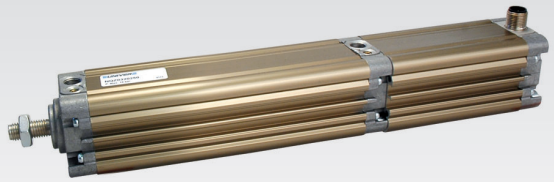
NQZ

Pneumatic actuator with integrated digital measuring system

Pneumatic actuators with digital measuring system are particularly suitable for:
- Detection of stopping position.
- Anti-collision control in critical sequencing cycles.
- Level control in palletization / de-palletization of piled objects.
- Identification, classification and dimensional selection of objects (tolerances and rejects).
- Certification stations of machined pieces or tool breaking on machines for chip removal.



TECHNICAL CHARACTERISTICS

Ambient temperature					-10 ÷ 70°C
Fluid					30 µm filtered air
Working pressure					2 ÷10 bar
Thread of the screw	**Ø**	32	40	50	63
	mm/turn	12	16	20,5	
Max speed					0,2 m/s (detector) 0,8 m/s (actuator)
Precision of repeatibility					± 0,02 mm
Bores					Ø 32 - 40 - 50 - 63 mm
Cushioning					adjustable pneumatic on both sides

CONSTRUCTIVE CHARACTERISTICS

End caps	die-cast aluminium alloy
Barrel	extruded barrel in aluminium alloy
Piston	aluminium
Guide slide	acetalic resin
Piston rod	chromium-plated steel
Piston seal	double-lip seal in nitrile rubber
Guide bush for piston rod	acetalic resin
Shock absorber seals	nitrile rubber
Magnet	ferrite rubber (standard)

ELECTRIC CHARACTERISTICS

Voltage	5 ÷ 24 V DC
Output	level L < 0,5 V - level H V CC
Limit frequency	60 Khz
Impedance	2 Kohm
Power consumption	40 mA max
Time of upstroke/downstroke	<1 µS
Pulse rate	500
Resolution	± 0,01 pulses/turn

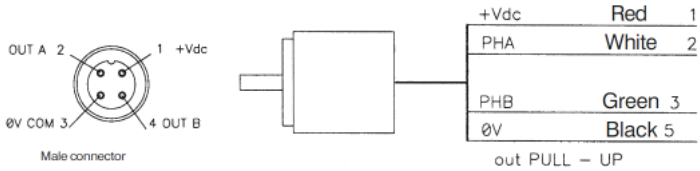
CODIFICATION KEY

N	Q	Z	0	3	2	0	3	5	0
1			2			3			

1 Series	2 Bore (mm)	3 Max stroke (mm)
NQZ = Pneumatic actuator with integrated digital measuring system Ø 32÷63 mm	**032** = Ø32 **040** = Ø40 **050** = Ø50 **063** = Ø63	**350** (Ø32) **450** (Ø40) **600** (Ø50) **750** (Ø63)

When the detector is used in environments with electromagnetic disturbances exceeding those allowed by the EN50081-2 standard, it is requested the adapter TAE011A10305 (our production) or suppressors of electromagnetic interferences available on the market.

Scheme of encoder



The pneumatic cylinders with digital measuring of the position derive from the respective fluidic axes with numerical control and are particularly suitable for:

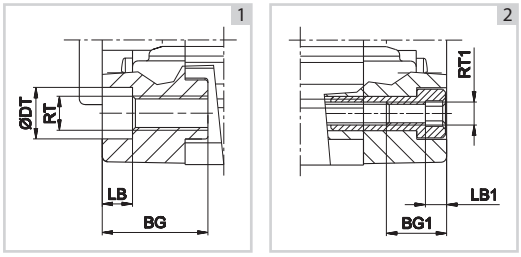
- Detection of stopping
- Anticollision control for cycles with critical sequence
- Level control relating to the palletization and/or depalletization of objects placed one onto the other
- Identification, classification and dimensional choice of objects (tolerances and rejects)
- Certification stations of machined pieces or breaking of tools on machines due to chip removal.

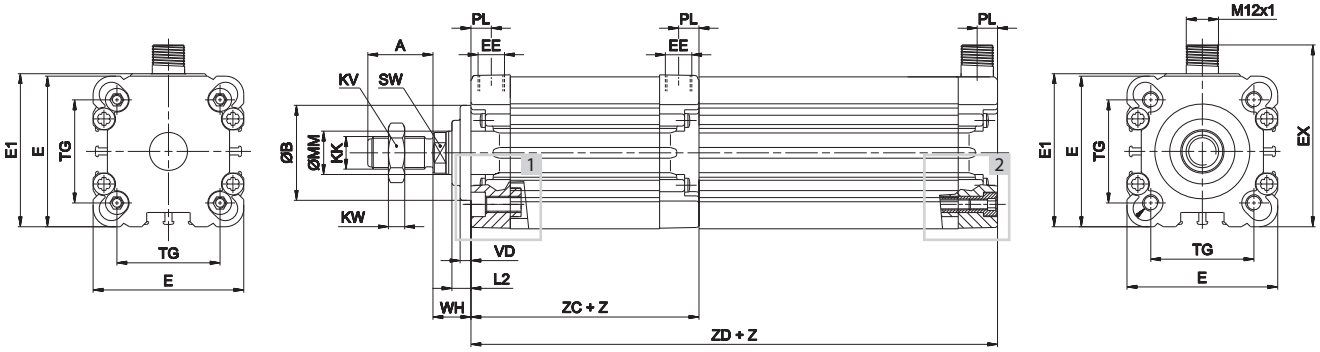
The device can be used in two different ways:

- As digital measuring detector
- As pneumatic actuator with digital detection of the position

In the first case the system does not need to be connected to the moving part of the mechanism as it generates by itself the movement by means of an internal pusher with bidirectional pneumatic function at low pressure. This pusher, operated by a 5-way microvalve, moves autonomously until it meets the obstacle and measures the position by means of the encoder whose indication may be visualized on a digital display with centesimal resolution.
The precision repeatibility is ± 0,02 mm.
The speed of the impact against the obstacle is limited by appropriate calibrated reducers which are built into the detector, whilst it is possible to adequately regulate the translation speed by means of a normal pressure regulator.
In order to guarantee a reading with the indicated repeatibility, the translation speed must be as constant as possible.
In the second case the air supply of the device is effected by means of the network pressure adequately regulated according to the necessity; it depends on the load to be moved or is prearranged to exert the desired thrust once reached the object to be detected.

NQZ Ø 32 ÷ 63 mm





Z = Stroke

Ø	A	B	BG	BG1	DT	E	EE	EX	E1	KK	KV	KW
32	22	30	18	6,5	9	46	G1/8	57	47	M10x1,25	17	6
40	24	35	18	6,5	9	56	G1/8	67	57	M12x1,25	19	7
50	32	40	24	6,5	11	66	G1/8	77	67	M16x1,5	24	8
63	32	45	24	6,5	11	79	G1/8	90	80	M16x1,5	24	8

Ø	LB	LB1	L2	MM	PL	RT	RT1	SW	TG	VD	WH	ZC	ZD
32	5,3	3,5	7	12	7,5	M6	M4	10	32,5	4	14	84	186
40	5,3	3,5	7	16	7,5	M6	M6	13	38	4	14	89	194
50	6,5	3,5	10	20	7,5	M8	M6	17	46,5	5	18	94	204
63	6,5	3,5	10	20	7,5	M8	M6	17	56,5	5	18	114	223

- For magnetic sensor DF series see capter 5 Accessories
- Fixing elements and accessories: same as for STRONG series cylinders