

AIR MOTORS

Atlas Copco



Introduction – Vane Air Motors

Air motors from Atlas Copco – the reliable, cost-effective solution when applying power to rotating machines. Consider the air motor features and characteristics giving large benefits to the designer:

- Power-to-weight performance that is superior to most other motors, in fact, 75% lighter and 85% smaller than an asynchronous electric motor with the same output.
- Can be held stalled at full torque indefinitely, and accepts repeated starting and stopping without limitation.
- Torque, speed and direction of rotation can be changed easily using simple control methods.
- Output that automatically adjusts to match the applied load.
- Controllable over a wide speed range.
- Ideal for many applications in hazardous or hostile environments.
- Smooth start-up to minimize “shock” loading on transmission components.
- Unaffected by, and will not generate, electrical interference.



FEATURES FOR LZB MOTORS

Lubrication-free air motors for sensitive processes where hygienic operation is crucial

Equipped with low friction vanes and sealed bearings the lubrication-free motors release no lubricants into the air. They offer a viable drive solution for sensitive processes and hygienic environments where oil contamination would be at best a problem and, at worst, a catastrophe.

Stainless steel air motors for harsh and aggressive environments

The stainless steel air motors are ideal for harsh or even aggressive environments where hygiene is essential. They have a “clean” design with no pockets where dirt can collect. They are fitted with double shaft seals to prevent water from entering the gears. Lubrication-free versions are also available.

High torque air motors when a real workhorse is needed

Fitted with extra strong planetary gears the high torque air motors provide torques up to 680 Nm. The gears are dimensioned to stand being loaded at full stall torque indefinitely. Despite their strength the high torque air motors are compact compared to solutions with helical or worm gears. Lubrication-free versions are also available.

Customized air motors to your individual specifications

Whatever the requirement, Atlas Copco is always happy to help customers find solutions to their special needs. For OEMs, for instance, a customized air motor can be the most efficient solution when integrating an air motor into a machine or a tool. Special motors may have unique casings or mounting arrangements. They may utilize non-standard materials or surface coatings and be designed to achieve a specific output.

For more information on Atlas Copco vane motors visit our web site.



Explosion proof certified versions

Our air motors are available with explosion proof certification as standard, in compliance with the European Union's ATEX Directive on equipment for potentially explosive environments.

LZB and LZL

Vane Air Motors

LZB

0.1 – 2.80 KW

The Atlas Copco LZB vane air motors are compact in design, light in weight and available in a variety of different gear ratios to meet a variety of speed requirements. They are particularly suited to be built into hand held machines and also many different types of industrial equipment. These data are a summary of our range; please consult our air motor catalogue or our website to choose the right one for you.



Model	Max output		Speed range at max output r/min	Torque range at max output		Min start torque range		Free speed r/min	No. of gear ratios	Motor diameter	
	kW	hp		Nm	ft lb	Nm	ft lb			mm	in
Non-reversible											
LZB14	0.16	0.21	320-9100	0.17-4.8	0.13-3.5	0.23-8.5	0.17-6.27	700-19500	5	27	1.1
LZB22	0.27	0.36	210-9600	0.27-11.8	0.20-8.7	0.32-22	0.24-16.2	480-21500	7	36	1.4
LZB33/34	0.39	0.52	10-9400	0.40-349	0.30-257	0.69-680	0.51-502	20-19000	17	42	1.7
LZB42	0.71	0.95	23-10000	0.68-272	0.5-201	1.09-435	0.80-321	42-19000	12	46	1.8
LZB46	0.84	1.13	25-10800	0.74-299	0.55-221	1.20-485	0.88-358	45-20000	12	46	1.8
LZB54	1.20	1.61	70-10000	1.15-161	0.85-119	1.80-261	1.33-193	125-18000	10	60	2.4
LZB66	1.87	2.51	55-8200	2.2-308	1.62-227	3.2-456	2.4-336	110-16000	10	60	2.4
LZB77	2.80	3.75	80-1220	22-332	16-245	35-536	26-395	165-2600	7	100	3.9
Reversible											
LZB14	0.11	0.15	250-7000	0.15-4.3	0.11-3.2	0.24-6.9	0.18-5.1	490-13000	5	27	1.1
LZB22	0.16	0.21	5-7000	0.24-10.5	0.18-7.7	0.32-14	0.24-10.3	5-13100	9	36	1.4
LZB33/34	0.25	0.34	7-7000	0.34-300	0.25-221	0.46-412	0.34-304	10-13300	21	42	1.6
LZB42	0.53	0.71	19-8000	0.63-255	0.46-188	0.85-344	0.63-254	33-14200	12	46	1.8
LZB46	0.63	0.84	20-8500	0.71-287	0.52-212	0.96-388	0.71-286	35-15800	12	46	1.8
LZB54	0.82	1.10	47-6800	1.15-161	0.85-119	1.40-207	1.03-153	90-12000	10	60	2.4
LZB66	1.46	1.96	50-7500	1.9-259	1.4-191	2.4-337	1.8-249	90-13500	10	60	2.4
LZB77	2.40	3.22	80-1280	18-274	13.3-202	24-374	18-276	155-2300	7	100	3.9

The LZB14, LZB22 and LZB33 models are available in lubrication-free versions. LZB14, LZB22 and LZB33 can be obtained in a stainless steel version. The standard non-reversible motors have clockwise rotation but can also be obtained with anti-clockwise rotation.

LZL

1.7 – 6.5 KW

The Atlas Copco LZL vane motors are reversible air motors which have been designed to offer outstanding starting and low speed performance. These general purpose motors are powerful, durable and offer long service life.



Model	Torque at 3000 r/min		Power at 3000 r/min		Stall torque		Air consumption at 3000 r/min ^a		Max allowed speed r/min	Weight	
	Nm	ft lb	kW	hp	Nm	ft lb	l/s	cfm		kg	lb
LZL03 M	1.3	0.95	0.41	0.55	3.3	2.4	16	34	3000	2.9	6.4
LZL05 M	2.0	1.5	0.63	0.84	5.8	4.3	25	52	3000	3.9	8.6

^a Note that the air consumption in a typical mixing application normally is less than 50% of the values in the table
LZL 03/05 available with IEC and Nema flange. LZL05 also available in stainless steel.

Model	Max output		Speed at max output r/min	Torque at max output		Min start torque		Max allowed speed r/min	No. of gear ratios
	kW	hp		Nm	ft lb	Nm	ft lb		
Motor only									
LZL03 S	1.7	2.5	7500	2.2	1.6	2.8	2.1	11000	–
LZL05 S	2.1	2.8	6300	3.1	2.3	4.8	3.5	9200	–
LZL15	3.2	4.3	4500	6.8	5.0	10.9	8.0	7200	–
LZL25	5.0	6.7	4000	12.0	8.8	18.0	13.2	6000	–
LZL35	6.5	8.7	3100	20.0	14.7	32.0	23.6	5000	–
With helical gear unit									
LZL05 a	2.0	2.6	45-512	36-403	27-297	56-624	41-460	65-740	6
LZL15 a	3.0	4.1	26-389	74-1071	55-790	116-1668	86-1230	43-639	6
LZL25 a	4.8	6.4	25-370	128-1836	94-1354	192-2754	141-2031	36-531	6
LZL35 a	6.2	8.3	61-464	128-944	94-696	192-1417	141-1045	111-838	4

^a Not ATEX certified.

Air Motor Support

CUSTOMIZED AIR MOTORS TO YOUR INDIVIDUAL SPECIFICATIONS

Whatever the requirement, Atlas Copco is always happy to help customers find solutions to their special needs. For OEMs, for instance, a customized air motor can be the most efficient solution when integrating an air motor into a machine or tool.

Special motors may have unique casings or mounting arrangements. They may utilize non-standard materials or surface coatings and be designed to achieve a specific output.



SELECT YOUR AIR MOTOR IN 30 SECONDS!

Designed for Windows-based PCs, Atlas Copco has developed an Air Motor Selection Guide. It stores data on all of Atlas Copco's air motors.

The designer specifies the required torques and speed of the motor and within seconds the program chooses the optimum motor. It also supplies complete documentation with performance curves and motor data.

Visit <http://www.atlascopco.com/airmotors/> to access the program.



AIR MOTOR DRAWING LIBRARY

CAD-drawings of any of the hundreds of different Atlas Copco air motors are available to designers, just download (in both 2D and 3D formats) via Internet from Atlas Copco Drawing Library. These CAD-drawings can then be quickly and easily inserted into the designer's machine drawing.



WHEN MORE INFORMATION IS REQUIRED

For further information on Atlas Copco vane motors please ask for a copy of our Air Motor catalogue or browse to our Links and Downloads section on www.atlascopco.com to download the catalogue.