Australian Turntable Company

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Experience

- Established 1987
- Delivered major projects internationally
- Accreditations: ISO 9001:2008
  ISO 14001:2004
  ISO 4801:2001
- Turnkey project services provided
- World leader in rotational movement solutions

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Range

Residential Driveways

- Enter & exit property in a forward direction
- Safer vehicle movement
- Driver vision improved
- Space optimization

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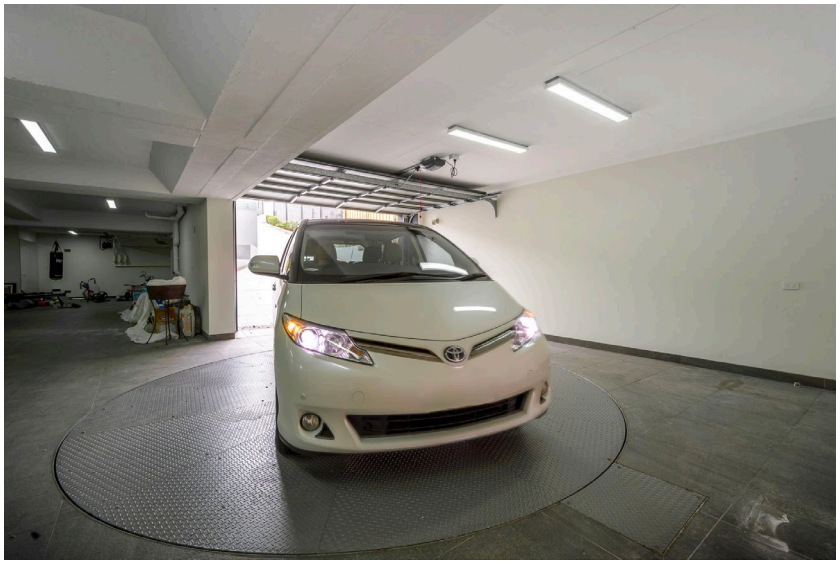
Range

Residential Garages

- Enter & exit property in a forward direction
- Safer vehicle movement
- Driver vision improved
- Space optimization



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Range

Re-locatable TT's - Construction

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Range

Re-locatable Tt's - Construction

- Improved safety
- Reduce disruption and danger to pedestrians or street traffic
- Simplifies access to difficult sites
- Driver vision improved reducing public/employee & property accidents

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Range

Re-locatable Tt's - Construction

- Reduce construction time
- Reduce environmental impact
- No reversing beepers

Range

Mining

- Improves safety
- Improves efficiency & productivity
- Space optimization
- Mine to port applications

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Range

Revolving Restaurants

- Delivered the world's largest Revolving Restaurant at 50 metres diameter in Tehran Iran
- Unmatched tolerances & vibration levels
- All projects have been completed on time and on budget
- In house design & engineering allows for greater flexibility to the Client

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Range

Custom -Engineered Applications

- From concept to completion

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Range

Truck Turntables

- Reduce loading dock and garbage collection area by 50%
- Enter & exit property in a forward direction
- Driver vision improved reducing public/employee & property accidents
- Greater flexibility for development design & site selection
- No reversing beepers

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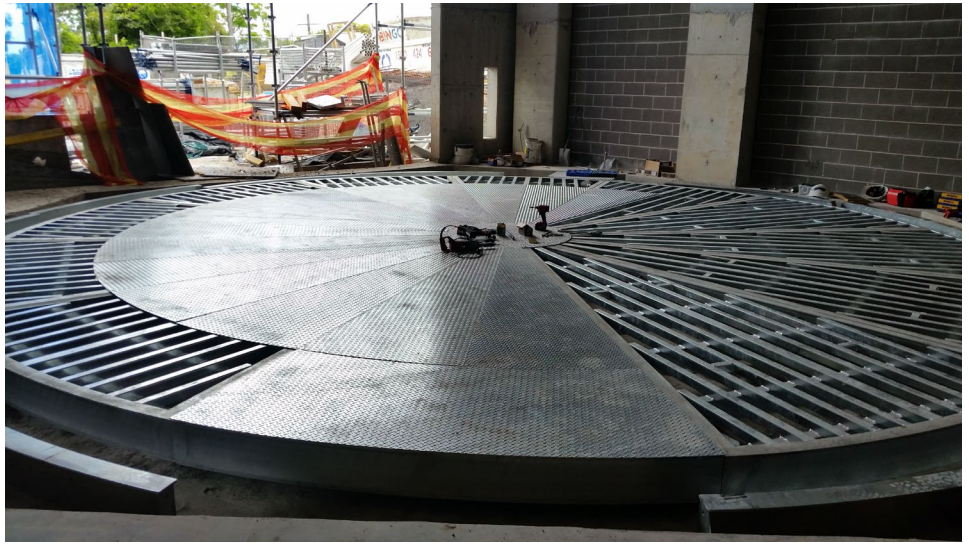
Engineering

