

TENSOR

Double-Acting
Hinge



DORMA TENSOR Double-Acting Hinge

— Convenience & Precision



Tempered glass doors are increasingly popular in both commercial and residential markets and designers often choose to fit them with double-acting hinges.

The DORMA TENSOR double-acting hinge is suitable for a wide range of applications, including conversions and renovations. The hinge is installed directly at the masonry or to a non-rebated frame. These hinges can also be installed directly to a fixed tempered glass panel, the only double-acting hinge on the market to do so.

The TENSOR hinge offers an automatic closing function engineered to bring the door safely back to its zero position

—a position adjustable within the hinge at any time to ensure that double-leaf doors remain precisely aligned. This convenient feature eliminates the need for a concealed floor or overhead closer, which may be ruled out due to on-site job constraints.

TENSOR's slightly convex, curved outline is derived from the award-winning ARCOS design. An inlay embossed with the DORMA logo provides a mechanical stop, protecting the hinge surface against damage when the door is opened to 90°. The inlay also protects the hinge's technical core—the simple, high-precision zero-position adjustment mechanism. This mechanism ensures the double-acting

door closes efficiently and effectively.

At 90°, the TENSOR system holds the door firmly and securely in position. Once pushed in the closing direction, the spring mechanism of the TENSOR fitting takes over, operating from an angle of 80°. The door closes quickly and securely. And while the torque of 8 lb-ft (10 Nm) will keep the door conveniently closed, only 9 lb-ft (12 Nm) is sufficient to open it.

DORMA TENSOR hinges have been successfully tested for 500,000 operating cycles, making TENSOR a perfect addition to the DORMA family of top quality products.



Technical Details

- Hinge with spring-aided self-closing function
- Suitable for both private residences and public buildings with heavy traffic volume
- Single or pair of doors
- Versions for wall or frame mount; also available for fixing to glass side panel
- Hold-open feature at 90° related to adjustable zero position
- Fast and easy zero-position adjustment, (patent pending)
- Max. torque: 9 lb-ft (12 Nm)
- Max. door weight: 143 lb (65 kg)
- Max. door width: 39-3/8" (1000 mm)
- Max. side panel width: 59" (1500 mm)
- For 3/8" (10 mm) or 1/2" (12 mm) tempered glass
- TUV-tested/third-party verification with respect to quality and the production process; confirmed completion of 500,000 operating cycles

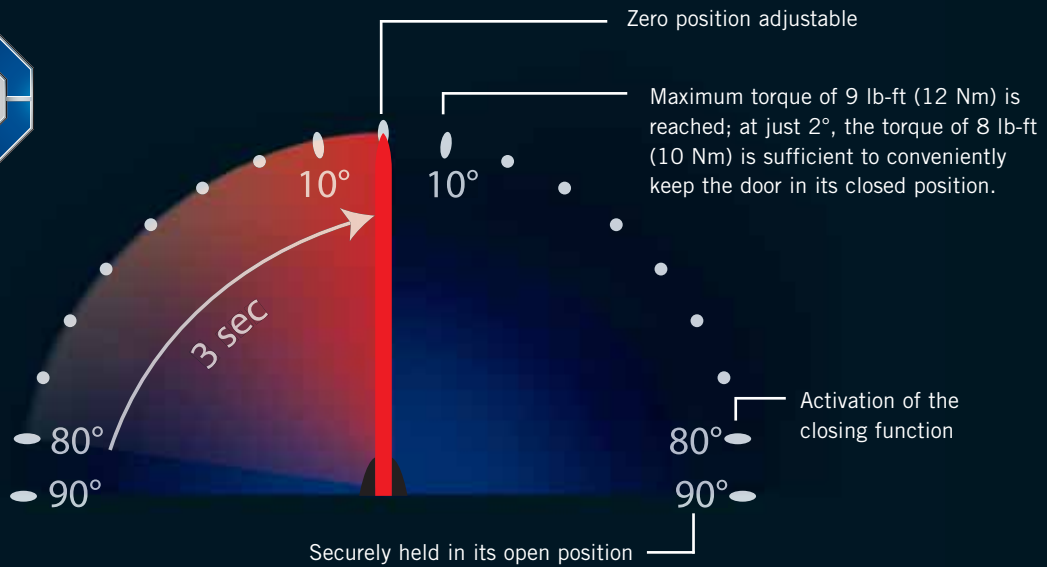
Top Quality Means 500,000 Operating Cycles

DORMA offers only top quality products and TENSOR double-acting hinges are no exception. Tested by TÜV SUD Group—a world-leading international product testing and certification company—

