

# TECHNICAL DOCUMENTS

## NF-100 & NF-100H SERIES

### DEMOUNTABLE FLOOD BARRIER



The climate change is always unpredictable, sometime the continuous heavy rain will bring the flood water in height even more than 2 meters, the bear load for the whole flood barrier at or above this depth is extremely high. Any breach or failure of system against the flood will cause great loss and damage to the protected target. For these water projects requirement, our floodwall NF-100/100H series are the most robust product we designed and engineered for this special project purpose. This flood barrier wall is ideal option for constructing on levee or dike at waterfront, to increase extra flood protection height to the current dike from the river flooding.

It also has 2 main parts: the removable parts as stacking barrier panels /stop logs and central posts, and pre-installed permanent parts including end posts or side posts as well as anchor plates pre-embedded in concrete foundation. But all of them above has been strengthened with a thicker and heavier structurer to meet the load bear request.

The height for floodproof is still adjustable by adding or removing barrier panels at every 200mm, from H1600-4600mm, with single span maximum L4500mm which may vary according to the specific flood protection height, while unlimited length achievable by the connection of central posts for any larger opening. And it can also be applied for any lower flood height below H1600mm to achieve a longer single span up to L6000mm to reduce the post numbers to save deploying time.

The central posts for NF-100/100H is quite heavy which may be above 100KG/pc according to flood height request, and not be possible to be operated by man power hand, a lifting ring and handler would be welded firmly on the post body so a crane at construction site would help. For the protection height more than 3.2 meters, a back bracing structure should be applied to give extra bear load in case of breach. And in order to make sure the bear loading, a continuous reinforced concrete foundation such as an underground strip footing or a dwarf concrete wall on the ground, is highly suggested, to take in the anchor plates which would attach the removable central post firmly. After the pre-installed parts are secured and fixed to the solid foundation, there is almost none visual intrusion with great elegant appearance. After receiving the flood warning, a team of trained labors can quickly deploy, by bolting the central posts on the foundation and sliding the logs into the recess of the posts to complete the project, after the flood, it can be easily dismounted with simple tool for storage.

Again, this well-designed metal flood barrier will not require any ground frame but only solid and flat ground surface, the PU&PE ground seals can compensate the little roughness of the ground, while the EPDM rubber in both posts and panels will secure the water tightness after the pressing tool is installed on the top of the system.

### Advantages:

Great strength for protection from extreme high flood water level

Top resistance to water loading and wave impact.

Long life due to full anodized surface.

Well-engineered, height adjustable at will.

Impressive low seepage.

Very easy to install and un-install.

Minimum visual impact after flood season

Unlimited length

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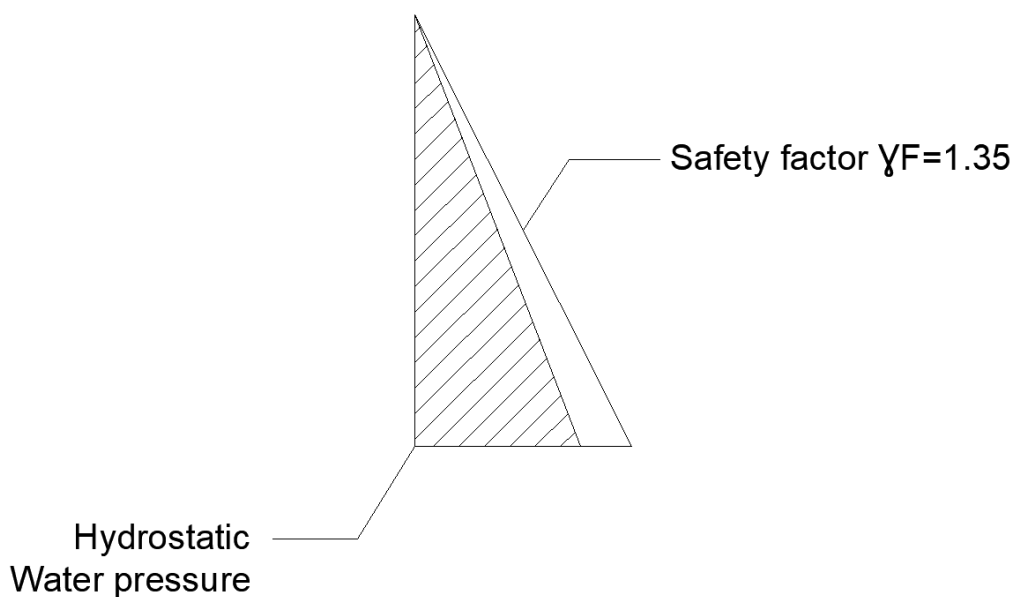
## 1. Draft and Briefing

### 1.1 Design and Production Standards

GB/T19001-2016 / ISO9001:2015 Quality Management System Certificate in Scope of  
Hardware Products, Metal Materials, Special Equipment, General Equipment Sales.

PAS 1188-4-2014 Flood Protection Products – Specification, Part 4 Demountable Products

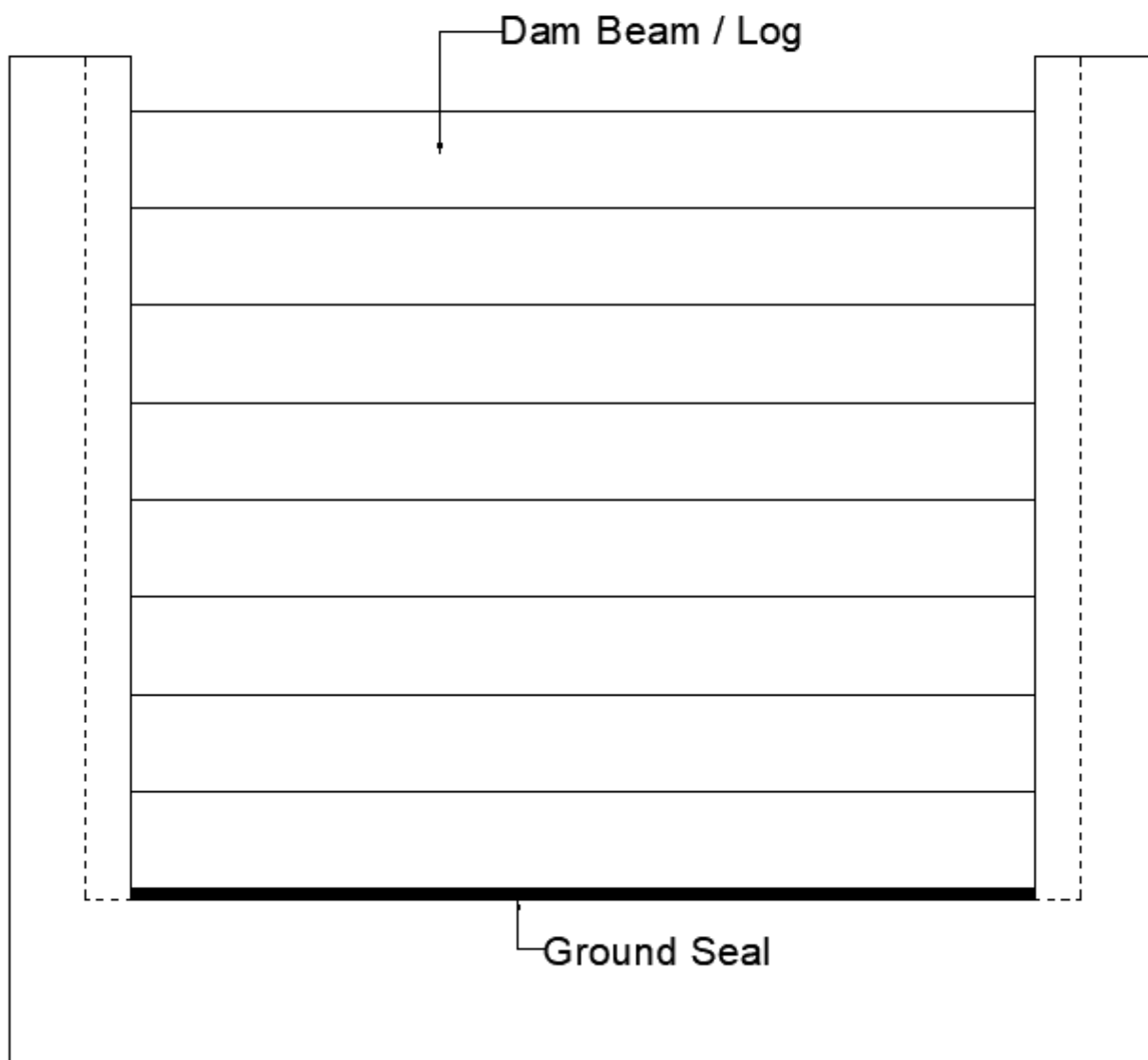
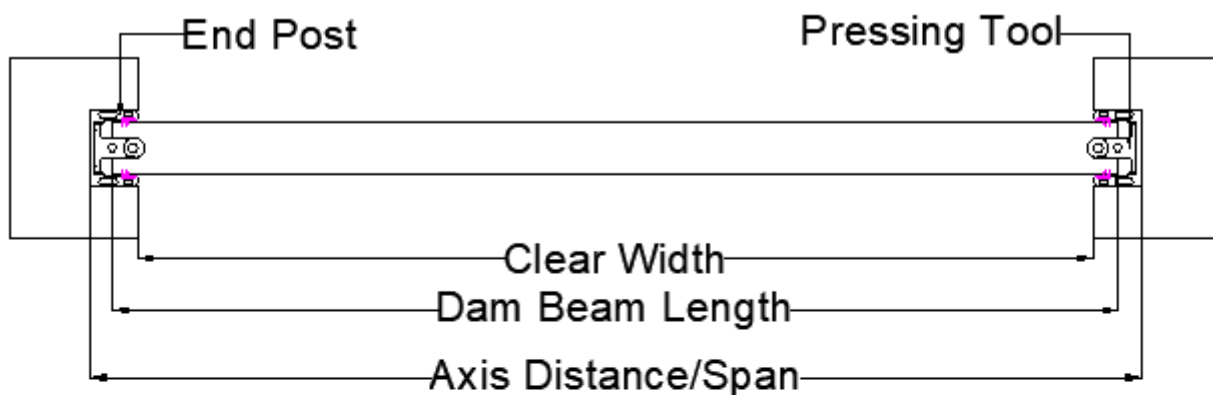
### 1.2 Load Criteria



