# Rooftop Building Services Support Systems

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### Simply a better way

At Big Foot Systems we pride ourselves on our quality products, professional technical support, extensive application understanding and experience.

Launched in 2001, we began by introducing a comprehensive range of eco-friendly non-penetrative, easy to use and cost-effective support products for rooftop ductwork, cable tray and pipework runs. Simple frameworks to support condensing units as an alternative to traditional timber, steel and concrete constructions quickly followed.

Solar frameworks and access platforms for rooftop walkway and maintenance purposes were added as markets developed.

Our aim at Big Foot Systems continues to be to provide easy to assemble rooftop building services support systems. Our range of products provide quick, simple, safe and versatile solutions for the support of rooftop HVACR equipment, solar panels and access platforms. Big Foot Systems sets the standard on any installation, meeting the needs of architects, consultants, engineers and contractors. Big Foot products are packed for ease of handling and available internationally via a network of approved distributors.

Following the successes and flexibility of our light duty support products we added steel frame systems for the support of larger, heavier rooftop building services equipment such as refrigeration equipment and air handlers.

Big Foot Systems – simply a better way.

















# Big Foot Systems Product Range

Non-penetrative rooftop building services support systems



With the main plant positioned upon the roof, there is generally a need to install associated auxiliary services. Service containment such as duct, pipework and cable ladder/tray can be supported using a number of auxiliary support products from our Services Support range.

### TYPICAL APPLICATIONS

- Pipework
- Duct Runs

Light Duty Frames

The Big Foot Systems Light Duty Frame range offers both standard and custom frames for Air Conditioning and small Air Handling Units. Delivered packaged to site the frame components and leg assemblies can easily be handled. With an ever increasing number of HVACR manufacturers supplying products, our frames are dimensionally configurable at design stage, both in footprint and height.



The Big Foot Systems Heavy Duty range offers a robust cost-effective support alternative to on-site concrete constructions which aids load dispersal and are non-penetrative. With minimal on-site assembly and easy positioning, the HD Cube and HD Beam offer a standardised approach with Custom designs for larger plant and services.

TYPICAL APPLICATIONS

Chillers

Plant Rooms

Generators

Air Handling Units

Packaged Plant

Heavy Pipes & Steels

FEATURES & BENEFITS

Optional fully-certified

independent warranty

In-house CAD ServiceFinite Element Analysis (FEA)

Armoured Cabling



Big Foot Systems Solar Frames are versatile, robust and quick to install. Available in various sizes, angles and heights, Solar Frame systems can be adapted to almost any installation and for as many panels as any scheme requires. A wind analysis and ballast assessment service is also available.

TYPICAL APPLICATIONS

PV Panels

Safe Access

The Safe Access range from Big Foot Systems provide low level standard modular walkways mounted on non-penetrative rubber feet, to custom fabrications requiring a more consultative approach necessitating detailed proposals and site surveys. Big Foot Systems detailed engineering drawings provide concise, economically engineered Safe Access solutions to fit within planned or existing rooftop services (complying with

- Cable Ladders
- Cable Trays
- Modular Cable Management Systems
- Supply & Extract Fans
- Attenuators
- Filters

#### FEATURES & BENEFITS

- Cost and time-effective installation
- Product construction minimises the risk of penetrating the roof top finish
- Improved system aesthetics
- Robust, high quality recycled materials
- For ease of specification these products are detailed on the following building product libraries:



TYPICAL APPLICATIONS

- AC (Splits & VRF/VRV)
- Air Handling Units
- Air Source Heat Pumps
- Compressors
- Supply & Extract Fans
- Attenuators
- Filters

#### FEATURES & BENEFITS

- Standard Frames supplied boxed
- Cost effective, prefabricated support system
- Versatile modular frameworks
- Quick to install, robust and secure
- ular frameworks Wind loading performance calculation II, robust and secure service available
  - Cost and time effective on-site installation
  - Prefabricated for consistent and controlled installations
  - Ensures greater project design flexibility

Solar Thermal Panels

#### FEATURES & BENEFITS

- For the support of solar panels in a portrait or landscape arrangement
- Versatile, modular framework available in various sizes
- Computational Fluid Dynamics (CFD) wind analysis report and ballast recommendation service available
- Optional fully-certified independent warranty

necessary safety standards).

