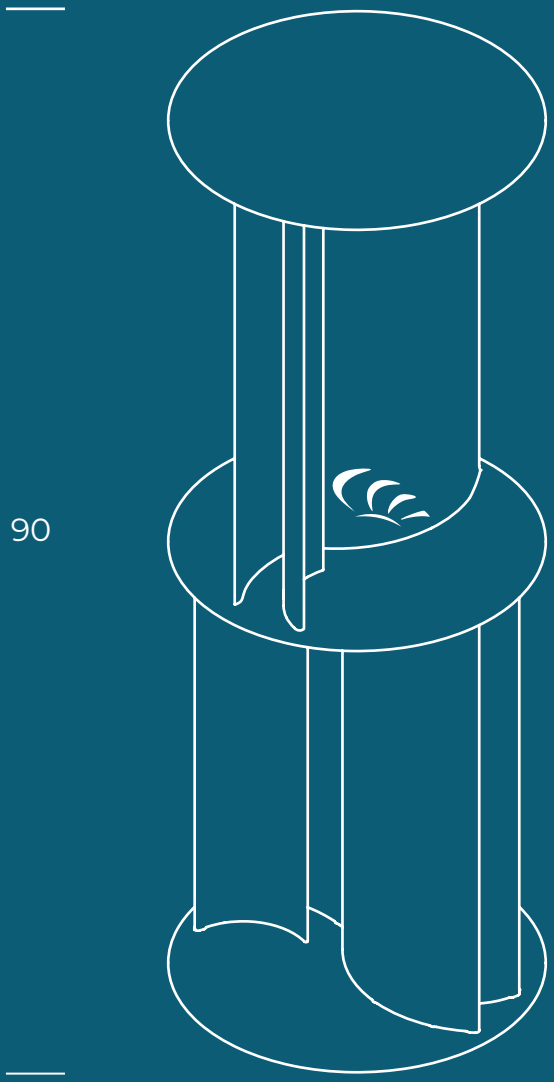
BUILDING
TECHNICAL DATA SHEET

Philéole designs and manufactures small vertical-axis wind turbines (Savonius technology), a renewable energy solution.

Philéole operates across three complementary markets:

- **Building** / rooftops (B2B/B2G)
- **Sailing** / boat masts (B2B/B2C)
- **Public Utilities** / public infrastructure: highways, ports, lighting (B2B/B2G)



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TECHNOLOGY

- Type: vertical-axis Savonius wind turbine
- Operation: captures wind regardless of its direction or intensity
- Distinctive feature: optimized to harness wind generated by human activity

ENERGY FUNCTIONALITY

- Off-grid compatible
- Autonomous and decentralized solution

APPLICATIONS

- Buildings
- Urban and industrial infrastructure

COMPONENTS

- Blades: greenfib (bio-based material, a sustainable alternative to petroleum-based plastics, recyclable)
- Structure: stainless steel
- Generator
- Regulators

MAINTENANCE & DURABILITÉ

- Lifespan: 30 years*
- Warranty: 5 years* (extension available)
-
- *Subject to regular maintenance

REQUIRED SERVICING

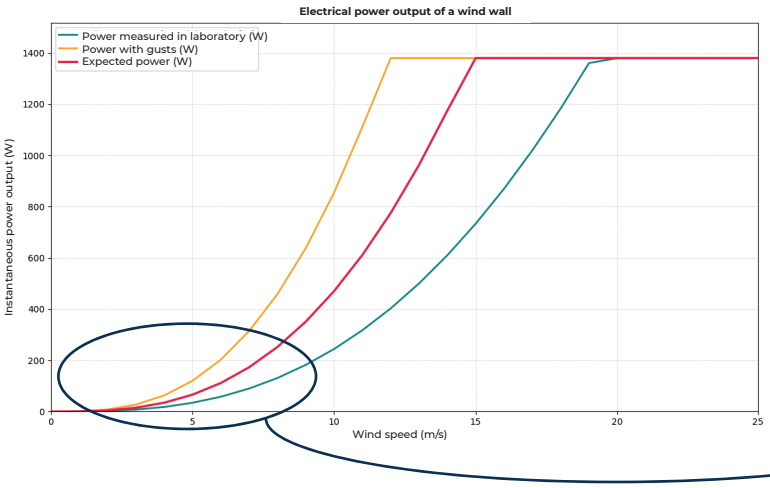
- Checking proper operation of the ball bearings
- Bearing replacement every 10 years
- Maintenance carried out by an external after-sales service (outside the company)

