

# SPECIFICATION / DATA



**65°C**

SPECIFICATION &  
DATA SHEET

**EGB RANGE  
EVI TECHNOLOGY  
HEAT PUMPS**

**INNOVATION  
SATISFACTION  
INTEGRITY  
INVOLVEMENT**

**GREENBRO**   
ENDORSED BY NATURE®

65°C EGB RANGE

“ADVANCED HEATING SOLUTIONS  
FOR MAXIMUM EFFICIENCY”



**GREENBRO** 

ENDORSED BY NATURE®

# INDEX

## EGB RANGE EVI TECHNOLOGY HEAT PUMPS

INTRODUCING THE EGB RANGE	PAGE 2
WHAT IS A EVI (ENHANCED VAPOR INJECTION) COMPRESSOR	PAGE 2
WHAT MAKES THE GREENBRO EGB RANGE HEAT PUMPS BETTER	PAGE 3
EVI COMPRESSOR DATA	PAGE 4
INNOVATIVE FEATURES AND BENEFITS	PAGE 5
EGB RANGE 22.0KW - 44.0KW SPECIFICATION	PAGE 6
EGB RANGE 65.0KW - 88.0KW SPECIFICATION	PAGE 7
DIMENSIONAL DATA EGB RANGE 22.0KW - 65.0KW	PAGE 8
DIMENSIONAL DATA EGB RANGE 88.0KW	PAGE 9
OVERVIEW	PAGE 10
COMPANY INFORMATION	PAGE 10

## INTRODUCING OUR EGB RANGE

Greenbro introduces the EGB range, designed with advanced EVI (Enhanced Vapor Injection) compressor technology to deliver superior heating performance, increased efficiency, and optimal energy savings. Engineered to perform even in extreme cold conditions, this cutting-edge system ensures reliability and cost-effectiveness for residential, commercial, and industrial heating applications.

## WHAT IS A EVI (ENHANCED VAPOR INJECTION) COMPRESSOR?

An EVI (Enhanced Vapor Injection) compressor is a type of compressor used in heat pump systems to improve efficiency, especially in low-temperature conditions. It utilizes an intermediate cooling and vapor injection process that enhances performance compared to standard compressors.

## HOW DOES AN EVI COMPRESSOR WORK?

# 1.

It uses a special economizer or sub cooling circuit to inject additional refrigerant vapor into the compressor at an intermediate pressure.

# 2.

This process reduces the discharge temperature, increases cooling/heating capacity, and improves efficiency.



# WHAT MAKES THE GREENBRO EGB RANGE HEAT PUMPS BETTER?



## SUPERIOR PERFORMANCE

Maintains high efficiency even in freezing conditions, ensuring reliable heating all year-round.



## INCREASED HEATING CAPACITY

Delivers higher output with lower energy consumption, making it a cost-effective solution.



## LOW DISCHARGE TEMPERATURES

Reduces compressor wear and extends lifespan, improving overall system durability.



## OPTIMISED ENERGY SAVINGS

Uses advanced refrigerant cycles to reduce power consumption, helping you save on energy costs.



## EXTENDED OPERATING RANGE

Suitable for extreme weather conditions, ensuring continuous performance.



## ECO-FRIENDLY SOLUTION

Designed with energy efficiency in mind, reducing carbon footprint while maintaining performance.

## Operational Benefits:

**Lower Discharge Temperatures** – The EVI system reduces compressor strain and overheating, leading to less wear and tear over time.

**Improved Efficiency & Performance** – Because they operate more efficiently, components experience less stress, extending their lifespan.

