PNCE 40

The electric cylinder is based on the standard ISO 15552. Its outer design and dimensions are very similar to pneumatic cylinders.

The precision ball screw with reduced backlash of the ball nut and non-rotating piston rod offers high performance. Preload is available on request.

The excellent sealing of the components in the cylinder protects the interior of the cylinder from dust, water and other contaminants.

Note!
All the data of the dynamic load capacities (ball screw drive) stated in the table are theoretical without considering any safety factor. The safety factor depends on the application and its requested safety and service life. We recommend a minimum safety factor $f_s = 5,0$, where f_s is defined as $f_s = C / F_m$. (Dynamic load capacity refers to the capacity of the ball screw drive.)

The max. axial load value needs to be considered when using the piston rod or mounting attachments' accessories.

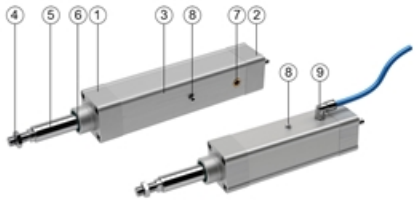
Maximum travel speed depends of the absolute stroke of the PNCE.

Contact us for further information.

Dimensions in mm.

Axial Backlash (mm): < ±0.02
Max. Acceleration (m/s): 20
Operating Temperature (°C): 0 ~ +60
Protection class: IP40, IP65

1. Front cap
2. Drive cap
3. Smooth cylinder profile
4. Hex nut
5. Piston rod (stainless steel) with an anti-rotation device
6. Piston rod seal
7. Pressure compensation
8. Lubrication nipple
9. Connection for pressure compensation

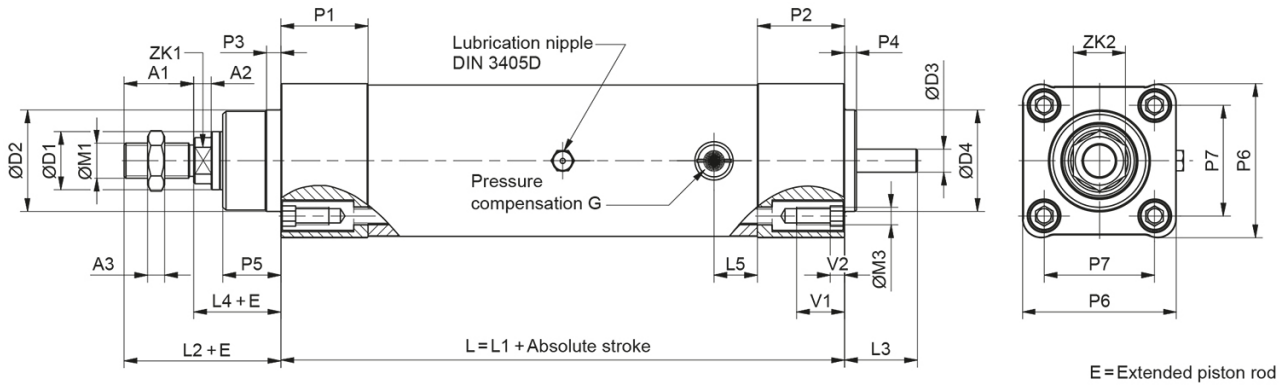


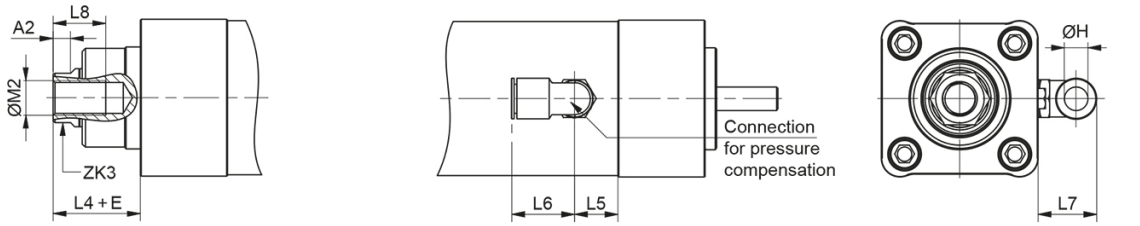
Variant Data

Designation	Ball screw (d x l)	Dynamic Load Capacity C (N)	Max. Axial Load Fmax (N)	Max. Drive Torque M_p (Nm)	Max. Travel Speed Vmax (m/s)
PNCE 40 - 16×5	16×5 mm	13150	6020	5.3	0.35
PNCE 40 - 16×10	16×10 mm	11550	3010	5.3	0.7
PNCE 40 - 16×16	16×16 mm	8170	1880	5.3	1.12