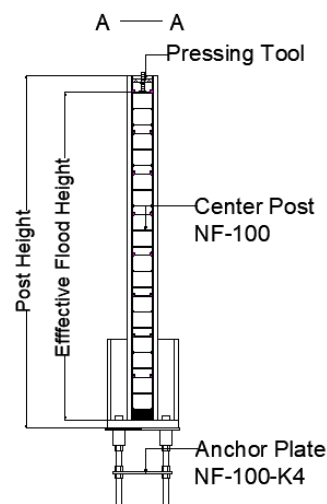
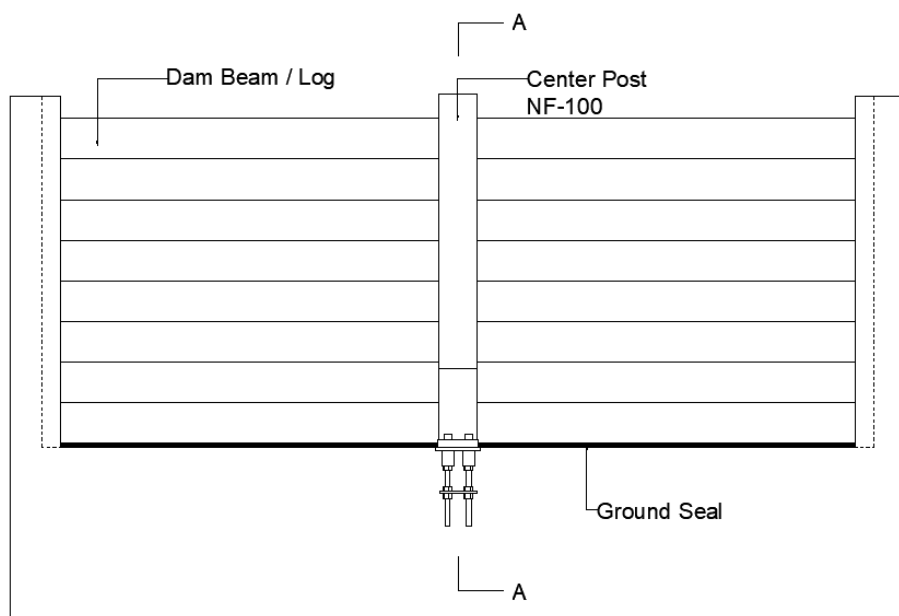
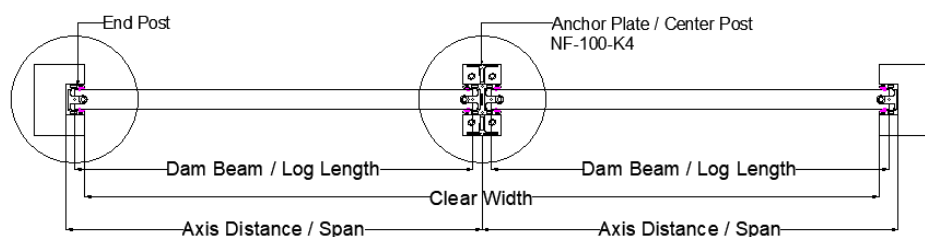
Specific Weight Water:  $10\text{kN/m}^3$ .

## 1.3 Definition of Terms

### 1.3.1 Flood Barrier NF-100/100H (Without Central Post)

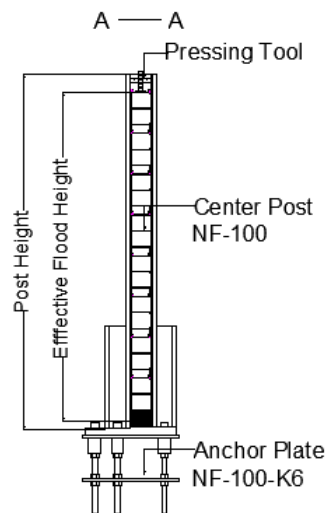
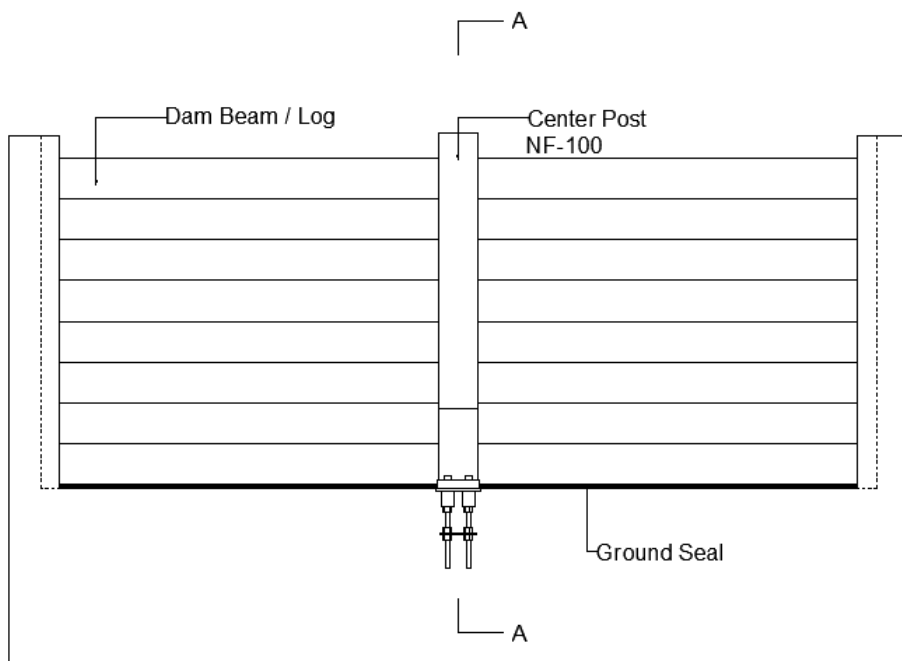
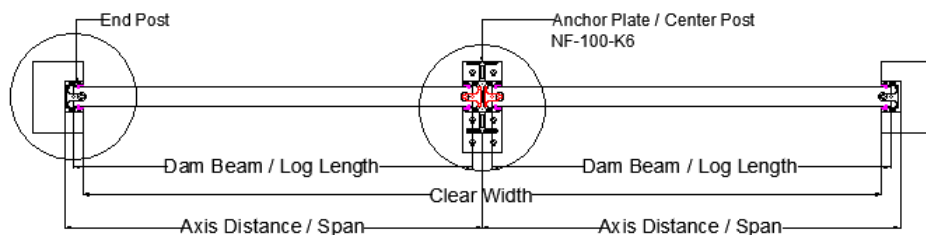


### 1.3.2 Flood Barrier NF-100-K4 (With Central Post)



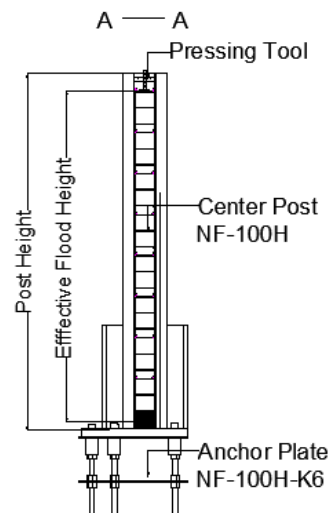
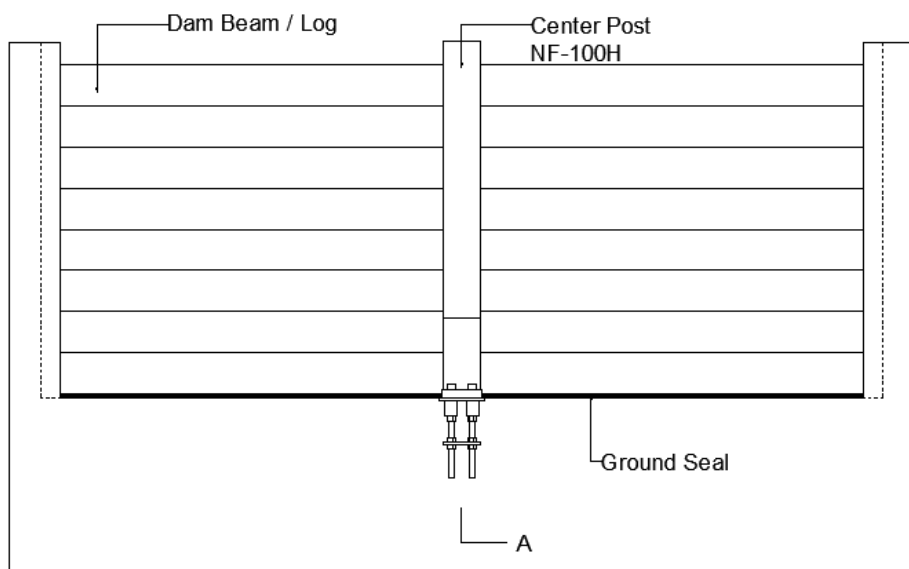
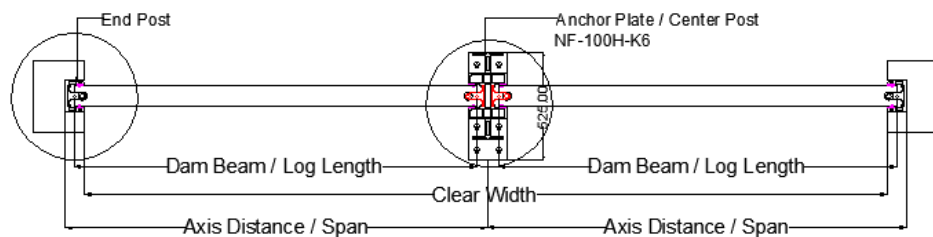