#### TYPICAL APPLICATIONS

- Plant Maintenance
- Plant Inspection
- Roof Access
- Fire Escapes

#### FEATURES & BENEFITS

- Quick and simple, on-site assembly
- Flat packed for ease of transportation
- Health and safety regulation compliant
- Optional fully certified independent warranty
- Custom designs available



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# Big Foot Product Selector

### Use the chart below to help find the perfect support for your application

4	2	ξ	Gervices	Suppor	t	LD Fra	ames	н	D Syster	ns	Solar F	-rames		Sa	ife Acce	SS	
	GFOOT® Astems	H Frame Sets	Multi Foot	Fix-it Foot	Mini Split Kits	Standard Frames	LD Custom Frames	HD Beams	HD Cubes	HD Custom Frames	PV Fix-it Packs	Solar Custom Frames	Rapid Walkway	Plant Deck Frame	Step Over Platform	Step Over	Custom Safe Access
		Pages 10-11	Pages 12-13	Page 14	Page 15	Pages 18-19	Pages 20-21	Pages 22-23	Pages 24-25	Pages 26-27	Pages 28-29	Pages 30-31	Page 32	Page 33	Page 34	Page 34	Page 35
	Cable Basket ≤ 150mm																
	Cable Tray ≤ 300mm																
Electrical	Cable Trays 450 & 600mm wide	. •															
ctri	Cable Trays 750 & 900mm wide																
Ele	*Cable Ladder $\leq$ 450mm wide																
	*Cable Ladder $\geq$ 600mm wide																
	*Bus Bars	. •															
÷	Small Duct <300mm wide	. •															
Duct	Larger Ducts	. •															
	*Attenuators, (Silencers)	. •															
	F&R Pipes > 40mm ≤ 65mm dia.																
	F&R Pipes > 65mm ≤ 100mm dia.																
Pipe	F&R Pipes > 100mm ≤ 150mm dia.	. •															
Ē	High Level Support																
	*Multiple Pipe Runs	. •															
	Pipes greater than sizes shown																

_	1-2 No. A/C Split units <175kg each								
ing	3-4 No. A/C Split units <175kg each								
ion	5-6 No. A/C Split units <175kg each								
dit	1 No. VRV/VRF unit**								
Sor	2 No. VRV/VRF units**								
Air Conditioning	3 No. VRV/VRF units**								
٩	4 or more A/C or VRV/VRF units								
	Extract Fans								
	Supply Fans								
S	Larger Condensers								
/ice	Air Cooled Condensers								
Heavy Services	Air Handling Units								
∠ S	Chillers								
eav	Boiler Houses								
Ĭ	Plant rooms								
	Low Level Support								
	High Level Support								
	Split level Roofs								
5	Adjustable Legs								
Solar	3 Panels – 10, 20 & 30°								
S	4 Panels – 10, 20 & 30°								
	5 Panels – 10, 20 & 30°								
(0	Clearance height <155mm								
ente	Clearance height >155 $\leq$ 1000mm								
me	Clearance height > 1000mm								
Access Requirements	Landings 600mm Wide								
bə	Landings 1000mm Wide								
ŭ	Low Level Access/Fire Escapes								
es	Larger landings/Additional Steps								
Acc	Cat Ladders								
4	Companion Way Ladders								

\* Weight dependant \*\* Based on typical carcase size of 990mm x 760mm











### Non-penetrative supports for pipework, duct and cable ladder/tray

The H Frame Set is a quick, versatile and economical solution for supporting pipework, duct, cable ladders/trays or any combination of these. You provide your own strut, keeping the duct and pipe installations low-cost and totally flexible by fabricating the framework on-site.

The majority of installations require 305mm H Frames but where a greater load distribution is required 450mm and 600mm H Frames are also available.

### H Frame Set 305mm



- Quick & easy installation
- Excellent load distribution
- Compatible with industry standard componentry
- Interchangeable with 3 strut sizes – one foot fits all
- Supplied with adhered rubber mats for optimum roof protection
- Boxed for convenience





x 2
x 4
x 1

OOT FLEECES Recommended for use n PVC membrane roof urfaces to prevent olymer migration

305 ANGLED MATS 2.5° and 5° rubber mats are also available for sloped roof applications



#### PRODUCT INFORMATION

Model	305mm	305mm 5 Pack
Part no.	B6088 ү	B9645 ү
Foot Size (mm)	305	305
Rec. frame load (kg)	300	300
Packaged weight (kg)	6.75	34

#### INTERCHANGEABLE STRUT







41 x 41 x 1.5 mm Strut

### H Frame Set 450mm & 600mm



**KIT INCLUDES** Plastic feet Rubber mats Insert

Brackets and fixings

Assembly instructions

21 x 41 x 1.5 mm Strut

polymer migration

450 ANGLED MATS 2.5° and 5° rubber mats are also available for sloped roof applications



PLEASE NOTE: Strut NOT included

### PRODUCT INFORMATION

Model	450mm	600mm		
Part no.	B6089 酇	B9222 🏹		
Foot Size (mm)	450	600		
Rec. frame load (kg)	500	500		
Packaged weight (kg)	13.35	23.10		

х2

х2

х2

x 2

x 1

STRUT INSERT



FOOT FLEECES Recommended for use on PVC membrane roof surfaces to prevent

40 x 38 x 1.9 mm Euro Strut

For ease of specification these products are detailed on the following building product libraries:



41 x 41 x 1.5 mm Strut









### Big Foot Multi Foot



The Multi Foot is designed to be a multipurpose support for duct, pipework and cable trays or any combination of these.

This extremely versatile and cost-effective one-piece support is available in two sizes with the new integrated mat configuration.

