

TechnoSun

External Motorized Roller Shades

By TechnoShade



Smart Window Solutions for Sustainable Architecture

TechnoSun

External Motorized Roller Shades



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Technoshade offers a wide range of External Roller Shades, dedicated provide solar protection to the internal space of the building, while adding a pleasant Architectural element to the facade.
 In order to resist to rain, External Roller Shade should be concealed inside an aluminium head box.
 In order to resist to wind, External Roller Shade should be guided by side guides or cables.
 In order to help fabric hang flat, External Roller Shade could be equipped with a Traction System.

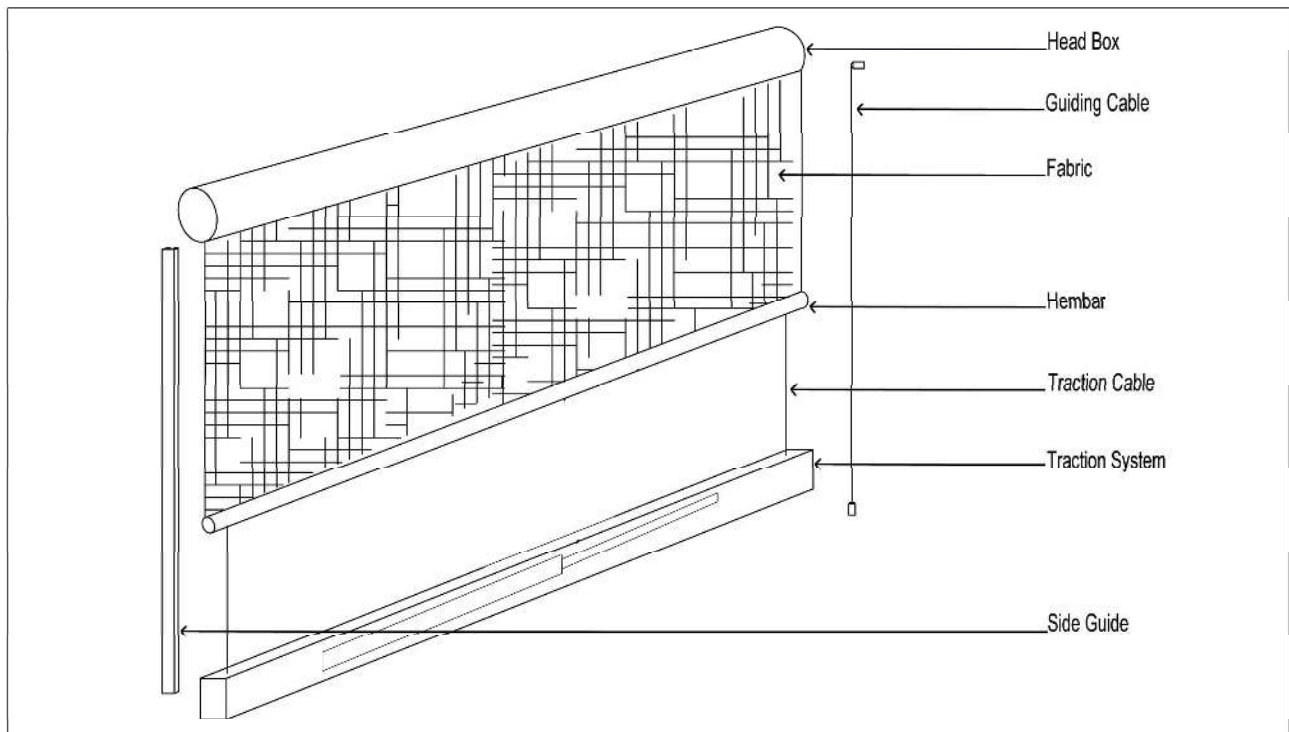
Below table shows different options for the main components of a TechnoSun:

nbr	Aluminum Housing (Headbox)	Guiding System	Traction / Tensionning	Hembar Size	Hembar Shape
1	Square	Stainless Steel Cable or Rod	Extra Weight for Gravity Drop	25 to 65mm	Circular
2	Square & Round	Side Track for Guiding Wheel	Tensionning by Spring	10x40mm	Rectangular
3	Circular	Side Guide for Zipper	Tensionning by Steel Coil	25x45mm	Pentagonal
4	Irregular	Side Guide for Plastic insert	Tensionning by Gaz Piston	55x110mm	Rectangular

By changing the type of Housing or Guiding or even the Traction System and Hembar, we can customize hundreds of different types and models of External Roller Shade (TechnoSun).

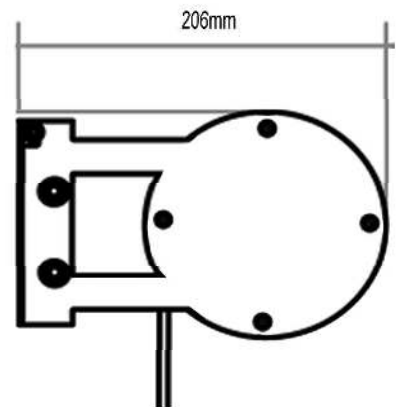
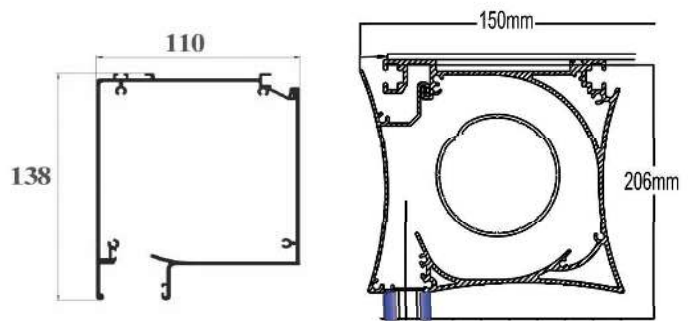
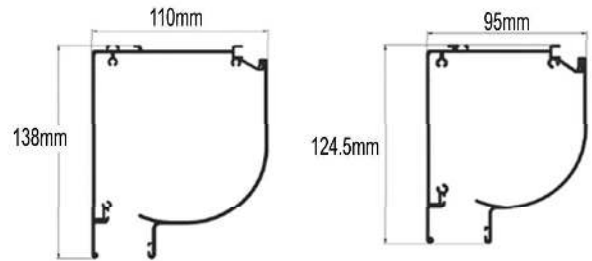
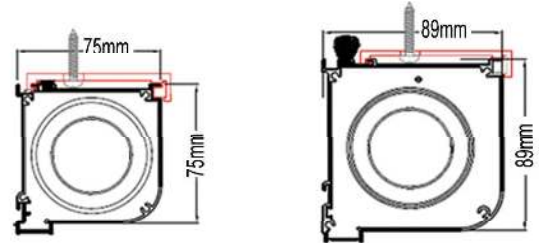
Through the following pages we will have the opportunity to show the main type and models of TechnoSun, featuring different Head boxes, Guiding Systems, Traction Systems and Hembars.

Exploded View (Simplified):



Aluminum housing system: Headbox

External motorized Roller Shades are most of the time fitted inside an aluminum headbox. There are a variety of aluminum headboxes that will be selected according to the roller shade dimension, the Architecture design of the facade, the after sales requirements of the project, the installation constraints and the type of guiding system dictated by the facade element or preferred by the Architect.

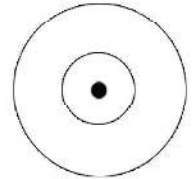


Guiding System

Guiding is essential for the proper functioning of an External Roller Shade. Different Guiding Systems can be used depending on the window/facade architecture,

Stainless steel cable:

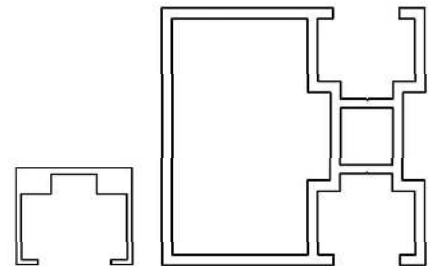
This option is the lighter one but it requires the cable to stay tightened during the life time of the Roller Shade. The Stainless steel cable is holding only the Hembar.



Side Guide for Hembar End Cap:

It is easier to install a Side Guide but this requires a space to accommodate it.

This option requires two aluminium profiles on both extremities of the Roller Shades where the Hembar's End Cap will slide when the Roller Shade is operating. The Side Guide is holding only the Hembar.

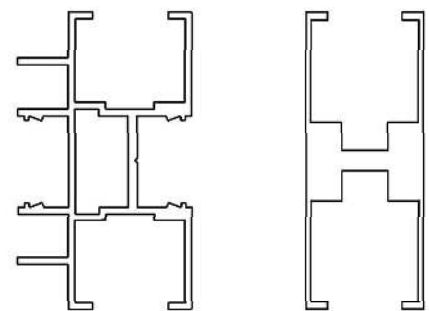


Side Track for Guiding Wheel:

This option requires two aluminium profiles on the sides but there will be two Guiding Wheels fixed on the extremities of the Hembar.

