

WHERE THE SCREW STOPS.

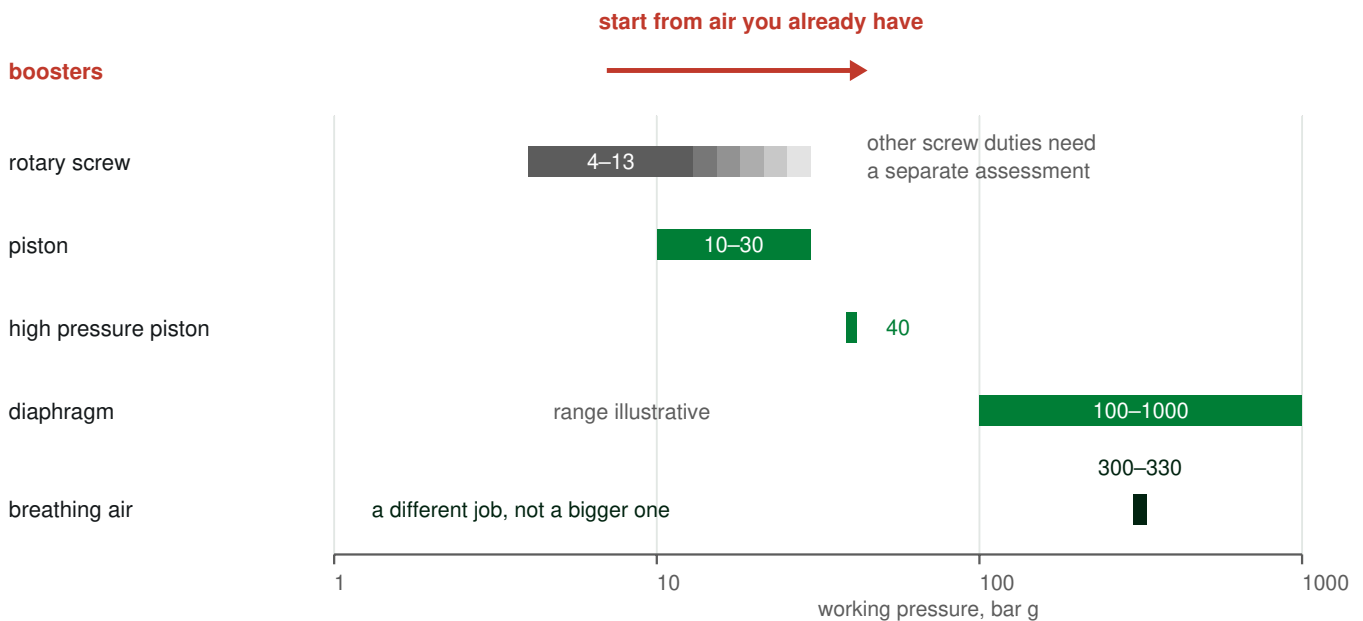
Piston compressors, high pressure, breathing air, diaphragm and boosters. 2.2 to 250 kW, 10 to 1000 bar g. 33 entries.

**GREEN AIR
COMPRESSOR**



WHY A PISTON, AND WHEN

A rotary screw suits much factory air, particularly steady demand. At higher pressures, the choice depends on flow, pressure ratio, cooling and duty; there is no universal pressure at which screw compression stops. A piston uses rings against a cylinder wall and can divide compression into stages with cooling between them. The families here cover intermittent workshop air, continuous 40 bar duty, breathing air and gas duties up to 1000 bar.

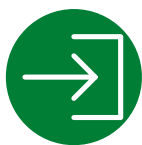


The pressure axis is logarithmic. The bars show the duties discussed here, not universal limits for each technology. Pressure, flow, gas and duty together decide the machine.



Stages, not speed

High pressure is reached in stages with cooling between them, not by pushing one stage harder. The breathing air machines here use three and four stages to reach 300 bar.



A booster uses compressed air

It is a compressor fed by air your plant already makes, lifting it to 40 or 45 bar. With suitable spare inlet capacity, it can reduce the cost of adding a separate high pressure supply.



Duty decides the frame

A piston machine that fills a cylinder for an hour and one that runs all shift are different specifications. Tell us the hours, not just the pressure.