Truck Turntables

- ATC design, engineer, manufacture, install & service Australia wide
- All turntables engineered to comply with AS1170.1 & AS4100
- kPa rating of 15kPa
- Rated to Max axle load of 11,000kg
- Range of truck turntables have been 3rd party certified



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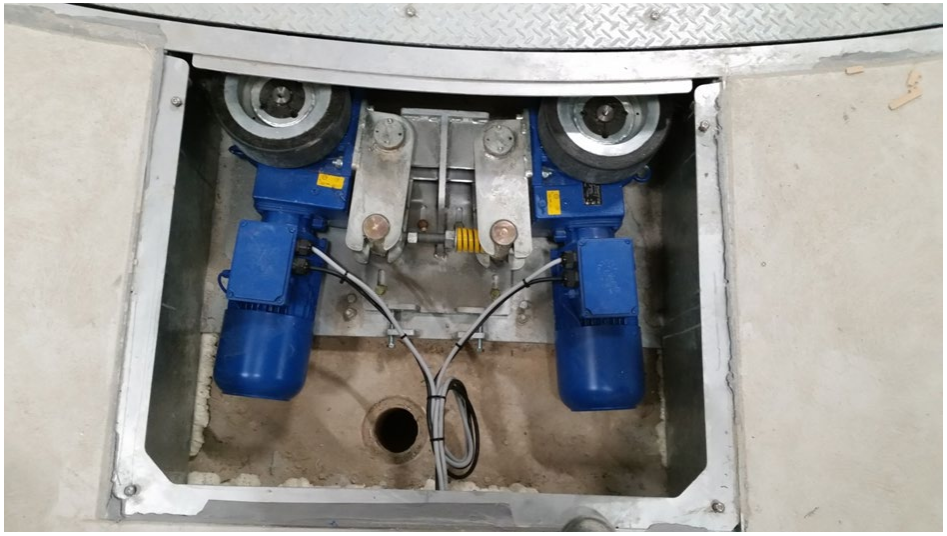
Reliability

Truck Turntables

- ATC are nominated suppliers for Coles, Aldi, IGA and Harris Farms
- Historical results of 99.99% reliability
- Redundancy built into product



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Service

Truck Turntables

- ATC have an office in Sydney including management, administration, installation & service teams
- Backed up with accredited subcontractors for 24/7 support
- ATC can be onsite within 2 hours

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Emergency Options

Truck Turntables

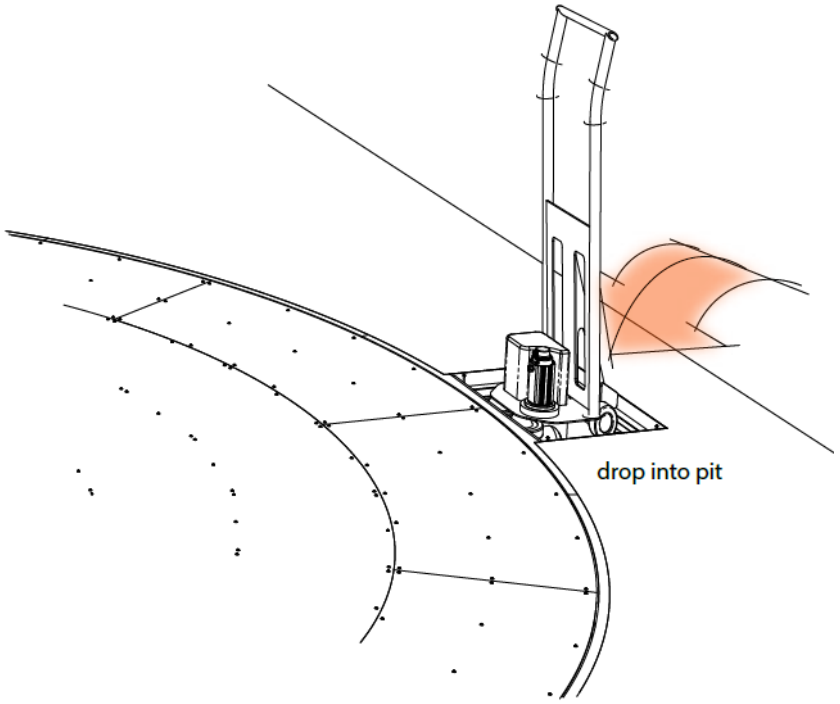
- ATC have options to manage power supply failure suited specifically for each project
- Work can be performed by building manager for fast solution

➢Battery charged drive trolley

➢Winching system

➢Back up generator connection

➢Manual drive



Operation

Truck Turntables

- Typically the truck driver operates
- SOP can be developed specifically for each project
- Sensors and signals can be included to reduce risk of collision

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Way Forward

- ATC builds long term relationships
- How can we help?

