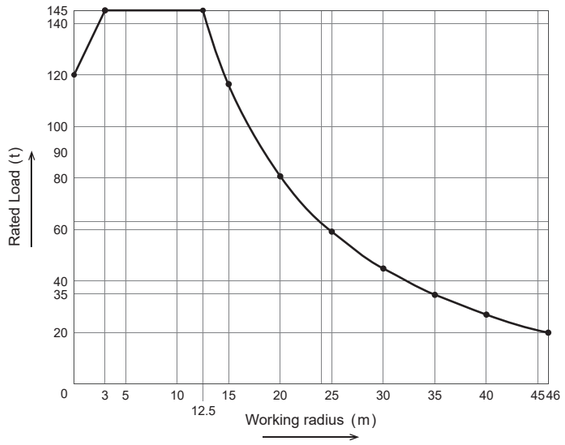
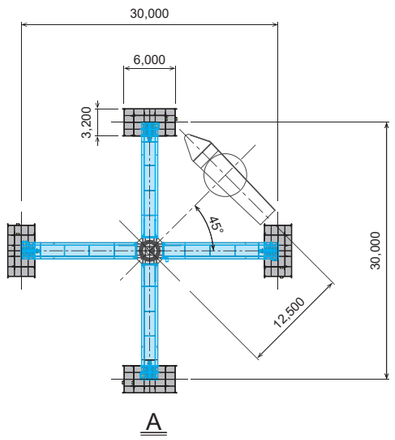
●Specification

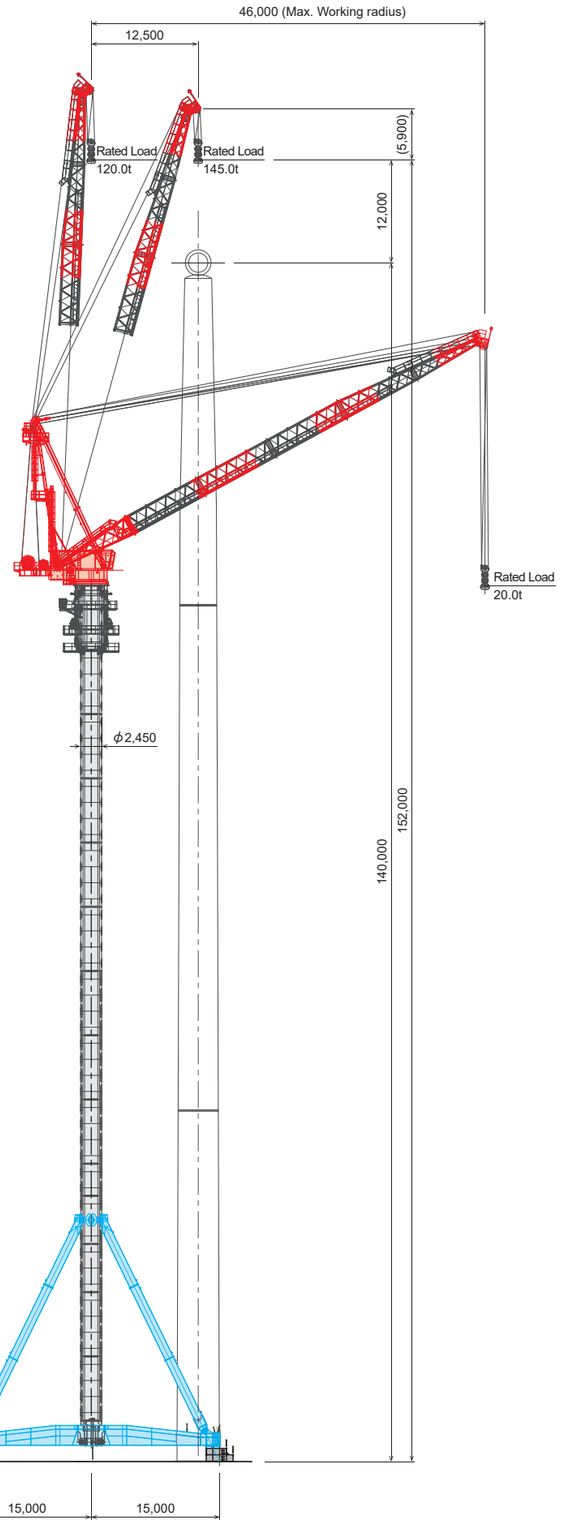
Max. Radius		46m				
Radius		0m	3m	12.5m	35m	46m
Rated Load		120t	145t	145t	35t	20t
Speed	Hoisting	145.0t ～ 16.0t 0.166m/s ～ 0.474m/s (10.0m/min ～ 28.4m/min)				
	Undulating	Average 0.31m/s (Working Radius:3m ～ 46m)				
		138s				
	Turning	$0.30min^{-1}$ (0.30r.p.m.)				
	Ascent/ Decent	Heavy Load Condition	Extrusion:0.69×10^{-2}/0.83×10^{-2}m/s,Retraction:1.48×10^{-2}/1.79×10^{-2}m/s (0.41m/min / 0.50m/min) (0.89m/min / 1.07m/min)			
		Light Load Condition	Extrusion:1.59×10^{-2}/1.91×10^{-2}m/s,Retraction:3.40×10^{-2}/4.11×10^{-2}m/s (0.95m/min / 1.15m/min) (2.04m/min / 2.47m/min)			
Electric Motor	Hoisting	300kW cage type 60%ED inverter control				
	Undulating	110kW cage type 25%ED inverter control				
	Turning	22kW cage type 25%ED inverter control				
	Ascent/Decent	30kW cage type continuous				
Lift Height		152m				
Power Supply		AC 400/440V 50/60Hz				
Power Capacity		600KVA (Generator Capacity 1,600KVA)				
Remarks		・Hoisting speed indicates the time for hoisting drum's maximum layer. ・The undulating speed indicates when it is 16.0 t or less. ・The regenerative power capacity of the generator is 20% or more.				

