

TMS 880M

Product Guide



HYDRAULIC TRUCK CRANE

Features

- MAX CAPACITY (Outriggers) - 80 Tonnes at 3m Radius (85% Rating) 360° Slew
- BOOM - 5 Section formed boom 12.1m - 43.8m
- MAX. ROAD SPEED - 49 km/hr.
- CARRIER - 8x4 Drive

Superstructure Specifications

BOOM

5-section, telescopic, formed, full power, sequenced-synchronized boom. Fabricated from high strength low alloy steel plates. Telescopic sections slide on adjustable and replaceable low friction wear resistance pads.

Telescoping Range: 12.1m- 43.8m

Maximum Tip Height: 46.0m

BOOM NOSE

Five nylatron sheaves mounted on heavy duty tapered roller bearings with removable pin-type rope guards.

BOOM ELEVATION

Two double acting hydraulic cylinders with integral holding valves.

BOOM ANGLE

Maximum 78°, Minimum -1.0°.

SUPERSTRUCTURE FRAME

Fabricated from high tensile steel plates and sections.

SLEW SYSTEM

Ball bearing swing circle with 360° continuous rotation. Planetary glide swing with foot applied multi-disc wet brake. Spring applied hydraulically released parking brake, mechanical house lock operated from cab. Free slew facility provided.

SLEW SPEED

Maximum 1.5 RPM (Unladen)

HOIST SYSTEM

Power up and down, equal speed, planetary reduction with integral automatic spring applied multidisc brake on grooved hoist barrel. Hoist drum fitted with third wrap indicator.

Maximum Single Line Pull:

1st Layer: 9200kg, 2nd Layer: 8400kg, 3rd Layer: 7727kg
4th Layer: 7155kg, 5th Layer: 6664kg

Maximum Permissible Line Pull:

7250kg with 18 x 19 class rope

Maximum Single Line Speed:

92 m/min. (Unladen) - Top layer

Non Spin Hoist Rope:

Rope length 229 m and 19 mm (3/4") dia.

HOOK BLOCK

80 MT, 6 sheaves

COUNTERWEIGHT

6000 kg

CRANE CONTROLS

Joystick controls are in operator's cab for slewing, telescoping, hoisting and derricking with independent or simultaneous operation of crane motions.

HYDRAULIC SYSTEM

Pump - 3 sec. gear pump driven through gearbox PTO. 2 sec. gear pump engine driven.

Valves - Precision four way double acting control valves, four individual valve banks permit simultaneous control of multiple crane functions.

Filter - Return line type, full flow with bypass protection and service indicator. Replaceable cartridge.

Reservoir - 900 liters capacity fitted with filter, external sight gauge, clean out access, strap mounted to frame.

Oil Cooler - Remote mounted, thermostatically controlled electric motor driven fan.

Pressure Check Panel - System pressure test panel permits easy verification of circuit pressure.

LOAD MOMENT INDICATOR & ANTI-TWO BLOCK SYSTEM

Electronic load moment indicator system with audio-visual warning & control lever lockout indicates electronic display of boom angle, length, radius, relative load moment, permissible load, load indication & warning of impending two block condition. Motion cut off to ensure the safe operation with load for tele, derrick & hoist motions.

SAFETY SYSTEM

Pendant Limit Switch on boom head for over hoist. Third wrap indicator on hoist barrel to ensure 3 turns of rope on hoist drum. Hydraulic relief valves protect pumps and structures from excessive pressure. Lock and counter balance valves fitted on derrick, telescopic and outrigger cylinders to sustain rams in the event of hydraulic failure.

