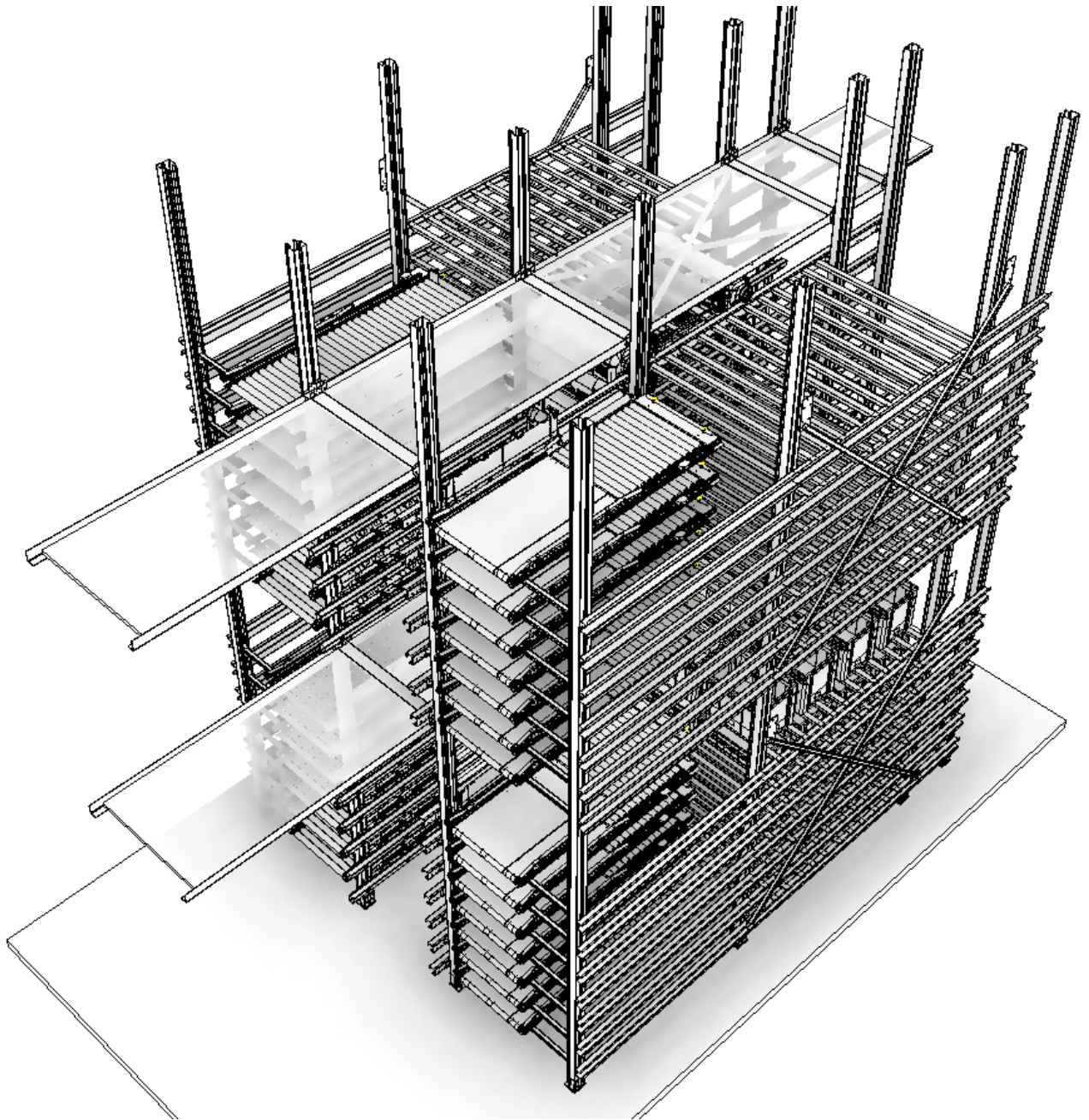


# Sales documentation AKL-Shuttle-System



## operating conditions

The requirements for the basic design of the system components relate to the normal temperature range. Technical adaptations are required for the "cold storage" and "deep-freeze storage" environments. The product is not yet available.

