

SERVEBOSEN















CTTT.

Mobile telescopic crane

StageIV





What makes up the E-Series

- Over 25 years of experience in construction and building of highly specialized telescopic cranes
- Uncompromisingly high performance in all areas
- Technology that can be mastered: High-quality components without over-engineering
- Long service life and high value stability

Telescopic crane TX10

Your top benefits:



Green Efficiency



Save fuel – reduce operating costs Work quietly - protect operator and environment



Peak performance

Robust boom system - work on an incline of up to 4°



Maximum usability **MULTIESE**

MultiCab – work in comfort SENCON – work program selection made easy



Flexibility in service

Operate under full load - less space required Strong undercarriage traction – good off-road capability



Easy transport

Mobile undercarriage with sliding beam support - ready to go in no time



Maintenance and service made easy

SENNEBOGEN control system – easy error diagnostics Simple maintenance – clear labeling



Consultation and support in your area

3 production sites - 2 subsidiaries 130 sales partners – over 350 service stations

2



Stage IV - Most modern, powerful engine - Fuel-efficient - Clean emissions

support

543E Technical data, equipment

MACHINE TYPE

Model (type) 643

ENGIN	E
Model	Cummins diesel engine QSB 4.5 119 kW / 162 hp at 2,200 rpm Compliant with Tier IIIa emission standards
	Cummins diesel engine QSB 4.5 129 kW / 175 hp at 2,500 rpm Compliant with Tier IV emission standards
	Direct injection, turbo-charged, charge air cooling, reduced emissions
Cooling	Water-cooled
Diesel filter	With water separator and heating system
Air filter	Dry filter with integrated pre-separator, automatic dust discharge, main element and safety element, contamination indicator
Fuel tank	360 l
DEF tank	38
Electr. system	24 V
Batteries	2 x 155 AH battery disconnect switch
Options	 Low-temperature package with engine preheating and heated diesel filter for temperatures below -20 °C Electric diesel fuel pump

🔄 UPPERCARRIAGE

Design	Torsion-resistant box design, precision- crafted, steel bushings for boom bearings. Extremely service-friendly design, longitudinal engine
Electrical sys- tem	Central electrical distributor, battery disconnect switch
Cooling system	3-circuit cooling system with high cooling capacity, electronically regulated fan drive for water, charge air and oil cooler
Safety	Rearview and right sideview cameras, LED lighting package
Options	 Additional LED headlights Up to 2 additional cameras Maritime climate varnishing as corrosion protection Low-temperature package for use at temperatures below -20 °C

Options

 Automatic central lubrication for boom pivot point, luffing cylinder, slewing ring track and winch drum bearing

Pinion tooth lubrication for slewing ring

🛃 HYDRAULIC SYSTEM

Load sensing/LUDV hydraulic system, electrohydraulic pilotcontrolled work functions, load limit sensing control Pump type Swashplate-type variable-displacement piston pump, load pressure-independent flow distribution for simultaneous, independent control of work functions Pump control Zero-stroke control, on-demand flow control - the pumps only pump as much oil as will actually be used, pressure purging, load limit sensing control max. 330 bar Operating pressure Filtration High-performance filtration with long change interval 500 l Hydraulic tank Control system Proportional, precision electrohydraulic actuation of work movements, 2 electric servo joysticks for work functions, including winch motion display via vibration transducer, additional functions via switches and pedals Safety Hydraulic circuits secured with safety valves Pipe fracture safety valve for luffing and telescoping cylinders Options Bio-oil SENNEBOGEN HydroClean 3 µm hydraulic microfilter Electric heater for hydraulic tank for temperatures below -20 °C SLEWING DRIVE Gearbox Compact planetary gear with slant-axis hydmotor integrated brake values ميالية

	Taulic motor, integrated brake valves
Slewing gear brake	Spring-loaded disk brake, pedal for individual braking
Slewing ring	Externally geared slewing ring, sealed
Rotation speed	0–2 rpm , variable