●Rated Load Curve



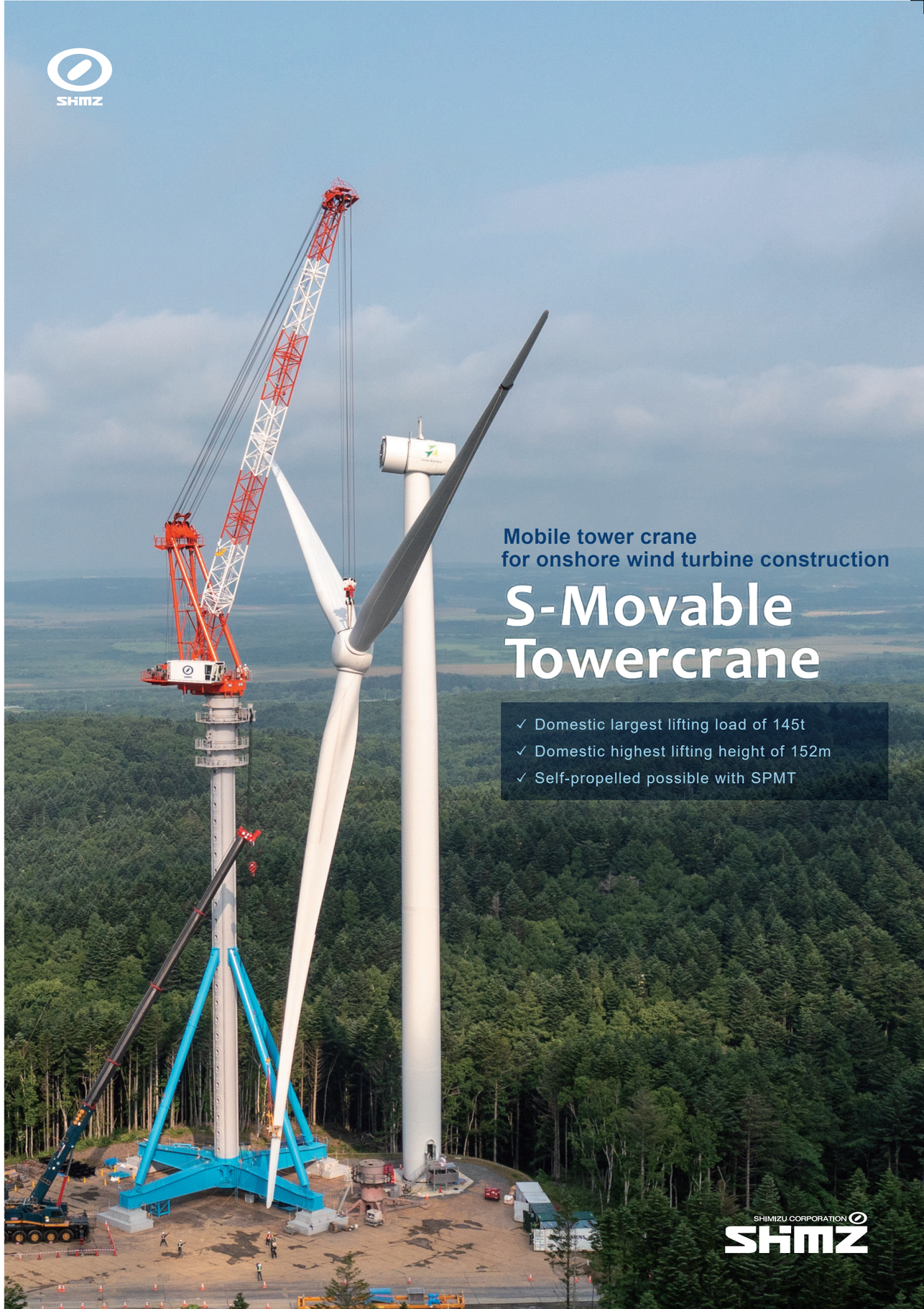


●Main Dimension Drawing unit:mm



SHIMIZU CORPORATION
https://www.shimz.co.jp/en/

[Inquiry] Civil Engineering Technology Division
MAIL: sc-civiltech-mlist@shimz.co.jp



The S-Movable Tower Crane is a mobile tower crane capable of constructing 5 to 6 MW class onshore Wind Turbines with hub heights up to 140 meters.

