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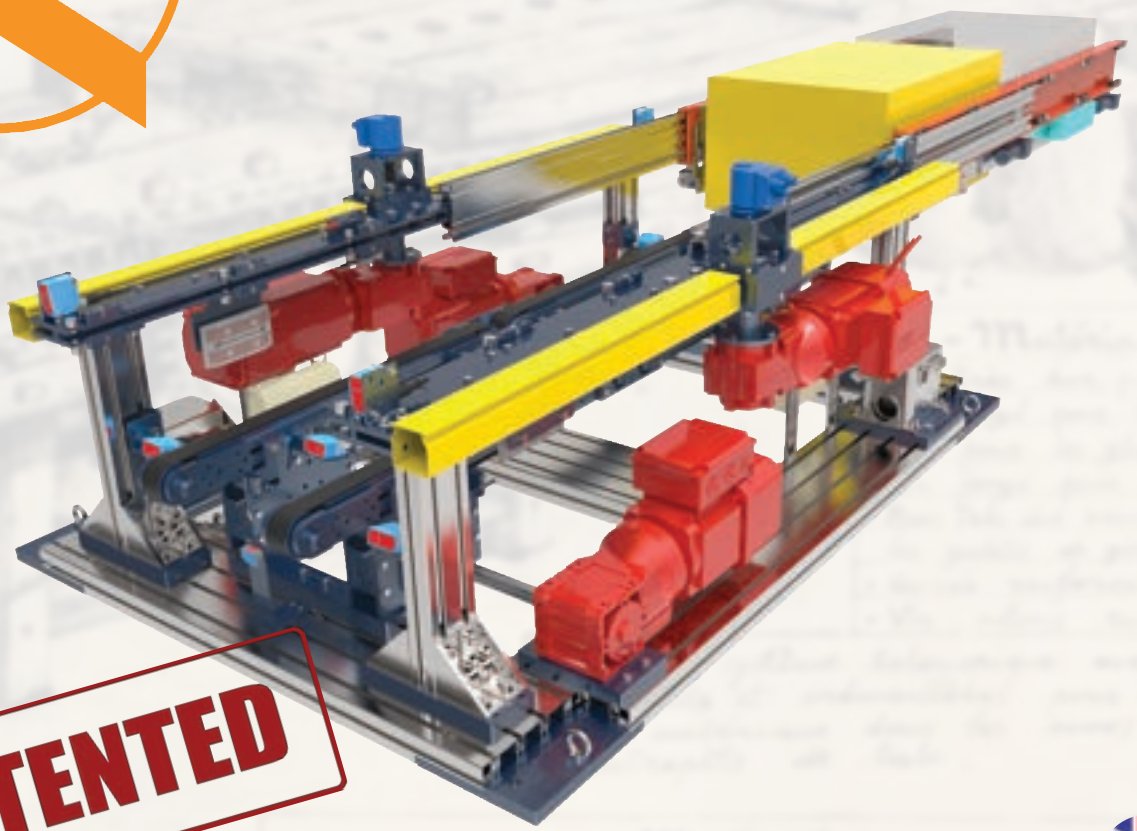
LHD®

LOAD HANDLING DEVICES

ARACHNE



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2025-AC-01

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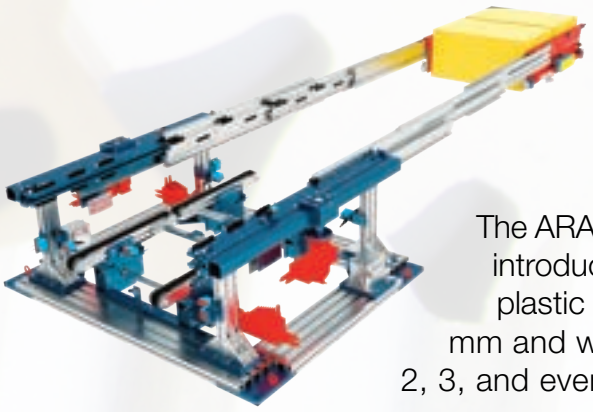


ARACHNE

The ARACHNE is an interesting latest generation equipment, being lately introduced. This patented solution can carry out the handling of 1 or 2 plastic (or carton) box(es), each one of them about as big as 600x400 mm and weighing up to 50 Kg, in simple, double, or in triple depth, or 2, 3, and even 4 of such boxes in single depth. In the picking phase, two telescopic arms reach the load on the shelf and, by means of small pivoting fingers, drag it onboard the shuttle.

The multiple-belt, on-board system can handle up to 4 boxes at once.

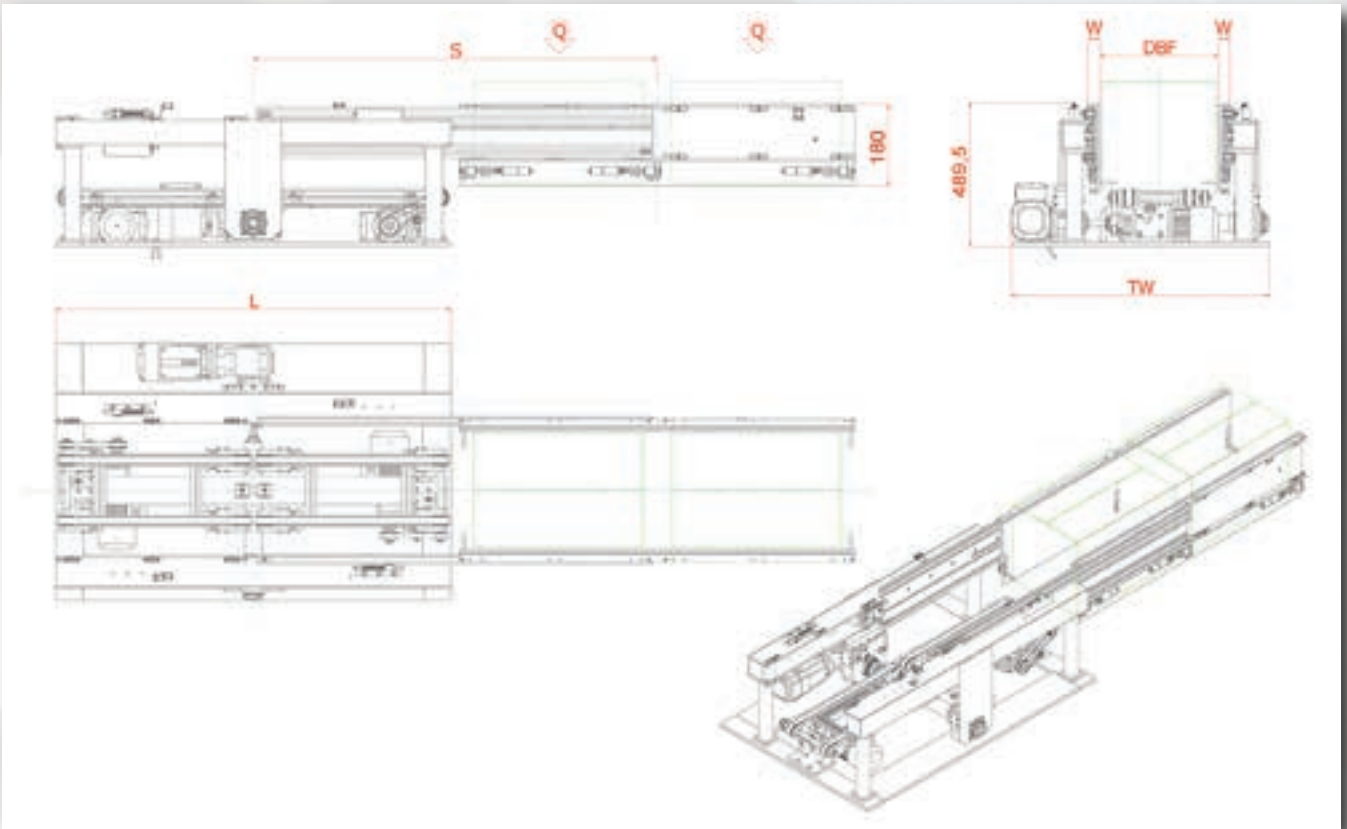
With a telescopic arm thickness of only 50 mm in the single-depth versions, the ARACHNE allows reducing the spaces between the boxes in the cells, thus reducing the width of the whole shelf.