4 Subject to change. Additional options available upon request.



E Technical data, equipment

🗳 САВ		Options	 6.5 m fly boom, tiltable (0°, 40°), extremely fact and easy setup without auxiliary dea
Cab type	Multicab, can be inclined by 15°		vices, locked on basic boom when not in
Cab equipment	Flexibly mounted comfortable cab with super sound insulation. All-weather design, all-round glazing in safety glass and large roof window, adjustable windshield. Flexibly mounted comfortable seat, adjustable accor- ding to weight and shock-absorbent. Dashboard overview with swiveling steering column. Variable, controllable cab heating with air circulation stage and particle filter, automatic climate control		 use Fly boom extension to 13 m, tiltable (0°, 40°) Wind movement display using vibrating joystick Auxiliary jib, 3.5 t load capacity, 1-strand 2nd crane winch: traction 35 kN (4th position), cable speed 0–95 m/min, cable diameter 14 mm, 130 m cable length Additional load charts accepted for 2°/4° indice predices
Options	 Cab type E240, can be elevated 240 cm Cab can be tilted 20° Auxiliary heating system with timer Activated carbon filter for cabs 		 7.5 kW electrohydraulic emergency unit Remote radio control Working range restriction
	 Activated carbon interior cabs Armored-glass windshield 		
	Armored-glass sunroof		RCARRIAGE
	 Protective roof grating FOPS protective roof grating Radio with USB and SD connection, MP3 and Bluetooth function 	Design	Strong mobile undercarriage with integrated 4-point outrigger, steering axle as hydrauli- cally locking pendulum axle. Pendulum axle cylinder with pipe-fracture safety valves
		Travel drive	All-wheel drive powered by an adjustable
Design	IMENTS Decades of experience, state-of-the-art computer simulation, maximum stability and service life, oversized and low-mainte- nance bearing points, sealed special bearing		hydraulic motor with direct-mounted, auto- matically actuated brake valve and 2-stage power shift transmission. Strong 40 t planetary axles with integrated steering cylinders, 2-circuit multi-disk service brake.
	bushes, precision-crafted	Steering	All-wheel steering
Telescopic boom	4-part with pulley head, continuous hydrau-	Parking brake	Spring-loaded disk brake
Lisisting winch	Drive veige inclined evic hydreylic meterwith	Tires	12.00-20, 8x
Hoisting winch	compact planetary gear, traction 35 kN	Speed	0–6 km/h off-road, 0–25 km/h on-road
	(40 kN in the 1st position), cable speed 0–95 m/min., cable diameter 14 mm, 160 m cable length.		TING WEIGHT
Safety brake	Spring-loaded disk brake	Mass	Approx. 27 t with 20 m tolesconic boom, 12 m fly boom
Crane safety	Next-generation load moment monitoring, straightforward panel displaying all impor- tant data through SENCON display, lifting limit switch, cable exit protection, pressure relief valves and pipe fracture safety device with Eventrecorder	Notice	1.9 t counterweight, 25 t hook, 2 hoisting winches. Operating weight varies by
Cylinders	Hydraulic cylinders with high-quality sealing and guide elements		model.





30 m main boom (HA)





Hook

Capacity	Woight		Number of strands													
Capacity	weight	9	8	7	6	5	4	3	2	1						
32 t 4-pulley	300 kg	31,500 kg	28,000 kg	24,500 kg	21,000 kg	17,500 kg	14,000 kg	10,500 kg	7,000 kg	3,500 kg						
25 t 3-pulley	220 kg			24,500 kg	21,000 kg	17,500 kg	14,000 kg	10,500 kg	7,000 kg	3,500 kg						
4 t	40 kg									3,500 kg						

6 Subject to change. See page 12 for notes on load lift charts.



643*E* Load ratings



30 m main boom (HA)

