

**Electric motors**

# **5AL, 5LC Series**

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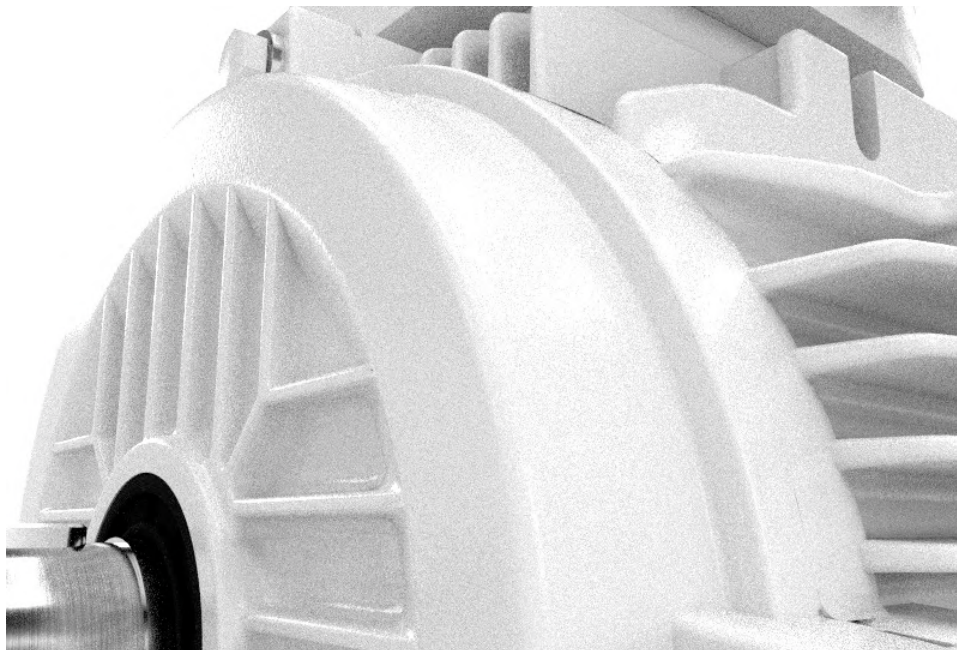
*Ultra high efficiency IE5 class electric motors*

Powerful, efficient and flexible...

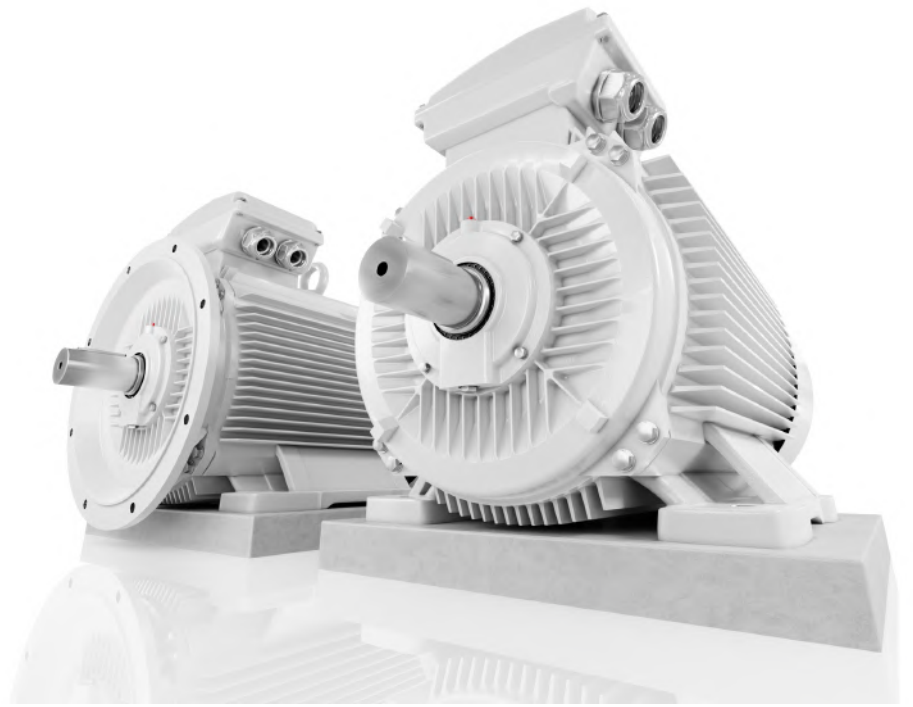
**Technical catalogue**



# Low-voltage induction electric motors







**AL** and **LC** motors  
for all types of industry

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# Quality management and certificates



VYBO Electric is a modern High-tech energy saving company that pays high attention to quality, environment, safety and precision and efficiency of work and energy in production. Therefore, it holds a lot of certificates and quality control systems. **Our priority is quality control.**

## Basic certificates include:

### ISO9001

The primary task of the ISO 9001 standard is to focus on system management and quality management in the organization. The satisfaction of the customer and the fulfillment of his requirements, which are specified in contracts, orders, or technical drawings, are in the first place. The quality management system is linked to all processes in the company. The standard focuses on the management of human and financial resources, on the stability of infrastructure, including buildings, transport, hardware, software and other communication or information technologies. An important part is also the planning of production and services, the management of the purchasing process, but also the management of non-conforming products.



### ISO14001

The main priority of the ISO 14001 standard is to identify and understand the environmental aspects and activities that are related to the entire infrastructure of the company and, based on this, to regulate the environmental impact on the environment.

In its scope, the ISO 14001 standard creates the conditions for determining environmental goals and plans, the fulfillment of which is examined at regular intervals by top management and also by an independent body during internal audits.

This standard is intended for all organizations and companies that consider environmental protection as their primary goal.

The benefit of the standard for society is mainly:

- control over the environmental impact on the environment
- control over produced emissions and waste
- saving material and energy
- prevention of accidents
- compliance of the company's activities with legal requirements
- zero fines for environmental behavior
- creation of a good reputation and prestige of the company





## The ISO 45001

Specification (formerly known as OHSAS 18001) is an internationally recognized standard that declares compliance with the principles of a safe enterprise, managing risks at work and protecting the health of workers during work. It does not only concern danger and accidents, but also emphasizes other aspects such as the good condition and mental well-being of the employee.

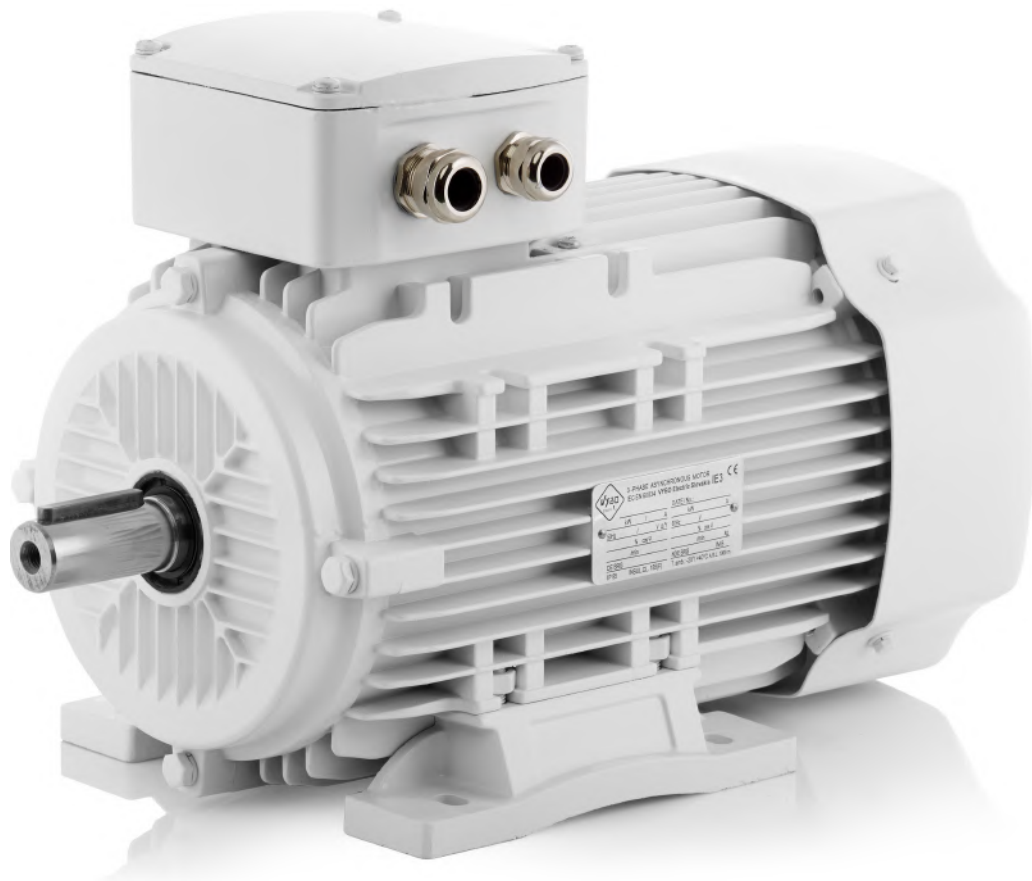
The certificate is held in Slovakia as STN ISO 45001:2019 and is under the title Management systems of safety and health protection at work. Requirements with guidance for use. It replaces the STN OHSAS 18001 standard.



