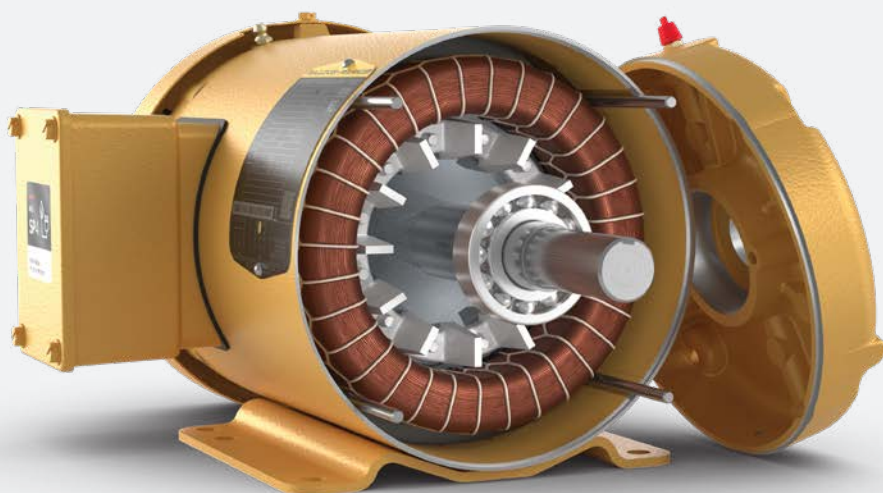


BROCHURE

Baldor-Reliance® SP4™ motors

NEMA Super Premium

BALDOR • RELIANCE



When it comes to electric motors, you trust in ABB. Leading the way in energy efficiency yet again, Baldor-Reliance® SP4™ motors give you a shortcut in energy savings that makes a difference to your bottom line. These motors achieve NEMA Super Premium® efficiency across-the-line, independently of a drive. DOL or inverter duty, runs cooler, longer and quieter – now with a 48-month warranty.



Baldor-Reliance® SP4™ motors

Revolutionizing the motor industry – again



Install base

There are more than 300 million industrial electric motor-driven systems in operation worldwide



DOL motors still run the world

Roughly 80% of the world's electric motors operate DOL (direct on line) without a drive



Lower energy costs

NEMA Super Premium® (comparable to IEC's IE4 efficiency) can offer up to 40% lower energy loss in comparison with a NEMA standard efficient (IE2) induction motor



Rising cost of energy

- Electricity prices (KWh) continue to rise in all sectors and regions, making it more expensive to operate businesses
- Higher electricity prices directly impact operational expenses and increase production costs



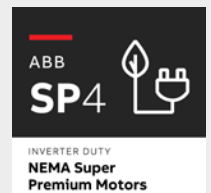
Solving the problem

- Take the best and proven AC induction motor design and make it better by reducing motor losses by an average of 20% while maintaining simplicity of AC induction motors
- Simple drop-in design



Cooler running operation

- Able to achieve cooler running operation for longer life
- Achieve longer bearing life
- Industry-leading 4-year warranty

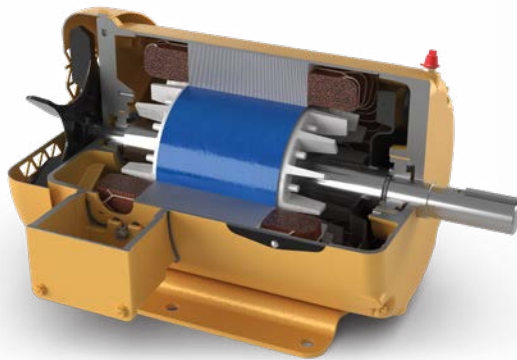


The magic is inside the motor

How to achieve higher efficiency

The idea is simple.

Take the best and proven AC induction design and make it better by reducing motor losses by an average of 20% while maintaining the simplicity of today's installed base of AC induction motors.



