

RT 880



MAX. CAPACITY (Outriggers) - 75.0 Tonnes at 3m Radius (85% Rating) 360° Slew

MAX. CAPACITY (On Tyres) - 32.3 Tonnes at 3m Radius (85% Rating) over front

BOOM - 4 Section Trapezoidal 11.0m to 34.6m

MAXIMUM ROAD SPEED - 30 km/hr

CARRIER - 4 X 4 wheel drive with 4 wheel steer

ROUGH TERRAIN HYDRAULIC CRANE

GROVE
by Manitowoc

TID Tractors India

Superstructure Specification

RT 880

BOOM

11.0m - 34.6m total length four section telescopic trapezoidal full power boom .Fabricated from high strength low alloy steel plates. Telescopic sections slide on adjustable and replaceable low friction wear pads.

Boom Nose

Six nylatron sheaves mounted on heavy duty tapered roller bearings with removable pin-type rope guards fitted with standard removable type auxiliary boom nose.

Maximum tip height: 37.1m

BOOM ELEVATION

Two double acting hydraulic cylinders with integral holding valves.

BOOM ANGLE

Maximum: 80°, Minimum: -4°

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

Limited to 1.5 RPM (Unladen)

HOIST SYSTEM

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

Non spin hoist rope: 19mm dia. & length 229m.

Line Speed: Top layer 130m/min (max) Unladen

Maximum Permissible Line Pull: 5860 kg.

HOOK BLOCK

75.0 Tonnes, 6 sheaves plus 1 on Aux. boom nose – 13 falls

COUNTERWEIGHT

Bolted with superstructure.

Weight – 6078 kg. (w/o swingaway extension)

Weight – 7440 kg. (with swingaway extension)

OPERATOR'S CAB

Totally enclosed steel construction, full vision type, joystick control for all crane functions, driving controls, engine instrumentation & automotive type steering wheel. All windows fitted with toughened safety glass, lockable sliding door, cab interior light, circulating air fan, pantograph type electric wiper & electric horn. Adjustable operator's seat with ergonomically designed cab and controller layout to give fatigue free operator's comfort.

LMI & A2B SYSTEM

Load Moment Indicator and Anti-Two Block system with audio-visual warning and control lever lockout provides electronic display of boom angle, boom length, radius, relative load moment, permissible load, load indication & warning of impending two-block condition.

HYDRAULIC SYSTEM

Pumps - One 3 Section & one Single-Section Gear pump driven through transmission PTO & One Single-section Gear pump driven through engine PTO

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

Filter - Return line filter with replaceable cartridge having full flow with bypass protection and service indicator.

Reservoir - 852 liters with spin-on breather filter, external sight gauge, clean out access, strap mounted to frame.

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

Pressure Check Panel - System pressure test panel with quick release type fittings for verification of circuit pressure.

OPTIONAL EQUIPMENTS

Fixed Swingaway Extension

10.0m lattice swingaway boom extension with integral offset mechanism, off settable at 2°, 15° or 30°. Stows alongside base boom section when not in use.

Maximum tip height : 46.6m

Tele Swingaway Extension

10.0 – 17.7m telescopic lattice swingaway boom extension with integral offset mechanism, off settable at 2°, 15° or 30°. Stows alongside base boom section when not in use.

Maximum tip height : 55.1m

Single Sheave Hook block – 15Te

Auxiliary Hoist Unit

Protective Super Cab (FOP)

