

ISO 6432 MINI-CYLINDER SERIES STD

Mini-cylinders to ISO 6432 with a chamfered stainless steel barrel.

Can be used with different types of sensors.

Available in various versions with a wide range of accessories:

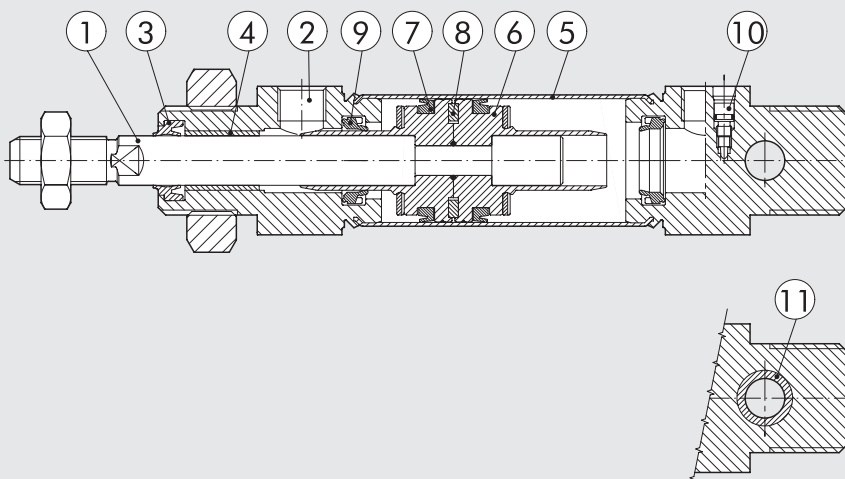
- with or without magnet
- single acting extended, retracted or through piston rod
- double acting, single or through piston rod
- with pneumatic cushioning (Ø 16-20-25)
- gaskets made of NBR, POLYURETHANE, and FKM/FPM (for high temperatures), and low-temperature gaskets
- special executions on request
- fixing accessories, guide units and mechanical rod lock.



TECHNICAL DATA		Ø8	Ø10	Ø12	Ø16	Ø20	Ø25
Max operating pressure	bar	10					
	MPa	1					
	psi	145					
Temperature range	POLYURETHANE °C	-20 to +80					
	NBR °C	-10 to +80					
	FKM/FPM °C	-10 to +150 (non-magnetic cylinder)					
	Low temperature °C	-35 to +80					
Design		Chamfered stainless steel barrel					
Fluid		Unlubricated air. Lubrication, if used, must be continuous					
Standard strokes \pm	double-acting mm	1 to 100	1 to 100	1 to 200	1 to 200	1 to 500	1 to 500
	double-acting, cushioned mm	-	-	-	1 to 300	1 to 500	1 to 500
	double-acting with spring extended or retracted piston rod mm	-	-	-	1 to 100	1 to 100	1 to 100
	single-acting extended or retracted piston rod mm	1 to 50	1 to 50	1 to 50	1 to 100	1 to 100	1 to 100
Versions		Double-acting, Double-acting cushioned, Double-acting with spring extended or retracted piston rod, Single-acting extended or retracted rod, Through-rod, Through-rod cushioned, Version suitable for rod lock, No stick-slip					
Magnet for sensors		All versions come complete with magnet. Supplied without magnet on request.					
Inrush pressure	single piston rod bar	0.8			0.6		
	through-rod bar	1			0.8		
Forces generated at 6 bar thrust/retraction		See cylinder "General technical data" at the beginning of the chapter					
Weights		See cylinder "General technical data" at the beginning of the chapter					
Notes		<p>For speeds lower than 0.2 m/s to prevent surging, use the version No stick-slip and non-lubricated air.</p> <p>\pm Maximum recommended strokes. Higher values can create operating problems</p>					

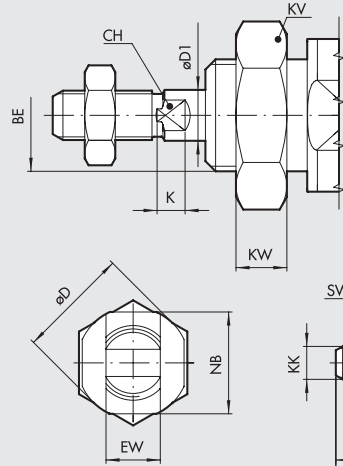
COMPONENTS

- PISTON ROD: C45 steel or stainless steel, thick chromed
- HEAD: anodized aluminium alloy
- PISTON ROD GASKET: polyurethane, NBR or FKM/FPM
- GUIDE BUSHING: steel strip with bronze and PTFE insert
- BARREL: AISI 304 steel
- HALF-PISTON: acetal resin
- PISTON GASKET: polyurethane, NBR or FKM/FPM
- MAGNET: plasteodymium
- CUSHIONING GASKET: NBR or FKM/FPM
- NEEDLE: OT 58 with needle out movement safety system even when fully open
- BUSHING (optional): self-lubricating bronze

