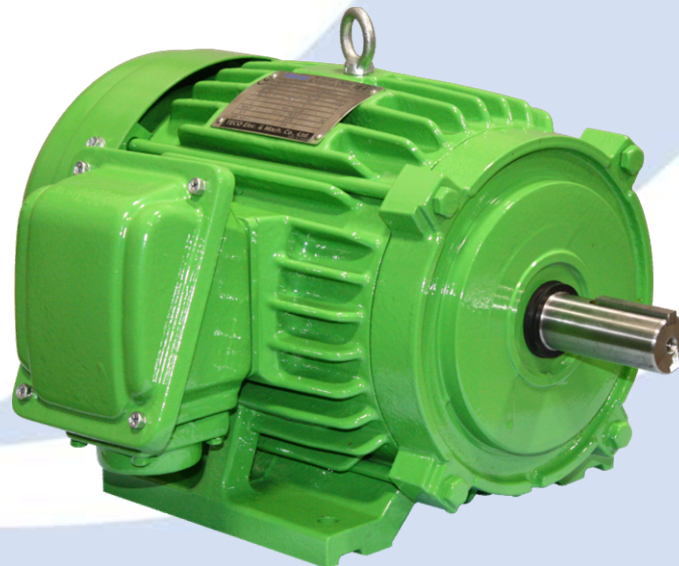


- 
- **Super premium efficiency permanent magnet motor**



MAX-PM (DVEM) (PMAC motor)



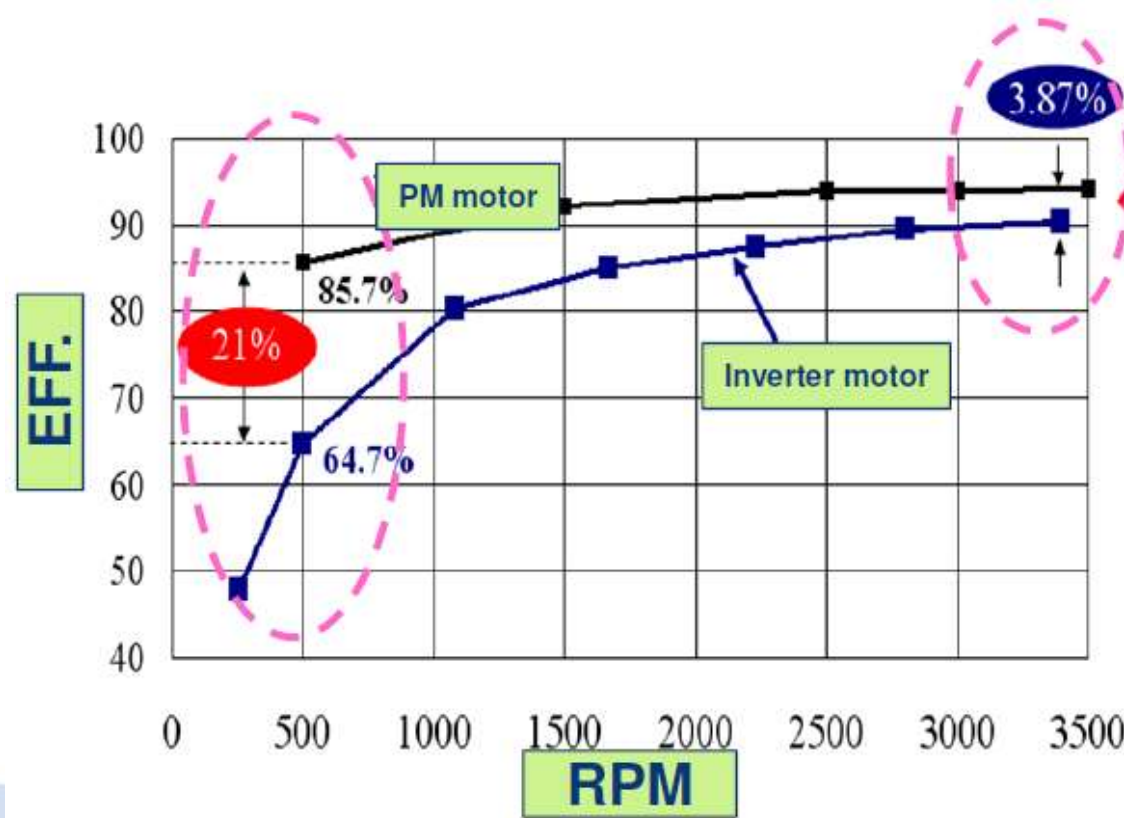
MAX-PM (DVEM)

