TAKEUCHI

SUNCAR TB1140E

BATTERY DRIVEN EXCAVATOR

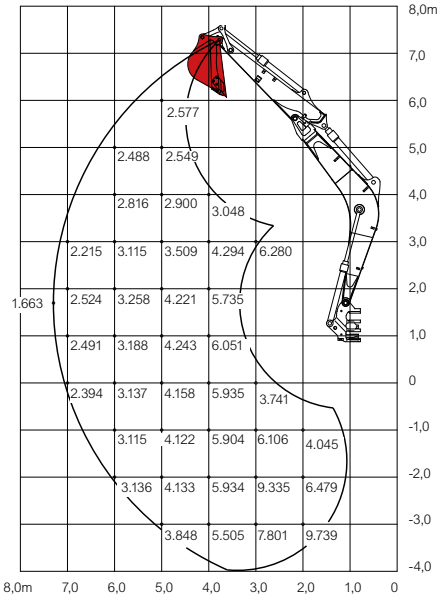
European Solar Prize 2015

SUNCAR

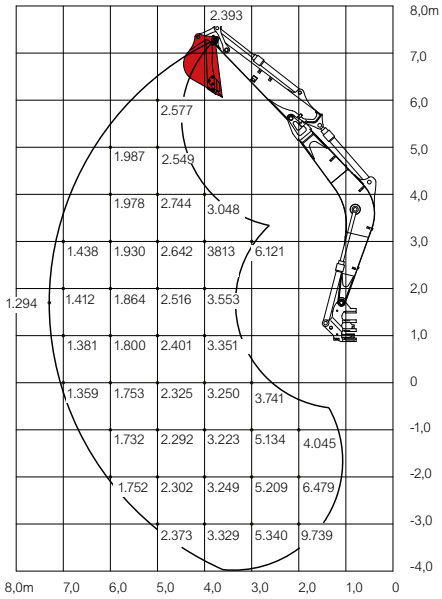
TB1140E | E | 05.2016

Gross Load (kN x 10)

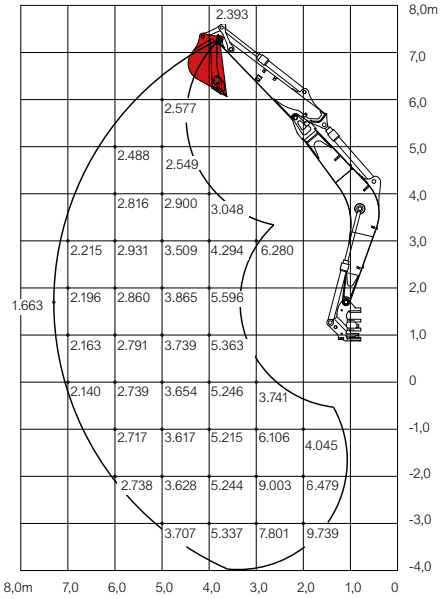
Rearward



Laterally

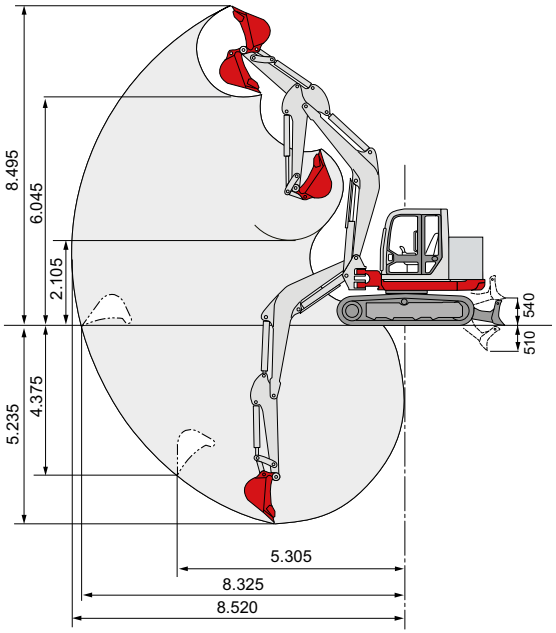


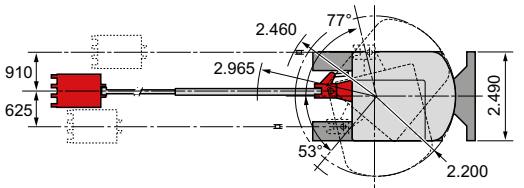
Forward (Shield in top position)