## ISO50001

Energy management systems Energy efficiency help organizations save money, save energy resources and also help to prevent climate change. ISO 50001 encourages organizations in all sectors to use energy more efficiently through the development of an energy management system. The international standard ISO 50001: 2011 specifies the requirements for building, maintaining and improving the energy system. It aims to enable organizations to implement a systematic approach that will help achieve lasting improvements in energy efficiency, energy use and consumption.





# AL Series

Electric motors for standard and heavy duty in an aluminum frame

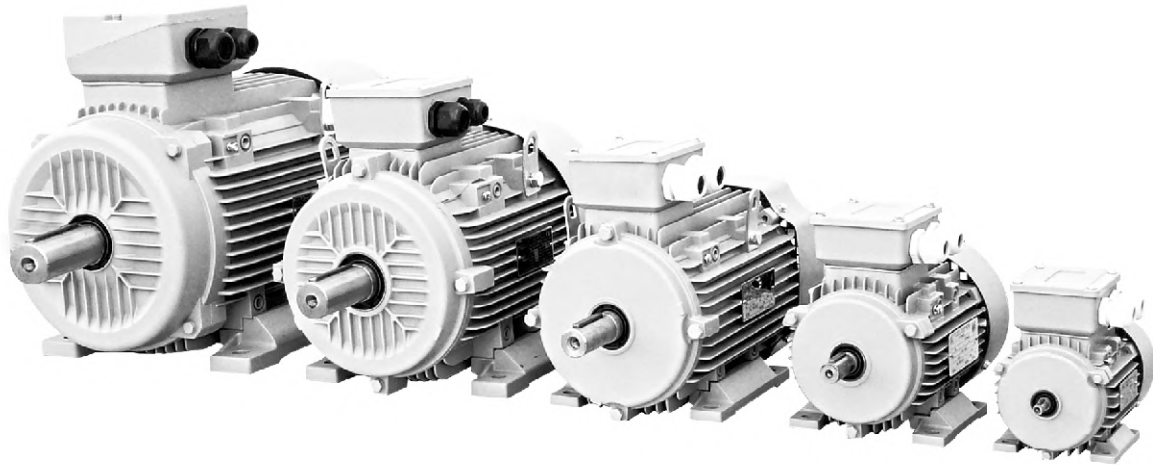


SOLUTIONS FOR INDUSTRY



# AL SERIES

Motors in AL version - low-voltage electric motors for general and heavy industry

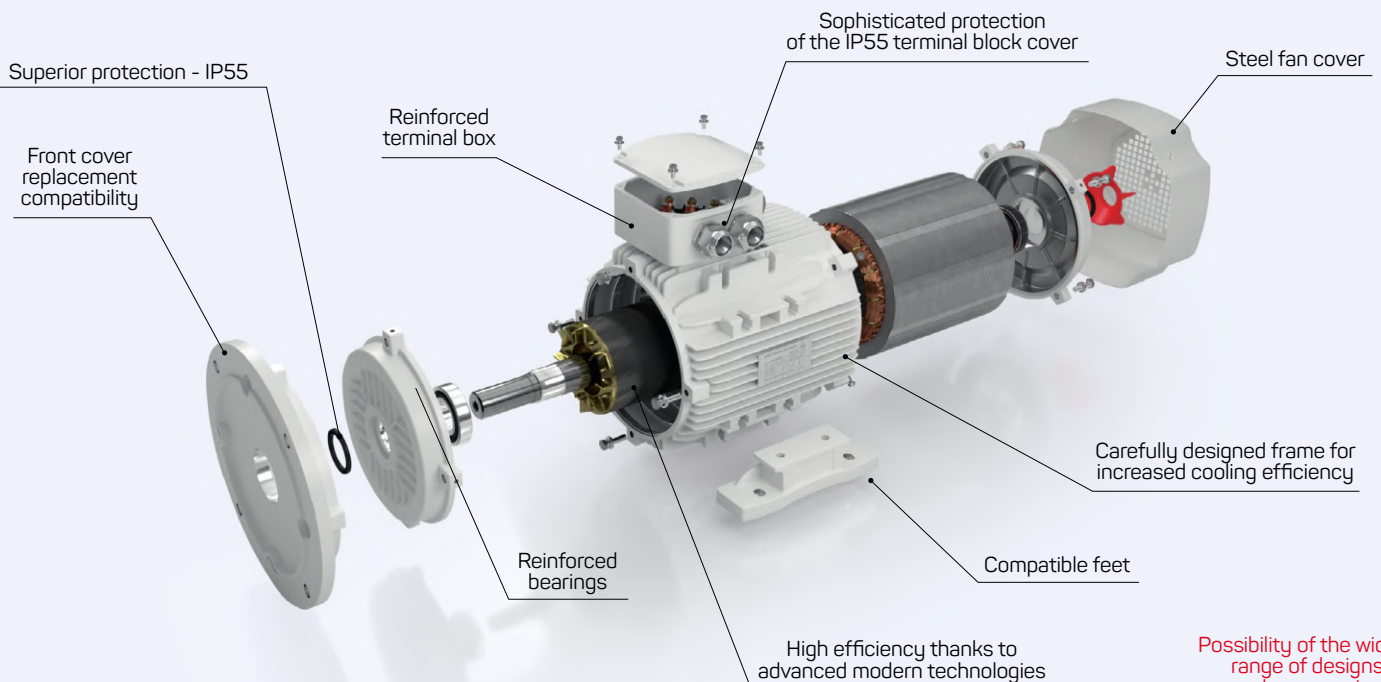


## Kinetics AL Class

Types: 1AL, 2AL, 3AL, 4AL, 5AL  
Power from 0,12 to 18,5 kW  
Efficiency classes IE1, IE2, IE3, IE4  
Reinforced terminal box

Axial heights: 56 and 160 mm  
Steel fan cover  
Rated frequency 50Hz, 60Hz, 87Hz  
Protection IP55, IP56, IP65

Voltage system 230/400/690 V  
Cooling IC411  
Insulation class F  
Compact feet



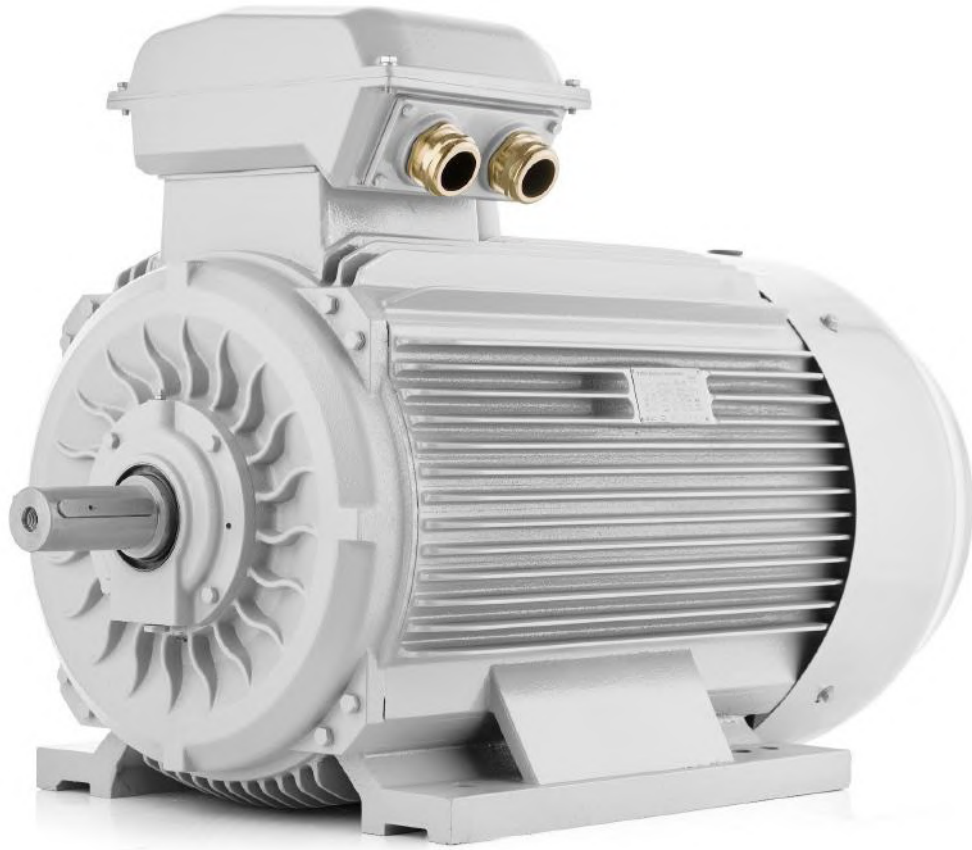
Possibility of the widest range of designs and accessories

