



Linear Guides



Solutions for Life

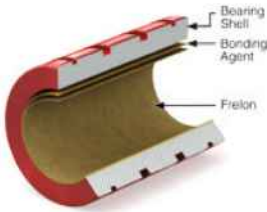


Perfect in every
environment

Round Shaft Linear Plane Bearings



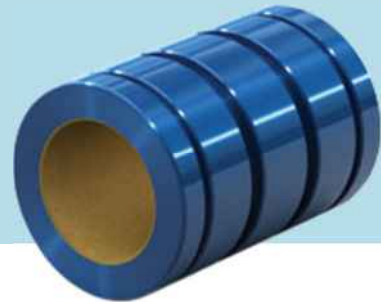
PBC Linear has combined Frelon material with precision bearing technology to create Simplicity® linear plain bearings. Simplicity self-lubricating plain bearings can move in linear, oscillating, rotary, or any combination of motions at speeds exceeding 4 m/s (165 in/s). Designed to handle loads 20 times greater than linear ball bearings, they will not catastrophically fail.



- Handles loads over 700 kN
- Wide temperature range: -240° C/ 204° C
- Low maintenance in contaminated environments
- Size interchangeable drop-in replacement for linear ball bearings
- Straight OD or optional crowned self-aligning OD

Blue anodized aluminum shell identifies the ISO metric **FM series**, which is available in off-the-shelf industry standard sizes and interchangeable with linear ball bearings and some bronze bushings.

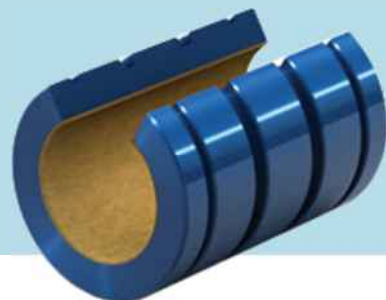
- Conforms to ISO tolerance standards
- ID sizes range from 5 mm to 80 mm
- Static Load Capacities up to 270 kN (61,000 lbs)
- Standard Shell Material is Aluminum. Steel and Stainless Steel bearing shells available
- Frelon Gold bearing liner standard. Frelon J & Frelon W optional
- Self Lubricating for oil free operation
- Optional urethane seals available from 20mm ID and up
- External lubrication feature is an added option
- Wide Temperature Range: -240° C/ 204° C (-400° F/ 400° F)
- Vibration Damping
- Custom modifications available – contact an Application Engineer for details



Stock article: FM(C)10 → FM(C)80

The **FMN series** is the open ISO metric bearing. The opening is designed to allow use on fully supported shafting for greater system rigidity.

- All the same features & benefits as the closed bearing
- Open style available in sizes 5 mm ID to 80 mm ID
- Static Load Capacities up to 270 kN
- Standard Shell Material is Aluminum. Steel and Stainless Steel bearing shells available
- Frelon Gold bearing liner standard. Frelon J & Frelon W optional
- Self Lubricating for oil free operation
- Optional urethane seals available from 20mm ID and up
- External lubrication feature is an added option
- Wide temperature range: -240° C/ 204° C
- Vibration Dampening
- Custom modifications available – contact an Application Engineer for details



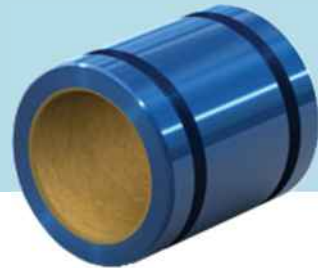
Stock article: FMN(C)10 → FMN(C)80



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FG & FMT Metric Thin Wall Linear Plain Bearings has the same construction and smooth operation as the FM series but in a more compact package. Designed to be interchangeable with compact ball bearings and bronze bushings.

- ID sizes 6 mm thru 50 mm
- Static Load Capacities up to 92 kN
- Standard Shell Material is Aluminum. Stainless Steel bearing shells available
- Frelon Gold bearing liner standard. Frelon J & Frelon W optional
- Self Lubricating for oil free operation
- Wide temperature range: -240° C/ 204° C
- Vibration Dampening



Stock article: FMT(C)10 → FMT(C)50

Square (**SFPM**) and Round (**SFPMR**) Flange Mount Single Metric Plane Bearings are the ISO Metric single length versions of this type of bearing, and they are most commonly found in Europe. This flange bearing has a sturdy aluminum body with Frelon liner bonded directly to the ID. The flange is located at one end of the bearing. Additional features and benefits include:

