

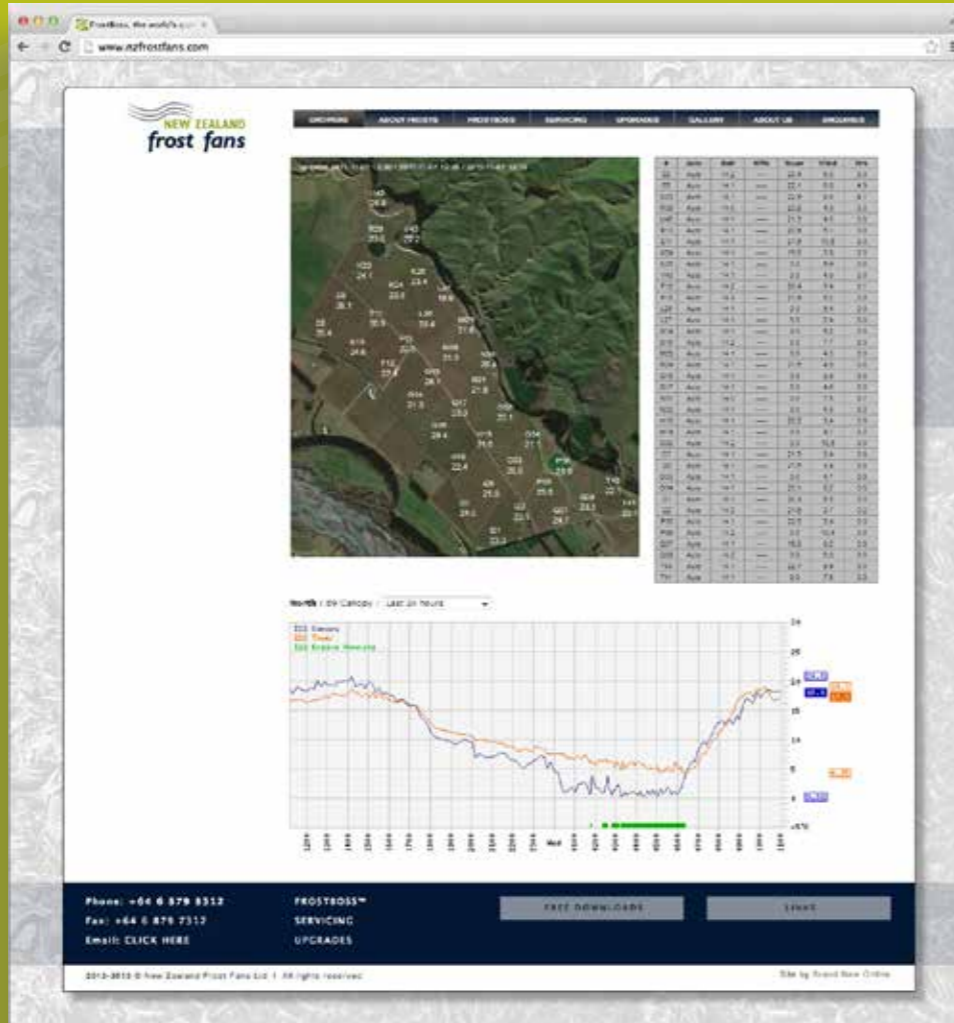
## REMOTE FROST FANS MONITORING + TEXT ALARMS

Our fans can be monitored with each fan displayed on a Google map and the data relating to each fan displayed in tabular and graphical form.

This system can be used to check the frost fans are armed and ready before a frost, to check on operation during a frost and to analyse historical data after the frost.

In addition, alarms can be sent to a cell phone, based on operator selected criteria. (e.g. run signal, canopy temp)

*showing the canopy temperature for each fan on the map as well as controller status, battery voltage, engine RPM, inversion temperature, ambient wind speed and fan running time for each fan.*