									В	oom	leng	th [r	n]									
		9.0			12.5			16.0			19.5			23.0			26.5			30.0		
Counterweight	Ļ				Ļ		ļ	ļ			ļ	ļ.ļ		ļ.ļ	ļ		ļ.ļ	ļ	ļ.ļ	ļ	Ļ	
[t]	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
Outrigger width	┝┅═╗╌┤	H	-	⊢⊫⊫	H	11-11	<u>⊢∎=∎-</u> !	HITH	-	┝┅═┅┥	H	-	┝┅═╗┥	H	-	┉		-	┝┅═╗─┤	H		
[%]	100	50	free	100	50	free	100	50	free	100	50	free	100	50	free	100	50	free	100	50	free	
Outreach [m]																						
2.0	40.0	35.0	21.6	20.0		43.0	45.0	45.0	42.0	44.0	44.0	42.5	44.0	44.0	44.0							
3.0	30.1	27.1	12.0	20.0	20.0	12.0	15.0	15.0	12.0	14.0	14.0	12.5	11.0	11.0	7.0	8.9	8.9	8.9	5.0	5.0	5.0	
4.0	24.8	20.4	7.3	20.0 10 г	20.0	7.1	15.0	15.0	7.1	14.0	14.0	7.6	11.0	11.0	7.8	8.9	8.9	8.1	5.0	5.0	5.0	
5.0	10.0	9.0	4.5	10.5	0.0	4.8	12.0	0.0	4./	13.5	13.1	5.I 2.6	10.2	9.6	5.4	0.0	0.0	5.0	5.0	5.0	5.0	
7.0	12 7/6 2	8.6/6.2	28/62	9.9	6.5	2.5	9.9	6.6	71	12.0	70	2.5	9.5	73	2.8	7.8	75	3.0	5.0	5.0	7.9	
8.0	12.77 0.2	0.070.2	2.070.2	7.8	5.1	1.4	7.8	5.0	1.4	8.2	5.4	1.7	8.6	5.7	2.0	7.4	5.9	2.2	5.0	5.0	2.2	
9.0				6.2	3.9	1.0	6.2	3.9	1.0	6.6	4.3	1.3	7.0	4.6	1.4	6.9	4.8	1.6	5.0	5.0	1.6	
10.0				5.5/9.6	3.4/9.6	0.6/9.6	5.1	3.1	0.6	5.5	3.4	0.8	5.8	3.7	1.1	6.0	3.9	1.3	5.0	4.1	1.2	
11.0							4.2	2.5		4.5	2.8	0.5	4.9	3.0	0.7	5.1	3.2	0.9	5.0	3.4	0.9	
12.0							3.4	2.0		3.8	2.2		4.1	2.5	0.5	4.3	2.7	0.6	4.5	2.9	0.6	
13.0							2.8	1.5		3.2	1.8		3.5	2.1		3.7	2.3	0.4	3.9	2.4	0.4	
14.0										2.7	1.5		3.0	1.7		3.2	1.9		3.4	2.0		
15.0										2.3	1.1		2.5	1.4		2.8	1.6		2.9	1.7		
16.0										1.9	0.9		2.2	1.1		2.4	1.3		2.5	1.4		
17.0										1.7/16.6	0.7/16.6		1.8	0.9		2.1	1.1		2.2	1.2		
18.0													1.6	0.7		1.8	0.9		1.9	1.0		
19.0													1.3	0.5		1.5	0.7		1.7	0.8		
20.0													1.1			1.3	0.5		1.4	0.7		
21.0													1.1/20.1			1.1			1.2	0.5		
22.0																0.9			1.1			
23.0																0.7			0.9			
24.0																0.7/23.6			0.7			
25.0																			0.6			
26.0				125.42.14.1															0.5			
27.0	Table n	0.: 643M	-30.0/75 -30.0/75	/2000/1.	9/12.16 9/12.16																	
28.0 Number of	9	8 8	4	6	6	4	5	5	4	4	4	4	4	4	4	3	3	3	2	2	2	
stranus		0%			50%			10.0%			10.0%			100%			100%			100%		
		0%			0%			0%			25%			50%			75%			2 2 100%		
		0%			0%			0%			25%			50%			75%			100%		
at collapsible jib																						
Load capacity reduction [kg]		570			420			330			280			240			210			180		



⁸ Subject to change. See page 12 for notes on load lift charts.







6.5 m fly boom (SA)

