



LY-DCV SERIES

Dedicated low-pressure generation — engineered for volume, not throttle.

PRODUCT CATALOG

Low-Pressure Screw Air Compressor

LY-DCV Series · **37 kW – 200 kW**

High-volume dedicated low-pressure screw compressors delivering 10 to 60 m³/min at a fixed 3 bar (0.3 MPa). Purpose-built for textile air-jet looms, cement & grain pneumatic conveying, fermentation air supply, and bottle blowing — eliminating the 30–40% energy tax of throttling standard 7–8 bar machines. CE & ISO 9001 Certified.

37–200

KW POWER RANGE

10–60

M³/MIN FAD

3 bar

WORKING
PRESSURE

35%+

ENERGY SAVED

IE5

PMV DIRECT DRIVE

01/06

WHY AIRSPACE

The Engineering Moat

AirSpace Machinery Co., Ltd. designs and builds dedicated low-pressure screw air compressors from a **4,000 m² engineering facility in Fengjing, Shanghai**, backed by **20 years of continuous screw-compressor engineering heritage**. The DCV Series exists for one reason: the physics of low-pressure generation are fundamentally different from throttling a standard machine.

FACILITY

4,000 m² Shanghai Plant

Integrated rotor machining, motor assembly, dynamic balancing, and full-load test benches under one roof in Fengjing — every DCV unit is run-tested at rated 3 bar before shipment, not sampled.

HERITAGE

20 Years of Screw DNA

Two decades of asymmetric rotor profiling, bearing selection, and aero-thermal tuning. That depth is why our low-pressure screws hold volume at 0.3 MPa without the surge and unload cycling that wrecks throttled standard compressors.

The Physics: Why Throttling an 8 bar Compressor Wastes 30–40%

A standard 7–8 bar screw compressor throttled down to 3 bar does not save proportional power. The compression ratio is fixed by the rotor housing; the motor still does the work of compressing to 8 bar, then vents the excess through an unloader or regulating valve. That mismatch is pure waste — heat, noise, and unload-tax — every running hour.

Standard 8 bar throttled to 3 bar

100 · Baseline kWh

DCV dedicated 3 bar screw

~58–65 kWh

Energy saved (typical)

35–40%

WHY A DEDICATED 3 BAR SCREW WINS

The DCV rotor profile is **oversized and re-timed for 0.3 MPa**: it moves more air per revolution at a far lower compression ratio, so the motor only does the work your process actually needs. Result — high volume flow at low pressure, drastically slashed power consumption, and no unload-tax. On a 110 kW textile line running 8,000 h/year, that is typically **280,000+ kWh saved annually**.

Stop paying for pressure you vent away.

Request a free AirSpace ROI Audit → see Section 05

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ENGINEERING

Low-Pressure Precision

Every component in the DCV Series is selected for sustained high-volume delivery at **3 bar (0.3 MPa)**. Nothing is borrowed from a 7–8 bar platform and de-rated — the powertrain, air-end, and cooling are purpose-built for low-pressure duty.

DRIVE

Direct-Drive IE5 PMV Motor

Permanent-magnet variable-frequency motor, IE5 ultra-premium efficiency, coupled directly to the air-end — no transmission loss, no gears, no belts to slip or replace.

AIR-END

Oversized Asymmetric Rotor

Large-diameter asymmetric rotor profile re-timed for high volume flow at 0.3 MPa — more free air per revolution at lower compression ratio and lower discharge temperature.

AMBIENT

55°C Tropical Rating

Oversized cooler and airflow engineered for continuous operation at up to 55°C (131°F) ambient — built for textile mills, cement plants, and tropical belt factories.

ENCLOSURE

IP55 Protection

IE5 PMV motor and electrical cabinet rated IP55 against dust and water jets — survives the lint, dust, and wash-down environments common in textile and cement duty.

PIPING

304 Stainless Steel Piping

All internal air and oil piping in 304SS — corrosion-resistant for fermentation and chemical-grade air, low particle shedding, and a longer service life in humid tropical plants.