Air Conditioned Cab

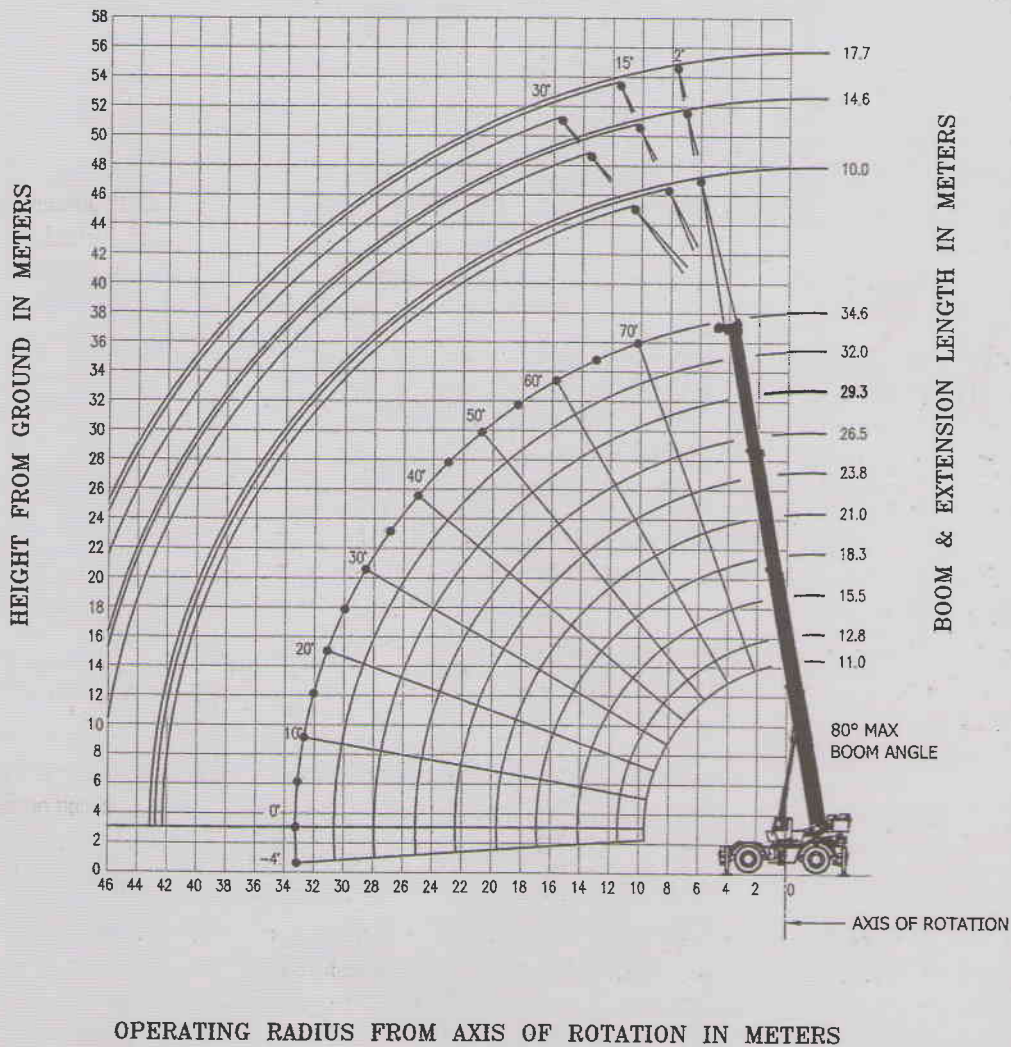
360° rotating Beacon lamp

Man-carrying basket

Height of Lift : 11.0m-34.6m Full Power Boom with 10.0m - 17.7m Tele Extension



WORKING RANGE DIAGRAM (BOOM DEFLECTION NOT SHOWN)



Hookblock Capacities and Weights - Tonnes

No. of Falls	13	12	11	10	9	8	7	6	5	4	3	2	1
Permissible Load	75.0	69.0	63.0	57.0	51.0	45.0	39.0	33.0	27.0	21.5	16.0	10.5	5.0
Weight of Hookblock	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	0.42	0.23

Lifting Capacities (Metric) 85% Rating 4 Section Boom Duties (in Kilograms)

