

LRST Series

Tank Mounted Direct Drive Compressor

In-Built VFD | Permanent Magnet Technology | Energy Saving



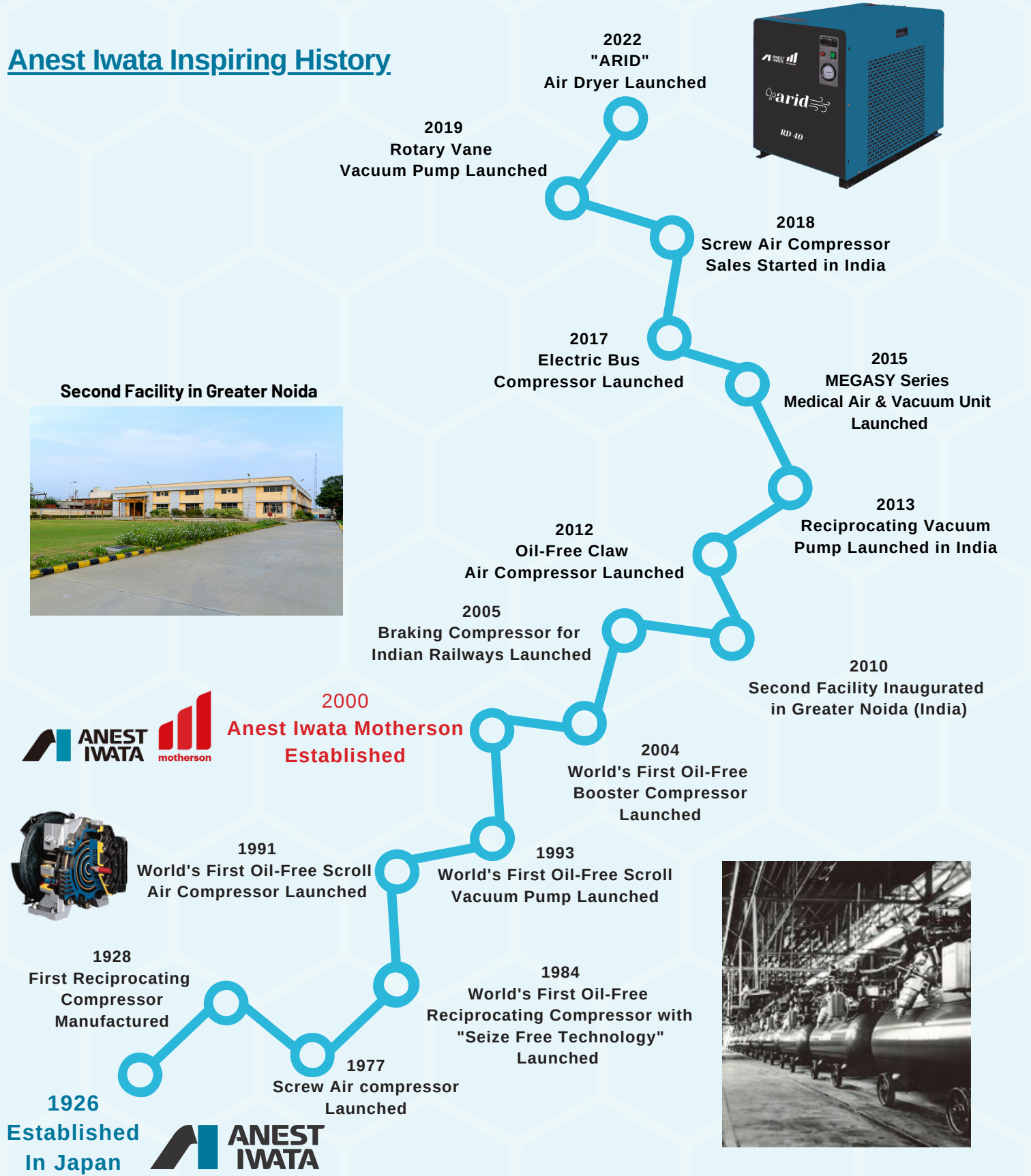
The Air of Trust

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



Affordable High Efficiency Compressed Air is here!

Introducing AIM's latest range of Permanent Magnet Screw Compressors.

The LRST range is the perfect choice for small to medium air users who have a variable air demand or who would like an energy-efficient machine that can match their demand as air usage increases. The LRST range now makes variable-speed energy-saving technology affordable to even the smallest user, where previously it was only a viable option for large air users.



Affordable energy savings

The unique design of the LRST machine bridges the gap between air users that have outgrown a piston compressor but cannot justify the cost of a new variable speed screw compressor. The oil-cooled IE4 'Super Premium Efficiency Permanent Magnet Motor' added with an inbuilt variable speed drive is the most cost-effective & energy-efficient air compressor available to you.

