

SAME AIR. DIFFERENT BILL.

Direct driven and permanent magnet screw
compressors — 6.5 to 13 bar g,
7.5 to 250 kW, 75 models

**GREEN AIR
COMPRESSOR**



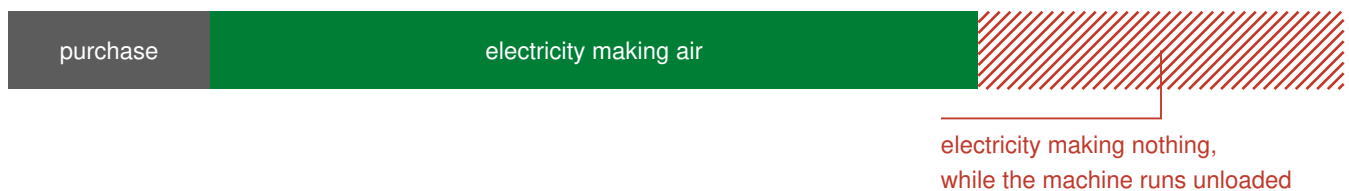
THE DECISION NOBODY EXPLAINS

Two machines can make the same air at the same pressure and cost very different amounts to run, and the difference is not in the airend. It is in what turns it and how that thing behaves when the factory is not asking for full output — which, in almost every plant, is most of the time. A compressor is bought once and paid for every hour for ten years, and the second number is the larger one by a long way.

Fixed speed, running at full load all day



Fixed speed, demand that swings



Permanent magnet variable speed, same swinging demand

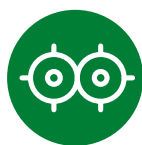


The third machine costs more to buy and less to own, and only because the demand swings. On the first duty it would never pay for itself, and we will say so rather than sell it.



Unloaded is not idle

A fixed speed machine that has stopped compressing still draws twenty-five to thirty-five per cent of full power. It is spinning, hot, and producing nothing.



No belt, nothing to tension

The motor couples straight to the airend. There is no belt losing two to three per cent before the air is even made, and nothing to re-tension at a service.



The magnet does the slip

An induction motor has to slip to produce torque, and slip is heat. A permanent magnet rotor does not, which is where its efficiency comes from, and it holds that efficiency down at low speed.



Log before you choose

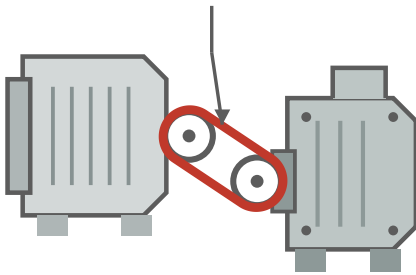
A week of data on your own system settles it. If the machine is unloaded for more than about a third of its running hours, variable speed pays. If it is not, it does not.

WHAT ACTUALLY TURNS THE AIREND

Three ways to connect a motor to an airend, drawn to the same scale. The losses are in the connection, and they are paid every hour the machine runs.

Belt driven

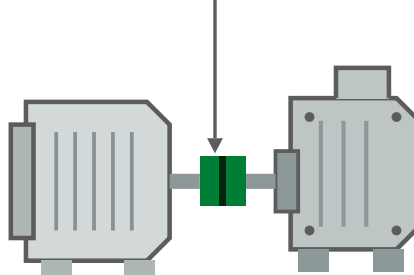
2 to 3 per cent lost here, every hour, and it has to be re-tensioned



Cheapest to buy.
Not in this range.

Direct driven

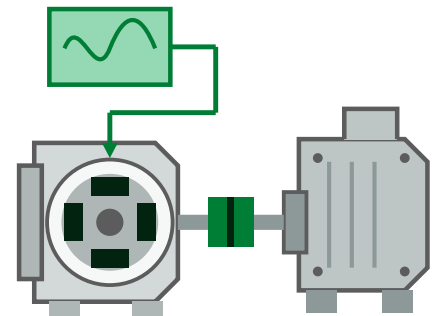
one flexible element, nothing to slip



The standard build.
Fixed speed.

Permanent magnet, direct driven

speed follows demand



No slip, no belt, and it stays efficient at part load.

The airend is the same casting in all three. What changes is how much of the motor's work reaches it, and whether the motor can slow down when the factory goes quiet.

Part load is the normal condition

Almost no plant uses its full compressed air capacity for a full shift. The machine that is efficient at seventy per cent output is worth more than the one that is brilliant at a hundred and never gets there.



