

MB series roundline cylinders

ATS PNEUMATICS | SINGLE ACTING | SPRING RETURN



Slim roundline cylinders made in-house at ATS Pneumatics in Christchurch. Compressed air extends the rod; the internal spring retracts it when the powered chamber is exhausted.

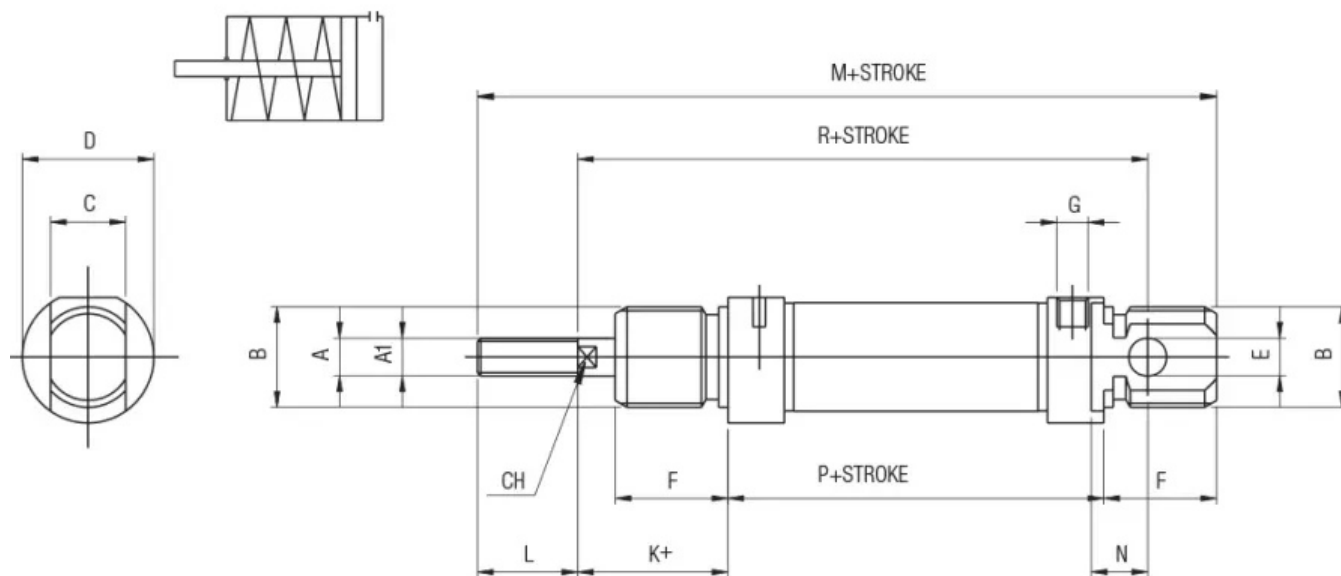
Specification	ATS MB made-to-order range
Online bore sizes	16, 20 and 25 mm
Online stroke range	10-100 mm, in whole millimetres; limited by the configured product range
Operation	Single acting Air extend / spring retract
Standard	ISO 6432
Working pressure	1-10 bar; available force must overcome the spring and application load
Temperature	0 to +80 degrees C; -20 degrees C with dry air
Air supply	Filtered compressed air, lubricated or non-lubricated
Position sensing	Magnetic piston; compatible external sensor and mounting adaptor required
End cushioning	Elastic bumpers; no adjustable pneumatic cushioning
Construction	AISI 304 stainless-steel barrel; AISI 303 stainless-steel rod; anodised aluminium ends
Seals	Polyurethane rod/piston seals; NBR O-rings; neoprene bumpers

Your finished stroke, built in Christchurch

Choose a common stroke or enter your exact stroke. Every cylinder is built in-house. Your physical cylinder code uses the finished stroke; hidden pricing-band SKUs remain for internal pricing and stock synchronisation.

Drawing and bore dimensions

Manufacturer drawing for the bare MB cylinder. Numeric dimensions are in mm. The drawing is schematic and is not to scale. Rod shown spring-retracted.



Stroke-dependent measurements

Drawing datum	Calculation	25 mm bore x 75 mm stroke
M + stroke	M base + exact stroke	215 mm
R + stroke	R base + exact stroke	179 mm
P + stroke	P base + exact stroke	143 mm
K	Fixed by bore; do not add stroke	28 mm

M measures the bare cylinder from the rod tip to its rear end in the retracted position. **R** measures the rod shoulder to the rear-eye centre. **P** follows the body datums shown. **K** remains fixed by bore.