Unique advantages of the LRST series:

- Low noise operation
- Maximum energy savings
- Oil cooled IP65 PM motor
- Bearing free motor design
- 1:1 direct drive
- Wide operating speed
- Automatic start-stop scheduling
- Low component count
- Solid seamless steel pipes
- Air receiver with segregated oil tank
- Easy to service and maintain
- Pure soft start control

LRST Features and Benefits

High efficiency airend

- Large oversized rotors increase efficiency by 60%
- Low rotational speed leads to reduced wear
- Triple lip shaft seals ensure leak-free operation

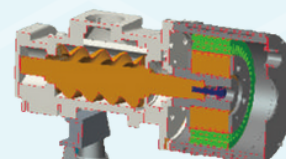


Permanent magnet motor

- IE4 PM Motor offers the highest level of efficiency
- IP65 sealed motor prevents dust ingress
- Oil cooled motor ensures adequate cooling even in the harshest of environments
- Bearing free design means no bearing maintenance

Direct coupled motor & airend

- 1:1 Direct Drive means no belt to maintain
- No gearbox or transmission losses
- Reduced noise over belt driven machines



Easy access for maintenance

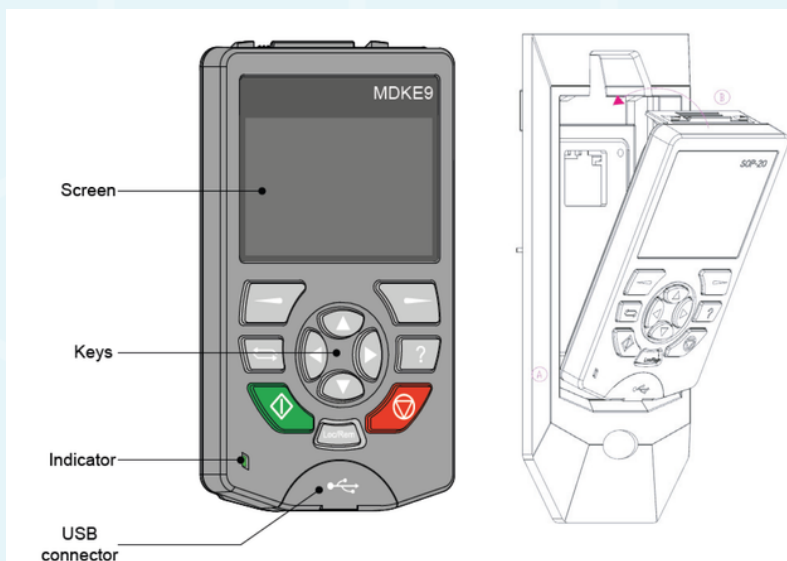
The Simple design means that all internal components are easily accessible

- Solid seamless steel pipework eliminates the risk of perished hoses
- Low component count increases reliability and service cost
- No drive belt maintenance

Low noise operation

- The PM motor and VSD lead to low noise operation
- Ideal for installing in the workplace
- Direct Drive reduces transmission noise levels





User friendly controller

- Full-text user-friendly controller
- Plain text simplifies menu navigation
- Dedicated compressor software imbedded into the VSD simplifies commissioning, settings, and maintenance timers
- Ability to schedule start and stop times reduces energy through reduced running hours
- Unique removable ethernet cable connected controller. A controller can easily be relocated outside the machinery room.

Product description



Unique patented air receiver and oil tank



- A unique labyrinth structure enables a small section of the receiver to be used as an oil tank, reducing manufacturing costs
- This design also reduces the machine size, weight, and footprint

Small, Compact and Flexible

The unique design of the LRST compressor makes it ideal for workplace installations, where space availability is a constraint.

- ▶ The flip-top design offers easy access to consumable parts from the front
- ▶ No need for rear machine access
- ▶ Can be located close to a back and sidewall
- ▶ No rear ventilation airflow required

Technical Specifications

Model	kW	HP	Capacity (m3/min)	Capacity (CFM)	Pressure (Bar)	Noise Level (dB)	Dimensions (mm)	Tank Size (ltr)	Outlet size (Inch)	Weight (kg)
LRST-7503-415	7.5	10	0.41 - 1.1	14 - 39	8	67	1197 x 500 x 1125	130	RC 1/2	280
LRST-7501-415			0.35 - 0.95	12 - 34	10					
LRST-1103-415	11	15	0.69 - 1.70	24 - 60	8	68	1197 x 605 x 1220	130	RC 1/2	320
LRST-1101-415			0.6 - 1.5	21 - 53	10					
LRST-1503-415	15	20	0.92 - 2.3	32 - 81	8	69	1197 x 605 x 1220	130	RC 3/4	340
LRST-1501-415			0.8 - 2.0	28 - 70	10					

Note :

- Standard Voltage is 415V/50Hz
- Free Air Delivery (m³/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)
- Standalone Refrigerated Air Dryers, Heatless Air Dryers, Oil Removal Filters, and Auto Drain Valves are also available upon request
- Specifications may change without prior notice



Engineering Capabilities & Customised Solutions.

We at Anest Iwata Motherson (AIM) are committed to delighting our customers. Our state-of-the-art Air Energy Core Technology Centre located in Yokohama, Japan works relentlessly on innovations and technologies that add value to our products and make us ready to serve our customer's future needs. It is our customer's trust in us that we have developed many "World's First" products.

Always Ahead with Anest Iwata!

**Innovation driven
World's 1st
products**



**Oil Free Reciprocating
Compressor**



**Oil Free Scroll
Compressor**



**Oil Free Booster
Compressor**

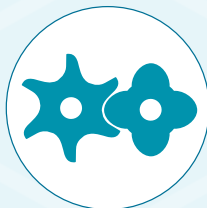


**Oil Free Scroll
Vacuum Pump**

Anest Iwata
Australia Pty.
Ltd.



