Atlas Copco

Atlas Copco SwedVent fan stations

Technical specification



SwedVent high pressure fans are designed especially for delivering air through ducts with extensive length in mining and tunnelling. Together with Atlas Copco SwedVent ducting, a complete ventilation system is offered.

Technical features

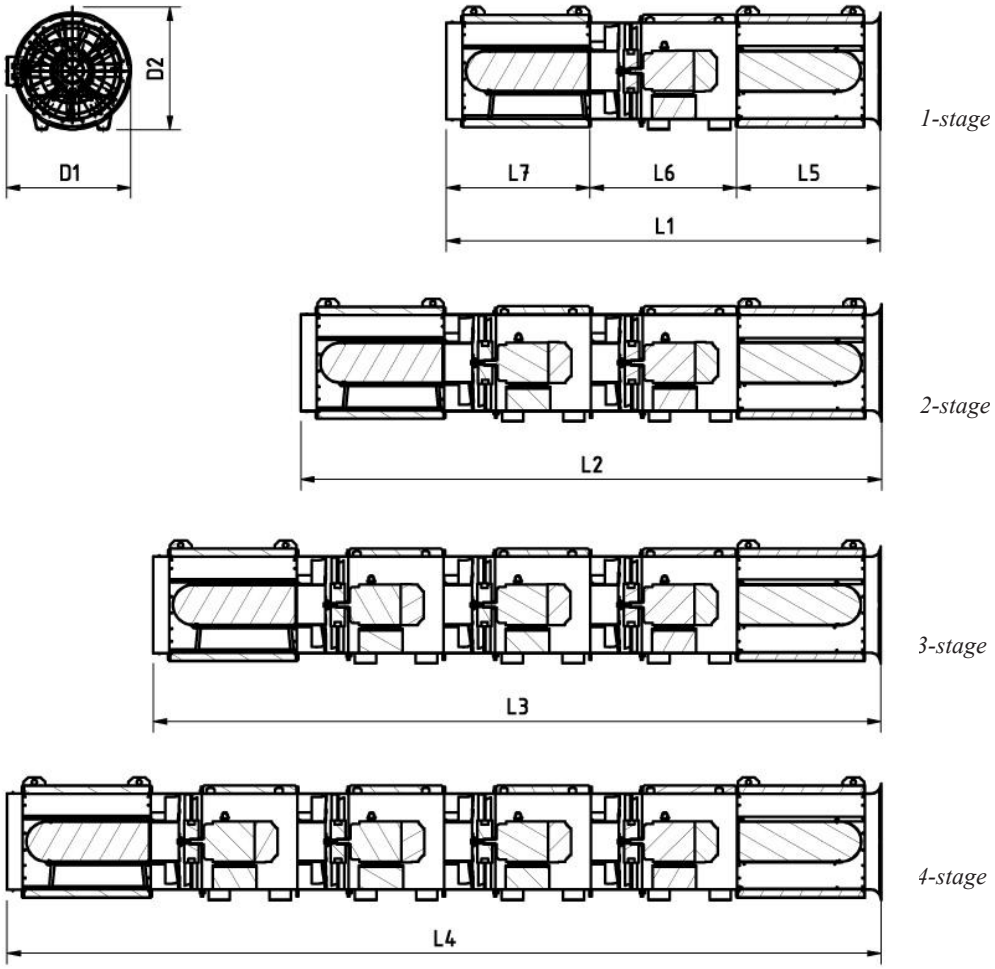
- Available in nine sizes with inner diameters ranging from 630 to 2 240 mm.
- Volume capacity range: 1.5 to 200 m^3/sec
- System pressure of up to 4 200 Pa/stage. At higher system pressures two or more fans are mounted in series.
- 1-5 fan units per fan station.
- Heavy duty design with fully welded flanges.
- Low sound levels.
- Low energy consumption.
- Available with ISO classified high quality motors from 10 to 500 kW.
- Available with different types of starters as well as automatic air flow control system.
- Lubrication of the motor bearings is done from outside the casing.
- Thermistors are mounted directly onto the motor windings for sensing the heat of the winding.
- Impellers are provided with aerodynamically and individually adjustable blades.
- Statically and dynamically balanced impeller.
- Precise hub-casing design (small gap between the casing and the blade tip).
- Aerodynamically designed guide vanes in the hub-casing eliminates swirl and turbulence.
- Anti rust protection designed to withstand acid and salt environments
- Silencers are constructed with mineral wool as sound absorbing material.
- For high efficiency noise reduction, the silencers are provided with a centre core which efficiently reduces the high frequency sound.
- Silencers also provide protection from splinter damage and reduce the risk of personal injury.
- The bell-shaped inlet housing is pressure tuned and has a protective grill of spidernet design
- The duct adapter is designed to connect the flexible ducting to the fan station.
- The mounting frame supports the station and is adapted for the number of fan units in each fan station.

» Options

- Starters
  - Direct starters
  - Dahlander starters (for two-speed motors)
  - Frequency converters.
    Atlas Copco evaluates and recommends which of the three types will be most suitable.
- Support frame for roof mounting on 508 mm (20”) container.
- Vibration monitor.
- Air flow measuring devices.

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Technical data



1-stage

2-stage

3-stage

4-stage

DIMENSIONS (mm/inch)

	L1	L2	L3	L4	L5	L6	L7	D1	D2
AVH63	3 398 / 133.8	4 448 / 175.1	5 498 / 216.5	6 548 / 257.8	1 198 / 47.2	1 050 / 41.3	1 150 / 45.3	871 / 34.3	904 / 35.6
AVH71	3 504 / 138.0	4 704 / 185.2	5 904 / 232.4	7 104 / 279.7	1 154 / 45.4	1 200 / 47.2	1 150 / 45.3	955 / 37.6	980 / 38.6
AVH90	4 084 / 160.8	5 464 / 215.1	6 844 / 269.4	8 224 / 323.8	1 354 / 53.3	1 380 / 54.3	1 350 / 53.1	1 172 / 46.1	1 155 / 45.5
AVH100	4 189 / 164.9	5 574 / 219.4	6 959 / 274.0	8 344 / 328.5	1 404 / 55.2	1 385 / 54.5	1 400 / 55.1	1 275 / 50.2	1 255 / 49.4
AVH125	6 000 / 236.2	7 600 / 299.2	9 200 / 362.2	10 800 / 425.2	2 250 / 88.6	1 600 / 63.0	2 150 / 84.6	1 543 / 60.7	1 578 / 62.1
AVH140	6 000 / 236.2	7 600 / 299.2	9 200 / 362.2	10 800 / 425.2	2 250 / 88.6	1 600 / 63.0	2 150 / 84.6	1 728 / 68.0	1 815 / 71.5
AVH160	7 200 / 283.5	9 000 / 354.3	10 800 / 425.2	12 600 / 496.1	2 750 / 108.3	1 800 / 70.9	2 650 / 104.3	1 941 / 76.4	1 985 / 78.1
AVH180	7 303 / 287.5	9 203 / 362.3	11 103 / 437.1	13 003 / 511.9	2 753 / 108.4	1 900 / 74.8	2 650 / 104.3	2 144 / 84.4	2 229 / 87.8
AVH224	8 470 / 333.5	10 570 / 416.1	12 670 / 498.8	14 770 / 581.5	3 250 / 128.0	2 100 / 82.7	3 120 / 122.8	2 595 / 102.2	2 590 / 102.0

WEIGHT (kg/lbs)

	Fan unit (approximately, depending on motor)	Silencer GS	Silencer GSC	Inlet bell	Duct adapter
AVH63	approx. 360 / 792	93 / 205	114 / 251	14 / 31	15 / 33
AVH71	approx. 500 / 1100	112 / 246	133 / 293	14 / 31	21 / 46
AVH90	approx. 1 000 / 2200	148 / 326	177 / 389	17 / 37	26 / 57
AVH100	approx. 1250 / 2750	187 / 411	215 / 473	20 / 44	28 / 62
AVH125	approx. 1 500 / 3300	315 / 693	370 / 814	43 / 95	46 / 101
AVH140	approx.1 460 / 3212	330 / 726	385 / 847	52 / 114	43 / 95
AVH160	approx. 2 100 / 4620	476 / 1047	540 / 1188	61 / 134	58 / 130
AVH180	approx. 3 550 / 7810	585 / 1287	652 / 1236	70 / 154	55 / 121
AVH224	approx. 5 800 / 12760	1 474 / 3243	approx. 1550 / 3410	77 / 169	69 / 152

