SERNAGIOTTO

OPERATION AND MAINTENANCE MANUAL

BPF 2000 I

Serial number 60404560960001
Year constructed 1996

CE

Sernagiotto S.p.A.
Via Torino, 114
27045 CASTEGGIO (PV)
ITALY

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APPENDIX A – BELT DRIVE

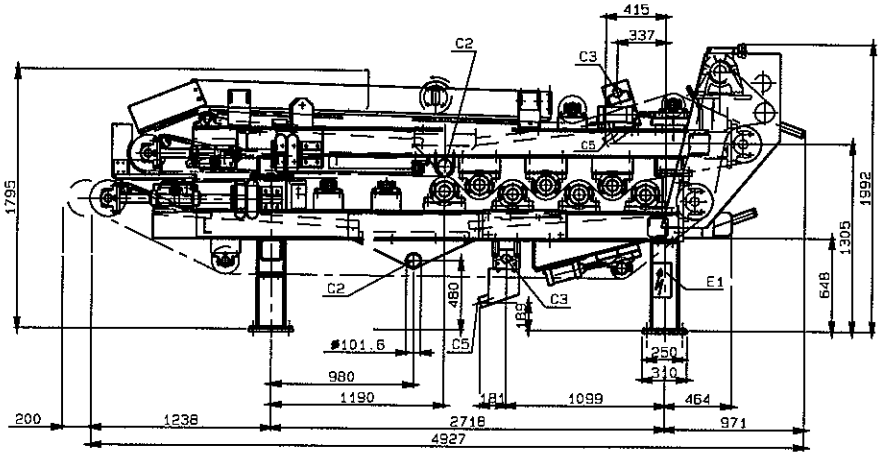
APPENDIX B – DISTRIBUTION SCREW DRIVE AND COUPLING

APPENDIX C – LIFTING JACK FOR BELT REPLACEMENT

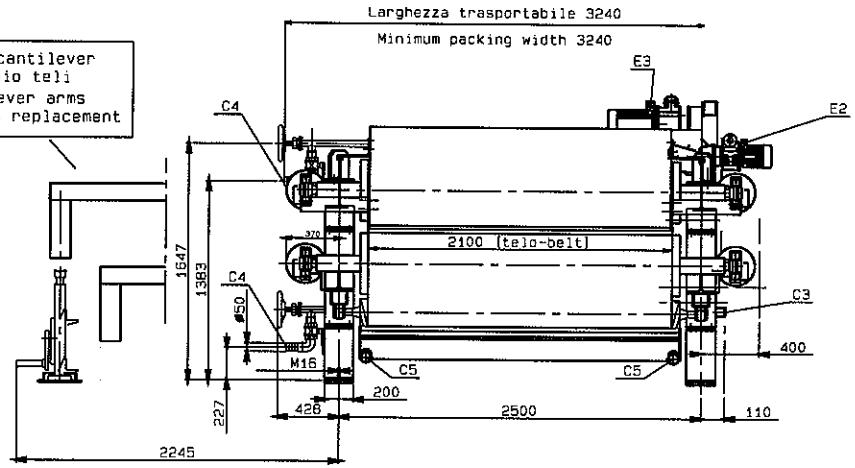
Nota: Tutte le tubazioni devono essere supportate
Nessun carico deve gravare sulle tubazioni della macchina.
Note: All piping must be supported. No loads allowed on the flanges or pipes of the machine.

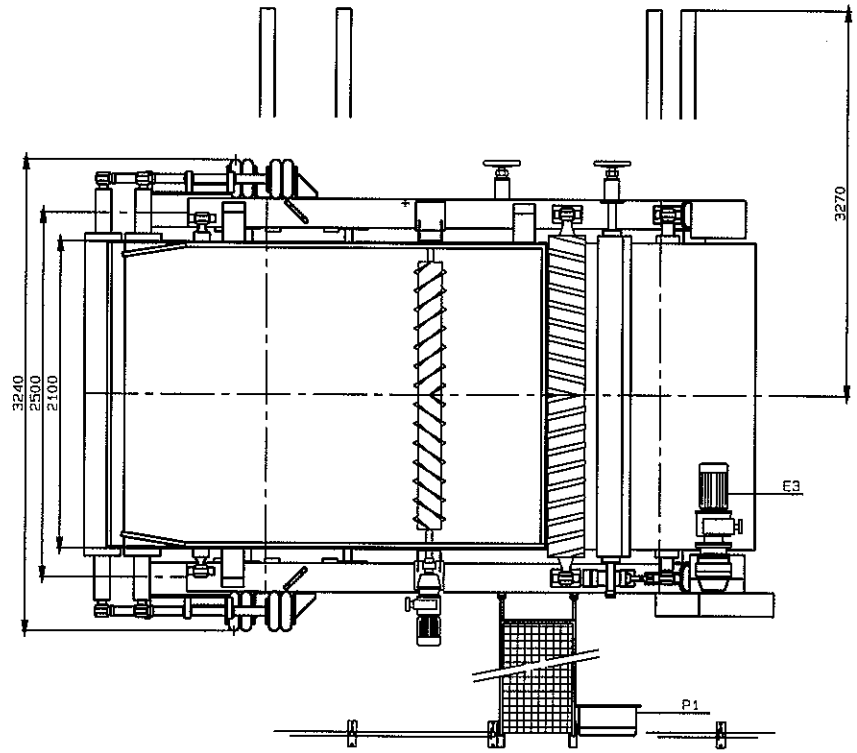
Dimensioni in millimetri
All dimensions are millimeter.

REV.	DESCRIZIONE / DESCRIPTION	DATE	DWG.	CHECK.	APP.
A	Emissione disegno / First issue	05-01-96	PORRI		



Bracci cantilever
per cambio teli
Cantilever arms
for belts replacement





Peso macchina: A vuoto Kg.10500 - In funzione: Kg.11500
Machine weight: Dry Kg.10500 - Operating: Kg.11500
Dimensioni teli: Superiore 2100x9450 - Inferiore 2100x9450
Belts dimensions: Upper 2100x9450 - Lower 2100x9450
Velocita' teli / Belts speed: 2 - 10 m/min.
Giri coclea / Distribution screw speed: 10 -52 rpm.

Pressione acqua-aria / Water-air supply pressure: 6 Bar
Consumo aria / Air consumption: Nm^3/h. 7
Consumo acqua / Wash water consumption: m^3/h. 15

CE

DESCRIZIONE/DESCRIPTION	CONNESSIONI/CONNESSION	Q/Qty	POS/ITEM
M.E. coclea 0.75Kw. 380V. 50Hz. 3 fasi Distrib.screw el.motor 0.75Kw.380V.50Hz.3ph	Pressac.PG13.5/Cable gland PG13.5	1	E2
M.E.teli 4Kw. 380V. 50Hz. 3 fasi Belts drive elect.motor 4Kw.380V.50Hz.3ph	Pressac.PG16 / Cable gland PG16	1	E3
Ausiliari I.E / Auxil.contacts 24-220V.50Hz	Pressac.ø3/4" / Cable gland 3/4"M.BSP	1	E1
Ingresso aria/Air inlet supply	ø1/4"M-3/8"F / Di/4"M.adapt.3/8"F.BSP	1	P1
Scar.acqua tubo lav./Wash water pipe outlet	Portag. ø50/Pipe 50 O.D. with hose	2	C4
Scar.acqua lav./Belts wash water outlet	Tubo ø70 /Pipe 70 O.D.	4	C5
Ingr. acqua lav./Belts wash water inlet	ø2" gas M. / Dia.2" M. BSP	2	C3
Scarico filtrato/Filtrate discharge	Tubo ø101.6 / Pipe 101.6 O.D.	2	C2

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VIA TORINO 114 - 27045 CASTEGGIO (PV)-ITALY-
TELEPHONE (0383) 83741 - TELEFAX (0383) 83782

Posiz.arc File: VA3

DENOMINAZIONE/TITLE: Assieme vers.destra / Rigth hand assembly
DWG. DIS.N. 60404560 A Rev

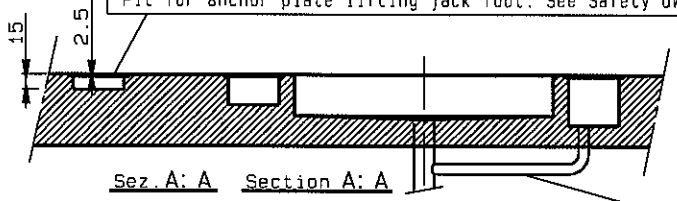
MACCHINA TIPO/MACHINE TYPE	SCALA/SCALE	DATA/DATE	DISEGNATO/DRAWN
BPF 2000 I -BERGMANN-	1: //	05-01-96	PORRI

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.
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CONTROLLATO/CHECK. APPROVATO/APPROVED

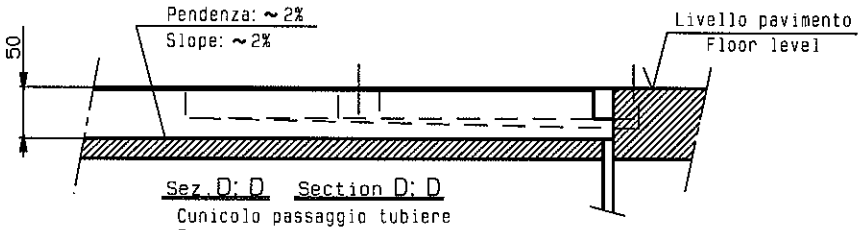
REV.	DESCRIZIONE / DESCRIPTION	DATE	DWG.	CHECK.	APP.
A	Emissione disegno / First issue	29/5/95	BALLADORE		

Pozzetto per appoggio piastre fiss. binde cantilever. Vedere dis. Sicurezze
Pit for anchor plate lifting jack foot. See Safety dwg.



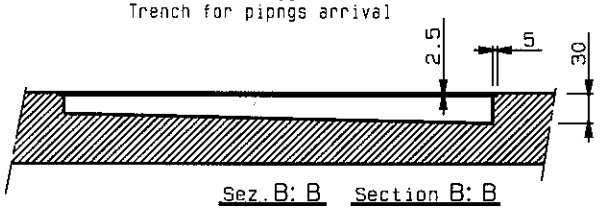
Sez. A: A Section A: A

Scarico acqua. Pendenza ~1%
Water outlet. Slope ~1%

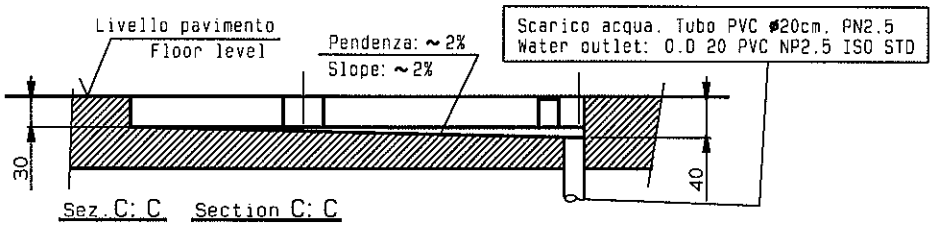


Sez. D: D Section D: D

Cunicolo passaggio tubiere
Trench for pipngs arrival

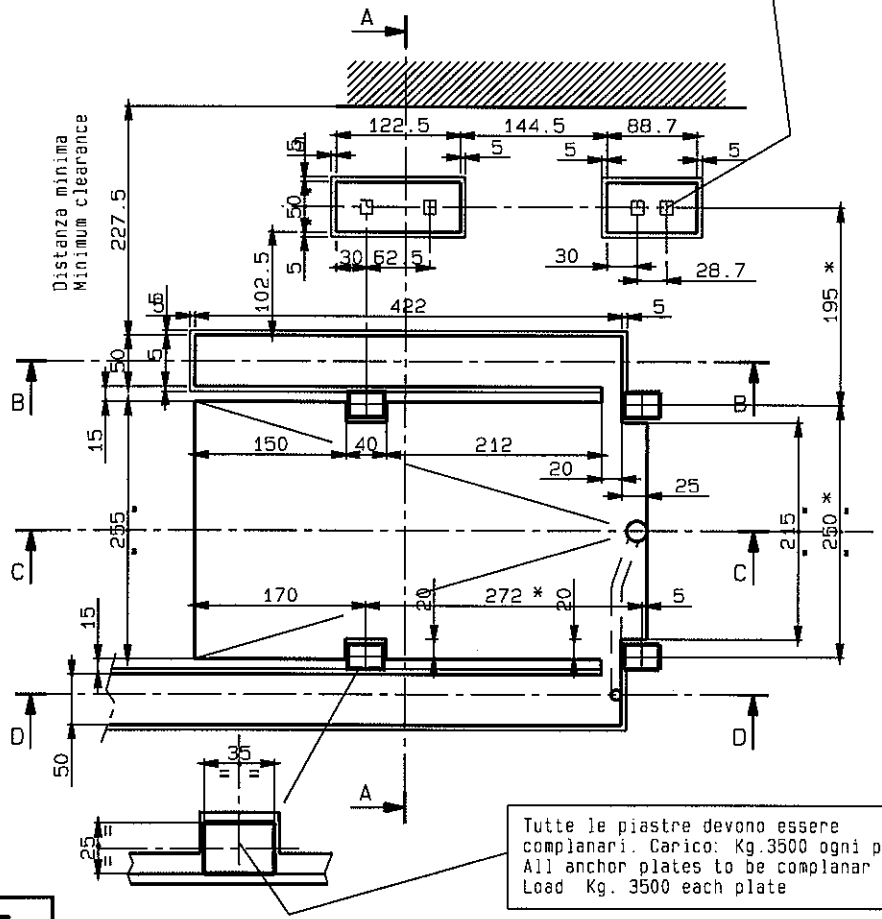


Sez. B: B Section B: B



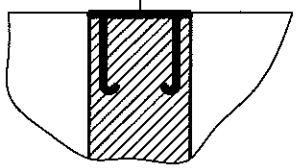
Sez. C: C Section C: C

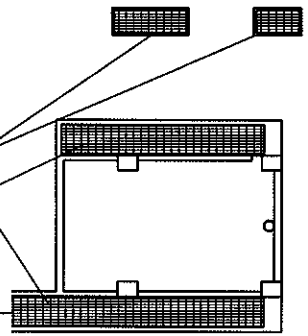
Appoggio piedi cantilever - Kg.2500 ogni piastra.
Cantilever foot load - Kg.2500 each plate.



Tutte le piastre devono essere complanari. Carico: Kg.3500 ogni piastra.
All anchor plates to be complanar
Load Kg. 3500 each plate

Piastra da inghisare. (non fornita). Dimensioni: cm.35x25 - spess.1cm.
Zanche di ancoraggio: barra ø 1cm. N4 pezzi ogni piastra. Materiale: acciaio
Anchor plates to be grouted. (not supplied) - Dimension cm.35x25 Thick=1
Anchor steel bars O.D.1 - 4 pieces each plate. Material: Carbon steel





Grigliato pedonabile (non fornito)
Screened walkway (not supplied)

Cunicolo arrivo tubiere
Trench for pipings arrival

NOTA: Le dimensioni indicate con * devono essere rispettate.
Tutte le dimensioni sono in centimetri.
NOTE: Dimensions indicated by * must be exactly matched.
All dimensions are centimeters.

Tipico di riferimento
Typical only for reference.

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VIA TORINO 114 - 27045 CASTEGGIO (PV) -ITALY-
TELEPHONE (0383) 83741 - TELEFAX (0383) 83782

Posiz. arc File: VP3

DENOMINAZIONE/TITLE: Fondazioni per versione destra
Foundation plan right hand version

DWG. DIS.N. 60119573 A Rev

MACCHINA TIPO/MACHINE TYPE	SCALA/SCALE	DATA/DATE	DISEGNATO/DRAW
SEM 2000I / BPF 2000I	1:50	29/5/95	BALLADORE

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.
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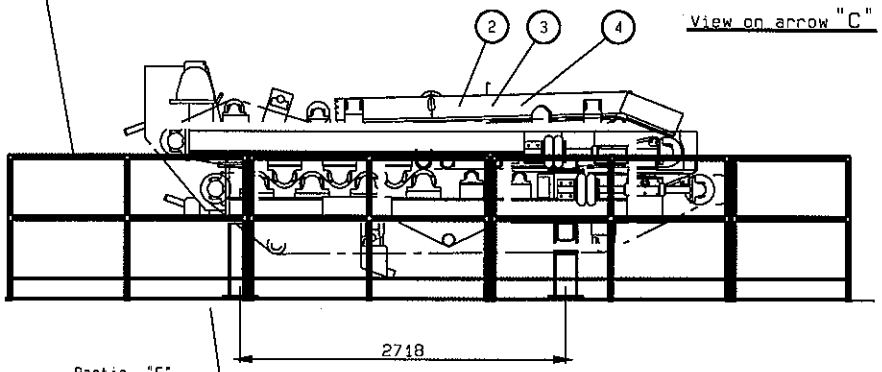
REV.	DESCRIZIONE / DESCRIPTION	DATE	DWG.	CHECK.	APP.
A	Emissione disegno / First issue	24.5.95	Antonlazzi		

Ringhiere antinfortunistiche .Materiale: acciaio zinc.a caldo

Safety handrail. Material: Carbon steel hot dip galvanized.

Vista da "C"

View on arrow "C"



Partic. "E"

See detail "E"

Fissare al pavimento con 2 tasselli M12 cad. piede.

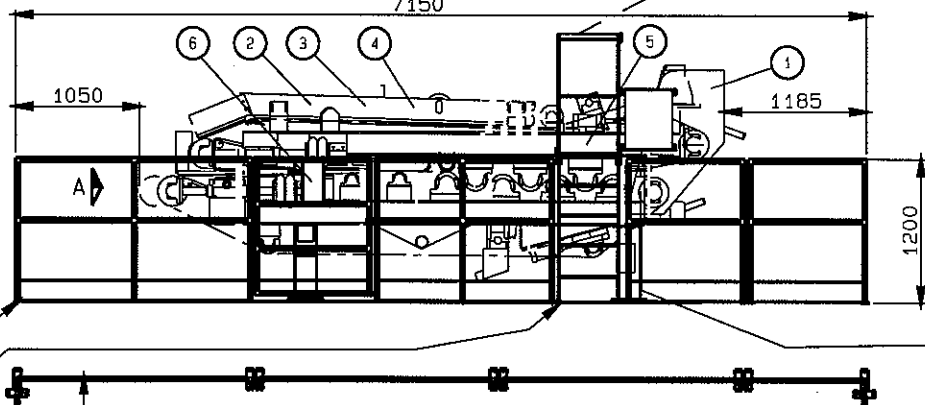
To be fix on the floor by 2 anchor bolts each one.

Vista da "B"

View on arrow "B"

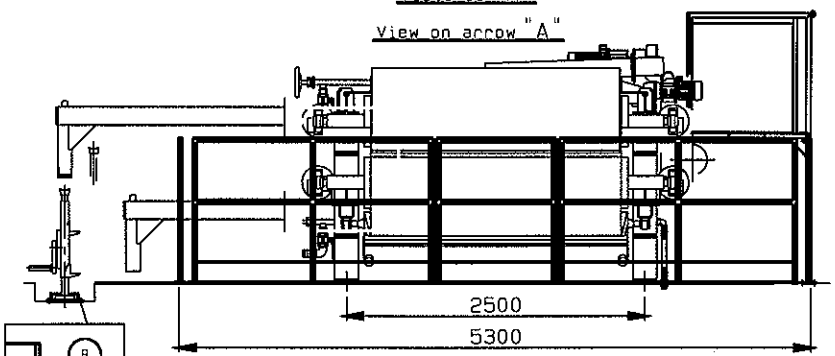
Piano ispezione con scala.

Inspection platform with ladder.



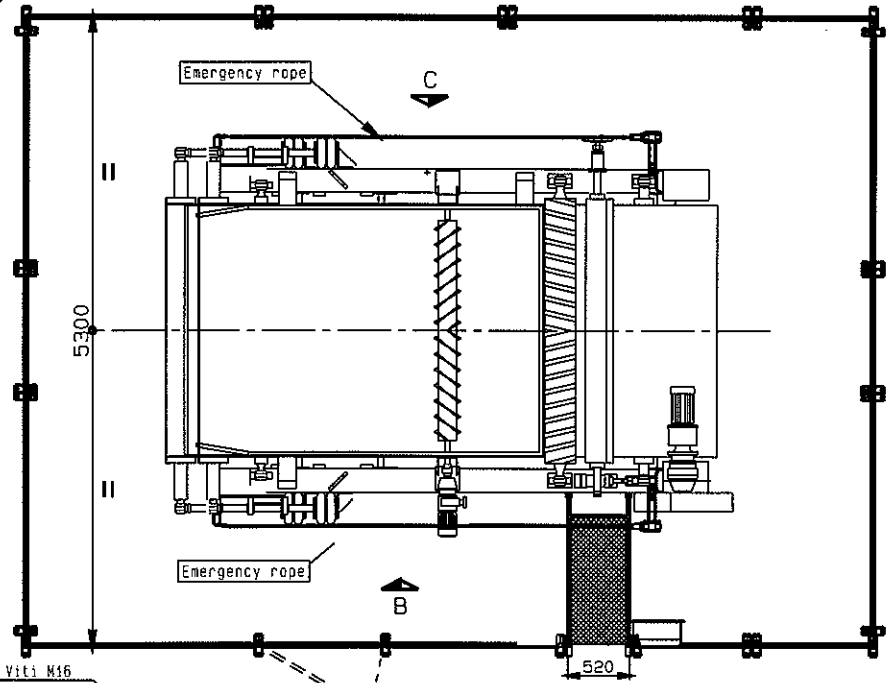
Vista da "A"

View on arrow "A"



Piastra incastro piede binda (fornita). Fissare al pavimento con 2 tasselli M10 ciascuna. Totale n°4 piastre.

Anchor plate to keep the foot of the lifting jack (included in the supply). To be fix on the floor by 2 anchor bolts M10 each plate. Total plates: 4 pcs.

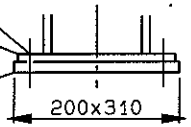


N.2 Viti M16

N.2 bolts M16

Piastra piede

Foot plate

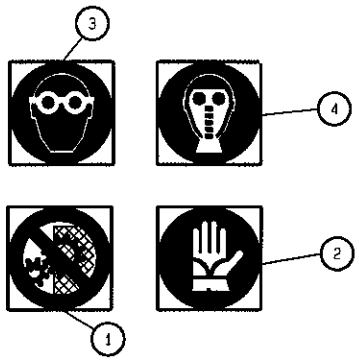


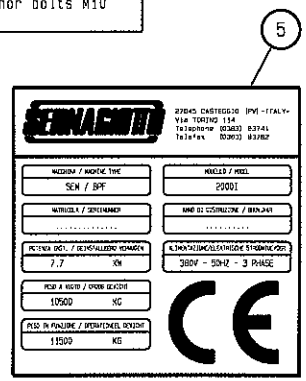
Part."E" / DETAIL "E"

Piastra fissaggio piede (fornita). Saldare alla piastra da inghisare (non fornita)

Counter foot plate (supplied) to be welded all around on the relevant anchor foundation plate (not supplied).







8	Piastra incastro piede binda					N	4	60210182
7	Vite	A2	TE	M 8x30	UNI5739	N	2	14691088
6	Vite	A2	TE	M 6x16	UNI5739	N	4	14691077
5	Rosetta	A2	piana	M 8x17	UNI6592	N	2	14653037
4	Rosetta	A2	piana	M10x21	UNI6592	N	2	14653028
3	Rosetta	A2	pia.ø	6.5x18 sp=1.5	F.L.	N	4	14653008
2	Dado	A2	E	M 8	UNI5588	N	2	14641035
1	Dado	A2	E	M10	UNI5588	N	2	14641021

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POSIT. BPC File: VA3

DENOMINAZIONE/TITLE: Dispositivi sicurezza macchina / Safety

DWG. DIS.N. 60404569 A

MACCHINA TIPO/MACHINE TYPE: SEM/BPF 2000 I

SCALA/SCALE: 1://

DATA/DATE: 24.5.95

DISEGNATO/DRAWN: Anton[illegible]

CONTROLLATO/CHECK.

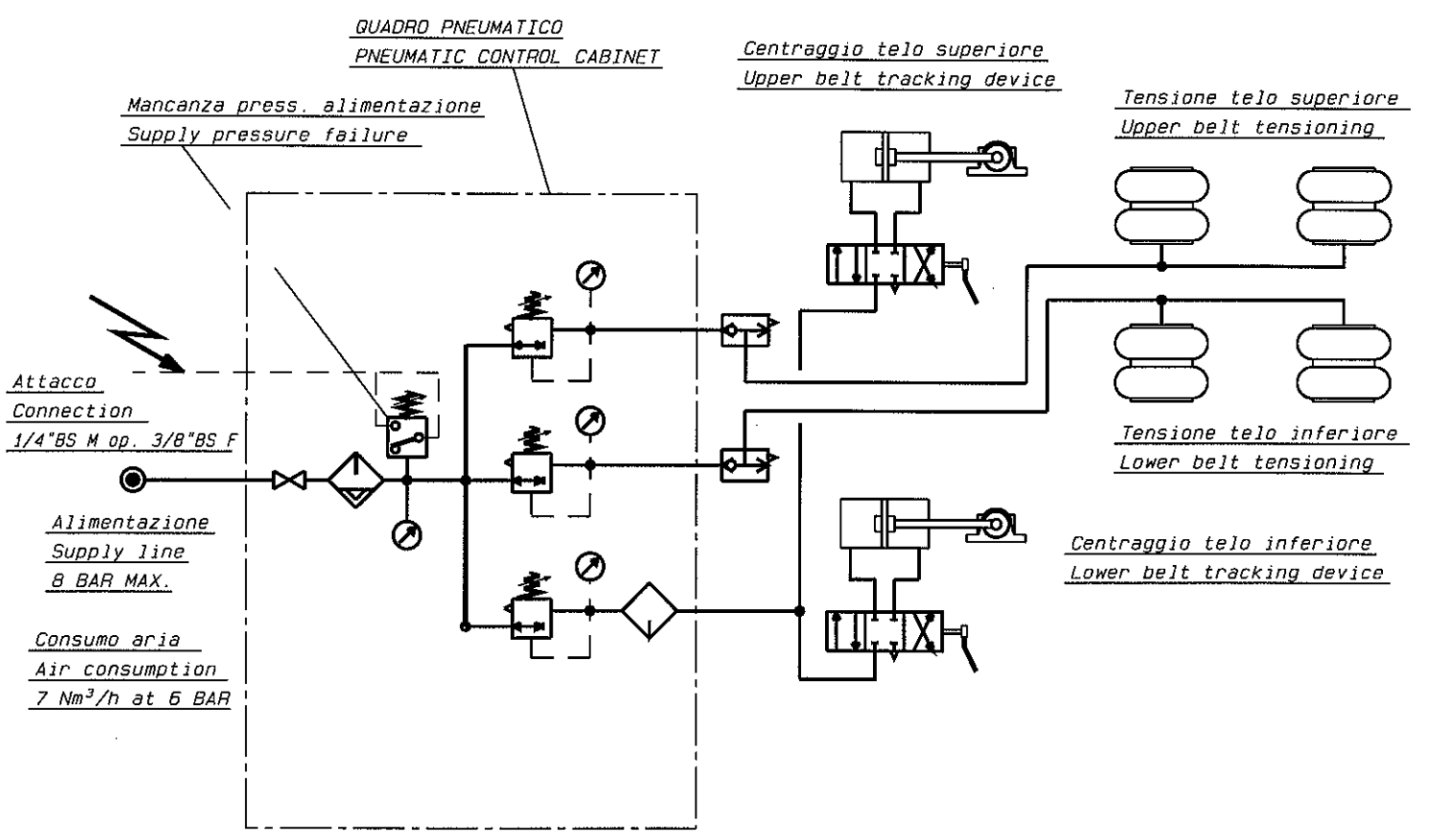
APPROVATO/APPROVED

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

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file: ass/60404569-b

REV.	MODIFICHE	DATA	DIS.	APP.	C.Q.
A	Emissione disegno	25-03-94	PORRI		



LEGENDA / LEGEND

- RUBINETTO / STOP VALVE
- MANOMETRO / PRESSURE GAUGE
- FILTRO DISIDRATATORE / FILTER DEHYDRATOR
- LUBRIFICATORE / LUBRICATOR
- SCARICO RAPIDO / QUICK EXAUST VALVE (MANUALLY OPERATED)
- REGOLATORE DI PRESSIONE / PRESSURE REGULATOR
- DISTRIBUTORE PNEUMATICO 4/3 / PNEUMATIC CONTROL VALVE 4/3
- PRESSOSTATO / PRESSURE SWITCH
- CILINDRO PNEUMATICO / PNEUMATIC CYLINDER
- MOLLA AD ARIA / AIR BELLOW

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE

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TELEX 320172 SERNA I - FAX (0383-83782)
TELEPHONE (0383) 83741

Posizione archivio: VP3

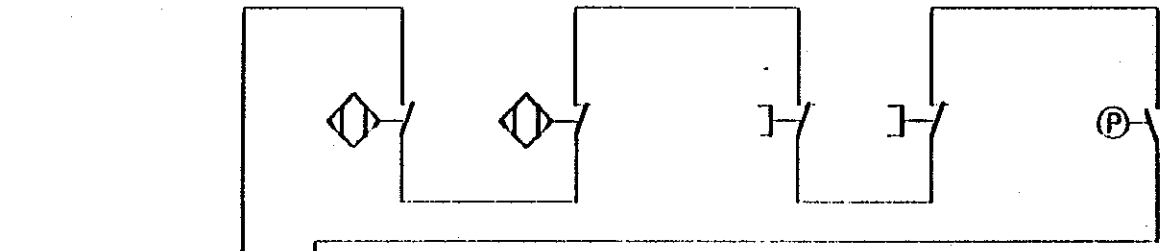
DENOMINAZIONE IMPIANTO PNEUMATICO
SCHEMA FUNZIONALE / PNEUMATIC DIAGRAM

DIS.N. 60118603 — Rev A

MACCHINA TIPO	SCALA	DATA	DISEGNATO	APP.	C.Q.
SEM / BPF 1200-2000	----	25-03-94	PORRI		

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.



Finecorsa teli n.c.
Belt limit switches n.c.

Tipo 3RG 4072-0KA00
Siemens

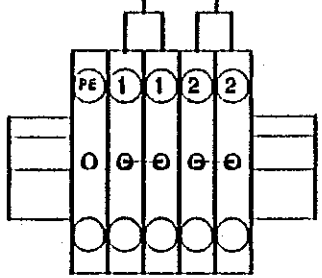
Emerg. a tirante n.c.
Emergency with local manual reset n.c.

Tipo LIFELINE 2
Guardmaster

Pressostato aria n.a. chiude con P>set
Pressure pneumatic supply line n.o. closed if P>set

Tipo PMC 10
Atlas-Copco

H07V-K 1,5 mmQ red



CASSETTA DI COLLEGAMENTO
JUNCTION BOX

SCHEMA VALIDO PER :
DIAGRAM FOR :

SEM BPF INERTI	2000 / 3000
SEM BPF E6P	2000
SEM BPF WR	1200 / 2000 / 3000
SEM BPF BS	1200 / 2000
SEM BPF NF-NL	500 / 1200 / 2000
SEM BPF E7	1000 / 2000 / 3000
SEM BPF BSX	1200 / 2000

- Motori elettrici collegati direttamente
- Electrical motors directly connected

SERNAGIOTTO

SERNAGIOTTO SPA VIA TORINO 116 - 21016 CASTEGGIO (PV)

Cliente		Data 21-11-94	Disegnato T.A.
Impianto	NASTROPRESSA - BELT PRESS FILTER	Dis. N° 68400542	Verificato
Oggetto	SCHEMA ELETTRICO - ELECTRICAL DIAGRAM	Rev. 1	Approvato

PREFACE

This manual contains all the information necessary to transport, to install, start up, use, maintain and dismantle the belt press filter BPF 2000 I.
This manual must be read carefully by the personnel responsible for the management of the machine before proceeding; only by following carefully the instructions described within, will the machine be able to provide over a long period, the performance for which it has been constructed.

SPARE PARTS
To constantly ensure a correct functioning of the BPF 2000 I, it is advised not to wait for consumable components of the machine to wear out before undertaking their replacement. A component replaced at the right time will ensure better performance, avoiding greater costs. Only the use of original parts can guarantee the maintenance of the characteristics and the designed performances.

TECHNICAL ASSISTANCE
SERNAGIOTTO S.p.A. is able to provide all information regarding the use and the maintenance of its machines. For technical assistance the address to refer to is the following:

Servizio Assistenza Tecnica SERNAGIOTTO S.p.A. – Via Torino, 114
27045 – Casteggio (PV) – tel. 0383/83741 – telefax 0383/83782

1. INTRODUCTION

1.1.AIMS AND LIMITS OF THIS MANUAL

This manual is intended for the use of the operators interested in moving, installing, operating, maintaining and running the BPF 2000 I from start up until the final dismantling.

The purpose of this manual is to provide information regarding :

- operation of the machine as intended in the original project;
- technical characteristics;
- transportation;
- installation, assembly and dismantling;
- safety devices and their setting;
- operation;
- maintenance;
- training of personnel;
- spare parts;

This manual does not in any way replace the specific preparation that operators must have achieved previously on similar equipment or that they will be able to achieve under the direct supervision of previously trained personnel.

The operator must have a proven capability and aptitude and must be provided with the necessary knowledge for the operation and for the normal maintenance of the mechanical and electrical components.

It is necessary to underline that the instructions regarding the assembly, the dismantling and the operation of the machine are provided only as reminders, because these operations must always be carried out by skilled and properly prepared installers. In the event that the installers are not those indicated by SERNAGIOTTO S.p.A. itself, the user is advised to check their capabilities before commencing installation.

SERNAGIOTTO S.p.A. disclaims any responsibility due to the use of non–qualified installers. SERNAGIOTTO S.p.A. is able to take care of the installation of the machine and to give training courses for this purpose.

The correct use of the machine depends on both the instructions contained in this manual and the observance of the safety measures according to the specific legislation in force in the country where the machine is installed.

1.2.WHERE AND HOW TO STORE THIS MANUAL

The instruction manual must always be available for reference in the plant where the belt press filter is installed. We suggest to entrust the manual to the person responsible for the plant who should store it in a location protected from the environment. In case of damage that endangers even partially, the readability, the user should acquire a new copy of the manual by requesting exclusively directly to the manufacturer.

1.3.MANUAL UPDATES

This manual represents the state of the art at the moment of commercialisation of the machine to which it refers; it should not be considered inadequate due to successive updates based on further experience. SERNAGIOTTO reserves the right to modify its production and the relating manuals without being obliged to update previously released material. Possible manual updates that SERNAGIOTTO will consider to release to users should be stored together with the original manual to which they form an integral part.

1.4.CO–OPERATION WITH USERS

SERNAGIOTTO S.p.A. is at the disposal of their clients to provide further information and will consider proposals of improvement to make this manual more and more in accordance with the requirements for which it has been prepared.
In the event of sale of the machine to a third party, the user is kindly requested to inform SERNAGIOTTO S.p.A. of the address of the new owner to permit the mailing of eventual updates of this manual.

1.5.LIABILITY EXCLUSION

SERNAGIOTTO S.p.A, as constructor, disclaims any direct or indirect responsibility due to :

- improper use of the machine;
- use by unqualified personnel;
- use not in accordance with the regulations in force in the country of installation;
- defective electrical power supply;
- defective maintenance;
- modifications or repairs not authorised by the constructor;
- use of non–original spare parts;
- complete or partial non–observance of the directions contained in this manual;
- exceptional events.

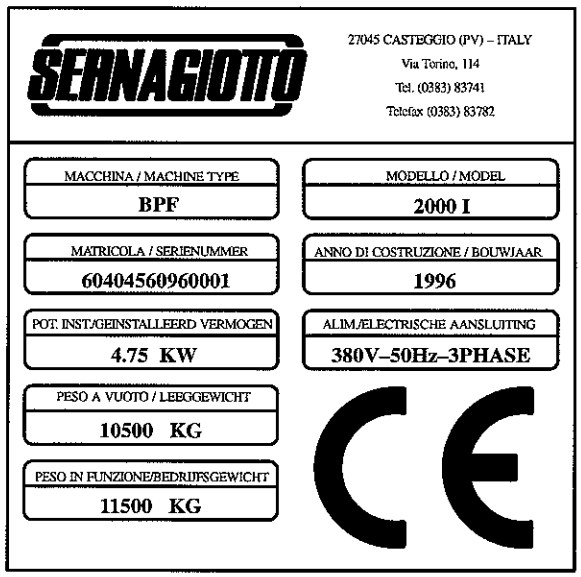
2. GENERAL INFORMATION

2.1.MANUFACTURER

SERNAGIOTTO S.p.A.
Via Torino 114
27045 CASTEGGIO (PV) – ITALY
phone # 0383/83741
fax # 0383/83782

2.2.C.E. MARKING AND IDENTIFICATION LABEL

The BPF 2000 I bears the conformity marking in accordance with the Directive of the European Community Council 89/392/CEE and its subsequent modifications. Together with the "CE" marking the technical data of the machine are reported. A copy of the label is reported below.



The original signed document of the "CE Conformity Declaration" is delivered along with the machine.
This document must be kept carefully by the owner of the machine as it may need to be shown under request to the concerned authorities.
The "CE Conformity Declaration" is an integral part of the machine and must be delivered to the new owner in the event of sale.

2.3.ALLOWED USES OF THE MACHINE

The belt press filter, model BPF 2000 I, was designed for dehydration of aqueous suspensions of solids of fibrous nature, for example those of sludge in a paper mill. The operation of dehydration consists of the concentration of solids present in the sludge through the removal of water : at the end of the process you obtain a solid product (cake) that has a volume much less than the starting one and a consistency that allows an easier transport.

To allow the equipment to operate in the correct manner it is necessary every so often, to bind the solids in the suspension (of which the dimension is of the level of colloid or little more) through the use of chemical products (typically organic polyelectrolytes).
The solids present in the sludge have to be of a diameter less than a millimeter; the presence of a small quota (< 0.1%) of particles with a maximum diameter of 5mm is permitted. The presence of solids with dimension greater than 5 mm, of metallic pieces (nails, bolts, screws etc.), glass or other cutting materials could cause damage to the machine.

2.4.USES NOT PERMITTED FOR THE MACHINE

The following cannot be treated

- toxic sludge
- radioactive sludge
- corrosive sludge
- explosive sludge

The machine cannot be used in the treatment of food products. All uses different from those permitted are to be considered improper and are strictly forbidden.
SERNAGIOTTO S.p.A. declines any responsibility for a use different from that for which the machine was designed for.

2.5.GENERAL SAFETY INSTRUCTIONS

At the moment of using the machine, we recommend that the legal regulations in operation in the country in which the machine is installed are strictly followed.
It is the responsibility of the proprietor to maintain and use the machine and components supplied by SERNAGIOTTO S.p.A. in a manner compatible with the laws for health and safety of the operator.

Attention : *The safety must be considered as a basic component for the functioning of the machine for all phases of its life. Adopting appropriate measures of safety and use prevents the risk of incidents and damage to operators.*

Here is a list of basic safety indications:

- For safety means it is advisable to adopt a program of training of personnel and a program of ordinary and extraordinary maintenance. The personnel proposed should be advised of the location and the functioning of the devices for safety and emergencies.
- The machine can only be used after controlling that all the safety devices are in position and are securely fixed.
- In the event of inspection, maintenance and installation, be sure that the motors have been stopped by the control panel and its restart is blocked. The operator can only be restarted after the guards and safety devices are in place.
- The voltage of the electrical motor can cause risk to personnel , and can cause permanent damage. We recommend to use only qualified personnel for the installation, operation and maintenance.
- Install the machine in an ambient with an ideal lighting.
- Do not overload the machine or use it for different uses from which it was designed.

3. STORAGE

In the event that the BPF is not immediately installed, it is necessary to.

- Store in a closed location, protected from bad weather conditions. The minimum temperature should not be less than 5°C and the relative humidity should be less than 70%. Low temperature can damage the rolls covering.
- Avoid the direct exposition to sunlight especially for the rolls covering.
- The electric motor has to be protected with particular care regarding the formation of condensation. In particular every 3–4 months, dismantle the motor cover up and turn manually the fan for at least 20 turns. When finished close and put the protection covers in place.
- The motor reducer should be kept filled with lubricant as is usually supplied. In any case, we recommend that verification of the level and the filling up if required.
- The cushions, located in the roll support have to the greased and rotated at least one time per month to avoid any possibility of the accumulation of condensation that could compromise the efficiency.
- We recommend particular attention to the conservation of the accessories sent separately and listed in the expedition documents.

4. PROCESS DESCRIPTION

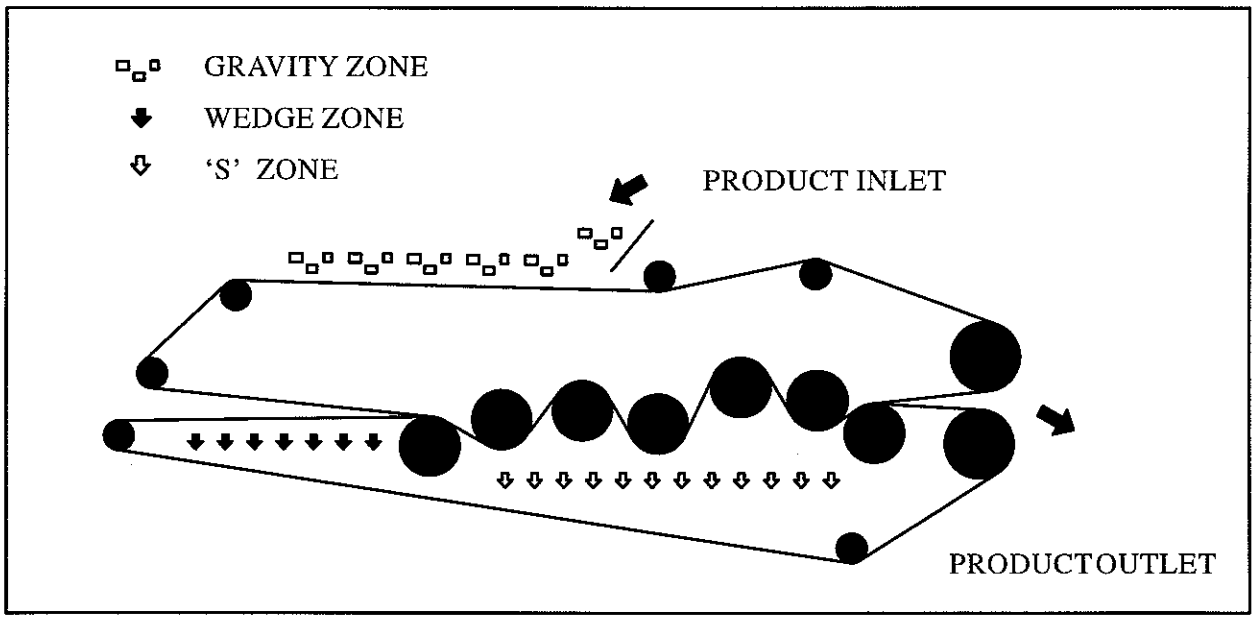


figure 1 – Description of the process

Mixer

This is the device that receives the pumped product for mixing and sending it to the next gravity zone. The mixing is obtained through a blade stirrer.

Gravity zone

The dehydration of the product takes place using only the force of gravity – fig.1 – most interparticle liquids drain through the belts. The pressure forces in this area are around a few millibars.

Wedge zone

In this area the two belts converge creating a wedge. The pressing of the product is obtained through the volume reduction exerted by the section variation. The wedge is adjusted by the manufacturer, before expedition, and it does not require further maintenance.