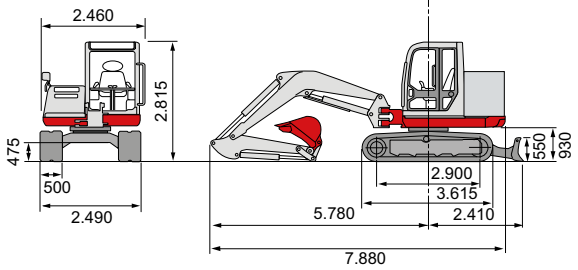


The loads in the chart are within 87% of hydraulic lifting capacity and within 75% of tipping.

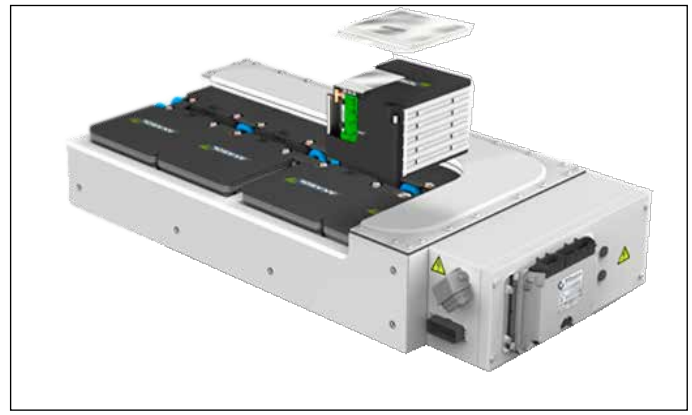
Dimensions (in mm)





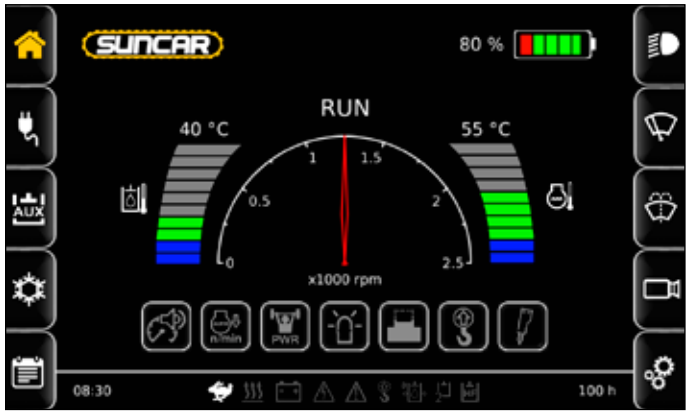


Modular battery. Different capacity options are available, battery system from Akasol.



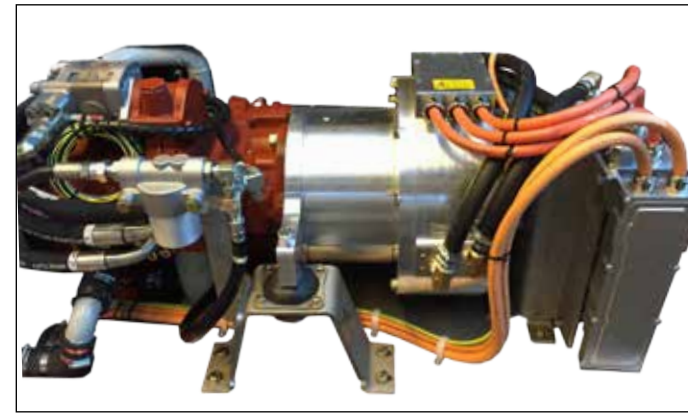
Battery system from Akasol.
Automotive certification & standardization.

Lithium-Ion-Battery-Assembly ready for implementation.



In-cab touch display. Functions: e.g. reverse camera, climate control, hydraulic speed control, engine temperature.

Electric motor in TB1140E electric excavator.
Three times more efficient than a diesel engine.



Maintenance-free electric drive train.

Charging socket CEE 63A (with adapter also 32A and 16A possible).

THE NEW BATTERY-DRIVEN TB1140E EXCAVATOR

HIGH PERFORMANCE AND POWERFULL DIGGING. WITH OUR TB1140E YOU WILL NEVER NEED A DROP OF DIESEL. POWERED BY SOLAR ENERGY; STORED IN A LITHIUM-ION BATTERY. AUTONOMOUS OPERATION FOR AN ENTIRE WORK DAY.