DIRECT DRIVEN

Where it belongs. A base load that runs steadily: a process line, a continuously loaded plant, or the lead machine in a pair where something smaller does the trimming. On that duty it is the cheaper machine to buy and there is nothing a variable speed drive could save.

What you get. The motor coupled straight to the airend, 55 to 250 kW, 8 and 13 bar builds, and no drive electronics in the machine to cool, filter or replace.

Direct driven, fixed speed — GA-D

Model	Motor		Pressure		Capacity		Noise	Weight		Dimensions
	kW	hp	bar g	psi g	m³/min	cfm	dB(A)	kg	lb	L × W × H mm
GA-D-55A-8/D	55	74	8	116	10.0	353	74	1460	3219	2000 × 1100 × 1585
GA-D-55A-13/D	55	74	13	189	7.8	275	74	1460	3219	2000 × 1100 × 1585
GA-D-75A-8/D	75	101	8	116	13.0	459	75	1580	3483	2000 × 1200 × 1585
GA-D-75A-10/D	75	101	10	145	10.9	385	75	1580	3483	2000 × 1200 × 1585
GA-D-90A-8/D	90	121	8	116	15.0	530	75	1950	4299	2000 × 1200 × 1585
GA-D-90A-10/D	90	121	10	145	13.0	459	75	1950	4299	2000 × 1200 × 1585
GA-D-90A-13/D	90	121	13	189	10.0	353	75	1950	4299	2000 × 1200 × 1585
GA-D-110A(W)-7/D	110	148	7	102	20.0	706	75	2300	5071	2166 × 1700 × 1918
GA-D-110A(W)-8/D	110	148	8	116	19.8	699	75	2300	5071	2166 × 1700 × 1918
GA-D-110A(W)-10/D	110	148	10	145	17.0	600	75	2300	5071	2166 × 1700 × 1918
GA-D-110A(W)-13/D	110	148	13	189	13.6	480	75	2300	5071	2166 × 1700 × 1918
GA-D-132A(W)-07/D	132	177	7	102	23.6	833	75	2500	5512	2166 × 1700 × 1918
GA-D-132A(W)-8/D	132	177	8	116	23.4	826	75	2500	5512	2166 × 1700 × 1918
GA-D-132A(W)-10/D	132	177	10	145	20.0	706	75	2500	5512	2166 × 1700 × 1918
GA-D-132A(W)-13/D	132	177	13	189	16.0	565	75	2500	5512	2166 × 1700 × 1918

DIRECT DRIVEN

Direct driven, fixed speed — GA-D

Model	Motor		Pressure		Capacity		Noise	Weight		Dimensions
	kW	hp	bar g	psi g	m³/min	cfm	dB(A)	kg	lb	L × W × H mm
GA-D-160A(W)-7/D	160	215	7	102	27.0	953	76	2750	6063	2466 × 1900 × 1918
GA-D-160A(W)-8/D	160	215	8	116	26.6	939	76	2750	6063	2466 × 1900 × 1918
GA-D-160A(W)-10/D	160	215	10	145	24.5	865	76	2750	6063	2466 × 1900 × 1918
GA-D-160A(W)-13/D	160	215	13	189	20.8	735	76	2750	6063	2466 × 1900 × 1918
GA-D-180A(W)-7/D	180	241	7	102	30.0	1059	76	3000	6614	2466 × 1900 × 1918
GA-D-180A(W)-8/D	180	241	8	116	29.2	1031	76	3000	6614	2466 × 1900 × 1918
GA-D-180A(W)-10/D	180	241	10	145	26.8	946	76	3000	6614	2466 × 1900 × 1918
GA-D-180A(W)-13/D	180	241	13	189	23.0	812	76	3000	6614	2466 × 1900 × 1918
GA-D-200A(W)-8/D	200	268	8	116	33.6	1187	76	4500	9921	2966 × 2000 × 1918
GA-D-200A(W)-10/D	200	268	10	145	29.5	1042	76	4500	9921	2966 × 2000 × 1918
GA-D-200A(W)-13/D	200	268	13	189	25.0	883	76	4500	9921	2966 × 2000 × 1918
GA-D-220A(W)-8/D	220	295	8	116	37.5	1324	76	4800	10582	3260 × 2050 × 2030
GA-D-220A(W)-10/D	220	295	10	145	33.5	1183	76	4800	10582	3260 × 2050 × 2030
GA-D-220A(W)-13/D	220	295	13	189	28.0	989	76	4800	10582	3260 × 2050 × 2030
GA-D-250A(W)-8/D	250	335	8	116	43.0	1519	80	6200	13669	3260 × 2050 × 2030
GA-D-280A(W)-10/D	250	335	10	145	42.0	1483	80	6200	13669	3260 × 2050 × 2030
GA-D-315A(W)-13/D	250	335	13	189	40.0	1413	80	6200	13669	3260 × 2050 × 2030

Capacities are at the stated working pressure. Imperial figures are converted from the metric values and rounded.

