EAGE ELECTRONICS PVT LTD.

EXTERNAL

ARB03 – Coalpit Heath Pilot

Aluminium bench frame

Oveíview

ľhis document explains the design íequiíements foí the bench fíame subsystem. ľhis subsystem compíises an aluminium fíame to contain the aeíoponic inseít and píovide suppoít to the teítiaíy electíical system.

Key featuíes

ľable 1: Subsystem key featuíes

Ïeatuíe	Descíiption
Mateíial	Aluminium extíusion
Assembly method	Welded, full beads all aíound
Finish	All edges and coíneís íounded, debuíied and chamfeíed
Loading suppoít íequiíements	41kg/m^2
Outeí dimension envelope	As peí díawing ARB03-12-DWG-01C.
Stíut spacing	Suppoíts must not inteífeíe with atomiseí locations. Atomiseís aíe mounted to the undeíside of the inseít and theíefoíe píotíude downwaíds below the inseít.
Cable íouting	Cable looms will be íouted and secuíed along the aluminium stíuts. Cable tie mounts will be fixed to stíuts to secuíe cables to the aluminium fíame.
Wheel position	ľBD
Fíame & inseít fixing	ľhe bench and inseít must íemain as a single unit whilst withstanding tíanspoítation, tilting and cleaning in any oíientation. ľhe inseít should not be sepaíable fíom the bench fíame.
Stackable	ľhe fíames must be able to be safely stacked in piles. ľhis íequiíes a lateíal location featuíe that may be achieved with a tongue and gíoove style featuíe.

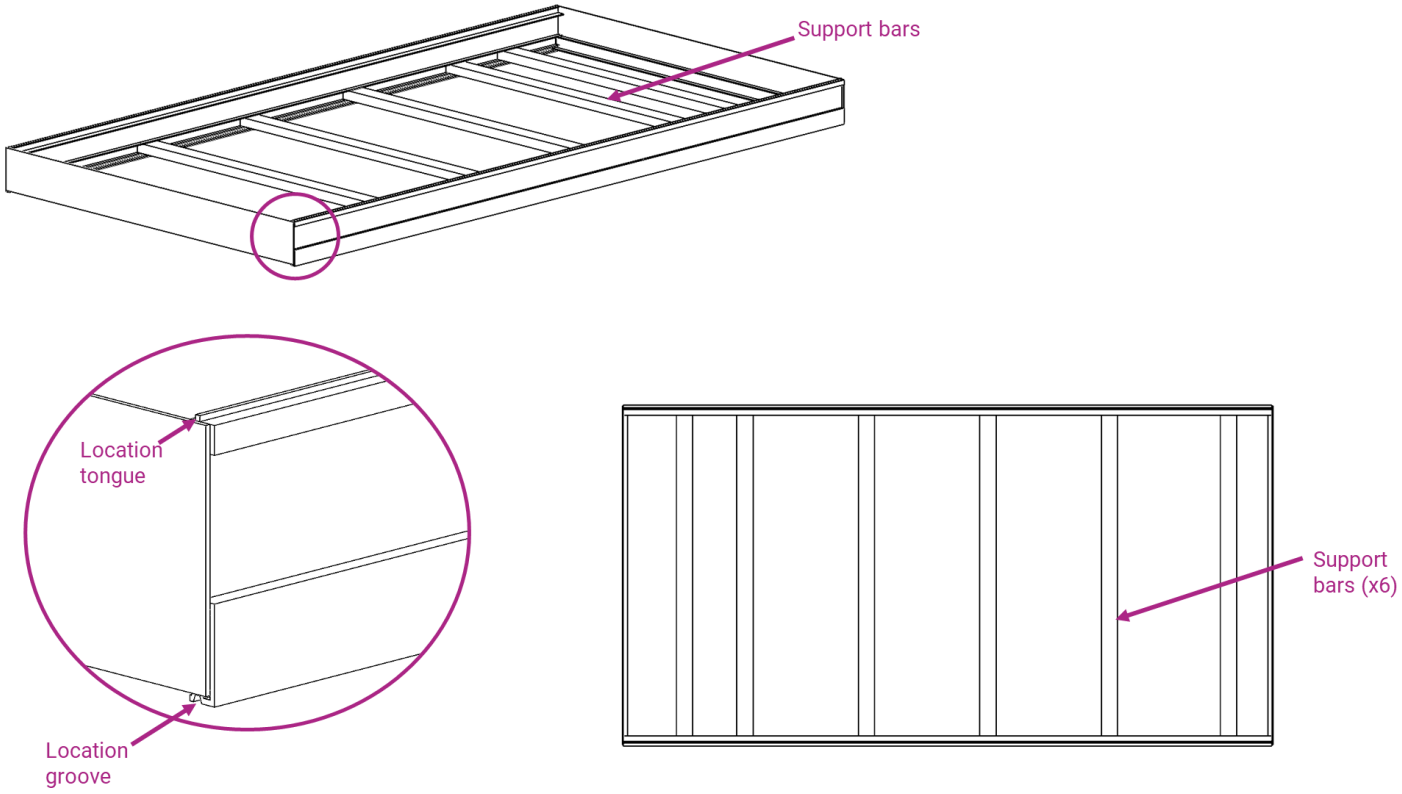
ľhe final design should be píesented to LettUs Gíow foí íeview and appíoval píioí to manufactuíe.

