CLAMPING AND BRAKING ELEMENTS FOR LINEAR GUIDES AND RODS

PNEUMATIC AND MANUAL UNITS

2022/2023

VR ERRE DI

ERRE.DI. Automation has been manufacturing and supplying quality automation components and systems for over 20 years.

Within its own facilities, ERRE.DI. is able to design, produce and test an extensive range of clamping and braking elements for linear guides and rods.

Through its new automation line, ERRE.DI. can easily meets the markets requirements for quality and safety, responding to every technical and design problem thanks to the expertise of its engineering department.

In addition to the standard production, ERRE.DI. provides tailor-made solutions to best meet the customers' needs.

High technology production, reliability of components and technical support make ERRE.DI. the ideal partner for every industrial sector, including aerospace, robotics, machine tool, automotive, industrial automation, packaging and material handling.

CLAMPING AND BRAKING ELEMENTS FOR LINEAR GUIDES AND RODS

Pneumatic and Manual Units

Following an adequate period of design, analysis, development and testing, ERRE.DI. is able to offer clamping and braking elements for linear guides and rods with the following characteristics:

- High clamping force with minimum space required
- Easy installation
- Both elements working in single or double effect need the same installation space
- The "Normally Closed" devices can be used as safety elements (clamping without air pressure)
- High switching speed Open/Closed
- Italian technology

All the clamping and braking elements undergo galvanic treatments to protect against corrosion hard anodizing for aluminum elements and electrolytic nickel plating bath for steel elements.

The clamping elements (M or D Operating Type) satisfy all the essential requirements of safety of the Directive 2006/42/EC. Harmonised standard applied: EN ISO 13849.

FIELDS OF APPLICATION:

- **Woodworking machine**
- **Metal working machine**
- **Glass working machine**
- **Packaging machinery**
- **Automation and Robotics**
- **Handling systems**

Declaration of Compliance

TUV16DM268881

Nome e indirizzo del costruttore:
Name and address of the manufacturer
Erre.Di. S.r.l.
Via dei Lavoratori, 15-17
20092 Cinisello Balsamo – MI
Italy

Genere prodotto:
Product designation
SISTEMI DI BLOCCAGGIO E FRENATURA

Serie/Tipo:
Series/Type
"FRC" / "FRCC" / "FRCBS" / "FRCBC" / "FRCDP" / "FRCDPH" / "FRCMC"

Riferimento legislativo soddisfatto:
Legislative Reference Compliance
2006/42/CE

Norme armonizzate di riferimento:
Reference harmonized standard
- UNI EN ISO 12100:2010;
- UNI EN ISO 13849-1:2015;
- UNI EN ISO 4414:2012