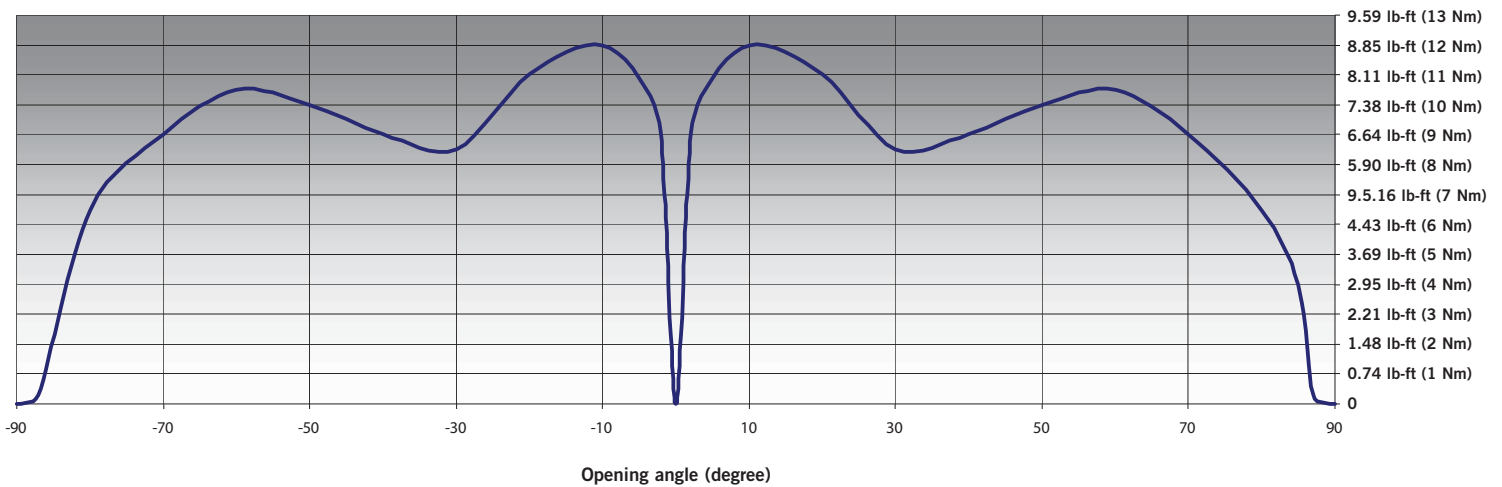
TENSOR hinges have successfully completed the recommended operating cycle test. This test requires hinges to maintain a 3-second closing speed throughout all 500,000 cycles.

TENSOR is the only product of its kind to successfully complete the test, as well as the only double-acting hinge on the market with a glass-to-glass mounting application. Given these

distinctions, the TENSOR double-acting hinge is a perfect addition to the DORMA family of top quality products.



Average values for a door with two TENSOR hinges

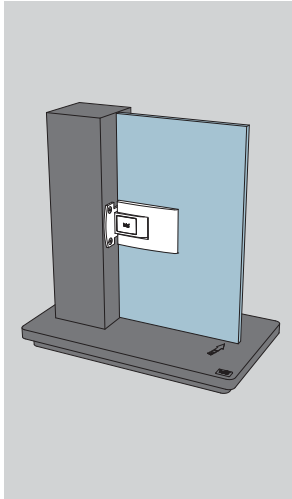


TENSOR Samples

TENSOR samples are available for showrooms and trade shows. Both glass-to-wall and glass-to-glass installation

samples can be provided. Samples are made with 1/2" (12 mm) tempered glass and heavy-duty MDF materials for

support. All samples are provided in Aluminum EV1 Deco, similar to clear anodized finish (114).



Wall Mount Installation Sample, surface-mounted

TENSOR double-acting hinge with reduced spring load for demonstration purposes, 1/2" (12 mm) glass panel fixed to a timber construction mounted on a support floor of black-dyed MDF board.

Dimensions:
height 17-5/16" (440 mm)
width 16-5/16" (430 mm)
depth 9-3/8" (250 mm)

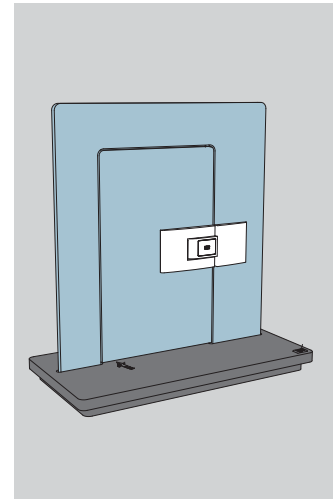
Art.-No. 812.553
Finish: Aluminum EV1 Deco

Glass Mount Installation Sample

TENSOR double-acting hinge with reduced spring load for demonstration purposes, 1/2" (12 mm) glass panel, fixed to glass frame, inserted in support floor of black-dyed MDF board.

Dimensions:
height 20-1/2" (520 mm)
width 19-11/16" (500 mm)
depth 4-7/8" (250 mm)

Art.-No. 812.555
Finish: Aluminum EV1 Deco



Installation

The simple steps illustrated below demonstrate how to install a TENSOR hinge.

