

ARBOGA - DARENTH

OPERATING INSTRUCTIONS FOR DRAG CONVEYOR TYPE X-348

Customer:

Order No.:

Manufacturing No.:

Delivery date:

ARBOGA-DARENTH AB

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Contents

Declaration of conformity	2
Foreword	3
Guarantee.....	4
Safety regulations	5
Operation	6
Installation	6
Maintenance instruction	7
Chain tightening	8
Chain dis-assembly.....	8
Lubrication	9
Trouble-shooting	9
Spare parts list	10
Exploded view	11

Declaration of conformity

We, AB Ph. Nederman & Co., declare under our sole responsibility that the Nederman product X348 with accessories to which this declaration relates, are in conformity with the following:

Directives

2006/95/EC, 2006/42/EC, 2004/108/EC

Standards

EN ISO 12100-1, EN ISO 12100-2, EN 60204-1

The product manager, Jens Jacobsson, is responsible for the technical documentation.



AB Ph. Nederman & Co.

P.O. Box 602

SE-251 06 Helsingborg

A handwritten signature in black ink that reads 'Jens Jacobsson'. The signature is written in a cursive style with a large, prominent 'J' and 'S'.

Jens Jacobsson, Product Manager
Helsingborg, Sweden, 2010-01-01

Foreword

ARBOGA-DARENTH Conveyors guarantee good design, quality components and skilled labour plus years of experience in swarf handling and swarf crushing. All these abilities have been used to design a product with high reliability and long service life. We are convinced that your experiences will confirm your choice of ARBOGA-DARENTH Swarf Conveyors.

Length of life and reliability can, as with any machine tool, be prolonged with correct installation and correct maintenance. It pays off to follow our advice for maintenance.

This maintenance manual consists of instructions and spare parts list for your new ARBOGA-DARENTH Drag Conveyor. It also contains greasing instructions, exploded view and a simple schedule for trouble-shooting.

ARBOGA-DARENTH Swarf Conveyors are normally used in all machine tools on the market as well as in swarf handling systems which ARBOGA-DARENTH designs, sells and installs.

All Conveyors which leave our works are checked and do not need any additional maintenance other than stated in this manual.

For orders of spare parts and if you want to contact our engineers please find our phone number and address at the front page of this instruction.

Guarantee

All products from ARBOGA-DARENTH are guaranteed free from any fault in material and labour during a period of one year. One year consists of 365 calendar days or 1800 hours whichever ever occurs first. The guarantee period for our products starts the day the equipment is sent to the client and continues during one year as earlier described. This is due if our maintenance and control recommendations are followed.

The guarantee is not valid for incorrect erection, misuse, incorrect maintenance or if maintenance is not made due to our recommendations and accepted industry practice.

During the guarantee period and after written notice to us, we guarantee that all parts manufactured in our plant which are faulty regarding material or labour shall be replaced. We give no further guarantee either written or verbal for costs except material and man labour.

This guarantee or other guarantees from us do not cover:

1. Damage after the guarantee period is ended.
2. Damage caused by chemical reactions or wear due to the detail has been submitted to external influences.
3. Equipment damaged at delivery or by accidents.
4. Damage through misuse, incorrect use or feeding of the centrifuge or if recommended maintenance is not followed.
5. Damage to equipment which have been repaired or changed by others than by the one who has been acknowledged as our sole representative.
6. Wear parts.

Safety regulations

- Electrical installations have to be done by qualified personnel only.
- At connection of voltage feed as well as at service and maintenance work on the conveyor the circuit breaker must be off.
- Test the emergency stop at installation and always when maintenance and service have been done.
- The conveyor must not be operated with the covers removed.
- The data sheet from the coolant supplier must be studied as parts from coolant can cause allergic reactions.

WARNING!

The floor around the conveyor might get slippery from coolant getting outside the machine.

Operation

ARBOGA Drag Conveyors consists of an all-welded U-formed sheet metal trough with supports and motor mounting plate.

The scrapers which are running in the trough are supported by two chains, one on each side. The chains travel in guides along the whole conveyor length.

The shafts for the sprockets are supported in bearings.

The conveyor is driven through a geared motor directly mounted on the shaft.

The drive unit is combined with tension screws for chain adjustment.

Installation

Shorter conveyors will be delivered completely assembled, ready to install and to use. Longer conveyors will be delivered in sections.