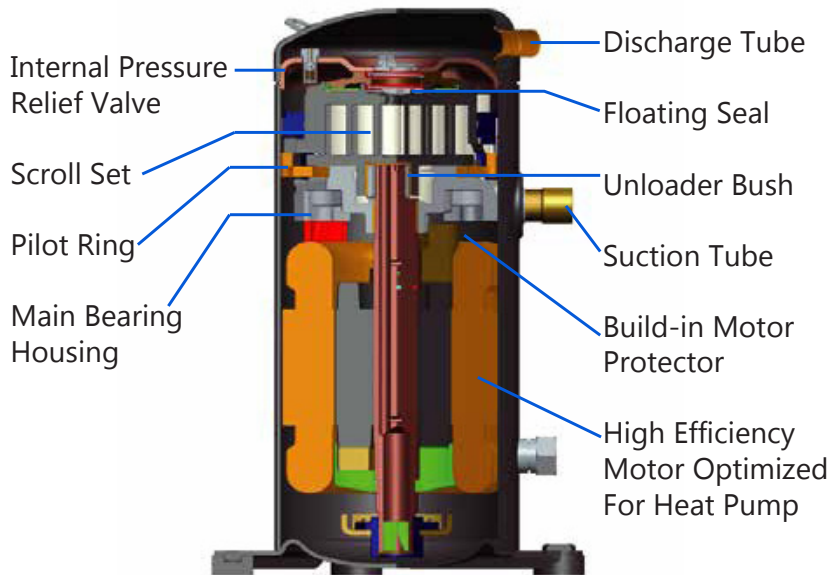
**Fewer System Failures** – Enhanced refrigerant injection helps maintain stable operation in extreme conditions, reducing breakdowns and repairs.

**Optimized Oil Circulation** – The design allows for better lubrication, reducing friction and component wear.

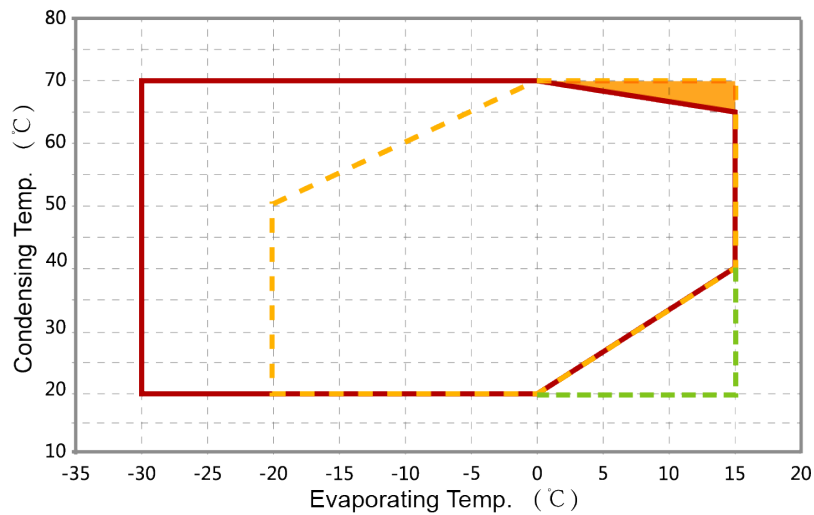
It is important to note, routine checks and system inspections are still necessary in order to monitor and prevent malfunctions before they become major issues, to ensure long-term performance.

## EVI COMPRESSOR DATA

The Enhanced Vapor Injection (EVI) compressor is designed to improve heat pump efficiency, especially in colder climates. By injecting additional refrigerant vapor, it increases heating capacity, reduces energy consumption, and extends the system's lifespan. This advanced technology ensures stable performance, even in extreme temperatures, making it ideal for residential, commercial, and industrial applications.



**R407C**



- EVI Off Area
- Operating Envelope for with EVI model
- Transition Area
- Operating Envelope for without EVI model

## INNOVATIVE FEATURES & BENEFITS

### SMART TOUCH SCREEN CONTROLLER CAPABILITIES

**WI-FI ENABLED:** Connect to Smart App via your mobile device.

**BMS COMPATABLE:** BMS functionality included.

#### END USER INTERFACE:

- On/Off,
- Timer Control,
- Temperature Setpoint,
- Error Status Information,
- Error Log History Display,
- Ambient Temperature,
- Exhaust Air Temperature,
- Suction Temperature,
- Delivery Temperature,
- Compressor/Fan/Circulation Pump Run/Stop Status,
- Bluetooth connectivity to smartphone,
- BMS Configuration and Master/Slave Duplexing,

#### BMS INTERFACE:

- Read/Write - ON/OFF,
- Read/Write - Setpoint Temperature,
- Read Only: Error Status,
- Ambient Temperature,
- Exhaust Air Temperature,
- Suction Temperature,
- Delivery Temperature,
- HPCP - Runn Stop and Fan Run/Stop)



### SUPERIOR QUALITY MATERIALS & COMPONENTS

Our heat pumps are manufactured using the highest standard of materials and components available in the industry. We prioritize quality at every stage of production, from sourcing materials to the assembly process, ensuring that each unit meets our stringent quality control measures.