Luogo: Sesto San Giovanni
Place

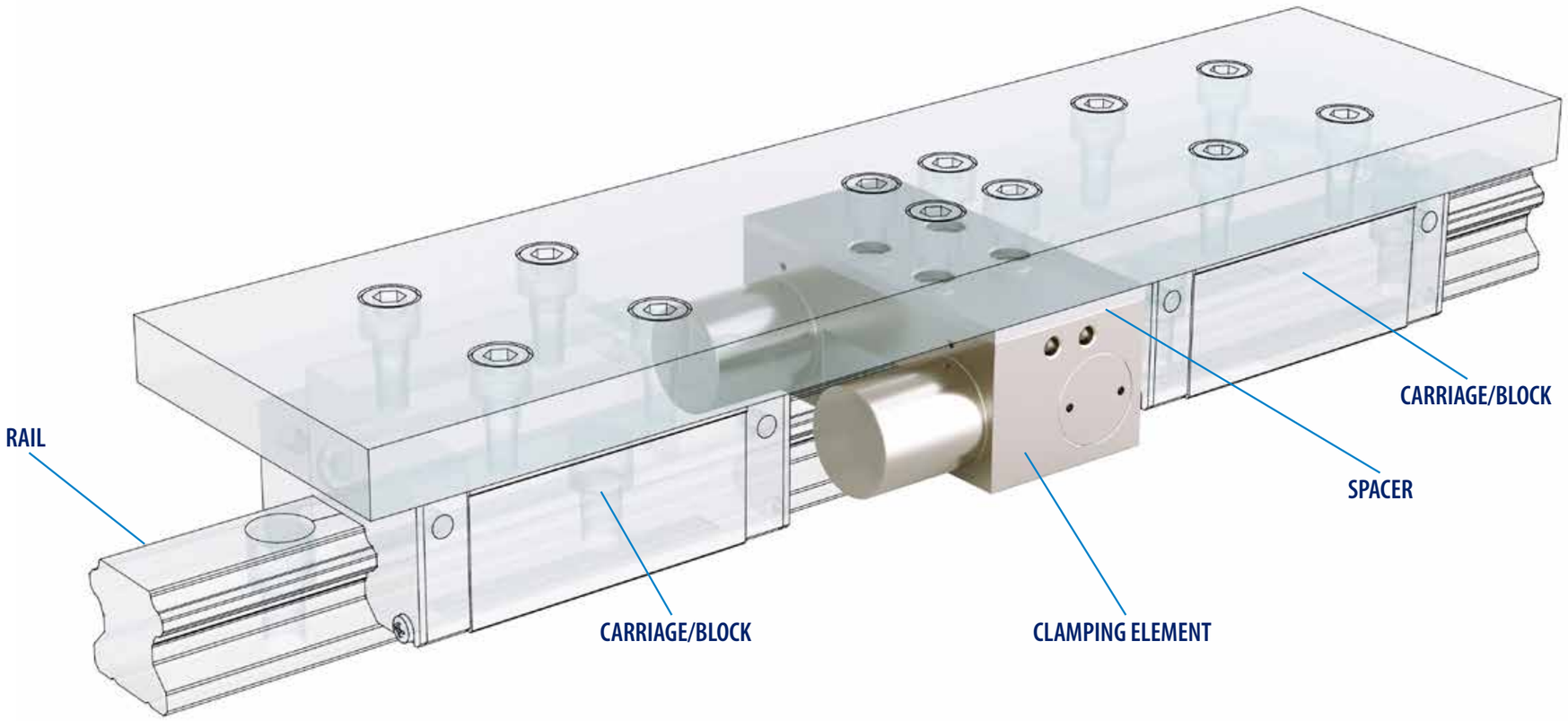
Data: 27 Maggio 2016
Date

Ispettore verificatore Tested by
Firma e nome / signature & name
27-05-16
Data/date

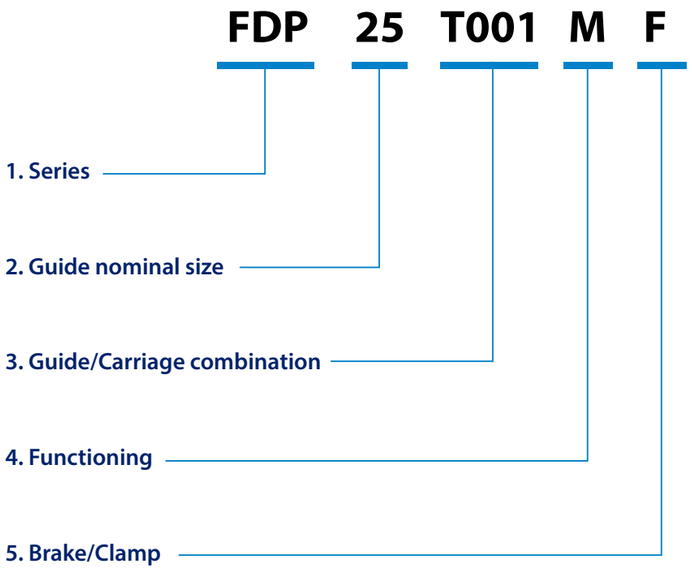
TÜV Italia S.r.l. - TÜV SÜD Group
via G. Carducci, 125 pal 23
20099 Sesto S. Giovanni (MI) - Italy
T. +39 02 24130 1 F. +39 02 24130 0399
Web: www.tuv.it – e-mail: tuv.is@tuv.it