Thanks to its particularly light and agile structure, the ARACHNE can attain remarkable work speeds.

In comparison with similar devices on market, it's certainly more performing, slender, and per se simpler. This makes maintenance easier, certainly increasing competitiveness.

MODEL	Q LOAD (KG)	L SYSTEM LENGTH (MIN/MAX, MM)	S STROKE (MIN/MAX, MM)	W ARM THICKNESS (MM)	DBF DISTANCE BETWEEN ARMS (MM)
X4	50*	700 1200	850 1300	50	
X6	2x50*	900 1350	1000 1450	50	
X8	3x40* 4x25**	1300 2015	1375 2070	50	
X10	4x25**	1550 2015	1605 2070	50	min. 220 max. 800
XX4	50*	700 1300	1400 2400	70	
XX6	2x30* 4x25**	800 1350	1400 2450	70	
XXX4	50*	700 1300	1700 2835	110	
XXX6	2x30*	800 1350	1700 2885	110	

* the boxes are handled longitudinally (600 mm L, 400 mm W) ** the boxes are handled crosswise (300mm L, 400 mm W)



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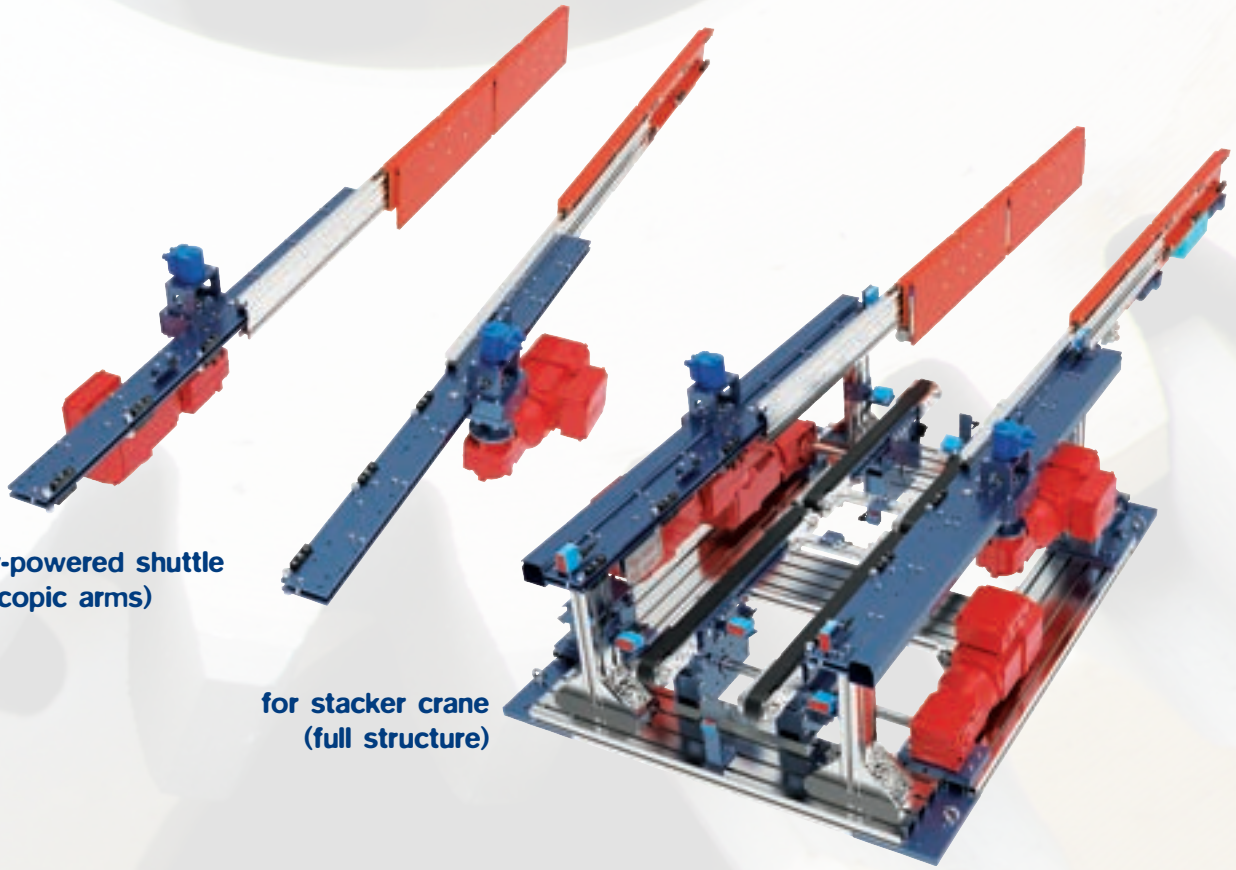
DIFFERENT STRUCTURES AVAILABLE

The ARACHNE can be produced in two different versions as regards the base structure, allowing to install it on either a stacker crane or a shuttle.