Į.Į	Telescopic boom length [m]												
1.9 t	9	.0	16	5.0	23	.0	30).0					
J-17-11-1													
100%	0°	40°	0°	40°	0°	40 °	0°	40°					
Outreach [m]													
2.0													
3.0	6.0		6.0										
4.0	6.0		6.0										
5.0	5.5	3.5	6.0		6.0								
6.0	4.9	3.3	6.0	3.6	6.0								
7.0	4.4	3.1	5.9	3.4	6.0		3.5						
8.0	4.0	2.9	5.4	3.3	5.9	3.4	3.5						
9.0	3.7	2.8	5.0	3.2	5.5	3.3	3.5						
10.0	3.4	2.7	4.6	3.1	4.7	3.2	3.5	3.2					
11.0	3.1		4.3	3.0	4.0	3.2	3.5	3.0					
12.0	2.8		3.7	2.8	3.5	3.1	3.2	2.9					
13.0			3.2	2.8	3.0	3.0	2.8	2.8					
14.0			2.8	2.8	2.6	2.9	2.5	2.7					
15.0			2.4		2.3	2.8	2.1	2.5					
16.0			2.1		2.0	2.4	1.9	2.4					
18.0			1.5		1.5	1.8	1.4	1.8					
20.0					1.1	1.3	1.0	1.3					
22.0					0.7		0.7	1.0					
24.0								0.6					
26.0													
28.0													
30.0													
32.0													
34.0													
36.0													
38.0	Table no.: 6	43R-30.0/75/2642/1.9,	/12.16 SA6.5										
Number of strands	2	1	2	1	2	1	1	1					
I	0	%	10	0%	100)%	10	0%					
II	0	%	0	%	50	1%	10	0%					
III	0	%	0	%	50	1%	10	0%					

643*E* Load ratings



13 m fly boom (SA)

ļ.ļ			Те	elescopic bo	om length [m]		
1.9 t	9	.0	16	5.0	23	. .0	30).0
		\angle				\angle		\angle
100%	0 °	40 °	0°	40°	0 °	40 °	0°	40 °
Outreach [m]								
2.0								
3.0	3.0							
4.0	3.0							
5.0	3.0		3.0					
6.0	3.0		3.0					
7.0	2.9		3.0		3.0			
8.0	2.6		3.0		3.0			
9.0	2.3		2.9		3.0		2.0	
10.0	2.1	1.6	2.7		2.9		2.0	
11.0	2.0	1.5	2.5		2.7		2.0	
12.0	1.8	1.4	2.4	1.5	2.6		2.0	
13.0	1.7	1.4	2.2	1.5	2.5		2.0	
14.0	1.6	1.3	2.1	1.5	2.4	1.5	2.0	
15.0	1.6	1.3	2.0	1.4	2.3	1.5	2.0	
16.0	1.5	1.3	1.9	1.4	2.2	1.4	2.0	1.5
18.0	1.1		1.7	1.3	1.8	1.4	1.7	1.4
20.0			1.6	1.3	1.5	1.3	1.3	1.4
22.0			1.3		1.1	1.3	1.0	1.3
24.0			1.0		0.9	1.3	0.8	1.3
26.0					0.6	1.0		1.0
28.0								0.7
30.0								0.5
32.0								
34.0								
36.0								
38.0	Table no.:	643R-30.0/75/2642/1.9	/12.16 SA13					
Number of strands	1	1	1	1	1	1	1	1
I	0	%	10	0%	10	0%	10	0%
II	0	%	0	1%	50)%	10	0%
III	0	%	0	1%	50)%	10	0%

10 Subject to change. See page 12 for notes on load lift charts.



643*E* Load ratings



Auxiliary jib (HA-S)