Reciprocating



Screw



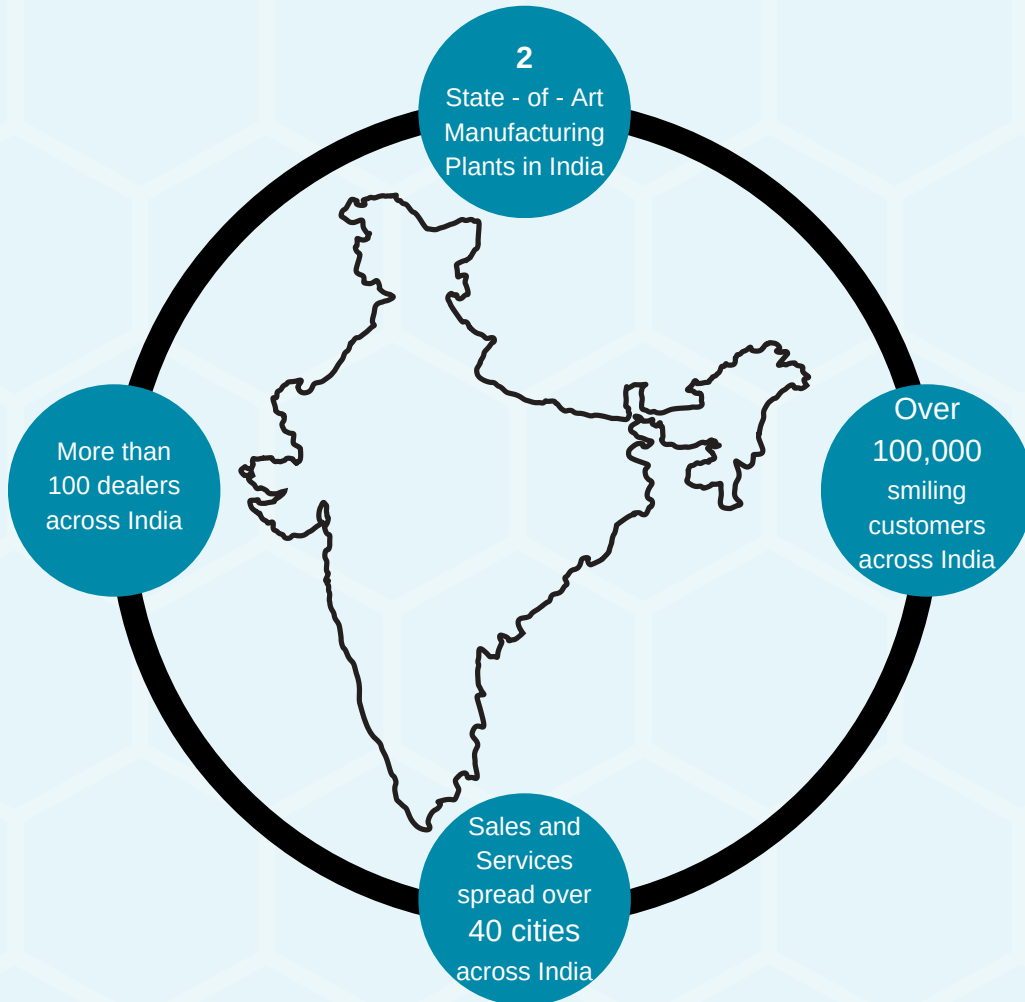
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Claw

Compressed Air Solutions in all Technologies

Active with Newest Technology



Anest Iwata Motherson Pvt. Ltd.
B-123 & 124, Sector-63, Noida - 201301,
Distt. Gautam Budh Nagar, UP, India.
Email: anestiwata@aim.motherson.com
Web: www.aimcompressors.com



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For any details reach us at:

Head Office: +91-120-4600-500/510/512/517

North : +91-9910394044 +91-9871362399

East : +91-9990023423 +91-9560806653

West : +91-9899553648 +91-9850993326

South : +91-9940654560 +91-9866000499

AUTHORISED CHANNEL PARTNER



High Efficiency APM Screw Air Compressor



High Efficiency Permanent Magnet Drive

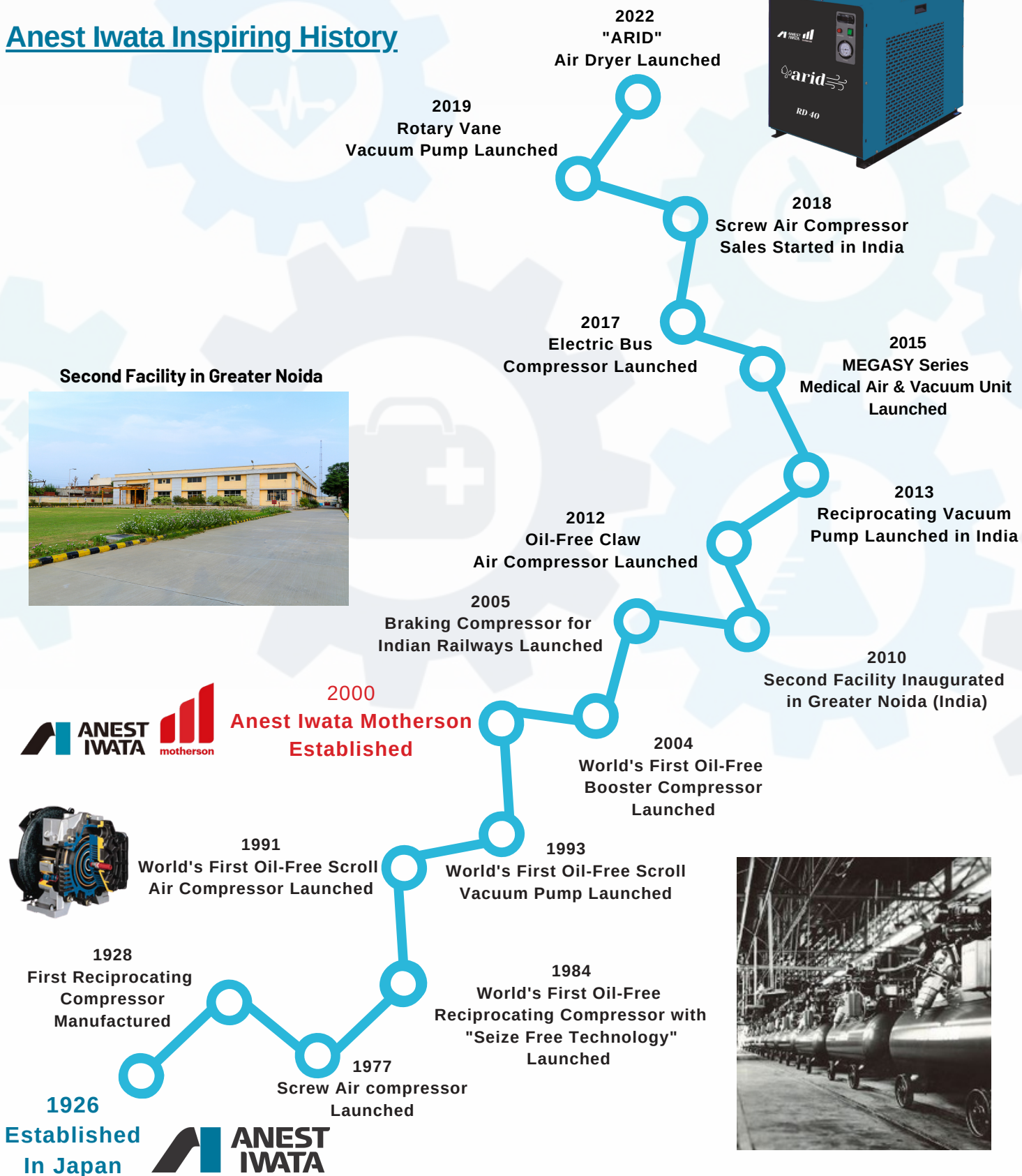
The Air of Trust

Anest Iwata Motherson

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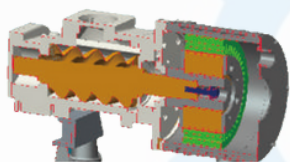
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Anest Iwata Inspiring History



High efficiency inverter APM air compressor

Unique designed two layer oil cooled PM motor



The double-layer oil-cooled shell design uses the air compressor cooling system to cool the motor through the liquid channel, ensuring low-temperature operation of the motor in the whole frequency range and preventing high-temperature lead to demagnetization. The PM motor adopts high-temperature permanent magnet material resistant to 180 degrees Celsius, which effectively ensures that the permanent magnet unit does not demagnetize. The IP65 motor is ideal for dusty or poor environments. The PM motor does not use traditional bearings making the motor maintenance-free

Energy saving

In the case of a small amount of air used or no air used, the system goes to sleep to achieve maximum energy savings. During sleep, when you use compressed air again, the inverter will respond quickly and starts immediately.



New Airend profile

The super profile increases the compression area so that the performance of the Airend is better than the standard one. Thanks to its excellent safety and reliability, plus high energy efficiency make it the best choice for replacing traditional Airend on the market.

Original "Taper" connection

The Airend and the motor are connected by the Taper connection method. It is convenient and quick to install and disassemble. It does not need to be adjusted, and it is not easy to damage the motor and internal parts, which greatly reduces the maintenance cost.



Latest touchscreen PLC

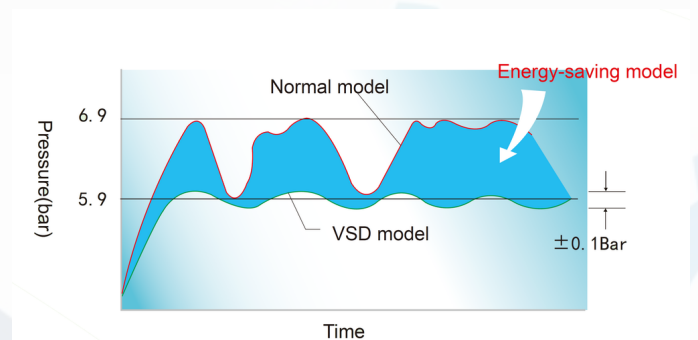
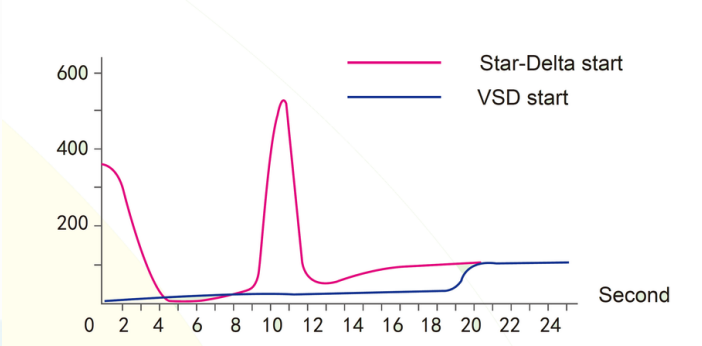
The latest touch screen PLC realizes the real intelligent control for your compressor, Time table running makes your compressor start/stop automatically as you want, more functions have been included to help the easy management of your compressor, we also could support remote control and monitoring with your permission.