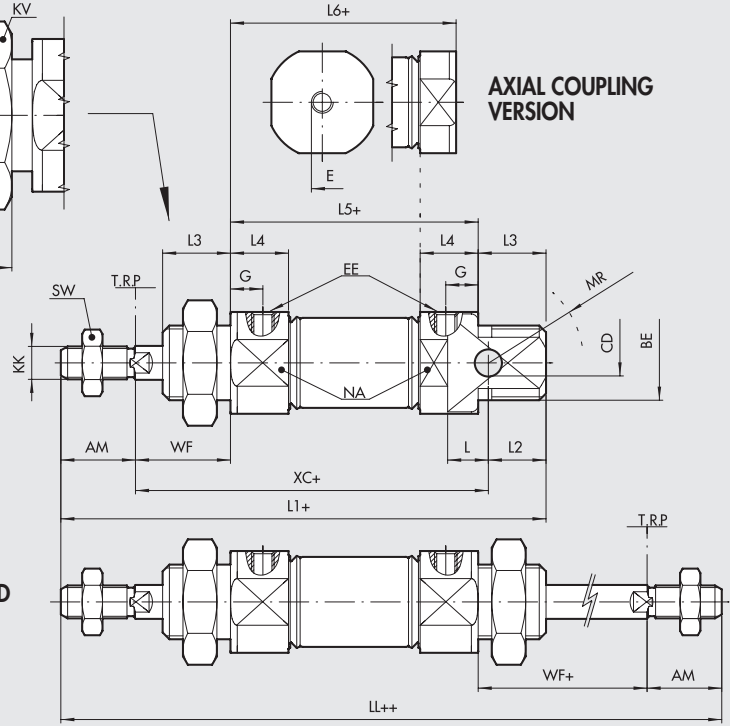


DIMENSIONS OF DOUBLE-ACTING VERSIONS

SINGLE PISTON ROD VERSION



AXIAL COUPLING VERSION



THROUGH-ROD VERSION

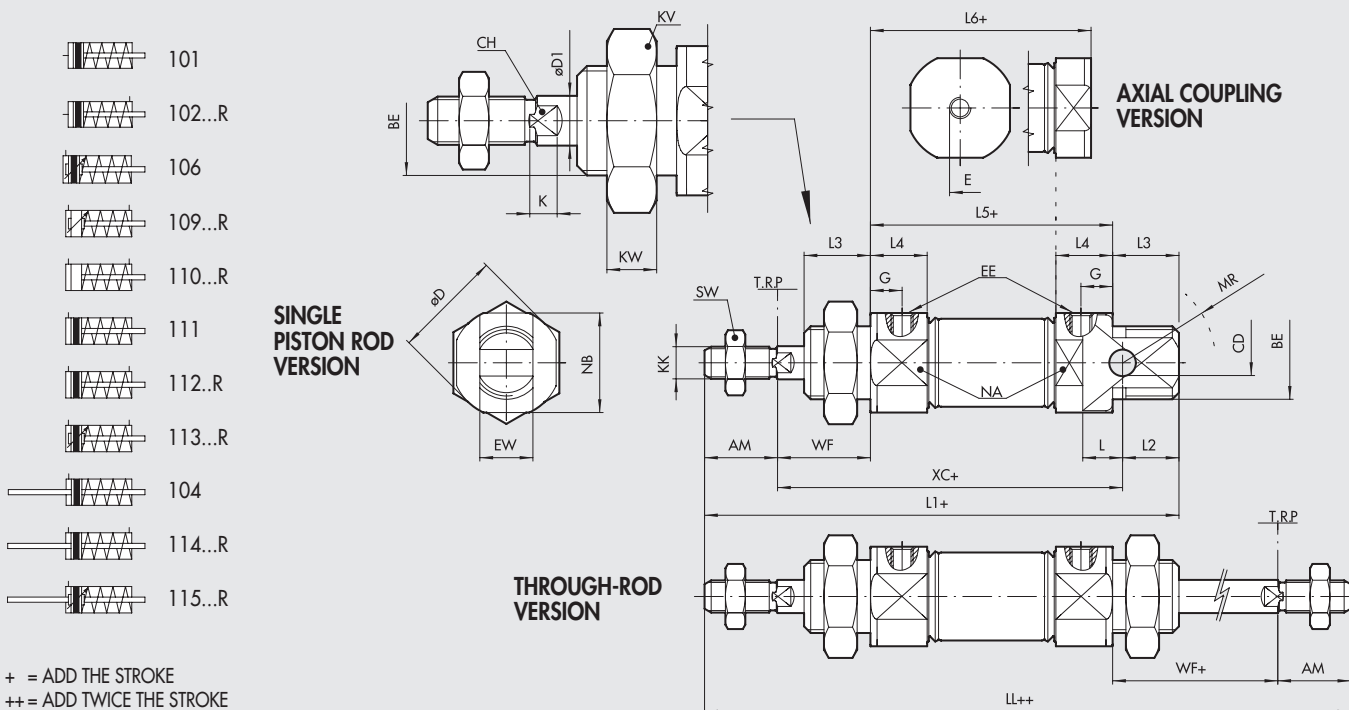
- 102
- 109
- 110
- 112
- 113
- 114
- 115

