

BOGIE TURNTABLES



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The Bogie Turntable is an in ground unit and consists of a fabricated structure mounted on a central slewing ring pedestal.

The Turntable is 3600mm in diameter with a rated capacity of 10T under rotation.

The rotation of the turntable is controlled by a push button control console. The range of rotation during normal operation for this table is $\pm 90^\circ$; however the table can travel through a full 360 degree motion.

The Rotation Platform is mounted to an 800 mm P.C.D, 100 tooth Slew Ring which provides the rotational component of the functionality. It is driven by an SEW 0.55 kW gear motor with an output speed of 4.2 rpm. A 200 mm P.C.D. 25 tooth pinion gear is fixed to the output shaft of the gear motor thus giving a drive to rotation ratio of 4:1. In other words for every rotation of the gear motor output shaft there is a 90° rotation of the Rotation Platform. The fast and slow rotations are set automatically by cam operated proximity switches located below the drive pinion.

The Rotation Locking Unit comprises of a spring loaded shot pin fitted in to a housing and driven by a 50 mm stroke Electrical Linear Actuator. The springs function is to protect the actuator from damage in the case of the shot pin hitting the top of a tooth on the slew ring brought on by rotational misalignment. Shot Pin stop positions are achieved by a pair of position switches which sense the back of the Shot Pin.

The centralization of the wheelsets is achieved by the 50 mm die springs positioned under each Push Arm at either end of the turntable. The springs are sufficiently weighted to allow a bogie onto them. Centralization on the turntable is important to avoid potential damage to equipment when rotation is occurring.

The bogie turntable has been designed to be manually operated in the event of electrical or system failure.

The bogie turntable has the capability to be interlocked through the Depot Personnel Protection System.



Figure 1 - Typical 4-Way Turntable

CONTROL CONSOLE

The Control Console is equipped with the following safety features:

- Turntable Controls Counter clock ways & clock ways push buttons
- Display Screen Displays when shot-pin is extended & or retracted.
Settable parameters for indexing speed
- Lockable Electrical Isolator When activated, it immobilizer's all mechanical and electrical components for the Bogie Turntable & Control Console
- Emergency Stop When activated, it immobilizer's all mechanical and electrical components for the Bogie Turntable & Control Console.
- Audible Alarm Alarm sounds when turntable is indexing
- Warning Beacon Amber light flashes when turntable is indexing.



Figure 2 - Typical Control Console

TECHNICAL DATA

RAIL GAUGE	Determined by Customer
RAIL CONFIGURATION	CROSS ROAD (4 Way)
TURNTABLE O.D	3600 mm
RAIL AXLE LOAD – Train Transit with Roller Support	40 T @ 2500 mm WHEEL CENTRES
RAIL AXLE LOAD – Bogie Crossover	5T @ 2500 mm WHEEL CENTRES
BOGIE WEIGHT	10T
FORKLIFT ROLL-OVER LOAD	10T CAPACITY FORKLIFT FULLY LOADED
CHECKER PLATE FLOOR LOADING	1.1 Mpa
WHEEL CENTRALIZER	ONE SIDE @ 2500 WHEEL CENTRES
INDEX	±90° INCREMENT 360° CONTINUOUS ROTATION
INDEX TIME	20 Sec / 90 deg.
PIT SIZE	3640mm
PIT DEPTH	750 mm
FINISH	HOT DIP GALVANISED OR PAINTED TOP
CONTROL CONSOLE	PLC Control
CONTROL VOLTAGE	24Vdc
MAIN POWER SUPPLY	3~ 415VAC 50Hz
DEPOT PROTECTION SYSTEM INTERLOCK	OPTIONAL
MANUAL SHOT PIN RETRACTION	YES
MANUAL TURNTABLE ROTATION	YES
EARTH INSULATION	OPTIONAL
RAIL BONDING	OPTIONAL