

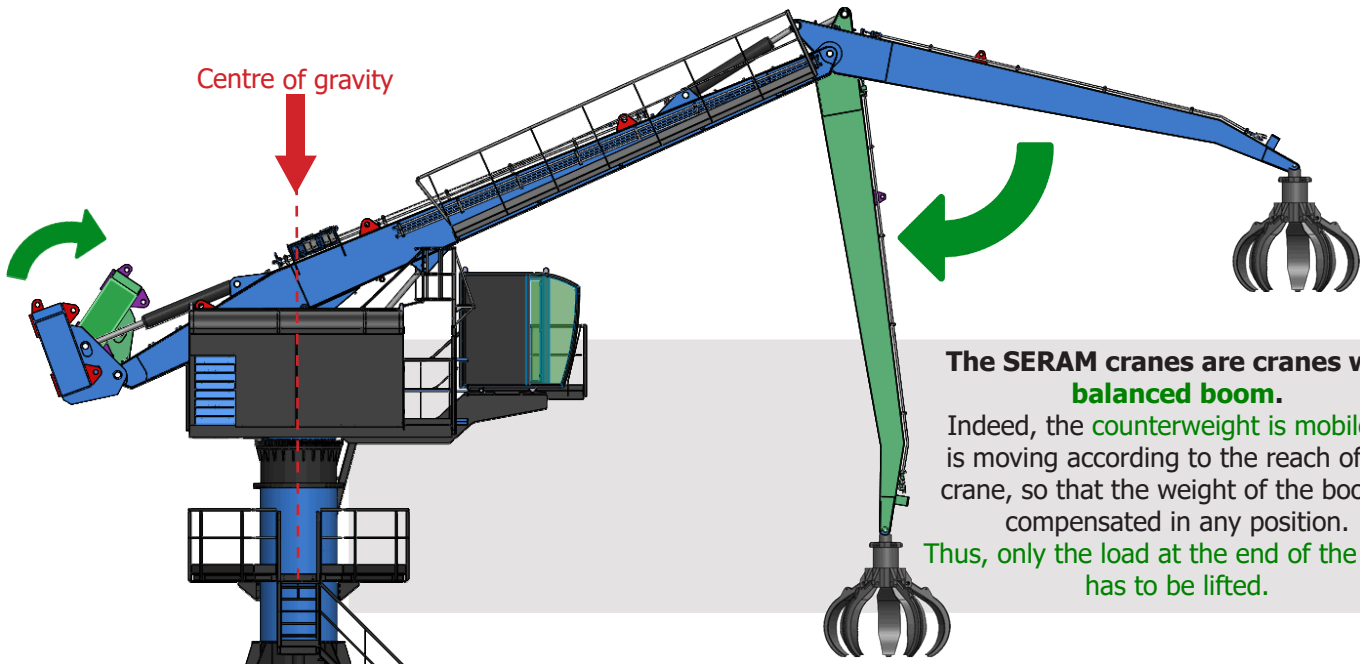


**EQUILIBRIUM HANDLING CRANE**

**Equilibrium**  
**SERIES 3**  
ES320, ES322

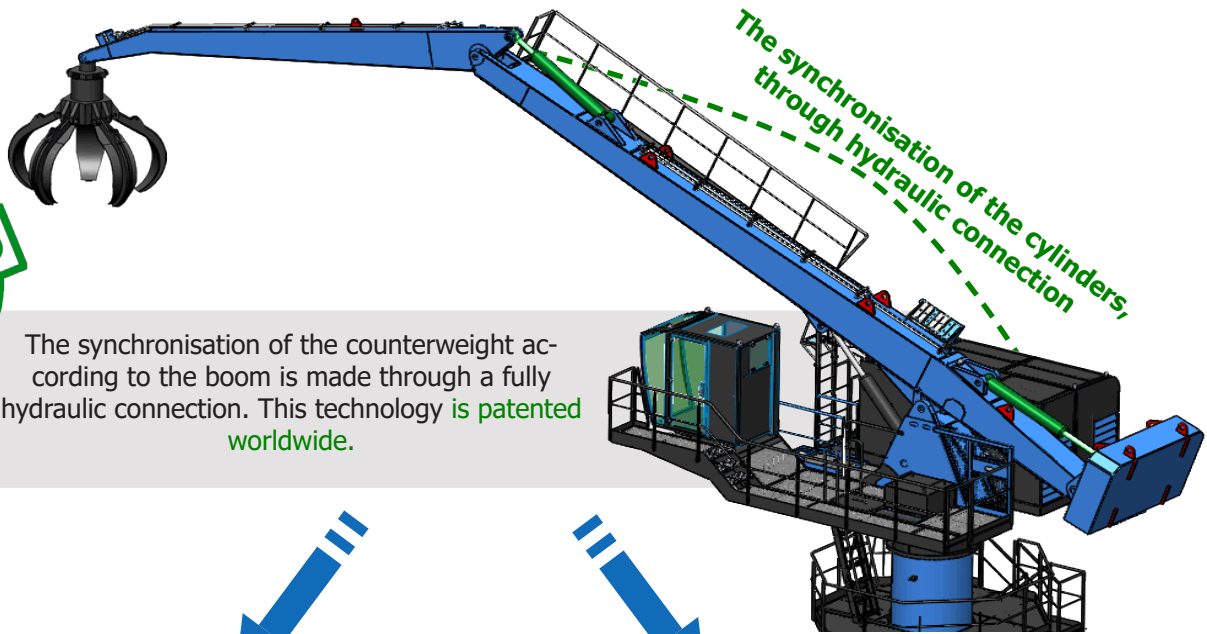
**SERAM**  
L'EXPERIENCE

# The Hydraulic Balance System



The SERAM cranes are cranes with **balanced boom**.

Indeed, the counterweight is mobile. It is moving according to the reach of the crane, so that the weight of the boom is compensated in any position. Thus, only the load at the end of the boom has to be lifted.



The synchronisation of the counterweight according to the boom is made through a fully hydraulic connection. This technology is patented worldwide.

## Unequaled operating costs

Up to 80% of energy savings compared to a thermic excavator

*Thermic excavator*



*Electrical non balanced excavator*



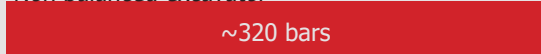
*Electrical balanced crane SERAM*



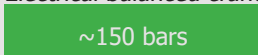
## Low working pressure = Exceptional life-time

The average working pressure is half lower than for a conventional excavator, the components are then less sollicitated, for the same performances

