Smart Air
ENERGY SAVING

COMPRESSED AIR SOLUTIONS

Efficient technology for industrial production.



2026

PRODUCT CATALOGUE

Compressors / Air dryers / Precision filters / Compressor parts

Air solutions built around your business

SmartAir Energy Saving

Founded in 2017 by Masood & Sons, SmartAir Energy Saving provides industrial air compressors and dryers. We help businesses select reliable air solutions with a focus on energy efficiency, equipment performance and service support.



Our work centres on understanding your application and planning equipment selection, installation and ongoing care. We bring modern compressor technology to businesses across Pakistan, with efficient operation and long-term value at the centre of the process.

2017
Founded

400+
Customers

Faisalabad
Based in Pakistan

Selection. Installation. Ongoing care.

Discuss the air demand, operating pressure, air quality and production schedule your application requires. Plan the compressor, air treatment, storage and distribution as one system.





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Plan the complete air system

From air generation to point-of-use quality

A reliable air supply depends on more than the compressor. Match compression, storage, drying, filtration and distribution to the application's air demand and operating conditions.



Compression



Air storage



Drying



Filtration

Start with four requirements

Working pressure

Identify the pressure required at each machine and allow for the system's pressure losses.

Airflow

Measure operating demand and short-term peaks rather than selecting only by motor size.

Air quality

Select drying and filtration for moisture, particles and oil limits at the point of use.

Operating pattern

Review shift hours, changing demand, ambient conditions and future production plans.

Standard specifications and customization

The parameters shown apply to standard models. Specifications, dimensions, colour, configuration and other standard features may vary for machines customized to customer requirements. Final specifications are agreed for each customized order.

Air Compressors

PM VSD screw compressors, integrated systems and reciprocating high-pressure boosters for different compressed-air duties.



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Single-Stage Screw Air Compressor

SA series · Permanent magnet variable speed

The SmartAir single-stage series combines high efficiency and energy-saving performance with reliable, low-noise operation. Designed for long service life, it helps reduce energy use and environmental impact while meeting everyday industrial compressed air needs.

- Permanent magnet motor and coaxial direct drive
- Variable frequency control and inverter starting
- Sound insulation and accessible service layout



Motor power	Working pressure	Air delivery	Compression
7.5–400 kW	**0.7–1.2 MPa (7–12 bar)**	**0.8–71.4 m³/min**	**Single-stage, permanent magnet variable frequency**

Features

A high-efficiency permanent magnet motor, coaxial direct drive, dust protection and sound insulation come together in a compact design. Multiple models let you match the compressor to your air demand.

Benefits

Efficient operation helps lower energy use and running costs. Sound insulation reduces noise, while effective heat dissipation supports a reliable compressed air supply for everyday production.

Advantages

SmartAir combines dependable performance with easy installation, operation and maintenance. Its integrated design simplifies upkeep and helps reduce avoidable downtime and production delays.

Technical parameters · page 7

Standard conditions: ambient −5 to +40 °C · Air cooled · 380 V / 50 Hz · Exhaust temperature: ambient +10 °C.

Single-stage technical parameters

SA 7.5VSD–SA 90VSD · Part 1 of 2

Drive: direct | Start method: inverter | hp values are nominal ratings.

Model	Motor power		Working pressure	Air delivery	Noise	Outlet	Dimensions	Weight
	kW	hp	bar	m³/min	dB(A)	G / DN	L × W × H (mm)	kg
SA 7.5VSD	7.5	10	7	1.20	66 ±2	G½	900 × 640 × 850	120
			8	1.10				
			10	0.95				
			12	0.80				
SA 15VSD	15	20	7	2.50	68 ±2	G¾	1000 × 750 × 1023	210
			8	2.30				
			10	2.10				
			12	1.90				
SA 22VSD	22	30	7	3.80	68 ±2	G1	1100 × 850 × 1165	280
			8	3.60				
			10	3.20				
			12	2.70				
SA 30VSD	30	40	7	5.30	68 ±2	G1	1100 × 850 × 1165	310
			8	5.00				
			10	4.50				
			12	4.00				
SA 37VSD	37	50	7	6.80	68 ±2	G1½	1250 × 1000 × 1345	420
			8	6.20				
			10	5.60				
			12	5.00				
SA 45VSD	45	60	7	7.40	72 ±2	G1½	1250 × 1000 × 1345	420
			8	7.00				
			10	6.20				
			12	5.60				
SA 55VSD	55	75	7	10.00	72 ±2	G2	1700 × 1200 × 1630	860
			8	9.60				
			10	8.50				
			12	7.60				
SA 75VSD	75	100	7	13.40	72 ±2	G2	1700 × 1200 × 1630	880
			8	12.60				
			10	11.20				
			12	10.00				
SA 90VSD	90	120	7	16.20	72 ±2	G2	1700 × 1200 × 1630	990
			8	15.00				
			10	13.80				
			12	12.30				

The parameters shown apply to standard models. Specifications, dimensions, colour, configuration and other standard features may vary for machines customized to customer requirements. Final specifications are agreed for each customized order.

Single-stage technical parameters

SA 110VSD–SA 400VSD · Part 2 of 2

Drive: direct | Start method: inverter | hp values are nominal ratings.

Model	Motor power		Working pressure	Air delivery	Noise	Outlet	Dimensions	Weight
	kW	hp	bar	m³/min	dB(A)	G / DN	L × W × H (mm)	kg
SA 110VSD	110	150	7	21.00	72 ±2	G2½	2300 × 1470 × 1840	1440
			8	19.80				
			10	17.40				
			12	14.80				
SA 132VSD	132	175	7	24.50	75 ±2	G2½	2300 × 1470 × 1840	1660
			8	23.20				
			10	20.50				
			12	17.40				
SA 160VSD	160	200	7	28.70	75 ±2	G2½	2500 × 1500 × 1920	2200
			8	27.60				
			10	24.60				
			12	21.50				
SA 185VSD	185	250	7	32.00	75 ±2	G2½	2500 × 1500 × 1920	3200
			8	30.40				
			10	27.40				
			12	24.80				
SA 220VSD	220	300	7	41.60	82 ±2	DN100	3600 × 2100 × 2190	4000
			8	41.50				
			10	30.20				
			12	27.70				
SA 250VSD	250	350	7	44.00	82 ±2	DN100	3600 × 2100 × 2190	4500
			8	43.90				
			10	41.30				
			12	29.80				
SA 315VSD	315	430	7	51.00	74 ±2	DN125	3880 × 2200 × 2360	6000
			8	50.20				
			10	44.50				
			12	39.50				
SA 355VSD	355	480	7	64.00	84 ±2	DN125	3880 × 2200 × 2360	6500
			8	61.00				
			10	56.50				
			12	49.00				
SA 400VSD	400	540	7	71.40	84 ±2	DN150	4200 × 2300 × 2480	7200
			8	68.10				
			10	62.80				
			12	52.20				

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Two-Stage Screw Air Compressor

SAT series · Permanent magnet variable speed

The SmartAir two-stage series combines a fully enclosed, high-efficiency permanent magnet motor with strong overload capacity, a low-speed two-stage air end, and an intelligent control system. Designed for high air delivery, low noise and stable, reliable operation.

