



DYNAMIC LINEAR TECHNOLOGY



ROBOT GANTRY

SPECIFIC FACTS

Characteristic for the new generation of robot gantries are the FEM-optimized aluminium profiles with cross shaped ribs. This guarantees extreme stiffness and stability of the gantry axes.

Huge cantilever lengths or rather long vertical lifts can be realised with smaller cross-sections of aluminium profiles, which means at least with lower costs.

The concept of the robot gantries is based on a complete modular technique of all components.

The mechanical interface of the vertical axis is a DIN/ISO flange which enables direct mounting of all DIN/ISO modules, as DIN/ISO tool changers, DIN/ISO compliance wrists or DIN/ISO grippers. This makes planning a construction very easy and cheap.



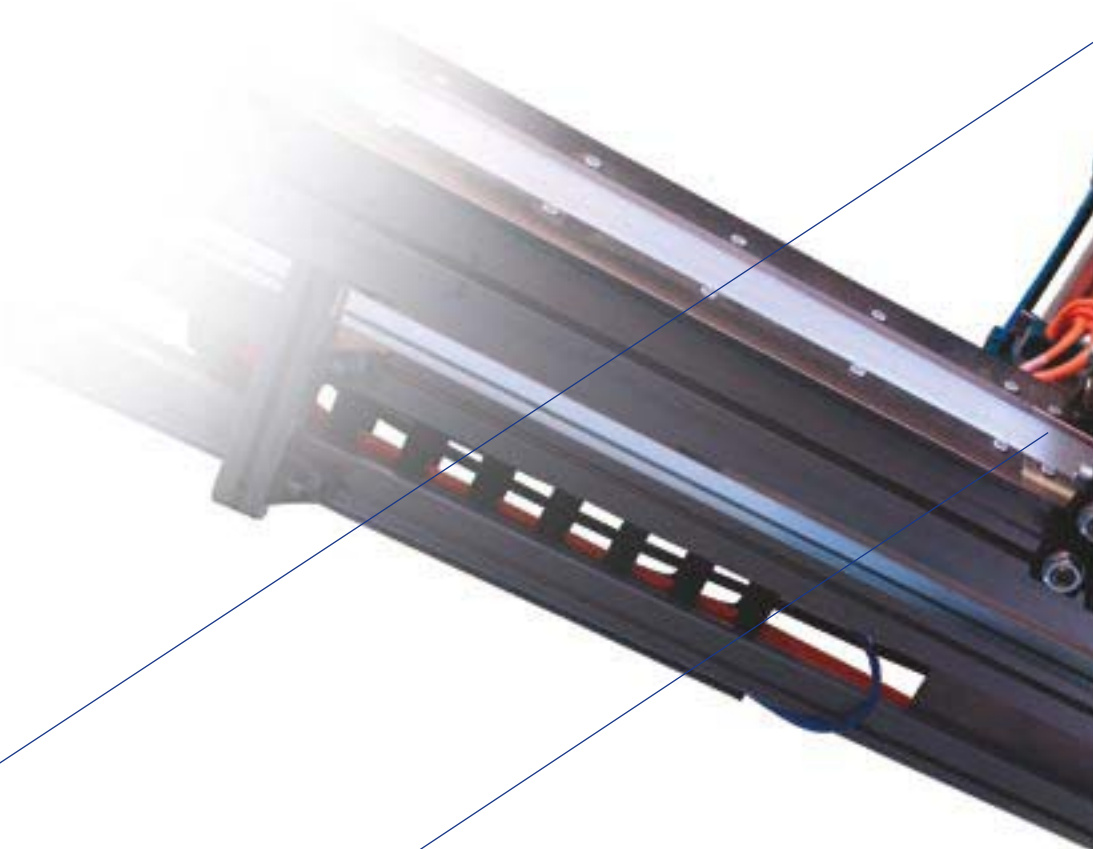
Energy routing chain



Ribs



DIN/ISO flange



System description

Propulsion via pinion and hardened, helical cog rack. It is adaptable to various power units and control systems. Basic version includes a precise transmission with zero allowance, made by Vogel. Besides a cable drag from Kabelschlepp is integrated to transmit energy and control signals.