Baldor-Reliance® Super-E®
NEMA Premium Efficient (IE3)

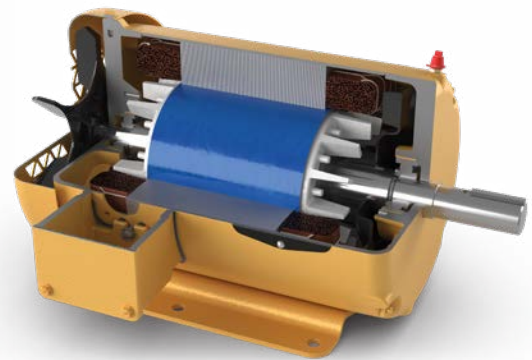
AC induction motor

- Slip losses in rotor (I^2R)
- Heats bearings and motor
- Lower efficiency adds to heat generated

Higher rotor and stator losses



I^2R rotor Other I^2R stator



Baldor-Reliance® SP4™
NEMA Super Premium Efficient (IE4)

AC induction motor

- Longer stack (both stator and rotor) – less loss
- Runs cooler – less loss in bearing and motor
- Higher efficiency

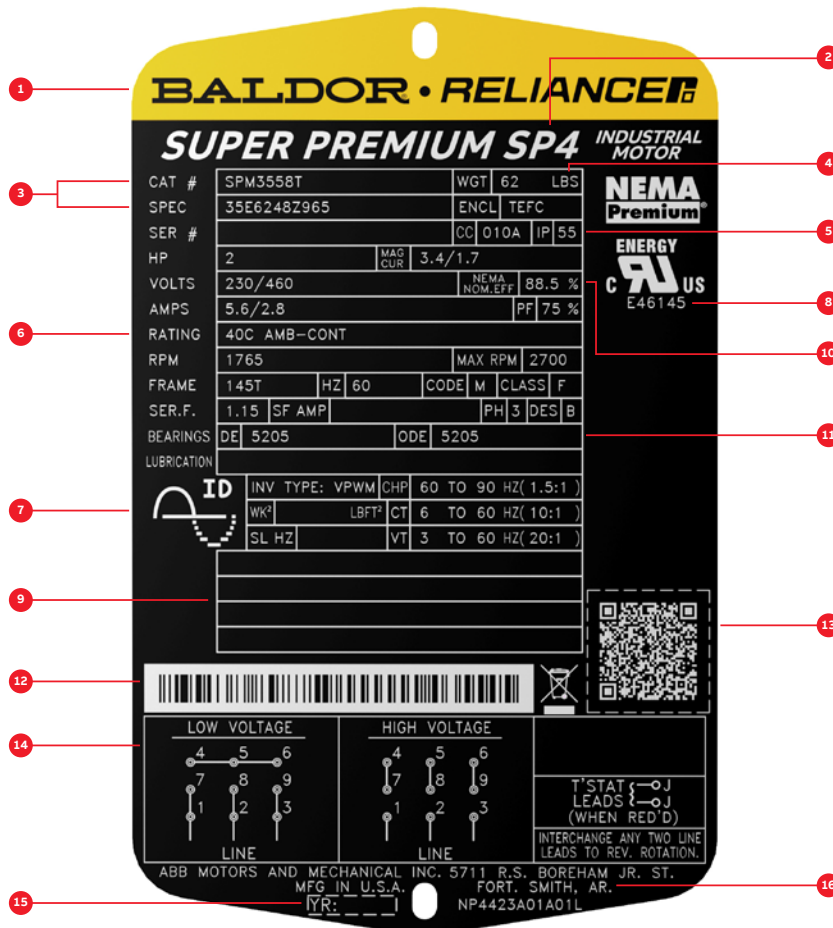
Lower rotor and stator losses



I^2R rotor Other I^2R stator

Baldor-Reliance® SP4™ motor nameplates

New and improved



- | | |
|---|---|
| 1 - Baldor-Reliance® logo | 9 - Blank lines for customer information |
| 2 - NEMA Super Premium | 10 - Efficiency |
| 3 - Catalog & spec number | 11 - Bearing information |
| 4 - Product weight | 12 - Bar code for serial number information |
| 5 - IP protection class | 13 - QR code to product landing page |
| 6 - Rating data - Voltage, frequency, output, speed, current, power factory, duty cycle | 14 - Connection diagram |
| 7 - Inverter duty data | 15 - Manufacturing year |
| 8 - Agency mark for fulfilling regulations | 16 - Manufacturing location |