+ = ADD THE STROKE
 ++ = ADD TWICE THE STROKE

Ø	AM ⁺⁰ ₋₂	BE	øCD ^{H9}	øD	øD1	E	G	EE	EW ^{d13}	L	LL	L1	L2	L3	L4	L5	L6	KK	XC ⁺¹	WF ^{+1,2}	KW	KV	MR	NA	NB	SW	CH	K
8	12	M12x1.25	4	16.7	4	M5	6	M5	8	6.5	102	86	10	12	10	46	46	M4	64	16	7	19	12	15	15	7	3	3
10	12	M12x1.25	4	16.7	4	M5	6	M5	8	6.5	102	86	10	12	10	46	46	M4	64	16	7	19	12	15	15	7	3	3
12	16	M16x1.5	6	19	6	M5	6	M5	12	9	125	104	13	17	10	49	47	M6	75	22	8	24	16	17	17	10	5	3.5
16	16	M16x1.5	6	19.7	6	1/8	6	M5	12	9	132	111	13	17	10	56	53	M6	82	22	8	24	16	18	18	10	5	3.5
20	20	M22x1.5	8	27.9	8	1/8	8	G 1/8	16	12	156	129	14	17	15.5	68	61	M8	95	24	7	32	18	24	24	13	7	4.6
25	22	M22x1.5	8	33	10	1/8	9	G 1/8	16	12	173	143	17	20	17.1	73	66.5	M10x1.25	104	28	7	32	21	30	30	17	8	5

NOTES

DIMENSIONS OF DOUBLE-ACTING WITH SPRING, RETRACTED PISTON ROD VERSIONS
DIMENSIONS OF SINGLE-ACTING WITH SPRING, RETRACTED PISTON ROD VERSIONS



VERSION 101... / 104... / 106... / 111... (Stroke 0-50)

Ø	AM ^{±0}	BE	øCD ^{H9}	øD	øD1	E	G	EE	EW ^{#13}	L	LL	L1	L2	L3	L4	L5	L6	KK	XC ^{±1}	WF ^{±1,2}	KW	KV	MR	NA	NB	SW	CH	K
8	12	M12x1.25	4	16.7	4	M5	6	M5	8	6.5	102	86	10	12	10	46	46	M4	64	16	7	19	12	15	15	7	3	3
10	12	M12x1.25	4	16.7	4	M5	6	M5	8	6.5	102	86	10	12	10	46	46	M4	64	16	7	19	12	15	15	7	3	3
12	16	M16x1.5	6	19	6	M5	6	M5	12	9	125	104	13	17	10	49	47	M6	75	22	8	24	16	17	17	10	5	3.5
16	16	M16x1.5	6	19.7	6	1/8	6	M5	12	9	132	111	13	17	10	56	53	M6	82	22	8	24	16	18	18	10	5	3.5
20	20	M22x1.5	8	27.9	8	1/8	8	G 1/8	16	12	156	129	14	17	15.5	68	61	M8	95	24	7	32	18	24	24	13	7	4.6
25	22	M22x1.5	8	33	10	1/8	9	G 1/8	16	12	173	143	17	20	17.1	73	66.5	M10x1.25	104	28	7	32	21	30	30	17	8	5

VERSION 101... (single-acting retracted piston rod)

Ø	Dimension	Stroke	
		51-75	76-100
16	L6	101.8	126.2
	L6	111.8	137.2
25	L6	118.5	144.5

VERSION 102...R (double-acting retracted piston rod)

Ø	Dimension	Stroke			
		0-25	26-50	51-75	76-100
16	L6	63.4	83.4	107.8	132.2
	L6	72.4	93.4	118.8	144.2
25	L6	77.6	100.5	126.5	152.5