Specification

Australian Turntable Standards

HTT RANGE – TRUCK TURNTABLE

Overview:

Turntables are mechanical equipment that allow vehicles to enter and exit a property or development in a forward direction without wasting valuable space. It is common for Councils and road authorities to enforce this condition which reduces congestion and improves safety for the vehicle occupant, pedestrians and road traffic.

Turntables should be considered "Critical Equipment" due to the dependence on meeting their functional requirement, through reliable operation, for the life of the building. Imposing these specifications will help ensure that the installed product is fit for purpose.

Product description:

The HTT Truck Turntable is a rotating platform (revolve), axial location is via a centrally mounted bearing assembly.

The platform is supported by the central bearing assembly, roller assemblies at the perimeter, and set radial intervals for turntables over 11m in diameter

Rotation of the revolve is provided by a self-compensating friction drive system located at the turntable perimeter.

Turntable control is actioned through a control panel with HMI Screen. Operation of turntable is via a 'Hold to Run' switch, located at the control panel.

Structural Specification:

- The turntable platform should be engineered to accommodate 15 kPa of live load.
- The turntable structure should be engineered to accommodate a maximum axle load of 11,000kg. (1)
- The turntable structure should be engineered to accommodate a point load of 5000kg applied to an area of 0.04m^2. (2)
- The turntable structure should be engineered to comply with relevant clauses of AS1170-2002 and AS4100-1998.
- The turntable structure should be engineered to have a maximum deflection rating of 1:500 under the nominated load.
- The gap tolerance between the rotating platform and stationary perimeter ring should be 10mm ± 2.5mm.
- The turntable should include full depth formwork surrounding the turntable.
- The perimeter ring shall be not less than 50mm wide.

Mechanical Specification:

- The turntable should be engineered to operate with (*project specific required load*) kg of live load.
- The turntable should be designed to allow access to perform maintenance and servicing of centre bearing, support wheels, drive assembly and provide access to floor wastes.
- The central bearing should be capable of accommodating all imposed axial and lateral loads.
- Each support wheel should be designed to be removed if necessary without disassembling the turntable platform.
- The motor gearbox drive should have a minimum of IP56 rating
- The equipment design shall allow for manual rotation of the revolve.
- The drive assembly should not be able to be back driven when engaged.

Controls & Electrical Specification

- The control centre & any associated electrical works should meet AS/NZ 3000
- The control centre should include the following safety/protection devices as a minimum;
    - Lockout isolation switch
    - E-Stop
    - Operational indicator
- The control centre should include a 'Hold to Run' switch for operation.
- The control centre should include a safe operating checklist to be completed to satisfaction before operation is allowed.
- The control box should have a minimum of IP65 rating.

Corrosion Protection

- All structural components should be hot dipped galvanised.
- Bearing housings and shafts should be zinc plated.
- Bearings should be sealed.

