

# Sandvik TH663

## Technical Specification



### APPLICATIONS

The Sandvik TH663 is a high productivity 63 tonne articulated underground dump truck for use in 6 x 6 meter haulage ways. Operator safety, health and comfort are enhanced by the mining focused, sound suppressed, ISO approved cabin. The TH663 is well suited for:

- level or steep ramp production haulage in large mines
- mine development projects in large mines
- 3 pass loading with the Sandvik LH621 loader

### Capacities

Payload capacity	63 000 kg	139 000 lb
Dump box	36,0 m <sup>3</sup>	47,0 yd <sup>3</sup>
Dump box range	30 – 38 m <sup>3</sup>	39,2 – 49,7 yd <sup>3</sup>

### Main dimensions

Total length	11 580 mm	456"
Maximum width	3 480 mm	137"
Height	3 460 mm	136"
Height of the box	3 460 mm	136"

### Dump Box Motion Times & Movements

Discharging time	14 sec
Dumping angle	62 °

### Speeds Forward (Level / Loaded)

1st gear	7,3 km/h	4,5 mph
2nd gear	10,8 km/h	6,7 mph
3rd gear	14,5 km/h	9,0 mph
4th gear	21,4 km/h	13,3 mph
5th gear	28,7 km/h	17,8 mph
6th gear	42,5 km/h	26,4 mph

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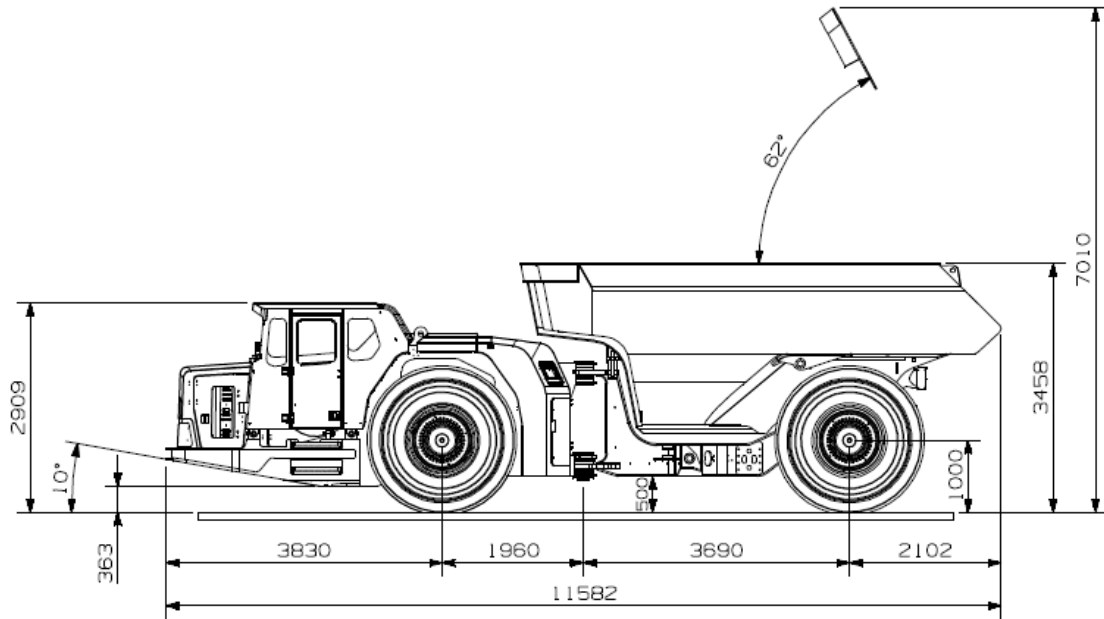
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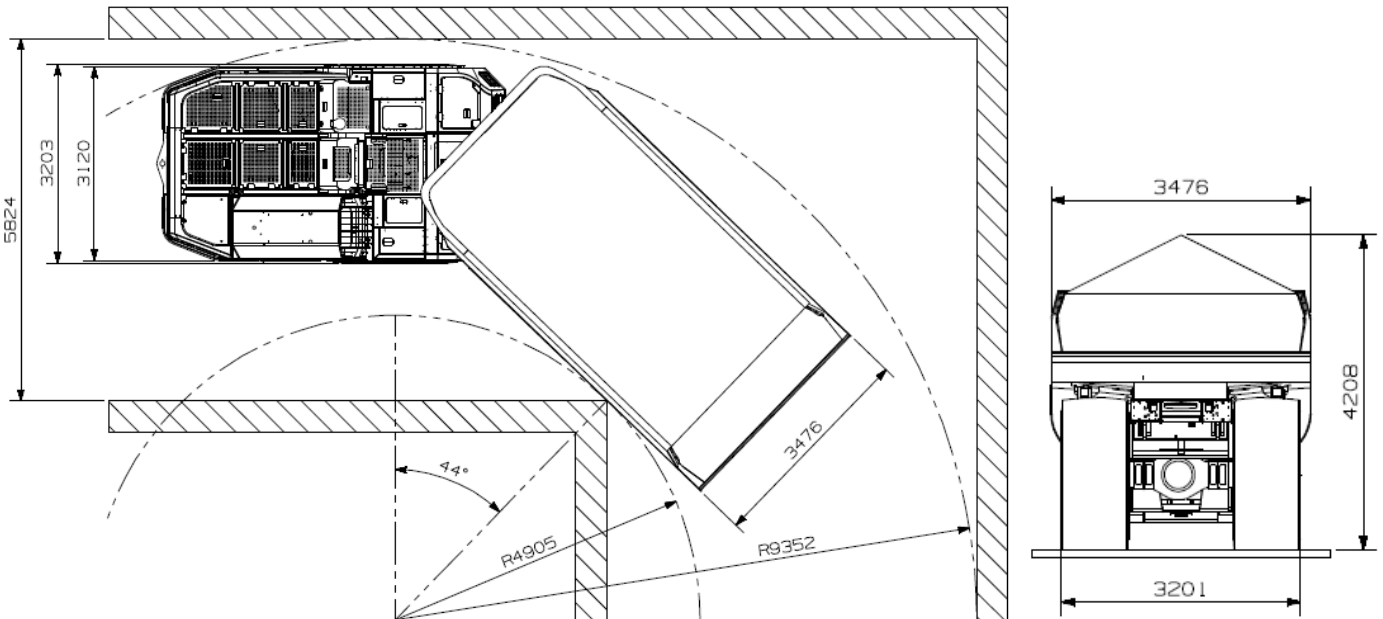
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## DIMENSIONS (SIDE VIEW)



