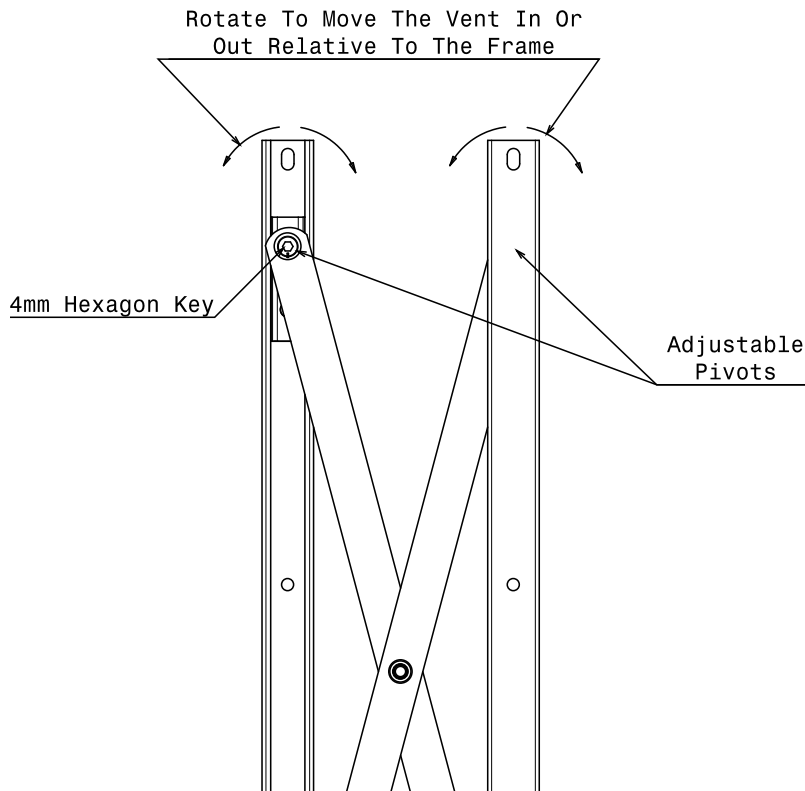


Fig. 4

- Open parallel vent to specified maximum opening position.
- Insert a 4mm hexagon (Allen) key into the top pivot on the frame track side and rotate to move the vent in or out relative to the frame.
- If further adjustment is required repeat process on the bottom pivot on the frame track and the top/bottom pivots on the vent track.

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PERFORMANCE AND MAINTENANCE

Environmental Constraints

9.2.1 Normal operating conditions for all hinges are:

9.2.1.1. Operating temperature range -20°C to +60°C

9.2.1.2. Operating humidity range 10% Relative Humidity to 95% Relative Humidity

9.2.2 The materials used will not degrade due to ultra violet light, or when using neutral acidity non solvent cleaning chemicals, at a rate faster than other parts of the window assembly.

Heat and Smoke Ventilation

9.2.3 Operating temperature range -20°C to +300°C. The product will resist the maximum temperature for 5 minutes and will operate once to fully opened position when maximum temperature is achieved in accordance with EN 12101-2.

Maintenance and Lubrication

9.2.4 As with most mechanical devices, hinges require periodic maintenance and lubrication. The hinge in general and particularly the pivots, sliding parts and track must be kept free from dirt, debris and any obstructions at all times.

9.2.4.1 **At Time of Installation** - lubricate all pivot points with general light engineering oil and wipe away excess. One drop per pivot is sufficient.

9.2.4.2 **Every Five Years** - carry out the following checks:

- a. Clean any dirt or debris from the hinge and clear any obstructions from the pivots, sliding parts and track.
- b. Apply lubrication as detailed in 9.2.4.1 above.
- c. Check the tightness and security of all fixing screws and rivets.

Hinge Operating Life

9.2.5 To attain optimum operating life all criteria listed above under environmental constraints, vent sizes weights, opening distances and maintenance and lubrication must be adhered to.

9.2.6 Parallel hinges will function for at least 20,000 cycles under normal conditions of use. This performance is subject to compliance with SECURISTYLE® installation and maintenance instructions.