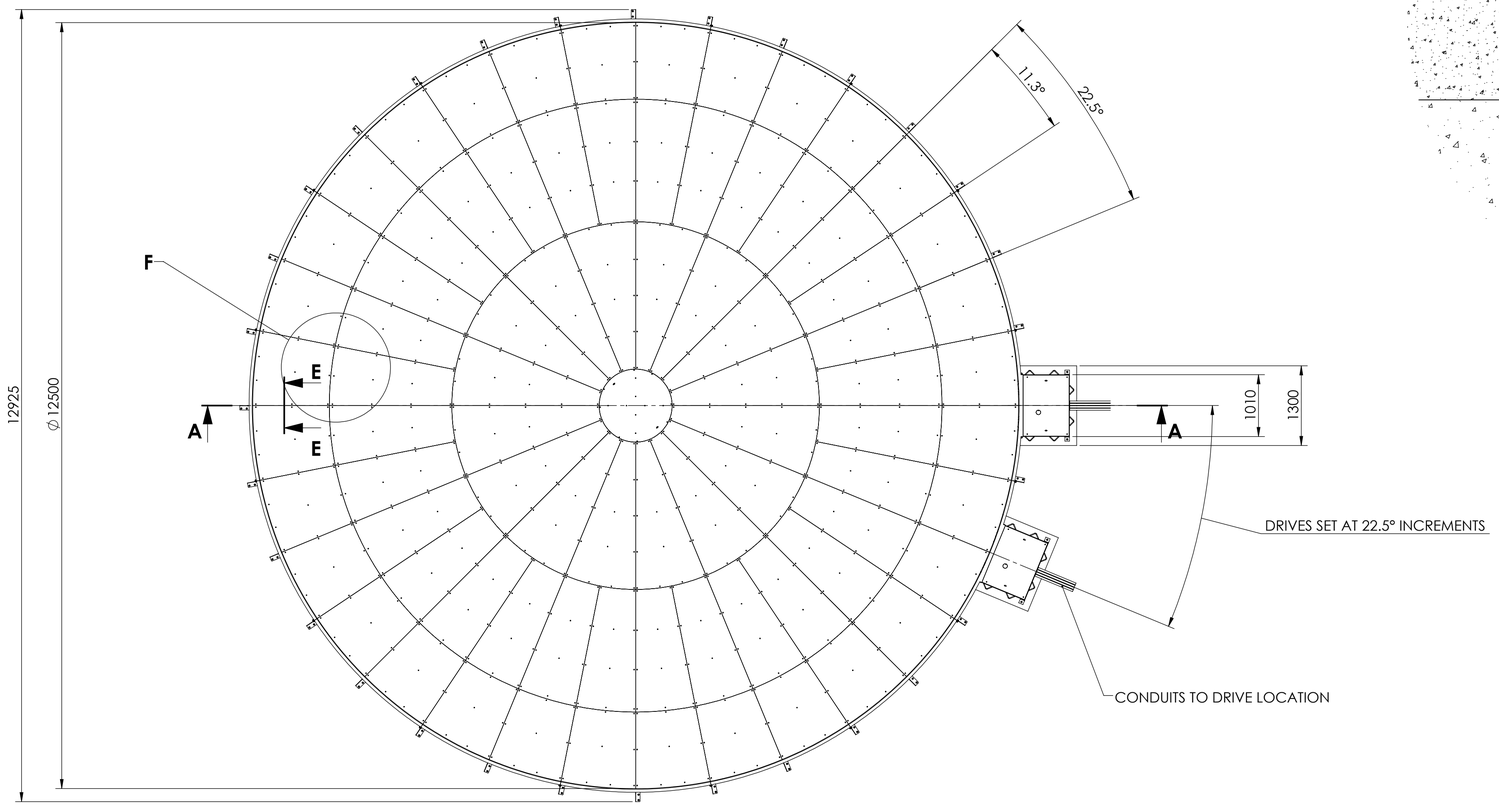
Provided by Others

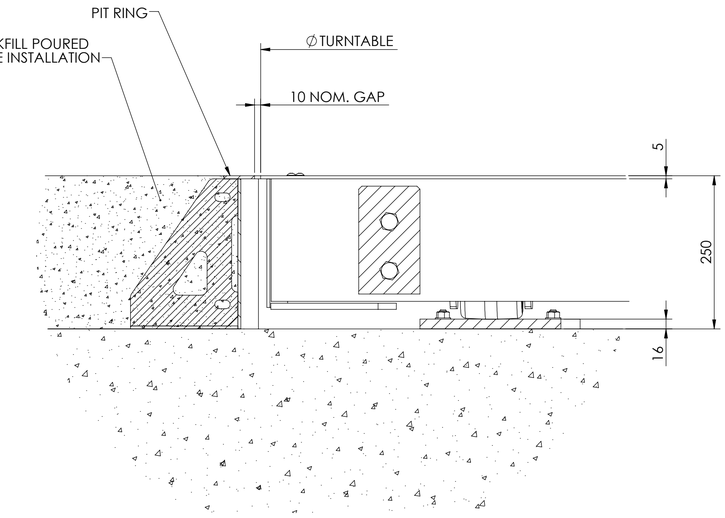
- Power supply to control box location.
- Conduits between turntable control centre and motor drive location.
- Conduits between turntable control centre and sensor or signal devices.
- Engineering and supply of turntable footing specific to site requirements
- Engineering and supply of surrounding concrete specific to site requirements
- Engineering and supply of drainage specific to site requirements
- Safe access from site entry to turntable location during construction.

The manufacturer reserves the right to modify or alter above specifications.

