



PNEUMAX



SERIES Eco-Smart
ISO 15552 CYLINDERS WITH POSITION TRANSDUCER

www.pneumaxspa.com

Series Eco-Smart - with integrated position transducer



- According to ISO 15552 standard
- Bores Ø40, Ø50, Ø63, Ø80, Ø100
- Strokes up to 1000 mm, with 50 mm increments
- Wide range of accessories
- IP67 protection degree

The cylinders of the Eco-Smart Series are pneumatic actuators according to ISO 15552 standard, equipped with a linear potentiometer integrated into the piston rod.

This device enables continuous monitoring of the rod position along the entire stroke, which is detected by processing the internal resistance variation of the transducer.

The pistons (from Ø50 to Ø100) are equipped with a permanent magnet, allowing the use of external end of stroke sensors from the SQ, SU, and SR series.

The dynamic seals are made of low-friction polyurethane.

The electrical connection, made via a male M12 connector located on the rear cap, makes the cylinder compliant with IP67 protection degree.

Construction characteristics

Piston rod bushings	spheroidal bronze on steel strip with PTFE coating
Barrel	anodised aluminium alloy
Seals	standard: PUR rod seals, NBR piston seals P version: PUR rod seals, PUR piston seals V version: FPM rod seals, PUR piston seals Q version: plastic rod scraper, NBR rod seals, PUR piston seals R version: metallic rod scraper, FPM rod seals, PUR piston seals
Pistons	aluminium (magnetic version for external sensor from Ø50 to Ø100)
Piston rod	C43 chromed steel
End caps	aluminium
Cushion adjustment screw	brass

Operational characteristics

Fluid	filtered and preferably lubricated air or not (if lubricated the lubrication must be continuous)
Maximum pressure	10 bar
Minimum pressure	1 bar
Working temperature	-5°C ... +70°C (Standard seals) -30°C ... +80°C (P version) -5°C ... +80°C (V version) -20°C ... +80°C (Q version) -10 °C ... +80 °C (R Version)
Bore	Ø
Cushioning lenght (front only)	mm
	40
	50
	63
	80
	100
	20
	22
	22
	32
	32

Standard strokes

Standard strokes up to 1000 mm, with 50 mm increments

► Cylinder with integrated position transducer

CODING:13 V.Ø.C.09 T

V	VERSION
	90 = Magnetic chromed rod (Ø50 ... Ø100)
Ø	92 = Non magnetic chromed rod
	BORE
Ø	40 = Ø40
	50 = Ø50
Ø	63 = Ø63
	80 = Ø80
Ø	100 = Ø100
	STROKE
C	50 = 50 mm
	100 = 100 mm
C	150 = 150 mm
	200 = 200 mm
C	250 = 250 mm
	...
C	1000 = 1000 mm
	TYPE
T	= Standard seals
	P = PUR seals
T	V = Version with FPM rod seals, PUR piston seals
	Q = Version with plastic rod scraper, NBR rod seals, PUR piston seals
T	R = Version with metallic rod scraper, FPM rod seals, PUR piston seals



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PNEUMATIC ACTUATION

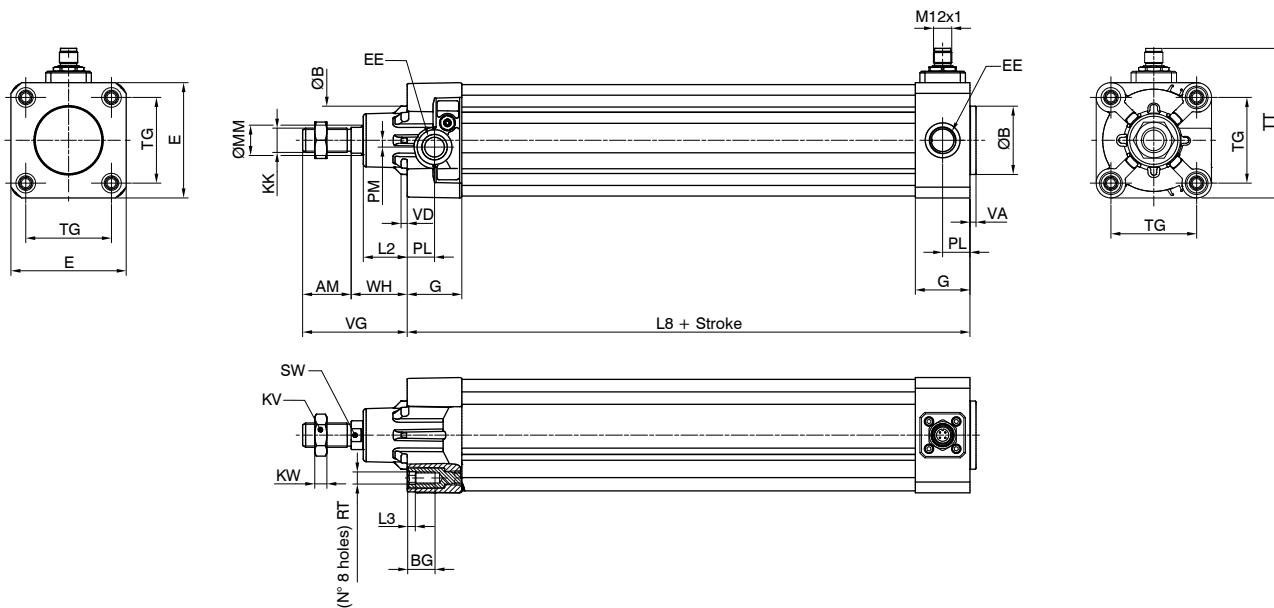
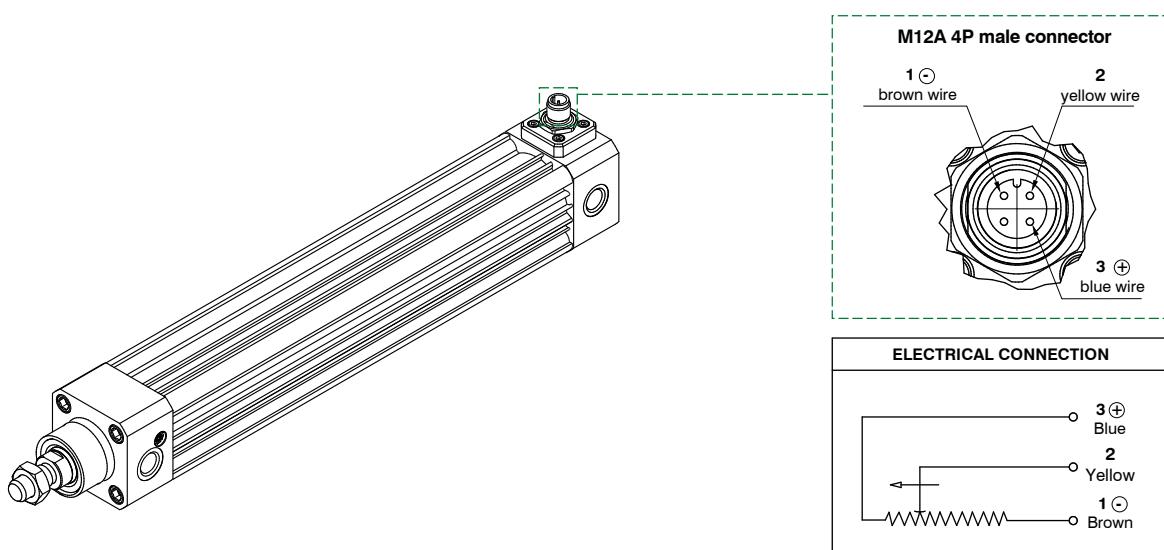