### EVI (ENHANCED VAPOR INJECTION) COMPRESSOR DESIGN

Our heat pumps feature a sustainable compressor design that improve efficiency, especially in low temperature conditions. It utilizes an intermediate cooling and vapor injection process that enhances performance compared to standard compressors.



### CUTTING EDGE TECHNOLOGY THAT WILL SUITE ANY PROJECT

Our heat pumps are equipped with a new touchscreen controller that offers intuitive operation and advanced functionality. This controller is Wi-Fi enabled, allowing for remote access and control via smartphone or tablet. Additionally, our heat pumps are compatible with Building Management Systems (BMS), facilitating seamless integration into commercial and industrial environments.



### HIGH EFFICIENCY TUBE & SHELL HEAT EXCHANGER

Our range of heat pumps are engineered with a high-efficiency tube and shell heat exchanger, making it a durable and reliable solution for various heating applications, particularly in environments where corrosion, hard water, high pressure, and unexpected freezes are common concerns. This design maximizes heat transfer efficiency and overall performance, resulting in faster heating times, improved system reliability, and reduced operating costs.

# EGB RANGE / 22.0kW - 44.0kW

## EVI Technology Heat Pump Specification



		OPERATIONAL DATA						
		EGB-022-S		EGB-030-S		EGB-044-S		
OPERATING DATA	Heating Capacity	kW	22	30	44			
	Power	Power Supply	Ph-V-Hz	380V/3PH/50HZ	380V/3PH/50HZ	380V/3PH/50HZ		
		Rated Input Consumption	kW	4.98	6.83	9.97		
		Max Input Consumption	kW	6.97	10.5	13.95		
		Rated Input Current	A	8.84	11.28	16.46		
		Max Input Current	A	13.97	18	29		
		Starting Current	A	60	70	60		
		COP	W/W	4.42	4.39	4.41		
	Max Water Temp Setpoint	°C	60	60	60			
	Max Outlet Water Temp	°C	65	65	65			
	Hot Water Yield	L/h	473	645	946			
	Recommended Water Flow	m³/h	4.2	7.0	9.1			
Working Temp (Ambient)	°C	-17°C~43°C	-17°C~43°C	-17°C~43°C				

		GENERAL & PARTS DATA					
		EGB-022-S		EGB-030-S		EGB-044-S	
GENERAL & PARTS DATA	Compressor	Model		YW135T1-V100	YW205T1-V100	YW135T1-V100	
		Type / Brand		Scroll / INVOTECH	Scroll / INVOTECH	Scroll / INVOTECH	
		Compressor Qty	PCS	1	1	2	
		Rated Current	A	9.2	13.5	9.2	
		Locked Rotor Amp	A	60	117	60	
		Capacitor	µF	None	None	None	
		Refrigerant Oil Type		POE	POE	POE	
		Displacement	m³/h	14.5	21.4	14.5	
		Discharge Tube Connection	OD	1/2"	7/8"	1/2"	
		Suction Tube Connection	OD	7/8"	1 1/8"	7/8"	
	Fan Motor	Model		YDK-160G-6	YDK-160G-6	YDK-160G-6	
		Input	W	320	320	320	
Capacitor		µF	10	10	10		
Speed		r/min	800/500	800/500	800/500		
Diameter of Fans		mm	556	556	556		
Air Flow		m³/h	7000	7000	7000		
Fan Motor Qty		PCS	1	2	2		
Heat Exchanger	Type		Copper Tube in Shell	Copper Tube in Shell	Copper Tube in Shell		
	Qty	PCS	1	1	2		
Evaporator	Number of Rows		1	2	2		
	Tube Pitch(a)x Row Pitch(b)		25x22	25x22	25x22		
	Fin Spacing	mm	1,8	1,8	1,8		
Four-Way Valve	Fin Type		Hydrophilic Aluminum	Hydrophilic Aluminum	Hydrophilic Aluminum		
	Tube Outer Diameter & Type	mm	Ø9.52 Innergroove Tube	Ø9.52 Innergroove Tube	Ø9.52 Innergroove Tube		
AC Contactor	Model / Brand		STF-0408G / Saginomiya	STF-0408G / Saginomiya	STF-0408G / Saginomiya		
Expansion Device	Model / Brand		3TF3300-0X/AC220V/ Siemens	3TF3300-0X/AC220V/ Siemens	3TF3300-0X/AC220V/ Siemens		
	Type		Thermal Expansion Valve	Thermal Expansion Valve	Thermal Expansion Valve		
Wire Controller	Model / Brand		BAE6ZW195 / Emerson	BAE4.5ZW195 / Emerson	BAE6ZW195 / Emerson		
	Type		Intelligent & LCD	Intelligent & LCD	Intelligent & LCD		
Water System	The Length of Control Cable	m	12	12	12		
	Set Temp.	°C	25~60	25~60	25~60		
	Materials of Water Pipe		Copper	Copper	Copper		
	Water Flow	m³/h	4.2	7.0	9.1		
	Water Pressure Differential	Kpa	50	55	55		
Refrigerant HP & LP Safety Cut-Out Pressure	Water Inlet Connection Size	mm	DN25 / Female	DN40 / Female	DN40 / Female		
	Water Outlet Connection Size	mm	DN25 / Female	DN40 / Female	DN40 / Female		
Refrigerant	Mpa		4.2/0.02	4.2/0.02	4.2/0.02		
	Gas Type		(R407C)	(R407C)	(R407C)		
Sound Pressure Level	Gas Weight	g	3000	5500g	2 x 3000g		
	dB(A)		57	58	60		
Dimensions	Dimension(L*W*H)	mm	752x690x965	1450x702x950	1450x702x1060		
	Packing(L*W*H)	mm	840*750*1100	1525*805*1110	1525*805*1220		
	NG/WG	kg	119/137	210/240	249/294		



