

User friendly
sealing strip



Lintra® Plus range

The IMI Norgren rodless actuator range, known generally by the 'Lintra' (LINear TRANSPORTer) brand has, over the last 25 years, developed from the original M/45000 to the current M/146000 'Lintra® Plus' series.

This range is one of the widest and most comprehensive rodless ranges available. Still unique are the integrated guides housed in the main extrusion and the user-friendly sealing strip.

The latest version also has slots to take the standard IMI Norgren M/50 series switch, along with grooves which accept industry-standard aluminium machine building systems.

- > Four basic versions
- > Quality, long-life sealing system
- > Improved version with lower weight, greater load capacity, improved end caps and carriage design
- > Complying ATEX requirements

Find out more
www.imi-precision.com

Twin ported
end cap



High
strength
light
weight



Engineering
GREAT Solutions



 IMI NORGREN®

LINTRA® PLUS RODLESS CYLINDERS

M/146000 Internal Guide, M/146100 External Guide, M/146200 Precision Roller Guide Double acting – Ø 16 ... 80 mm

- Widest rodless range covers all requirements from lighter to heavier duties
- Unique integrated guides housed in the main extrusion
- Unique zip action sealing system
- Protection system preventing dust ingress
- Reliable operation up to 6,000 Km of travel
- Interchangeable with previous M/46*00 series units

Technical Data

Medium:

Compressed air, filtered, lubricated or non-lubricated

Operation:

Double acting, magnetic piston, adjustable cushioning

Operating pressure:

1 ... 8 bar

Max strokes:

Ø 16 ... 40 mm - 8500 mm

Ø 50 & 63 mm - 8000 mm

Ø 80 mm - 5500 mm

Ambient temperature:

-30°C ... +80°C max.

Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

End covers:

Aluminium diecast, moulded plastic (Ø 16) and anodised aluminium (Ø 20 & 80)

Yoke:

Anodised aluminium, moulded plastic (Ø 16 & 20)

Carriage, closer & cover:

Aluminium diecast

Guiding bridge and profile barrel:

Anodised aluminium

Seal strip, wiper and piston seal:

PUR

Cover strip:

PA

Other seals:

NBR

Shim ring:

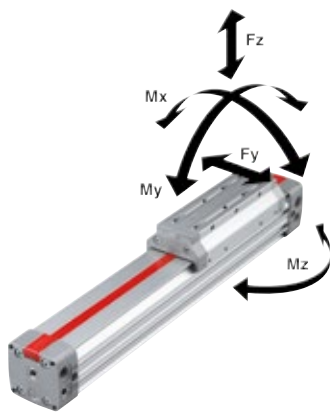
Stainless steel (A2)

EXPRESS



● Lintra® Plus moments

M/146000, M/146100, M/146200



Ø mm	Internal guide M/146000					External adjustable guide M/146100			Precision roller guide M/146200			
	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)	Fy, Fz (N)	Mx (Nm)	My, Mz (Nm)	Fy (N)	Fz (N)	Mx (Nm)	My, Mz (Nm)
16	40	120	0,3	3,8	1,1	200	2	5,5	—	—	—	—
20	90	280	0,9	12	3,6	470	6	18	—	—	—	—
25	125	385	1,5	19	5,6	590	9	28	590	1180	13	42
32	165	500	3	33	10	780	17	43	780	1560	25	64
40	330	990	6,5	84	24	1600	39	110	1500	3000	58	160
50	440	1320	11	120	35	2000	65	160	2000	4000	97	240
63	690	2000	20	240	70	3200	120	350	3200	6400	180	520
80	780	2300	27	360	100	3900	180	520	—	—	—	—

Loading values for LINTRA® cylinders

The values given in the table below show the single forces in the directions Fy and Fz and the maximum moments Mx, My and Mz.

All values are applicable only for speeds of max. 0,2 m/s.

A requirement for using these values is a constant movement (no jerking) of the mass over the whole stroke length of the cylinder.

The reference point from which the moments for all cylinders should be calculated is the centre line of the pistons.

For speeds up to 2 m/s please use our calculation programme LINTRA® PNEUCALC. It is available upon request.