PERMANENT MAGNET

Where it belongs. Anywhere the demand swings — which is most plants, most of the time. The motor slows instead of unloading, so the air you do not need is air you never paid to make.

Two families. The single stage GA-PM range, 7.5 to 55 kW at 7.5 to 12.5 bar, covers the ordinary workshop and factory duty. The two stage GA-PMZ range, 15 to 55 kW at 6.5 to 10.5 bar, compresses in two steps with cooling between them and uses less energy again on a continuous load.

Permanent magnet, variable speed — GA-PM

Model	Motor		Pressure		Capacity		Noise	Weight		Dimensions
	kW	hp	bar g	psi g	m³/min	cfm	dB(A)	kg	lb	L × W × H mm
GA-PM-10PM	7.5	10	7.5	109	0.48~1.20	17~42	—	200	441	650 × 650 × 1015
GA-PM-10PM	7.5	10	10.5	152	0.41~1.02	14~36	—	200	441	650 × 650 × 1015
GA-PM-10PM	7.5	10	12.5	181	0.34~0.86	12~30	—	200	441	650 × 650 × 1015
GA-PM-15PM	11	15	7.5	109	0.72~1.79	25~63	—	280	617	880 × 780 × 1080
GA-PM-15PM	11	15	10.5	152	0.60~1.49	21~53	—	280	617	880 × 780 × 1080
GA-PM-15PM	11	15	12.5	181	0.48~1.21	17~43	—	280	617	880 × 780 × 1080
GA-PM-20PM	15	20	7.5	109	1.03~2.58	36~91	—	300	661	880 × 780 × 1080
GA-PM-20PM	15	20	10.5	152	0.83~2.08	29~73	—	300	661	880 × 780 × 1080
GA-PM-20PM	15	20	12.5	181	0.72~1.80	25~64	—	300	661	880 × 780 × 1080
GA-PM-25PM	18.5	25	7.5	109	1.24~3.10	44~109	—	360	794	880 × 800 × 1350
GA-PM-25PM	18.5	25	12.5	181	0.97~2.42	34~85	—	400	882	880 × 800 × 1350
GA-PM-40PM	30	40	7.5	109	2.15~5.38	76~190	—	480	1058	1000 × 900 × 1420
GA-PM-40PM	30	40	10.5	152	1.76~4.41	62~156	—	480	1058	1000 × 900 × 1420
GA-PM-40PM	30	40	12.5	181	1.39~3.47	49~123	—	480	1058	1000 × 900 × 1420
GA-PM-50PM	37	50	7.5	109	2.60~6.51	92~230	—	540	1190	1000 × 900 × 1420
GA-PM-50PM	37	50	10.5	152	2.14~5.36	76~189	—	540	1190	1000 × 900 × 1420
GA-PM-50PM	37	50	12.5	181	1.85~4.62	65~163	—	540	1190	1000 × 900 × 1420
GA-PM-60PM	45	60	7.5	109	3.36~8.40	119~297	—	750	1653	1080 × 1000 × 1480
GA-PM-60PM	45	60	10.5	152	2.77~6.93	98~245	—	750	1653	1080 × 1000 × 1480
GA-PM-60PM	45	60	12.5	181	2.40~6.00	85~212	—	750	1653	1080 × 1000 × 1480
GA-PM-75PM	55	74	7.5	109	4.40~11.00	155~388	—	1100	2425	1400 × 1100 × 1510
GA-PM-75PM	55	74	10.5	152	3.48~8.70	123~307	—	1100	2425	1400 × 1100 × 1510
GA-PM-75PM	55	74	12.5	181	3.20~8.00	113~283	—	1100	2425	1400 × 1100 × 1510