## DIMENSIONS (TOP AND REAR VIEW)



**POWER TRAIN**

**Engine**

Diesel engine	Cummins QSK (Tier 1)
Output	567 kW (760 hp) @ 2 100 rpm
Torque	3084 Nm @ 1500 rpm
Number of cylinders	In-line 6
Displacement	19,0 l
Cooling system	Liquid cooled
Combustion principle	4-stroke, direct injection, turbo charged, after cooled
Air filtration	Dry type
Electric system	24 V
Exhaust system	Heat shield for exhaust manifold and turbo
Fuel Tank Capacity	800 l (215 gal)

**Transmission**

Allison 6620	Fully automatic transmission with electric remote shifting system and retarder. Six gears forward and two reverse.
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**Gear boxes**

Up box	Katsa 1:1
Drop box	Katsa 1:1

**Axles**

Front axle	Kessler D111 series
Rear axle	Kessler D111 series

**Tires**

Tire size	35/65 R33
Tires are application approved. Brand and type subject to availability	

**VEHICLE WEIGHTS**

**Operating weights**

Total operating weight	43 000 kg	94 800 lb
Front axle	30 200 kg	66 600 lb
Rear axle	12 800 kg	28 200 lb

**Loaded weights**

Total loaded weight	106 000 kg	233 700 lb
Front axle	45 000 kg	99 200 lb
Rear axle	61 000 kg	134 500 lb

**STANDARD OPERATORS COMPARTMENT**

ISO certified ROPS/FOPS cabin with air conditioning
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**FRAME**

Rear and front frame	Welded steel box construction
Central hinge	Full plate, clevis type with spherical bearings

**STEERING HYDRAULICS**

Fully hydraulic, center articulated, power steering with two double acting cylinders. Closed centre system with a load sensing piston pump and pilot operated orbital wheel steering.