The advantages of Anest Iwata APM compressor

1. Keep constant air supply

The compressor keeps $\pm 0.1\text{bar}$ constant pressure of air supply under the required pressure. With big air demand, the pressure keeps constant and the rotating speed increase ensures air demand. With small air demand, the pressure keeps constant and the rotating speed decreases to satisfy sufficient air demand.



2. 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, and equipment costs, as well as impact the power grid.

3. Reduce mechanical damage, increase service life

VSD compressor reduces the frequent loading and unloading of the solenoid valve, increases its service life, and avoids the damage due to long-term high-speed running. Furthermore, when the solenoid valve starts for the first time, then it has no more action, which not only extends the service life but also extends its maintenance period to save operating expenses.

4. Low noise

VSD air compressor starts and runs steadily without frequent loading and unloading sound fixed speed screw compressor. Adopting double VSD control (main motor and fan motor double VSD) will have better efficiency and the air discharged air temperature can be controlled within $\pm 2^{\circ}\text{C}$ to avoid condensation.

5. Stand-by function

When the air demand is small or no demand, the system will enter into a standby mode to have maximum energy-saving.

6. Electricity-saving— Unbelievable high efficiency of electricity-saving return

With variable speed control technology, the outlet air capacity of the compressor can be combined perfectly with the customer's requirements, which thoroughly avoids loss of unloading power. In the status of intermittent air demand, a soft start with zero loading can avoid the peak value of current and torque, so the compressor can start and stop many times.