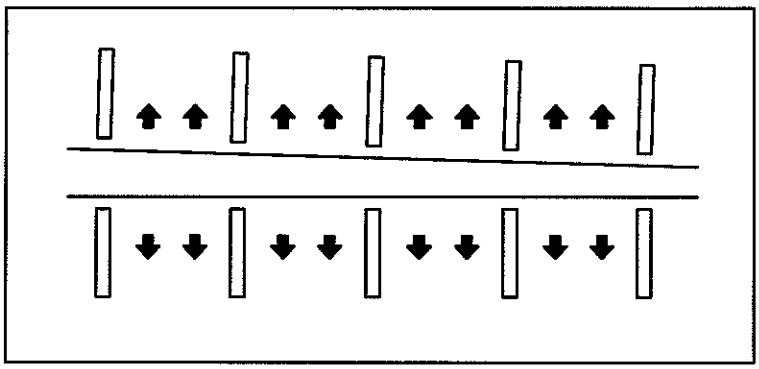


figure 2 – Wedge zone

"S" high pressure zone.

In this area the product, that has already lost a large part of the liquid, receives a further pressing called high pressure. This pressure is exerted in the contact areas between rolls and belts.

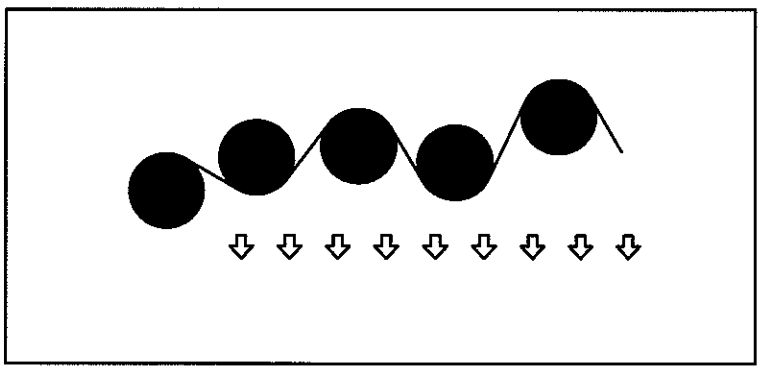


figure 3 – High pressure zone

5. IDENTIFICATION OF THE BLOCKS

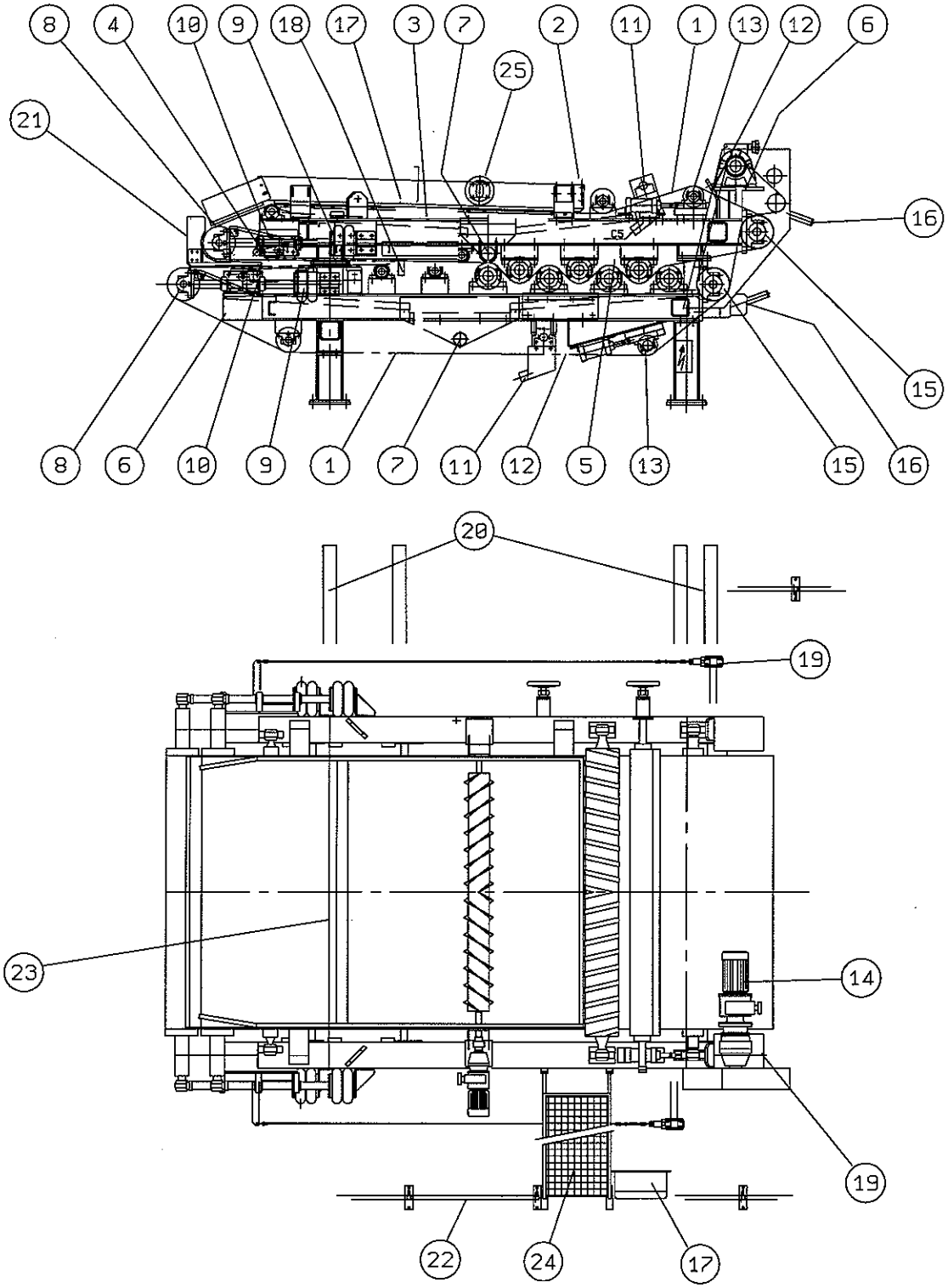


figure 4 – Identification of the blocks

Pos.	Description	Pos.	Description
1	Belts	14	Drive
2	Product inlet	15	Motor rolls
3	Gravity zone	16	Doctor blades
4	Wedge zone	17	Pneumatic control cabinet
5	S zone	18	Belts emergency microswitch
6	Lower and upper frame	19	Machine stop em. microswitch
7	Cake collecting trays	20	Cantilever
8	Tensioning rolls	21	Skirts in the gravity and wedge zone
9	Air bellows		
10	Belts tensioning device	22	Safety measures
11	Belts washing boxes	23	Sludge leveller
12	Sensor paddle	24	Gravity zone inspection platform
13	Belts centering device		
		25	Distribution screw

6. DESCRIPTION OF THE BPF

This machine consists of:

Belts (1)

The upper and the lower (closed type) belts are equally long and they are made of a plastic material. The filtering capacity varies depending on the type of product to be treated.

Gravity zone (3)

The dehydration of the product takes place using only the force of gravity; most interparticle liquids drain through the belts. The pressure forces in this area are around a few millibars.

Wedge zone (4)

In this zone, situated between the two belts in the convergence zone, the product is subjected to an increasing pressure that performs the first phase of separation. This zone is made of by pierced plates anchored on suitable runners and held up by counter–frame for an adequate support. The width of the product spread on the belt is, in this area, adjustable. The final zone of the wedge is made up of 4 rolls of small diameter that can be thickened to realised a pre S before the high pressure zone.

"S" zones (5)

The zone "S" is characterised by 7 rubberised rolls where an increasing pressure is applied.

Upper and lower frame (6)

It is formed by two parts, an upper and a lower one, and is realised with HEB beams connected by crossbars made of very thick tubular material. The particular soundness of the frame allows minimum warpage and limited effort is necessary to guarantee high performances. In the standard version the frame is protected through hot galvanising.

Cake collecting trays (7)

These are made of stainless steel and are bolted to the lower and upper frame. They collect the cake coming from the above mentioned pressure zones and they convey it to the drains.

Belts tensioning device (10)

The BPF is provided with two belts tensioning devices. Each device supplies the necessary force to maintain a belt in tension. This device is made of a pair of air bellows (9), of two pinion–rack pairs and of a roll called tensioning roll (8).
The pinions, jointed to a torsion bar, guarantee a parallel movement of the two racks so that the belt, under the pressure of the air bellows, stays perfectly centered without cross–shiftings.
The air bellows pressure is adjustable by operating on the corresponding reducers located in the pneumatic cabinet. DO NOT EXCEED THE PRESSURE VALUES INDICATED IN THE TENSION DIAGRAM PLACED INSIDE THE PNEUMATIC CABINET.

Belt washing boxes (11)

Also for the belt washing boxes there are two sections, one to wash the upper belt and one to wash the lower one. Each box contains a spray pipe provided with nozzles that are not visible and with an internal cleaning brush operated externally through a steering wheel. The pipe, supplied by pressured water, removes the solids that pass through the belt. The connection to the hydraulic supply system must be carried out through flexible hoses that can be supplied under request.

Belts centering device (13)

The BPF is supplied with two devices, one for each belt.
This is a pneumatically supplied device that maintains each belt in a centered position in correspondence to the rolls. If the belt deviates from a central position, a sensor paddle (12), using a pneumatic cylinder, activates the centering roll bringing the belt back into the correct washing position.

Drive (14)

This is made of two pairs of moto–reducers for a completely independent traction of each belt. The variation of speed is obtained through an inverter (not included in the standard supply) and therefore possible only when the machine is in operation.

Doctor blades (16)

These remove the sludge panel from the belts in correspondence to the motor rolls (15). A system of counterweights provides the necessary loads to the corresponding blades to scrape the roll. Beside these two devices another two are provided for cleaning the tensioning rolls (8).

Pneumatic control cabinet (17)

This is installed on board the machine and includes all the instruments necessary to control and provide the pneumatic energy necessary to operate the belts centering devices, the belts tensioning devices. Moreover , it is supplied with a pressure switch regulated at minimum that will stop the machine in the event of the interruption of the air supply.

Belt emergency microswitches (18)

These microswitches or limit switches halt the machine in case a belt slips sideways beyond a safety value set by the manufacturer. The machine is supplied with two devices, one for each side.

Emergency/machine stop microswitches (19)

These safety microswitches can be activated manually through metal cords placed on each of the four sides, so that the machine can be stopped in case of emergency. They are provided with local reset switches that must be activated in case the machine has been stopped.

ATTENTION: Before resetting the microswitch it is necessary to remove the cause that has provoked the intervention.

Cantilever group (20)

It is made of tubular pipes and of lifting jacks, for lifting the belts, that allow the opening of the machine to carry out the belt substitution.

Sludge leveller (23)

It is made of bent sheet metal assembled transversally to the upper belt, at the end of the gravity zone. It is adjustable in height and evens out and distributes the product before it arrives in the wedge zone.

Inspection platform (24)

This is an integral part of the supplied machine, it is bolted to the frame of the machine and allows inspection operations, the adjustment of the steering wheel that varies the mixer speed (2) and permits the machine spraying.

Distribution screw (25)

Installed on the gravity zone, after the mixer discharge, provides to spread the sludge on the belt. The screw is driven by a variable speed group. The speed adjustment is manual acting on the hand wheel provided.

7. SAFETY DEVICES

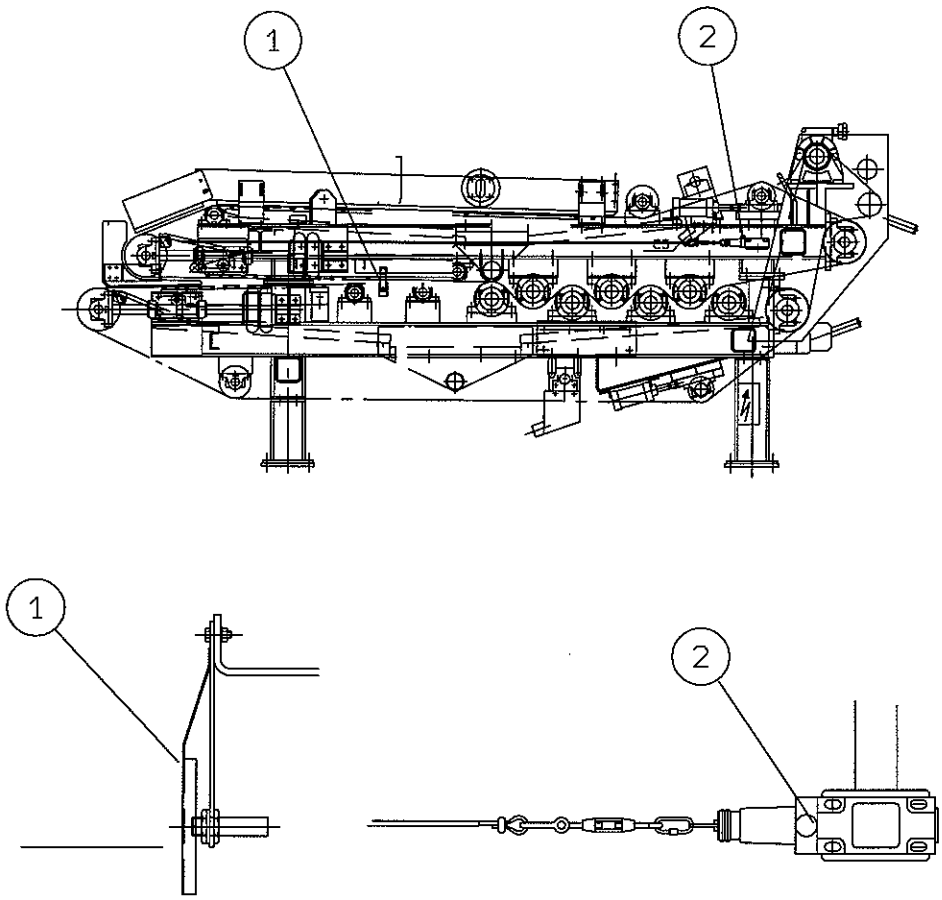


figure 5 – Safety devices

POS.	DESCRIPTION	QUANTITÀ
1	Belts emergency microswitch	2
2	Emergency/machine stop microswitch	2

The machine is fitted with two end stop microswitches (pos. 1), which stops the machine when the belts slip sideways more than a certain safety value fixed during fabrication.
On each side of the machine there are two metal cables that can be operated manually to activate the microswitch (pos. 2) to cause the stopping of the machine in the event of an emergency. Reset buttons are fitted locally to restore the original condition.

Safety procedures

Lastly the pneumatic control cabinet is fitted with a pressure switch that interrupts the functioning of the machine in the event that the air pressure drops below around 3 BAR.

The machine is fitted with appropriate handrails fixed with anchor bolts to the floor that block the access of the machine when in operation. To allow the operation of inspection and cleaning in the gravity zone, the machine is supplied with an inspection platform with an access ladder that allows the surveillance of the machine in various points.

Handrails description

Handrail running all around the machine which prevents the access to unauthorized personnel.
The handrails are:

- removable along the machine side where belt replacement takes place
- on the other side of the machine one gate with interlocked micro switch to stop the operation when open. Limit switch wiring at customer care.
- the handrail distance from the machine is, at least, one meter from moving parts.

A complete final test, before start up, must be carried out to check the safety devices under running condition.

Routine maintenance shall include also a check on the safety devices in any case at least one time every month.

All safety devices are shown on the following drawings enclosed in the spare parts section: 60307176, 60404569, 60307131, 60404567, 60306785, 60305455 and 60307272.

8. TECHNICAL DATA FOR THE MACHINE

- Weight of the machine (empty) : 10500 kgs
- Weight of the machine (working) : 11500 kgs
- Dimensions (L,W,H) : 5000x3250x2000 mm
- Upper and lower belts dimensions : 2100x9450 mms
- Belt speed : 2–10 m/min
- Water pressure for belt wash : 6 bars min.
- Water consumption for belt wash : 15 m/h
- Air pressure : 6 bars min.
- Air consumption : 7 Nm/h
- Belt motor power : 4 kW
- Noise level : < 85 dB(A)

8.1.ENVIRONMENT FOR THE INSTALLATION OF THE MACHINE

The belt press filter BPF 2000 I is designed and constructed to be installed in a normal environment. We recommend that the machine is not used in areas or environments considered dangerous for the presence of gas or explosive power or corrosive substances. In the case that the machine has to be installed in dangerous environments, consider that the motors, electrical supply, etc. are not constructed to be installed and operated in these conditions. In these circumstances we recommend that, to avoid any inconvenient, you consult directly to SERNAGIOTTO S.p.A.

In the event that BPF 2000 I is not immediately installed:

1) Store in a closed location, protected from bad weather conditions. The minimum temperature should not be less than 5° C and the relative humidity should be less than 70%. Low temperature can damage the rolls covering.
2) Avoid the direct exposition to sunlight especially for the rolls covering.
3) The electric motor has to be protected with particular care regarding the formation of condensation. In particular every 3–4 months, dismantle the motor cover and turn manually the fan for at least 20 turns. When finished close and put the protection covers in place.
4) The motor reducer should be kept filled with lubricant as is usually supplied. In any case, we recommend that verification of the level and the filling up if required.
5) The cushions, located in the roll support have to the greased and rotated at least one time per month to avoid any possibility of the accumulation of condensation that could compromise the efficiency.
6) We recommend particular attention to the conservation of the accessories sent separately and listed in the expedition documents.

8.2.LIST OF THE SAFETY REGULATIONS FOLLOWED DURING THE DESIGN OF THE MACHINE

UNI EN 292–1/2	Safety of machinery. Fundamental concepts, general principles of design. Terms, basic methods.
UNI EN 294	Safety of machinery. Safety distances to prevent the reaching of dangerous zones with upper limbs.
UNI EN 394	Safety of the machinery. Minimum space to avoid the squashing of parts of the body.
EN 563	Safety of the machinery Temperatures of touchable surfaces – Ergonomics data to establish temperature limit values for hot surfaces.
CEI EN 60204–1	Safety of the machinery. Electrical equipment of the machines – Part 1 : General rules.

9. MOVEMENT AND TRANSPORT

9.1.WEIGHTS AND DIMENSIONS

The BPF 2000 I is supplied as follows :

- machine body complete with belts and rollers
- inspection platform and guards
- cantilever arms
- lifting jack

The table below indicates the weights and measures of the disassembled parts of the BPF.

Part of the machine	Weight (kg)	Size (mm)
machine body	10500	5000x2000x3250
inspection platform	50	600x550x2300
cantilever arm (4)	110	120x570x2600
cantilever arm (1)	38	200x500x2000
lifting jack	22	200x250x800
guards	80	1000x1000x2000

9.2.MOVEMENT

In the phase of movement, the BPF 2000 I has to be lifted with cables or chains, using a crane in order to render the operation secure for the operators and for the structural integrity of the machine. For the lifting an adjustable four point cast should be used. From the motor side shorten the chain to ensure that the machine is lifted perfectly horizontally.

The correct mode of securing the machine is illustrated in figure – 6 – . The lifting cables or chains should be hooked to the predisposed lugs on the upper part of the machine, at the for angles.

The position of the lugs is shown in figure – 6 –. It is necessary to verify the compatibility of the weight of the machine and the maximum load that can be lifted by the crane.

For a secure transport in addition verify that the load does not exceed the maximum value that is recommended for the means of transport that you wish to use. The machine should be positioned on the platform of the means of transport, at an equal distance from the sides and should be fixed with steel cables to ensure the necessary stability during transport.

The lifting must be carried out using a crane, or a means of lifting fitted with a mobile arm of a homologated type. SERNAGIOTTO S.p.A. disclaim any responsibility for damage to people or the machine due to the use of lifting equipment of any other type.

Attention : as a function of the weight reported adopt the means of lifting most suitable in order to allow the maximum safety for the personnel involved. Before starting the operation, make sure that the personnel involved are competent.

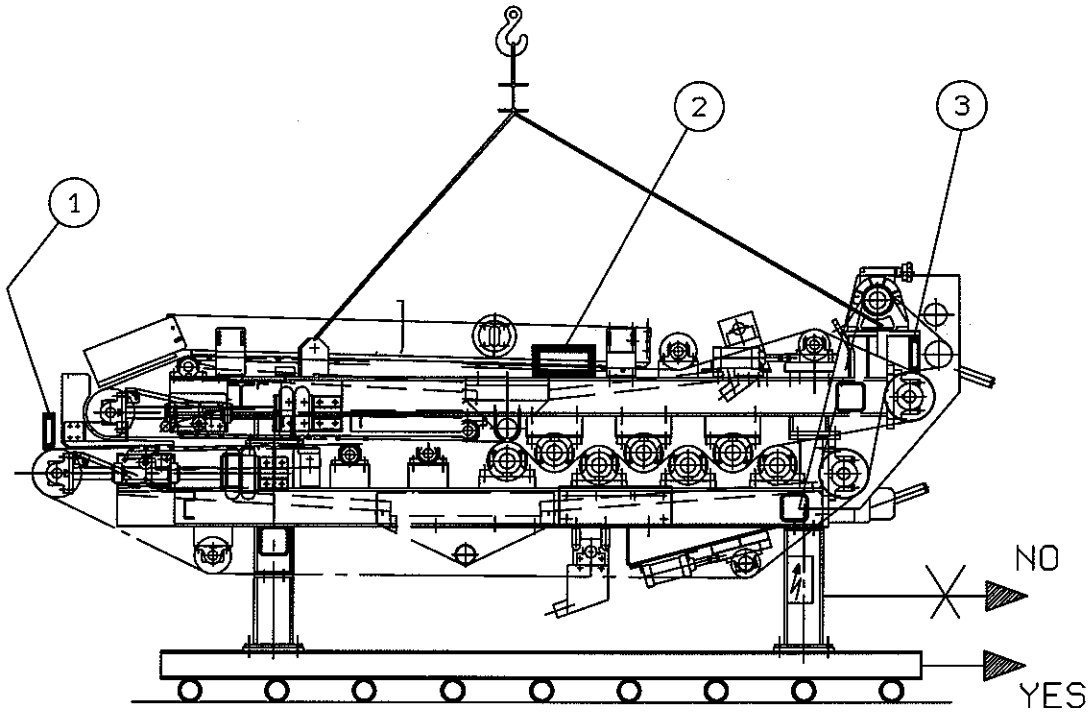


figure 6 – Movement

10. ASSEMBLY AND INSTALLATION

The BPF 2000 I is supplied with four bearing counter plates bolted to their relative plates in the base of the four sustaining columns.

