

SPECIAL ISSUE 01/2010

Dear Customer,

Environmental protection is integral to our corporate policy. By using Franke components you are saving energy and making an active contribution to sustainability.

The Franke principle forms the basis of this. In contrast to conventional systems the rolling motion here takes place with little friction on four race ways. Thanks to this special principle, Franke Antifriction Bearings and Linear Systems can be used directly in the mating structure. This facilitates construction of light-weight components, of aluminium for example, which has a positive effect on the required drive energy. All guide bodies and rails are made from high-strength aluminium. This means guide systems can be realised that are 65 % lighter than steel guides. The integration of systems and components into complete groups helps you to economise on parts and, thus, to reduce energy and costs.

Our raw materials and pre-products undergo careful testing. Our suppliers and contractors must also adhere to clear environmental guidelines. We consider the environmental sustainability of the purchased parts, the raw materials and the processes when developing new products.

We have been TÜV-certified for many years. Regular environmental audits confirm our successful ecological orientation. Franke supports and encourages all employees to take responsibility for their workstations and to practice environmental protection actively. We hold regular seminars on responsible use of resources and energy. Read more about us and our products in this issue of Franke Innovativ.

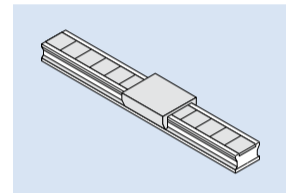


Yours,
Daniel Groz Sascha Eberhard
Managing Director Managing Director

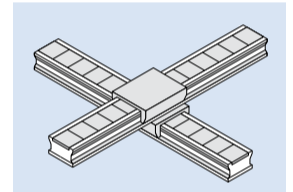
High-Speed due to Light Design

High dynamic, flexible use:
the FTH Drive accelerates at 100 m/s²

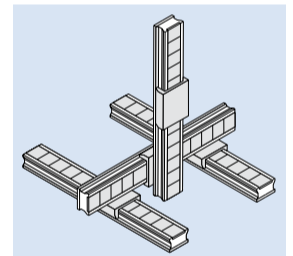
NEW



Single module (x direction)



Double modules (x+y direction)



Triple modules (x+y+z direction)

The new Linear Motor Module FTH Drive is one of the fastest and most flexible movement components currently available on the market. Its lightweight aluminium design ensures a high dynamic and tangible energy saving. See for yourself – provided you have good eyes.

The FTH Drive supplements the range of motorised linear modules with a high-dynamic, pre-finished component. The stator magnets are directly integrated in the aluminium profile and the motor is enclosed in an aluminium housing. This gives the module a unique compactness. The direct drive facilitates fast positioning free from clearance.

A clean affair

The Linear Motor Module achieves a movement speed of a maximum 6 m/s and accelerates at up to 100 m/s². The sealed bearing prevents lubricant escaping. Thanks to their compact and integrative design, they are predestined for use in hygiene-sensitive areas – for example in food technology or a clean room.

Multi-module and flexible

You have free choice of the drive and control components and Franke will assemble and configure these completely. Linear Motor Systems are available up to a stroke length of 5,300 mm. Like all Franke products, the FTH Drive can also be designed

to customers' specifications and individually adjusted to the situation. Multi-module systems can be realised easily.

Easy, quiet running

All Franke Linear Modules and Linear Tables use the benefits of Franke Linear Systems to build complete moving units. The integrated Franke Dynamic Aluminium Roller Guide provides high dynamic movements and easy and quiet running.



The Advantages of the Linear Motor Module FTH Drive:

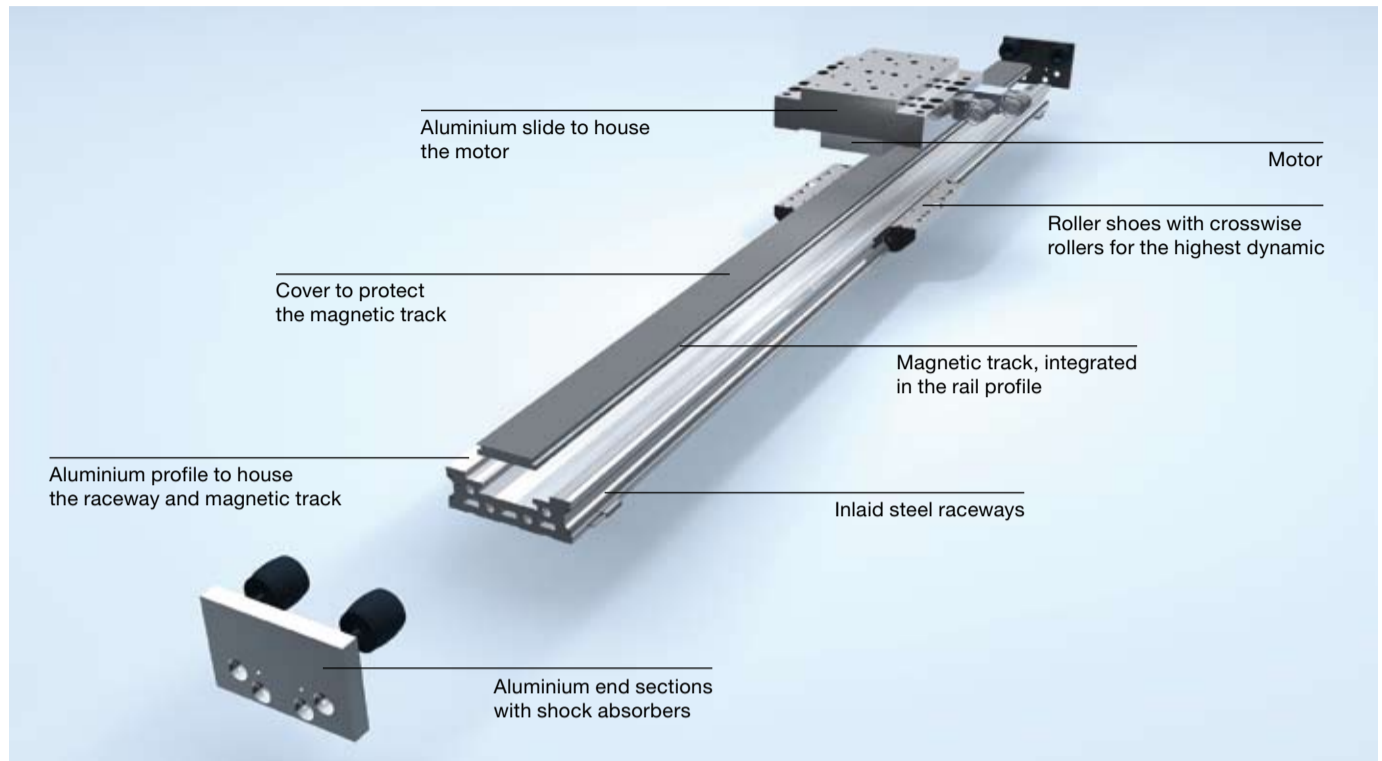
- Acceleration at up to 100 m/s², speed max. 6 m/s
- Aluminium guide and slide elements
- Compact design
- Easy and quiet running
- Flexible use

Modular with Proven Components

The FTH Drive allows multiple adjustments according to the individual use

Building on the proven Franke Aluminium Roller Guide, the Linear Motor Module FTH impresses with its low weight and compact dimensions.

The roller shoes have been specially designed for high loads. The rail profile was designed so that the stator could be integrated. This saves height and weight. The modular design of the system enables numerous adjustments according to the individual use. In addition to customer-specific mating and profile dimensions, several slides can be moved independently of one another per module. Complete multi-module systems using angles and adapter plates is also possible. We can supply the Linear Motor Module with all wiring and tailored to your desired control mode on request.



The Franke FTH Drive in comparison to conventional products

Franke FTH Drive

Advantage of the Franke FTH Drive:

- Low space requirement (height)
- Greater closeness of the system (no double-track rail set-up), so simpler to clean and less risk of contamination.
- Reduced components

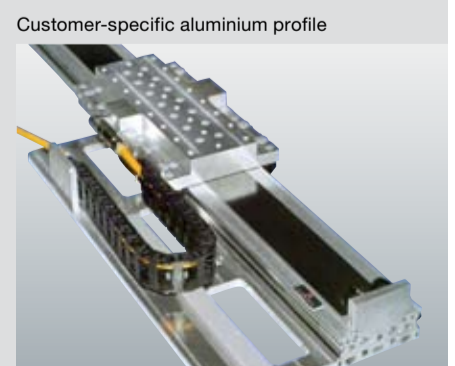
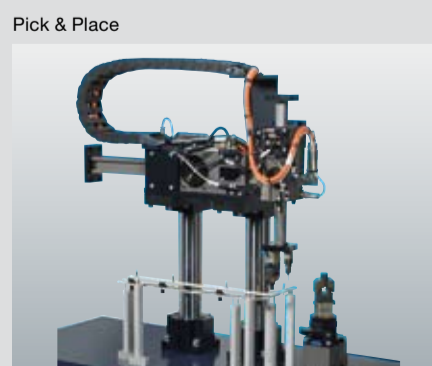
Conventional linear motor module