### 1.3.3 Flood Barrier NF-100-K6 (With Central Post)

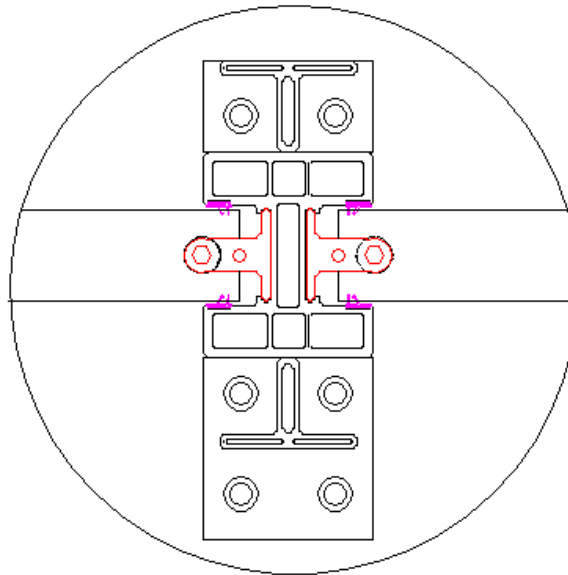
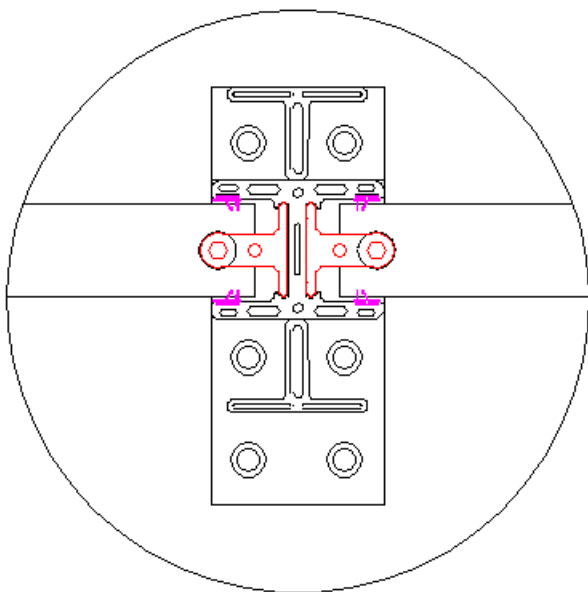
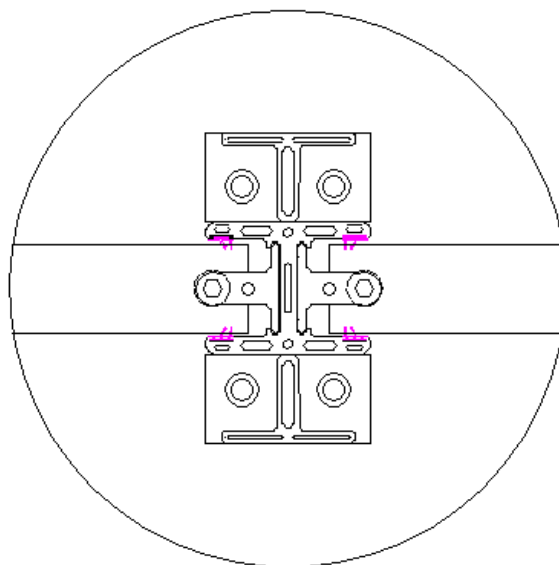
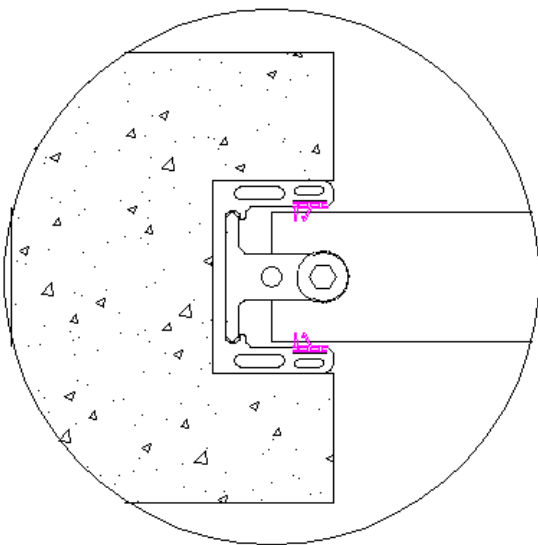




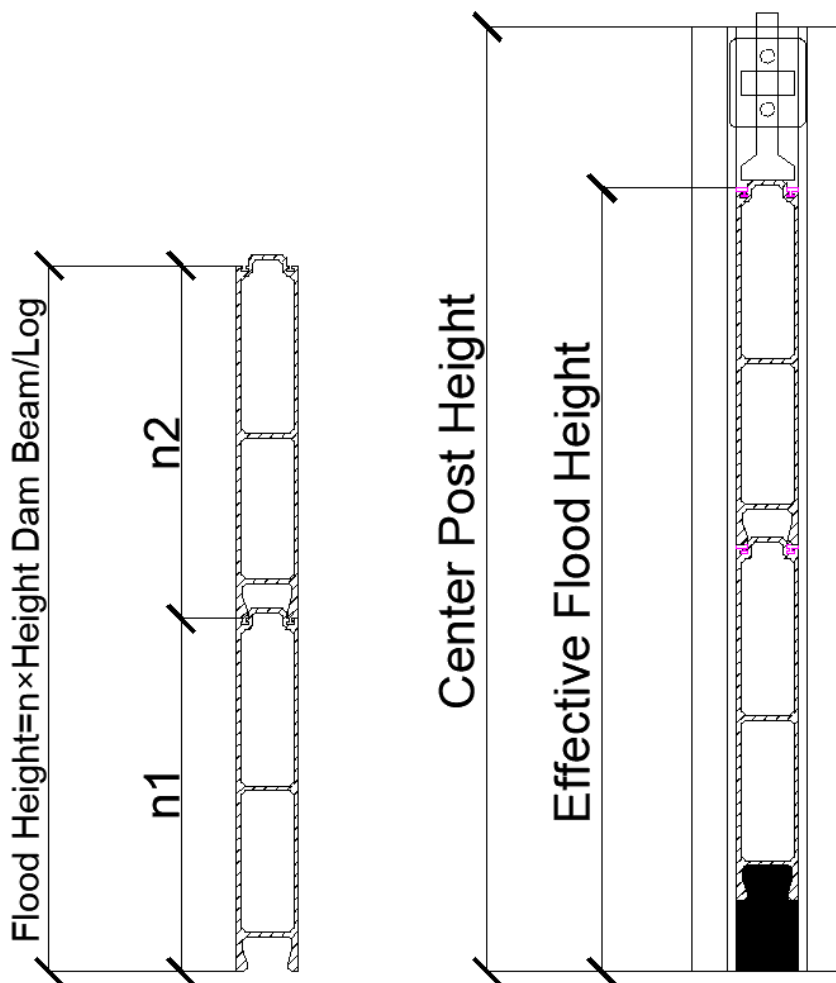
### 1.3.4 Flood Barrier NF-100H-K6 (With Central Post)



