ENERGYA

A BRAND OF CIFA

ENERGYA

MORE THAN JUST A RANGE: IT IS AN ECOSYSTEM

A fleet of machinery unlike any other in the world designed to be both efficient and sustainable.

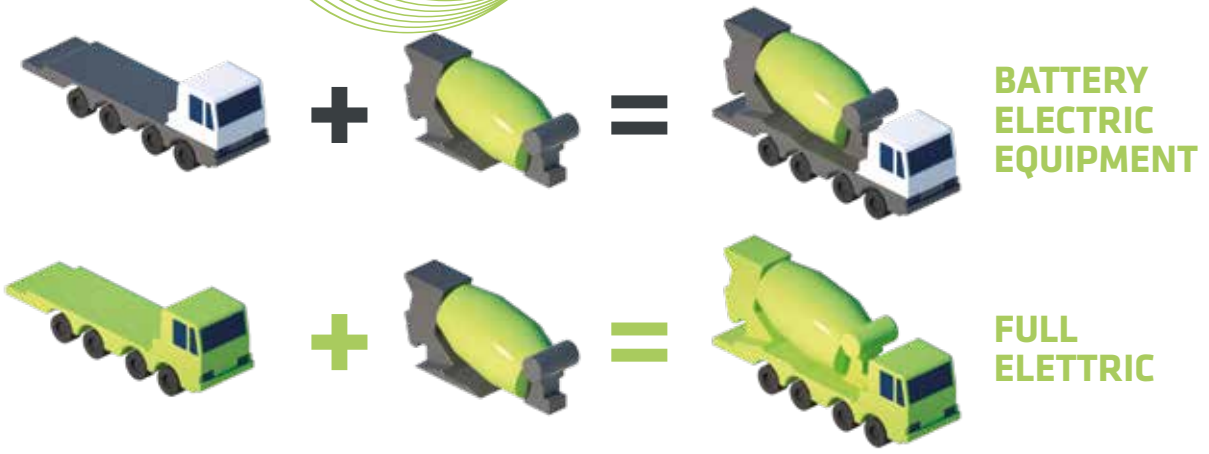
CIFA's focus on technological innovation is reflected in the development of the world's first range of electric vehicles since 2013, helping to pave the way for a new era in which performance and ease of use go hand in hand with environmental protection. It is, in fact, a revolution in the world of machinery for the transport and pumping of concrete. The watchword is "SUSTAINABILITY", with the reduction of environmental impact the only condition to create a sustainable "jobsite".

Efficiency in sustainability: this is the commitment of a range of machines unique in the world.


Transparency
Risk Management
Corporate Governance
Anti-Corruption
Governance
Environment
Absorbency
Climate Change
Pollution & Resources
Water security
Supply Chain: Environment
ESG RATINGS
Social
Labour standards
Human Rights & Community
Health & Safety
Customer responsibility
Supply Chain: Social

THE FIRST AND ONLY ELECTRIC RANGE IN THE WORLD

CIFA was a pioneer in the conception of Battery Electric Equipment (B.E.E.) capable of operating without external energy sources.
Energya by CIFA is a full range of tangible and tailored solutions which started with the transport of concrete (truck mixer) and then sprayed concrete (spritz pump), has been expanded even further with a machine for transport and installation (Pump Mixer), the stationary pumps and with the new electric truck pump.
The ENERGYA range is being expanded, along with the development of new electric vehicle technologies, to include models without batteries and directly powered by the truck on which they are mounted.



