



Sprintex Limited
ABN: 38 106 337 599

ASX: SIX

ASX RELEASE

19 October 2022

New High-Speed e-compressors Launch

Summary:

- **Completed design and testing of several new high-speed e-compressors supporting applications for hydrogen fuel cells, e-boosting of internal combustion engines and industrial processing**
- **New e-compressor launch at World Hydrogen Expo and conference at Messe Bremen in Northern Germany and at SEMA in Las Vegas USA**
- **Conference material and presentation provided**

Sprintex Limited (ASX: SIX) (**Sprintex** or the **Company**), the international developer, manufacturer, and distributor of the Sprintex® twin screw compressor and supercharger systems incorporating the Sprintex® twin screw supercharger advises that it has completed design and testing of several new high-speed e-compressors with applications for hydrogen fuel cells, e-boosting of internal combustion engines and industrial applications.

The Company will launch its new S15, S18 and S26 e-compressors at the upcoming World Hydrogen Expo and conference held at Messe Bremen in Northern Germany on 18th and 19th of October 2022. The World Hydrogen Storage Expo and conference will be held in conjunction with this expo, offering key opportunities to interact with international hydrogen energy market sector professionals for the first time. This expo is the largest of its kind in this rapidly growing segment.

In accordance with the requirements of Listing Rule 3.1 the attached material being presented at the World Hydrogen Expo is provided.

These three compressor families offer exceptional compressor and electric motor efficiency, aiding improved net energy efficiency from a wide range of fuel cell applications.

Sprintex S15 is a 3Kw compressor range, with versions suited to fuel cells of up to 20kW capacity, commonly used in forklift truck applications, mobile phone network installations, and other stationary power generation needs, as well as automotive e-boosting applications for electric vehicles with small internal combustion engines and many generic clean air requirements in food processing and general industrial process applications. The unit is very light weight at around 3kg and compact, featuring air-cooled ultra-high-speed solid bar magnet electric motor and dedicated motor controller.

Sprintex S18 is similar in design to S15 but includes liquid cooling offering a higher-pressure ratio output, supporting e-boosted internal combustion engines up to 200kw or fuel cell range extender applications up to approx. 40kw for electric plug-in vehicles and many generic clean air applications in industrial processing.

Sprintex S26 is an advanced design, high-speed hydrogen fuel cell compressor, featuring a very small electric motor rotor diameter of just 26mm, offering exceptional efficiency and compact packaging, ideally suited to hydrogen fuel cell / battery electric full size semi-trailer trucks for line-haul trucks and construction equipment etc. The Company's R&D team is currently developing a version of the S26 compressor that will include a turbine expander on a common shaft with the electric motor and

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compressor, offering up to 11kw of energy recovery from exhaust heat from either fuel cell or ICE powered applications.

Just two weeks after the World Hydrogen expo in Germany, the Company will introduce the same range of e-compressors at the world's largest Automotive expo, the SEMA Show, held annually for more than 50 years in Las Vegas Nevada and attracting up to 150,000 industry-only participants from approx. 165 countries, including more than 50,000 industry procurement specialists.

The Company is expecting significant interest from these events.

The product launches clearly demonstrate the Company's expansion in to the rapidly growing clean energy and clean air supply market sectors.

This ASX announcement was authorised for release by the Board of Sprintex Limited.

For further information

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About Sprintex

Sprintex is a clean air compressor engineering, research, product development and manufacturing company, incorporated in Australia in 2003. Sprintex designs and manufactures electric and mechanically driven clean air compressors for use in a wide variety of applications, including:

- combustion engines where Sprintex sells Sprintex® twin screw superchargers, and supercharger systems incorporating the Sprintex® twin screw supercharger, in the automotive aftermarket and original equipment manufacturer (OEM) market in Australia, Asia, Africa, the Middle East and the United States of America;
- hydrogen fuel cells, which require a constant flow of oxygen rich air; and
- industrial oil-free clean air applications, including wastewater treatment.

Forward Looking Statements

Statements regarding plans with respect to the Sprintex projects and products are forward looking statements. There can be no assurance that the Sprintex plans for its projects or products will proceed as expected and there can be no assurance of future sales.



