

Compact Cylinder Ø 12-25 mm

to ISO 21287

Series NZ....

Series NZD....

Series NZV....

Versions:

- single acting
- double acting without cushioning
- for contactless position sensing
- with through piston rod
- non-rotating
- option of internal or external mounting on piston rod

Special version:

- high temperature version (150°C)

The cylinder profile has grooves in which, depending on stroke length, one or more magnetic switches can be mounted for sensing the end positions or intermediate positions of the magnetic piston.

The delivery includes:

1 Cylinder

Magnetic switches are not included - please order these separately.

Versions without contactless position sensing on request.



Characteristics

Characteristics	Symbol	Unit	Description
General Features			
Type			Piston rod cylinder
Series			NZ7, NZ8, NZ6
Series			Piston rod cylinder
NZ7..., NZ8...			Double acting without cushioning
NZ6...			Double acting without cushioning
NZD6...			With through piston rod Double acting without cushioning
NZV6...			Non-rotating Double acting without cushioning
Mounting			See drawing
Tube connection			Thread
Ambient temperature range	T_{min} T_{max}	°C °C	-20 +80
Medium temperature range	T_{max}	°C	+80
			Note: When using below freezing point (°C) it is necessary to consult us
Weight (mass)		kg	See table
Installation			In any position
Medium			Filtered and lubricated or filtered and unlubricated compressed air
Lubrication			Oil mist lubrication compatible with polyurethane
Material			
Cylinder tube			Aluminium, anodised
Front/rear end caps			Aluminium, laquered
Piston rod			Steel, high-alloy
Pneumatic Characteristics			
Nominal pressure	p_n	bar	6
Operating pressure	p_{min} p_{max}	bar bar	1,0 (1,5 Single acting version) 10
Piston diameter		mm	12 16 20 25
Port size			M5 M5 M5 M5
Piston rod diameter		mm	6 8 10 10
Piston rod thread			
Internal			M3 M4 M6 M6
External			M5 M6 M8x1.25 M8x1.25
Stroke length		mm	Standard stroke lengths see order instructions, max. 200
Piston force and air consumption			See page 9
Cushioning		mm	Elastomer cushioning at both ends
Spring return force max.		N	See diagram

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Weight (mass) kg

Cylinder version	Cylinder diameter							
	Ø12		Ø16		Ø20		Ø25	
	1*	2*	1*	2*	1*	2*	1*	2*
Standard Type NZ	0.095	0.015	0.105	0.019	0.162	0.024	0.199	0.027
With through piston rod Type NZD	0.103	0.016	0.115	0.020	0.177	0.026	0.215	0.028
Non-rotating Type NZV	0.112	0.018	0.122	0.022	0.188	0.028	0.233	0.031

* 1 = Cylinder weight (10 mm stroke)

2 = Weight per further 10 mm stroke length

Mounting	Cylinder diameter			
	Ø12	Ø16	Ø20	Ø25
A	0.047	0.047	0.086	0.100
BA	0.021	0.021	0.038	0.042
C	0.110	0.110	0.180	0.220
D	0.110	0.110	0.180	0.220

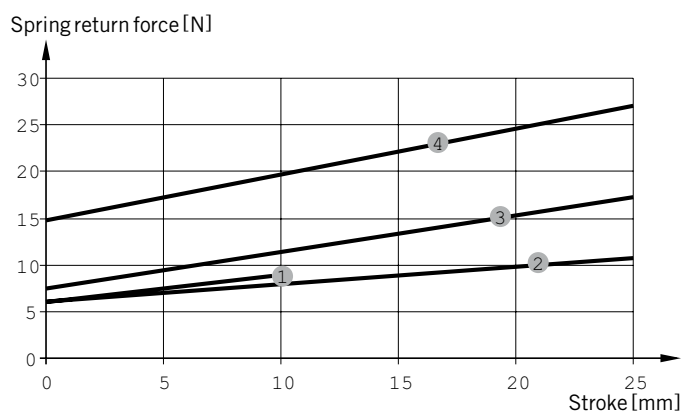
Theoretical Spring Return Forces in relation to Stroke Length Series NZ7000, NZ8000

