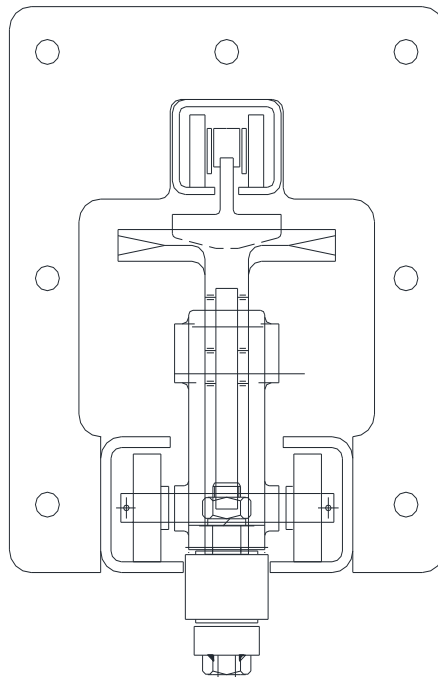


AT50 POWER & FREE CONVEYOR

COMPONENT SPECIFICATION



MCM CONVEYOR SYSTEMS

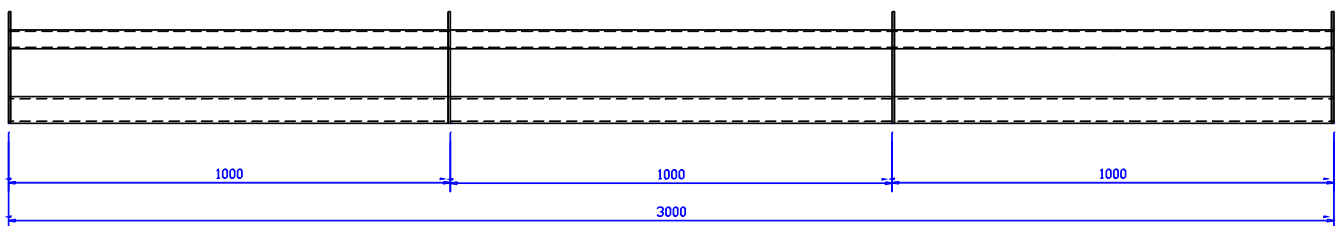
(AMBER INDUSTRIES LTD)

STRAIGHT TRACK SECTION

The straight track section is made up from two sets of accurately cold rolled steel sections mounted one above the other.

An enclosed 51mm x 42mm hollow section, is utilised as a carrying and guide medium for the conveyor chain, with a rolled channel section being used to support the trolley and loadbar assemblies. The two sections are then spaced apart by flange plates nominally pitched at 1000mm.

The design of the track section, once welded into an assembly, gives exceptional strength and a robust construction in the form of a composite beam, therefore minimizing support structure requirements.



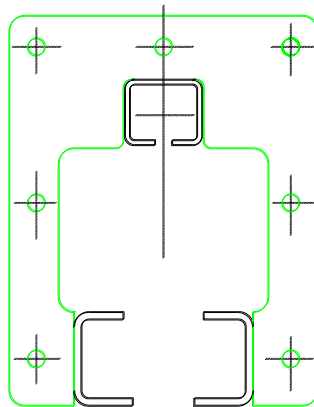
By utilising a channel section for the trolley track, the trolley and loadbar assemblies are totally captivated, thus eliminating any possibility of trolley 'jumping' within the track section when negotiating horizontal and vertical bends.

To ensure uniformity of quality all the track components are jig aligned and welded into standard 3000mm long sections, with variable lengths being cut and jig welded as required for make-up lengths within a conveyor circuit.

Straight Track cont'd

Each flange plate has 7 off holes which are used to bolt together each track joint, using 12mm fixings.

All internal running surfaces, on both the chain and trolley tracks, are aligned to ensure smooth running prior to final tightening of each joint, by our installation engineers.



