

# Ariac motori pneumatici



# Air motors

## The right choice for demanding applications

Since Atlas Copco air motors are unaffected by, and generate no electrical interference, they are ideal for hazardous environments. Lubrication-free and stainless steel versions are available for applications where hygiene is crucial or the environment is corrosive.

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# 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.



## Unique 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.



### Explosion proof certified versions

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

### 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.

# LZB AND LZL VANE AIR MOTORS

## LZB

### 0.1 – 1.2 kW

The LZB vane air motors are compact in design, light in weight and available in a host 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.



Model	Max output		Speed at max output r/min	Torque at max output		Min start torque		Free speed r/min	No. of gear ratios	Motor diameter	
	kW	hp		Nm	ft lb	Nm	ft lb			mm	in
<b>Non-reversible</b>											
LZB14	0.16	0.22	330 - 9100	0.17 - 4.7	0.12 - 3.4	0.26 - 7	0.19 - 5.1	690 - 19500	5	27	1.1
LZB22	0.25	0.34	235 - 9600	0.25 - 9.9	0.18 - 7.3	0.45 - 17	0.33 - 12.5	510 - 21500	7	36	1.4
LZB33	0.39	0.52	10 - 9400	0.40 - 340	0.30 - 251	0.76 - 680	0.56 - 501	21 - 20000	17	42	1.6
LZB42	0.65	0.87	25 - 10500	0.59 - 236	0.44 - 174	1.10 - 430	0.80 - 315	50 - 21000	12	46	1.8
LZB46	0.84	1.13	25 - 10800	0.74 - 300	0.55 - 220	1.20 - 490	0.88 - 360	50 - 21000	12	46	1.8
LZB54	1.20	1.60	65 - 9300	1.20 - 175	0.88 - 129	1.80 - 250	1.30 - 180	125 - 18000	10	60	2.4
<b>Reversible</b>											
LZB14	0.10	0.14	230 - 6500	0.15 - 4.1	0.11 - 3.0	0.19 - 5	0.14 - 3.7	460 - 13000	5	27	1.1
LZB22	0.16	0.22	5 - 6500	0.24 - 10.8	0.18 - 8	0.35 - 13.4	0.26 - 9.9	5 - 13800	9	36	1.4
LZB33	0.24	0.32	7 - 7000	0.34 - 305	0.25 - 225	0.46 - 412	0.34 - 304	5 - 14000	21	42	1.6
LZB42	0.53	0.71	19 - 8100	0.62 - 250	0.46 - 184	0.70 - 270	0.52 - 200	37 - 16000	12	46	1.8
LZB46	0.62	0.83	20 - 8600	0.68 - 275	0.50 - 200	0.75 - 300	0.55 - 220	40 - 17000	12	46	1.8
LZB54	0.82	1.10	45 - 6800	1.20 - 165	0.88 - 122	1.20 - 165	0.88 - 122	90 - 13000	10	60	2.4

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

### 1.3 – 5.2 kW

The 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	Max output		Speed at max output r/min	Torque at max output		Min start torque		Free speed r/min	No. of gear ratios
	kW	hp		Nm	ft lb	Nm	ft lb		
<b>Motor only</b>									
LZL05	1.3	1.7	4200	3.0	2.2	4.8	3.5	9000	–
LZL15	2.3	3.1	3380	6.5	4.8	10.9	8.0	7000	–
LZL25	3.4	4.5	2800	11.6	8.5	18.0	13.3	5800	–
LZL35	5.2	7.0	2500	20.0	14.7	32.0	23.6	5000	–
<b>With helical gear unit</b>									
LZL05	1.3	1.7	17 - 462	26 - 688	19 - 507	42 - 1112	31 - 820	37 - 990	11
LZL15	2.3	3.1	17 - 371	58 - 1259	43 - 929	96 - 2134	71 - 1573	35 - 770	11
LZL25	3.4	4.5	14 - 306	103 - 2244	76 - 1655	159 - 3471	117 - 2560	29 - 635	11
LZL35	5.2	7.0	19 - 496	98 - 2459	72 - 1814	156 - 3935	115 - 2902	39 - 992	9
<b>With worm gear unit</b>									
LZL05	0.9	1.2	67 - 525	19 - 117	15 - 88	–	–	130 - 1030	7
LZL15	1.8	2.4	58 - 422	46 - 279	34 - 206	–	–	115 - 840	7
LZL25	2.8	3.8	44 - 361	82 - 571	60 - 421	–	–	90 - 740	7

For more information on Atlas Copco vane motors see our air motor catalogue, Ordering No. 9833 8998 01.

# 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.

**Ordering No. 9833 9093 00**



## Air motor drawing library

CAD-drawings of any of the hundreds of different Atlas Copco air motors are available to designers on CD or to download from Internet (in both .DXF and .IGS formats) from the Atlas Copco Air Motor Draw Library. These CAD-drawings can then be quickly and easily inserted into the designer's machine drawing.

**Ordering No. 9833 1139 00**



## When more information is required

For further information on Atlas Copco vane motors please ask for a copy of our Air Motor catalogue,

**Ordering No. 9833 8998 01.**





# Hoists and trolleys

## Treat 'em rough, they can stand it!

Atlas Copco air hoists will not overheat, even during intensive operations at maximum load. Outstanding inching characteristics give precise load control. Complementing the hoists, Atlas Copco trolleys are supplied as manual or motor-driven units. Both products are certified for use in hazardous environments.

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# AIR HOISTS

## Explosion proof for safe operation

Our air hoists and trolleys are ideal for lift applications in hazardous environments, where sparks or high outer temperatures could ignite explosive gases, vapour or dust. All are certified Explosion-proof, to stringent European standards, in compliance with the EU ATEX Directive. Available in six sizes, they offer lift capacities from 200 kg to 5 tons. All hoists and trolleys are certified to level Ex II 2G T5 II B D100°C. The SR types are even certified to Ex II 2G T5 IIC D100°C.

- **Precise and stepless speed control** – Through effective stepless control with excellent creep characteristics the LLA air hoists are fast to use over the entire speed range.
- **Heavy duty performance** – These air hoists can continually operate at maximum load with frequent start and stop cycles without risk of damage.
- **Elimination of load sink** – The patented brake mechanism eliminates load sink when starting lifting, and automatically holds the load if the air supply fails.
- **Compact size** – The small dimensions make the LLA hoists easy to install, even in the most restricted space. Also the low weight means the hoists can easily be moved for maintenance or relocation purposes.



Model	Max lifting capacity		Lifting speed at full load		Chain strands	Weight excl chain		Chain weight		Required chain-length metre	Sound level dB(A)	Air consumption		Hose dia		Hose fitting thread	Ordering No.	
	kg	ton	m/min	ft/min		kg	lb	kg/m	lb/ft			l/s	cfm	mm	in			
LLA200 EX	200	0.2	20.2	66.3	1	12.7	28.0	0.9	0.6	Lifting height + 0.5	84	38	81	12.5	1/2	1/2	8451 1540 02*	
LLA250 EX	250	0.25	18.6	61.0	1	12.7	28.0	0.9	0.6	Lifting height + 0.5	84	37	78	12.5	1/2	1/2	8451 1540 10*	
LLA500 EX	500	0.5	12.6	41.3	1	12.7	28.0	0.9	0.6	Lifting height + 0.5	83	38	81	12.5	1/2	1/2	8451 1540 28*	
LLA1000 U EX <sup>a</sup>	1000	1.0	6.3	20.7	2	14.5	32.0	0.9	0.6	2 x lifting height + 0.5	83	38	81	12.5	1/2	1/2	8451 1540 69*	
LLA1000 EX <sup>b</sup>	1000	1.0	6.3	20.7	2	14.5	32.0	0.9	0.6	2 x lifting height + 0.5	83	38	81	12.5	1/2	1/2	8451 1540 36*	
LLA2500 EX <sup>b</sup>	2500	2.5	3.2	10.5	1	42.5	93.7	2.9	1.9	Lifting height + 0.6	79	40	85	20.0	3/4	1/2	8451 1540 44*	
LLA5000 EX <sup>b</sup>	5000	5.0	1.6	5.2	2	65.5	144.4	2.9	1.9	2 x lifting height + 0.9	79	40	85	20.0	3/4	1/2	8451 1540 51*	
<b>Spark-resistant model</b>																		
LLA250-SR	250	0.25	17.0	55.8	1	12.7	28.0	0.9	0.6	Lifting height + 0.5	83	45	95	12.5	1/2	1/2	8451 1510 08	
LLA500-SR	500	0.5	8.5	27.9	2	14.5	32.0	0.9	0.6	2 x lifting height + 0.5	83	45	95	12.5	1/2	1/2	8451 1510 16	
LLA1250-SR	1250	1.25	5.0	16.4	1	42.5	93.7	2.9	1.9	Lifting height + 0.6	79	50	106	20.0	3/4	1/2	8451 1510 24	

<sup>a</sup> Without overload protection device, not to be used within the European Community.

<sup>b</sup> Overload protection device included as standard.

\* Available directly from stock.

**NOTE:** The load chain and pull chain must be ordered separately.

## DIMENSIONS

Model	A		B		C		D	
	mm	in	mm	in	mm	in	mm	in
LLA200 / 250 EX	377	14.8	122	4.8	390	15.4	29	1.1
LLA500 EX / 250-SR	377	14.8	122	4.8	390	15.4	29	1.1
LLA1000 U EX / 500-SR	445	17.5	122	4.8	390	15.4	29	1.1
LLA1000 EX	495	19.4	122	4.8	390	15.4	29	1.1
LLA2500 EX / 1250-SR	575	22.6	212	8.3	546	21.5	50	2.0
LLA5000 EX	785	30.9	249	9.8	546	21.5	60	2.4

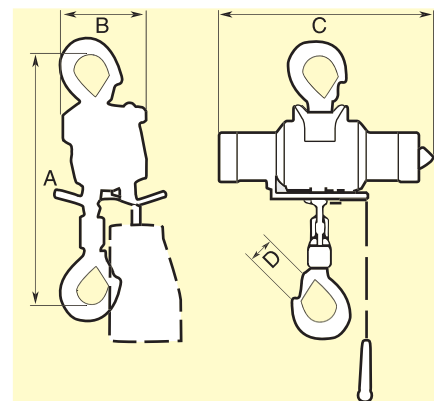
## ACCESSORIES INCLUDED

Wooden handle for pull chain hose nipple  
BSP 1/2"

Suspension hook and load hook

## OPTIONAL ACCESSORIES

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# TROLLEYS

Atlas Copco trolleys are available in 3 sizes, for maximum loads of 1, 2.5 and 5 tonnes. All models can be offered with air motor drive. The 1 tonne trolley includes motor without pedant control. The 2.5 and 5 tonne includes handle for control chain (control chain must be ordered separately). The 1 and 2.5 tonne trolleys are also available in manual versions.

## Simple installation

The trolleys are easy to install. The wheels are designed so that the trolley is equally suitable on both parallel and tapered I-beam section beams. The distance between the wheels is easily adjusted to suit the beam width by turning the suspension yoke.



Model	Max capacity		Max speed with full load		Air consumption		Beam width standard		Beam width optional		Curve radius min		Weight		Ordering No.
	kg	ton	m/min	ft/min	l/s	cfm	mm	in	mm	in	mm	in	kg	lb	
<b>Manual</b>															
TLT1000	1000	1	-	-	-	-	50-165	2 - 6.5	134-265	5.3-10.4	1250	50	9.4	21	8451 1520 06
TLT2500	2500	2.5	-	-	-	-	136-334	5.2-13.1	60-172	2.3- 6.7	2200	88	32.0	70	8451 1520 55
LLT1000-SR	1000	1	-	-	-	-	54-173	2.1- 6.8	140-273	5.5-10.7	1200	47	9.5	21	8451 1500 00
LLT2500-SR	2500	2.5	-	-	-	-	133-332	5.2-13.1	58-170	2.3- 6.7	1400	55	24.5	54	8451 1500 26
<b>Motor-driven</b>															
TLT1000M <sup>a</sup>	1000	1	14.0	45.9	4.0	8.5	50-155	2 - 6.1	134-255	5.3-10.0	1250	50	11.0	24	8451 1520 14
LLT2500M <sup>b</sup>	2500	2.5	17.8	58.4	42.0	89.0	133-306	5.2-12.0	58-144	2.4- 5.7	1400	55	41.0	90	8451 1491 19
LLT5000M <sup>b</sup>	5000	5	16.2	53.1	42.0	89.0	145-300	5.7-11.8	70-148	2.8- 5.8	1800	71	91.0	200	8451 1491 27
LLT1000(M)-SR <sup>a</sup>	1000	1	14.0	45.9	4.5	9.5	54-153	2.1- 6.0	140-253	5.5-10.0	1200	47	11.0	24	8451 1500 42
LLT2500M-SR <sup>b</sup>	2500	2.5	17.8	58.4	42.0	89.0	133-306	5.2-12.0	58-144	2.3- 5.7	1400	55	41.0	90	8451 1500 34

<sup>a</sup> Pendant control must be ordered separately.

<sup>b</sup> Includes handle for control chain. Control chain must be ordered separately.

Sound level: TLT1000M and LLT1000(M) = 85 dB  
LLT2500M and LLT5000M = 81 dB

Performance figures are at 6 bar working pressure.

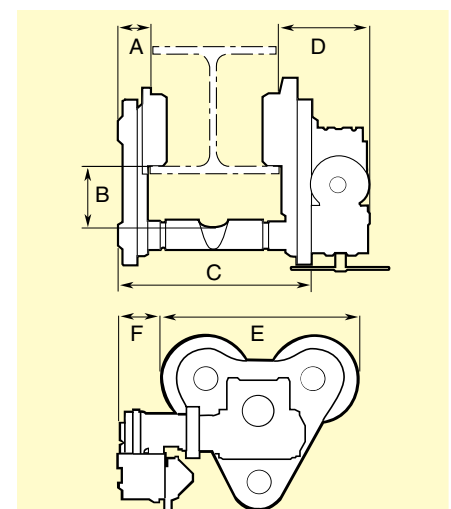
Motor-driven trolleys have 1/2" BSP air connection.

12.5 mm (1/2") hose size recommended for LLT1000M, 20 mm for LLT2500M and 5000M.

**NOTE:** Suspension yoke for optional beam width must be ordered separately. See page 268.

## DIMENSIONS

Model	A		B		C standard		C (opt)		D		E		F	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
<b>Manual</b>														
TLT1000	22.0	0.9	52	2.0	212	8.3	312	12.2	-	-	264	10.4	-	-
TLT2500	37.0	1.5	75	2.9	400	15.7	238	9.4	-	-	370	12.8	-	-
LLT1000-SR	23.5	0.9	55	2.2	212	8.3	312	12.3	-	-	250	9.8	-	-
TLT2500-SR	37.0	1.5	57	2.2	400	15.7	238	9.4	-	-	364	14.3	-	-
<b>Motor-driven</b>														
TLT1000M	22.0	0.9	52	2.0	212	8.3	312	12.2	224	8.8	264	10.4	-	-
LLT1000(M)-SR	23.5	0.9	55	2.2	212	8.3	312	12.3	225	8.9	250	9.8	-	-
LLT2500M/-SR	39.0	1.5	82	3.2	400	15.7	238	9.4	161	6.3	364	12.8	126	5.0
LLT5000M	61.0	2.4	118	4.6	424	16.7	282	11.1	181	7.1	422	16.6	79	3.1



## ACCESSORIES INCLUDED

LLT2500M/5000M

Wooden handle for pull chain

## OPTIONAL ACCESSORIES

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# ACCESSORIES FOR HOISTS AND TROLLEYS