*Non balanced excavator*

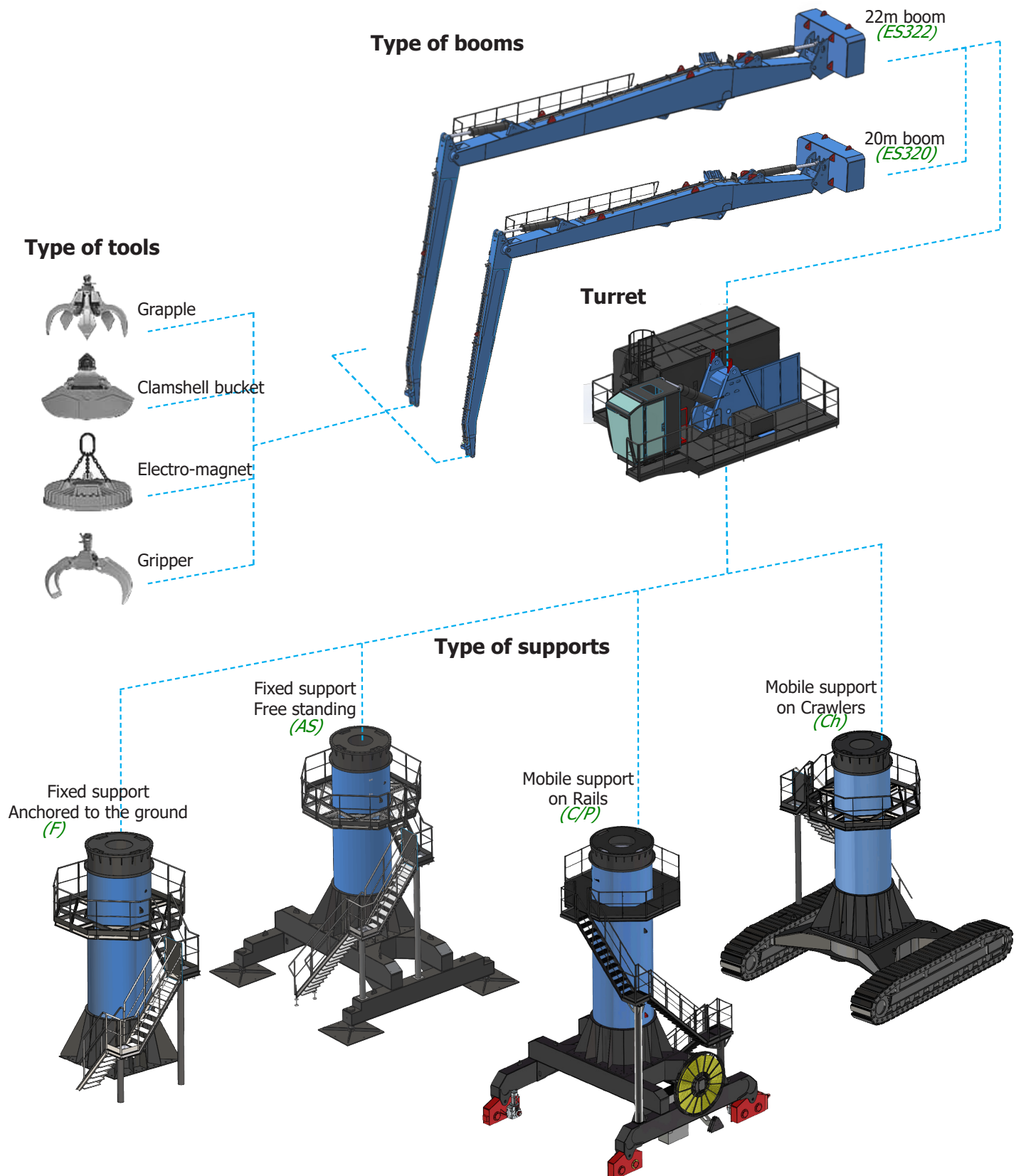


*Electrical balanced crane SERAM*

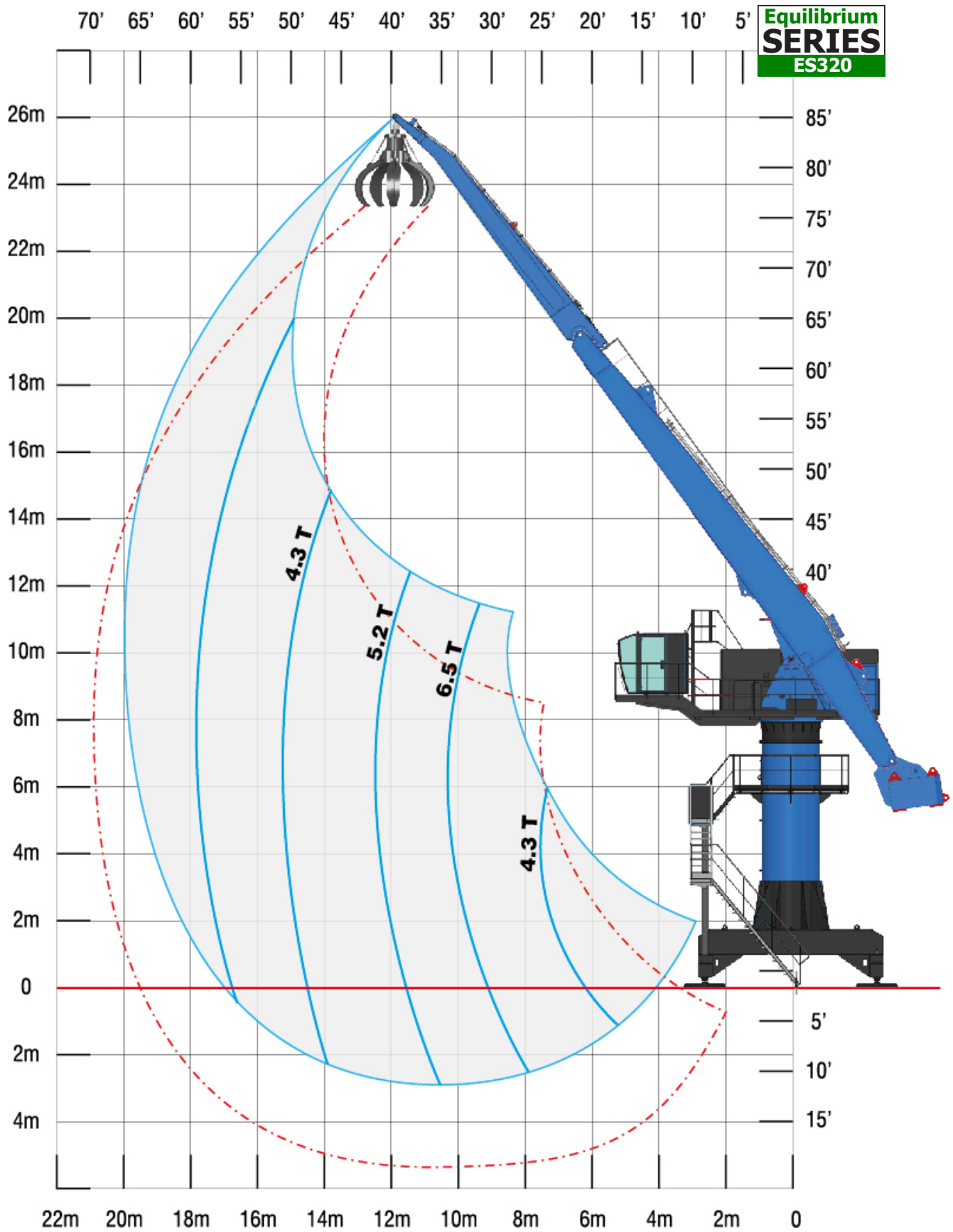




# The different components

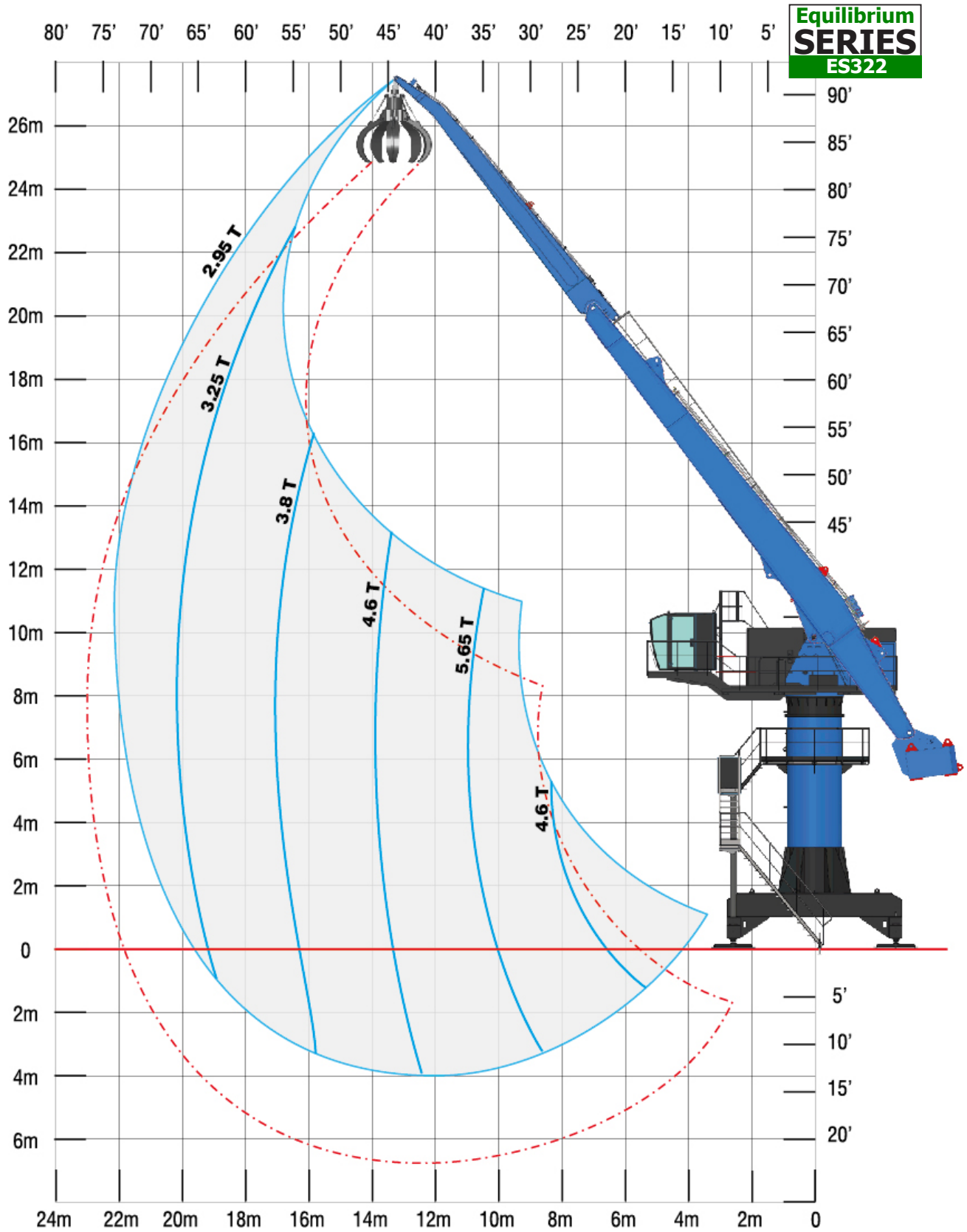


# Load chart





# Load chart



## Technical data

	ES320	ES322
<b>GENERAL FEATURES</b>		
Power	65 t/m	65 t/m
Horizontal maximum reach	20 m	22 m
Lifting capacity at full reach	3.25 t	2.9 t
Length of the main arm	11.5 m	12.5 m
Length of the dipper arm	8.5 m	9.5 m
Weight (with free standing support)	72 t	74 t
<b>ELECTRICAL SYSTEM</b>		
Power of the main electrical motor	90 kW	