RT 880

Main Boom - On Outriggers Fully Extended - 360°

Radius in Meters (m)	Main Boom Length in Meters									
	11.0	12.8	15.5	18.3	21.0	23.8	26.5	29.3	32.0	34.6
3.0	*75,000 (67)	48,395 (70.5)	46,080 (74)	45,355 (77)	43,860 (79)					
3.5	60,000 (64)	48,395 (68)	46,080 (72.5)	44,315 (75.5)	40,775 (77.5)	38,415 (79.5)				
4.0	51,365 (61)	48,395 (65.5)	45,085 (70.5)	42,025 (73.5)	38,165 (76.5)	37,215 (78.5)				
4.5	47,445 (58)	47,170 (63)	43,475 (68.5)	38,940 (72)	36,195 (75)	35,435 (77)	29,255 (79)			
5.0	43,815 (54.5)	43,815 (60.5)	41,455 (66.5)	36,215 (70.5)	34,060 (73.5)	33,540 (76)	28,210 (78)			
6.0	37,145 (48)	37,145 (55)	37,080 (62)	32,295 (67)	29,550 (70.5)	29,345 (73.5)	25,215 (75.5)	23,540 (77.5)	21,975 (79)	17,515 (80)
7.0	31,455 (40)	31,455 (49.5)	31,455 (58)	29,210 (63.5)	26,080 (67.5)	24,855 (70.5)	22,290 (73.5)	21,135 (75.5)	20,000 (77)	16,235 (78.5)
8.0		26,535 (43)	26,535 (53)	25,965 (60)	23,605 (64.5)	21,475 (68)	19,820 (71)	19,095 (73.5)	17,980 (75)	14,945 (76.5)
9.0			22,475 (35.5)	22,475 (48.5)	21,475 (56)	19,815 (61.5)	17,980 (65.5)	17,620 (71)	16,260 (73)	13,875 (75)
10.0			19,390 (25)	19,390 (43)	19,390 (52)	19,250 (58)	17,960 (62.5)	16,420 (66.5)	15,920 (69)	14,760 (71.5)
12.0				16,000 (30)	16,000 (43.5)	16,000 (51.5)	15,145 (57)	13,605 (62.5)	13,265 (64.5)	12,425 (67.5)
14.0					12,228 (32.5)	12,230 (43.5)	12,220 (51)	11,480 (55)	11,340 (60)	10,610 (63.5)
16.0						9,460 (44)	9,440 (51)	9,430 (55.5)	9,430 (59)	9,000 (62)
18.0							7,560 (42.5)	7,560 (44.5)	7,530 (50.5)	7,530 (55)
20.0								6,220 (26)	6,190 (37.5)	6,180 (44.5)
23.0									4,540 (23.5)	4,530 (35)
26.0										3,240 (21.5)
29.0										2,110 (19)
32.0										1,160 (15.5)
Minimum boom angle (deg.) for indicated length (no load)										0
Maximum boom length (m) at 0 degree boom angle (no load)										34.6

Note : () Boom angles are in degrees.

*13 parts of the line required to lift this capacity (using aux. boom nose). Refer to Operators & Safety Handbook for reeving diagram

Weight Reduction For Load Handling Devices

10.0m Fixed Boom Extension	
*Stowed	356 kg.
*Erected	2,843 kg.
10.0m - 17.7m Tele Boom Extension	
*Stowed	492 kg.
*Erected (Retracted)	4,228 kg.
*Erected (Extended)	5,833 kg.
AUXILIARY BOOM HEAD	142 kg.
Hookblocks and Headache Balls	
75 Te - 6 Sheaves	**1010 kg.
15 Te - 1 Sheave	**418 kg.
10 Te - Headache Ball	**227 kg.

*Reduction of main boom capacities

** Ref. to rating plate of Hook-block

10.0m Swingaway - 360°

Radius in Meters (m)	10.0m Length		
	2° offset	15° offset	30° offset
7	*10,425 (80)		
8	10,100 (79.5)		
9	9,305 (78)	*7,115 (80)	
10	8,575 (76.5)	6,760 (79)	*5,210 (80)
12	7,445 (74)	5,865 (76.5)	5,085 (79.5)
14	6,735 (71)	5,120 (73.5)	4,535 (76.5)
16	6,065 (68.5)	4,545 (70.5)	4,060 (73.5)
18	5,385 (65.5)	4,060 (68)	3,670 (70.5)
20	4,775 (62.5)	3,640 (65)	3,330 (67.5)
22	4,265 (59.5)	3,280 (61.5)	3,030 (64.5)
24	3,770 (56.5)	2,970 (58.5)	2,765 (61)
26	3,340 (53)	2,700 (55.5)	2,535 (57.5)
28	2,985 (49.5)	2,460 (52)	2,325 (54)
30	2,450 (46)	2,245 (48.5)	2,135 (50)
32	1,950 (42)	2,060 (44.5)	1,970 (46)
34	1,515 (37.5)	1,685 (40)	1,825 (41.5)

Note : () Boom angles are in degrees.

* This capacity is based upon the maximum boom angle.