OPERATOR'S CAB

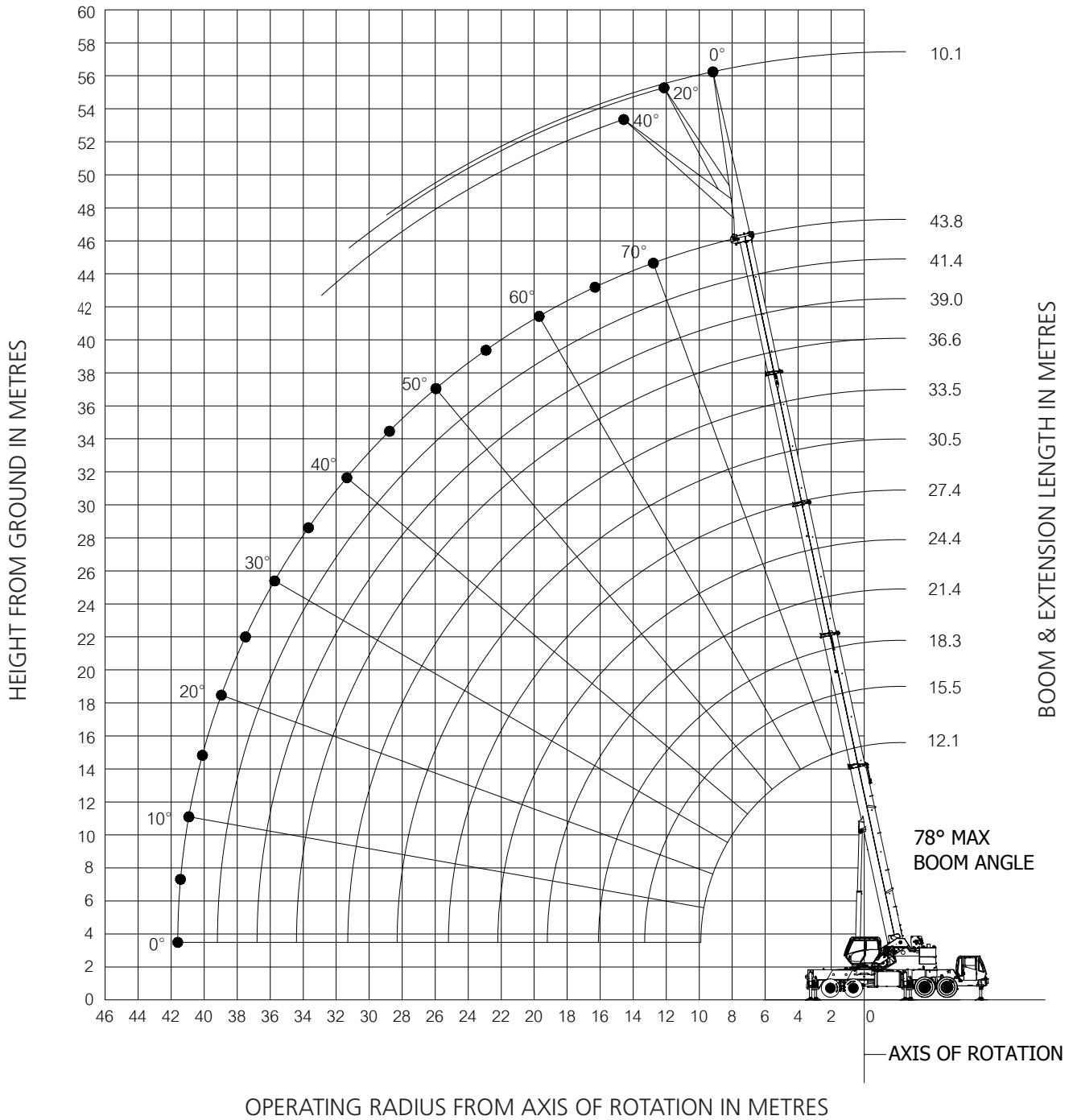
Totally enclosed steel construction, full vision type, windows fitted with toughened safety glass including front windscreen. Adjustable operator's seat, cab interior light, electric fan, electric horn, electric windshield wiper and lockable sliding door. Ergonomically designed cab and controller layout to give fatigue free comfort to the operator.

OPTIONAL EQUIPMENT

10.1M Fixed Lattice
Auxiliary Hoist Unit
Air Conditioned Cabin

Height of Lift: 5 Section 12.1m-43.8m Full Power Boom

WORKING RANGE DIAGRAM
(BOOM DEFLECTION NOT SHOWN)



NOTE:
The above heights of lift and boom angles are based on a straight (unladen) boom and allowance should be made for boom deflections obtained under laden conditions.

