

Atom 3500L Tractor Spray

Purposely designed for the Australian fruit tree grower and the Australian conditions.

Our main objective when sitting down with the engineers from Andreoli engineering was that we needed a machine that could carry a large volume of water and which could deliver driver comfort and safety. We also needed a machine that would survive many thousands of hours of reliable service day after day, season after season. With the experiences of selling the Andreoli products specifically the amazing Atom 2000L for nearly 20 years we knew exactly what we needed to give the next level of fruit tree spraying to the Australian grower.

We at A&A Holdings P/L are pleased to say the Andreoli engineering family have exceeded all of our expectations.



Large Roomy cabin



New Climate Control, Tank level displays, Engine monitoring and spray controller all within easy reach



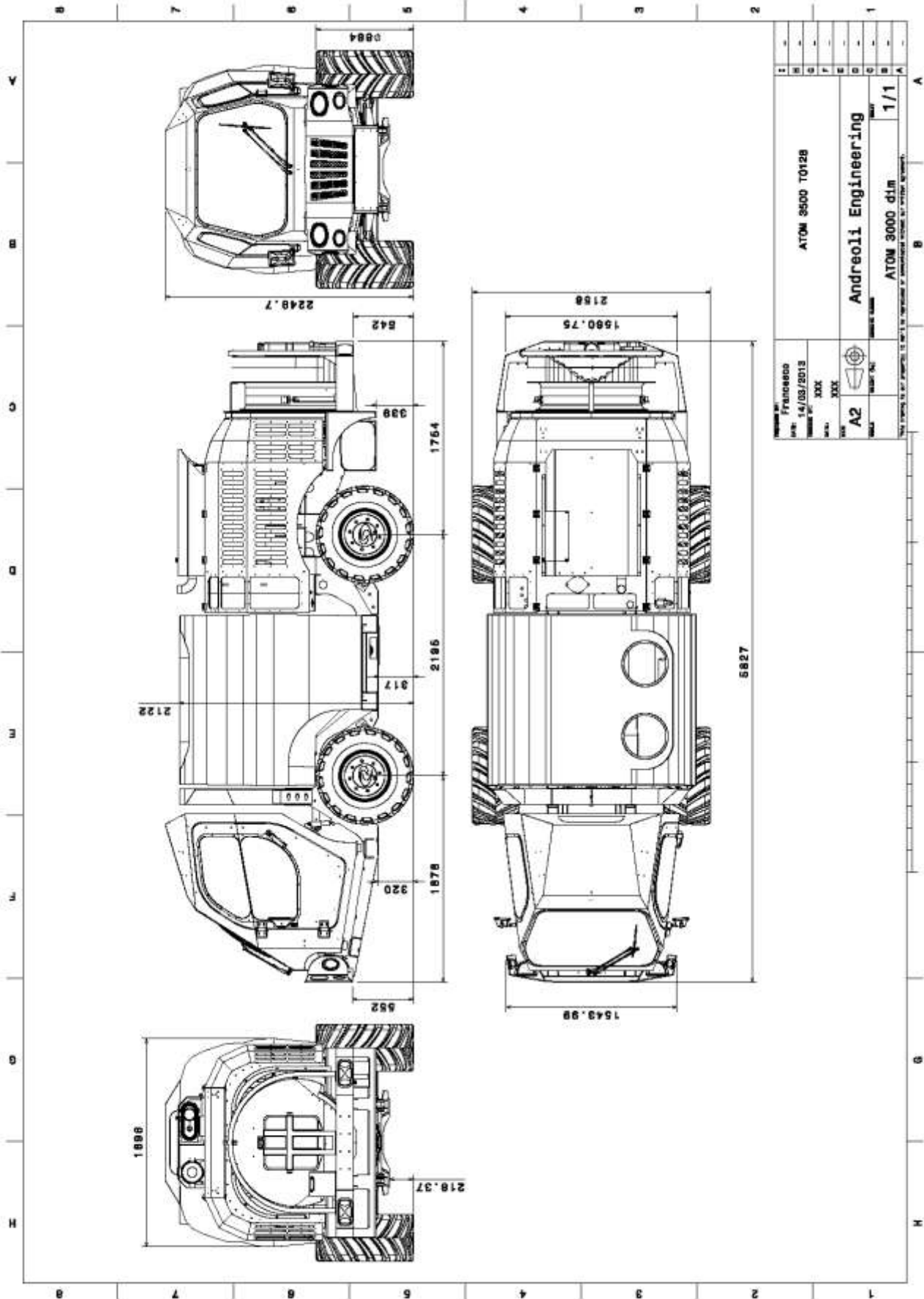
Atom 3500L Designed for spraying of all tree crops



