



**PNEUMAX**

# 1540-1550 Series ISO 21287 ECOMPACT Cylinders



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**RANKIN**  
COMPONENTS THAT AUTOMATE



## General

These cylinders are built according to ISO 21287 standards. New barrel profile has two sensor slots on the three sides (Ø20 and Ø25 one slot) suitable for sensors 1580.\_, MRS.\_, MHS.\_ series housing, without need for adaptors.

Versions with end stroke adjustable pneumatic cushioning are also available, allowing adjustments to deceleration and keeping the required overall dimensions according to ISO 21287.

For fixing operation is possible to use the four threaded holes on the end covers, or screws in body holes, alternatively all the fixing devices of UNITOP RU-P/6-P/7 (Ø20 and Ø25) and ISO 15552 (from Ø32 to Ø100) series.

## Construction characteristics

Body	anodised aluminium
End cap	aluminium alloy casting painted
Bearing piston rod	sintered bronze
Piston rod	from Ø20 to Ø25 stainless steel from Ø32 to Ø100 C43 chromed (on request stainless steel)
Piston	from Ø20 to Ø40 acetal resin (aluminium on request), Ø50 and Ø100 aluminium (with FPM seals, aluminium piston for all standard diameters)
Seals	Standard: NBR Oil resistant rubber, PUR Piston rod seals (PUR or FPM seals available upon request)
Spring	stainless steel
Fixing screws	plated zinc steel

## Technical characteristics

Fluid	filtered and preferably lubricated air, or non-lubricated (if air is lubricated, the lubrication must be constant)
Max. pressure	10 bar
Operating temperature	-5°C - +70°C with standard seals (magnetic or non magnetic piston) -30°C - +80°C with PUR seals (magnetic or non magnetic piston) -5°C - +80°C with FPM seals (magnetic piston) -5°C - +150°C with FPM seals (non magnetic piston)

Please follow the suggestions below to ensure a long life for these cylinders:

- use clean and lubricated air
- correct alignment during assembly with regard to the applied load so as to avoid radial components or bending the rod.
- avoid high speeds together with long strokes and heavy loads: this would produce kinetic energy which the cylinder cannot absorb, especially if used as a limit stop (in this case use mechanical stop device and aluminium piston)
- evaluate the environmental characteristics of cylinder used (high temperature, hard atmosphere, dust, humidity etc.)

**Please note: air must be dried for applications with lower temperature.**

Use hydraulic oils H class (ISO Vg32) for correct continued lubrication.

Our Technical Department will be glad to help.

## Stroke tolerance, minimum and maximum spring loads and cushioning length

Bore (mm)	Stroke tolerance (mm)	Minimum and maximum springs load (N)		Cushioning length (mm)
		min.	max.	
Ø20	+1.5 / 0 mm	10.8	19.6	/
Ø25		16.7	22.6	5
Ø32		19.6	25.5	6.5
Ø40	+2 / 0 mm	25.5	42.2	8
Ø50		44.1	96.3	7.5
Ø63		44.1	96.3	7.5
Ø80	+2.5 / 0mm	63.8	100.1	8
Ø100		107.9	193.3	12

### Standard stroke

**DOUBLE ACTING  
BASIC version  
and PUSH/PULL ROD**

[illegible]

**DOUBLE ACTING  
PUSH/PULL ROD  
BORED version**

[illegible]

**DOUBLE ACTING version  
WITH NON-ROTATING DEVICE**

[illegible]

