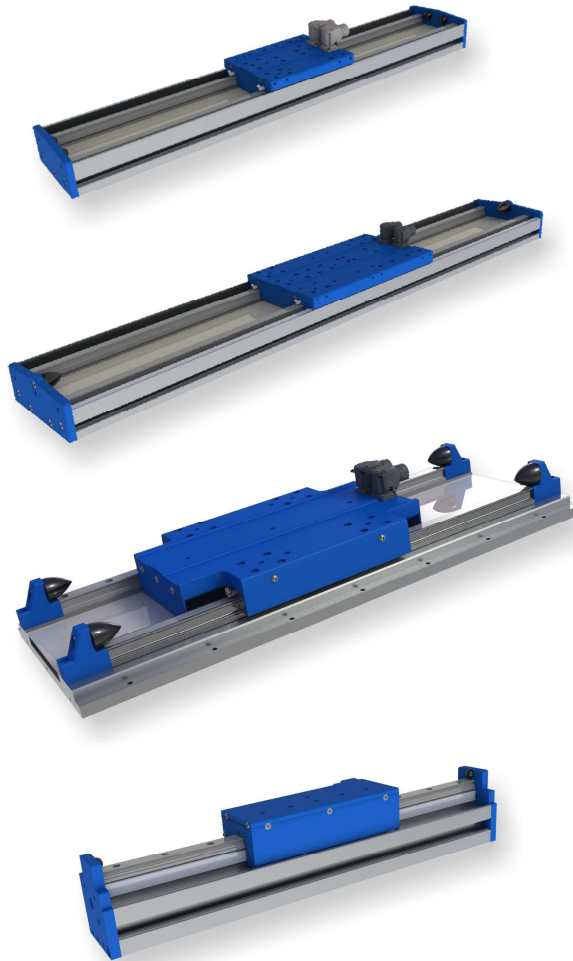


HighForce[®]

Industrial Linear Motor Stages



- **ultra-compact linear motor stages**
- **peakforce up to 4.000 N, continuous force up to 1.900 N**
- **max. speed up to 5 m/s, acceleration up to 150 m/s²**
- **stroke without any limitations**
- **precision and high dynamics for positioning tasks**
- **freely positionable along the entire stroke**
- **long operational life**

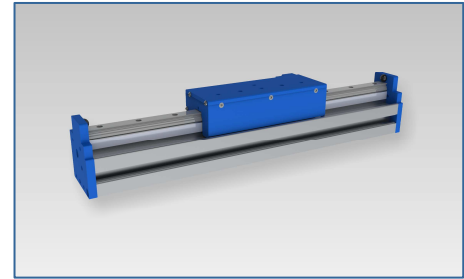
Linear motor technology for industrial applications!

Overview **HighForce®** Industrial Linear Motor Systems

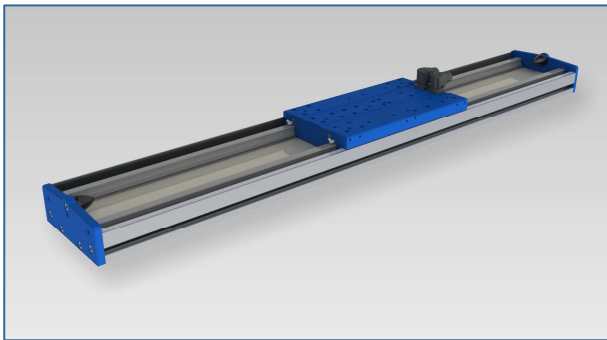
HighForce®-P and **HighForce®-U** are ready-to-use linear motor stages with integrated electromagnetic direct drives. The linear motion is electromagnetically generated without any mechanical elements, like spindles, belts, gear boxes, etc..

The motor is made out of an active and a passive part - the stator and the magnetic plate.