Features

✓ Better Efficiency For Control Application

- *PM motors have significant efficiency performance in low speed – higher than premium efficiency 5~15%*

250~1500rpm-15kW

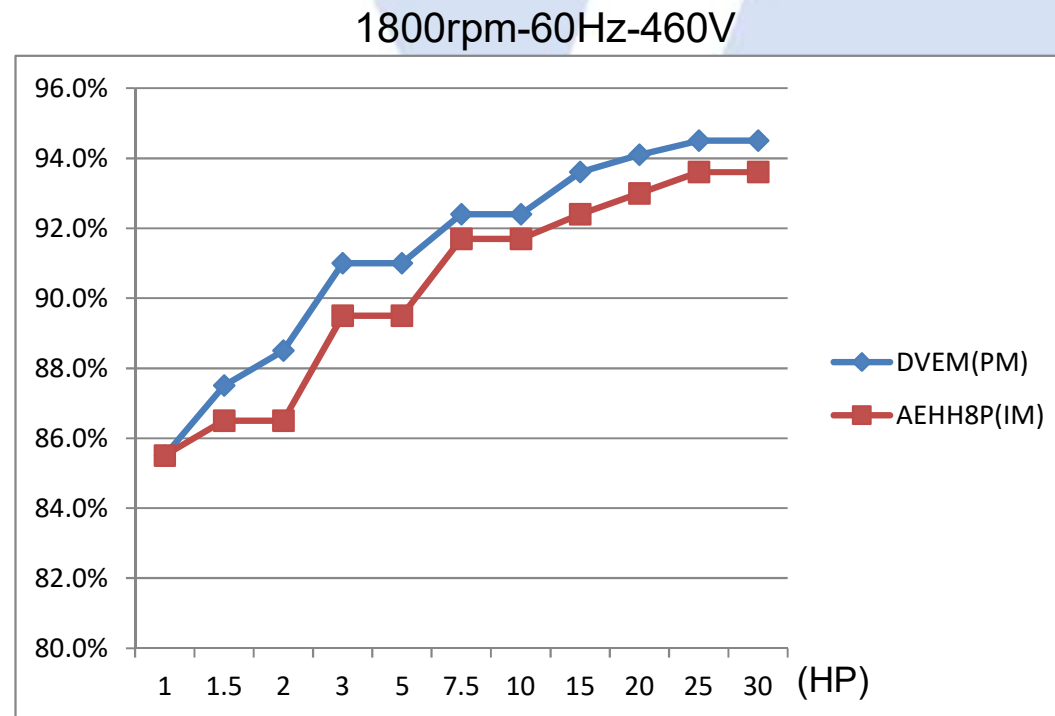


MAX-PM (DVEM)

Features

✓ Super Premium Efficiency (NEMA MG-10-2017)

- *PM motors meet super premium efficiency (IE4) requirement – higher than premium efficiency 1~2%*



MAX-PM (DVEM)

