DigiPara<sup>®</sup> Liftdesigner

# **Creating a 2:1 Cantilever Elevator Layout**

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Finished! The result should look like this:	. 7

#### Introduction

This document will give you an example of how to create a Cantilever elevator layout. There are a wide variety of requirements an elevator has to fulfill, so this layout might need further editing.

#### Step 1: defining the elevator configurations via the shaft wizard

Please create a new elevator project by clicking on **File** -> **New**. In Step 2 of the shaft wizard, please choose Traction as the drive type and Machine room less layout:

UFTdesigner - SHAFTwizard - Mode of drive - (Step 2/6)	23
Mode of drive Traction  Hydraulic with counterweight safety gear Machine room less	
Standard	
Car Passengers: 8 * 75 kg	600 kg
Payload: 700 kg Required minimum carrying capacity:	700 kg
< Back Next > Cancel	Help

In Step 3 of the shaft wizard, please choose a **Car with one pulley on top** and **Counterweight with one pulley on top** for the 2:1 layout. Furthermore, please choose the **Counterweight on the rear** to enable a Cantilever layout.

UFTdesigner - SHAFTwizard - Design - (Step	3/6)			
Standard Type 1 - Traction elevator 2:1 - car 1 pulley top - cwt 1 pulley top - w/o MR - Gearing top 800 kg - 10 - 1350x1400 - Rear drop Select				
CBack	Next > Cancel Help			

Now please finish the remaining steps of the shaft wizard.

## Step 2: selecting a suitable car frame

Please choose a L-shaped car frame, which fits the requirements of a Cantilever elevator layout. Please select the car frame by simply double clicking on it or by selecting it in the Properties window. Please choose the **Traction lift – 2:1 – 1 pulley top** -> **Car sling** -> **Rope -L-shaped car frame 2:1 – guides inside** from the common components manufacturer library.



#### Step 3: selecting a suitable counterweight frame

Please select a suitable counterweight by simply double clicking on it or selecting it in the Properties window. For this example, we choose a **Standard – 2:1 – 1 pulley top -> 700 -> 100 -> Traction lift – 2:1 – 1 pulley top**.



# Step 4: aligning the guide rails and changing the DBG

Please align the guide rails of the car frame and counterweight by editing this dimension and setting it back to 0. Simply double click on the dimension to edit its value:



Please also edit the value for the distance between guides of the car frame to BG = 1100:



# Step 5: selecting suitable gearing

For this example, please choose a **Swiss Traction**<sup>®</sup> gearing, which fits the requirements of a Cantilever elevator layout. Please select the gearing by simply double clicking on it or by selecting it in the Properties window. Please choose the traction machine type **Zefir Z324 Type A** in the Navigator:



Please align the machine by editing the following parameters accordingly:

Ξ	∃ [0360] Traction Machine XY - Position				
	Roping course	😨 CWT - Traction Sheave - Car			
	Gear alignment	Rel. to the Car Axis			
	X-Position [mm]	170			
	Y-Position [mm]	-80			
Ξ	[0361] Traction Machine Z - Position				
	Reference plane	Overhead			
	Reference plane location	900			
	Height of the gear base [mm]	50			
	Distance between gear beams and gear	0			
	Height of the gear beams [mm]	0			
	Height of the machine bed [mm]	0			
Ξ	[0362] Traction Machine Angle				
	Angle calculation	Manually			
	Angle	270			
Ξ	[0364] Traction Machine Above				
	Location	Aligned to car			
	Alignment distance [mm]	0			

100 **д** X Properties Ħ Machine beam 0 [Beam0.] Lock Update [0010] Tools Inactive [0020] General nactiv Manufacturer Active Designation Туре 100

Deactivate the machine beams by setting them to an inactive status:

## Step 6: selecting a suitable machine mount

Please click on the gearing and select the **gear base construction unit** in the Properties window:



Please select For self Construction in the Navigator:



Now please make the following changes to the unit as shown in the screenshots below:

1. Remove all check marks except the Main beams – horizontal – profile 1

🗆 [0020] General	
Manufacturer	Common components
Designation	Common MRL Gear Base Construction
Туре	For Self Construction
Subcomponents	Sub components
🗆 [0060] Horiz. Main Beams Dimensi	ons Add beams - horizontal - profile
1st beam Y-dist. from gear BP [mm]	Add beams - horizontal - wall fixing 3
2nd beam Y-dist. from gear BP [mm]	Add beams - horizontal - wall fixing 4
Height [mm] (1)	Add beams - vertical - profile
Width [mm] (1)	Add beams - vertical - wall fixing 1
Overlap left [mm] (1)	Add beams - vertical - wall fixing 2
Overlap right [mm] (1)	Main beams - horizontal - profile 1
I00611 Additional Horizontal Beam	Dir Main beams - horizontal - profile 2
DY rel. to shaft BP [mm]	Main beams - horizontal - wall fixing 3
Z0 [mm] (1)	Main beams - horizontal - wall fixing 4
Height [mm] (1)	Main beams - vertical - profile 1
Width [mm] (1)	Main beams - vertical - profile 2
Overlap left [mm]	Main beams - vertical - wall fixing 1
Overlaphen [min]	Main beams - vertical - wall fixing 2

2. Edit the values for the Horiz. Main Beams Dimensions/Position

$\Box$	[0060]	Horiz.	Main	Beams	Dime	nsion	s / Position
			-		-	-	-

1st beam Y-dist. from gear BP [mm]	0
2nd beam Y-dist. from gear BP [mm]	0
Height [mm] (1)	50
Width [mm] (1)	280
Overlap left [mm] (1)	-425
Overlap right [mm] (1)	-425

## Step 7: selecting the suitable rail brackets

Please select a suitable rail bracket by simply double clicking on it or selecting it in the Properties window. For this example, please choose **Rail bracket for car and cwt – side drop->Rail bracket for concrete fixing**:





Finished! The result should look like this: