

EH T series tie-rod cylinder

ATS PNEUMATICS | 160 MM BORE | DOUBLE ACTING



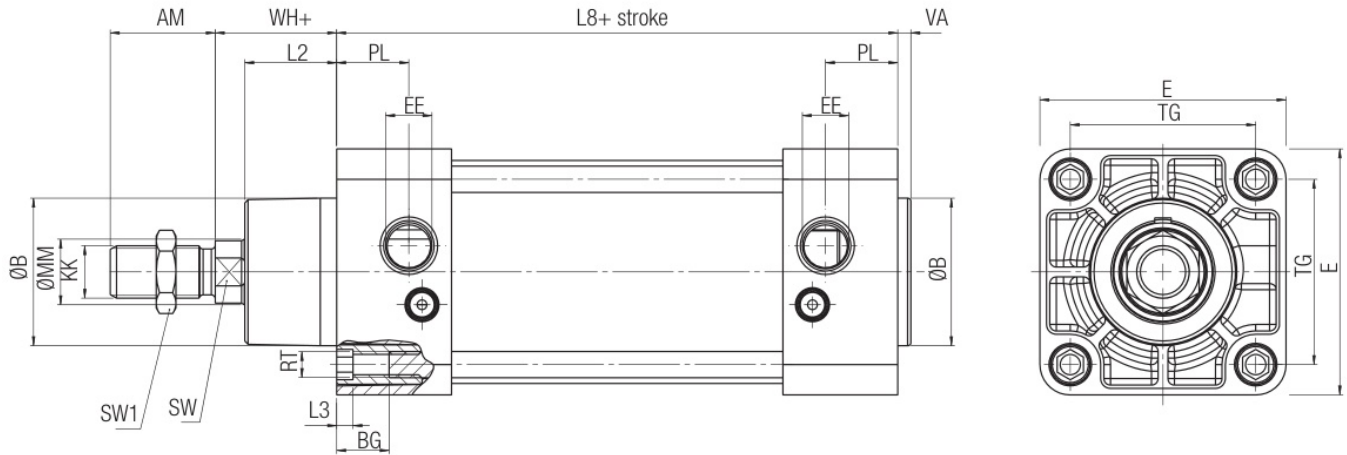
A large-bore single-rod cylinder for pushing, pulling, lifting and positioning. Compressed air powers extension and retraction. Made in-house at ATS Pneumatics in Christchurch to your selected stroke.

Specification	ATS EH T 160 mm build
Mounting dimensions	ISO 6431, as documented in the Aignep E catalogue
Bore	160 mm only
Online strokes	Whole-mm exact strokes up to 1000 mm; available variations apply
Operation	Double acting, single rod, magnetic piston
Cushioning	Adjustable pneumatic cushioning at both ends
Working pressure	1-10 bar
Temperature	0 to +80 degrees C; -20 degrees C with dry air
Air supply	Filtered compressed air, lubricated or non-lubricated
Construction	Anodised aluminium tube, aluminium heads and steel tie rods
Standard rod / seals	Chrome-plated steel rod; PU working seals and NBR O-rings

This ATS catalogue covers EH T single-rod, 160 mm bore only. The manufacturer also lists larger bores and EL double-rod versions; they are outside this ATS product.

EH dimensional drawing

Bare single-rod EH T cylinder with the rod retracted. Schematic manufacturer drawing; numeric dimensions in mm. Mountings, rod accessories and sensors are additional.



Body datum L8 adds the exact stroke

Drawing reference	Calculation	125 mm stroke example
L8 + stroke	180 mm + exact stroke	305 mm
WH - rod retracted	80 mm reference	80 mm

Use the exact physical stroke entered by the customer, not the internal pricing band. L8 is the labelled body datum; it is not overall length including the projecting rod, fittings or mountings.

Interpreting WH on the drawing

The manufacturer shows WH+ at the projecting rod. The tabulated **80 mm WH reference is for the retracted rod**. During extension the rod projection increases by the amount of travel. Choosing a longer manufactured stroke does not change the retracted WH reference.

