



# Kalmar Straddle Carrier

Data sheet



**KALMAR**



#### Faster, safer, more economical

Kalmar straddle carriers are a products that respond directly to your needs. Featuring state-of-the-art drive technology, significantly decreased fuel consumption, advanced safety features and superior operator ergonomics, Kalmar straddle carriers are ready to meet your demands. And, to make sure your business never stops, we are proud to offer Kalmar Care, a flexible and scalable maintenance service portfolio that allows you to focus your resources on your core business.

#### Future-proofed for automation

Automation is the key element in keeping future terminals competitive. All Kalmar straddle carriers are ready to take advantage of the major benefits offered by port and process automation, from supporting the efficiency achieved by manually operated models to the fully automated AutoStrads.

#### Key benefits

- Decreased fuel consumption up to 40% with hybrid
- Lower noise, lower emissions
- Zero emissions with Kalmar FastCharge™ Straddle Carrier
- Enhanced operator ergonomics and comfort
- Superior safety
- Secure and fast container handling
- Automation-ready



# Boosting productivity with every container move

Kalmar is the world leader in straddle carriers. Drawing on over 70 years of experience in keeping cargo on the move, Kalmar straddle carriers are used worldwide whenever fast ship-to-shore operations and high selectivity are essential. We offer four straddle carrier models to suit your needs. All models feature modular designs that give the possibility to customise machines based on the specific needs of your terminal.

# Kalmar Classic Straddle Carriers

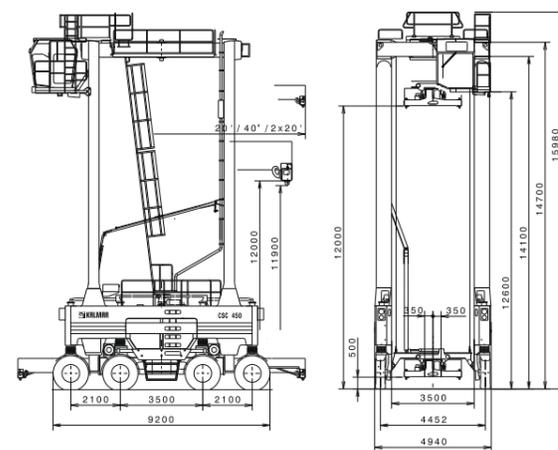
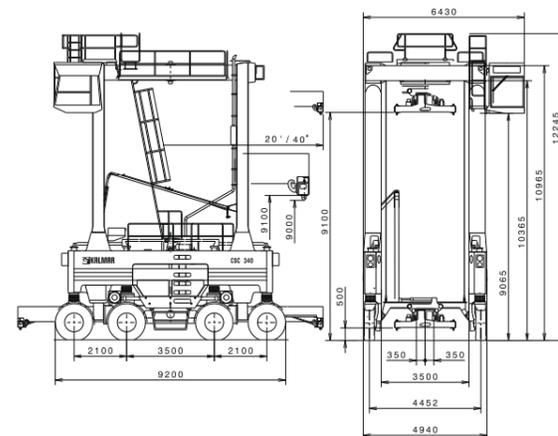
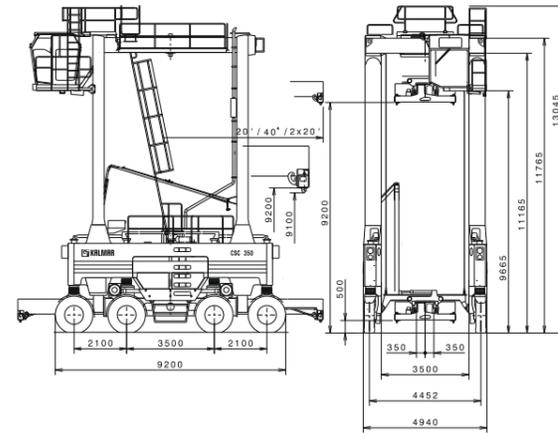
## Technical Data