- Available in sizes 8 mm ID to 80 mm ID
- Static Load Capacities up to 284,000 N
- Standard Housing Material is Anodized Aluminum.
- Square or Round Flanges available.
- Frelon GOLD is the standard bearing liner. FrelonJ & FrelonW are optional
- Self Lubricating for oil free operation
- Wide temperature range: -240° C/ 204° C (-400° F/ 400° F)
- Vibration Dampening



Not stocked at LDA

PBC Linear has combined the Frelon material with precision bearing technology to create the Simplicity® linear plain bearing and then placed that bearing inside of a housing to create a Self-Aligning, Plain Bearing Pillow Block. "Simplicity" means quality, performance, and lower maintenance costs. It also allows the bearing to move in linear, oscillating, rotary, or any combination of motions. Made to thrive and survive in the presence of contaminants, the self-lubricating liners offer a number of other desirable features:

- The ability to absorb hard particulates eliminates galling and shaft damage
- Vibration is dampened, offering smooth and quiet linear motion
- Shock loads are absorbed without damage to components
- Reliable friction characteristics that do not increase over the life of the bearing
- Close fit and wiping action cleans the shafting and eliminates the need for seals in 90% of applications
- They will not catastrophically fail.
- Also available with optional stainless steel shell for the most severe environments.



Not stocked at LDA

The ISO Metric Ceramic Coated Shafting (CCM-CCMDL), also known as Feather Shafting, is designed to be used with Simplicity Frelon GOLD lined bearings and pillow blocks. Ideal for use in contaminated applications, the metric ceramic coated aluminum shafting offers excellent corrosion resistance and is resistant to vibration. The availability of solid round (CCM) or pre-drilled (CCMDL) versions offers the designer flexibility. The pre-drilled metric ceramic coated shafting can be mated to aluminum predrilled support rail for fully supported applications to handle heavy loads. Custom end machining is also an option.

- Solid round shafting (CCM) is available in metric sizes from 6mm thru 50mm, up to a maximum length of 3658mm
- Pre-drilled (CCMDL) is available in sizes from 8mm thru 50mm, up to a maximum length of 3658mm
- Pre-drilled mounting holes offer an interchangeable alternative to standard predrilled shafting
- Aluminum alloy base material offers weight savings over steel
- Rc70 ceramic coated finish for corrosion resistance
- Weld splatter, paints, and other contaminants will not stick
- Non-magnetic and vibration resistant



Not stocked at LDA

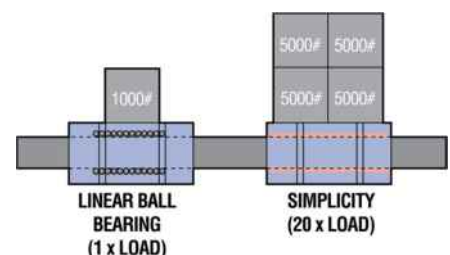
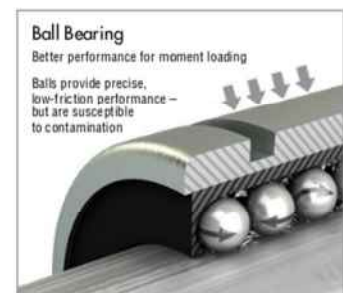
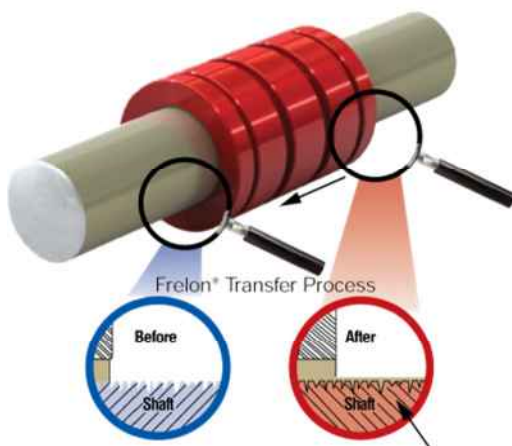


PBC Linear ISO metric steel shafting (NIM/NIPDM) is case hardened to Rc60 and suitable for use with Simplicity Frelon GOLD™ lined bearings and linear ball bearings. PBC Linear provides the most consistent surface hardness and depth of hardness across a range of sizes, offering increased performance. In addition, all Rc60 inch steel shafting is ground and polished within a consistent surface finish range resulting in a higher level of predictable performance.