# AL SERIES

<b>Power:</b>	0.06 - 22 kW
<b>Speed:</b>	3000 / 1500 / 1000 / (750) rpm
<b>Frame size:</b>	56 - 160
<b>Voltage:</b>	230/400 V, 400/690 V, 500 V
<b>Frequency:</b>	50 / 60 Hz
<b>Protection class:</b>	IP55
<b>Efficiency class:</b>	IE1 (Standard efficiency), IE2 (High efficiency), IE3 (Premium efficiency), IE4 (Super premium ef.) IE5 (Ultra high efficiency)
<b>Insulation class:</b>	F/B
<b>Color:</b>	RAL 7030 (stone grey)
<b>Mounting:</b>	IM B3, IM B35, IM B5, IM B14, IM B34
<b>Cooling type:</b>	IC 411 cooling (TENV), IC 416 cooling (TEFV)
<b>Temperature:</b>	-20 °C to +40 °C
<b>Installation height:</b>	1000 m above sea level
<b>Frame material:</b>	aluminium
<b>Direction of rotation:</b>	right/left







## LC Series

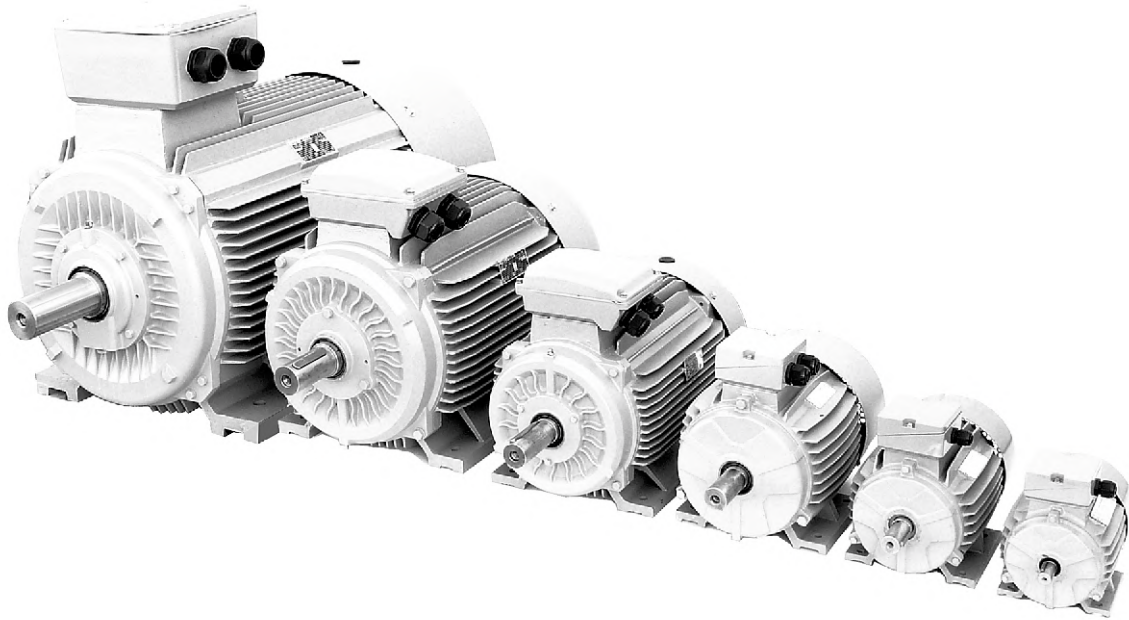
Electric motors for standard and heavy duty in a cast iron frame



SOLUTIONS FOR INDUSTRY

# LC SERIES

Electric motors in LC version - performance in robustness



## Kinetics LC Class

Cast iron frame  
Top motors with high overload capacity  
Heavy industrial processes  
Full range of optional accessories  
Power from 0,12 kW to 1000 kW  
Efficiency classes IE1, IE2, IE3, IE4, IE5

Axial heights: 1LP, 2LP, 3LP - 71 to 160 mm  
1LC, 2LC, 3LC - 180 to 355 mm  
4LD - 355 - 450 mm  
Nominal frequency 50 Hz, 60 Hz, 87 Hz  
Protection IP 54, 55, 56, 65, 66  
Voltage system 230/400V, 500V, 400/690V

Cooling IC411, (IC511 special)  
Insulation classes F, H  
Bearing relubrication system  
Thermal protection - PTC thermistors  
Steel fan cover  
Reinforced terminal block cover

High protection against dust and water up to IP66

Design compatibility

Full range of optional accessories

Reinforced bearings

Maximum security of the terminal box

Reinforced terminal box

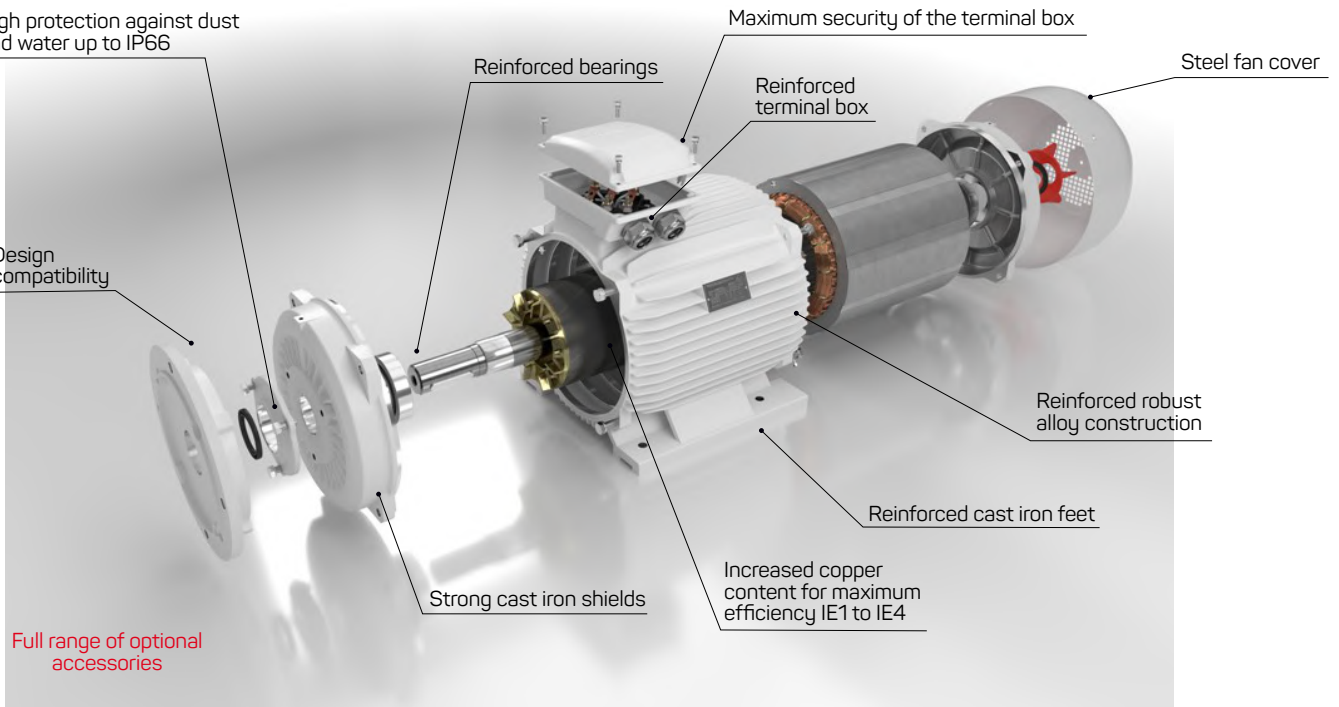
Steel fan cover

Reinforced robust alloy construction

Reinforced cast iron feet

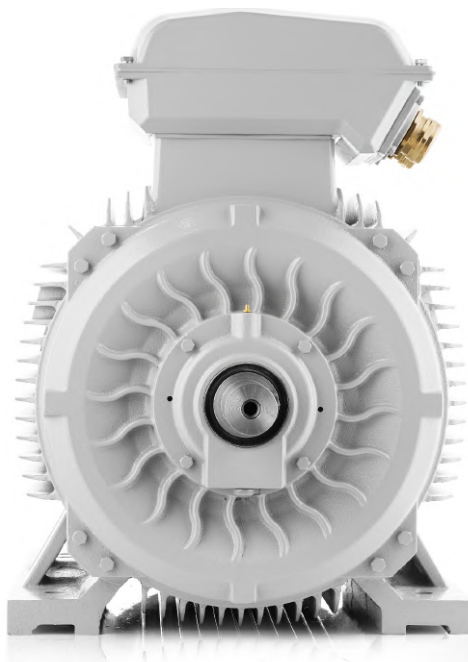
Strong cast iron shields

Increased copper content for maximum efficiency IE1 to IE4



# LC SERIES

<b>Power:</b>	15 - 400 kW
<b>Speed:</b>	3000 / 1500 / 1000 / (750) rpm
<b>Frame size:</b>	160 - 355
<b>Voltage:</b>	230/400 V, 400/690 V, 500 V
<b>Frequency:</b>	50 / 60 Hz
<b>Protection class:</b>	IP55
<b>Efficiency class:</b>	IE1 (Standard efficiency), IE2 (High efficiency), IE3 (Premium efficiency), IE4 (Super premium ef.), IE5 (Ultra high efficiency)
<b>Insulation class:</b>	F/B
<b>Color:</b>	RAL 7030 (stone gray)
<b>Mounting:</b>	IM B3, IM B35, IM B5, IM B14, IM B34
<b>Cooling type:</b>	IC 411 cooling (TENV), IC 416 cooling (TEFV)
<b>Temperature:</b>	-20 °C to +40 °C
<b>Installation height:</b>	1000 m above sea level
<b>Frame material:</b>	cast iron
<b>Direction of rotation:</b>	right/left