General purpose, three phase, totally enclosed, foot mounted

1/4 - 20 Hp



Features

- 60 Hz designs
- 2,4,6 pole
- 1-20 Hp ratings
- Suitable for inverter use per NEMA MG1 Part 31.4.4.2 *
- Designed for longevity with a 4 year warranty on Super Premium efficient SP4™ motors
- Cooler operation for longer lifespan

Applications

- Fans
- Pumps
- Blowers
- Conveyors
- Compressors
- Industrial machines
- Other general purpose applications

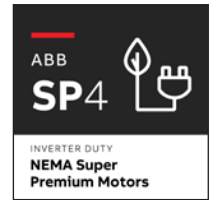
Hp	RPM	NEMA frame	Enclosure	Catalog number	List price	Disc. sym.	"C" dim.	Aprx. Wt. (lb)	Full load efficiency	Full load amps	Notes	
1/4	1800	48	TEFC	SPM3454	558	GE4	10.72	24	74	0.4	1,2	
		48	TENV	SPNM3454	585	GE4	9.63	24	74	0.4	1,2	
	1200	48	TEFC	SPM3455	877	GE4	10.72	27	74	0.65	1,2	
		48	TENV	SPNM3455	808	GE4	10.25	27	74	0.65	1,2	
1/3	3600	56	TEFC	SPM3531	869	GE4	12.84	27	74	0.65	1,2	
		56	TENV	SPNM3531	869	GE4	12.84	27	74	0.65	1,2	
	1800	48	TEFC	SPM3457	567	GE4	9.63	24	74	0.5	1,2	
		48	TEFC	SPM3458	680	GE4	10.72	24	77	0.52	1,2	
	1200	56	TEFC	SPM3534	610	GE4	12.84	24	77	0.52	1,2	
		56	TENV	SPNM3534	655	GE4	11.76	24	77	0.52	1,2	
1/2	3600	56	TEFC	SPM3535	977	GE4	12.84	27	75.5	0.7	1,2	
		56	TENV	SPNM3535	977	GE4	12.84	27	75.5	0.7	1,2	
	1800	48	TEFC	SPM3460	657	GE4	10.72	27	77	0.8	1,2	
		48	TEFC	SPM3537	657	GE4	12.84	27	77	0.8	1,2	
	1200	56	TEFC	SPM3461	797	GE4	10.72	27	81.5	0.75	1,2	
		56	TEFC	SPM3538	1,052	GE4	12.84	27	81.5	0.75	1,2	
	3/4	3600	56	TENV	SPNM3538	760	GE4	11.76	27	81.5	0.75	1,2
			56	TEFC	SPM3539	1,052	GE4	13.72	42	78.5	1	1,2
3/4	1800	56	TENV	SPNM3539	1,155	GE4	12.64	42	78.5	1	1,2	
		56	TEFC	SPM3463	724	GE4	11.34	30	80	1	1,2	
	1200	56	TEFC	SPM3541	724	GE4	12.84	30	80	1	1,2	
		56	TEFC	SPM3464	861	GE4	13.10	44	84	0.95	1,2	
	3/4	1800	56	TEFC	SPM3542	747	GE4	13.72	45	84	0.95	1,2
			56	TENV	SPNM3543	816	GE4	12.63	42	84	0.95	1,2
	1200	3/4	56	TEFC	SPM3543	1,074	GE4	12.91	41	82.5	1.4	1,2
			143T	TEFC	SPM3543T	1,074	GE4	13.29	41	82.5	1.4	1,2

Notes:

1) Class F insulated motor with 1.15 service factor or higher that operates within Class "B" temperature limits at rated horsepower.