Silencer GS = without centre core (inner baffle)
Silencer GSC = with centre core (inner baffle)

Functional data

CAPACITY

	Pressure from fan station (kPa/ Inch H2O)				approx. Flow rate
	1-stage	2-stage	3-stage	4-stage	
AVH63	1,3–2,2 / 5,2-8,8	2,5–4,5 / 10,0-18,1	4,0–6,5 / 16,1-26,1	5,0–7,5 / 20,1-30,1	3–9 m³/s / 6357 - 19071
AVH71	1,3–2,3 / 5,2-9,2	2,6–4,6 / 10,4-18,5	4,1–6,6 / 16,5-26,5	5,2–8,5 / 20,9-34,1	4–13 m³/s / 8476 - 27547
AVH90	3,5–4,3 / 14,0-17,3	7,0–8,6 / 28,1-34,5	10,1–12,5 / 40,5-50,2	12,8–16,0 / 51,4-64,2	8–22 m³/s / 16952 - 46618
AVH100	3,8–4,4 / 15,3-17,7	7,3–8,7 / 29,3-34,9	10,3–12,6 / 41,4-50,6	12,9–16,2 / 51,8-65,0	10–24 m³/s / 21190 - 50856
AVH125	1,5–2,6 / 6,0-10,4	2,9–5,1 / 11,6-20,5	4,5–7,7 / 18,1-30,9	6,0–9,5 / 24,1-38,1	14–42 m³/s / 29666 - 88998
AVH140	1,2–2,2 / 4,8-8,8	2,3–4,3 / 9,2-17,3	3,5–6,4 / 14,1-25,7	4,6–9,5 / 18,5-38,1	20–48 m³/s / 42380 - 101712
AVH160	1,3–2,2 / 5,2-8,8	2,5–4,3 / 10,0-17,3	3,8–6,4 / 15,3-25,7	5,1–8,5 / 20,5-34,1	22–70 m³/s / 46618 - 148330
AVH180	1,5–3,5 / 6,0-14,1	3,0–7,0 / 12,0-28,1	5,0–10,3 / 20,1-41,4		40–120 m³/s / 84760 - 254280
AVH224	1,0–2,0 / 4,0-8,0	1,5–4,0 / 6,0-16,1	2,0–5,7 / 8,0-22,9		–200 m³/s / -423800

POWER

	Inner diameter (mm/inch)	Nominal power, kW
AVH63	630 / 24.8	9–25 / 12-34
AVH71	710 / 28.0	11–37 / 15-50
AVH90	900 / 35.4	37–90 / 50-120
AVH100	1 000 / 39.4	45–110 / 60-148
AVH125	1 250 / 49.2	45–160 / 60-215
AVH140	1 400 / 55.1	45–160 / 60-215
AVH160	1 600 / 63.0	75–315 / 100-422
AVH180	1 800 / 70.9	132–500 / 177-670
AVH224	2 240 / 88.2	132–500 / 177-670

IMPELLERS

	Speed (rpm)	Hub diameter, (mm/inch)	Blades
AVH63	3 000 / 3 600	380 / 15	8 pcs
AVH71			
AVH90		560 / 22	
AVH100			
AVH125	1 500 / 1 780	800 / 31.5	
AVH140			
AVH160			10 pcs
AVH180		1 000 / 39.4	
AVH224	1 000 / 1 200		10/12 pcs

» General

- The casings are treated with anti-rust protection, consisting of a 60 µm acrylic primer and a 100 µm acrylic top layer.
- Bearings with “auto-lubricators system 24” on the outside of the casing.

» Quality control

- Products meet ISO 9001 quality system requirements and are delivered with the CE marking attached.
- Before delivery every fan is tested (capacity, vibration etc.) and is accompanied with a test report. Allowed vibrations <2 mm/s.

Matching the fan with flexible ducting

Titan		Aerolite	
FR-RSX	FRA-RSX	FR-RSX	FRA-RSX

» Flexible ducting

- Manufactured from PVC-coated polyester fabrics in four qualities.
- Available in diameters from 300 to 3 000 mm in unit lengths from 10 m up to 150 m.
- There are three types of coupling; steel clamps, zip-joints and velcro.
- Repair sleeves are available in lengths of 1, 3 and 5 metres.

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