The S-Movable Tower Crane is a mobile tower crane that is capable of constructing 5 to 6 MW class up to 140m hub height large onshore Wind Turbines. It is the largest and highest-performance mobile tower crane in Japan. It can be moved between wind turbine construction sites without dismantling the crane itself, contributing to the efficiency of moving operations and shortening the construction process.

This crane was jointly developed with SC Machinery Corp. and IHI Transport Machinery Co., Ltd.

(1) Free standing and very large wind turbine construction possible

It is a self-supporting tower crane that does not require support from a wind turbine, boasting the highest performance in Japan with a maximum working height of 152m and a maximum lifting capacity of 145t. It is capable of handling the construction of large onshore wind turbines in the 5 to 6MW class.

(2) Movement between construction sites with SPMT [Patent pending]

After the wind turbine construction, the crane is lowered by dismantling the mast by itself. By loading the crane body onto a self-propelled SPMT(Self-propelled modular transporter), it is possible to complete the cycle of dismantling, moving, and assembling in 4 days.

(3) Remote operation possible

Remote operation is possible not only from the crane operator's cab but also from the ground and inside the wind turbine nacelle.

(4) Adopts cylindrical mast

Adopts cylindrical mast instead of conventional rectangular truss shape. Ensures stable construction due to increased rigidity and by reducing impact due to wind pressure.

(5) Easy protection against storm

By fixing the hoisting wire to the base weight, the jib backfall during a storm (of up to 55m/s) can be prevented, this eliminates the need to climb down for storm protection.

(6) Adoption of pin-coupled mast stays [Patent pending]

By installing mast stays, the deflection of the mast during hoisting is reduced, achieving improved stability and safety. Furthermore, the use of a pin structure for the connection of the mast stays allows for reduction in the time required for assembly and disassembly.

Crane Dismantling and Relocation Procedure

STEP1

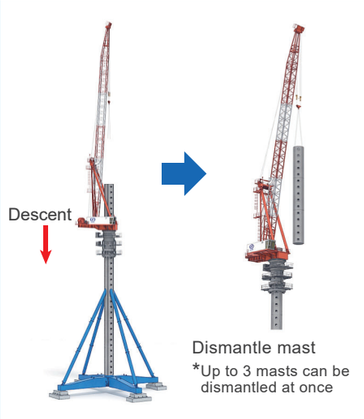
Dismantling Preparation

After the wind turbine assembly is completed, the crane body is rotated to ensure that the jib does not interfere with the wind turbine blades.

STEP2

Mast Dismantling

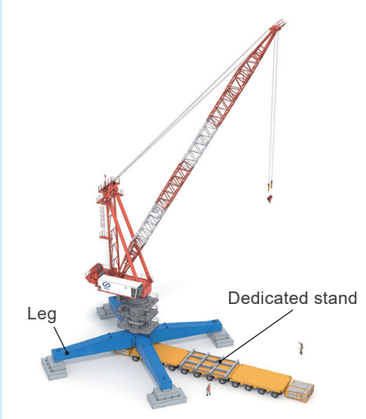
The crane is lowered by repeating the process of lowering the crane body and disassembling the mast by itself.



STEP3

Setting-up SPMT

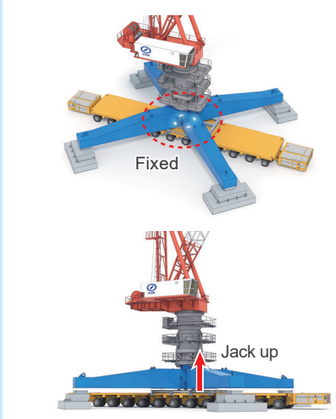
Guide the SPMT equipped with a special mount under the crane legs. Raise the platform until it touches the legs.



STEP4

Crane Fixation

Fix the crane body to a special mount. Jack up the crane until it is fully loaded.



STEP5

Dismantling Legs

Dismantle the legs with the partner crane. Place two base weights in front and rear SPMT to ensure stability.

STEP6

Moving Crane

Fix the hook to the SPMT, attach the safety wire, and move to the next construction site.