References

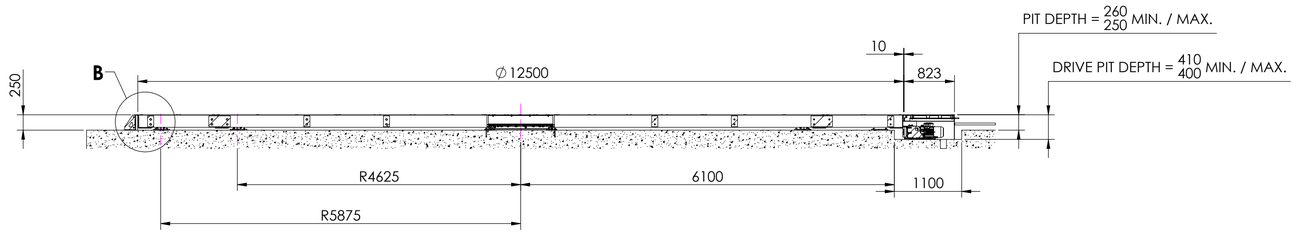
1. *National heavy vehicle mass and dimension limits. nmhr.gov.au*
2. *Combi-Lift C4000 Fully laden with mast in.*





DETAIL B
SCALE 1 : 5

REFER TO DRG. No. HTT12.5-250-PIT FOR ADDITIONAL PIT INFORMATION



SECTION A-A

REV	DATE	REVISION DESCRIPTION	DRN	ECN
A		INITIAL ISSUE		

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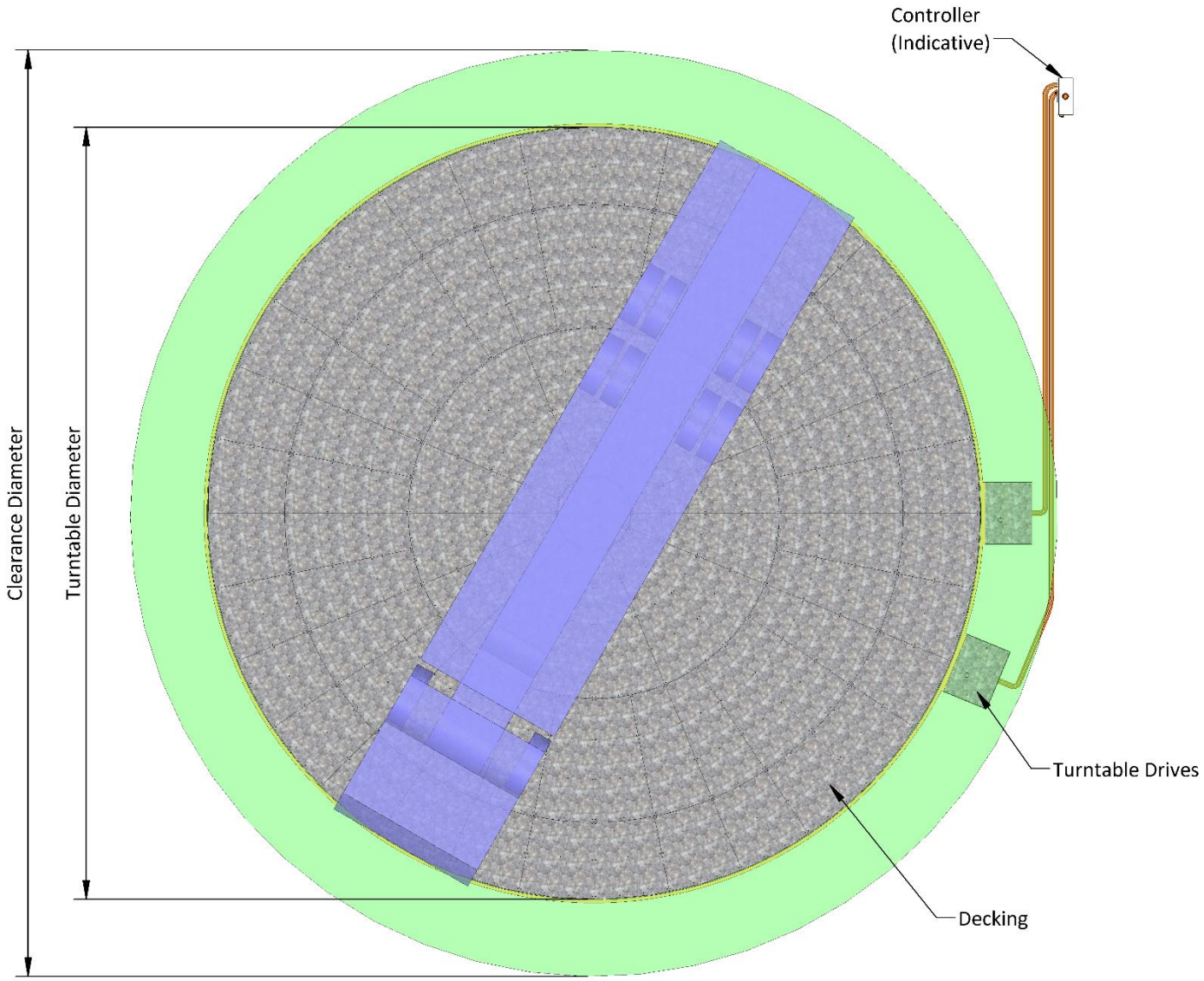
Drawn: CRM	Material:	Title: **HTT12.5-250 TURNTABLE GENERAL ARRANGEMENT**	
Date: 25/07/2017	Finish:		
Checked:	Weight: 21474.50 kg	Size: **A1**	Drawing No.: **HTT12.5-250** Rev.: **A**
Approved:	DRAWING TO AS1100 DO NOT SCALE DRAWING DIMENSIONS IN mm U.N.O.	Scale: 1:50	Sheet: 1 of 2