Key features

- 3500L usable spray tank volume
- Large sit up roomy stainless steel cabin
- Pressurised carbon filtered cabin
- Cabin climate controlled air-conditioning (set and forget temperature control)
- Electronic tank level display in cabin
- New very heavy duty hydraulic chassis suspension with cabin controlled variable height coupled with European truck type cabin airbag suspension
- The combination of chassis and cabin suspension systems gives the driver a comfort experience that can only be described as cloud like
- Engine FIAT 130Hp water cooled turbo
- Very large radiators for engine, hydraulic oil, inter cooler and air conditioning
- 200L diesel fuel tank giving many hours use between refuelling
- Hydrostatic drive system in combination with a high/Low gearbox with a hydraulic split shifter gives driving speeds from 0KM/HR to a road speed of 30 KM/HR
- Large floatation tyres
- 4 Wheel Steer x 4 Wheel Drive
- Comet IDS full Brass 160L/ MIN spray pump as standard
- The sprayer normally comes with the 900mm VAC fan air delivery system. Which gives an unparalleled air volume delivery into the tree which was designed using state of the art computer aerodynamic program, the ARI system has proved to reduced engine fuel consumption and fan noise
- The Atom 3500L is also available with different type fan options which include:
 - Target tower type sprayer delivery system
 - New 1000mm Vac fan air delivery system
 - Avomax fan type for large tree crops like Avocados, macadamia and mango.





VEHICLE SPECIFICATION SHEET

Year:	2013
Make:	ATOM
Model:	3500
Body type:	Tractor spray



ENGINE		MAJOR DIMENSIONS	
Make:	FPT Industrial S.p.A. (FIAT)	Length:	5827 mm
Capacity:	4.5 litres	Width:	2158 mm
Cylinders:	4	Height:	2250 mm
Fuel:	Diesel	Wheel base:	2195 mm
Tare mass:	4760 kg	Rear overhang:	1754 mm
		Front overhang:	1930 mm

Braking system:	Hydraulic		
Parking brake:	Hydraulic		
Steering:	4 wheel steer		
Transmission:	Hydrostatic		

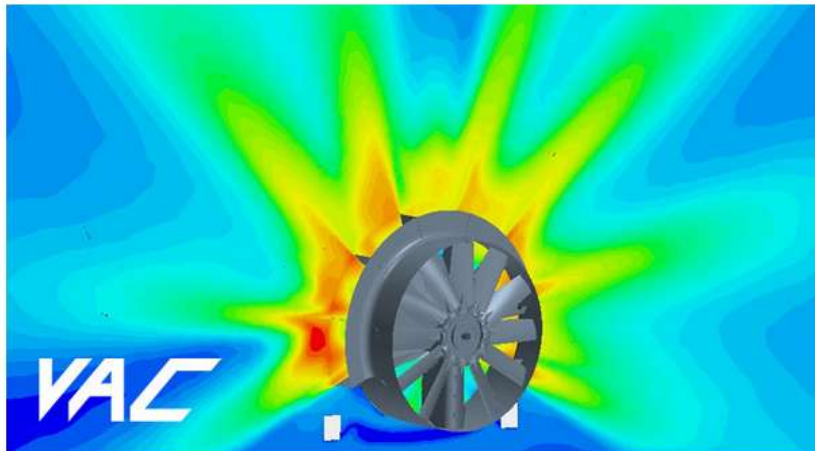
TYRE & RIM INFORMATION					
Standard tyre designation		Standard rim size		Track dimension	
Front tyres:	425/55 R17	Front:	13.00X17	Front:	1727 mm
Rear Tyres:	425/55 R17	Rear:	13.00X17	Rear:	1727 mm