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Lifting Capacities (Metric) 85% Rating 5 Section Boom Duties (in Kilograms)

Main Boom Duties On Outriggers Fully Extended - Full 360° Slew

Radius (in Meters)	Main Boom Length in Meters												
	12.1	15.5	18.3	21.4	24.4	27.4	30.5	33.5	36.6	39.0	41.4	43.8	
3	80000	48200											
3.5	66000	46600	44315										
4	60000	45085	42025	38165									
4.5	54000	43475	38940	36195	35435								
5	48000	41455	36215	34060	33540	28210							
6	38000	37080	32295	29550	29345	25215							
7	31455	31455	29210	26080	24855	22290	21135	20000					
8	26535	26535	25965	23605	21475	19820	19095	17980	13300				
9	22475	21750	21340	21270	19615	17980	17620	16260	12775	9975	9750		
10		17630	17250	17190	17420	16420	15920	14760	11675	9975	9500	9000	
12		12160	11830	11780	11990	12150	12660	12425	10925	9975	9500	9000	
14			8380	8340	8550	8700	9180	9640	9530	9170	8750	8500	
16			5980	5970	6170	6320	6780	7220	7590	7840	7800	7800	
18				4230	4430	4570	5020	5450	5810	6050	6260	6450	
20					3100	3240	3680	4090	4450	4680	4890	5070	
22						2180	2620	3030	3370	3600	3810	3980	
24							1740	2150	2500	2730	2930	3100	
26								1020	1420	1770	2000	2200	2370
28									810	1150	1380	1580	1750
30											860	1050	1220
32													770

Note: Minimum boom angle 0 degree for 43.8 meter boom length (no load) at over rear only.

WARNING – Do not derrick-up from 0 degree boom angle if boom length is more than 33.5 meter.

10.1m Fixed Offset Extension - 360°

Radius (in Meters)	0° Offset	20° Offset	40° Offset
12.0	3875 (75.03)		
14.0	3875 (72.82)		
16.0	3875 (70.57)	3375 (73.72)	
18.0	3780 (68.30)	3260 (71.43)	2965 (74.01)
20.0	3450 (65.99)	3005 (69.11)	2840 (71.63)
22.0	3225 (63.63)	2830 (66.74)	2690 (69.20)
24.0	2980 (61.23)	2640 (64.33)	2530 (66.72)
26.0	2190 (58.76)	2150 (61.85)	2130 (64.18)
28.0	1570 (56.24)	1500 (59.31)	1500 (61.56)
30.0	1000 (53.63)	900 (56.69)	900 (58.85)

NOTE:
() are boom angles are in degrees for reference only.
Boom deflection are not considered.

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Notes

Weight Reductions for Load Handling Devices

Auxiliary Boom Head	60 kg.
Hookblocks and Headache Ball	
80 MT 6 Sheaves	**650 kg.
15 MT 1 Sheave	**418 kg.
6.8 MT Headache Ball	**140 kg.

10.1m Boom Extension	
Stowed (Boom Extension)	*470 kg.
Erected (Boom Extension)	*2195 kg.

*Reduction of main boom capacities.
** Refer to rating plate for actual weight.

Hookblock Capacities and Weights- Tonnes

No of Falls	12	11	10	9	8	7	6	5	4	3	2	1
Permissible Load	80.0	73.5	67.0	60.5	54.0	48.5	42.5	35.5	26.7	19.7	12.7	6.5
Weight of Hook block	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.418	0.140

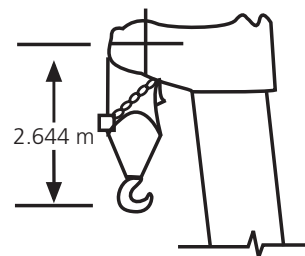
Notes for Lifting Capacities

WARNING: THIS CHART IS ONLY A GUIDE. The Notes below are for illustration only and should not be relied upon to operate the crane. The individual crane's load chart, operating instructions and other instruction plates must be read and understood prior to operating the crane.

- All rated loads have been tested to and meet minimum requirements of IS: 4573-1982 Specification for Power Driven Mobile Cranes and do not exceed (85% of the tipping load on outriggers as well as on rubber) as determined by SAE J765OCT 80 Crane Stability Test Code.
- The weight of hook-block, slings and all similarly used load handling devices must be added to the weight of the load. When more than minimum required reeving is used the additional rope weight shall be considered part of the load.
- Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
- All capacities are for crane on firm, level surface. It may be necessary to have structural supports under the outrigger floats or tyres to spread the load to a larger bearing surface.
- When either boom length or radius or both are between values listed, the smallest load shown at either the next larger radius or boom length shall be used.
- For outrigger operation, all outriggers shall be fully extended & jacks properly set to raise tyres free of the ground & the slew plinth becomes horizontal before raising the boom or lifting loads.
- The machine is equipped with front jack, the front jack cylinder shall be set along with the four outriggers.
- Tyres shall be inflated to the recommended pressure. Damaged tyres are hazardous for safe operation of crane.