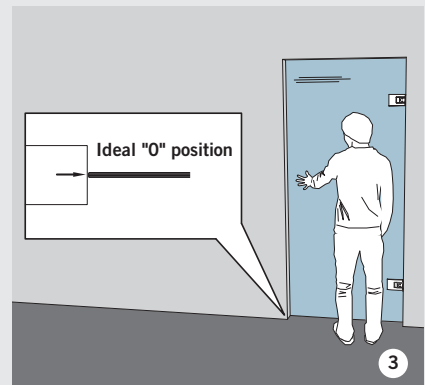
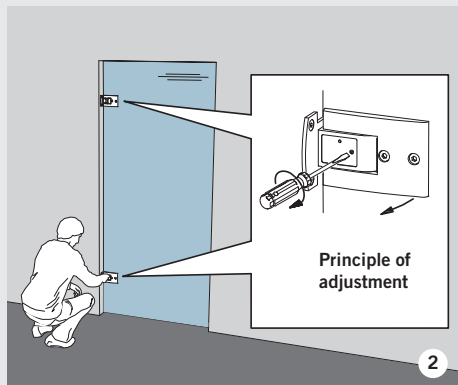
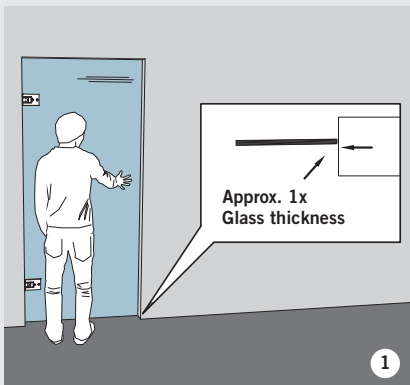
Once the hinge has been installed and correctly set, the door returns to the closed

position quickly and reliably—effective zero-point adjustment with TENSOR.

- 1 Pushing by hand, move the door approximately 1/2" (12 mm)—or the thickness of the glass—from the desired zero position.

- 2 Turn the bottom hinge adjustment screw clockwise just until the door panel begins to move. Then turn the adjustment screw in the top hinge clockwise until the door panel has reached the zero position.

- 3 Pass through the door to the opposite side and return the panel to its zero position by hand.



Finishes

TENSOR double-acting hinges are available in four finishes as shown below:



Aluminum EV1 Deco,
similar to Clear Anodized (114)



Aluminum,
similar to Satin Brass (105)



Aluminum, similar
to Satin Stainless Steel (113)



Polished Chrome (122)

4 Tighten the adjustment screws in the top and bottom hinges by turning clockwise.

5 Pass through the door again, and tighten the adjustment screws at the top and bottom from this side as well.

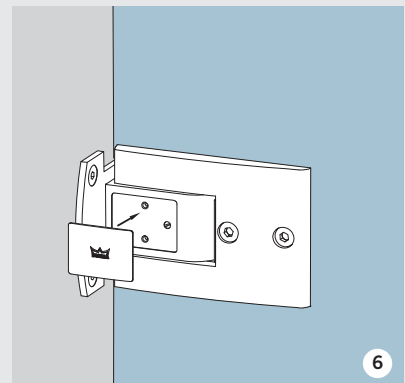
6 Now the door will always return to the adjusted zero position. Finally, press the inlay caps into position by hand.



4



5



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Typical Assemblies

TENSOR double-acting door fixed to wall/frame with surface-mounted mounting plate

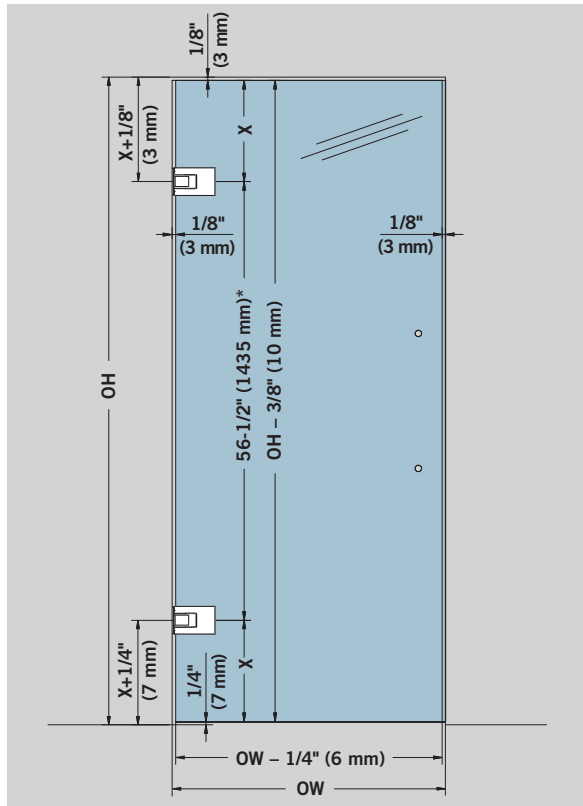
Single Door

Fittings for 3/8" (10 mm) or 1/2" (12 mm) glass

Max. door weight:
143 lb (65 kg)
Max. door width:
39-3/8" (1000 mm)

OH = finished opening height
OW = finished opening width
Glass height =
OH - 3/8" (10 mm)
Glass width =
OW - 1/4" (6 mm)

