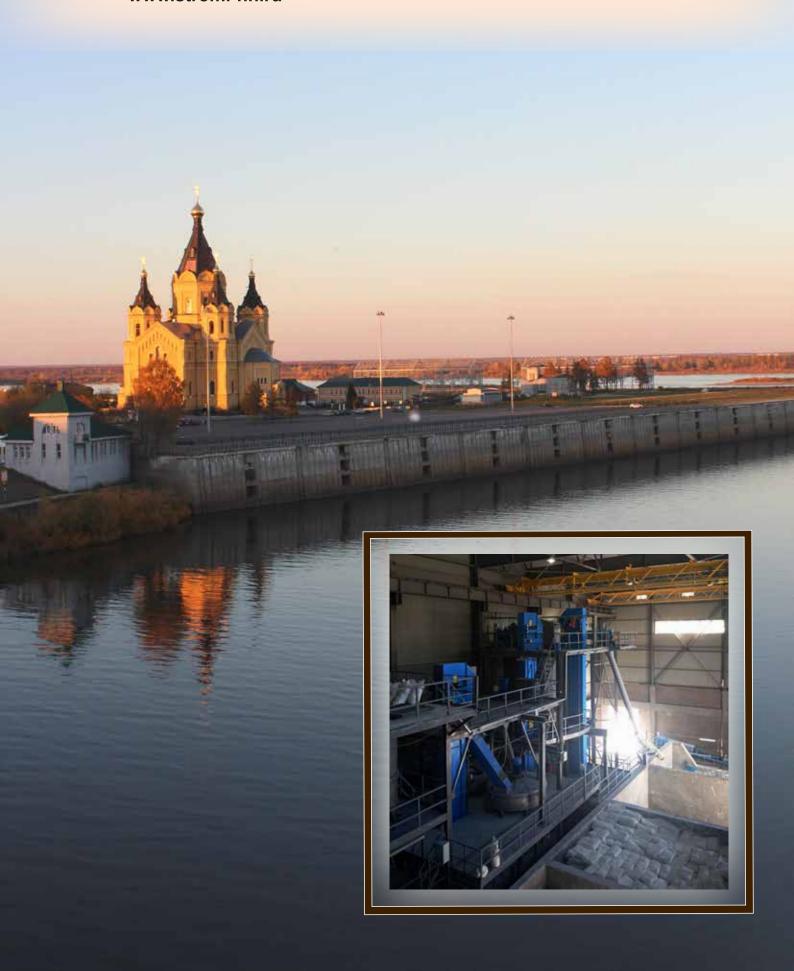


# DESIGN AND PRODUCTION OF BELT-TYPE BUCKET ELEVATORS



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# Belt Elevators

The vertical belt-type bucket elevators are used for lifting of various free-flowing and bulk materials from the loading point to the unloading point.

At the present time "Stromizmeritel" manufactures elevators with the bucket width of 160, 250, 320, 400, 650 mm, capacity of 13 up to 165 m<sup>3</sup>/hour and lift of 8 up to 50 m. The buckets discharge is various.

The elevators are equipped with gear motors, bearing assemblies and belts manufactured by the leading world producers. The tension of the elevator traction part is maintained at the power-drive station, which guarantees minimal "dead areas" when the buckets turn the driven pulley and reduces overall dimensions of the lower station. The structure of the driven pulley, which is made akin to a squirrel wheel, prevents the belt from damage when abrasive material falls between the internal surface and the pulley. Conic form of the drive pulley in combination with the rubber covering secures increased adherence and stability of the belt position at a motion rate of 1,2-2m/sec.

Depending on properties of the material conveyed in the elevators (light, heavy, abrasive, poorly loadable and poorly unloadable materials), different types of buckets are used:

- carbon steel buckets;
- deep or fine buckets;
- buckets of special form;
- abrasion-resistant and chemically resistant buckets;
- lightweight plastic buckets for conveying of water-absorbing materials, which are prone to adhering.

Apart from the hatches and detachable panels at the upper and lower stations an access to the working body from each side from any height of the elevator well is provided for repair and maintenance of the elevators. Increased structural stability of the well allows putting a platform for the drive service on it.

On the whole the elevators as well as the belt conveyors manufactured by "Stromizmeritel" Closed JSC are noted for quick assembly, reliable and dust-free operation and are of high quality and good design.