### 40mm Multi Foot Packs



- Quick & easy installation Supplied with adhered rubber mats for optimum roof protection
- Boxed for convenience
- Accepts a full range of
- strut sizes Rigid nylon foot





PRODUCT INFORMATION

Model	400mm 4 Pack
Part no.	B9640 🏹
Height (mm)	80
Width (mm)	180
Length (mm)	400
Max. load per foot (kg)	259
Packaged weight (kg)	6.8

PLEASE NOTE: Multi Foot is supplied WITHOUT any fixings or fittings

#### MULTI FOOT APPLICATIONS





### 600mm Multi Foot Packs



Model	600 mm 3 Pack
Part no.	B9655
Height (mm)	80
Width (mm)	220
Length (mm)	600
Max. load per foot (kg)	474
Packaged weight (kg)	7.5





















# Big Foot Fix-it Foot

### Non-penetrative supports for pipework, duct and cable tray

The seven sizes of Fix-it Foot are a neat and tidy roof top support solution from Big Foot. The feet have 40mm x 20mm aluminium channel recessed into the top face to allow for easy fixing of services. Suitable for pipework, duct and cable tray runs.

The Fix-it Foot is made of durable, recycled rubber, which offers built-in anti-vibration and makes it both economical and environmentally responsible.

### Fix-it Foot



Model	250	400	600	1000
Part no.	B6735	B6736	B6737	B9096
Height (mm)	95	95	95	95
Width (mm)	180	180	180	180
Length (mm)	250	400	600	1000
Max. load per foot (kg)	82	128	224	295
Packaged weight (kg)	2.3	3.4	5.5	9.5
Model	250 Low	400 Low	500 Low	FOOT FLEECES
Part no.	B9043	B9045	B9368	for use on PVC
Height (mm)	50	50	50	membrane roof
Width (mm)	130	130	130	surfaces to
Length (mm)	250	400	500	— prevent polymer migration
Max. load per foot (kg)	82	128	134	
Packaged weight (kg)	1.2	2	4.6	

PLEASE NOTE: Fix-it Foot is supplied WITHOUT any fixings or fittings

PRODUCT INFORMATION



KIT INCLUDES		FOOT FLEECES
Rubber feet	x 2	Recommended for use on PVC membrane roof surfaces to
Fixing kit	x 2	prevent polymer migration

#### PRODUCT INFORMATION

Model	600mm	1000mm
Part no.	B9284 🏹	B9530
Height (mm)	95	95
Width (mm)	180	180
Length (mm)	600	1000
Max. load per kit (kg)	448	590
Packaged weight (kg)	11	19

















### **Big Foot Ancillaries**



### Mounting Platforms



Simply fitted into the top of the Big Foot mouldings, these Platforms provide a versatile support system. Available with a plain top or with 2 or 4 sides, they have a central M10 threaded insert and are available with 305mm or 450mm feet.

KIT INCLUDES	
Platform	x 2
Plastic foot	x 2

Rubber mat х2

#### PRODUCT INFORMATION

Model	305mm Plain Top	305mm 2 Sides	305mm 4 Sides	450mm Plain Top	450mm 2 Sides	450mm 4 Sides
Part no.	B9098	B9099	B9100	B9101	B9102	B9103
Useable area (mm)	126 x 126	114 x 126	114 x 114	126 x 126	114 x 126	114 x 114



### Vibromats



Where elevated walkways are not required these compressed recycled rubber mats, in 3 size options, can be laid directly onto the roof top. This clearly denotes areas for personnel access and protects the membrane or roof material from potential damage from foot fall and ancillary equipment. The AV strip can be used as an additional isolating strip between the Big Foot Support Frame and the installed unit.

#### PRODUCT INFORMATION

Model	Small Tile*	Large Tile*	Plain Tile	AV Strip
Part no.	B6491	B6282	B6416	B6024
Height (mm)	30	30	45	15
Width (mm)	150	500	500	75
Length (mm)	600	1000	500	1000





### AV Pads



### Swan Necks



In a similar way to that of the AV Strip, the AV Pad affords a greater degree of isolation between unit and Big Foot support frame against vibration.

PRODUCT INFORMATION

Model	51mm	76mm	101mm	152mm	305mm	457mm
Part no.	B6909	B6910	B6911	B6912	B6913	B6914
Height (mm)	22.2	22.2	22.2	22.2	22.2	22.2
Width (mm)	51	76	101	152	305	457
Length (mm)	51	76	101	152	305	457

High quality Swan Necks are ideal for one of the most sensitive areas of a flat roof... the point at which it is necessary to penetrate it with cable and pipe runs. A large flange around the foot of the Swan Neck allows a full seal with the roof membrane. The 2mm aluminium plate is lightweight and won't go rusty. A full hood protects against rain ingress, and rounded outlet protects pipes, insulation and cables.

