FINAL ISSUE

PESO KG. / WEIGHT KG.	1020		
MEZZI / PIECES	1		
MATERIALE / MATERIAL		CODICE / CODE	ITEM
			6SN1

COMM^ / JOB N^ 1E352

SCALA / SCALE 1:20

DATA / DATE 11-10-2010

DISEGN. / DRAWN. M.W.

BARBIERI MDDENA ITALY COSTRUZIONI MECCANICHE

TITOLO / TITLE TRASPORTATORE A NASTRO DA 400 I=11800

BELT CONVEYOR WIDTH 400mm. CL=11800

SOST.JAL N^ NPF40261-000

SOST.JAL N^ DISEGNO N^ / DRAWING N^ NPF40261-000-R1

NOTE

I disegni sono di proprietà della ditta BARBIERI che ne vieta la riproduzione e divulgazione

MOTORIDUTTORE
MOTORGEAR REDUCER

ELECTRIC MOTOR 1,5kW, 4 POLES
B5 V.380/50 Hz. SUPPLIED BY BALLESTRA

CARTER SPAZZOLA
BRUSH CARTER

VOMERE
PLOW

PORTELLO D'ISPEZIONE
INSPECTION DOOR

DISCHARGE
DEDUSTING
COUNTERFLANGE

SEZIONE
SECTION

VISTA DA A
VIEW FROM A

desmet ballestra

BELT SPECIFICATION SHEET

Doc. Nr. : 2A09-40-212
Customer Nr. : (1E35-40-1212)

Commessa / Job: 2A09 / 1E35Z
Impianto / Plant: SABIZ

Item	Service
65N1	Post Blending Unit Conveyor Belt

PROCESS DATA

SERVICE TYPE: CONTINUOUS — Nr. of UNITS/SPARE: 1 / 0

TREATED SOLIDS TYPE	Y/ N	Density, Kg/m3 Min	Max
SPECKLES	Y	400	
SLS POWDER	Y	300	500
ZEOLITE	y	430	460
BENTONITE	Y	550	650
ENZYMES	Y	1190	
AVERAGE MIXTURE DENSITY:		600	

BELT MUST BE COMPLETE WITH:

Inside belt scraper, y/n: Y — Base plate, y/n: Y
Discharge hopper, y/n: Y — Trolley, y/n:
Disch. Side clean. Brush, y/n: Y
Charge hopper (net cpty= m3), y/n:
Outlet product regulation gate, y/n:
Motor, y/n: Y — Pulleys & belts, y/n:
Gear-box, y/n: — Carter, y/n:
Gear-motor, y/n: — Speed variator, y/n:
Speed variator type:
Mechanical, y/n: — A.C. inverter, y/n:
Direct current, y/n: — Expan. Pulleys, y/n:

Des. Flow at min / max dens., m3/h: 12
Min / Max weight flow rate, Kg/h: 7000

MANUFACTURER INFORMATION

Max. flow rate, m3/h: 14 — Belt type: CONVEYOR — Belt width, mm: 400
Belt size (W x L): 400/10900 — Belt speed, m/min: 24 — Installation: STATIONARY
Mechan. execution: CLOSE — Belt material: WHITE RUBBER — Casing material: CARBON STEEL
Driving/driven roller, mm: 224 / 224 — Electr. power: Volts: 380 — Hertz: 50 — Phases: 3
Instrument air press., Bar(G): — Auxil. power: Volts: — Type:

	BELT	MOTOR	GEAR-BOX	GEAR-MOTOR	SPEED VAR.
Manufacturer:					
Model:					
Order Nr.:					
Order date:					
Delivery date:					
Power, KW:		1,5			
Speed, rpm:		1420			
Poles:		4			
Shape:		B5			
Protection:		IP55			
Weight, Kg:					

ADDITIONAL MOTOR INFO — Self-brake motor (Y/N): — Electric current (AC / DC):
Insul. class: — Start: — Tropicalization: Y

Make requst for spare parts offer: For Nr. years
When ordering make request for Nr. manuals in language, and Nr. in italian language

NOTES:

nr. 9 inlet nozzles (components dosed on the belt)
nr. 3 dedusting nozzles (dn 80)

Rev.	DESCRIZIONE / DESCRIPTION	Data / Date	Autore / Author
0	issued for basic engineering	31/05/2010	F.Storti

Section 14 Belt Conveyor ITEM 65N1

(job 1E35Z) – ord. 101659

Step	Description	Reference Documents	Inspection						Notes
			Manufacturer		Ballestra		Third Party		
			Test	Report	Attend	Dept	Attend	Report	
1	Construction Drawing Approval	Equipment specification Data sheet	29/10		H	MAC			
2	Review of mill certificates	Design Code Ballestra Material Requisition	08/11		R				
3	Visual and dimensional check of preassembled machine	Erection drawings Data sheet	18/11	Yes	H	COL			
4	Fabricate parts identification marks (if any)	Erection drawings	H	Yes	H	COL			Not applicable
5	Functional test / Running test	Manufacturer procedure	22/12	Yes	H	COL			
6	Current Absorption check	Motor nameplate/Data Sheet	22/12	Yes	W	COL			
7	Surfaces treatment/ Painting check	Manufacturer specification Ballestra Material Requisition	22/12	Yes	W	COL			
8	Nameplate Check	Ballestra Material Requisition	22/12		H	COL			"CE" marking if required
9	Accessories and Spare Parts check	Ballestra Material Requisition	22/12	Yes	SW	COL			
10	Documents review	Applicable code Ballestra Material Requisition	22/12	Yes	R	MAC			

BARBIERI COSTRUZIONI MECCANICHE
MODENA ITALY

SCHEDA DI CONTROLLO DIMENSIONALE E PROVA DI FUNZIONAMENTO

DIMENSIONAL CONTROL DATA SHEET AND TEST ACCORDING:

DIS. N°
DRW. N° NPF 40261-000

CLIENTE DESMET BALLESTRA
CLIENT

COMMESSA N° 1E35Z ITEM 65N1
JOB

TIPO TRASPORTATORE NPF 400 I 11,800
CONVEYOR TYPE

MATRICOLA TRASPORTATORE 10242
CONVEYOR CODE

MOTORE : MARCA BROOK MATRICOLA BK6657781 (2010)
MOTOR : BRAND WDA 90 L4 CODE

POTENZA : KW 1,5 POLI N° 4 V=220/240/380/420 HZ 50
POWER POLES

ASSORBIMENTO MAX TARGA Δ 6,40/6,20 / Y 3,70/3,50 COS.Ø= 0,77
LABEL ABSORBED CURRENT

RIDUTTORE TIPO TRAMEC R= 1:38,73 MATRICOLA 2012469002
REDUCER TYPE TC 90 B0 CODE

VARIATORE TIPO / MATRICOLA /
VARIATOR TYPE CODE

TEST DATA - DATI RILEVATI

ASSORB. AMPERE : CON TRASPORT. A VUOTO
ABSORBED CONVEYOR EMPTY

	Min.	Max.
N	/ A	1,9 A
B	/ A	2,9 A
H	/ A	1,6 A

ASSORB. AMPERE : SPUNTO A VUOTO 2,5 A (V. 380/50)
ABSORBED CONVEYOR STARTING

	Vel.min.	Vel.max
VELOCITÀ RILEVATA GIRI/1' ACTUAL SPEED	/	259 M.M.

LUNGHEZZA RILEVATA 11800 LARGHEZZA NASTRO. 400
ACTUAL LENGTH BELT WIDTH

VERIFICA DIMENSIONALE effettuata ☒ non effettuata ☐
DIMENSIONAL TEST

DATA 22/12/2010 FIRMA Mocchi Luca

BARBIERI COSTRUZIONI MECCANICHE s.r.l.
SEDE AMMINISTRATIVA E STABILIMENTO
41100 MODENA - ITALIA - VIA MORANE, 264
TEL. 059 30.00.18 - 059 30.00.23
TELEFAX 059 30.00.95
e-mail: info@barbieri-cm.it

REGISTRO IMPRESE TRIB. DI MODENA N. 3190
ALBO NAZIONALE COSTRUTTORI N. 28895/09

Codice Fiscale e Partita I.V.A. N.° 00178890364

BARBIERI FBM

S.R.L. - Cap. soc. € 95.000,00

DECLARATION

To Whom It May Concern

The undersigned Barbieri Alberto in his capacity as legal representative at Barbieri Costruzioni Meccaniche srl a company having its registered office at Modena – Via Morane 264, hereby declares that the goods described on the your order:

- n° 101659 dated 15-09-2010

are not included on the list of dual use items and technologies referred to in the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 (setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items); are not, directly or indirectly, in full or in part, military nor originally designed as component of any weapon, instrument or supply for military use.

Barbieri Alberto
(Legal Representative)

Modena, 22 December 2010

BARBIERI COSTRUZIONI MECCANICHE s.r.l.
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41100 MODENA - ITALIA - VIA MORANE, 264
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BARBIERI FBM

S.R.L. - Cap. soc. € 95.000,00

22 dicembre 2010

SPETT.

DESMET BALLESTRA S.P.A.
Via P. Portaluppi, 17
20138 MILANO

Rif: Vs. ordine n° 101659 del 15-09-2010

Si certifica che il trasportatore a nastro ITEM 65N1 commessa 1E35Z è stato collaudato a vuoto, con esito positivo, presso il nostro stabilimento e che i materiali impiegati per la costruzione sono idonei a tale impiego.

We certify the belt conveyor ITEM 65N1 job 1E35Z has been positively tested without material at our factory.
We further certify that all the materials used for this conveyor are suitable for the use.

BARBIERI COSTRUZIONI MECCANICHE S.R.L. MODENA

BARBIERI COSTRUZIONI MECCANICHE s.r.l.
SEDE AMMINISTRATIVA E STABILIMENTO
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BARBIERI FBM

S.R.L. - Cap. soc. € 95.000,00

DECLARATION OF CONFORMITY CE

The undersigned **BARBIERI COSTRUZIONI MECCANICHE S.R.L.**
Via Morane, 264 - 41125 MODENA (ITALY) TEL. 059/300018 - FAX 059/300095

Herewith declares that:

THE BELT CONVEYOR ITEM 65N1

Job : 1E35Z

MANUFACTURING YEAR: 2010

SERIES No: 10242

Is in conformity with the provisions of the MACHINERY DIRECTIVE (Directive 2006/42/CE)

HARMONIZED STANDARDS:

EN 12100-1	(SAFETY OF MACHINERY)
EN 12100-2	(SAFETY OF MACHINERY)

IT IS NOT ALLOWED TO PUT THE BELT CONVEYOR INTO SERVICE UNTIL THE MACHINERY INTO WHICH IT IS TO BE INCORPORATED HAS BEEN FOUND AND DECLARED TO BE IN CONFORMITY WITH THE PROVISIONS OF DIRECTIVE.

Legal representative
Alberto Barbieri

Modena, 22 December 2010

MANUAL FOR ERECTION AND MAINTENANCE

BELT CONVEYOR

Manufacturer: BARBIERI COSTRUZIONI MECCANICHE S.r.l.
via Morane 264 - 41125 Modena
tel. 059 - 300018 - 300023
fax 059 - 300095
e-mail info@barbieri-cm.it
web www.barbieri-cm.it

Client: DESMET BALLESTRA S.p.A.
Via P. Portaluppi, 17
20138 MILANO

Order n° 101659 dated 15-09-2010

Job n° 1E35Z

MACHINE SERIAL	DRAWING	ITEM	MANUF. YEAR
10242	NPF 40261-000	65N1	2010

INFORMATION

SAFETY

INSTALLATION

OPERATION

PERIODICAL MAINTENANCE

1.1.3 NOTICE TO INSTALLER OR USER

This machine cannot be used alone, but only connected and bolted to other machine.
Never use the conveyor with bare inlet or outlet openings to avoid any possibility of access to rotating or dangerous parts; a furter planning should be carried by the user to make the whole arrangement be in compliance with the safety rules.
It will be care of client or user arrange for setting protection mechanical and electrical (safety barrier, screws, switches etc.) related to dangerous points after survey when the assembling will be at the end.