10.0m - 17.7m Tele Swingaway - 360°

Radius in Meters (m)	10.0m Extension			14.6m Extension			17.7m Extension		
	2° Offset	15° Offset	30° Offset	2° Offset	15° Offset	30° Offset	2° Offset	15° Offset	30° Offset
7	*10,200								
8	9,855					*7,030			
9	9,060	*6,870				6,815			
10	8,330	6,515	*4,965			6,305	*4,535		
12	7,200	5,620	4,840			5,360	4,420		
14	6,490	4,875	4,290			4,600	3,910	*3,235	
16	5,820	4,300	3,815			4,015	3,460	3,015	
18	5,120	3,815	3,425			3,535	3,085	2,720	
20	4,530	3,395	3,085			3,125	2,765	2,465	
22	4,020	3,035	2,785			2,775	2,490	2,245	
24	3,525	2,725	2,520			2,475	2,245	2,045	
26	3,095	2,455	2,290			2,215	2,030	1,865	
28	2,680	2,215	2,080			1,990	1,840	1,705	
30	2,095	2,000	1,890			1,795	1,670	1,560	
32	1,595	1,805	1,725			1,615	1,520	1,430	
34	1,160	1,340	1,480			1,455	1,385	1,310	
36						1,295	1,260	1,200	
38						950	1,145	1,100	
40								935	

* This capacity is based upon the maximum boom angle.

Lifting Capacities (Metric) 85% Rating 4 Section Boom Duties (in Kilograms)



Main Boom - On Rubber (Stationary - Defined Arc Over Front)

Radius in Meters (m)	Main Boom Length in Meters							
	Tyre Pressure - 5.3 Bar							
	11.0	12.8	15.5	18.3	21.0	23.8	26.5	29.3
3.0	32,300 (67)	14,600 (70.5)	14,600 (74)					
3.5	29,600 (64)	14,600 (68)	12,400 (72.5)					
4.0	27,000 (61)	14,600 (65.5)	11,400 (70.5)					
4.5	24,800 (59)	14,600 (63)	11,000 (68.5)	9,300 (72)	9,300 (75)			
5.0	22,800 (54.5)	14,600 (60.5)	11,000 (66.5)	9,300 (70.5)	9,300 (73.5)			
6.0	19,500 (48)	14,600 (55)	11,000 (62)	9,300 (67)	9,300 (70.5)			
7.0	16,800 (40)	14,600 (49.5)	11,000 (58)	7,750 (63.5)	7,750 (67.5)			
8.0		14,600 (43)	11,000 (53)	7,750 (60)	7,750 (64.5)			
9.0		12,650 (35.5)	10,300 (48.5)	7,750 (56)	7,750 (61.5)			
10.0		11,000 (28)	10,200 (43)	7,750 (52)	7,750 (58)			
12.0			7,600 (30)	7,600 (43.5)	6,750 (51.5)	6,550 (57)	4,700 (61.5)	
14.0				5,600 (32.5)	4,500 (43.5)	4,500 (51)	4,500 (55)	4,000 (60)
16.0				4,000 (16)	4,000 (34.5)	3,500 (44)	3,500 (50.5)	3,500 (55.5)
18.0					2,900 (22.5)	2,900 (36)	2,500 (44.5)	2,500 (50.5)
20.0						2,100 (26)	2,100 (37.5)	1,700 (44.5)
23.0							1,000 (23.5)	1,000 (35)

Note : (°) Boom angles are in degrees.

On Rubber (Pick & Carry Capacities - Upto 4.0 km/hr Boom Centered Over Front)

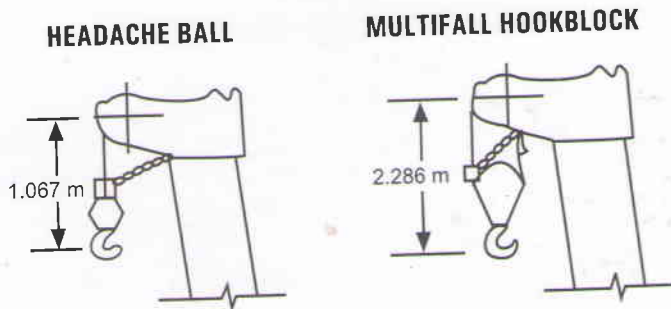
Radius in Meters (m)	Main Boom Length in Meters							
	Tyre Pressure - 4.48 Bar							
	11.0	12.8	15.5	18.3	21.0	23.8	26.5	28.5
3.0	30,300 (67)	15,800 (70.5)						
3.5	27,400 (64)	15,800 (68)						
4.0	24,800 (61)	15,800 (65.5)						
4.5	22,400 (58)	15,800 (63)						
5.0	20,500 (54.5)	15,400 (60.5)						
6.0	17,300 (48)	13,300 (55)	13,150 (62)					
7.0	14,600 (40)	13,000 (49.5)	11,000 (58)					
8.0		12,750 (43)	9,300 (53)					
9.0		11,300 (35.5)	7,750 (48.5)	7,700 (56)				
10.0		9,800 (26)	7,600 (43)	7,600 (52)	7,500 (58)			
12.0			7,600 (30)	6,500 (43.5)	5,000 (51.5)	4,900 (57)		
14.0				5,500 (32.5)	3,600 (43.5)	3,600 (51)	3,600 (56)	
16.0					3,900 (16)	2,500 (34.5)	2,500 (44)	2,500 (50.5)
18.0						1,500 (22.5)	1,450 (36)	1,450 (44.5)
20.0							900 (26)	900 (37.5)