### 1.3.5 Details



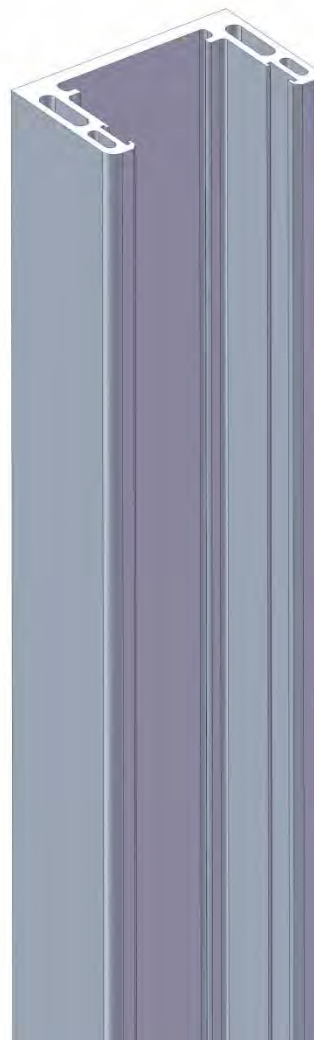
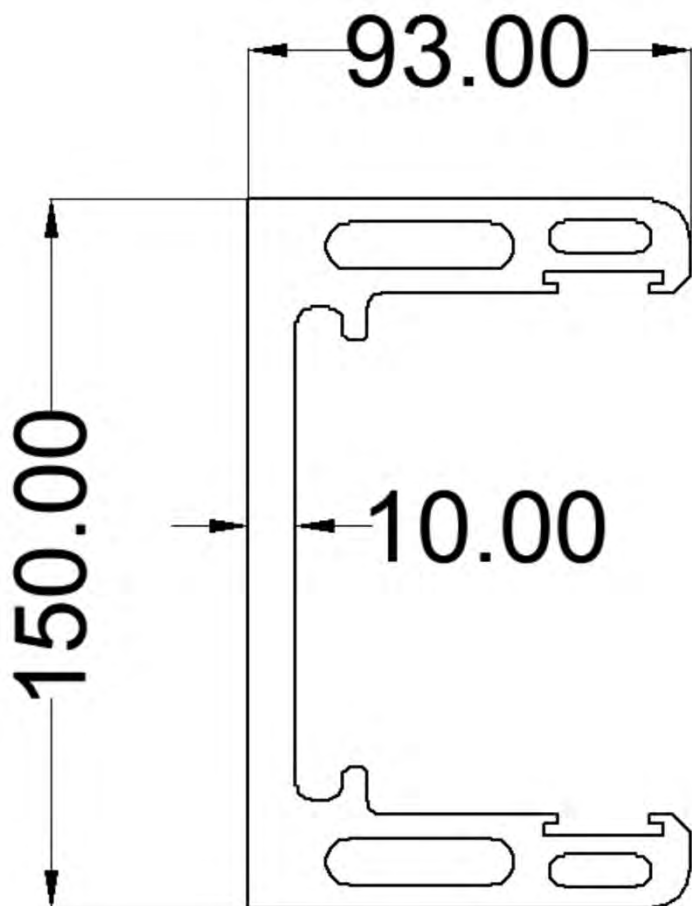
### 1.3.6 Flood Height, Effective Flood Height, Post Height



FLOOD BARRIER NF-100/100H SERIES			
NUMBER OF DAM BEAMS/LOGS	FLOOD HEIGHT [MM]	POST HEIGHT [MM]	AXIS DISTANCE MAX. [MM]
8	1600	1755	4500
10	2000	2160	4000
13	2600	2770	3500
15	3000	3175	3250
20	4000	4190	2800
23	4600	4800	2650

## 2. System Components

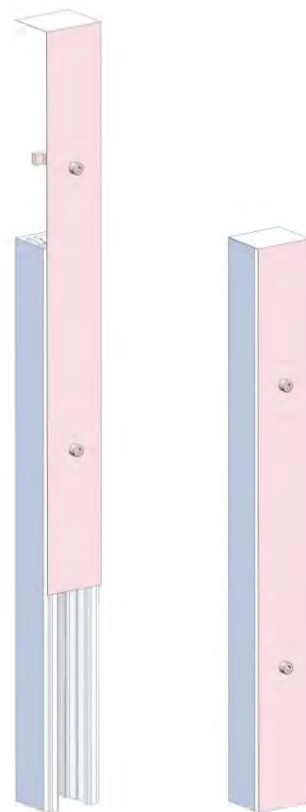
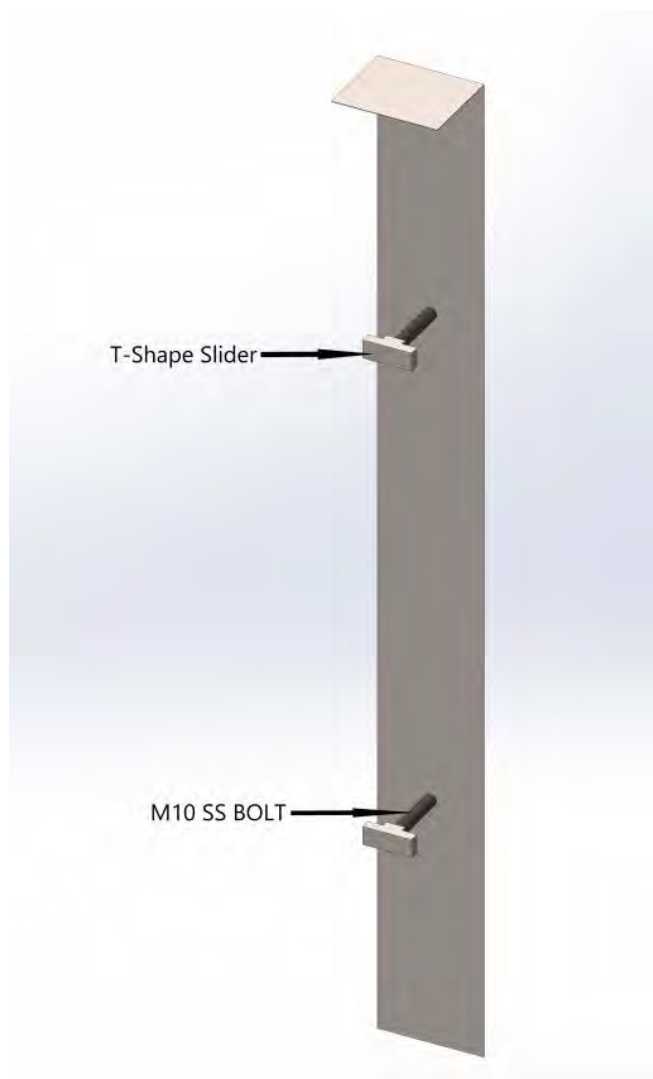
### 2.1 End Post



PROFILE CHARACTERISTICS		
Length	mm	150
Width	mm	93
Thickness/Gauge	mm	10
Weight per linear m	Kg/m	10.027
Material	Aluminum Alloy	6005-T5

**Liability:** The above data are to our knowledge correct and are intended to give information about our products. No warranty is given or implied in respect of certain properties of the products or their suitability for a particular application. We reserve the right for technical changed without further notice. We guarantee impeccable product quality under our terms of sales.

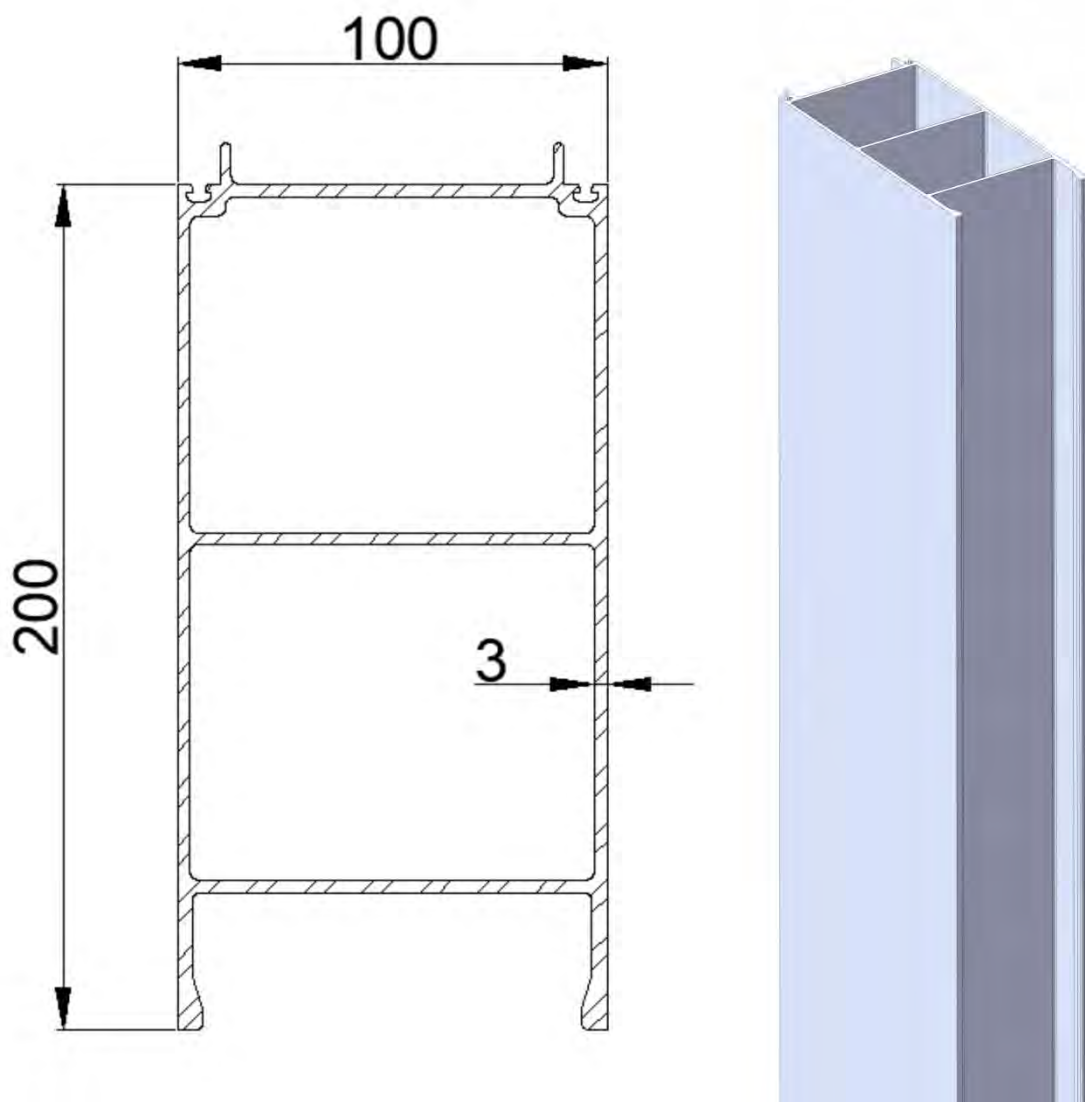
## 2.2 Removable Cover for End Post (OPTIONAL)