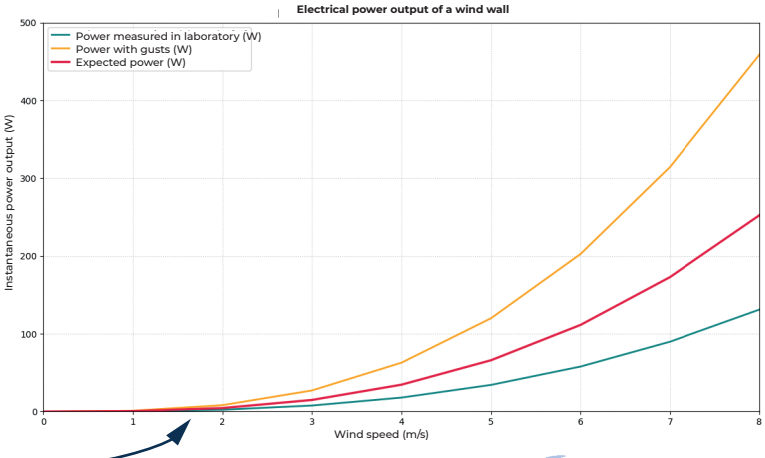
ELECTRICAL SPECIFICATIONS

This chart is based on a theoretical model that assumes constant wind, known as «laminar wind.» In real conditions, however, wind speed constantly varies, with gusts and drops in speed.

Since the power produced depends on the cube of wind speed, a gust increases output far more than a drop in wind reduces it. As a result, the actual average power output is often higher than what the theoretical model predicts.

- Permanent magnet generator
- Rated power of a single turbine: 450 W
- Output voltage: 12 or 24 V
- Regulation system: in-house developed MPPT controller, driven by a neural network that adapts in real time to the power curve. It delivers a 15% higher yield compared to a standard controller.
- Storage type: Autonomous operation (off-grid)

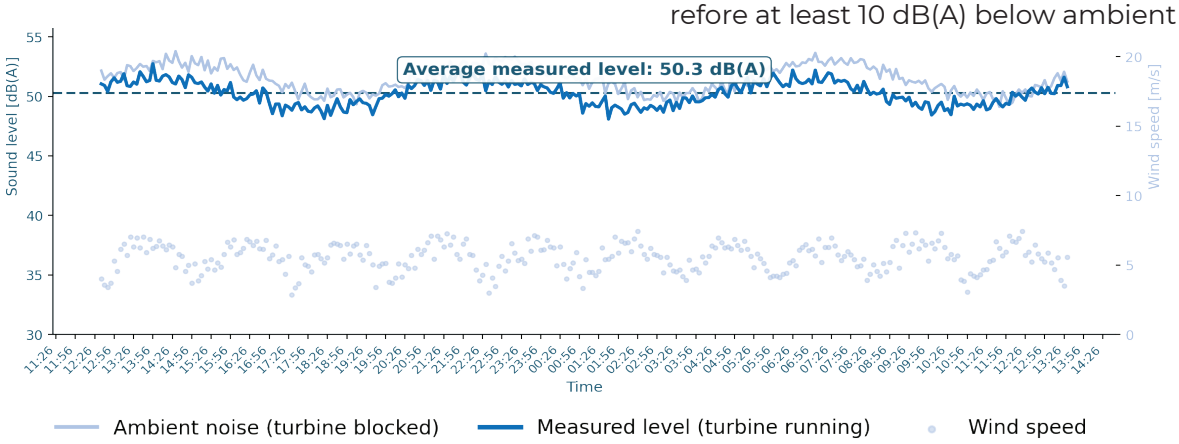




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PERFORMANCE

- Turbine performance coefficient = 27% (depending on wind quality)
- Sound power is estimated at less than 55.5 dB(A), with no detected tonal emergence.
- An acoustic study conducted in September 2025 by Modyva, a laboratory approved by the Walloon Region, in accordance with the IEC 61400-11 standard, assessed the noise level of a Philéole turbine in Wavre.
- The measurements show that the turbine is inaudible: the operating sound level is identical to the ambient background noise (≈50 dB(A) at 3 m). The turbine's own noise is therefore at least 10 dB(A) below ambient noise.