EGB-022-S



EGB-030-S / EGB-044-S



## EGB RANGE / 65.0kW - 88.0kW EVI Technology Heat Pump Specification



OPERATIONAL DATA					
		EGB-065-S		EGB-088-S	
OPERATING DATA	Heating Capacity	kW	65	88	
	Power	Power Supply	Ph-V-Hz	380V/3PH/50HZ	380V/3PH/50HZ
		Rated Input Consumption	kW	14.7	19.9
		Max Input Consumption	kW	25	27.86
		Rated Input Current	A	24.7	38
		Max Input Current	A	44	49
		Starting Current	A	70	121
		COP	W/W	4.42	4.42
	Max Water Temp Setpoint	°C	60	60	
	Max Outlet Water Temp	°C	65	65	
Hot Water Yield	L/h	1397	1892		
Recommended Water Flow	m³/h	14	17		
Working Temp (Ambient)	°C	-17°C~43°C	-17°C~43°C		

GENERAL & PARTS DATA				
		EGB-065-S		EGB-088-S
COMPRESSOR	Model		YW135T1-V100	YW285T1-V100
	Type / Brand		Scroll / INVOTECH	Scroll / INVOTECH
	Compressor Qty	PCS	3	2
	Rated Current	A	9.2	17.2
	Locked Rotor Amp	A	60	121
	Capacitor	µF	None	None
	Refrigerant Oil Type	ml	POE	POE
	Displacement	m³/h	14.5	29.1
	Discharge Tube Connection	OD	1/2"	7/8"
	Suction Tube Connection	OD	7/8"	1 1/8"
FAN MOTOR	Model		YDK-160G-6	YWF.A6T-630S-5F1IIS01
	Input	W	320	500/350
	Capacitor	µF	10	/
	Speed	r/min	800/500	900/750
	Diameter of Fans	mm	556	630
	Air Flow	m³/h	7000	10200/8500
	Fan Motor Qty	PCS	3	2
Heat Exchanger	Type		Copper Tube in Shell	Copper Tube in Shell
	Qty	PCS	3	2
Evaporator	Number of Rows		2	2
	Tube Pitch(a)x Row Pitch(b)		25x22	25x22
	Fin Spacing	mm	1,8	2
Four-Way Valve	Fin Type		Hydrophilic Aluminum	Hydrophilic Aluminum
	Tube Outer Diameter & Type	mm	Ø9.52 Innergroove Tube	Ø9.52 Innergroove Tube
AC Contactor	Model / Brand		STF-0408G / Saginomiya	STF-0712G / Saginomiya
Expansion Device	Model / Brand		3TF3300-0X/AC220V/ Siemens	LF12WL05/ HONGYUAN
	Type		Thermal Expansion Valve	Thermostatic Expansion Valve
Wire Controller	Model / Brand		BAE6ZW195 / Emerson	TGEZ10(067N4157) / Danfoss
	Type		Intelligent & LCD	Intelligent & LCD
Water System	The Length of Control Cable	m	12	12
	Set Temp.	°C	25~60	25~60
	Materials of Water Pipe		Copper	Copper
	Water Flow	m³/h	14	17
	Water Pressure Differential	Kpa	55	60
Refrigerant HP & LP Safety Cut-Out Pressure	Water Inlet Connection Size	mm	DN50 / Female	DN50
	Water Outlet Connection Size	mm	DN50 / Female	DN50
Refrigerant		Mpa	4.2/0.02	4.2/0.02
	Gas Type		(R407C)	(R407C)
Sound Pressure Level	Gas Weight	g	3 x 3300g	2 x 6500g
		dB(A)	63	70
Dimensions	Dimension(L*W*H)	mm	2150x765x1290	2000x900x1880
	Packing(L*W*H)	mm	2250*865*1450	2090*985*2020
	NG/WG	kg	398/460	530/620