Table of dimensions

Bore	40	50	63	80	100
AM	24	32	32	40	40
B (d 11)	35	40	45	45	55
BG	16	18	18	16	16
E	54	65	76	95	113
EE	G1/4"	G1/4"	G3/8"	G3/8"	G1/2"
G	33	32	36	38.5	41.5
KK	M12x1,25	M16x1,5	M16x1,5	M20x1,5	M20x1,5
KV	19	24	24	30	30
KW	7	8	8	9	9
L2	22	29	29	35	36
L3	4	5	5	/	/
L8	105	106	121	128	138
MM	20	20	20	25	25
PL	16.5	18	18	16	18
PM	4	5	4.5	2.5	6
RT	M6	M8	M8	M10	M10
SW	17	17	17	22	22
TG	38	46.5	56.5	72	89
TT	77	88	99	118	136
VA	4	4	4	4	4
VD	4	4	4	4	4
VG	54	69	69	86	91
WH	30	37	37	46	51
Weight	Stroke 0	650	1030	1360	2180
g	every 10 mm	32	45	49	75
					81

Wiring diagram



Operation instructions

- Make the specified electrical connections (do not use the transducer as a variable resistance).
- When calibrating the transducer, be careful to set the stroke so that the output does not drop below 1% or rise above 99% of the voltage level.
- The potentiometer operates based on a "magnetic drag" principle for its movement.
- The allowed accelerations must not exceed 10 m/s² to prevent decoupling of the internal element from the transducer.

Transducer data

	Useful electrical stroke +1/-0 (mm)																		
	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
Resistance (k Ω)	5																		20
Resistance tolerance (\pm %)																			20
Independent linearity (\pm %)	0.1																		0.05
Maximum applicable voltage (V)	40																		60
Displacement sensitivity (without hysteresis) (mm)																			0,05 ... 0,1
Repeatability (mm)																			$\leq 0,08$
Output voltage thermal coefficient (ppm/ $^{\circ}$ C)																			≤ 5
Hysteresis (mm)																			$\leq 0,25$
Displacement speed (m/s)																			≤ 1
Maximum acceleration (m/s ²)																			≤ 10
Acquisition device input impedance (M Ω)																			> 100
Maximum current in cursor circuit (Pin 2) in case of fault (mA)																			10

Accessories and fixing devices

All ISO 15552 ECOLIGHT series cylinder fixing devices and accessories can be used.

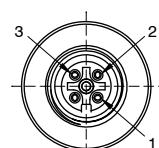
Sensors

All sensors from the SQ, SU and SR series can be used.

POWER SUPPLY connectors

► Straight connector M12A 4P female

CODING: 5312A.F04.00



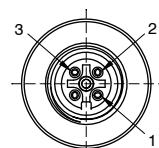
PIN	DESCRIPTION
1	brown wire (-)
2	yellow wire
3	blue wire (+)

Power supply socket

Upper view slave connector

► 90° M12A 4P female connector

CODING: 5312A.F04.90.00



PIN	DESCRIPTION
1	brown wire (-)
2	yellow wire
3	blue wire (+)

90° power supply socket

Upper view slave connector



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