- Solid round shafting is available in inch sizes from 3 mm thru 80 mm, and lengths to 5300 mm
- Predrilled shafting for use with support rails is available 12 mm thru 30 mm, and lengths to 5300 mm
- Custom end machining available upon request



Not stocked at LDA



“Simplicity” means quality, performance, and lower maintenance costs.



Because
time is money

Integral-V Linear Guide Technology



Integral-V™ Technology (IVT) uses structural aluminum framing integrated with V-races. IVT provides a complete system built with or without structural support framework.

IVTAAN linear guides offer an alternative and more cost-effective solution to profile rail systems. Composed of a precision machined aluminum anodized rail with hardened embedded steel races, the IVTAAN linear guide is lightweight without sacrificing strength.

- Standard lengths up to 3,650 mm (Consult factory for longer continuous length)
- Handles loads up to 2,480 N
- SIMO® machined for precision qualified rail surfaces within 0,05 mm
- High speed capacity (10 m/s)



Carriage: **IVTAANC-A20A0:** 179,75 Euro
Rail: **IVTAANR** Price / meter: 86,94 Euro

Prices valid until 31-12-2017

IVTAAW linear guides offer an alternative and more cost-effective solution to profile rail systems. Composed of a precision machined aluminum anodized rail with embedded hardened steel races, the IVTAAW linear guide is lightweight without sacrificing strength.

- Standard lengths up to 3,650 mm (Consult factory for longer continuous length)
- Handles loads up to 8,900 N
- SIMO® machined for precision qualified rail surfaces within 0,05 mm
- High speed capacity (10 m/s)



Carriage: **IVTAAWC-A20A0:** 214,00 Euro
Rail: **IVTAAWR** Price / meter: 120,87 Euro

Prices valid until 31-12-2017



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IVTAAB linear guides provide a wider base rail option for the IVT family that can easily integrate a variety of drive options. Composed of a precision machined aluminum anodized rail with embedded hardened steel races, the IVTAAB linear guide is lightweight without sacrificing strength.

- Standard lengths available from 3,050 mm (Consult factory for longer continuous length or joinable rails)
- Precision tight rail tolerances 0,05 mm
- Handles loads up to 8,900 N
- High speed capacity 12 m/s

Carriage: **IVTAABC-A20A0**: 273,92 Euro
 Rail: **IVTAABR** Price / meter: 145,05 Euro

Prices valid until 31-12-2017



IVTAAE linear guides provide a double wide base rail option for the IVT family that can easily integrate a variety of drive options. Composed of a precision machined aluminum anodized rail with embedded hardened steel races, the IVTAAE linear guide is lightweight without sacrificing strength.

- Standard lengths up to 3650mm (Consult factory for longer continuous length or joinable rails.)
- SIMO® machined for precision qualified rail surfaces
- Precision tight rail tolerances 0.05 mm
- Handles loads up to 8,900 N
- High speed capacity 12 m/s

Carriage: **IVTAAEC-A20A0**: 315,02 Euro
 Rail: **IVTAAER** Price / meter: 199,58 Euro

Prices valid until 31-12-2017



IVTAAQ linear guides provide a wider base rail option for the IVT family that can easily integrate a variety of drive options. Composed of a precision machined aluminum anodized rail with embedded hardened steel races, the IVTAAQ linear guide is lightweight without sacrificing strength.

Standard lengths up to 3650 mm (Consult factory for longer continuous length)
 SIMO® machined for precision qualified rail surfaces
 Precision tight rail tolerances 0.05 mm
 Handles loads up to 8,900 N
 High speed capacity 12 m/s

Carriage: **IVTAAQC-A20A0**: 315,02 Euro
 Rail: **IVTAAQR** Price / meter: 199,58 Euro

Prices valid until 31-12-2017



What Makes IVT Different?

25 MINUTE INSTALLATION

2
COMPONENTS

71
COMPONENTS

2 HOUR INSTALLATION

Integral V

vs.

Profile Rail



PATENT PENDING MACHINING PROCESS

MACHINED PRECISION AT EXTRUSION PRICES

- Rigid, accurate, repeatable
- Low cost
- Machined rail edges can be used as a reference when mounting

Synchronized Cutters
Eliminate Built-In
Extrusion Variances



IVTANR-00 	IVTAANC-A20A0
IVTAAR-000 	IVTAAR-A20A0
IVTAABR-000 	IVTAABC-A20A0
IVTAAE-000 	IVTAAE-A20A0
IVTAAQ-000 	IVTAAQ-A20A0



IVT linear guides offer an alternative and more cost-effective solution to profile rail systems



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*Best choice
to combine
price & precision*

T-Race roller sliders with internal raceways

MONORACE Linear roller system – High Performance

The MONORACE is based on different C-shaped rails with a wide range of sliders, and rail with internal raceways.