TÜV®

NOMENCLATURE

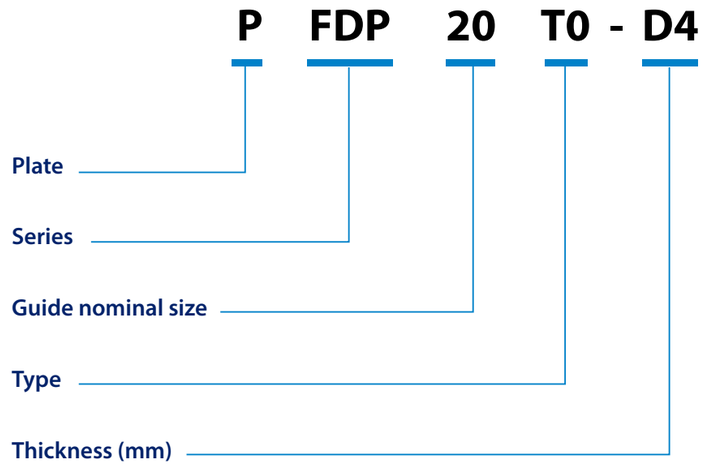


Codes for clamping and braking elements are composed as follows:



Clamping and braking elements can optionally be supplied with a "spacer" plate made in Steel, used to align the height of the element with the height of the sliding guides.

Codes for the spacer are composed as follows:



NOMENCLATURE

1.

Series codes are the following:

F	**FDI**	**FBS**
FC	**FMC**	**FBC**
FDP	**FMCE**	**FMN-M**
FDPH	**FMN**	
FDPM	**FCMN**	

2.

Nominal guide size indicates the size of the guide rail on which the element is mounted.
It is also the size of the element.

3.

The Guide/Carriage combination identifies the clamping element associated with the guide/carriage

4.

The code of the Pneumatic functioning type parameter is the following:

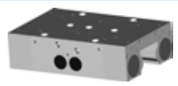
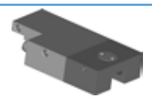
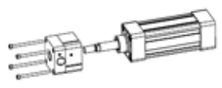
S	Normally open – Air to close
M	Normally closed – Air to open
E	Normally open – Air to close and to open
D	Normally closed – Air to open and to close

5.

The Working type parameter defines the clamping element:

F	Dynamic braking element (otherwise it is clamping).
S	Whit sensor integration of a proximity sensor in order to verify the opening status of the element. The sensor is an inductive sensor in cylindrical stainless steel housing M8 (PNP or NPN). It comes with a connector and a cable. Working temperature: -25°C ÷ +75°C.
P	Element working with pressure less than 6 bar, but more than 4.5 bar
Q	Element working with pressure from 4.5 bar to 4 bar
R	Element working with pressure less than 4 bar