DETAILS (OPTIONAL)		
Length	mm	As the post height
Width	mm	150
Thickness/Gauge	mm	2mm for SS304 / 3mm for aluminum
Weight per linear m	Kg/m	1.22kgs/m for aluminum 2.37 kgs/m for SS304
Material	Powder Coated or Anodized Aluminum / Satin or painted SS304	

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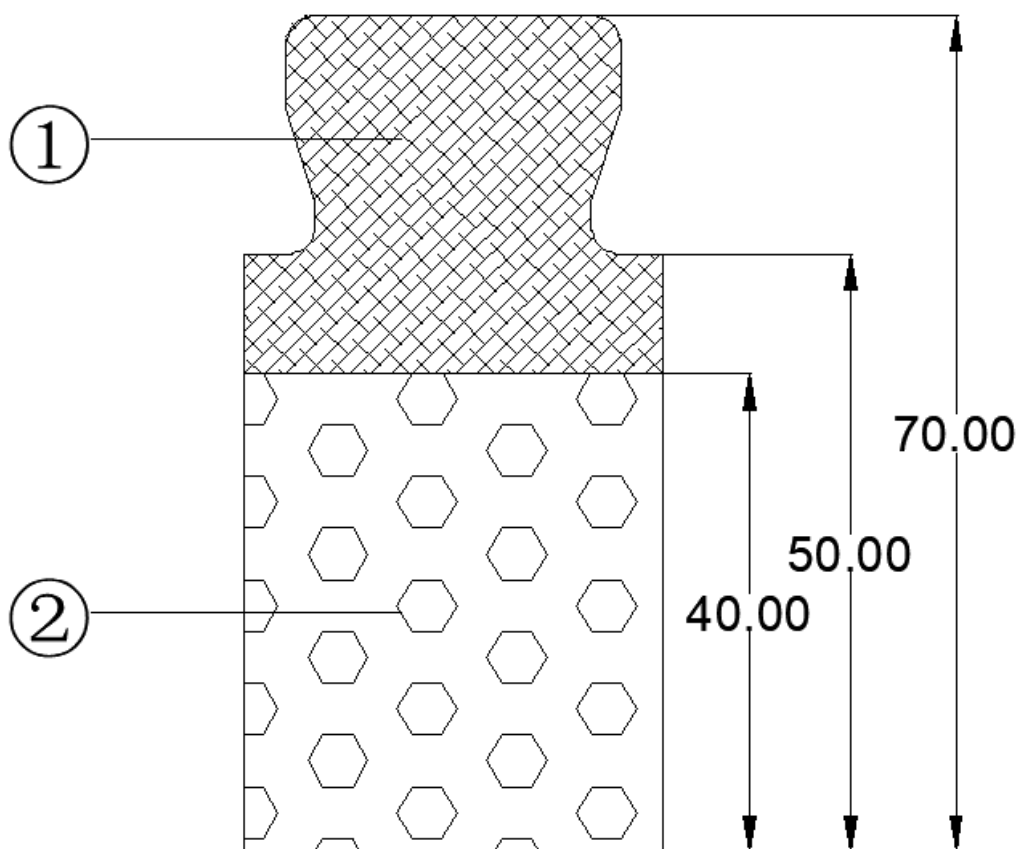
## 2.3 Barrier Panel/Dam Beam/ Log



PROFILE CHARACTERISTICS		
Height	mm	200
Thickness	mm	100
Gauge	mm	3.0
Weight per linear m	Kg/m	5.862
Material	Aluminum Alloy	6063-T6

## 2.4 Seals/Gaskets

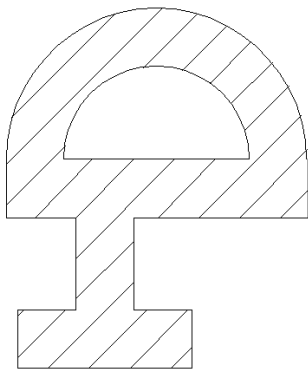
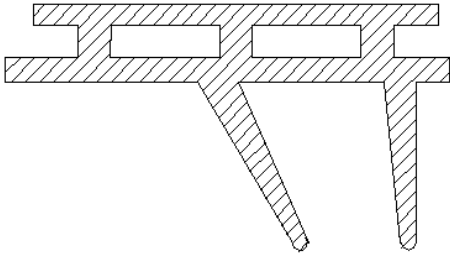
### 2.4.1 Ground Seal PE/PU



DETAILS	
Material Pos 1	PE
Material Pos 2	PU
Weight per linear m	0.87kg/m

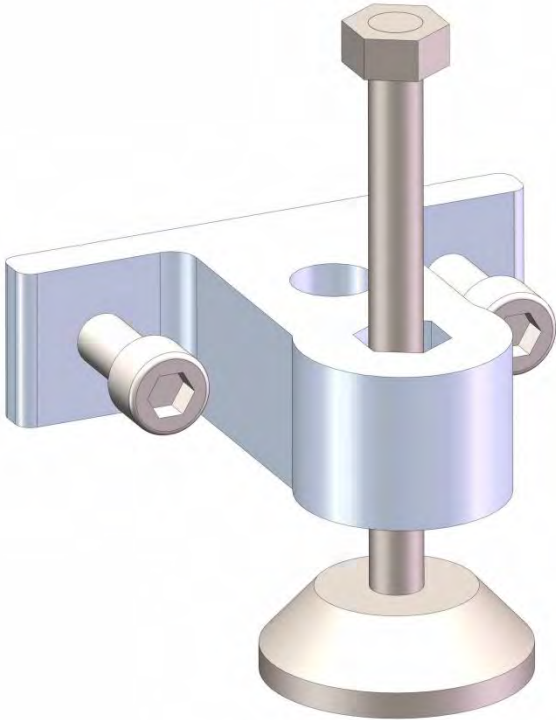


## 2.4.2 Gaskets for Barrier Panels/Dam Beams/Logs, End Posts & Center Posts

Barrier Panel Clamping Seal	
Post Seal	

DETAILS	
Material	Ethylene Propylene Diene Monomer Rubber (EPDM)

## 2.5 Pressing Tool

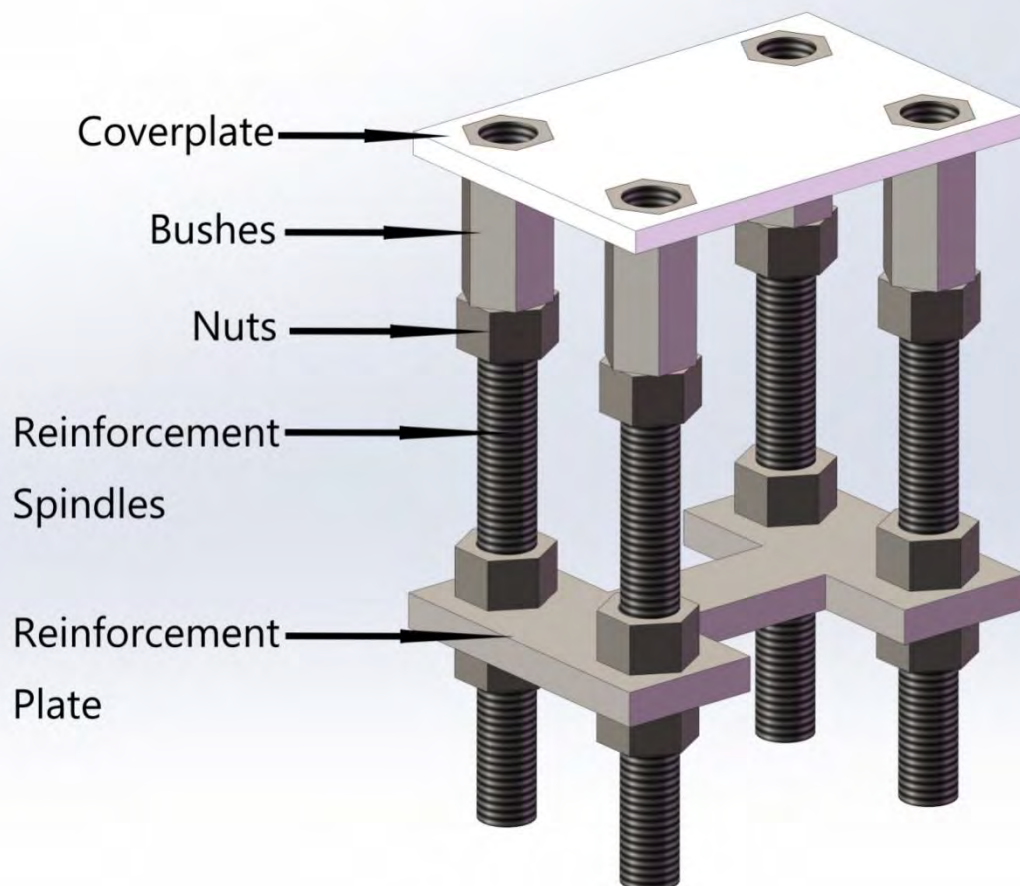


### DETAILS

DETAILS	
Material	Aluminum Alloy, Grade: SS 304
Function	Sliding Type, pressing height adjustable
ALUMINUM EXTRUSION & SS304 DIE CASTED INTEGRITY	

