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## **GEARLESS LIFT DRIVE SLP 315**



### **Description**

The SLP lift drive is a gearless drive that consists of a driving unit, braking system and traction sheave. The whole drive is positioned on a single shaft, which enables the mounting and fixing parts to form one compact unit. The driving unit stands for a three-phase permanent magnet synchronous motor. The motor frame serves as a carrier construction of the entire motor as well. On the frame there are mounting holes and fixing spots for brakes and rope holders. The frame upper part accommodates the terminal box that ensures central connection of all electric components participating in the functioning and protection of the drive. The braking system is composed of two independent d.c. electromagnets with compression springs. Emergency brake release is possible by the use of a stand-by source or by manual releasing of the brake. Brake release control is carried out by a micro switch that may also provide a trigger pulse to change the hold-on voltage of the brake. The traction sheave is made of cast iron, while its diameter, the number and profile of rope grooves can be modified by the customer's requirements. The drive is fed from a solid state frequency converter, which provides a continuous speed control over the full range of operating speeds. The motor winding is equipped with a built-in thermal protection.

### **Advantages**

- Lower price of the construction in case of installing the drive in new buildings, which emerges from the possibility of mounting the drive direct in the lift pit or the adjacent sites.
- Minimum maintenance requirements during the operation. The design and manufacture of the drive provides for the minimum possible need of periodical service-related interventions. The need of regular exchanges of oil fillings, clutch segments and the need of brakes adjustment is eliminated thereby.
- Ecology requirements: During its service life the drive is fully recyclable. The use of permanent oil fillings eliminates the generation of dangerous wastes and the need of handling them during the entire service life of the drive.
- Low energy consumption of the drive is one of its most significant advantages as it contributes considerably to a shortening of the return time of the costs associated with its use.
- Enhancement of the run comfort and a precision stop.



