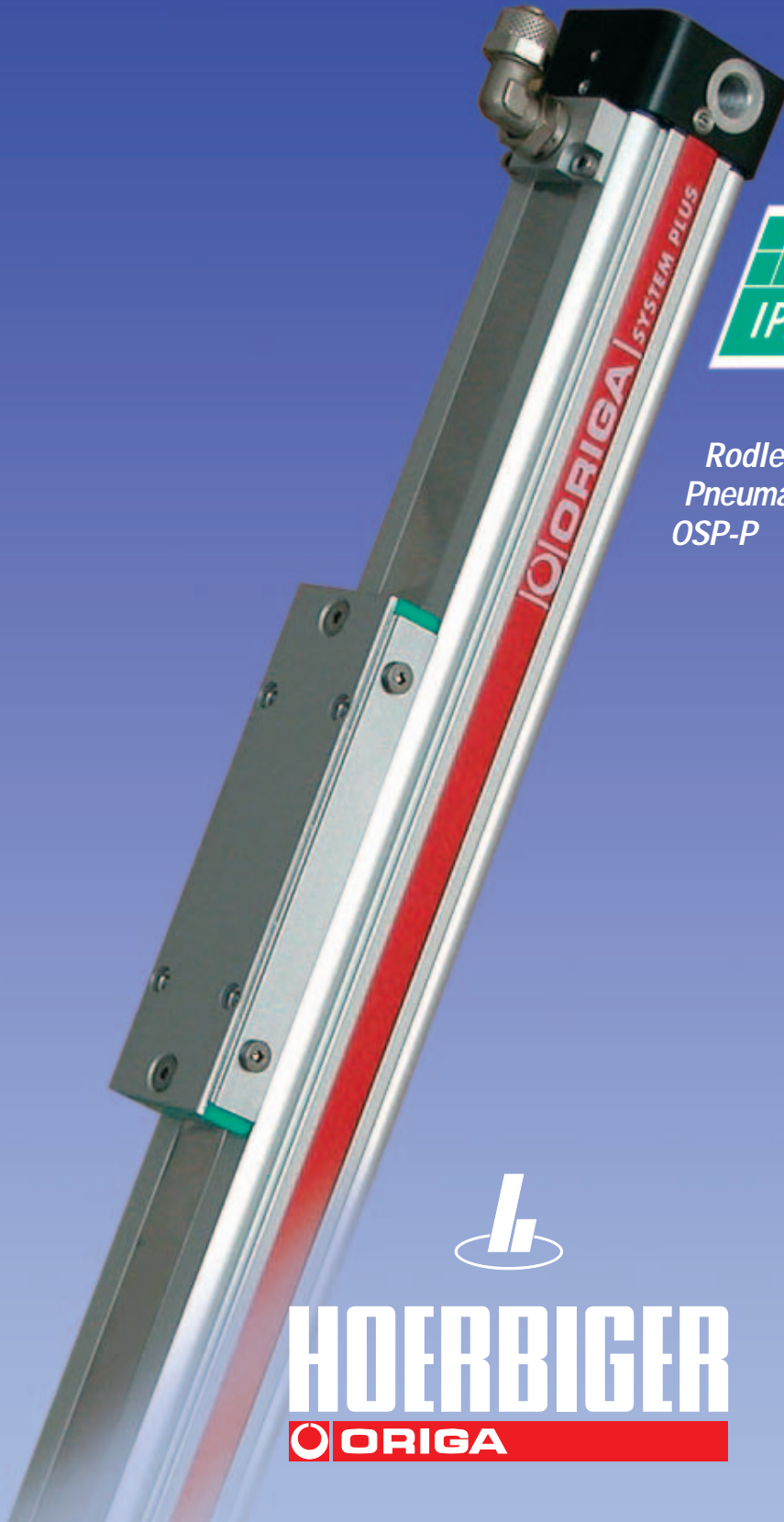


OSP Clean Room Rodless Cylinder certified to DIN EN ISO 14644-1



*Rodless
Pneumatic Cylinder
OSP-P*

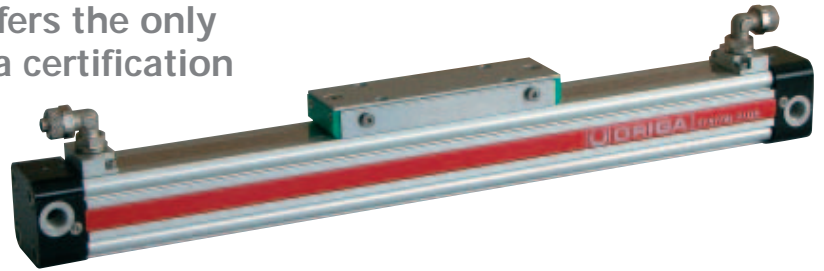


HOERBIGER

 **ORIGA**

ORIGA SYTEM PLUS – Clean Room Cylinder → 16, 25, 32 mm – Type Advantages and Function

Based on the HOERBIGER-ORIGA rodless cylinder, proven in world wide markets, HOERBIGER-ORIGA now offers the only rodless cylinder on the market with a certification from IPA Institute for the cleanroom specification according to DIN EN ISO 14644-1.