*for glass height
70-7/8" - 98-1/2"
(1800 - 2500 mm)



TENSOR double-acting door fixed to wall/frame with surface-mounted mounting plate

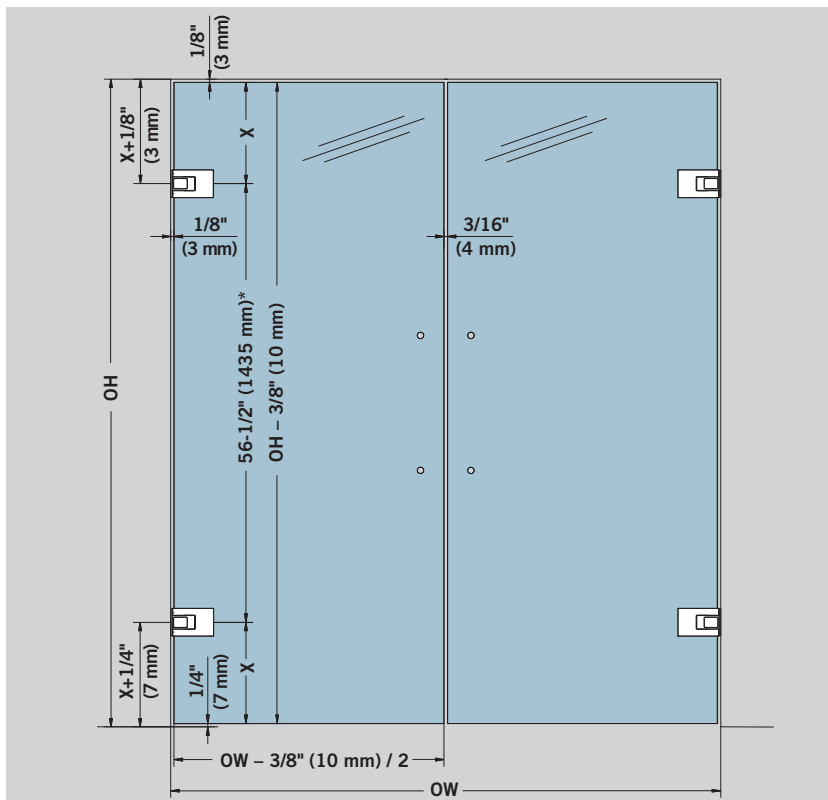
Pair of Doors

Fittings for 3/8" (10 mm) or 1/2" (12 mm) glass

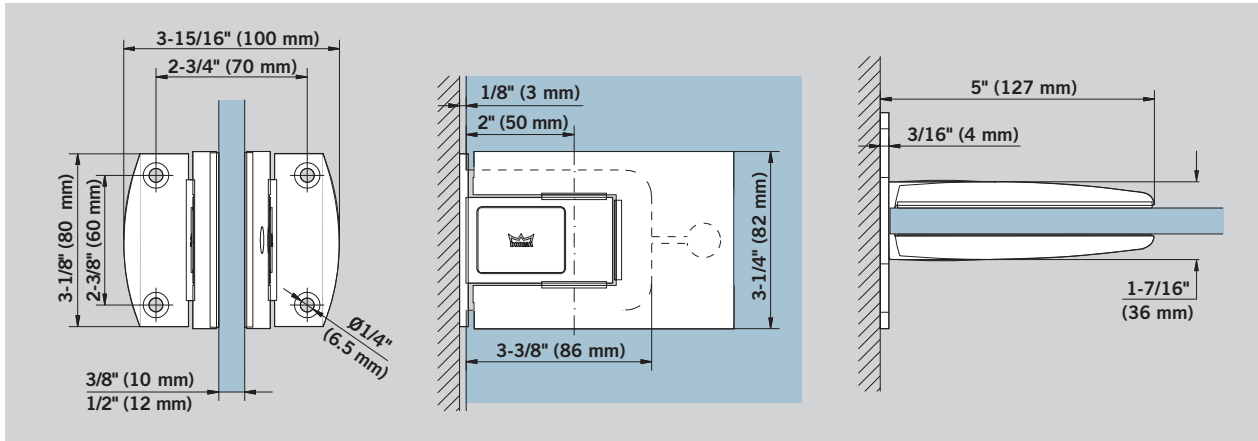
Max. door weight:
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Max. door width:
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OH = finished opening height
OW = finished opening width
Glass height =
OH - 3/8" (10 mm)
Glass width =
OW - 3/8" (10 mm) / 2

*for glass height
70-7/8" - 98-1/2"
(1800 - 2500 mm)



