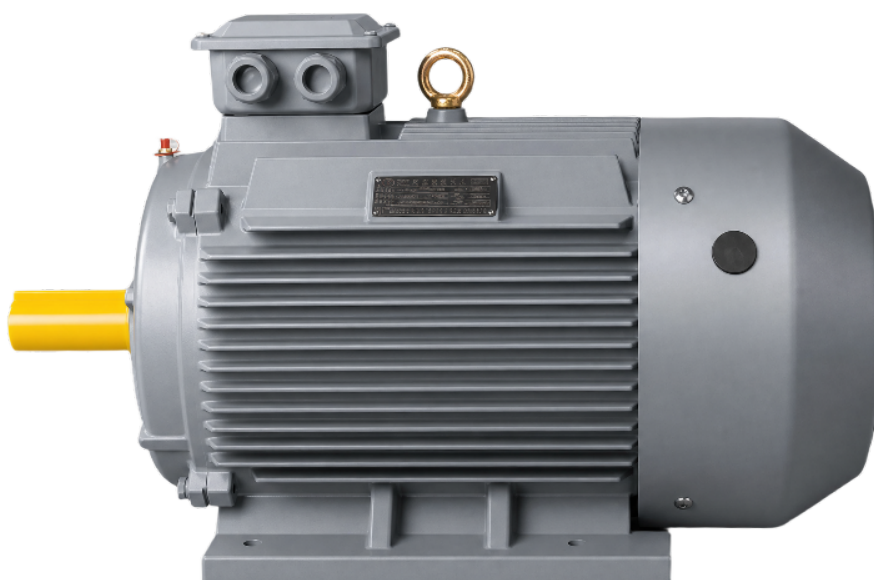


PERMANENT MAGNET SERIES

TYC

TYC SERIES THREE-PHASE PERMANENT MAGNET SYNCHRONOUS MOTOR

Line-start permanent magnet synchronous motor: it starts asynchronously and runs synchronously, direct on line or through an inverter.

**5.5–55** kW

RATED OUTPUT

H132–H280FRAME CENTRE
HEIGHT**0.93**

POWER FACTOR

IP54/55DEGREE OF
PROTECTION

SERIES

TYC

REVISION

A01

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DESCRIPTION

The TYC series starts as an induction motor and then pulls into synchronism. Built with rare-earth permanent magnet material, it offers high efficiency, high power factor, low current, low temperature rise, no slip, stable speed and reliable operation. Paired with a high-performance inverter it gives stepless speed control over a range, with high system efficiency.

Against a YE3 induction motor of the same rating, average energy saving is 5 % or more across the 25–120 % load range.

TECHNICAL SPECIFICATION

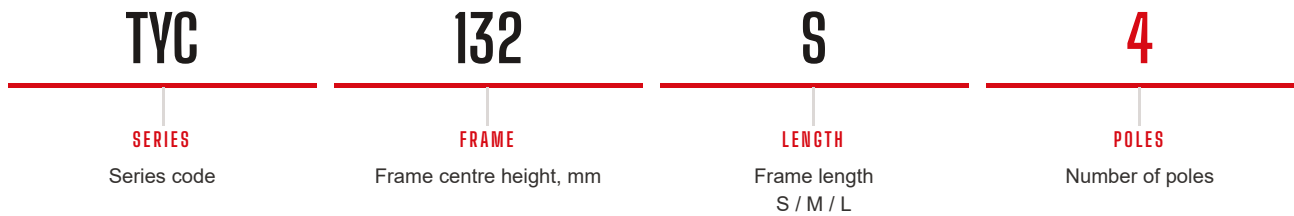
Frame centre height	H132–H280 mm
Rated output power	5.5 kW–55 kW
Supply voltage	380 V, 50 Hz
Degree of protection	IP54 · IP55
Insulation class	F
Method of cooling	IC411
Rated supply	380 V, 50 Hz (customisable)
Altitude	Not exceeding 1,000 m (3,280 ft)
Ambient temperature	–15 °C to +40 °C (5 °F to 104 °F)
Duty type	S1, continuous duty
Mounting arrangements	IM B3 (foot mounting)

STANDARDS

GB/T 22711-2019	Three-phase permanent magnet synchronous motors
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MODEL DESIGNATION

The type designation is formed as follows, shown for **TYC 132S – 4**.