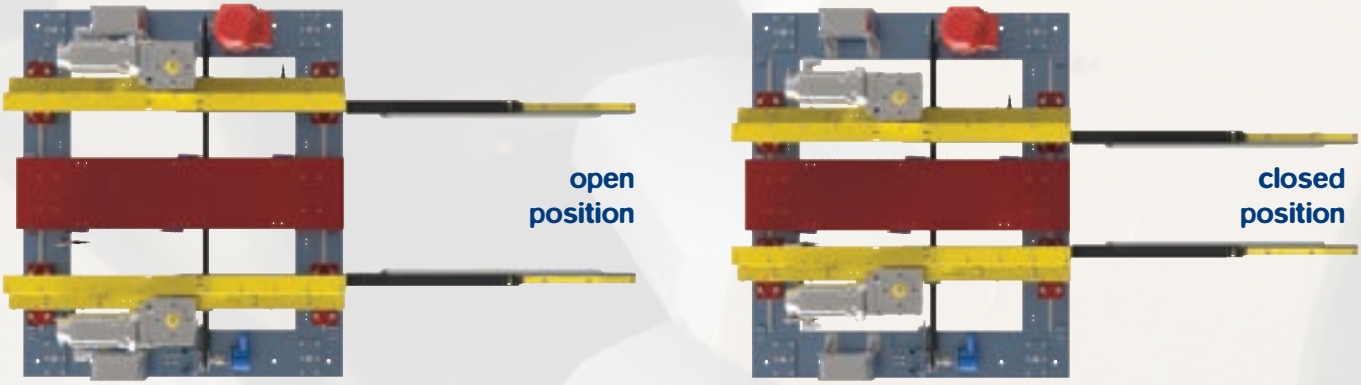


for battery-powered shuttle (only telescopic arms)

for stacker crane (full structure)

VARIAXIS AVAILABLE

An axis distance adjustment system (VariAxis) is available on the ARACHNE, allowing to handle boxes of different size in the same warehouse (more than 500 mm width difference manageable)



open position

closed position

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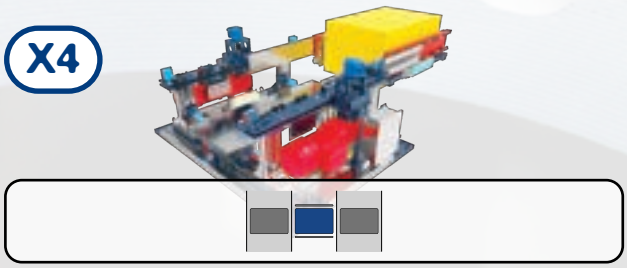
DIFFERENT PICK-UP VERSIONS AVAILABLE (handling and storage depths)

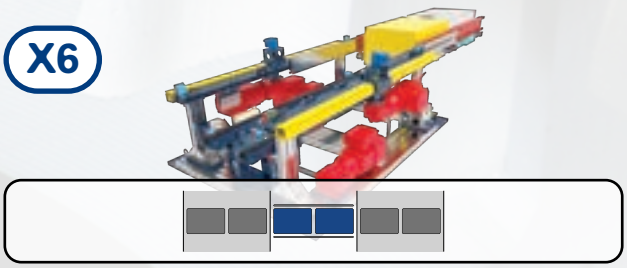
The ARACHNE is available in 8 different versions, allowing the management of different storing depths:

- **X4**, with **2 sliding elements** per arm (**single depth**) and **4 fingers** to handle **1 box**;
- **X6**, with **2 sliding elements** per arm (**single depth**) and **6 fingers** to handle **2 boxes**;
- **X8**, with **2 sliding elements** per arm (**single depth**) and **8 fingers** to handle **3 boxes**;
- **X10**, with **2 sliding elements** per arm (**single depth**) and **10 fingers** to handle **4 boxes**;
- **XX4**, with **3 sliding elements** per arm (**double depth**) and **4 fingers** to handle **1 box**;
- **XX6**, with **3 sliding elements** per arm (**double depth**) and **6 fingers** to handle **2 boxes**;
- **XXX4**, with **4 sliding elements** per arm (**triple depth**) and **4 fingers** to handle **1 box**;
- **XXX6**, with **4 sliding elements** per arm (**triple depth**) and **6 fingers** to handle **2 boxes**.