- Low-speed, two-stage compression
- Permanent magnet motor with variable frequency control
- Intelligent control and stable industrial air delivery



Motor power	Working pressure	Air delivery	Compression
15–250 kW	**0.7–1.2 MPa (7–12 bar)**	**2.2–55 m³/min**	**Two-stage, permanent magnet variable frequency**

Features

Two-stage screw compression, a permanent magnet motor and variable frequency control provide an energy-saving design for large industrial production systems.

Benefits

Stable operation and reduced noise support everyday production. Carefully selected, durable components help extend service life and maintain a dependable compressed air supply.

Advantages

SmartAir combines energy-efficient operation with durable construction to help reduce running costs. A cost-conscious design balances purchase price, performance and long-term upkeep.

Technical parameters · page 10

Two-stage technical parameters

SAT 15VSD II–SAT 90VSD II · Part 1 of 2

Drive: direct | Start method: inverter | hp values are nominal ratings.

Model	Motor power		Working pressure	Air delivery	Noise	Outlet	Dimensions	Weight
	kW	hp	bar	m³/min	dB(A)	G / DN	L × W × H (mm)	kg
SAT 15VSD II	15	20	7	3.00	68 ±2	G1	1480 × 920 × 1190	520
			8	2.90				
			10	2.40				
			12	2.20				
SAT 22VSD II	22	30	7	4.20	68 ±2	G1	1480 × 920 × 1190	580
			8	4.10				
			10	3.50				
			12	3.20				
SAT 30VSD II	30	40	7	6.50	68 ±2	G1½	1660 × 1085 × 1400	740
			8	6.40				
			10	4.90				
			12	4.20				
SAT 37VSD II	37	50	7	7.20	68 ±2	G1½	1660 × 1085 × 1400	740
			8	7.10				
			10	6.30				
			12	5.40				
SAT 45VSD II	45	60	7	9.80	72 ±2	G2	2100 × 1360 × 1740	1260
			8	9.70				
			10	7.80				
			12	6.50				
SAT 55VSD II	55	75	7	12.80	72 ±2	G2	2100 × 1360 × 1700	1530
			8	12.50				
			10	9.60				
			12	8.60				
SAT 75VSD II	75	100	7	17.50	72 ±2	G2	2100 × 1360 × 1740	1500
			8	16.50				
			10	12.50				
			12	11.20				
SAT 90VSD II	90	120	7	20.80	72 ±2	G2½	2300 × 1470 × 1840	2060
			8	19.80				
			10	16.90				
			12	14.30				

The parameters shown apply to standard models. Specifications, dimensions, colour, configuration and other standard features may vary for machines customized to customer requirements. Final specifications are agreed for each customized order.

Two-stage technical parameters

SAT 110VSD II–SAT 250VSD II · Part 2 of 2

Drive: direct | Start method: inverter | hp values are nominal ratings.

Model	Motor power		Working pressure	Air delivery	Noise	Outlet	Dimensions	Weight
	kW	hp	bar	m³/min	dB(A)	G / DN	L × W × H (mm)	kg
SAT 110VSD II	110	150	7	24.50	72 ±2	G2½	2300 × 1470 × 1840	2100
			8	23.50				
			10	19.70				
			12	17.60				
SAT 132VSD II	132	175	7	30.00	72 ±2	G2½	2300 × 1470 × 1840	2120
			8	28.00				
			10	23.50				
			12	19.80				
SAT 160VSD II	160	200	7	34.50	75 ±2	DN80	2700 × 1650 × 2150	5350
			8	33.60				
			10	30.00				
			12	23.80				
SAT 185VSD II	185	250	7	41.00	75 ±2	DN100	3600 × 2100 × 2190	5450
			8	38.40				
			10	32.50				
			12	28.60				
SAT 200VSD II	200	270	7	44.60	75 ±2	DN100	3600 × 2100 × 2190	5600
			8	43.00				
			10	38.50				
			12	32.80				
SAT 220VSD II	220	300	7	48.60	82 ±2	DN100	3600 × 2100 × 2190	5850
			8	47.00				
			10	41.00				
			12	38.20				
SAT 250VSD II	250	350	7	55.00	82 ±2	DN125	3880 × 2200 × 2360	6600
			8	54.00				
			10	46.00				
			12	40.00				

The parameters shown apply to standard models. Specifications, dimensions, colour, configuration and other standard features may vary for machines customized to customer requirements. Final specifications are agreed for each customized order.

4 IN 1 Integrated Screw Series

SAI series · 4-in-1 integrated VSD system

SmartAir's SAI series combines compression, air storage, drying and filtration in a compact 4-in-1 unit for compatible laser-cutting systems. Integrated controls and a modular dryer help you monitor the air supply and remove moisture, with a space-saving design for straightforward installation.

- Compression, air storage, drying and filtration
- Integrated controls and pressure monitoring
- Compact layout for compatible laser-cutting systems



Motor power	Working pressure	Air delivery	Compression
7.5–37 kW	**0.8–1.6 MPa (8–16 bar), depending on model**	**0.6–6.2 m³/min**	**Integrated VSD screw system**

Features

An integrated display brings operating controls and internal/external pressure readings together. Air quality depends on the selected treatment equipment and must be verified for the application. A modular dryer removes moisture, while a low-speed air end and heavy-duty bearings support stable air delivery.

Benefits

Moisture removal helps maintain the air supply your cutting process needs. Low vibration and controlled noise support everyday operation; the table below lists the noise rating for each model.

Advantages

SmartAir's compact 4-in-1 design saves floor space and simplifies installation by bringing the air system together in one unit. Easy operation and maintenance help reduce avoidable production interruptions.