Type of start of the main motor	Star-delta or speed drive	
Voltage	400V / 480V / 600V - 50Hz/60Hz	
<b>HYDRAULIC SYSTEM</b>		
Pumps for the movements of the boom	210 cc	
Average working pressure	160 bars	
Pump for rotation	105 cc	
Capacity of the tank	1000 litres	
Filtration	2 filters of 10 microns	
Cooling system	In line	
Lubricating system	1 group with 3 separated circuits	
<b>ROTATION</b>		
Rotation motor	1 motor MS50	
Ø of the ring gear	Ø 1790mm	
Rotating speed	4 rpm	
<b>CYLINDERS</b>		
Type of cylinders	200mm x 120mm x 1450mm	
<b>TYPE OF SUPPORT</b>		
Fixed support anchored to the ground	Base of 4m x 4m - Ht: 8m	
Fixed support, free standing	Chassis of 5.5m x 5.5m - Ht: 8m	
Mobile support on rails	Trolley of 5.5m x 5.5m - Ht: 8m	
Mobile support on crawlers	Upon request	

### OPERATING CABIN

- New raised and advanced operating cabin, in order to optimize the overview in the different feeding areas (shears, shredders, vessels, etc...).
- Large glazed area, athermic and safety type.
- Comfortable standard equipment: manipulators with control console, reversible air conditioning, control and monitoring screen, adjustable driver seat, MP3 player, etc...