The preparation of the bearing surface of the BPF 2000 I is the responsibility and should be paid for by the user and must be completed before the delivery of the machine.

The user is responsible for the preparation of the bearing surface, the electrical connection and the planning of the space necessary for the current operative and maintenance of the machine.

10.1.CHOICE OF THE LOCATION WHERE THE MACHINE IS POSITIONED

The machine should be located in a place sufficiently large to allow the operation of maintenance and cleaning in a secure manner. Allow at least a distance of 1m on all sides of the machine.
In the event that other machines are installed in the area, locate the BPF in such a manner to eliminate possible interference.

10.2.POSITIONING

The BPF requires a fixed positioning by anchoring to the foundation. The following are required; a base in armored cement or equivalent depending on the dimensions shown on the design of the foundation supplied within.
The movement of the BPF for the positioning on the foundation should be carried out using a mobile or fixed crane depending on the ease of access to the area. The choice of crane should be based on the dimensions and weight indicated in the figures with technical data included within.
We recommend the use of lifting equipment with a pulling capacity at full arm of at least 20% greater that the weight indicated.
The lifting, using cables or chains, must be carried out using exclusively the lugs provided as shown in the figure.
Adjust the length of the cables or chains to maintain the load centered and to avoid dangerous unbalancements. In the event that a crane is not available, or that the dimension of the area does not consent the use of a crane, the BPF can be moved along a flat surface using trolleys or sliding rollers. If this solution is adopted do not pull or push the BPF using force applied on a foot or sustaining column.
Apply pushing or pulling force using the lifting lugs or distribute the force on the frame of the means of transport used.

ATTENTION:

After positioning the BPF on the relative pillars and before welding the counter plates of the foundation it is necessary to verify the level of the BPF. This control must be carried out using a spirit level with a grade of precision of 0.35mm/m. The spirit level should be positioned at the summit of the tensioning rolls (fig 6 – pos 1) or on the motor rollers (fig 6 – pos 3) and on the frame (fig 6 – pos 2). The maximum value of dislevel acceptable is 1 notch per meter of the total length considered. If necessary use shims.

To fix to the foundation, as suggested in the design below, it is necessary to weld around the bearing counterplates of the BPF being careful to grind the protective covering. Repaint after welding. In alternative, it is possible to fix the plates with chemical bolts using the predisposed lugs, in this case do not use the furnished counterplates.

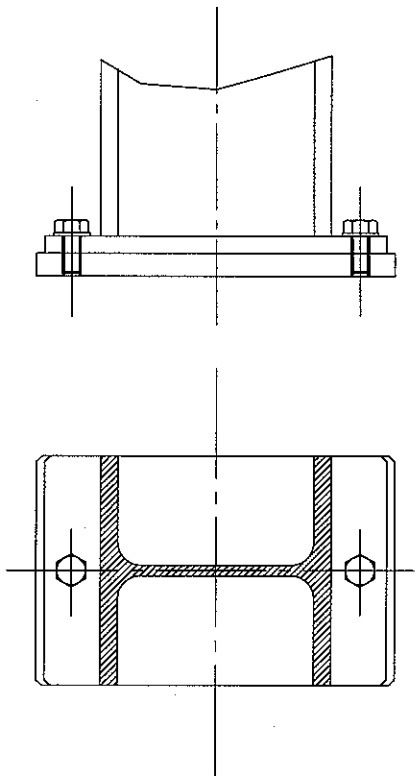


figure 7 – Counterplate design

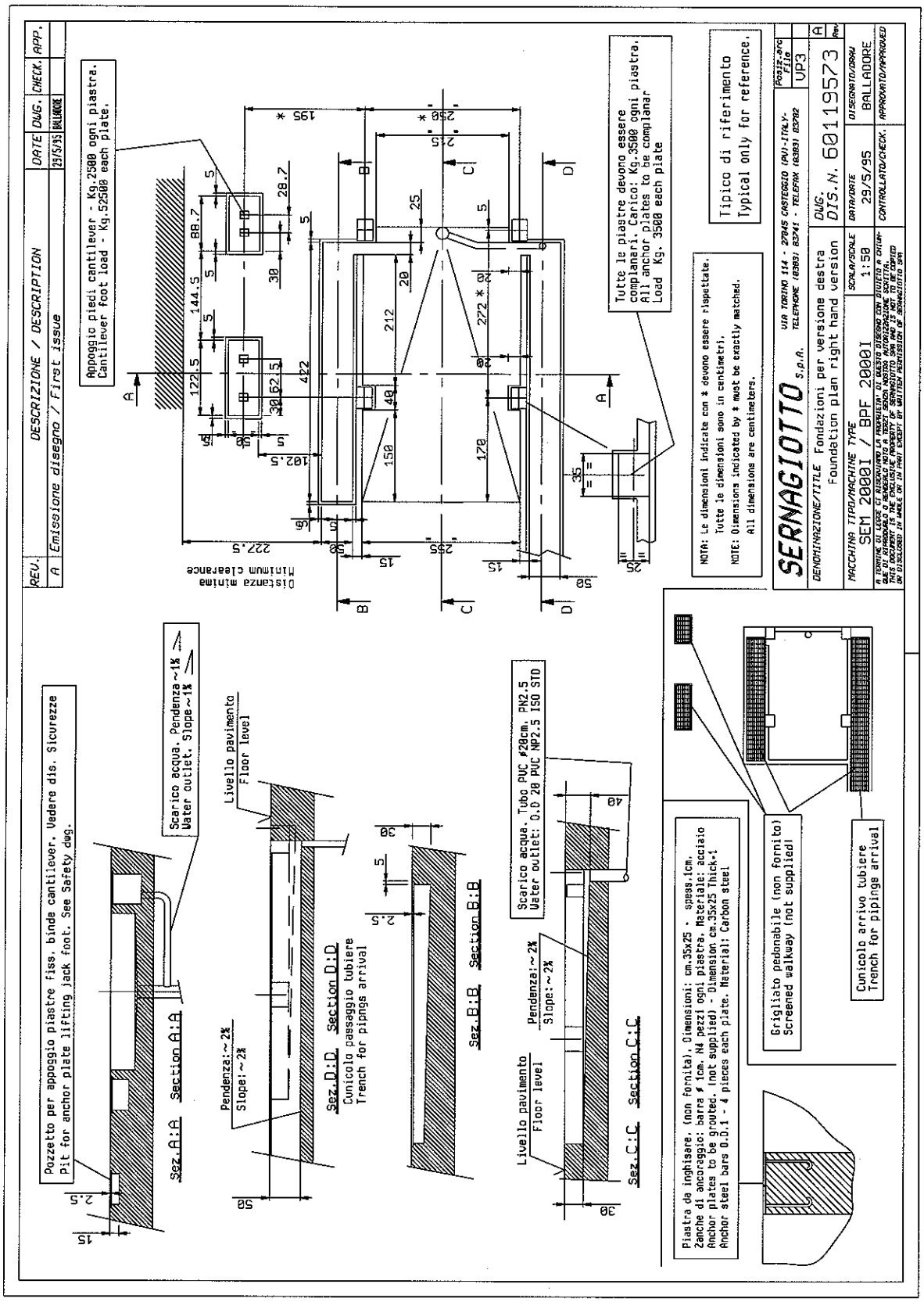


figure 8 – Foundation

10.3.INSTRUCTIONS FOR ASSEMBLY

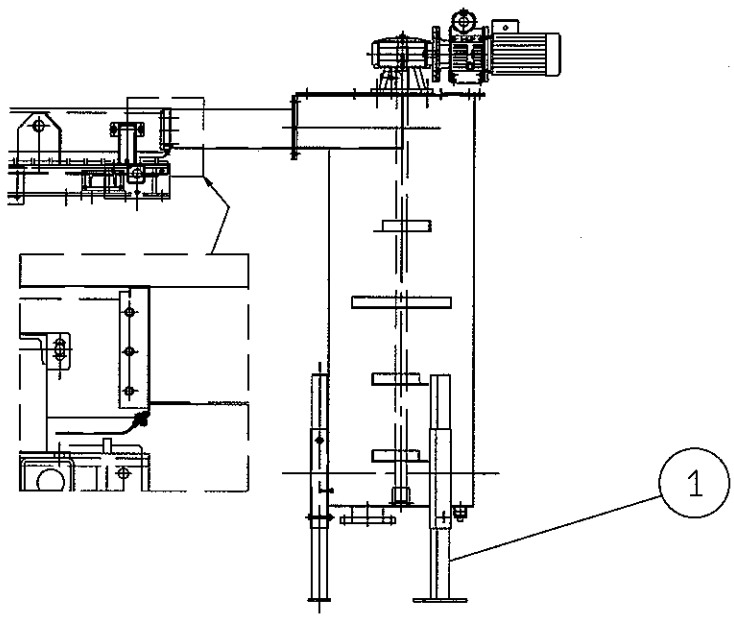
The BPF is sent with some disassembled groups, for which it is necessary to refer to the design listed below and contained in the section "spares".

A) Foundation plate drawing 60304591
B) Belt drive drawing 60307453
C) Sludge mixer assembly drawing 60307454
D) Rope operated emergency limit switch assembly drawing 60306563
E) Flexible plastic tube for discharge of product and various pieces (supplied with the machine)

1) Refer to design A)
Before placing the BPF on the relative foundation plate it is necessary to assemble the supplied counterplates. These should be soldered then repainted.

2) Refer to design B)
Mount the drive already pre–assembled positioning them perfectly horizontal in order to assemble the motor roller semi–joint in the respective dock dovetailed on the reducer.
Block with screws and the relative pins. Grease the joint.
After several hours of operation, with product, it is necessary to verify the lock.

3) Refer to design C)
Position the mixer according to the drawing. After installing the mixer at the set height, drill the adjustable feet (1) for 13 mm and block them with screw M12x100. Finally screw the mixer to the relative floor by means anchor bolts.



4) Refer to design D)
Lastly position the group of emergency end stops for stopping the machine. The electrical connections must be according to the electrical scheme supplied.

5) Refer to point E)
The machine is supplied with flexible plastic tubes for discharging product and belt washing water. It should be connected if necessary.

10.3.INSTRUCTIONS FOR ASSEMBLY

The BPF is sent with some disassembled groups, for which it is necessary to refer to the design listed below and contained in the section "spares".

A) Counterplate for foundation	design 60304591
B) Inspection platform and ladder	design 60307272
C) Guards	design 60307176
D) Pneumatic supply cabinet	design 60304586–60307272
E) Cantilever block	design 60305461–60305456
F) Machine stopping block	design 60306785

G) Flexible plastic tube for discharge of product and various pieces (supplied with the machine)

1) Refer to design A.
Before placing the BPF on the relative foundation plate it is necessary to assemble the supplied counterplates. These should be soldered then repainted.

2) Refer to design E–F–G
Assemble all the safety protection as in design 60404569 – 60307272 – 60307176.
Connect the appropriate control cabinet to the corresponding points of the machine (see design 60307112).

3) Refer to design H (only for belt changes)
Mount the arms of the cantilever block (see instructions in the section "belt changes").

4) Refer to design I
Lastly position the group of emergency end stops for stopping the machine. The electrical connections must be according to the electrical scheme supplied.

5) Refer to design L
The machine is supplied with flexible plastic tubes for discharging product and belt washing water. It should be connected if necessary.
The thickness of wedge rolls serve to accentuate the path "S" in the first three rolls in the final zone of the wedge. (refer to design 60403524).

11. CONNECTIONS

With reference to the enclosed figure, the BPF is supplied with the following connections:

Pos	Description	Q.ty	Type	Needs
1	Product inlet	1	–	–
2	Compressed air inlet supply	1	1/4" BSP female with 3/8" female adaptor	7 Nmc./h to 6 BAR min.
3	Belts wash water inlet	2	2" BSP male	15 Nmc./h to 6 BAR
4	Belts wash water outlet	4 for each side of the BPF	Pipe ext. diam. 70	–
5	Electric motors	2	Cable gland PG	–
6	Filtrate discharge	2	Pipe ext. diam. 101.6	–
7	Discharge produced cake			–
8	Discharge dioctor blade bath water	2	Pipe ext. diam 52	–
9	Auxiliary terminal board	1	Cable gland PG	–

See figure – 9 –.

Before proceeding with the connections it is necessary to verify that:

- the pipes have suitable diameter and thickness;
- the transporters placed after the BPF are able to remove all the created cake;
- the ducting pipes are equipped with adequate devices for the interception and sectioning for the operations of maintenance and washing;
- the washing water flow has the capacity and pressure required;
- the water for belt washing is effectively "clean";

Further instructions can be found in the following section "CONNECTIONS AND REGULATIONS".

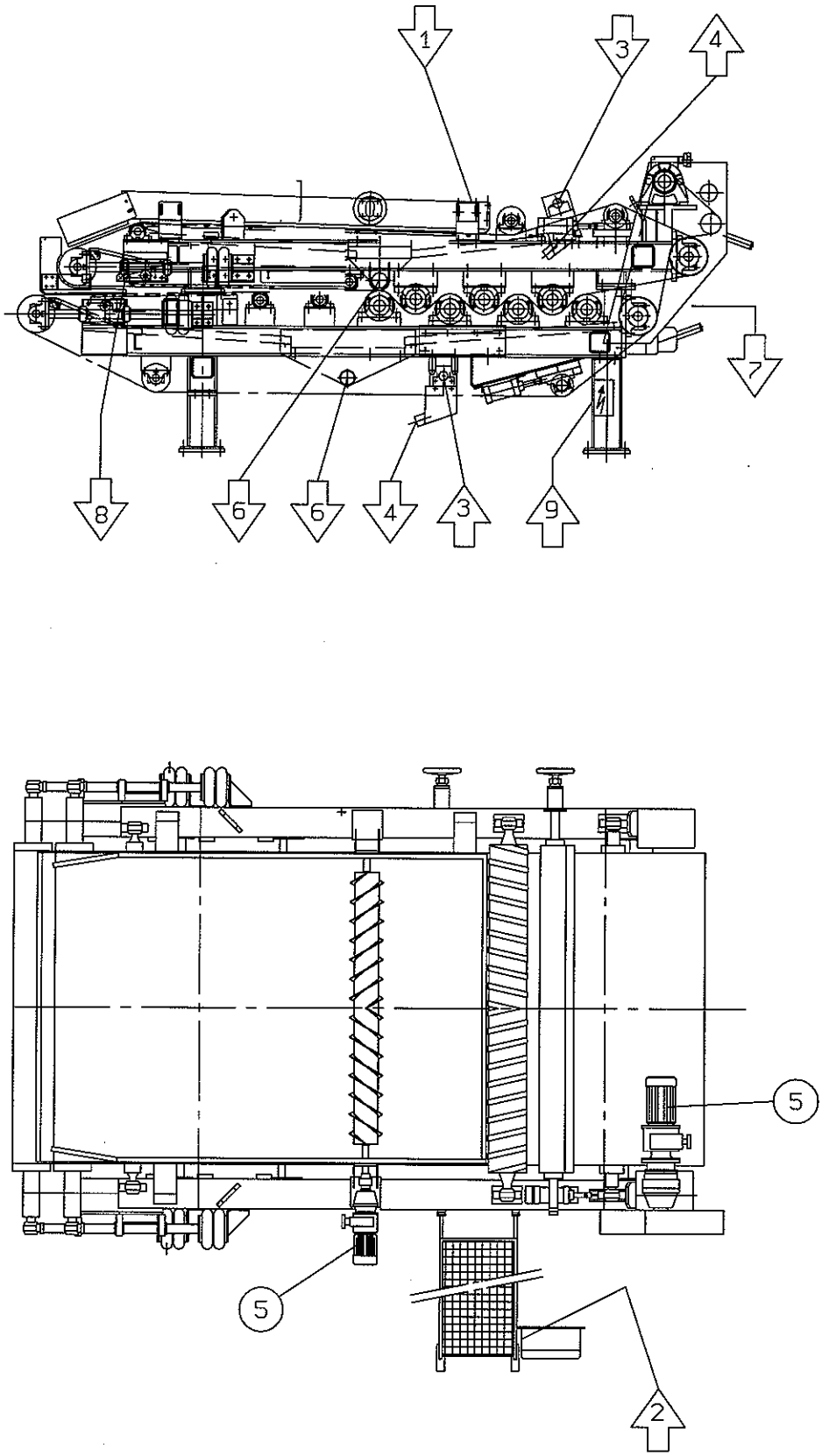


figure 9 – Summary of the connections

12. CONNECTIONS AND REGULATION

12.1.ELECTRICAL CONNECTIONS

The connections should be carried out following the attached electrical diagram. Before proceeding it is necessary to perform the following controls:

- The section of the cables should be adequate for the installed power.
- The BPF should be earthed.
- The three–phase voltage is correct.
- The voltage and frequency of the power available are in agreement with the data on the plate of the electrical motors.
- The main control circuit is fitted with adequate protection devices and they are functioning efficiently.

CONNECTIONS TO THE TERMINAL BOARD

All the electrical supplies on board the machine, except for the motor, are cabled to a single junction box (terminal board). The cables from the control cabinet panel should be connected to the terminal board cited above. The minimum cross–section recommended for the cables is 1.5 mm.

CONNECTION OF THE MOTORS

The power cables of the electrical motors should be connected to the respective brushes of the motors. The dimension of the cables should be based on the nominal currents of the motor and on the distances from the command and control panel.

EARTHING

The earthing of the machine and of the mixer should be carried out on the basement or the frame using the special screws shown on the relative plate. The choice of the conductor must respect the laws and regulations of the country where the machine in installed.

Proceed with the connections.
The electrical motors must be directly connected.
Before starting up the machine it is necessary to:

- verify the action of the security devices by manual activating when the machine is stopped.
- verify the correct direction of rotation of the electrical motors, using power impulses, as in the sense indicated by the adhesive arrows.

WARNING:
Pay particular attention to the presence of foreign bodies before starting up the BPF.

- verify the functioning of the BPF with respect to the logic or the sequence of the implant to which it belongs.

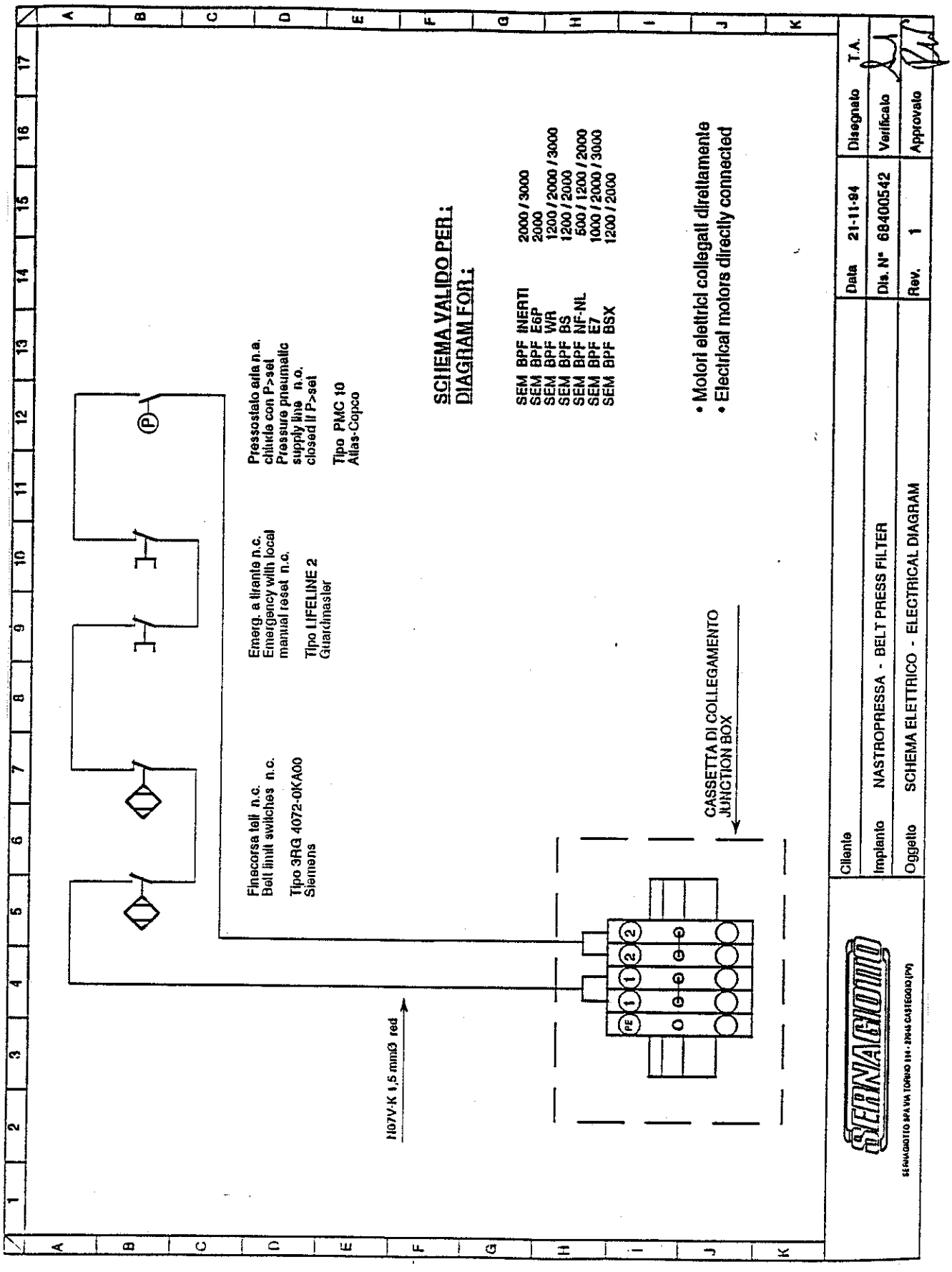


figure 10 – Electrical diagram

12.2.PNEUMATIC CONNECTIONS AND REGULATION

These should be realised on the pneumatic cabinet installed at the side of the machine. Before proceeding verify the following:

- the source of compressed air must guarantee a minimum flow of clean air of 7Nm3/h at a minimum pressure of 6 BAR.
- the production system for the compressed air should be fitted with an oil separator and an anti–condensation filter with automatic discharge.
- the existence of a pressure gauge, on the supply line, to allow the verification of the value supplied.