1 = Cyl. Ø12

2 = Cyl. Ø16

3 = Cyl. Ø20

4 = Cyl. Ø25

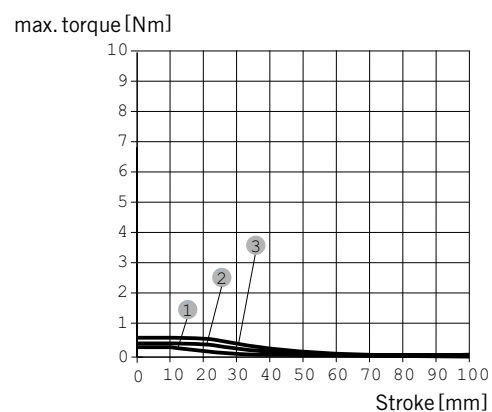


Torque (Nm) in relation to Stroke Length Series NZV

1 = Cyl. Ø12, 16

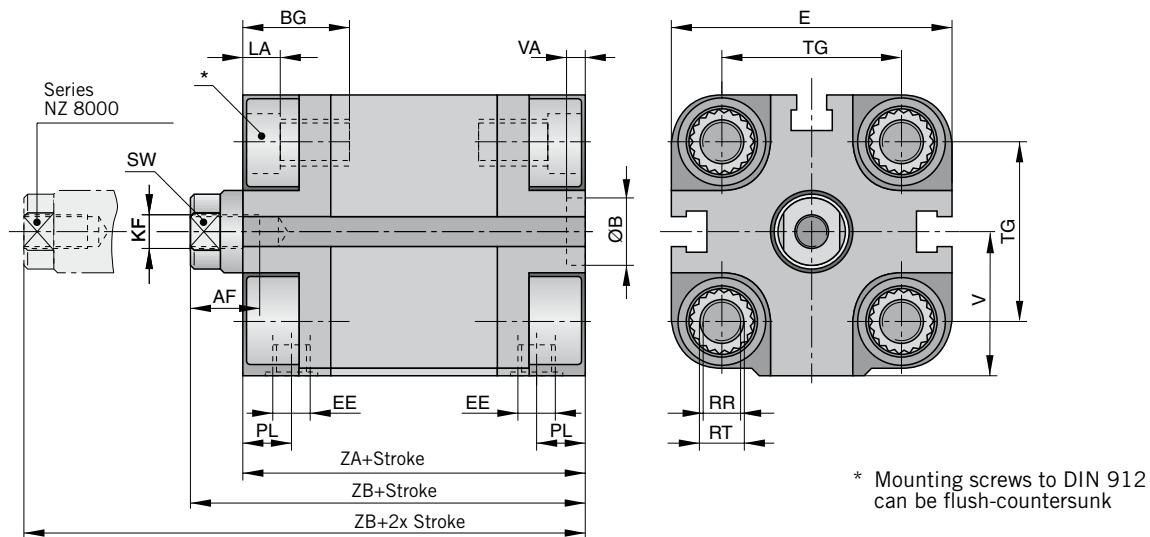
2 = Cyl. Ø20

3 = Cyl. Ø25

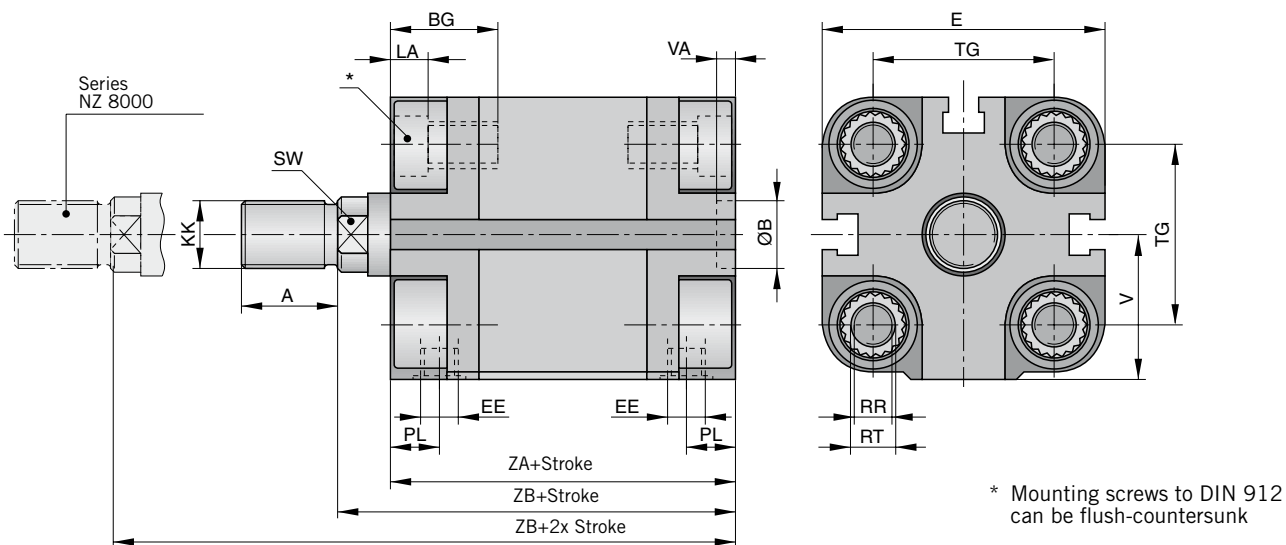


Piston force and air consumption see page 9, dimensions see page 26-27, order instructions see page 31, 32

Dimensions – Basic Cylinder, Ø 12 – 25 mm
Version: Piston Rod with Internal Thread (Series NZ..../...)