When a LINTRA® cylinder has to take several loads and moments, an additional calculation is necessary using this formula:

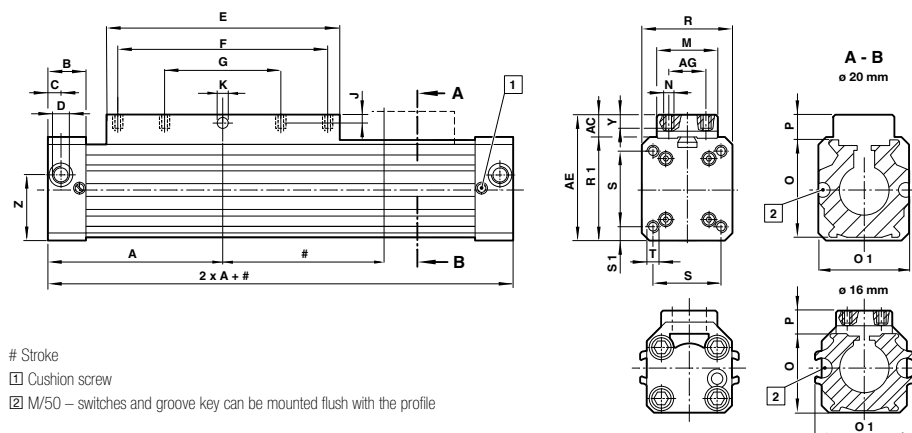
$$\frac{M_x}{M_{x \max}} + \frac{M_y}{M_{y \max}} + \frac{M_z}{M_{z \max}} + \frac{F_y}{F_{y \max}} + \frac{F_z}{F_{z \max}} \leq 1$$

LINTRA® PLUS RODLESS CYLINDERS

M/146000 Internal guide Double acting – Ø 16 ... 80 mm

● Dimensions – Internal guide

Ø 16 ... 20 mm



Stroke

1 Cushion screw

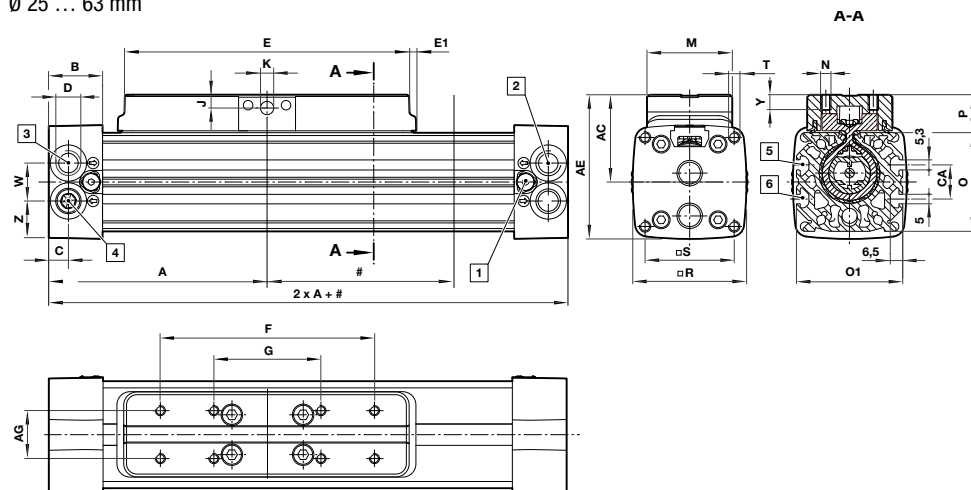
2 M/50 – switches and groove key can be mounted flush with the profile

Ø	A	AC	AE	AG	B	C	D	E	F	G	J	Ø K D7	M	N	O
16	62,5	24,5	38	8	17,5	8	M5	80	60	–	2,5	3	18	M3	25
20	85	34,5	54	20	23	8	G1/8	110	80	40	3,5	4,2	27	M5	32

Ø	O 1	P	R	R1	S	S1	T	Y	Z
16	32	12	27	31	16	5,5	M3 - 5 *1)	4	16,5
20	38	18,5	40	40	32	4	M5 - 12 *)	12	20,5

*1) Deep.