PRODUCT INFORMATION

For ease of specification these products are detailed on the following building product libraries:

LUCKINS **NS**FPlus

Model	Square Small	Square Medium	Square Large	Oblong Small	Oblong Small	Oblong Large
Part no.	B9154	B9148	B9149	B9150	B9152	B9151
Outlet Size (mm)	75 x 75	125 x 125	200 x 200	125 x 250	125 x 250	125 x 500
No. of outlets	1	1	1	1	2	1
Height (mm)	385	385	385	385	385	385

B9150 B9152 B9149



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### Non-penetrative support frames for air conditioning multi frames, mini-splits, VRFs and small AHUs

The LD standard product range consists of three standard modular frames, available in 1m, 2m and 3m arrangements. This ensures minimal crossmember deflection whilst maintaining structural stability; as opposed to weaker alternatives often constructed from poor quality pre galvanised strut. Our highly competent engineers and designers have developed the product range through our rigorous product development cycle, including validation through testing.

### Standard Frames



### Standard Frame Variants



In order to facilitate the process of identifying the required frame for the specified air conditioning manufacturers Splits or VRF/VRV units (or indeed a combination of both) Big Foot Systems have created 'Frame Selectors'.

For further details contact the Big Foot Systems Technical Office on +44 (0)1323 844 355.

with all leading

#### PRODUCT INFORMATION

Model	1m Modular Frame	2m Modular Frame	3m Modular Frame
Part no.	B6075 🏹	B6077 🏹	B6078
Height (mm)	290-400	290-400	290-400
Width (mm)	1200	1200	1200
Length (mm)	1000	2000	3000
Weight (kg)	40	69	93
Max. loading (kg)	480	720	960





#### PRODUCT INFORMATION

Model	1m	2m	3m
Part no.	B9088	B9089	B9090
Height (mm)	290-610	290-610	290-610
Width (mm)	1200	1200	1200
Length (mm)	1000	2000	3000
Weight (kg)	40	69	93
Max. loading (kg)	480	720	960

Model	Standard	Long Stud	Large
Box section (mm)	40	40	40
Min. height (mm)	290	290	730
Max. height (mm)	400	610	825

















### Project specific non-penetrative support frames for air conditioning and ventilation equipment

Big Foot Systems offer a custom design service, where our standard offer may not be suitable in meeting specific application requirements placed on today's roofs. Limiting factors such as weak roof construction, space constraints, existing upstands/services obstruction and stacked/sectioned unit arrangements are typical scenarios that contribute to the need of detailing an appropriate custom support solution.

Optimised design

- Supplied flat packed
- Configured to your needs

PRODUCT INFORMATION

ANGLED RUBBER MATS	The solution to sloping roofs, $2.5^{\circ}\&5^{\circ}$ rubber mats are available
LEG HEIGHT ADJUSTMENT	290-400mm: floor to top of framework (290-610mm: stepped roof option)
LINEAR ADJUSTMENT	The cross-bars which support the condenser units can slide along the plain bars into the positions required, then are locked securely in place
LD CONDENSER CLAMPS	The repositionable clamps are located on both sides of the cross-bars, locking down onto the feet of the condenser units as they are tightened
LEG & BRACKET POSITIONING	The leg and bracket are usually positioned outside the framework, but can be positioned inside if there is an obstruction or the load dictates
FOOT FLEECES	Recommended for use on PVC membrane roof surfaces to prevent migration of plasticizers

With the aid of our highly skilled engineers utilising industry leading software, such as 3D CAD packages, ANSYS Finite Element Analysis (FEA) and Computational Fluid Dynamics (CFD) we are able to tackle the most challenging requirements. In addition to this our design team have developed an array of calculators to quickly analyse engineering considerations to provide on-demand analysis for wind loading performance, beam deflection, load distribution. This coupled with our extensive knowledge of waterproofing systems and roof build-up ensure we provide an economical, safe and well thought out design... every time!

### **Technical Report** Submittals

There may be situations where a design feasibility study, and/or a detailed technical analysis demonstrating the validity of a proposal against design parameters may be required.

Typical examples involve wind loading performance, beam deflection and weight distribution etc. These are written by our highly qualified engineers and can be provided to aid and clarify technical understanding, depending on customer supplied information, project size and value.



### Finite Element Analysis

FEA is a powerful tool that achieves numerical test data through means of running a computer simulation to enable close analysis of the effect of variable loading conditions on solid elements. With our qualified engineering experts, its application within Big Foot Systems design process is used to validate structural integrity against beam deflection. This enables optimisation of design and application. Written analysis can be provided through our Technical Report Submittal service dependent upon scheme size and complexity.

### Computational Fluid Dynamics (CFD)

CFD is a powerful tool used by our engineering team to closely analyse and interpret fluid characteristics within a modelled computer simulation. Typical use for this tool within Big Foot Systems include analysis of Solar Panels, AHUs, Chillers, Packaged Plant and VRFs etc. against extreme imposing wind pressures. Measurements are taken for wind tipping, wind sliding and wind uplift limits, to validate design/ballast recommendations ensuring safety for application. Written analysis can be provided through our Technical Report Submittal service dependent upon scheme size and complexity.



