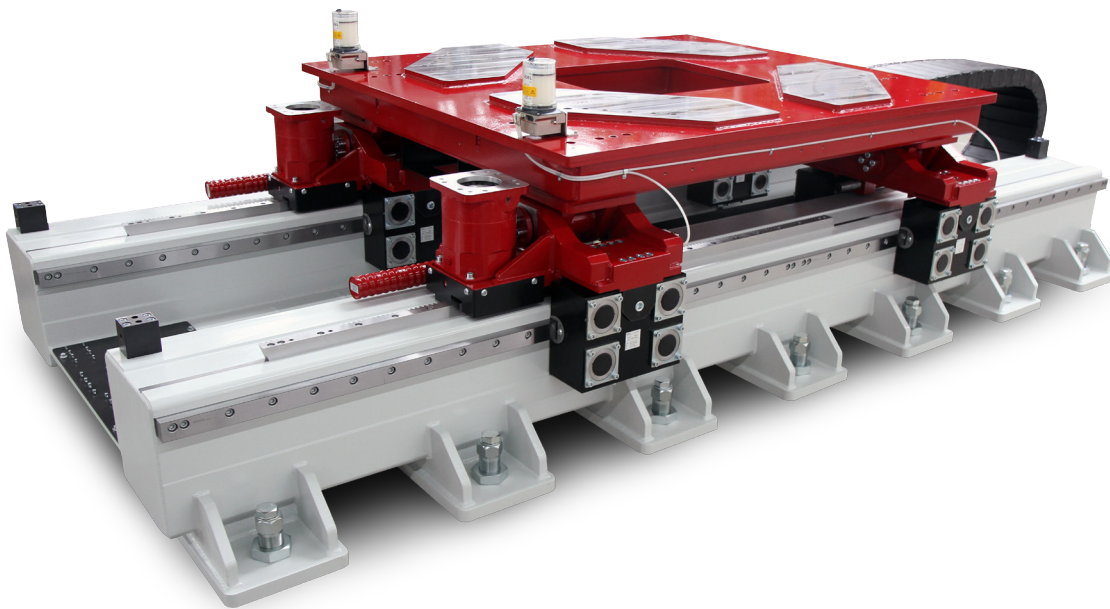


Heavy-duty Track Motion

Unique solution for the highest payloads

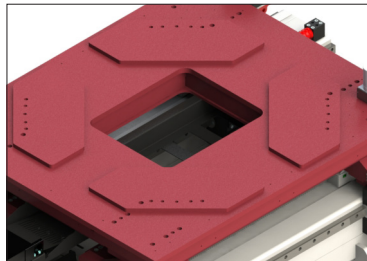
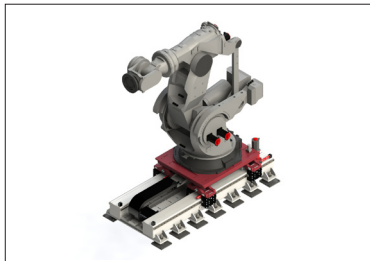
Move the heaviest robots with the TMF-6 floor traversing axis



The TMF-6 floor traversing axis

Güdel's TMF (Track Motion Floor) product range includes a number of models which ensure that production processes operate smoothly and efficiently. Apart from the TMF in size four (TMF-4) for universal applications, Güdel developed the TMF-5 for loads just over 10 tonnes. The next size up, the TMF-6, is globally unique. The TMF-6 moves static payloads of 20 tonnes, including

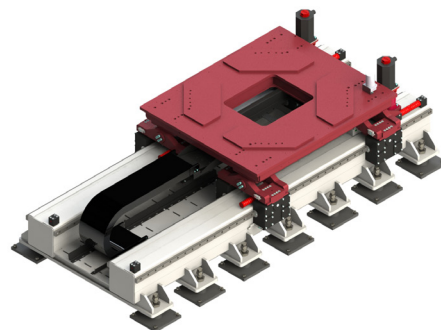
articulated robot. Payloads of up to 13.3 tonnes. The seventh axis enables an efficient extension of the operating area by substituting several robots. The TMF-6 is yet another example of Güdel's innovative spirit. Regardless of which load has to be moved, Güdel develops the right solution for axes of all sizes.