EGB-065-S

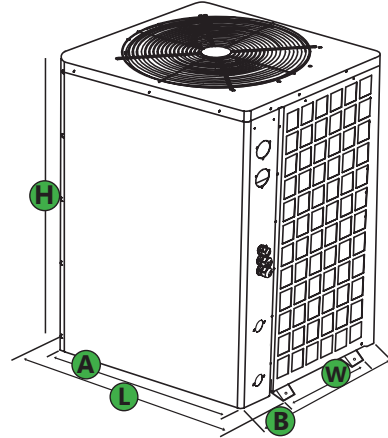


EGB-088-S

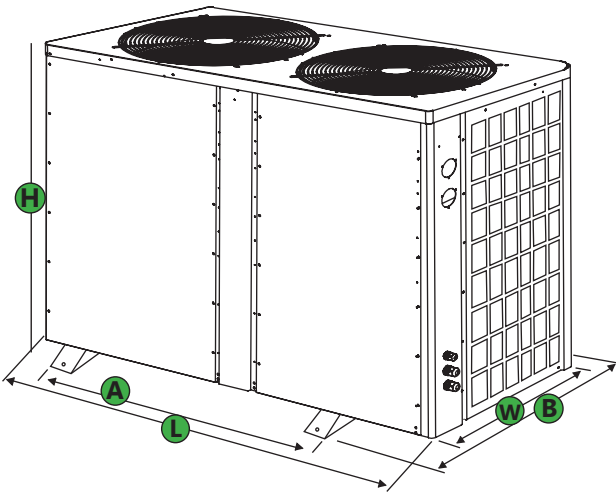
## DIMENSIONAL DATA

EGB EVI TECHNOLOGY RANGE  
22.0kW - 65.0kW

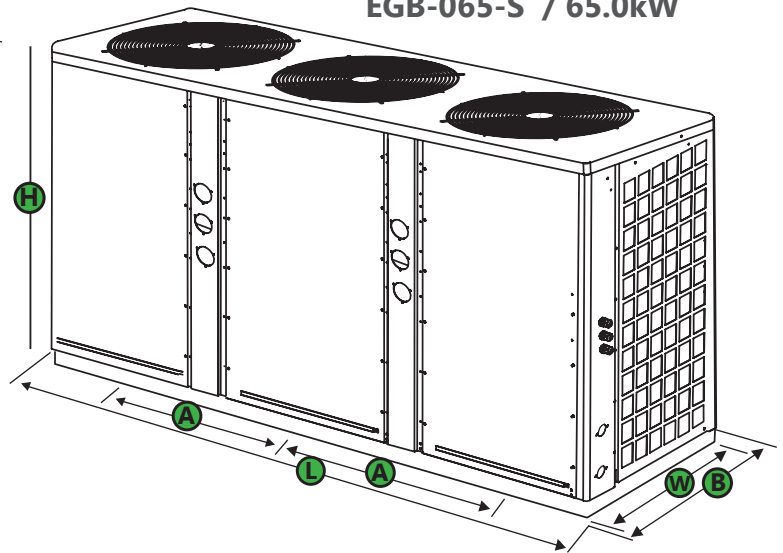
EGB-022-S / 22.0kW



EGB-030-S / 30.0kW  
EGB-044-S / 44.0kW



EGB-065-S / 65.0kW

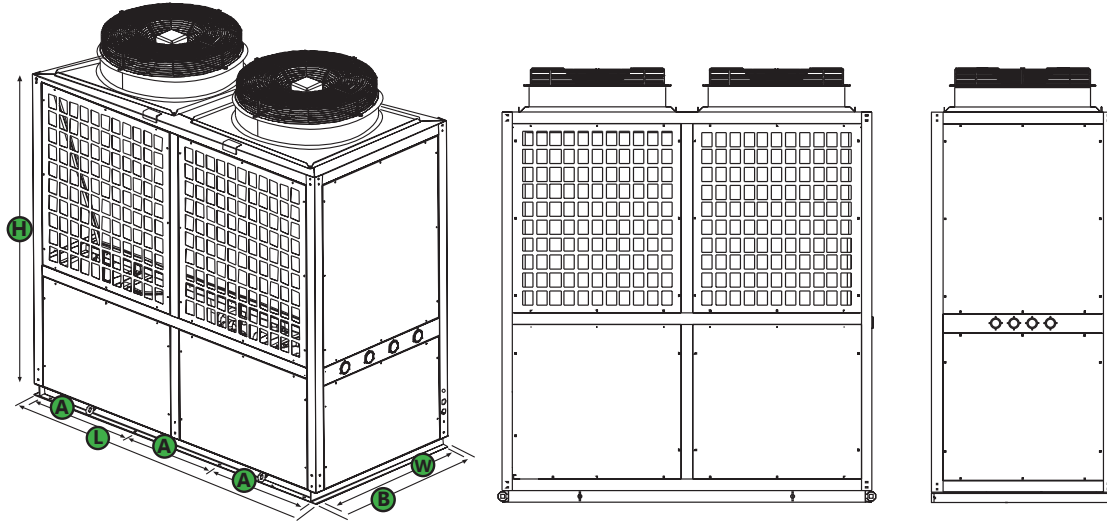


MODEL NUMBER	LENGTH (L)	WIDTH (W)	HIGHT (H)	(A)	(B)
EGB-022-S	752mm	690mm	965mm	470mm	792mm
EGB-030-S	1450mm	702mm	950mm	755mm	742mm
EGB-044-S	1450mm	702mm	1060mm	755mm	742mm
EGB-065-S	2150mm	765mm	1290mm	757.5mm	811mm

## DIMENSIONAL DATA

**EGB EVI TECHNOLOGY - V COIL TYPE**  
**88.0kW**

**EGB-088-V / 88.0kW**



MODEL NUMBER	LENGTH (L)	WIDTH (W)	HIGHT (H)	(A)	(B)
EGB-088-V	2000mm	900mm	1880mm	600mm	946mm

## OVERVIEW

### WHY GREENBRO IS YOUR TRUSTED PARTNER WITHIN THE HOT WATER GENERATION INDUSTRY

Greenbro South Africa (Pty) Ltd is your trusted local specialist in hot water generation solutions. We offer a full spectrum of services, including the design, supply, and installation of hot water equipment, as well as comprehensive after sales support, repairs, maintenance, and system upgrades.