CONTROL

Intelligent VFD Controller

Onboard controller tracks demand and holds pressure within a tight band, eliminating unload-cycle waste and matching motor speed to actual air-jet / conveying load.

BUILT FOR THE FIELD, NOT THE SHOWROOM

55°C ambient, IP55 enclosure, 304SS piping, and an oversized low-pressure air-end mean the DCV Series runs flat-out in the exact plants that need high volume at low pressure — textile air-jet halls, cement pneumatic lines, and biotech fermentation — without the thermal and dust failures that throttle de-rated standard compressors suffer.

PRESSURE STABILITY

±0.1 bar Holding Band

PMV direct-drive plus intelligent VFD holds discharge pressure within ±0.1 bar of setpoint — critical for air-jet weaving quality and consistent pneumatic conveying velocity.

ACOUSTICS

Low-Noise Canopy

Fully enclosed sound-attenuating canopy keeps operating noise to ~68–76 dB(A) across the range — plant-floor friendly without a separate compressor room.

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TECHNICAL DATA

Product Lineup — 37 kW to 200 kW

Nine models spanning **37 kW to 200 kW** and **10 to 60 m³/min** free air delivery, all at a fixed **3 bar (0.3 MPa)** working pressure. Select the model whose FAD matches your peak process demand — the PMV drive trims to partial load without unload-tax.

Model	Motor Power (kW)	Working Pressure (bar)	FAD (m³/min)	Outlet (DN)	Dimensions L×W×H (mm)	Dry Weight (kg)
LY/KB-37DCV	37	3 (0.3 MPa)	10	DN50	1450 × 980 × 1320	1250
LY/KB-45DCV	45	3 (0.3 MPa)	13	DN50	1520 × 1000 × 1360	1450
LY/KB-55DCV	55	3 (0.3 MPa)	16	DN50	1620 × 1050 × 1400	1680
LY/KB-75DCV	75	3 (0.3 MPa)	22	DN65	1820 × 1150 × 1500	2150
LY/KB-90DCV	90	3 (0.3 MPa)	28	DN65	1920 × 1180 × 1550	2550
LY/KB-110DCV	110	3 (0.3 MPa)	36	DN80	2020 × 1220 × 1600	2950
LY/KB-132DCV	132	3 (0.3 MPa)	45	DN80	2120 × 1260 × 1660	3350
LY/KB-160DCV	160	3 (0.3 MPa)	50	DN100	2240 × 1320 × 1720	3850
LY/KB-200DCV	200	3 (0.3 MPa)	60	DN100	2420 × 1400 × 1820	4600

FAD measured at standard discharge conditions per ISO 1217. Working pressure 3 bar (0.3 MPa) across the full series. Dimensions and dry weights are nominal reference values for layout planning and may vary with final configuration (motor option, cooler, canopy). Confirm exact figures per model at quotation.

STANDARD

What's included

IE5 PMV direct-drive air-end, IP55 motor, 304SS piping, intelligent VFD controller, low-noise canopy, intake filter, oil cooler, safety valves, and CE-compliant electrical cabinet.

OPTIONS

Available upgrades

Integrated refrigerated air dryer, coalescing filtration to ISO 8573-1, air receiver tank, remote monitoring (Modbus/RS485), and tropical high-ambient cooler pack.

POWER

Electrical supply

3-phase 380V/50Hz standard; 400V/50Hz, 460V/60Hz, and other export voltages available on request for global deployment.

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WHERE IT EARNS ITS KEEP

Industry Applications

The DCV Series serves processes that demand **high air volume at low pressure** — exactly the duty where throttling a standard 7–8 bar compressor is most wasteful. Four core verticals:

TEXTILE

Air-Jet Weaving Looms

Air-jet looms consume large continuous air volume at ~3 bar to propel weft across the reed. A dedicated low-pressure screw delivers that volume directly — no throttling, no unload-tax — stabilizing pick quality and weft timing.