IMPORTANT

Upon the delivery of the machine, the consumer must make sure that all the devices indicated in the paragraph of the safety manual are present and working correctly.
Furthermore, he must mount in conformity with the instructions indicated those devices which are not mounted at the time of delivery to facilitate transport.

BE CAREFULL

It is forbidden to operate this equipment before the equipment or the machine where this will be built in be declared in compliance to machine directive 89/392 and subsequent modifications.

1.1.4 PURPOSE OF MACHINE

This equipment has been designed to be used in industries to carry product in quantity and quality as stated in technical data.
Using it with any other material should be considered improper and forbidden. See what stated in chapter 1.1.3.

IMPROPER USE

Improper uses, which may place operators in danger and for which the company declines all responsibility for injury or damage, are:

- use of the machine by operators who have not read and UNDERSTOOD this manual;
- use of the plant by unqualified operators;
- failure to maintain or inadequate maintenance and/or control of the plant;
- presence of the operator outside the walkway surfaces;
- walking on the belts, even if not in operation;
- filling up with materials of any kind with the plant in operation;
- operation of the plant without one or more safety devices (housings, limit switches, emergency buttons, parapets, etc.) installed.
- tampering with the safety devices.
- use of the plant for purposes other than those for which it was designed and constructed.
- see what stated in chapter 1.1.3.

SPECIFIC SAFETY PRECAUTIONS

ELECTRICAL RISKS

- If work has to be done on live electrical parts, first disconnect the power supply, then insulate yourself from the ground by means of insulating clothing. Never work with wet hands and/or feet. There are many risks involved.
- Never allow wires to block passage ways and/or to be placed close to heat sources or corrosive substances.
- Check the insulation frequently and report any faults.
- Never remove the safety guards until the power supply has been disconnected.

HYDRAULIC/PNEUMATIC CIRCUIT

Protect your body when carrying out checks for leaks on the hydraulic/pneumatic circuit.

RISKS

During the working time, the operator must NEVER put hands or use tools in the working area.

NOISE LEVEL

When designing this machine, the company has adopted technical solutions intended to keep the level of noise generated as low as possible. In spite of this, for reasons not directly linked to its construction but to the features of the plant in which it is included, high noise levels may be reached during normal conditions of use.

Normally, the operator's working position is separated from the machine, and the constant presence of an operative is not required.

CAUTION: Daily personal exposure in excess of 85 dB(A) may lead to loss of hearing, which must be prevented using soundproof ear plugs and muffs.

HEAT RISK

In case during process it is conveyed hot material dangerous for contact contact are necessary signals or protective barrier a carefull information to the workers about heat danger should be done.

1.1.5 GENERAL CHARACTERISTICS

The machine consist of a rubber belt sliding on V-roller.

The conveyor is made by a steel frame.

The drive and take-up heads are located at end.
The drive pulley is bar type and running on ball bearings.

The tail pulley bar type, has sliding bearings for belt take-up.

The conveyor is equipped with drive unit made by motor gear speed reducer.

Rotating nylon brush under drive pulley.

Electrical equipment are excluded from supply.

1.1.7 OILS CHART

PULLEY BEARINGS
Use litium grease (it guarantee the a broad service conditions)
ESSO Beacon 2

REDUCER
Oil "ISO EP 220"
ESSO "Spartan" EP 220

SLIDE PARTS
Use litium grease

MECHANICAL VARIATOR
(Disc type in oil bath)
Use oil type “ESSO” A.T.F. DEXRON
Oil with viscosity 160
SHELL DONAX TA

HIDRAULIC CYLINDER FOR CARRIAGE
“Esso” Nuto 68

Require security card from oil producer to be informed about specific risks.

1.1.8 SUPPLIED WITH THE MACHINE

Instructions manual for erection operating and maintenance.

Test certificate (together with the instruction manual).

1.1.9 TECHNICAL ASSISTANCE AND MAINTENANCE

For any information or request for repair work contact:

BARBIERI COSTRUZIONI MECCANICHE S.R.L.
Via Morane n° 264
41125 MODENA
TEL. 059 / 300018 - 300023
FAX 059 / 300095

We will provide all technical information or arrange for technical assistance on field.

1.1.10 WHERE TO KEEP MACHINE OPERATING MANUAL

Keep this manual in safe place since it must accompany the machine throughout its long operating life.

1.2.1 SAFETY NORMS

In preparing this chapter concerning safety, we have borne in mind the accident prevention laws in force and:

- ECC Directive n. 89/392 dated June 14,1989 and amendments
  To try to harmonise the member states' norms concerning machine-tools.

EN292 - Safety of machinery
Basic concepts - General principles for design.

EN294 - Safety distances to prevent danger zones being reached by upper limbs.

Warning !!!
Strictly follow the safety norms highlighted below to ensure the correct use of the machine as regards the electrical fixtures and to prevent electrocutions, woundings, explosions and the outbreak of fires.

1.2.2 SAFETY

INTRODUCTION

- Never start any repairs and/or maintenance unless the plant is switched off and the measures necessary to prevent it being started up accidentally during the maintenance work have been taken.
- Never start up the motors if staff are doing maintenance work on the machine.

There are two possible maintenance in progress situations:
extraordinary maintenance, during which the entire plant is shut down for reasons not directly linked to the plant's production process, but to allow operations such as cleaning, painting, etc.;
routine maintenance, during which the machines are activated in manual mode for operations such as adjustments, greasing, belt tensioning, etc.
To assure that hazardous situations do not arise, unless otherwise specified all maintenance operations should be carried out in the following conditions:
- warning that maintenance is in progress on the machine placed in a clearly visible position on the plant control panel;
- operating staff informed in advance;
- user control levers and/or switches turned to OFF/0;
- master switch on control panel TURNED OFF;
- plant operating in "local" mode, and control panel keys removed and consigned to the plant maintenance foreman, in order to prevent accidental start-up.
  Depending on the work to be carried out, wear protective clothing such as:
  safety helmet, soundproof ear guards, safety goggles, dust mask, protective gloves, safety shoes, etc.