- 10.1m fixed length boom extension may be used for double or single line lifting service.
- Boom Extension Warning : For main boom length greater than 33.8m with 10.1m fixed length boom extension in working position, the boom angle must not be less than 50°, since loss of stability will occur causing a tipping condition. The boom angle is not restricted for main boom length equal to or less than 33.8m. This warning applies for boom extension erection purposes also.
- Lifting over-side on rubber is not permitted. Outrigger beams must be fully extended and stabilizers properly set when rotating superstructure over the side.
- Load ratings are based on freely suspended loads. No attempt shall be made to move a load horizontally on the ground in any direction.
- Do not move the crane with boom extended or jib erected.
- Handling of other equipment with the boom is not authorized except with equipment furnished and installed by TIL Ltd.

WARNING: Outrigger beams must be fully extended and stabilizers properly set when rotating superstructure over side. Do not rotate superstructure while on rubber.



Dimension is for largest furnished hook block with anti-two block activated

Carrier Specifications

CARRIER

8 x4 wheel right hand drive, purpose built heavy duty carrier frame of torsion box section with integral front & rear outrigger housing fabricated from high strength steel plates and sections.

OUTRIGGERS

Hydraulically operated outrigger system comprising four independently controlled hydraulic telescopic horizontal beams with vertical jacks for over side & over rear operation. Plus one vertical hydraulic jack mounted under front of carrier to permit 360° lifting duties. Outrigger hydraulic jacks are fitted with positive lock valves. Easy fit outrigger feet are provided with stowage facility on carrier.

OUTRIGGER CONTROLS

Located in the superstructure cab on front dash panel, requires two hand operation. Crane level indicator adjacent to controls.

ENGINE

Volvo TAD852VE
286 HP (210 kW) @ 2200 RPM,
Max. Torque: 1237 Nm @ 1200-1600 RPM
Emission : BS III CEV

CLUTCH

Dry single-plate air assisted, hydraulically operated.

GEAR BOX

ZF, Synchronesh, 9 forward & 1 reverse speed obtained via a single lever control.

DRIVE CONFIGURATION

8 x 4

AXLES

Front Axle – 2 beam type non-drive steer axles, leaf spring mounted in tandem.

Rear Axle – 2 Heavy duty, fully floating type, twin axle. Air operated inter axle differential lock. Mounted on specially designed rocker beam to allow maximum articulation on uneven ground.

STEERING

Front axles, mechanical with hydraulic power assist controlled by steering wheel from driver's cab.

BRAKES

Service – Air operated on all wheels by means of foot operated pedal in driver's cab.

Parking – Flick-valve operated, spring actuated pneumatically released brake on trailing and leading rear axles.

FUEL TANK

Capacity – 300 litres

WHEELS & TYRES

Front Tyres 12.00x24-20PR. Rear tyres 12.00x20-18PR. Single on front axles and twins on rear axles. Spare wheel (one) provided for front axle.

DRIVER'S CAB

Two man design, steel construction full width cab with electric fan, interior light, horn, operating windows fitted with toughened glass. Two lockable doors, electric windscreen wiper in front of windscreen. Upholstered and adjustable operator's seat. Automotive controls which include steering wheel, pedals for clutch, brake and accelerator.

INSTRUMENTATION

Air pressure gauge, engine oil pressure gauge, fuel gauge, water temperature gauge, speedometer, voltmeter, tacho-hourmeter, warning lights and switches for control.

ELECTRICAL EQUIPMENT

24-Volt starting and lighting system includes two combined dipping head lamps, side, rear and stop lamp, flashing direction indicators.

TOOL BOX

Tool kit for normal maintenance.

MAXIMUM SPEED

49 km/hr.