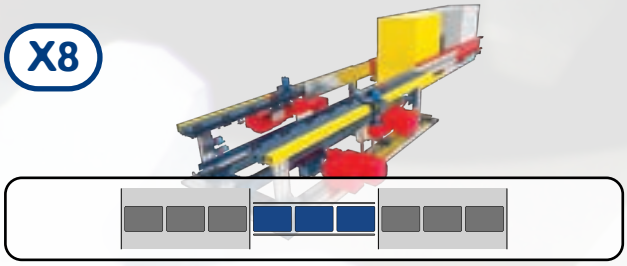
X4



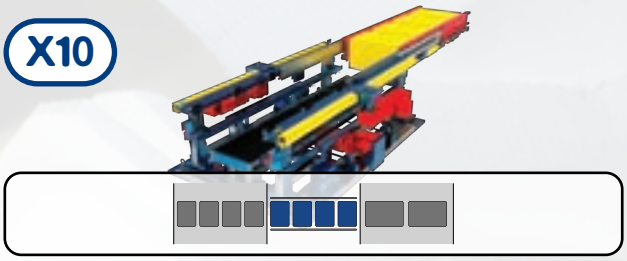
X6



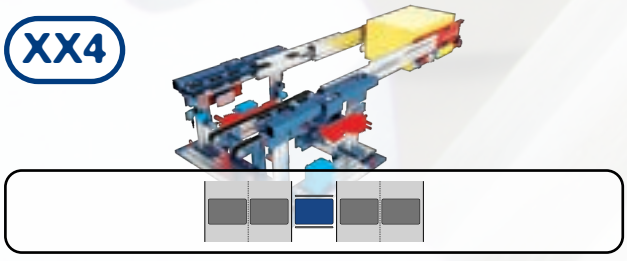
X8



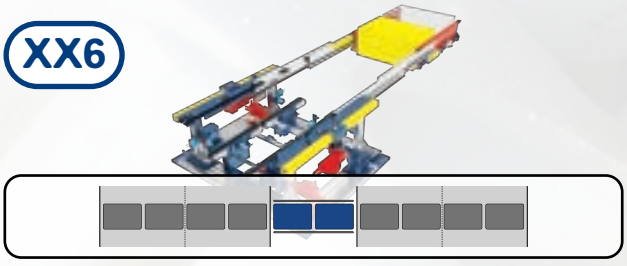
X10



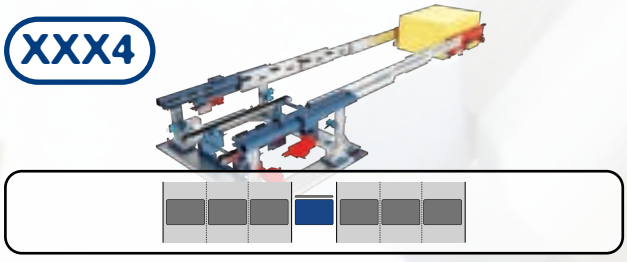
XX4



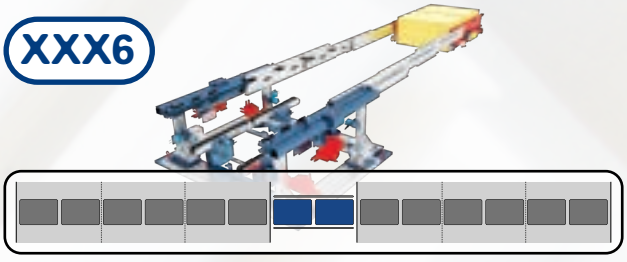
XX6



XXX4



XXX6



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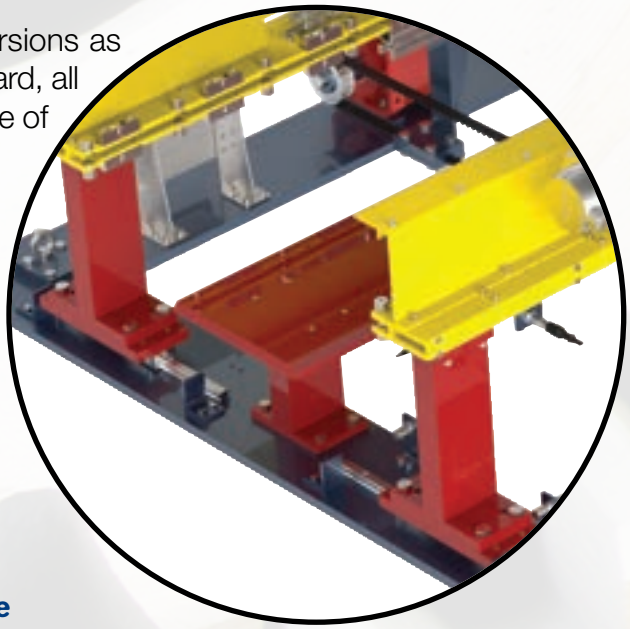
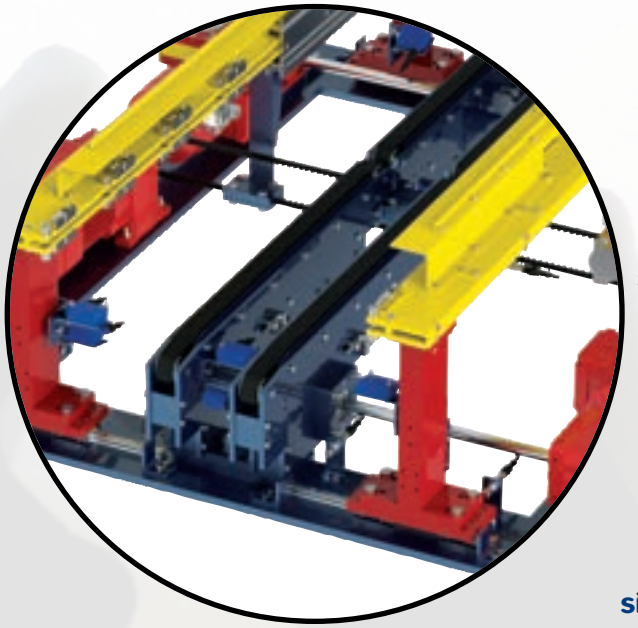
DIFFERENT LOAD SUPPORTS AVAILABLE (on-board features)

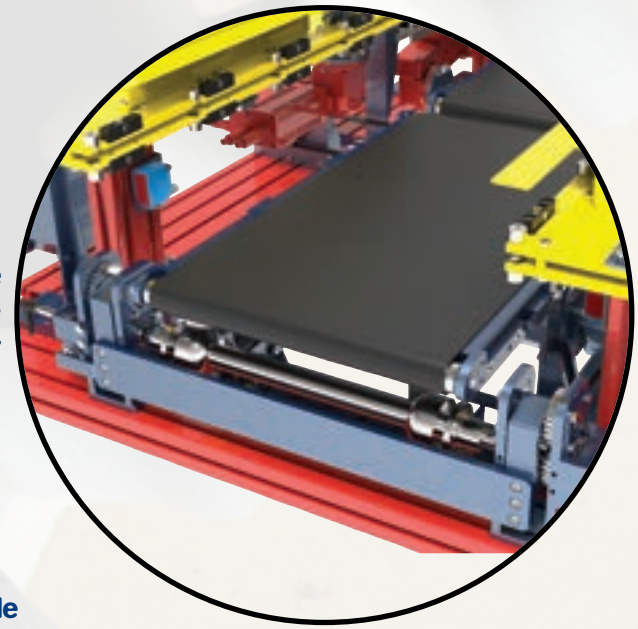
Furthermore, the ARACHNE is available in 4 different versions as regards the type of support that receives the load on board, all of them including a group of sensors to detect the presence of the load itself:



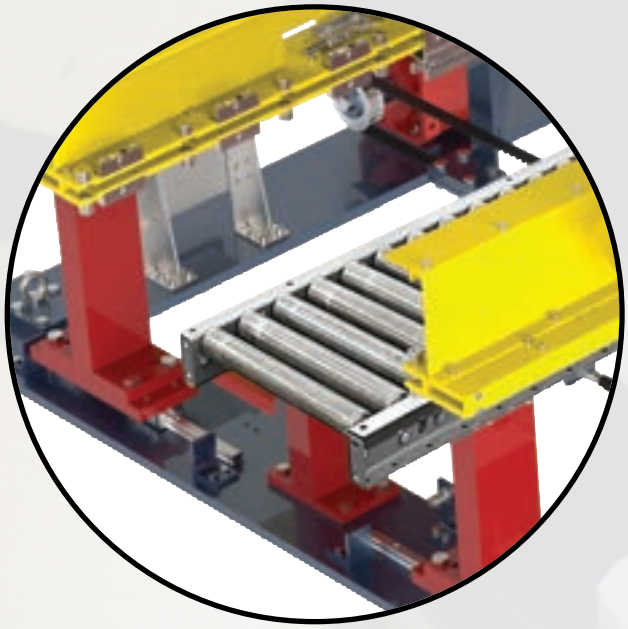
smooth sheet metal cradle



single/multiple belt conveyor



single/multiple central large conveyor



single/multiple roller conveyor (idle or motorised)