Company Presentation

October 2022

Sprintex Limited

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Disclosure and Disclaimer



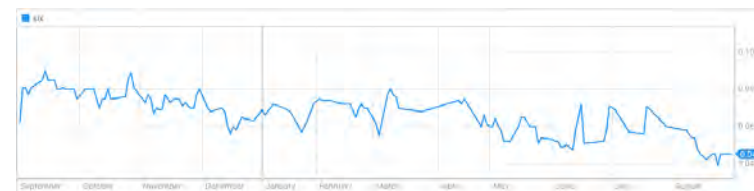
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Corporate Summary



	<p>Jay Upton – Managing Director and CEO</p>	<ul style="list-style-type: none"> ▪ >30 year period working in the international automotive industry. ▪ Experience in engineering management in the heavy mobile equipment sector and in both industrial and automotive high-performance engine engineering.
	<p>Steve Apediale – Non-executive Director and Chairman</p>	<ul style="list-style-type: none"> ▪ Chartered Accountant. ▪ >30 years experience gained from working with major accounting firms & public companies.
	<p>Li Chen – Non-executive Director</p>	<ul style="list-style-type: none"> ▪ 6 years' experience from an engineer to a managing director in mechatronics. ▪ Degree in Mechanical Engineering from University College London ▪ Qualified as a Senior New-energy Engineer (Ministry of Industry and information Technology, China).

Overview	
ASX code	SIX
Issued capital	254m
Options on issue:	
▪ Unlisted \$0.086, Apr 2024 expiry	5.0m
▪ Unlisted \$0.086, May 2024 expiry	3.0m
▪ Unlisted \$0.15, May 2024 expiry	2.0m
▪ Unlisted \$0.10, Nov 2022 to Jul 2023	20.2m
Market capitalisation (\$0.045 – 1 September)	~\$11.4m
52 week high - low	\$0.135 - \$0.039
Substantial shareholders	
Percentage holding (%):	
China Automotive Holdings Limited	13.0
MJ & MJ Wilson	12.6
Euro Mark Limited	9.2
Directors and Management	4.2
Top 20	88.6



SHARE PRICE PERFORMANCE Sep 21 –Aug 22

Key Highlights



World leading compressor technology supported by a library of global patents.



Proven in mechanical drive applications and successfully applied, tested and proven in after-market automotive applications.



Same compressor technology now being applied to electric drive compressor applications, targeting hydrogen fuel cells, the automotive industry and clean air applications such as waste water treatment.



Global facilities and reach:



R&D in Perth;



Distribution in the US;



Manufacturing in Malaysia and R&D and production facility in China



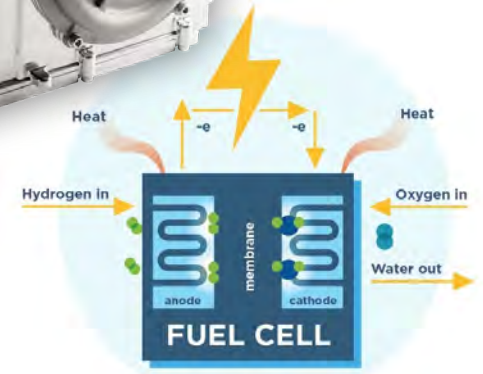
Targeting supplying compressors to the burgeoning hydrogen fuel cell market, industrial air applications (such as waste water treatment) and eSuperchargers.

Contracts with Aeristech and RGE

Compressors for Hydrogen Fuel Cells



- Agreement for collaboration signed with Aeristech Ltd, a global technological leader in electric compressors.
- Facilitates both Sprintex and Aeristech's steps towards the industrialisation of high-speed electric compressors and accelerates the two companies into hydrogen energy and clean air markets, including hydrogen fuel cell, industrial compressor sets.
- Provides significant future revenue opportunities for Sprintex.



Hydrogen Fuel Cell Compressors



Hydrogen fuel cell air compressors

- An air compressor is an essential part of the fuel cell system to boost adequate oxygen (from ambient air) into the fuel cell stack and makes the system more efficient and powerful.

Sprintex value proposition

- Reliable – electric controller exceeds 2 million switch cycles, air bearing exceeds 200k start - stop cycles, (best in class).
- Cost competitive
- Efficient – high efficiency.
- Power density – worlds' most power dense motor from 6kW to 50kW, provides compactness and lightweight for easy system layout.
- Oil-free and maintenance-free – bespoke air bearing design to provide frictionless operation, continuous clean air supply and maintenance-free operation for the entire unit life-time.