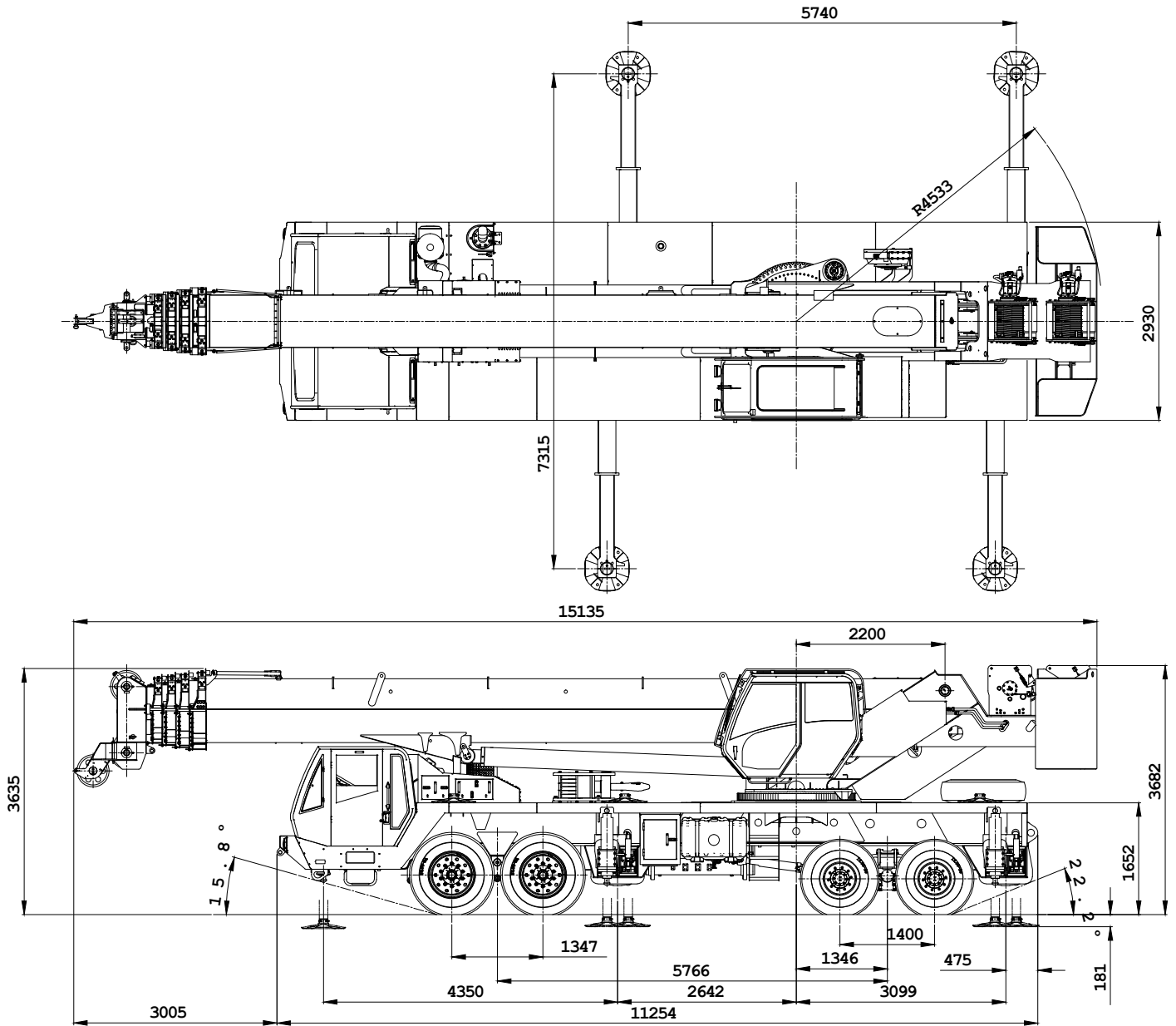
GROSS VEHICLE WEIGHT AND AXLE LOADS (approx)

Front Axles	- 19,750 kg
Rear Axles	- 30,000 kg
GVW	- 49,750 kg

Optional Weights (approx.)

Fixed Lattice	: 1400 kg
Auxiliary Hoist	: 750 kg

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Dimensions in mm

Constant improvement and engineering progress make it necessary that we reserve the right to make specification, equipment and price changes without notice. The photographs/drawings in this document are just for illustrative purpose which may include optional equipment and accessories, which can be provided at an additional cost on request.

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