USE

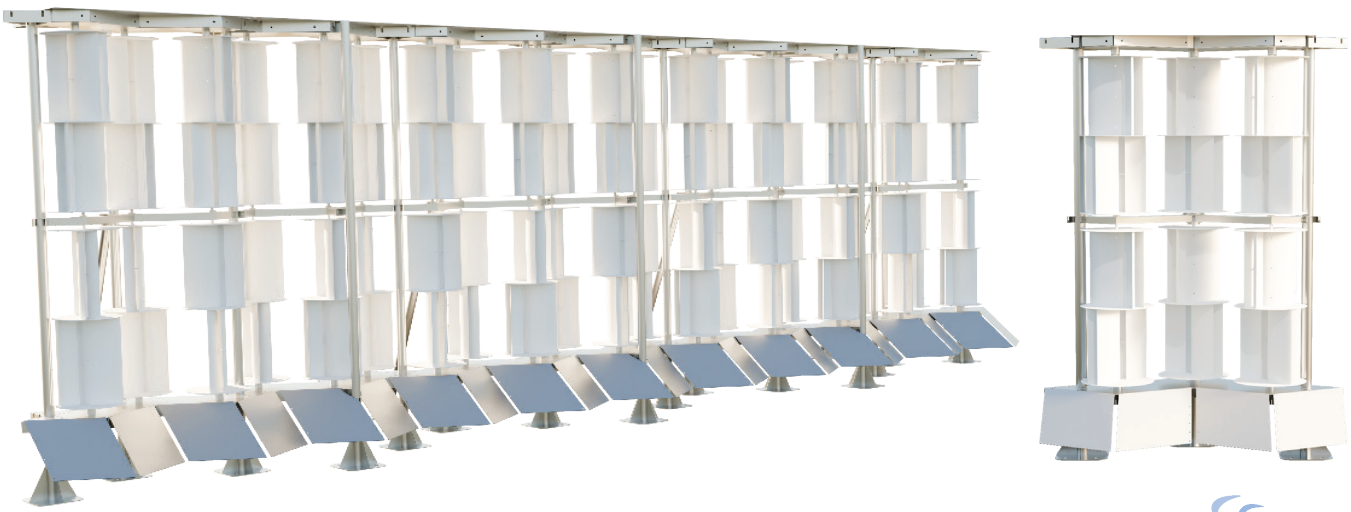
- Operating range: 2 to 15 m/s
- Ideal wind conditions: 8 to 12 m/s

SAFETY AND STANDARDS

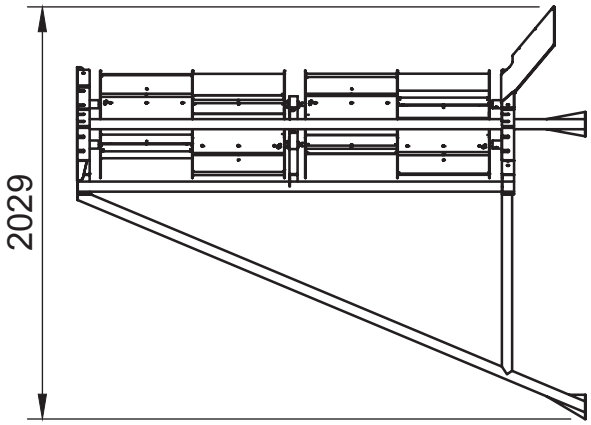
- Standards met: IEC 61400-2:201
- Recommended servicing: ball bearing replacement every 10 years

