# Rotary Screw Air Compressor - EPM Series
# Variable Speed Drive

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

EXTENDED WARRANTY
AIM 5
FIVE-YEAR CARE




*The Air of Trust*

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# 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**

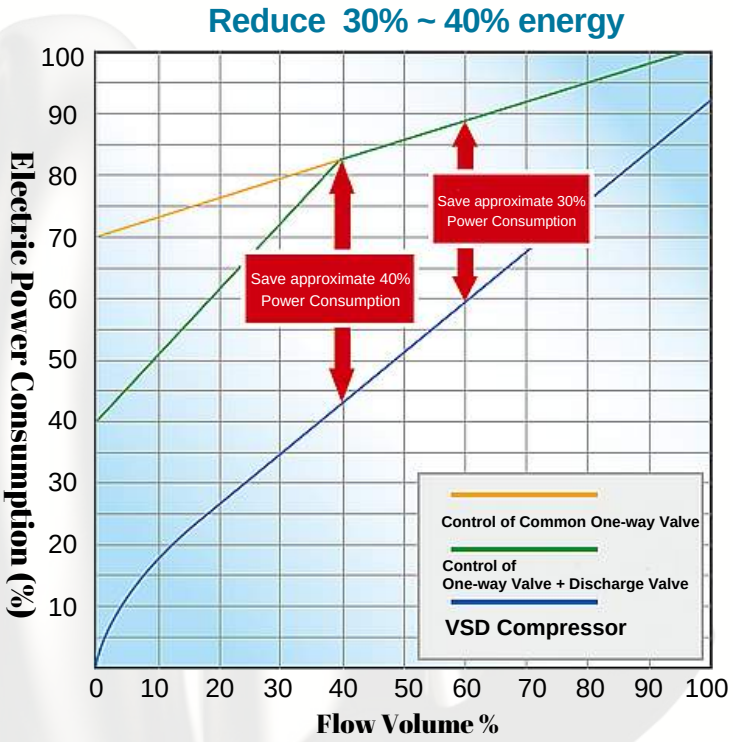
**- New over-sized compression Airend gives you more air efficient enough that you may be able to use a lower kW Compressor**

- **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**




## Product Description



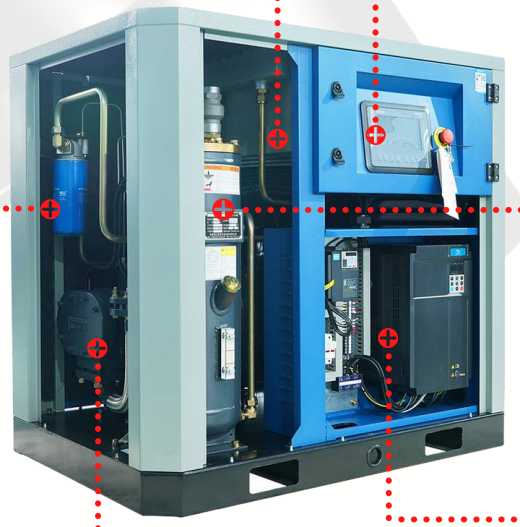
After Cooler



Oil Filter



Airend





Touch Screen Controller



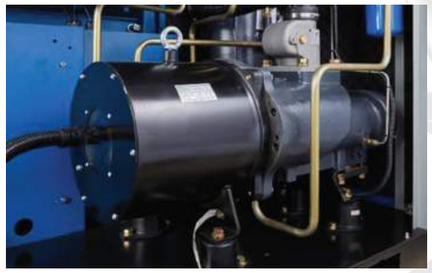
Tank & Oil Separator

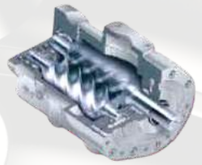


VSD Controller for Main & Fan Motor

# Anest Iwata EPM Series Permanent Magnet Drive Features

## Oversized High Efficiency Airend





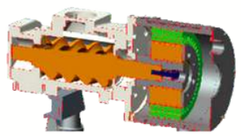
- On average 40-50% lower max RPM than our competitors
- Increased efficiency by 5-10%
- Large oversized rotors for low rotational speed
- Asymmetric rotor profile for increased sealing between rotors
- Triple lip shaft seals
- Dual back to back taper rolling bearings
- Oil seal leak recovery system