Features

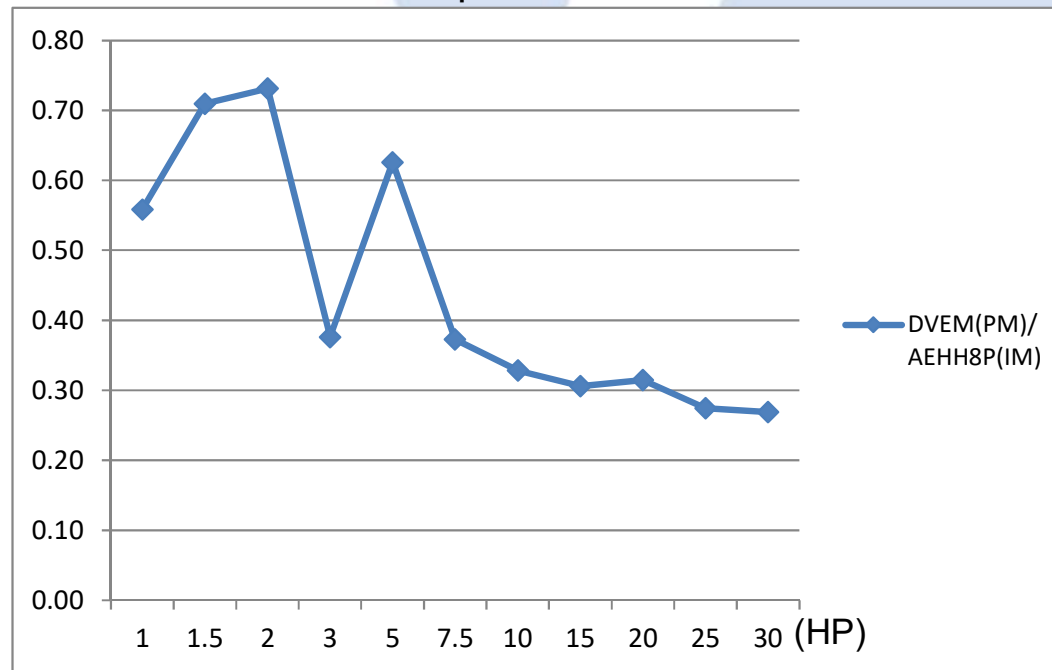
✓ High speed of response

- *PM motors have smaller rotor inertia – smaller than induction motor 30~70%*



Metal Processing Machine

1800rpm-60Hz-460V

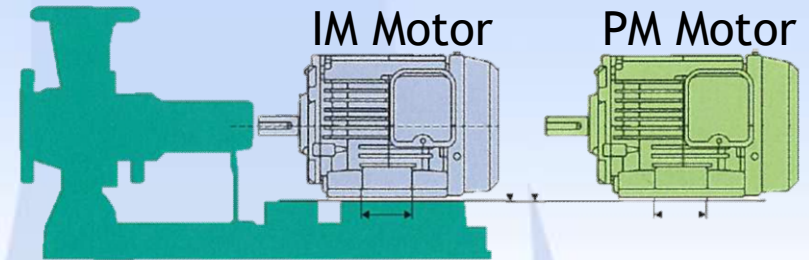


MAX-PM (DVEM)