## Bearing size

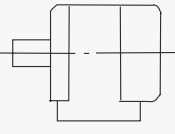
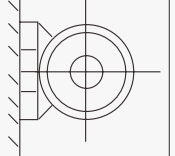
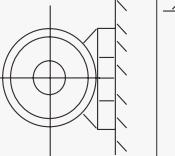
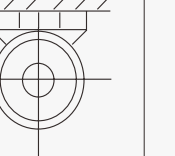
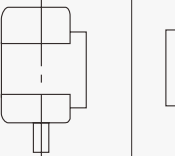
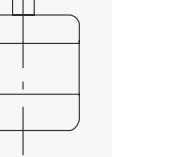
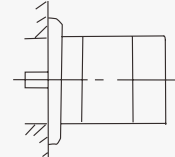
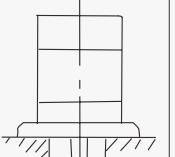
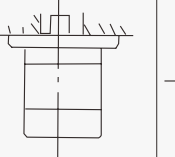
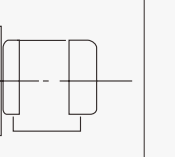
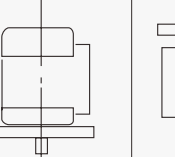
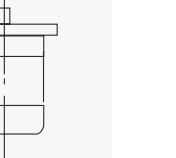
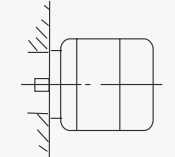
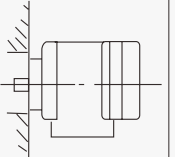
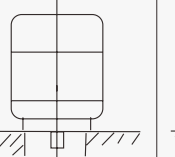
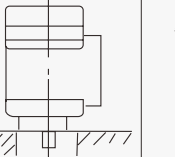
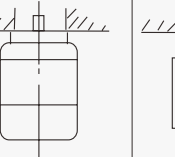
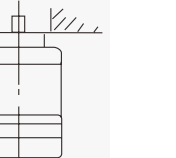
Frame size	Poles	Drive end	Non drive END
		International type	
80	2-4	62042 RZ	62042RZ
90	2-6	62052 RZ	62052 RZ
100	2-6	62062 RZ	62062 RZ
112	2-6	63062 RZ	63062 RZ
132	2-6	63082 RZ	63082 RZ
160	2-6	63092 ZC3	63092ZC3
180	2-6	6311C3	6311C3
200	2-6	6312C3	6312C3
225	2-6	6313C3	63 3C3
250	2-6	6314C3	6314C3
280	2	6314C3	6314C3
	4-6	6317C3	6317C3
315	2	6317C3	6317C3
	4-6	NU319C3	6319C3
355	2	6319C3	6319C3
	4-6	NU322C3	NU322C3

## Main data for terminal box

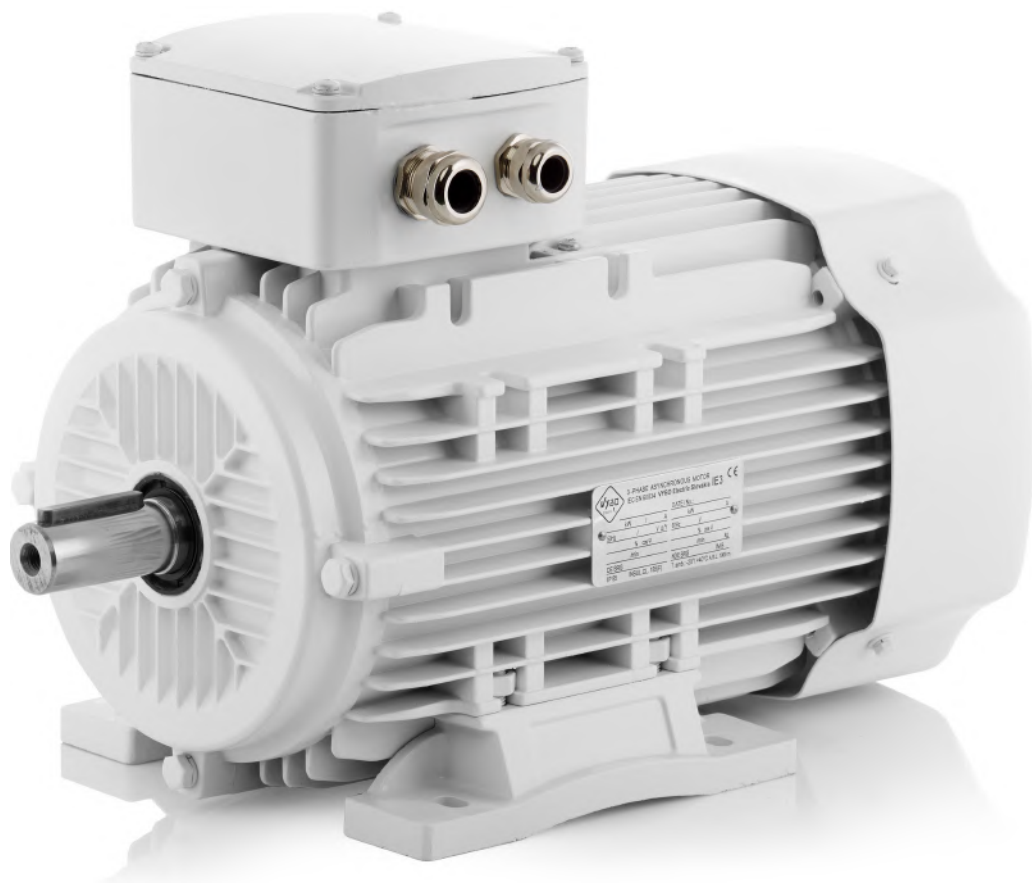
Classified number	Frame size	Max. F. Amps	Entry hole size
1	H80	2,6	2xM20x1,5
2	H90-100	6,8	2xM25x1,5
3	H112-132	15,4	2xM32x1,5
4	H160-180	42,5	2xM40x1,5
5	H200-225	84,2	2xM50x1,5
6	H250-280	166,6	2xM63x1,5
7	H315	358	2xM63x1,5
8	H355	546	2xM63x1,5



The mounting arrangements of the motors comply with IEC34-7 recommendation. There are four basic arrangements shown as the following tables and figures.

Fundamental arrangement	B3					
Mounting arrangement	B3	B6	B7	B8	V5	V6
Diagram						
Range of Manufacture (frame size)	80-355	80-160				
Fundamental arrangement	B5			B35		
Mounting arrangement	B5	V1	V3	B35	V15	V36
Diagram						
Range of Manufacture (frame size)	80-280	80-355	80-160	80-355	80-160	
Fundamental arrangement	B14					
Mounting arrangement	B14	B34	V18	V58	V19	V69
Diagram						
Range of Manufacture (frame size)	80-132					