Technology trends

- Technological advancement is tearing down many historic barriers to widespread adoption and dramatically reducing cost of the technology, especially for power electronics and high-speed motor applications.
- High-speed centrifugal compressors are becoming the mainstream solution for fuel cell air charging.
- Sprintex high-speed centrifugal fuel cell compressors aim to replace traditional expensive and bulky lobe-type, geared-centrifugal and twin-screw compressors for fuel cells.

Hydrogen Fuel Cell Market and Competitors



Key Market Drivers

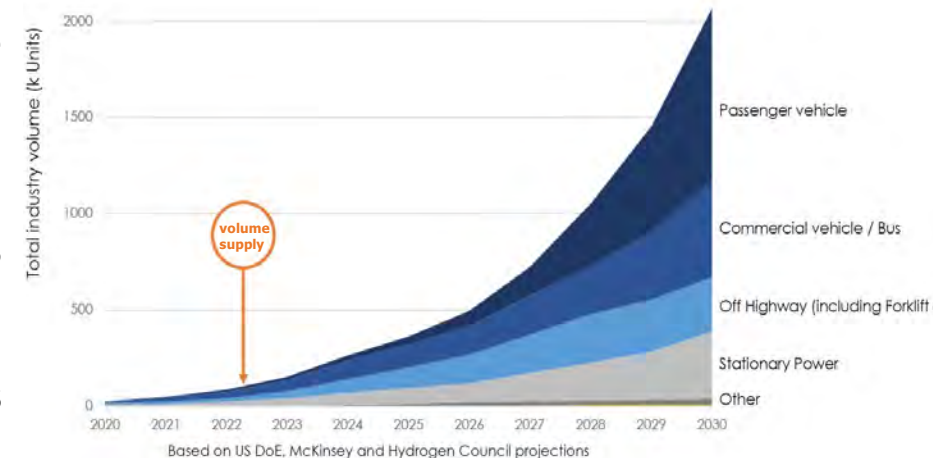
- Global government regulations and communal goal of Zero-Carbon, since hydrogen is the perfect media for energy storage of renewable power.
- Hydrogen is the new diesel, with fuel cells to replace diesel engines in transportation, machinery, power generation where possible.
- Efficiency in demanding duty cycle environments.

Market Size

- The global Fuel Cell Market is projected to grow from USD 3.36B in 2021 to USD 28.95B in 2028.
- The FC Compressor Market represents 20% of the Fuel Cell Market size (FC compressor costs 20% of system cost) and is projected to grow from USD 0.672B to USD 5.8B from 2021-2028. <https://www.fortunebusinessinsights.com/industry-reports/fuel-cell-market-100733>

Competitors

- Less than 15 companies globally including Garrett, BorgWarner, Bosch, Liebherr and only 3 operating in China, Xeca Turbo, Kington, D.R. Power.



Industrial Clean Air Compressor (Industrial Air)



What is an industrial air compressor used for?

- Used in modern production and processing, for metallurgy, production line pneumatic actuators, food and medicine, fabrics, wastewater treatment, vacuum, paper pulp, cement and semi-conductors etc.

Sprintex Value Proposition



Efficiency – frictionless high-speed centrifugal can reduce 10-40% of energy consumption compared to traditional lobe-type compressors. Can reduce 5-10% compared to geared centrifugal significantly reducing operating costs.



Reliability – EC life exceeds 2 million switch cycles, air bearings exceed 200k stop-start cycles (10x industrial requirements). Providing automotive standard reliability to general machinery.



Maintenance Free – bespoke oil-free design air bearing provides frictionless operation, continuous clean air supply and life-time maintenance free operation.