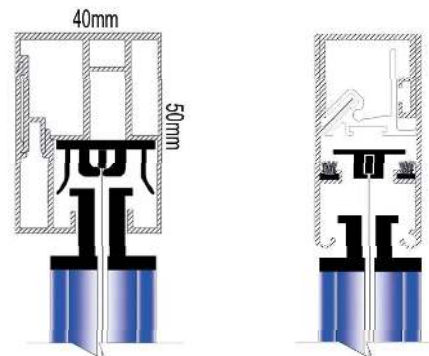
The Guiding Wheel will slide inside the Side Track and consequently will be well secured and will move without friction.

The Side Track is holding only the Hembar.



Side Guide for Zipper:

This option is the most performing as both Fabric and Hembar will be guided, all the way, during the movement of the shade. In this case the Side Guides conceal the zipper channel consequently have a bigger size than the two previous ones.



Traction System

Tensioning the Fabric is useful for facade exposed to wind as it prevents unnecessary flapping and protects fabric from tearing and at the same time makes it look better.

Different Traction Systems can be used depending the Window / facade Architecture and on the TechnoSun dimensions.

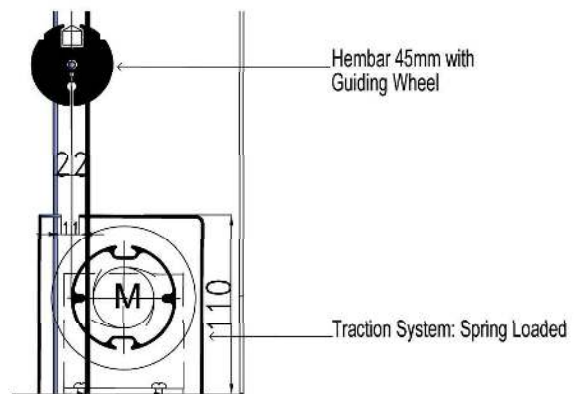
Extra Weight for Gravity Drop:

This option is the basic one as it relies on Gravity but has a limited impact for Tensioning the fabric. Bigger and heavier Hembars can be designed and produced to fit the required effect.



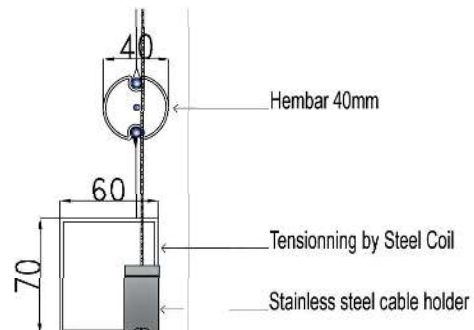
Tensioning by Spring (spring loaded):

Tensioning is made by a strong Spring that is always charged in order to keep the fabric under tension. The Spring will be concealed inside a rolling tube and a stainless steel cable connects the Spring assembly to the Roller Shade's Hembar. Fabric will have a motor from one side and a Spring assembly from the other side.



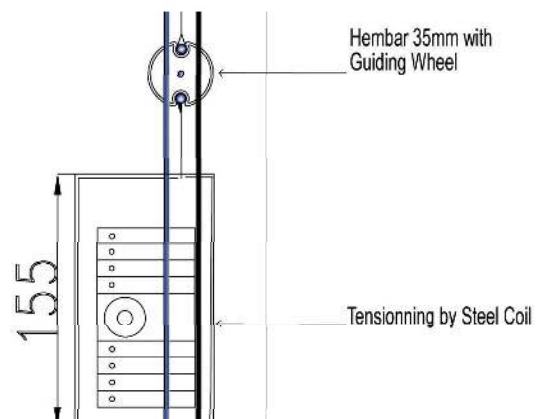
Tensioning by boxed Steel Coil:

Tensioning is made by a set of Steel Coils that are assembled inside a Steel Box, concealing the tension wire. The steel coils are always charged in order to keep the fabric under tension. Fabric will have a motor from one side and a boxed Steel Coil from the other side.



Tensioning by Gas Piston:

Tensioning is made by a Gas Piston that may be concealed inside the Hembar or inside an independent Housing. A stainless steel cable connects the Gas Piston assembly to the Roller Shade's Hembar. Fabric will have a motor from one side and a Gas Piston from the other side.



Hembar

Whether internal or external, every Roller Shade should have a Hembar.

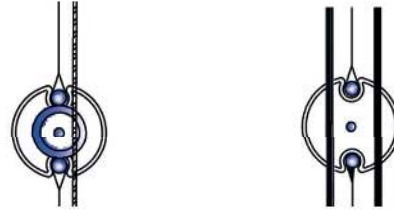
The Hembar size depends on the Roller Shade dimension, the shape depends on the Designer's choice but also on the guiding and tensioning system required.

We have selected, below, some of the Hembars used for External Roller Shade.

Circular 35mm Hembar:

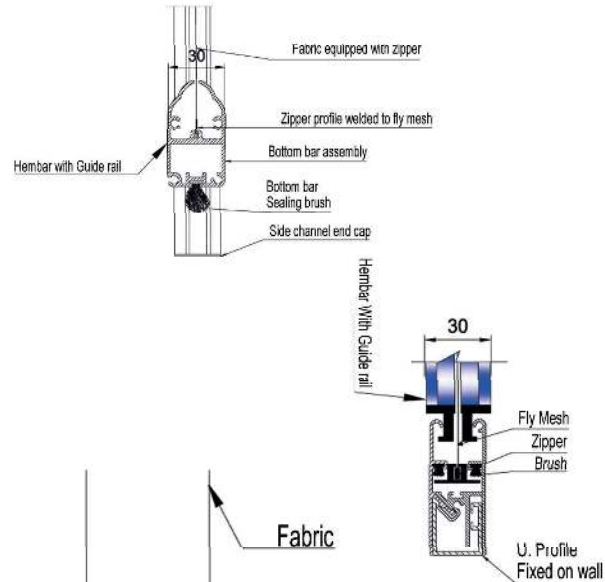
Could be use for both Gravity Drop and Tensioned External Roller Shade and can be guided by guiding wheel or stainless steel cable.

PS: The guiding cable was offset for clarity



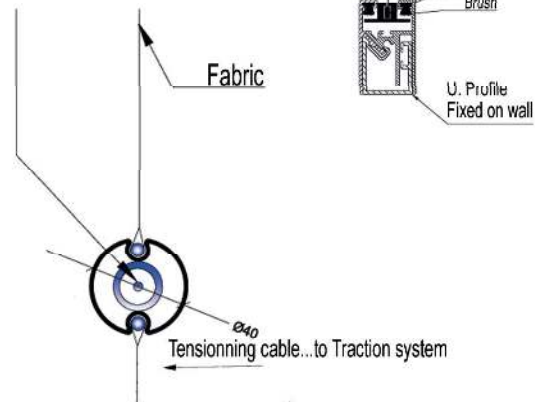
Pentagonal 25x45mm:

Could be use for both Gravity Drop and Tensioned External Roller Shade and can be guided by guiding wheel or Zipper.



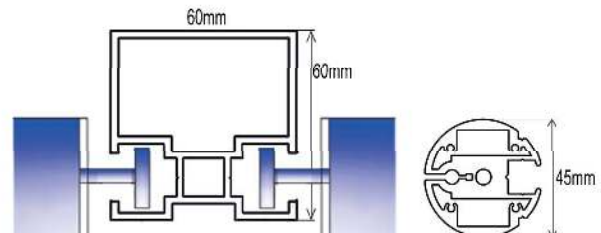
Circular 40mm:

This is a heavy Hembar for both Gravity Drop and Tensioned External Roller Shade and can be guided by guiding wheel, Stainless steel cable.