TENSOR Double Acting Hinge



Pair of double-acting hinges incl. mounting plate, round; for installation onto wall or frame with surface-mounted mounting plate

for 3/8" (10 mm) or 1/2" (12 mm) tempered glass

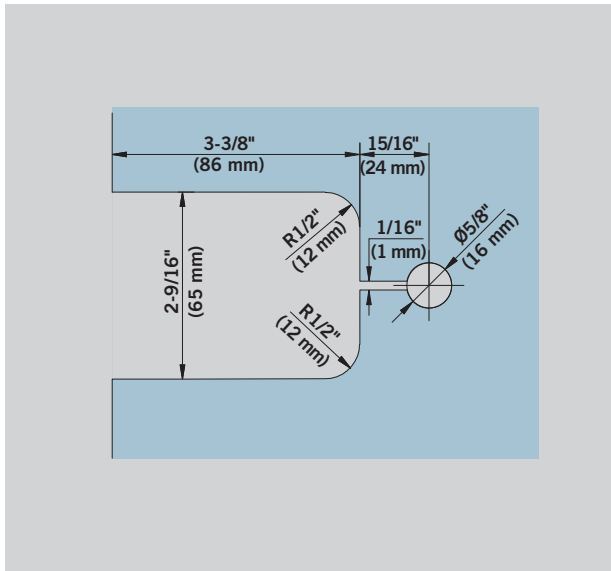
Art. No. 812.520

Set of two hinges

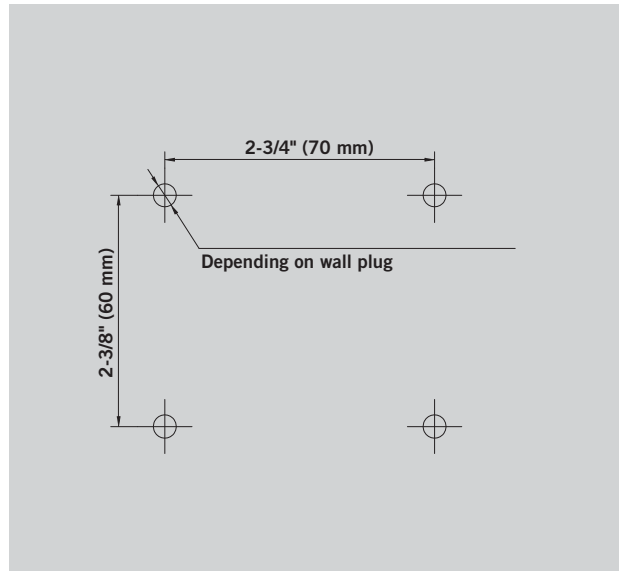
Finishes:

- Aluminum EV1 Deco, similar to Clear Anodized (114)
- Aluminum, similar to Satin Stainless Steel (113)
- Aluminum, similar to Satin Brass (105)
- Polished Chrome (122)

Glass Preparation — Drilling Scheme



Note: Requires a suitable substructure.



Typical Assemblies

TENSOR double-acting door fixed to frame with embedded mounting plate

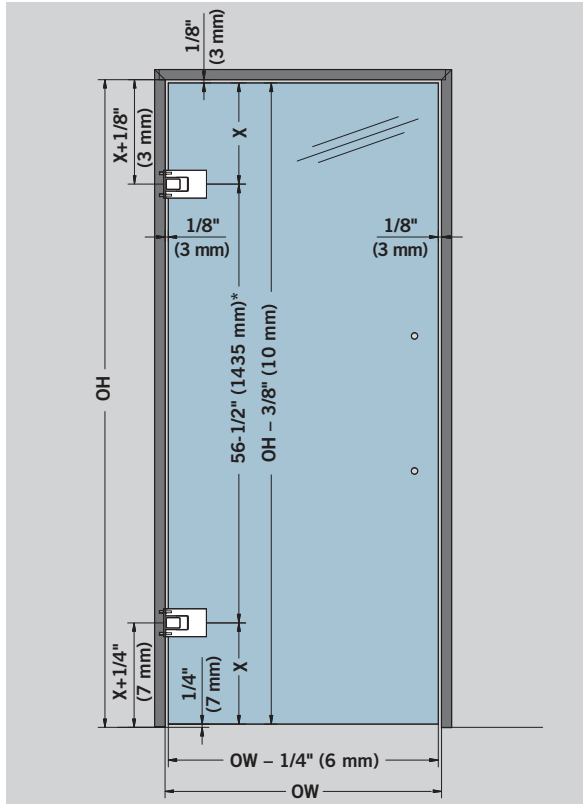
Single Door

Fittings for 3/8" (10 mm) or 1/2" (12 mm) glass

Max. door weight:
143 lb (65 kg)
Max. door width:
39-3/8" (1000 mm)

OH = finished opening height
OW = finished opening width
Glass height =
OH - 3/8" (10 mm)
Glass width =
OW - 1/4" (6 mm)

*for glass height
70-7/8" - 98-1/2"
(1800 - 2500 mm)