Flexible Use

Franke Linear Systems are used in many industries





A high percentage of all movements in industrial products are linear. Materials are transported from one machine to another, components are moved between different processing stations within a machine or plant, elements, parts and adhesives are applied, packaging is filled and sealed. Franke is able to offer designers complete solutions for movement tasks with its Linear Modules, Linear Tables and the new Linear Motor System FTH Drive.

- Positioning
- Pick & Place
- Measuring and testing
- Handling
- Laser machining
- Jet cutting



The Right System for Every Application

A comparison of all Franke Linear Modules and Tables

Type				 NEW
Components	<ul style="list-style-type: none"> Aluminium body on guide rails and profiles Inlaid steel raceways with ground raceway surface, adapted to the rollers (principle: guided roller) Sealed, needle roller bearings, arranged crosswise for easy and clean running and for loads from all directions Spindle drive Metal cover 	<ul style="list-style-type: none"> Spindle drive Guide rail on outside 	<ul style="list-style-type: none"> Belt drive Metal cover Guide rail integrated 	<ul style="list-style-type: none"> Direct drive using linear motor Stator integrated in the rail
Options	<ul style="list-style-type: none"> Complete multi-module systems using assembly brackets and adapter plates Measuring systems, additional end switches, cable drag chain, motorisation and control Special dimensions and designs for series production Non-corrosive design Double slide length Different spindle pitch Motorisation of choice 	<ul style="list-style-type: none"> Non-corrosive design Spindle or belt drive Spacer shafts Motorisation of choice 	<ul style="list-style-type: none"> Non-corrosive design Second slide Intermediate drive shafts Motorisation of choice 	<ul style="list-style-type: none"> Non-corrosive design 2 motor variants Second slide Water cooling
Advantages	<ul style="list-style-type: none"> Integrated Aluminium Roller Guide for low weight, easy running and dynamic courses of movement Modular system for simple combination of several modules Maintenance-free for the whole service life due to sealed rollers Metal cover for harsh environment (e. g. welding) High stiffness and precision 	<ul style="list-style-type: none"> Compact dimensions Numerous accessories for fitting and fixing 2 drive variants 	<ul style="list-style-type: none"> Compact dimensions High speeds Stroke lengths up to 7,000 mm 	<ul style="list-style-type: none"> Highest dynamic Precise, play-free positioning Compact dimensions Stroke lengths up to 5,300 mm
Position accuracy (mm/m)	<ul style="list-style-type: none"> Up to 0.01 	<ul style="list-style-type: none"> Up to 0.01 (spindle drive) Up to 0.05 (belt drive) 	<ul style="list-style-type: none"> Up to 0.05 	<ul style="list-style-type: none"> Up to 0.01 or better (depending on measuring system)
Build sizes (mm) Standard	FTB06A with C = 15,000 N FTB06B with C = 30,000 N	FTC15 with C = 4,2000 N FTC20 with C = 5,400 N FTC25 with C = 13,500 N	FTD15 with C = 4,200 N FTD20 with C = 5,400 N FTD35 with C = 12,500 N	FTH35A with C = 29,900 N FTH35B with C = 29,900 N
Travelling speed Max. speed (m/s) Acceleration (m/s ²)	0.2 10	0.2 (spindle) 10 (toothed belt) 10 (spindle) 40 (toothed belt)	10 40	6 100
Stroke length (mm) one-piece	1,500	1,100 (spindle drive) 3,400 (belt drive)	7,000	4,000

If You Need It Round ...

Franke Rotary Tables and motorised Antifriction Bearings

Motorised complete systems are also available for rotating movements. Our Rotary Tables and Bearing Assemblies with direct drive impress thanks to their compact design and high performance. Integrated Franke Bearing Elements facilitate design of the mating structure to your specifications.

This means whole groups can be integrated. You get motorised systems from us complete with motorisation and controls – individually tailored to your application. You can also considerably lower your energy consumption thanks to the low friction and high load capacity of our Antifriction Bearings.