## 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



The Air of Trust

## 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

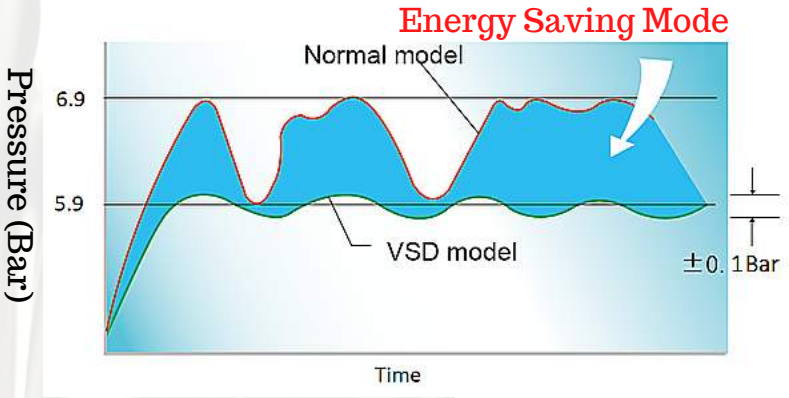


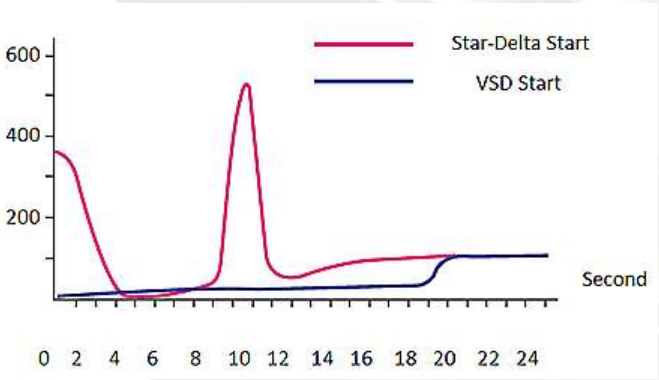
- A high-flow, leak-proof design.
- Rigid steel piping (with high-flow characteristics)
- Eliminates oil pressure losses and the risk of rupture or oil loss through the normal aging of traditional flexible, rubber hoses
- All joints in the hoses employ a combination of fluorine 0-ring & compression rings to offer a leak-free and vibration-free operation.