Extending the rod adds the exact stroke to the retracted end-to-end length. For the 25 x 75 mm example: 215 mm retracted and 290 mm extended, excluding fitted mountings.

MB and MD have different spring arrangements and length formulas. Use the MB drawing and tables for MB cylinders.

Bore-specific dimensions

Base values for the bare cylinder. Add stroke only to M, R and P as shown on the previous page. Threads retain their designations.

Reference	16 mm bore	20 mm bore	25 mm bore
A - rod thread	M6	M8	M10x1.25
A1 - rod diameter	6	8	10
B - mounting thread	M16x1.5	M22x1.5	M22x1.5
C	12	16	16
D	19	27	30
E - rear pin diameter	6	8	8
F	18	20	22
G - air port	M5	G 1/8	G 1/8
K - fixed	22	24	28
L	16	20	22
M base	109	131	140
N	9	12	12
P base	53	67	68
R base	82	95	104
CH - rod flat	5	7	9

The Aignep MB catalogue includes smaller bores. This ATS document covers only the 16, 20 and 25 mm bores offered for this product.

Force and air consumption

Manufacturer pneumatic thrust references (N)

Bore	1 bar	2 bar	4 bar	6 bar	8 bar	10 bar
16 mm	18	36	72	108	144	180
20 mm	28	56	112	168	224	280
25 mm	44	88	176	264	352	440

These Aignep references are pneumatic thrust figures. MB air-powered extension must overcome the opposing spring. The useful application force also depends on friction, pressure at the cylinder, speed, backpressure and load conditions.

Catalogue spring-load references (N)

Bore	Spring condition	10 mm stroke	25 mm stroke	50 mm stroke
16 mm	At rest (R)	16.5	13.7	9
16 mm	Compressed (C)	18.3	18.3	18.3
20 mm	At rest (R)	19	15.5	9.5
20 mm	Compressed (C)	21.5	21.5	21.5
25 mm	At rest (R)	27	24	13.5
25 mm	Compressed (C)	29	29	29

The general MINI spring table covers the listed 10, 25 and 50 mm strokes. Do not interpolate it for ATS custom strokes. Ask ATS to confirm the actual fitted spring, return force and spring suitability, particularly above 50 mm.

Air-use reference at 6 bar (normal litres per 10 mm)

Bore	Air-powered extension
16 mm	0.014
20 mm	0.022
25 mm	0.034

Multiply by exact stroke / 10 for one air-powered extension, then by cycles/minute. Spring return has no second powered air stroke. These catalogue references exclude valve and tubing volumes, leakage and added components.

Selection, mountings and ordering

Common lengths and custom strokes

ATS common choices are 10, 25, 40, 50, 60, 75, 80 and 100 mm. Enter any whole-millimetre stroke within the enabled online range. Options and maximum stroke are checked against the published product variations.

Mountings and position sensors

Select compatible front or rear mounting options after choosing your bore. Roundline arrangements include flange and foot mounts, rear clevis brackets, rod clevises and rod eyes where listed for the selected size. Mountings and sensors are additional items.

The magnetic piston enables position sensing with a suitable external sensor and roundline mounting adaptor. The Aignep MINI catalogue lists DSL sensors with MFX adaptors. ATS can confirm the available sensor, adaptor and switching arrangement.

Your dimension downloads

Download your exact-stroke cylinder sheet after selecting a bore and stroke. Select mountings to enable the cylinder-plus-selected-mounts download. Where the assembly geometry is verified, it includes a nominal overall-length estimate. Installed offsets and fixing arrangements can change that estimate by a few millimetres.

Ordering your finished size

For example, **MB-025-0075** identifies a 25 mm bore x 75 mm physical stroke. The exact stroke is recorded with your order. The variation SKU used internally for pricing may describe a stroke band.

Manufacture and support

Every MB cylinder is made in-house in Christchurch. Standard production is usually **3-5 working days**, with delivery additional. Urgent or same-day requests are subject to workshop capacity and ATS confirmation. We supply customers throughout New Zealand.

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Technical sources and scope

Source: user-supplied Aignep MINI catalogue, printed pages 18.7-18.11 and MB drawing/table on page 18.12, plus the supplied MB diagram and product photograph. ATS range follows the existing MD product range as confirmed by ATS. Force and air-use values are manufacturer reference data; actual spring performance for custom builds requires ATS confirmation.