LH series profile cylinders

ATS PNEUMATICS | PU SEAL VERSION | ISO 15552



Double-acting, single-rod cylinders with a magnetic piston and adjustable pneumatic cushioning. Made in-house at ATS Pneumatics in Christchurch to the required stroke.

Specification	LH PU version
Bore sizes	32, 40, 50, 63, 80, 100 and 125 mm
Working pressure	1-10 bar (0.1-1.0 MPa)
Catalogue starting pressure	0.3 bar (0.03 MPa)
PU temperature range	-20 to +80 degrees C
Medium	Filtered compressed air, lubricated or non-lubricated
Piston sensing	Magnetic piston; profile slots for compatible sensors
Cushioning	Adjustable pneumatic cushioning at both ends
Rod and barrel	Chrome-plated steel C40 rod; anodised aluminium profile

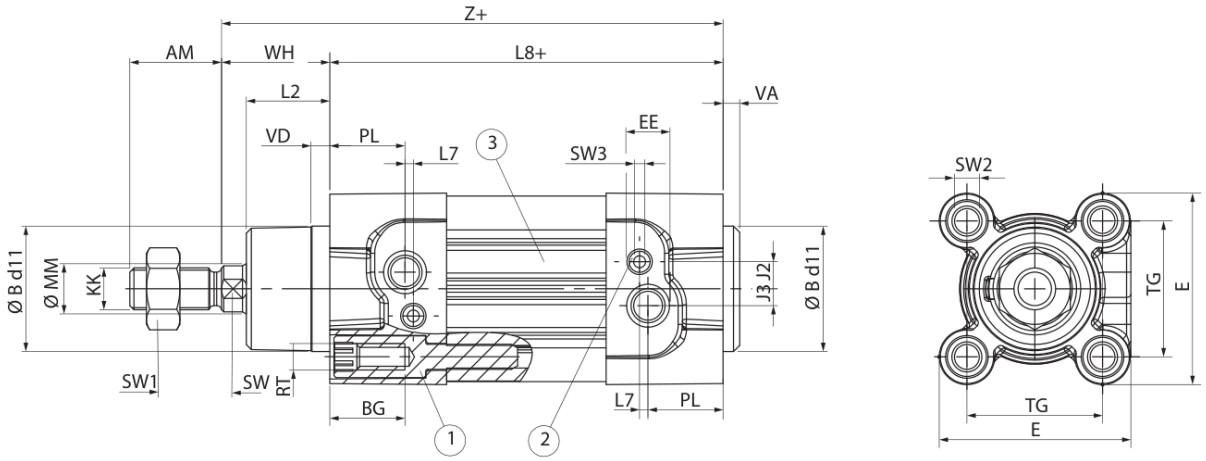
Scope and custom manufacture

This guide covers LH profile cylinders with the PU seal option only. Other L-series executions and special seal versions are excluded. PU identifies the selected seal version; it does not imply that every internal O-ring or cushion seal is polyurethane.

Available strokes are shown for the selected bore in the ATS configurator. Aignep lists catalogue strokes from 25 to 1,000 mm and strokes on request up to 2,700 mm. Longer ATS builds require confirmation of the application and assembly dimensions.

Dimensional drawing

Manufacturer reference drawing - all dimensions in millimetres unless a thread designation is shown. The diagram is schematic, not a scale drawing.



Drawing references

1. Threaded socket-head fixing screws for mounting attachments.
2. Pneumatic cushioning adjustment screws.
3. Slots for proximity sensors.

The manufacturer uses a **+** mark to identify dimensions requiring stroke to be added. The table values are reference/base values; they are not the finished length of every stroke.

Bore	Rod (MM)	Port (EE)	Rod thread (KK)	Z base	L8 base	WH fixed
32	12	G 1/8	M10X1.25	120	94	26
40	16	G 1/4	M12X1.25	135	105	30
50	20	G 1/4	M16X1.5	143	106	37
63	20	G 3/8	M16X1.5	158	121	37
80	25	G 3/8	M20X1.5	174	128	46
100	25	G 1/2	M20X1.5	189.5	138	51.5
125	32	G 1/2	M27X2	225	160	65

Custom-stroke dimension sheets

Use the exact manufactured stroke, not the pricing-band SKU, when specifying a drawing. For a 125 mm bore and 125 mm stroke, the base-plus-stroke values are Z = 350 mm and L8 = 285 mm. These labels refer to the datums on the drawing; they must not be renamed "overall length".

WH is fixed by bore and does not increase with stroke. Confirm the assembled envelope and any spacer allowance for longer builds before issuing an overall-length drawing.

Complete dimension reference

Seven bore records cover the LH range. Use this table with the drawing on page 2. Add the exact stroke to the Z and L8 base values. WH is fixed by bore and does not increase with stroke.

Dimension	32	40	50	63	80	100	125
B (d11)	30	35	40	45	45	55	60
VD	10	10.5	11.5	15	15.7	19.2	20
VA	4	4	4	4	4	4	6
L2	16	20	25	26	32	35	45
WH (fixed)	26	30	37	37	46	51.5	65
Rod diameter (MM)	12	16	20	20	25	25	32
SW	10	13	17	17	22	22	27
Rod thread (KK)	M10X1.25	M12X1.25	M16X1.5	M16X1.5	M20X1.5	M20X1.5	M27X2
AM	22	24	32	32	40	40	54
SW1	17	19	22	22	30	30	41
Z base	120	135	143	158	174	189.5	225
L8 base	94	105	106	121	128	138	160
BG	18	18	20	20	19	19	21
RT	M6	M6	M8	M8	M10	M10	M12
SW2	6	6	8	8	6	6	8
Body size (E)	46	54	64	74	94	111	135
Mounting centres (TG)	32.5	38	46.5	56.5	72	89	110
Air port (EE)	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2	G 1/2
PL	18	17.5	20.5	22	22	26	30
J3	4	3.5	7	11	11	9	9
J2	6.5	8	10	8.5	8.5	12.5	12.5
L7	2	5.8	2	4	4	5	2.5
SW3	2.5	2.5	4	4	4	4	4

B d11 is a tolerance designation. SW, SW1, SW2 and SW3 are the wrench/hexagon sizes labelled on the drawing. AM, VA, L2, PL, BG, J2, J3 and L7 must be read at their original drawing datums.

Force reference

Aignep catalogue output-force values for LH bore sizes. Forces are in newtons (N). S = thrust/extension; T = traction/retraction. These are the published values, not unadjusted ideal piston forces.

Bore	Dir.	1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar
32	S	72	144	216	288	360	432	504	576	648	720
32	T	62	124	186	248	310	372	434	496	558	620
40	S	110	220	330	440	550	660	770	880	990	1100
40	T	95	190	285	380	475	570	665	760	855	950
50	S	175	350	525	700	875	1050	1225	1400	1575	1750
50	T	148	296	444	592	740	888	1036	1184	1332	1480
63	S	280	560	840	1120	1400	1680	1960	2240	2520	2800
63	T	250	500	750	1000	1250	1500	1750	2000	2250	2500
80	S	450	900	1350	1800	2250	2700	3150	3600	4050	4500
80	T	405	810	1215	1620	2025	2430	2835	3240	3645	4050
100	S	700	1400	2100	2800	3500	4200	4900	5650	6360	7000
100	T	660	1320	1980	2640	3300	3960	4620	5280	5940	6600
125	S	1104	2208	3312	4416	5520	6624	7728	8832	9936	11040
125	T	1032	2064	3096	4128	5160	6192	7224	8256	9288	10320

Application checks

Size at the lowest operating pressure. Check flow, speed, friction, cushioning, guidance, mounting and rod buckling. Guide the load independently where side loads or twisting occur.

The website calculator is an initial sizing aid. A stroke offered for online pricing is not a load-capacity rating for every mounting or application. Ask ATS to confirm long-stroke and high-load applications.

Useful area reference

Bore (mm)	Rod (mm)	Extension area (mm2)	Retraction area (mm2)
32	12	804	691
40	16	1257	1056
50	20	1963	1649
63	20	3117	2803
80	25	5027	4536
100	25	7854	7363
125	32	12270	11468

Air consumption and ordering

Catalogue air consumption in normal litres (Nl) per 10 mm of stroke, for each direction. S = extension; T = retraction. Multiply by exact stroke/10 for each movement.

Bore	Dir.	1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar	9 bar	10 bar
32	S	0.016	0.024	0.032	0.040	0.048	0.056	0.064	0.072	0.080	0.088
32	T	0.014	0.021	0.028	0.035	0.041	0.048	0.055	0.062	0.069	0.076
40	S	0.025	0.038	0.050	0.063	0.075	0.088	0.101	0.113	0.126	0.138
40	T	0.021	0.032	0.042	0.053	0.063	0.074	0.084	0.095	0.106	0.116
50	S	0.039	0.059	0.079	0.098	0.118	0.137	0.157	0.177	0.196	0.216
50	T	0.033	0.049	0.066	0.082	0.099	0.115	0.132	0.148	0.165	0.181
63	S	0.062	0.094	0.125	0.156	0.187	0.218	0.249	0.281	0.312	0.343
63	T	0.056	0.084	0.112	0.140	0.168	0.196	0.224	0.252	0.280	0.308
80	S	0.101	0.151	0.201	0.251	0.302	0.352	0.402	0.452	0.503	0.553
80	T	0.091	0.136	0.181	0.227	0.272	0.318	0.363	0.408	0.454	0.499
100	S	0.157	0.236	0.314	0.393	0.471	0.550	0.628	0.707	0.785	0.864
100	T	0.147	0.221	0.295	0.368	0.442	0.515	0.589	0.663	0.736	0.810
125	S	0.245	0.368	0.491	0.614	0.736	0.859	0.982	1.104	1.227	1.350
125	T	0.229	0.344	0.459	0.573	0.688	0.803	0.917	1.032	1.147	1.261

One complete extend/retract cycle

Cycle consumption = (extension value + retraction value) x stroke/10. For a 125 mm bore, 125 mm stroke cylinder at 6 bar: (0.859 + 0.803) x 12.5 = **20.775 Nl per cycle**, before tubing volumes and losses.

Ordering your ATS cylinder

Select the bore and enter the exact whole-millimetre stroke. The customer cylinder label uses the exact dimensions: **LH-125-0125** means 125 mm bore and 125 mm stroke. Mountings and sensors are separate items; choose compatible options for the selected bore.

Aignep identifies the polyurethane version with a PU option suffix.

Technical information and support

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Technical source: customer-supplied Aignep L-series catalogue, edition dated July 2026; printed pages 18.67-18.71, 18.64 and 18.65. LH dimensional rows were cross-checked against the supplied Aignep item chart. Dimensions and figures remain attributed to Aignep.