WHICH ONE IS YOURS

These are reciprocating technologies. What separates them is pressure, duty, and what the air or gas is for.

Family	Pressure	Motor	What it is for
Piston compressors (GAC-P)	10 to 30 bar g	2.2 to 11 kW	A workshop, a garage, a small line. Where the air is intermittent and a screw would be over-specified
High pressure piston (GA-OHP)	40 bar g listed, to 350 built to order	75 to 250 kW	PET bottle blowing, pressure testing, industrial processes that need 40 bar continuously
Breathing air (GA-BA)	300 to 330 bar g	2.2 to 15 kW	Filling cylinders for fire services, diving and industrial rescue
Diaphragm (GA-DP)	up to 1000 bar g	2.2 to 200 kW	Gases that must not touch a lubricant or escape past a seal — hydrogen, helium, specialty gas
Air and nitrogen boosters (GAC-B)	up to 40 bar g	15 to 90 kW	Raising existing plant air, or nitrogen, to 40 bar
Reciprocating boosters (GAC-RB)	up to 45 bar g	11 to 75 kW	The same job at 45 bar, and the heavier duty of the two

If you already have compressed air, start with a booster.

A booster takes a pressurised supply and lifts it. It can be smaller and less costly than a machine that makes 40 bar from atmosphere, using the plant you already have. Check spare inlet capacity, pressure, air quality and duty before choosing it.

Breathing air is a different category, not a bigger machine.

Pressure alone does not make air fit to breathe. Intake quality, purification, maintenance and testing all matter. Cylinder volume, pressure, filling frequency and available flow define the duty; the complete system is specified to the people who will use it.

A diaphragm machine is bought for the seal, not the pressure.

A metal diaphragm separates the gas from the hydraulic drive, so there is no lubricated piston ring in the gas path. Hydrogen, helium and other demanding gases need suitable materials, seals, leak detection and protective shutdown.

Start with the air you already make

Before quoting a 40 bar compressor we will ask what your existing machine has spare. A booster and a larger receiver may be the answer; the inlet conditions and duty decide.



PISTON COMPRESSORS

What it is. The straightforward machine: a piston, a cylinder, a receiver. 2.2 to 11 kW, 10 to 30 bar g, 0.30 to 1.05 m³/min.

When it beats a screw. A small piston machine can suit intermittent air demand. Check the permitted duty cycle and starting frequency; a screw may suit longer, steadier running. Compare purchase and service costs for the actual duty.

Model	Motor		Pressure		Capacity		Notes
	kW	hp	bar g	psi g	m³/min	cfm	
GAC-P 3	2.2	3	10	145	0.30	11	Single stage
GAC-P 5	3.7	5	10	145	0.48	17	Single stage
GAC-P 10	7.5	10	12	174	0.95	34	Two stage
GAC-P 15H	11	15	30	435	1.05	37	High pressure

The stage count is part of each listed specification: these single-stage machines reach 10 bar, the two-stage entry reaches 12 bar, and the high pressure entry reaches 30 bar. Imperial figures are converted from the metric values and rounded.

HIGH PRESSURE PISTON

What it is. A 40 bar machine built for continuous industrial duty. 75 to 250 kW, 6.5 to 25 m³/min.

Frames and footprints. The two -B machines are 4200 mm long. The other machines up to 12.5 m³/min are 3100 × 1900 × 2200 mm. From 16 m³/min, the footprint changes to 2600 × 2200 mm while height stays 2200 mm. These larger frames weigh 8,000 to 8,800 kg: shorter and deeper, with less floor area, but not taller.

What the table covers. The ten machines listed here are the 40 bar builds, which is where most industrial duties settle. Higher pressures, to 350 bar, are built to the duty in three and four stage arrangements rather than picked from a list — tell us the pressure and the flow and we will specify one.