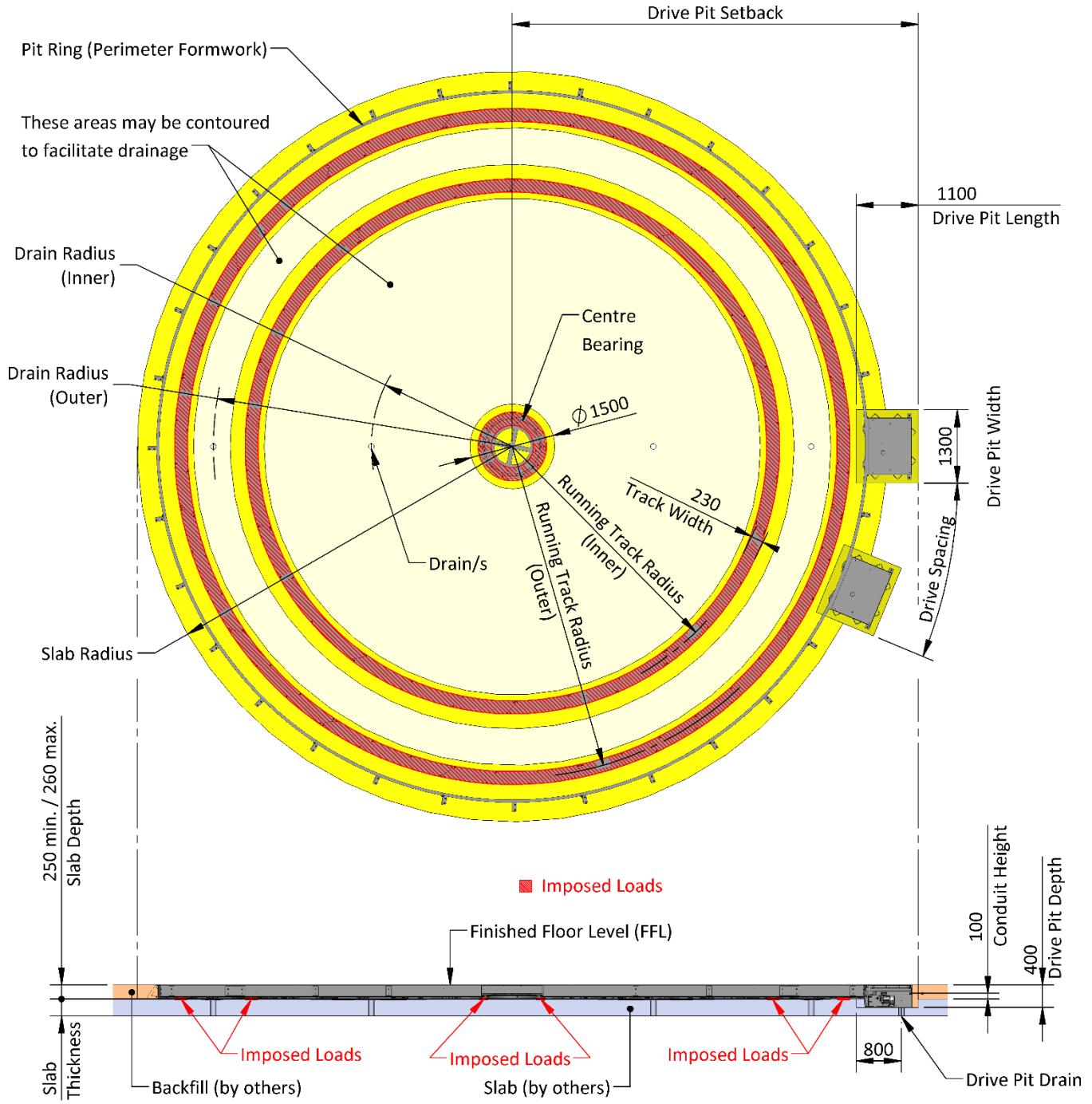
HTT12.5 to HTT15 - 250 Turntable Specification