Material Specification

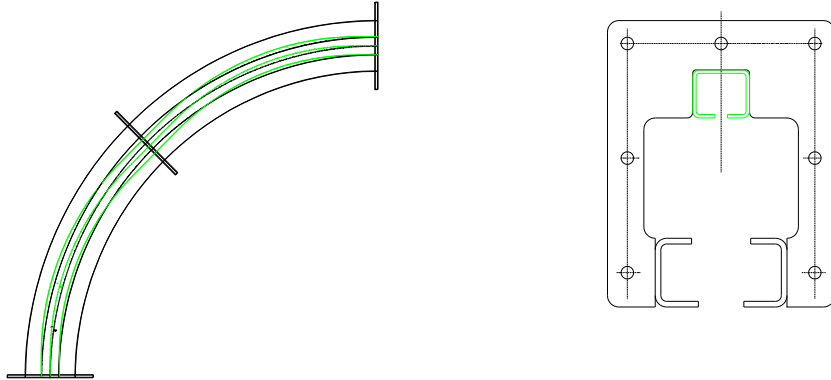
Conveyor Track (chain)	-	Mild Steel HR15 Pickled and Oiled - 3 mm
Conveyor Track (trolley)	-	Mild Steel HR15 Pickled, annealed & Oiled - 5mm
Track Flange Plate	-	Mild Steel - Laser Profiled 6 mm

Finish

All conveyor track sections will be powder coated as standard.

HORIZONTAL BENDS

The configuration of the conveyor bends will be identical to that of the straight track, with the top hat section being rolled to the required radii and coupled with standard flange plates to be jig aligned and welded into a bend assembly.



Standard bend radii and angles are available, however non-standard units or composite type bends can be supplied if required.

Standard Radii	-	Horizontal	762mm
	-		
Standard Angles	-	15°, 30°, 45°, 60° and 90°	

All horizontal bends will be case hardened to give a longer and more reliable system operation.

Material Specification

50 x 40 x 3 RHS Mild Steel Case Hardened 500-600 HV10 0.010" Effective Depth

HORIZONTAL SWITCH GATE

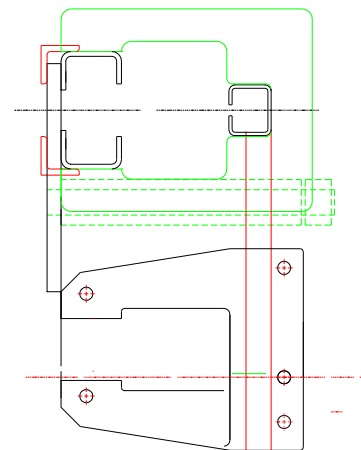
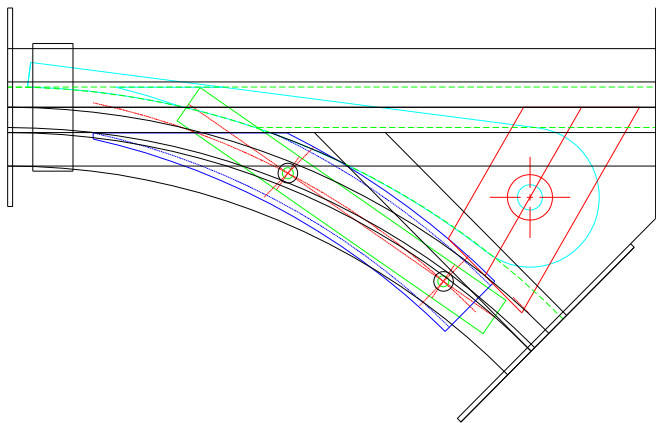
These units are used to route trolley assemblies around the system, to their relevant destinations. A track switch gate is a junction where two separate lines join.

There are two kinds of switch gate, a converging type which is a mechanical unit where trolleys merge into a single line, or a diverging type where a pneumatic cylinder is utilised to move a pivoting switch tongue.

The control of the diverging switch gate can be a simple mechanical lever or fully automated via limit switch sensors activating an electrical solenoid valve.

Dependant upon the conveyor system layout various types of switch can be utilised when transferring trolley assemblies from one conveyor line to another, as detailed below:

- Live line (P+F) to dead track (T.O.)
- Live line (P+F) to live line (P+F)
- Dead line (T.O.) to live line (P+F)
- Dead line (T.O.) to dead line (T.O.)



The basic construction of the switch gate is similar to that of the horizontal bends, however a fabricated framework, mounting plates and central pivoting tube are incorporated to support the switch tongue and associated components.