ANDREOLI ENGINEERING srl

Francesco Andreoli

Ing. Francesco Andreoli
 CEO Andreoli Engineering srl

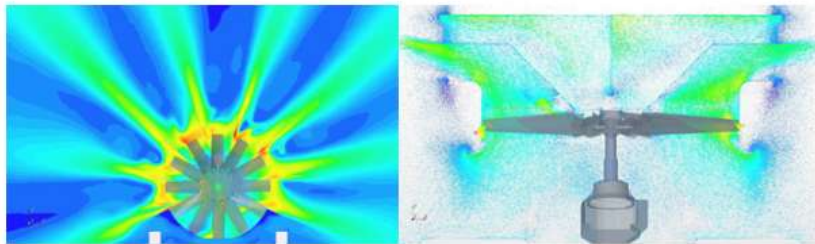
VAC



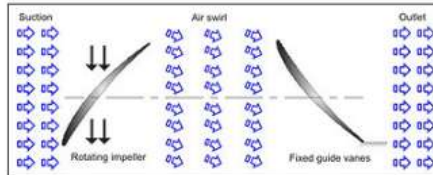
VAC Blower System

The last version of the patented system VAC® (Velocity Angle Continuous Correction) is the most powerful and efficient axial flow blower with swirl correction made by Andreoli Engineering.

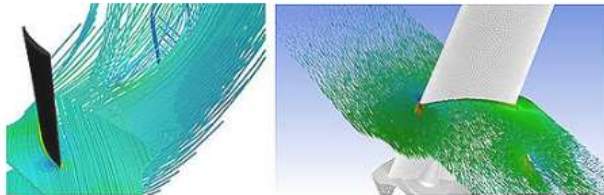
VAC was designed by Andreoli Engineering in cooperation with the Mechanical Engineering Department of the Modena University, using special CFD software for 3D fluid-dynamic simulations



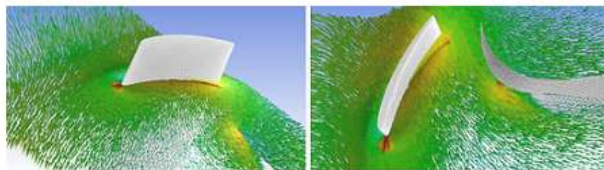
VAC has a very special air swirl correction system, made by a series of guide-vanes with a special design.



The CFD simulations have allowed the detailed analysis of the field of the air movement through the fan and the air conveyor, allowing to design the best shape and layout of the guide vanes and of all the components of the system.



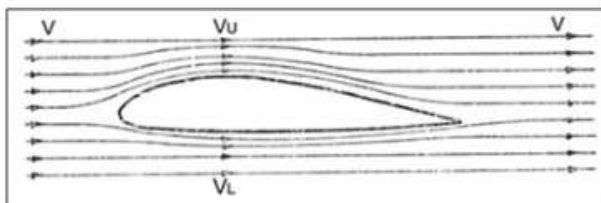
In this way it was possible to design special aerodynamic contours to reduce to minimum the pressure losses and to increase the efficiency of the blower and the air volume generated.



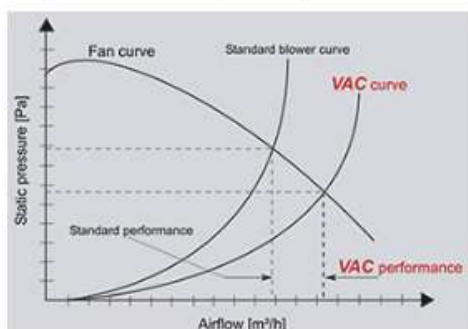
The CFD simulations allowed to design guide vanes without impacts on the flow, that is, absence of obstacles; the use of large curves and gradual connections avoids the turbulences and increases the efficiency of the blower to the maximum values.