## OPTIONAL ACCESSORIES. Hoists

Designation	Ordering No. LLA200/250/500/1000 EX	Ordering No. LLA2500/5000 EX	Ordering No. LLA250/500-SR	Ordering No. LLA1250-SR
Load chain, zinc plated, per m	4310 2293 00	4310 2296 00		
Load chain, stainless steel, per m			4310 2211 00	4310 2219 00
Control chain, zinc plated, per m	4310 0748 00	4310 0748 00		
Control chain, stainless steel, per m			4310 2221 00	4310 2221 00
2 button pendant control Handle and actuators only	4310 2261 90	4310 2300 90	4310 2261 90	4310 2300 90
Hose set per m	4380 0576 91	4380 0576 91	4380 0576 91	4380 0576 91
4 button pendant control Handle and actuators only	4310 2263 90	4310 2264 90	4310 2263 90	4310 2264 90
Hose set per m	4380 0576 94	4380 0576 93	4380 0576 94	4380 0576 93
Twist rod control Complete (1.1-2.0 m)	4310 0774 91	4310 0774 91	4310 0774 91	4310 0774 91
Extension set (1.1-1.9 m)	4310 0780 91	4310 0780 91	4310 0780 91	4310 0780 91
Articulating link	4310 0876 91	4310 0876 91	4310 0876 91	4310 0876 91
Chain collectors PVC for length of chain				
– 4 m	4310 0742 04		4310 0742 04	
– 7 m	4310 0742 07	4310 2291 07	4310 0742 07	4310 2291 07
–12 m	4310 0742 12		4310 0742 12	
–18 m	4310 0742 18		4310 0742 18	
–25 m	4310 0742 25		4310 0742 25	
Chain collectors Steel for length of chain				
–12 m		4310 2102 80		4310 2102 80
–18 m		4310 2109 80		4310 2109 80
Overload protection device				
LLA200 EX / 250 EX / 250-SR	4310 0812 83		4310 2233 90	
LLA500 EX / 500-SR	4310 0812 84		4310 2233 91	
LLA1000 U EX	4310 0812 85			
LLA1000 EX / 1250-SR / 2500 EX / 5000 EX	incl as standard	incl as standard		incl as standard
Safety hooks, zinc plated	4310 0739 01			
Chain stop, zinc plated	4310 0740 91	4310 2097 91		
Chain stop, stainless steel			4310 2231 90	4310 2232 90

**NOTE:** For items specified per metre, the required length should be indicated by multiplying the Ordering No. by the required length, ie. to order 12 m of chain for an LLA250-SR the order should be **12 x 4310 2211 00**.

When ordering load chain, follow the recommendations on chain given in the technical data for LLA hoists.

## OPTIONAL ACCESSORIES. Trolleys

Designation	Ordering No. TLT1000/LLT1000-SR	Ordering No. LLT2500/-SR	Ordering No. TLT1000M/LLT1000(M)-SR	Ordering No. LLT2500M/M-SR	Ordering No. LLT5000M
Suspension yoke	4380 0640 02	4380 0608 00	4380 0640 02	4380 0608 00	4380 0628 00
Zinc plated control chain per m				4310 0748 00	4310 0748 00
Stainless steel control chain per m				4310 2221 00	
<b>2 button pendant control</b> Handle and actuator only			4310 0835 91	4310 2300 90	4310 2300 90
Hose kit per m			4380 0576 92	4380 0576 91	4380 0576 91

### Air hoist selection program

The fastest way to choose correct hoists and accessories is by using the Windows based computer program available on CD-rom.

**Ordering No. 9833 1087 00**



To order your hoist or trolley with accessories factory fitted, simply list all items required and add the

**Ordering No. 8990 0001 00**, to order.

**EXAMPLE:** To order a 500 kg hoist with motor driven trolley, four button five-metre long pendant control and a load chain for a ten-metre lift, send the following:

Order to be sent	Comments
1 x 8451 1540 28	LLA500 EX Hoist block
11 x 4310 2293 00	Load chain for hoist = Required height of lift + 0.5 m, (see technical data for LLA Hoists)
1 x 8451 1520 14	TLT1000M Motor driven trolley
1 x 4310 2263 90	4 button handle + hoist actuator
5 x 4380 0576 94	Hose set for 4 button pendant control
1 x 8990 0001 00	Instruction to assemble above items