

# Rotary Screw Air Compressor - EPM Series Variable Speed Drive

18.5kW - 160kW / 25 - 220 HP  
High Efficiency Permanent Magnet Drive



*The Air of Trust*

# Anest Iwata Motherson

Anest Iwata Motherson (AIM) is a joint venture between Anest Iwata Corporation, Japan, and Motherson Group, India. Anest Iwata Corporation is one of the global leaders in Air Compressors and Vacuum Pumps with more than 9 decades of inspiring history of technological excellence.

Anest Iwata Motherson is committed to delighting its customers by ensuring the supply of the best quality products, supported with effective after-sales services at optimum value. The company has two state-of-the-art manufacturing facilities and a wide network of sales and service centers spread across India.

## Anest Iwata Inspiring History



2022  
"ARID"  
Air Dryer Launched

2019  
Rotary Vane  
Vacuum Pump Launched

2018  
Screw Air Compressor  
Sales Started in India

2017  
Electric Bus  
Compressor Launched

2015  
MEGASY Series  
Medical Air & Vacuum Unit  
Launched

Second Facility in Greater Noida



2013  
Reciprocating Vacuum  
Pump Launched in India

2012  
Oil-Free Claw  
Air Compressor Launched

2005  
Braking Compressor for  
Indian Railways Launched

2010  
Second Facility Inaugurated  
in Greater Noida (India)

2000  
Anest Iwata Motherson  
Established



2004  
World's First Oil-Free  
Booster Compressor  
Launched

1991  
World's First Oil-Free Scroll  
Air Compressor Launched

1993  
World's First Oil-Free Scroll  
Vacuum Pump Launched

1928  
First Reciprocating  
Compressor  
Manufactured

1984  
World's First Oil-Free  
Reciprocating Compressor with  
"Seize Free Technology"  
Launched

1977  
Screw Air compressor  
Launched



1926  
Established  
In Japan



## Unique Benefits of the EPM Series:

- **Save up to 40% of Power**

- Compared to an equivalent fixed speed compressor

- **Pay-Back in as little as 1-2 years**

- The more your air demand fluctuates, the faster the payback

- **More Air per Kilowatt**

- New over-sized compression Airend gives you more air efficient enough that you may be able to use a lower kW Compressor

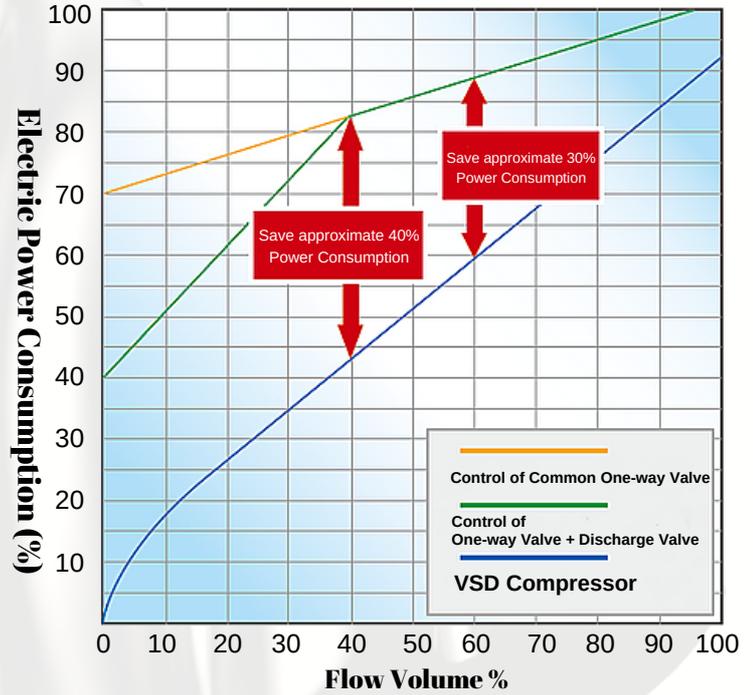
- **No Offload Running**

- When the compressor is up to pressure, it stops with no offload running

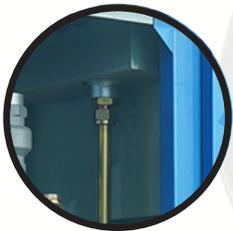
- **Low RPM**

- Average of 40 - 50% lower max RPM than our competitors

### Reduce 30% ~ 40% energy



## Product Description



After Cooler



Oil Filter



Airend



Touch Screen Controller



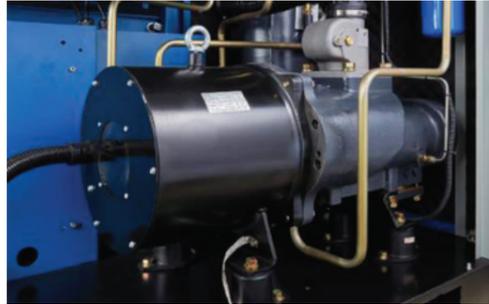
Tank & Oil Separator



VSD Controller for Main & Fan Motor

# Anest Iwata EPM Series Permanent Magnet Drive Features

## Oversized High Efficiency Airend



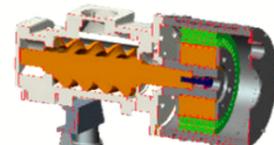
- On average 40-50% lower max RPM than our competitors
- Increased efficiency by 5-10%
- Large oversized rotors for low rotational speed
- Asymmetric rotor profile for increased sealing between rotors
- Triple lip shaft seals
- Dual back to back taper rolling bearings
- Oil seal leak recovery system

## High Efficiency IPM Motor

- Soft start on main and fan motor
- Variable range of 30-100%
- No offload running
- Can dramatically reduce running hours & power consumption
- Direct Drive (1:1 ratio) – eliminates gearing or transmission losses

## Special Dual Housing Oil-Cooled Motor

The Airend lubricant also cools the motor in a design in which the two housings are incorporated into one, with space left for an oil channel between the inner & outer housing. This design helps cool the motor more efficiently than the traditional air cooling fan system and reduces power consumption. The Airend and motor use a simple and easy morse connection for installation and dismantlement



## Energy saving features:

- Oversized low RPM, high-efficiency Airend
- Highest IPM motor efficiency, Better than IE4 efficiency levels.
- Superior VSD control technology for main & fan motor
- Energy-saving touch screen controller



## Variable Speed Drive (VSD) Inverter



The Advance inverter has a massive 30-100% variable range which converts AC to DC to control the new IPM motor. According to your air consumption the inverter will automatically adjust the IPM motor to suite your air demand while keeping a stable pressure of 0.1bar. The fan motor also has its own individual VSD feature which modulates the fan speed to keep a constant temperature.

## Energy Saving Touch Screen Controller

- 7 inch color screen with button and touch panel
- Operation screen readings for pressure/ temperature/ power/ frequency/ run hours/compressor status
- Day time scheduling on/off and pressure (4 different times/pressure allowed per day) to maximize savings
- Master-slave operation (Maximum of 16 compressors)
- Stop-start remote
- Service intervals/ alarm
- Date and Time
- Fault History
- Monitoring alarms
- Supports MODBUS RTU protocol



## Seamless Steel & Leak Resistant



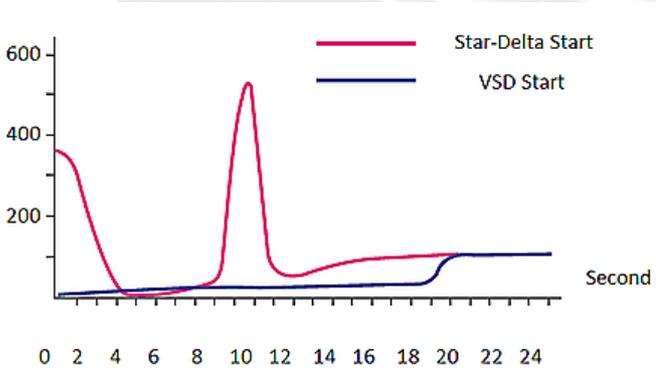
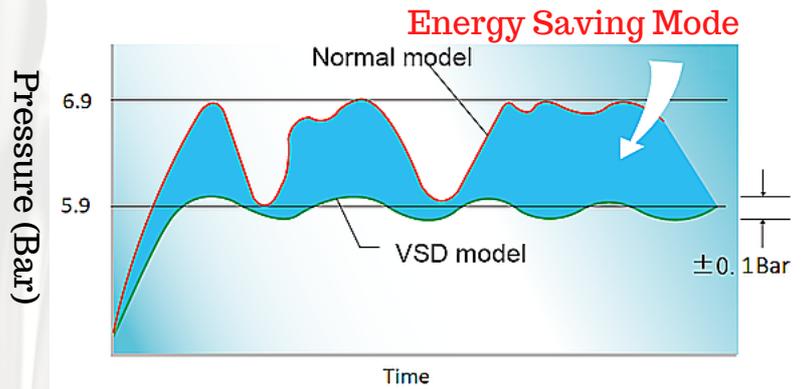
- A high-flow, leak-proof design.
- Rigid steel piping (with high-flow characteristics)
- Eliminates oil pressure losses and the risk of rupture or oil loss through the normal aging of traditional flexible, rubber hoses
- All joints in the hoses employ a combination of fluorine O-ring & compression rings to offer a leak-free and vibration-free operation.