Model	Motor		Pressure		Capacity		Weight		Dimensions
	kW	hp	bar g	psi g	m³/min	cfm	kg	lb	L × W × H mm
GA-OHP-6/40-B	75	101	40	580	6.50	230	4700	10362	4200 × 1800 × 2550
GA-OHP-8/40-B	90	121	40	580	8.50	300	4800	10582	4200 × 1800 × 2550
GA-OHP-8/40	90	121	40	580	8.50	300	4200	9259	3100 × 1900 × 2200
GA-OHP-10/40	110	148	40	580	10.50	371	4600	10141	3100 × 1900 × 2200
GA-OHP-12/40	132	177	40	580	12.50	441	4800	10582	3100 × 1900 × 2200
GA-OHP-16/40	160	215	40	580	16	565	8000	17637	2600 × 2200 × 2200
GA-OHP-18/40	185	248	40	580	18	636	8100	17857	2600 × 2200 × 2200
GA-OHP-20/40	200	268	40	580	20	706	8300	18298	2600 × 2200 × 2200
GA-OHP-22/40	220	295	40	580	22	777	8500	18739	2600 × 2200 × 2200
GA-OHP-25/40	250	335	40	580	25	883	8800	19400	2600 × 2200 × 2200

Capacity is free air delivered at 40 bar g. Imperial figures are converted from the metric values and rounded.

BREATHING AIR

What it is. Three and four stage machines filling cylinders at 300 to 330 bar g. 2.2 to 15 kW, 0.10 to 0.72 m³/min.

What you are actually buying. The compressor and purification form one system. Breathing-air suitability depends on intake quality, purification, maintenance and testing. Tell us the cylinder volumes, filling pressures, filling frequency and available flow so the complete set can be specified.

Where there is no power. Several of these are available with a petrol engine instead of a motor; the table says which. The installation must keep engine exhaust clear of the compressor intake.

Model	Motor		Pressure		Capacity		Notes
	kW	hp	bar g	psi g	m ³ /min	cfm	
GA-BA-100	2.2	3	300	4351	0.10	4	Four cylinder, four stage. 220 V, or 3 kW at 380 V, or petrol engine
GA-BA-200	5.5	7	300	4351	0.20	7	Three cylinder, three stage. Electric or petrol engine
GA-BA-265	5.5	7	300	4351	0.27	10	Three cylinder, three stage. Electric
GA-BA-300	7.5	10	300	4351	0.30	11	Three cylinder, three stage. Electric or petrol engine
GA-BA-400	7.5	10	300	4351	0.40	14	Three cylinder, three stage. Electric or petrol engine
GA-BA-680	15	20	330	4786	0.68	24	Four cylinder, four stage. Pump lubricated, PLC control
GA-BA-720	15	20	330	4786	0.72	25	Four cylinder, four stage. Pump lubricated, PLC control

Capacity is the listed nominal filling rate, not compressed-air volume at delivery pressure. Confirm the flow reference conditions and cylinder filling time with the quotation. Drive and stage count are in the notes column. Imperial figures are converted and rounded.

DIAPHRAGM

What it is. A metal diaphragm is flexed by hydraulic fluid behind it, separating the gas from the drive lubricant. The gas path includes the diaphragm, head and valves, without a lubricated piston ring. Up to 1000 bar g.

Why the table looks different. These are four frame families, not four models. Each one covers a span of motors, flows and pressures, and the machine is built to the duty from within that span. The figures below are the limits of each frame, not a model list.

What it is bought for. Hydrogen, helium and other gases that are toxic, expensive or must stay pure. Materials, seals, leak detection and protective shutdown must be selected for the gas and duty; diaphragm construction does not remove the need for leak protection.

Model	Motor		Pressure		Capacity		Notes
	kW	hp	bar g	psi g	Nm³/h	scfm	
GA-DP-V	2.2 – 30	3 – 40	up to 500	up to 7252	2 – 100	1 – 62	V frame, 70 – 130 mm stroke, 10 – 30 kN piston force
GA-DP-Z	2.2 – 45	3 – 60	up to 700	up to 10153	0.50 – 500	0 – 311	Z frame, 70 – 180 mm stroke, 10 – 90 kN piston force
GA-DP-L	7.5 – 90	10 – 121	up to 1000	up to 14504	10 – 1000	6 – 622	L frame, 110 – 180 mm stroke, 20 – 90 kN piston force
GA-DP-D	22 – 200	30 – 268	up to 1000	up to 14504	30 – 2000	19 – 1244	D frame, 130 – 210 mm stroke, 40 – 160 kN piston force

These are frame-family limits, not a promise of every flow at every pressure. Flow is in normal cubic metres per hour; confirm reference conditions with the quotation. Stroke and piston force describe the frame. Imperial figures are rounded; use metric values when a low flow rounds to zero.