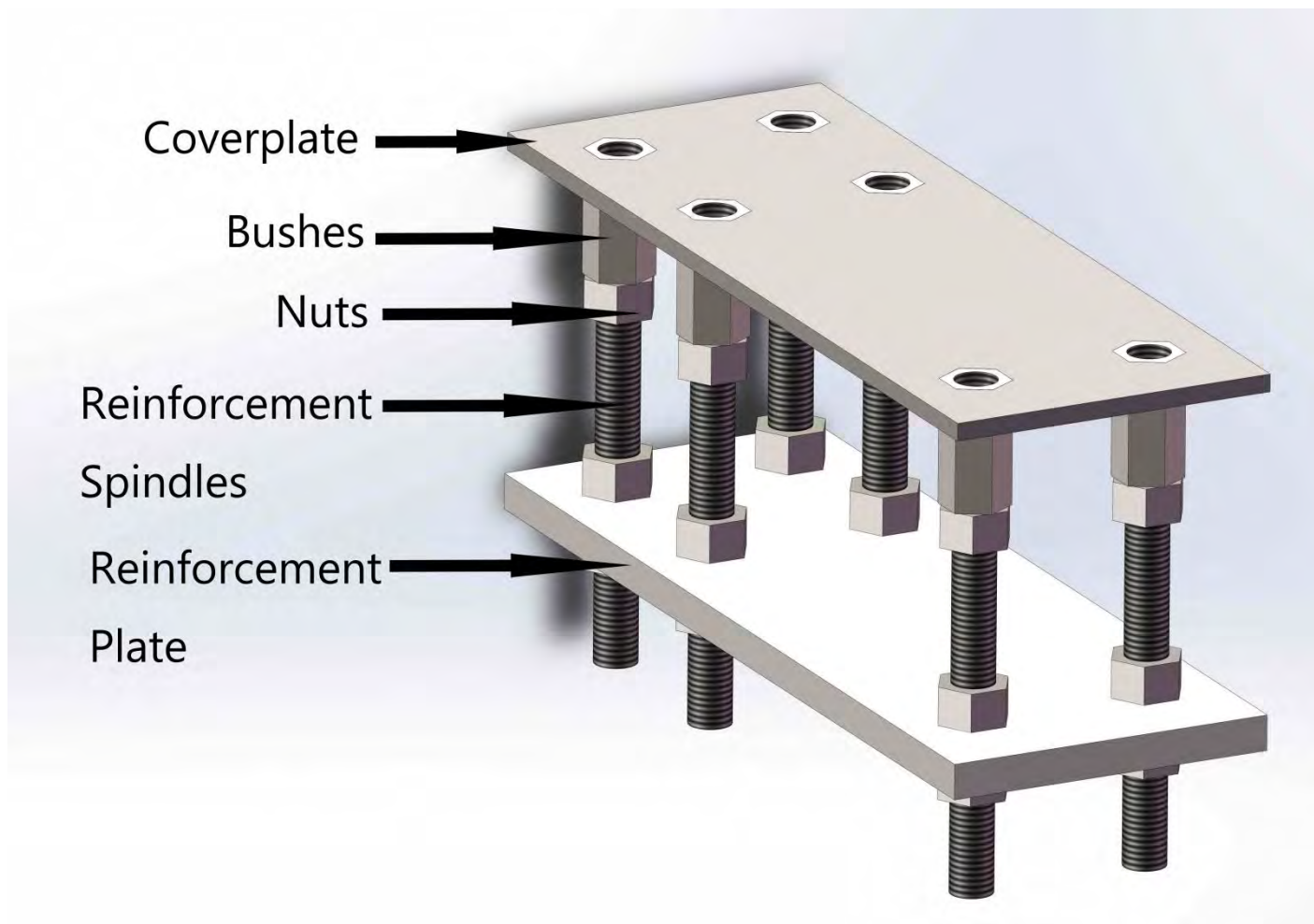
## 2.6 Anchor Plate

### 2.6.1 NF-100-K4



DETAILS	
Cover plate	Stainless Steel SS 304
Bushes	Stainless Steel SS 304
Nuts	Carbon Steel, Grade: 8.8; Q235
Reinforcement Spindles	Carbon Steel, Grade: 8.8; Q235
Reinforcement Plate	Carbon Steel, Grade: 8.8; NO.45 Steel

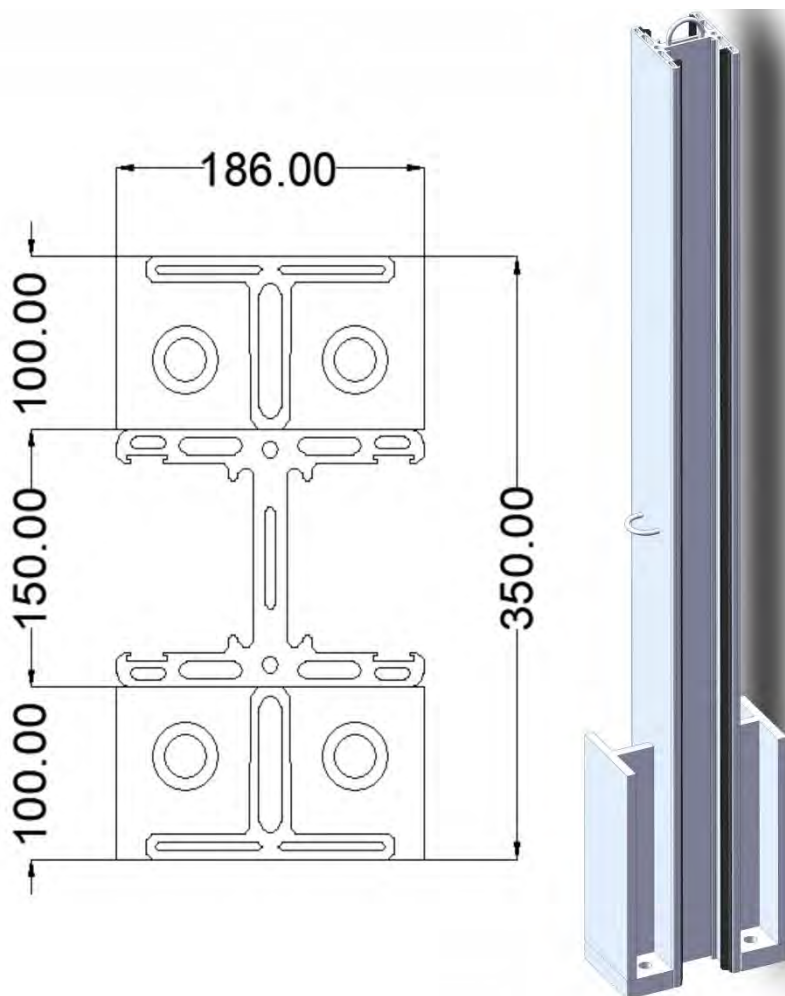
## 2.6.2 NF-100/100H-K6



DETAILS	
Coverplate	Stainless Steel SS 304
Bushes	Stainless Steel SS 304
Nuts	Carbon Steel, Grade: 8.8; Q235
Reinforcement Plate	Carbon Steel, Grade: 8.8; NO.45 Steel
Reinforcement Spindles	Carbon Steel, Grade: 8.8; Q235