BATTERY ELECTRIC EQUIPMENT

FULL ELETTRIC

Less consumption -30%
Less emissions -95%
Less noise -10dB

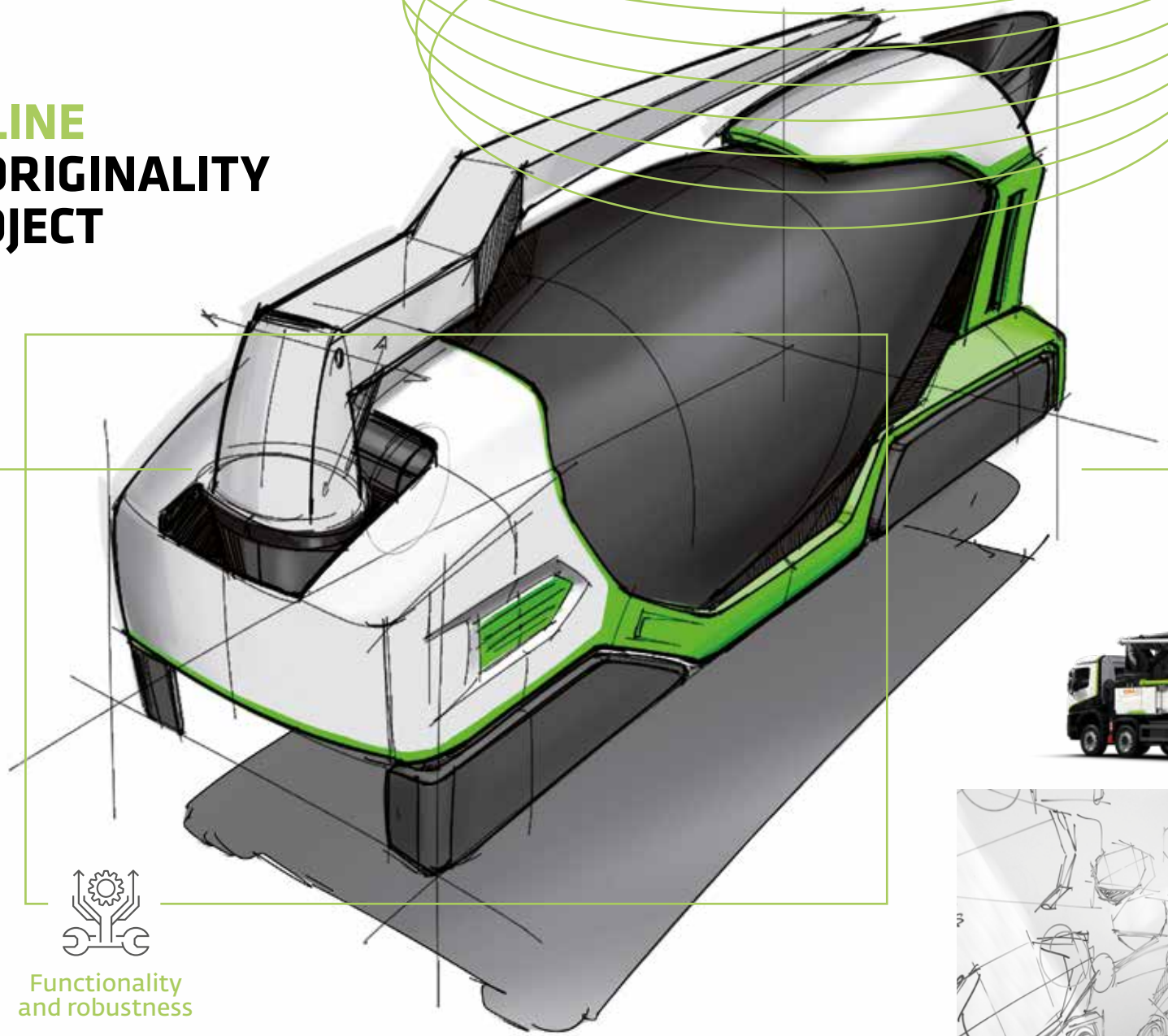
No compromise on performance

Lower maintenance costs

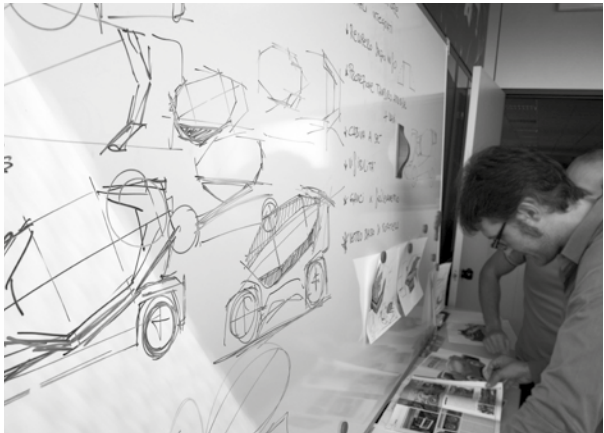
Reduction of noise

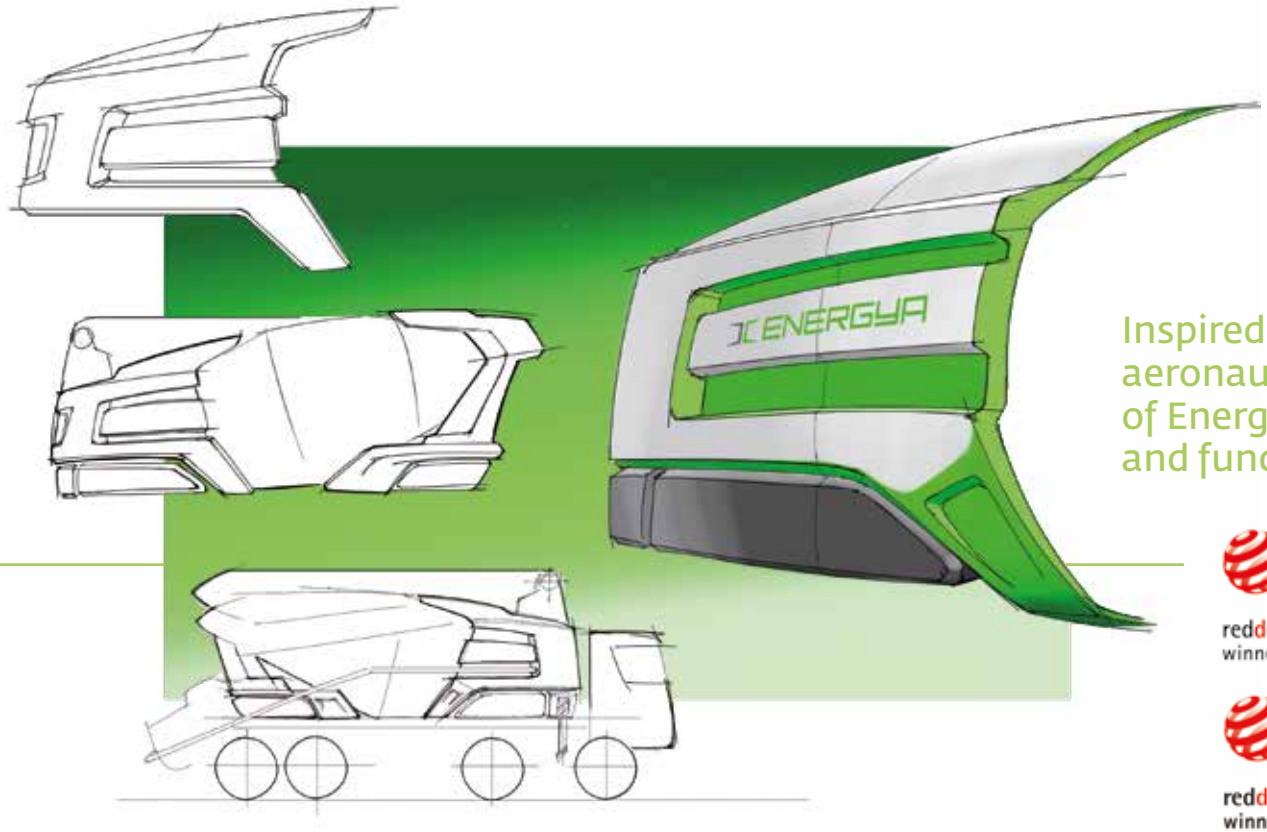
ENERGYA

DESIGN IN LINE
WITH THE ORIGINALITY OF THE PROJECT



Functionality and robustness





Inspired by the shapes of aeronautics, the design of Energya combines strength and functionality.

reddot award 2014
winner

ENERGYA E9 WINS RED DOT DESIGN AWARD

reddot award 2017
winner

SPRITZ CSSE WINS RED DOT DESIGN AWARD

reddot award 2020
winner

ENERGYA MK 28E WINS RED DOT DESIGN AWARD

The international team of designers who created CIFA's ENERGYA hybrid range adopted the simple and meticulous approach used in the field of aeronautics, to enhance the functionality and solidity of the vehicle. It is therefore bold and powerful while also being slimline.
The design of the Energya range also combines special materials and high-tech solutions. As a result, this range is technologically advanced but also easy to use and pleasing in appearance.

ENERGYA

BATTERY ELECTRIC
TRUCK PUMP

ENERGYA K42E

A powerful truck pump that is battery electric driven without compromising on performance.

The K42E completes the ENERGYA range, which now boasts the first truck pump of its kind.

The K42E stands out for a number of technological innovations that revolutionise the concept of the truck pump but also, and most importantly, offers the same performance as a traditional model while reducing consumption and emissions.

The boom extends up to 42 m in 5 sections with the last two in carbon fibre: a unique feature of CIFA's CARBOTECH range and a smart way of optimizing the weight of the machine without reducing strength and reliability.

The K42E is equipped with a state-of-the-art system that uses a 30 Ah battery pack to power two electric motors: the first drives the hydraulic pump to move the boom and open the outriggers; while the second drives the pumping unit and other services.

If the work requires a high level of performance that cannot be achieved with the available charge, the new ENERGYA pump can be connected directly to an electrical outlet at the construction site (three-phase). This means the system will continue to operate with the Diesel engine of the truck switched off and therefore without emitting exhaust gas and reducing noise.
In the case of a complete lack of electrical sources,

it is possible to connect the K42E to the truck's power take-offs and therefore use the vehicle's engine to complete the pumping of concrete and close the boom and outriggers.