Note : (°) Boom angles are in degrees.

On Rubber (Stationary Capacities - 360°)

Radius in Meters (m)	Main Boom Length in Meters				
	Tyre Pressure - 5.3 Bar				
	11.0	12.8	15.5	18.3	21.0
3.0	20,970 (67)	14,600 (70.5)	14,600 (74)		
3.5	18,325 (64)	13,225 (68)	12,400 (72.5)		
4.0	16,325 (61)	11,500 (65.5)	11,400 (70.5)		
4.5	14,850 (58)	10,150 (63)	10,150 (68.5)	9,300 (72)	9,300 (75)
5.0	12,880 (54.5)	9,615 (60.5)	9,135 (66.5)	9,135 (70.5)	9,135 (73.5)
6.0	10,115 (48)	8,705 (55)	7,710 (62)	7,710 (67)	7,710 (70.5)
7.0	7,530 (40)	7,530 (49.5)	6,210 (58)	6,210 (63.5)	6,210 (67.5)
8.0		5,910 (43)	5,080 (53)	4,830 (60)	4,830 (64.5)
9.0		4,610 (35.5)	4,445 (48.5)	3,670 (56)	3,670 (61.5)
10.0		3,610 (26)	3,610 (43)	2,945 (52)	2,945 (58)
12.0			2,250 (30)	2,250 (43.5)	1,910 (51.5)
14.0				1,260 (32.5)	1,270 (43.5)
16.0					577 (34.5)

Note : (°) Boom angles are in degrees.



Dimensions are for largest furnished hook block and headache ball with anti-two block activated.

Zero Degree Boom Angle Charts

RT 880

On Outriggers – 360 Degrees

Boom Angle	Main Boom Length in Meters							
	11.0	12.8	15.5	18.3	21.0	23.8	26.5	29.3
0°	11,150 (9.2)	8,805 (11.0)	6,330 (13.8)	4,595 (16.5)	3,310 (19.3)	2,325 (22.0)	1,535 (24.8)	895 (27.5)

Note: () Reference radii in metres

On Rubber

Boom Angle	Stationary Capacity Defined Arc Over Front						
	Main Boom Length in Meters						
	11.0	12.8	15.5	18.3	21.0	23.8	26.5
0°	10,750 (9.2)	8,805 (11.0)	5,700 (13.8)	3,600 (16.5)	2,250 (19.3)	1,250 (22.0)	500 (24.8)

Note: () Reference radii in metres

Boom Angle	Stationary Capacity 360° Arc		
	Main Boom Length in Meters		
	11.0	12.8	15.5
0°	4,600 (9.2)	2,800 (11.0)	1,250 (13.8)

Note: () Reference radii in metres

Boom Angle	Pick & Carry Capacities Up to 4.0 KPH Boom Centered Over Front				
	Main Boom Length in Meters				
	11.0	12.8	15.5	18.3	21.0
0°	11,150 (9.2)	8,805 (11.0)	6,030 (13.8)	2,165 (16.5)	1,135 (19.3)