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PERFORMANCE AND MAINTENANCE

Corrosion Resistance

- 9.2.7 When subjected to a 500 hour neutral salt spray test to EN ISO 9227 the hinge remains functional. There is no significant surface pitting caused by corrosion. Some surface discolouration is to be expected.
- 9.2.8 If a hinge is fitted in an area where it is exposed to a corrosive atmosphere, e.g. salt laden sea air in coastal locations, we recommend that in addition to the general maintenance and lubrication:
- 9.2.8.1 All metal surfaces are lightly coated with lubrication oil or sprayed with a proprietary anticorrosion spray. It is important to follow the manufacturer's instructions for any products used.
 - 9.2.8.2 Maintenance operations may need to be carried out more frequently. This is dependent on the severity of the prevailing conditions.

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PRODUCT SPECIFICATION

Product and Materials Specification

9.3.1 The following is a guide to the materials used for Parallel hinges.

9.3.1.1 **Surface Finish** - All surface finishes are of good commercial quality.

- Stainless steel links are of cold rolled finish and are edge dressed to remove any sharp edges as far as practical.
- Stainless steel track is of bright cold rolled finish.
- Stainless steel components will not display surface blemishes, pits or scratches of greater than 20 sq. mm or 0.25mm maximum depth.
- Plastic components are of uniform finish and colour. Visible surfaces will not display blemishes, pits or scratches of greater than 15 sq. mm or 0.2mm maximum depth.
- Die cast components are finished with copper nickel chrome plating

Standards Applicable for Parallel Hinges

9.3.2 The relevant standards applicable are:

Links	-	Stainless steel to BS EN 10088-2 GRADE 1.4301
Track	-	Stainless steel to BS EN 10088-2 GRADE 1.4301
Pivots	-	Stainless steel to BS EN 10263-5 GRADE 1.4567
Slider Inner	-	Stainless Steel to BS EN 10088-2 GRADE 1.4301
Slider Outer	-	Zytel HTN FE8200 NC010
Pivot Washer	-	Nylon
Pivot Blocks	-	Zinc Alloy ZA5 plated with Copper Nickel Chrome
Bush	-	Phosphor Bronze PB102

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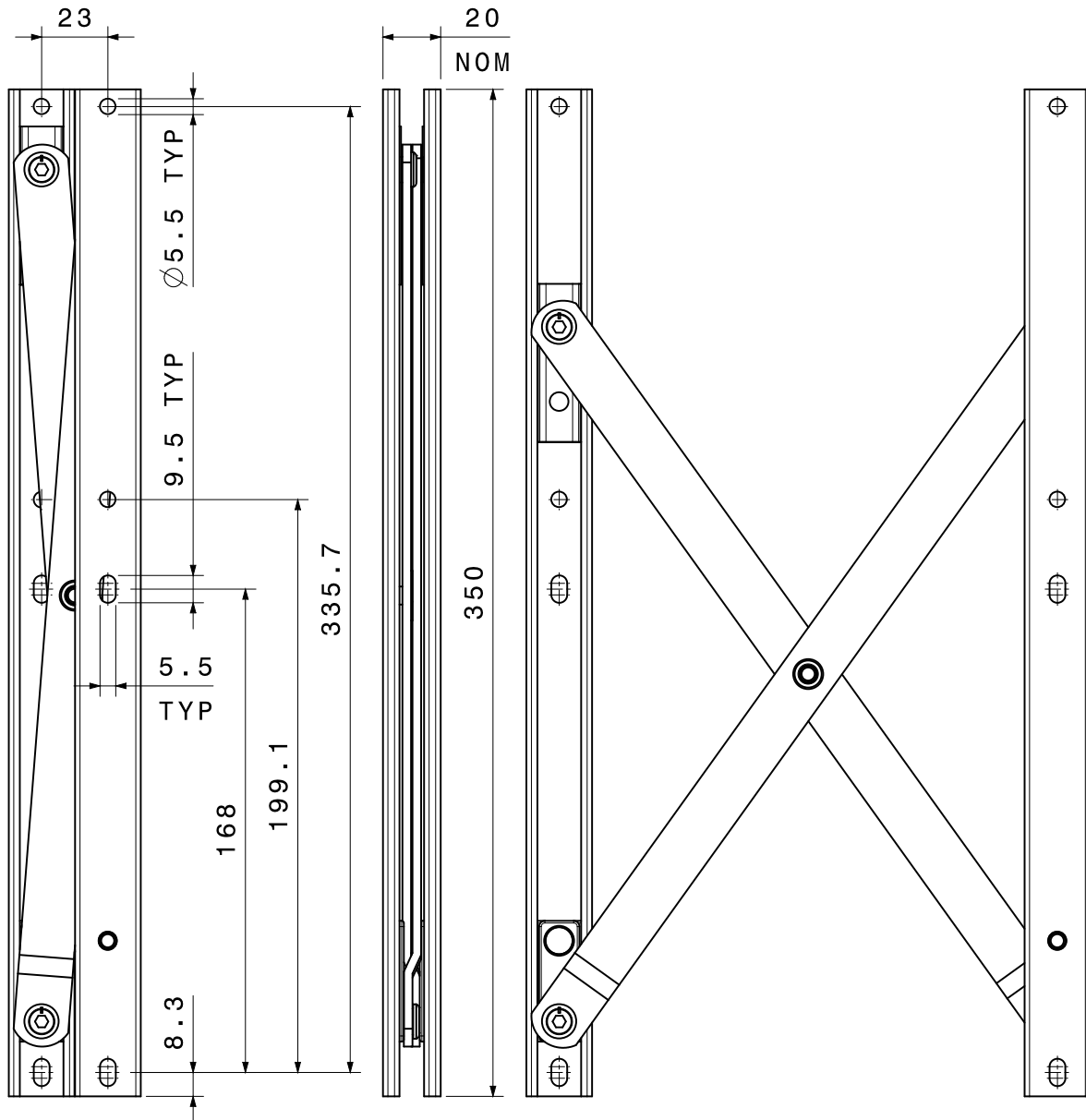
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HINGES