The MR rail series are high precision cold-drawn profiles, made from a specific Casehardening steel alloy, to assure optimal surface hardening by nitrogen diffusion. In addition the treatment also provides a strong resistance against corrosion, while reducing friction and wear, to assure long rail life.

Advantages:

- guaranteed smoothness at high speed
- low noise and low friction
- maximum precision in positioning
- easy and fast preload adjustment
- competitive price
- use of slim slides which are among the most compact in the market

The rollers are designed around a double row precision ball bearing to guarantee both high radial and axial load capacities. The rollers are protected by a double lip sealing system (2RS) to assure long life, even in difficult environments.



Rail lengths : 160 – 4000 mm

Slider range : MR18 –MR28 – MR43

Sliders series: Guiding slider – Rotating slider – Floating slider – Extra floating slider



MONORACE Linear roller system – Standard

The ML Series Linear Roller System consists of a C shaped steel rail with internal concave raceways where robust ball bearing rollers travel.

Sliders are available with three or five rollers including eccentrics to adjust the slider's preload.

Both ends of the sliders are equipped with polyamide wipers to remove debris from the raceway and grease impregnated felt wipers to lubricate the raceways for long life with minimal maintenance.

Sliders include a mix of concentric and eccentric rollers. The eccentric rollers are used to preload the system and eliminate any play. The preload can be adjusted to suit the particular application. Sliders are able to carry load and moment loads in all direction. Because one of the rail raceways contacts more rollers than the other, this direction is the preferred direction of radial loading. Two small circular marks indicate the direction of preferred slider loading.



Rail lengths : 240 – 4000 mm

Slider range : ML28 –ML43

MONORACE Linear roller system – cost effective

LAN rails are made from sheet steel and shaped by high precision, ultra-smooth forming rollers.

They are then case hardened using our revolutionary TRACE-NOX nitriding and black oxidising process to ensure an extended lifetime and excellent corrosion resistance.

The slider bodies are cathodically blackened for maximum corrosion resistance.

The rollers are made from core tempered and precision ground, bearing grade steel.

The ball bearings are lubricated for life with wide temperature range bearing grease and protected by 2Z rated metal shields. Robust elastomer raceway wipers are fitted at both ends of the slider to protect the rollers and keep the raceways clean.

The wipers incorporate oil-impregnated felt pads to keep the points of contact between raceway and roller properly lubricated, even for the lifetime of the rail.



Rail lengths : 160 – 4000 mm

Slider range : LAN26–LAN30 – LAN40 – LUN40

Rail series: LAN guiding rail – LUN floating rail



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T-Race roller sliders with internal raceways

FLEXRACE – Flexible linear system – Flexible

FLEXRACE a very flexible linear system with unique assembly possibilities.

The FLEXRACE system provides an extremely versatile linear system, with great variety of rail / roller configurations for a wide range of applications. FLEXRACE is designed to be a strong and simple multitask linear system for larger handling and automation applications. It is a Low-cost, easy to assemble system, that offers smooth motion even on inaccurate surfaces.



Rail lengths: 400 – 3920 mm

Rollers Guiding roller – Floating roller – Freely floating roller –



BALLRACE – Ball-cage linear system

The SF ball-cage series are a very simple linear rail formed by one or more sliders moving in a ball-cage inside a longer rail. The components are the same of the SR series with the same excellent characteristics.

- Constant smooth movement
- Complete overall nitriding hardened profiles with high resistance to wear
- Constant preload, unlike zinc plated slides
- Smooth black finish
- Main load capacity
- Large ball diameter
- Increased number of balls per ball-cage
- Nitriding hardened raceways for increased load capacity



Rail lengths: 130 – 1650 mm

Slider types : SF standard - SF with double sliders in same ball-cage - SF with double slider in independent ball-cages



ROLLERRACE – Rollers

The ROLLERRACE rollers are designed around a double row precision ball bearing to guarantee both high radial and axial load capacities. The rollers are protected by a double lip sealing system (2RS) to assure long lifetime, even in difficult environments. The integrated roller pivot has concentric or eccentric shape, to allow for preload setting in the different systems. The bearings are made to precision class DIN620 of core-hardened carbon steel.