For ease of specification these products are detailed on the following building product libraries:







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kechnical@bigfootsupport.com



🤟 @bigfootsystems

### **Big Foot HD Beams**

### Boxed non-penetrative support frames for chillers, AHUs, packaged plant, generators, pipes & steels

The HD Beam was developed as a lighter weight companion to the HD Cube and comprises 50mm x 50mm x 3mm square hollow sections to minimise beam deflection. Typical applications include large and heavy plant but is equally functional at supporting heavy pipes and services. HD Beam is a robust but flexible solution where space may be limited, or there is a requirement to position directly over existing structural roof beams. With M24 stud built into both legs, adjustability in height will maintain a level system on roof falls up to 5°, and additional adjustment is not usually needed. The vertical leg assemblies, coupled with the 450mm or 600mm feet and rubber mats, function in distributing the weight of the combined system. Unlike other proposals/solutions we ensure the weight is evenly distributed through a specified quantity of HD Beams.

As part of our service offer and to support a technical submission our quotations will always state the 'UDL' and/or 'Point Loads' (kN/m<sup>2</sup>) in line with the specified or assumed roof performance. An optional, 'quick fitting' Clamp Kit ensures a rigid fix back to the services, or secondary steelwork.

Our technical capability in line with breadth of range enable Big Foot to design a frame specific to your need... we are yet to encounter a scenario under which we haven't been able to provide a solution.

### Adjustable HD Beam



#### PRODUCT INFORMATION 600HDB 450HDB Model B9373 🧊 B9423 🧊 Part no. Foot size (mm) 600 450 Height (mm) 300-360 300-360 Overall width (mm) 642 486 Overall length (mm) 1502 1346 Max. load per HDB (kg) 1000 1500 Packaged weight (kg) 37 35

#### KIT INCLUDES

Leg assembly	x 2
Rubber mats	x 2
800mm cross bar	x 1
Beam clamps	x 2
Assembly instructions	x 1

#### HEIGHT ADJUSTMENT

Height adjustment from 300mm to 360mm. Big Foot feet can interchange with our various leg assemblies to offer customers differing support heights and footprints to suit

### Adjustable Large Stud HD Beam



#### PRODUCT INFORMATION

Model	600 LS HDB	450 LS HDB
Part no.	B9692 🏹	B9690 🏹
Foot size (mm)	600	450
Height (mm)	300-580	300-580
Overall width (mm)	642	486
Overall length (mm)	1502	1346
Max. load per HDB (kg)	1500	1000
Packaged weight (kg)	38	36

#### KIT INCLUDES

Plastic feet	x 2
Rubber mats	x 2
HD Beam metalwork	x 1
Beam clamps	x 2
Assembly instructions	x 1

For ease of specification these products are detailed on the following building product libraries:

nssPlus





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### Big Foot HD Cubes

### Non-penetrative support products for chillers, AHUs, packaged plant & generators

The HD Cube offers a complete, efficient and robust solution for supporting heavier services on flat roofs. It has been designed and manufactured using 50mm x 50mm x 3mm square hollow sections for heavy duty applications. This ensures minimal cross-member deflection whilst maintaining structural stability. Whilst minimising any deflection, the Cube still allows large loads of 2000kg and 3000kg each, in either 4 x 450mm or 4 x 600mm foot configurations respectively. Due to the close proximity of the feet, the enlarged square base naturally afford very good load distribution capabilities to spread



evenly on the roof. Ideal for the support of large and/or heavy plant – in fact anything which has an integrated skid or frame. The HD Cube provides a simplistic approach without the necessity of craning or casting, and then weatherproofing, traditional concrete plinths early on in the construction. Our technical capability in line with breadth of range and product versatility enable Big Foot Systems to design a frame specific to your need... we are yet to encounter a scenario under which we haven't been able to provide a solution.

PRODUCT INFORMATION

Model	200HDC	200HDC
Part no.	B9528 🏹	B9529 🏹
Foot size (mm)	600	450
Height (mm)	332	332
Footprint (mm)	1292 x 1292	1132 x 1132
Max. load per HDC (kg)	3000	2000
Packaged weight (kg)	62	72

KIT INCLUDES

Plastic feet	x 4
Rubber mats	x 4
Cube flat pack side	x 2
Cube cross bar	x 1
Assembly instructions	x 1

PRODUCT INFORMATION

Model	600HDC	600HDC	
Part no.	B9522 🏹	B9521 🏹	
Foot size (mm)	600	450	
Height (mm)	587	587	
Footprint (mm)	1292 x 1292	1132 x 1132	
Max. load per HDC (kg)	3000	2000	
Packaged weight (kg)	82	75	

#### KIT INCLUDES

Plastic feet	x 4
Rubber mats	x 4
Cube flat pack side	x 2
Cube cross bar	х З
Assembly instructions	x 1

### HD Cube 800



### HD Cube Adjuster



### PRODUCT INFORMATION

Model	800HDC	800HDC
Part no.	B9516	B9517 🏹
Foot size (mm)	600	450
Height (mm)	880	880
Footprint (mm)	1292 x 1292	1132 x 1132
Max. load per HDC (kg)	3000	2000
Packaged weight (kg)	87	80

#### KIT INCLUDES

Plastic feet	x 4
Rubber mats	x 4
Cube flat pack side	x 2
Cube cross bar	xЗ
Assembly instructions	x 1

#### PRODUCT INFORMATION

Model	HDC Adjuster
Part no.	B9374 🏹
Length (mm)	250

#### VERTICAL ADJUSTMENT

Optional levelling HD Cube Adjuster to accommodate roof falls and anti-vibration mounts, which allows for 80mm of height adjustment.