	CSC 340	CSC 350	CSC 440	CSC 450	
<b>OPERATING DATA</b>					
Capacity under spreader	ton	40	50	40	50
Service weight	ton	66	67	69	70
Wheel load fully loaded	ton	13.3	14.6	13.6	15
<b>DIMENSIONS</b>					
Lifting height front cabin	mm	9200		12000	
Lifting height side cabin	mm	9100		12000	
Pick-up height	mm	500			
Inside clear width	mm	3500			
Turning radius, inside	mm	3550			
Turning radius, outside	mm	9470			
<b>SPREADER</b>					
Twistlocks		ISO			
Positions	ft	20, 40	20, 40/2x20*	20, 40	20, 40/2x20*
Side shift	mm	± 350			
Slew angle	deg.	± 6			
<b>SPEEDS</b>					
Travel speed, empty	km/h	30		25	
Travel speed, loaded	km/h	26	24	25	25
Lifting speed, empty	m/min	24			
Lifting speed, loaded	m/min	20	15	20	15
Lowering speed, empty	m/min	18			
Lowering speed, loaded	m/min	18			
<b>POWER UNIT</b>					
Type		Diesel hydrodynamic			
No. of units		2			
<b>DRIVE SYSTEM</b>					
Type		4-wheel drive			
<b>TRANSMISSION</b>					
Gears		3+3			
<b>TYRES</b>					
Size		16.00R25, 450/95R25, 480/95R25			
<b>SUSPENSION</b>					
Type		Rubber			
<b>BRAKES</b>					
Service brakes		Wet disc in six wheels			
Parking brakes		Spring actuated, wet disc in four wheels			
<b>HOIST SYSTEM</b>					
Type		Smoothlift™ rope hoist with single cylinder			
Pressure	bar	230	260	230	260
Pilot control		Electrical			
<b>CONTROL SYSTEM</b>					
Type		PLC			
Voltage		24 V			

<b>ENGINE OPTIONS</b>				
Power	kW	135		142
Torque	Nm	710		742
Displacement	dm <sup>3</sup>	7.4		6.7
Emission level		EU stage IIIA/US Tier 3		EU stage IIIA / US Tier 3

\* Also available: Extendable twinlift 45 ft.

Subject to change without notice



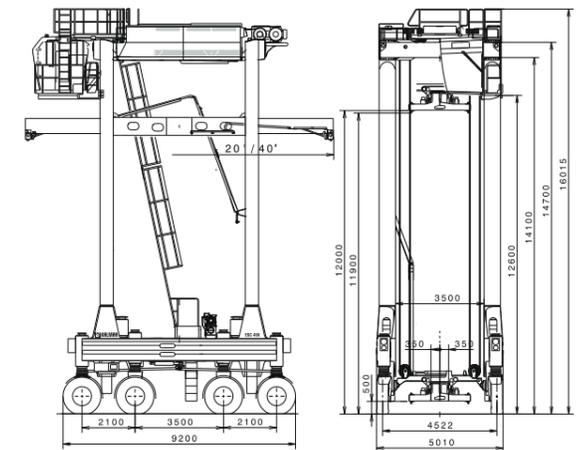
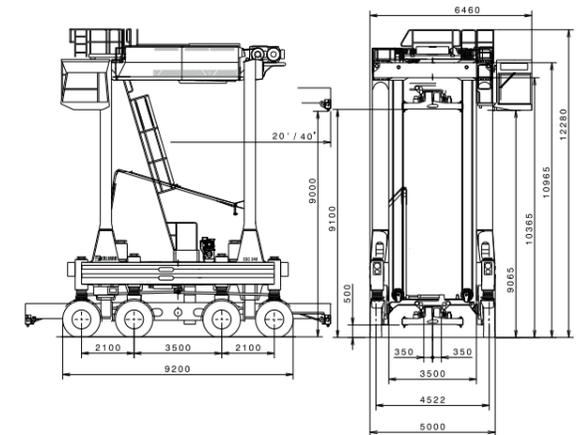
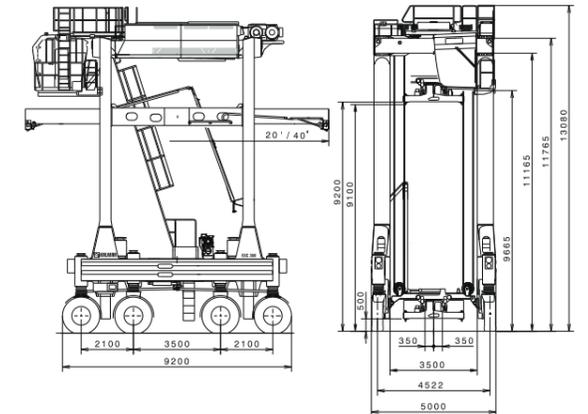
# Kalmar Diesel-electric Straddle Carriers