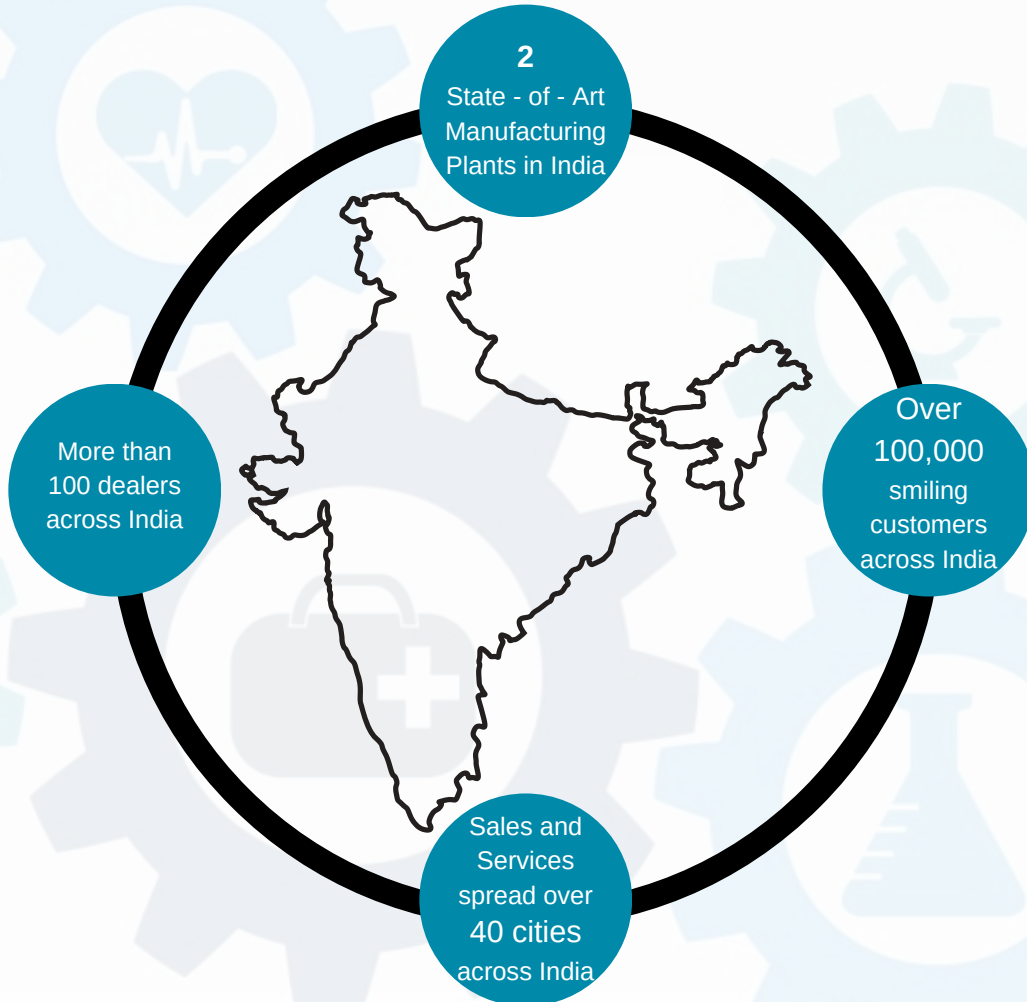
Technical Specification

Model	kW	HP	FAD (m3/min)	CFM	Pressure (Bar)	Noise Level (dB)	Dimensions (mm)	Outlet size	Weight (kg)
AIM 10 APM - 7	7.5	10	1.15	41	7	64	750 x 650 x 890	RC 1/2	230
AIM 10 APM - 8			1.10	39	8				
AIM 10 APM - 10			0.95	34	10				
AIM 15 APM - 7	11	15	1.75	62	7	64	900 x 800 x 1053	RC 3/4	270
AIM 15 APM - 8			1.70	60	8				
AIM 15 APM - 10			1.50	53	10				
AIM 15 APM - 13			1.20	43	13	66			
AIM 15 APM - 15	1.00	36	15						
AIM 20 APM - 7	15	20	2.40	85	7	68	900 x 800 x 1053	RC 3/4	280
AIM 20 APM - 8			2.30	82	8				
AIM 20 APM - 10			2.00	71	10				
AIM 20 APM - 13			1.60	57	13	70			
AIM 20 APM - 15			1.30	46	15				
AIM 20 APM - 16			1.20	43	16				
AIM 30 APM - 7	22	30	3.70	131	7	70	1200 x 800 x 1100	RC 1	350
AIM 30 APM - 8			3.60	128	8				
AIM 30 APM - 10			3.00	107	10				
AIM 30 APM - 12.5			2.70	96	12.5	77			
AIM 30 APM - 15			1.90	68	15				
AIM 30 APM - 16			1.80	64	16				
AIM 50 APM - 7	37	50	6.20	220	7	74	1300 x 900 x 1270	RC 1 1/2	520
AIM 50 APM - 8			6.10	216	8				
AIM 50 APM - 10			5.60	198	10				
AIM 60 APM - 7	45	60	7.40	262	7	73	1300 x 950 x 1370	R 1 1/2	620
AIM 60 APM - 8			7.30	258	8				
AIM 60 APM - 10			6.80	241	10				
AIM 75 APM - 7	55	75	10.4	368	7	77	1800 x 1200 x 1550	RC 2	1000
AIM 75 APM - 8			10.1	357	8				
AIM 75 APM - 10			8.50	301	10				
AIM 100 APM - 7	75	100	13.3	471	7	77	1800 x 1200 x 1550	RC 2	1100
AIM 100 APM - 8			12.9	456	8				
AIM 100 APM - 10			11.8	418	10				

Note :

- Free Air Delivery (FAD) 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)
- All pictures shown are for illustration purposes only. The actual product may vary due to continuous product enhancement.
- Standalone Refrigerated Air Dryers, Heatless Air Dryers, Oil Removal Filters, Auto Drain Valves, and Air Receiver are also available
- Specifications may change without prior notice

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Anest Iwata Motherson Pvt. Ltd.
B-123 & 124, Sector-63, Noida - 201301,
Distt. Gautam Budh Nagar, UP, India.
Email: anestiwata@aim.motherson.com
Web: www.aimcompressors.com



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For any details reach us at:

Head Office: +91-120-4600-500/510/512/517

North : +91-9910394044 +91-9871362399

East : +91-9990023423 +91-9560806653

West : +91-9899553648 +91-9850993326

South : +91-9940654560 +91-9866000499

AUTHORISED CHANNEL PARTNER



Rotary Screw Air Compressor - EPM Series Variable Speed Drive

18.5kW - 160kW / 25 - 220 HP

High Efficiency Permanent Magnet Drive



The Air of Trust

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Anest Iwata Inspiring History



