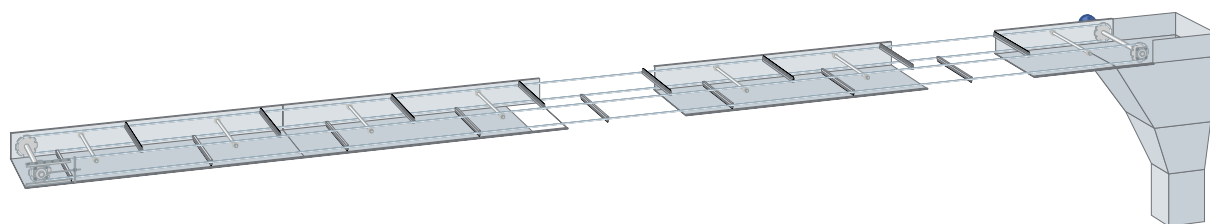




Spillage conveyor



Operating instructions

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2 Data

2.1 Pos 1

Main data

Inside width	mm	
Speed	m/s	0,12
Length	mm	
Installed effect	kW	2,2
Transmission		BTM 32 W
Motor		112M6
Bearing unit drive section		SKF FY 50 TG
Bearing unit tensioning section		SKF FY 50 TG

Execution

Design	type	BruniTec System 2000
No of sections	pcs	
Chain	type	Ewert no 74
Length	mm	
Chain wheels	type	74 Sy Spec z=8
Flights	type	Brunitec 8.0105-283 VST L= distance 2500
Chain support	type	Oak 80x38 8.0105-282



3 Apparatus and motor list

3.1 Apparatus list

Conveyor no	Name	Description	I/O signal	A	V	Notes
101						
102						
103						
104						
105						
106						
107						
108						
109						
110						
111						
112						
113						
114						
115						
116						
117						
118						



Operating instruction Spillage conveyor

Apparatus and motor list

3.2 Motorlist

Conveyor no	Name	IEC	Effect kW	Started current A	Current V	output rpm	Notes
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							

4 Function description

4.1 Spillage conveyor

The conveyor collect carry-back material from a beltconveyor. Material is normally reintroduced to the flow by unloading the spillage conveyor to the discharge chute of the beltconveyor.

The conveyor has two parallel chains with flights in between mounted with 2.500 mm spacing. The flight is welded to two chain links.

The chains are sliding on sturdy supports made of oak which are bolted to the conveyor sides.

4.1.1 Safety

By inspection and work on and beside the spillage conveyor, the instructions in chapter 7 Safety shall be followed.

4.1.1.1 Emergency stop

The spillage conveyor shall be interlocked to the belt conveyor emergency stop function.

4.1.2 Equipment

4.1.2.1 Tensioning device

The spillage conveyor has a tensioning device integrated in the tensioning section. The chains are tensioned by screw tensioner. Both sides can be tensioned from one side if the accessories one-sided tensioner is used.

4.1.3 Control

4.1.3.1 Timer

The spillage conveyor shall be operated intermittent to minimize wear. The interval between each operation period shall be modified to handle the amount of spilled material. The operation is normally controlled by a timer function in the plant control system. The spillage conveyor shall be interlocked with the belt conveyor that it is installed on. If for example installed where there is freezing problems at wintertime it is recommended to decrease the intervals to avoid problems.

4.1.3.2 Speed monitor

It is recommended to use a speed monitor on the tensioning shaft to indicate that the conveyor is running. Difference against nominal value shall result in immediate stop of the conveyor and alarm to operator.

5 Operation

5.1 Start

Start of conveyor is normally controlled from the main control system and operator.

5.1.1 Preparations before start

Instructions according to chapter 7 Safety shall be followed.

Before automatic start of the conveyor it should be tested manually under surveillance.

5.1.2 Start after shorter stop

Short stop is less than 2 days.

Instructions in chapter 7 Safety shall be followed.

5.1.3 Start after longer stop

Longer stop is more than 2 days.

Instructions in chapter 7 Safety shall be followed.

The instructions under 5.1.1 Preparations before start shall be followed before taken into operation again.

5.1.4 Check after start

See 5.3.1 Surveillance during operation

5.2 Stop

5.2.1 Short stop

Short stop is less than 2 days.

The conveyor shall be emptied before stop.

5.2.2 Long stop

Long stop is more than 2 days.