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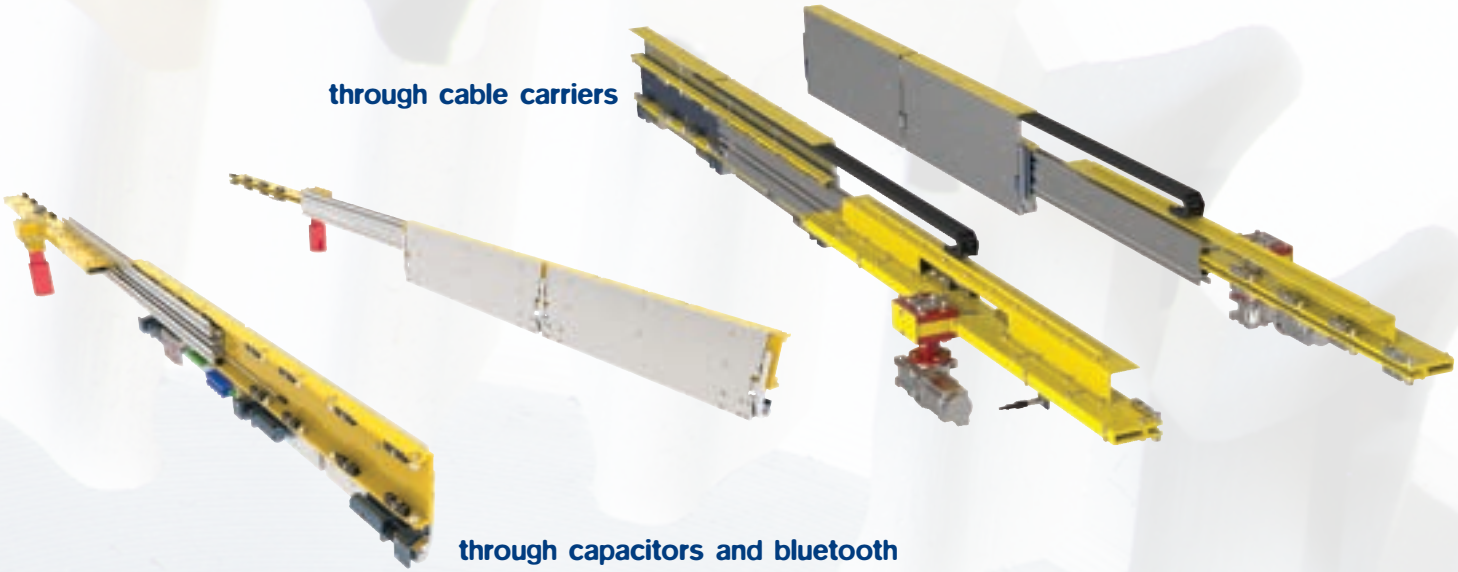
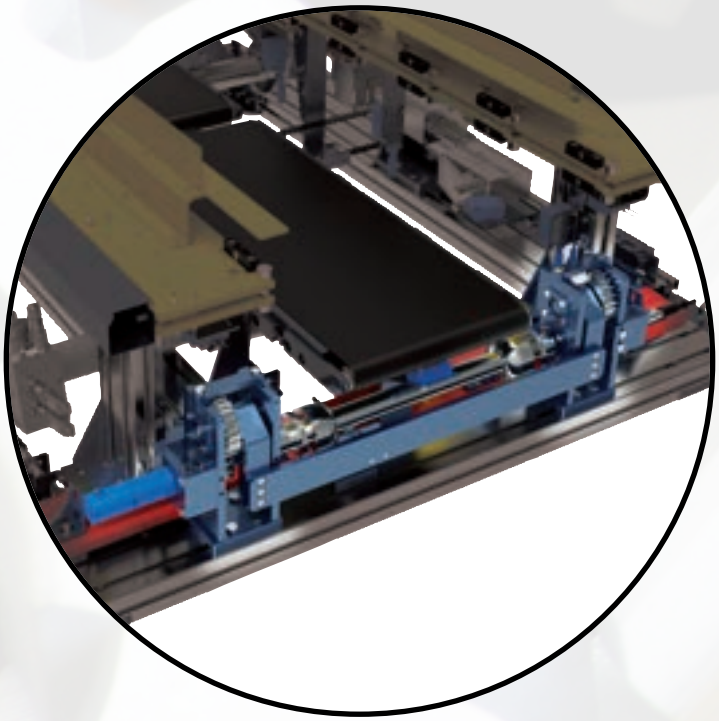
TWO POWER TRANSMISSION SYSTEMS
(to power and control the fingers)

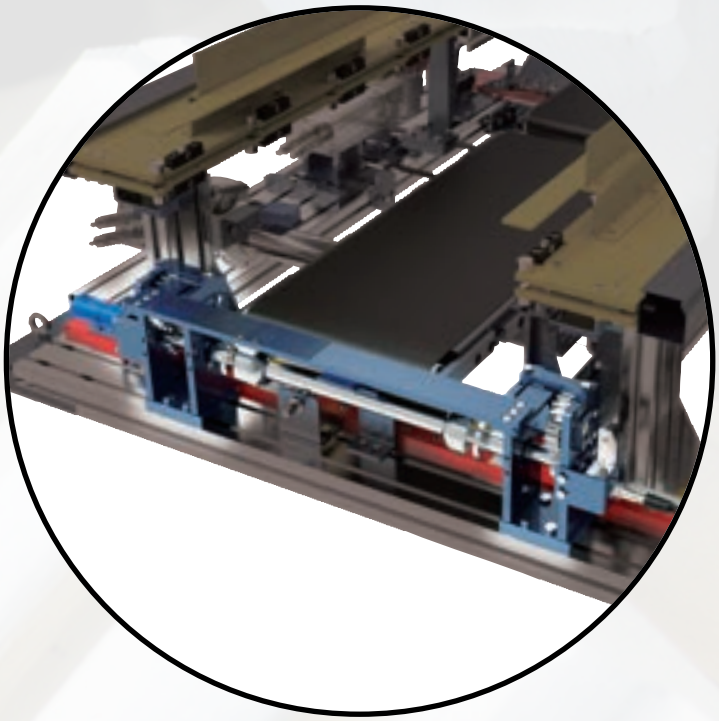
through cable carriers



through capacitors and bluetooth

OPTIONAL DRAWBRIDGES
(for a continuous sliding surface)