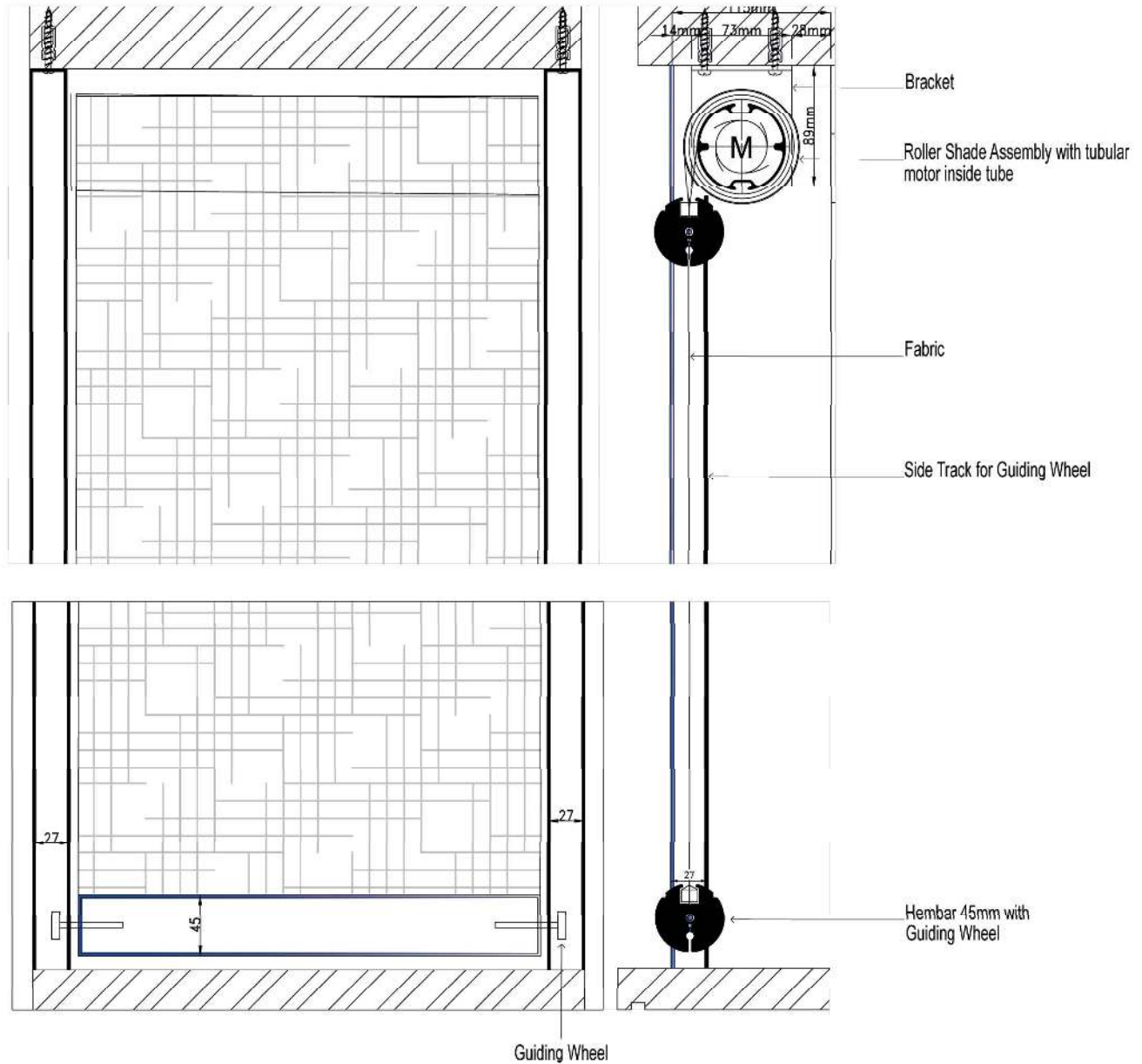
Circular 45mm:

This is a super heavy and multipurpose Hembar for both Gravity Drop and Tensioned External Roller Shade and can be guided by guiding wheel, Stainless steel cable or Zipper.



TechnoSun-0213-100-45

This configuration is convenient for external Roller Shades with moderate dimensions and when they are not directly exposed to rain and wind.



Housing: N/A (exposed Roller Shade)

Guiding System: Side Track for Guiding Wheel

Traction: Extra Weight for Gravity Drop

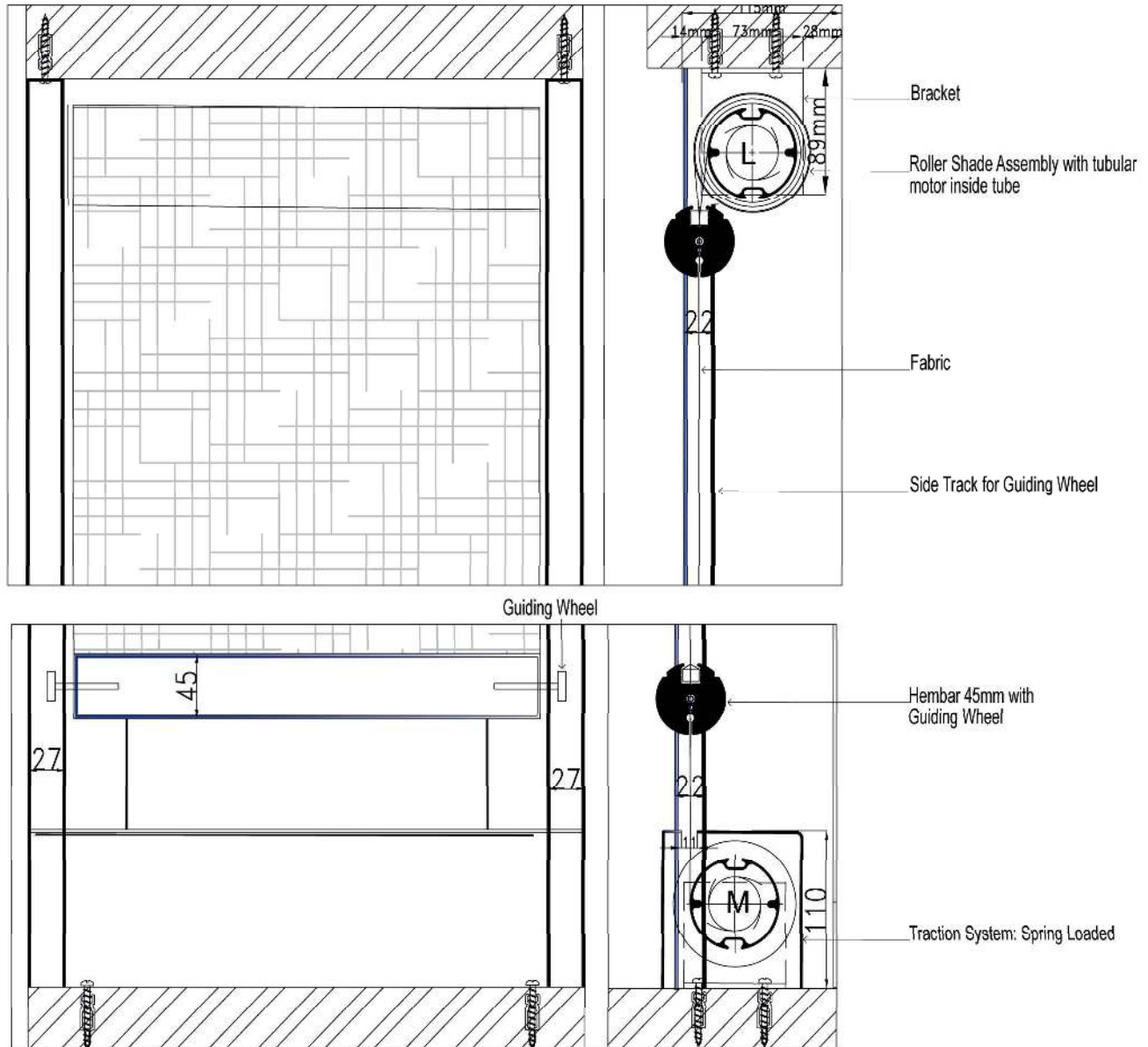
Hembar: 45mm - Super Heavy

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TechnoSun-0223-100-45

The presence of a Traction System allows bigger Roller Shade but since there is no Housing, the Roller Shade Assembly should not be directly exposed to rain.



Housing: N/A (exposed Roller Shade assembly)

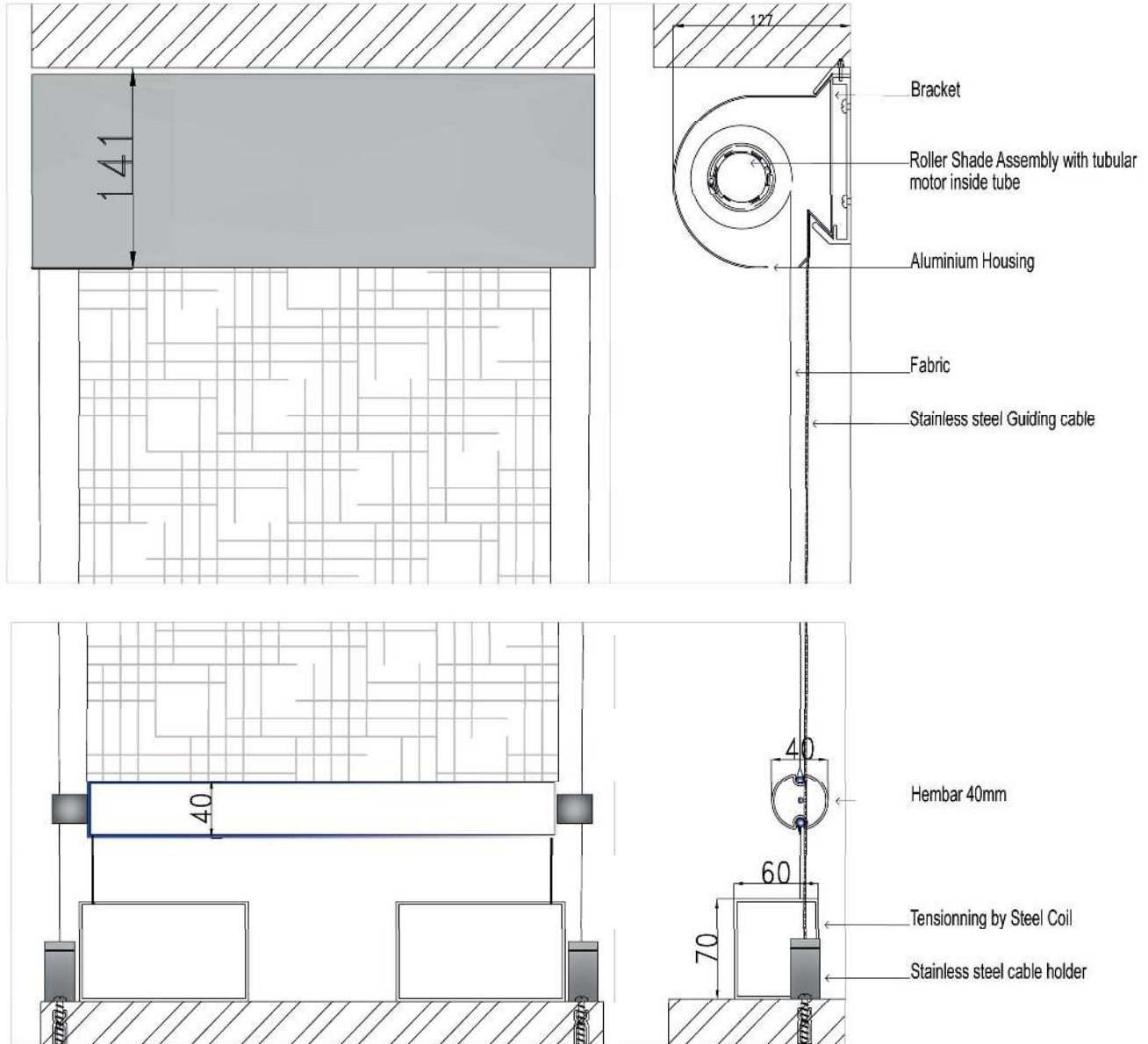
Guiding System: Side Track for Guiding Wheel