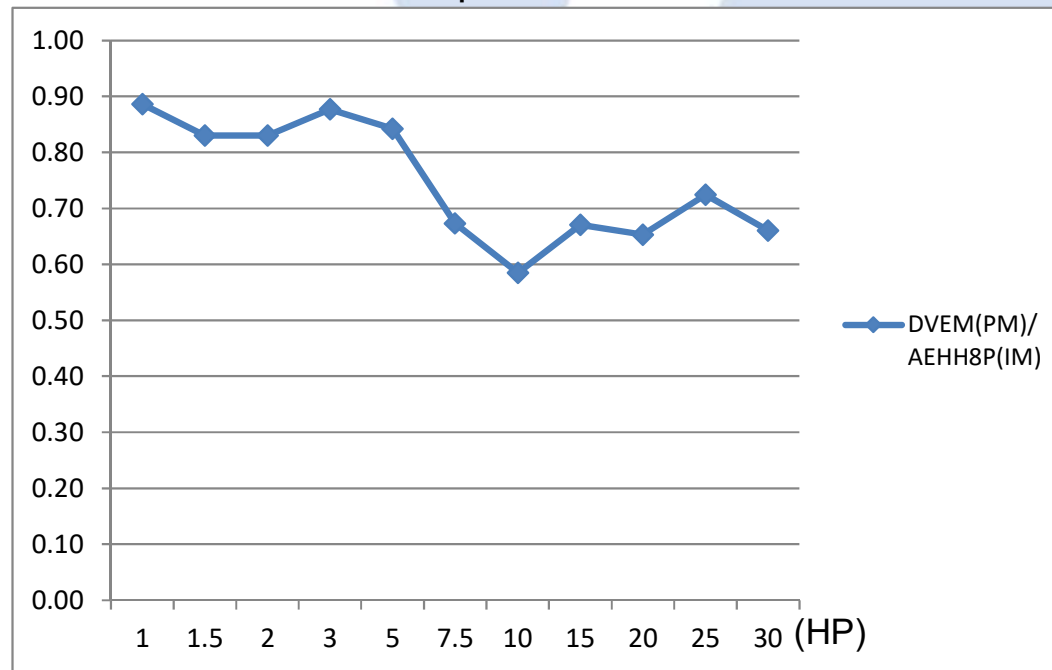
Features

✓ Same footprint, favorable weight

- *PM motors have lighter weight*
– lighter than induction motor 10~40%



1800rpm-60Hz-460V



MAX-PM (DVEM)

Specifications

	DVEM
Frequency	60Hz
Voltages	460V
Output	1~30HP
Rotor Structure	IPM - NdFeB
R.P.M.	1200 rpm 1800 rpm 3600 rpm
Frame Size	143T~286T
Protection Enclosure	Totally Enclosed, IP55
Mounting	B3, IM1001
Cooling	Self External Fan, IC411
Overload	150%, 60sec



MAX-PM (DVEM)

HP vs Frame size

HP	DVEM		
	1200 rpm	1800 rpm	3600 rpm
1	145T	143T	143T
1.5	182T	145T	
2	184T		145T
3	213T	182T	182T
5	215T	184T	184T
7.5	254T	213T	213T
10	256T	215T	215T
15	284T	254T	254T
20	286T	256T	256T
25		284T	284TS
30		286T	286TS



MAX-PM (DVEM)

Energy conservation example – Fan

Operation
24hrs/day

Rating (22kW)	Operation (kWh/hr)	Energy Consumption (26 days/month)	Electricity rate NTD\$/kWh	Electricity Charges NTD\$
Induction motor	20.42	12,742	3.02	38,481
PMAC motor	18.74	11,694		35,315
Monthly saving				3,166
Yearly saving				37,992



9% saving

Constant Speed

MAX-PM (DVEM)

Energy conservation example – Pump

Operation
12hrs/day

Rating (37kW)	Operation (kWh/hr)	Energy Consumption (26 days/month)	Electricity rate NTD\$/kWh	Electricity Charges NTD\$
Induction motor	34	10,608	3.02	32,036
PMAC motor	30.25	9,438		28,503
Monthly saving				3,533
Yearly saving				42,396



12% saving

MAX-PM (DVEM)

Energy conservation example – Die casting machinery

Operation
12hrs/day

Rating (22kW)	Operation (kWh/hr)	Energy Consumption (26 days/month)	Electricity rate NTD\$/kWh	Electricity Charges NTD\$
Induction motor	12.85	4,009	3.02	12,107
PMAC motor	8.11	2,530		7,641
Monthly saving				4,466
Yearly saving				53,592