*The Air of Trust*

# Advantages of EPM Series Screw Compressor

## Keeps Constant Air Supply

- The compressor keeps  $\pm 0.1$  bar constant pressure of air supply under the required pressure
- With an increase in air demand, the pressure is constant and the rotating speed complements to ensure air demand
- With small air demand, the pressure is constant and the rotating speed decreases to satisfy sufficient air demand



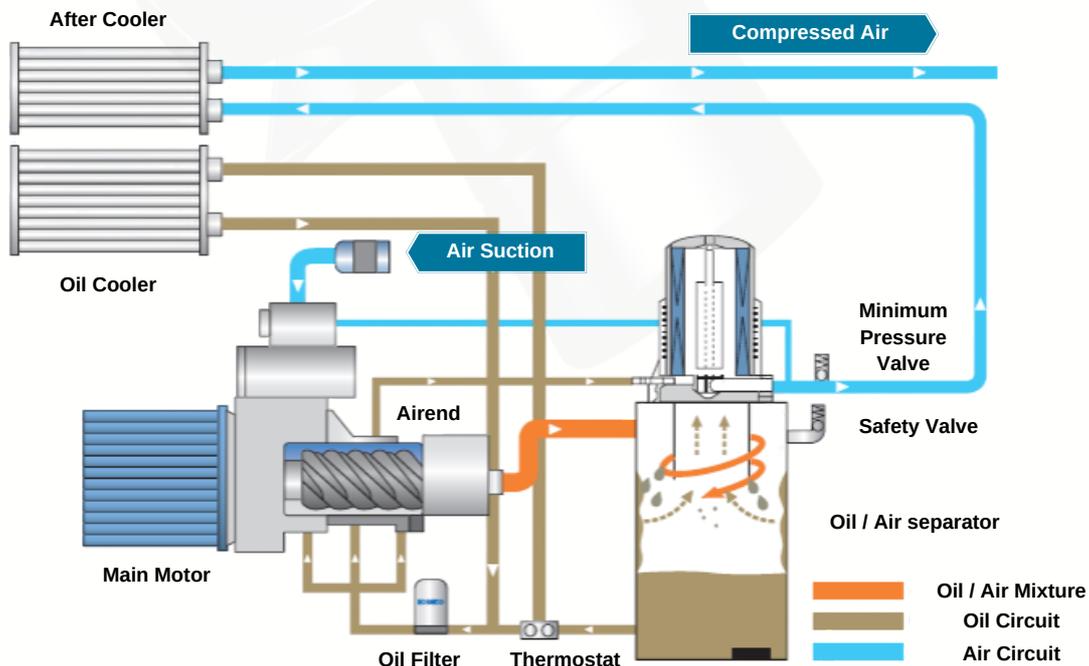
## Variable speed soft start, less impact to the power grid

- Variable speed soft-start eliminates the peak current when starting. A smooth start can reduce the power supply, equipment costs, as well as the impact on the power grid

## VSD-Permanent Magnet Efficiency

- The Interior Permanent Magnet (IPM) motor uses DC power via an inverter to seamlessly speed up and slow down the compressor to match the air demands. Once up to the pressure, the motor stops with no offload running. AC induction motors found on most VFD compressors are limited by, the number of times per hour they can stop/start, and therefore, cannot match the efficiency of the IPM motor. The EPM series has an unlimited start-stop ability which can dramatically reduce both total run hours, and power usage

## System diagram



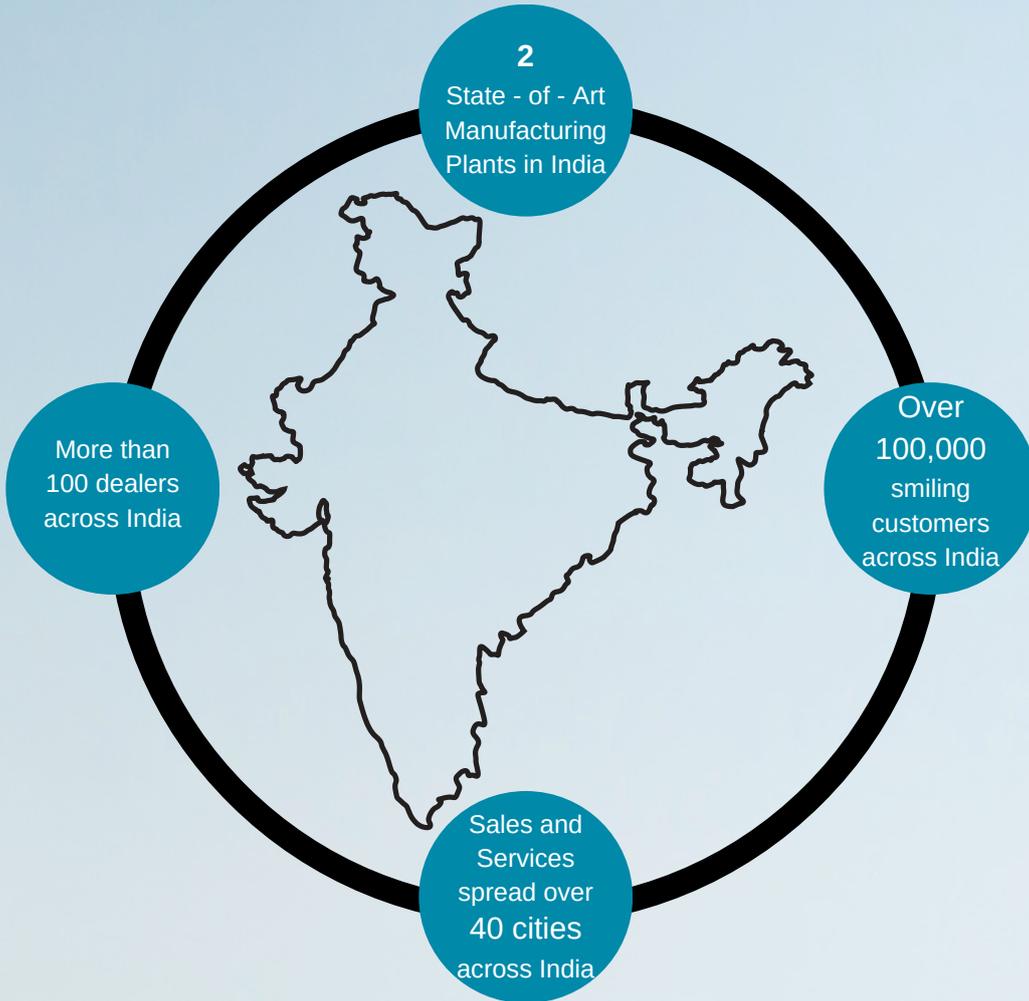
## Technical Specifications

Model	Power		Capacity		Pressure	Dimensions	Weight	Noise level at 1m	Outlet Size
	kW	HP	m <sup>3</sup> /min	CFM	Bar	mm	Kg		
AIM 25 EPM-7	18.5	25	1.3 - 3.7	46 - 131	7	1200 x 800 x 1100	480	68 ± 3dB	R 1
AIM 25 EPM-8			1.1 - 3.5	39 - 124	8				
AIM 25 EPM-10			1.0 - 2.9	35 - 102	10				
AIM 30 EPM-7	22	30	1.5 - 4.1	53 - 145	7	1200 x 800 x 1100	560	66 ± 3dB	R 1
AIM 30 EPM-8			1.4 - 4.0	49 - 141	8				
AIM 30 EPM-10			1.1 - 3.5	39 - 124	10				
AIM 40 EPM-7	30	40	2.1 - 6.2	74 - 219	7	1300 x 950 x 1370	830	68 ± 3dB	R1 1/2
AIM 40 EPM-8			1.8 - 6.1	64 - 215	8				
AIM 40 EPM-10			1.5 - 5.2	53 - 184	10				
AIM 50 EPM-7	37	50	2.3 - 7.3	81 - 258	7	1300 x 950 x 1370	850	69 ± 3dB	R1 1/2
AIM 50 EPM-8			2.2 - 7.2	78 - 254	8				
AIM 50 EPM-10			2.0 - 6.3	71 - 222	10				
AIM 60 EPM-7	45	60	3.0 - 9.4	106 - 332	7	1300 x 1030 x 1520	890	70 ± 3dB	R1 1/2
AIM 60 EPM-8			2.9 - 9.3	102 - 328	8				
AIM 60 EPM-10			2.6 - 8.0	92 - 283	10				
AIM 75 EPM 2 - 7	55	75	3.6 - 12.0	127 - 424	7	1800 x 1200 x 1650	1450	76 ± 3dB	RC 2
AIM 75 EPM 2 - 8			3.3 - 11.0	117 - 388	8				
AIM 75 EPM 2 - 10			3.0 - 10.0	106 - 353	10				
AIM 90 EPM 2 - 7	63	90	3.8 - 12.7	134 - 448	7	1800 x 1200 x 1650	1490	76 ± 3dB	RC 2
AIM 90 EPM 2 - 8			3.7 - 12.5	131 - 441	8				
AIM 90 EPM 2 - 10			3.3 - 11.0	117 - 388	10				
AIM 100 EPM 2 - 7	75	100	3.8 - 16.3	134 - 576	7	2280 x 1500 x 1950	2010	78 ± 3dB	DN65