TENSOR double-acting door fixed to frame with embedded mounting plate

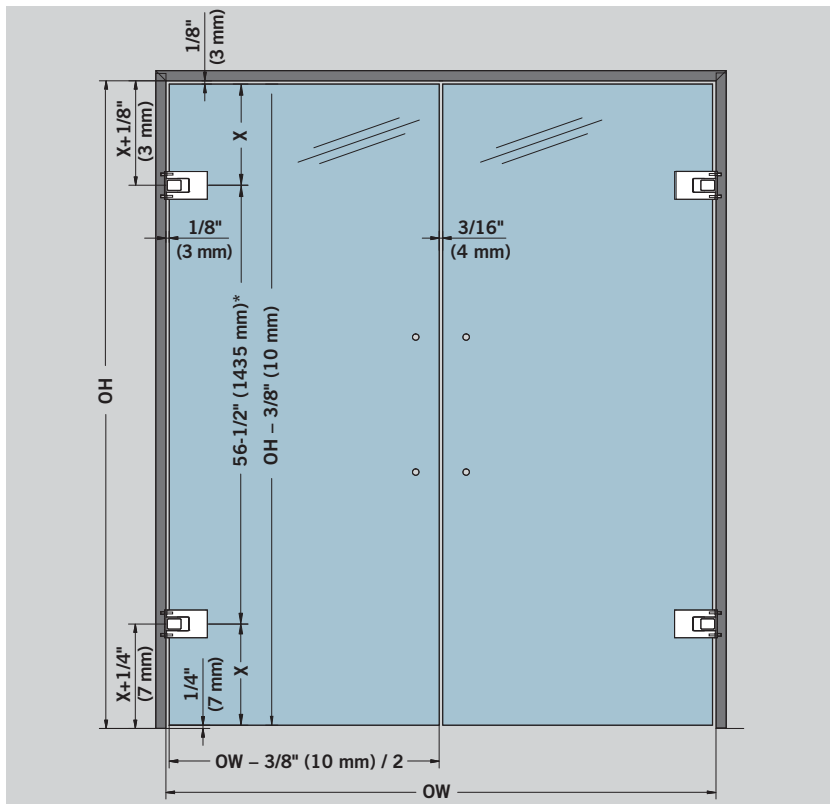
Pair of Doors

Fittings for 3/8" (10 mm) or 1/2" (12 mm) glass

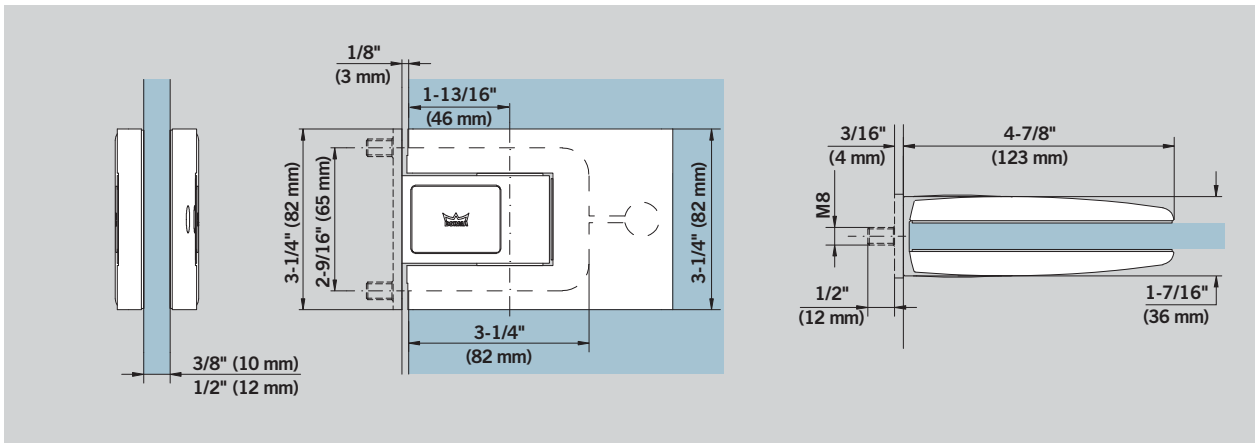
Max. door weight:
143 lb (65 kg)
Max. door width:
39-3/8" (1000 mm)

OH = finished opening height
OW = finished opening width
Glass height =
OH - 3/8" (10 mm)
Glass width =
OW - 3/8" (10 mm) / 2

*for glass height
70-7/8" - 98-1/2"
(1800 - 2500 mm)



TENSOR Double Acting Hinge



Pair of double-acting hinges
incl. mounting plate;
for installation into frame
with embedded mounting
plate