TMF-6 moves heavy industrial robots:

Fanuc M-2000iA / 900L
 Fanuc M-2000iA / 1200
 Fanuc M-2000iA / 1700L
 Fanuc M-2000iA / 2300

Industrial robots from other manufacturers on request.



Impressive features of the Güdel TMF-6:

- Moving payloads of up to 20 tonnes.
- High dynamics in relation to size and moving load
- Variable adapter plates for easy connection of robots and tool holding devices
- Compact and durable design

Static payload	20.000 kg
Robot weight incl. payload	13.300 kg
Number of carriages	up to 2 - More on request.
Guideway system	Heavy-duty guideway system with flat rails and double roller support.
Drive system	Hardened helical racks and pinions. Güdel Planetary gearbox NR180. Motors as standard from Fanuc, additional motor models on request.
Length and stroke	Track length from 4 m to 100 m in 1 m steps. Strokes from 1.4 m to 97.4m.
Pedestal	On request.
Floor mounting	Welding plate including anchor rods. Floor thickness min. 250 mm. Pressure absorption of 5 t/m ² . Concrete quality min. C25 (250 kp/cm ²)
Noise emission	max. 75 dB(A)

Güdel company profile

Güdel is a manufacturer of high-precision machine components and provider of sophisticated automation solutions. Its spectrum of products ranges from linear guideways, racks, pinions and drives right through to linear axes and gantry robots. Güdel assembles its products into systems

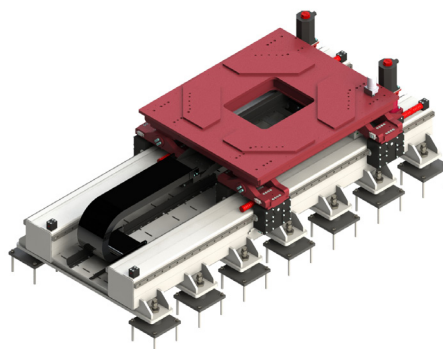
with a high degree of control intelligence and complete plant installations, which can be used in the automotive, tire, metal, rail, intra-logistics, pharmaceutical, renewable energy, wood, and aerospace industries. Güdel's technology is characterized by its innovation, quality and modularity.

TMF-6 technical data

Carrier – energy chain

Weight carriage	2.550 kg*
Energy chain	H4.56.30.250.0
Weight of energy chain	4.0 kg/m
Mounting bracket with tie-wrap clamp	E4.560.30.2.C
Energy chain cross section (internal dimension):	Height: 56mm, width: 300mm
Precision (Repeatability)	+/- 0,05mm

* Weight without motors, electrical boxes, cables.



Drive data

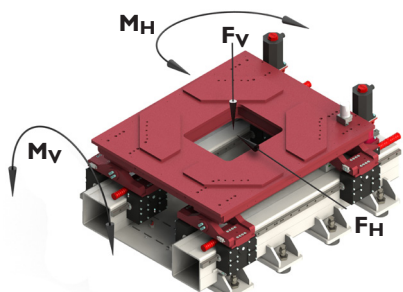
		Fanuc	Static load
Robote type		M-2000iA	-
Static payload	[N]	-	200000
Speed	m/min	60	60
Acceleration	m/s ²	1	1
Gearbox ratio	[-]	16	16
GÜDEL gearbox type HPG NR		180	180
Linear stroke per motor revolution	[mm]	16.667	16.667
Acceleration time	[s]	1.5	1.5
Stroke of axis while accelerating	[m]	0.8	0.8
Motor speed	min ⁻¹	3600	3600
Stall torque of motor	[Nm]	13	19
Max. torque of motor	[Nm]	44	60
Reduced inertia of axis	kgm ²	6.8E-02	9.3E-02
Motor type		aiS40/4000	*