## 5AL Series

Electric motors for standard and heavy duty in an aluminium frame



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# Technical data 5AL

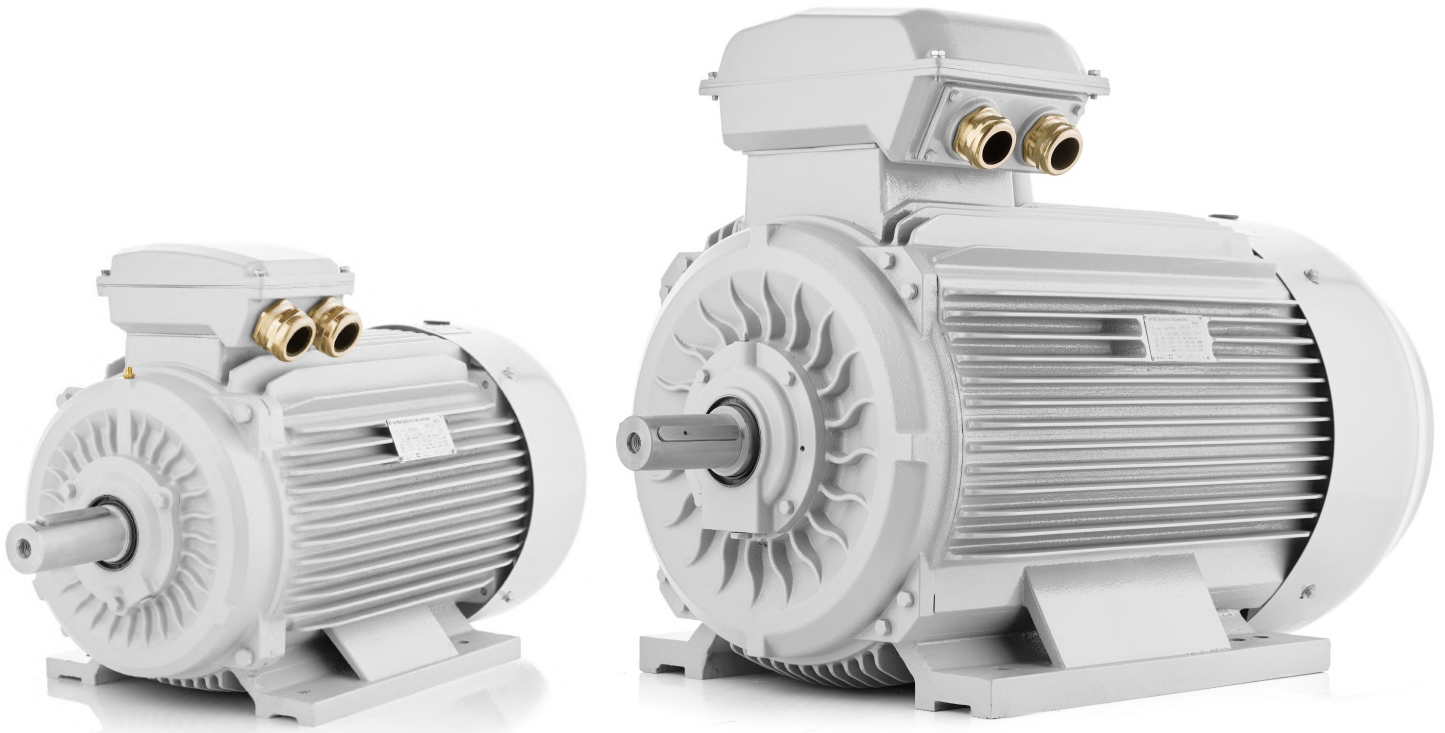
Frame reference and size	Output power	Full load current at rated voltage	Full load speed in revolutions per minute	Efficiency	Power factor	Rated power	Direct on line starting torque ratio	Direct on line starting current ratio	Direct on line pull out torque ratio	Noise	
NO.	Type	Power kW	Amps (A) 400V	Speed r/min	$\eta$ (%)	Power factor ( $\cos\phi$ )	Power kW	LRT	LRA	BDT	Noise LwdB (A)
<b>2 poles electric motors</b>											
1	5AL-80M1-2	0,75	1,6	2915	86,3	0,83	2,47	2,2	8,5	2,3	64
2	5AL-80M2-2	1,1	2,3	2910	87,8	0,83	3,62	2,2	8,5	2,3	64
3	5AL-90S-2	1,5	3	2905	88,9	0,85	4,92	2,2	9	2,3	69
4	5AL-90L-2	2,2	4,3	2910	90,2	0,86	7,22	2,2	9	2,3	69
5	5AL-100L-2	3	5,8	2930	91,1	0,87	9,78	2,2	9,5	2,3	76
6	5AL-112M-2	4	7,5	2930	91,8	0,88	13	2,2	9,5	2,3	79
7	5AL-132S1-2	5,5	10,3	2955	92,6	0,88	17,8	2	9,5	2,3	81
8	5AL-132S2-2	7,5	13,7	2955	93,3	0,89	24,2	2	9,5	2,3	81
9	5AL-160M1-2	11	20	2975	94	0,89	35,3	2	9,5	2,3	83
10	5AL-160M2-2	15	27,1	2970	94,5	0,89	48,2	2	9,5	2,3	83
11	5AL-160L-2	18,5	33,3	2970	94,9	0,89	59,5	2	9,5	2,3	83
<b>4 poles electric motors</b>											
1	5AL-80M1-4	0,55	1,3	1455	86,7	0,74	3,6	2,4	6,6	2,3	61
2	5AL-80M2-4	0,75	1,7	1455	88,2	0,74	4,9	2,3	8,5	2,3	61
3	5AL-90S-4	1,1	2,5	1460	89,5	0,75	7,2	2,3	8,5	2,3	64
4	5AL-90L-4	1,5	3,3	1460	90,4	0,76	9,8	2,3	9	2,3	64
5	5AL-100L1-4	2,2	4,6	1470	91,4	0,79	14,3	2,3	9	2,3	69
6	5AL-100L2-4	3	6,2	1470	92,1	0,8	19,5	2,3	9,5	2,3	69
7	5AL-112M-4	4	8,2	1470	92,8	0,8	26	2,3	9,5	2,3	70
8	5AL-132S-4	5,5	11,2	1480	93,4	0,8	35,5	2	9,5	2,3	76
9	5AL-132M-4	7,5	15,0	1475	94,0	0,81	48,6	2	9,5	2,3	76
10	5AL-160M-4	11	21,3	1485	94,6	0,83	70,7	2	9,5	2,3	78
11	5AL-160L-4	15	28,5	1485	95,1	0,84	96,5	2	9,5	2,3	78



# Technical data 5AL

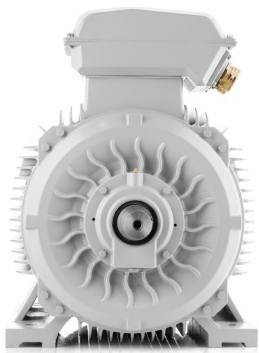
Frame reference and size	Output power	Full load current at rated voltage	Full load speed in revolutions per minute	Efficiency	Power factor	Rated power	Direct on line starting torque ratio	Direct on line starting current ratio	Direct on line pull out torque ratio	Noise	
NO.	Type	Power kW	Amps (A) 400V	Speed r/min	$\eta$ (%)	Power factor (cos $\phi$ )	Power kW	LRT RLT	LRA RLA	BDT RLT	Noise LwdB (A)
<b>6 poles electric motors</b>											
1	5AL-80M1-6	0,37	1	950	81,6	0,68	3,76	1,9	6	2,1	61
2	5AL-80M2-6	0,55	1,5	950	84,2	0,68	5,59	1,9	6	2,1	61
3	5AL-90S-6	0,75	1,9	965	85,7	0,7	7,38	2,1	7,5	2,1	64
4	5AL-90L-6	1,1	2,7	970	87,2	0,7	10,8	2,1	7,5	2,1	64
5	5AL-100L-6	1,5	3,6	980	88,4	0,71	14,6	2,1	7,5	2,1	68
6	5AL-112M-6	2,2	5,2	980	89,7	0,71	21,4	2,1	7,5	2,1	72
7	5AL-132S-6	3	7,1	980	90,6	0,71	29,1	2	7,5	2,1	76
8	5AL-132M1-6	4	9,2	985	91,4	0,72	38,8	2	8	2,1	76
9	5AL-132M2-6	5,5	12,6	985	92,2	0,72	53,3	2	8	2,1	76
10	5AL-160M-6	7,5	16,1	985	92,9	0,76	72,7	2	8	2,1	80
11	5AL-160L-6	11	23,2	985	93,7	0,77	107	2	8,5	2,1	80
<b>8 poles electric motors</b>											
1	5AL-100L1-8	0,75	2,1	720	82	0,66	9,95	2	7	2,0	67
2	5AL-100L2-8	1,1	3	720	84	0,67	14,6	2	7	2,0	67
3	5AL-112M-8	1,5	3,9	720	85,5	0,69	19,9	2	7	2	69
4	5AL-132S-8	2,2	5,5	730	87,2	0,7	28,6	1,8	7,5	2	72
5	5AL-132M-8	3	7,4	730	88,4	0,7	39,0	1,8	7,8	2,0	72
6	5AL-160M1-8	4	9,6	735	89,4	0,71	52	1,8	7,9	2	76
7	5AL-160M2-8	5,5	12,8	735	90,4	0,72	71,5	1,8	8,1	2,0	76
8	5AL-160L-8	7,5	16,9	735	91,3	0,74	97,5	1,8	7,8	2	76