VERSION 104... (single-acting through-rod)

Ø	Dimension	Stroke	
		51-75	76-100
16	LL	180.8	205.2
	L5	104.8	129.2
20	LL	206.8	232.2
	L5	118.8	144.2
25	LL	225	251
	L5	125	151

VERSION 106... (single-acting cushioned, retracted piston rod)

Ø	Dimension	Stroke	
		51-75	76-100
16	L1	159.8	184.2
	L5	104.8	129.2
	XC ^{±1}	130.8	155.2
20	L1	179.8	205.2
	L5	118.8	144.2
	XC ^{±1}	145.8	171.2
25	L1	195	221
	L5	125	151
	XC ^{±1}	156	182

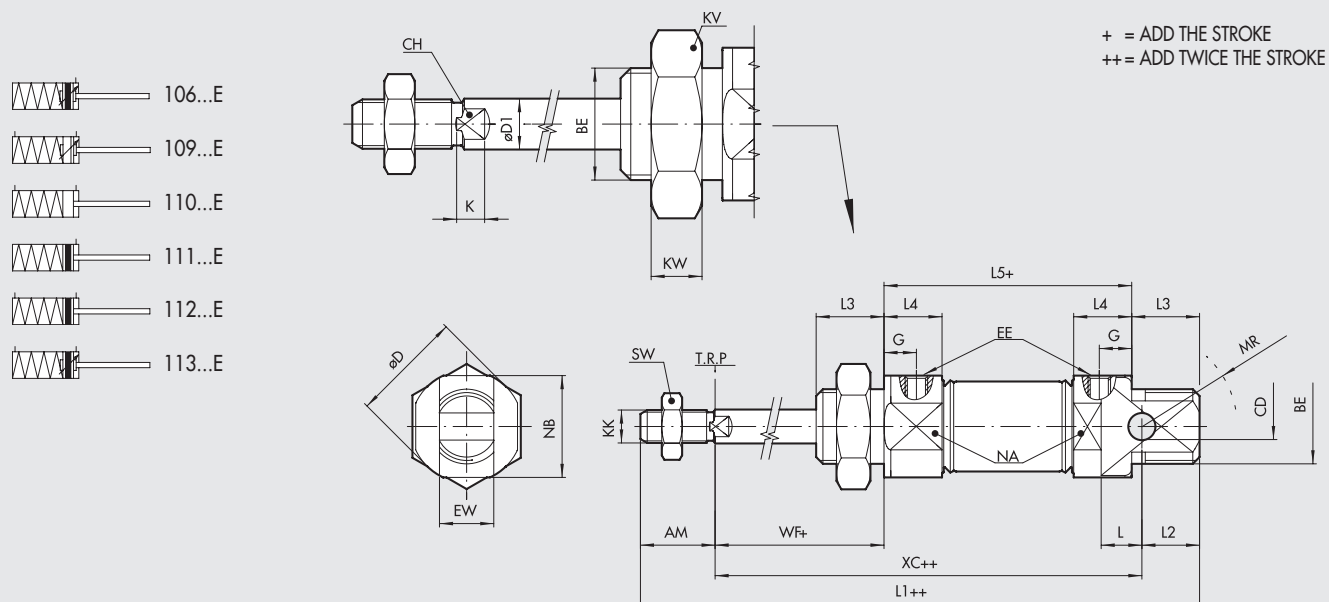
VERSION 109...R / 113...R (double-acting cushioned, with spring, retracted piston rod)

Ø	Dimension	Stroke			
		0-25	26-50	51-75	76-100
16	L1	121.4	141.4	165.8	190.2
	L5	66.4	86.4	110.8	135.2
	XC ^{±1}	92.4	112.4	136.8	161.2
20	L1	140.4	161.4	186.8	212.2
	L5	79.4	100.4	125.8	151.2
	XC ^{±1}	106.4	127.4	152.8	178.2
25	L1	154.1	177	203	229
	L5	84.1	107	133	159
	XC ^{±1}	115.1	138	164	190

VERSION 114...R (double-acting cushioned, with spring, through-rod)

Ø	Dimension	Stroke			
		0-25	26-50	51-75	76-100
16	LL	142.4	162.4	186.8	211.2
	L5	66.4	86.4	110.8	135.2
20	LL	167.4	188.4	213.8	239.2
	L5	79.4	100.4	125.8	151.2
25	LL	184.1	207	233	259
	L5	84.1	107	133	159

VERSION 115...R (double-acting with spring, through-rod)