The conveyor or the conveying pieces can be handled by a crane without any special arrangements. See that the lifting equipments have approved quality and strength and that they are adapted in a safe way in the lifting lugs.

When frame junctions are used ensure that the chain path (the frame) is in level on both sides.

The conveyors shall be placed on a level surface and be fastened with expansion bolts.

The lubrication instructions from the gear manufacturer have to be followed (see enclosure).

Maintenance instruction

After approx. 3 months operation in one shift, the conveyor should be checked.

If the conveyor is properly maintained it has a long life time. However, the life time will be improved if the chains always are greased.

Scraper

The scrapers must be checked regularly to find possible damage. All worn or damaged parts must immediately be replaced.

Changing of scrapers:

1. Loosen the chain tension bolts and slacken the chain.
2. Loosen the scraper from the brackets on the conveyor chain.
3. Change to a new scraper and tighten the chains.
4. When tightening the chain, check that both tension bolts are identically adjusted, otherwise the shaft will not be in a straight angle to the conveying direction.

The regularity of cleaning and maintenance of this conveyor will be dictated by the application.

Chain tightening

Proceed as follows by tightening the chain:

1. Loosen the bolts on the bearing plate and the motor plate.
2. Tighten or untighten with the tensioning screws.
3. Tighten the chain so that it is possible to press it down about 5-10 mm just before the tail end.
4. If it is not enough to tighten the chain with the tightening device, it is necessary to take away 2 links (see chain dis-assembly).
5. After the tightening of the chain, the bolts mentioned in item 1 above shall be fastened.

NB! We recommend to take extra care in checking the chain and to follow the procedure above when tightening. If the chain is tightened too hard or too loose, both conditions can cause problems in operation and damage the chain and the conveyor itself.

Chain dis-assembly

Dis-assembly of the chain can be done for two reasons:

- To replace damaged chain.
- Cleaning and maintenance of the conveyor trough.

Chain

The chain is to be dis-assembled in the following order:

1. Loosen the bolts on the bearing plate and the motor plate.
2. Untighten the chain by loosening the tensioning screws. The screw to be totally loose.
3. Divide the chain by pressing to links together and wring, then withdraw the pin.
4. When both chains are divided, pull them out of the frame.
NB! We recommend to secure the chain so that it is not rolling back into the frame.
5. If you wish to exchange one scraper, just exchange the damaged one.
6. Assembly takes place in the reverse order.

It is possible to pull out and mount the chain with the motor.

When dis-assembling the chain as per above, run the motor forwards.

When mounting a new chain, put it over the drive shaft and run the motor in reverse.

Lubrication

Gear

The gear manufacturer's specifications are to be followed (see enclosure).

NB! Some gears are delivered without oil. It is in these cases fully marked on the gear. The manufacturer's specification is valid.

Drive

The drive shaft bearings are to be greased every 6th month.

Pulley wheel shaft bearing

The pulley wheel shaft bearings are to be greased every 6th month with grease of quality Statoli Uniway LI62 or similar.

It is recommended to grease the bearings additionally, when the conveyor is placed outdoors. Bearing grease of good quality is to be used.

Conveyor chains

Installations where the chains are running in oil (emulsion) no additional lubrication is necessary.

If the conveyor is running dry the chains must be lubricated with oil once a month.

Trouble-shooting

Problem	Cause	Measures
The chain runs irregular	The chain not tightened	Tighten the chain
Excessive wear on frame	The chain uneven tightened	Adjust the tightening bolts
The chain jammed	The chain not tightened or scrap pieces block the conveyor	Tighten the chain. If any foreign parts can have entered into the conveyor, it is necessary to dis-assemble the conveyor for inspection of chain and frame
The chain "squeaks"	The chain too tight	Release tension by adjusting the tightening screws

Spare parts list

NB! When ordering spare parts, please specify the following data:

- Order number
- Serial number
- Designation
- Article number

Pos	Article no.	Denomination
1		Bearing plate
2		Bearing
3		Shaft
4		Key (chain wheel)
5		Chain wheel
6		Key (motor)
7		Stop screw
8		Motor mounting plate
9		Gear with motor
10		Top cover
11		Scraper
12		Scraper chain
13		Pulley wheel shaft
14		Bearing
15		Key (chain wheel)
16		Chain wheel

Exploded view