Advantages

- Clean room classification
ISO Class 4 at $v_{av} = 0,14$ m/s
ISO Class 5 at $v_{av} = 0,5$ m/s
- suitable for smooth slow speed operation up to $v_{min} = 0,005$ m/s
- optional stroke lengths up to 1200 mm (longer strokes on request)
- Low maintenance
- Compact design with equal force and velocity in both directions
- Aluminium piston with bearing rings to support high direct and cantilever loads
- Simple design employing the HOERBIGER-ORIGA concept

Certifying



Fraunhofer
TESTED®
DEVICE
Linearantrieb OSP-P25
Report No. HO 0305-291

DUPLIKAT

IPA Qualification Certificate

This and every other product mentioned below manufactured by the company

Hoerliger-Origa GmbH

Industriestraße 8

D-70734 Fellbach

has been certified by IPF Qualifikation Ltd bearing the report number HO 0305-291

In operation under working conditions in clean rooms with maximum cleanliness class ISO Class 4 (at the velocity of $v_{av} = 0,14$ m/s) and ISO Class 5 (at the velocity of $v_{av} = 0,5$ m/s) with maximum velocity of $v_{min} = 0,005$ m/s.

The maximum force and velocity in both directions are equal.

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For more information see our homepage www.hoerbiger-origa.com

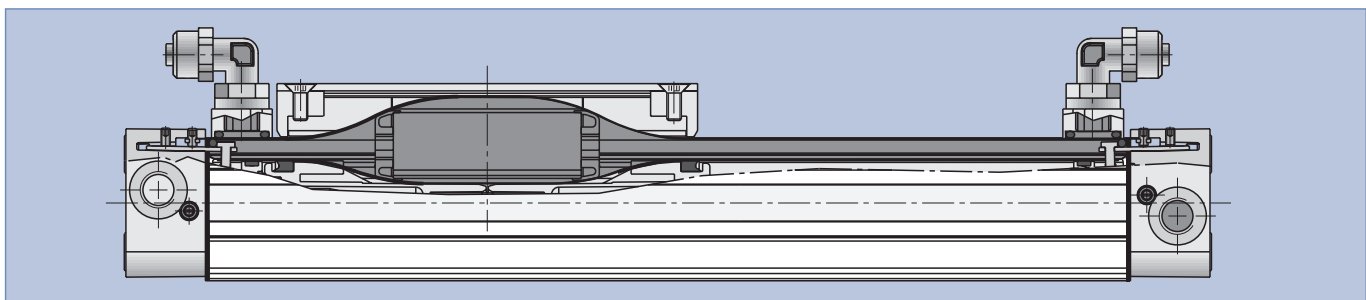
Function

The clean room cylinders of the ORIGA SYSTEM PLUS (OSP-P) combines the efficiency of the HOERBIGER-ORIGA slot

seal system with vacuum protection against progressive wear and contamination from the sliding components. A partial

vacuum drawn between inner and outer sealing bands prevents emission into the clean room.

To achieve the necessary vacuum a suction flow of ca. 4 m³/h is required.





Fraunhofer

TESTED[®] DEVICE

Linearantrieb OSP-P25
Report No. HO 0305-291

Airborne Particulate Cleanliness Class Comparison

ISO 14644-1	RED STD 209E	
ISO Class	English	Metric
1		
2		
3	1	M1.5
4	10	M2.5
5	100	M3.5
6	1,000	M4.5
7	10,000	M5.5
8	100,000	M6.5
9		

Example: FS Class 10 cleanroom (ISO class 4)

IPA Qualification Certificate

This is to certify that the product mentioned below manufactured by the company

Hoerbiger-Origa GmbH

Industriestraße 8
D- 70794 Filderstadt

has been awarded an IPA Qualification Seal bearing the report number HO 0305-291.

In operation at the velocity of $v_1 = 0.0$ m/s with vacuum suction the linear drive OSP-P25 is suitable for use in cleanrooms fulfilling the specifications of the cleanliness class 3 (according to ISO 14644-1).
In operation at the velocity of $v_2 = 0.14$ m/s with vacuum suction the linear drive OSP-P25 is suitable for use in cleanrooms fulfilling the specifications of the cleanliness class 4 (according to ISO 14644-1).
In operation at the velocity of $v_3 = 0.5$ m/s with vacuum suction the linear drive OSP-P25 is suitable for use in cleanrooms fulfilling the specifications of the cleanliness class 5 (according to ISO 14644-1).
In operation at the velocity of $v_4 = 0.5$ m/s without vacuum suction the linear drive OSP-P25 is suitable for use in cleanrooms fulfilling the specifications of the cleanliness class 8 (according to ISO 14644-1).

Detailed information and parameters of the test environment can be found in the IPA Test Report compiled by the Fraunhofer Society.

Certified on May, 13th 2003.

The duration of the validity of this certificate is unlimited. For further information visit our website at <http://www.ipa-qualification.com>

Stuttgart, Germany, May, 13th 2003


Signature



Fraunhofer Institut
Produktionstechnik und
Automatisierung



Technical Data

Characteristics	Symbol	Unit	Description
General Features			
Type			Rodless cylinder
Series			OSP-P
System			Double-acting, with cushioning, position sensing capability
Mounting			See drawings
Air Connection			Threaded
Ambient temperature range	ϑ_{\min} ϑ_{\max}	°C °C	-10 Other temperature ranges +80 on request
Weight (mass)		kg	See table below
Installation			In any position
Medium			Filtered, unlubricated compressed air (other media on request)
Lubrication			Permanent grease lubrication (additional oil mist lubrication not required) Option: special slow speed grease
Material	Cylinder Profile		Anodized aluminium
	Carrier (piston)		Anodized aluminium
	End caps		Aluminium, lacquered
	Sealing bands		Corrosion resistant steel
	Seals		NBR (Option: Viton®)
	Screws		Stainless steel
	Covers		Anodized aluminium
	Guide plate		Plastic
Max. operating pressure	p_{\max}	bar	8

* Pressures quoted as gauge pressure

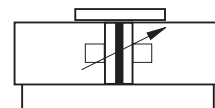
Versions

Standard Versions:

- Double-acting with adjustable end cushioning
- With magnetic piston for position sensing
- Stainless steel screws

Special Versions:

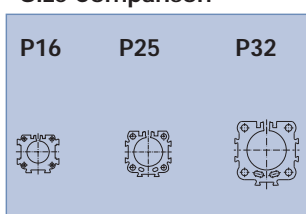
- Slow speed lubrication
- Viton® seals



Weight (mass) kg

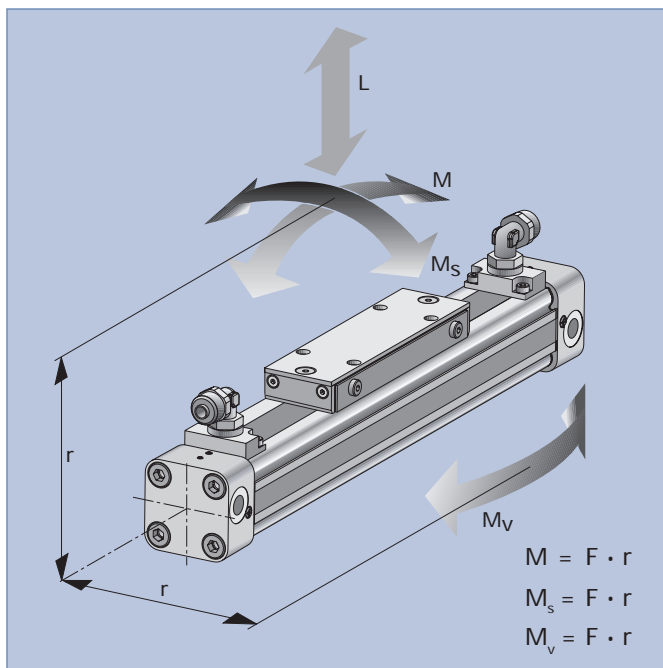
Cylinder series (Basic cylinder)	Weight (Mass) kg	
	At 0 mm stroke	per 100 mm stroke
OSP-P16	0.22	0.1
OSP-P25	0.65	0.197
OSP-P32	1.44	0.354

Size Comparison



Dimensions in mm

Loads, Forces and Moments



Series	Cylinder Ø	Force at 6 bar [N]	Cushion length [mm]	max. allowed Load L [N]	max. allowed Bending Moment M [Nm] M_s [Nm]		max. allowed Torque M_v [Nm]
OSP-P16	16	78	11	120	4	0.45	0.5
OSP-P25	25	250	17	300	15	1.5	3.0
OSP-P32	32	420	20	450	30	3.0	5.0

Load and moment data are based on speeds $v \leq 0.2$ m/s.