PERMANENT MAGNET

Permanent magnet, two stage — GA-PMZ

Model	Motor		Pressure		Capacity		Noise	Weight		Dimensions
	kW	hp	bar g	psi g	m³/min	cfm	dB(A)	kg	lb	L × W × H mm
GA-PMZ-20HTPM	15	20	6.5	94	1.2~3.0	42~106	—	650	1433	1500 × 980 × 1280
GA-PMZ-20HTPM	15	20	8.5	123	1.12~2.8	40~99	—	650	1433	1500 × 980 × 1280
GA-PMZ-20HTPM	15	20	10.5	152	0.92~2.3	32~81	—	650	1433	1500 × 980 × 1280
GA-PMZ-25HTPM	18.5	25	6.5	94	1.44~3.6	51~127	—	700	1543	1500 × 980 × 1280
GA-PMZ-25HTPM	18.5	25	8.5	123	1.28~3.2	45~113	—	700	1543	1500 × 980 × 1280
GA-PMZ-25HTPM	18.5	25	10.5	152	1.12~2.8	40~99	—	700	1543	1500 × 980 × 1280
GA-PMZ-30HTPM	22	30	6.5	94	1.76~4.4	62~155	—	750	1653	1550 × 980 × 1280
GA-PMZ-30HTPM	22	30	8.5	123	1.6~4.0	57~141	—	750	1653	1550 × 980 × 1280
GA-PMZ-30HTPM	22	30	10.5	152	1.28~3.2	45~113	—	750	1653	1550 × 980 × 1280
GA-PMZ-40HTPM	30	40	6.5	94	2.72~6.8	96~240	—	850	1874	1700 × 1180 × 1580
GA-PMZ-40HTPM	30	40	8.5	123	2.40~6.0	85~212	—	850	1874	1700 × 1180 × 1580
GA-PMZ-40HTPM	30	40	10.5	152	1.8~4.5	64~159	—	850	1874	1700 × 1180 × 1580
GA-PMZ-50HTPM	37	50	6.5	94	3.24~8.1	114~286	—	980	2161	1700 × 1180 × 1580
GA-PMZ-50HTPM	37	50	8.5	123	2.84~7.1	100~251	—	980	2161	1700 × 1180 × 1580
GA-PMZ-50HTPM	37	50	10.5	152	2.32~5.8	82~205	—	980	2161	1700 × 1180 × 1580
GA-PMZ-60HTPM	45	60	6.5	94	4.0~10.0	141~353	—	1000	2205	1700 × 1180 × 1540
GA-PMZ-60HTPM	45	60	8.5	123	3.40~8.5	120~300	—	1000	2205	1700 × 1180 × 1540
GA-PMZ-60HTPM	45	60	10.5	152	2.92~7.3	103~258	—	1000	2205	1700 × 1180 × 1540
GA-PMZ-75HTPM	55	74	6.5	94	5.04~12.6	178~445	—	1300	2866	1800 × 1200 × 1600
GA-PMZ-75HTPM	55	74	8.5	123	4.6~11.5	162~406	—	1300	2866	1800 × 1200 × 1600

Capacity is given as the range between minimum and maximum output, because these machines vary their speed. The figure in each model code is its horsepower. Imperial figures are converted and rounded.

CHOOSING BETWEEN THEM

There is no machine here that is better than the other one. There is a duty, and there is the machine that suits it. These are the questions that settle it, and all of them are answerable from a week of measurement rather than an opinion.

Question	Points to fixed speed	Points to permanent magnet
How much of the running time is unloaded?	Under a third	Over a third
How many shifts?	One	Two or three
Does the demand swing through the day?	No, it is steady	Yes, noticeably
Is this the base load or the trim machine?	Base load	Trim, or the only machine
How good is the electrical supply?	Weak or noisy is fine	Needs a clean, stable supply
Is there a second machine to sequence with?	Yes, it can run flat out	It can trim above the other
How long will it be kept?	Any	Longer is better; the saving compounds

What we do before quoting

- A week of logging on your existing system
- Running hours split between loaded and unloaded
- The pressure actually needed at the furthest machine
- A leak survey, because leaks change the answer
- Specific energy at your working pressure, measured the same way for both
- The ten-year figure for each option, written down

If it will not pay, we will say so

A variable speed machine on a constantly loaded duty is a more expensive machine, a drive to keep cool, and no saving at the end of it. That is a real answer and you should expect to hear it.





GREEN AIR COMPRESSOR

A WEEK OF MEASUREMENT SETTLES IT

Everything on page 8 is a question about your plant, not about the machines, and all of it can be measured. We fit data loggers to the compressor you have for a week, walk the system for leaks, and read the pressure at the machine that is worst served rather than at the compressor. What comes back is the split between loaded and unloaded running, what the leaks are costing, the pressure you actually need, and the ten-year figure for each option side by side. If the honest answer is the cheaper machine, that is what the report will say. It costs nothing and carries no obligation.

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Specifications are subject to change without notice. Figures are nominal and apply at the reference conditions stated. © Green Air Compressor.

