

COMPACT SYNCHRONOUS LIFT MOTORS OF THE SERIES SVM 250

Lift motors of the series SVM 250 represent a significant innovation in the field of electric drives intended for lift technology. The compact motor is fitted with a rope pulley and brakes that are fixed directly to the motor frame. It results in a rigid drive without unwanted vibration and in a smooth and dynamical lift operation. The motor is a synchronous machine with rare-earth permanent magnet excitation, permanent magnets being located on the rotor.

The motors are intended for direct gearless drives of the lifts which brings about, in comparison with a usual design with a gearbox, a substantial improvement of the performance and parameters of the lift drive from the technical point of view.

The lift motors are supplied and controlled by appropriate frequency converters.

ADVANTAGES OF SYNCHRONOUS LIFT MOTORS

Synchronous lift motors are characterized by the following advantages in comparison with induction lift motors of the same power output:

- higher torque overload capacity
- very good dynamical properties
- smooth speed control from zero speed to the maximum one with high uniformity of rotation
- very good efficiency and power factor in all operating modes
- torque developed at rest ($n = 0$)
- high control accuracy
- smaller dimensions and lower mass

TECHNICAL DESCRIPTION

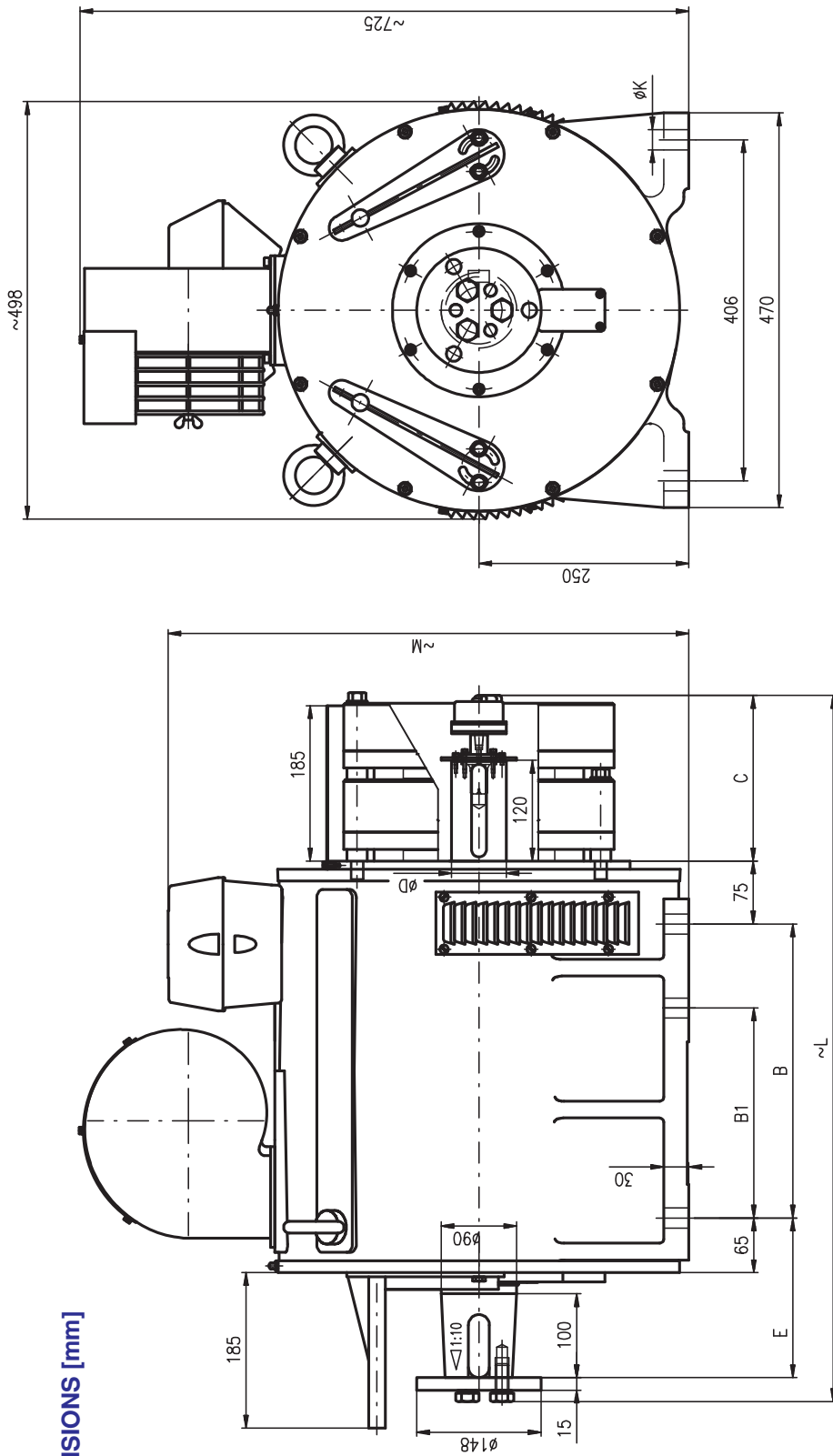
The motors are made with the degree of protection IP20 as foot-mounted ones - type of construction IM 1001, cooling IC06 (with a separate ventilation unit). The three-phase working (stator) winding of the motor is led out to the common terminal box being located on the motor frame; the outlets of thermistor, thermal switch and ventilation unit are also led out to this terminal box. The insulating system of the motor is made in thermal class H. The thermistor (155 °C) and thermal switch switching the separate ventilation unit when the temperature of 60 °C has been reached are incorporated in end windings. The separate ventilation unit including the filter of the air being sucked is located on motor frame. The rotor of the motor is supported on antifriction bearings. The motors are provided with encoders for the speed and rotor position sensing.

The series of synchronous lift motors is produced in VUES Brno a.s. in three sizes and six types given by the motor winding design. The basic technical parameters are given in the following table:

BASIC PARAMETERS

Sizes	Size S		Size M		Size L	
	04	06	08	10	13	15
Type SVM 250						
Rated continuous torque at fan cooling [Nm]	350	520	700	880	1100	1250
Rated torque for 180 load cycles/hour [Nm]	475	700	950	1200	1475	1675
Rated torque for 240 load cycles/hour [Nm]	400	600	820	1000	1270	1450
Peak torque [Nm]	870	1300	1750	2800	2800	3100
Rated speed [min^{-1}]	up to 300 min^{-1}					
Moment of inertia [kg.m^2]	0,5	0,7	0,9	1,1	1,4	1,6
Radial force [kN]	50			70		
Brake type	Mayr RSO 500		Mayr RSO 800		Mayr RSO 1300	
Mass of the motor [kg]	420	452	505	545	620	655

BASIC DIMENSIONS [mm]



TYPE	L	E	B	B1	C	M	D	K
SVM 250-04	729	190	250	-	179	628	65	24
SVM 250-06								
SVM 250-08	841	190	350	250	197	620	65	24
SVM 250-10								
SVM 250-13	994	198	475	-	217	620	85	28
SVM 250-15								