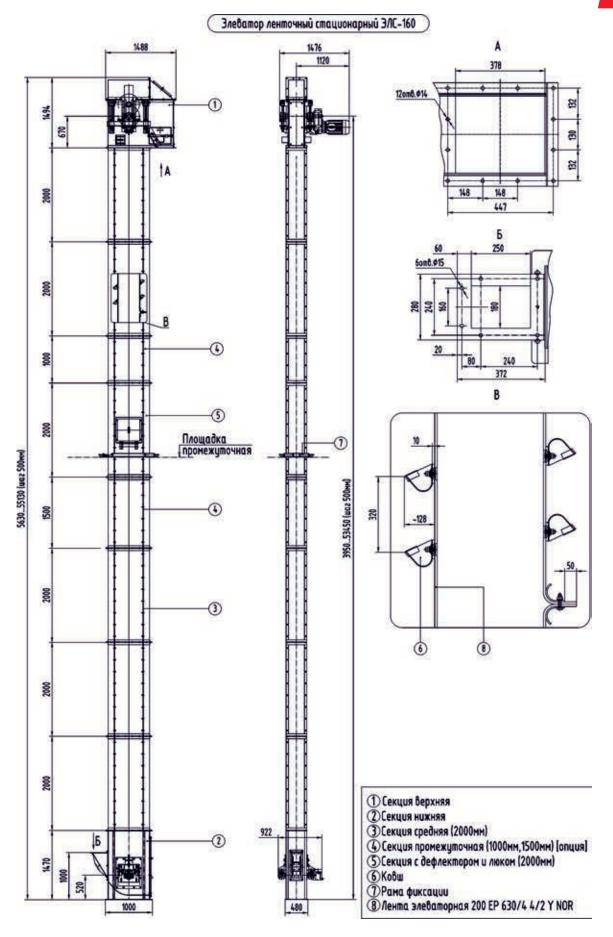
#### **APPLICATION**

The belt-type bucket elevator ELS (M)-160 is used for vertical lifting of various free-flowing fine-grained and lump noncaking and nonsticking materials with mesh size up to 20 mm and with bulk density up to  $2 \text{ g/cm}^3$  in workshops at environmental air temperature of  $-30^{\circ}$  C to  $50^{\circ}$  C

The belt-type bucket elevator feeds the material from a lower section filling hopper by force of a centrifugal discharge scoop through an upper section branch tube or another transporter with specified productivity.

Parameter name	Parameter value
Length between drum axes of a power-drive station and tension station, mm	Depends on concrete project
Belt running speed, m/s	1,4
Rated capacity, m <sup>3</sup> /hour	11,5 (5,7)
Bucket's width, mm	160
Buckets spacing, mm	320
Diameter of driving drum, mm	450
Diameter of lower drum, mm	450
Traction equipment – elevator belt	200 EP 630/4 4/2 Y NOR
Rotation frequency of driving drum, rpm	61
Gear motor type	Flat - fillister
Type of tensioning device	screw
Power supply voltage, B	380±38
Electrical frequency, Hz	50±1