■ 200HDC: min. 392mm up to a max. of 472mm

For ease of specification these products are detailed on the following building product libraries:

**NS**SPlus

LUCKINS

Vidth (mm)	150
1ax. adjustable eight (mm)	140
Veight (kg)	3

■ 600HDC: min. 647mm up to a max. of 727mm

800HDC: min. 940mm up to a max. of 1020mm



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### Project specific non-penetrative support frames for large, heavy, irregular shaped & unevenly loaded plant

There are many situations at roof level where our traditional offer may not be suitable in meeting unique heavy duty application requirements. Similarly, limiting factors such as weak roof construction, space constraints, existing upstands/services obstruction, stacked/sectioned unit arrangements and louvre screen supports are typical scenarios that contribute to the need of detailing an appropriate custom support solution. With the aid of our technical surveyors, highly skilled engineering team and use of engineering tools such as ANSYS (FEA/CFD) etc. Big Foot Systems can design and manufacture complete one-off solutions.

The necessary solution can vary from a frame similar in design and configuration to that of a standard LD product but utilising larger and longer sectional bars, typically 50mm x 50mm or 100mm x 50mm, supporting large arrays of VRF/ VRV or a large heavy unit such as an AHU.



#### PRODUCT INFORMATION

ANGLED RUBBER MATS	The solution to sloping roofs, 2.5° & 5° rubber mats are available
LEG HEIGHT ADJUSTMENT	Customisable adjustability from floor to top of framework (stepped roof option)
FEET FLEECES	Recommended for use on PVC membrane roof surfaces to prevent migration of plasticizers



The solution can also extend to a custom arrangement of HD Cubes or HD Beams in either 450mm or 600mm foot sizes. These can be designed to support the unit, whilst also considering the imposed loads acting on the structure where it sits. Alternatively, for more complex applications, such as multiples of large and stacked unit layouts with an unusual footprint and uneven loading characteristics, a frame can be designed and fabricated specifically for the project requirements. In all cases, our Engineering Team carefully evaluates and designs each project on its own merit, in order to provide the optimum result.

Our technical capability in line with the breadth of our product versatility enable Big Foot Systems to design a frame specific to your need... we are yet to encounter a scenario under which we haven't been able to design a frame.

### Technical Report Submittals

There may be situations where a design feasibility study, and/or a detailed technical analysis demonstrating the validation of a proposal against design parameters may be required.

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### Finite Element Analysis

FEA is a powerful tool that achieves numerical test data through means of running a computer simulation to enable close analysis of variable loading conditions on solid elements. With our qualified engineering experts, its application within Big Foot Systems design process is used to validate structural integrity against beam deflection. This enables optimisation of design and application. Written analysis can be provided through our Technical Report Submittal service dependent upon scheme size and complexity.

### Computational Fluid Dynamics (CFD)

CFD is a powerful tool used by our engineering team to closely analyse and interpret fluid characteristics within a modelled computer simulation. Typical use for this tool within Big Foot Systems include analysis of Solar Panels, AHUs, Chillers, Packaged Plant and VRFs etc. against extreme imposing wind pressures. Measurements are taken for wind tipping, wind sliding and wind uplift limits, to validate design/ ballast recommendations ensuring safety for application. Written analysis can be provided through our Technical Report Submittal service dependent upon scheme size and complexity.





For ease of specification these products are detailed on the following building product libraries:















Big Foot Solar PV Fix-it Packs provide a quick to install solution using 600mm x 600mm x 50mm, 40kg paving slabs as ballast (not included). Utilising Big Foot Systems Fix-it Foot feet, this modular system is very versatile.

Standard 10°, 20° and 30° panel systems are available from stock. The metalwork is galvanised to ensure maximum corrosion resistance.

Solar PV Fix-it Frame is available in various sizes, angles and heights and is ideally suited to flat roof applications. Packs come complete with easy fit panel clips.