# 5LC Series

Electric motors for standard and heavy duty in a cast iron frame



SOLUTIONS FOR INDUSTRY



# Technical data 5LC

Frame reference and size	Output power	Full load current at rated voltage	Full load speed in revolutions per minute	Efficiency	Power factor	Rated power	Direct on line starting torque ratio	Direct on line starting current ratio	Direct on line pull out torque ratio	Noise	
NO.	Type	Power kW	Amps (A) 400V	Speed r/min	$\eta$ (%)	Power factor (cos $\phi$ )	Power kW	LRT	LRA	BDT	Noise LwdB (A)
<b>2 poles electric motors</b>											
1	5LC-80M1-2	0,75	1,6	2915	86,3	0,83	2,47	2,2	8,5	2,3	64
2	5LC-80M2-2	1,1	2,3	2910	87,8	0,83	3,62	2,2	8,5	2,3	64
3	5LC-90S-2	1,5	3	2905	88,9	0,85	4,92	2,2	9	2,3	69
4	5LC-90L-2	2,2	4,3	2910	90,2	0,86	7,22	2,2	9	2,3	69
5	5LC-100L-2	3	5,8	2930	91,1	0,87	9,78	2,2	9,5	2,3	76
6	5LC-112M-2	4	7,5	2930	91,8	0,88	13	2,2	9,5	2,3	79
7	5LC-132S1-2	5,5	10,3	2955	92,6	0,88	17,8	2	9,5	2,3	81
8	5LC-132S2-2	7,5	13,7	2955	93,3	0,89	24,2	2	9,5	2,3	81
9	5LC-160M1-2	11	20	2975	94	0,89	35,3	2	9,5	2,3	83
10	5LC-160M2-2	15	27,1	2970	94,5	0,89	48,2	2	9,5	2,3	83
11	5LC-160L-2	18,5	33,3	2970	94,9	0,89	59,5	2	9,5	2,3	83
12	5LC-180M-2	22	39,5	2975	95,1	0,89	70,6	2	9,5	2,3	85
13	5LC-200L1-2	30	53,6	2975	95,5	0,89	96,3	2	9	2,3	86
14	5LC-200L2-2	37	65,9	2975	95,8	0,89	119	2	9	2,3	86
15	5LC-225M-2	45	80	2980	96	0,89	144	2	9	2,3	88
16	5LC-250M-2	55	97,6	2980	96,2	0,89	176	2	9	2,3	91
17	5LC-280S-2	75	132,7	2985	96,5	0,89	240	1,8	8,5	2,3	93
18	5LC-280M-2	90	159,1	2990	96,6	0,89	287	1,8	8,5	2,3	93
19	5LC-315S-2	110	194	2985	96,8	0,89	352	1,8	8,5	2,3	94
20	5LC-315M-2	132	232,6	2985	96,9	0,89	422	1,8	8,5	2,3	94
21	5LC-315L1-2	160	281,6	2985	97,0	0,89	512	1,8	8,5	2,2	94
22	5LC-315L2-2	200	351,3	2985	97,2	0,89	640	1,8	8,5	2,2	94
23	5LC-355M-2	250	429,4	2985	97,2	0,91	800	1,6	8,5	2,2	99
24	5LC-355L-2	315	541,1	2985	97,2	0,91	1008	1,6	8,5	2,2	99



# Technical data 5LC

Frame reference and size	Output power	Full load current at rated voltage	Full load speed in revolutions per minute	Efficiency	Power factor	Rated power	Direct on line starting torque ratio	Direct on line starting current ratio	Direct on line pull out torque ratio	Noise	
NO.	Type	Power kW	Amps (A) 400V	Speed r/min	$\eta$ (%)	Power factor (cos $\phi$ )	Power kW	LRT RLT	LRA RLA	BDT RLT	Noise LwdB (A)
<b>4 poles electric motors</b>											
1	5LC-80M1-4	0,55	1,3	1455	86,7	0,74	3,6	2,4	6,6	2,3	61
2	5LC-80M2-4	0,75	1,7	1455	88,2	0,74	4,9	2,3	8,5	2,3	61
3	5LC-90S-4	11	2,5	1460	89,5	0,75	7,2	2,3	8,5	2,3	64
4	5LC-90L-4	1,5	3,3	1460	90,4	0,76	9,8	2,3	9	2,3	64
5	5LC-100L1-4	2,2	4,6	1470	91,4	0,79	14,3	2,3	9	2,3	69
6	5LC-100L2-4	3	6,2	1470	92,1	0,8	19,5	2,3	9,5	2,3	69
7	5LC-112M-4	4	8,2	1470	92,8	0,8	26	2,3	9,5	2,3	70
8	5LC-132S-4	5,5	11,2	1480	93,4	0,8	35,5	2	9,5	2,3	76
9	5LC-132M-4	7,5	15,0	1475	94,0	0,81	48,6	2	9,5	2,3	76
10	5LC-160M-4	11	21,3	1485	94,6	0,83	70,7	2	9,5	2,3	78
11	5LC-160L-4	15	28,5	1485	95,1	0,84	96,5	2	9,5	2,3	78
12	5LC-180M-4	18,5	34,7	1485	95,3	0,85	119	2	9,5	2,3	80
13	5LC-180L-4	22	41,2	1485	95,5	0,85	141	2	9,5	2,3	80
14	5LC-200L-4	30	55,9	1485	95,9	0,85	193	2	9	2,3	80
15	5LC-225S-4	37	68,8	1490	96,1	0,85	237	2	9	2,3	81
16	5LC-225M-4	45	83,5	1490	96,3	0,85	288	2	9	2,3	81
17	5LC-250M-4	55	100,7	1490	96,5	0,86	353	2	9	2,3	82
18	5LC-280S-4	75	135,5	1490	96,7	0,87	479	2	8,5	2,3	83
19	5LC-280M-4	90	160,4	1490	96,9	0,88	577	2	8,5	2,3	83
20	5LC-315S-4	110	193,6	1490	97	0,89	705	1,8	8,5	2,2	91
21	5LC-315M-4	132	232,1	1490	97,1	0,89	846	1,8	8,5	2,2	91
22	5LC-315L1-4	160	277,9	1490	97,2	0,90	1026	1,8	8,5	2,2	91
23	5LC-315L2-4	200	346,7	1490	97,4	0,9	1282	1,8	8,5	2,2	91
24	5LC-355M-4	250	433,3	1495	97,4	0,9	1602	1,8	8,5	2,2	94
25	5LC-355L-4	315	546	1495	97,4	0,9	2019	1,8	8,5	2,2	94



# Technical data 5LC

Frame reference and size	Output power	Full load current at rated voltage	Full load speed in revolutions per minute	Efficiency	Power factor	Rated power	Direct on line starting torque ratio	Direct on line starting current ratio	Direct on line pull out torque ratio	Noise	
NO.	Type	Power kW	Amps (A) 400V	Speed r/min	$\eta$ (%)	Power factor (cos $\phi$ )	Power kW	LRT RLT	LRA RLA	BDT RLT	Noise LwdB (A)
<b>6 poles electric motors</b>											
1	5LC-80M1-6	0,37	1	950	81,6	0,68	3,76	1,9	6	2,1	61
2	5LC-80M2-6	0,55	1,5	950	84,2	0,68	5,59	1,9	6	2,1	61
3	5LC-90S-6	0,75	1,9	965	85,7	0,7	7,38	2,1	7,5	2,1	64
4	5LC-90L-6	1,1	2,7	970	87,2	0,7	10,8	2,1	7,5	2,1	64
5	5LC-100L-6	1,5	3,6	980	88,4	0,71	14,6	2,1	7,5	2,1	68
6	5LC-112M-6	2,2	5,2	980	89,7	0,71	21,4	2,1	7,5	2,1	72
7	5LC-132S-6	3	7,1	980	90,6	0,71	29,1	2	7,5	2,1	76
8	5LC-132M1-6	4	9,2	985	91,4	0,72	38,8	2	8	2,1	76
9	5LC-132M2-6	5,5	12,6	985	92,2	0,72	53,3	2	8	2,1	76
10	5LC-160M-6	7,5	16,1	985	92,9	0,76	72,7	2	8	2,1	80
11	5LC-160L-6	11	23,2	985	93,7	0,77	107	2	8,5	2,1	80
12	5LC-180L-6	15	30,2	990	94,3	0,8	145	2	8,5	2,1	79
13	5LC-200L1-6	18,5	37,1	990	94,6	0,8	178	2	8,5	2,1	79
14	5LC-200L2-6	22	43,5	990	94,9	0,81	212	2	8,5	2,1	79
15	5LC-225M-6	30	58,3	990	95,3	0,82	289	2	8,3	2,1	80
16	5LC-250M-6	37	70,8	990	95,6	0,83	357	2	8,3	2,1	82
17	5LC-280S-6	45	86	990	95,8	0,83	432	2	8,5	2	84
18	5LC-280M-6	55	103,6	990	96	0,84	528	2	8,5	2	84
19	5LC-315S-6	75	140,9	990	96,3	0,84	723	1,6	8	2	88
20	5LC-315M-6	90	166,7	990	96,5	0,85	868	1,6	8	2	88
21	5LC-315L1-6	110	203,5	990	96,6	0,85	1061	1,6	8	2	88
22	5LC-315L2-6	132	240,9	990	96,8	0,86	1273	1,6	8	2	88
23	5LC-355M1-6	160	291,7	995	96,9	0,86	1543	1,6	8	2	89
24	5LC-355M2-6	200	364,3	995	97,0	0,86	1920	1,6	8	2,0	89