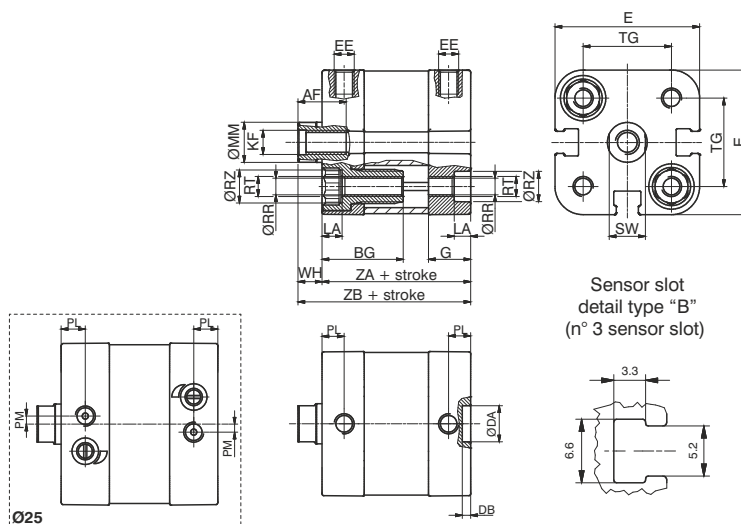
**SINGLE ACTING**  
**version**

	Stroke				
Bore	5	10	15	20	25
Ø20	●	●	●	●	●
Ø25	●	●	●	●	●
Ø32	●	●	●	●	●
Ø40	●	●	●	●	●
Ø50	●	●	●	●	●
Ø63	●	●	●	●	●
Ø80	●	●	●	●	●
Ø100	●	●	●	●	●

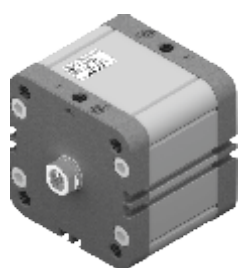
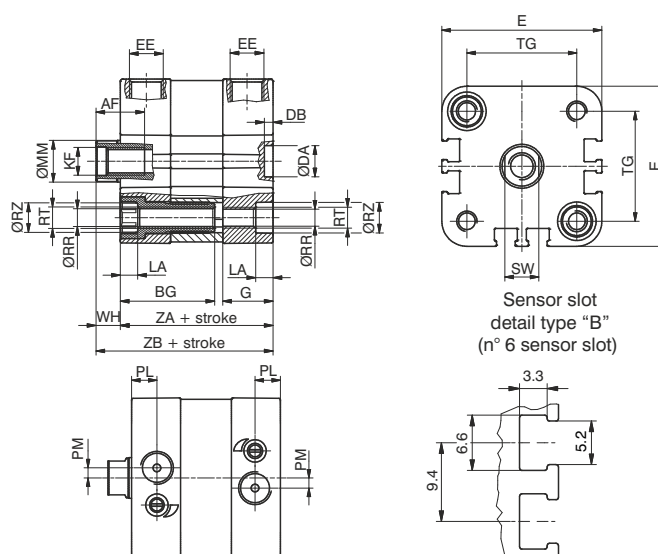
## BASIC version double and single acting



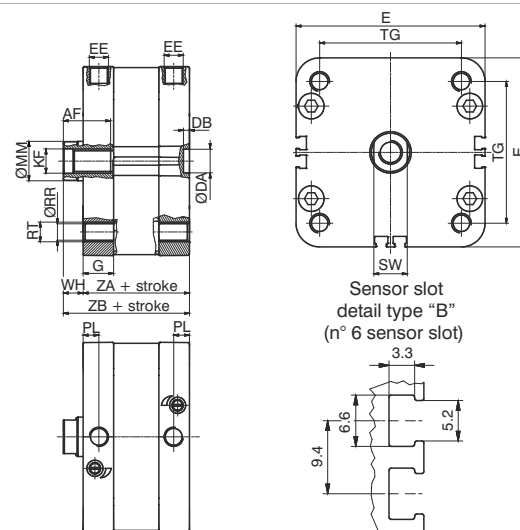
Ø20 and Ø25



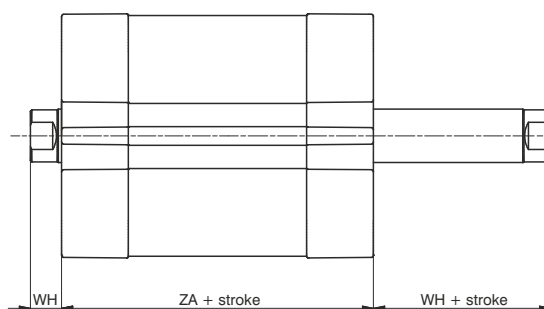
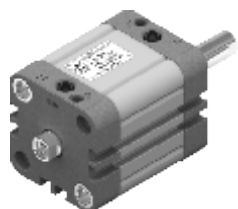
from Ø32 to Ø63