EUROPEAN PATENT PENDING

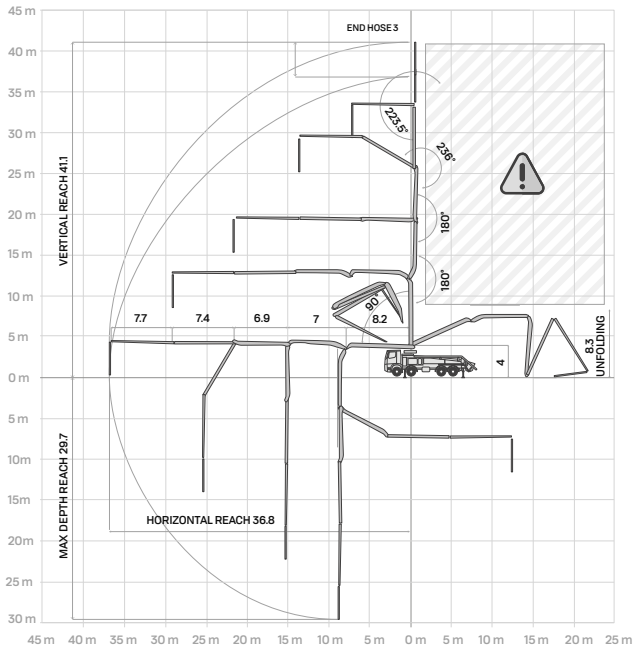
ENERGYA K42E

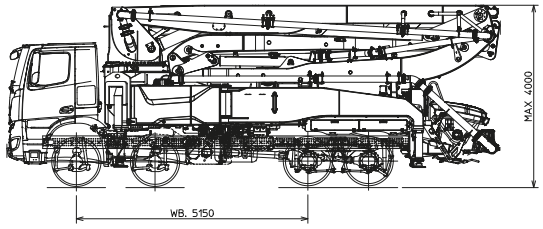
PUMPING UNIT TECHNICAL DATA		
	HP1608EC	
Max. theoretical production	m³/h	160
Max. pressure on concrete	bar	80
Concrete rods (diam.x stroke)	mm	230X2100
Hopper capacity	l	550
Hydraulic oil circuit	-	closed

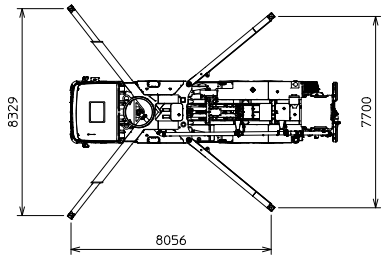
ELECTRIC SYSTEM		
Pumping unit motor	kW	90
Stabilization / Boom motor	kW	30
Electric power supply	V/Ah	380/125
Electric cable length	m	40

PLACING BOOM TECHNICAL DATA		
	B5ZR 42/38	
Pipeline diameter	mm	125
Max. vertical reach	m	41.1
Max. horizontal distance (from the center of the axis of rotation)	m	36.8
Min. unfolding height	m	8.3
Sections		5
1st section opening angle		90°
2nd section opening angle		180°
3rd section opening angle		180°
4th section opening angle		236°
5th section opening angle		223.5°
Rotating angle		+/-270°
End hose length	m	3

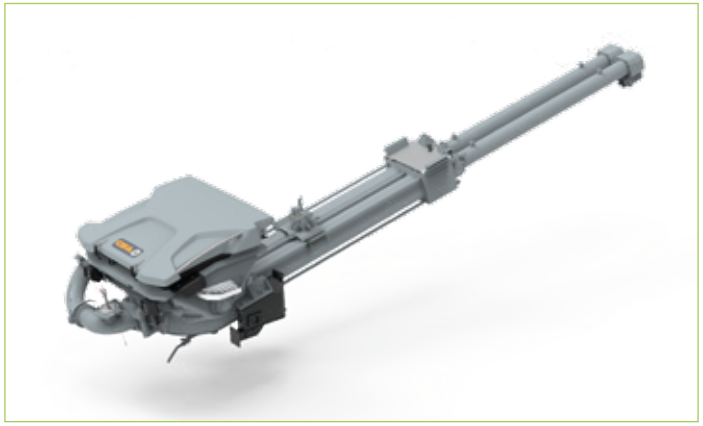
BATTERY		
Type		Lithium-ion
Voltages	V	562
Power	kWh/Ah	17.2/30

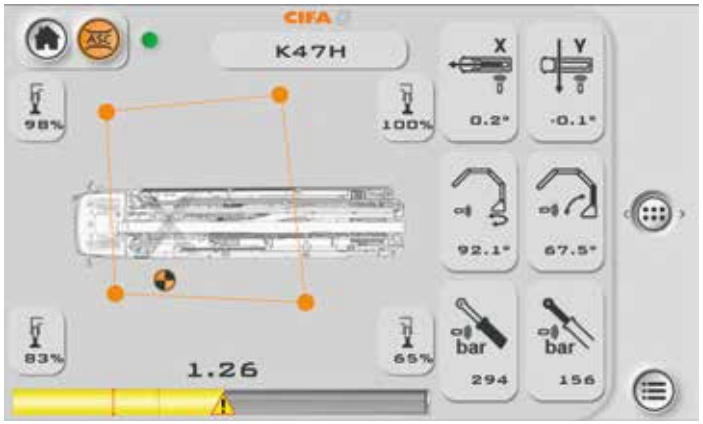






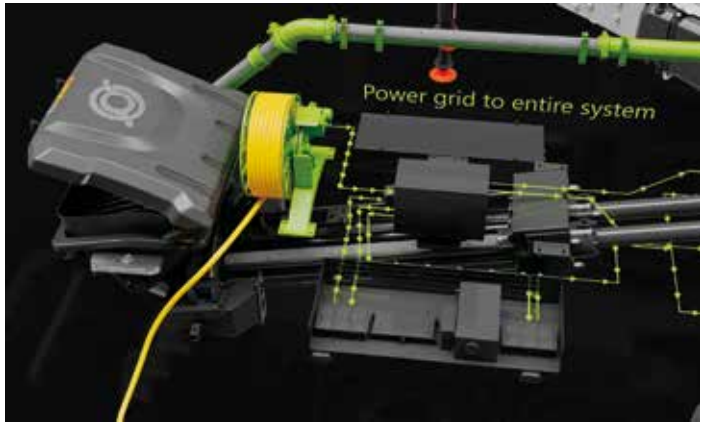
Closed circuit pumping unit from 160 m³/h to 80 Bar





Smartronic Gold control system, 7" monitor, advanced stability control system (ASC), stabilization assisted boom system (MBE)

40m power cord



Quick and easy to charge, the integrated battery charger is compatible with the 220V system

ENERGYA

THE FIRST BATTERY
ELECTRIC PUMP MIXER

ENERGYA MK28E

The electrically managed functions relate to rotation of the drum, stabilization, opening/closing of the boom, and pumping.