Our commitment to excellence, reliability, and innovation ensures that our services and products consistently meet and exceed industry standards. We deliver solutions that exceed expectations and provide lasting value.

Our own range of heat pumps are equipped with a range of innovative features designed to optimize performance and enhance user experience.

## COMPANY INFORMATION

Registered Name	:	Greenbro South Africa (Pty) Ltd
Registration Number	:	2022/722228/07
Vat No	:	4150309740
<b>HEAD OFFICE / GAUTENG</b>		
Customer Care	:	0860 GRNBRO - 0860 476 276
Address	:	88 Driehoek Road, Germiston, Johannesburg, 1400
<b>WESTEN CAPE</b>		
Customer Care	:	0860 GRNBRO - 0860 476 276
Address	:	Unit 15 North Park, Kingfisher Crescent Okavango Park, Cape Town, 7560
<b>KZN</b>		
Customer Care	:	0860 GRNBRO - 0860 476 276
Address	:	Unit 49, Foundry Park 18 Tottum Road, Cornubia, Durban, 4339
Website	:	<a href="http://www.greenbro.co.za">www.greenbro.co.za</a>
Email	:	<a href="mailto:support@greenbro.co.za">support@greenbro.co.za</a>

**THANK YOU FOR CONSIDERING  
GREENBRO SOUTH AFRICA.**

**WE LOOK FORWARD TO THE  
PROSPECT OF WORKING  
TOGETHER.**

**GREENBRO**   
ENDORSED BY NATURE®