OVER/UNDER CONVEYOR
The compact, rugged and cost-effective interlinking solution designed for conveyance, buffering, positioning as well as infeed and outfeed

- Compact and modular transport system
- Designed for conveying and buffering workpieces
- With and without workpiece carriers (WPC)
- Between manual workstations and automatic workstations (e.g. material handling devices, robots)
Function as accumulating conveyor or indexing conveyor,

Workpiece or WPC transport horizontally (accumulating / indexing conveyor) or vertically (indexing conveyor),

Means of conveyance accumulating roller chain of hardened steel,

Rugged and failsafe thanks to the use of ALTRATEC’s tried and tested aluminium profile system,

Save space and money with the roller shutter principle at the WPC reversal,

Loading and unloading can be implemented either manually or automatically,

Workpiece carriers can be buffered while loaded and unloaded.

Length and width of WP carriers can be configured to suit almost all requirements thanks to its modular design and thus is optimally adaptable.

Impervious to oils and cooling lubricants,

Optional with automatic chain lubrication,

Long service life,

Low maintenance,

Conveying speed: (1), (3), standard = 6, (9), (12) m/min

Length of conveyor / buffer section: max. 20 m (depending on weight of workpiece / WPC quantity)

Total load: max. 1 500 kg (higher loads possible on request)

WPC dimensions (length x width): 100 x 300 ... 2 000 x 2 200 mm (depending on workpiece weight and guidance ratio WPC length / WPC width)

Larger lengths and widths available on request

Workpiece weight including weight of WPC: max. 60kg per profile segment, parts transport top

max. 30kg per profile segment, parts transport bottom (with evenly distributed loads)

WP carrier positioning accuracy: ± 0.15 ... 1.0 mm

Sensors: Circuit break, indexing sensor (only indexing conveyors)

Inductive sensors M12, (M18)

Photoelectric sensors M12, (M18)
The functional elements

Workpiece carriers
The basis

The base element of our flexible workpiece carrier system for accumulating and indexing conveyors is the profile segments constructed of aluminium sections 25 mm x 100 mm with follower for accumulating conveyors or clamping element for indexing conveyors.

Advantages

The dimensions of the workpiece carrier can easily be adapted to suit workpiece dimensions and the transport requirements. The profile grooves and the fastening accessories ensure that workpiece fixtures can be mounted easily and precisely. Optional positioning receptacles (accumulating conveyors) allow for a high positioning accuracy of WP carriers.
**Accumulating conveyors for upright transport**

The accumulating roller chain principle facilitates a cycle-independent transport of workpieces or WP carriers. The workpieces or WP carriers can be stopped, separated, positioned and buffered at any point. They are also movable on the chain.
Accumulating conveyors for suspended transport

Workpieces are transported and buffered while suspended on the return strand. Empty WP carriers are return in upright position on the top strand. They be shifted both on the top and return strands.
**Indexing conveyor**

Workpieces and WP carriers are conveyed in cycle-dependent manner since they are firmly fixed by the chain. Individual profile segments can be arranged in relation to one another in the modular grid of the chain pitch. Workpieces or WP carriers are detected at the workstations with the aid of roller lever switches or sensors and the conveyor chains are stopped.
Automatic station
Automatic unloading of parts on the return strand
cycle-dependent

Conveyor section
Transport of loaded workpiece carriers (WPC)
cycle-dependent

Automatic station
Automatic loading of parts
cycle-dependent

Indexing /position sensor
Protective system
Workpiece
Workpiece fixture (WA)

Protective system with pendulum flap and protective enclosure

Conveyor chain ¾” Spacing 19.05 mm
Workpiece fixture-reversal

Support
Workpiece fixture-reversal

WPC with 1 x profile segment
WPC via pendulum mount with integrated shock absorber firmly fixed with the chain
Indexing conveyor

Automatic station
Automatic unloading of parts
  cycle-dependent

Conveyor section
Transport of loaded workpiece carriers (WPC)
  cycle-dependent

Manual workstation
Manual loading of parts
  cycle-dependent
Horizontal accumulating conveyor / WPC transport
Infeed of automotive body parts to a welding cell

Vertical indexing conveyor
Sheet metal infeed for welding cell

Horizontal indexing conveyor / WPC transport
Infeed of automotive body parts to a welding cell

Horizontal accumulating conveyor / transport without WP carrier
Infeed of unmachined parts for processing
Certified according to DIN EN ISO 9001