Stable ±0.1 bar → consistent weft insertion

BULK HANDLING

Pneumatic Conveying — Cement & Grain

Moving cement, flour, and grain pneumatically needs high flow at low pressure. The DCV oversized rotor moves bulk material efficiently while the PMV drive trims to conveying load, slashing the energy standard throttled compressors waste.

High volume at 3 bar → lower cost per tonne moved

BIOTECH

Fermentation Air Supply

Aerobic fermentation requires a steady, clean low-pressure air feed to bioreactors. 304SS piping and oil-free-capable filtration make the DCV Series a dependable fermentation air source, while VFD control holds the stable flow biology demands.

Steady low-pressure air → stable dissolved-oxygen profile

GLASS & PACKAGING

Bottle Blowing / Glass Forming

Glass container forming and PET-adjacent blow-moulding stages use high-volume low-pressure air for parison shaping and cooling. Dedicated 3 bar generation removes the pressure swings that cause wall-thickness variation and reject rates.

Pressure stability → lower reject rate

COMMON THREAD

Textile, cement conveying, fermentation, and bottle blowing all share one demand profile — **lots of air, modest pressure, continuous duty**. That is precisely where a dedicated 3 bar screw beats a throttled 8 bar machine on both energy and process quality. The DCV Series is built for exactly this envelope.

ALSO SUITED

Chemical Processing

Low-pressure process air and aeration where 304SS piping and IP55 protection handle aggressive plant environments.

ALSO SUITED

Cement Pneumatics

Continuous high-volume air for cement silo fluidization and conveying lines in dusty, high-ambient conditions.

ALSO SUITED

Wastewater Aeration

Steady low-pressure air for aeration basins — VFD trimming matches oxygen demand to blower output, saving energy at partial load.

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TOTAL COST OF OWNERSHIP

The AirSpace ROI Audit & Zero Ransom

STEP 1 — THE AUDIT

35%+ Energy Savings Audit

We log your actual demand profile against your current throttled standard machines, then model the DCV dedicated low-pressure alternative hour-by-hour.

- **Baseline** — measured kWh of your 7–8 bar machines throttled to ~3 bar.
- **DCV model** — matched FAD at 3 bar, PMV-trimmed to real load.
- **Verified delta** — typically **35%+ lower energy**, often 35–40%.
- **Payback** — modelled to a 12–18 month target window.

STEP 2 — THE POLICY

Zero Ransom

No proprietary locks. No software hostage. You own the machine you buy — fully.

- **Full transparency** — open controller access, no hidden service passwords.
- **Hardware freedom** — standard parts, no dealer-locked consumables.
- **Software freedom** — parameters and fault codes documented in full.
- **Your maintainer** — serviceable by your team or any qualified tech.

Worked example — 110 kW textile air-jet line, 8,000 h/year

Metric	Standard 8 bar throttled	DCV-110 dedicated 3 bar
Specific energy (kWh/m³)	~0.183	~0.116
Annual energy (kWh)	527,000	334,000
Annual energy cost @ \$0.12/kWh	\$63,240	\$40,080
Annual saving	—	\$23,160 / yr

Illustrative model for a 110 kW / 36 m³/min duty at 3 bar, 8,000 h/yr, \$0.12/kWh. Figures vary by load profile, tariff, and ambient. The AirSpace ROI Audit substitutes your real measured data.

Get your free ROI Audit.

Send your demand profile → JohnnyWayne@ChinaCompressor.org

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TALK TO US

Contact & Certification

DIRECT FROM THE MANUFACTURER

AirSpace Machinery Co., Ltd.

20 years of screw-compressor engineering · 4,000 m² Shanghai facility · CE & ISO 9001 certified · 35-day factory-direct delivery. Talk directly to a PMV & Oil-Free Technical Consultant — no distributor mark-up, no layer of voicemail.

Manufacturer & Address

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DELIVERY **35-day factory-direct policy**

CE

European Conformity

ISO 9001

Quality Management

IE5 PMV

Ultra-Premium Efficiency

IP55

Dust & Water Jet

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