PRODUCTS INDEX

	SERIES	CHARACTERISTICS	FUNCTIONING	NORMALLY CLOSED	BRAKING	SENSOR	PAG.
ELEMENTS FOR LINEAR GUIDES	 **F**	STANDARD CLAMPING ELEMENT GREAT HOLDING FORCE/DIMENSION RATIO	PNEUMATIC	YES	YES	YES	10
	 **FDP**	DOUBLE PISTON SYSTEM. HIGH HOLDING FORCE SMALL DIMENSIONS	PNEUMATIC	YES	YES	YES	12
	 **FDPH**	POWERED DOUBLE PISTON SYSTEM EXTREMELY HIGH HOLDING FORCE SMALL DIMENSIONS	PNEUMATIC	YES	YES	YES	14
	 **FDPM**	CLAMPING AND BRAKING ELEMENT HIGH CLAMPING FORCE SHAPED PROFILE	PNEUMATIC	YES	YES	YES	16
	 **FDI**	CLAMPING AND BRAKING ELEMENT WITH INTEGRATED SPRINGS FURTHER INCREASE OF CLAMPING FORCE COMPARED TO FDPM	PNEUMATIC	YES	YES	YES	18
	 **FMC**	MONOCYLINDER CLAMPING AND BRAKING ELEMEN. HIGH CLAMPING FORCE. SHAPED PROFILE	PNEUMATIC	YES	YES	YES	20
	 **FMCE**	ELECTRIC CLAMPING ELEMENT	ELECTRIC	YES	NO	YES	22
	 **FMN**	MANUAL ELEMENT PRACTICAL AND RELIABLE NEW ERGONOMIC DESIGN	MANUAL	NO	NO	NO	24
	 **FMN-M**	MANUAL ELEMENT FOR MINIATURE GUIDE PRACTICAL AND RELIABLE NEW ERGONOMIC DESIGN	MANUAL	NO	NO	NO	26
ELEMENTS FOR ROUND GUIDES AND RODS	 **FC**	SAME HIGH PERFORMANCES AS F SERIES FOR ROUND GUIDES	PNEUMATIC	YES	YES	YES	28
	 **FCMN**	MANUAL ELEMENT FOR ROUND GUIDES PRACTICAL AND RELIABLE NEW ERGONOMIC DESIGN	MANUAL	NO	NO	NO	30
	 **FBS**	DOUBLE PISTON SYSTEM HIGH HOLDING FORCE FOR ROUND GUIDES	PNEUMATIC	YES	YES	YES	32
	 **FBC**	CYLINDER BLOCKING ELEMENT HIGH HOLDING FORCE FOR LINEAR GUIDES AND RODS OF PNEUMATIC CYLINDERS	PNEUMATIC	YES	YES	YES	34
SPECIAL ELEMENTS	 **FMV**	CLAMPING SYSTEM WITH ONLY ONE CONTACT ELEMENT SMALL DIMENSIONS DIFFERENT MODES OF USE	PNEUMATIC	YES	YES	YES	36
	 **F_SP**	EASY TO ASSEMBLE THANKS TO THE DECOMPOSABLE SYSTEM INDEPENDENT PISTON SYSTEM SHAPED PROFILE	PNEUMATIC	YES	NO	NO	38

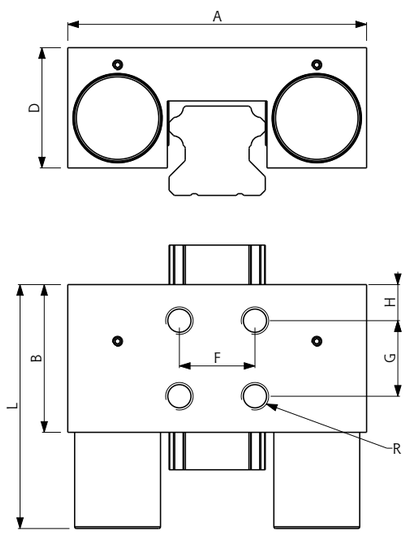
F Series - Pneumatic clamping element

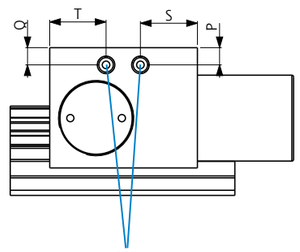
The tightening is done using an amplification system with inclined plane.
Made in construction steel, for high axial and horizontal stiffness.

F##--- S
F##--- E

## Guide size	**15 ÷ 65 mm**
Working type	**Norm. Open**
Body	**Steel**
Operating Temperature	**20°C ÷ +80°C**
Operating Pressure	**5,5 ÷ 8 bar**
Switching time	**40 ÷ 60 mSec**
Contact parts Hardness	**60 ÷ 62 HRC**

- **Small dimensions.**
- **High clamping force.**
- **Precise positioning**
- **High stiffness**





M5
AIR CONNECTION
we recommend
the use of compressed
air hose ø 6x4

F##--- M
F##--- D

## Guide size	**15 ÷ 65 mm**
Working type	**Norm. Closed**
Body	**Steel**
Operating Temperature	**20°C ÷ +80°C**
Operating Pressure	**5,5 ÷ 8 bar**
Switching time	**40 ÷ 60 mSec**
Contact parts Hardness	**60 ÷ 62 HRC**