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

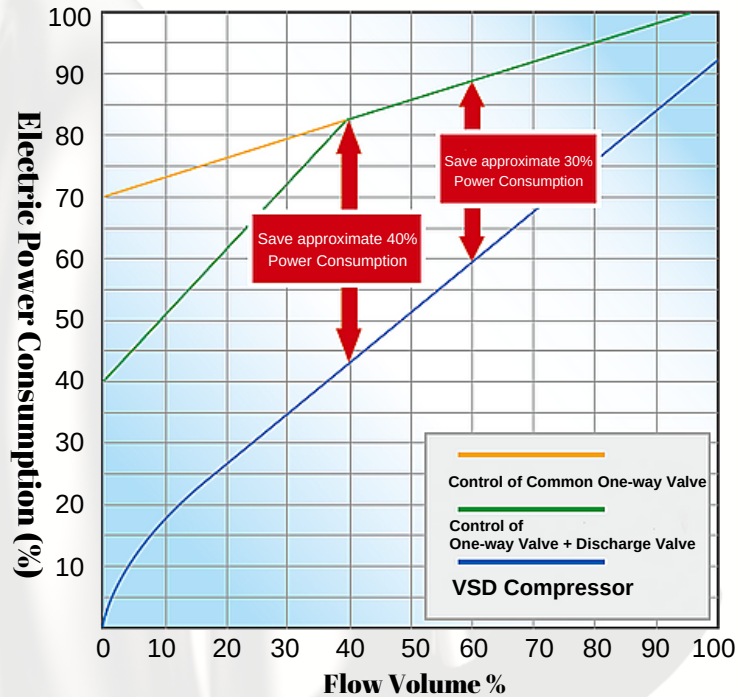
- **No Offload Running**

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

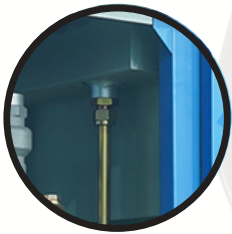
- **Low RPM**

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

Reduce 30% ~ 40% energy



Product Description



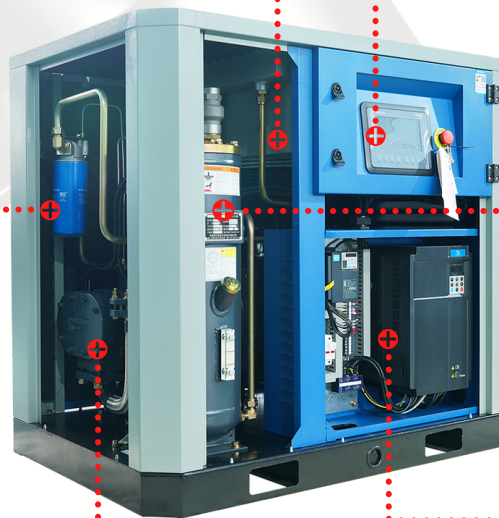
After Cooler



Oil Filter



Airend



Touch Screen Controller



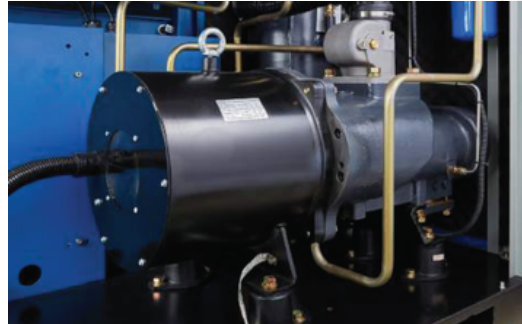
Tank & Oil Separator



VSD Controller for Main & Fan Motor

Anest Iwata EPM Series Permanent Magnet Drive Features

Oversized High Efficiency Airend



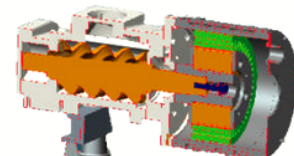
- On average 40-50% lower max RPM than our competitors
- Increased efficiency by 5-10%
- Large oversized rotors for low rotational speed
- Asymmetric rotor profile for increased sealing between rotors
- Triple lip shaft seals
- Dual back to back taper rolling bearings
- Oil seal leak recovery system

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



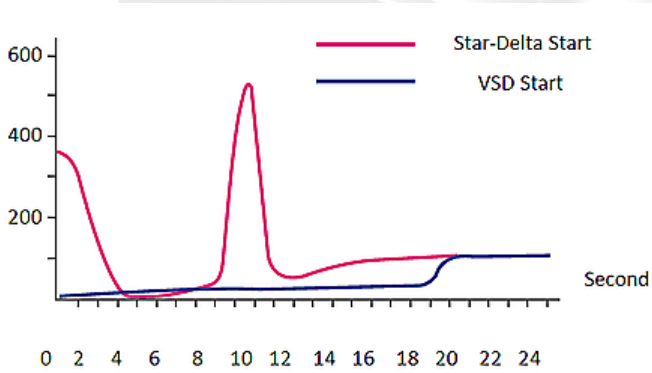
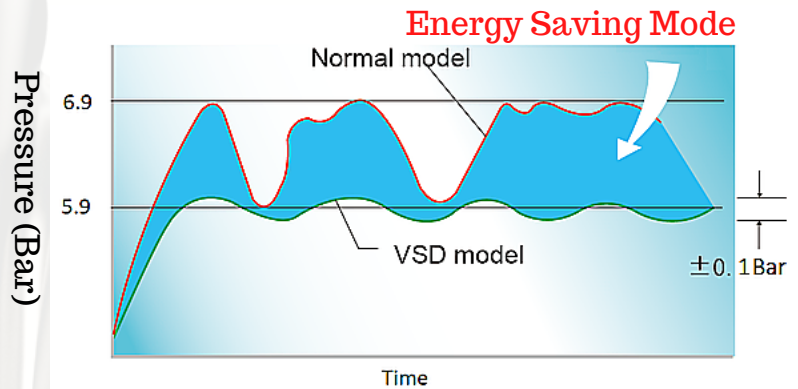
- A high-flow, leak-proof design.
- Rigid steel piping (with high-flow characteristics)
- Eliminates oil pressure losses and the risk of rupture or oil loss through the normal aging of traditional flexible, rubber hoses
- All joints in the hoses employ a combination of fluorine O-ring & compression rings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