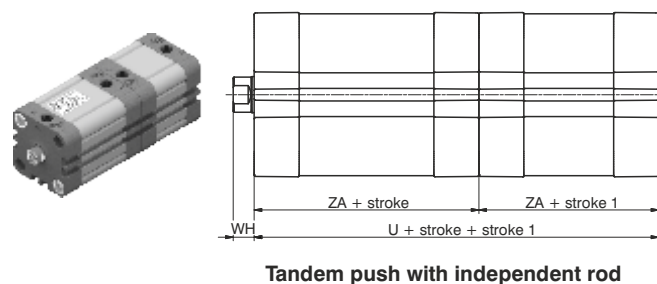
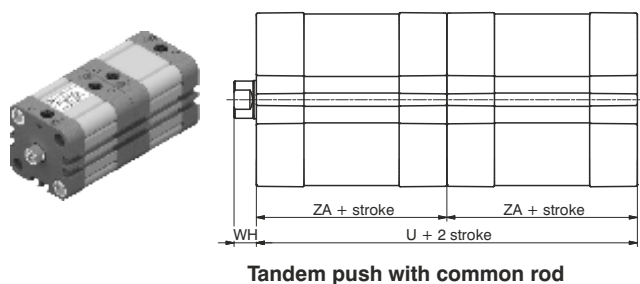
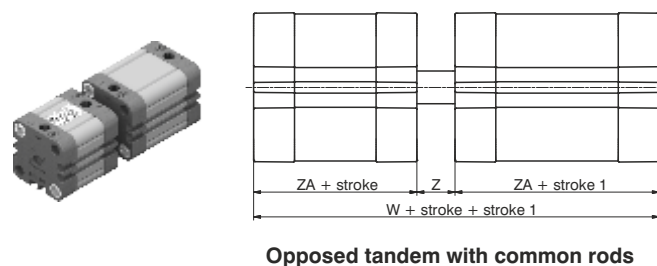
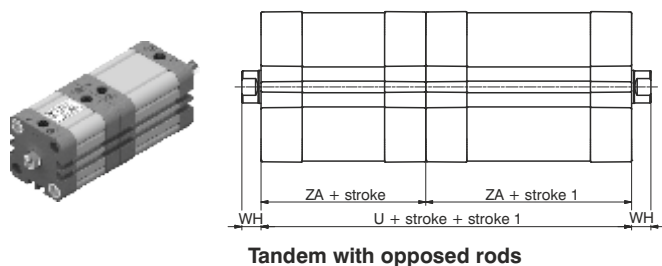
Ø80 and Ø100



## PUSH/PULL rod version double and single acting



## TANDEM version



## Ordering code

## Basic and push/pull version

- 15 . Ø .stroke. .
- 1 = magnetic piston, Double acting
  - 2 = magnetic piston, Single acting with front spring
  - 3 = magnetic piston, Single acting with rear spring
  - 4 = non magnetic piston, Double acting
  - 5 = non magnetic piston, Single acting with front spring
  - 6 = non magnetic piston, Single acting with rear spring
- 01 = Basic, female threaded rod
  - 02 = Basic, male threaded rod
  - 03 = through rod, female threaded rod
  - 04 = through rod, male threaded rod
  - \*\* 05 = through rod, bored female threaded rod
  - 06 = through rod, bored male threaded rod
  - 07 = with non-rotating device
  - 08 = through rod, female threaded rod, with non-rot. device on one side \*\*\*
  - 09 = through rod, male threaded rod, with non-rot. device on one side \*\*\*
- 0 = NBR seals and C43 chromed plated rod \*
  - 1 = NBR seals and stainless steel rod (starting from bore Ø32)
  - 4 = PUR seals and C43 chromed plated rod \*
  - 5 = PUR seals and stainless steel rod (starting from bore Ø32)
  - 6 = FPM seals and C43 chromed plated rod \*
  - 7 = FPM seals and stainless steel rod (starting from bore Ø32)
- \* (Ø20 and Ø25 stainless steel)
- 4 = Non-cushioned versions (mechanical cushioning only)
  - 5 = Versions with adjustable end of stroke cushioning system (from Ø25)
- \*\* It is possible to order the Ø20, Ø25, Ø32 and Ø40 cylinders with an aluminium piston by replacing the '0' with 'K' in the ordering code.  
Example: 1540.20.10.01.1 (Acetyl Resin Piston)  
1540.20.10.K1.1 (Aluminium Piston version)
- \*\*\* for single acting version, the spring is on the anti-rotation side