Technical parameters · page 13

Integrated screw technical parameters

SAI series · Inverter start · Direct drive

Model	Motor power		Working pressure	Air delivery	Noise	Outlet	Dimensions	Weight	Air tank
	kW	hp	bar	m³/min	dB(A)	G	L × W × H (mm)	kg	L
SAI 7.5VSD	7.5	10	8	1.20	66 ±2	G¾	1600 × 640 × 1405	300	280
			10	0.95					
			12	0.80					
			16	0.60					
SAI 15VSD	15	20	8	2.30	68 ±2	G¾	1850 × 750 × 1640	420	280
			10	1.70					
			12	1.60					
			16	1.10					
SAI 22VSD	22	30	8	3.40	68 ±2	G1	1850 × 850 × 1780	500	280
			10	2.90					
			12	2.80					
			16	2.10					
SAI 37VSD	37	50	8	6.20	72 ±2	G1½	2050 × 1000 × 2030	700	400
			10	5.60					
			12	5.00					
			16	3.00					

Four functions in one package



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Low-Pressure Screw Air Compressor

SAL series · Single-stage and two-stage

SmartAir's SAL series low-pressure screw compressor combines an air end optimized for low-pressure operation with direct drive and variable speed control. Large rotors, large bearings and low-speed operation help reduce noise and vibration while supporting efficient, stable air delivery.

- Air end optimized for low-pressure conditions
- Variable speed direct drive
- Large rotors, large bearings and low-speed operation



Motor power	Working pressure	Air delivery	Compression
22–250 kW	**0.3–0.5 MPa (3–5 bar), depending on stage**	**4.60–68.00 m³/min**	**Single-stage or two-stage screw, variable speed**

Features

A low-pressure air end with an optimized screw profile, precision-ground rotors, large bearings and variable speed direct drive. Single-stage and two-stage configurations cover different pressure needs.

Benefits

Low-speed operation helps reduce noise, vibration and component wear. Matching compression to the required pressure helps avoid wasted energy and lower running costs.

Advantages

SmartAir's air-cooled design supports heat dissipation during operation. Robust rotor and bearing construction supports stability and service life, while two-stage compression helps meet low-pressure production needs.

Technical parameters · page 15

Low-pressure technical parameters

Single-stage · SAL 22VSD–SAL 220VSD

Direct drive with variable speed control. Air delivery is the maximum listed capacity at each working pressure.

Model	Motor power		Pressure	Air delivery	Noise	Outlet	Weight	Dimensions L × W × H (mm)
	kW	hp	bar	m³/min	dB(A)	DN	kg	
SAL 22VSD	22	30	3	6.50	62 ±3	DN50	1330	1415 × 1030 × 1330
			4	5.40				
			5	4.60				
SAL 30VSD	30	40	3	9.40	65 ±3	DN65	1420	1900 × 1200 × 1650
			4	7.60				
			5	6.40				
SAL 37VSD	37	50	3	11.30	65 ±3	DN65	1420	1900 × 1200 × 1650
			4	9.30				
			5	8.20				
SAL 45VSD	45	60	3	12.70	68 ±3	DN80	1900	2160 × 1450 × 1750
			4	11.30				
			5	9.40				
SAL 55VSD	55	75	3	15.70	68 ±3	DN80	1900	2160 × 1450 × 1750
			4	13.20				
			5	11.60				
SAL 75VSD	75	100	3	21.80	68 ±3	DN125	2700	2900 × 1830 × 2000
			4	19.00				
			5	15.10				
SAL 90VSD	90	120	3	24.70	73 ±3	DN125	3800	2900 × 1830 × 2000
			4	21.40				
			5	19.10				
SAL 110VSD	110	150	3	30.20	74 ±3	DN125	4000	2900 × 1830 × 2000
			4	24.50				
			5	21.50				
SAL 132VSD	132	175	3	36.40	76 ±3	DN125	4800	2900 × 1830 × 2000
			4	30.10				
			5	26.00				
SAL 160VSD	160	215	3	41.50	76 ±3	DN150	4800	3500 × 2030 × 2230
			4	36.40				
			5	32.30				
SAL 185VSD	185	250	3	44.00	76 ±3	DN200	7000	4250 × 2280 × 2550
			4	41.00				
			5	36.40				
SAL 200VSD	200	270	3	46.60	76 ±3	DN200	8000	4250 × 2280 × 2550
			4	43.80				
			5	39.70				
SAL 220VSD	220	294	3	59.80	77 ±3	DN200	8000	4250 × 2280 × 2550
			4	49.70				
			5	41.10				

The parameters shown apply to standard models. Specifications, dimensions, colour, configuration and other standard features may vary for machines customized to customer requirements. Final specifications are agreed for each customized order.

Low-pressure technical parameters

Two-stage · SAL 22VSD II–SAL 250VSD II

Direct drive with variable speed control. Air delivery is the maximum listed capacity at each working pressure.

Model	Motor power		Pressure	Air delivery	Noise	Outlet	Weight	Dimensions L × W × H (mm)
	kW	hp	bar	m³/min	dB(A)	DN	kg	
SAL 22VSD II	22	30	4	6.10	65 ±3	DN40	1100	1610 × 1050 × 1380
			5	5.70				
SAL 30VSD II	30	40	4	8.30	65 ±3	DN50	1200	2020 × 1290 × 1600
			5	7.60				
SAL 37VSD II	37	50	4	10.00	65 ±3	DN50	2000	2020 × 1290 × 1600
			5	9.20				
SAL 45VSD II	45	60	4	13.00	65 ±3	DN50	2100	2285 × 1500 × 1710
			5	11.90				
SAL 55VSD II	55	75	4	16.40	65 ±3	DN65	3500	2285 × 1500 × 1710
			5	15.00				
SAL 75VSD II	75	100	4	20.80	68 ±3	DN65	3750	2285 × 1500 × 1710
			5	19.20				
SAL 90VSD II	90	120	4	25.90	70 ±3	DN80	3800	2800 × 1700 × 1950
			5	23.60				
SAL 110VSD II	110	150	4	32.10	72 ±3	DN80	4200	2820 × 1730 × 2100
			5	29.40				
SAL 132VSD II	132	175	4	38.50	74 ±3	DN125	5000	2820 × 1730 × 2100
			5	34.90				
SAL 160VSD II	160	215	4	44.80	76 ±3	DN125	5900	3450 × 2000 × 2050
			5	40.90				
SAL 185VSD II	185	250	4	52.30	76 ±3	DN150	5900	3450 × 2000 × 2050
			5	47.60				
SAL 200VSD II	200	270	4	57.40	80 ±3	DN150	7800	3800 × 2250 × 2350
			5	51.80				
SAL 220VSD II	220	294	4	62.00	80 ±3	DN150	8000	3800 × 2250 × 2350
			5	57.10				
SAL 250VSD II	250	335	4	68.00	80 ±3	DN150	8100	3800 × 2250 × 2350
			5	64.50				

The parameters shown apply to standard models. Specifications, dimensions, colour, configuration and other standard features may vary for machines customized to customer requirements. Final specifications are agreed for each customized order.