Next continue with the connection:

- Connect the line to the stop valve (1).
  We recommend a 10/8 mm. hose with single head junctions.
  The attachment is 3/8" GAS female with reducer incorporated for 1/4" GAS female.
- Verify the oil level in the lubricator (2). If necessary top up with L.P.M. Atlas Copco oil, for pneumatic components or an equivalent.
- Lift and rotate clockwise the wheel for regulating the pressure (4). Set the working pressure on the belts centering device at 3 BAR, and the belt tension at 2 BAR. Open the stop valves at the third position.

The pressure switch for minimum (4) does not require any type of regulation as it has been set in the factory. This pressure switch provides an alarm signal when the supply pressure drops below 4 BAR.

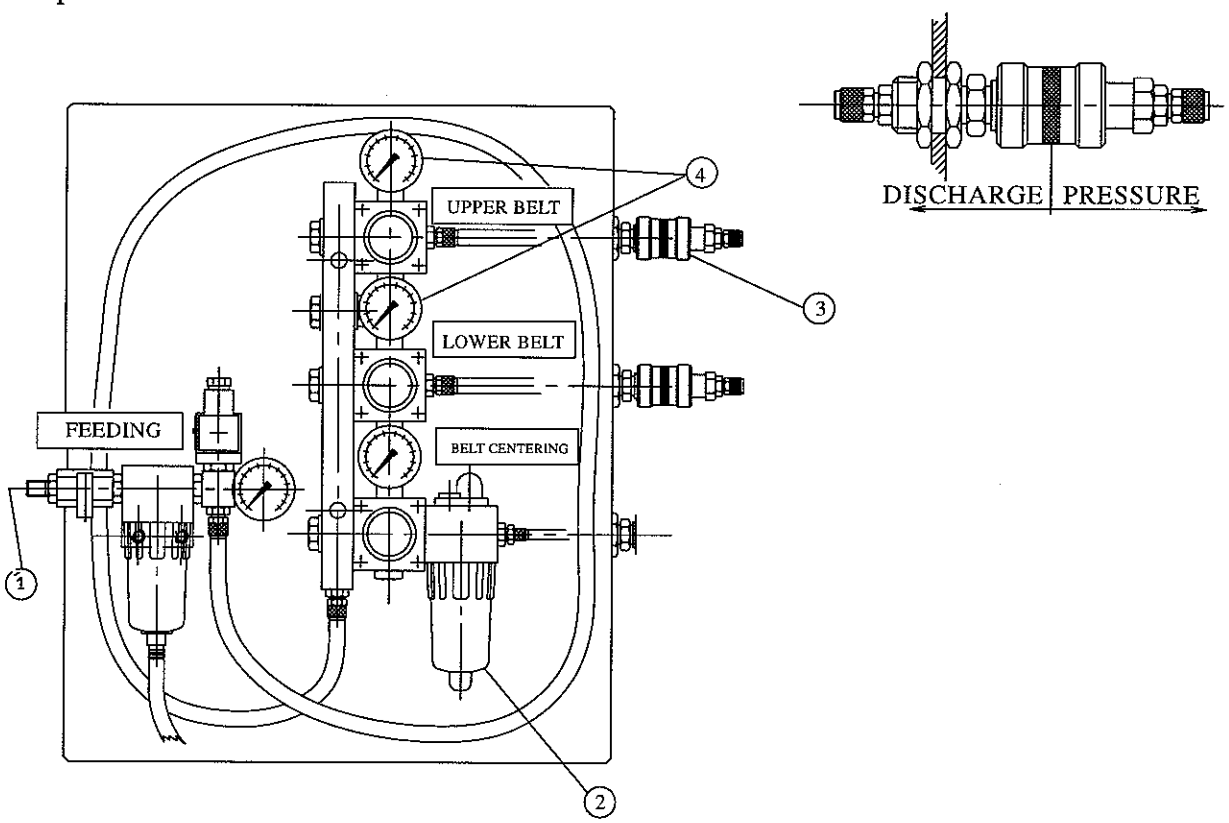


figure 11 – Pneumatic connections

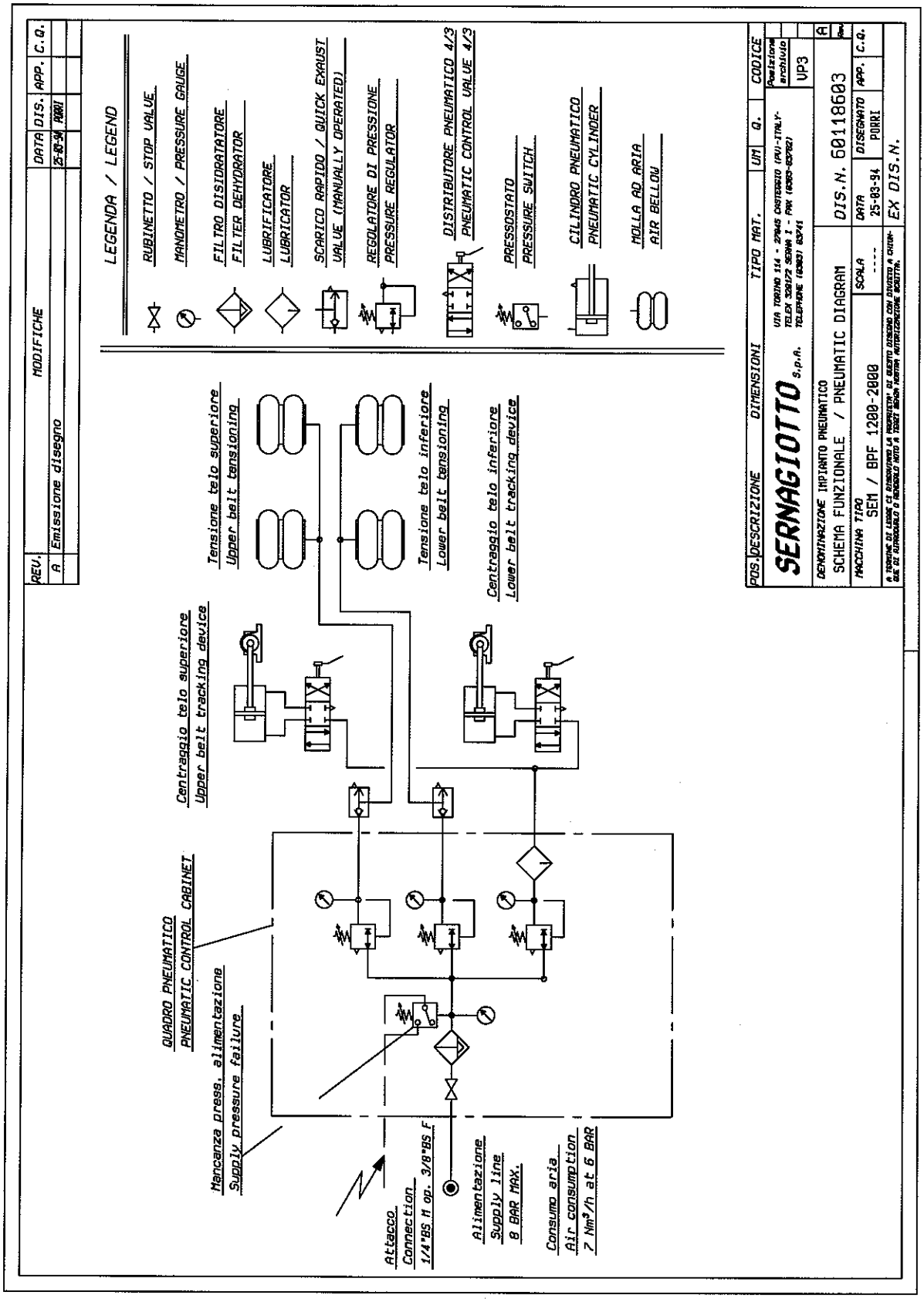


figure 12 – Pneumatic diagram

12.3.REGULATION OF MOTOR SPEEDS

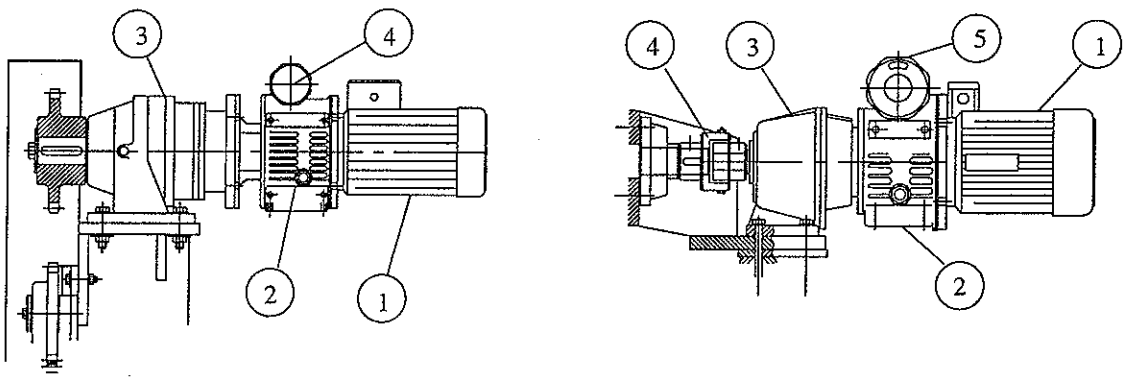
Belts motor

As previously explained, we are dealing with a drive (13a) of which consists of an electrical motor (1), an oil filled epicycloidal reducer (3), and a speed variator (2).
Usually the gearbox is supplied filled with oil. Anyhow, before starting, we recommend to verify the level.
The speed adjustment is possible only through the hand wheel (4).

WARNING
The starting up of the belt drive is allowed only when the belts are tensioned.

Distributor screw drive (13b)

This group is composed by an electrical motor (1), a speed variator (2) and by a gearbox (3) and is connected to the screw by means a geared coupling (4).
The speed adjustment is manual acting on the hand wheel (5).



13 a **13 b**

figure 13 – Motors regulation

Use and maintenance instructions are given in the appendixes A and B.

12.4.HYDRAULIC CONNECTIONS

BELT WASHING PIPES

The machine is supplied with two hoses for washing the belts, upper and lower, complete with threaded joints 2" BSP male.

Plan the ducting piping considering the following data:

- Washing water flow: m3/h 15
- Washing water pressure: bar 6

We recommend to install, on the supply line, a pressure gauge to control the supply pressure and an intercept valve.
In addition for the last 0.5 m of pipe for each wash hose, we recommend that the pipe is flexible to allow the adjustment of the washing box position which has to be centered with respect to the belt.

DISCHARGE PIPES FOR BELT CLEANING WATER

Control that:

- the diameter of the hose is equal to 70 mm;

then:

- connect the discharge pipes using a hose;
- connect the discharge to a collection system.

After the connection and adjustment, start the water flow into the wash hose and activate the machine for about half an hour. In the mean time it is recommended that the water is left flowing in the product inlet pipes to clean the whole system.

FILTRATE FEED PIPING:

Control that:

- the tubes have an adequate diameter;
- the transporters below the machine are able to remove completely the cake produced.

Then:

- Pipe for feeding sludge into the mixer (not supplied)
  We recommend to place the pipes with a slight inclination (1–2%) from horizontal in the sense of transport and fit a discharge valve at the lowest points. To clean the tube it is necessary to fit a joint on the side of the sludge pump, after the intercept/inlet valve for the product to be treated. The cleaning of the pump and of the pipes starts after the valve that intercepts the product has been closed and clean water has entered into the tube. Then open the discharge stop valves placed on the lowest side of the tube to empty it.
- Pipes for flocculation (not supplied)
  The flocculant must be added before entering the mixer. The type of flocculant, depends on the type of sludge to treat, and must be added after the pump and before the inlet to the mixer, at a distance of appropriately 1–2 meters from it. Each tube must be fitted with an intercept valve.

- Cake discharge
  It is necessary to provide a transport system for the dehydrated material (archimedean screw, transport belt, etc.).
- Filtrate discharge
  The filtrate is collected in the chamber located under the machine and is discharged through the drainage system.

12.5.BELTS TENSIONING

Carry out the following controls before proceeding to tension the belts:

- The small nylon air tubes are correctly connected (the ring nuts are tightened completely).
- No foreign body is in between the belts.

Then proceed as follows:

- Open the two sliding stop valves moving from left to right (fig. 11 –pos. 3). The air enters into the air bellows.
- Adjust the pressure reducer of the air bellows (lower and upper) in order that the pressure gauges indicate a value of 2 bar.
- Wait until the back rolls put the belts in tension, checking that in the mean time no folds or anomalous warping forms in the belts.
- Let the belts run for some meters to settle in.
- The belts tensioning must be carried out using the following diagram, where "h" is the distance between the flanges of the air bellow.

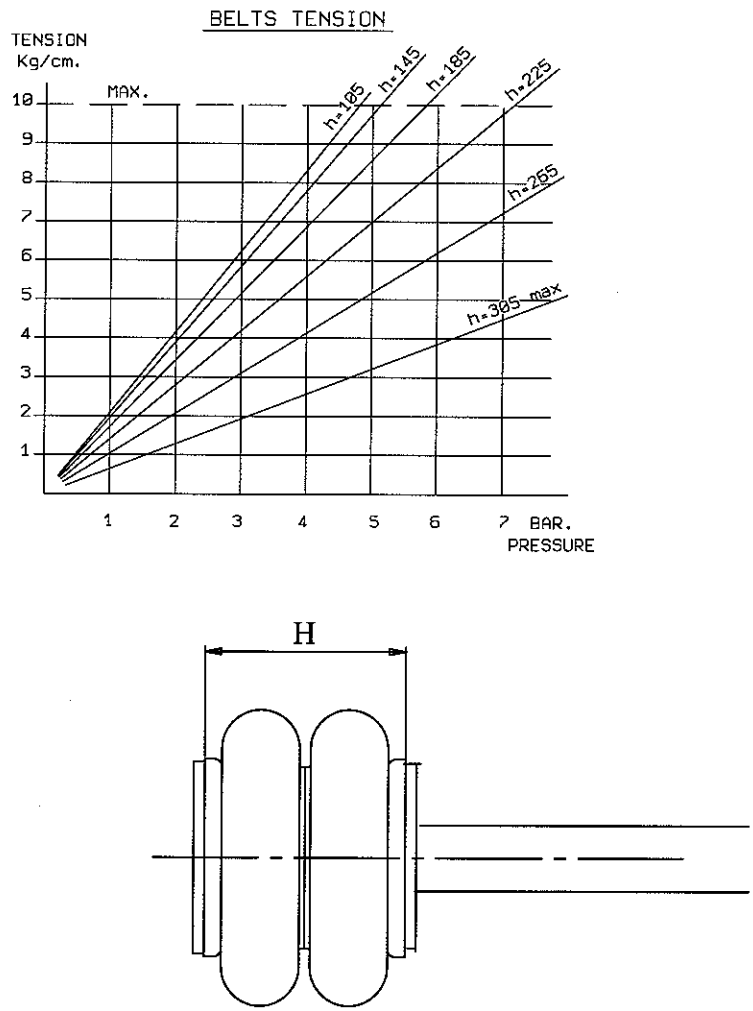


figure 14 – Belts tensioning diagram

12.6.ADJUSTMENT OF BELTS CENTERING DEVICE

Working principle

The pneumatically activated system includes a sensor paddle (1) with a distributor or a 3 way pneumatic valve (2) that checks the position of the belt (3) feeding the pneumatic cylinder (4) that, in its turn, moves the centering roll (5) in such a way to maintain the position of the tracked belt according to the position of "zero" or "neutral" of the pneumatic valve itself (2).

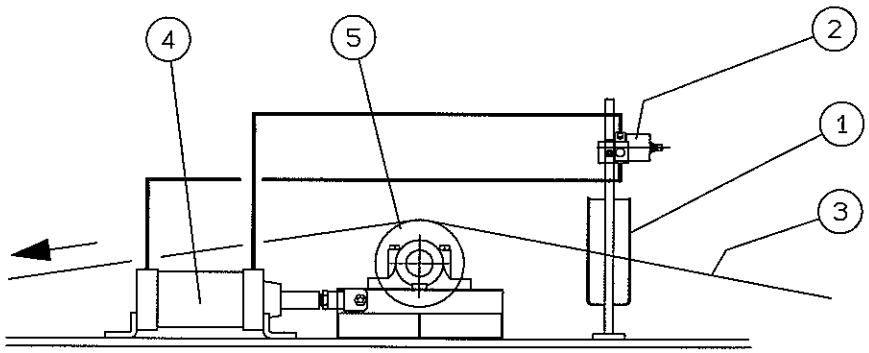


figure 15 – Working principle

How to verify the correct installation.
When the paddle of the valve touches the belt and has an inclination of 16 , both the cylinder chambers are supplied with the same pressure.
To correct or adjust this inclination it is necessary to slide the driving bars (6).
ATTENTION: in this position, called "zero" or "neutral" position, the pneumatic cylinder (4) must be stationary (not fed).

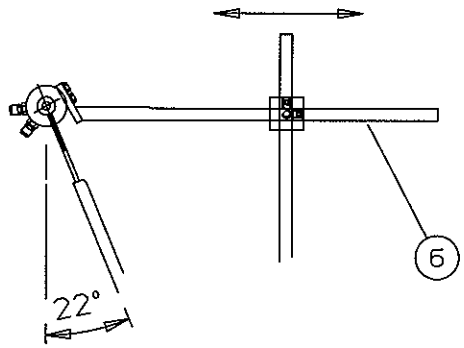


figure 16 – Correct installation

Start–up and checks

Carry out the following checks before undertaking the starting up:

- the oil in the lubricator situated in the pneumatic cabinet is at the maximum level.
- the belts centering reducer is adjusted in such a way that the corresponding pressure gauge indicates 3 BAR.

- the pneumatic connections between the paddle distributor or tester and the cylinders are correct as shown in the figure.

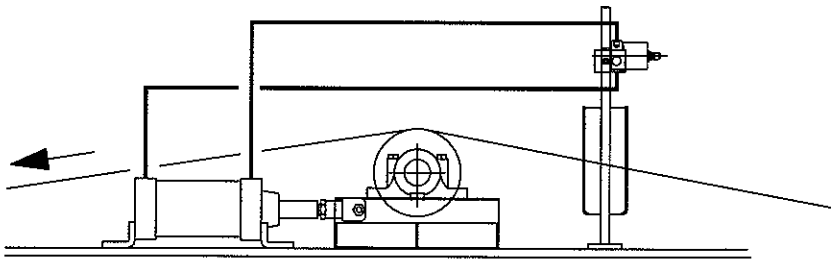


figure 17 – Starting up and checks

Verify the functioning of the slide as follows: by moving the paddle away from the belt the slide goes in one direction (until it reaches the end of stroke) and also by pushing the paddle towards the belt this occurs but with a slide shift in the opposite direction.
The slide movement must take place when a side–shifting of the belt that causes a paddle inclination of 5 is simulated.
To verify whether the pneumatic connections are correct:

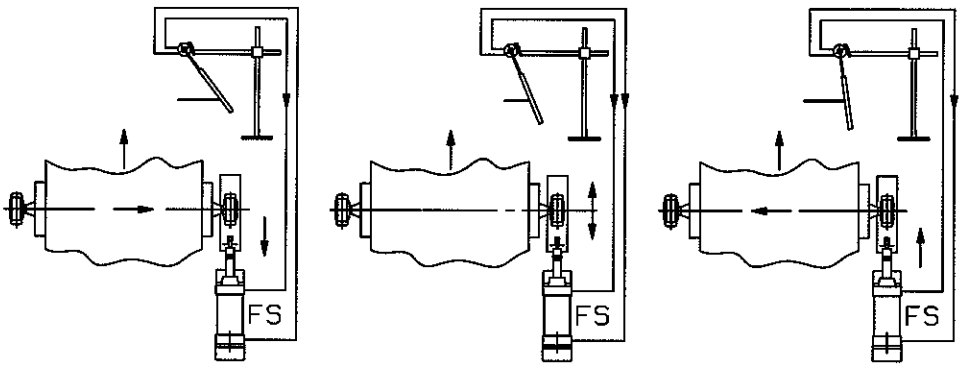


figure 18 – System behavior

Assuming that the belt slides from left to right and that the sensor paddle and the pneumatic slide are assembled on the same side of the BPF (FS side), pushing the paddle towards the belt the end of the centering roll supported by the pneumatic slide must move towards the left. Obviously the observation point must be from the FS side.

The three figures show the system behavior in the three possible positions which are respectively: belt shifting torads the right, centered position of non–intervention and belt shifting towards the left.

If the results of the system are the opposite then the position of the incoming pipes on the pneumatic cylinder must be inverted.

- the belts must be properly wet with water
- the motor rolls must be moving dragging the corresponding belts.

If the two belts do not move perfectly overlapping and at the center of the motor rolls (leaving uncovered equal surfaces of rubber on the two ends of the rolls) it is necessary to undertake the following steps:

- loosen the clamping screws of the supporting bars (6) of the pneumatic valve (2)
- slide the valve (2) towards the part where we want to move the belt forwards or backwards.

The width of the forwards or backwards shift must be EQUAL to the one required by the belt to move to the optimal position.
The belts are perfectly centered. Once the belts are centered the guide of the centering roll must stop in the central position.

12.7.ADJUSTMENT OF DOCTOR BLADES

Verify that:

- The doctor blades are aligned with the belts surface and subjected to an uniform pressure.