The Energya concrete pump combines the popular and well-known engineering and operational features of the Magnum, a machine "invented" by CIFA, with the advantages of hybrid technology.

Thousands of Magnums have transported and cast millions of cubic metres of concrete around the world. CIFA has also designed and applied the carbon fibre technology to the structure of the boom, further evolving the concept of truck mixer pump.And now, with Energya, a new world record is set. It is a totally innovative truck mixer that is more fuel efficient, runs more quietly, pollutes far less and ensures greater freedom of movement.

ENERGYA MK28E is CIFA's modern electric concrete pump that uses the latest technologies to reduce fuel consumption, pollution and noise.

Its system permits complete control of energy in all working conditions, and the choice and fine-tuning of its components maximize its overall efficiency.

The conventional hydraulic system is operated by a high-efficiency electric transmission.

Its innovative technology allows to rotate the drum, operate the boom, set the outriggers and keep the pumping unit active with the diesel engine off, thereby eliminating exhaust gas emissions and keeping noise right down during loading and unloading operations at the construction site. The reduction of emissions and noise make ENERGYA very useful in densely populated areas and in all contexts where it is necessary to minimize environmental impact.

SOPHISTICATED BUT EASY TO USE

The ENERGYA concrete pump has integrated the best of CIFA technology for management of the mixer, pumping unit and boom.
The electronic control system, always at hand even in the driving cab, combines the ENERGYA module already present in its sister model, the E9, and the Smartronic system shared with the other concrete pumps. The latter allows you to precisely manage the closed-circuit pumping unit and, above all, to benefit from the LSC function for control of the stabilization system and work with maximum safety.

Battery management

Smartronic with LSC system

Quick and intuitive control of operations with drum and discharge chute

REAR MOBILE PANEL

The system is compatible with both 220 V and 380 V outlets. Charging times vary from 8 hours with a standard system and are reduced by up to one hour if the charging station is used.

In case of public recharging columns, the time varies according to the available power.

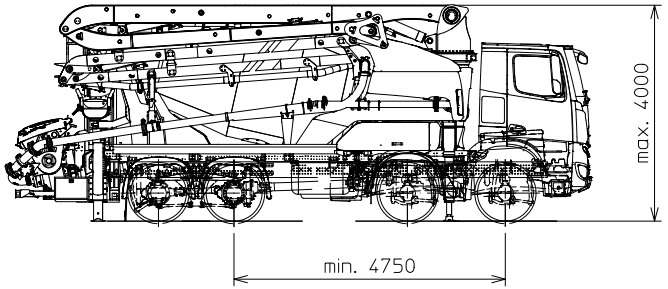
Recharge during loading and unloading

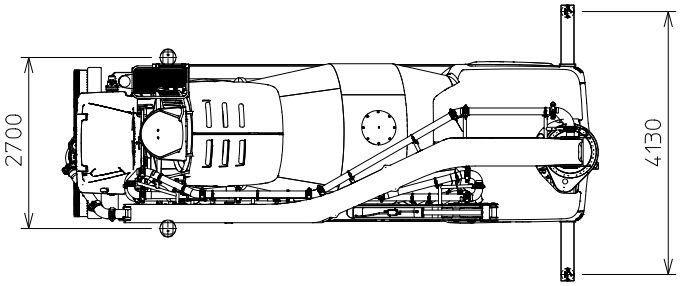
ENERGYA MK28E

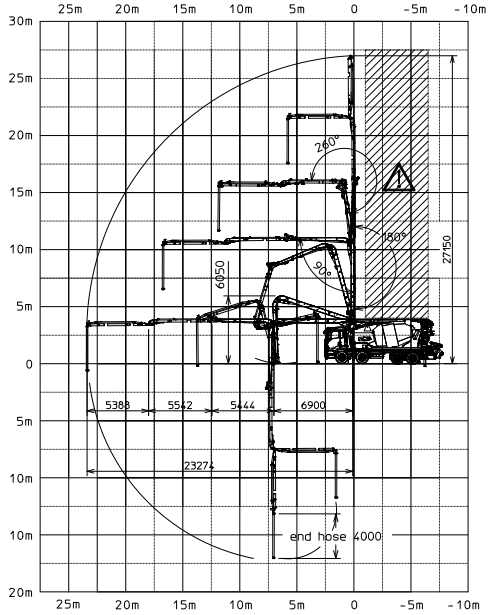
CONCRETE MIXER TECHNICAL DATA		
Model	RH 80	
Nominal capacity	m^3	7
Drum geometric volume	m^3	12.8
Filling ratio	%	55
Max. drum speed	r.p.m.	14
Pressurized water tank capacity	/	600
Liter-counter scale	/	0-500