High Pressure Booster Air Compressors

SA-B / SA-BC / SA-BOF · Model selection



SA-B020

High Pressure Booster Air Compressor

Inlet pressure	**1.0 MPa**
Discharge pressure	**2.5–4.0 MPa**
Flow	**2.0 m³/min**
Power	**11 kW**



SA-B040

High Pressure Booster Air Compressor

Inlet pressure	**1.0 MPa**
Discharge pressure	**2.5–4.0 MPa**
Flow	**4.0 m³/min**
Power	**15 kW**



SA-B060

High Pressure Booster Air Compressor

Inlet pressure	**1.0 MPa**
Discharge pressure	**2.5–4.0 MPa**
Flow	**6.0 m³/min**
Power	**22 kW**



SA-B080

High Pressure Booster Air Compressor

Inlet pressure	**1.0 MPa**
Discharge pressure	**2.5–4.0 MPa**
Flow	**8.0 m³/min**
Power	**30 kW**

Boosters require a precompressed air supply. Ranges cover different variants; confirm the matched flow, pressure and motor rating for the selected configuration.

The parameters shown apply to standard models. Specifications, dimensions, colour, configuration and other standard features may vary for machines customized to customer requirements. Final specifications are agreed for each customized order.

High Pressure Booster Air Compressors

SA-B / SA-BC / SA-BOF · Model selection



SA-BC100-240

High Pressure Combi Booster Air Compressor

Inlet pressure	**1.0 MPa**
Discharge pressure	**2.5–4.0 MPa**
Flow	**10.0–24.0 m³/min**
Power	**37–88 kW**



SA-BOF040

Oil-Free Booster Air Compressor

Inlet pressure	**1.0 MPa**
Discharge pressure	**2.5–3.5 MPa**
Flow	**4.0 m³/min**
Power	**15 kW**



SA-BOF060-120

Oil-Free Booster Air Compressor

Inlet pressure	**1.0 MPa**
Discharge pressure	**2.5–4.0 MPa**
Flow	**6.0–12.0 m³/min**
Power	**30–55 kW**



SA-BOF140-240

Oil-Free Booster Air Compressor

Inlet pressure	**1.0 MPa**
Discharge pressure	**2.5–4.0 MPa**
Flow	**14.0–24.0 m³/min**
Power	**75–110 kW**

Boosters require a precompressed air supply. Ranges cover different variants; confirm the matched flow, pressure and motor rating for the selected configuration.

The parameters shown apply to standard models. Specifications, dimensions, colour, configuration and other standard features may vary for machines customized to customer requirements. Final specifications are agreed for each customized order.

Air Dryers and Treatment

Moisture removal for everyday production, elevated inlet temperatures and higher-pressure air systems.



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Refrigerated Air Dryer

Moisture control for industrial compressed air

SmartAir refrigerated air dryers remove moisture from compressed air to help protect piping, tools and production equipment from corrosion. An integrated heat exchanger and separator deliver dry air, while heat recovery helps reduce the cooling load and energy use.

- Integrated precooling, evaporation and separation
- Heat recovery helps reduce the cooling load
- Air-cooled design with condensate drainage



Listed model capacities	Working pressure	Intake temperature	Pressure dew point
1.2–65 m³/min	**Up to 1.6 MPa (16 barg)**	**Up to 60 °C**	**2–10 °C at rated conditions**

Features

An integrated precooler, evaporator and air-liquid separator use a plate-fin aluminium heat exchanger. An anti-corrosion condenser coating, overload protection and protective shutdown functions support dependable operation.

Benefits

Efficient moisture removal helps reduce corrosion in air networks and tools, protecting equipment and supporting consistent production quality. Precooling recovers cooling capacity to reduce the load on the evaporator.

Advantages

SmartAir combines corrosion-resistant construction with energy-conscious drying to help lower maintenance needs and running costs. A choice of capacities helps match the dryer to your compressor and operating conditions.

Technical parameters · page 21

Refrigerated dryer technical parameters

SA standard model selection

Applicable compressor power identifies the compressor served by the dryer; it is not the dryer's electrical input power.

Model	Applicable compressor (kW)	Capacity (m³/min)	Connection	Power supply	Refrigerant
SA-1.2	7.5	1.2	G¾	220 V / 1Ph / 50 Hz	R134a
SA-1.6	11	1.6	G¾	220 V / 1Ph / 50 Hz	R134a
SA-2.6	15	2.6	G1	220 V / 1Ph / 50 Hz	R410A
SA-3.8	22	3.8	G1½	220 V / 1Ph / 50 Hz	R410A
SA-6.5	37	6.5	G1½	220 V / 1Ph / 50 Hz	R410A
SA-8.5	55	8.5	G2	220 V / 1Ph / 50 Hz	R410A
SA-11.5	75	11.5	G2	380 V / 3Ph / 50 Hz	R410A
SA-13.5	90	13.5	G2	380 V / 3Ph / 50 Hz	R410A
SA-18.5	110	18.5	G2½	380 V / 3Ph / 50 Hz	R410A
SA-20.5	132	20.5	G3	380 V / 3Ph / 50 Hz	R410A
SA-25	150	25	G3	380 V / 3Ph / 50 Hz	R410A
SA-35	185	35	G4	380 V / 3Ph / 50 Hz	R410A
SA-45	220	45	DN100	380 V / 3Ph / 50 Hz	R410A
SA-55	280	55	DN125	380 V / 3Ph / 50 Hz	R410A
SA-65	355	65	DN125	380 V / 3Ph / 50 Hz	R410A

Operating conditions

Operating condition	Standard specification
Maximum working pressure	1.6 MPa (16 barg)
Maximum intake air temperature	60 °C
Ambient temperature	5–50 °C
Cooling method	Air cooled
Pressure dew point	2–10 °C at rated conditions
Rated working pressure	0.7 MPa (7 bar)
Rated intake air temperature	38 °C
Rated ambient temperature	38 °C

The parameters shown apply to standard models. Specifications, dimensions, colour, configuration and other standard features may vary for machines customized to customer requirements. Final specifications are agreed for each customized order.

High Temperature Refrigerated Air Dryer

For elevated inlet-air temperatures

SmartAir high-temperature refrigerated air dryers cool hot incoming compressed air, separate condensed moisture and supply drier air to downstream equipment. A compact heat exchanger and controlled refrigeration suit systems with elevated inlet temperatures.