2) Usable at 208 volts

* 48 frame Inverter Duty only available on low voltage input



Hp	RPM	NEMA frame	Enclosure	Catalog number	List price	Disc. sym.	"C" dim.	Aprx. Wt. (lb)	Full load efficiency	Full load amps	Notes
1	3600	56	TEFC	SPM3545	1,151	GE4	12.91	35	82.5	1.3	1,2
	1800	56	TEFC	SPM3546	1,176	GE4	12.91	37	85.5	1.6	1,2
		56	TENV	SPNM3546	1,324	GE4	11.74	37	85.5	1.67	1,2
		143T	TEFC	SPM3546T	1,176	GE4	12.29	37	85.5	1.6	1,2
		143T	TENV	SPNM3546T	1,324	GE4	12.12	37	85.5	1.67	1,2
	1200	56	TEFC	SPM3556	1,518	GE4	13.78	47	84	1.66	1,2
145T		TEFC	SPM3556T	1,518	GE4	14.19	47	84	1.66	1,2	
1-1/2	3600	56	TEFC	SPM3550	1,303	GE4	12.91	38	85.5	2.05	1,2
		143T	TEFC	SPM3550T	1,303	GE4	12.29	38	85.5	2.05	1,2
	1800	56	TEFC	SPM3554	1,307	GE4	12.91	45	87.5	2.25	1,2
		145T	TEFC	SPM3554T	1,307	GE4	13.29	44	87.5	2.25	1,2
	1200	145T	TENV	SPNM3554T	1,472	GE4	13.00	48	87.5	2.3	1,2
		182T	TEFC	SPM3607T	1,776	GE4	18.04	90	88.5	2.5	1,2
2	3600	56	TEFC	SPM3555	1,427	GE4	13.78	50	86.5	2.4	1,2
		145T	TEFC	SPM3555T	1,427	GE4	14.19	50	86.5	2.4	1,2
	1800	145T	TEFC	SPM3558T	1,382	GE4	15.56	62	88.5	2.8	1,2
		184T	TEFC	SPM3614T	1,862	GE4	18.48	100	89.5	3.3	1,2
3	3600	145T	TEFC	SPM3559T	1,563	GE4	16.55	81	88.5	3.4	1,2
		182T	TEFC	SPM3610T	1,583	GE4	16.55	81	88.5	3.4	1,2
	1800	182T	TEFC	SPM3611T	1,418	GE4	18.04	93	91	4.2	1,2
		213T	TEFC	SPM3704T	2,421	GE4	19.02	127	90.2	4.5	1,2
	5	3600	184T	TEFC	SPM3613T	1,755	GE4	18.04	94	89.5	5.5
1800		184T	TEFC	SPM3615T	1,465	GE4	18.04	100	91	6.6	1,2
		215T	TEFC	SPM3708T	2,736	GE4	20.52	149	90.2	7.4	1,2
7-1/2	3600	213T	TEFC	SPM3709T	2,629	GE4	17.89	121	90.2	9	1,2
	1800	213T	TEFC	SPM3710T	2,112	GE4	20.52	165	92.4	9.9	1,2
10	3600	215T	TEFC	SPM3711T	2,665	GE4	20.52	187	91.7	10.3	1,2
	1800	215T	TEFC	SPM3714T	2,385	GE4	20.52	187	92.4	12.6	1,2
15	3600	215T	TEFC	SPM3713T	3,761	GE4	20.52	187	92.4	17	1,2
	1800	254T	TEFC	SPM3910T	4,150	GE4	24.56	205	93.6	18.3	1,2
20	1800	256T	TEFC	SPM3914T	4,950	GE4	27.57	275	94.1	24	1,2

Notes:

- 1) Class F insulated motor with 1.15 service factor or higher that operates within Class "B" temperature limits at rated horsepower.
- 2) Usable at 208 volts

General purpose, three phase, open drip proof, foot mounted

1/4 - 20 Hp



Features

- 60 Hz designs
- 2,4,6 pole
- 1-20 Hp ratings
- Suitable for inverter use per NEMA MG1 Part 31.4.4.2 *
- Designed for longevity with a 4 year warranty on Super Premium efficient SP4™ motors
- Cooler operation for longer lifespan

Applications

- Fans
- Pumps
- Blowers
- Conveyors
- Compressors
- Industrial machines
- Other general purpose applications