PUMPING UNIT TECHNICAL DATA		
Model	PB607EPC	
Max. theoretical output	m^3/h	61
Max. pressure on concrete	bar	71
Max. number of cycles per minute	n	32
Concrete cylinders (diam. x stroke)	mm	200 X 1000
Concrete hopper capacity	l	400
"S" valve diameter	"	7

PLACING BOOM TECHNICAL DATA		
Model	MK28H	
Pipeline diameter	mm	100
Max. vertical reach	m	27.150
Max. horizontal distance	m	23.274
Sections		4
1st section opening angle		90°
2nd section opening angle		180°
3rd section opening angle		260°
4th section opening angle		251°
Rotating angle		-240° / +240°
End hose length	m	4







BATTERY	
Technology	Lithium-ion
Voltage	358 V
Capacity	38 kWh/105Ah

CHARGING MODE	
Standard charging mode	single phase 220V - 16A
High speed charging modee	400Vac (Three phase) - 35kW

ENERGYA

THE FIRST BATTERY ELECTRIC
TRUCK MIXER

ENERGYA E9

Electric on site, hybrid on the road.

The first machine ever with hybrid technology in the concrete transport sector, the E9 truck mixer of the ENERGYA SERIES is based on an innovative drum handling system that combines the advantages of traditional and electrical technology.
In traditional cement mixers the movement of the drum is generated by a hydraulic system; in the ENERGYA series of truck mixers, on the other hand, it is generated by an electric induction motor that receives energy from a lithium ion battery. Thanks to the electrical operation, new opportunities are opening up for the transport of concrete, particularly in densely populated historic centres and in increasingly frequent scenarios, where lower environmental impact is an added value.

ENERGYA E9

The E9 has created a new paradigm by profoundly changing the concept of the truck mixer and, above all, making it independent of the truck.
The movement of the drum of the E9 mixer, in fact, is no longer directly linked to the power take-off of the truck but directly to an electric motor. The latter has also replaced the group of hydraulic pumps, simplifying the structure of the kit.
The engine of the truck is connected to a generator that recharges the batteries during transfer. This system, combined with the characteristics of the 28.1 kW / 100Ah Lithium-ion battery pack, guarantees autonomy throughout the working day.

In addition, the KERS (Kinetic Energy Recovery System) device is used to ensure a constant balance of the battery charge during transfer by exploiting the energy recovered during the braking phase.

INNOVATIVE IN EVERY RESPECT

The ENERGYA mixer is unique and therefore needs an advanced control and management system. In fact, all the information relating to the state of use and operation of the mixer can be checked at all times on the colour monitor installed in the driving cab of the truck. It is therefore possible to check all parameters and activate or manage the various functions while keeping an eye on the charge level of the battery.
There is an identical monitor at the back of the vehicle where there is also an analogue control pad.

Battery management

Rear monitor

REAR MOBILE PANEL

The system is compatible with both 220 V and 380 V outlets. Charging times vary from 8 hours with a standard system and are reduced by up to one hour if the recharing column is used.
In case of public recharging columns, the time varies according to the available power.
During transfers, the truck engine operates as a generator to recharge the batteries and then work in electrical mode at the construction site. It is also worth pointing out that all the machines of the Energya series are equipped with a KERS (Kinetic Energy Recovery System), a system that can recharge the batteries during deceleration by converting the mechanical energy of the vehicle.

Recharge during loading and unloading

THE FIRST FULL-ELECTRIC
TRUCK MIXER

ENERGYA SLE

The ENERGYA technology applied to a fully electric truck.

An even more agile and simple solution for a totally green technology.
The mixer kit is in fact free of any hydraulic system; the drum is driven directly by an electric motor, with a maximum power of up to 91 kW, mounted on the gear reducer.
The batteries used to operate the mixer are those of the truck: this ensures considerable savings in terms of weight and bulk and it is therefore possible to make the most of the capacity of the drum.

ENERGYA E9

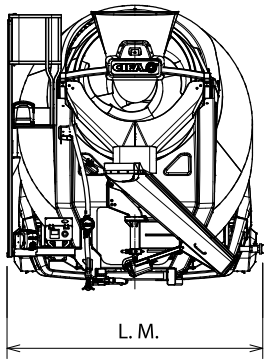
DRUM		
Nominal capacity	m^3	9
Geometric volume	m^3	15.9
Filling ratio	%	56.3
Water line	m^3	10.2
Rotation speed	r.p.m.	0 ÷ 14
Diameter	mm	2300
Rollers	n	2
Water meter scale	/	0 ÷ 500
Water tank capacity	/	300
Water tank type		aluminum pressurized