Traction System: Spring Loaded

Hembar: Circular 45mm - Super Heavy

TechnoSun-4131-141-40

The Roller Shade is concealed inside a half circular Headbox and the Traction System is based on a Steel Coil system concealed inside a rectangular steel box. The TechnoSun 4131-141-40 can be exposed to rain and wind. It is guided through Stainless steel Guiding cables.



Housing: Aluminium Half Circular Headbox 141mm

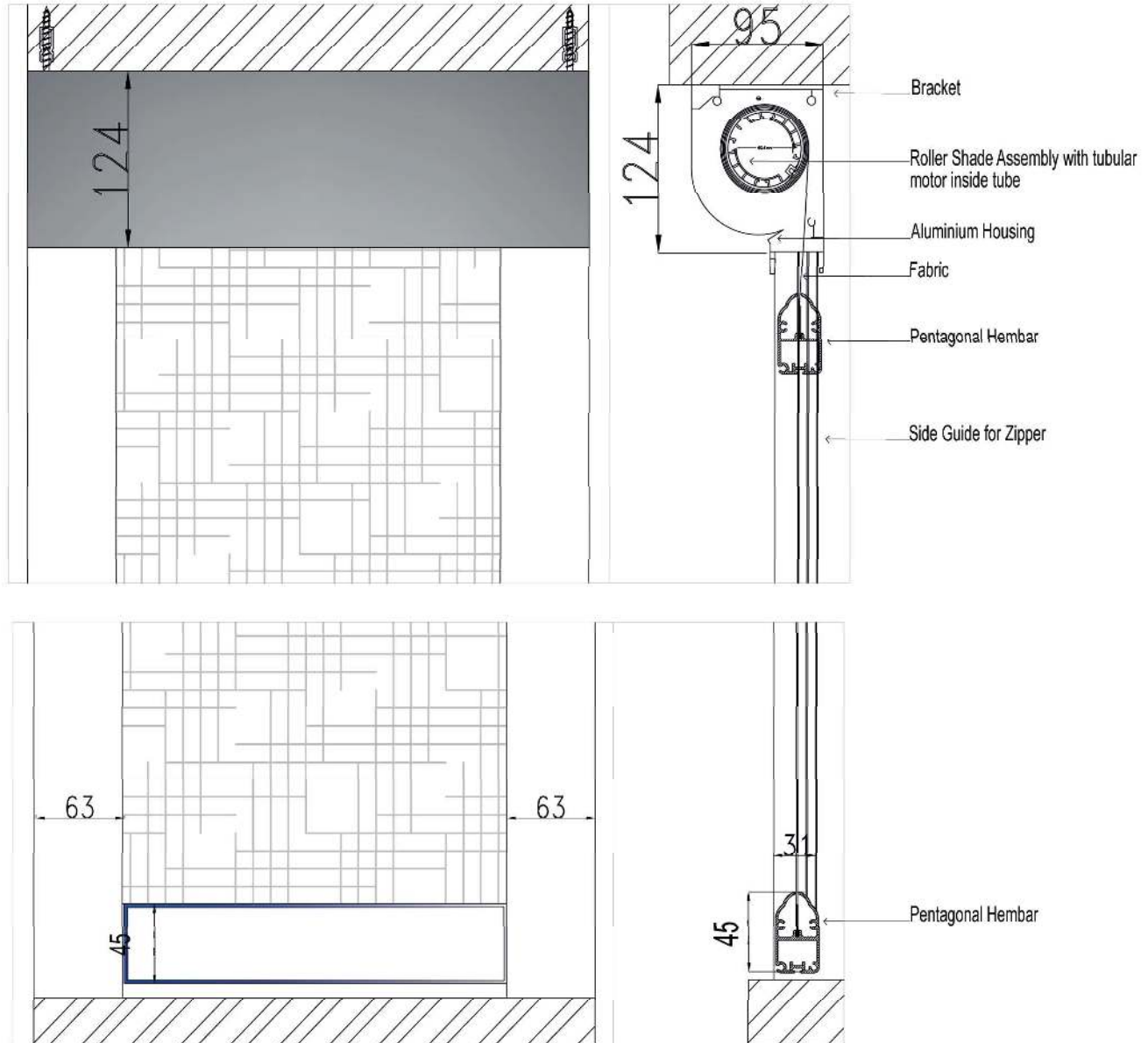
Guiding System: Stainless Steel cable

Traction system: Steel Coil

Hembar: Circular 40mm

TechnoSun-2313-124-45

The fabric has a zipper welded all along its both sides which makes it hang flat and tight without any gaps. The Headbox being half circular half rectangular it allows perfect installation on a corner ceiling/wall. The TechnoSun 2313-124-45 can be directly exposed to sun and wind.