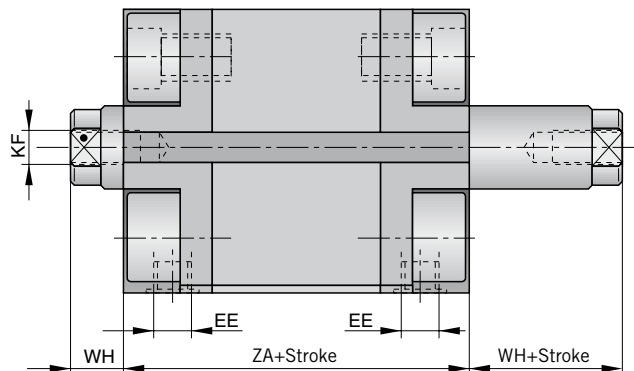
Dimensions – Basic Cylinder, Ø 12 – 25 mm
Version: Piston Rod with External Thread (Series NZ..../...-AG)



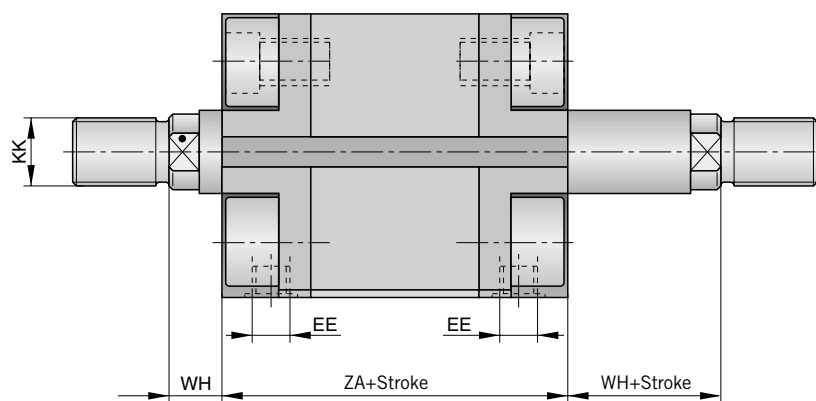
Dimension table (mm) – Basic Cylinder

Cyl. Ø	A	B	E	V	AF	BG	EE	KF	KK	LA	PL	RR	RT	TG	VA	ZA +Stroke	ZB +Stroke	ZB +2x Stroke	SW	WH	WH +Stroke
12	12	6	29	15,5	8	8	M5	M3	M5	5	5	3,2	M4	18	4	37	42,5	42,5	5	5,5	5,5
16	16	6	29	15,5	10	10	M5	M4	M6	5	5	3,2	M4	18	4	37	42,5	42,5	7	5,5	5,5
20	16	6	36	19,5	10	15	M5	M6	M8x1,25	5	5	4,1	M5	22	4	37	43	43	8	6	6
25	16	6	40	21,5	10	15	M5	M6	M8x1,25	5	5	4,1	M5	26	4	39	45	45	8	6	6

Dimensions – Basic Cylinder with through piston rod, Ø 12 – 25 mm
Version: Piston Rod with Internal Thread (Series NZD..../...)



Dimensions – Basic Cylinder with through piston rod, Ø 12 – 25 mm
Version: Piston Rod with External Thread (Series NZD..../...-AG)



Accessories

Piston Rod Eye



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Piston Rod Clevis



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Compensating
Coupling



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Magnetic Switch

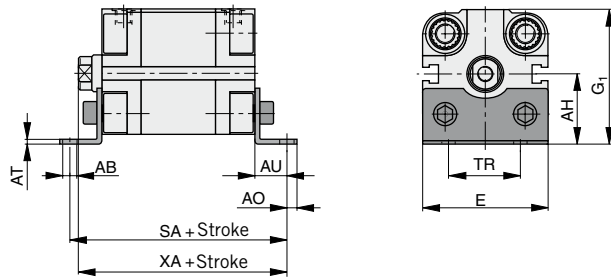


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Piston force and air consumption see page 9, order instructions see page 31, 32