The experimental measures made by electronic instrumentation have confirmed the excellent performances of VAC blower, in terms of air volume generated by the fan and symmetry of distribution.

VAC is equipped with fan and wing contour blades in composite material, to get the maximum lightness, resistance and the best fluid-dynamic performances.



The reduction of the pressure losses through the air conveyor enables the fan to work on the best point of its characteristic curve, where the efficiency of the impeller is the maximum



The increase of the efficiency of the air conveyor means also a reduction of the power required and the noise.

VAC has a front air suction. In this way we avoid the re-circulation of chemicals mist and the suction of leaves and dust.

VAC has an innovative system of air volume recovery: the flow normally blown towards the ground is recovered and directed to the top of the vegetation. In this way the 100% of the fan's flow is used to reach directly the target, without loss and the maximum amount of air volume is directed to the far part of the vegetation

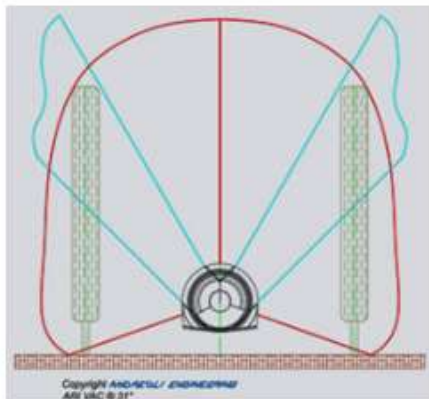


Advantages

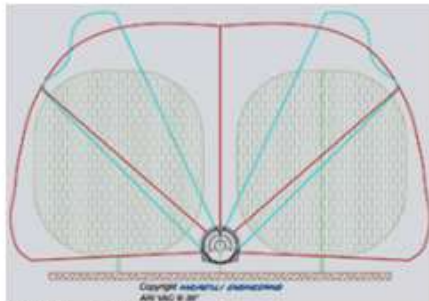
- Perfect symmetry of distribution right and left sides.
- Reduction of pressure losses and consequently increase of the air volume generated by the fan.
- The blower generates a big amount of air volume, directed to the target, with medium air velocity not excessive. In this way the droplets of mixture are perfectly carried, avoiding the risk of drying up along the way to the target.
- Increase of the efficiency of the fan and reduction of the power absorbed.
- Possibility of slowing down the revs of the fan (with the same air volume) and reducing the power required and the noise.
- Reduction of the fuel consumption.
- Possibility to direct the air flow exactly to the target, eliminating useless flows to the ground and increasing the air flow amount to the far parts of the vegetation. Best stability of the flow against the wind drift.
- Reduction of the chemicals waste and pollution.

Application's distribution schemes

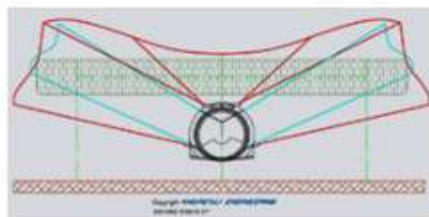
- The following schemes are the result of several measures of the air velocity, made by the Pitot instrument.
- The diagrams show the distribution of the air on the exit of the VAC blower and display the symmetry of the air flow; the red curves relating to the main exit, the blue curves to the second exit (air recovery).
- It is evident the big help, made by the second exit, in increasing the air volume that reinforces the main flow directed to the far parts of the vegetation.



VAC on espalier



VAC on avocado



VAC KIWI on kiwi, canopy

VAC KIWI has special flaps designed to direct the stronger air flow to the target requested, depending on the geometry of the canopy.

The second exit of the blower is designed to direct the flow to the far parts of the vegetation.