www.brand-new.co.nz



Freephone: 1800 797 629

Sales 04 4811 1384

Email: info@aussiefrostfans.com.au

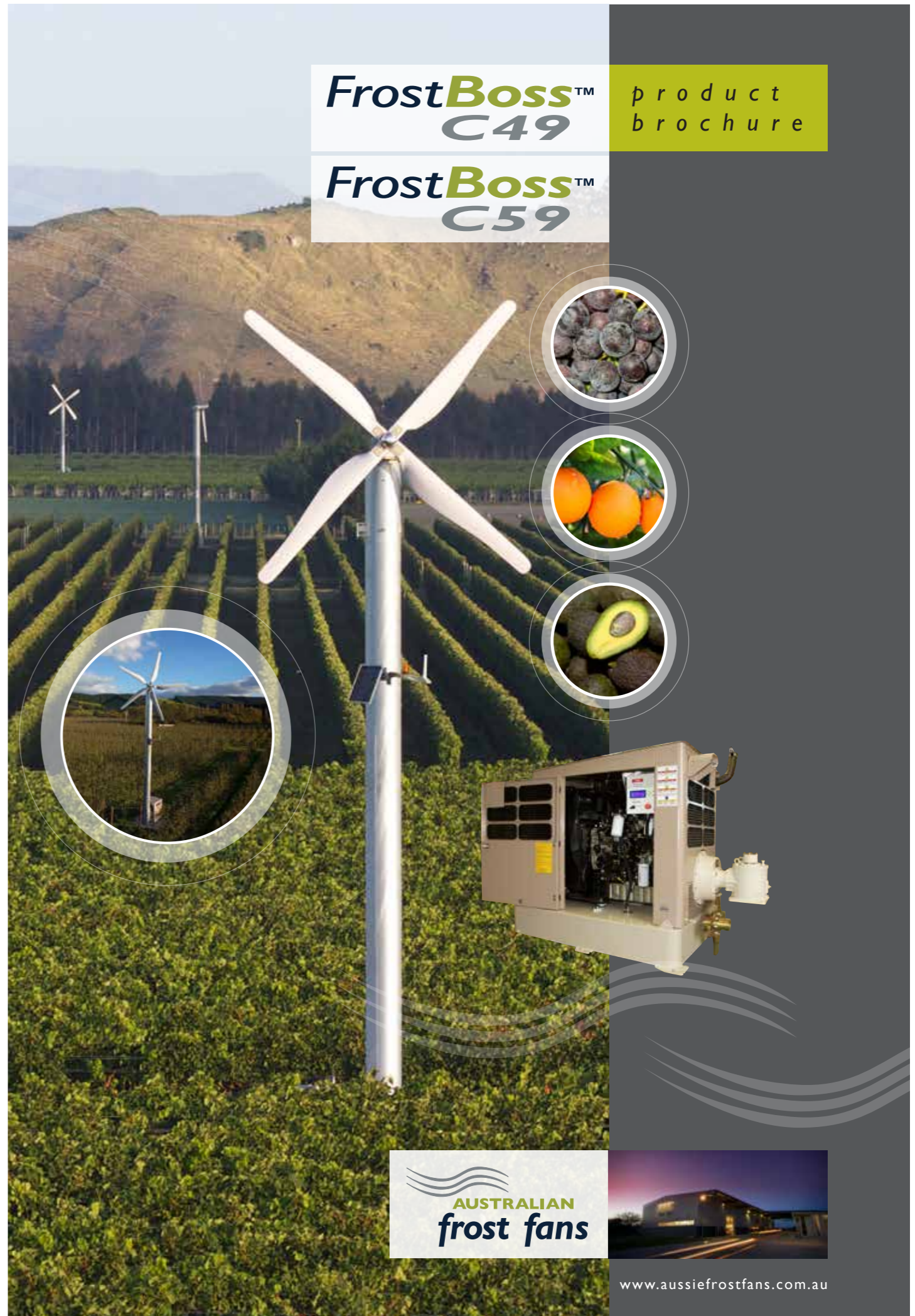
www.aussiefrostfans.com.au



FrostBoss™  
C49

product  
brochure

FrostBoss™  
C59



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## CABINET + ENGINE FEATURES

- Designed and built from powder coated aluminium alloy
- Fully enclosed and lockable making it pest and rodent proof
- Louvres for noise attenuation and cooling
- Easy access for maintenance and servicing
- 500 litre integral fuel tank (lockable)
- Self contained engine assembly, simple removal for ancillary use
- Rubber isolation mounts
- External engine air intake for peak performance
- Centrifugal clutch with torsional isolation coupling



Perkins

## BLADES

FROSTBOSS C49 ~ 4 BLADE  
FROSTBOSS C59 ~ 5 BLADE

- CNC machined taper locked hub (no welding)
- The composite blade are an advanced technology composite structure
- An optimised pitch from hub to tip
- Optimised blade area to improve inboard wind momentum
- Significantly thinner tips to reduce noise
- Optimal structural detailing for improved fatigue strength
- Statically balanced for smooth running
- Manufactured utilising the latest Resin Transfer Moulding (RTM) technology
- An uncompromised aerodynamic design engineered for low operating engine speeds of 1750 to 1800 rpm



## PERFORMANCE

During a radiation frost, frost fans are used to draw down the warmer inversion layer air above the orchard and blow it through the orchard. The fan needs to blow as much air as it can, to the greatest distance possible. This will give the most economical coverage for the frost fan.