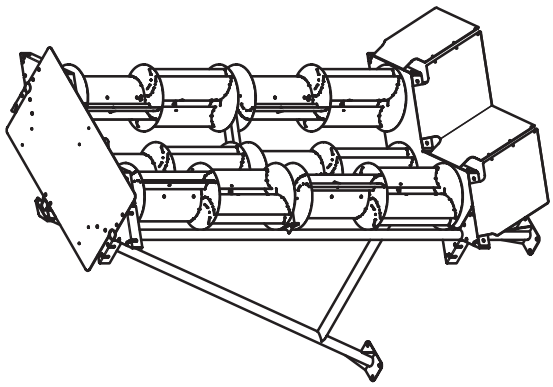
ENVIRONMENT AND SUSTAINABILITY

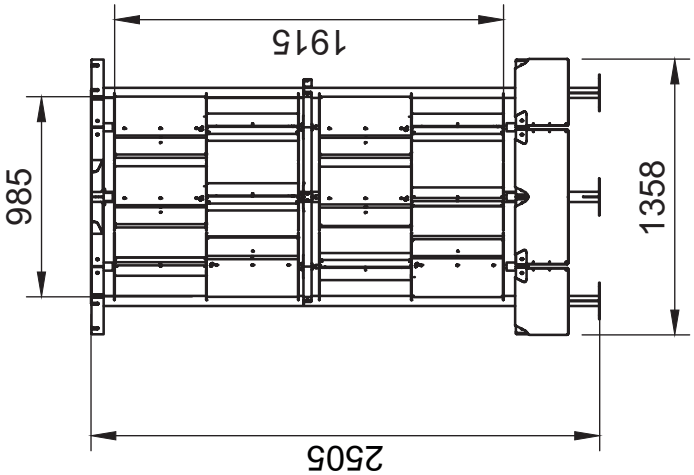
- Recyclable materials: the Greenfib blades, a bio-based material and sustainable alternative to petroleum-based plastics, are 100% recyclable and reusable, thanks to a global collection network. The stainless steel structure is 100% recyclable, indefinitely and without any loss of quality.
- Environmental impact: the turbine is designed with a local approach, favoring nearby materials and manufacturing to limit its carbon footprint.
- Estimated lifespan: 30 years and more.