- Steel manufacturing
- Cement manufacturing



- Food and medicine production



- Wastewater treatment
- Aquaculture industry aeration



- General production line pneumatic actuators
- Blow cleaning process



- Woven and non-woven fabrics, such as melt blown fabric process



- Semi-conductor industry

Industrial Air Market and Case Study



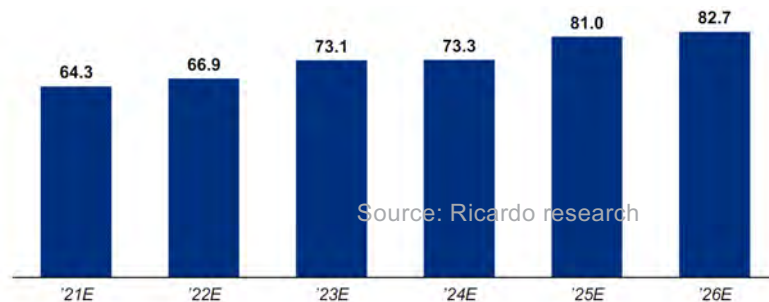
Case Study – Tech Trends – High-speed centrifugal compressor is the ideal solution for mid-low pressure and high flow application. 500,000 kWh (375 tonnes CO2 emissions) savings in a small/medium (320kW) wastewater treatment facility by switching to Sprintex from a lobe-type aeration compressor.



Key market drivers

- Industrial air dominated by less efficient technologies soon to be obsolete by new regulations.
- Demand for oil-free air across multiple market segments.
- Oil-free air can improve the end-use equipment performance and reliability while lowering emissions, energy consumption, and total cost of ownership (TCO) to deliver maximum manufacturing uptime and improve profitability.

Market Size (Global Industrial Air, in GBP billion)



eSupercharger/eTurbo



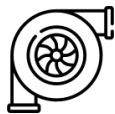
What is an eSupercharger for?

- Electrically driven high-speed eSupercharger charges air into an engine to boost its performance, improves the combustion process, fuel economy, and reduces emissions.
- Now used in Mercedes AMG and S-class, Audi diesel engines and mild-hybrid, more coming in 2022. eSupercharger/eTurbo is an essential step in Turbo system electrification for mild-hybrid engines, more powerful, cleaner and no turbo lag.

Sprintex Value Proposition



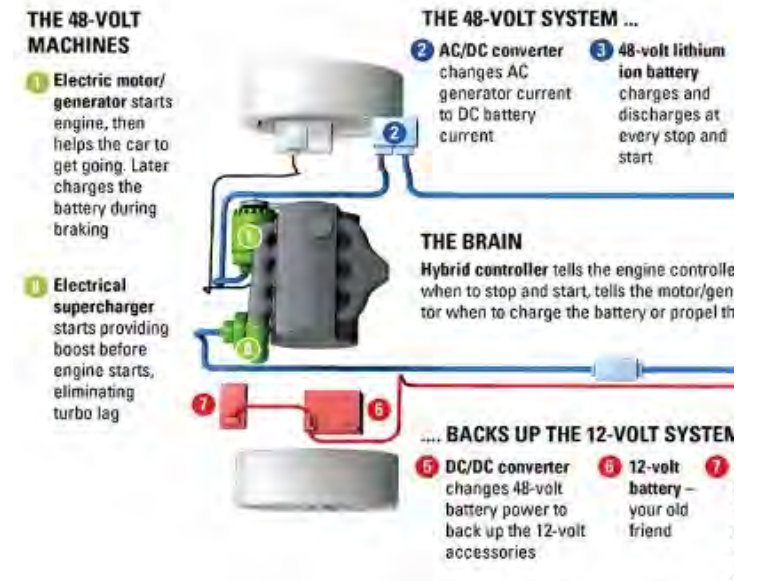
Power Density – worlds most power dense motor for 6kW to 10kW esSupercharger. Compact and low weight solution for easy system layout.



Performance – response time only 0.3s from 5,000 rpm to 75,000 rpm to build up full engine boost



Flexibility – capable of serving as a single boosting device, variants available for 12V, 48V and higher voltage vehicle systems for petrol, diesel and CNG engines