**See Specification table for dimensions*

Turntable Overview	
Application:	Loading Dock, Garbage collection, suspended slabs
Platform Finish:	Hot dipped galvanised chequer plate – 5mm thick
Inspection Hatches:	Centre bearing and drive. Decking removable for access to Running Track/Drain
Corrosion Protection:	Hot dipped galvanised, zinc coating
Drive Mechanism:	Friction wheels driven powered by motor drives
Safety system: *(Optional extra)*	For projects where there is a chance of collision during rotation with people, building or other vehicles/objects ATC can design and supply a system to reduce risk.
Vehicle positioning system: *(Optional extra)*	ATC can design and supply a vehicle guidance and positional parking system to suit specific projects requirements. This system assists the driver in parking in the correct area to reduce chance of collision with people, building or other vehicles/objects.
Redundant drive: *(Optional extra)*	For projects were the turntable is considered critical infrastructure a redundant drive can be included. In cases of motor failure, the affected drive can be disengaged allowing the turntable to continue operation without loss of productivity.

Turntable Slab



**See Specification table for dimensions*

Slab Overview

1. The turntable slab provides the surface which the turntable is secured to via mechanical fastenings of up to 140mm embedment.
2. The slab size is larger than the turntable to accommodate the perimeter formwork and fixtures.
3. The overall size and shape of the slab can be made to suit the installation site provided it can accommodate the minimum required slab sizes as indicated below.
4. Once the turntable has been installed, a concrete backfill is poured up to the Pit Ring (perimeter formwork) to encase the turntable into the finished floor.
5. The imposed loads on the slab are concentrated through the Centre Bearing area and the Running tracks.