## Technical Data

	ESC 340	ESC 350	ESC 360	ESC 440	ESC 450	ESC 460	
<b>OPERATING DATA</b>							
Capacity under spreader	ton	40	50	60	40	50	60
Service weight	ton	66	67	69	69	70	72
Wheel load fully loaded	ton	13.3	14.6	16.1	13.6	15	16.5
<b>DIMENSIONS</b>							
Lifting height front cabin, max.	mm	9200			12000		
Lifting height side cabin, max.	mm	9100			12000		
Pick-up height, min.	mm	500					
Inside clear width	mm	3500					
Turning radius, inside	mm	3630					
Turning radius, outside	mm	9550					
<b>SPREADER</b>							
Twistlocks		ISO					
Positions	ft	20, 40	20, 40/2x20*	20, 40/2x20	20, 40/2x20*	20, 40/2x20	
Side shift	mm	± 350					
Slew angle	deg.	± 6					
<b>SPEEDS</b>							
Max. travel speed, empty	km/h	30			25		
Max. travel speed, loaded	km/h	30	25	25	25	17	
Max. lifting speed, empty	m/min	30					
Max. lifting speed, loaded	m/min	20	15	13	20	15	13
Max. lowering speed, empty	m/min	18					
Max. lowering speed, loaded	m/min	18	15	13	18	15	13
<b>POWER UNIT</b>							
Type		Diesel-electric					
Power system		Variable speed AC-generator					
<b>DRIVE SYSTEM</b>							
Type		4-wheel drive					
Control		AC-frequency control					
Electric motors		4 induction motors					
<b>TYRES</b>							
Size		16.00R25, 450/95R25, 480/95R25	480/95R25	16.00R25, 450/95R25, 480/95R25	480/95R25	480/95R25	
<b>SUSPENSION</b>							
Type		Rubber	Hydraulic	Rubber	Hydraulic	Hydraulic	
<b>BRAKES</b>							
Service brakes		Wet disc in four wheels					
Parking brakes		Spring actuated, wet disc in four wheels					
<b>HOIST SYSTEM</b>							
Type		Winch rope hoist					
Control		AC-frequency control					
Electric motors		2 induction motors					
<b>CONTROL SYSTEM</b>							
Type		PLC					
Voltage		24 V					
Field bus		Can open Ethernet IP					
<b>ENGINE OPTIONS</b>							
Power	kW	318			285		
Torque	Nm	1920			1938		
Displacement	dm <sup>3</sup>	9.8			10.8		
Emission level		Non-regulated/EU stage IIIB/ US Tier 4i			Non-regulated/EU stage IV/ US Tier 4i		

\* Also available: Extendable twinlift 45 ft.

Subject to change without notice



\* Also available: Extendable twinlift 45 ft. Subject to change without notice

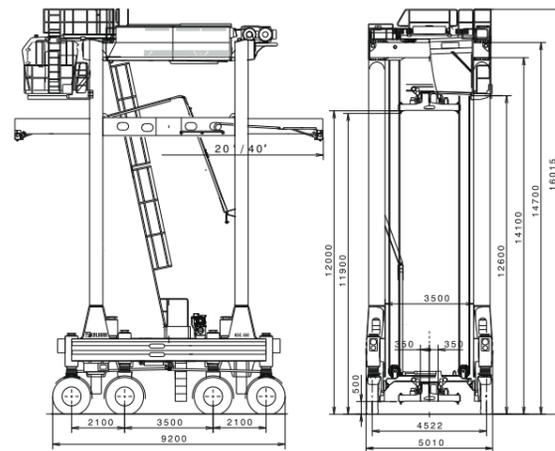
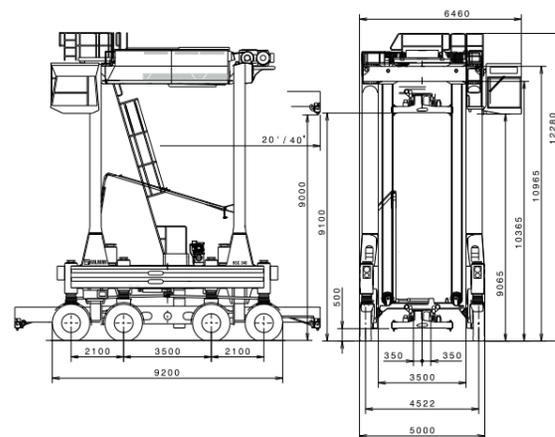
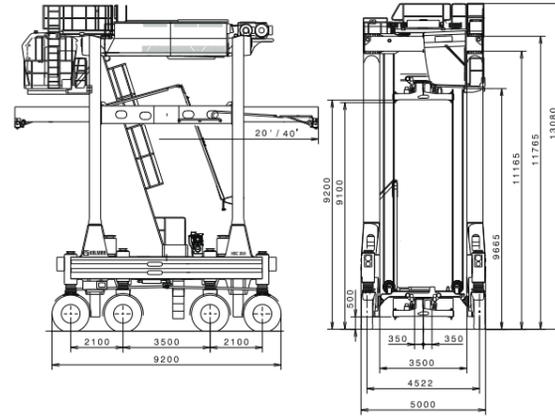
# Kalmar Hybrid Straddle Carriers