Supercharger/Turbo – Product and Market



Key market drivers

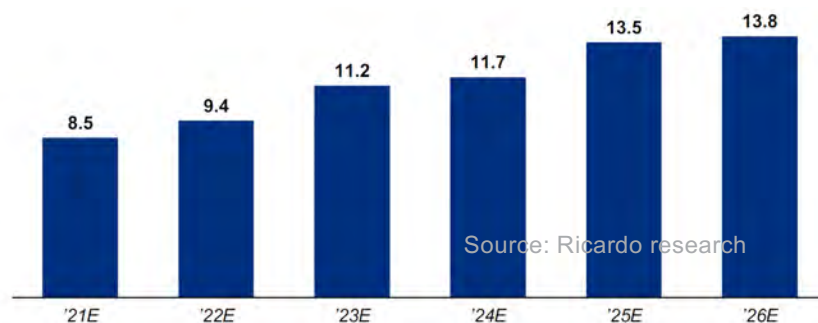
- Government regulations – Emissions regulations continue to drive the need to engine downsize and boost naturally-aspirated engines.
- Performance improvements – OEMs and aftermarket players are both introducing electric supercharging for power improvements. For diesel machinery, eTurbo can significantly reduce operating costs.

Technology trends

- Emissions regulations and efficiency demands are driving continued growth in eSupercharging for both traditional and hybrid engine applications.
- Multi and single-stage eSupercharging is providing manufacturers with alternative pathways to achieve improvements with limited investment.
- Today’s 48V automotive electrical systems are technically ready for the introduction of eSuperchargers.

Market Size

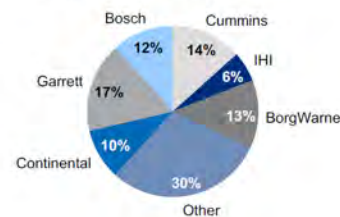
Global turbocharger & supercharger market, in GBP billion



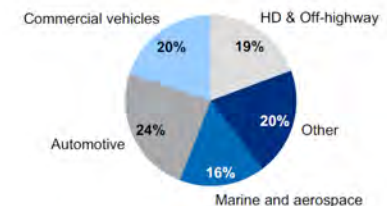
Competitors

- Well established market.
- Sprintex will focus new products on diesel engine commercial vehicles, both mechanically and electrically driven.

Key market players (2019)



Primary market segments



Source: Ricardo research

END

October 2022

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GO GREEN, GO SMART

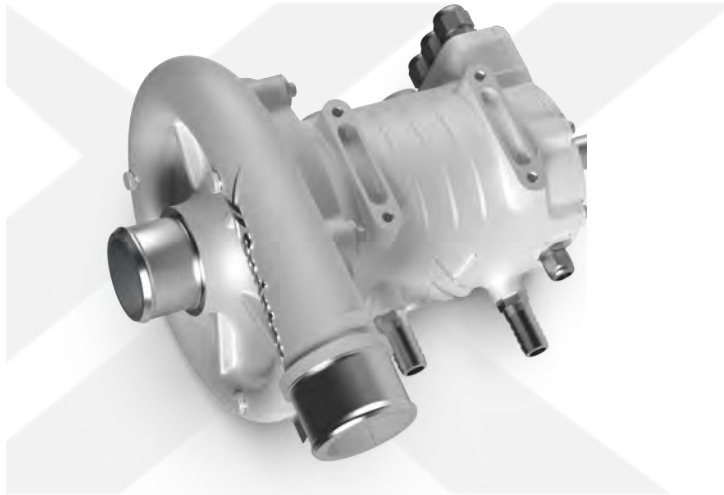
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Sprintex Fuel Cell e-Compressor Series



Suitable for 100-150kW FC application.

• MORE EFFICIENT

Single stage compressor, efficiency >80% at design point.

10% more efficient than 2-stage product.

• MORE POWER DENSITY

Highest power density in industry.

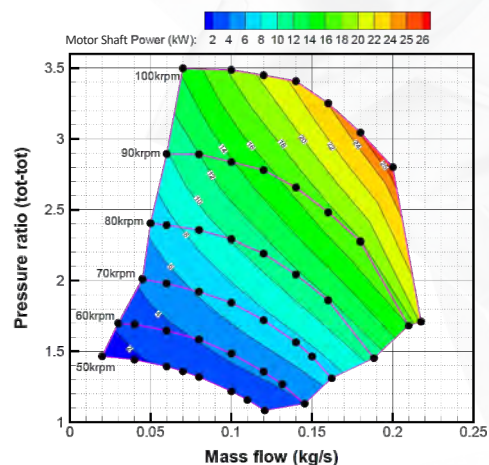
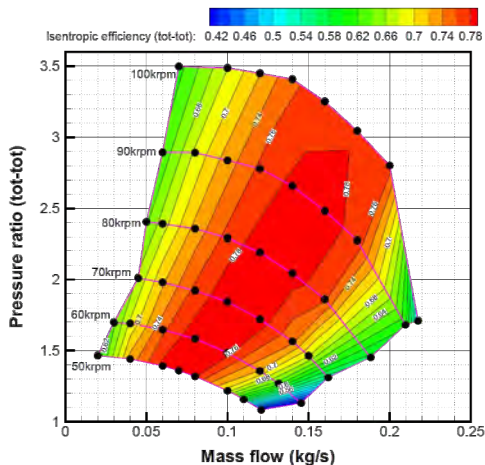
25kW compressor weighs <7.5kg, while motor electromagnetic efficiency >98% at high power area.