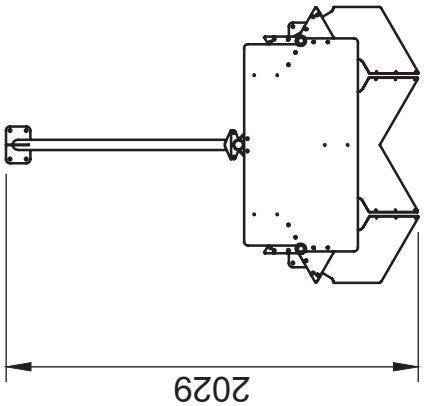


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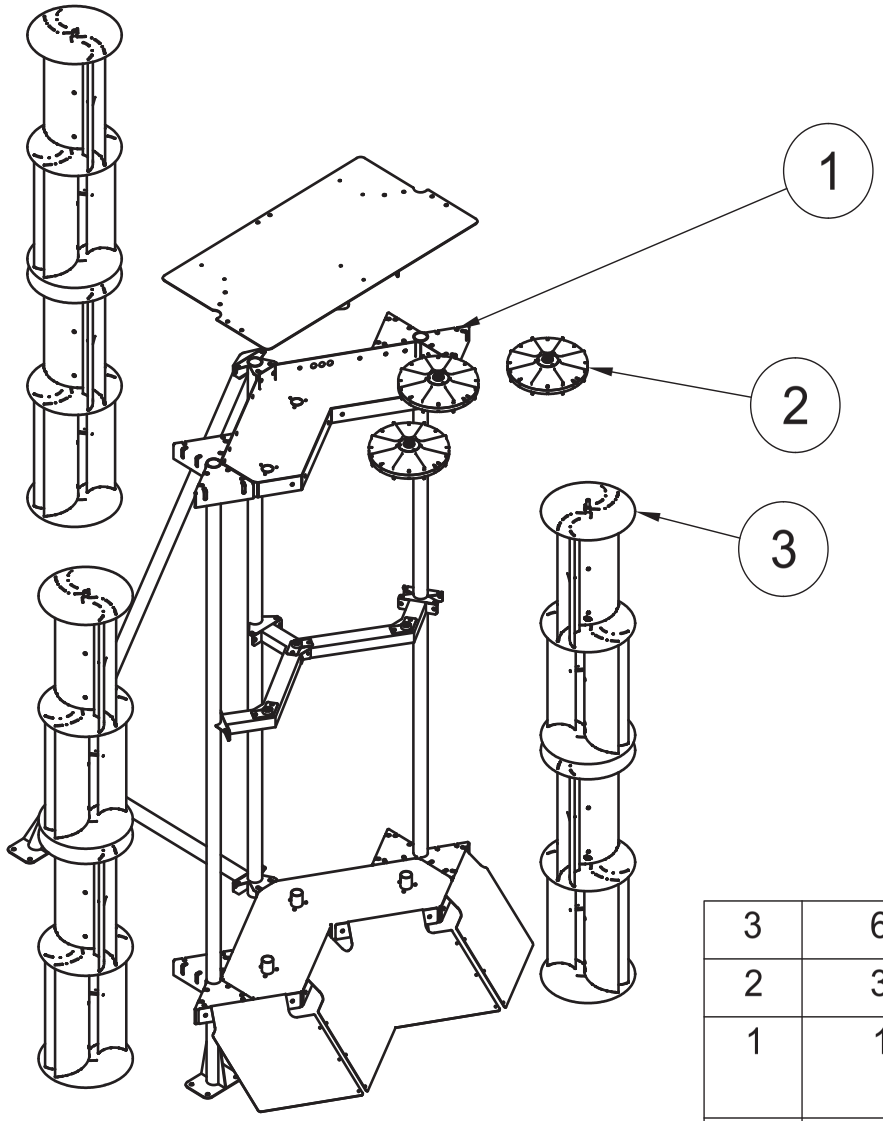