## Table of dimensions

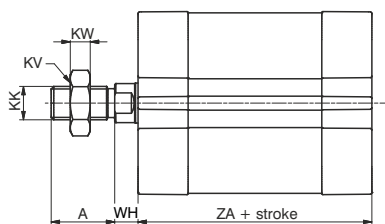
Bore	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63	Ø80	Ø100
AF (min)	12	12	14	14	18	18	24	24
BG	20	20	16	16	16	16	/	/
DA (H9) Ø	9	9	9	9	12	12	12	12
DB (+0.1/0)	2.1	2.1	2.5	2.5	2.6	2.6	3	3
E (max)	36	40.5	47.5	55	66	78	96	116
EE	M5	M5	G1/8	G1/8	G1/8	G1/8	G1/8	G1/8
G	10.5	12	14.5	15	15	15	15.5	18.5
KF	M6	M6	M8	M8	M10	M10	M12	M12
LA (0/-0.1)	4.1	4.1	5	5	5	5	/	/
MM (f 7) Ø	10	10	12	12	16	16	20	25
PL (+0.1/0)	5.5	6	7.5	8	8	8	8	8
PM	/	2	3	/	/	/	/	/
RR (min) Ø	4.1	4.1	5.1	5.1	6.6	6.6	8.4	8.4
RT	M5	M5	M6	M6	M8	M8	M10	M10
RZ (min) Ø	7.5	7.5	8.5	8.5	10.5	10.5	/	/
SW (0/-0.1)	9	9	10	10	13	13	17	22
TG (±0.2)	22	26	32.5	38	46.5	56.5	72	89
U	74	78	88	90	90	98	108	134
W	83	89	100	103	105	113	124	154
WH (±1)	6	6	7	7	8	8	10	10
Z	9	11	12	13	15	15	16	20
ZA (±0.5)	37	39	44	45	45	49	54	67
ZB (+1/0)	43	45	51	52	53	57	64	77
Weight stroke gr. every 5mm	105	110	200	270	420	550	760	1400
	10	10.5	13	17	23.5	27	37	51

## TANDEM version (magnetic pistons)

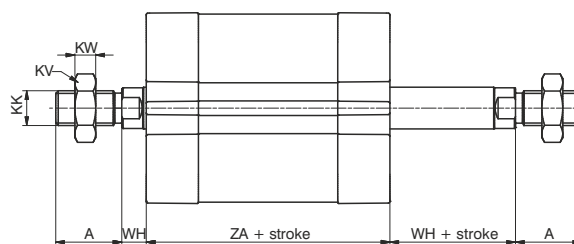
- 15 . Ø .stroke. (stroke 1) .
- C = female threaded rod
  - G = male threaded rod
  - H = with through rod and female threaded rod
  - R = with through rod and male threaded rod
  - N = with non-rotating device
  - B = female threaded rod
  - F = male threaded rod
  - M = with non-rotating device
  - P = with through rod and female threaded rod
  - Q = with through rod and male threaded rod
  - D = Opposed tandem with common rod
  - A = female threaded rod
  - E = male threaded rod
  - L = with non-rotating device on both ends
- 0 = NBR seals and C43 chromed plated rod \*
  - 1 = NBR seals and stainless steel rod (starting from bore Ø32)
  - 4 = PUR seals and C43 chromed plated rod \*
  - 5 = PUR seals and stainless steel rod (starting from bore Ø32)
  - 6 = FPM seals and C43 chromed plated rod \*
  - 7 = FPM seals and stainless steel rod (starting from bore Ø32)
- \* (Ø20 and Ø25 stainless steel)
- 4 = Non-cushioned version (mechanical cushioning only)
  - 5 = Versions with adjustable end of stroke cushioning system (from Ø25)