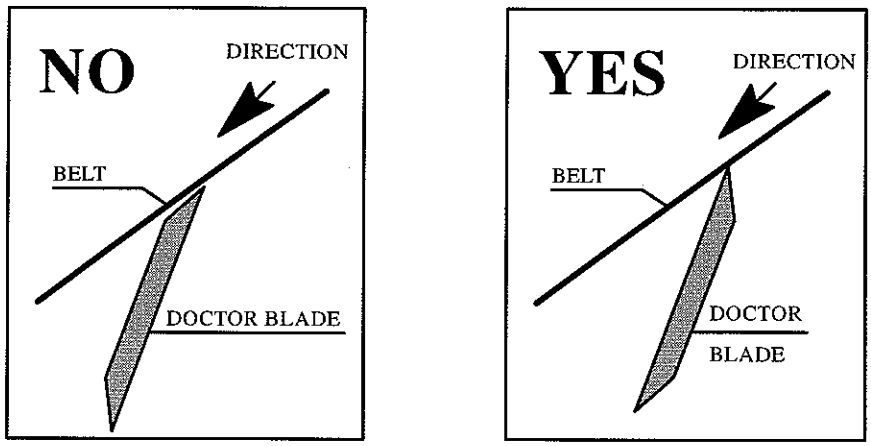


figure 19 – Doctor blades positioning

To adjust the alignment it is necessary:

- Loosen the screws (3) that block the blade.
- Manually push the blade–carrier so that the doctor blade (1) lies uniformly on the belt.

- Tighten the screws (3).

To adjust the pressure or working load:

- Loosen the locking screw (2) of the elastic elements holding bracket (4).
- Push doctor blade (1) manually and let them to the belt.
- Move the doctor beam (15) level towards the center of the machine till the doctor blade presses against the belt. The rotation of the blade, starting from the contact position to press itself against the belt, must be about 15 –18 degrees.
- Lock the level locking screw.

For cleaning operation, when the machine is working and is without product, lift the doctor blade (1), loose the knob (2) and rotates the arm (5) as shown, that allows to maintain the blades at a distance from the roll.

WARNING: An excessive load can cause quick wearing out of the blades resulting in a reduction of the scraping lifetime.

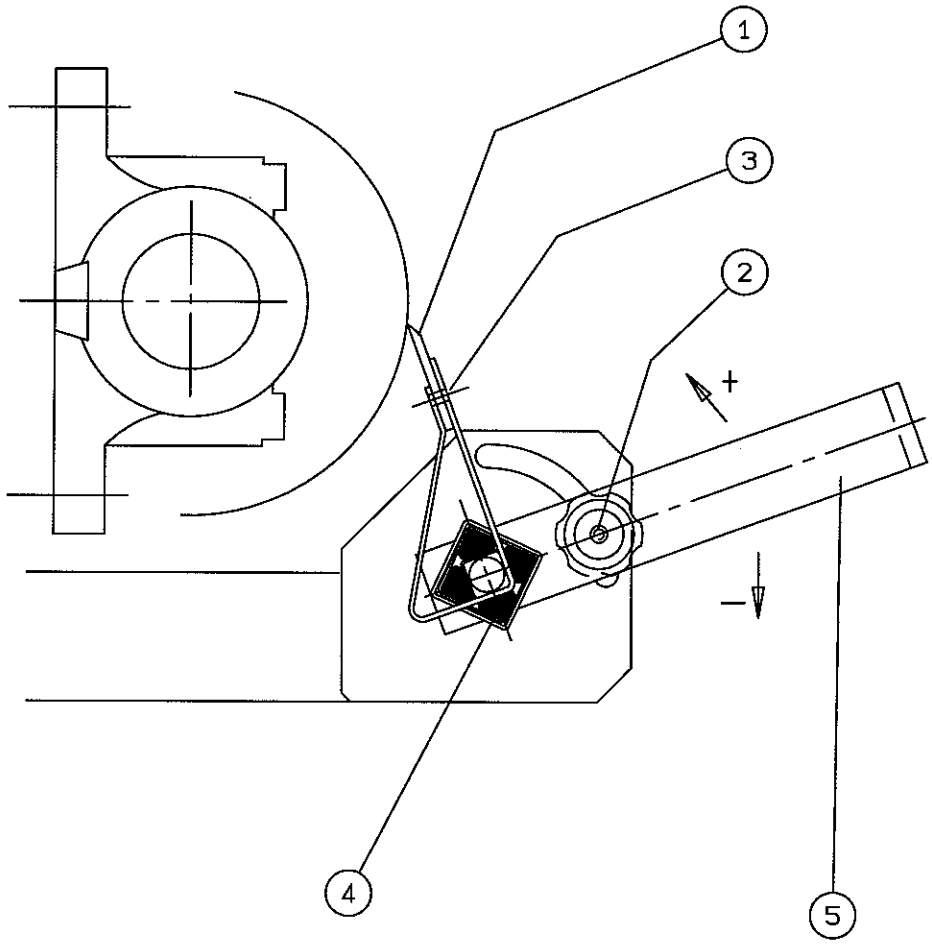


figure 20 – Doctor blades adjustment

12.8.CONNECTIONS AND ADJUSTMENT OF BELTS WASHING BOXES

Preliminary verifications:

- The position of the extended belt must be perfectly centered, in the middle with respect to the seals (5) without touching metallic parts.
- The spraying water must be clean and must have a minimum pressure of 6 bar in the rate of approximately 9m/h for each washing pipe.
- The nozzles (2) are perpendicularly oriented towards the belt.
- The seals (5) are in the right place.

Belt spraying water connection:

- Start to supply the two washing pipes, one for each box. It is recommended to place an intercepting valve and to use flexible hose with a working pressure of at least 10 bar to allow possible re–positioning of the washing boxes.
  The junction is 2" gas male (BSP).

Washing box adjustment:

- Loosen the clasping screws (6) on the bracket (7).
- Let the box itself run in height so that the seals (5) are perfectly centered compared to the belt.
- Tighten the screws (6).

This operation is necessary when water leaks or overflows occur through the seals (5).

Washing pipe position adjustment:

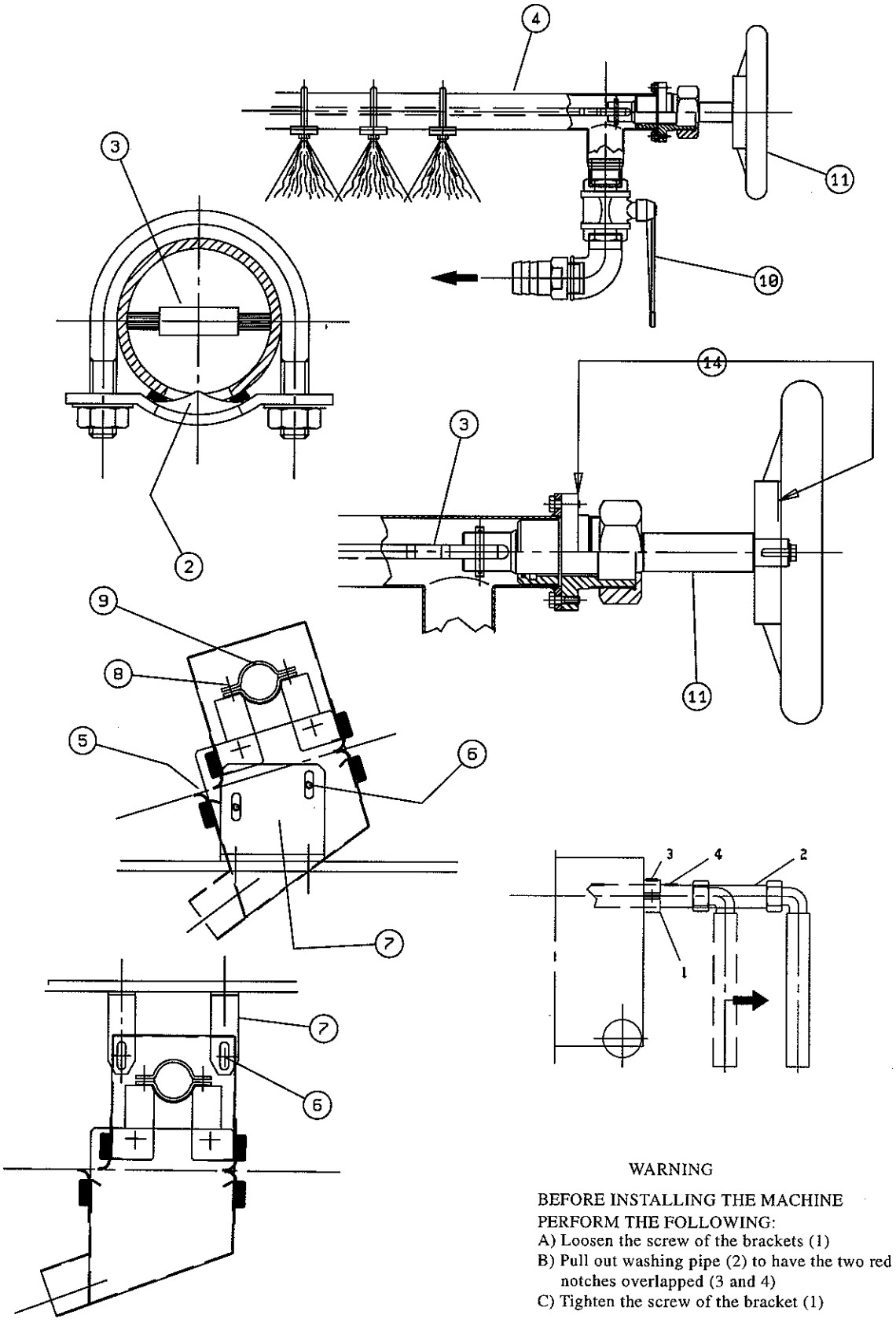
- Slightly open the rings (9) loosening the screws (8).
- Rotate the pipe so that the nozzles are perpendicular to the belt.
- Tighten the screws (8).

Nozzles cleaning:

The washing pipes supplied are provided with an internal brush (3) to clean the nozzles (2).

The cleaning operation must be carried out during the washing phase.

- Turn the steering wheel (11), that controls the brush (3), a few times.
- Open the discharge valve (10) of the washing pipe and turn the steering wheel (11) a few times so that traces of dirt, if any, can be removed. The removed particles are cleared out with the same water flow and are diverted to the water outlet, at the side of the steering wheel.
- Close the discharge valve (10) and make sure that the reference notches (14) are aligned.



WARNING

BEFORE INSTALLING THE MACHINE
PERFORM THE FOLLOWING:
A) Loosen the screw of the brackets (1)
B) Pull out washing pipe (2) to have the two red notches overlapped (3 and 4)
C) Tighten the screw of the bracket (1)

figure 21 – Connection and regulation of the belts wash box

12.9.REGULATION OF SECURITY DEVICES

EMERGENCY/MACHINE STOP LIMITSWITCHES (2)

A correct tightening of the rope allows the intervention of the limitswitch with both a small movement of the rope of a few centimeters at maximum and with the accidental cutting of the rope itself. For a correct regulation of the rope tension, that must be centered with respect to the two directions of intervention, it is necessary to adjust the predisposed turnbuckle. The limitswitches supplied are fitted with push switches for the local reset to be manually re–activated in case of intervention. The BPF is supplied with two groups, one for each side.

ATTENTION: in case of intervention of the limitswitch, before re–activating it, it is necessary to remove the cause of the stop.

BELTS EMERGENCY LIMITSWITCHES (1)

These consist of proximity limitswitches mounted on a spring bolt (1).
The lateral movement of the belt causes the compression of the bolt which activates the limitswitch stopping the machine. The BPF is fitted with two groups, one for each belt.
Verify manually their efficiency.

ATTENTION: In case of intervention, before re–activating the machine, it is necessary to remove the cause of the stop.

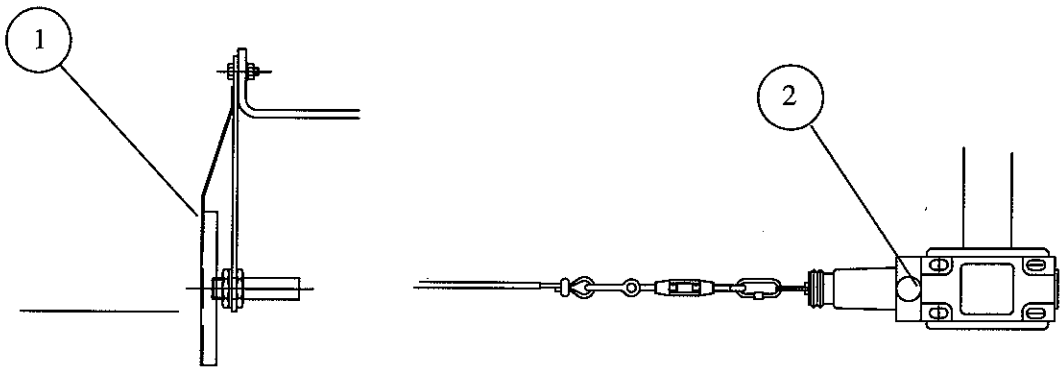


figure 22 – Safety device

POS.	DESCRIPTION	QUANTITY
1	Belts emergency limitswitch	2
2	Emergency/machine stop limitswitch	2

12.10.BELTS INSTALLATION/REPLACEMENT

Before proceeding with the assembling or replacement make sure that:

- No foreign bodies are present inside the machine.
- The belts are integral and not damaged.
- The start–up commands of the BPF are disactivated.
- Discharge the pressured air from the springs by acting on the discharge valves placed in the pneumatic control cabinet. Push the belt tensioning roll in such a way that the whole rack re–enters into the frame.

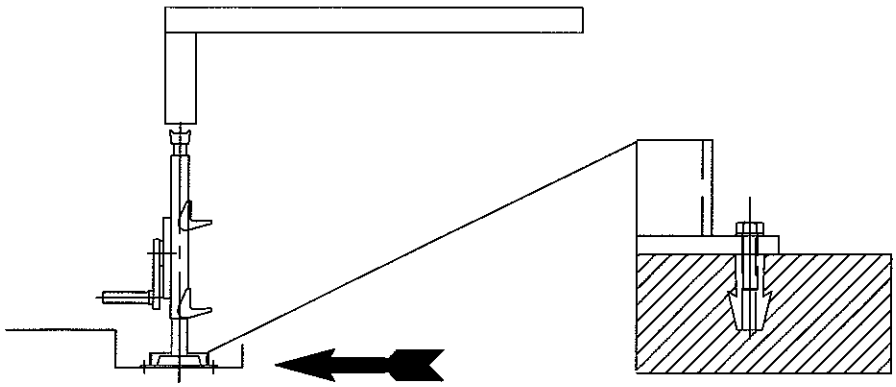
WARNING: The smooth part of the belt must be in contact with the product to treat. This side is marked with the symbol ⌒ *while the arrow* → *indicates the sense of flow. The dimensions must be identical to the original ones.*

First installation.
More details, other than the figures included in this paragraph, are contained in the drawings included in section "SPARE PARTS".

Both belts have the same length.

- Dismount the brackets on the left side of the upper (3) and lower (4) doctor blades and remove the two doctor blades holders.
- Remove the upper part (9) of the water collecting box for the upper belt and the belt wash pipe.
- Open the lower belt wash box (10) and lay on the floor the lower water collecting tray.
- Remove all the lateral handrails where belt replacement takes place.
- Remove the sludge leveller (6) and the skirts (7) on both sides of the machine.
- Remove the rows of plows (if any).
- Remove all the junction bolts of the plates that join the frame (A) on the left side and loosen those on the right side of the machine. (ATTENTION: these can distinguished by the conical pins, detail (A). These instructions are valid for the right hand version of the machine (standard). For the left hand version it is necessary to operate on the other side.
- Mount the beam (19) on the upper frame as indicated. Loose the screws of the supports of the roller bearings (18). Connect the roller onto the beam using the chain (20).
- Fasten the end of the beam (19) to the frame using the chain with turnbuckle (21).
- Put the chain under tension (21) to lift the left end of the roller.
- Insert the cantilever arms (9) in the proper seats (10) cut into the lower frame and in the upper frame and block them using the proper pins.
- Slip the belts (22–23) onto the cantilever arms following the bath given in fig.23. The belts to substitute can be cutted to make their removal easier.
- Position the lifting jacks (11) supplied under the arms, operate the lifting levers and lift the BPF just enough to allow the passage of the belt under the feet (around 30 mm).

WARNING: the foot of the lifting jack must be fixed to the blocking plates cut out in the foundation as shown in the safety design assembly.



Anchor plate to keep the foot of the lifting jack (included in the supply).
To be fix on the floor by 2 anchor bolts M10 each plate. Total plates: 4 pcs.

- Initially slip the belt on the command rollers, adapting it to the rollers path in the "S" zone, then slip it onto the tensioning rollers.

WARNING: to insert the belt correctly it is necessary that its advancement on the rollers is uniform along all the path.

- After having positioned completely inside the frame the two belts, lower and remove the lifting jacks of the cantilever arms reconnecting the belts.
- Remount the bolts and the conical pins.
- Carry out the operations of re–assembling of all the pieces removed, following the procedures previously described but in the reverse order.

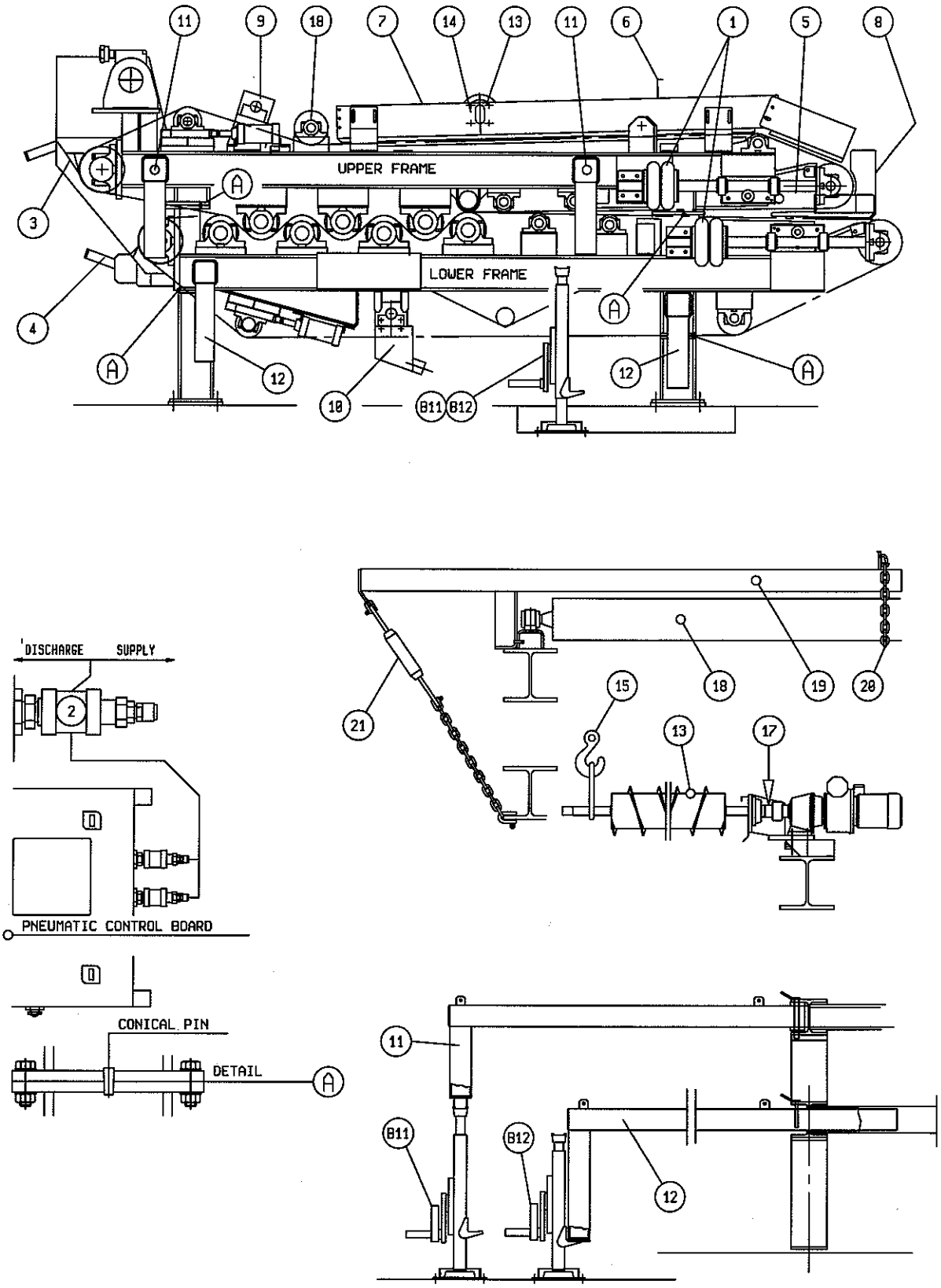


figure 24 – Belts installation or replacement

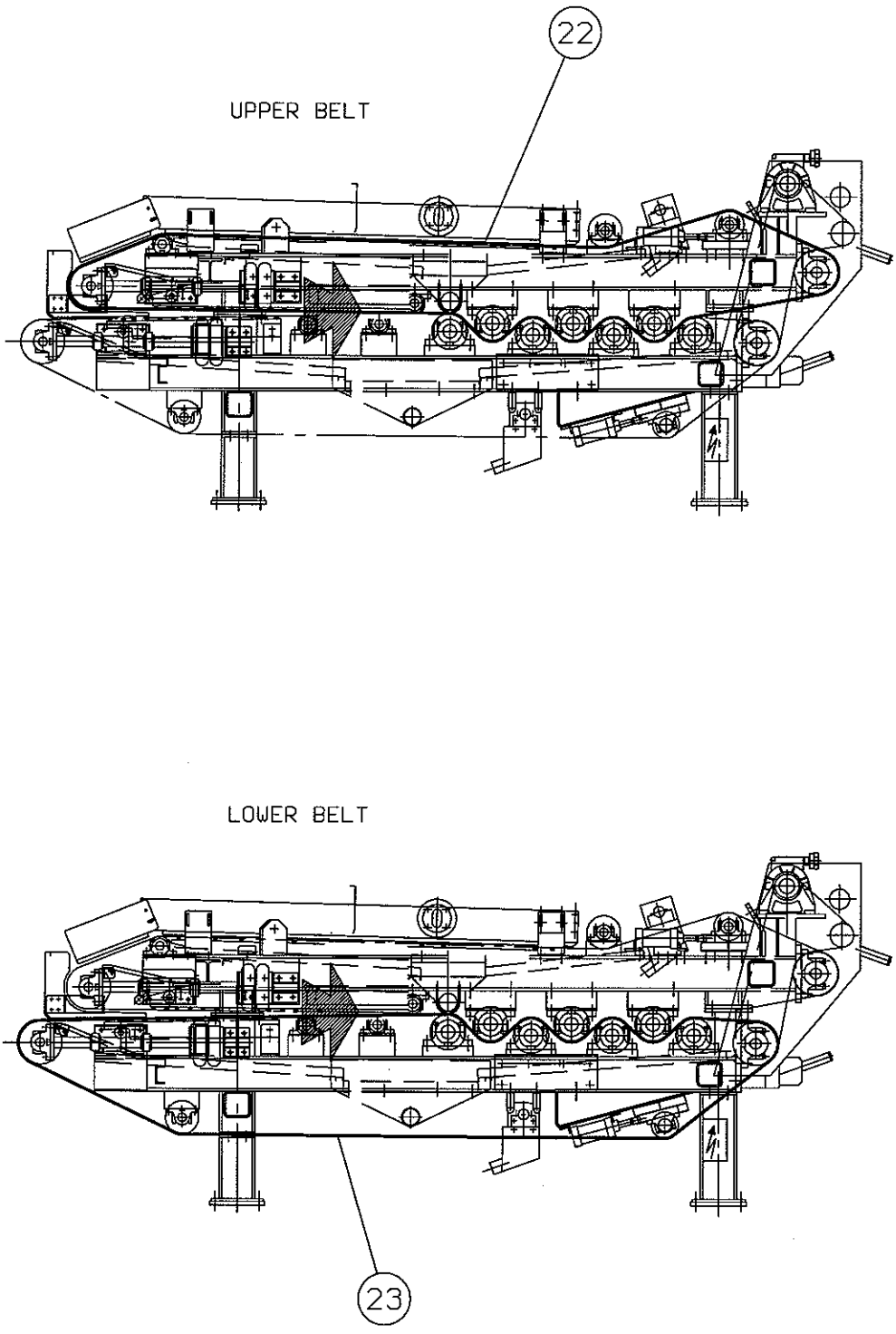


figure 23 – Belt arrangement

13. OPERATING LOGIC

When setting up the operating logic of the belt press filter, the instructions given below must be taken into account.