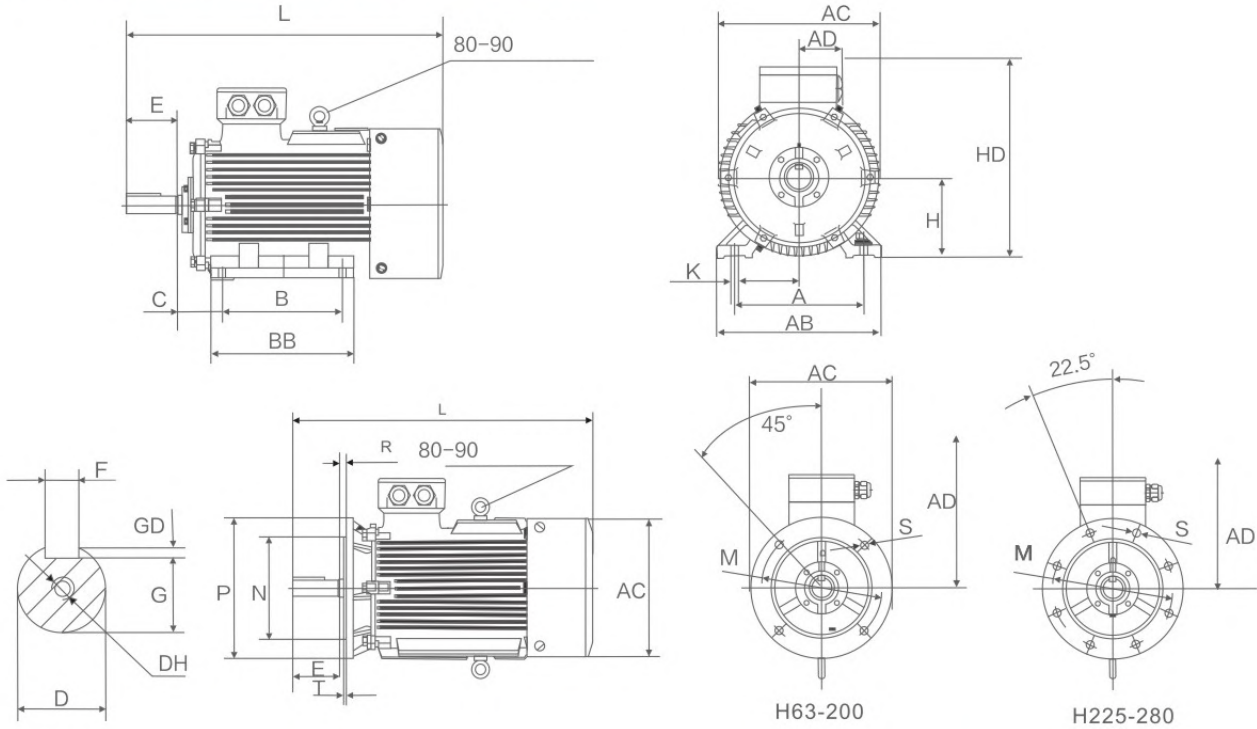


# Technical data 5LC

Frame reference and size	Output power	Full load current at rated voltage	Full load speed in revolutions per minute	Efficiency	Power factor	Rated power	Direct on line starting torque ratio	Direct on line starting current ratio	Direct on line pull out torque ratio	Noise	
NO.	Type	Power kW	Amps (A) 400V	Speed r/min	$\eta$ (%)	Power factor (cos $\phi$ )	Power kW	LRT RLT	LRA RLA	BDT RLT	Noise LwdB (A)
<b>8 poles electric motors</b>											
1	5LC-100L1-8	0,75	2,1	720	82	0,66	9,95	2	7	2,0	67
2	5LC-100L2-8	1,1	3	720	84	0,67	14,6	2	7	2,0	67
3	5LC-112M-8	1,5	3,9	720	85,5	0,69	19,9	2	7	2	69
4	5LC-132S-8	2,2	5,5	730	87,2	0,7	28,6	1,8	7,5	2	72
5	5LC-132M-8	3	7,4	730	88,4	0,7	39,0	1,8	7,8	2,0	72
6	5LC-160M1-8	4	9,6	735	89,4	0,71	52	1,8	7,9	2	76
7	5LC-160M2-8	5,5	12,8	735	90,4	0,72	71,5	1,8	8,1	2,0	76
8	5LC-160L-8	7,5	16,9	735	91,3	0,74	97,5	1,8	7,8	2	76
9	5LC-180L-8	11	24,5	735	92,2	0,74	143	1,8	7,9	2	77
10	5LC-200L-8	15	32,7	740	92,9	0,75	194	1,8	8	2	80
11	5LC-225S-8	18,5	40,2	740	93,3	0,75	239	1,8	8,1	2	80
12	5LC-225M-8	22	47	740	93,6	0,76	284	1,8	8,3	2	80
13	5LC-250M-8	30	62,9	740	94,1	0,77	387	1,8	7,9	2	82
14	5LC-280S-8	37	76,3	740	94,4	0,78	474	1,8	7,9	2	83
15	5LC-280M-8	45	92,6	740	94,7	0,78	577	1,8	7,9	2	83
16	5LC-315S-8	55	110,1	740	94,9	0,80	715	1,6	8,2	2	88
17	5LC-315M-8	75	149,5	740	95,3	0,8	974	1,6	7,6	2	88
18	5LC-315L1-8	90	176,8	740	95,5	0,81	1169	1,6	7,7	2	88
19	5LC-315L2-8	110	215,6	740	95,7	0,81	1429	1,6	7,7	2	88
20	5LC-355M1-8	132	258,2	740	95,9	0,81	1715	1,6	7,7	2	94
21	5LC-355M2-8	160	308,5	740	96,1	0,82	2065	1,6	7,7	2	94
22	5LC-355L-8	200	384,8	740	96,3	0,82	2581	1,6	7,8	2	94



