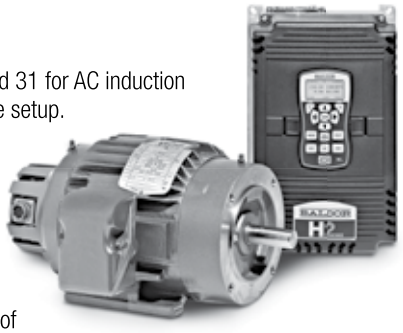
AC Motor Adjustable Speed Range Capabilities



Inverter Drive, Vector Drive, V*S Master and RPMAC Motors

Inverter Drive, Vector Drive, V*S Master and RPMAC Motors exceed all requirements of NEMA MG-1 Parts 30 and 31 for AC induction motors powered from adjustable speed inverter control. Satisfactory motor performance depends on proper drive setup.

Super-E® Motors

Super-E motors are Inverter-Ready and meet NEMA MG 1 Part 31.4.4.2. Super-E motors are suitable for use with inverter drives. Motor inverter setup is unique to each specific application. Proper setup and wiring procedures must be closely followed.

Application Considerations

It is necessary that motor-drive applications are commissioned by persons familiar with the operation and setup of adjustable speed drives, applicable electrical codes and any other regulations.

Each drive must be tuned to the motor for the specific application. System operating parameters must be checked, including voltage at motor power leads, to insure that motor/drive setup has been successfully completed.

Applications that are not properly setup can lead to substandard performance and failure of system components. In some installations, shaft grounding and isolated bearings may prevent bearing fluting and are available as an option or through Mod Express.

Reference the chart below for constant torque and variable torque capabilities for each product family. Torque performance depends upon proper drive setup.

Motors 48 body style and smaller are suitable for maximum 230V inverter operation.

Efficiency Savings

Significant energy savings can be achieved when applying Inverter Ready motors such as the Baldor Super-E to centrifugal load applications (fan and centrifugal pump) and running at reduced speed taking advantage of the affinity laws.

Motor load and corresponding energy consumption is reduced by the cube of the speed.

Family	Enclosure	Frame Size	Constant Torque	Variable Torque	Comments
Super E Motors 230, 460 and 575 Volts					
EM	TEFC	56-210(1)	20:1	20:1	General Purpose Premium Efficient
		250-320	10:1	20:1	
		360-445	4:1(2)	20:1	
		447-449	2:1(2)	20:1	
EM	ODP	56-210(1)	10:1	20:1	General Purpose Premium Efficient
		250-320	5:1	20:1	
		360 - 449	2:1	20:1	
ECP/XEX and ECP8/841XL (4)	TEFC	140	20:1	20:1	Severe Duty Premium Efficient
		180-210	10:1	10:1	
		250-449	4:1(2)	10:1	
EWDM	TENV,TEFC	56-256(1)	20:1	20:1	Washdown Duty Premium Efficient
SSS/ESS/SSE	TEFC	56-250	2:1	10:1	Stainless Steel Washdown Duty
	TENV	56-140	4:1	10:1	
Inverter Duty and Vector Duty Motors 230, 460 and 575 Volts					
IDCSWDM	TENV	56-140	5:1	10:1	Inverter Duty, Paint Free
IDCSWDM	TEFC	56-215	3:1	10:1	Inverter Duty, Paint Free
IDM	TEBC	143-5009	1000:1	1000:1	Inverter Duty, Blower Cooled
IDNM	TENV	143-256	1000:1	1000:1	Inverter Duty, Totally Enclosed Non-Ventilated
ZDM	TEBC	143-5009	1000:1	1000:1	Vector Duty, Blower Cooled
ZDNM	TENV	143-256	1000:1	1000:1	Vector Duty, Non-Ventilated
IDXM	TEXP	182-405	2:1	10:1	Inverter Duty, Explosion Proof
(2 families)		56-405	10:1	10:1	
IDWNM	TENV	143-254	1000:1	1000:1	Inverter Duty, Washdown, Non-Ventilated
ZDWNM	TENV	143-254	1000:1	1000:1	Vector Duty, Washdown, Non-Ventilated
V*S Master Motors 230 & 460 Volts					
IDNVSM	TENV	56-256	1000:1	1000:1	Inverter Duty, TENV, V*S Master
IDVSM	TEFC	182-449	1000:1	1000:1	Inverter Duty, TEFC, V*S Master
ZDNVSM	TENV	56-256	1000:1	1000:1	Vector Duty, TENV, V*S Master
ZDVSM	TEFC	182-449	1000:1	1000:1	Vector Duty, TEFC, V*S Master
ZDVSCP	TEFC-XT	143-326	1000:1	1000:1	Vector Duty, TEFC-XT, V*S Master
RPMAC Motors 230 & 460					
IDRPMN	TENV	FL180-FL210	1000:1	1000:1	Inverter Duty, TENV, RPMAC
IDRPMN	TEFC, TEBC, DPG-FV	FL180-FL440	1000:1	1000:1	Inverter Duty, TEFC, TEBC, DPG-FV, RPMAC
ZDNRPM	TENV	FL180-FL210	1000:1	1000:1	Vector Duty, TENV, RPMAC
ZDRPM	TEFC, TEBC	FL180-L400	1000:1	1000:1	Vector Duty, TEFC & TEBC, RPMAC
ZDPM	TEBC	FL180 - FL440	1000:1	1000:1	Vector Duty, TEBC, PM, RPMAC

(1) Baldor type 35M frames and larger
(2) CT, 10:1 available most ratings with fan change thru Mod Express
(3) CT, 2:1 available with fan change thru Mod Express. Specific ratings may be capable of greater CT range
(4) May not meet IEEE-841 temperature rise limits when applied to adjustable frequency power