Mountings – Series NZ...., Ø 12–25 mm

Dimensions for Mounting A



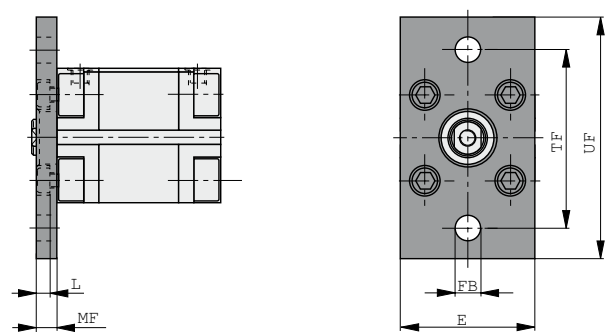
Material: steel, passivated

Dimension Table (mm) – Mounting A

Cyl. Ø	ØAB	AH	AO	AT	AU	E	G ₁	TR	SA + Stroke	XA + Stroke
12	5.8	22	4.5	3	13	28	36.5	18	63	55.5
16	5.8	22	4.5	3	13	28	36.5	18	63	55.5
20	7	27	7	4	16	36	46	22	69	59
25	7	29	7	4	16	40	49.5	26	71	61

Included in delivery: 2 foot brackets, 4 screws

Dimensions for Mounting C



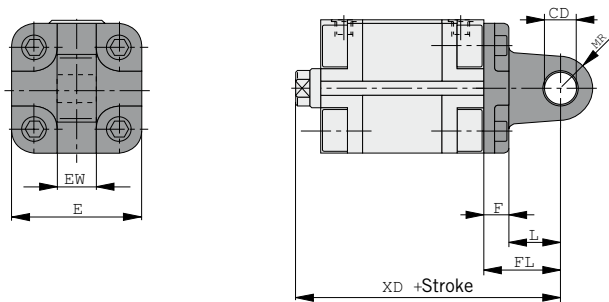
Material: steel, zinc-plated

Dimension Table (mm) – Mounting C

Cyl. Ø	ØFB	E	L	MF	TF	UF
12	5.5	29	5	8	43	55
16	5.5	29	5	8	43	55
20	6.6	36	5	8	55	70
25	6.6	40	5	8	60	76

Included in delivery: 1 flange, 4 screws

Dimensions for Mounting BA



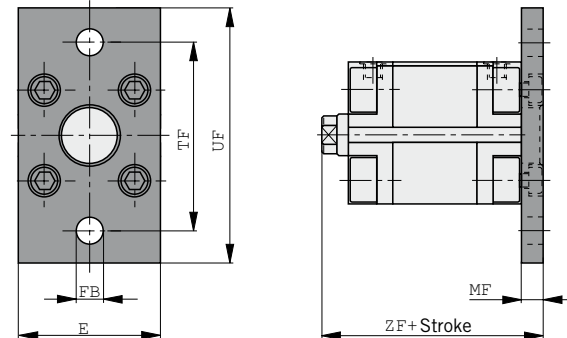
Material: cast aluminium

Dimension Table (mm) – Mounting BA

Cyl. Ø	ØCD ^{H9}	E	EW	F	FL	L	MR	XD+Stroke
12	6	27	12	6	16	10	6	58.5
16	6	27	12	6	16	10	6	58.5
20	8	34	16	6	20	14	8	63
25	8	38	16	6	20	14	8	65

Included in delivery: 1 mounting eyelets, 4 screws

Dimensions for Mounting D



Material: steel, zinc-plated

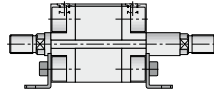
Dimension Table (mm) – Mounting D

Cyl. Ø	ØFB	E	MF	TF	UF	ZF+Stroke
12	5.5	29	8	43	55	50.5
16	5.5	29	8	43	55	50.5
20	6.6	36	8	55	70	51
25	6.6	40	8	60	76	53

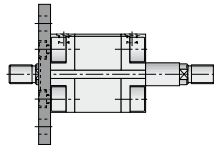
Included in delivery: 1 flange, 4 screws

Mountings – Series NZD..., Ø 12 – 25 mm

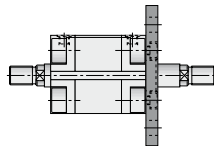
Mounting A-.. (Foot mounting)



Mounting C-.. (Front flange mounting)



Mounting D-.. (Rear flange mounting)



