Deep Pneumatics®
Transformation towards sustainable growth

IPM
ROTARY SCREW TECHNOLOGY-PM VSD

Oil Lubricated Low Pressure Screw Air Compressor

(PM Motor & Variable Speed Drive)

3HP - 340HP
Single Stage & Two Stage

Super Premium
IE4
Efficiency Motor

Screw Air Compressor

Why PML Series Low Pressure Screw Air Compressor with PM Motor & Variable Speed Drive?

Low pressure screw air compressors are required for specific applications in textile, cement, chemical, steel, pneumatic conveying & several other specialised industries, requiring a large, uniform compressed air-flow at lower pressure of 2 Bar to 5 Bar, offering energy efficiency, longer component life, and reduced heat and noise compared to normal pressure models of 7 Bar to 13 Bar.

Lowering working pressure in a compressed air system significantly reduces power consumption, with estimates suggesting a 1 bar drop can save 6-9% in energy and a 2 psi drop can save 1% in energy under load. This is because higher pressure requires more energy to generate and a higher system pressure increases leakage and artificial demand, while lowering it reduces compressor load, saves energy, and can minimize leaks.

Two-stage compressors save energy through intermediate cooling between 2 stages, which reduces the heat generated during compression, improves mechanical efficiency, and lowers the overall power consumption, especially for high-pressure, high-demand tasks.

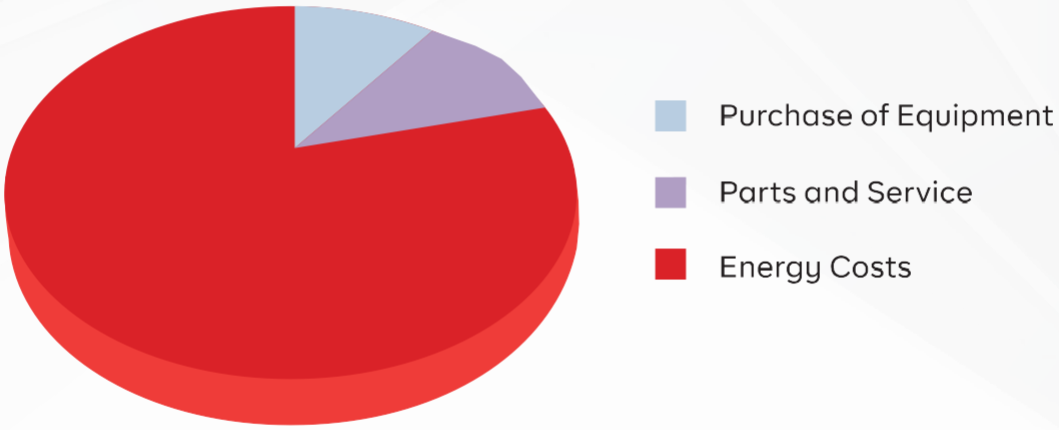
Smart touch controller ensures real time data, alerts for predictive maintenance, diagnostic analysis and highest availability of compressor.

Unique Features	*Advantages*	*Customer Benefits*
Highly Stable Screw Element Design for Low Pressure	Improved FAD & Performance	Lower Operating Cost
Premium Efficiency Permanent Magnet Motor	Higher Electrical Efficiency	Lower Running Cost
Large Air-Oil Receiver Tank	Lower Operating Temperature Due to High Oil Capacity	Lower Heat Load for Air Dryer Selection
Latest Generation Controller with User Friendly Interphase	Ease of Communication & Operation	Ease of Monitoring & Predictive Maintenance Planning
Built In Inverter Drive	Generation as per Consumption	Energy Savings
Tropical Design of Combi-Cooler	Lower Operating Temperature	Improved Life of Consumables
Care for Environment	Lower Energy Consumption	Lower Carbon Emission Contribution

Determining Your Compressor's True Life Cycle Cost

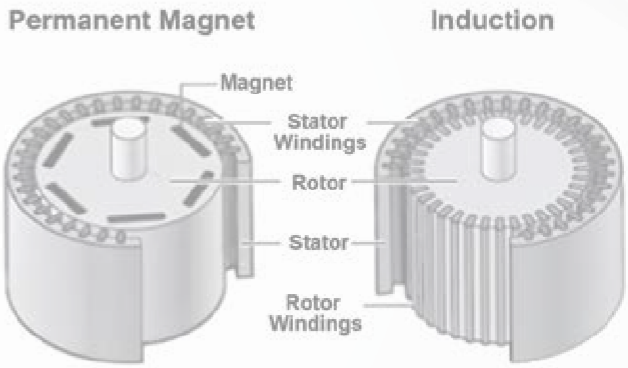
Purchasing a compressor is an investment. How that investment continues to perform over its life, directly impacts your bottom line.