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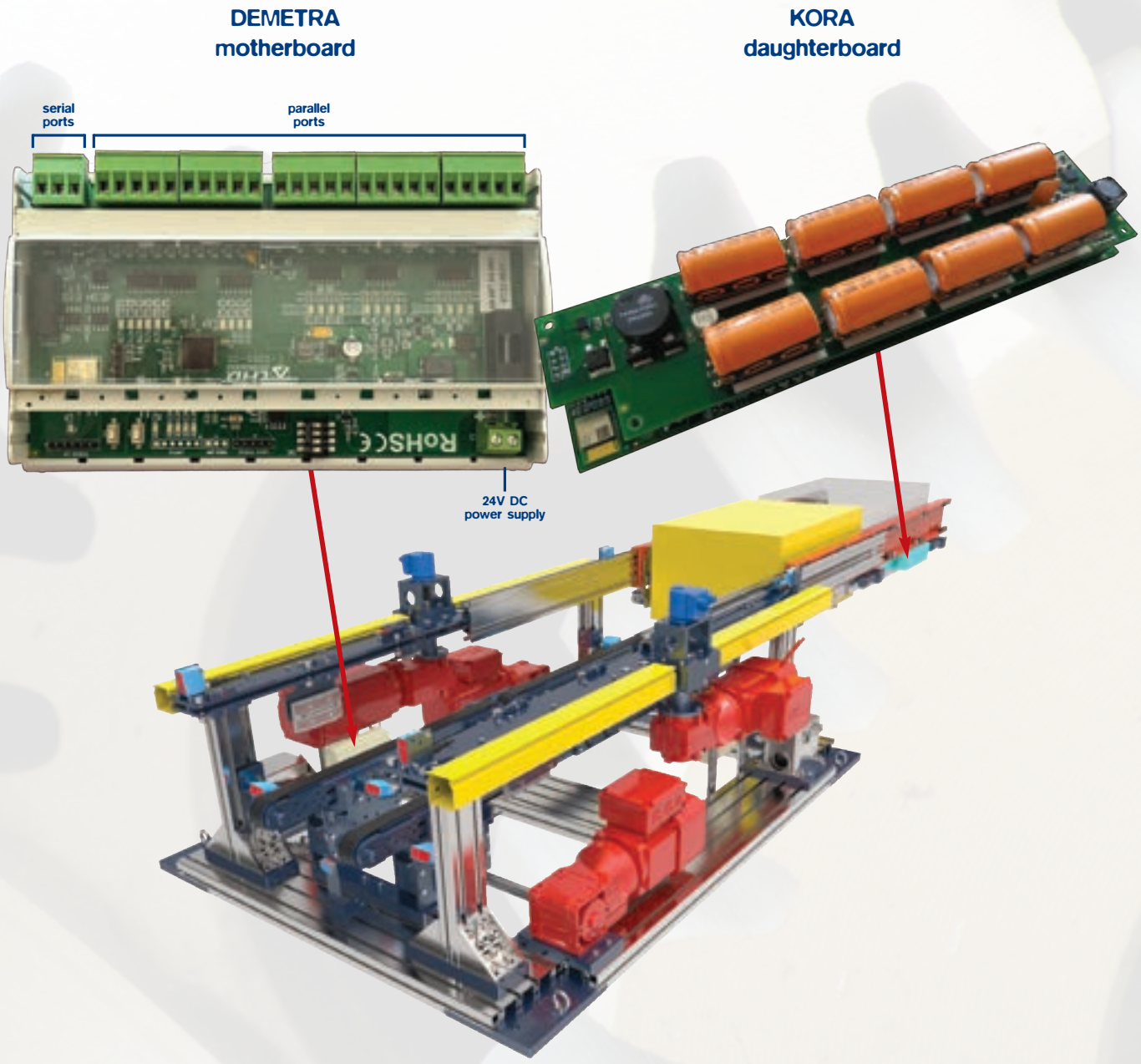
DEMETRA & KORA (motherboard and daughterboard)

In the case of a wireless system powered by capacitors (see previous page), a pair of electronic boards are used to control the fingers; the first one (Demetra) is located on the fixed structure of the ARACHNE and receives the power supply along with the the impulses for the movement of the fingers, whereas the second one (Kora) is placed on the upper slide, and receives the control impulses from the first one via Bluetooth protocol. This allows getting rid of the cable carrier, thus saving space.



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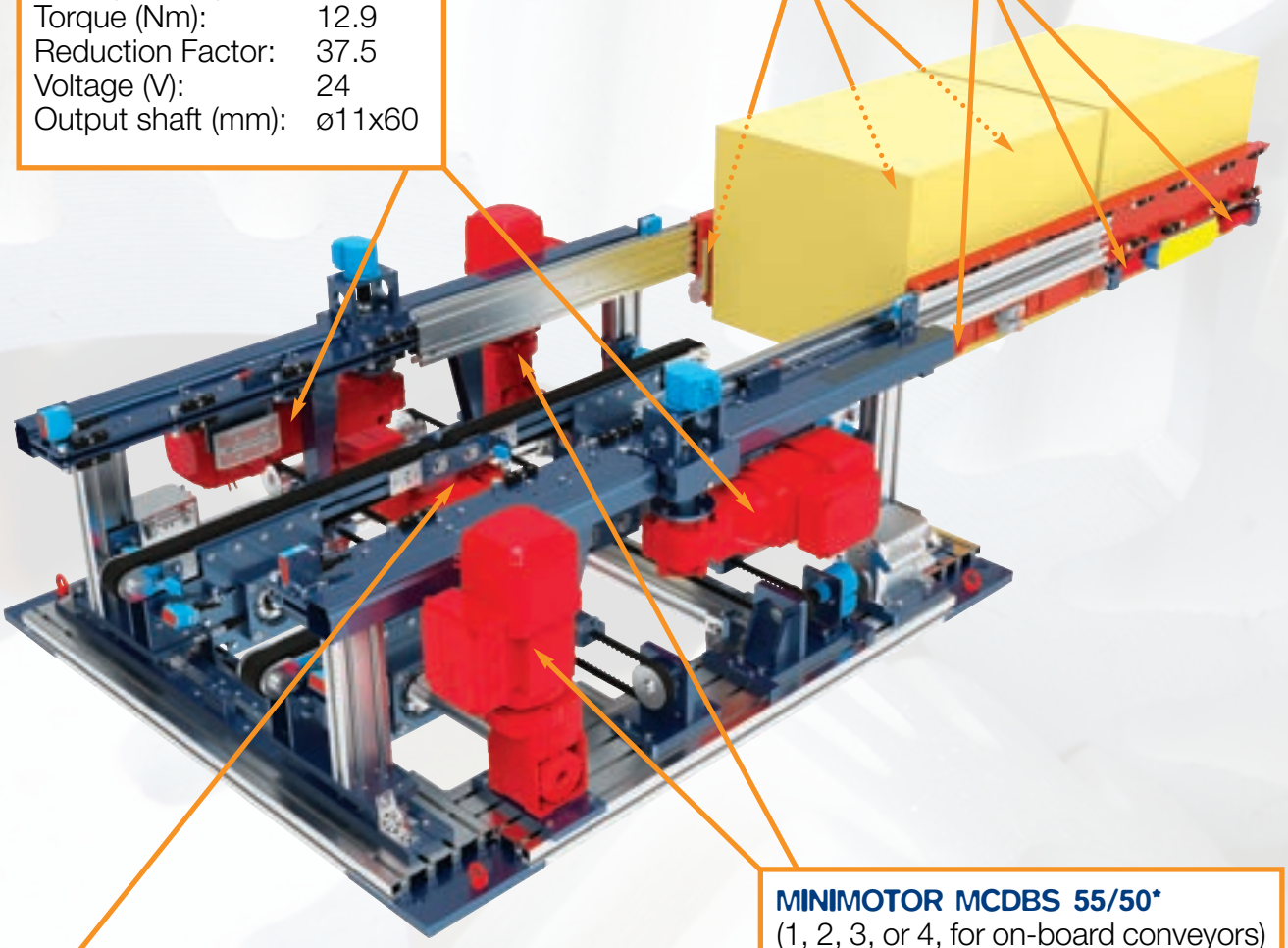
THE MOTORS ON THE ARACHNE