for 3/8" (10 mm) or 1/2"
(12 mm) tempered glass

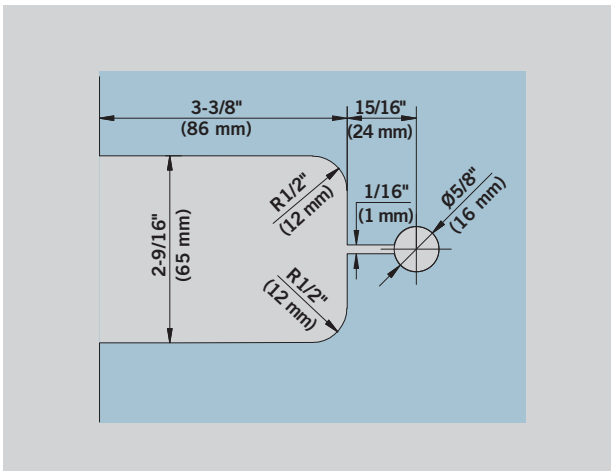
Art. No. 812.522

Set of two hinges

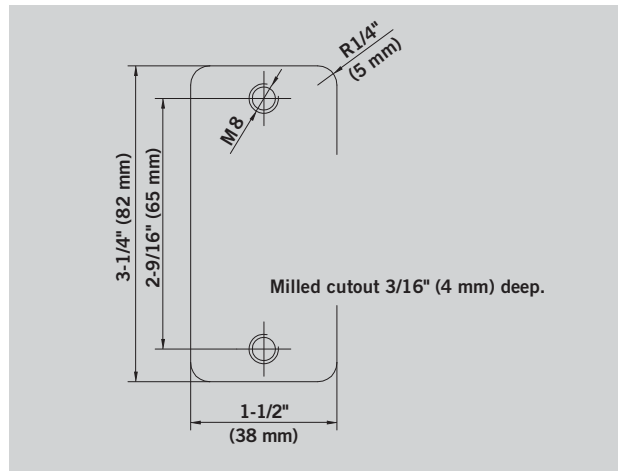
Finishes:

- Aluminum EV1 Deco, similar to Clear Anodized (114)
- Aluminum, similar to Satin Stainless Steel (113)
- Aluminum, similar to Satin Brass (105)
- Polished Chrome (122)

Glass Preparation — Drilling Scheme



Note: Requires a suitable substructure.



Typical Assemblies

TENSOR double-acting door fixed to glass side panel

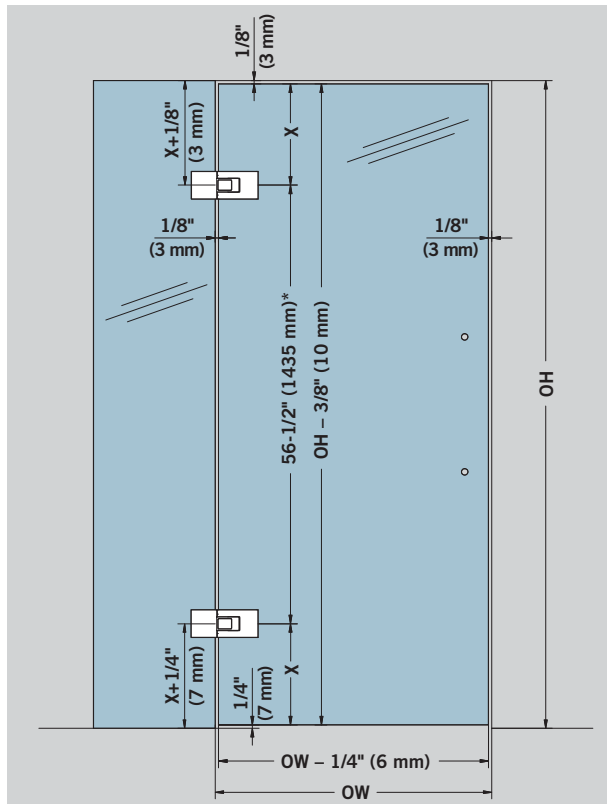
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Fittings for 3/8" (10 mm) or 1/2" (12 mm) glass

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Glass height =
OH - 3/8" (10 mm)
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70-7/8" - 98-1/2"
(1800 - 2500 mm)