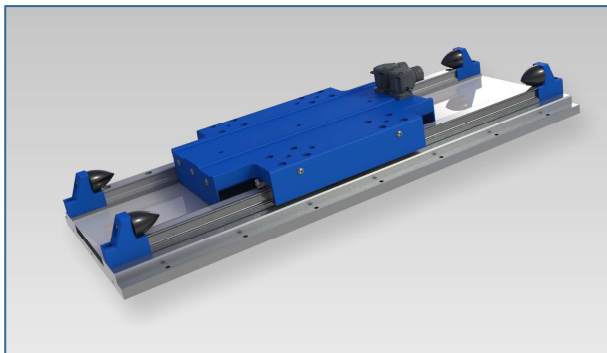
The magnetic plate has a flat or U-shaped arrangement of neodymium magnets. 3-phase windings are integrated into the active part, the moving stator. Every guide contains an incremental or absolute positioning measurement system.



HighForce®-U stage HFU-49



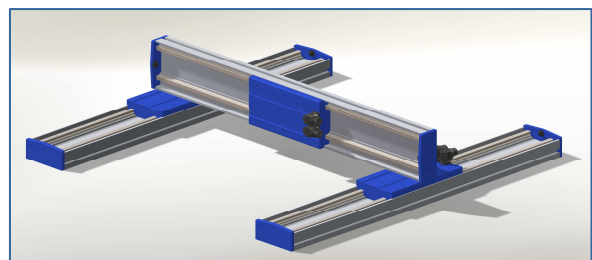
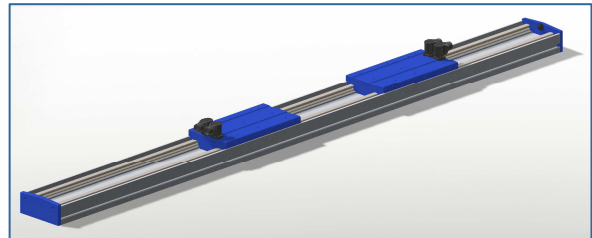
HighForce®-P stage HFP-80



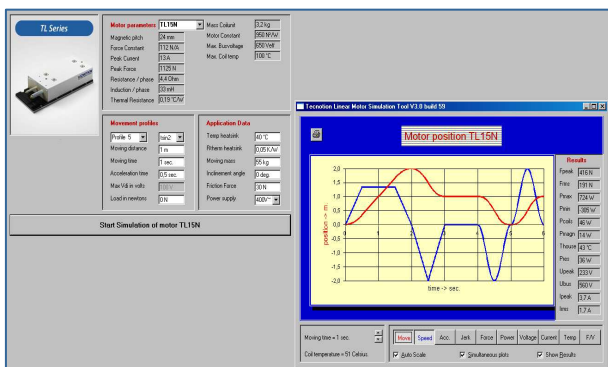
HighForce®-P stage HFP-130

HighForce® linear stages can easily be combined with each other into multi-axes cartesian handling systems. This makes high-dynamic gantry systems a typical application of these systems.

HighForce®-P ready-to-use stages are based on flat, iron core linear motor technology. Due to their ultra-flat construction, the units combine very low moving masses, high load forces and high torque loads. Modern magnet and iron core technology offers a very high continuous force without any additional cooling. All stages are equipped with two connectors, for the power supply and for the positioning measurement system, which enables easy mechanic and electric integration into machine concepts. The positioning measurement system has a space-saving design and is integrated and well protected in the slider. The standard positioning repeatability is $\pm 1 \mu\text{m}$ and the linearity is $\pm 10 \mu\text{m}$. The **HighForce®-U** ready-to-use stages are based on ironless linear motor technology. The magnet plates are U-shaped and the active stator has 3-phase windings, as well as an ironless core, which results in absolute cogging-free movement, excellent smooth movements and in a very low slider mass.



Customer solutions build with **HighForce®-P**



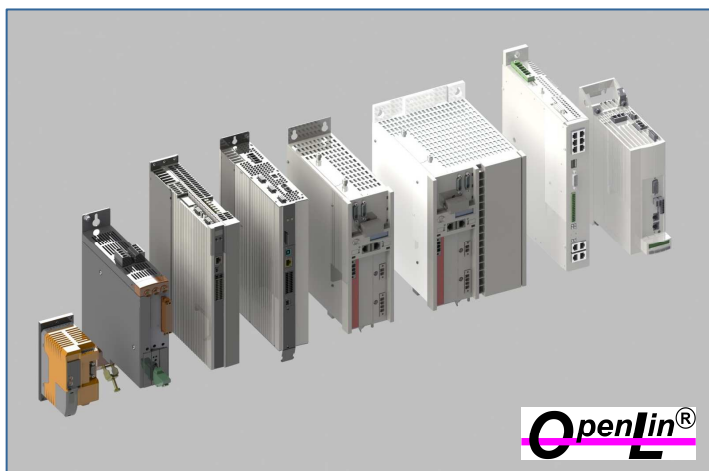
HighForce® Designer

HighForce® designer is a configuration tool for linear motions, which can simulate motion, as well as force processes. The suitable **HighForce®** drive components are chosen in the integrated product data base. Applications can be analyzed in seconds and by various criteria, which eliminates the need to perform complex calculations manually.

