

# x-gun THE INNOVATIVE BOLTING SYSTEM

## Product

The x-gun is a mobile multi bolting system. Up to 4 bolts can be loaded automatically, transferred to the bolting tool and subsequently bolted into the correct position. The system is a new development in „direct bolting“. Common practice within the automotive industry is to adapt the bolting equipment to extended spindles on the tooling plates for each bolting point. The x-gun has the advantage of not requiring extended spindles. This results in reduced costs and an increased flexibility within the marriage process.

Compared to the normal direct bolting operations to be found in the automotive industry, up to 4 bolts can be taken simultaneously from the pallet nest instead of taking one bolt at a time.

The product x-gun is upwards compatible with the Dürr product x-bolt, i.e. it can be supplied as an option or/and be retrofitted at a later date.

Handling with robot technology or other NC axes is possible. Retrofitting of already existing systems from other manufacturers is also possible.

## Application

The bolting system x-gun is mainly used in the automatic marriage area in the automotive industry.

## Structure

The system comprises the following units:

- » "Bolt nest", which is stationary or attached to the pallet.
- » Magazine with takeover, sorting and feeding function, which is adapted on the bolting tool.
- » indexing resp. lifting unit
- » bolting system with adaptation spindle
- » Servo rotating unit

» Bolting system x-gun



» x-gun on x-bolt



# x-gun

## Sequence

The nest is manually or automatically fed with bolts. In the bolting station the bolts are taken by the magazine. The bolts are clamped and positioned. The bolts are selected and transferred to the bolting tool during movement between the different coordinates. The bolts are then tightened automatically.



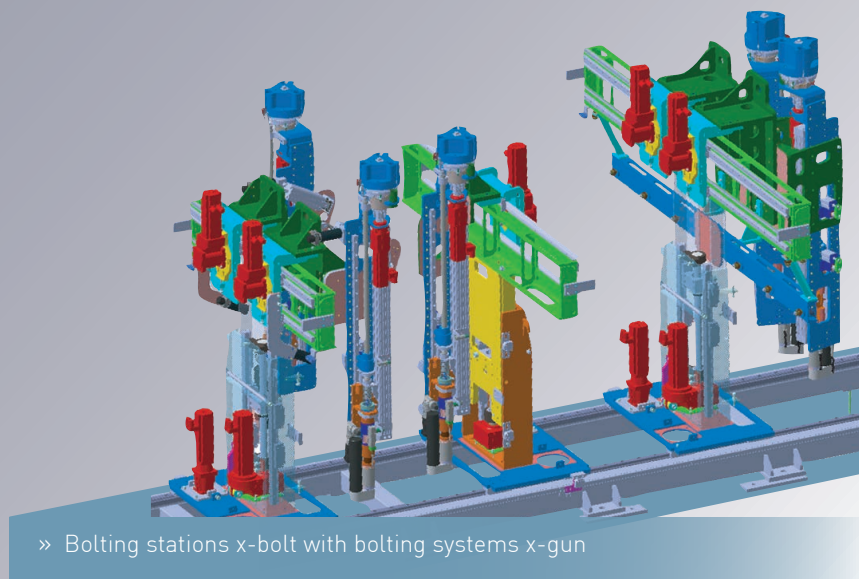
### » Bolt nest

#### Technical data x-gun

Qty. bolts:	3 or 4
Positioning accuracy:	+/- 0,5 mm (x-bolt)
Bolt size:	M8 to M14, independent from bolt head
Rotary drive:	SEW servomotor
Rotation angle:	max. 360°

## Benefits

- » complexity of pallets will be reduced (costs, flexibility)
- » no extension spindles on pallets (pallet costs, system costs)
- » magazine takes over all bolts in one process (cycle time)
- » sorting of bolts is done during the movement to the bolting position (cycle time)
- » Handling with robot technology and linear technology (flexibility of technology, costs)
- » M8 to M14, 25 to 140 mm long, torx or hexagon
- » bolt nest can be positioned on the pallet or at the bolting station (flexibility, condition for cost-efficient automation, costs)
- » bolt nest can be loaded manually or automatically (unit costs, flexibility)
- » system can also be used for other areas of application (battery, ...)
- » condition fulfilled for horizontal bolting
- » minimum adaptation in case of future model change
- » reduction of number of bolting tools
- » easy to maintain



» Bolting stations x-bolt with bolting systems x-gun

\* The photos or figures of the assembly and testing systems in the flyer are not showing the complete installation. The requirements of the machinery directive (2006/42/EG) will only be met by other supplementary scope of supply or - on delivery of uncompleted machines - those requirements must be fulfilled by the manufacturer of the (complete) machine. Flyer x-gun, Version F