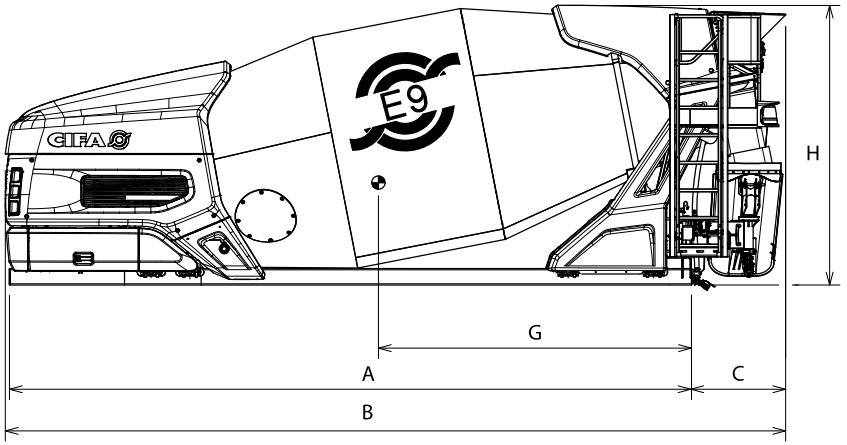
DRIVEN BY	
Electric motor	◆

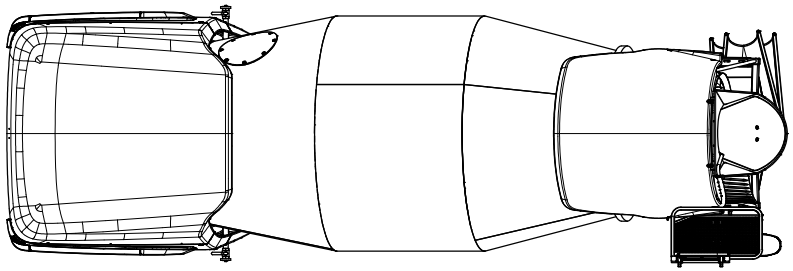
DIMENSIONS		
A - min. length of frame	mm	6670
B - min. length of mixer	mm	7633
C - overhang	mm	922
G - center of gravity	mm	3062
H - max. height *	mm	2735
Max width	mm	2500
Total weight (empty) **	Kg	4760

TRUCK SPECIFICATION		
Truck axles	n	4

CHARGING MODES	
Standard charging mode through on-board charger	Single-phase 220V - 16A
High speed charging mode	Three-phase 400V - 32A
Battery	Lithium-ion







* CIFA standard frame
** Weights may vary ± 5% according to DIN 70200

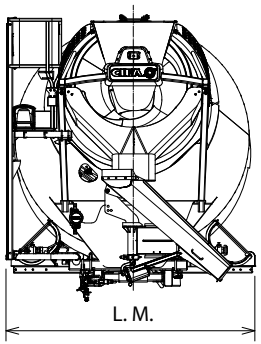
ENERGYA SLE7

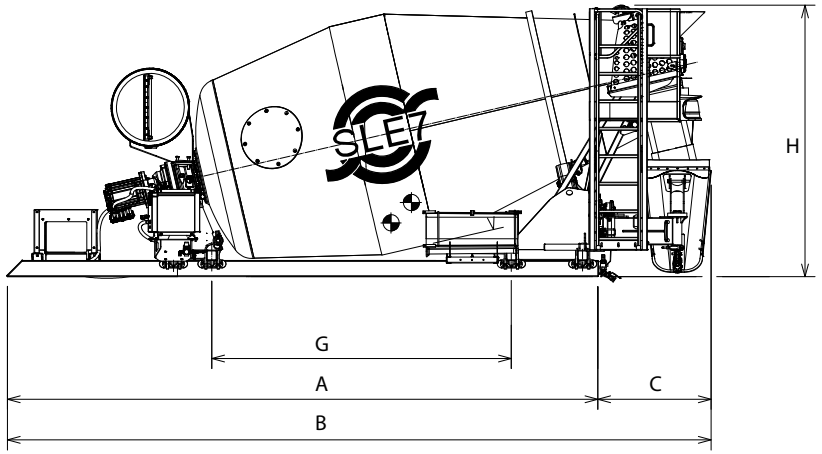
DRUM		
Nominal capacity	m^3	7
Geometric volume	m^3	12.2
Filling ratio	%	57
Water line	m^3	7.8
Rotation speed	r.p.m.	0 ÷ 14
Diameter	mm	2300
Rollers	n	2
Water meter scale	/	0 ÷ 500
Water tank capacity	/	400
Water tank type		aluminum pressurized

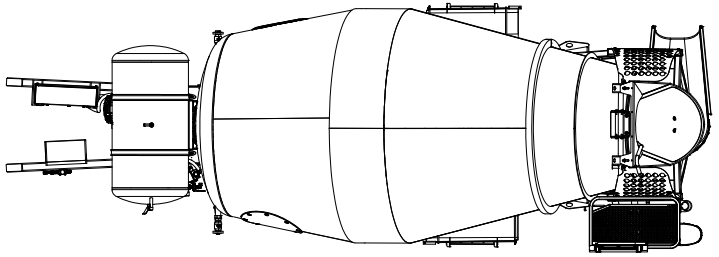
DRIVEN BY	
Electric motor	◆

DIMENSIONS		
A - min. length of frame	mm	5800
B - min. length of mixer	mm	6913
C - overhang	mm	1113
G - center of gravity	mm	2032
H - max. height *	mm	2590
Max width	mm	2355
Total weight (empty) **	Kg	3600

TRUCK SPECIFICATION		
Truck axles	n	3







* CIFA standard frame
** Weights may vary ± 5% according to DIN 70200

100%
savings on fuel

ZERO
emissions

100%
electric
mode

THE FIRST HYBRID SPRITZ

ENERGYA CSSE

The vehicle can operate in electric mode during all the phases of operation.