HighForce® Datas and Controller

HighForce®-P overview	peak force depend- ing on controller [N]	cont. force with nat. cooling [N]	slider mass including motor [kg]	max. peak velocity [m/s]	width of stage [mm]	height of stage without con- nectors [mm]	max. std. stroke [mm]	protec- tion class
HFP-50 series								
HFP-50x93	105	55	2,2	5	140	70	3.362	IP20
HFP-50x143	210	105	2,9	5	140	70	3.228	IP20
HFP-50x241	420	210	3,8	5	140	70	2.930	IP20
HFP-80 series								
HFP-80x146	400	200	4,5	5	187	76	3.228	IP20
HFP-80x244	800	400	6,0	5	187	76	3.156	IP20
HFP-80x290	1.000	500	7,0	5	187	76	3.106	IP20
HFP-80x336	1.200	600	8,7	5	187	76	3.064	IP20
HFP-80x468	1.600	800	14,0	5	187	76	2.932	IP20
HFP-130 series								
HFP-130x244	1.600	760	10,5	5	270	78	2.930	IP20
HFP-130x290	2.000	950	11,5	5	270	78	2.930	IP20
HFP-130x568	4.000	1.900	21,5	5	270	78	2.652	IP20
HighForce®-U overview								
HFU-49 series								
HFU-49x78	100	29	0,6	5	61,1	78	1.696	IP20
HFU-49x138	200	58	0,65	5	61,1	78	1.696	IP20
HFU-49x198	300	87	1,5	5	61,1	78	1.636	IP20
HFU-49x258	400	116	2,0	5	61,1	78	1.576	IP20

The standard strokes are shown in the corresponding product data sheets.
We are able to realise longer strokes and more than one slider on one stage.
Please send us your enquiry.
Technical changes reserved!



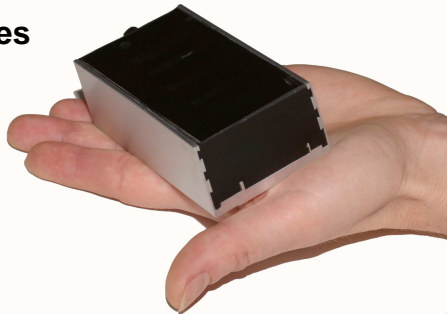
Positioning Controllers

HighForce®-P and **HighForce®-U** linear motor stages are designed according to the **OpenLin®** concept. **HighForce®** systems are ready-to-use industrial products, which are manufacturer independent, relating to their interface.
The linear motor elements as well as the position sensor systems both are industrial standards, making common 230 VAC and 400 VAC positioning controllers suitable.
The **OpenLin®** design easily enables machine builders to integrate **HighForce®** products into existing and new machine concepts. A fast and easy connection to all current fieldbus interfaces, as well as easy integration into machine controls is possible.



**We are one of
Germany's leading
suppliers of linear
direct drive
technologies!**

**Linear direct drives
from a single
source!**



**JUNG ANTRIEBSTECHNIK U.
AUTOMATION GMBH**

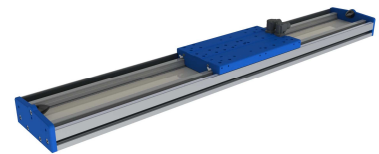
Felsweg 18
35435 Wettenberg
Germany
Tel.: +49-(0)641-48017-0
Fax: +49-(0)641-48017-15
eMail: ja2@ja2-gmbh.de
Web: www.ja2-gmbh.de
www.highforce.de
www.openlin.de

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Linear Motor Elements



Linear Guides



Motor Cables



Positioning Controllers

Linear direct drives from a single source!