1.2.6 LIST OF SAFETY DEVICE ON CONVEYOR

1. Protection carter on take-up supports
2. Protection drive transmission
3. Protection on brush transmission
4. Protection on drive head
5. Protection on take-up head
6. See chapter 1.1.3

DEVICES TO BE ASSEMBLED BY INSTALLER OR USER

- Protection panels depending from distance of dangerous point.
- Emergency push button and key switch for safety during maintenance.

1.2.7 NOTES

This chapter outlining the safety devices and norms was drawn up bearing in mind the normal use of the machine as stated in the chapter on the use of the machine and the adequate preparation of the operators as regards the specific risks linked to the operation of the machine.
If the machine is not used according to instruction given in the "PURPOSE OF MACHINE" chapter in this manual, the manufacturer is not responsible for any damage caused to people and things.
Furthermore, the manufacturer is not responsible for any damage to people and things resulting from the non-compliance with the following warnings:

a) adopt all the necessary precautions during the calibration, part replacement, cleaning, reparation or maintenance operations prevent someone else from turning the machine on.

b) do not tamper with the safety devices and guards on the machine.

c) do not remove any of the safety devices and guards on the machine.

d) always make sure that the safety devices and guards have been remounted after their temporary removal for technical reasons ordered by the boss.

1.3.1 LIFTING AND TRANSPORT

Attention: the machine must only be shifted by skilled personnel (sling, trolley or crane operators, etc.) with lifting equipment (cranes, lifttruck, etc) of suitable size.

The lifting and transport shall take place through anchorage by means of hooks to the eyebolt on the machine sides.

The machine must be hoisted using four steel cables with hooks of suitable size.

See drawings for lifting points (if supplied).

STORAGE

During storage, the machine must be kept in a dry and covered place.
Electric equipment must be protected from dampness. Ambient temperature should be between - 10 and + 55°C and relative humidity is lower than 95% without condensation.

1.3.2 OVERALL DIMENSIONS AND FOUNDATIONS

See machine drawing for number, size, and position of anchor bolts, check the correct connection and tighening of machine to foundation.

CLEANING

Before starting the machine, wipe away all protective oil from painted surfaces using alkaloid detergents such as oil of turpentine or petroleum naphtha.

NOTE: These liquids must be used on a cloth and not sprayed.

PACKING DISPOSAL

Pull out nails from wooden boards forming packing tops.
Dispose of wood, cardboard, nylon bags and nails according to regulations in force.

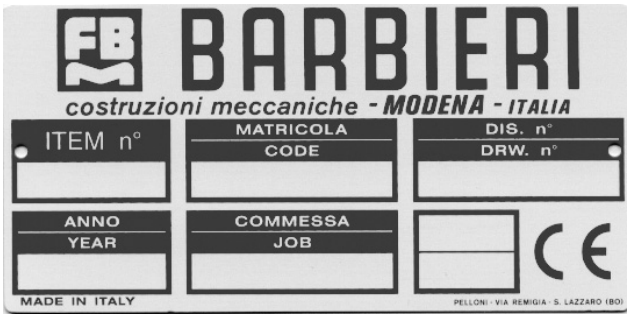
1.3.3 MACHINE INDICATOR PLATES

SAFETY, GUIDANCE AND NOTICE SIGNS

On the machine or plant are settled plates concerning "WARNING" or danger situations.
It is compulsory by operators be informed where the plates are and that they are readable. Clean them with clean clothes, avoiding use of solvents.

Fig. 1)

SERIAL PLATE ("CE" IF SUPPLIED)
This sign is located on the right-hand side of the machine head, identifying the data provided by the regulations in force.



"ELECTRIC CURRENT" sign, black on yellow, located on the electric box (if supplied).

Fig. 2)

"CARTER" dangerous gear, located on transmission or revolving objects.

1.3.4 ERECTION MARKS ON MACHINE

See general drawing for erection.

2.2.1 ERECTION

The machinery has been fully assembled and run tested without product at the manufacturer factory with the supporting feet shipped separately.

- Erect the conveyor on his feet, locate the whole unit in its final position and fix it to the floor.
- Assembling the auxiliary equipment if needed (covers, discharge chute, loading hopper, etc.)
- Level the conveyor acting on feet screw.

The conveyor erection should have always reference to the general drawing.

CONVEYOR SHIPPED IN 2 PIECES OVERLAPPED

- The conveyor has been fully assembled at our workshop, and the disassembling has been at minimum.
  The frame joint has been opened and the two parts were overlapped leaving inside the belt.

- Set on the ground the 2 frames, and open the joint plates lift the upper frame and slide it slowly along the lower one and set in line. Approach the frame joints and bolt them together.

- Complete the assembling of the conveyor with all the parts, the roller should be perpendicular to the frame.

- Put the belt in tension acting on the screw take-up.

- Set the bent at the floor or foundation and fix them.

- Erect with a crane the whole conveyor on the bents and fix with bolts.

- Level carefully by distance plates the bents (or by mean of adjustable units) to set in level and straight the conveyor both from top and from side.
  Fix firmly the bents at the ground.

CONVEYOR SHIPPED IN SEPARATE PIECES

- If space and lifting equipment allow slide the take-up head over the drive one and mouve until the belt is tight, insert between the 2 row the intermediate section frames (shipped separately disassembling the lower stiffeners and the return rollers).
  Then lift the whole conveyor in place in a single piece.

- If this is not possible erect the drive head in place with intermediate frame, sliding the belt and assembling in place from the side after removed the lower stiffeners and return roller and set again after the belt is in place, at the take-up head to insert the belt on the take-up drum.

- Assemble in progression the other frames and feet according with the marks on the drawing.

- Disassemble a take-up plate with the support, remove the pulley, slide the belt inside the frame then insert again the pulley in the belt ring, setting again the head plate and the other parts of the head.

- Put the belt in tension acting on the screw take-up checking that the pulley perpendicular to frame.

- Complete the assembling of the conveyor with all the parts, the roller should be perpendicular to the frame.

- Level carefully by distance plates the bents to set in level and straight the conveyor both from top and from side.
  Fix firmly the bents at the ground.