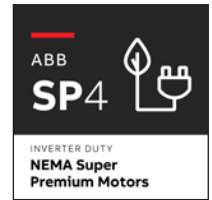
Hp	RPM	NEMA frame	Catalog number	List price	Disc. sym.	"C" dim.	Aprx. Wt. (lb)	Full load efficiency	Full load amps	Notes
1/4	1800	48	SPM30003	766	GO4	9.62	24	74	0.4	1,2
		48	SPM30004	847	GO4	9.75	27	74	0.65	1,2
		56	SPM31101	847	GO4	11.75	27	74	0.65	1,2
1/3	3600	48	SPM30006	804	GO4	9.62	24	74	0.40	1,2
		48	SPM30007	810	GO4	9.13	24	77	0.52	1,2
		56	SPM31104	810	GO4	11.75	24	77	0.52	1,2
	1200	48	SPM30008	886	GO4	9.75	27	75.5	0.70	1,2
		56	SPM31105	886	GO4	11.75	27	75.5	0.70	1,2
1/2	3600	48	SPM30009	865	GO4	10.25	27	77	0.80	1,2
		56	SPM31107	865	GO4	11.75	27	77	0.80	1,2
	1800	48	SPM30010	892	GO4	10.25	27	81.5	0.75	1,2
		56	SPM31108	892	GO4	11.75	27	81.5	0.75	1,2
	1200	48	SPM30011	974	GO4	11.51	42	78.5	1.00	1,2
		56	SPM31109	974	GO4	12.63	42	78.5	1.00	1,2
	3/4	3600	48	SPM30012	861	GO4	10.63	30	80	1.00
56			SPM31111	861	GO4	11.75	30	80	1.00	1,2
1800		56	SPM31112	982	GO4	12.63	46	84	0.95	1,2
		56	SPM31153	1199	GO4	11.75	41	82.5	1.40	1,2
		143T	SPM3153T	1052	GO4	12.13	41	82.5	1.40	1,2
1	3600	56	SPM31115	883	GO4	11.75	35	82.5	1.30	1,2
		56	SPM31116	1033	GO4	11.75	37	85.5	1.63	1,2
		143T	SPM3116T	1133	GO4	11.12	37	85.5	1.20	1,2
	1200	56H	SPM31156	1511	GO4	12.63	47	84	1.66	1,2
		145T	SPM3156T	1305	GO4	13	47	84	1.66	1,2

Notes:

1) Class F insulated motor with 1.15 service factor or higher that operates within Class "B" temperature limits at rated horsepower.

2) Usable at 208 volts

* 48 frame Inverter Duty only available on low voltage input



Hp	RPM	NEMA frame	Catalog number	List price	Disc. sym.	"C" dim.	Aprx. Wt. (lb)	Full load efficiency	Full load amps	Notes
1-1/2	3600	56	SPM31120	912	GO4	11.75	38	85.5	2.05	1,2
		143T	SPM3120T	1099	GO4	11.12	38	85.5	2.05	1,2
	1800	56	SPM31154	1133	GO4	11.75	45	87.5	2.25	1,2
		145T	SPM3154T	1185	GO4	12.13	45	87.5	2.25	1,2
	1200	56H	SPM31159	1454	GO4	16.49	90	88.5	2.50	1,2
		182T	SPM3207T	1527	GO4	17.99	90	88.5	2.50	1,2
2	3600	56	SPM31155	1027	GO4	11.75	43	86.5	2.50	1,2
		143T	SPM3155T	1288	GO4	11.62	43	86.5	2.50	1,2
	1800	56H	SPM31157	1188	GO4	14.00	56	88.5	2.7	1,2
		145T	SPM3157T	1269	GO4	14.38	56	88.5	2.7	1,2
	1200	184T	SPM3215T	1562	GO4	18.43	100	89.5	3.30	1,2
3	3600	56H	SPM31158	1151	GO4	14	64	88.5	3.45	1,2
		145T	SPM3158T	1305	GO4	14.38	64	88.5	3.45	1,2
	1800	182T	SPM3211T	1368	GO4	17.99	92	91	4	1,2
	1200	213T	SPM3305T	1987	GO4	17.45	127	90.2	4.50	1,2
5	3600	182T	SPM3212T	1425	GO4	16.49	81	91	5.60	1,2
	1800	184T	SPM3218T	1499	GO4	18.43	100	91	6.6	1,2
	1200	215T	SPM3309T	2604	GO4	17.45	141	90.2	7.30	1,2
7-1/2	3600	184T	SPM3219T	2260	GO4	17.99	36	90.2	8.40	1,2
	1800	213T	SPM3311T	2201	GO4	18.20	158	92.4	9.5	1,2
	1200	254T	SPM2506T	3122	GO4	23.19	248	91.7	11.00	1,2
10	3600	213T	SPM3312T	2584	GO4	17.45	130	91.7	11.50	1,2
	1800	215T	SPM3313T	2664	GO4	18.20	158	92.4	12.1	1,2
	1200	256T	SPM2511T	4061	GO4	24.21	288	92.4	14.50	1,2
15	3600	215T	SPM3314T	3670	GO4	18.95	187	92.4	17.00	1,2
	1800	254T	SPM2513T	3771	GO4	24.21	290	93.6	18.3	1,2
20	3600	254T	SPM2514T	4311	GO4	21.69	242	92.4	23.00	1,2
	1800	256T	SPM2515T	4661	GO4	25.21	436	94.1	24.00	1,2