# Advantages of EPM Series Screw Compressor

## Keeps Constant Air Supply

- The compressor keeps ±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



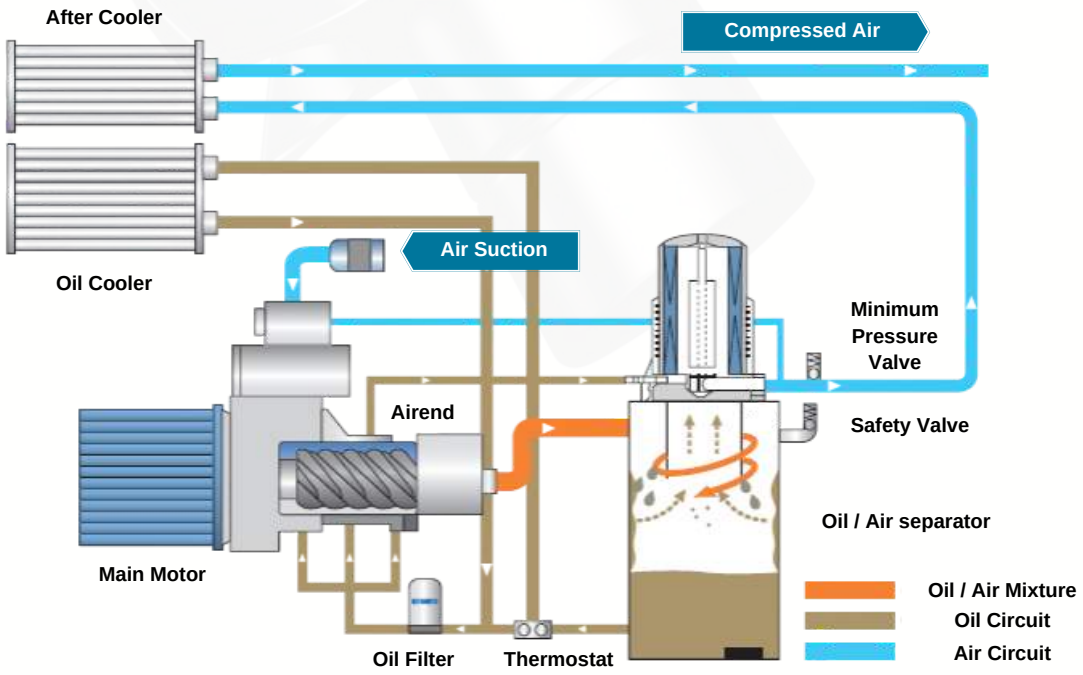

## Variable speed soft start, less impact to the power grid

- 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 | m3/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 /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

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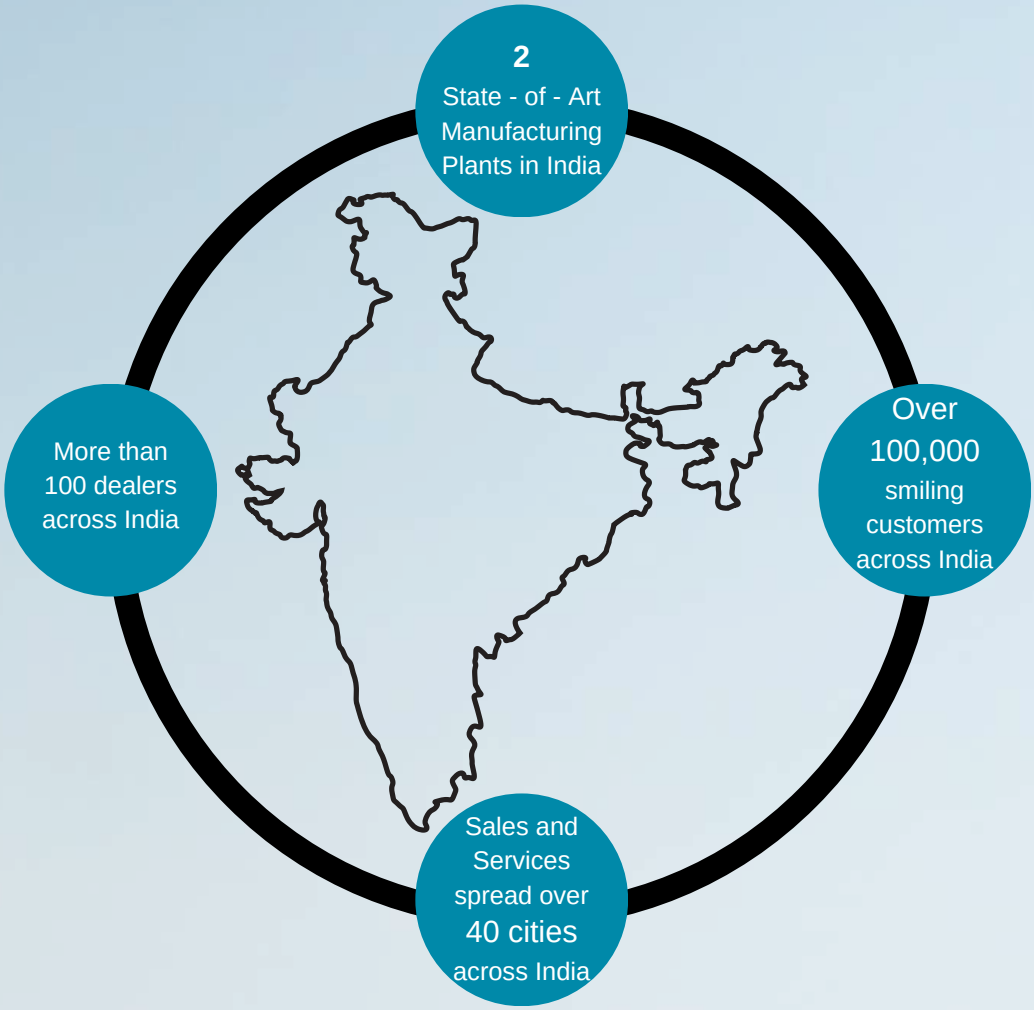
# Active with Newest Technology

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