Designation	Max. Rotational Speed nmax (min^{-1})	No Load Torque M_0 (Nm)	Min. Stroke Smin (mm)	Max. Stroke Smax (mm)
PNCE 40 - 16×5	4200	0.15	40	900
PNCE 40 - 16×10	4200	0.2	35	900
PNCE 40 - 16×16	4200	0.25	35	900

Dimensions





Female thread

IP65, IP65CR, FI

Designation	L1	L2	L3	L4	L5	L6	L7	L8	P1
PNCE 40 - 16×5	144 (+0.2/-1.4)	54	25	30 (+1.9/-0.8)	15	22.5	20	18	30
PNCE 40 - 16×10	144 (+0.2/-1.4)	54	25	30 (+1.9/-0.8)	15	22.5	20	18	30
PNCE 40 - 16×16	144 (+0.2/-1.4)	54	25	30 (+1.9/-0.8)	15	22.5	20	18	30

Designation	P2	P3	P4	P5	P6	P7	G	D1	D2	D3
PNCE 40 - 16×5	30	5	4 (±0.1)	20 (±0.1)	54	38	G 1/8	Ø 20 (f8)	Ø 35 (d11)	Ø 8 (h7)
PNCE 40 - 16×10	30	5	4 (±0.1)	20 (±0.1)	54	38	G 1/8	Ø 20 (f8)	Ø 35 (d11)	Ø 8 (h7)
PNCE 40 - 16×16	30	5	4 (±0.1)	20 (±0.1)	54	38	G 1/8	Ø 20 (f8)	Ø 35 (d11)	Ø 8 (h7)

Designation	D4	M1	M2	M3	H	A1	A2	A3	ZK1	ZK2
PNCE 40 - 16×5	Ø 35 (g7)	Ø M12×1.25	Ø M12×1.25	M6	Ø 8	24	6	6	13	19
PNCE 40 - 16×10	Ø 35 (g7)	Ø M12×1.25	Ø M12×1.25	M6	Ø 8	24	6	6	13	19
PNCE 40 - 16×16	Ø 35 (g7)	Ø M12×1.25	Ø M12×1.25	M6	Ø 8	24	6	6	13	19

Designation	ZK3	V1	V2
PNCE 40 - 16×5	17	16	4.5
PNCE 40 - 16×10	17	16	4.5
PNCE 40 - 16×16	17	16	4.5

Mass and mass moment of inertia

* The moved mass is already considered in the equation for calculating the mass of the electirc cylinder m_{PNCE} and the mass moment of inertia J_{PNCE}. The moved mass includes the mass of the piston rod with the internal anti-rotation device and ball nut.

m_{load}	Applied mass to be moved	[kg]
E	Extended piston rod	[mm]
Absolute stroke		[mm]

Designation	Moved Mass (kg)	Mass of the Electric Cylinder mPNCE (kg)	Mass moment of inertia JPNCE ($10^{(-6)}$)
PNCE 40 - 16×5	0.44 + 0.0007 × (Absolute stroke + E)	1.45 + 0.0051 × Absolute stroke + 0.0007 × E	4.50 + 0.0395 × Absolute stroke + 0.0004 × E + 0.6333 × mload
PNCE 40 - 16×10	0.44 + 0.0007 × (Absolute stroke + E)	1.45 + 0.0051 × Absolute stroke + 0.0007 × E	5.35 + 0.0408 × Absolute stroke + 0.0018 × E + 2.5330 × mload
PNCE 40 - 16×16	0.44 + 0.0007 × (Absolute stroke + E)	1.45 + 0.0051 × Absolute stroke + 0.0007 × E	7.10 + 0.0436 × Absolute stroke + 0.0046 × E + 6.4846 × mload