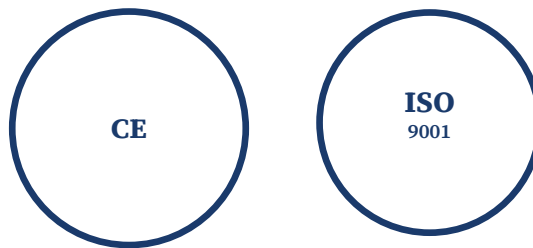




INDUSTRIAL SPECIFICATION SHEET

Two-Stage PMV Screw Compressor Series

High-Performance Industrial Air Compression Systems



AirSpace Machinery Co., Ltd. | 4000m² Engineering Facility | CE & ISO 9001 Certified

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1 Product Overview

Two-stage compression technology for high-efficiency industrial applications. Our two-stage PMV screw compressors use a unique compression cycle that splits the compression ratio across two stages, reducing power consumption by 15–20% compared to single-stage units while achieving higher discharge pressures. Ideal for applications requiring 8–16 bar continuous duty.

By dividing the work between a low-pressure first stage and a high-pressure second stage — with inter-stage cooling between them — the two-stage PMV architecture lowers the discharge temperature of each stage, minimises internal leakage losses, and lets the IE5 permanent-magnet variable-frequency drive hold the motor in its sweet spot across a wide load band. The result is a cooler-running, longer-lasting compressor that delivers more usable air per kilowatt than any single-stage equivalent in the AirSpace lineup.

2 Key Features

✓ Two-stage compression design for maximum efficiency	✓ IE5 Permanent Magnet motor with VFD
✓ 35% energy savings vs fixed-speed single-stage units	✓ 55°C ambient rating — no derating
✓ Low noise operation (62–68 dB(A))	✓ ±0.1 bar pressure stability
✓ 8,000-hour service intervals	✓ Zero Ransom policy — no software locks
✓ Compact footprint with integrated intercooler	✓ Direct-drive, oil-lubricated screw air end

3 Model Specifications

Model	Power (kW/ HP)	FAD (m ³ / min)	FAD (CFM)	Max Pressure (bar)	Noise dB(A)	Dimensions (mm)	Weight (kg)
AS-15TSPM	15 / 20	2.3	81	13	62	1400×900×1300	520
AS-22TSPM	22 / 30	3.5	124	13	63	1500×950×1350	580
AS-37TSPM	37 / 50	5.8	205	13	64	1700×1000×1450	720
AS-45TSPM	45 / 60	7.2	254	13	65	1800×1050×1500	780
AS-55TSPM	55 / 75	9.0	318	13	66	2000×1100×1600	850
AS-75TSPM	75 / 100	12.5	441	13	67	2200×1200×1700	950
AS-90TSPM	90 / 125	15.0	530	13	68	2400×1300×1800	1100
AS-110TSPM	110 / 150	18.5	653	13	68	2600×1400×1900	1250
AS-132TSPM	132 / 180	22.0	777	13	68	2800×1500×2000	1400

FAD measured at standard reference conditions (intake 20°C, 1 bar(a), 0% RH). Noise measured at 1 m under free-field conditions. All models carry a 13 bar maximum working pressure as standard; 8–16 bar continuous-duty configurations available on request.

4 Applications

◆Automotive manufacturing Pneumatic tools, robotic painting, and assembly-line actuation requiring stable, oil-free-optional air.	◆Metal fabrication & laser cutting High-pressure assist gas, plasma cutting, and continuous-duty pneumatic handling of sheet stock.
◆Food & beverage processing Packaging, bottling, conveying, and aeration where ISO 8573-1 Class 0 purity is mission-critical.	◆Pharmaceutical & medical Fermentation, tablet coating, sterile packaging, and instrument-air supply for GMP-regulated lines.
◆Textile manufacturing High-speed loom weft insertion, spinning, texturing, and pneumatic transport of fibre and yarn.	◆General industrial manufacturing Plant air, pneumatic conveying, blow-moulding, and CNC fixture clamping across mixed load profiles.
◆Mining & construction (portable) Rugged, high-pressure portable units for drill operation, shotcrete, and dust-suppression in remote duty.	

5 Energy Efficiency Data

Efficiency Metric	AirSpace Two-Stage PMV Performance
Energy savings vs fixed-speed single-stage units	35% lower specific energy consumption
Improvement vs standard single-stage PMV	15–20% additional efficiency gain
Typical payback period	12–18 months
IE5 motor efficiency	96%+ across the full speed range

The two-stage architecture pairs a low-pressure and high-pressure screw air end with an inter-stage cooler, so each stage operates at a lower compression ratio and discharge temperature. Combined with the IE5 permanent-magnet VFD — which eliminates the fixed-speed “unload tax” — the system delivers more free air delivered per kilowatt-hour and recovers its premium over a single-stage unit within the first year of continuous duty.

6 Standard Equipment

✓ Integrated intercooler	✓ PM motor with encoder
✓ VFD (variable frequency drive)	✓ PLC controller with touchscreen HMI
✓ Inlet filter	✓ Safety valves
✓ Pressure & temperature sensors	✓ Automatic condensate drain
✓ Sound enclosure	✓ Direct-drive, oil-lubricated air end

7 Optional Accessories

Accessory	Description
Refrigerated air dryer	Integrated or standalone dryer delivering pressure-dew-point down to 3°C.
Filtration package	Three-stage train: pre-filter + fine filter + activated carbon for ISO 8573-1 Class 0 air.
Air receiver tank	ASME-certified buffer vessel (200–3000 L) for pressure stability and reduced load cycling.
Energy management system	Multi-compressor sequencing controller that cascades up to 16 units for lowest system kW/m ³ .
Remote monitoring (WiFi / 4G)	Cloud HMI with real-time pressure, temperature, and energy telemetry plus fault push-alerts.
Heat recovery system	Captures up to 80% of compression heat for space or process-water heating, cutting net energy cost.

8 Compliance & Certification

CE Full European export compliance marking across the PMV range.	ISO 9001:2015 Quality management system certification for the Shanghai manufacturing facility.	ISO 8573-1:2010 Class 0 Oil-free integrity certification (oil-free two-stage models).
ASME (optional) U-stamp pressure-vessel certification for receiver tanks, available on request.	BIS (optional) India BIS IS 17093:2026 pre-cleared for direct Indian import.	SABER (optional) Saudi SASO SABER PCoC / SCoC ready for KSA market access.

9 About AirSpace

20 Years of Engineering Excellence

AirSpace Machinery Co., Ltd. is a Shanghai-based manufacturer of high-performance industrial air compression systems. With two decades of engineering heritage, a 4,000m² advanced manufacturing facility, and more than 100 million yuan in annual sales, we deliver the “Fourth Utility” — reliable compressed air — to the world’s most demanding industrial environments.

Every two-stage PMV unit is built to CE and ISO 9001 quality standards and engineered for continuous-duty service across automotive, electronics, pharmaceutical, textile, metal processing, power generation, food processing, medical equipment, construction, and building materials industries worldwide.

20 Years engineering heritage	4,000m² Advanced facility	100M+ Yuan annual sales	9 Two-stage PMV models
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AirSpace Machinery Co., Ltd.

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