Note: () Reference radii in metres

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 (85% of the tipping load on rubber) as determined by SAE J765 OCT80 Crane Stability Test Code.
- Capacities given do not include the weight of hookblocks, slings, auxiliary lifting equipment and load handling devices. Their weights MUST be added to the load to be lifted. When more than minimum required reeving is used, the additional rope weight shall be considered part of the load.
- Load rating are based on freely suspended loads. No attempt shall be made to move the load horizontally on the ground in any direction.
- Defined Arc $\pm 6^\circ$ on either side of longitudinal centerline of machine.
- Capacities appearing above the bold line are based on structural 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.
- Unless otherwise stated, capacities are with powered boom sections equally extended.
- For outrigger operation, All outriggers shall be fully extended with tyres raised free of the ground before raising the boom or lifting loads.
- Tyres shall be inflated to the recommended pressure before lifting on rubber.
- Axle lockout must be functioning before lifting on rubber.
- On rubber, lifting with boom extension is not permitted.
- For Pick & Carry operation, boom must be centered over front of the machine, mechanical swing-lock engaged and load restrained from swinging. when handling loads in the structural range with capacities close to maximum rating, travel should be reduced to creep speed (not over 61m movement in 30 min., not exceeding 1.6 km/hr.)

WARNING – Operation of the machine with heavier load than the capacities listed is strictly prohibited. Machine tipping occurs without advance warning .

Carrier Specification

FRAME

High strength alloy steel welded box section with integral outrigger housings and front / rear lifting, towing and tie down lugs.

OUTRIGGER SYSTEM

Four hydraulic telescopic beams with jacks having integral holding valves, positioned two nos. in each outrigger housing, provides steel fabricated quick release type outrigger float for each jack.

OUTRIGGER CONTROLS

Independent control of each outrigger beam located in cab on front dash panel along with level indicator.

ENGINE

Suitable water cooled diesel engine of adequate horse power.

FUEL TANK

Capacity 379 liters.

ELECTRICAL SYSTEM

Two 12 Volt batteries, 12 Volt lighting equipment including two head lights, side, tail and stop lights and flashing indicators.

DRIVE

4x4 / 4x2

STEERING

Fully independent power steering:

Front : Full hydraulic controlled by steering wheel.

Rear : Full hydraulic selector switch controlled.

Provides infinite variations of 4 main steering modes – front only, rear only, crab & coordinated.

Provides rear wheel steer indicator.

Steering Reversal - Provided to have same conventional steering control effect, irrespective of super position with respect to carrier.

TRANSMISSION

Engine mounted full power shift with 6 forward and 6 reverse speeds. Provides front axle disconnect for 4 x 2 travel.

AXLES

Front: Drive-steer with differential and planetary reduction hubs, rigidly mounted to the chassis frame.

Rear: Drive-steer with differential and planetary reduction hubs, pivot mounted at the centre of the chassis frame

OSCILLATION LOCKOUT

Automatic full hydraulic lockouts on rear axle permits oscillation only with boom centered over front.

BRAKES

Dual braking system, full hydraulic operating on all wheels. Spring applied, hydraulically released parking brake operating on front axle.

TYRES

29.5 X 25 – 28 PR – E3 Tread earthmover tyres.

INSTRUMENTATION

Engine oil pressure gauge, Fuel gauge, Water temperature. gauge, Voltmeter, Tacho-Hourmeter, Warning lights and switches for control.

MAXIMUM SPEED

30 kmph.

GRADEABILITY

45% (Maximum) Unladen

GROSS VEHICLE WEIGHT & AXLE LOADS (approx.)

Front Axle – 25,600 kg.

Rear Axle – 25,500 kg.

GVW – 51,100 kg.

MISCELLANEOUS STANDARD EQUIPMENT

Full width steel fenders, dual rear view mirrors, back-up alarm, front stowage well, tool kit.