Housing: Half round/half square Aluminium Headbox 124mm

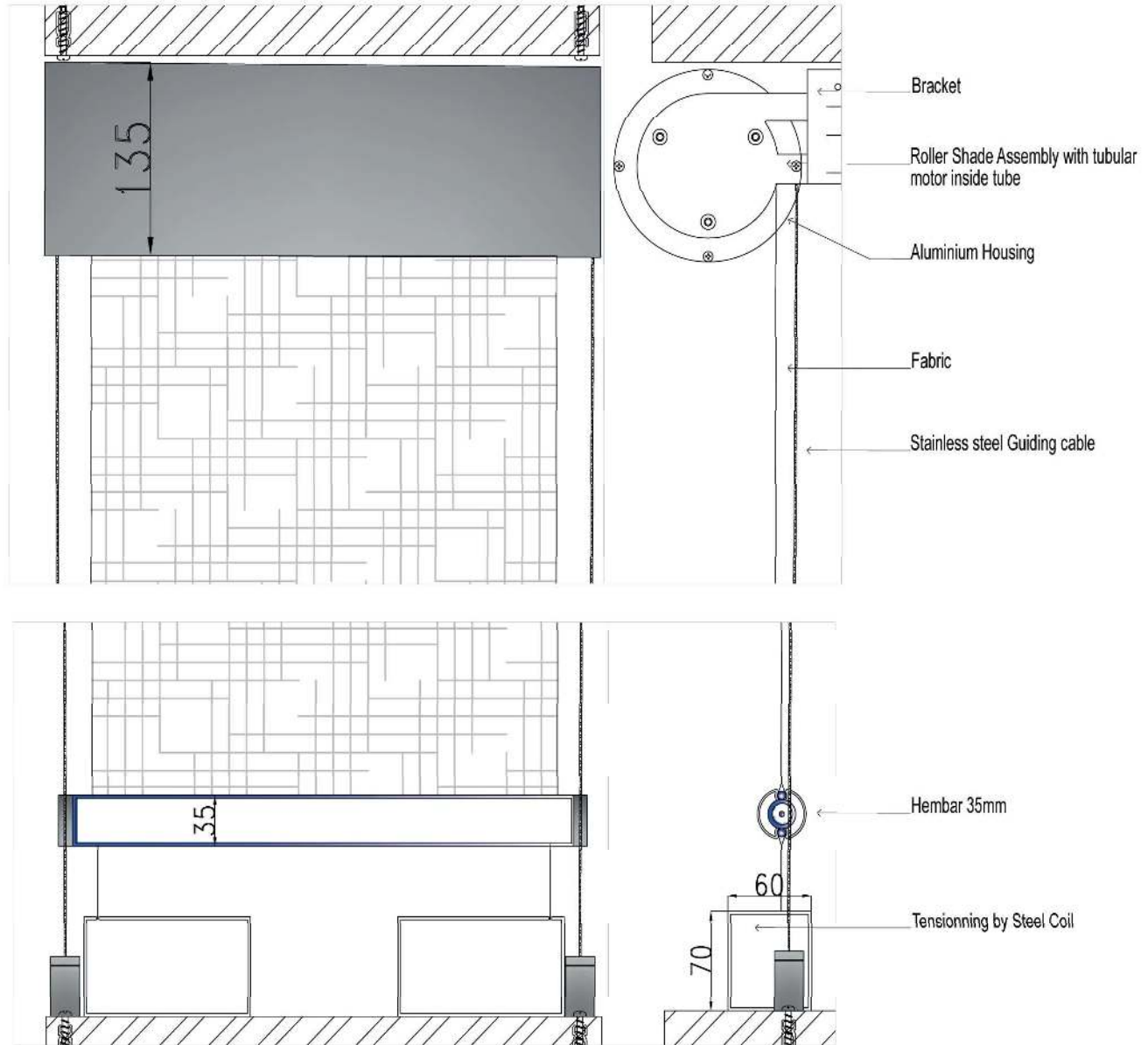
Guiding System: Side Guide for Zipper

Traction system: Extra Weight for Gravity Drop

Hembar: Pentagonal 25 x 45 mm

TechnoSun-3131-135-35

This configuration is convenient for external Roller Shade with moderate dimension even if they are directly exposed to sun and wind.



Housing: Aluminium Circular Head box 135mm

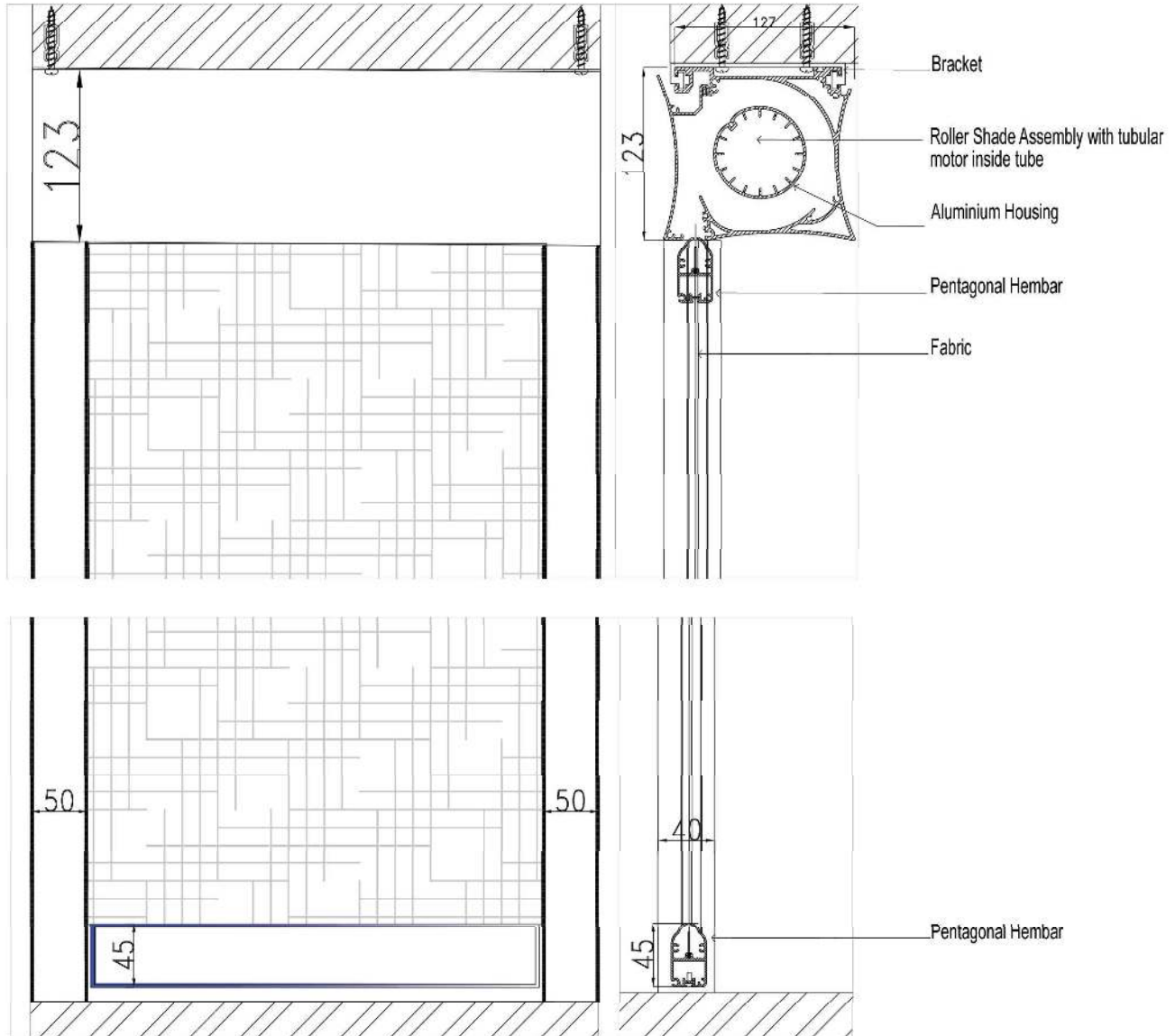
Guiding System: Stainless Steel cable

Traction system: Spring coil

Hembar: Circular 35mm - Slim

TechnoSun-4313-123-45

The fabric has a Zipper welded on its four sides, the Roller Shade is Guided through Side Guides for Zipper which makes it hang flat and tight without any gaps. The geometry of the Headbox allows extra wide shades; more than 8 meters in width. The TechnoSun 3143-123-45 can be directly exposed to sun and wind.



Housing: Aluminium irregular Headbox 135mm

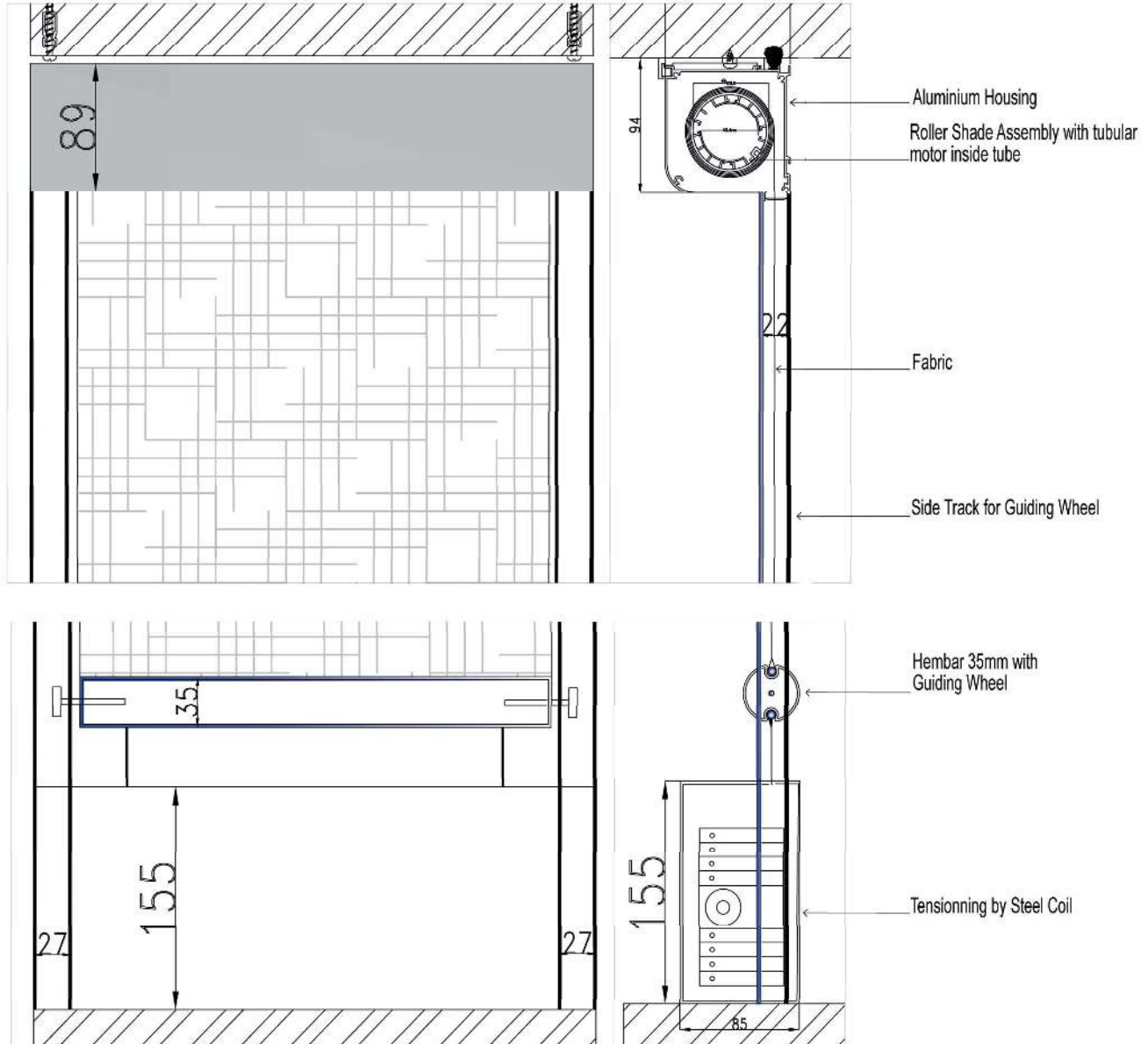
Guiding System: Side Guide for Zipper

Traction system: Extra weight for Gravity Drop

Hembar: Pentagonal 25 x 45 mm

TechnoSun-2241-89-35

The Roller Shade is concealed inside a round/square Headbox and the Traction System is based on a gas piston concealed inside a headbox located on the lower end of the roller shade. The TechnoSun 2241-89-35 can be directly exposed to sun and wind and the Headbox dimension can be decreased or increased if the Roller Shade's dimension requires it.