- Integrated heat exchanger and counterflow precooler
- Demister separation and automatic temperature control
- R134a or R407C options, depending on model



Airflow capacity	Working pressure	Inlet temperature	Cooling type
1–15 m³/min	**Up to 1.6 MPa (16 barg)**	**Up to 80 °C**	**Air-cooled**

Features

An integrated heat exchanger combines precooling and refrigeration in a compact unit. A counterflow precooler recovers cooling capacity, while fewer welded joints help reduce potential leak points.

Benefits

Moisture separation helps reduce corrosion in compressed-air piping and pneumatic tools, supporting consistent production and reducing avoidable maintenance.

Advantages

A demister separator, sealed refrigeration compressor and automatic temperature control support steady drying. R134a or R407C refrigerant options are listed for the range.

Discuss your application and operating conditions with SmartAir.

Rated: 0.7 MPa / 60 °C inlet / 38 °C ambient. Ambient range: 5–50 °C. Standard supply: 220 V / 1Ph / 50–60 Hz. Confirm capacity at actual conditions.

High Pressure Refrigerated Air Dryer

For higher-pressure compressed-air networks

SmartAir high-pressure refrigerated air dryers remove moisture from compressed air networks operating at higher pressures. The refrigeration system cools the air so water can condense and be drained before the air reaches downstream equipment.

- Flow-optimized stainless-steel piping
- Large heat-exchange surfaces and managed airflow
- High-pressure condensate drainage



Airflow capacity	Working pressure	Inlet temperature	Cooling type
1.2–80 m³/min	**Up to 4.5 MPa (45 barg)**	**Up to 60 °C**	**Air-cooled**

Features

A refrigeration compressor, large heat-exchange surfaces and managed cooling airflow provide the cooling capacity needed for higher-pressure air treatment.

Benefits

Flow-optimised stainless-steel piping helps limit pressure drop through the dryer, reducing unnecessary load on the compressed-air system.

Advantages

High-pressure condensate drainage removes collected water. The drain arrangement depends on the selected pressure version; confirm the configuration, inlet conditions and power supply with SmartAir.

Discuss your application and operating conditions with SmartAir.

Rated: 4.0 MPa / 38 °C inlet / 38 °C ambient. Ambient range: 5–50 °C. Confirm model-specific electrical supply and capacity at actual conditions.

Heatless Adsorption Air Dryer

Twin-tower activated-alumina drying

Twin-tower desiccant drying uses activated alumina and pressure-swing regeneration to remove moisture from compressed air without a heater.

- Pressure-swing regeneration without a heater
- Stainless-steel check valves and an air diffuser
- IP54 electrical enclosure and protected pneumatic controls



Airflow capacity	Working pressure	Pressure dew point	Regeneration air
1.5–60 Nm³/min	**0.6–1.0 MPa (6–10 bar)**	**−40 to −20 °C**	**Confirm for selected model**

Adsorption performance

Large towers provide contact time. High-performance activated alumina supports stable drying and long service life.

Flow components

A high-capacity muffler, stainless steel check valves and an air diffuser support controlled airflow.

Protected controls

An IP54 electrical enclosure houses the controls. Pneumatic valves use oil-and-dust filtration for their control air.

Technical parameters · page 25

Heatless dryer technical parameters

SA series · Nominal airflow (Nm³/min)

Model	Capacity (Nm³/min)	Voltage (V)	Power (kW)	Connection	Dimensions L × W × H (mm)
SA-010	1.5	220	0.2	G1"	750 × 435 × 1470
SA-020	2.6	220	0.2	G1"	750 × 460 × 1470
SA-030	3.8	220	0.2	G1"	770 × 460 × 1670
SA-065	7.2	220	0.2	G1½"	890 × 550 × 1906
SA-100	11	220	0.2	G2"	1170 × 680 × 2028
SA-135	14	220	0.2	G2"	1170 × 680 × 2028
SA-185	18	220	0.2	DN65	1340 × 800 × 2270
SA-235	22	220	0.2	DN65	1340 × 800 × 2270
SA-265	28	220	0.2	DN80	1450 × 900 × 2480
SA-320	32	220	0.2	DN80	1450 × 900 × 2480
SA-365	38	220	0.2	DN100	1700 × 960 × 2620
SA-450	45	220	0.2	DN100	1700 × 960 × 2620
SA-550	52	220	0.2	DN125	1980 × 1200 × 2814
SA-600	60	220	0.2	DN125	1980 × 1200 × 2814

Operating conditions

Operating condition	Standard specification
Working pressure	0.6–1.0 MPa
Pressure dew point	−40 to −20 °C
Regeneration air	Model-dependent; confirm purge air and net flow
Maximum intake oil	0.1 mg/m³
Cycle / intake temperature	10–20 min / 0–45 °C
Power supply / enclosure	220 V / 50 Hz / IP54
Desiccant	Activated alumina

The parameters shown apply to standard models. Specifications, dimensions, colour, configuration and other standard features may vary for machines customized to customer requirements. Final specifications are agreed for each customized order.

Precision Filter

Filter housings, replaceable elements and compressor components for dependable air-system operation.



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VR/VRG Precision Filter

Compressed-air treatment

SmartAir VR/VRG precision filters help remove particles, condensed water and oil contamination from compressed air. The VRG001–013 and VR015–020 housing families combine corrosion-resistant construction, replaceable filter media and automatic condensate drainage, with capacities from 1 to 20 Nm³/min.



- Flow range: 1–20 Nm³/min across both families
- Working pressure: 0.1–1.0 MPa
- Operating temperature: 1.5–80 °C

VRG001–013: monitoring and selection

The VRG family covers 1, 2, 4, 7, 10 and 13 Nm³/min. Optional differential-pressure indication helps identify when an element needs replacement, while a level gauge allows condensate monitoring. Indirect automatic drainage provides reliable condensate discharge.

VR015–020: compact line filtration

The VR015–020 family covers 1–20 Nm³/min, with G½ to G2½ connections. Replaceable elements and automatic drainage support maintenance without replacing the complete housing. Match the housing to its compatible element using the selection table.

Housing and media

Aluminium-alloy and carbon-steel construction, combined with internal and external surface treatments, helps resist corrosion. High-efficiency separation and coalescing media are available in different grades for dust, water, oil and activated-carbon filtration.