OPTIONAL EQUIPMENTS

Fire Extinguisher

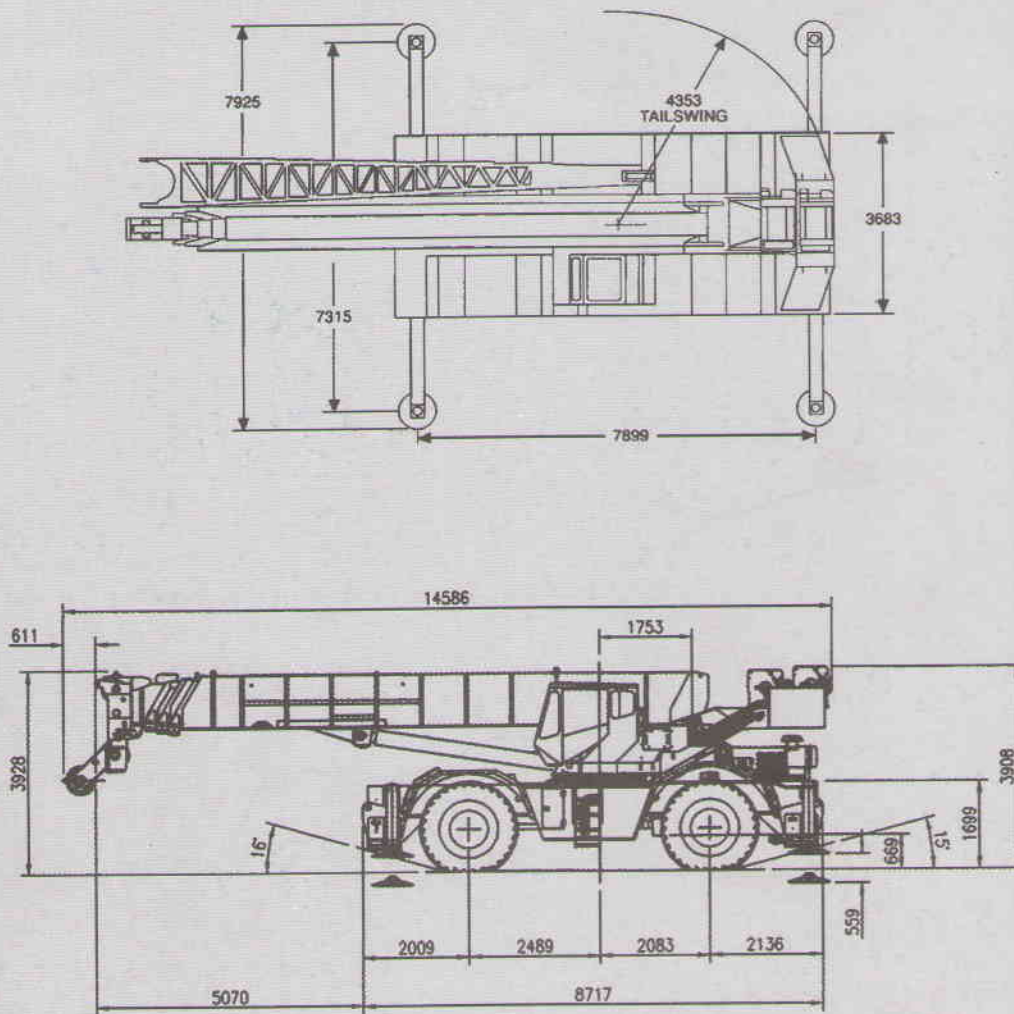
Pintle Hook – Front / Rear

Centralized Lubrication System

Semi-automatic Fire suppression System

Turning Radius
 2 Wheel Steer: 14.5m
 4 wheel steer: 8.00m

RT 880



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. Illustration shown may include optional equipment, accessories and may not include all standard equipment.



TIL Limited

517, Barrackpore Trunk Road (BT Road), Kolkata-700 058
 Tel :91-33-66334000, 91-33-2553 1352/1882, 2563 3159, Fax: 91-33-2553 2546/5971
 Email : MktDept.KMT@tilindia.com, Website : www.tilindia.in



Regional Offices

KOLKATA
 1, Taratolla Road, Garden Reach
 Kolkata- 700 024, India
 Tel: 91-33-6633 2000
 Fax: 91-33-2469 2143/3731
 Email: mhg_er@tilindia.com

MUMBAI
 502-A, 5th Floor, Western Edge
 Tower No.1, Western Express Highway
 Datta Pada Road, Borivali-East
 Mumbai 400 066
 Tel: 91-022-6147 9191
 Fax: 91-022-6643 0904
 Email: mumbai.til@tilindia.com

DELHI
 Plot No.11, Site No.4, Industrial Area
 Sahibabad- 201 010
 Dist. Ghaziabad, U.P, India
 Tel: 91-120-665 9000
 Fax: 91-120-277 0365
 Email: MhgMarketing.Sahibabad@tilindia.com
 sales.mhs@tilindia.com

CHENNAI
 Jhaver Plaza, 7th floor
 1-A, Nungambakkam High Road,
 Chennai 600 034, Tamil Nadu, India
 Tel: 91-44-2827 6103/0723/7518/0729
 Fax: 91-44-2827 9681
 Email: Chennai.Marketing@tilindia.com
 Chennai.TIL@tilindia.com

Toll Free No: 1800 266 1535

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