The ZM + 2 x stroke drawing applies to the EL double-rod cylinder, not this single-rod EH T. Do not use the EL drawing to calculate EH dimensions.

160 mm bore dimensions

Drawing reference	160 mm bore
B - centring diameter	65
VA	6
L2	55
WH - retracted reference	80
MM - piston rod diameter	40
SW - rod flats	36
KK - rod thread	M36x2
AM - rod projection reference	72
L8 base (+ exact stroke)	180
BG	24
RT - mounting attachment thread	M16
E - end-cap size	180
TG - mounting centres	140
EE - air-port thread	G 3/4
PL	29
L3	0
SW1	55

Key connections

Rod: 40 mm diameter, M36x2 male rod thread.

Air ports: G 3/4.

Mounting attachments: M16 (RT); 140 mm centre spacing (TG).

Check the relevant drawing datum for your mounting arrangement. Numeric dimensions are in mm; B is shown as a diameter. Actual centring and thread tolerances must follow the manufacturer/build specification.

Force and air consumption

Manufacturer pneumatic force references (N)

Movement	1 bar	2 bar	4 bar	6 bar	8 bar	10 bar
Extension	1774	3548	7097	10645	14194	17742
Retraction	1663	3326	6653	9980	13307	16633

At 6 bar, the catalogue references are **10,645 N extension** and **9,980 N retraction**. These are manufacturer reference forces, not guaranteed application outputs or lifting ratings.

Usable force depends on friction, pressure loss, air flow, exhaust backpressure, speed and external load. The references differ from ideal piston area x pressure calculations. Size using the lowest operating pressure at the cylinder.

Air-use reference at 6 bar

Basis	Normal litres per 10 mm stroke
Extension	1.407 NI
Retraction	1.319 NI
Full extend/retract cycle	2.726 NI

Multiply the combined value by exact stroke / 10 for one cycle, then by cycles/minute. For 125 mm stroke at 6 bar: $2.726 \times 12.5 = \mathbf{34.08 \text{ NI/cycle}}$ (rounded).

Tubing, dead volume, valves and leaks add consumption. Ensure the valve, tubing and compressed-air supply provide the required flow for the operating speed.

Cushioning and guidance

Adjust the pneumatic cushioning to the application. Confirm moving mass, speed and duty; cushioning is not an unrestricted impact-energy rating. Check rod buckling and mounting alignment, and separately guide side loads.

Ordering, accessories and support

Your exact stroke

The bore is fixed at **160 mm**. Choose a common stroke button or enter your required whole-mm stroke within the online range, up to 1000 mm. All common and custom ATS lengths are made in-house.

The customer-facing dimension code **EH-160-0125-T** identifies 160 mm bore x 125 mm physical stroke in the tie-rod tube version. The download uses the exact stroke, even when pricing uses the next available hidden stroke band.

Mountings are sourced on request

ATS does not currently stock the compatible 160 mm cylinder mountings. Contact ATS for pricing, availability and lead time. They are not included in the base cylinder price.

Specify the mounting arrangement, load direction, required travel and rod-end connection. ATS can help confirm suitable front/rear/foot or pivot arrangements for your installation.

Position sensors

The magnetic piston supports compatible position sensors. Tie-rod cylinders require the appropriate external mounting adapter/bracket. Sensors and adapters are additional items; confirm sensor type, wiring and mounting with ATS.

Manufacture and delivery

Standard production is usually **3-5 working days**, plus delivery. Urgent or same-day requests are subject to workshop capacity and ATS confirmation. Mounting procurement lead time is separate.

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Technical sources and scope

Supplied Aignep E catalogue, printed pages 18.78-18.81; Aignep EH B2B 160 mm dimensional table. Shared force/air tables for X/E/V/P/L from the supplied L catalogue, pages 18.64-18.65. Online scope follows ATS EH-XXX-XXXX-T: 160 mm bore only. Special FKM seals, stainless rod, metal scraper and EL double-rod builds are outside this guide.