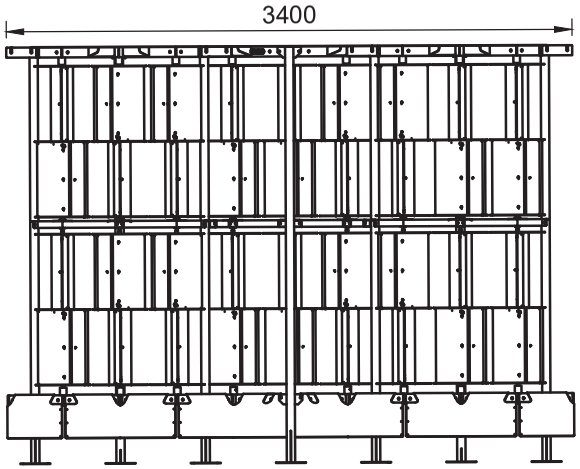


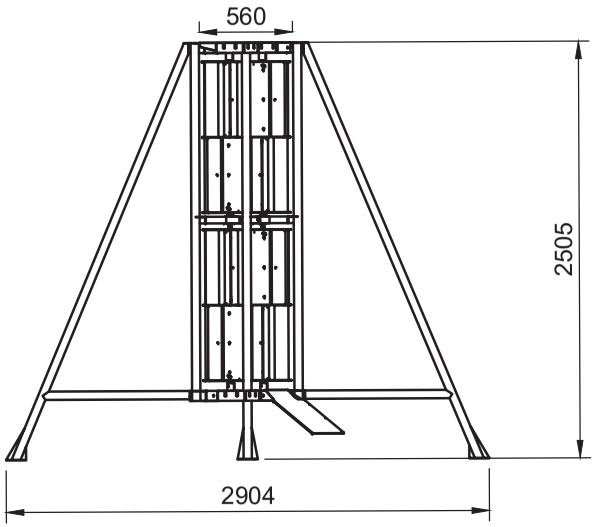
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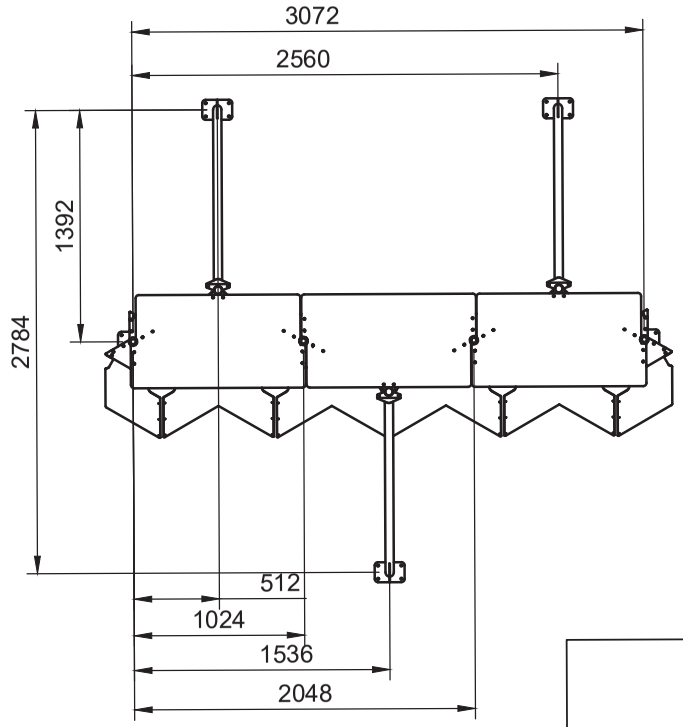


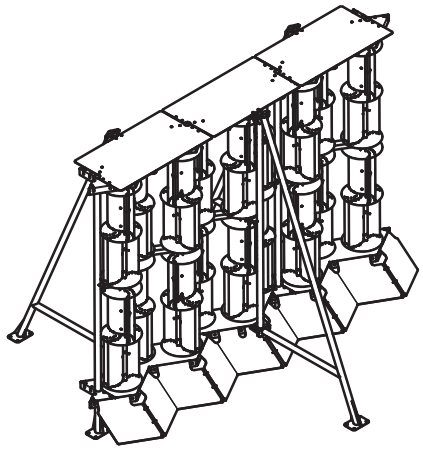
3	6	T-Pale	GreenFib	3 kg
2	3	T-Générateur	----	5,5 kg
1	1	T-Assemblage-001	Acier inoxydable AISI 3	81 kg
Élément	Quantité	Numéro de pièce	Matière	Masse