**Turning Radius**

Turning angle		±44 °
Inner	5 m	195 "
Outer	9 m	370 "

**Main Components**

Hydraulic pump	Variable displacement piston pump
Control valve	Pilot operated
Cylinders	2 x 140 mm bore x 90 mm rod

**DUMP BOX HYDRAULICS**

Full hydraulic system, equipped with variable displacement piston pump. Oil flows to box hydraulic system from the steering hydraulics. Oil flow from the brake circuit pump is divided to the brake system and oil cooler motor.

**Main Components**

Hydraulic pump	Variable displacement piston pump
Control valve	Solenoid operated
Cylinders	2 x 180 mm bore x 110 mm rod
Hydraulic oil tank capacity	280 l (75 gal)

**BRAKES**

Service brakes are spring applied hydraulically released (SAHR) multi-disc brakes on all wheels with two separate circuits for the front and rear axles. Service brakes also function as an emergency brake, when the emergency brake system is engaged.

**Main Components**

Pressure accumulator	Piston type with charging valve
Brake valve	foot operated pedal, fully modulated
Pressure accumulator	Piston type with charging valve
Brake hydraulic tank	100 l (26,4 gal)
Automatic Brake Activation	ABA

**ELECTRICAL EQUIPMENT**

Alternator	28 V 150 A
Batteries	2 x 12V 160 Ah
Starter	24 V
Lights	Driving, working, parking, braking and direction
Signals	Retarder and turning flashing beacon
Instrumentation	5,7" LCD colour display



**SAFETY AND ERGONOMICS**

ROPS/FOPS certified operators compartment
Suspension with adjustable ground clearance
Ground level daily maintenance
Low frequency suspension seat with four point seat belt
Adjustable arm rests and neck rest
Trainer seat with three point seat belt
Reverse and side camera
Reverse alarm (CEN)
Signal horn for box up
Lockable main switch
External shutdown, 2 pcs in rear, 1 pc in front
Starter isolator
Door interlock for brake and gear selection
Automatic brake application system
Fire extinguisher, 12 kg (CEN)
Wheel chocks and brackets
Cabin heater and mirrors defrost

**STANDARD MANUALS**

Operator's Manual	Hard copy, EU-languages
Maintenance Manual	Hard copy, EU-languages
Parts Manual	Hard copy, English
Service and Repair Manual	Hard copy, English
ToolMan CD (2 pcs)	Electronic, in pdf format, includes all the above manuals

**OPTIONAL EQUIPMENT**

**Alternative boxes**

Max density (t/m <sup>3</sup> )	1,8	2,0	2,2	2,4
Volume (m <sup>3</sup> )	38,0	36,0	32,0	30,0
Width(mm)	3 500	3 500	3 500	3 200
Height (mm)	3 570	3 460	3 240	3 270

**Additional Options**

- Payload monitoring system
- Tire pressure monitoring system
- Integrated jacking system
- Cover grills for lamps
- Jump start
- Emergency steering (CEN)
- Fire suppression system Sandvik FS1000 with auto engine shutdown
- Fire suppression system ANSUL, two tank system with 8 nozzles (CEN) including auto engine shutdown
- Fire suppression system ANSUL, two tank system with 8 nozzles (CEN), CHECFIRE, including auto engine shutdown
- Spare rim
- Foldable safety rails
- Wiggins fuel fill system
- Wiggins fluid fill set
  - Hydraulics, transmission and engine oil
- LinkOne spare part manual
- Cat BASE spare part manual
- Accordance with CE norms (CEN)
- Pressure accumulator certificates
- Cold Climate package
  - Pre-heater for engine and hydraulic oil tank
  - Windows defrost
- Water trap for fuel
- Jacking stands