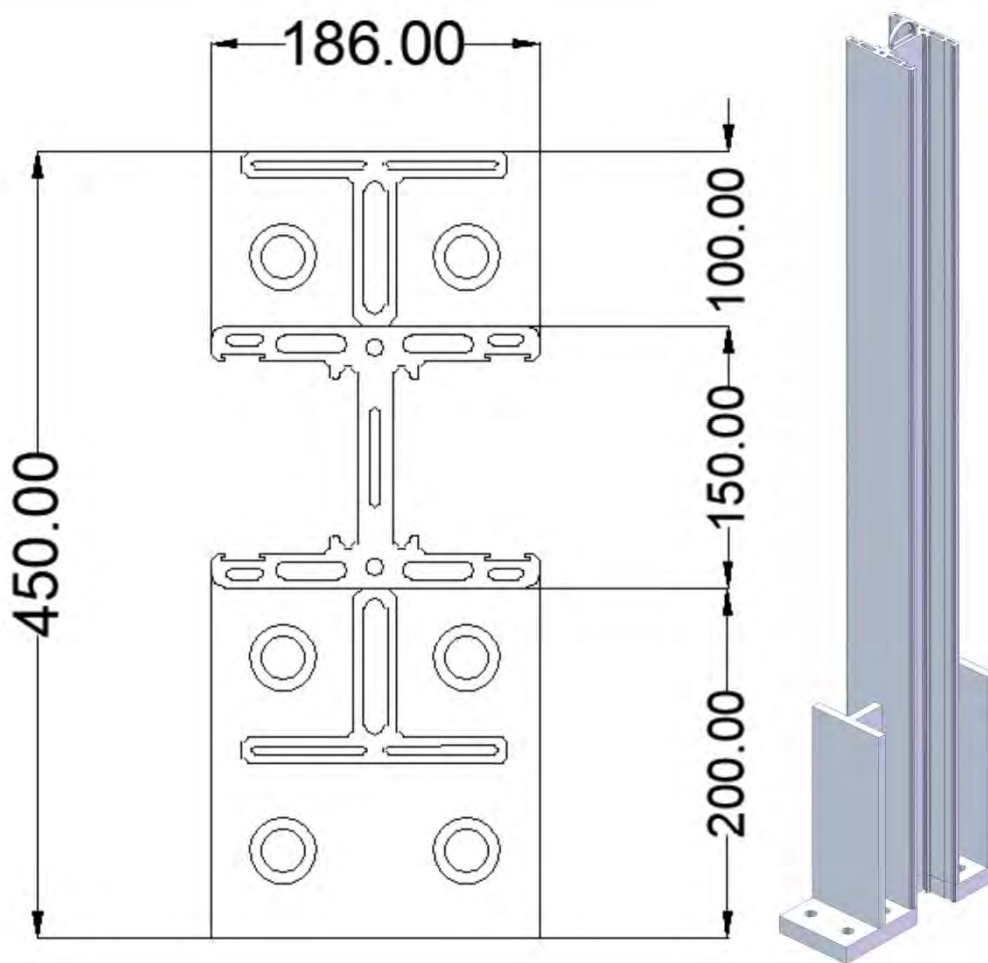
## 2.7 Removable Center Post

### 2.7.1 NF-100-K4



DETAILS				
Description	Flood Height [mm]	Central Post Height [mm]	Weight [kg]	Material
NF-100	1600	1755	48.72	6005-T5
	1800	1330	52.44	

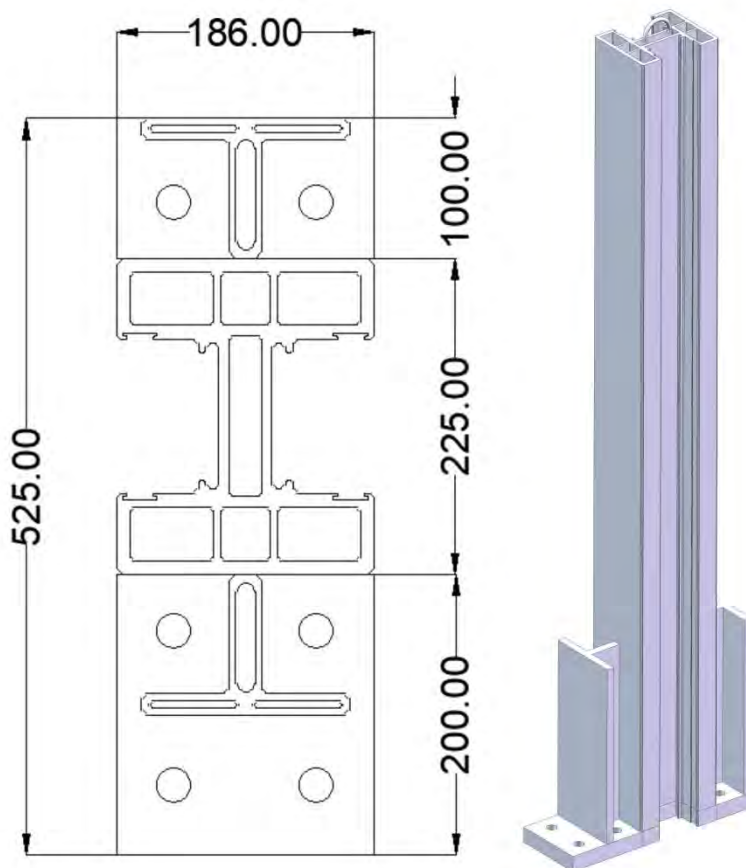
## 2.7.2 NF-100-K6



DETAILS				
Description	Flood Height [mm]	Central Post Height [mm]	Weight [kg]	Material
NF-100	2000	2160	60.74	6005-T5
	2400	2565	68.27	



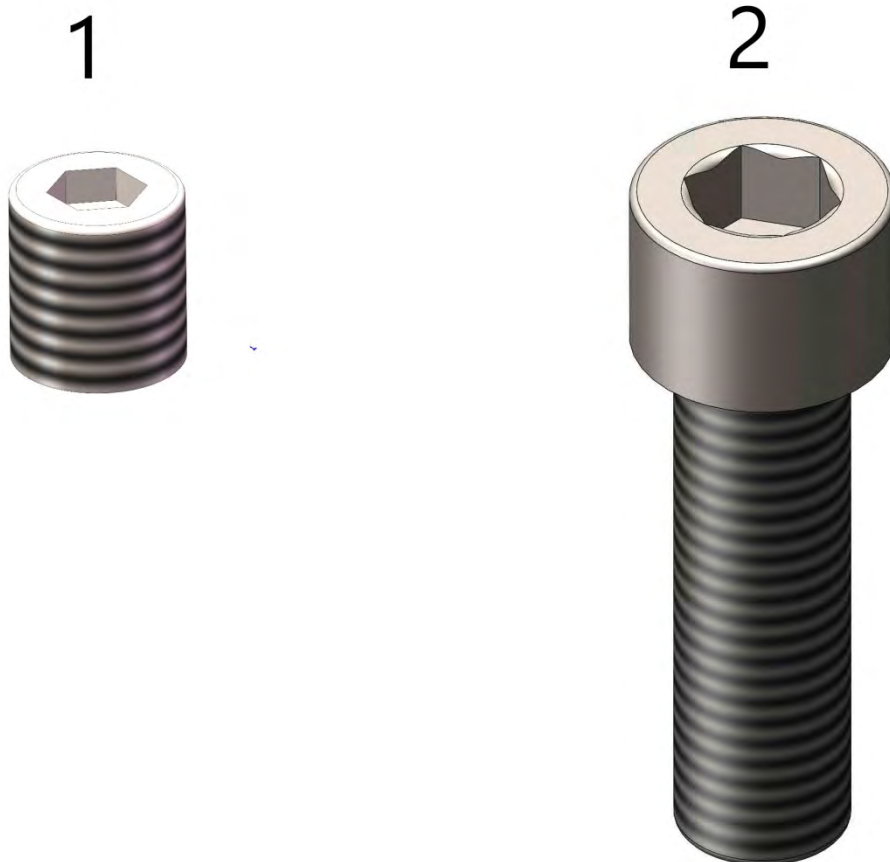
### 2.7.3 NF-100H-K6



DETAILS				
Description	Flood Height [mm]	Central Post Height [mm]	Weight [kg]	Material
NF-100H	2600	2770	105.07	6005-T5
	3000	3175	117.19	
	3400	3580	129.30	
	3800	3990	141.57	
	4200	4395	153.69	
	4600	4800	165.80	



## 2.7.4 Bolts



SYSTEM	ITEM	FUNCTION	DESCRIPTION
NF-100	1	Protection Bolt	M24x20, SS 304
	2	Anchor Plate Fixing Bolt	M24x80、 M24x110 8.8 galv. zincd

### 3. Equipment

#### 3.1 Tools



System	Tool	Part	Application
NF-100	Ratchet ½"	Hexagon Socket SW 6mm	Expansion Bolt for Side Post
		Hexagon Socket SW 6mm	Side Fixing Bolt on Pressing Tool
		Hexagon Socket SW 6mm	Downwards Bolt on Pressing Tool
		Hexagon Socket SW 17mm	Fixing Bolt for Central Post
		Hexagon Socket SW 12mm	Protection Bolts for Anchor Plate