TENSOR double-acting door to glass side panel

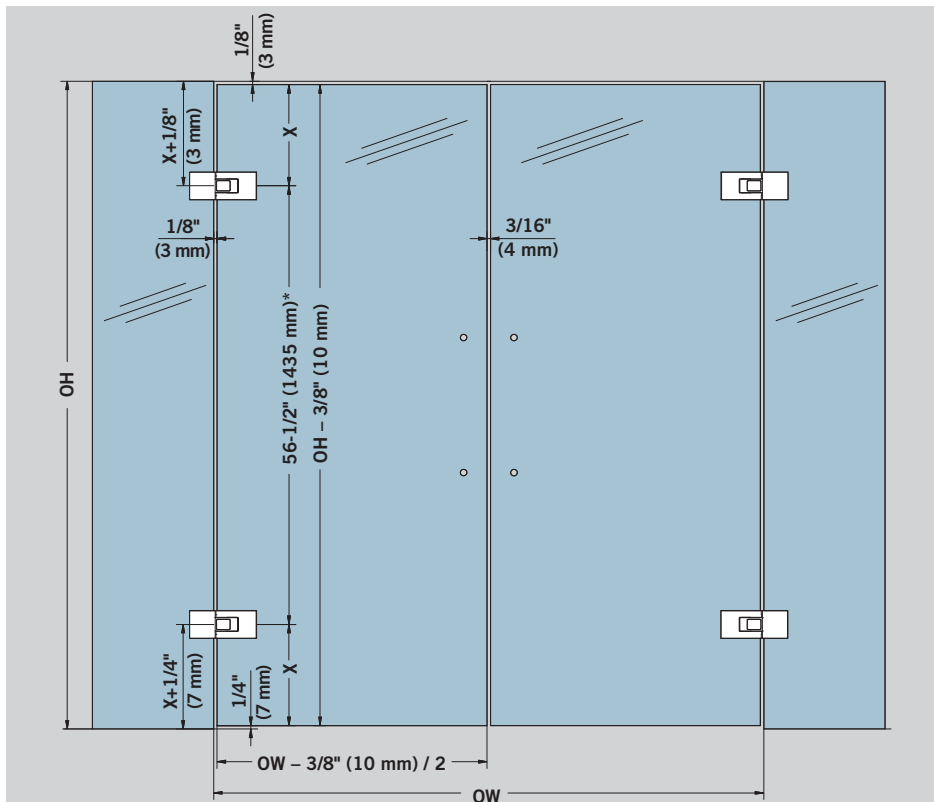
Pair of Doors

Fittings for 3/8" (10 mm) or 1/2" (12 mm) glass

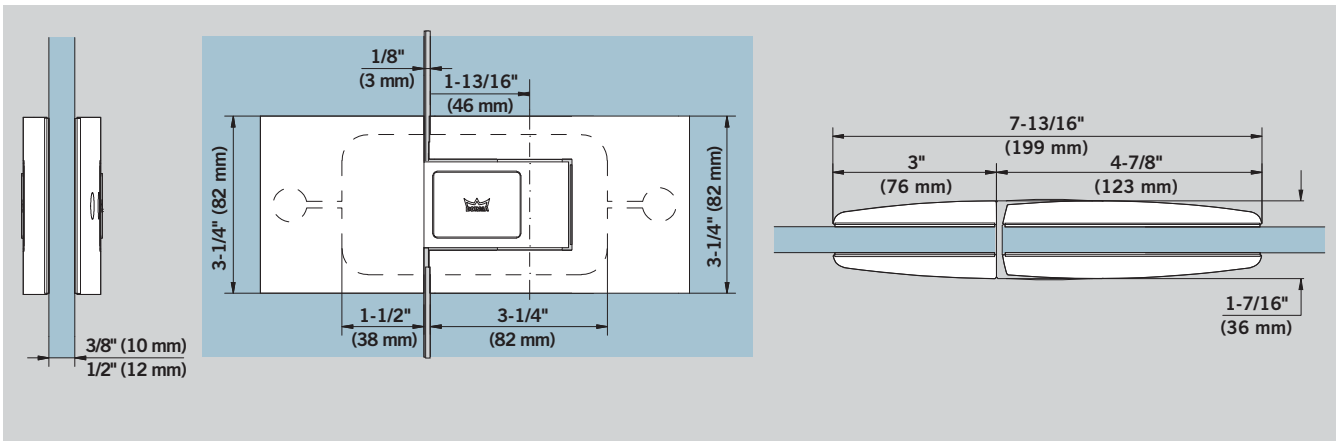
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*for glass height
70-7/8" - 98-1/2"
(1800 - 2500 mm)



TENSOR Double Acting Hinge



Pair of double-acting hinges
for installation glass to glass

for 3/8" (10 mm) or 1/2"
(12 mm) tempered glass

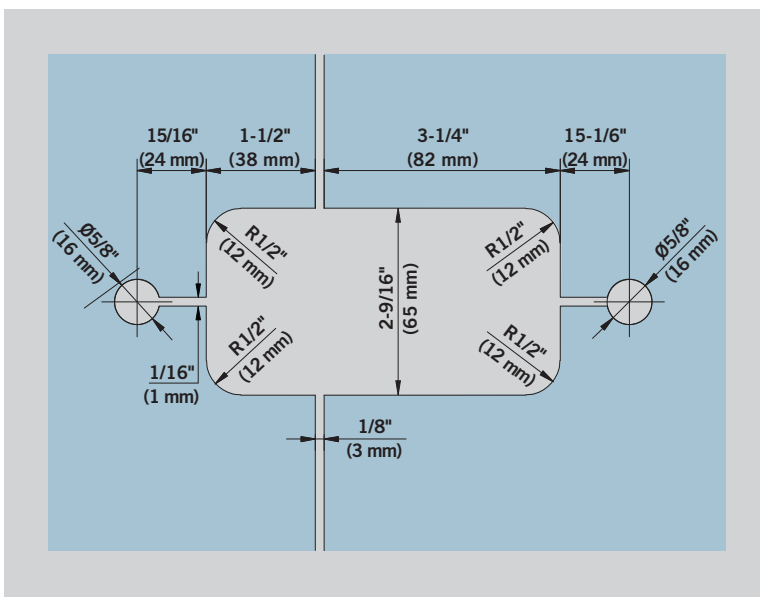
Art. No. 812.523

Set of two hinges

Finishes:

- Aluminum EV1 Deco, similar to Clear Anodized (114)
- Aluminum, similar to Satin Stainless Steel (113)
- Aluminum, similar to Satin Brass (105)
- Polished Chrome (122)

Glass Preparation — Drilling Scheme





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