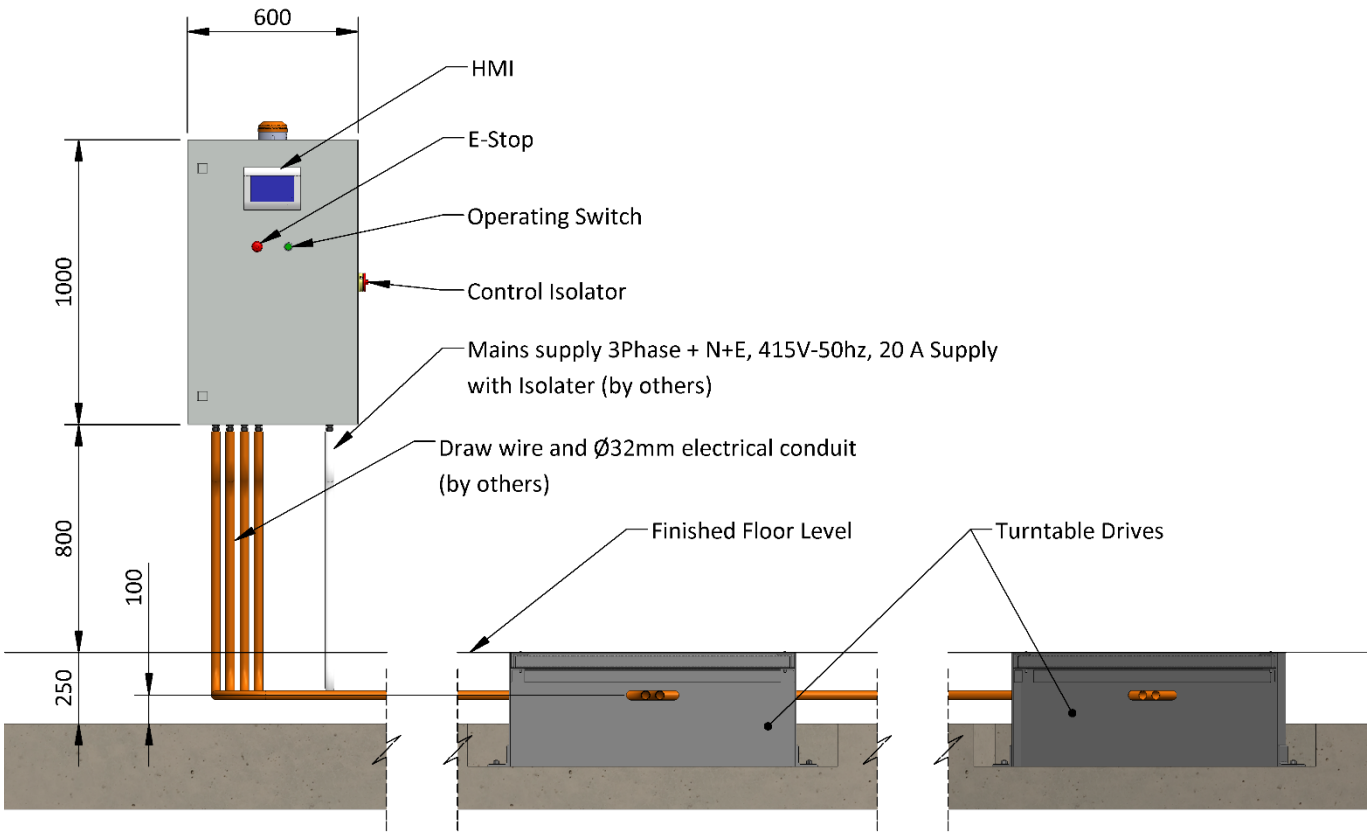
Turntable Specifications

Model	HTT12.5-250	HTT15-250		
Turntable Diameter (mm)	12500	15000		
Vehicle length accommodated (1)	12500	15000		
Clearance Diameter (mm) (2)	14500	17000		
Slab Depth (mm) (3)	250 min. / 260 max.			
Slab Radius (mm)	6650	7900		
Drain Radius - Inner (mm) (4)	2500	2500		
Drain Radius - Outer (mm) (4)	5300	6000		
Drive Pit Setback (mm)	7200	8450		
Drive Pit Width (mm)	1300			
Drive Pit Length (mm)	1100			
Drive Pit Depth (mm)	400			
Drive Spacing (increments of X°)	22.5	20		
Running Track Radius - Inner (mm)	4625	4625		
Running Track Radius - Outer (mm)	5875	7125		
Operating Capacity (kg)	45000			
Operating Speed (Nominal RPM)	0.4	0.3		
Distributed Load Capacity (kPa) (5)	15			
Imposed Load - Centre (kN) (6)	423	408		
Imposed Load – Inner Running Track (kN/m)(6)	28	25		
Imposed Load – Outer Running Track (kN/m)(6)	12	25		
Lateral Force on Centre Bearing (7)	174	174		
Minimum Concrete strength (MPa) (8)	25			
Slab Thickness (8)	Subject to client engineering			

Notes

1. *Suggested vehicle length. ATC recommend that vehicles fit entirely on the turntable platform. Longer vehicles accommodated subject to wheelbase and installation location.*
2. *Suggested clearance diameter based on the nominated vehicle positioned correctly on the turntable. This clearance zone can be reduced when an optional scanner safety system is implemented*
3. *Slab surface to be steel trowel finished.*
4. *Recommended drainage location/s shown. Actual drainage requirements specified by the client engineer which may include grease traps or sump pits.*
5. *Structural load capacity generally in accordance with AS/NZS 1170. Allows for full use of turntable area as a general trafficable area.*
6. *Imposed loads stated are, un-factored load based on the Distributed Load Capacity plus the turntable dead load.*
7. *Lateral Force applied based on a vehicle of maximum turntable operating capacity coming to a complete stop on the turntable from a speed of 10km/h over a distance of 1m.*
8. *Slab thickness and strength is to be specified by the client engineer.*

Electrical & Control



Feature	
Direction of Rotation	Bi-directional
Start-up	Soft start/stop, ramp up/ramp down
Operation	'Hold to Run' switch at control box location
Safety Inclusions	Emergency stop, isolation switch at control box location
Motor Power (kW)	1.5 x 4
Power Supply Required	AC – 415V 50Hz 20Amps (adjust picture)
Minimum Wiring Design Standard	AS/NZ 3000
Max. power consumption during operation	10 amps
HMI screen	• Option for programmable Safe Operation Procedure or Safe Work Practices (SOP/SWP) • Advanced trouble shooting and fault finding • Simple integration with guidance and area scanner options
Enclosure	Lockable, IP66 rated