Include a stop/start button in the command circuit. Machine start–up must be possible only on condition that none of the emergency circuits on the machine have been tripped.
The safety devices on the machine (2 cord–pull emergency stop with local manual reset, 2 belt tracking limit switches and 1 pressure switch on compressed air line) must operate a self–locking auxiliary relay with a warning lamp and a manual reset button.
The command circuit for the belt traction motor must include a signal of compliance upon operation of the related systems provided for evacuation of the dehydrated sludge product (cake), water supply to the belt washing system and start–up of the sludge supply to the belt press filter.

WARNING
When setting up the command panel it is recommended that the guidelines given in the CEI–EN60204–1 document standard relating to electrical systems for machine tools be strictly observed.

14. START–UP AND TESTING

14.1.PRELIMINARY CHECKS

Checking tightness of nuts and bolts

The machine bolts are fastened during assembly at the factory using a torque wrench. During transport and movement of the machine it is possible that some loosening of the nuts and bolts may occur. Before starting the machine it is necessary to make a preliminary check of the coupling of the nuts and bolts using a torque wrench.

In order to simplify this operation it is advisable to check:

- Roller support bearings
- Gravity zone skirts and sludge inlet box
- Frame joints (base, columns and crossbeams)

Bolt Tightness Check Table

St. St. BOLTS

RESISTANCE CLASS	50	70	80
SIZE	TORQUE (Nm)	TORQUE (Nm)	TORQUE (Nm)
M 6x 1.00	3.5	7.3	10
M 8x 1.25	8.5	18	24
M 10x 1.50	17	36	48
M 12x 1.75	29	62	82
M 16x 2.00	71	152	203
M 20x 2.50	137	293	391
M 24x 3.00	234	502	670

8G DACROMET BOLTS

SIZE	TORQUE (Nm)
M 10x 1.5	50
M 12x 1.75	87
M 16x 2	210
M 20x2.5	412
M 24x 3	710
M 27x 3	1040
M 30x3.5	1400

The values reported are valid for pressed, rolled and unlubricated bolts for a friction coefficient of 0.14.

The resistance class of each screw or bolt is stamped on the head.
When replacing any of the machine bolts we recommend the use of anti–seizing grease such as NEVER–SEEZ or equivalent for which it is necessary to reduce the torque by 20% with respect to the values shown above.

ATTENTION: for the support bearings it is necessary to use the values specified for 8G bolts reduced by 20%.

Checks to be performed with the machine stationary

After checking the belt tightness continue as explained below with the following operations (all operations to be performed **with the machine stationary):**

1) Verify that the machine is perfectly level.
2) Make certain that all the following connections are made:
   - Sludge supply
   - Polyelectrolyte supply
   - Cleaning water supply
   - Electrical power supply
   - Compressed air supply
   - Earth Connection
   - Filtrate discharge system
   - Dehydrated sludge discharge system
3) Ensure that no tools or other objects have been left inside or on the machine.
4) Open the Pneumatic Control Panel and, by means of the appropriate gauges, check that the tension of both the upper and lower belts is set to a pressure of 3 bar (atm).
5) Manually operate the compressed air supply panel corresponding to the lower belt to ensure that the distributor and the belt tracking roller are functioning correctly: moving the paddle towards you should cause the piston to move in whilst pushing the paddle away from you should cause it to move out.
6) Manually operate the compressed air supply panel corresponding to the upper belt to ensure that the distributor and the belt tracking roller are functioning correctly: moving the paddle towards you should cause the piston to move in whilst pushing the paddle away from you should cause it to move out.
7) Check that cleaning water supply is working.
8) Check that the sluice gates on the sludge inlet and polyelectrolyte inlet are in the open position.
9) Purge the wash system pipe work by running water through the system to drain. Rotate the knobs to avoid clogging up the nozzles. Allow to purge until the water leaving the system is clean and then return the knobs to their original positions.

Checks to be performed before loading the machine

WARNING: The checks to be performed with the machine running must be carried out in complete safety for the operator and with extreme caution, paying particular attention to avoid contact with moving parts.

The checks listed below are to be performed **one by one** by placing the selector switch relative to each single system in the "manual" position.

1) Check that the transport system for the dehydrated sludge is working.
2) Check that the mixer is working correctly.
3) Raise the doctor blades and verify the direction of rotation of the belts. This operation should be carried out for brief spells only to avoid unnecessary belt friction.
4) With the machine running check the belt tracking by inspecting the sides of the doctor blades to see if the belt is centered with respect to the traction roller.
5) Adjust the leveller, leaving a space of about 15–20 mm between the belt and the leveller.

Checks to be performed in sequence

This check consists of verifying that the starting sequence of the various systems is consistent with the operating logic of the control panel.

The operating logic must, as a rule, be the following:

1) Start–up of dehydrated sludge transport system
2) Start–up of compressed air system
3) Start–up of belt washing system
4) Start–up of belt traction
5) Start–up of distributor screw
6) Start–up of sludge pump
7) Start–up of polyelectrolyte pump

Checks to be performed with the machine loaded

Start to the sludge feed to the machine:

1) Start–up the machine by switching on all systems according to the logical sequence of the control panel.
2) Verify complete flocculation of the sludge and that it is distributed correctly and evenly on the belt in the gravity zone.

If the sludge is:

- badly flocculated: vary the mixer speed, by means of the appropriate control to adjust the rate of rotation.

3) Check the belt tracking in the presence of the sludge. If the belts are not centered proceed as set out in section 'ADJUSTMENT OF BELTS CENTERING DEVICE'.

WARNING: Given the type of material being treated, the use of personal protective gear (gloves, safety goggles and facemask) is recommended. These must conform to all local safety regulations and State laws applicable.

15. START–UP, OPERATION AND SHUT–DOWN

15.1.COMMAND SYSTEMS

With regard to the logic of the command system the recommendations laid out in section 'STAR–UP AND TESTING' of this manual for the setting–up of the control panel are advised.

15.2.SAFETY

The BPF has been designed and built to conform to the community regulations in force.
All procedures related to installation, start–up, operation and maintenance must be performed under the responsibility of the user and in compliance with the regulations in operation regarding accident prevention, with the exception of specific exemptions otherwise defined in the purchase contract.
The location, facilities connections and method of operation must be fully in compliance with the instructions provided in this manual.
In particular, with regard to safety during operation, the machine is equipped with lateral protective handrails which completely surround the BPF in such a way as to prevent access to unauthorised personnel, as shown in the attached drawing.
The BPF is supplied with two emergency stops, one on each side, to shut off the machine. Each emergency stop can be operated manually by pulling on a metal cord which is suspended longitudinally along the side of the machine, as already described.
These limit switches, rope operated, are to be considered as an additional precautions in case of residual risk.

ATTENTION. If just one of the safety features (guards, warning or safety notices, etc.) shown in the SAFETY diagram attached is missing, the BPF must be put "OUT OF SERVICE" and cannot be operated until the missing element has been replaced.

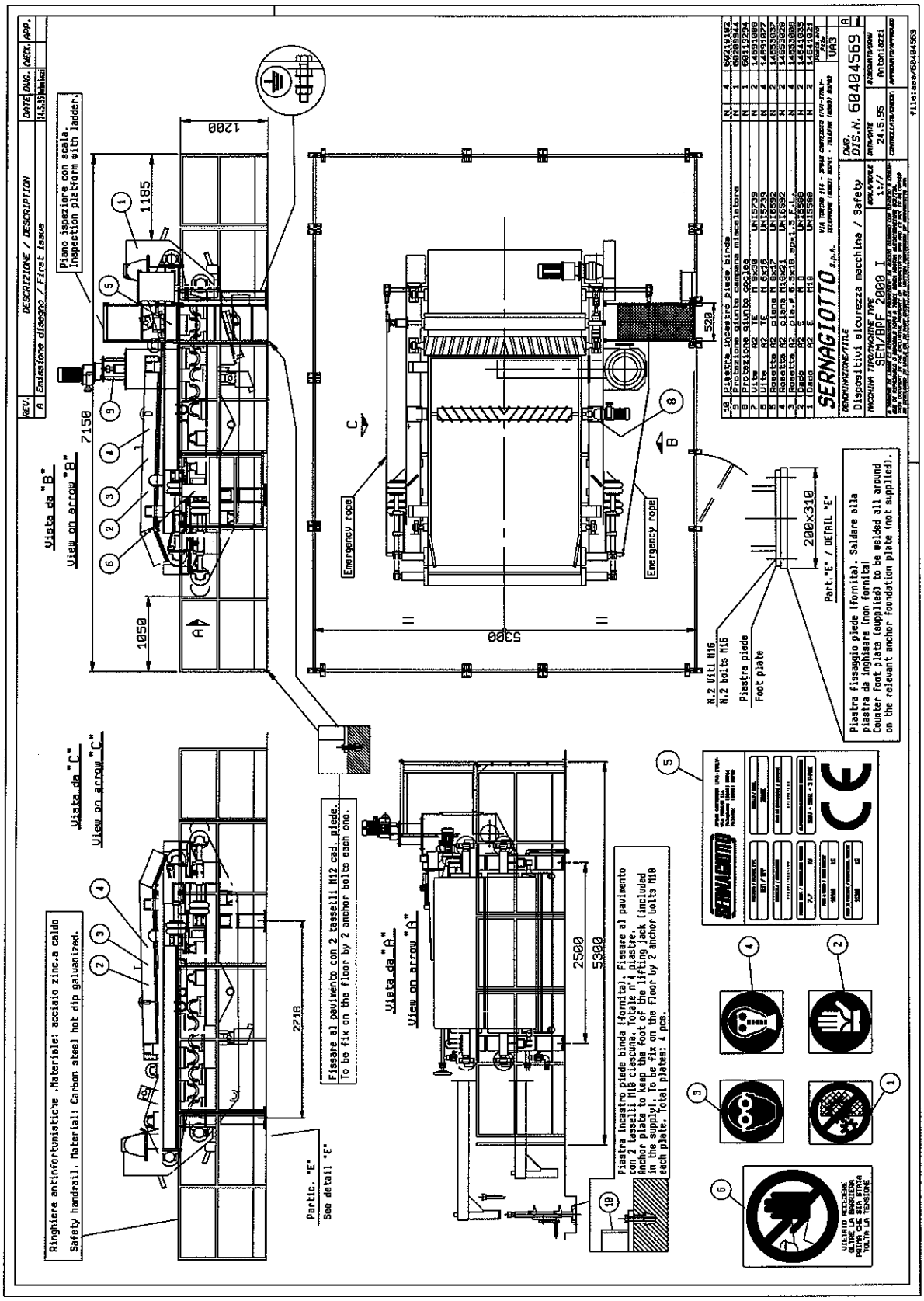


figure 25 – Sicurezze

15.3.ALARM SYSTEMS

The machine is equipped with the following alarm systems:

- 2 belt tracking limit switches
- 1 pressure switch

BELT TRACKING LIMIT SWITCHES

The upper and lower belts are provided with limit switches which intervene if a fault should occur with the pneumatic system which regulates the belt tracking, causing sideways movement of the belts either too far to the right or left. As soon as the belt comes into contact with the limit switch, the shut–off of the machine and all its component systems is automatically triggered.

AIR PRESSURE SWITCH

The pneumatic circuit is provided with a pressure switch which intervenes when the incoming air pressure falls below the machine set–point. If the switch is tripped the machine is automatically shut off.

15.4.EMERGENCY STOP SYSTEMS

On both right and left sides of the machine there is a device, operated by means of a metal cord, which functions as an emergency stop. Each cord is connected to a pull–switch with a manual reset button.

When the cord is pulled, the switch shuts off the machine and its component systems. Operation is restarted from the control panel, cancelling the alarm.

15.5.CHECKS BEFORE MACHINE START–UP

Before starting up the machine check the following points:

- No extraneous objects are present in the machine, particularly between the belts or rollers.
- All safety guards are bolted to the machine.
- The air supply pressure is correct.
- The tension gauge for the upper belt reads 2 bar.
- The tension gauge for the lower belt reads 2 bar.
- The pressure gauge for the belt tracking system reads 3 bar.
- The distributor control paddles for the two belts hang freely and operate the belt tracking rollers.
- The water supply pressure for the belt wash system is correct.
- The emergency devices are unlocked.
- The belts are adequately wetted.
- The collection tubes for the filtrate are perfectly connected.

- The sludge evacuation system is working.
- Remove the plastic plug from the base of each bearing support to allow greasing. See the drawing "Rollers" contained in the supplied spare parts booklet.
- The direction of motion of the belts is correct.
- Before rotating the selector to the "AUT" position, to start the product feed system, turn on the water supply to the belt wash system and run the machine for about half–an–hour. In the meantime it is advisable to pump water through the product inlet tubing in order to clean the whole machine.
- The filtrate drainage pipes are perfectly connected to the collection trays.
- The other systems up– and down–stream of the BPF are working efficiently.

After carrying out all these checks, start up the BPF in accordance with the following sequence:

1) Start the system for transportation of the dehydrated sludge.
2) Turn on the water supply to the upper and lower belt wash systems to a pressure of 6 bar.
3) Start the belt traction motor.
4) Start the mixer.
5) Run the polyelectrolyte and the sludge to the mixer.

The machine is now loaded. Continue as follows:

- Regulate the initial quantity such that dehydration can take place.
- Check that all the liquid separated from the product drains correctly.
- Regulate the belt tension so that the liquid can drain evenly through the whole surface of the belt.
- Gradually increase the quantity of product and the speed of the machine but take care not to exceed the good drainage conditions initially obtained or to allow discharge of material from the sides of the wedge or "S" zone.

WARNING: Given the type of material being treated, the use of personal protective gear (gloves, safety goggles and facemask) is recommended. These must conform to all local safety regulations and State laws applicable.

15.6.SHUT–DOWN

The operations to perform, in the correct sequential order, are as follows:

1) Stop the sludge feed system and the polyelectrolyte supply.
2) Wait until the remaining sludge is completely expelled from the machine.
3) Run water into the mixer and check at the top of the machine that the water leaving the conveying tube is clean.
4) Once the discharged water is clean, drain the mixer by opening the bottom valve.
5) Turn off the mixer.

6) Wait until the belts have completed two complete turns so that they are cleaned in the belt wash box.

7) With the machine in operation wash the top part of the machine with water, obtaining access by means of the ladder provided.

WARNING: Cleaning of the machine whilst in operation is permitted only for the upper section. The other parts of the machine must be cleaned only in accordance with the instructions given in the chapter devoted to detailed cleaning.

8) Turn off the belt traction motor.

9) Close the outlet sluice gate of the mixer.

15.7.OPTIMISATION OF OPERATIONS

1) Regulate the belt speed to medium–slow values.

2) Regulate the feeding of the product to a quantity below the capacity of the machine.

3) Check that the product drains from both belts in the wedge zone.

4) Regulate the tension such that the layer leaving the wedge zone continues to drain until just before the last roller in the "S" zone. Regulate the tension so as to avoid discharge of the product from the sides of the wedge zone or from the entrance to the "S" zone.

Optimisation of operations is obtained when:

A) The product supplied to the machine is not discharged from the lateral seals.

B) The product reaches the correct thickness in the wedge zone.

C) In the "S" zone the liquid drains until just before the last roller.

D) No product is discharged during treatment.

E) No liquid spills outside the collecting trays.

F) If the cake is discharged from the machine check that the distance between the sludge and the end of the roller is 2 to 4 cm on both sides.

ATTENTION: The various characteristics of different types of sludge for dehydration do not always guarantee that all of the above conditions will be met.

The variable parameters which can be altered are:

1) INFLOW RATE
2) BELT SPEED
3) BELT TENSION

Inflow Rate

Influences the conditions relating to points A) and B). Can be increased in order to reach correct drainage in the free zone. It is calculated by measuring the time necessary to drain a specific quantity of product.

It is possible to measure the quantity of dry material when the amount of product supplied and its solids content by weight are exactly known. If one of these values is unavailable it is possible to evaluate, to a tolerance of +/– 5%, the amount of product treated by measuring the width and thickness of the dehydrated cake and multiplying these values by the machine speed and the duration of the trial. The result must be divided by the quantity of dry substance obtained and the specific weight of the product being treated.

EXAMPLE

Width of cake:	1.1 m	Speed:	4.20 m/min
Thickness of cake:	0.008 m	Time:	60 minutes
Dry substance:	43%	Specific Weight:	1.28

Quantity of dry substance treated: 1.1 x 0.008 x 4.2 x 60 x 0.43 x 1.28 = 1.22 t/h

Belt Speed

Must be regulated so that the requirements of points D), E) and F) are satisfied. If no measurement instruments are available the belt speed can be measured by making a mark on the belt and using a chronometer to time a compete revolution.

Belt Tension

The belt tension must not exceed the safety limit of 10 kg/cm. This parameter has a significant influence on point D) and is determined from the value of the pressure supplied by the air bellow which tensions the belt. This value can be set manually on the pneumatic control cabinet with the appropriate control (see belt tensions diagram below).

Belt tensioning: Two reducers are supplied, one for tensioning the upper belt and one for the lower belt. The belt tensions obtainable are given by the diagram.

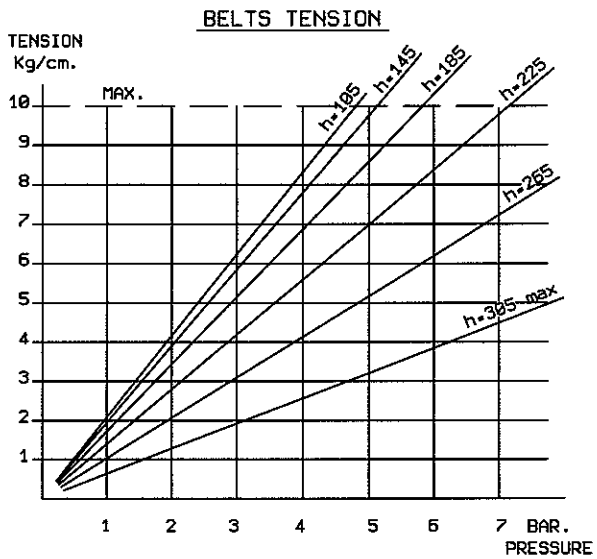


figure 26 – Belt tensions

WARNING: do not exceed, for any reason, the tension limit of 10 kg/cm.

16. TROUBLE SHOOTING

If a fault should occur during the operation of the machine proceed according to the information supplied in the attached table.

ATTENTION Given that the procedures for fixing faults and malfunctions may require one to approach the machine, we recommend that the tightest safety measures be followed during the whole course of the operation.
In particular:

1) If a fault should occur, shut down the machine and all other systems connected to it before beginning the analysis of the problem.
2) Before approaching the machine to carry out any checks make sure that you are wearing appropriate personal protection (gloves, mask, etc.).
3) After eliminating the fault, replace all guards where they have been removed for any necessary examination.
4) After checking that all safety devices are in position, start the machine to verify that the corrective action has eliminated the fault.