Accessories

Piston Rod Eye



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Piston Rod Clevis



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Compensating
Coupling



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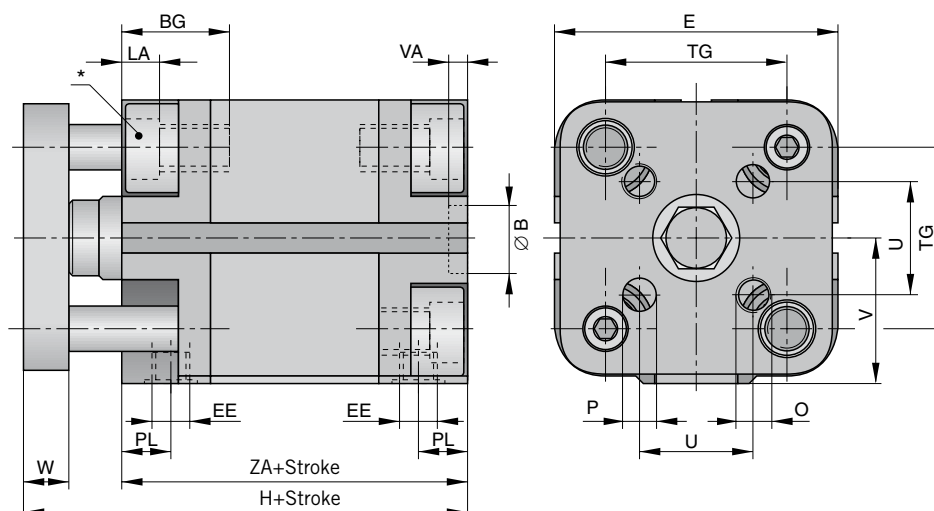
Magnetic Switch



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**Dimensions – Basic Cylinder, non-rotating, Ø 12 – 25 mm
Series NZV...**

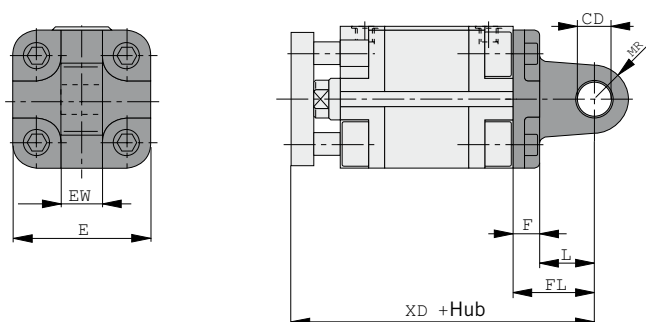


* Mounting screws to DIN 912 can be flush-countersunk

Dimensions Table (mm) – Basic Cylinder, Series NZV

Cyl. Ø	ØB	BG	E	EE	H	LA	O	P	PL	U	TG	V	VA	W	ZA +Stroke
12	6	8	29	M5	48.5	5	M3	3	5	9.9	18	15.5	4	6	37
16	6	10	29	M5	48.5	5	M3	3	5	9.9	18	15.5	4	6	37
20	6	15	38	M5	51	5	M4	4	5	12	22	19.5	4	8	37
25	6	15	41	M5	53	5	M5	5	5	15.6	26	21.5	4	8	39

Dimensions for Mounting BA



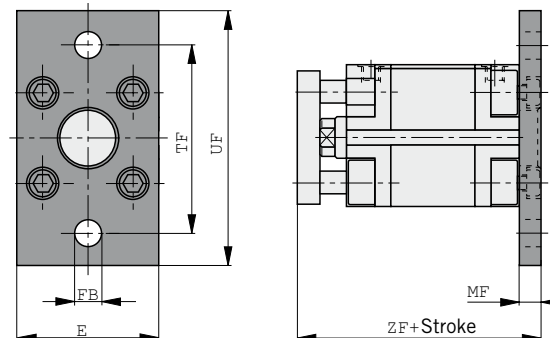
Material: cast aluminium

Dimensions Table (mm) – Mounting BA

Cyl. Ø	ØCD	E	EW	F	FL	L	MR	XD +Stroke
12	6	27	12	6	16	10	6	64.5
16	6	27	12	6	16	10	6	64.5
20	8	34	16	6	20	14	8	71
25	8	38	16	6	20	14	8	73

Included in delivery: 1 mounting eyelets, 4 screws

Dimensions for Mounting D



Material: steel, zinc-plated

Dimensions Table (mm) – Mounting D

Cyl. Ø	ØFB	E	MF	TF	UF	ZF +Stroke
12	5.5	29	8	43	55	56.5
16	5.5	29	8	43	55	56.5
20	6.6	36	8	55	70	59
25	6.6	40	8	60	76	61

Included in delivery: 1 flange, 4 screws