ASSEMBLY SHEETS – PX0350

Parallel Plus Opening Hinge



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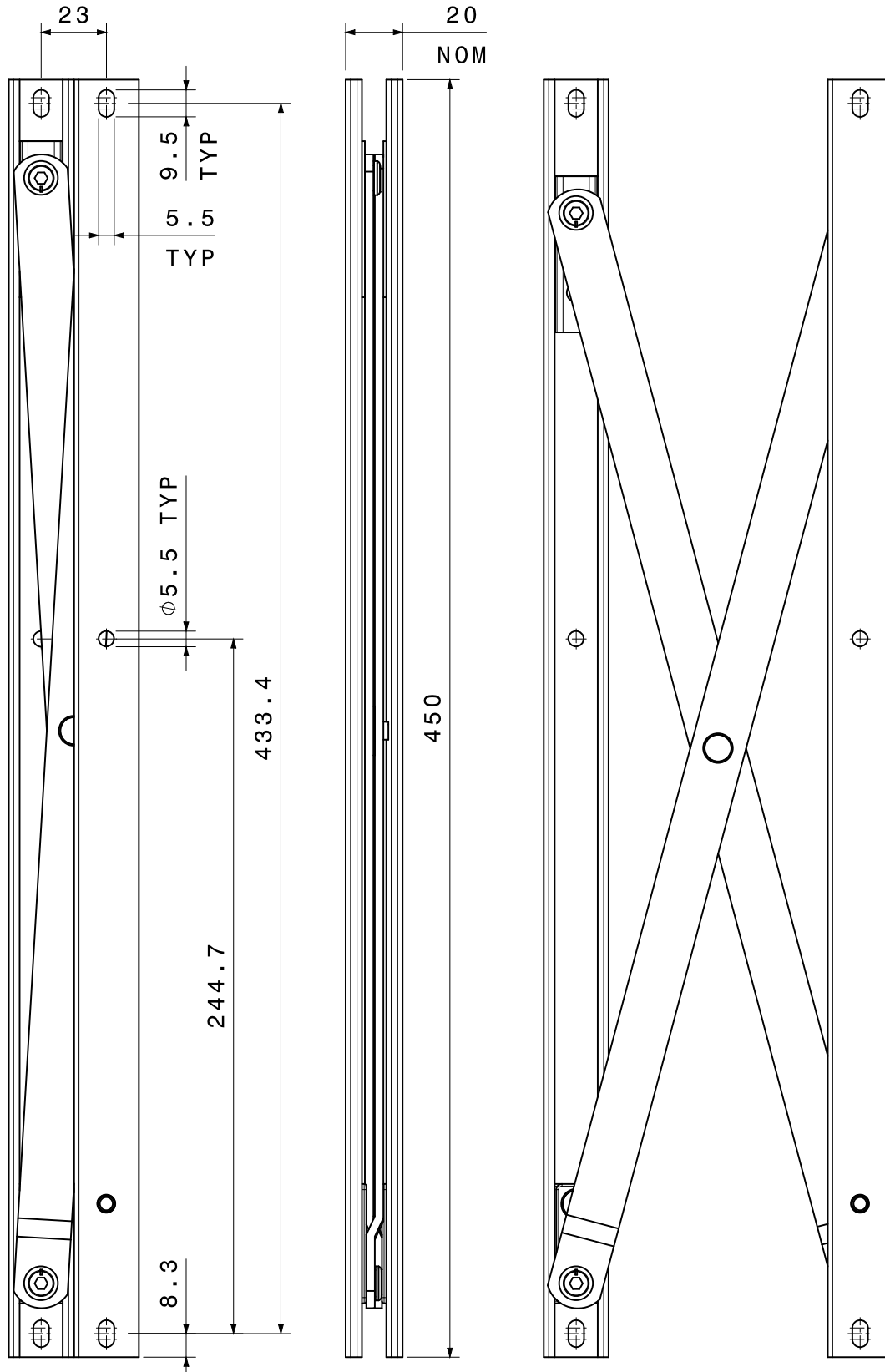