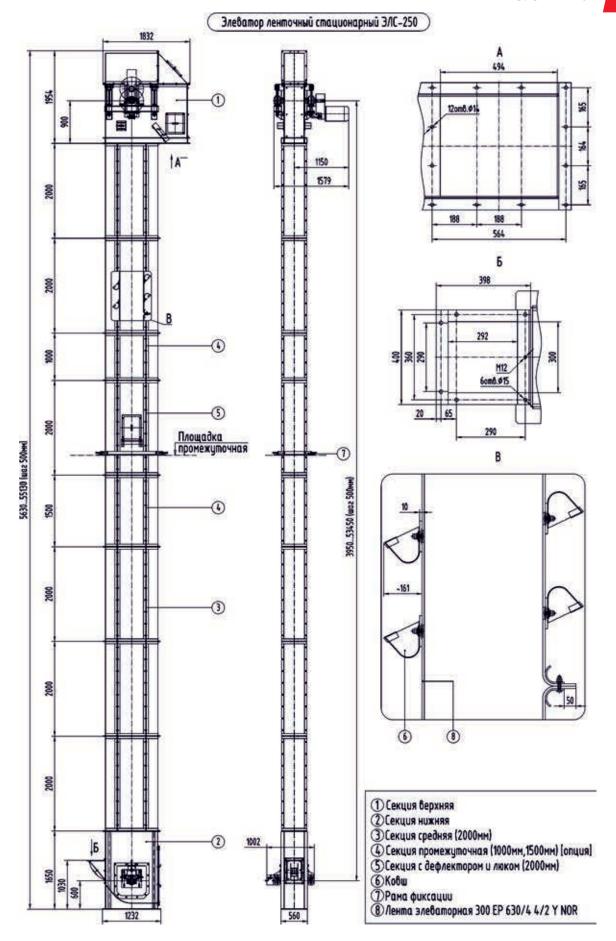
#### **APPLICATION**

The belt-type bucket elevator ELS (M)-250 is used for vertical lifting of various free-flowing fine-grained and lump noncaking and nonsticking materials with mesh size up to 20 mm and with bulk density up to  $2 \text{ g/cm}^3$  in workshops at environmental air temperature of  $-30^{\circ}$  C to  $50^{\circ}$  C

The belt-type bucket elevator feeds the material from a lower section filling hopper by force of a centrifugal discharge scoop through an upper section branch tube or a transporter with specified productivity.

Parameter name	Parameter value
Length between drum axes of a power-drive station and tension station, mm	Depends on concrete project
Belt running speed, m/s	1,55
Rated capacity, m³/hour	30 (21)
Bucket's width, mm	250
Buckets spacing, mm	400
Diameter of driving drum, mm	500
Diameter of lower drum, mm	500
Traction equipment – elevator belt	300 EP 630/4 4/2 Y NOR
Rotation frequency of driving drum, rpm	59
Gear motor type	Flat - fillister
Type of tensioning device	screw
Power supply voltage, B	380±38
Electrical frequency, Hz	50±1







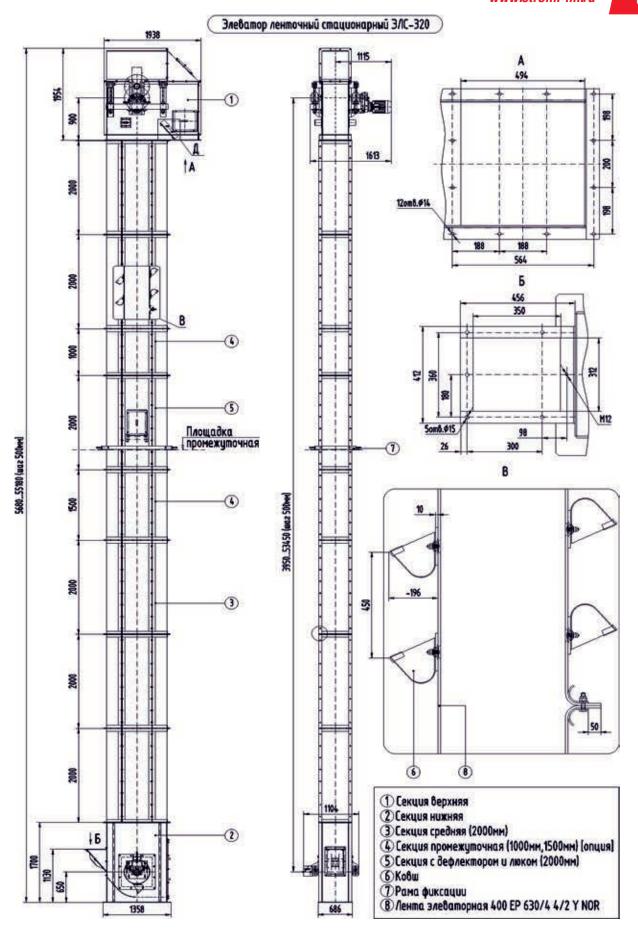
#### **APPLICATION**

The belt-type bucket elevator ELS (M) - 320 is used for vertical lifting of various free-flowing fine-grained and lump noncaking and nonsticking materials with mesh size up to 30 mm and with bulk density up to  $2 \text{ g/cm}^3$  in workshops at environmental air temperature of  $-30^{\circ}$  C to  $50^{\circ}$  C

The belt-type bucket elevator feeds the material from a lower section filling hopper by force of a centrifugal discharge scoop through an upper section branch tube or a transporter with specified productivity.