- **Clamping element without the use of energy.**
- **Includes springs for closing, while the pressure is for opening**

Type	Size	Clamping Force [N] M	S	E	D	A [mm]	B [mm]	D [mm]	F [mm]	G [mm]	H [mm]	L [mm]	P [mm]	Q [mm]	R	S [mm]	T [mm]
F	15 S0	400	650	650	1050	57	43	21	15	15	12.5	62	5	15	M4x5	37	6
F	15 S5	400	650	650	1050	55	39	20.8	15	15	8.5	58	5.4	16.3	M4x5	37	4.5
F	15 T0	400	650	650	1050	60	43	21.5	15	15	12.5	62	5.5	15.5	M4x5	37	6
F	15 T5	400	650	650	1050	55	39	21.5	15	15	8.5	58	5.5	17	M4x5	37	4.5
F	20 S0	600	1000	1000	1600	68	39	27	20	20	14	61	5	7	M5x5	16.9	5.5
F	20 S5	600	1000	1000	1600	64.1	39	27	20	20	10	61	5	6.5	M5x5	16.9	5
F	20 T0	600	1000	1000	1600	70	39	25.5	20	20	14	61	5	5	M5x5	18.5	5
F	20 T5	600	1000	1000	1600	66	39	25.5	20	20	14	61	5	5	M5x5	18.5	5
F	25 S0	750	1200	1200	1950	75	39	32.5	20	20	14	63.5	6.6	9.5	M6x8	19.5	5.5
F	25 S5	750	1200	1200	1950	75	35	32.5	20	20	10	56	6.6	9.5	M6x8	19.5	5
F	25 T0	750	1200	1200	1950	77	39	28	20	20	14	63.5	5	6	M6x8	19	5.5
F	25 T5	750	1200	1200	1950	75	35	28	20	20	10	56	5	6	M6x8	19	5
F	30 S0	1050	1750	1750	2800	87	43	38.5	22	22	10.5	71	8.5	8.5	M8x8	16.5	16.5
F	30 S5	1050	1750	1750	2800	90	39	38.5	22	22	8.5	68	8.5	8.5	M8x8	16.5	14.5
F	30 T0	1050	1750	1750	2800	87	43	35	22	22	10.5	71	5	5	M8x8	16.5	16.5
F	30 T5	1050	1750	1750	2800	90	39	35	22	22	8.5	68	5	5	M8x8	16.5	14.5
F	35 S0	1250	2000	2000	3250	106	46	42.5	24	24	7.5	78	5.5	11	M8x15	23	7
F	35 S5	1250	2000	2000	3250	100	39	42	24	24	7.5	59	10.5	12.5	M8x15	23	4.5
F	35 T0	1250	2000	2000	3250	106	46	42.5	24	24	7.5	78	12	11	M8x15	23	7
F	35 T5	1250	2000	2000	3250	100	39	36.5	24	24	7.5	59	5	7	M8x15	23	4.5
F	45 S0	1500	2300	2300	3800	116	50	52	26	26	12	82	15	8	M10x19	20.5	21
F	45 T0	1500	2300	2300	3800	120	50	52	26	26	12	82	15	8	M10x19	20	20
F	45 T5	1500	2300	2300	3800	120	49	43.5	26	26	11.5	81	6.5	6.5	M10x18	20	20
F	55 S0	2000	3000	3000	5000	128	49	59	30	30	9.5	82	17	10	M10x19	18.5	18.5
F	55 S5	2000	3000	3000	5000	128	49	53	30	30	9.5	81	16	9	M10x19	18.5	20
F	55 T0	2000	3000	3000	5000	136	49	54	30	30	9.5	82	13	8	M10x19	18.5	18.5
F	65 T0	2000	3000	3000	5000	146	49	67	50	30	9.5	82	26	21	M10x20	18.5	18.5