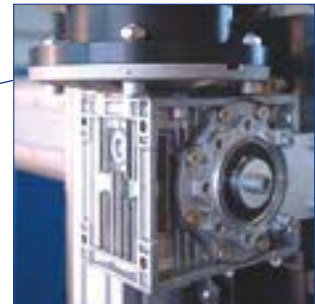
Benefits

- Hardened and grinded slide rails
- Precise sliding and repeatability of positioning (standard +/- 0,1 mm per axis)
- High payloads possible because of bigger size of carrying rollers
- Stable and quick changeable steel roller housings
- Transmission adjusted



Robot gantry

Robot handle



Transmission socket



Cog rack and pinion



Limit stop

MECHANICAL CONSTRUCTION

Basic module

Carriage, including roller housings, squeegee, slide rails, cog rack, closing plates / dampers. Propulsion (excluding power unit)

Basic length 1 m at 0 m traverse path

Max. length of profiles 6 m

Max. total length 30 m

(longer systems on request)

Extension

Possible steps 100 mm, sustainer required at least every 4 m of additional length

OPTIONS / ACCESSORIES

- ▶ Lubrication of cog rack by grease boxes
- ▶ Cog rack central lubrication
- ▶ Power routing chain
- ▶ Limit switch with trip rails and trip dogs
- ▶ Additional limit switches for all axes (emergency off, end of driving mode, area monitoring, etc)
- ▶ Emergency securing of z-axis by Sitema element
- ▶ Additional machine racks available in standard or customized version

SPECIAL VERSIONS (on request)

- ▶ Transmission type
- ▶ Power unit type
- ▶ Increased payload and repeatability

BASIC FACTS

| | |
|--|---|
| Slide rail: hardened (HRC 60) and grinded | Cog rack: hardened and grinded, helical |
| Profiles: cross shaped ribs, aluminium F25 | Roller housings: excenter bolts for zero allowance adjustment |
| Connection parts: shouldered (form-fit transmission) | Machine rack: welded steel (standard version) |

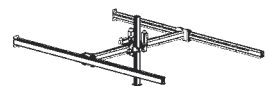
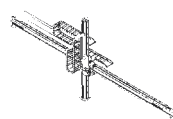
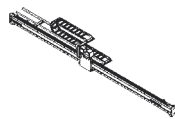
TECHNICAL FACTS

| TYPE | IP-080-X/Z | IP-160-X/Z | IP-200-X/Z |
|----------------------|------------------------------|------------------------------|------------------------------|
| Velocity, horizontal | up to 3 m/sec* | up to 3 m/sec* | up to 3 m/sec* |
| Velocity, vertical | up to 1,5 m/sec* | up to 1,5 m/sec* | up to 1,5 m/sec* |
| Accelleration | up to 4 m/sec ² * | up to 4 m/sec ² * | up to 4 m/sec ² * |
| Max. payload | 100 kg | 200 kg | 400 kg |
| Traverse path | 7 m (> 7 m on request) | 11 m (> 11 m on request) | 11 m (> 11 m on request) |
| Repeatability | +/- 0,2 mm (< on request) | +/- 0,2 mm (< on request) | +/- 0,2 mm (< on request) |
| Propulsion | Three-phase servo motor | Three-phase servo motor | Three-phase servo motor |

* dependent on power unit

SYSTEM OVERVIEW

Carriages



| Max. payload range in case of centric arrangement (kg) | Carriage module X-axis | Carriage module X/Z-axes | Carriage module X/Y/Z-axes |
|--|------------------------|--------------------------|----------------------------|
| 25 | IP-080-X | IP-080-X/Z | IP-080-X/Y/Z |
| 50 | IP-080-X | IP-080-X/Z | IP-080-X/Y/Z |
| 80 | IP-080-X | IP-080-X/Z | IP-080-X/Y/Z |
| 100 | IP-080-X | IP-080-X/Z | IP-080-X/Y/Z |
| 160 | IP-080-X | IP-160-X/Z | IP-160-X/Y/Z |
| 200 | IP-160-X | IP-160-X/Z | IP-160-X/Y/Z |
| 250 | IP-160-X | IP-200-X/Z | IP-200-X/Y/Z |
| 300 | IP-160-X | IP-200-X/Z | IP-200-X/Y/Z |
| 400 | IP-160-X | IP-200-X/Z | IP-200-X/Y/Z |
| 500 | IP-200-X | | |
| 600 | IP-200-X | | |



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