BOOSTERS

What they do. These compressors take a pressurised supply and raise it. Both families start from your ring main rather than from atmosphere, which can make them smaller and less costly than a machine doing the whole job.

Which of the two. GAC-B is offered up to 40 bar and also handles nitrogen. GAC-RB is offered up to 45 bar and is listed for heavier duty. Confirm gas compatibility, inlet conditions, flow and duty before choosing either frame.

Air and nitrogen boosters — GAC-B

Model	Motor		Pressure		Capacity		Noise	Weight		Dimensions
	kW	hp	bar g	psi g	m³/min	cfm	dB(A)	kg	lb	L × W × H mm
GAC-B 15	15	20	up to 40	up to 580	1.50	53	78	850	1874	1600 × 900 × 1400
GAC-B 30	30	40	up to 40	up to 580	3.20	113	80	1250	2756	1900 × 1000 × 1500
GAC-B 55	55	74	up to 40	up to 580	6	212	82	1900	4189	2300 × 1200 × 1700
GAC-B 90	90	121	up to 40	up to 580	10	353	84	2700	5952	2700 × 1400 × 1900

Reciprocating boosters — GAC-RB

Model	Motor		Pressure		Capacity		Noise	Weight		Dimensions
	kW	hp	bar g	psi g	m³/min	cfm	dB(A)	kg	lb	L × W × H mm
GAC-RB 11	11	15	up to 45	up to 653	0.90	32	80	720	1587	1500 × 850 × 1350
GAC-RB 22	22	30	up to 45	up to 653	2	71	82	1150	2535	1800 × 950 × 1450
GAC-RB 45	45	60	up to 45	up to 653	4.40	155	84	1750	3858	2200 × 1150 × 1650
GAC-RB 75	75	101	up to 45	up to 653	7.80	275	86	2450	5401	2600 × 1350 × 1850

Capacity depends on inlet pressure. Confirm the reference inlet conditions and flow basis with the quotation; tell us your ring main pressure for the flow at your duty. Imperial figures are converted and rounded.

SIX QUESTIONS, THEN A MACHINE

A piston machine is specified against a duty rather than picked off a page. These six settle it.



The pressure at the point of use

Not at the machine. On a 40 bar system the difference across a long run and a regulator is larger than people expect.



Do you already have air

If you do, and it has suitable capacity to spare, a booster compressor may cost less than a separate machine starting from atmosphere.



How many hours a day

An hour a day and sixteen hours a day are different machines at the same rating, and this is the question that most often gets skipped.



Where it goes

The high pressure machines run from 4,200 to 8,800 kg. The larger standard frame is shorter and deeper, not taller; the two -B machines are longer. Door width, floor loading and crane access all matter.



What is being compressed

Air, nitrogen, hydrogen or something else. On anything but air it decides the whole arrangement, not just the materials.



Who uses the air

For breathing air, tell us the users, cylinder volumes, pressures and filling frequency. Intake quality, purification, maintenance and testing must also be addressed.

For breathing air, tell us the duty

Tell us the cylinders, pressures, filling frequency and available power. We will specify the flow and purification, with intake quality, maintenance and testing in view.





**GREEN AIR
COMPRESSOR**

THE PRESSURE DECIDES THE MACHINE

There is no single compressor that covers 10 bar and 1000. What looks like one product range is really six families covering different duties, and the only way to get to the right one is to start from the duty: the pressure where the air is used, the hours it runs, what is being compressed, and whether you already have compressed air to build on. Send us those and you get back a written recommendation naming the machine, the treatment that belongs with it and what the installation needs — including the cases where a booster can build on your existing plant. It costs nothing and carries no obligation.

Green Air Compressor
greenaircompressors.com
Monday to Saturday

+971 58 930 8361
+971 58 930 8364
+971 6 530 0590

Specifications are subject to change without notice. Figures are nominal; confirm reference conditions with the quotation. © Green Air Compressor.