At a long stop the conveyor shall emptied, cleaned and inspected. The conveyors safety switch shall be switched off.

5.3 Surveillance

5.3.1 Surveillance during operation

The condition for an economical operation is that the instructions and intervals regarding inspections and maintenance is followed and thoroughly performed. This is also an assumption for a long life of the equipment. The inspections shall be repeated sufficiently often during the period of operation. The proposed intervals is only recommendations. Experience from the operation can show that the intervals needs to be modified.

During longer planned stops the conveyor status shall be checked regarding wear, corrosion, damages etc.

5.3.1.1 Check list

Check the spillage conveyor regarding:

- accumulated material
- noise
- heat
- oil leakage
- motor, cooling fan working and not clogged
- bolt joints
- Check the running time. The interval between every running period shall be adjusted to correspond with the amount of spillage from the belt conveyor.
- Check the chain tension. Check especially that the tension is the same on both sides and that the chain slack on the upper part at the drive station is no more than 25-30 mm.
- Check the flights and chain supports.
- Check the function of the speed monitor.

Inspection interval: 7 days

6 Interferences and fault search

6.1 Fault search

6.1.1 Spillage conveyor

See maintenance instructions

6.2 Alarms

Example of alarms that can occur:

- emergency stop
- speed monitor alarm

6.3 Measures at alarm

Depending of where the fault has occurred, part of or the whole system can stop.

The operator have to decide from time to time which measures that have to be taken.

At fault search it shall not be excluded that the fault can depend on a switch or monitor itself or at it's connection to the control system. The fault can also be found in the control system.

6.3.1 Emergency stop

- 1 Identify which emergency switch that has been activated.
- 2 Check if any person has been harmed.
- 3 Find out the cause.
- 4 Limit the damages as best as possible.
- 5 Correct the fault.
- 6 Reset the emergency stop.
- 7 Run the conveyor manually and check the function.
- 8 Start the conveyor in automatic mode.

6.3.2 General instruction for fault search

- 1 Identify from where the alarm has been activated.
- 2 Find out the cause for the alarm.
- 3 Correct the fault
- 4 Run the conveyor manually and check the function.
- 5 Start the conveyor in automatic mode.

7 Safety

Before the conveyor is taken into operation the first time, the installation including electrical installations, connections to the control system and programming be declared to be in provision with the applicable EEC regulations and directives regarding safety. It is an assumption that the power supply to the conveyor motor is interlocked to the emergency switches for the belt conveyor.

7.1 Safety directions

To keep the safety on an accepted level, these instructions have to be followed.

Emergency stop switches, contact protection or other safety devices shall under no circumstances be disconnected or in other ways taken out of operation.

7.1.1 Before start

Following points shall be checked before start:

- assure that no person is inside or close to the conveyor
- assure that no foreign objects or material is inside or in risk to fall into the conveyor
- all protection and safety devices shall be mounted and activated

7.1.2 Emergency stop

Find out where the emergency stops are located.

7.1.3 Service or adjustments on spillage conveyor

Machines controlled by automatic control system can start without warning.

By service or adjustment on the conveyor, the safety switch shall be switched off and locked.

7.1.4 Electrical installations

No works is allowed during operation.

Changes in the electrical installations shall only be performed by certified personal.

7.1.5 Petroleum products

Repeated contact with petroleum products can cause permanent skin problems.

7.1.6 Instructions and signs

Instructions, directives and rules regarding safety and environment have to be followed.

Respect signs on and around machinery and installations.

7.1.7 Personal safety

Do not use loose hanging clothes which can get jammed in moving machinery.

Always use ear protection in noisy environment.

Always use breathing protection in dusty environment

8 Safety declaration

DECLARATION OF CONFORMITY

We, Brunitec Engineering AB, Box 48, 23521 VELLINGE, SWEDEN

declare under our sole responsibility that the product

Brunitec® Spillage conveyor

to which this declaration relates is under the conformity with the provisions of the Directives including additions and revisions

- 89/392/EEC (machinery)
- 89/336/EEC (electromagnetic compability)
- 73/23/EEC (electrical equipment designed for use within certain voltage limits)

but must not be put into service until the equipment which it is to be incorporated into or assembled with has been declared in conformity with the provisions of applicable EEC Directives

Vellinge 2001-10-04

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Ove Brunius MD