SCROLL TECHNOLOGY

SOLUTIONS FOR MOBILITY





COMPANY HISTORY

1950: Creation of the company Electro Mecano Saverne 1963: Development of DC motors and hydraulic 1975: power unit Development of hydraulic 1991: Creation of EMS Concept 2004: Introduction of the "OILLESS" compressor technology 2007: Introduction of the "BRUSHLESS" motor 2009: technology Development of our own range of "PTO OILLESS/BRUSHLESS" 2012: Development of sanding and greasing compres-2013: sors on tramways Development of rail certification 2014: Original equipment delivery for 2015: **Alstom CITADIS** ISO 9001 certification 2019: Entry in the capital of the Japanese group Anest **Iwata**

APPLICATIONS













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THE SCROLL TECHNOLOGY



- 1 Pump inlet
- 2 Pump outlet
- 3 Fixed scroll
- Orbiting scroll
- Main bearing housing
- High flow sirocco fan for cooling











FIXED SCROLL

COMPRESSION CHAMBER



OIL-FREE OPERATION













LOW POLLUTION

REDUCED

ADJUSTABLE SPEED

NOISE

VIBRATIONS

MAINTENANCE

CONSERVATION

FOR SOUND

The scroll technology provide an oilless solution for compressor, that is furthermore quiet, robust and free of maintenance up to 5000 hours of operations. Scroll compressors can be coupled with different types of motors, in order to meet a multitude of applications (ex: bus, electric bus, train, tramway, etc.)

From 2.2 kW to 7.5 kW, from 160l/min to 750l/min, our Scroll compressors are capable of meeting a wide range of applications, allowing quiet operation with reduced maintenance steps and optimized costs.



SCROLL HEAD COMPRESSOR

	Power	Max Pressure	Airflow @ 2200 RPM	Airflow @ 2600 RPM	Airflow @ 3000 RPM
Scroll IA1	2.2 kW	10 bar	160 l/mn	280 l/mn	240 l/mn
Scroll IA2	3.7 kW	10 bar	230 l/mn	260 l/mn	300 l/mn
	3.7 kW	8 bar	300 l/mn	350 l/mn	400 l/mn
Scroll IA3	5.5 kW	10 bar	380 l/mn	450 l/mn	525 l/mn
	5.5 kW	8 bar	500 l/mn	560 l/mn	650 l/mn
Scroll IA4	7.5 kW	10 bar	450 l/mn	540 l/mn	640 l/mn
	7.5 kW	8 bar	550 l/mn	640 l/mn	750 l/mn

24 VDC SOLUTIONS



Our 24 VDC solutions are avalaible from 2.2 kW to 5.5kw, offering a airflow from 160l/mn to 525l/mn at 10 bar. The 24 VDC solutions are perfectly suitable for truck application, to supply air for the brake or the suspensions.

	Voltage	Power	Max Pressure	Airflow @ 2200 RPM	Airflow @ 2600 RPM	Airflow @ 3000 RPM
Scroll IA1 TRA145	1 74 VI)(2.2 kW	10 bar	160 l/mn	280 l/mn	240 l/mn
Scroll IA2 TRA168	24 VDC	3.7 kW	10 bar	230 l/mn	260 l/mn	300 l/mn
Scroll IA3 TRA168	24 VDC	5.5 kW	10 bar	380 l/mn	450 l/mn	525 l/mn
Scroll IA4 TRA168	24 VDC	7.5 kW	10 bar	450 l/mn	540 l/mn	640 l/mn

48/80 VDC SOLUTIONS



Our 48/80 VDC solutions are avalaible with 2 motors. The 80 VDC solution is powered by BLPM brushless motor delivering 1.5 kW. The 48 VDC solution is powered by the AMB motor, avalaible in 2.2kW and 3.7kW. The 48 VDC solutions are suitable for handling and the 80 VDC solutions is suitable for airport handling.

Voltage	Power	Max Pressure	Airflow @ 2200 RPM	Airflow @ 2600 RPM	Airflow @ 3000 RPM
48 VDC	2.2 kW	10 bar	160 l/mn	280 l/mn	240 l/mn
48 VDC	3.7 kW	10 bar	230 l/mn	260 l/mn	300 l/mn
Voltage	Power	Max Pressure	Airflow @ 2000 RPM	-	-
80 VDC	1.5 kW	10 bar	207 l/mn	-	-
	48 VDC 48 VDC Voltage	48 VDC 2.2 kW 48 VDC 3.7 kW Voltage Power	48 VDC 2.2 kW 10 bar 48 VDC 3.7 kW 10 bar Voltage Power Max Pressure	Voltage Power Max Pressure @ 2200 RPM 48 VDC 2.2 kW 10 bar 160 l/mn 48 VDC 3.7 kW 10 bar 230 l/mn Voltage Power Max Pressure Airflow @ 2000 RPM	Voltage Power Max Pressure @ 2200 RPM @ 2600 RPM 48 VDC 2.2 kW 10 bar 160 l/mn 280 l/mn 48 VDC 3.7 kW 10 bar 230 l/mn 260 l/mn Voltage Power Max Pressure Airflow @ 2000 RPM -

200/800 VDC SOLUTIONS



Our 200/800 VDC solutions are available with a range of motor going from 2.2 kW to 7.5 kW with a variable rotation speed and provide 160l/min to 640l/min at 10 bar. This solutions is suitable for electric buses and trucks.

	Voltage	Power	Max Pressure	Airflow @ 2200 RPM	Airflow @ 2600 RPM	Airflow @ 3000 RPM
Scroll IA1 TRI-V	200/800 VDC	2.2 kW	10 bar	160 l/mn	280 l/mn	240 l/mn
Scroll IA2 TRI-V	200/800 VDC	3.7 kW	10 bar	230 l/mn	260 l/mn	300 l/mn
Scroll IA3 TRI-V	200/800 VDC	5.5 kW	10 bar	380 l/mn	450 l/mn	525 l/mn
Scroll IA4 TRI-V	200/800 VDC	7.5 kW	10 bar	450 l/mn	540 l /mn	640 l/mn

400 VAC SOLUTIONS



Our 400 VAC solutions are available with a range of motor going from 2.2 kW to 7.5 kW with a rotation speed of 3000 RPM and provide 240l/min to 640l/min at 10 bar. This solution is suitable for railway system and urbain railway system.

	Voltage	Power	Max Pressure	Airflow @ 3000 RPM
11024026 Scroll IA1 TRI	400 VAC	2.2 kW	10 bar	240 l/mn
11024027 Scroll IA2 TRI	400 VAC	3.7 kW	10 bar	300 l/mn
11024028 Scroll IA3 TRI	400 VAC	5.5 kW	10 bar	525 l/mn
11024029 Scroll IA4 TRI	400 VAC	7.5 kW	10 bar	640 l/mn



QUALIFICATIONS

CEM/CE/R10/R100

SHOCK AND VIBRATION: NF-EN-61373: 2011

SALT SPRAY TEST: ISO9227: 2017 - 500 HOURS

CLIMATICS: NF-EN-60068

ACOUSTICS: 70/75 DBA

SPECIFIC REQUESTS

EMS has the ability to respond to custom requests regarding chassis, voltage, power, application, necessary accessories, etc.

Examples:







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