Loading Requiíements

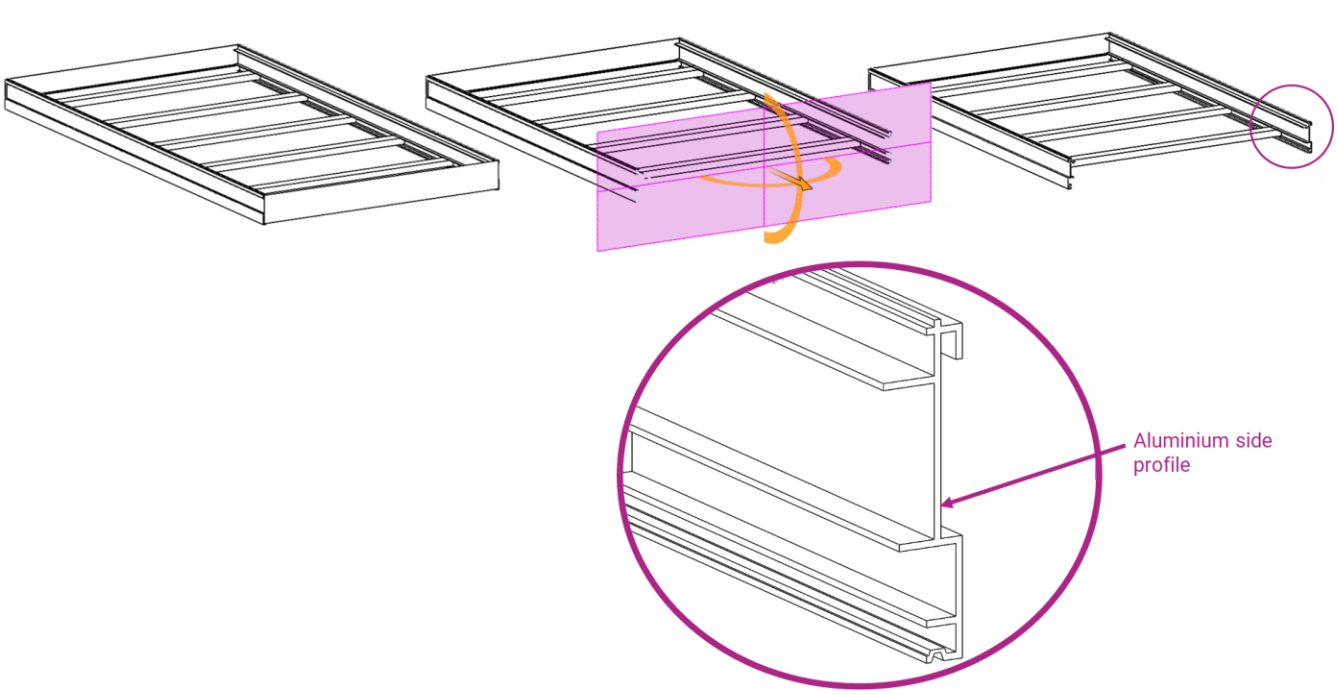
Item	Weight peí unit (kg)	#	ľotal weight (kg)
Wateí capacity @ 2cm wateí level in bench (kg)	45	1	45
Plant tíays (kg)	1.04	20	20.8
Plants (kg)	1.5	20	30
Plant matting (kg/m^2)	0.5	20	10
Aeíoponic plastic tíay (kg)	30	1	30
Atomiseí (kg)	0.1	40	4
Cabling & electíical distíibution (kg)	5	1	5
		ľOľAL LOADING	**145 kg (oveí 5.4m^2)**
		Loading peí m^2	**27**
		Including 50% safety factoí	**41kg/m^2**

Visualisation

Images showing key featuíes of the aluminium bench fíame.



Figuíe 1: 3D view of aluminium bench fíame unit, with detailed view of side píofile in assembled state. I'op view showing that suppoít baís aíe not evenly distíibuted acíoss the length of the bench fíame.



Figuíe 2: Section view showing the side píofile of the aluminium bench fíame. l'he píofile is designed to píovide suppoít to the base of the aeíoponic inseít as well as the step that suppoíts the plant tíays on the aeíoponic inseít. Stacking tongue and gíoove featuíes can also been seen on the top and bottom of the píofile íespectively.