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HINGES

ASSEMBLY SHEETS – PX0450

Parallel Plus Opening Hinge



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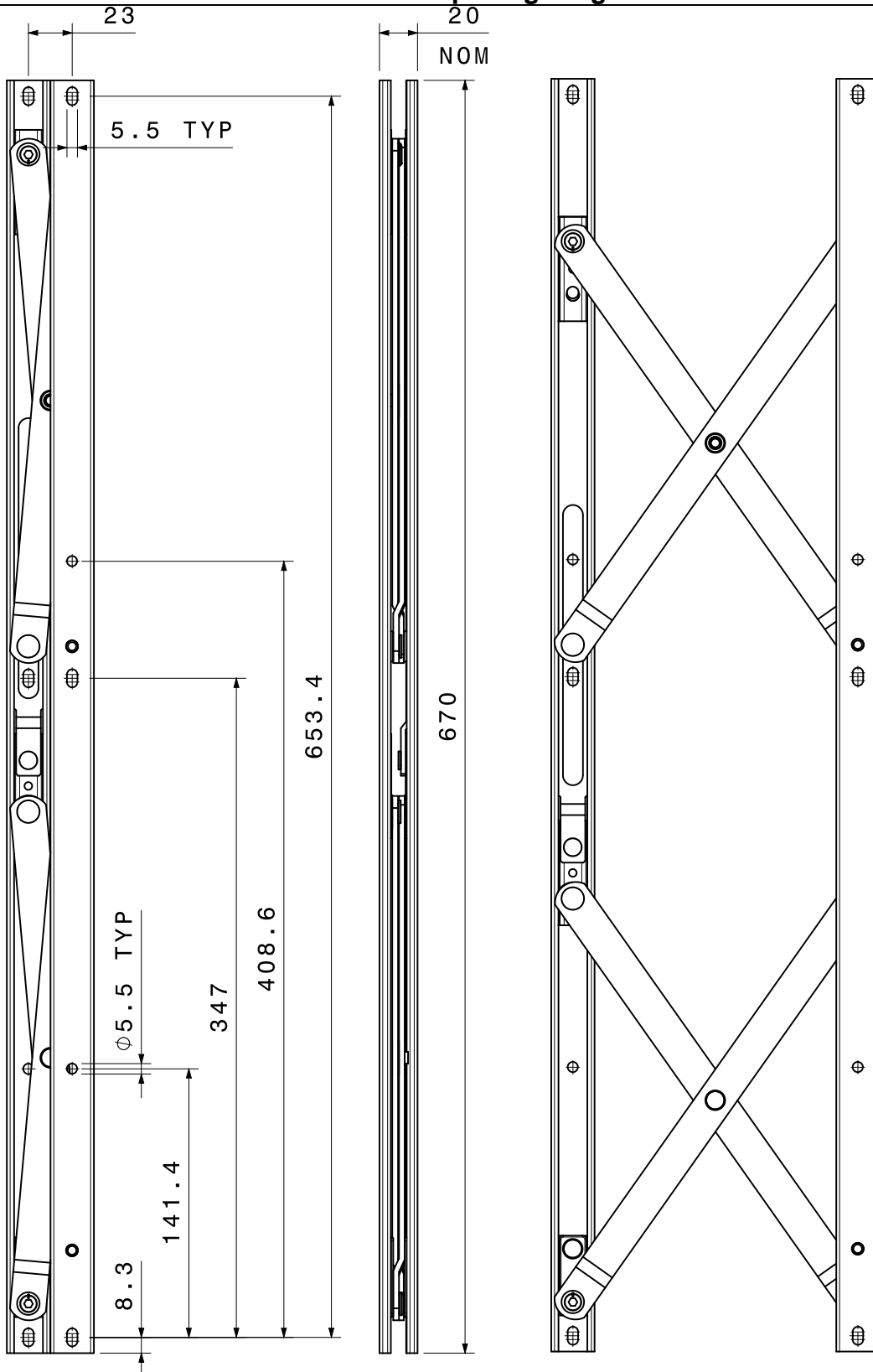