## Technical Data

		HSC 340	HSC 350	HSC 360	HSC 440	HSC 450	HSC 460
<b>OPERATING DATA</b>							
Capacity under spreader	ton	40	50	60	40	50	60
Service weight	ton	66	67	69	69	70	72
Wheel load fully loaded	ton	13.3	14.6	16.1	13.6	15	16.5
<b>DIMENSIONS</b>							
Lifting height front cabin, max.	mm	9200			12000		
Lifting height side cabin, max.	mm	9100			12000		
Pick-up height, min.	mm	500					
Inside clear width	mm	3500					
Turning radius, inside	mm	3630					
Turning radius, outside	mm	9550					
<b>SPREADER</b>							
Twistlocks		ISO					
Positions	ft	20, 40	20, 40/2x20*	20, 40/2x20	20, 40	20, 40/2x20*	20, 40/2x20
Side shift	mm	± 350					
Slew angle	deg.	± 6					
<b>SPEEDS</b>							
Max. travel speed, empty	km/h	30			25		
Max. travel speed, loaded	km/h	30	25	25	17		
Max. lifting speed, empty	m/min	30					
Max. lifting speed, loaded	m/min	20	15	13	20	15	13
Max. lowering speed, empty	m/min	18					
Max. lowering speed, loaded	m/min	18	15	13	18	15	13
<b>POWER UNIT</b>							
Type		Hybrid					
Charging system		Diesel generator					
Energy storage		Lithium-ion battery (LTO)					
<b>ENGINE</b>							
Power	kW	77					
Torque	Nm	425					
Displacement	dm <sup>3</sup>	4.4					
Emission level		Non-regulated / EU stage IV / US Tier 4f					
FastCharge as option							
<b>DRIVE SYSTEM</b>							
Type		4-wheel drive					
Control		AC-frequency control					
Electric motors		4 induction motors					
<b>TYRES</b>							
Size		16.00R25, 450/95R25, 480/95R25	480/95R25	16.00R25, 450/95R25, 480/95R25	480/95R25	480/95R25	480/95R25
<b>SUSPENSION</b>							
Type		Rubber	Hydraulic	Rubber	Hydraulic		
<b>BRAKES</b>							
Service brakes		Wet disc in four wheels					
Parking brakes		Spring actuated, wet disc in four wheels					
<b>HOIST SYSTEM</b>							
Type		Winch rope hoist					
Control		AC-frequency control					
Electric motor		2 induction motors					
<b>CONTROL SYSTEM</b>							
Type		PLC					
Voltage		24 V					
Field bus		Can open Ethernet IP					

\* Also available: Extendable twinlift 45 ft.