Parameter name	Parameter value
Length between drum axes of a power-drive station and tension station, mm	Depends on concrete project
Belt running speed, m/s	1,55
Rated capacity, m³/hour	54 (33)
Bucket's width, mm	320
Buckets spacing, mm	450
Diameter of driving drum, mm	500
Diameter of lower drum, mm	500
Traction equipment – elevator belt	400 EP 630/4 4/2 Y NOR
Rotation frequency of driving drum, rpm	59
Gear motor type	Flat - fillister
Type of tensioning device	screw
Power supply voltage, B	380±38
Electrical frequency, Hz	50±1







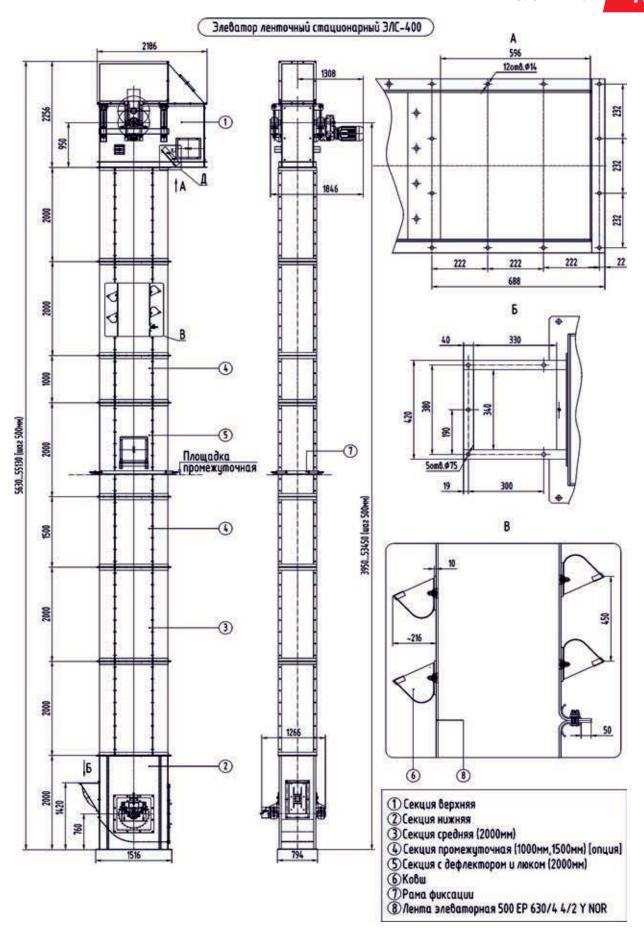
#### **APPLICATION**

The belt-type bucket elevator ELS (M)-400 is used for vertical lifting of various free-flowing fine-grained and lump noncaking and nonsticking materials with mesh size up to 50 mm and with bulk density up to  $2 \text{ g/cm}^3$  in workshops at environmental air temperature of  $-30^{\circ}$  C to  $50^{\circ}$  C

The belt-type bucket elevator feeds the material from a lower section filling hopper by force of a centrifugal discharge scoop through an upper section branch tube or a transporter with specified productivity.

Parameter name	Parameter value
Length between drum axes of a power-drive station and tension station, mm	Depends on concrete project
Belt running speed, m/s	1,8
Rated capacity, m³/hour	92 (62)
Bucket's width, mm	400
Buckets spacing, mm	450
Diameter of driving drum, mm	630
Diameter of lower drum, mm	630
Traction equipment – elevator belt	500 EP 630/4 4/2 Y NOR
Rotation frequency of driving drum, rpm	57
Gear motor type	Flat - fillister
Type of tensioning device	screw
Power supply voltage, B	380±38
Electrical frequency, Hz	50±1





#### **APPLICATION**

The belt-type bucket elevator ELS (M)-650 is used for vertical lifting of various free-flowing fine-grained and lump noncaking and nonsticking materials with mesh size up to 70 mm and with bulk density up to  $2 \text{ g/cm}^3$  in workshops at environmental air temperature of  $-30^{\circ}$  C to  $50^{\circ}$  C

The belt-type bucket elevator feeds the material from a lower section filling hopper by force of a centrifugal discharge scoop through an upper section branch tube or a transporter with specified productivity.

Parameter name	Parameter value
Length between drum axes of a power-drive station and tension station, mm	Depends on concrete project
Belt running speed, m/s	2,0
Rated capacity, m³/hour	165 (107)
Bucket's width, mm	650
Buckets spacing, mm	630
Diameter of driving drum, mm	800
Diameter of lower drum, mm	800
Traction equipment – elevator belt	800 EP 630/4 4/2 Y NOR
Rotation frequency of driving drum, rpm	49
Drive type	Separate, Electric motor + gear system
Type of tensioning device	screw
Power supply voltage, B	380±38
Electrical frequency, Hz	50±1



#### Элеватор ленточный стационарный ЭЛС-650