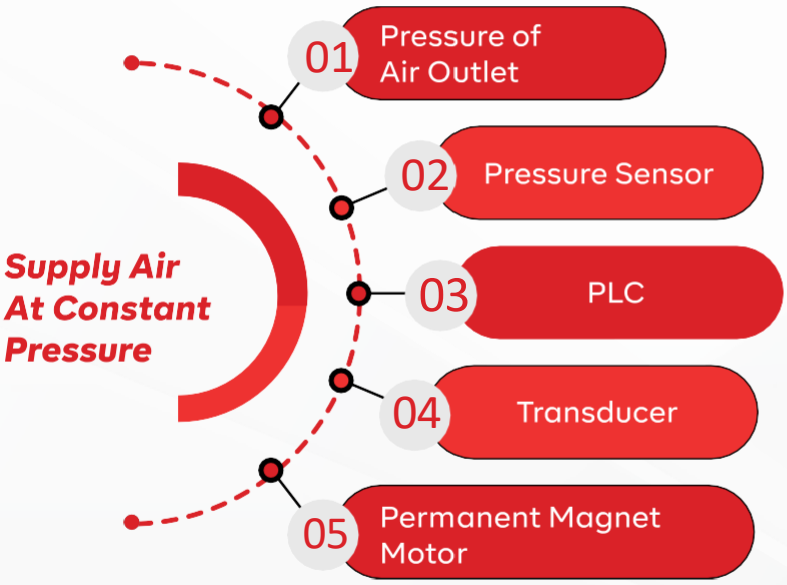
Total Life Cycle Cost



Working principle : iPM motor

Permanent magnets are housed inside of the rotor (hence the name interior permanent magnet motor).
Electrical current flows in a rotating motion in the stator windings, creating a rotating magnetic field.
The permanent magnets inside the rotor are attracted and start rotating with the magnetic field.





The pressure sensor detects pressure of the air outlet and sends signal to PLC. PLC controls outputs frequency of the transducer according to pressure of the pressure sensor. When the pressure is high, decrease the frequency. When the pressure is low, increase the frequency to keep pressure constant.

The compressor controls speed of the permanent magnet motor via transducer, so it forms a variable speed and closed-loop control system, realizes air supply at constant pressure, produces air according to demand, stops production when air is not used, starts production by soft start when air is used; thus, it avoids idle consumption thoroughly.

IPM VSD saves over 40% power and thus ensures faster payback

Maintain pressure band within 0.1 bar for maximum energy saving

Factory fitted IPM VSD ensures highest reliability

Constant power factor

Factory tested air compressor at critical speed to eliminate the vibration /resonance

Reduction in energy requirement, contributing to CO2 foot print reduction

Elimination of unload power to nearly 0%

Care for environment by reduced emission in energy generation

Technical Parameters Of PML Series
Low Pressure Single Stage Permanent Magner Motor Screw Sir Compressor

Model	Motor Power	Pressure	Volume Flow	Air Outlet	Weight	Dimensions
	(KW)	(BAR)	(M3/MIN)		(KG)	(MM)
DP20 PML	15	3 4	0.9 - 3.6 0.8 - 3.3	G1 G1	420 420	1350×850×1110 1350×850×1110
DP30 PML	22	3 4 5	1.6 - 6.5 1.3 - 5.5 1.1 - 4.4	G2 1/2 G1 1/2 G1	800 600 450	1500×1200×1550 1500×1000×1350 1350×850×1110
DP40 PML	30	3 4 5	2.2 - 8.8 1.7 - 7.0 1.5 - 6.1	G2 1/2 G1 1/2 G1 1/2	900 650 600	1500×1200×1550 1500×1000×1350
DP50 PML	37	3 4 5	2.8 - 11.2 2.5 - 10.5 2.0 - 8.0	DN80 G2 1/2 G2 1/2	1500 1500 1250	2000×1450×1700 2100×1440×1650 1700×1210×1550
DP60 PML	45	3 4 5	3.5 - 13.8 3.0 - 12.2 2.3 - 9.5	DN80 G2 1/2 G2 1/2	1500 1550 1250	2000×1450×1700 2100×1440×1650 1700×1210×1550

Note:
Free Air Delivery (FAD) tested as per ISO 1217:2009
Due to continuous improvement, specifications are subject to change without prior notice
Product image is only for representation

Technical Parameters Of PML Series
Low Pressure Single Stage Permanent Magner Motor Screw Sir Compressor

Model	Motor Power	Pressure	Volume Flow	Air Outlet	Weight	Dimensions
	(KW)	(BAR)	(M3/MIN)		(KG)	(MM)
DP75 PML	55	3 4 5	4.4 - 17.6 4.0 - 16.0 3.0 - 12.3	DN80 G2 1/2 G2 1/2	2300 1650 1650	2400×1750×2000 2100×1440×1650 2100×1440×1650
DP100 PML	75	3 4 5	5.8 - 23.1 5.2 - 21.0 4.1 - 16.5	DN125 DN80 G2 1/2	2900 2300 1500	2400×1750×2000 2400×1750×2000 2100×1440×1650
DP120 PML	90	3 4 5	7.9 - 31.6 7.0 - 28.0 5.0 - 20	DN125 DN80 DN80	3100 3000 2950	2950×1840×2230 2600×1900×1890
DP150 PML	110	3 4 5	9.2 - 36.8 7.9 - 31.6 6.0 - 24	DN125 DN100 DN80	3500 4200 3200	2950×1840×2230 3250×2100×2200 2600×1900×1890
DP180 PML	132	3 4 5	11.8 - 46.8 8.6 - 34.6 7.2 - 29	DN150 DN100 DN100	5000 4500 3700	4000×2200×2270 3250×2100×2200 3250×2100×2200
DP215 PML	160	3 4 5	14.0 - 55.6 11.8 - 46.8 9.2 - 37	DN100 DN100 DN100	6200 4300 4000	4000×2200×2270 3250×2100×2200 3250×2100×2200

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Technical Parameters Of PML Series
Low Pressure Two Stage Permanent Magner Motor Screw Sir Compressor

Model	Motor Power	Pressure	Volume Flow	Air Outlet	Weight	Dimensions
	(KW)	(BAR)	(M3/MIN)		(KG)	(MM)
DP15 2SPML	11	4 5	0.8 – 3.2 0.7 – 2.8	G1	500	1300×980×1220
DP20 2SPML	15	4 5	1.0 – 4.2 0.9 – 3.6	G1	550	1300×980×1220
DP30 2SPML	22	4 5 6	1.45 – 5.8 1.35 – 5.4 1.1 – 4.6	G1 1/2 G1 1/2 G1 1/2	800 560	1400×1100×1450 1400×1100×1450 1300×980×1220
DP40 2SPML	30	4 5 6	1.9 – 7.8 1.7 – 7.1 1.7 – 6.8	G1 1/2	850 800	1400×1100×1450 1400×1100×1450 1400×1100×1450
DP50 2SPML	37	4 5 6	2.5 – 10.3 2.3 – 9.5 2.2 – 9	G2 1/2 G2 1/2 G1 1/2	600 850	2100×1440×1650 2100×1440×1650 1400×1100×1450
DP60 2SPML	45	4 5 6	3.0 – 12.2 2.8 – 11.5 2.7 – 10.7	G2 1/2 G2 1/2 G2 1/2	1650 1650 1500	1400×1100×1450 2100×1440×1650 2100×1440×16507
DP75 2SPML	55	4 5 6	3.8 – 15.5 3.6 – 14.5 3.5 – 13.8	G2 1/2 G2 1/2 G2 1/2	1700 1700 1700	2100×1440×1650 2100×1440×1650 2100×1440×1650
DP100 2SPML	75	4 5 6	5.0 – 20.6 4.8 – 19.5 4.5 – 18	DN65 DN65 G2 1/2	2400 2400 1800	2450×1700×1765 2450×1700×1765 2100×1440×1650

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Technical Parameters Of PML Series
Low Pressure Two Stage Permanent Magner Motor Screw Sir Compressor

Model	Motor Power	Pressure	Volume Flow	Air Outlet	Weight	Dimensions
	(KW)	(BAR)	(M3/MIN)		(KG)	(MM)
DP120 2SPML	90	4 5 6	6.1 – 24.5 5.7 – 23 5.5 – 22	DN80 DN80 DN80	2800 2800 2700	2600×1900×1890 2600×1900×1890 2550×1680×1850
DP150 2SPML	110	4 5 6	7.0 – 28 6.8 – 27.5 6.5 – 26	DN80 DN80 DN80	2900 2900 2800	2600×1900×1890 2600×1900×1890 2600×1900×1890
DP180 2SPML	132	4 5 6	9.0 – 36 8.5 – 34 8.1 – 32.5	DN100 DN 100 DN100	3100 3100 4000	3216×1963×1950 3216×1963×1950 3250×2100×2200
DP220 2SPML	160	4 5 6	11.5 – 46 10.5 – 42 9.6 – 38.5	DN100 DN 100 DN100	4400 4400 4000	3216×1963×1950 3216×1963×1950 3250×2100×2200
DP250 2SPML	185	4 5 6	13.0 – 52 11.2 – 45 10.95 – 43.8	DN 125 DN 125 DN 125	5500 550 5500	3550×2300×2300 3550×2300×2300 3550×2300×2300
DP270 2SPML	200	4 5 6	14.2 – 57 12.8 – 51.5 12.2 – 48.8	DN 125 DN 125 DN 125	6000 6000 5800	3550×2300×2300 3550×2300×2300 3550×2300×2300
DP300 2SPML	220	4 5 6	15.5 – 62 13.7 – 55 13.25 – 53	DN 125 DN 125 DN 125	8000 8000 6300	4300×2300×2430 4300×2300×2430 3550×2300×2300
DP340 2SPML	250	4 5 6	16.2 – 65 15.2 – 61 14.6 – 58.5	DN 125 DN 125 DN 125	8500 8500 700	4300×2300×2430 4300×2300×2430 3760×2260×2200

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