In order to reach the greatest distance, the fan needs to produce a strong wind momentum, which is the product of both the wind speed and the volumetric flow rate of the wind. The coverage, or effectiveness, of a frost fan depends not only on the machine's ability to move air, but also the warmth of the inversion temperature and the degree of frost that is present.

Coverage is typically 6-8 hectares depending on the conditions.

## NOISE

Noise resulting from the operation of a frost fan is derived from two primary sources, the fan and the engine.

Noise from the engine has been attenuated by designing an effective engine enclosure and muffler.

Noise from the fan results from the tip speed of the blades and the efficiency of the blades as they pass through the air.

The blades are pitched to run as slow as possible while operating in the fuel efficient region of the engine power curve.

The advantage of the FrostBoss™ blades are that the more efficient blade shape works to increase the airflow of the fan, at a lower speed and reduced noise level.

The blade design and operating speed have been optimised to provide maximum coverage and minimum noise.



## CONTROLLER

FROSTBOSS™ AUTO START/STOP

- Intelligent controller to auto start and stop at operator selected temperatures.
- Wireless temperature sensor (i.e. no cable to get damaged)
- Anemometer stops the fan in winds above 10kph, then restarts the fan when the wind drops below 8kph
- Engine protection shut down for over speed, low oil pressure, high temperature and low fuel level
- LCD display for operating status, warnings and faults
- Regulated Solar Panel for prolonged battery life
- Simple, single switch operator control
- Tower mounted instruments and warning light
- In the unlikely event of controller damage a separate key start is fitted as standard.



## OPERATION

AUTO START/STOP MACHINES

In automatic mode, FrostBoss™ fans start and stop automatically at operator selected temperatures.

Whenever the fan is running, the ambient wind is monitored to make sure the fan is prevented from running in winds above 10 kph.

The Frost fan can always be operated in manual mode if required.

## INSTALLATION + MAINTENANCE

We offer a complete siting and turnkey installation package, backed up by ongoing servicing over the life of the fan.

FrostBoss™ fans are guaranteed against defects in materials and workmanship for a period of 2 years from the date of installation when operated under normal operating conditions, provided annual maintenance has been carried out by an authorised FrostBoss™ service agent.

We recommend annual servicing even on low hour machines as lack of use can cause a number of minor issues which may eventually cause unreliable operation.



Special purpose vehicles are positioned in all major growing regions dedicated to maintenance and service.

## TECHNICAL SPECS

	FrostBoss™ C49	FrostBoss™ C59
<b>FAN ASSEMBLY</b> Operating speed Fan speed Coverage	C49 4 blade composite 1750 rpm 418 rpm 6 – 8 ha	C59 5 blade composite 1800 rpm 365 rpm 6 – 8 ha
<b>NOISE LEVELS (LAeq)</b> Distance for 55dB Noise Level at 300m	240m 51dB	180m 49 dB
<b>GEAR BOX</b> Overall drive ratio Fuel consumption	Amarillo 4.19 21 litres per hour	Amarillo 4.91 20 litres per hour
<b>ENGINE</b> Model Maximum Rating Type Engine Management	Perkins 1106D-70TA 150Hp @ 2200rpm 6 cylinder Turbo Mechanical Tier 3	
<b>ENGINE ENCLOSURE</b> Type Fuel Capacity	Powder coated aluminium, fully enclosed with integral fuel tank 500 litres approx	
<b>CONTROLLER</b>	FrostBoss™ Auto Start/Stop Wireless temperature sensor Remote internet monitoring option by Loncel Technologies	
<b>TOWER</b> Dimensions Height Finish	500mm diameter, 6.4 mm seamless smooth wall pipe with 32 mm base plate & 1200 mm gussets 10.38 m Hot dipped galvanised	
<b>DRIVE LINE ASSEMBLY</b> Drive Shaft Clutch	Balanced 3 piece drive shaft with industrial universal joints. Industrial 10" centrifugal clutch & torsional isolation coupling	