Housing: Half round / half square Aluminium Headbox 89mm

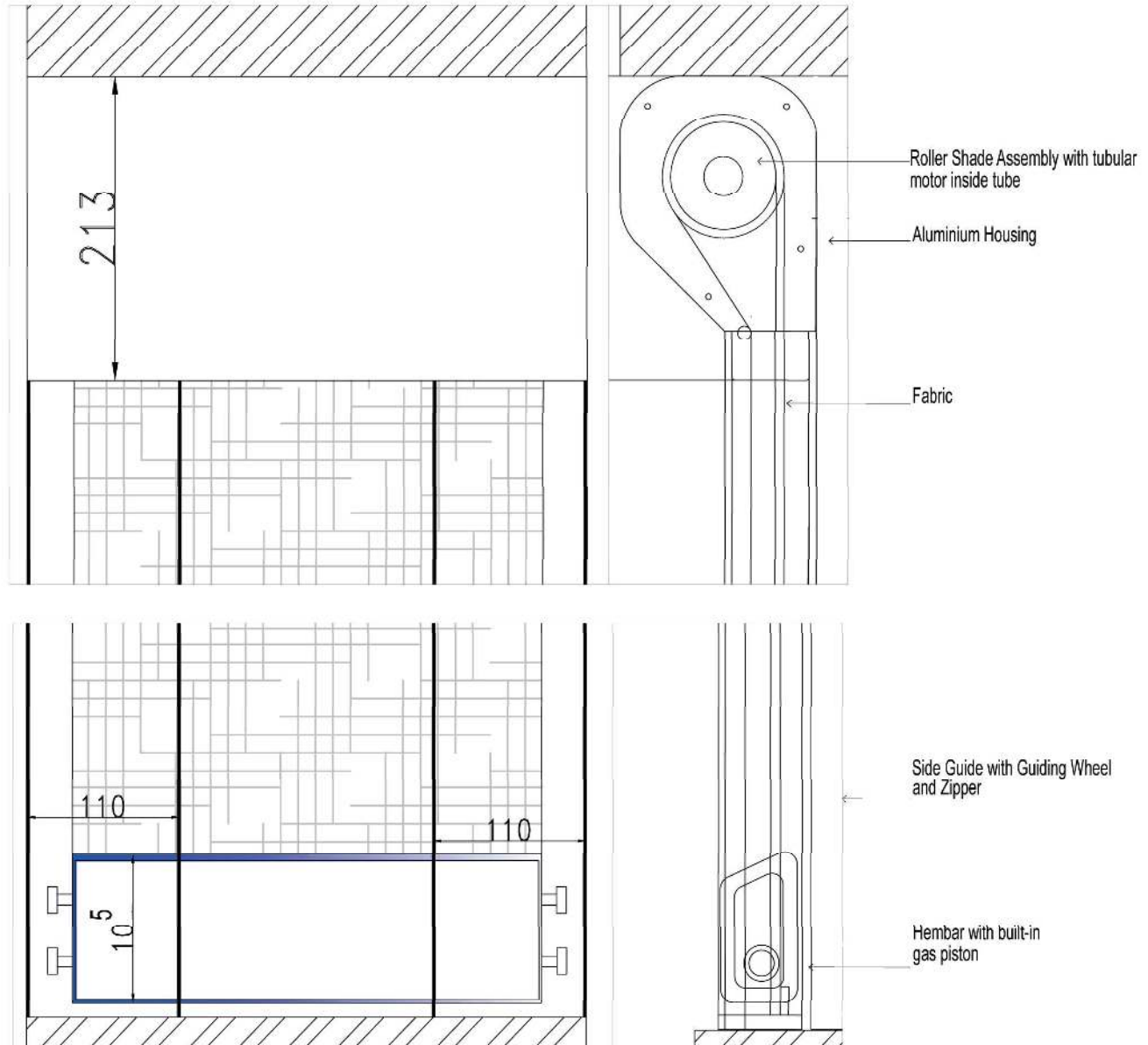
Guiding System: Side Track for Guiding Wheel

Traction system: Gas piston inside Lower Headbox

Hembar: Circular 35mm - Slim

TechnoSun-4344-213-105

The Roller Shade is concealed inside an irregular Headbox and the Traction System is based on a gas piston concealed inside the rectangular Hembar. The TechnoSun 4344-213-105 can be directly exposed to direct sun, wind and rain. It is ideal for skylights.



Housing: Irregular Aluminium Headbox 130x213mm

Guiding System: Rectangular Side Guide with Guiding Wheel & Zipper (110mm)

Traction system: Gas piston inside Hembar

Hembar: Rectangular 55x105mm

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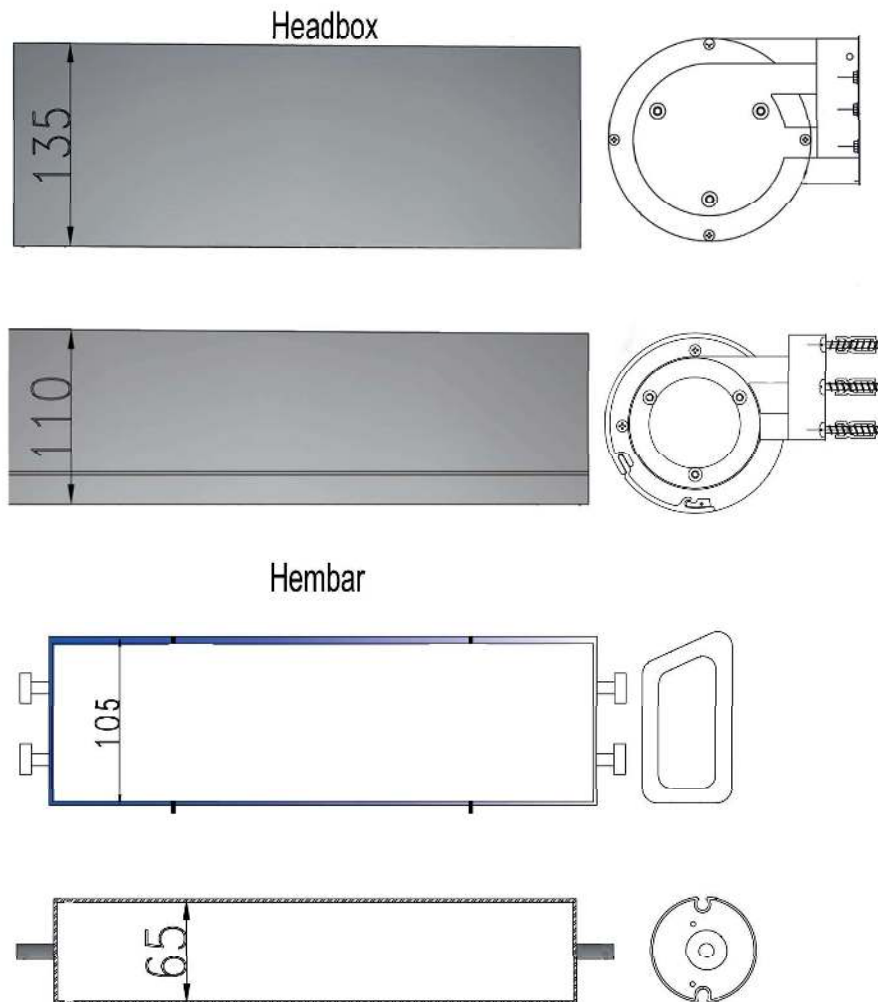
The Previous eight TechnoSun models are common to TechnoShade and can be increased to more than twenty five different models, depending on the following criterias:

1. Roller Shade dimensions
 2. Roller Shade location
 3. Window or Facade geometry
 4. Architect's choice
 5. Installation Constaints
- etc...