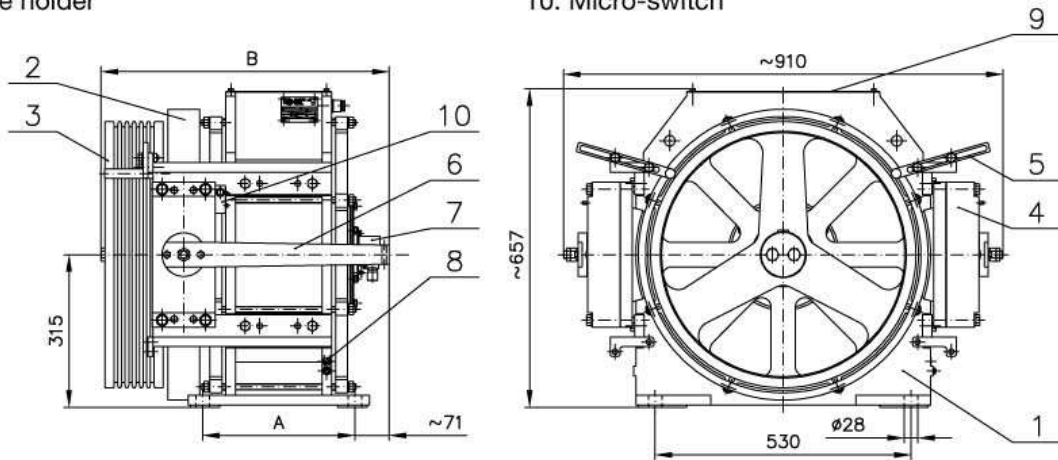
## Technical data

		SLP 315.3			SLP 315.4				
Gearless lift drive									
Nominal moment Mn	N.m		660		880				
Minimal overload factor	-		1.6		1.6				
Travels per hour	1/h		240		240				
Duty	%		40		40				
Static load od driving coil	kN		50		50				
Sheave diameter	mm	500	410	330	500	410	330		
Roping	-		1:1				1:1		
Pull	N	2640	3220	4000	3520	4293	5333		
Lift dead capacity	kg	400	450	600	525	630	750		
Moment of inertia	kg.m <sup>2</sup>	3.5	3.3	3.1	4.1	3.9	3.7		
Speed in m/s	0,63	Operating speed	1/min	24.1	29.4	36.5	24.1	29.4	36.5
		Frequency	Hz	7.2	8.8	10.9	7.2	8.8	10.9
		Drive current by Mn	A	8.0	9.5	10.0	9.5	10.0	12.0
		Performance	kW	1.7	2.0	2.5	2.2	2.7	3.4
	0,8	Operating speed	1/min	30.6	37.3	46.3	30.6	37.3	46.3
		Frequency	Hz	9.2	11.2	13.9	9.2	11.2	13.9
		Drive current by Mn	A	9.5	10.0	12.0	10.0	12.0	14.0
		Performance	kW	2.1	2.6	3.2	2.8	3.4	4.3
	1,00	Operating speed	1/min	38.2	46.6	57.9	38.2	46.6	57.9
		Frequency	Hz	11.5	14.0	17.4	11.5	14.0	17.4
		Drive current by Mn	A	10.0	12.0	14.0	12.0	14.0	17.0
		Performance	kW	2.6	3.2	4.0	3.5	4.3	5.3
1,25	Operating speed	1/min	47.8	58.3	72.4	47.8	58.3	72.4	
	Frequency	Hz	14.3	17.5	21.7	14.3	17.5	21.7	
	Drive current by Mn	A	12.0	14.0	17.0	14.0	17.0	20.0	
	Performance	kW	3.3	4.0	5.0	4.4	5.4	6.7	
1,6	Operating speed	1/min	61.1	74.6	92.6	61.1	74.6	92.6	
	Frequency	Hz	18.3	22.4	27.8	18.3	22.4	27.8	
	Drive current by Mn	A	14.0	17.0	20.0	17.0	20.0	25.0	
	Performance	kW	4.2	5.0	6.2	5.6	6.9	8.5	
2,0	Operating speed	1/min	76.4	93.2	115.8				
	Frequency	Hz	22.9	28.0	34.7				
	Drive current by Mn	A	14.0	17.0	20.0				
	Performance	kW	5.3	6.4	8.0				
Roping	-		2:1				2:1		
Pull	N	5280	6439	8000	7040	8381	10353		
Lift dead capacity	kg	800	975	1200	1050	1250	1500		
Moment of inertia	kg.m <sup>2</sup>	3.5	3.3	3.1	4.1	3.9	3.7		
Speed in m/s	0,63	Operating speed	1/min	48.2	58.7	73.0	48.2	58.7	73.0
		Frequency	Hz	14.4	17.6	21.9	14.4	17.6	21.9
		Drive current by Mn	A	12.0	14.0	17.0	15.0	18.0	20.0
		Performance	kW	3.3	4.1	5.0	4.4	5.4	6.7
	0,8	Operating speed	1/min	61.1	74.6	92.6	61.1	74.6	92.6
		Frequency	Hz	18.3	22.4	27.8	18.3	22.4	27.8
		Drive current by Mn	A	14.0	17.0	20.0	18.0	20.0	25.0
		Performance	kW	4.2	5.2	6.4	5.6	6.9	8.5
	1,00	Operating speed	1/min	76.4	93.2	115.8	76.4	93.2	115.8
		Frequency	Hz	22.9	28.0	34.7	22.9	28.0	34.7
		Drive current by Mn	A	17.0	20.0	25.0	22.0	25.0	30.0
		Performance	kW	5.3	6.4	8.0	7.0	8.6	10.7
1,25	Operating speed	1/min	95.5	116.5	144.8	95.5	116.5	144.8	
	Frequency	Hz	28.7	35.0	43.4	28.7	35.0	43.4	
	Drive current by Mn	A	20.0	25.0	30.0	25.0	30.0	35.0	
	Performance	kW	6.6	8.0	10.0	8.8	10.7	13.3	
1,6	Operating speed	1/min	122.3	149.1		122.3	149.1		
	Frequency	Hz	36.7	44.7		36.7	44.7		
	Drive current by Mn	A	25.0	30.0		35.0	40.0		
	Performance	kW	8.4	10.3		11.3	13.7		