DUNKERMOTOREN BG32x10 KI + PLG32 RR91
(4, 6, 8, or 10, for pivoting fingers)

Power (kW):	0.0106	Reduction Factor:	91.12
RPM (rev/min):	43	Voltage (V):	24
Torque (Nm):	1.7	Output shaft (mm):	ø6x17

MINIMOTOR MCEDBS 55/50*
(2, for telescopic stroke)

Power (kW):	0.1
RPM (rev/min):	80
Torque (Nm):	12.9
Reduction Factor:	37.5
Voltage (V):	24
Output shaft (mm):	ø11x60



MINIMOTOR DBSE 55/100*
(1, for axis distance adjustment)

Power (kW):	0.05
RPM (rev/min):	61
Torque (Nm):	33.2
Reduction Factor:	49
Voltage (V):	48
Output shaft (mm):	ø14x31

MINIMOTOR MCDBS 55/50*
(1, 2, 3, or 4, for on-board conveyors)

Power (kW):	0.05
RPM (rev/min):	150
Torque (Nm):	4.7
Reduction Factor:	20
Voltage (V):	24
Output shaft (mm):	ø11 hollow

* ALTERNATIVELY, AC THREE-PHASED SEW GEARMOTORS ARE AVAILABLE

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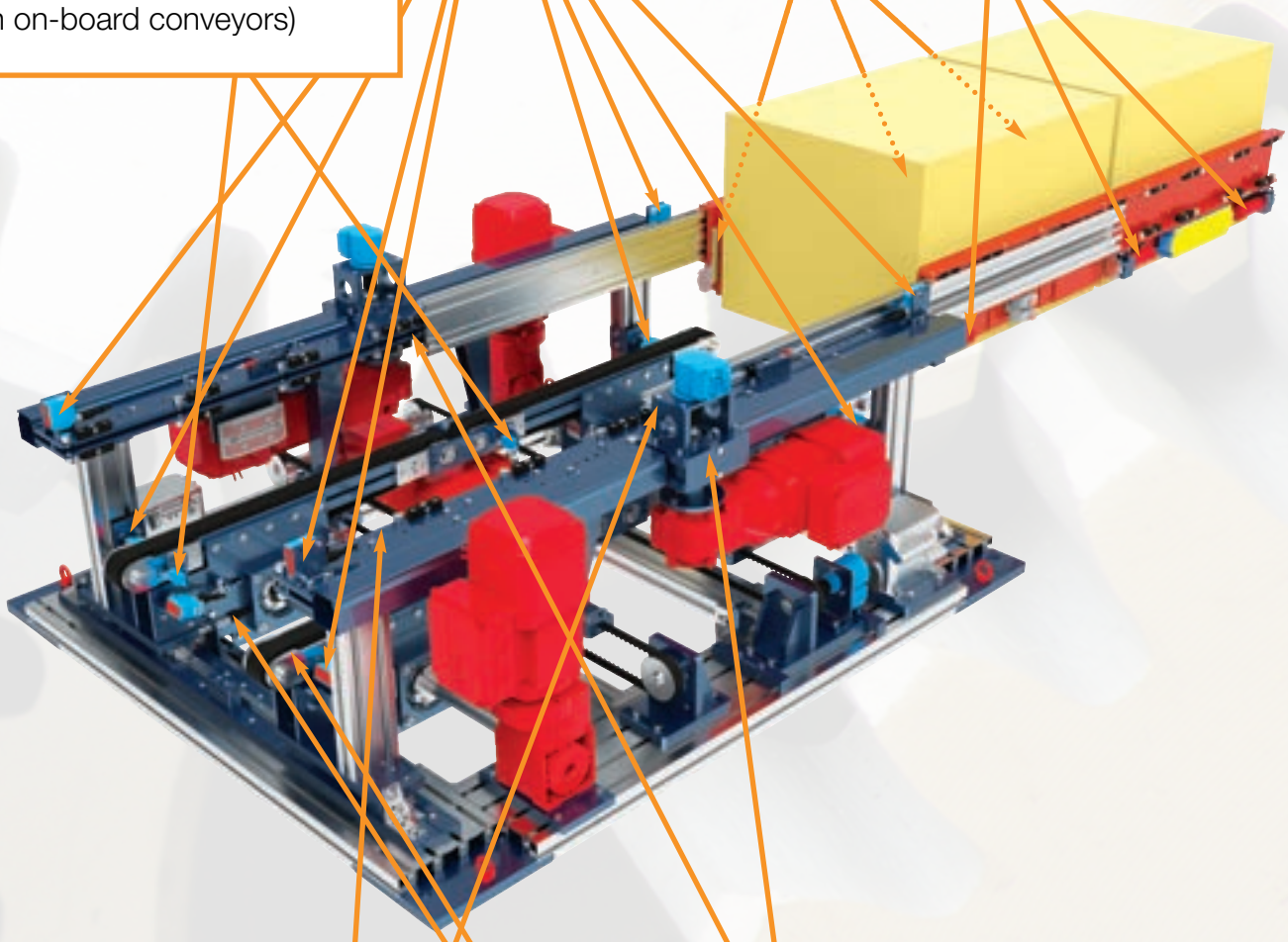
THE SENSORS ON THE ARACHNE

POS. 3 - SICK WTT12L-B2562
(8 lasers, for checking the free space between boxes on the rack)

POS. 1 - SICK IIME08-04NNSZT0K
(4, 6, 8, or 10 inductive sensors, for finger position)

POS. 4 - SICK WTB8-N2231
(4 photocells, for box presence on on-board conveyors)



POS. 5 - SICK WL8-N2231
(2 photocells, for fork centre position)

POS. 2 - SICK WTT12L-B2548
(2 lasers, for load dynamic positioning/depth control)

POS. 6 - SICK IME12-04BNSZC0S
(2 inductive sensors, for checking the axis distance open/closed positions)