Temperature ranges:	Normal temperature: +5°C to +50°C Cold storage: ±0°C to +10°C Deep-freeze storage: -30°C to ±0°C
Humidity:	30% to 90% (no condensation)s

## system geometry

Maximum FSP system height:	15 m
Maximum FSP system length:	120 m
Maximum FSP block height:	3 m
Maximum FSP level height:	2200 mm
Minimum level distance for LHM H < 180mm:	300 mm
Average retrieval capacity:	600 pieces per hour

Further dimensions are on the layout template M338908.

## System components

- shuttle
- container lifter
- Roller conveyor in shelf / level
- rack construction
- Conductor line / level
- Maintenance level / Block
- (roaming lifter)

## Standards and directives

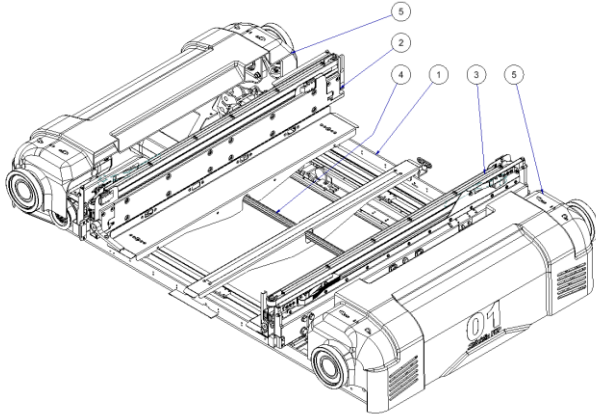
- EC Machinery Directive
- EMC directive
- VDE regulations
- low-voltage directive
- Safety and EMC requirements for mechanical conveying equipment for piece goods (EN 619 and normative references)
- the relevant DIN standards
- VDI 2692 Shuttle systems for small loading units

## Filing location

S:\UNITA\ProduktHandbuch\FSP-Shuttlesystem

# Technical version Shuttle

The standard version of the shuttle has an aisle width of 1030 mm. The aisle width will not be changed.



## Technical specifications

Height of loading units	50 mm bis 600 mm
payload	2 kg * bis 50 kg ** (reduced dynamics from 35 kg)
Maximum speeds	$v_x = 4 \text{ m/s}$ ; $v_{z\text{Leer}} = 1,3 \text{ m/s}$ ; $v_z = 1,3 \text{ m/s}$
Maximum accelerations [m/s <sup>2</sup> ]	$a_x = 2 \text{ m/s}^2$ ; $a_{z\text{Leer}} = 1 \text{ m/s}^2$ ; $a_z = 1 \text{ m/s}^2$
Duration load transfer / positioning	3 bis 4 s
Swivel duration gripper finger	0,5 s
width adjustment	$v = 0,1 \text{ m/s}$
lane width	1030 mm
shuttle weight	70 Kg
drive technology	Dunker 48V DC Motoren
conductor manufacturers	Wampfler // Vahle (Not released yet)

\* Comment minimum payload: the vehicle can also handle lighter LE, but these cannot be reliably stored "container hiking" due to vibrations

\*\* Comment maximum payload: the vehicles are designed for a maximum payload of 50 kg.

## Loading units

The design of the shuttle systems depends largely on the load units used. Important differentiation criteria are among others. Weight, floor space, height, deformation, material, variance per rack aisle. Depending on the influence, a distinction should be made between different design classes for the technical solution used.

Description of loading units	
LE weight classes	Max. Dynamic 2 kg to 35 kg / Reduced dynamic 35 kg to 50 kg
LE-surfaces	600x400 mm & 300 x 400 mm (same width) 200 x 200 mm bis 870 x 650 mm (mixed width)
LE height	50 mm bis 600 mm
LE material	AKL totes / conical totes / cartons* different Quality

\*For cardboard boxes, the maximum belly thickness and quality must be agreed in advance with the technical department.

# Overall view of the system