The adjacent table shows the maximum values for light, shock-free operation which must not be exceeded even in dynamic operation.

Ordering Instructions

Same as standard 18 character order instructions

(see OSP Rodless Pneumatic Linear Drive Systems catalog)

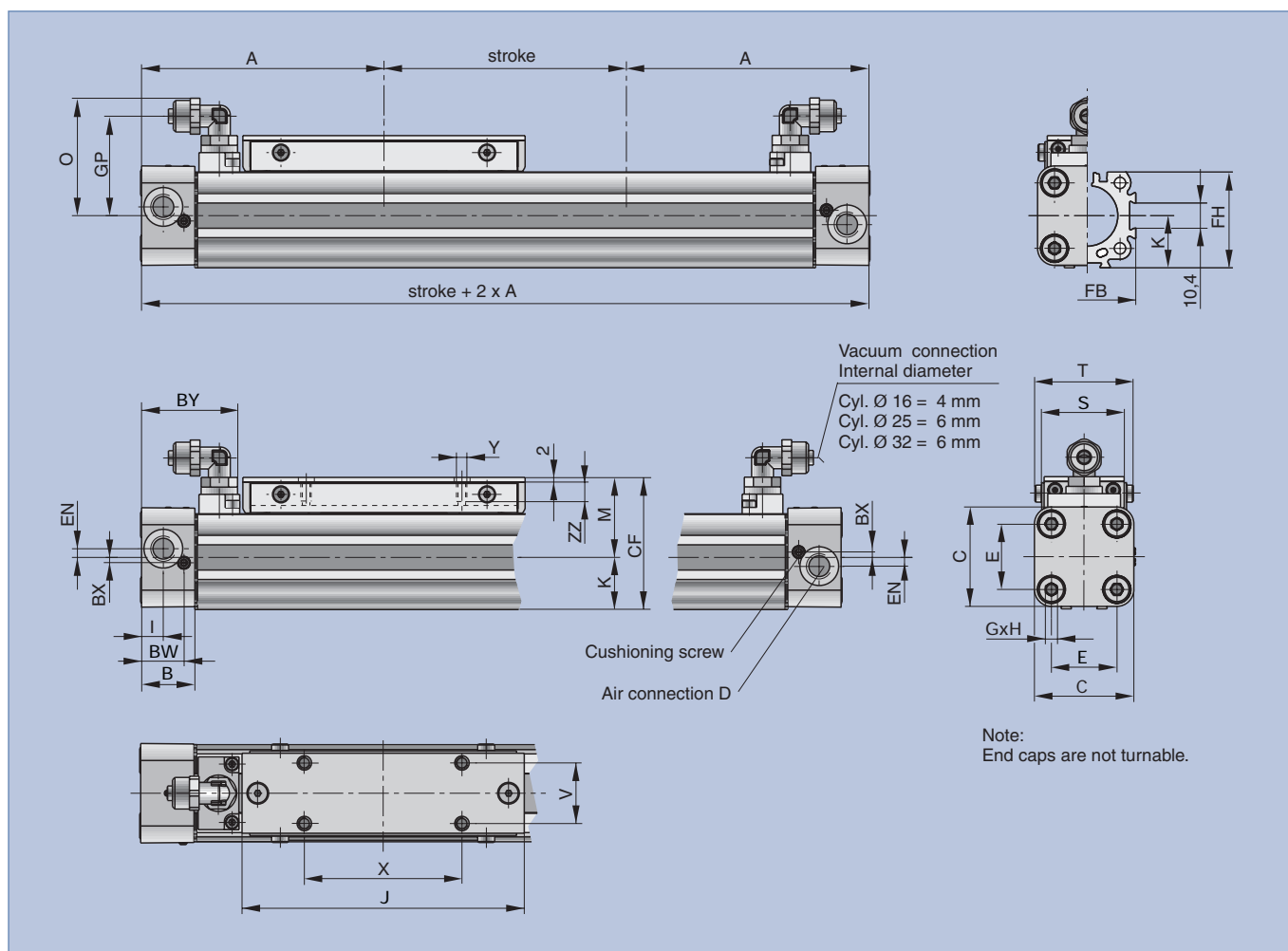
Example:

1	2	3
Series	Bore	Mount Single Piston Mount
P	1 16	C = Cleanroom
	2 25	
	3 32	

ORIGA SYTEM PLUS – Clean Room Cylinder → 16, 25, 32 mm – Type Dimensions



Dimensions (mm)



Cyl. Ø	A	B	C	D	E	G	H	I	J	K	M	O	S
16	65	14	30	M5	18	M3	9	5.5	69	15	25	31	24
25	100	22	41	G1/8	27	M5	15	9	117	21.5	33	48.5	35
32	125	25.5	52	G1/4	36	M6	15	11.5	152	28.5	40	53.6	38

Cyl. Ø	T	V	X	Y	BW	BX	BY	CF	EN	FB	FH	GP	ZZ
16	29.6	16.5	36	M4	10.8	1.8	28.5	40	3	30	27.2	25.7	7
25	40.6	25	65	M5	17.5	2.2	40.5	54.5	3.6	40	39.5	41	8
32	45	27	90	M6	20.5	2.5	47.1	68.5	5.5	52	51.7	46.2	10

Dimensions in mm

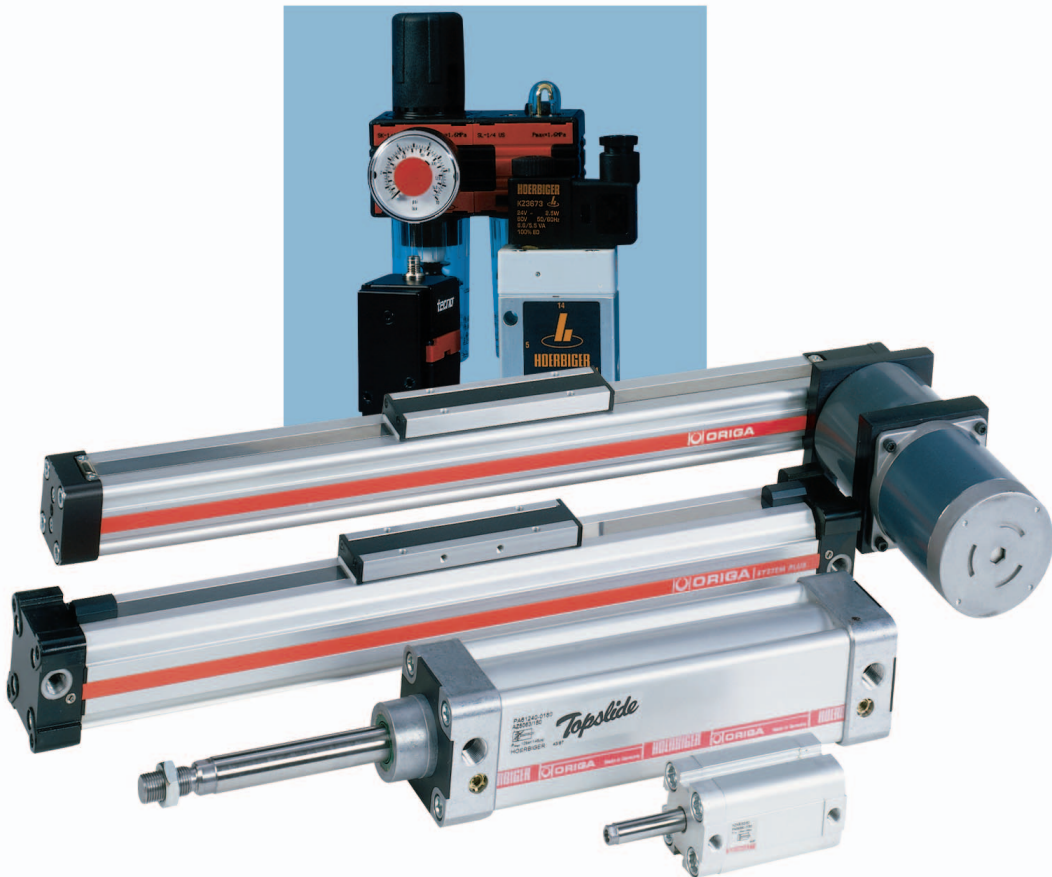


HOERBIGER - ORIGA is a Division of the HOERBIGER Group which serves three business sectors:

- Compression Technology
- Automation Technology
- Drive Technology

The HOERBIGER Group operates over 50 companies in 30 countries worldwide.

COMPONENTS, SYSTEMS AND SERVICE: COMPREHENSIVE SOLUTIONS FOR AUTOMATION TECHNOLOGY



HOERBIGER
ORIGA

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