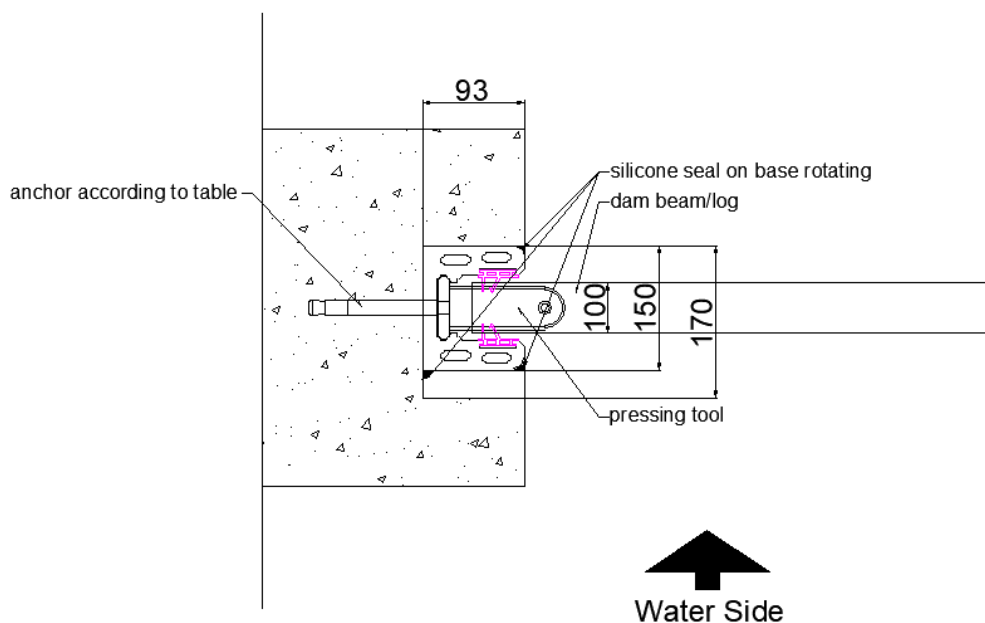
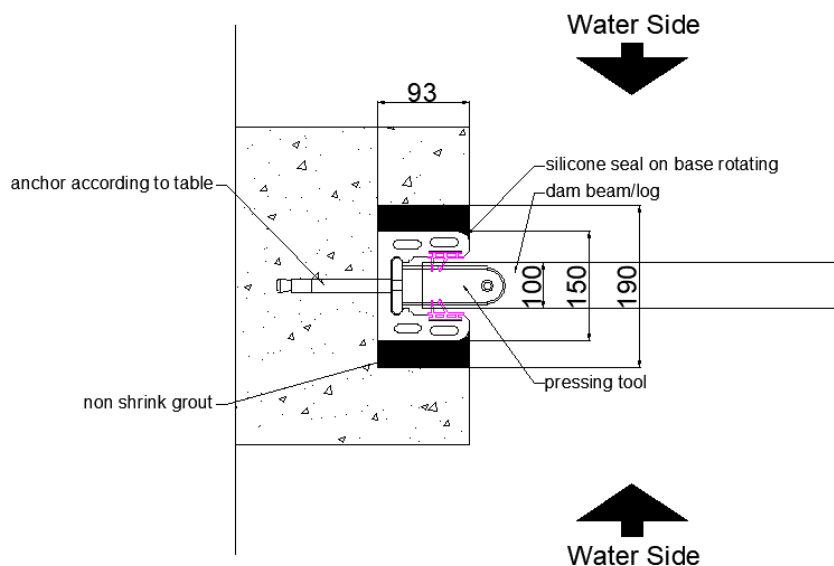
### 3.2 Extracting Tool

To extract the barrier during dismantlement



## 4. End Post - Mounting Types

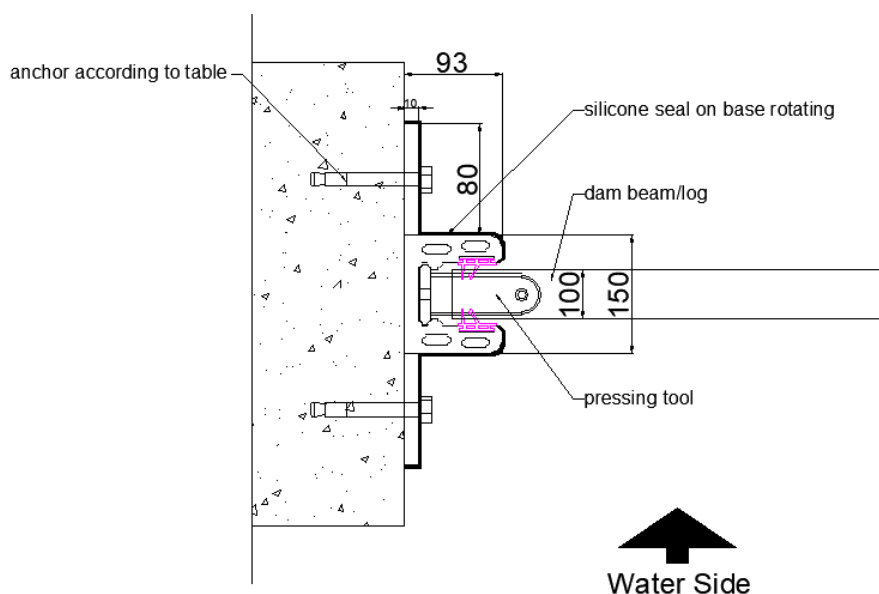
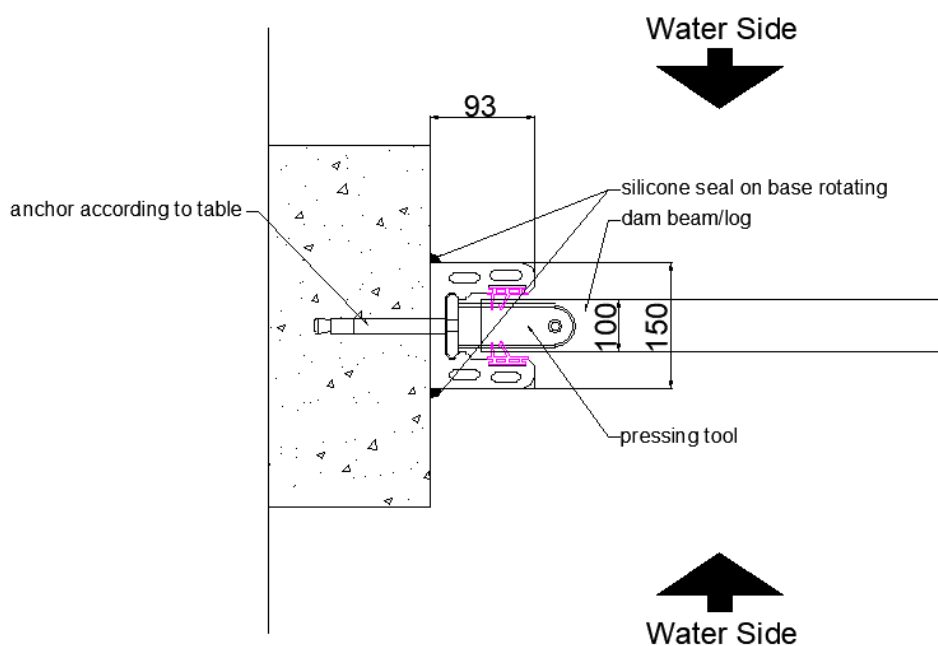
### 4.1 Mounting Types - In Recess/Slot on Wall



#### Mounting Tolerance:

- Frame Assembly
- In Axis + / - 3mm
- Vertically + / - 3mm
- Total max. 6mm

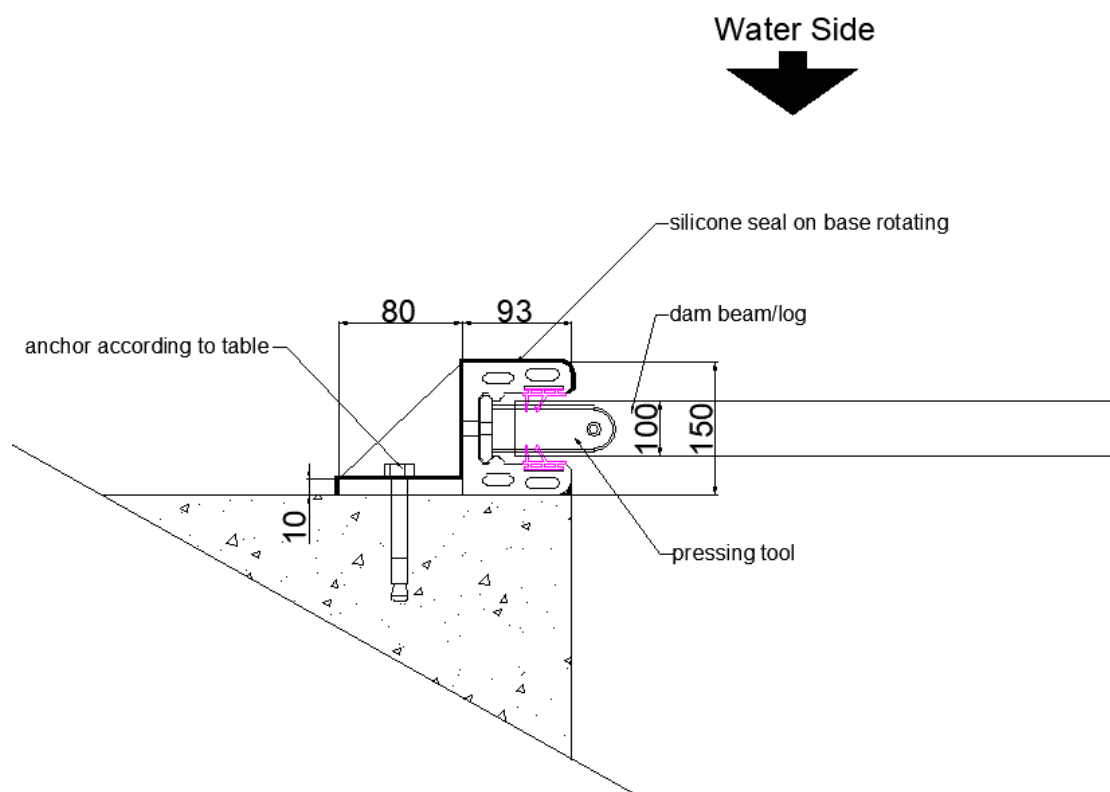
## 4.2 Mounting Types - Side Wall Mounted



### Mounting Tolerance:

- Frame Assembly
- In Axis + / - 3mm
- Vertically + / - 3mm
- Total max. 6mm

### 4.3 Mounting Types - Front Wall Mounted



#### Mounting Tolerance:

- Frame Assembly
- In Axis + / - 3mm
  - Vertically + / - 3mm
  - Total max. 6mm

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