2.2.2 ELECTRIC CONNECTION

First of all, verify that the operation voltage of the electric installation of the machine corresponds to the voltage used in the factory.
Connect the machine power cable to electric panel provided with magnetothermal switch suitable the motor power.
Connect earth wire (yellow/green) after making sure that earth connections are executed in compliance with regulations in force.
To verify the correct connection of the machine to the mains, act as follows:

- Apply voltage to the panel through the main switch.
- Start the motor trough the push button.

The rotation of the motor must take place according to the direction indicated by the arrow and which is printed on the flywheels housing. Otherwise, change a polarity of the connection to the mains.

The wrong rotation due to backstop inside reducer can affect the breakage of the backstop, for this provide to disconnect the motor from reducer.

GENERAL CHECK TO BE CARRIED OUT BEFORE TURNING THE MACHINE ON

Make sure that the safety devices are in place and are working correctly, and there is not damaged parts.
Make sure that the moving parts are not hindered in their movements.
Make sure that there are no damaged parts and that all parts have been mounted and are working correctly.
Any damaged safety devices or parts must be repaired or replaced.

OIL SUPPLY IN THE MACHINE

The machine is supplied with oil in reducer.
If necessary to provide for the supply or add to level before starting.
Introduce through the plug the oil stated in table, in any case.
The level can be checked through the transparent pilot light.

2.2.3 OPERATION BEFORE BELT STARTING

- The following instructions should be carried out at first belt starting as well as after partial disassembling for maintenance purpose.

- See that all bolts fastening mechanical equipment are securely tightened.

- Check that power supply match the data carried on the motor rating plate.

- Check that electrical connections are correct, that the terminal nuts are firmly tightened and that the motor enclosure is soundly earthed.

- See that cover is replaced on motor terminal box, with its sealing gaskets, also making sure that no unused cable holes are blanked off.

- See that motor is away from heat sources and that correct airflow around the motor is allowed.

- Check the drive pulley is perpendicular to the frame.

- Tension the belt acting on the two screws of the take-up pulley, this pulley should be in position perpendicular to the frame.

- See that proper guards are provided to prevent access to the belt conveyor according to safety distances norms.

- Check for and remove any tools, bolts, nuts, etc, that might have been left on the belt or near rotating equipment.

- Check the rotation of electric motor when the speed reducer is equipped with backstop.
  In case of wrong rotation change the electric connection on the motor.

Be careful!! Repeated belt starting with wrong motor rotation can produce heavy damage to backstop unit (if existing).

2.2.4 BELT STARTING

1) Make the belt run unloaded for some minutes and observe belt travel on the whole length.
   At any tendency of the belt to run off, stop it quickly before damage occurs.

2) If the belt runs off, see following instructions:

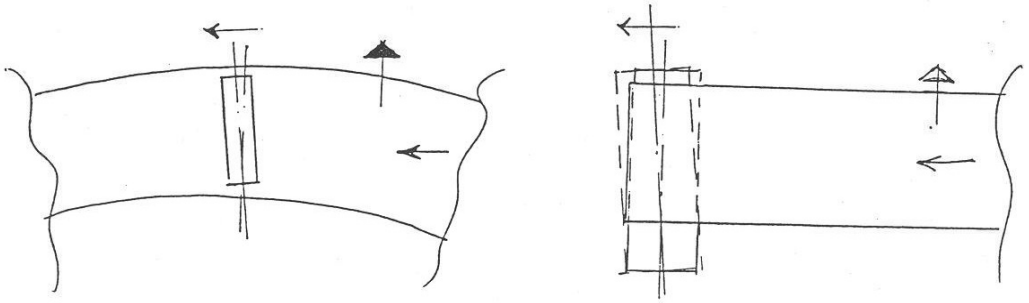
   - Check that drive and tail pulleys are level and square to centreline of conveyors. They should be kept that way and not be shifted as a means of training.

   - Check that carrying and return idlers are level and square to centreline of conveyor (slots are always provided where idlers, or idlers groups, are assembled to the conveyor frame).

   - If the belt is still running off, follow the belt travel in this sequence: drive pulley, return run, tail pulley, carrying run.

   - Find place where the belt runs off: training action should begin at some point preceding the place where run off occurs.

   - On one side of the conveyor, loosen bolts connecting an idler (or idlers group) to the frame; shift the idler forward or backward so that the belt is directed to its centreline.



   If necessary repeat the operation with other idlers (or idlers groups).
   This action should be carried out slowly, in small steps, because the belt requires some time to respond to correcting actions and because reverse belt travel could be badly affected.

   - Immediately reverse the belt travel to check the effect of previous step.
   If the belt runs off, follow again, in small steps, the above instructions.

   - In case it is not possible to find a satisfactory work condition (and only in this case), it is advisable to act on tail pulley: if the belt is running off toward the right side of the conveyor, shift slightly backward the right ball bearing unit of tail pulley.

BELT ALIGNING ON REVERSIBLE CONVEYOR

· When all steps for aligning the belt on the single way conveyor as previously described has been done, verify that the take-up pulleys are perpendicular.
· Reverse the belt direction and check if it runs correctly, if not, repeat the previous operations acting only with small adjustment.
Reverse again the belt direction and check if the belt still run correctly, act anyway always with small adjustments of idlers and pulleys until a balance point of the belt off way in the 2 directions of belt travel is found.

3) Begin belt loading by degrees.
Check free flow of material in loading and discharge points.
The skirt seals of loading hopper should be adjusted to prevent side spillage of material.
See that material is loaded in the center of the belt: off center loading can cause troubles to correct belt travel.

4) Carry out final belt tensioning (the loaded belt may require a tension increase, with respect to empty belt).
Belt tension is arranged through the adjustment of screw devices, moving the ball bearing units of tail pulley.
Adjustment should be balanced, so that pulley axis is always square to the centreline of the conveyor.
For proper belt tensioning see that:
   - slippage is avoided between belt and drive pulley
   - excessive belt sag is avoided between carrying idlers
   - (on the other hand) excessive belt tension is avoided, not to cause undue strain on shafting, ball bearings and belt splice.

5) Check the electrical motor works correctly and within its specifications, with no abnormal noise, vibration or temperature rise.