Notes:

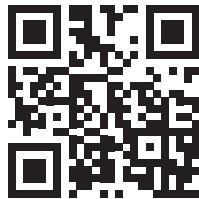
- 1) Class F insulated motor with 1.15 service factor or higher that operates within Class "B" temperature limits at rated horsepower.
- 2) Usable at 208 volts

Sustainability

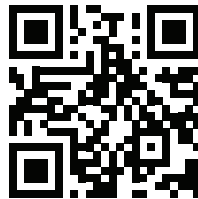
ABB has set ourselves the ambitious target of helping our customers reduce their annual CO₂ emissions in excess of 100 megatonnes by 2030. This is equivalent to the annual emissions of 30 million combustion cars. An example of how this can be accomplished is the ability of ABB drives powering electric motors that can reduce electricity consumption by up to 25%.

Smart sensor for energy consumption

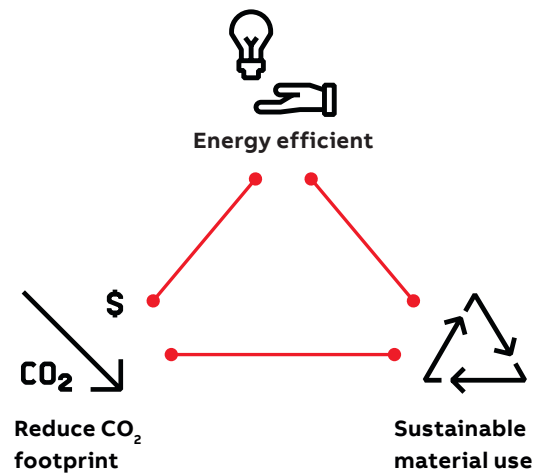
The ABB Ability™ calculates several parameters of datapoints including speed, motor power and torque. With this information, we can accurately calculate energy usage and help our customers optimize their operations.



White paper: Improving end-to-end system efficiency



Learn more about: Energy Efficiency Movement



Time to make a difference

Join the Energy Efficiency Movement



Electric motors consume over 45% of the world's electricity.



By 2040 the number of motors will double.



Adoption of high-efficiency motor systems would cut global electricity consumption by up to 10%.



Changing just one motor can make a difference.

ABB, your global value partner

Partnering with ABB gives you access to some of the world's most innovative technology and thinking

Global reach

ABB operates in over 100 countries with its own manufacturing, logistics and sales operations together with a wide network of local channel partners that can quickly respond to your needs. They bring our products and services straight to your front door. ABB channel partners have in-depth knowledge of local markets and are conversant with the defined ABB products and processes.

Energy efficiency

ABB has what it takes to help every industry and application reach new levels of efficiency and energy savings even under the most demanding conditions. Combining the best available materials with superior technology, our motors are designed to operate reliably no matter how challenging the process or application, and to have low life cycle costs.

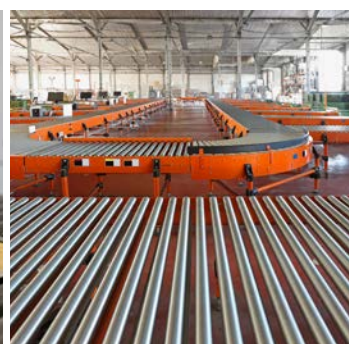
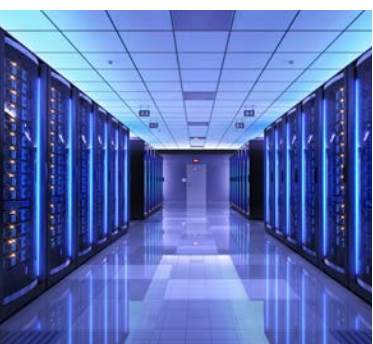




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