• MORE RELIABLE

Lightweight rotor design makes the rotating group more reliable and durable.

S26 25kW e-Compressor

Parameters	
Max. Flow	200g/s @2.8PR
Max. Pressure Ratio	3.5PR @100g/s
Max. Speed	100,000rpm
Input Power	27.6kW
Efficiency	>80%
Mass	<7.5kg
Input Voltage	450-750 VDC
Dimension	275 x 234 x 202 mm





Sprintex Fuel Cell e-Compressor Series



Suitable for 10-20kW FC application.

- **MORE INTERGRATED**

Integrated controller design, makes a more convenient layout for packaging.

- **SIMPLER ENVIRONMENT**

Forced air cooling design, makes the system layout simpler than liquid cooled types

- **LOWER COST**

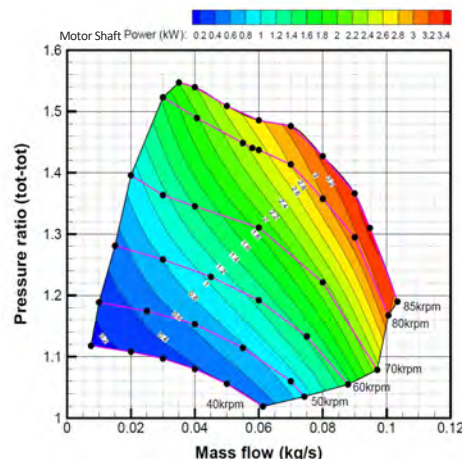
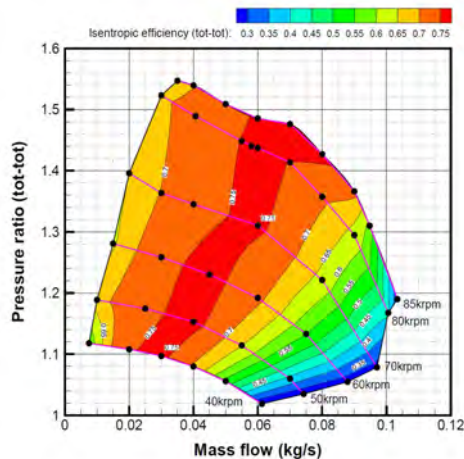
Design to cost optimised.

Less motor material required.

Ball bearing solution instead of air bearing arrangement.

S15 3kW Integrated e-Compressor

Parameters	
Max. Flow	100g/s @1.17PR
Max. Pressure Ratio	1.55PR @35g/s
Max. Speed	85,000rpm
Input Power	3.4kW
Efficiency	>76%
Mass	<4.5kg
Input Voltage	48-80 VDC
Dimension	190 x 185 x 150 mm





Sprintex Fuel Cell e-Compressor Series



Suitable for 20-40kW FC application.

- **MORE POWER DENSITY**

Highest power density in industry.
6kW compressor weighs <3.2kg, while motor electromagnetic efficiency >98% at high power area.

- **MORE RELIABLE**

Lightweight rotor design makes the rotating group more reliable and durable.

- **LOWER COST**

Design to cost optimised
Less motor material required.

S18 6kW e-Compressor

Parameters	
Max. Flow	65g/s @1.75PR
Max. Pressure Ratio	2.85PR @28g/s
Max. Speed	160,000rpm
Input Power	6.5kW
Efficiency	>77%
Mass	<3.2kg
Input Voltage	400 VDC
Dimension	170 x 150 x 135 mm