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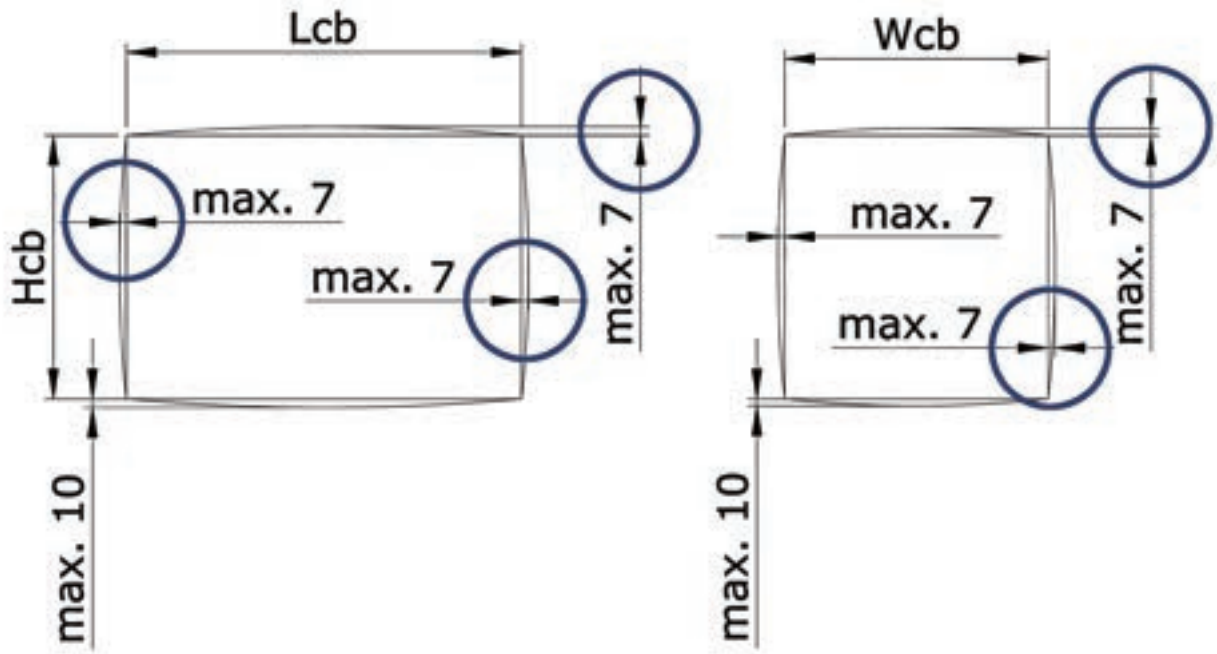
CLEARANCES AND TOLERANCES (on load units and on shelves)

The ARACHNE can handle a certain tolerance in terms of **the bulge the carton load units are prone to (picture 1)**; within these limits, this device allows to save space in the warehouse by **reducing the side clearance between load units on the shelf (picture 2)**. The only limit the customer will have to take into account, is that ARACHNE can manage **multiple widths of load units in the same warehouse, but not at the same time (picture 3)**.

1



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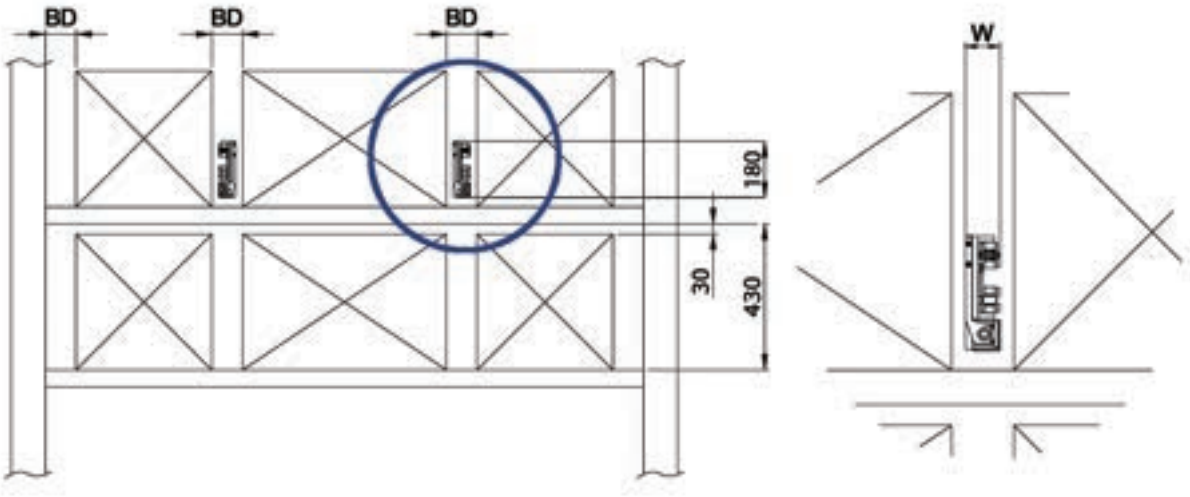
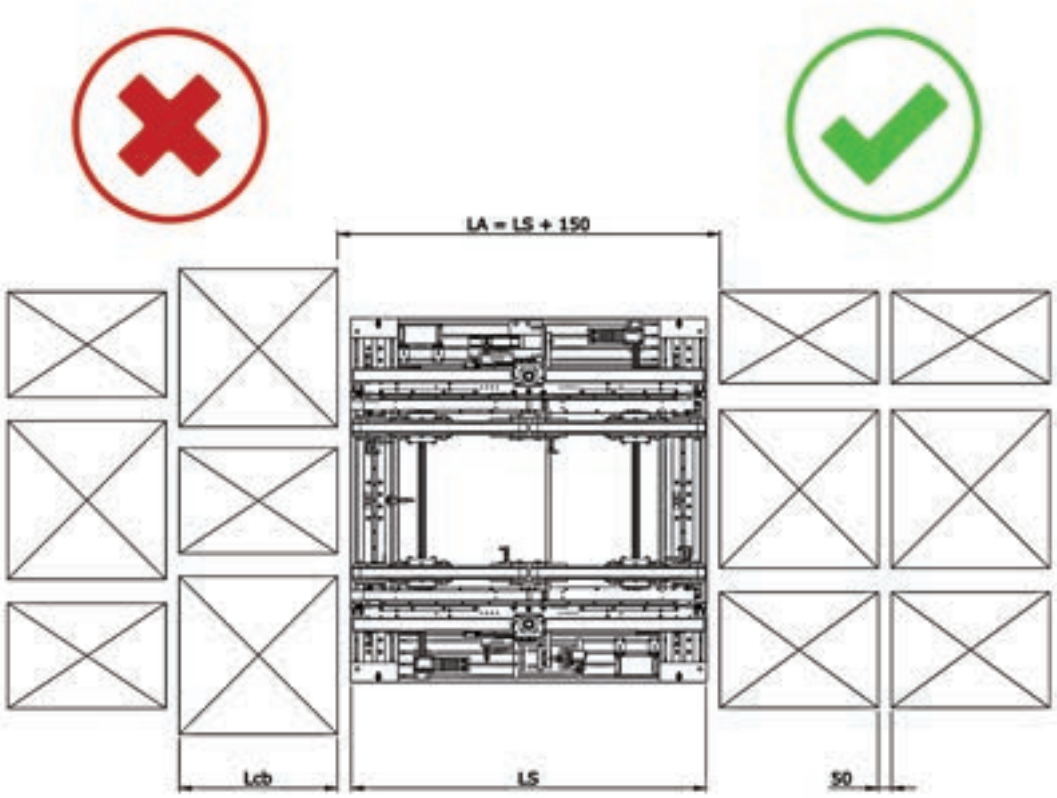
2

MODEL	W ARM THICKNESS (MM)	BD MINIMUM DISTANCE BETWEEN BOXES ON SHELF (MM)
X4, X6, X8, X10	50	80
XX4, XX6	70	100
XXX4, XXX6	110	150



3



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