READING A DESIGNATION

4, 6, 8, 12 and 16-pole machines are listed.

TYPICAL APPLICATIONS

- Fans
- Pumps
- Compressors
- Textile machinery
- Flotation machines
- Crushers
- Pumping units

NOTES

OTHER VOLTAGES

Motors can be designed and built for other voltages to a customer's requirement.

RATED DATA

The series is inverter-fed. Ratings below are grouped by synchronous speed with the corresponding base frequency; the constant-torque frequency band is stated with each group.

LEVEL 1 ENERGY EFFICIENCY

TYPE	RATED OUTPUT kW	RATED CURRENT A	RATED VOLTAGE V	RATED SPEED r/min	EFFICIENCY %	LOCKED-ROTOR TORQUE / rated torque	LOCKED-ROTOR CURRENT / rated current	PULL-OUT TORQUE / rated torque
TYC132S-4	5.5	9.8	380	1500	92.1	2.2	9.5	2.0
TYC132M-4	7.5	13.2	380	1500	92.6	2.2	9.5	2.0
TYC132M-6	5.5	9.7	380	1000	93.1	2.3	10.0	2.0
TYC160M-4	11	19.2	380	1500	93.6	2.2	9.5	1.8
TYC160L-4	15	26.1	380	1500	94.0	2.2	9.5	1.8
TYC160M-6	7.5	13.1	380	1000	93.7	2.3	10.0	2.0

LEVEL 1 ENERGY EFFICIENCY (CONTINUED)

TYPE	RATED OUTPUT kW	RATED CURRENT A	RATED VOLTAGE V	RATED SPEED r/min	EFFICIENCY %	LOCKED-ROTOR TORQUE / rated torque	LOCKED-ROTOR CURRENT / rated current	PULL-OUT TORQUE / rated torque
TYC160L-6	11	19.1	380	1000	94.3	2.4	10.0	1.8
TYC160M-8	5.5	9.7	380	750	92.6	2.3	10.0	2.0
TYC160L-8	7.5	13.1	380	750	93.2	2.3	10.0	2.0
TYC180M-4	18.5	32.1	380	1500	94.3	2.3	10.0	1.8
TYC180L-4	22	38.0	380	1500	94.7	2.3	10.0	1.8
TYC180L-6	15	25.9	380	1000	94.7	2.4	10.0	1.8
TYC180L-8	11	19.2	380	750	93.7	2.4	10.0	1.8
TYC200L1-6	18.5	31.8	380	1000	95.1	2.4	10.0	1.8
TYC200L2-6	22	37.7	380	1000	95.4	2.4	10.0	1.8
TYC200L-8	15	26.0	380	750	94.2	2.4	10.0	1.8
TYC225S-8	18.5	31.9	380	750	94.6	2.4	10.0	1.8
TYC225M-8	22	37.9	380	750	94.9	2.4	10.0	1.8
TYC250M1-6	30	51.2	380	1000	95.7	2.4	10.0	1.8
TYC250M2-6	37	63.0	380	1000	95.9	2.3	10.0	1.8
TYC250M-8	30	51.5	380	750	95.1	2.4	10.0	1.8
TYC280S-6	45	76.6	380	1000	96.0	2.3	10.5	1.8
TYC280M-6	55	93.5	380	1000	96.1	2.3	10.5	1.8
TYC280S-8	37	63.4	380	750	95.3	2.3	10.0	1.8
TYC280M-8	45	77.0	380	750	95.5	2.3	10.5	1.8
TYC200L1-12	11	19.2	380	500	93.7	2.2	10.0	1.8
TYC200L2-12	15	26.0	380	500	94.2	2.2	10.0	1.8
TYC250M1-12	22	37.9	380	500	94.9	2.3	10.0	1.8
TYC250M2-12	30	51.5	380	500	95.1	2.3	10.0	1.8
TYC280S-12	30	51.5	380	500	95.1	2.3	10.0	1.8
TYC280M-12	37	63.4	380	500	95.3	2.3	10.0	1.8
TYC280S-16	18.5	31.9	380	375	94.6	2.3	10.0	1.8
TYC280M-16	22	37.9	380	375	94.9	2.3	10.0	1.8