### Solar PV Fix-it 3 Panel Packs



#### **KIT INCLUDES**

Fix-it Foot feet
Hot dip galvanised base frame
A-frames and fixings
Solar panel clips
Assembly instructions

FIX-IT FOOT Big Foot Solar PV Fix-it Pack systems use UV stable Fix-it Foot feet as a neat and tidy support solution. Made from durable, recycled rubber with a channel moulded into the top face, allowing fixing of 40mm x 40mm box section or strut



### PRODUCT INFORMATION

Model	3 panel pack			
Model	10°	<b>20</b> °	<b>30</b> °	
Part no.	SB9446 🏹	SB9447 🕎	SB9448 🏹	
Height (mm)	448	740	1070	
Length (mm)	3170	3170	3170	
Width (mm)	1682	1682	1682	
Product weight (kg)	90	90	90	

### Solar PV Fix-it 4 Panel Packs



#### PRODUCT INFORMATION

Model	4 panel pack			
Woder	<b>10</b> °	<b>20</b> °	<b>30</b> °	
Part no.	SB9449 🏹	SB9450 🏹	SB9451	
Height (mm)	448	740	1070	
Length (mm)	4200	4200	4200	
Width (mm)	1682	1682	1682	
Product weight (kg)	120	120	120	

#### PRODUCT INFORMATION

Product weight (kg)

Model	5 panel pack			
Woder	10°	<b>20</b> °	<b>30</b> °	
Part no.	SB9452 🏹	SB9453 🏹	SB9445 🏹	
Height (mm)	448	740	1070	
Length (mm)	5260	5260	5260	
Width (mm)	1682	1682	1682	

150

150

150





For ease of specification these products are detailed on the following building product libraries:







9





sales@bigfootsupport.com





### Project specific non-penetrative frames for solar panels

Big Foot Solar Custom Frames provides a specifically designed yet quick to install solution using 600mm x 600mm x 50mm, 40kg paving slabs as ballast (not included). Utilising either the Big Foot adjustable leg assemblies, to accommodate roof lights and/or fall, or the Fix-it Foot feet, both system options are very versatile with their application and installation options.

### Solar Leg Frame



Standard Leg Assembly

are also available for sloped roof applications



Available in various sizes, angles and heights, the slab frameworks can be adapted to suit almost any installation for as many panels as is required.

Standard 10°, 20° and 30° panel systems are available from stock, with custom layouts to order. The metalwork is galvanised to ensure maximum corrosion resistance.

### Wind Analysis Report

Through our Technical Submission service, our qualified engineers can provide specific detailed studies on analysing imposing wind pressure to ascertain optimum ballast recommendations. This is achieved by our engineering experts with the ability to solve and interpret complex fluid flow problems in combination with industry leading ANSYS Computational Fluid Dynamics (CFD) software. Big Foot Systems design recommendations and analysis is based on customer-supplied information and available to customers dependent upon scheme size.



### Solar Fix-it Frame

### FIX-IT FOOT Angled brackets available FTX-IT FOOT 250 LOW in 10°, 20° & 30° angles Big Foot Solar Fix-it Frame systems use UV stable Fix-it Foot Non-penetrative UV feet as a neat and tidy support solution. Made from durable, stabilised Fix-it Foot recycled rubber with a channel moulded into the top face, allowing fixing of 40mm x 40mm box section or strut. Galvanised framework Rubber feet provide soft contact with roof Industry compatible standard componentry





















### Non-penetrative and modular access products

The Big Foot Safe Access range is designed to allow a secure route for service engineers and other trades to gain access to plant and for managing the flow of other personnel. The metalwork is galvanised to ensure maximum corrosion resistance. Both systems are supplied from stock and are quick and easy to install on site.

Big Foot Rapid Walkway is ideal for establishing clear, safe non-penetrative pathways around installations on a flat roof. The gritted GRP top to the walkway grating provides a permanent non-slip surface in any weather and is supported on Fix-it Foot feet.

### Rapid Walkway

#### Fast install

- Various length rails available from stock
- Non-penetrative recycled
- Fix-it Foot Non-slip GRP walkway
- Flat packed for ease of handling

KIT INCLUDES
Fix-it Foot 1000 feet
Grating
Assembly instructions

# FIX-IT FOOT The Rapid Walkway systems use the UV stable Fix-it Foot as a neat

and tidy support solution, made from durable recycled rubber PLEASE NOTE: Quantities and sizes within the kit vary depending

on the size of walkway required

ACCESSORY INFORMATION

PRODUCT INFORMATION

Overall length (mm)

Overall width (mm)

Height (mm)

Weight (kg)

1m

B9105

1000

1000

120

32

Model

Part no.

Model	1m Handrail (each)	2m Handrail (each)	3m Handrail (each)	Corner Handrail
Part no.	B9111	B9112	B9113	B9142
Overall length (mm)	1000	2000	3000	1000
Overall width (mm)	-	-	-	1000
Height (mm)	1120	1120	1120	1120
Weight (kg)	12	20	29	24

2m

B9106

2000

1000

120

54

3m

B9107

3000

1000

120

76

### Plant Deck Frame

Fast install	
3 standard sizes in stock	
<ul> <li>Custom design to suit all applications</li> </ul>	
Non-slip GRP walkway	
KITS INCLUDE	
KITS INCLUDE Adjustable Leg Assemblies	
KITS INCLUDE Adjustable Leg Assemblies End & Cross Bars	
Adjustable Leg Assemblies	

Big Foot Plant Deck Frames have been designed in line with customer demand to facilitate multiple VRF/VRV installations with access requirements/ restrictions. The systems also benefit from a wide base making them stable in high wind locations, often a design consideration with very tall units.