The rollers are available in series R.V with 2 contact points on the protruding raceways to obtain, a rigid guiding movement. The R.P has the rollers with some limited floating/compensation capacity, as only having one contact point at the central part of the raceways. The R.U has the rollers with full floating, these rollers are able to carry the load in the radial direction and also float and rotate a small amount in the rail without affecting the preload or quality of the movement and without binding.

Rollers double row bearings capacity max 7100 N

Rollers single row bearings capacity max 2500 N



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to combine
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T-Race telescopic sliders

TELERACE – Roller telescopic slides for high-frequency, self-aligning

The **TLR** slides are the world's only telescopic slides system which incorporated self-aligning feature to absorb parallelism errors of the mounting surfaces, when used in pairs. The TLR slides are designed for heavy duty High-Tech telescopic applications, with precise motorized movement, requiring constant smooth sliding performance with no play. Recommended for high frequency applications.

The high performance is provided by use of double-row precision bearings, strong rails with hardened and honed raceways, fixed to a rigid intermediate S-shaped steel plate, assuring high load capacities and low flexion at even fully extended position.

An integrated lubed for-life greasing system, assuring a

constant thin layer of lubrication on the raceway surfaces, for a long operation period.

Stroke 290 - 1980 mm ---- Load capacity: 2384 N



TELERACE – Telescopic slides with ball-cage. Heavy Loads

The **Ball-cage** T RACE telescopic slides range are the most advanced ballcage slides. They offer the best ratio "capacity load / size" available on the market with the Superior smooth performance, thanks to its nitriding hardened raceways, assuring constant preload during full lifetime.

The black oxidation guarantees a high corrosion resistance unlike traditional zinc plated slides, which soon lose their preload, once soft zinc is consumed at ball contact points. All the Series are available in the version "X" with high corrosion resistance.

For this version the balls the cages and the screws are made in stainless steel (INOX) and also the intermediate plate (when foreseen) for high corrosion resistance. The rails are standard with T RACE-NOX treatment.

Stroke 290 - 1985 mm ---- Load capacity: 2857 N



TELERACE – Semi-telescopic slides, High Performance

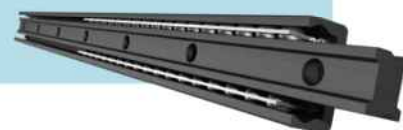
The **semi-telescopic slides SR** allow for a stroke, equal to half the length of the slide, plus a minor stroke 10-25mm depending on type.

The slides can also perform an equal stroke to the other side, removing the small screw positioned at the left side.

The version KB for high corrosion resistance, have ballcage and balls bearing in INOX.

The load capacities are all referred to a single slide, with load at the centered position.

Stroke 130 - 1019 mm ---- Load capacity: 2857 N



TELERACE – Cost effective telescopic slider

The **TLAZ and TQAZ** slides are made from robust rolled steel profiles and precision bearings, for smooth and precise movement along with interesting load capacities. The TLAZ comes with an intermediate element to offer higher load capacities than the TQAZ for the medium/ longer stroke versions.

These slides represent T RACE's most economical telescopic slides, but nothing compared with cheap furniture drawer-slides, based on ball-cage movement. The slides are for application where TLS/TSQ/TLR/TQL28 can't meet the target price or where commercial drawer slides can't meet the requested quality and smooth movement.

The slides are available in standard steel version and complete INOX versions: TLAX, TQAX. The INOX versions offer same performance as standard and with same dimensions. The slides offer a stroke equal to the length of the slide.

The roller bearings are with 2Z seals and lubed for life. Thanks to high temperature grease,

the TLAZ and TQAZ are also suitable for application with constant temperature of 170° celcius

The slides come all with strong damping rubber end-stops, which together with the rolling movement assure very silent function.

Stroke 300 - 1600 mm ---- Load capacity: 1210 N



TLR



TSH



TQS



TLS



SR

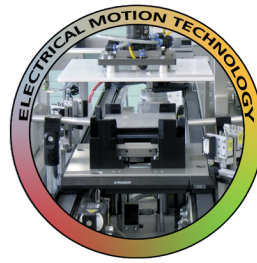
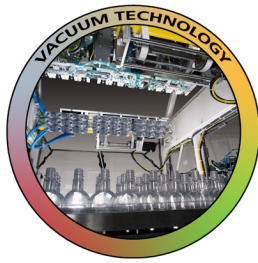


TLA



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We look forward to your application.

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