Ø 25 ... 63 mm



Stroke

1 Cushion screw

2 Main port

3 Main port

4 One alternative port with plug inserted

5 M/50 – switches and groove key can be mounted flush with the profile

6 For groove key only

Ø	A	AC	AE	AG	B	C	CA	D	E	E1	F	G	J	Ø K D7
25	100	36	60	20	23	8,5	–	G1/8	130	–	90	45	4,7	5
32	120	46	76	25	28,5	10,5	18	G1/4	160	3,5	120	60	7	7
40	150	52,5	90	25	28,5	11,5	18	G1/4	215	–	160	80	7	7
50	180	65,5	110	25	38	15	24	G3/8	250	–	190	95	9,5	9
63	215	82,5	125	25	38	17	24	G1/2	320	–	240	120	9,5	9

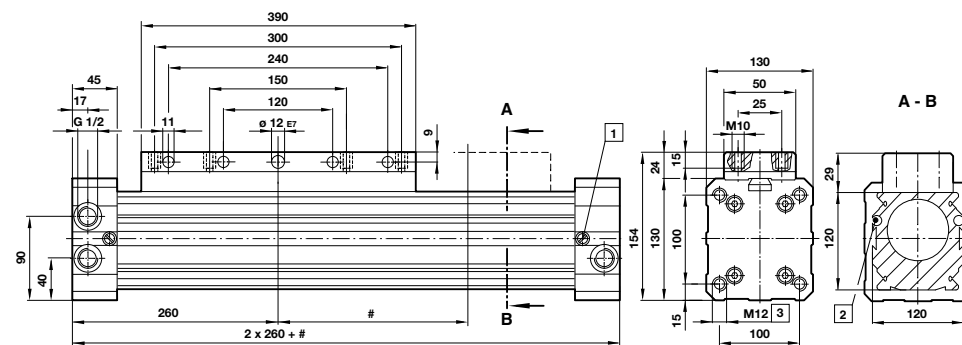
Ø	M	N	O	O 1	P	R	S	T	W	Y	Z
25	32	M5	40	46	16	48	37	M5 - 13*1)	16	7	16
32	45	M5	52	56	20	60	47	M6 - 17*1)	20	8	20
40	45	M6	65	68	20	74,5	58	M8 - 20*1)	25	8	25
50	50	M8	80	84	25,5	89	70	M8 - 20*1)	30	11	29,5
63	50	M8	95	97	25	105	84	M10 - 24*1)	35	11	35

*1) Deep.

LINTRA® PLUS RODLESS CYLINDERS

M/146000 Internal guide Double acting – Ø 16 ... 80 mm

Ø 80 mm



Models – Internal guide

Accessories

Model	Piston Ø	Stroke length	Port size	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting
							
M/146016/M/****	16	made to order	M5	M/50/LSU/5V	C0K510405	C02250405	C02470405
M/146020/M/****	20	made to order	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618
M/146025/M/****	25	made to order	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618
M/146032/M/****	32	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146040/M/****	40	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146050/M/****	50	made to order	G3/8	M/50/LSU/5V	C0K510838	C02250838	C02470838
M/146063/M/****	63	made to order	G1/2	M/50/LSU/5V	C0K510848	C02250848	C02470848
M/146080/M/****	80	made to order	G1/2	M/50/LSU/5V	C0K511048	C02251048	C02471048

**** Insert stroke length in mm – very best availability in multiples of 100 mm.
For information on alternative magnetic switches see pages 137 - 141.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Service kit

Model	Description
	
QA/1460**/88/1000	Up to 1000 mm stroke
QA/1460**/88/3000	From 1001 mm to 3000 mm stroke
QA/1460**/88/8500	From 3001 mm up to max. stroke

** Insert cylinder diameters for the service kit.

Options

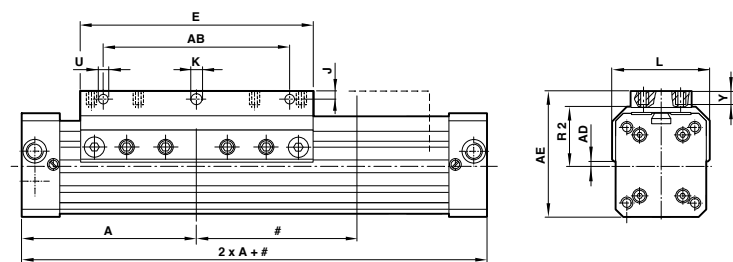
- Alternative port configuration
- Brake
- Double Carriage