#### PRODUCT INFORMATION

Model	4 unit	6 unit	8 unit
Part no.	B4040	B4060	B4080
Foot size (mm)	450	450	450
Height (mm)	360-465	360-465	360-465
Width (mm)	3400	3400	3400
Length (mm)	2400	3400	4400

For ease of specification these products are detailed on the following building product libraries:

**NS**SPlus

















The Big Foot Safe Access range is designed to allow a secure route for service engineers and other trades to gain access to plant and for managing the flow of other personnel. The metalwork is galvanised to ensure maximum corrosion resistance. Both systems are supplied from stock and are quick and easy to install on site. Big Foot Step Overs available with 2, 3 and 4 steps and a 1m landing section. The four legs on each Step Over are supplied with 305mm feet and rubber mats for stability. For safe passage over small hazards our Big Foot Step Over Platform is available.

### Step Over

- Flat packed for ease of handling
- 3 different step options
- 1m landing
- Adjustable leg height
- Standard sizes stocked



#### KIT INCLUDES

305mm leg assembly	x 4	Landing grating	x 1
& rubber mats		Landing kickplates	x 2
Step handrail	x 4	Landing handrails	x 2
Step stringers	x 4	Fixings and assembly	x 1
Step grating	x 2/3/4	instructions	

#### PRODUCT INFORMATION

Model	2 Step unit	3 Step unit	4 Step unit
Part no.	B6939	B6940	B6941
Foot size (mm)	305	305	305
Clearance height (mm)	560	780	1000
Width (mm)	1492	1492	1492
Length (mm)	1713	2213	2713

### Step Over Platform

PRODUCT INFORMATION

Model	600	1000	Handrail	
Part no.	B9200	B9201	B6942	
Foot size (mm)	200	200	-	
Clearance height (mm)	155	155	-	
Width (mm)	600	1000	- 6	Z
Length (mm)	1000	1000	1000	

### **Custom Access**



### Custom Safe Access

Big Foot Systems offer a comprehensive range of Safe Access solutions, which are ideal for a wide range of commercial and industrial applications. Offering secure and easy access to roof-top services, Big Foot's Safe Access systems provide standard site-assembled, safe access walkways, platforms and step overs. In addition, Big Foot will survey and design custom Safe Access systems tailored specifically to meet individual design parameters.























### Project specific non-penetrative and modular products

Big Foot Systems offer a custom design service, where our standard offer may not be suitable in meeting unique application requirements posed on today's roofs. Limiting factors such as weak roof construction, space constraints, existing upstands/services obstruction and stacked/sectioned unit arrangements are typical scenarios that contribute to the need of detailing an appropriate custom support solution.

Supplied flat packed Configured to your needs Optimised design **PRODUCT INFORMATION** The solution to sloping roofs, 2.5° ANGLED RUBBER MATS & 5° rubber mats are available Customisable adjustability from floor LEG HEIGHT ADJUSTMENT to top of framework 國 (stepped roof option) Recommended for use on PVC FEET FLEECES membrane roof surfaces to prevent migration of plasticizers

Our highly-skilled designers utilise industry-leading software, including 3D CAD, ANSYS Finite Element Analysis (FEA) and Computational Fluid Dynamics (CFD) packages. Our scheme designs come with the assurance of complete design integrity and optimisation. In addition to this our design team have developed an array of calculators to quickly analyse engineering considerations. This, coupled with our extensive knowledge of waterproofing systems and roof build-up, ensures we provide an economical, safe and well thought through design... every time!

Our technical capability in line with the breadth of our product versatility enable Big Foot Systems to design a frame specific to your need.

### Customs Solutions

Big Foot Systems offer a comprehensive range of custom designs, which are ideal for a wide range of commercial and industrial applications, from education to food & beverage. The custom products series completes Big Foot's product portfolio of freestanding systems to support plant equipment, installed services and personnel movement on flat roofs. Big Foot's products provide simple, safe and secure non-penetrative, prefabricated support systems negating a need for time consuming and costly penetrations through the roof.



For ease of specification these products are detailed on the following building product libraries:

NSSPlus































# Simply a better way





RIBA encourages excellence in design, good practise and architectural education and campaigns on important issues such as design standards and sustainability.

Big Foot Systems has been recognised for excellence with ISO 9001. Big Foot Systems has been recognised for excellence with ISO 14001. Copies of accreditations are available on request.

ECO

Big Foot Systems is pleased to be eco-friendly where possible. Look out for our green foot symbol! DISCLAIMER: Big Foot Systems takes no responsibility for the condition of the roof on which our equipment is to be used. You must ensure that the substrate on which the Big Foot Systems is intended for use is structurally sound enough to take the weight and point loadings we have indicated.

All Big Foot Systems products must be installed in line with the guarantees and recommendations of the manufacturer of the roofing system. The manufacturer of PVC membranes should advise on the susceptibility to migration of plasticizers and specific recommendations should be adhered to so that the roof guarantee is not affected.

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