LEVEL 2 ENERGY EFFICIENCY

TYPE	RATED OUTPUT kW	RATED CURRENT A	RATED VOLTAGE V	RATED SPEED r/min	EFFICIENCY %
TYC132S-4	5.5	10.0	380	1500	89.6
TYC132M-4	7.5	13.6	380	1500	90.4
TYC132M-6	5.5	10.0	380	1000	90.1
TYC160M-4	11	19.7	380	1500	91.4
TYC160L-4	15	26.6	380	1500	92.1
TYC160M-6	7.5	13.6	380	1000	90.1

LEVEL 2 ENERGY EFFICIENCY (CONTINUED)

TYPE	RATED OUTPUT kW	RATED CURRENT A	RATED VOLTAGE V	RATED SPEED r/min	EFFICIENCY %
TYC160L-6	11	19.6	380	1000	91.8
TYC160M-8	5.5	10.0	380	750	90.0
TYC160L-8	7.5	13.5	380	750	90.8
TYC180M-4	18.5	32.6	380	1500	92.6
TYC180L-4	22	38.6	380	1500	93.0
TYC180L-6	15	26.5	380	1000	92.5
TYC180L-8	11	19.7	380	750	91.4
TYC200L1-6	18.5	32.5	380	1000	93.1
TYC200L2-6	22	38.4	380	1000	93.6
TYC200L-8	15	26.6	380	750	92.0
TYC225S-8	18.5	32.7	380	750	92.5
TYC225M-8	22	38.6	380	750	93.0
TYC250M1-6	30	52.1	380	1000	94.0
TYC250M2-6	37	64.0	380	1000	94.4
TYC250M-8	30	52.5	380	750	93.4
TYC280S-6	45	77.6	380	1000	94.7
TYC280M-6	55	94.6	380	1000	95.0
TYC280S-8	37	64.5	380	750	93.7
TYC280M-8	45	78.3	380	750	93.9
TYC200L1-12	11	19.6	380	500	91.8
TYC200L2-12	15	26.5	380	500	92.4
TYC250M1-12	22	38.5	380	500	93.4
TYC250M2-12	30	52.3	380	500	93.8
TYC280S-12	30	52.3	380	500	93.8
TYC280M-12	37	64.2	380	500	94.1
TYC280S-16	18.5	32.6	380	375	92.6
TYC280M-16	22	38.6	380	375	93.0

MOUNTING ARRANGEMENTS

The series is supplied in the following arrangements to IEC 60034-7. Letters on the drawings are the dimension symbols used in the outline and mounting dimension schedule.

ABOUT THESE DRAWINGS

The drawings show a representative frame for each arrangement and are not to scale. Dimensions for a specific frame size are given in the outline and mounting dimension schedule.

OUTLINE AND MOUNTING DIMENSIONS

Principal dimensions are given below. The complete dimension schedule, including tolerances and flange details, is issued on request.

PRINCIPAL OUTLINE AND MOUNTING DIMENSIONS (MM)

FRAME	A	B	C	D	E	F	G	H	K	AB	AC	AD	HD	L
132S/132M	216	140/178	89	38	80	10	33	132	12	270	275	210	345	470/510
160M/160L	254	210/254	108	42	110	12	37	160	14.5	320	330	255	420	615/670
180M/180L	279	241/279	121	48	110	14	42.5	180	14.5	355	380	280	455	700/740
200L	318	305	133	55	110	16	49	200	18.5	395	420	305	505	770
225S/225M	356	286/311	149	60	140	18	53	225	18.5	435	470	335	560	815/845
250M	406	349	168	65	140	18	58	250	24	490	510	370	615	910
280S/280M	457	368/419	190	75	140	20	67.5	280	24	550	580	410	680	985/1035

MANUFACTURER

CHINA HEADQUARTERS

SHANDONG LIJIU ELECTRICAL
MACHINERY CO., LTD

No.22, Shanhai Road, Rushan City, Shandong, China

Email: info@leadgomotor.com

THAILAND FACILITY

LEADGO MOTOR TECHNOLOGY
THAILAND CO LTD

Rojana Bowin 2 Industrial Estate, Si Racha,
Chonburi, Thailand

Email: info@leadgomotor.com

WEBSITE www.leadgomotor.com

Ratings and dimensions in this datasheet are taken from the LEADGO product brochure and are subject to change without prior notice as a result of continuous product development. Confirm the applicable data with the manufacturer before ordering or before modifying an existing installation.