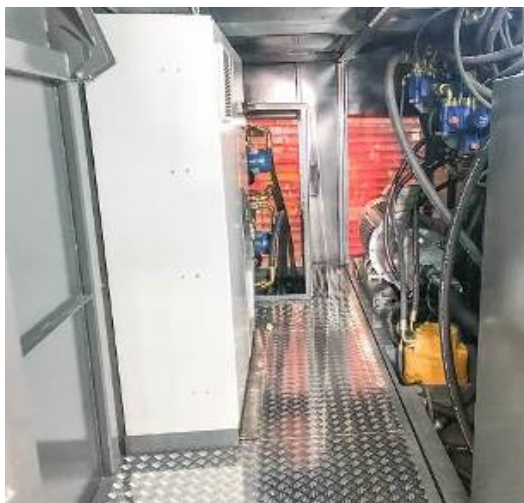
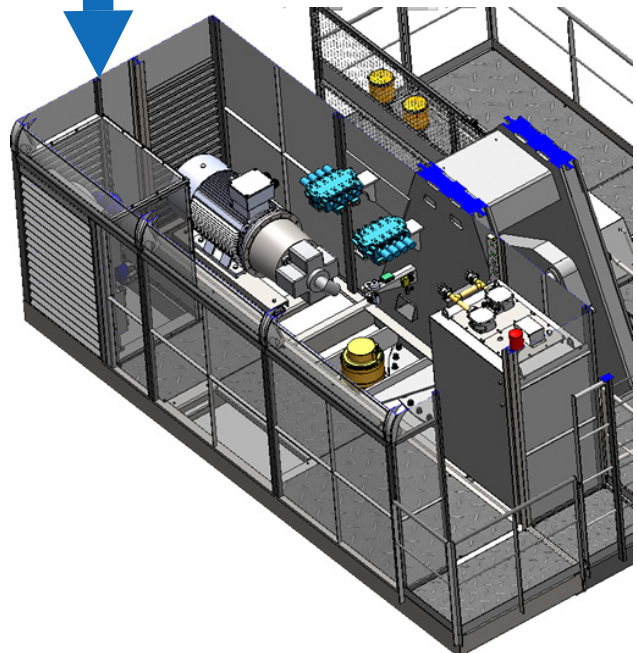
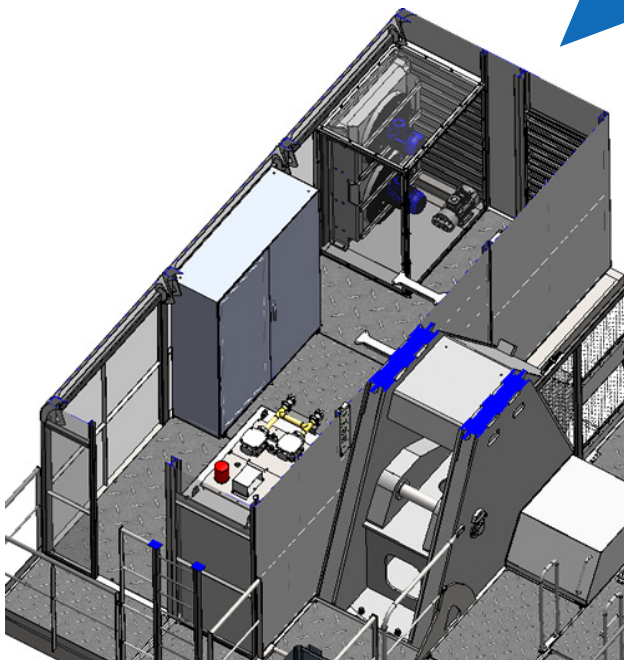


## Technical data

### MACHINE ROOM

The machine room now includes the entire motor pump group, but also the coolers and the electrical cabinet. A set designed for easy and accessible maintenance.

This machine room can be thermally insulated and equipped with a heating system, for use in the cold countries.





## Photos of SERAM ES3 cranes





**Photos of SERAM ES3 cranes**





**Photos of SERAM ES3 cranes**





**Photos of SERAM ES3 cranes**





# Equilibrium SERIES 3

ES320, ES322



***SERAM** did not wait for the climate emergency to manufacture clean machines, since **SERAM** has chosen electricity to power its cranes from 1973.*

***SERAM** patented the balanced boom in 1984, saving 45% of electrical energy\*.*

***SERAM** - An Ecological and Economic Awareness*



# SERAM

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