Model selection and technical data · page 28

VR/VRG model selection

VRG001–013 and VR015–020 housings

VRG001–013 housing selection

Model	Flow (Nm³/min)	Connection	Width (mm)	Height (mm)	Element reference
VRG-001	1	G1	95	285	16
VRG-002	2	G1	95	285	20
VRG-004	4	G1½	145	355	24
VRG-007	7	G1½	145	480	32
VRG-010	10	G2	150	620	36
VRG-013	13	G2	150	620	36

VR015–020 housing selection

Model	Flow (Nm³/min)	Connection	Element code
VR-015-15	1	G½	015
VR-015-20	1	G¾	015
VR-015-25	1	G1	015
VR-024-40	2.4	G1½	024
VR-035-40	4	G1½	035
VR-060-40	7	G1½	060
VR-090-62	10	G2½	090
VR-120-62	13	G2½	120
VR-150-62	15	G2½	120
VR-020-62	20	G2½	120

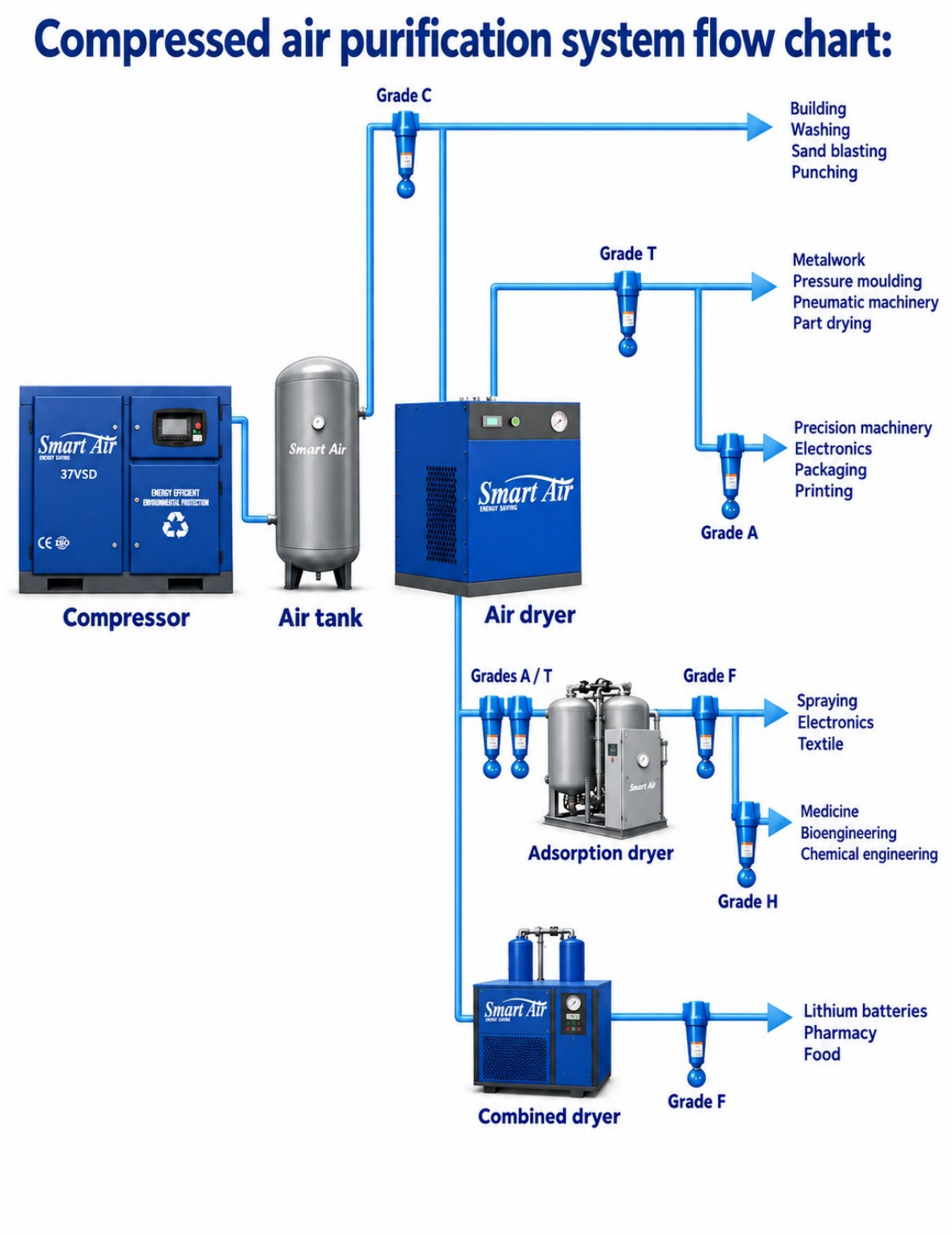
VRG / VR015 filtration options

VRG grade	VR015 grade	Function	Particle size (μm)	Residual oil (ppm)
C	Q	Main-line dust removal	1	1
T	P	Main-line water removal	3	3
A	S	High-efficiency oil removal	0.01	0.011
H	H	Activated-carbon fine-oil-mist filtration	0.01	0.003

Grade definitions for these housing families differ from VRCJ and VRBH. Match the element to the housing and required air quality.

Compressed-air purification system

System flow and application examples



Select the compressor, dryer and filtration grades around the air-quality requirements of the application.

VRCJ Precision Filter

Compressed-air treatment

SmartAir VRCJ precision filters provide staged removal of oil, water and dust for laser cutting, bottle blowing, high-quality spraying, food processing, electronics and petrochemicals. Threaded and flanged housings, replaceable elements and seven filtration grades support different airflow and air-quality requirements.



- Threaded model flow: 0.7–40.5 m³/min
- Flanged model flow: 20.8–40.5 m³/min
- Filtration grades: C, T, A, X, H, F and FF

Applications

VRCJ filtration supports laser cutting, bottle blowing, premium spraying, food processing, electronics and petrochemical production. Select the complete air-treatment arrangement to meet the cleanliness requirements of the application.

Threaded and flanged options

Threaded models range from VRCJ-005* to VRCJX-400*, with flows from 0.7 to 40.5 m³/min. Flanged FCJX models cover 20.8–40.5 m³/min with DN65, DN80 and DN100 connections.

Replacement elements and filtration grades

Match each housing with its FJ or FJX replacement element. The * suffix identifies the filtration grade. C and T provide coarser filtration; A and X provide finer oil-removal grades; H uses activated carbon; F and FF are dust-removal grades. Use the grade table to select the required particle and residual-oil performance.