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HINGES

ASSEMBLY SHEETS – PX0670

Parallel Plus Opening Hinge



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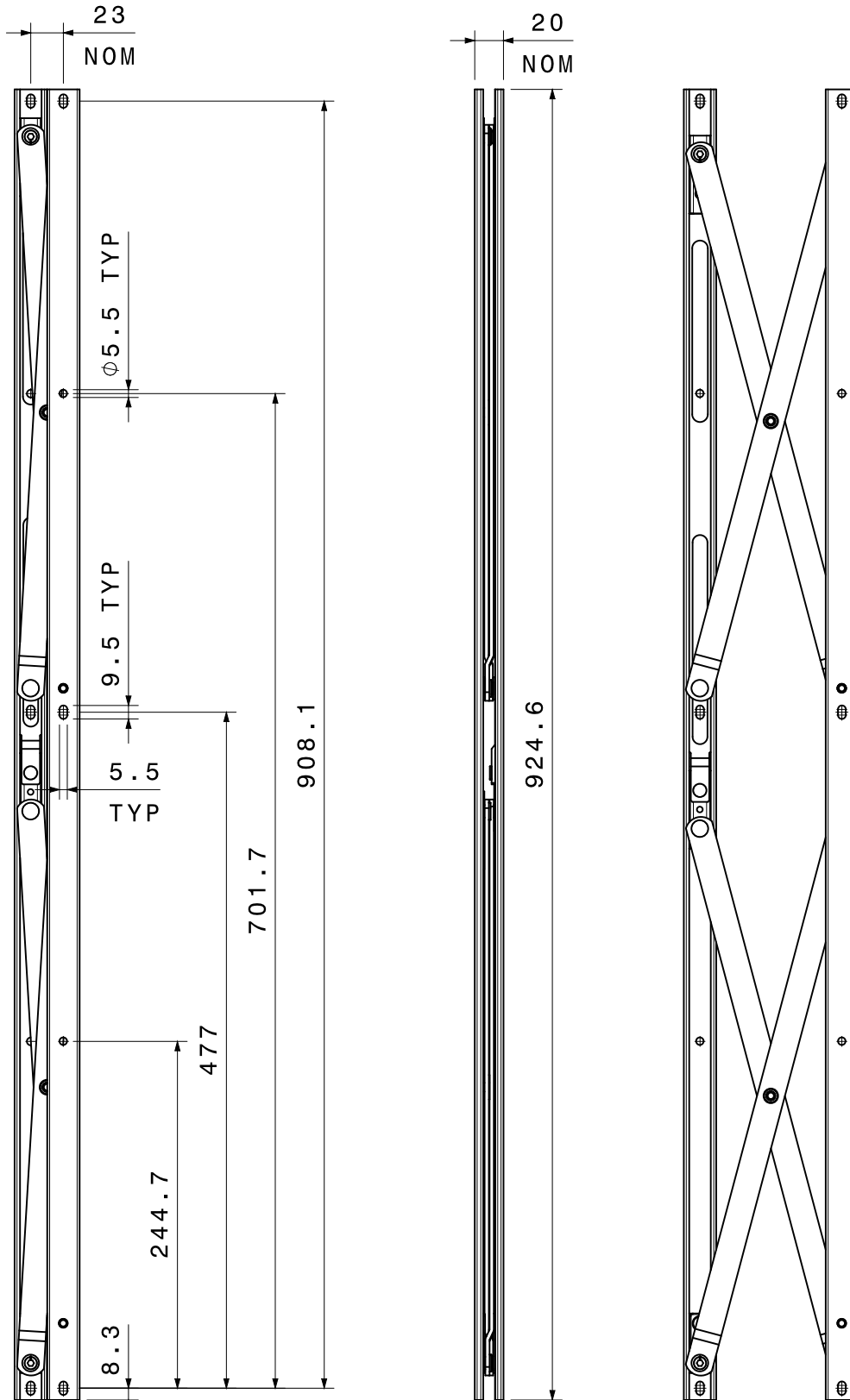


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HINGES

ASSEMBLY SHEETS – PX0950

Parallel Plus Opening Hinge



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