Induction motor



PMAC motor

58% saving

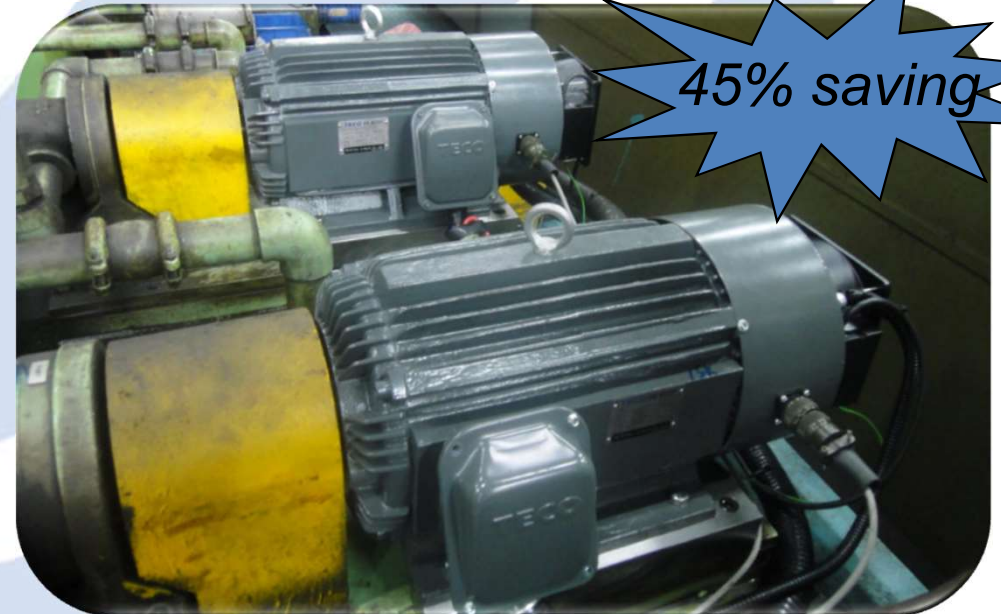


MAX-PM (DVEM)

Energy conservation example – Grinding machinery

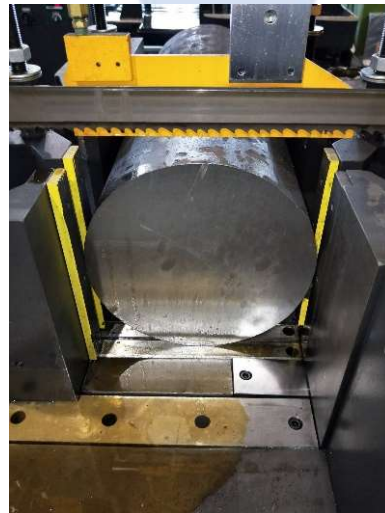
Operation 12hrs/day
Standby 4hrs/day

Rating (15kW, 22kW)	Standby (kWh/hr)	Operation (kWh/hr)	Energy Consumption (26 days/month)	Electricity rate NTD\$/kWh	Electricity Charges NTD\$
Induction motor	6.47	25.59	8,657	3.02	26,144
PMAC motor	0.62	18.94	5,974		18,041
Monthly saving					8,103
Yearly saving					97,239



MAX-PM (DVEM)