In the following two pages we will show two possible alternatives that will double the number of TechnoSun models.

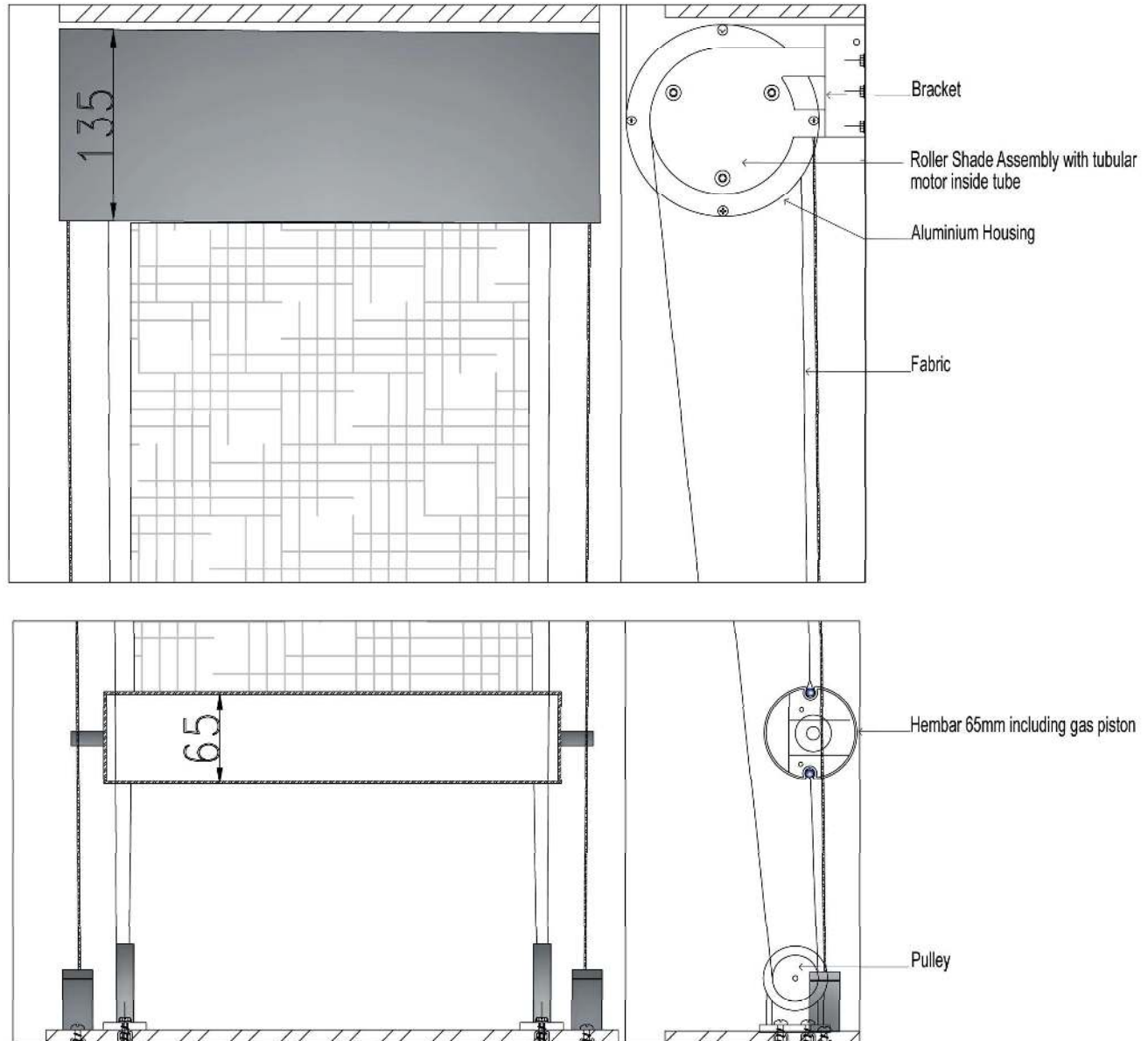
As you will notice the big rectangular hember 55x105mm was replaced by a cicular one (65mm) due to design purposes.

The round headbox 135mm was replaced by a smaller one (110mm) due to the small roller shade dimension.



TechnoSun-3141-135-65

The Roller Shade is concealed inside a round Head box and the Traction System is based on a gas piston concealed inside the circular Hembar. The TechnoSun 3141-135-65 can be directly exposed to sun and wind and the Head Box dimension can be reduced if the Roller Shade's dimension allows it.



Housing: Aluminium Circular Headbox 135mm

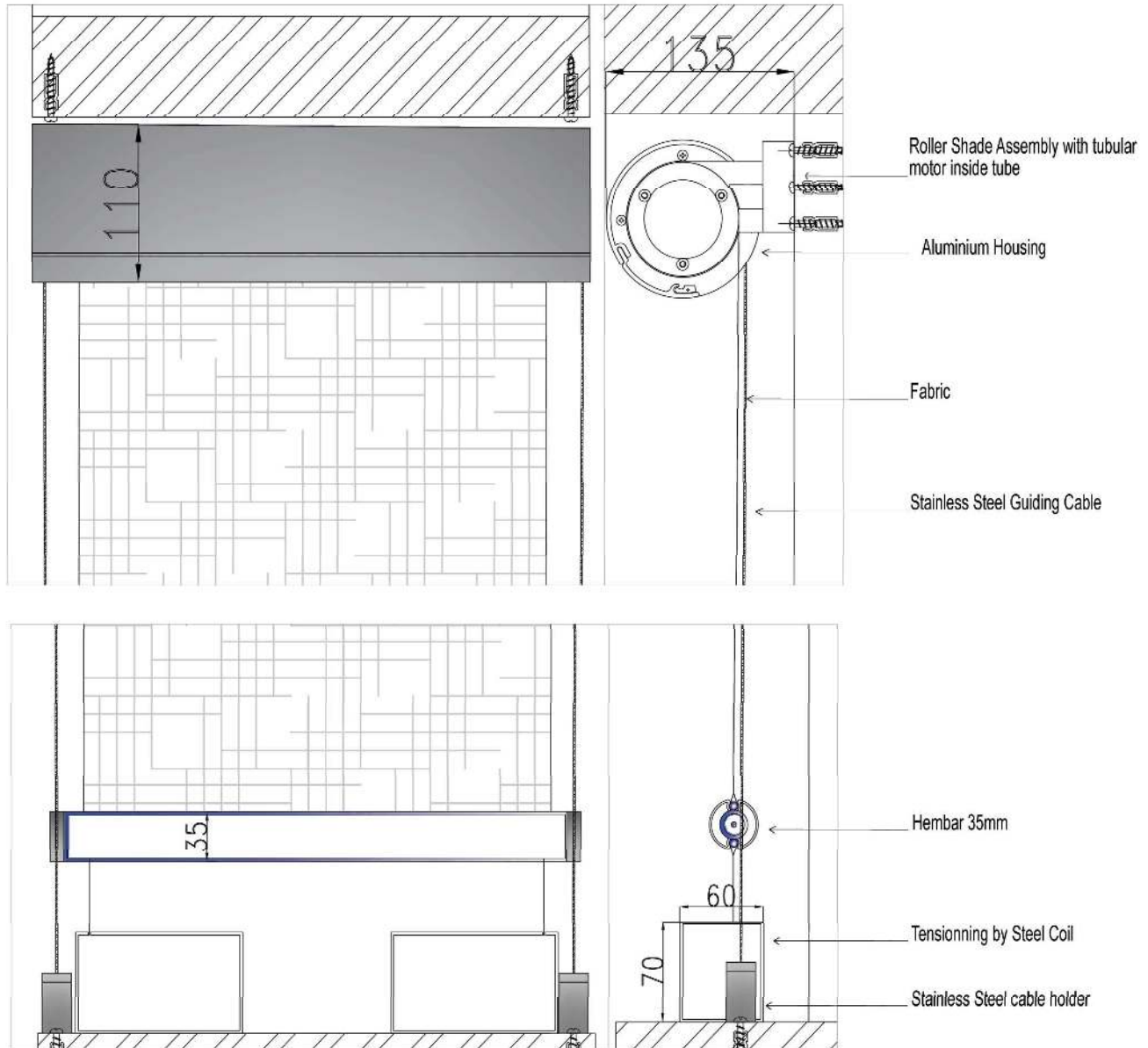
Guiding System: Stainless Steel cable

Traction system: Gas piston inside Hembar

Hembar: Circular 65mm

TechnoSun-3131-110-35

The Roller Shade is concealed inside a circular Headbox and the Traction System is based on a steel coil system concealed inside the rectangular Steel box. The TechnoSun 3131-110-35 can be directly exposed to sun and wind. It is guided through Stainless Steel guiding cables.