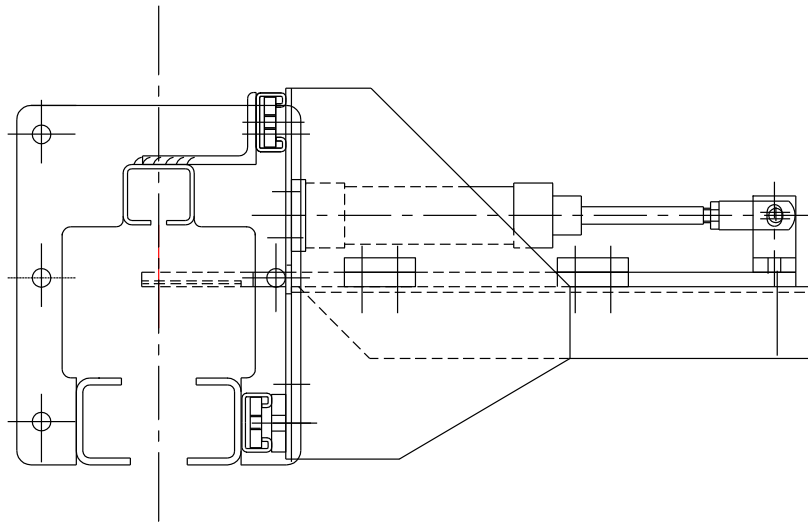
PNEUMATIC POWER STOP ASSEMBLY

A pneumatic power stop assembly is used to create live storage and can be sited at virtually any position within a system, allowing various production processes or other functions to be carried out on the product, whilst stationary.

The general operation is simple, where a hardened steel blade can extend or retract to allow drive engagement and dis-engagement of the trolley unit. The power stop blade is actuated via a standard pneumatic cylinder.

Upon the blade extending and dis-engaging the trolley drive, all oncoming drive trolley dogs will pass over the blade and stored trolley unit, with no contact occurring.

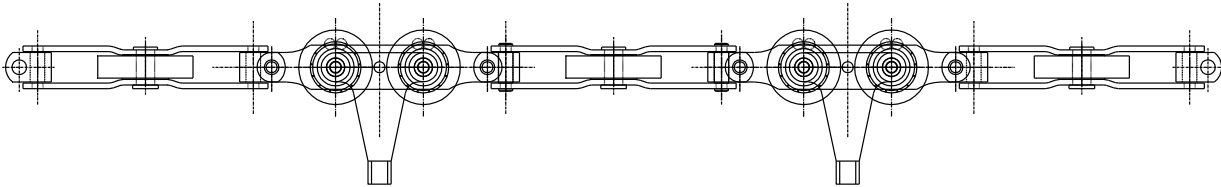
This feature will eliminate any 'clickity click' sounds whilst the trolley units are in live store, as the mechanical levers all lower together.



The power stop construction is fabricated from a series of folded plates and channel sections. The whole framework is then mounted onto two 'unistrut' sections, which offer flexibility for on site positioning when carrying out the system commissioning.

TROLLEY DRIVING DOGS

Trolley driving dogs are used as a traction medium for the power and free load trolley assemblies. The drive dogs can be bolted between the conveyor chain side links at a pitch of 203mm, or a multiple thereof, dependent upon the specific



application. Each pusher dog position a double roller link is used to ensure stability of the dog within the track section, when engaged with a trolley assembly.

The trolley driving dogs are cast from a malleable iron, therefore giving a hard wearing, strong reliable component.

TROLLEY AND LOADBAR ASSEMBLY

The products passing around the conveyor system will be transported on a trolley and assembly, which will be capable of bearing the full load of the product and associated jiggling and allow engagement and dis-engagement of drive on the conveyor chain.

The standard arrangement will comprise leading trolley and rotation device.

Leading Trolley

This trolley allows the driving pusher dog to engage and push it around the conveyor system, with the facility to uncouple the drive at specific points via the activation of a power stop.

The engagement and dis-engagement of drive is achieved through a series of mechanical levers, raise and lower according to the driving requirement.

An anti run away pawl is also incorporated into the trolley design, which is used to control the trolley movement when negotiating vertical rise and fall sections.

The main body of the trolley is of a cast construction giving a hard wearing, strong and reliable operation. The body is carried by four load rollers, with two additional rollers being used as the guiding medium for the trolley.

A primary loadbar is mounted beneath the trolley body onto which various attachments can be taken, dependant upon the product to be handled.