# Mounting and overall dimensions



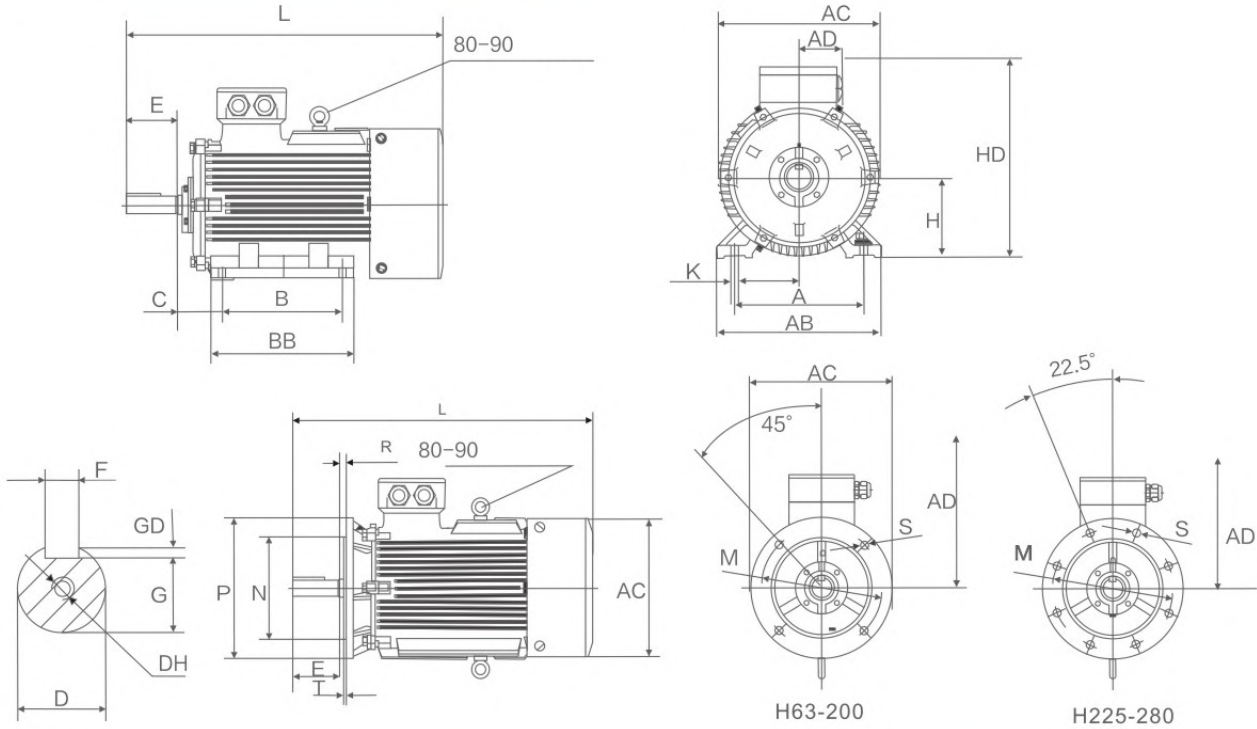
Mounting Dimensions

Overall Dimensions

Frame size	A	B	C	D	E	F	G	H	K	M	N	P	R	S	T	AB	AC	AD	HD	L
80M	125	100	50	19	40	6	15,5	80	10	165	130	200	0	12	3,5	165	156	122	168	390
90S	140	100	56	24	50	8	20	90	10	165	130	200	0	12	3,5	180	175	138	185	415
90L	140	125	56	24	50	8	20	90	10	165	130	200	0	12	3,5	180	175	138	185	465
100L	160	140	63	28	60	8	24	100	12	215	180	250	0	14,5	4	205	196	150	238	508
112M	190	140	70	28	60	8	24	112	12	215	180	250	0	14,5	4	230	220	160	260	530
132S	216	140	89	38	80	10	33	132	12	265	230	300	0	14,5	4	270	255	200	313	570
132M	216	178	89	38	80	10	33	132	12	265	230	300	0	14,5	4	270	255	200	313	610
160M	254	210	108	42	110	12	37	160	14,5	300	250	350	0	18,5	5	320	315	252	385	700
160L	254	254	108	42	110	12	37	160	14,5	300	250	350	0	18,5	5	320	315	252	385	750
180M	279	241	121	48	110	14	42,5	180	14,5	300	250	350	0	18,5	5	355	360	270	415	835
180L	279	279	121	48	110	14	42,5	180	14,5	300	250	350	0	18,5	5	355	360	270	415	885
200L	318	305	133	55	110	16	49	200	18,5	350	300	400	0	18,5	5	395	400	308	468	780
225S	356	286	149	60	140	18	53	225	18,5	400	350	450	0	18,5	5	435	445	330	520	880
225M-2	356	311	149	55	110	16	49	225	18,5	400	350	450	0	18,5	5	435	445	330	520	980
225M-4-6	356	311	149	60	140	18	53	225	18,5	400	350	450	0	18,5	5	435	445	330	520	980



# Mounting and overall dimensions



Mounting Dimensions

Overall Dimensions

Frame size	A	B	C	D	E	F	G	H	K	M	N	P	R	S	T	AB	AC	AD	HD	L
250M-2	406	349	168	60	140	18	53	250	24	500	450	550	0	18,5	5	490	490	360	570	980
250M-4-6	406	349	168	65	140	18	58	250	24	500	450	550	0	18,5	5	490	490	360	570	980
280S-2	457	368	190	65	140	18	58	280	24	500	450	550	0	18,5	5	550	550	405	630	1080
280S-4-6	457	368	190	75	140	20	67,5	280	24	500	450	550	0	18,5	5	550	550	405	630	1080
280M-2	457	419	190	65	140	18	58	280	24	500	450	550	0	18,5	5	550	550	405	630	1140
280M-4-6	457	419	190	75	140	20	67,5	280	24	500	450	550	0	18,5	5	550	550	405	630	1140
315S-2	508	406	216	65	140	18	58	315	28	600	550	660	0	24	6	635	620	504	755	1310
315S-4-6	508	406	216	80	170	22	71	315	28	600	550	660	0	24	6	635	620	504	755	1340
315M-2	508	457	216	65	140	18	58	315	28	600	550	660	0	24	6	635	620	504	755	1410
315M-4-6	508	457	216	80	170	22	71	315	28	600	550	660	0	24	6	635	620	504	755	1440
315L-2	508	508	216	65	140	18	58	315	28	600	550	660	0	24	6	635	620	504	755	1460
315L-4-6	508	508	216	80	170	22	71	315	28	600	550	660	0	24	6	635	620	504	755	1490
355M-2	610	560	254	75	140	20	67,5	355	28	740	680	800	0	24	6	730	710	950	840	1520
355M-4-6	610	560	254	95	170	25	86	355	28	740	680	800	0	24	6	730	710	950	840	1550
355L-2	610	630	254	75	140	20	67,5	355	28	740	680	800	0	24	6	730	710	950	840	1620
355L-4-6	610	630	254	95	170	25	86	355	28	740	680	800	0	24	6	730	710	950	840	1650







## Address

VYBO ELECTRIC a. s. | tel: +421 944 105 361  
Radlinského 18 | e-mail: mv@vyboelectric.eu  
052 01 Spišská Nová Ves  
Slovenská republika

[www.vyboelectric.com](http://www.vyboelectric.com)



SOLUTIONS FOR INDUSTRY

BUREAU VERITAS  
Certification



**VYBO Electric a.s.**  
Radlinského 18, 052 01 Spišská Nová Ves  
Slovak Republic

Bureau Veritas Certification Holding SAS – UK Branch certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

### ISO 14001: 2015

Scope of certification

**MANUFACTURE AND SALE OF ELECTRIC MOTORS. SALES AND DEVELOPMENT OF VARIABLE FREQUENCY DRIVES.**

Original cycle start date: 18.05.2022  
Expiry date of previous cycle: N/A  
Certification Audit date: 31.03.2022  
Certification cycle start date: 18.05.2022

Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on: 17.05.2025

Certificate No. SK-U22 055E Version: 1 Issue date: 18.05.2022

Certification body address: 5<sup>th</sup> Floor, 66 Prescot Street, London E1 8HQ, United Kingdom  
Local office: Plynárskeho 7/B, BRATISLAVA 821 09, Slovak Republic



Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation. To check this certificate validity please call: +421 2 5341 4165

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Bureau Veritas Certification

### Certificate

Awarded to

**VYBO Electric a.s.**  
Radlinského 18, 052 01 Spišská Nová Ves  
Slovak Republic

BUREAU VERITAS CERTIFICATION (Z) s.r.o. certifies that the Management System of the above organisation has been assessed and found to be in accordance with the requirements of the management system standard detailed below

Standard

### ISO 45001:2018

Scope of supply

**MANUFACTURE AND SALE OF ELECTRIC MOTORS. SALES AND DEVELOPMENT OF VARIABLE FREQUENCY DRIVES.**

Original Approval Date: 18-05-2022  
Expiry date of previous cycle: N/A  
Certification Cycle Start Date: 18-05-2022  
Certification Cycle End Date: 17-05-2025  
Subject to the continued satisfactory operation of the organisation's Management System, this certificate is valid until: 17-05-2025

To check this certificate validity please call: +420 210 098 215

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.

Version 1 Issue Date: 18-05-2022  
Certificate Number: CZF - 2200117

ISSUING OFFICE ADDRESS: BUREAU VERITAS CERTIFICATION CZ s.r.o., Obchodní 1, 143 02 Praha 4, Czech Republic

11

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ CERTIFICADO ◆ CERTIFICAT



# CERTIFICATE

**TÜV SÜD Slovakia s.r.o.**  
Certification Body for Management Systems  
Accredited by SNAS  
Certificate on accreditation No. Q-011  
certifies that



**VYBO Electric a.s.**  
Radlinského 18  
SK – 052 01 Spišská Nová Ves  
IČO: 45 537 143

has established and applies  
a Quality Management System for

**Manufacture and sale of electric motors.  
Sales and development of variable frequency drives.**

An audit was performed, Report No. 2264/40/22/Q/AS/C  
Proof has been furnished that the requirements  
according to

### STN EN ISO 9001:2016

are fulfilled. The certificate is valid from 2022-04-14 until 2025-04-13  
Certificate Registration No. Q 2264-1

Bratislava, 2022-04-14

TÜV SÜD Slovakia s.r.o.  
Certification Body for Management Systems  
Member of Group TÜV SÜD  
Jaskóva 6, 821 03 Bratislava

F-Q-019/26

Certificate SK22/3701

The management system of

**VYBO Electric a.s.**  
Radlinského 18  
052 01 Spišská Nová Ves, Slovakia

has been assessed and certified as meeting the requirements of

### EN ISO 50001:2018

For the following activities

**Production & sales of electric motors.  
Sales & development of variable frequency drives.**

Further clarifications regarding the scope of this certificate and the applicability of EN ISO 50001:2018 requirements may be obtained by consulting the organisation.

This certificate is valid from 7 April 2022 until 6 April 2025  
and remains valid subject to satisfactory surveillance audits.  
Recertification audit due a minimum of 60 days  
before the expiration date.  
Issue 1. Certified with SGS since 7 April 2022

Authorised by

Ing. Róbert Bodnár  
Director

SGS Slovakia spol. s r. o.  
Klyučská 14, 040 11 Košice, Slovakia  
t +421 55 783 61 11, f +421 55 783 61 20, www.sgs.com

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