Seals compounds scheme: **NBR** oil resistant nitrilic rubber  
**PUR**: polyurethane seals **FPM**: fluoropolymer rubber seals

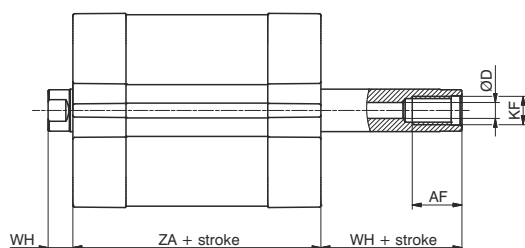
### Basic version male piston rod



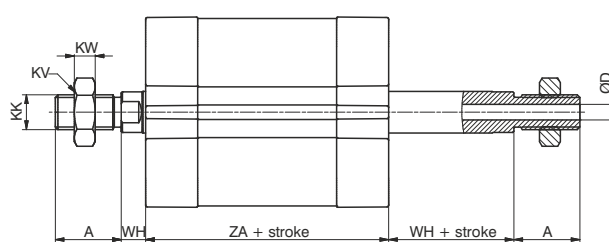
### Push/pull version male rod



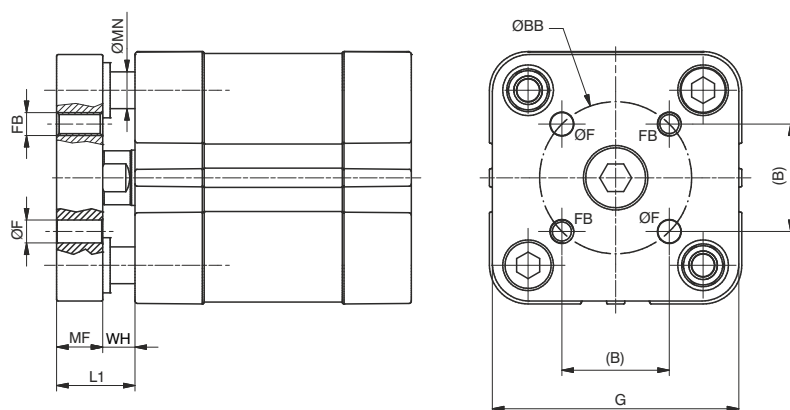
### Push - pull version bored female piston rod



### Push - pull version bored male piston rod



### Non-rotating version



Bore	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63	Ø80	Ø100
A (0/-0.5)	16	16	19	19	22	22	28	28
AF (min)	12	12	14	14	18	18	24	24
B	12	15.6	19.8	23.3	29.7	35.4	46	56.6
BB (±0.1) Ø	17	22	28	33	42	50	65	80
D Ø	3	3.8	4.5	4.5	6	6	8	10
F (+0.1/0) Ø	4	5	5	5	6	6	8	10
FB	M4	M5	M5	M5	M6	M6	M8	M10
G	35	39.5	45	52	65	75	95	115
KF	M6	M6	M8	M8	M10	M10	M12	M12
KK	M8x1.25	M8x1.25	M10x1.25	M10x1.25	M12x1.25	M12x1.25	M16x1.5	M16x1.5
KV	13	13	17	17	19	19	24	24
KW	5	5	6	6	7	7	8	8
L1	14	14	17	17	20	20	24	24
MF (+0.1/0)	8	8	10	10	12	12	14	14
MN (f 7) Ø	6	6	8	8	10	10	12	12
WH (±1)	6	6	7	7	8	8	10	10
ZA (±0.5)	37	39	44	45	45	49	54	67