Housing: Circular Aluminium Headbox 110mm

Guiding System: Stainless Steel Cable

Traction system: Steel Coil

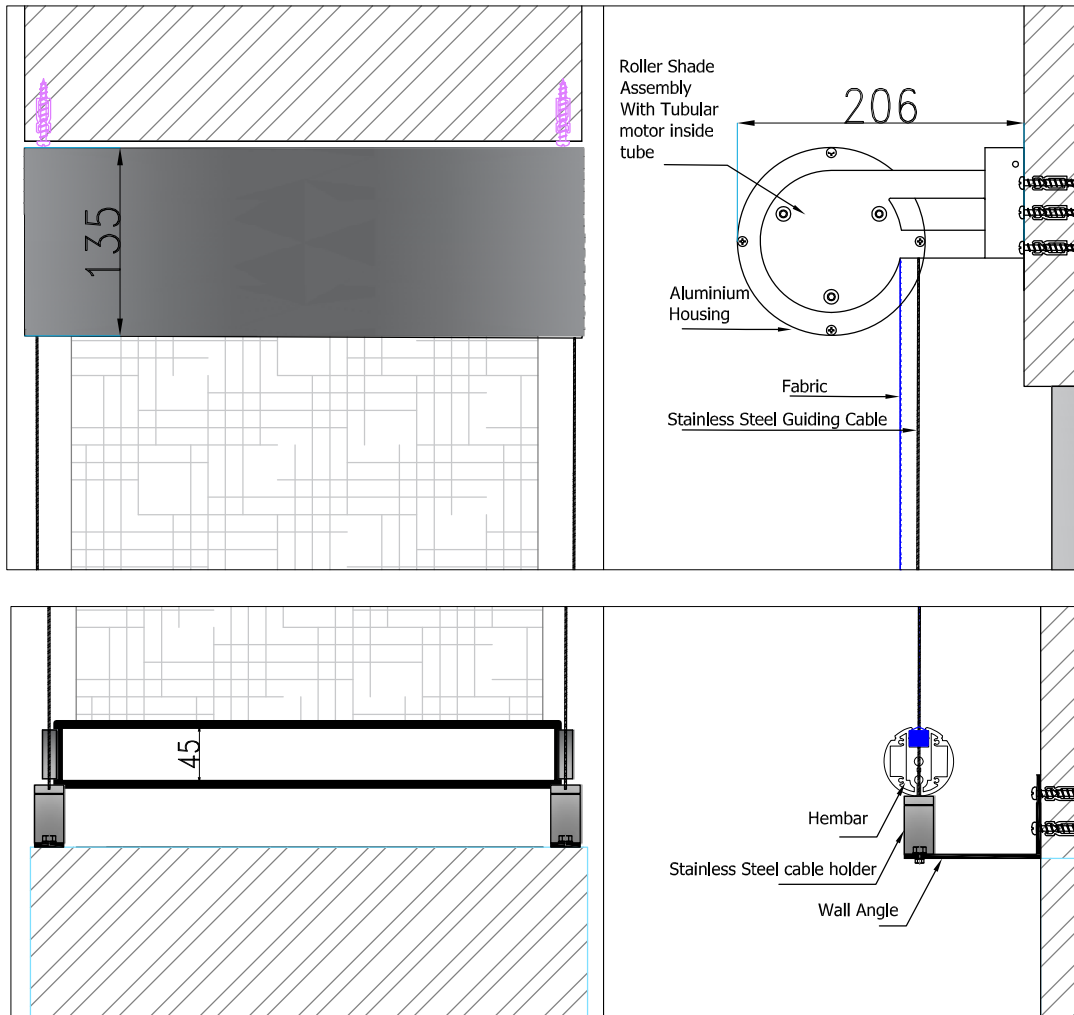
Hembar: Circular 35mm - Slim

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TechnoSun-3177-135-45

The Roller Shade is concealed inside a circular Headbox and the traction System is based on a steel coil system concealed inside the rectangular Steel box . The TechnoSun 3131-135-45 can be directly expose to sun and wind It is guided through Stainless Steel guiding cables.



Housing: Circular Aluminium Headbox 135mm

Guiding System: Stainless Steel Cable

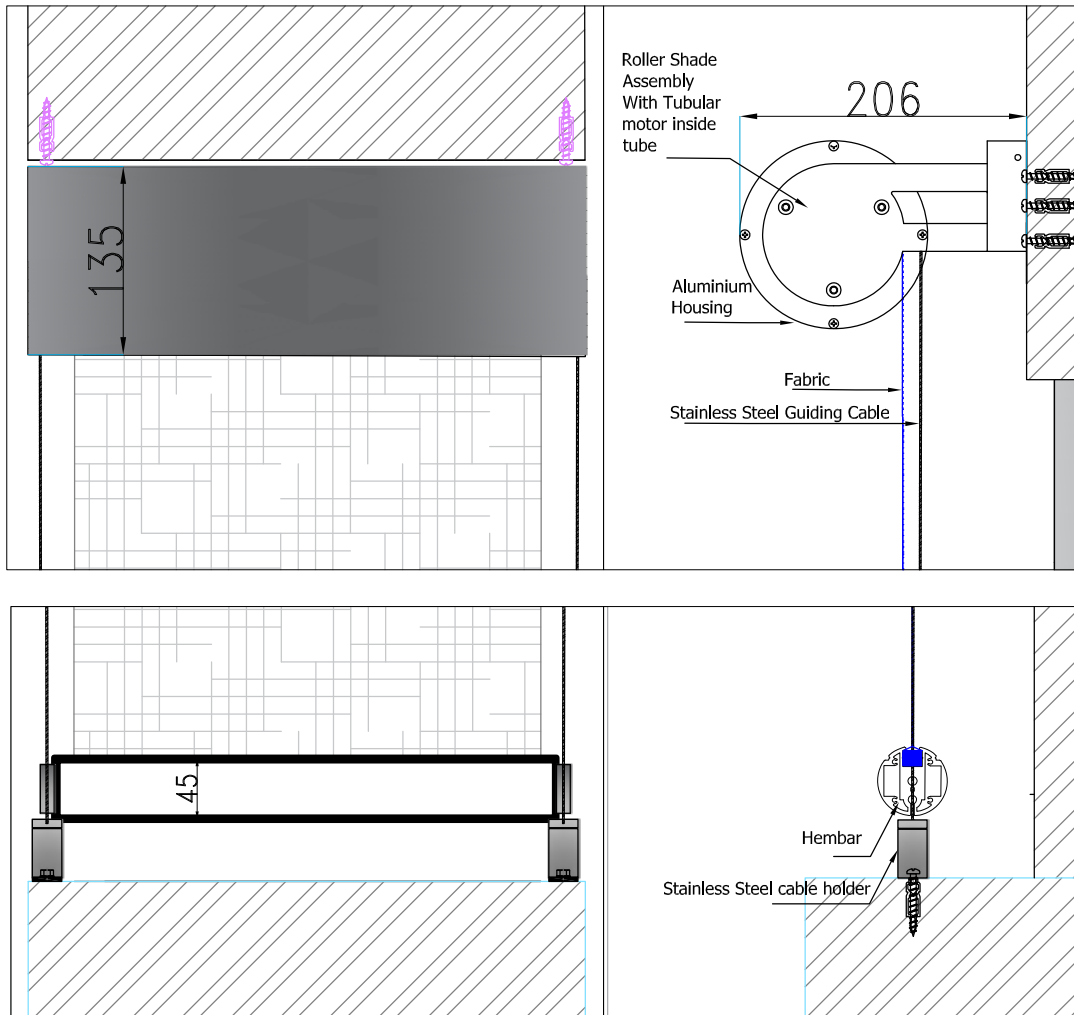
Hembar: Circular 45mm - Slim

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External Motorized Roller Shades

TechnoSun-3177-135-45

The Roller Shade is concealed inside a circular Headbox and the traction System is based on a steel coil system concealed inside the rectangular Steel box . The TechnoSun 3131-135-45 can be directly expose to sun and wind It is guided through Stainless Steel guiding cables.



Housing: Circular Aluminium Headbox 135mm

Guiding System: Stainless Steel Cable

Hembar: Circular 45mm - Slim

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External Motorized Roller Shades



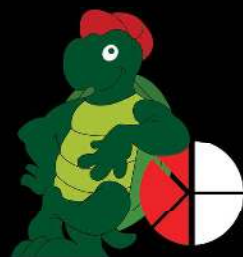


Through an overall approach to Sustainable Development, combining “bioclimatic principles” with both comfort to the occupant and refined Architecture, TechnoShade is a leading company involved in “Sustainable Architecture” through providing a variety of Smart Window Solutions. Our Automated Roller Shades, our Elegant Skylight Shades, our See-through Roller Shutters, our Smart & Motorized Louvers are all “energy-efficient” Architectural elements dedicated to form a “Dynamic Facade” and contribute in optimizing the energy performance of a building.

Our external Zipper Flyscreen offers to the tenants the possibility of ventilating their interior without having insects in. The Convertible Umbrellas and Pergolas Shadings are dedicated to provide additional living space and comfort.

TechnoShade has a 20-year experienced team following up all the different phases of making a smart building; from preliminary design to execution details followed by implementation and configuration.

TechnoShade has contributed in the realization of many projects in different applications such as residential towers, hospitals, administrative buildings, universities and hotels among them many are LEED certified.



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Natural Light Management™
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