*acc. to customer request

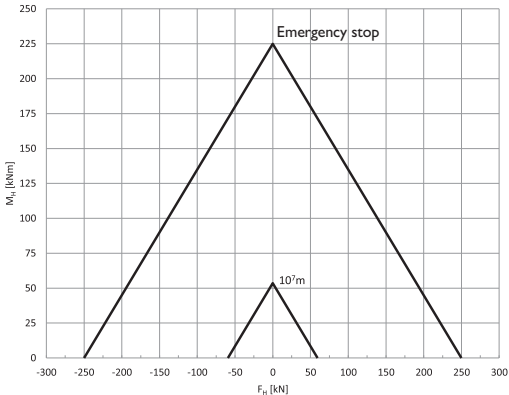
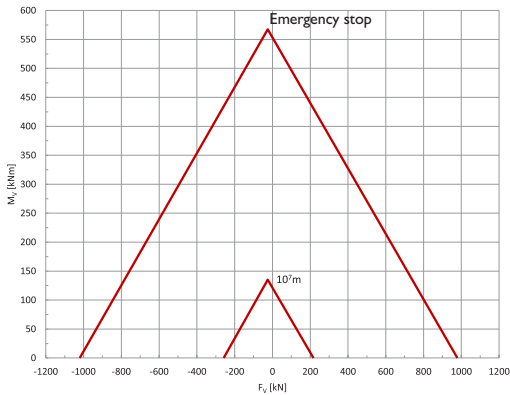
Options

No.	Designation	No.	Designation
50	Cam rails and cams	164	Extended energy chain support
51	Mechanical multi-limit switch	172	Pedestal
52	Zero position mark	180	Bronze wiper
60	Automatic lubrication system	300	Documentation, other languages, on paper
81	Coated rollers, guideways, racks, and pinion	310	Special painting at customer request
91	Independent Y-multiple carriages, each with a drive	311	Gaskets for low temperature
160	Vertical dividers, insertable shelves for energy chains	320	ATEX certification
162	Enclosed energy chain		

Load diagram

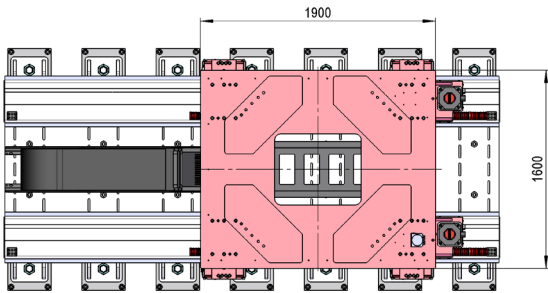
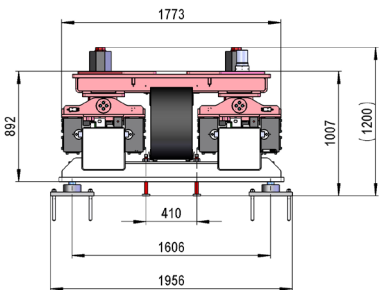
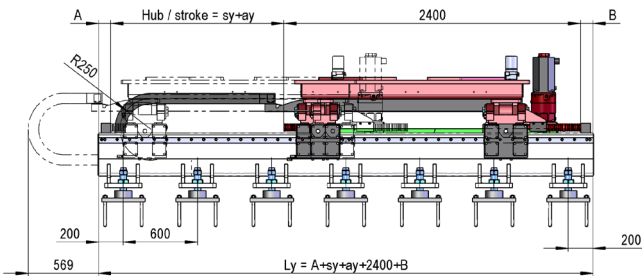


FV max. (kN): Vertical force
MV max. (kNm): Vertical moment
FH max. (kN): Horizontal force
MH max. (kNm): Horizontal moment



Recommended basic values for dimensioning the linear axis (Mv, Fv, Mh, Fh), emergency stop and service life 10⁷ m.

Dimensions

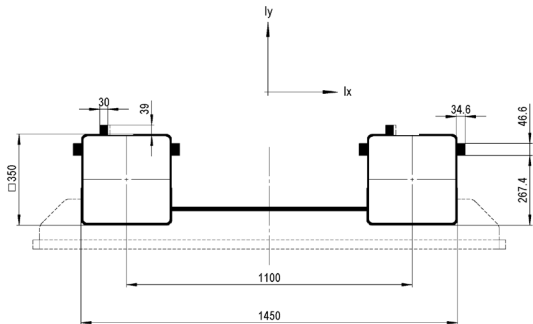


	min.	max.	
Ly	3000	-	
sy+ay	400	97400	in 1 m steps
A/B	100	-	

Minimum recommended safety stroke ay = 50 mm

Bending and torsion values

Y-axis



Axis	Mat.	m* (kg/m)	Ix* (cm ⁴)	Iy* (cm ⁴)
Y	S35512	980	1084007	1595007

* With rails