									В	oom	leng	th [r	n]								
		9.0			12.5			16.0			19.5			23.0			26.5			30.0	
Counterweight	Ļ	Ļ	ļ.ļ	Ļ	Ļ	Ļ	ļ	Ļ	Ļ	Ļ	ļ.ļ	ĻĻ	Į.Į	ĻĻ	Ļ	Ļ	Ļ	ļ.ļ	Į.Į	Ļ	Ļ
[t]	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Outrigger width [%]	 100	н ен 50	ree	⊢ 100	н ен 50	rn free	⊢ 100	н ен 50	rn free	⊢ ⊢ 100	н ен 50	ree	⊢ 100	H I H 50	rn free	⊢ — – 100	н ен 50	rn free	, - 100	н ен 50	ree
Outreach [m]																					
2.0																					
3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5/3.5	3.5/3.5	3.5/3.5
4.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
5.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
6.0	3.5	3.5	3.3	3.5	3.5	3.2	3.5	3.5	3.1	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
7.0	3.5/6.7	3.5/6.7	2.2/6.7	3.5	3.5	2.0	3.5	3.5	2.0	3.5	3.5	2.4	3.5	3.5	2.7	3.5	3.5	2.9	3.5	3.5	2.9
8.0				3.5	3.5	1.3	3.5	3.5	1.3	3.5	3.5	1.6	3.5	3.5	1.9	3.5	3.5	2.1	3.5	3.5	2.2
9.0				3.5	3.5	0.9	3.5	3.5	0.9	3.5	3.5	1.2	3.5	3.5	1.3	3.5	3.5	1.5	3.5	3.5	1.6
10.0				3.5	2.8		3.5	3.0	0.5	3.5	3.3	0.7	3.5	3.5	1.0	3.5	3.5	1.2	3.5	3.5	1.2
11.0				3.5/10.2	2.6/10.2		3.5	2.4		3.5	2.7		3.5	2.9	0.6	3.5	3.1	0.8	3.5	3.3	0.9
12.0							3.3	1.9		3.5	2.1		3.5	2.4		3.5	2.6	0.5	3.5	2.8	0.6
13.0							2.7	1.4		3.1	1.7		3.4	2.0		3.5	2.2		3.5	2.3	
14.0							2.3/13.7	1.0/13.7		2.6	1.4		2.9	1.6		3.1	1.8		3.3	1.9	
15.0										2.2	1.0		2.4	1.3		2.7	1.5		2.8	1.6	
16.0										1.8	0.8		2.1	1.0		2.3	1.2		2.4	1.3	
17.0										1.6	0.6		1.7	0.8		2.0	1.0		2.1	1.1	
18.0										1.5/17.2	0.5/17.2		1.5	0.6		1.7	0.8		1.8	0.9	
19.0													1.2			1.4	0.6		1.6	0.7	
20.0													1.0			1.2			1.3	0.6	
21.0													1.0/20.7			1.0			1.1		
22.0																0.8			1.0		
23.0																0.7			0.8		
24.0																0.5			0.6		
25.0																0.5/24.2			0.5		
26.0																					
27.0	Table n	o.: 643M	1-30.0/75	/2642/1.	9/12.16 H	A-S															
28.0	Table n Table n	o.: 643M o.: 643M	I-30.0/75 I-30.0/75	/2000/1.	9/12.16 H 9/12.16 H	A-S A-S															
Number of strands	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
I		0%			50%			100%			100%			100%			100%			100%	
II		0%			0%			0%			25%			50%			75%			100%	
III		0%			0%			0%			25%			50%			75%			100%	
at collapsible jib																					
Load capacity reduction [kg]		-			-			-			-			-			-			-	



	I	Main boon HA	1	A	uxiliary ji HA-S	b	6.5	i m fly boo (SA)	om	Fly boom SA 13 m			
Counterweight [t]					ţ								
Undercarriage track width	⊢ ≓ 100%	0 1-1-1-1 50%	free	⊨ i™i i 100%	⊢n−n +1 50%	free	⊢ i−i		free	<u>⊢ i=-i</u> 100%	 50%	کی ا ت	
<u>■.</u> + + 1.9 t	360°	360°	360°	360°	360°	360°	360°	-	-	360°	-	_	

Note:

- 1. Specified load ratings only apply when machine is level ($\pm 0.3^{\circ}$) and stable.
- 2. Load ratings are specified in tons and apply to 360 degrees.
- 3. Load ratings are in accordance with DIN 15019.2 and ISO 4305.
- 4. The weight of the load handling devices (e.g., hook, suspension gear) must be subtracted from the load ratings.
- 5. Load ratings must be limited or reduced when conditions are unfavorable, such as soft or uneven ground, slopes, wind, lateral loads, swinging loads, jerking or sudden stopping of load, operator inexperience, driving with load.
- 6. Permissible rope winch per strand in crane mode for cable diameter 14 mm 3,500 kg
- 7. The specified load ratings are for reference only. The currently valid load ratings can be found in the tables in the operating manual.
- 8. Optional load capacities are also available for a 2°/4° incline position.





643 Transport dimensions and weights





643 mobile undercarriage with integrated 4-point outrigger Service weight: approx. 27 t (with 13 m fly boom, 2 hoisting winches, 1.9 t counterweight and 25 t hook)





Transport weight: approx. 27,000 kg (13 m fly boom, 2 hoisting winches)















This catalog describes machine models, scopes of equipment of individual models, and configuration options (standard equipment and optional equipment) of the machines delivered by SENNEBOCEN Maschinenfabrik. Machine illustrations can contain optional equipment and supplemental equipment. Actual equipment may vary in a tolerance range depending on the country to which the machines are delivered, especially in regard to standard and optional equipment

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