



LINEAR UNITS

# ONE SERIES

FOR CLEAN ROOM

Class 3 according ISO 14644-1



INTL. PATENT PENDING

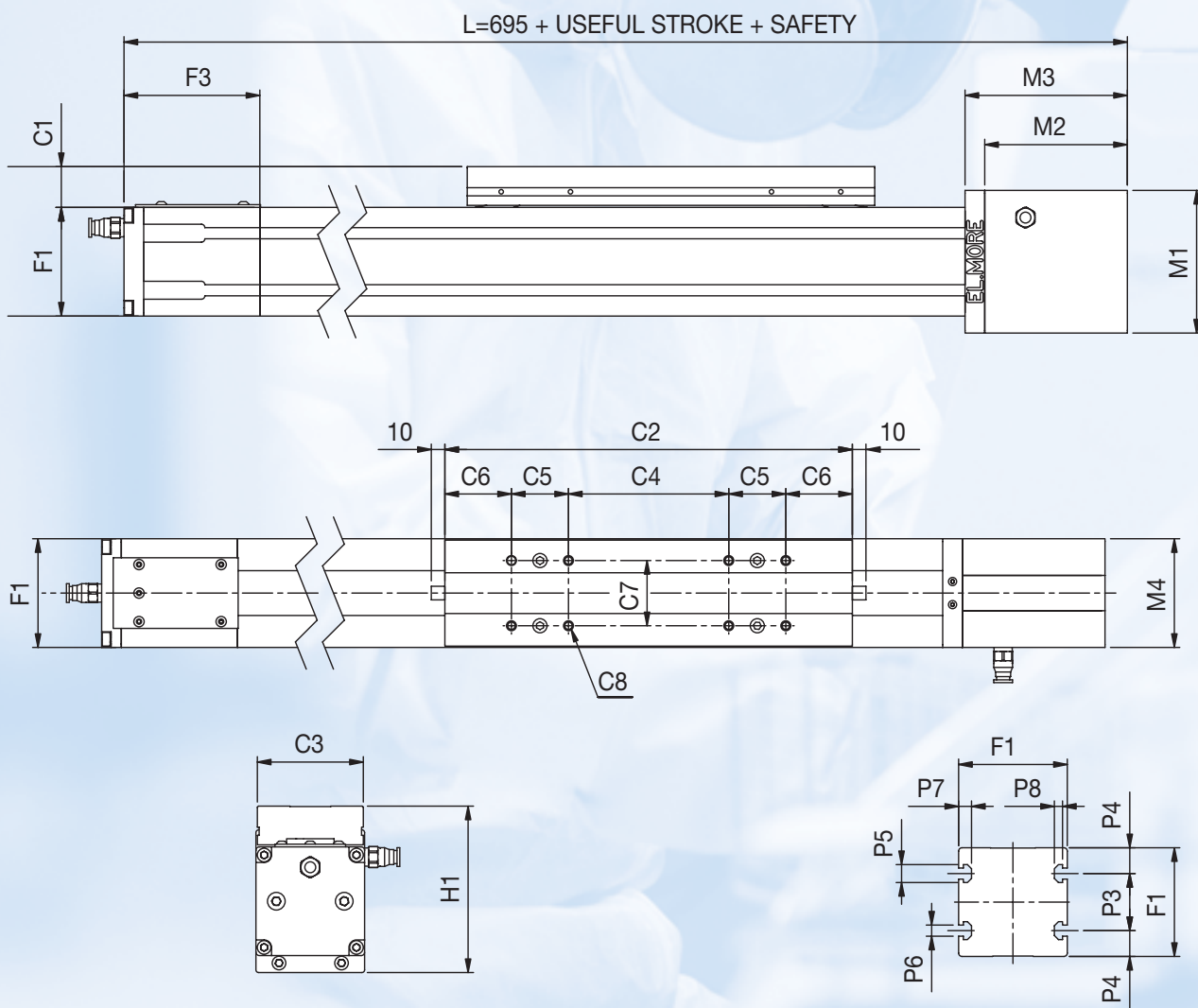
ELMORE

RELIABILITY.VELLOCITY.ACCURACY.CLEANNESS.