2.2.6 OPERATION

The machine does not require a continuous survey, only regular control from responsible personnel, which should assure regular maintenance.

When the top cover or the bolted inspection doors are open be sure that the conveyor is stop and take actions to avoid that it is casually started.

The machine must be used in such a way that the operator (or any other person or animal) cannot enter throught the inlet and outlet holes; the belt must always be used with the protection on so to prevent any damage to the personnel. Before remove protection make sure that the belt does not rotate and that the motor is disconnected.

Never use the conveyor with bare inlet or outlet; these holes must always be fastened respectively to the feeding and receiving machine, to avoid any possibility of access to the inside rotating parts; any use with bare holes must be planned by the user in compliance with the safety rules (safety barriers and screens, test of the safety distances for the limbs etc).
Any improper use and any arbitrary modification to the machine will relieve the manufacturer from his liabilities for any damage and will cause the expiration of the guarantee.

To limit overloads we advice do not start the conveyor fully loaded, to avoid-it it is advisable to stop feeding the product before stopping the conveyor, and let it running until the belt is empty.

During first time of operation we advice to run the machine with reduced capacity.

3.1.1 PERIODICAL MAINTENANCE OPERATIONS

The machine must be submitted to inspection and maintenance to safeguard technical, productive and safety conditions provided by the manufacturer.

Maintenance operations must be performed by technical or maintenance personnel only. Tampering by non-skilled workers can compromise machine operation and relieves manufacturer from every liability.

WARNING: before carrying out maintenance, cut off the power supply to the machine by means of the key switch.

DAILY:

It is advisable to carry daily a careful visual inspection (before starting) of machinery to be sure the are not loss or irregularity.
Check oil loss, bolt loose, seals weared, product deposits etc.

WEEKLY:

- Check the belt tension.
- Lubricate bearings.
- Check brush efficiency.

ELECTRIC SYSTEM
Yearly inspect electric insulation of the electric system and protection conductor (earth) by an authorised electrician.
Tampering by non-authorised personnel can compromise machine operation and relieves manufacturer form every liability.

WEAR PARTS
Bearings, belt, brush and rollers are product subject to wear and their replacement need to be scheduled in advance.

MAINTENANCE

1) SAFETY

- Remember that use and maintenance of belt conveyors may be dangerous if safety principles are not followed.
  If safety distances cannot be observed (ex. for maintenance purpose), remember that all rotating parts can be dangerous, mainly drive pulley and tail pulley.
  All maintenance actions should be carried out after stopping the conveyor (including belt tensioning and belt training).
  Before starting the conveyor again, be sure that nobody is in danger.

2) MAINTENANCE INTERVALS

- The inspection and maintenance intervals depend on the actual operating conditions (loads, starting frequency, etc.) and ambient conditions (dust, humidity, etc.).
  It is advisable to check the conveyor carefully in the first working period, then eventually correct and adapt the following general guidelines.

3) TENSIONING

- Belt tensioning should be checked regularly, especially during the first running period or in case of excessive belt elongation.

- Belt tensioning should be at minimum to prevent slippage, an excessive pretensioning cause elongation.

- Keep greased the take-up sliding parts.

- When the take-up is at the end-run a belt substitution or shortening is necessary.

4) BELT

- Avoid build-up of material on both sides of the belt.
  Check efficiency of cleaning devices; replace the blades of belt scrapers.

- See that the belt is not in contact with oil, grease, solvents and corrosives liquids.

- See that material temperature is below 90°C.

- Periodically check the cover wear on both sides of the belt and on its whole length. Inspection intervals will depend on material characteristics and service severity.

- Minor cuts or gouges in covers, that penetrate to the belt plies, should be repaired immediately, trough the use of repair doughs, cold patches or spot vulcanised repairs, carried out by skilled personnel.

- For major damages, involving plies too, consult the manufacturer.

5) IDLERS

- Avoid build-up of material on idlers; check efficiency of cleaning devices.
  Material should not accumulate under the idlers: provide periodic removal if necessary.

- Ensure that all idlers turn freely.
  Provide replacement or servicing of idlers as soon as running is difficult or wear in ball bearings is excessive.

6) PULLEYS

- Avoid build-up of material on pulleys surface; check efficiency of cleaning devices.

- Periodically check and grease pillow blocks' bearings (see lubricant table).

7) SPEED REDUCER

- The speed reducer is factory-filled with synthetic oil providing life-lubrication: for maintenance or filling check required relate to manufacturer requirement.

8) ELECTRIC MOTOR

- Work on electric motor should be carried out with the motor stopped and disconnected.

- Periodically checks the security of all electrical connections (including earthling system).

- The motor should be kept as clean as possible and the flow of cooling air should not be restricted, even temporarily.
  Periodically check motor temperature rise.

- Every sixth month check the shaft turns freely.
  The bearings are life-lubricated; if necessary they must be changed, according to manufacturer's instructions.

9) FRAME AND AUXILIARY EQUIPMENT

- Periodically check adjustment of belt scrapers.
  If a higher pressure is required to clean the outside surface of the belt:

  -loosen 2 fixing bolts with 17mm spanner
  -apply torque to elastic arms on both sides with a 30mm spanner
  -tighten again the fixing bolts.

  When necessary replace worn blades of belt scrapers.

- When necessary replace skirts in conveyor skirt boards.

- Periodically check tightening of bolts that ensure structural stability and fastening of auxiliary equipment (scrapers, idlers, etc.).

10) BRUSH

Check the brush efficiency, when the nylon strip do not clear the belt lift the whole unit by loosen the bearing bolts, lifting the brush and tighting again.

Adjust the drive chain by the moving the pinion.

When the nylon strips are weared replace it with a new one.

3.1.6 REPLACEMENT

BELT REPLACEMENT

After the belt is stopped remove protections on pulleys and skirts, release the belt acting on bolt on take-up bearing.

Cut the old belt and extract from the conveyor and rolling it, the old belt must be sent to discharge according to law in use at location where the plant is settled.

Remove the covers, the head plates and drive basement, the brush, the return idlers, and low brockets.