Subject to change without notice



# Kalmar FastCharge™ Straddle Carriers

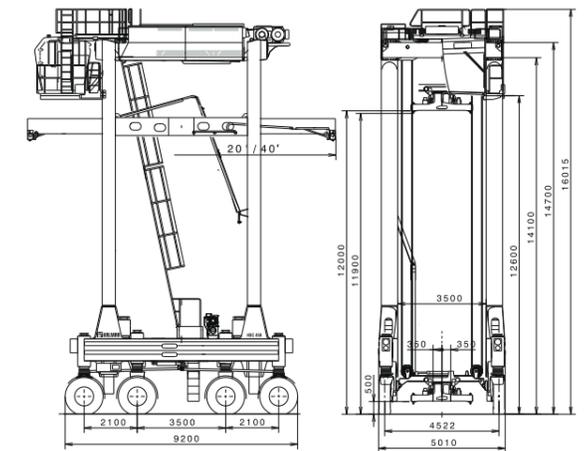
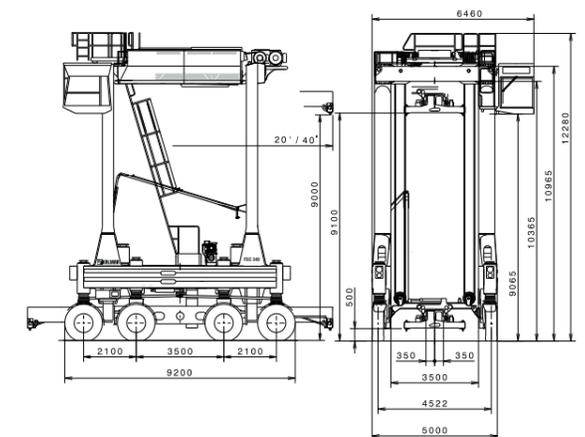
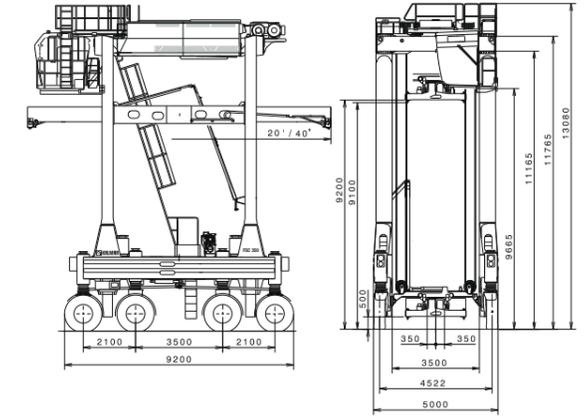
## Technical Data

		FSC 340	FSC 350	FSC 360	FSC 440	FSC 450	FSC 460
<b>OPERATING DATA</b>							
Capacity under spreader	ton	40	50	60	40	50	60
Service weight	ton	66	67	69	69	70	72
Wheel load fully loaded	ton	13.3	14.6	16.1	13.6	15	16.5
<b>DIMENSIONS</b>							
Lifting height front cabin, max.	mm	9200			12000		
Lifting height side cabin, max.	mm	9100			12000		
Pick-up height, min.	mm	500					
Inside clear width	mm	3500					
Turning radius, inside	mm	3630					
Turning radius, outside	mm	9550					
<b>SPREADER</b>							
Twistlocks		ISO					
Positions	ft	20, 40	20, 40/2x20*	20, 40/2x20	20, 40	20, 40/2x20*	20, 40/2x20
Side shift	mm	± 350					
Slew angle	deg.	± 6					
<b>SPEEDS</b>							
Max. travel speed, empty	km/h	30			25		
Max. travel speed, loaded	km/h	30	25	25	17		
Max. lifting speed, empty	m/min	30					
Max. lifting speed, loaded	m/min	20	15	13	20	15	13
Max. lowering speed, empty	m/min	18					
Max. lowering speed, loaded	m/min	18	15	13	18	15	13
<b>POWER UNIT</b>							
Type		Fully electric					
Charging system		Kalmar FastCharge **					
Energy storage		Lithium-ion battery (LTO)					
<b>ENGINE (OPTIONAL) **</b>							
Power	kW	77					
Torque	Nm	425					
Displacement	dm <sup>3</sup>	4.4					
Emission level		Non-regulated / EU stage IV / US Tier 4f					
<b>DRIVE SYSTEM</b>							
Type		4-wheel drive					
Control		AC-frequency control					
Electric motors		4 induction motors					
<b>TYRES</b>							
Size		16.00R25, 450/95R25, 480/95R25	480/95R25	16.00R25, 450/95R25, 480/95R25	480/95R25	480/95R25	480/95R25
<b>SUSPENSION</b>							
Type		Rubber	Hydraulic	Rubber	Hydraulic		
<b>BRAKES</b>							
Service brakes		Wet disc in four wheels					
Parking brakes		Spring actuated, wet disc in four wheels					
<b>HOIST SYSTEM</b>							
Type		Winch rope hoist					
Control		AC-frequency control					
Electric motor		2 induction motors					
<b>CONTROL SYSTEM</b>							
Type		PLC					
Voltage		24 V					
Field bus		Can open Ethernet IP					

\* Also available: Extendable twinlift 45 ft.

Subject to change without notice

\*\* Optional Diesel generator for extended operation range.





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