[www.elmore.it](http://www.elmore.it)

# CLEAN ROOM Linear Units ONE Series



## Dimensions [mm]

	H1	M1	M2	M3	M4	C1	C2	C3	C4	C5	C6	C7	C8	F1	F3	P3	P4	P5	P6	P7	P8
<b>ONE 50</b>	80	70	70	80	60	20	150	48	62	26	18	30,5	8xM5 prof. 6mm	50	65	26	12	8,3	4,2	6,2	4
<b>ONE 80</b>	122,5	105	105	120	80	30	300	78	118	42	49	48	8xM6 prof. 6mm	80	100	42	19	13,5	8,4	9,8	6
<b>ONE 110</b>	167,5	145	145	160	130	40	380	108	140	60	60	70	8xM8 prof. 6mm	110	135	62	24	18	11,3	12	8,5

For further details please visit our website [www.elmore.it](http://www.elmore.it) and download the relative dxf-files

## CLEAN ROOM Linear Units ONE Series

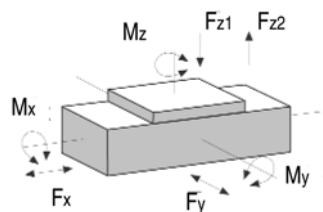


### Technical data

		ONE 50	ONE 80	ONE 110
Min. useful stroke length	[mm]	100	100	100
Max. useful stroke length	[mm]	3700	6000	6000
Max. positioning repeatability	[mm]	0,05	0,05	0,05
Max. speed	[m/s]	4	5	5
Max. acceleration	[m/s <sup>2</sup> ]	50	50	50
Type of belt		22-AT5	32-AT10	50-AT10
Type of pulley		Ø 37-Z23-Backlash 0	Ø 60-Z19-Backlash 0	Ø 86-Z27-Backlash 0
Carriage displacement per pulley turn	[mm]	115	190	270
Carriage weight	[kg]	0,4	2,7	5,6
Zero travel weight	[kg]	1,8	10,5	22,5
Weight for 100 mm useful stroke	[kg]	0,4	1	1,4

### Theoric and maximum permissible loads

		ONE 50				ONE 80				ONE 110			
		Theoretical load rating		Max. recomm ended load		Theoretical load rating		Max. recommended load		Theoretical load rating		Max. recommended load	
		static	dynamic	static	dynamic	static	dynamic	static	dynamic	static	dynamic	static	dynamic
FX	[N]	890	670	640	480	2230	1670	1600	1200	4410	3310	3180	2400
FY	[N]	7000	4490	1260	490	43400	34800	7810	3760	79000	55000	14220	5940
FZ	[N]	7000	4490	1260	490	43400	34800	7810	3760	79000	55000	14220	5940
MX	[Nm]	42	27	7	3	620	480	108	52	1300	860	235	90
MY	[Nm]	230	150	41	16	3170	2540	570	270	7110	4950	1280	530
MZ	[Nm]	230	150	41	16	3170	2540	570	270	7110	4950	1280	530



## Belt driven **CLEAN ROOM** Linear Units **ONE Series**

### Main Features

#### CERTIFIED CLEAN ROOM CLASS

ONE series is a device tested by IPA FRAUNHOFER Institute – Stuttgart (D).  
We achieved the following cleanliness class using a vacuum pump and a special sealing belt (Intl. Patent Pending)

"ISO CLASS 3" according to ISO 14644-1  
"CLASS 1" according to U.S. FED 209 E

#### VACUUM SYSTEM

ONE Series has specific connection nipples installed on the drive-end and on idle-end of the units, where the vacuum systems will be connected.

The value of air section must be evaluated case by case, but ELMORE already tested 0,8 Bar on ONE 80 from 1.000 mm up to 4.000 mm stroke. We achieved ISO CLASS 1 thanks to the combined action of vacuum pump and ELMORE special sealing belt.

#### SELECTED MECHANICAL COMPONENTS

ONE Series is assembled with selected high quality components.

Only Stainless Steel material (AISI 303, AISI 440C) is used for bearings, linear guides, shafts, pulleys, and other metallic components. Where it is impossible to use Stainless Steel material, ELMORE provides a special treatment tested under severe conditions and under particle generation.

#### DRIVEN BELT

ONE Series is the first linear unit driven by timing belt capable to achieve ISO CLASS 3.

We are using selected high quality polyurethane timing belts, AT profiles, manufactured by leading companies in this field.

#### LUBRICATION

ONE Series is equipped with "innovative and hi-tech linear guides" with special spacing cage among the balls of carriages. This feature supports a long-term maintenance and a low particle generation if combined with special lubricant, specifically developed and adopted for Clean Room and Vacuum applications.

#### RANGE

ONE Series is now available in 3 different sizes, for multi axes combinations:

- ONE 50
- ONE 80
- ONE 110

Maximum stroke is 6.000 mm, except ONE 50 where the maximum stroke is 3.700 mm

For technical details and load capability, please refer to the previous pages.

#### AVAILABILITY

ONE Series is available 4– 5 weeks after receipt of order.

This is a "customized" product: we suggest to verify with ELMORE the delivery time.

In any case the official Order Confirmation coming from Customer Service of ELMORE states the scheduled delivery time.



**MOTION CONTROL**  
**LINEARTECHNIK**  
**SERVOTECHNIK**

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