Liste de pièces





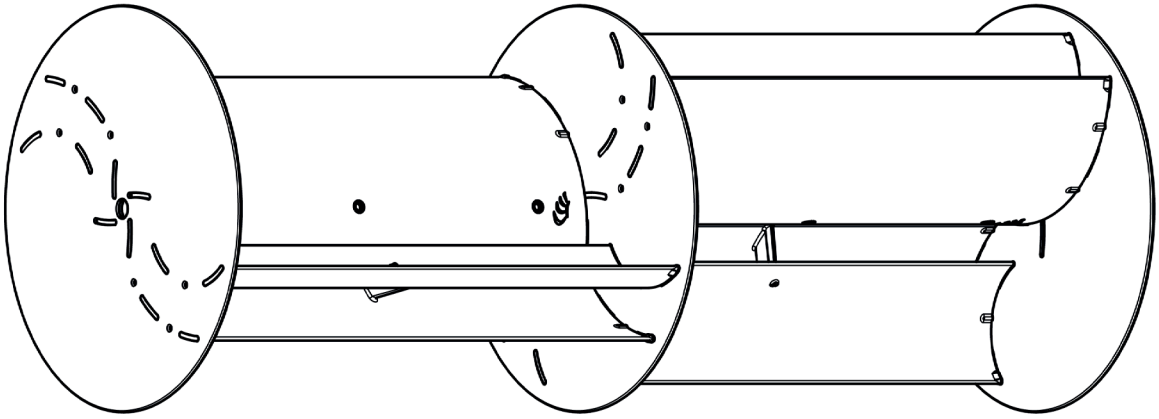


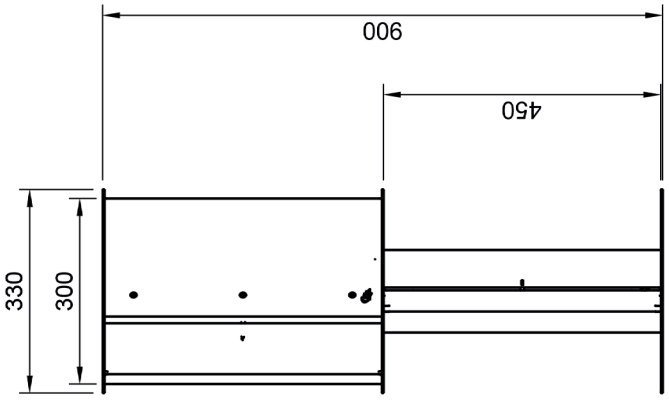


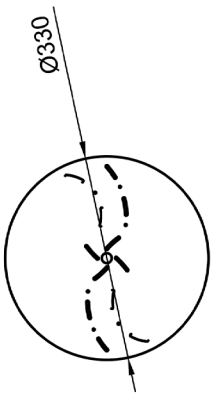
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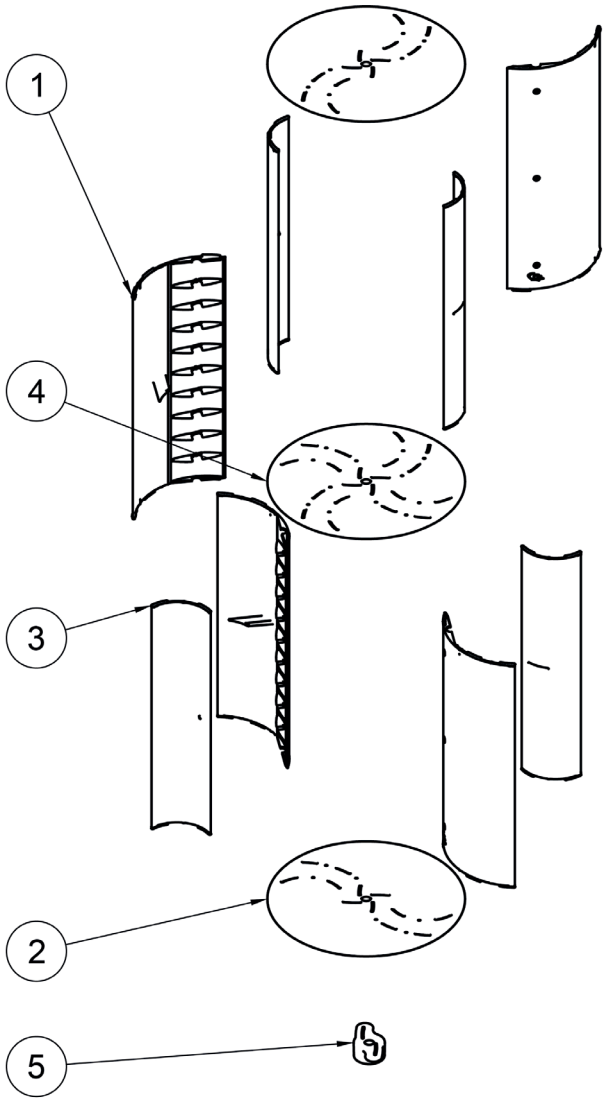
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mm ±350kg acier inoxydable 304L		Document type Plan Assemblage	Document status
		Title Test-Assemblage-Triple-CoffreSup	DWG No.
			Rev. 001 / Date of issue / Sheet 1/1







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Élément	Quantité	Numéro de pièce	Matière
5	1	P-AntiRetourEau-001	GreenFib
4	1	P-PlateauCentral-001	GreenFib
3	4	P-Ailette-001	GreenFib
2	2	P-PlateauExterieur-001	GreenFib
1	4	P-Aile-001	GreenFib

Liste de pièces

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