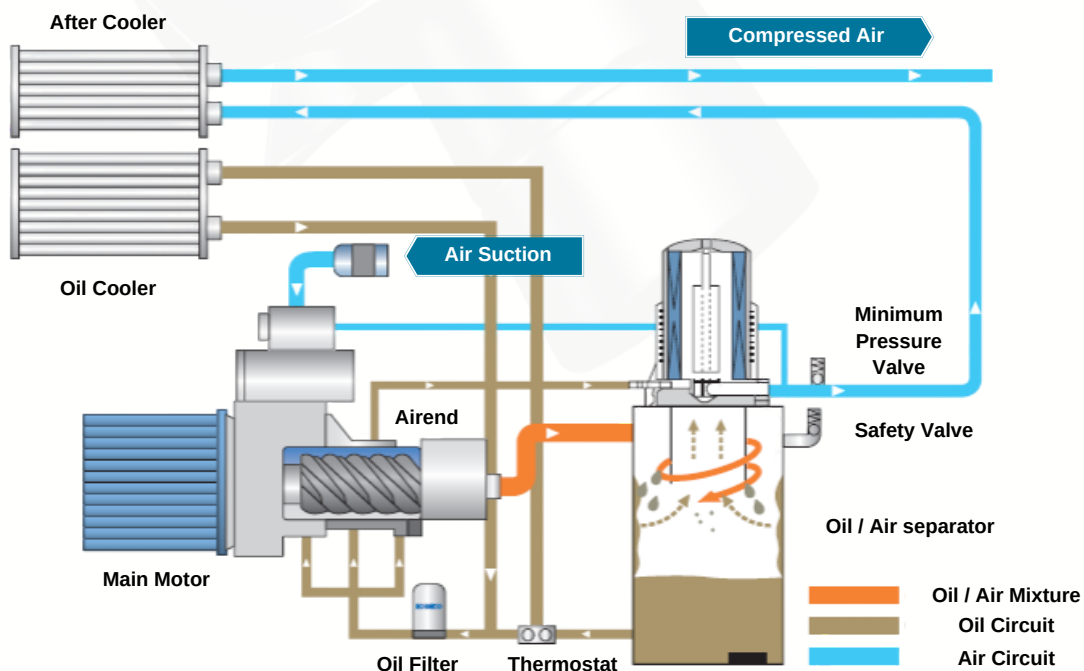
Variable speed soft start, less impact to the power grid

- 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



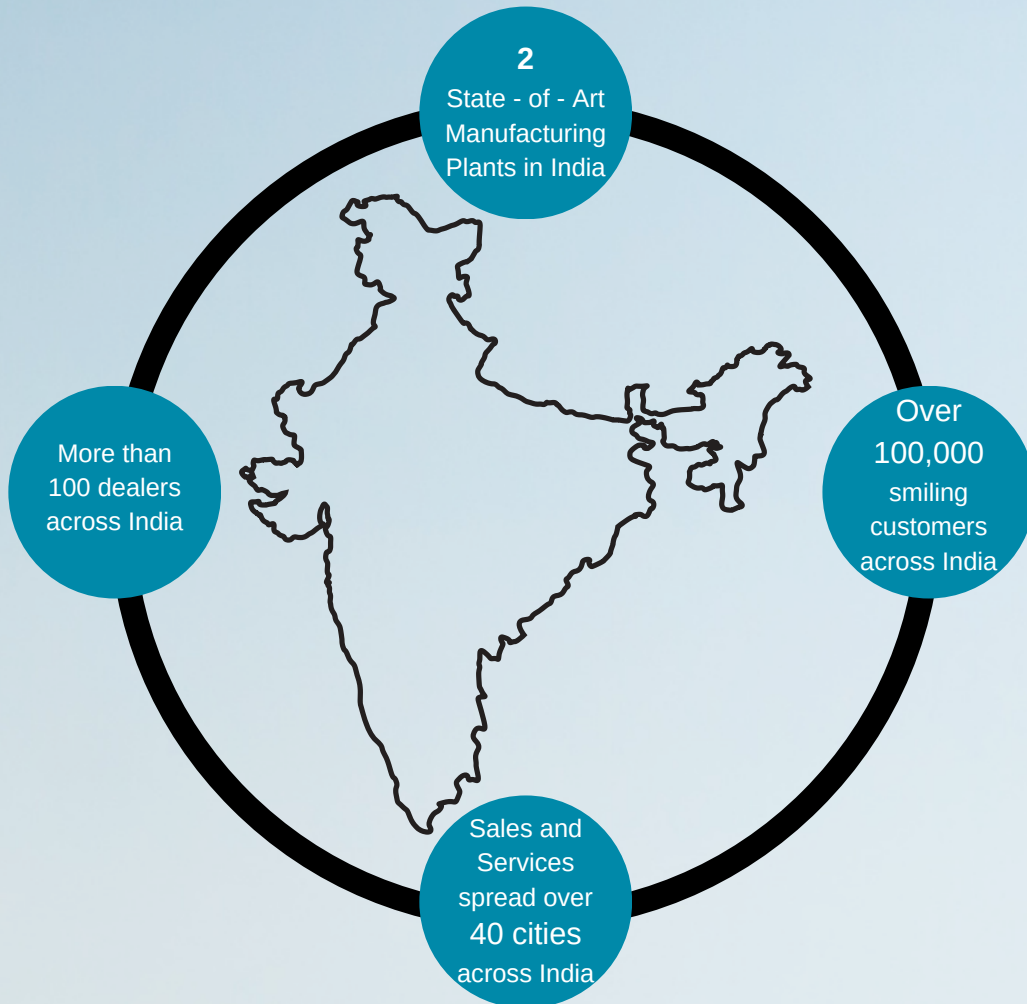
Technical Specifications

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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Anest Iwata Mothereson Pvt. Ltd.
B-123 & 124, Sector-63, Noida - 201301,
Distt. Gautam Budh Nagar, UP, India.
Email: anestiwata@aim.mothereson.com
Web: www.aimcompressors.com



ISO-9001

For any details reach us at:

Head Office: +91-120-4600-500/510/512/517

North : +91-9910394044 +91-9871362399

East : +91-9990023423 +91-9560806653

West : +91-9899553648 +91-9850993326

South : +91-9940654560 +91-9866000499

AUTHORISED CHANNEL PARTNER