Model selection and technical data · page 31

VRCJ technical parameters

Threaded and flanged model selection

VRCJ threaded filter selection

Model	Flow (m³/min)	Connection	Element	h (mm)	W (mm)	A (mm)	B (mm)
VRCJ-005*	0.7	½″	FJ-005*	74	165	22	42
VRCJ-010*	1.2	½″ / ¾″ / 1″	FJ-010*	95	240	32	51
VRCJ-020*	2.3	½″ / ¾″ / 1″	FJ-020*	95	280	32	51
VRCJ-030*	3.5	1½″	FJ-030*	125	302	38	65
VRCJ-050*	5.7	1½″	FJ-050*	125	421	38	65
VRCJ-070*	7.8	1½″	FJ-070*	125	421	38	65
VRCJ-110*	11.6	2″	FJ-110*	170	550	46	82
VRCJ-150*	15.5	2″	FJ-150*	170	550	46	82
VRCJX-200*	20.8	2½″	FJX-200*	205	640	60	100
VRCJX-250*	25.3	2½″	FJX-250*	205	640	60	100
VRCJX-300*	30.8	3″	FJX-300*	205	792	60	100
VRCJX-400*	40.5	4″	FJX-400*	208	840	85	110

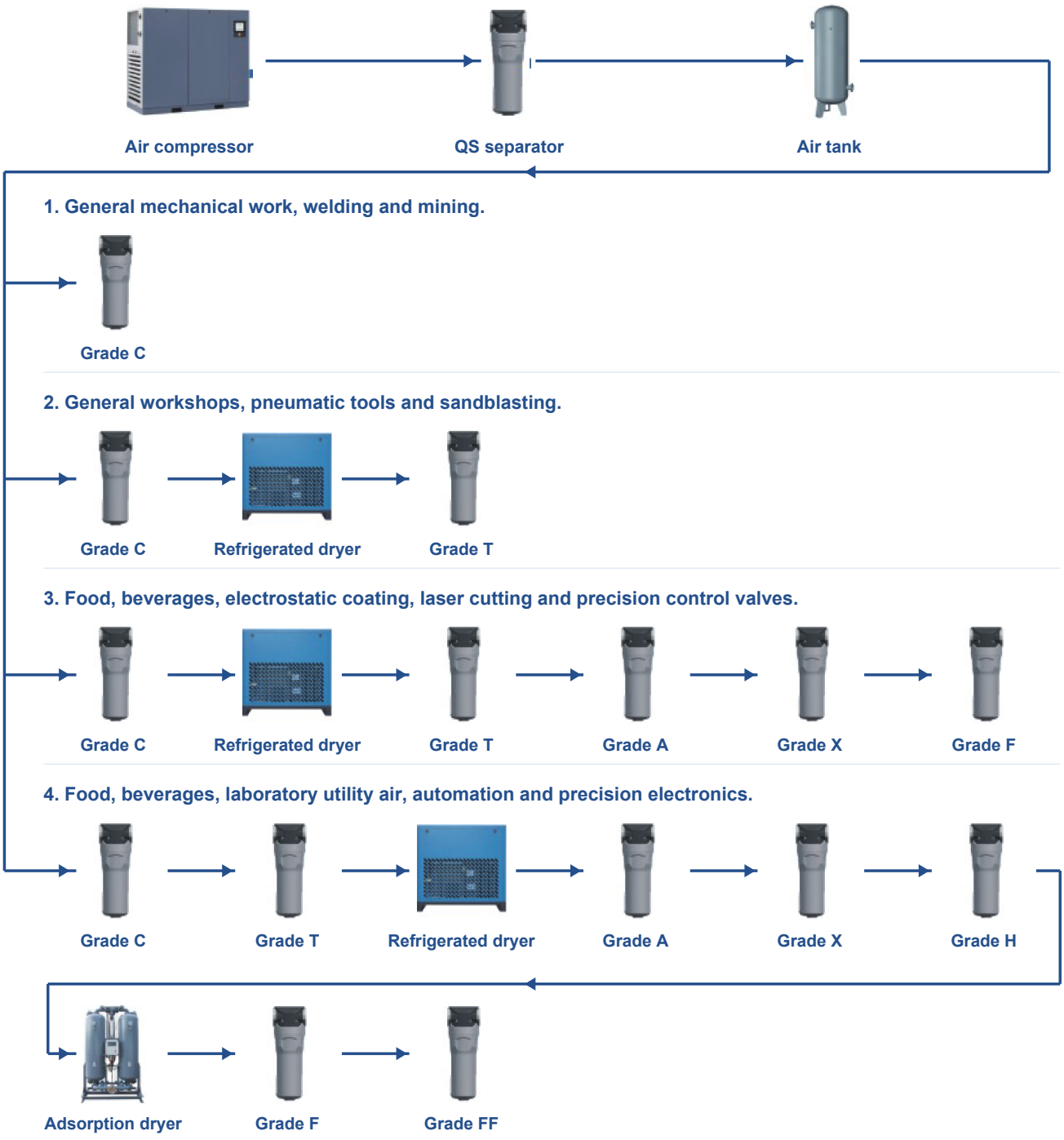
VRCJ flanged filter selection

Model	Flow (m³/min)	Flange	Element	h (mm)	W (mm)	A (mm)	B (mm)
FCJX-200*	20.8	DN65	FJX-200*	438	640	92.5	92.5
FCJX-250*	25.3	DN65	FJX-250*	438	640	92.5	92.5
FCJX-300*	30.8	DN80	FJX-300*	438	792	99.5	99.5
FCJX-400*	40.5	DN100	FJX-400*	450	840	150	150

The * suffix denotes the filtration grade. FJ / FJX identify element families. See the grade guide on page 35.

VRCJ application diagram

Example filtration and drying arrangements



Select the treatment stages for the required air purity and verify the delivered performance.

VRBH Precision Filter

Compressed-air filtration · Standard selection

SmartAir VRBH precision filters use 304 / 316L stainless-steel housings and selectable precision elements for high-pressure compressed-air filtration. The range supports 2.0–4.0 MPa operating pressure, temperatures up to 80 °C and model flows from 1 to 11 m³/min.



Housing materials: 304 / 316L stainless steel

Working pressure: 2.0–4.0 MPa

Operating temperature: Up to 80 °C

VRBH Precision Filter · Model selection

Model	Flow (m³/min)	Connection
VRBH-010*	1	½″ / ¾″ / 1″
VRBH-020*	2	½″ / ¾″ / 1″
VRBH-030*	3	1″
VRBH-050*	5	1½″
VRBH-070*	7	1½″
VRBH-100*	11	1½″
VRBH-100*	11	2″

VRBH Precision Filter · Operating conditions

Material	Nominal connection range	Medium	Temperature	Working pressure	Filtration range
304 / 316L stainless steel	DN15–DN50	Compressed air	≤ 80 °C	2.0–4.0 MPa	3–0.01 μm

Filtration grades C, T, A, X, H, F and FF · see page 35.