Insert the belt on the drive head, checking the belt direction, lay the belt top side along the conveyor, and insert the return side of the belt under the frame removing and reassemble the feet supporting plates bolted to the frame only in the side of the operation.

Remove the take up plate and insert the belt over the pulley holding-it, then reassembling all the removed parts.

When the operation is over remove all the tools from the machine, reinstall all the safety equipment.

Restore the tensioning on belt acting as stated at chapter "starting" at point tensioning and run-off.

3.1.8 DEMOLITION AND WASTE DISPOSAL

To proced at machinery demolition it is necessary dismantle the machine in relation to type of material involved.

- Drain reduction unit oil

NOTE: The drained liquids must not be mixed together and must be kept in closed containers, avoiding contamination with foreign substances.
Oil should be disposed of by authorised disposal and recycling plants.

Disassemble and separate selectively:
- electric material
- plastic material
- water pipes
- steel and cast iron
- other materials

WARNING: The above-mentioned materials must be disposed of according to the regulations in force and the type of product.

3.1.9 SET THE MACHINE TEMPORANEOUSLY OUT OF SERVICE

In case of stop of this equipment provide the following operation:

- Clean inside frame and remove the deposit on pulleys and shafts.
- Grease with suitable product the shafts, inside and outside the heads.
- Reduce tension on belt or loosening the tension belts.
- Grease all the external moving parts.

BARBIERI COSTRUZIONI MECCANICHE MODENA ITALY	TABLE N° SRI-NPF40261	
	JOB.N° 1E35Z	ITEM 65N1
	CODE 10242	ORD.N° 101659

CONVEYOR MOD. NPF400/11,80

POS.	DESCRIPTION	N°PCS	CODE
1	BELT	1	402.188
2	BOARD FOR SIDE SKIRT		
3	SIDE CARRYING IDLER (3 IDLER SET)		
4	CENTRAL CARRYING IDLER (3 IDLER SET)		
5	CARRYING IDLER (2 IDLER SET)	25	30.929
6	BEARING FOR DRIVE PULLEY	2	11.108
7	DRIVE PULLEY	1	402.187
8	SPROCKET FOR BRUSH	1	106.069
9	CHAIN FOR BRUSH	1	203.369
10	SPROCKET FOR BRUSH	1	106.079
11	BEARING FOR BRUSH	2	21.678
12	BRUSH WITH SHAFT	1	236.399
13	RETURN IDLER	8	236.549
14	ELECTRIC MOTOR	1	
15	SPEED REDUCER	1	402.189
16	SPROCKET		
17	CHAIN		
18	SPROCKET		
19	BEARING FOR TAIL PULLEY	2	113.608
20	TAIL PULLEY	1	234.359
21	TAIL PULLEY (FOR BRUSH)		
22	VARIABLE SPEED DRIVE		
23	CHAIN TAKE-UP SPROCKET WITH BEARING	1	134.939
24	TAKE-UP PULLEY		
25	BEARING FOR TAKE-UP PULLEY		
26	SPEED REDUCER		
27	MOTOR PULLEY		
28	"V" BELT		
29	REDUCER PULLEY		
30	PLOW BLADE	2	402.217

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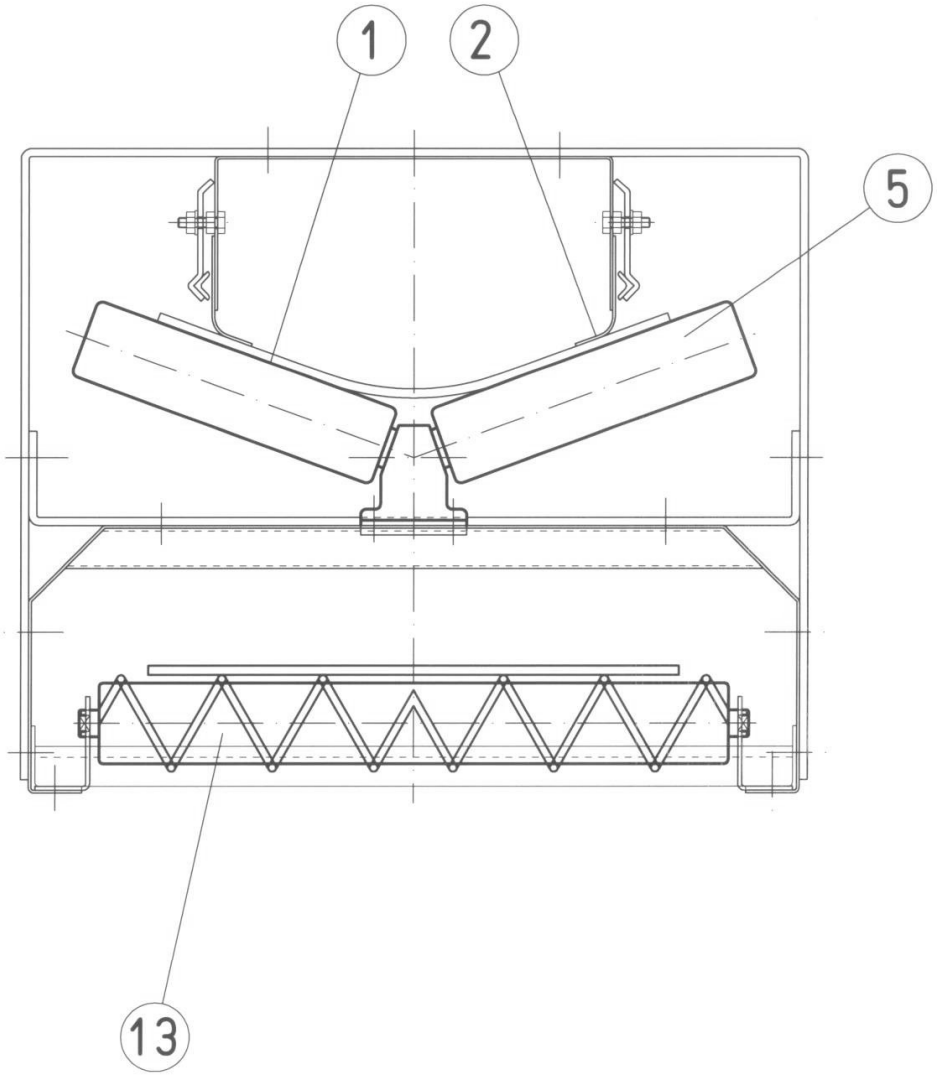