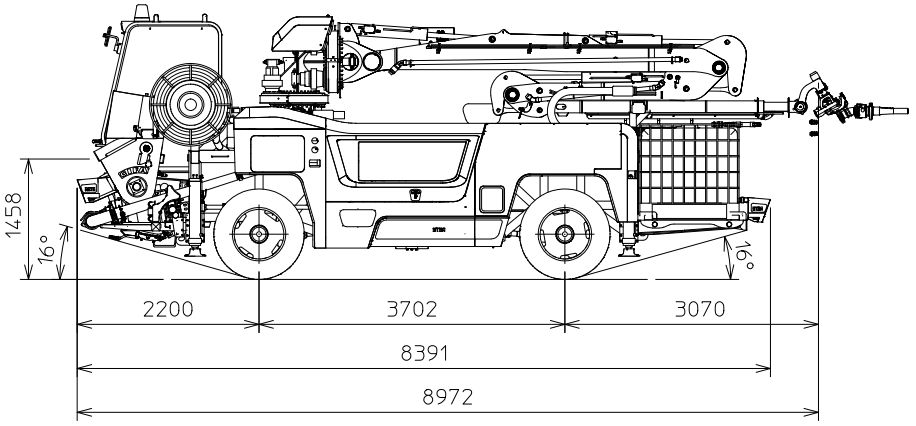
ENERGYA CSSE is CIFA's hybrid plug-in vehicle for sprayed concrete which uses the latest technologies to reduce consumption, costs, pollution and noise without affecting the operational efficiency of the vehicle.
The vehicle can operate in electrical mode during all the working stages: traction, pumping, boom handling, additive dosing, water pump and transport services. If the vehicle is connected to the mains during the pumping phase, it can simultaneously operate and charge the batteries, further prolonging its autonomy.
It is also fitted with KERS, the energy-saving braking system that allows you to increase the residual charge.

ENERGYA CSSE

PLACING BOOM TECHNICAL DATA

Model	CSSE	
Turret vertical rotation angle		±180°
Turret horizontal rotation angle		±180°
1st section lifting angle		+90° -5°
2nd section lifting angle		180°
3rd section lifting angle		270°
3rd section telescopic extension	m	1,8
Longitudinal nozzle rotation		180°
Transversal nozzle rotation		±90°
Boom longitudinal sliding stroke	m	3.7 / 3**

** If the optional "air compressor" is chosen



DOSING SYSTEM TECHNICAL DATA

Model	Uniflix H1	
Theoretical output (Min ÷ Max)	l/min	1 ÷ 21
Max pressure	bar	13
Accelerator tanks	l	2 X 1000

TRUCK CHASSIS TECHNICAL DATA

Model	Shotruck 2	
Installed power	kW	50
Turning circle	m	5.2
Wheelbase	m	3.7
Coupling angle		16.5°
Outlet angle		18.5°
Truck tyres		16 X 24
Net Weight (dry)	Kg	16000
Max. Weight	Kg	17500

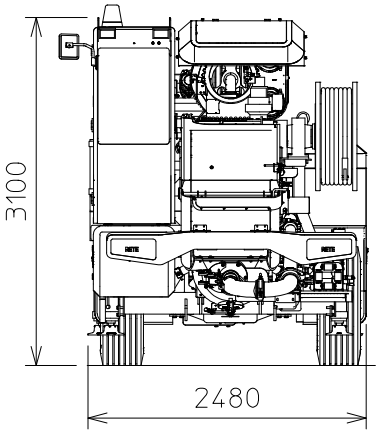
ELECTRICAL DEVICES

Installed power	kW	50
Voltage	V	96
Battery energy	kW*h	19
Standard charging mode (on-board)	3-phase 380V/400V - 18A	
Standard charging time (on-board)*	h	2

* From 0% to 100% of charge

PUMPING UNIT TECHNICAL DATA

Model	PAS 307	
Theoretical output (Min ÷ Max)	m³/h	5 ÷ 30
Max. pressure on concrete	bar	65
Max. number of cycles per minute	n	16
Concrete cylinders (diam. x stroke)	mm	200 X 1000
Hopper capacity	l	300



ENERGYA

CIFA S.p.A. / Via Stati Uniti d'America, 26 / 20030 SENAGO (MI) / ITALY
Phone +39 02 990 131 / sales@cifa.com

cifa.com

CAT_ENERGYA_ENG_0324