**GRADE PERFORMANCE**

Cummins QSK19, Tier I  
 Calculated with 2% rolling resistance  
 With lock-up

**Empty**

Percent grade	0	10.0	14.3	20
Ratio		1:10	1:7	
1 <sup>st</sup> gear (km/h)	7,3	7,2	7,2	7,2
2 <sup>nd</sup> gear (km/h)	10,8	10,7	10,7	10,6
3 <sup>rd</sup> gear (km/h)	14.4	14,2	14,1	14,0
4 <sup>th</sup> gear (km/h)	21,5	21,0	20,8	16,2
5 <sup>th</sup> gear (km/h)	28,9	28,1	21,1	
6 <sup>th</sup> gear (kN/h)	43,0			

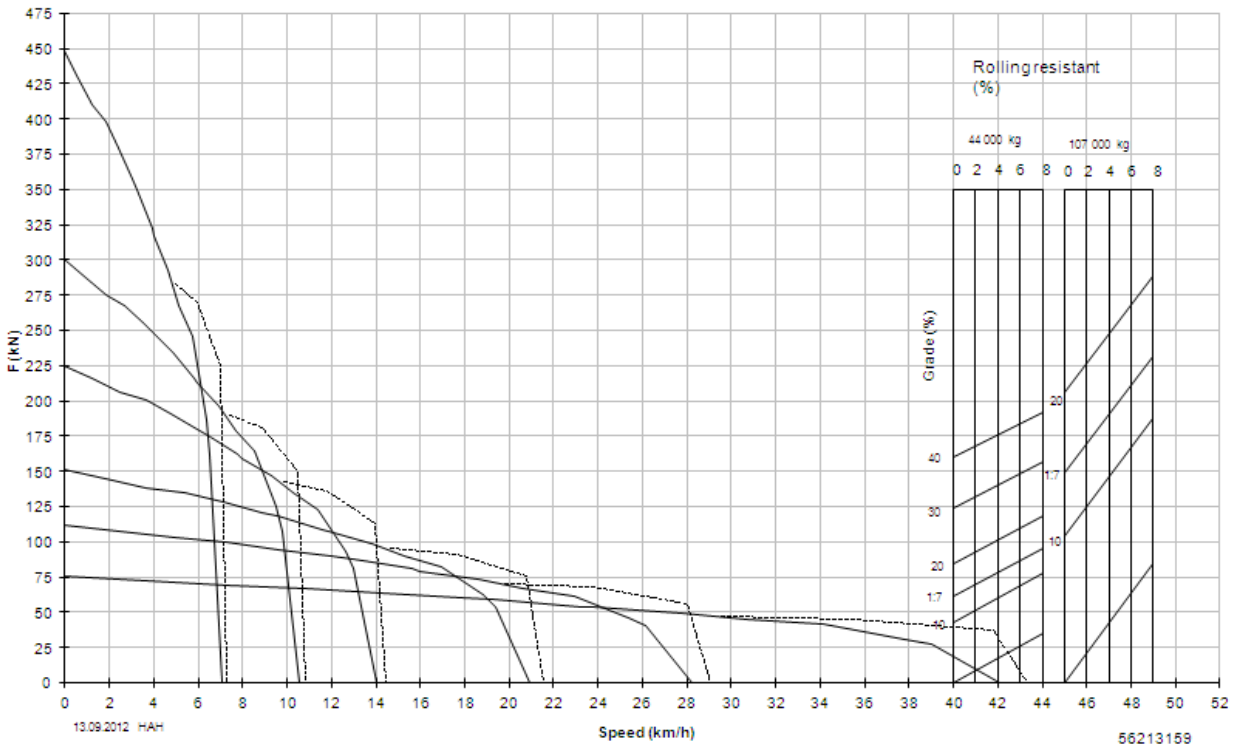
**Loaded**

Percent grade	0	10.0	14.3	20
Ratio		1:10	1:7	
1 <sup>st</sup> gear (km/h)	7,2	7,1	7,1	7,0
2 <sup>nd</sup> gear (km/h)	10,8	10,5	9.5	
3 <sup>rd</sup> gear (km/h)	14,4	12,8		
4 <sup>th</sup> gear (km/h)	21,3			
5 <sup>th</sup> gear (km/h)	28,7			
6 <sup>th</sup> gear (km/h)	42,5			

**TRACTIVE EFFORT CURVE**

**TH663**

Cummins QSK19, 567 kW, Tier1 /1900rpm



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**TH663  
 PRODUCTIVITY CURVE**