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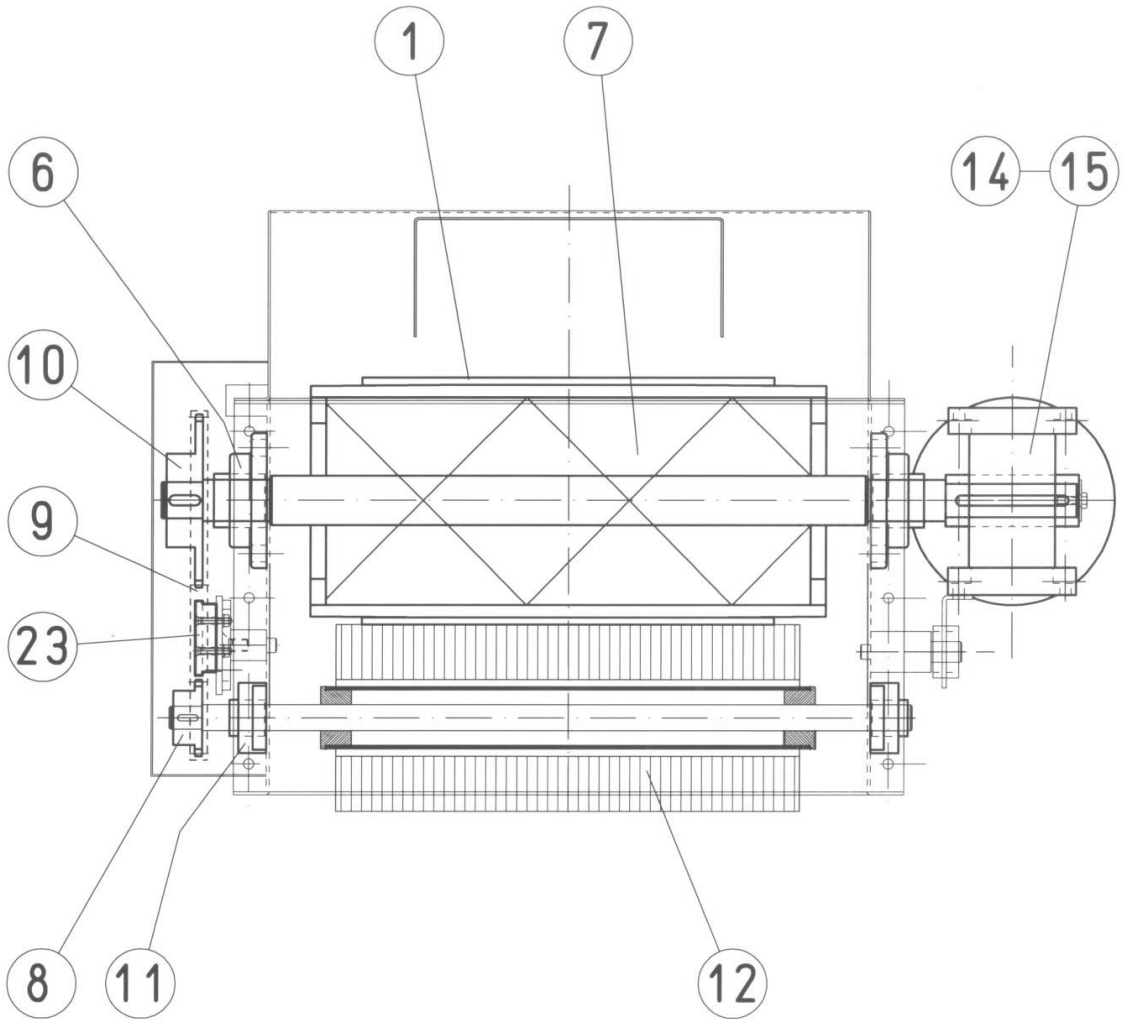

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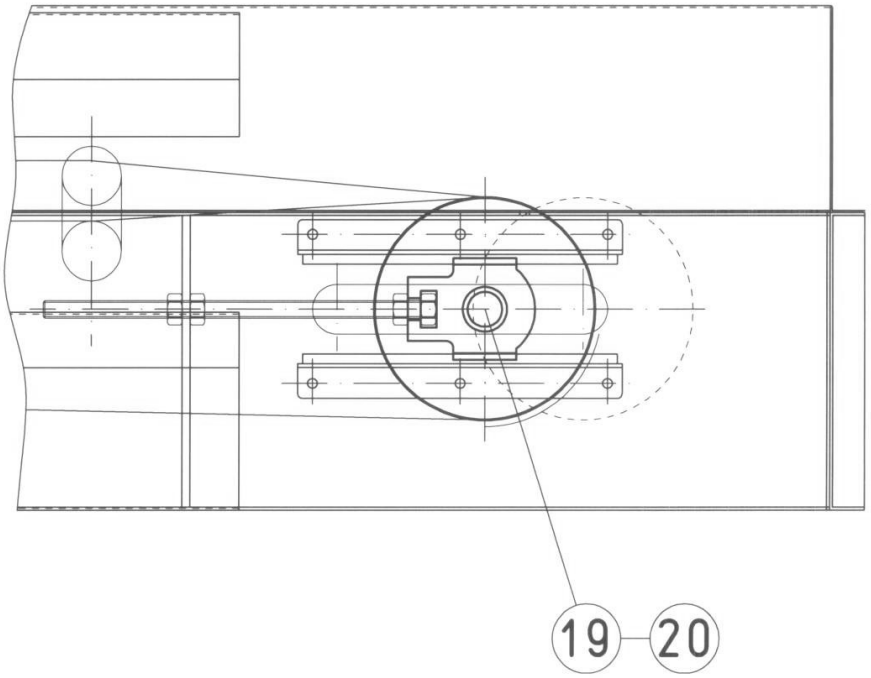

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