## Basic parts and dimensional sketch

1. Frame
2. Brake wheel
3. Traction Sheave
4. Brakes
5. Rope holder

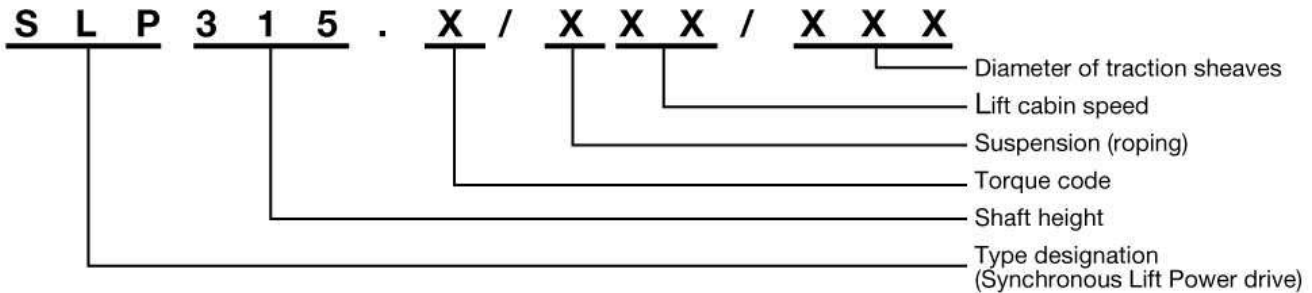
6. Manual brake release
7. Encoder
8. External terminal clamp
9. Terminal box
10. Micro-switch



Type size	Nominal torque (Nm)	Starting torque (Nm)	Max. axial load (N)	Motor supply voltage	Brake supply voltage	A (mm)	B (mm)	Weight (kg)
SLP 315.2	440	850	30000	3 x 400 V 50 Hz	198 V (24,48 V)	280	550	425
SLP 315.3	660	1230	40000			315	597	475
SLP 315.4	880	1550	50000			355	623	525

## Designation

The SLP drive design is explicitly specified by the type and numeric code as follows:



Torque code	Nominal torque (Nm)
2	440
3	660
4	880

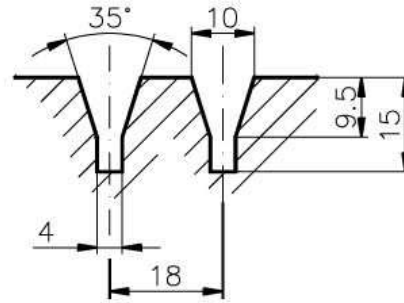
Suspension designator	Suspension
1	1 : 1
2	2 : 1

Lift speed designator	Lift speed (ms <sup>-1</sup> )
06	0.63
08	0.80
10	1.00
12	1.25
16	1.60
20	2.00
25	2.50
32	3.20
40	4.00

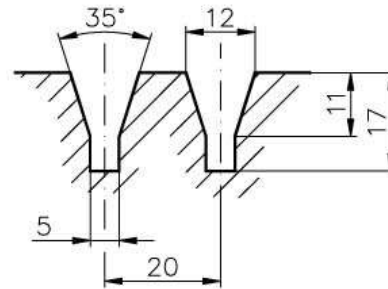
THE MANUFACTURER RESERVES THE RIGHT TO CARRY OUT TECHNICAL CHANGES WHICH, HOWEVER, IN NO WAY INFLUENCE THE TECHNICAL PARAMETERS UNDER THE CATALOGUE VALIDITY PERIOD.

## The example some form of grooves:

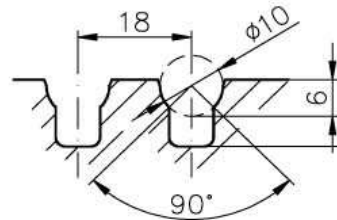
V-groove with undercut for rope  $\varnothing 8$



V-groove with undercut for rope  $\varnothing 10$



U-groove with undercut for rope  $\varnothing 10$



## Data for order

The type and numeric code exactly specifies the model of the drive so they can be used for next orders of the given drive or to identify previous orders.

The order should include following information:

- Nominal torque (or required tension force)
- Abseiling
- Nominal speed of cage
- Diameter of the traction sheave grooves
- Number of the traction sheave grooves
- Rope diameter
- (Required shape of groove)
- (Offset of grooves)
- Electromagnetic brake voltage
- Option of mechanical brake release
- Central hand brake release
- (Type of the frequency changer and encoder)

## Requirements for safety

Observing of technical and sanitary regulations ensures safety in production. Safety of operating and maintenance is ensured by basic standards for work on electric devices in terms of valid regulations and appropriate standards.

There are valid TP and appropriate national standards for initial installation, operating and maintenance. One set of technical instructions is supplied with each motor (unless agreed otherwise). The instructions includes separate documentation for frequency changer and encoder.