AIM 100 EPM 2 - 8			3.6 - 16.0	127 - 565	8				
AIM 100 EPM 2 - 10			2.9 - 13.7	102 - 484	10				
AIM 125 EPM 2 - 7	90	125	5.0 - 20.0	177 - 706	7	2280 x 1500 x 1950	2050	78 ± 3dB	DN65
AIM 125 EPM 2 - 8			4.2 - 19.0	148 - 671	8				
AIM 125 EPM 2 - 10			3.3 - 16.5	117 - 583	10				
AIM 150 EPM 2 - 7	110	150	7.4 - 24.5	261 - 866	7	2800 x 1750 x 1690	2900	78 ± 3dB	DN80
AIM 150 EPM 2 - 8			7.2 - 24.0	254 - 848	8				
AIM 150 EPM 2 - 10			6.3 - 21.0	222 - 742	10				
AIM 180 EPM 2 - 7	132	180	8.3 - 30.0	293 - 1060	7	2700 x 1650 x 2150	3050	79 ± 3dB	DN80
AIM 180 EPM 2 - 8			8.0 - 28.5	282 - 1007	8				
AIM 180 EPM 2 - 10			6.5 - 23.0	229 - 812	10				
AIM 220 EPM 2 - 7	160	220	9.3 - 33.5	328 - 1183	7	2700 x 1650 x 2150	3150	79 ± 3dB	DN80
AIM 220 EPM 2 - 8			9.0 - 32.0	318 - 1130	8				
AIM 220 EPM 2 - 10			7.5 - 27.0	265 - 954	10				

Note :

- Standard Voltage is 400V/50Hz
- Free Air Delivery (m<sup>3</sup>/min / cfm) is measured as per ISO 1217: 2009 - Annex C
- Mean noise level measured at a distance of 1 m according to ISO 2151: 2004 using ISO 9614/2 (sound intensity method); tolerance 3 dB(A).
- All performance parameters are as per JIS (Japanese Industrial Standards)
- Vertical Air Tanks are available from 500 to 5000 liters
- Standalone Refrigerated Air Dryers, Heatless Air Dryers, Oil Removal Filters, and Auto Drain Valves are also available
- Specifications may change without prior notice

# Active with Newest Technology



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