DIMENSIONS OF DOUBLE-ACTING WITH SPRING, EXTENDED PISTON ROD VERSIONS
DIMENSIONS OF SINGLE-ACTING WITH SPRING, EXTENDED PISTON ROD VERSIONS


Ø	AM ⁺⁰ ₋₂	BE	øCD ^{H9}	øD	øD1	G	EE	EW ^{d13}	L	L2	L3	L4	KK	WF ^{+1,2}	KW	KV	MR	NA	NB	SW	CH	K
16	16	M16x1.5	6	19.7	6	6	M5	12	9	13	17	10	M6	22	8	24	16	18	18	10	5	3.5
20	20	M22x1.5	8	27.9	8	8	G 1/8	16	12	14	17	15.5	M8	24	7	32	18	24	24	13	7	4.6
25	22	M22x1.5	8	33	10	9	G 1/8	16	12	17	20	17.1	M10x1.25	28	7	32	21	30	30	17	8	5

VERSION 106...E (single-acting cushioned, extended piston rod)
VERSION 111...E (single-acting extended piston rod)

Ø	Dimension	Stroke			
		0-25	26-50	51-75	76-100
16	L1	115.4	135.4	159.8	184.2
	L5	60.4	80.4	104.8	129.2
	XC ⁺¹	86.4	106.4	130.8	155.2
20	L1	133.4	154.4	179.8	205.2
	L5	72.4	93.4	118.8	144.2
	XC ⁺¹	99.4	120.4	145.8	171.2
25	L1	146.1	169	195	221
	L5	76.1	99	125	151
	XC ⁺¹	107.1	130	156	182

VERSION 109...E / 113...E (double-acting cushioned, with spring, extended piston rod)
VERSION 110...E / 112...E (double-acting with spring, extended piston rod)

Ø	Dimension	Stroke			
		0-25	26-50	51-75	76-100
16	L1	121.4	141.4	165.8	190.2
	L5	66.4	86.4	110.8	135.2
	XC ⁺¹	92.4	112.4	136.8	161.2
20	L1	140.4	161.4	186.8	212.2
	L5	79.4	100.4	125.8	151.2
	XC ⁺¹	106.4	127.4	152.8	178.2
25	L1	154.1	177	203	229
	L5	84.1	107	133	159
	XC ⁺¹	115.1	138	164	190

NOTES

KEY TO CODES

CYL	1 1 2 TYPE	0 VERSION	16 BORE	0020 STROKE	C MATERIAL	P GASKETS	E
▷	101 SA axial coupling	0 Standard	▼ 08	For the maximum suppliable strokes, look at the technical data	A C45 chrome piston rod, aluminium piston	P Polyurethane	▶ E Single-acting extended rod or double-acting with spring, extended piston rod
▽	102 DAM axial coupling	+ U Bronze rear head bushing	▼ 10		C C45 chrome piston rod, technopolymer piston	N NBR	
◀▷	104 SA through-rod	V Without head nut	▼ 12		Z Stainless steel piston rod and nut aluminium piston	● V FKM/FPM	✕ R Double-acting with spring, retracted piston rod
■△	106 SA cushioned	S Non-magnetic	16		X Stainless steel piston rod and nut technopolymer piston	● B Low temperature	
■	109 DEA	▲ G No stick-slip	20				
■	110 DE		25				
△	111 SE						
	112 DEM						
■	113 DEMA						
*◇	114 DAM through-rod						
*◇	115 DAMC through-rod						
◆▷	116 DAM suitable for rod lock						
■▷	117 DAMC suitable for rod lock						

DA: Double-acting (non-cushioned, not magnetic)

DAM: Magnetic double-acting (non-cushioned)

DAMC: Magnetic double-acting (cushioned)

DAC: Cushioned double-acting (non-magnetic)

SA: Single-acting (magnetic). The versions without the final "E" are to be considered with retracted piston rod.

- Only available for non-magnetic versions (S) and with aluminium piston (A or Z)
- ▲ For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only
- ▼ Stainless steel piston rod
- Available from Ø 16
- ◆ Available from Ø 12
- ▷ Not available for versions with final letter E or R
- △ Not available for versions with final letter R
- ▽ Not available for versions with final letter E
- ◇ Stainless steel piston rod. Not available for versions with final letter E
- * For Ø 16 to 25 aluminium piston, stainless steel piston rod
- ▶ Letter to be added only to the single acting extended rod version or double-acting with spring, extended piston rod
- ✕ Letter to be added only for the double-acting version with retracted piston rod spring
- + Not available for types 101, 102, 104, 114, 115
- ◀ For Ø 16 to 25 stroke from 51 to 100 aluminium piston