ZERO EMISSION ELECTRIC POWER TRAIN

The electric TB1140E machine combines all the proven characteristics of Takeuchi excavators - smooth operating hydraulics, powerful machine performance and excellent serviceability - with the zero emission electric power train from SUNCAR.

It comes complete with electric synchronous axial flux motor for more high dynamics power and greater torque, along with a well-proven high performance hydraulic system with improved power, cycle times and efficiency. The TB1140E ELECTRIC is part of an ongoing commitment to machine development, environmental efficiency, operator comfort, marketability and improved machine ergonomics.

POWERFUL OFFSET FLEXIBILITY

The offset boom flexibility, both left and right, provides massive versatility when working in restricted areas, without having to constantly reposition the machine. The long reach at ground level to 8.325 mm and digging depth of 5.270 mm provides excellent operation parameters.

IMPROVED HYDRAULIC FLOWS

With improved hydraulic flows, the TB1140E can operate with a greater range of attachments. Operators enjoy the smooth operation and powerful digging force of a TB1140E. The isolated cab provides all day operating comfort essential for rugged tough terrain and groundworks.

EASY OPERATION & CONTROLS

Hydraulic attachments are operated by momentary push button or proportionally controlled by the slider switch on the joystick.

The auto control function stops the electric motor and reduces energy consumption when the excavator is temporarily idle.

Boom swing is operated by a foot pedal. Travel motors are equipped with shockless valves for a smooth start and stop.

TAKEUCHI - EXPERIENCE AND KNOW-HOW COUPLED WITH THE INNOVATIVE TECHNOLOGY OF SUNCAR.

THE ADVANTAGES AT A GLANCE

» No exhaust fumes
» No need for expensive particle filters

» No diesel resulting in significantly lower operational costs
» Fewer maintanance expenses

» Less noise and vibrations pleasant for population and enviroment

» Zero tail pipe emmissions
» Significantly fewer damaging green house gases (e.g. CO_2, NO_x)

» Durable, reliable li-ionen battery
» Charging time around 4 hours
» Lasts for an entire work day

SUNCAR HK AG

From the sun to the construction site. Moving away from fossil fuels, towards solar energy and zero emission operation. This is our company‘s vision and motto. SUNCAR develops, builds and markets battery-powered electric construction machines. The goal is to convert various machines, e.g. excavators, into electric powered machines which up until this point have run on diesel. Diesel fuel is replaced by solar energy from photovoltaics.

Dimensions & Weight	
Operating weight (kg)	16.000
Length (Transporting) (mm)	7.780
Width (mm)	2.490
Height (mm)	2.805 (2.815)
Ground clearance (mm)	440 (475)
Front swing radius (mm)	2.965
Slew radius (mm)	2.000
Dozer blade (W x H) (mm)	550 x 2.490
Operating information	
Digging depth max. (mm)	5.270 (5.235)
Dump height max. (mm)	6.010 (6.045)
Reach at ground level max. (mm)	8.325
Vertical digging depth max. (mm)	4.410 (4.375)
Bucket digging force max. (kN)	98,7
Arm digging force max. (kN)	64,9

Electric motor	
Typ	PM - Synchronous axial flux motor
Rated power (kW)	75
Torque max. (Nm)	400
Rated / maximum speed (rpm)	2.000 / 2.500
Cooling system	40% distilled water / 60% glycol
Environmental impact	Zero emission
Battery system	
Type	Lithium-Ion, NMC Technology
Operating voltage	350 - 450 VDC
Cooling / heating system	40% distilled water / 60% glycol
Hydraulic system	
Pump type	2x Axial-Variable + 2x Gear
Pressure (bar)	2x 345 + 240 + 40
Hydraulic flow rate (l/min)	2x 112 + 54,8 + 20
Hydraulic fuel tank (l)	95 (System 250)

Undercarriage	
Traction motor	Piston motor
Traction drive	Epicyclic reduction
Traction brake	Wet friction plate
Track width (mm)	700
Ground contact length (mm)	2.890 (2.900)
Ground pressure (kPa)	46.9 (45.3)
Travel speed (km/h)	2.8 - 5 (3 - 5.3)
Gradeability max.	35
Swing system	
Front offset swing min. (mm)	2.360
Tail swing (mm)	2.000
Boom swing angle (L/R)	77°/53°
Slew speed (rpm)	13.4
Slew motor	Piston motor

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