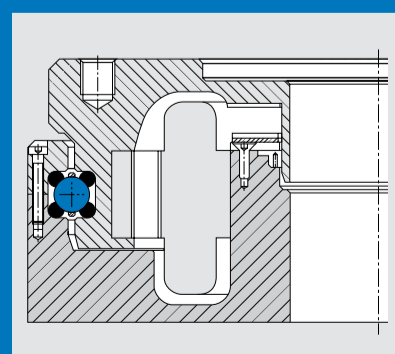
Franke LDH Drive CT bearing with direct drive



Franke Rotary Table LTA



Compact design (customer-specific)

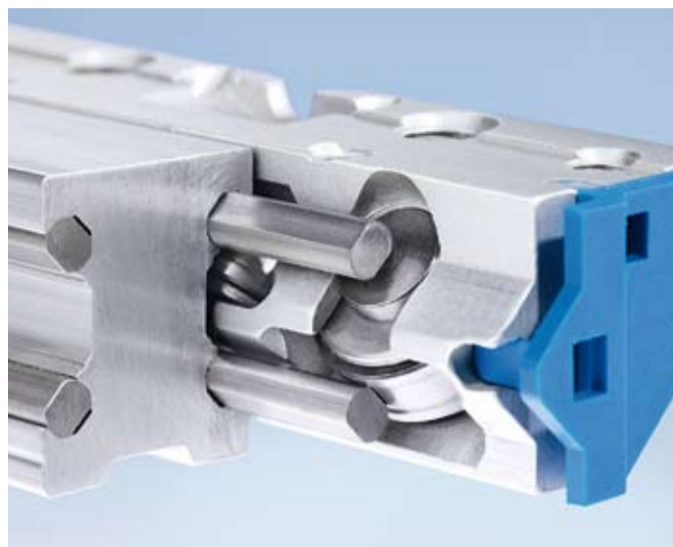


Integrated direct drive LDH Drive



Trend toward Integrative Solutions

Thilo Deutsch, Technical Advisor, on the advantages of Franke Linear Systems



The Franke principle: inlaid raceways, guided rollers.



Design freedom thanks to free choice of rail profile.



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Mr Deutsch, what trends have you observed in Linear Systems?

Savings on weight, energy and maintenance costs are trends that can be seen across the board in all industries at the moment. The weight of the components and the energy expenditure for its drive can be positively influenced by different factors. The choice of material for rails and carriages and the type and arrangement of Antifriction Bearings and Rollers play a role in this. Sealed bearings also mean cleanliness and a maintenance-free operation for the whole service life. Complete Linear

Systems fit the trend for integrative solutions, where the mechanism, drive and control are offered from one place.

All materials have advantages depending on the usage. Why does Franke use aluminium?

The Franke system of the inlaid raceways facilitates use of light-weight, extruded aluminium profiles for our guide rails. We have perfected the combination of aluminium bodies with steel raceways to the extent that we supply an array of different rail profiles with raceways. This gives our

customers the highest degree of design freedom and adaptation to their application. The homogeneity of the materials should not be underestimated either in the design of linear guides and aluminium bases.

How fast can aluminium linear guides be?

Our Aluminium Linear Systems achieve speeds of over 10 m/s and accelerations of up to 100 m/s². The large rollers respond quickly. The design means we avoid the stick-slip effect that often leads to blockages

with conventional rolling elements due to abrupt acceleration.

Which new technologies are used in the FTH Drive?

We use special roller shoes for high dynamic applications. These can be equipped with up to six roller per side. We use raceways with a higher degree of hardness. Last but not least, the profile of the Linear System has been optimised in terms of stiffness and weight.

Thank you for talking to us.

We show you how Franke works:

Seminars and Workshops

Franke has its own Communication Centre at its headquarters in Aalen. We offer training, workshops and in-house exhibitions here, familiarising our customers with Franke technology. We cordially invite you to

come along. We tailor the seminar content individually – depending on the interest focus.

Naturally, we are also happy to come and give seminars at your location.

Are you interested in training at the Franke Communication Centre or at your own location? Then contact us on +49 7361 920-116 or take a look at Service on our homepage www.franke-gmbh.com



Franke worldwide

In addition to our branches in Germany, we have sales offices across Europe, the USA, the Middle East and in Asia. Thanks to our worldwide presence we are able to fulfil customer requests in the shortest way possible.

Our staff will happily come to you to discuss your needs locally and to present Franke Antifriction Bearings and Linear Systems to you in practice.

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