VRGJ Precision Filter

Compressed-air filtration · Standard selection

SmartAir VRGJ precision filters combine cyclone action and multilayer fibre coalescing to reduce condensed water, oil mist and fine contamination in compressed air. The VRGJ200–1000 family is designed for installation after compressed-air drying equipment where additional oil and water removal is required.



Flow range: 2–10 Nm³/min

Working pressure: 1.0–1.6 MPa

Ambient temperature: 0–60 °C

VRGJ Precision Filter · VRGJ200–1000 selection

Model	Flow (Nm³/min)	Connection code	Dimensions (mm)
VRGJ-200	2	G25	235 × 92
VRGJ-300	3	G25	305 × 97
VRGJ-600	6	G32	370 × 138
VRGJ-1000	10	G32	430 × 138

How separation works

Air rotates along the separator’s inner wall. Centrifugal action, gravity and friction bring suspended particles together. The fibre layer intercepts droplets and captures smaller particles; coalesced liquid moves to the base for drainage.

Applications and performance

VRGJ filtration supports laser processing, spraying, vacuum coating, fine chemicals, food, beverages, pharmaceuticals and water-treatment production. Filtration reaches 0.01 μm, with residual oil as low as 0.001 ppm under suitable operating conditions. Select the element and operating conditions for the required result.

Precision filter grade guide

C, T, A, X, H, F and FF · VRCJ / VRBH

Precision filter grades · C, T, A, X, H, F and FF

Grade	Particle size (μm)	Residual oil (ppm)
C	3	3
T	1	1
A	0.01	0.01
X	0.01	0.003
H · Activated carbon	0.01	0.001
F · Dust removal	0.1	—
FF · Fine dust removal	0.01	—

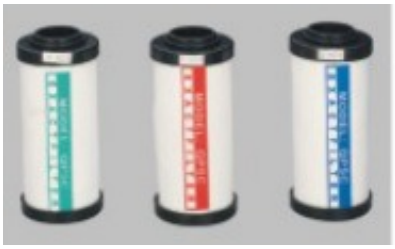
Select the grade around the required air quality

Particle size and residual-oil values describe different filtration duties. F and FF are dust-removal grades; choose a grade with a stated oil-removal rating where residual oil is part of the requirement. Correct selection and operating conditions determine performance.

Keep housing families and grade codes together

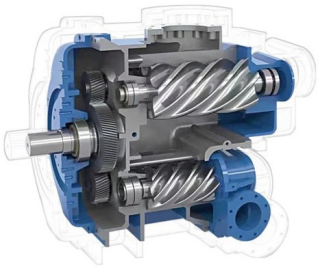
VRG and VR015 use their own letter-code relationships. Refer to their table on page 28 rather than applying the VRCJ / VRBH definitions automatically. Match connection size, flow, pressure, temperature and the compatible replacement element when ordering.





Compressor Parts

Standard components · Compression and control



Advanced Screw Rotor

The screw air end uses a model-specific rotor profile and a low-speed design to support efficient compression with low operating noise. Its rotor arrangement is designed to reduce energy use and maintenance demands.

- Model-specific rotor profile
- Low-speed, low-noise operation
- Design focused on efficient compression and service life



High-Efficiency Motor

A high-performance motor provides the drive for the compressor. Protection class, insulation rating and bearing specification depend on the supplied motor; confirm these for the selected model.

- Confirm protection class for the supplied motor
- Confirm insulation class
- Confirm bearing specification
- High-efficiency motor design



Microcomputer Control System

The microcomputer control system manages variable speed, air-volume adjustment, load starting and soft starting. Dynamic displays show compressor operating status and working curves for pressure, temperature and current. Fault-history storage supports troubleshooting and service planning.

- Variable-speed and automatic air-volume control
- Soft starting helps reduce current surges and component stress
- Real-time pressure, temperature and current display
- 8M flash ROM + 16M SDRAM
- Storage for thousands of historical fault records



Intake Valve

The intake valve regulates the air entering the compressor, with an air-intake adjustment range from 0 to 100%. Its capacity-control design supports stable operation, low pressure loss and long service life.

- 0–100% air-intake adjustment range
- Capacity adjustment for changing demand
- Low pressure loss and stable valve action

The parts and descriptions shown represent standard configurations. Components and features may vary by compressor model and customer requirements.

Compressor Parts

Standard components · Separation, cooling and filtration



Oil–Air Separator

The large-capacity separator combines oil–air separation elements with gas–liquid filtration. Separation performance depends on the compatible element, operating conditions and maintenance.

- Large-capacity oil–air separation
- Three-stage separation design
- Confirm residual-oil rating for the selected element
- Gas–liquid filtration elements



Efficient Air Cooler

A large heat-exchange surface improves cooling performance and helps control compressor operating temperature. Anti-corrosion treatment on internal surfaces supports durability in demanding operating environments.

- Large heat-exchange area
- Cooling support for stable operating temperature
- Anti-corrosion internal treatment
- Design intended for long service life



Oil Filtration System

High-density filter media with a surface nano-plating treatment provides fine filtration with low flow resistance. Uniform pores and high dirt-holding capacity help protect the compressor's internal components and maintain lubricant cleanliness.

- High-density media with uniform pore size
- Low filtration resistance and high flow capacity
- Strong contaminant-retention capability
- Resistance to acids, alkalis and chemical solvents
- High-strength, temperature-resistant construction that resists deformation



Air Filter

The air filter combines high dust-holding capacity with low flow resistance to remove fine solid particles from intake air. Select the compatible filter and confirm its efficiency rating for the installed compressor.

- Model-specific filtration rating
- High dust-holding capacity
- Low flow resistance
- Filtration of fine solid particles in intake air

The parts and descriptions shown represent standard configurations. Components and features may vary by compressor model and customer requirements.

Service

Installation · Maintenance planning · Performance



Installation

Discuss site preparation, equipment positioning and commissioning. Share the available space, power supply, required pressure and production schedule so the system can be planned around your operation.

Maintenance planning

Base the service plan on the equipment documentation, running hours and operating conditions. Keep inspection, lubricant, filter and repair records so that service can be planned and recurring issues can be investigated.

Performance services

Review operating concerns using equipment details and measurements of pressure, airflow and electricity use. Discuss the compressor, air treatment, storage and distribution network together.

Warranty, delivery and service arrangements are confirmed for each quotation according to model, customization, stock or order status and service location. Contact our team for availability and step-by-step guidance; have the model, serial number and operating details ready.

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