LINTRA® PLUS RODLESS CYLINDERS

M/146100 External guide Double acting – Ø 16 ... 80 mm

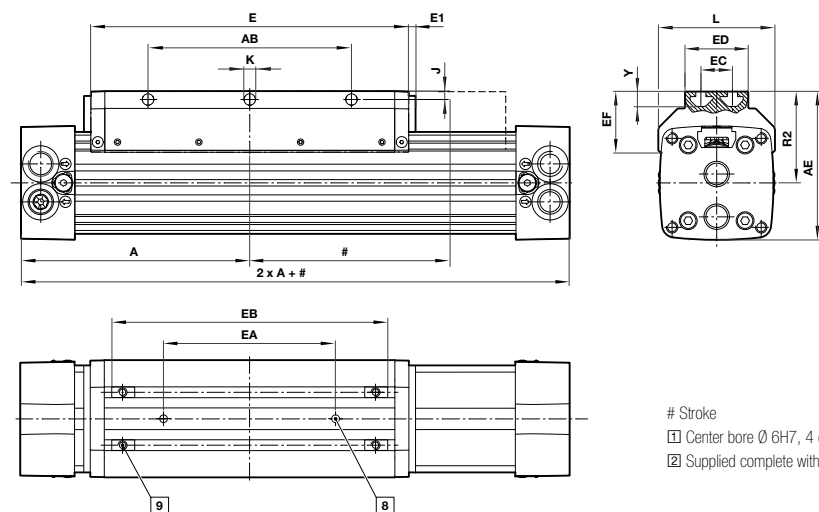
● Dimensions – External guide

Ø 16 ... 20 mm



Ø	A	AB	AE	A0	E	ED	J	Ø K	L	R2	U	Y
16	62,5	–	38	7,5	80	18	–	–	31	18,5	–	5
20	85	60	59	6,5	110	27	7,5	5,5	42	24	5,5	12

Ø 25 ... 63 mm



Stroke

1 Center bore Ø 6H7, 4 deep

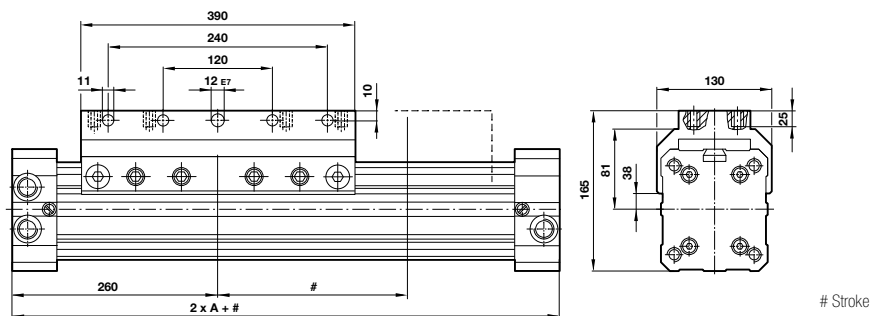
2 Supplied complete with four groove keys

Ø	A	AB	AE	E	E1	EA ±0,05	EB	ED	EC	EF	J	ØK	L	R 2	Y
25	100	70	67,5	130	–	50	102	32	20	34	5	5,5	52	–	-9,5
32	120	90	82	160	4	70	138	45	25	36,5	5	5,5	64	52	6,5
40	150	120	97,5	215	–	105	193	45	25	43	5	6,6	79	60	9,5
50	180	160	116,5	250	–	135	228	50	25	47,5	6,5	9	92	72	11,5
63	215	190	137	320	–	150	292	50	25	59	7,5	9	110	84,5	11,5

LINTRA® PLUS RODLESS CYLINDERS

M/146100 External guide Double acting – Ø 16 ... 80 mm

Ø 80 mm



Models – External guide

Accessories

Model	Piston Ø	Stroke length	Port size	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting
							
M/146116/M/****	16	made to order	M5	M/50/LSU/5V	C0K510405	C02250405	C02470405
M/146120/M/****	20	made to order	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618
M/146125/M/****	25	made to order	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618
M/146132/M/****	32	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146140/M/****	40	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146150/M/****	50	made to order	G3/8	M/50/LSU/5V	C0K510838	C02250838	C02470838
M/146163/M/****	63	made to order	G1/2	M/50/LSU/5V	C0K510848	C02250848	C02470848
M/146180/M/****	80	made to order	G1/2	M/50/LSU/5V	C0K511048	C02251048	C02471048

**** Insert stroke length in mm – very best availability in multiples of 100 mm.
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QA/1460**/88/1000	Up to 1000 mm stroke
QA/1460**/88/3000	From 1001 mm to 3000 mm stroke
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** Insert cylinder diameters for the service kit.

Options

- Alternative port configuration
- Brake
- Double Carriage