Application example
– Metal processing machinery



Band saw machinery

Board Sanding machinery

High torque at low speed

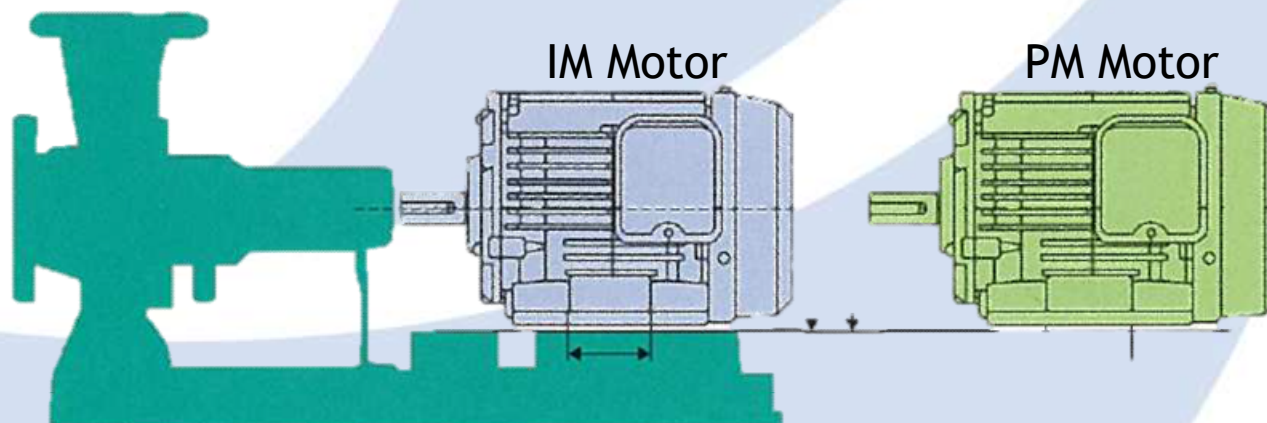
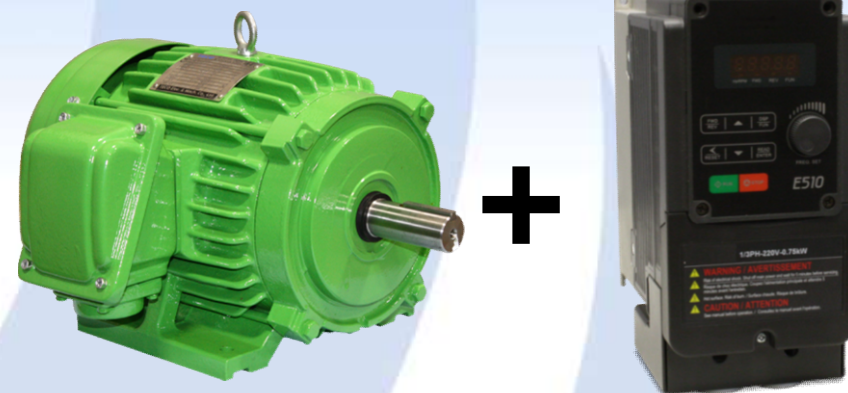


MAX-PM (DVEM)

Super Premium Efficiency Three Phase Low Voltage Permanent Magnet motor:

- **Standard feature**
60Hz, 460V, 1HP ~ 30HP
1200, 1800 & 3600rpm, 143T ~ 286T
Pairs Well with the E510 IP20 AC Inverter

- **Benefits**
 1. 143T - 286T NEMA Frames
 2. IE4 Super Premium Efficiency Levels
 3. Up to 40% Lighter than Equivalent Induction Motor
 4. Noise Level Reduction, as Low as 75 dBA



MAX-PM (DVEM)

Super Premium Efficiency Three Phase Low Voltage Permanent Magnet motor:

- Super Premium Efficiency(IE4) Variable Torque Motor
Application:



Fan Arrays



Axial Fan



Metal Processing Machinery



Blower



Compressor



Water Pump

Comparison

	TWMC	Marathon	ABB/Baldor	Lesson
Model	MAX-PM	SYMAX	EC Gold series	Platinum e™
Eff.	IE4	IE4	IE4	IE4
HP	1~30	0.25~30	0.5~7.5	3~40
RPM	3600 1800 1200	3600 1800 1200 900	3600 1800 900	1800
Voltage	460	400, 460	230, 460	460
Protection Enclosure	IP55	IP54/IP55/IP56	IP54	IP54/IP55
Insulation	F	H	F	H
Over torque	150% in 60s	150% in 60s	-	-
Mount	B3	B3 plus C face	B3 plus C face	B3 plus C face
Overload protection	-	N/C Thermostat	-	N/C Thermostat



10 samples –
2HP 460V 1800rpm PMAC motor
ETA in March