PROBLEM	CAUSE	REMEDY
A. Limit switch triggered	Lack of compressed air in tracking system Reduced tension on belt Outflow of sludge causes the limit switch to trogger	Check air supply and valves Check air supply and valves Check conditioning of the sludge
B. Pressure switch triggered	Reduced air pressure	Check the air supply and ensure that there are no leaks in the system
C. Outflow of sludge in gravity zone	Lack of polyelectrolyte	Increase flow–rate of polyelectrolyte
D. Poor drainage in gravity zone	Poor flocculation Belts clogged	See problem E See problem P
E. Poor flocculation	Too much or too little polyelectrolyte Incorrect mixer speed Incorrect quantity of added water	Check flow–rate of polyelectrolyte Change speed of mixer Change quantity of water
F. Rollers become blocked	Lack of correct lubrication Bearings worn	Lubricate Replace bearings
G. Overexpansion of sludge in wedge zone	Excess of water in sludge cake Flock breaks up under pressure	See problem E See problem E
H. Flock breaks up under pressure	Poor flocculation Sludge influx too high	See problem E Increase belt speed or reduce sludge inflow rate
I. Outflow of sludge in pressure zone	Excess water in cake Belts clogged	See problem E See problem P
J. Overexpansion of sludge in pressure zone	Excess water in cake Belts clogged	See problem E See problem P
K. Belt slips on traction roller	Belt tension too low Pressure zone overloaded	Increase belt tension Reduce sludge inflow rate
L. Cake sticks to belts	Poor flocculation Doctor blades worn Belt speed too high	See problem E Replace blades Reduce belt speed
M. Doctor blades wear out rapidly	Doctor blades misaligned Blade pressure on belt too high	Realign doctor blades and ensure contact between blades and belt Reduce loading on doctor blades
N. Drive overheats	Lack of oil	Top up oil
O. Belt slides out continually	Leak in air tubing Tracking system not working correctly Sensitivity of tracking system inadequate Tracking system dirty Belt is stretched or is of non–uniform length	Replace air tubing See section on belt tracking Raise point of contact of belt using the appropriate paddle on the air distributor Clean rack and air system Regulate tracking system or replace belt
P. Belts clogged	Nozzles blocked up Water pressure too low Belt tension too high Poor flocculation	Clean nozzles Check water supply pressure Reduce belt tension See problem E
Q. Belt wrinkled or folded	Sludge poorly distributed	See problem R
R Sludge poorly distributed	Sludge supply rate too low	Increase inflow rate of sludge and polyelectrolyte Regulate height of sludge leveller at the end of the gravity zone
S. Cake non–uniform when leaving machine	Sludge poorly distributed Overexpansion of sludge in machine	See problem R See problems E, G, I, K
T. Motor overload switch cuts in	Motor not connected correctly Motor overloaded Ingress of water into motor	Check electrical connections Reduce belt speed Dismantle motor, clean and check connections

17. MAINTENANCE

17.1.CLEANING

Only water is to be used for cleaning the machine. Use of detergents is not recommended as they may damage the various parts of the machine. The use of steamcleaning at 100° C for plastic parts is not recommended.

Cleaning of the machine must be performed as follows:

1) CLEANING OF THE MACHINE DURING OPERATION

Cleaning of the machine during operation is allowed only for the upper section of the machine, reached by the inspection ladder.
Clean the belts, skirts and all other accessible parts with a jet of water. If hot water is used its maximum temperature must be 50° C.

2) CLEANING OF THE MACHINE WHEN STATIONARY

Shut down the machine then remove, using the appropriate tools, the fixed guards. Continue by cleaning the rollers, doctor blades, washing boxes and all remaining parts which may present encrustations of sludge.
Once the machine is completely clean replace the guards, restart the machine (including the cleaning water system) and allow to run for several minutes to effect complete removal of sludge residues.

WARNING: Given the type of material being treated, the use of personal protective gear (gloves, safety goggles and facemask) is recommended. These must conform to all local safety regulations and State laws applicable.

17.2.ORDINARY MAINTENANCE

All operations are summarised in the attached table. Respect the stated frequencies. Drawings and component references are contained in the spare parts section.

17.3.SPECIAL MAINTENANCE

1) Clean the machine, rollers and belts of oily or other residues. If hot water is used its maximum temperature must be 50° C.
   Do not use chemical products which could damage the protective coatings, rubber and belts.
2) Treatment with highly abrasive products can cause wear or damage of the rubberised rollers. Contact the Technical Assistance Service of Sernagiotto S.p.A. for machine inspection, repair and renovation of protective coatings.
3) Check after 5000 hours usage: Check the rollers for wear and make sure that they are parallel. Contact the Technical Assistance Service of Sernagiotto S.p.A. if a visit from our technical staff is desired.
4) For other problems consult a technical expert from Sernagiotto S.p.A.

ATTENTION: if the machine is to be stored for long periods see the chapter "STORAGE".

DESCRIPTION		FREQUENCY											
		24 h	50 h	200 h	500 h	1000 h	2000 h	3000 h	5000 h	10000h	20000h	30000h	
Check level of oil lubricator (on Pneumatic control cabinet)	XXX			●									
Check drip of oil lubricator (on Pneumatic control cabinet)	XXX		● ▲										
Empty compressed air filter condenser (on Pn.cont.cab.)		●											
Visual inspection of wash tube efficiency		●											
Wash machine and remove deposits				●									
Grease bearings	X			▲									
Repalce oil in belt reducer	XX		■ 1				■ 2						
Replace oil in differential	XXXX			■ 1			■ 2						
Visual check of wear of doctor blades				○									
Replace doctor blades							■						
Check					○								
Replace									■				
Wash box					○			■					
Check roller coverings						○							
Replace roller coverings												■	
Clean inside of belt wash box						□							
Replace roller bearing										○		■	
Shoe plows					○					■			
Replace slide on belt tracking system												■	
Remove solids from wash tubes		●											
Check for wear on wash tube brushes						○							
Replace wash tube brushes										■			
Check efficiency of wash tube nozzles									○				
Replace wash tube nozzles											■		
Check belt wear						○							
Replace belts depending upon type of prod.being treat.													
Visual check of bearing and check for noise										○			
Replace bearing depending upon performance													
Check fastness of nuts and bolts		● 1								● 2			
Grease moving parts	X			▲									

GRMU3 AGIP grease or equivalent	X	Clean	□	Perform	●
BLASIA 220 AGIPoil or equivalent	XX	Check	○	Running–in	1
L.P.M. ATLAS COPCO oil or equivalent	XXX	Replace	■	Succ. int.	2
AGIP A.T.F. Dexron oil or equivalent	XXXX	Correct	▲		

17.4.INSPECTIONS

Whenever the machine is operated continuously for 24 hours a day it is recommended that it be halted once a week to carry out the checks necessary for preventive maintenance.
The assemblies which require periodic inspection are:

- Variator–Reducer Drive unit
- Wash system assembly

For the variator–reducer drive unit check the external cleanliness of the casing; dirt could impair cooling efficiency. In addition check the oil level and identify any possible leaks from either the reducer or variator.
On an annual basis it is advisable to tighten up the reducer bolts. After turning off the motor wait for it to cool down before performing this operation.
Correct operation of the belt wash system is fundamental to the efficiency of the process. It is important to check periodically that the pressurised water is sprayed from the nozzles without obstruction due to clogging of the nozzles themselves. To verify this, the operator should proceed as follows:

- Stop the sludge feed and belt traction.
- Start the belt wash system.

Whilst performing this check the operator must wear gloves, safety glasses and a face mask. Once the wash system has been activated verify that the water is sprayed from the nozzles without impediment due to blockages. If problems are found it is necessary to clean the nozzles, rotating the brush spindle several times in order to remove extraneous material which may be the cause of the obstruction.

17.5.LUBRICATION AND GREASING

The first oil change is to be made after 50–100 hours of operation; the second and subsequent changes are to be carried out every 2500 hours or at least once a year.
For the variator, oil is the recommended product. The first oil change is to be made after 300 hours of operation whilst the second and subsequent changes should be performed with a frequency of 2000 hours or at least once a year.
The procedure for changing the oil in the reducer and variator are as follows:

- Drain the oil by unscrewing and removing the drain plug.
- Replace the drain plug and remove the oil filler cap.
- Slowly pour in the required quantity of oil and check by means of the oil level indicator.
- Replace the oil filler cap.

Additional information is given in the appendices A, B and C.

The roller bearings must be greased with the machine stationary. Remove the guards, if any, and inject the grease into the bearings.

WARNING: Do not dispose of used oil into the environment; for disposal adhere strictly to the appropriate regulations in force in the country in which the machine is installed.

18. DEMOLITION, DECONTAMINATION AND SORTING OF MATERIALS

When the time comes to dismantle the BPF remember that it is composed of:

- machinery and structural framework in iron
- oil and greasy lubricants
- electric motors
- plastic materials

If the dismantling is to be entrusted to a third party, ensure that it is a company authorised for the disposal of the above–mentioned substances.
If the dismantling is to be carried out by the user it is important to sort the materials by type and then entrust the disposal to a company or companies with the relevant authority for this purpose.
Disposal must be executed in full observance of the regulations in force in the company in which it is carried out.

WARNING: If the remnants of the machine are abandoned in an area to which general access is not prohibited they constitute a serious danger the public. In such cases the entire responsibility lies with the owner of the machine.

19. RESIDUAL RISKS

The user must be fully aware that the use of a belt press filter, which is intended entirely for professional applications, results in exposure to residual dangers arising directly from the machine itself; dangers which cannot be eliminated or sufficiently reduced by design and against which protection is not, or at most not entirely, efficient.

The BPF 2000 I is adequately fitted with guards, along the sides, to protect the operator from moving parts. It is stressed that under no circumstances must the guards supplied be removed whilst the machine is operating. It is repeated once again that, whilst carrying out cleaning procedures, the operator must wear personal protective clothing. The same precautions must be taken during assembly and dismantling.

The operator must avoid every form of contact with the drive assembly when the machine is running and must perform all maintenance and lubrication only after switching off the motor and waiting for it to cool down.

It is recommended that adequate space be provided around the machine to allow the operator to move freely and under conditions of safety, and that effective measures be taken to limit access of personnel to the outlet where the dehydrated cake is discharged and collected.

20. TRAINING OF PERSONNEL

As already mentioned in the preface and in paragraph 1.1 this manual must be read carefully by all personnel before commencing any "hands on" experience with the machine.

However, the manual cannot act in any way as a substitute for the training which the operator should have received previously on similar machinery or on this machine under the guidance of trained personnel.

The operator must be a person of proven ability and aptitude and equipped with the necessary knowledge for the operation and normal maintenance of mechanical and electrical components.

For the stages of assembly and maintenance procedures no particular recommendations are offered insofar as they are reserved for specialised personnel.

In the choice of operator one must consider:

A) Physical characteristics

- Sight and hearing
- Absence of effects of alcohol or drug abuse

B) Psychological aspects

- Behavior under stress
- Mental stability
- Sense of responsibility

21. SPARE PARTS

This section is integral part of the operation and maintenance handbook and list the spare parts we recommend to purchase and keep in stock to reduce the working availability of the machine. These spare parts are wear and tear components which require approx. 2 to 8 weeks for their production, depending on the raw material availability.

PROCEDURE FOR THE SPARE PART REQUEST

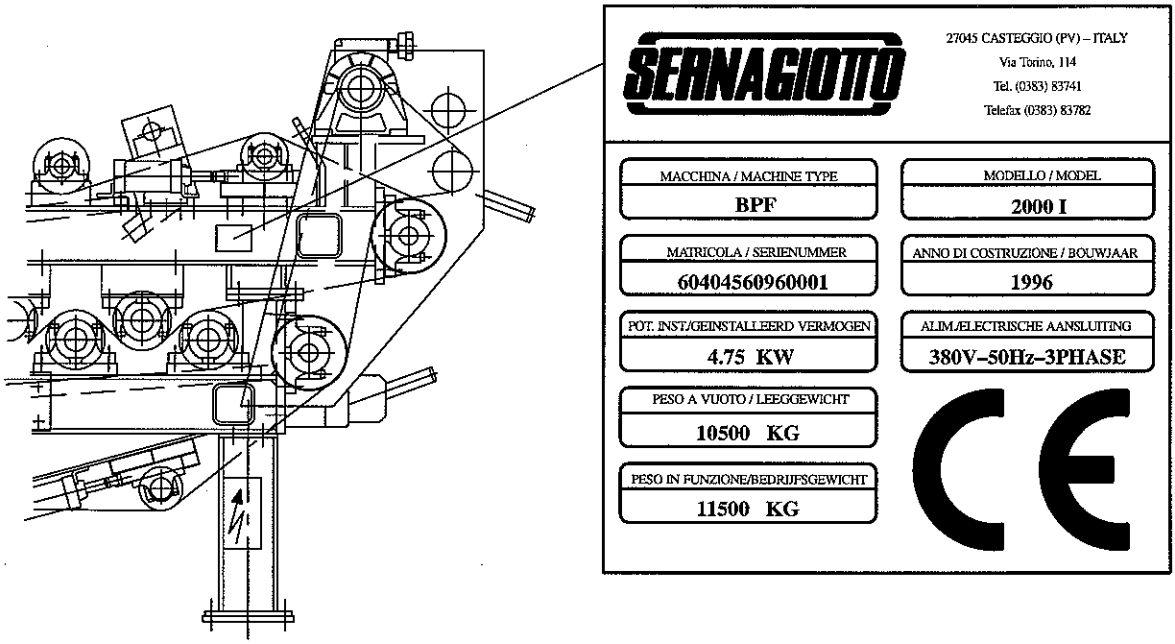
This section deals with the procedure for a proper identification and purchase of the spare parts. The given quantity are suggested for a convenient stock. We underline the importance to replace worn items with original spares parts.
Pls refer to the enclosed drawings to identify the items listed in the following tables.
The drawing position, the code and the relevant description are indispensable elements for the correct identification.
We enclosed copy of the form for the purchase. Please fill it with the requested details to help us in the supply.
The form lists the following:

- Type of the machine
- Serial number
- Number of the drawing which shows the requested part and its revision index
- Spare part position and code
- Description
- Quantity

The type of the machine and the serial number can be easily found on the nameplate with the data of the machine itself.
When filled with the requested details, the form can be sent either by mail or by fax to the following address;

Sernagiotto S.p.A. – Servizio Assistenza Tecnica (ricambi)
Via Torino n.114 – **27045 CASTEGGIO (PV)**
fax 0383–83782

MACHINE NAMEPLATE



This plate is fixed with rivets on the machine frame near the belt drives.

TYPE OF THE MACHINE	
SERIAL NUMBER	

N.of the dwg.	Rev	Pos	Code	Description	Qty

N. of the dwg	Rev	Pos	Code	Description	Qty
60404560 Assembly	A	–	–	Seamless belt 2100x9450	2
60404569 Safety	A	–	–	only for reference	–
60307176 60307272 Handrails assembly	A	–	–	only for reference	–
60304591 Counter foot plate	A	–	–	only for reference	–
60307174 Belts drive	A	1	10880001	Bushing	1
		11	15820027	Electric motor	1
		12	15820027	Gearbox	1
60307131 Chain drive	A	1	13810003	Chain joint	1
		2	13810004	Chain link	1
		3	13810079	Roller chain	1
		11	60118821	Drive sprocket	1
		12	60119538	Sprocket wheel	2
60404567 Distribution screw	A	1	10860008	Bearing	2
		12	15840087	Gear box and electric motor	1
60403524 Rollers assembly	C	–	–	see relevant roller dwg.	–
60304573 Tracking roller	A	2	10830071	Bearing	2
		5	11431031	V ring	2
		6	11431010	Shaft sealing	2
		8	60112260	Bearing housing	2
60304575 Spiral roller	A	2	10830071	Bearing	2
		5	11431030	V ring	2
		6	11434083	O ring	2
		8	60109546	Labyrinth	2
		9	60113400	Bearing housing	2
60304577 'S' zone roller	A	2	10830074	Bearing	6
		5	11431037	V ring	6
		6	11434092	O ring	6
		8	60112219	Labyrinth	6
		9	60112220	Bearing housing	6

N. of the dwg	Rev	Pos	Code	Description	Qty
60304580	A	2	10830074	Bearing	2
Driven roller		5	10860036	Double lip seal	2
		6	11431037	V ring	2
		7	11434092	O ring	2
		10	60112219	Labyrinth	2
		11	60112220	Bearing housing	2
60304578	A	2	10830072	Bearing	2
Tensioning roller		5	11431043	V ring	2
		6	11434084	O ring	2
		8	60109548	Labyrinth	2
		9	60113437	Bearing housing	2
60305410	A	2	10830071	Bearing	4
Wedge zone roller		5	11431030	V ring	4
		6	11434083	O ring	4
		8	60109546	Labyrinth	4
		9	10860027	Bearing housing	4
60403526	B	6	19900047	Plastic bar	14
Gravity zone grid					
60304165	C	1	60119843	Sludge leveler	1
Gravity zone sludge leveler					
60403525	E	7	19900047	Plastic bar	22
Wedge zone grid					
60305452	C	10	60116139	Transversal seal	1
Gravity zone lateral skirt		11	60113420	Longitudinal seal	2
60305705	A	–	–	the seal code 60113420 is the above item 11	–
Gravity zone discharge skirt					
60305453	B	7	60115925	Transversal seal	1
Wedge zone skirts		10	19900060	Plastic sealing	2
		16	60116136	Seal	2
60305456	B	–	–	only for reference	–
60305461	B	–	–		
Cantilever devices					
60306236	A	9	60116252	Doctor blade	2
Drive rollers scrapers					

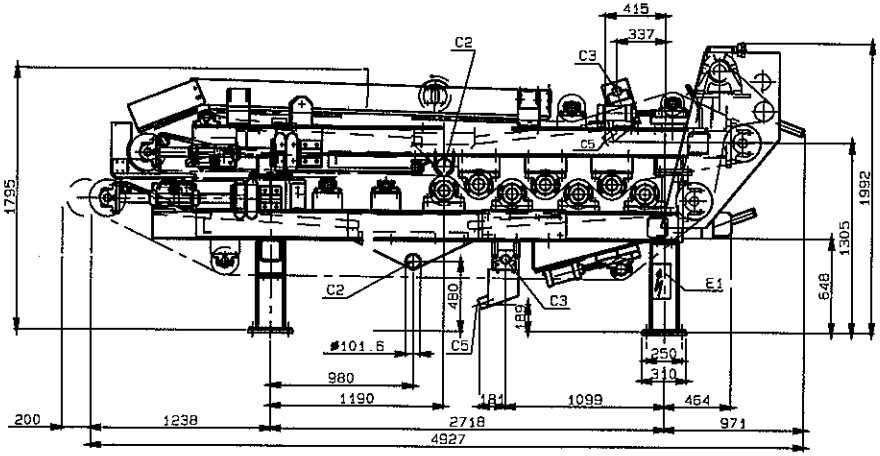
N. of the dwg	Rev	Pos	Code	Description		Qty
60304532 Doctor blade regulation device	B	1	10200037	Rubber spring		2
60305706 Doctor blade of the tensioning roller	A	8	60116256	Doctor blade		1
60403523 Belt track.device	C	–	–	only for reference		–
60306364 Pneum.distributor	C	4 5	60404299 60209869	Pneumatic distributor Sensor paddle		2 2
60304557 Pneumatic cylinder of the belt tracking device	B	1 8	12600249 60115413	Cylinder Plastic side		1 2
60403522 Belt tensioning device assembly	B	–	–	only for reference see dwg 60304488		–
60304488 Rack and pinion	D	2 19 21	12600058 60119160 60119162	Air bellow Bushing Bushing		4 4 8
60403531 Belt washing boxes assembly	B	–	–	only for reference see dwgs. item 9 and 10		–
60304558 Belt washing box	A	8	60115612	Sealing		8
60304608 Spray pipe	A	8 12 13	60207033 60107990 60107999	Brush Nozzle Nozzle seal		2 42 42
60304478 Spray pipe header	B	1	11434057	O ring		2
60305454 Assembly of the pneumatic circuit	C	7 20	14050016 14050018	Rilsan tube 6 x 4 Rilsan tube 10 x 8	mt mt	10 16
60304586 Pneumatic control cabinet	B	1	12600105	Quick discharge valve		1

N. of the dwg	Rev	Pos	Code	Description	Qty
60305468 Pneumatic components assembly	B	–	–	only for reference see dwgs. item 8 and 9	–
60305469 Feeding group	B	2	12600163	Pressure gange	1
		4	12600180	Filter	1
		5	12600181	Pressure switch	1
		6	12600186	Elect. connector	1
60305470 Distributor group	B	1	12600146	Pressure reducer	1
		2	12600147	Lubricator	1
		3	12600154	Kit DIM/REG	1
		4	12600163	Pressure gange	1
60306785 Emergency limit switches assembly	B	9	52911012	Limit switch	2
60305455 Belt emergency limit switches assembly	B	4	52931025	Limit switch	2

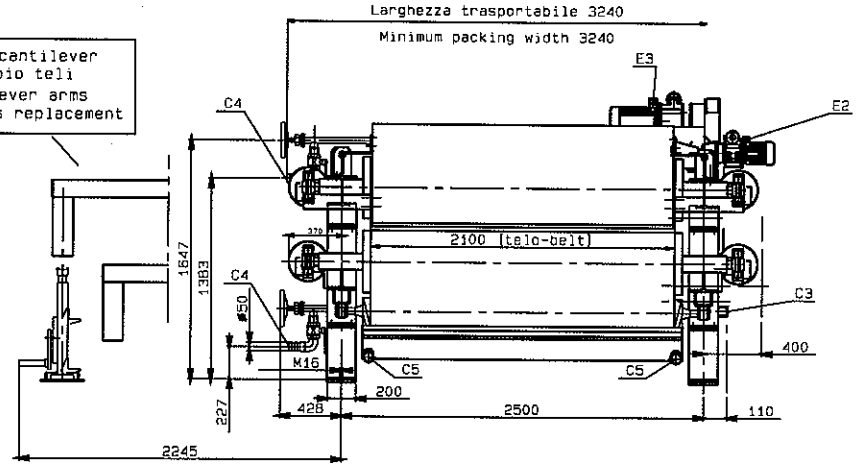
Nota: Tutte le tubazioni devono essere supportate
Nessun carico deve gravare sulle tubazioni
della macchina.
Note: All piping must be supported. No loads
allowed on the flanges or pipes of the machine.

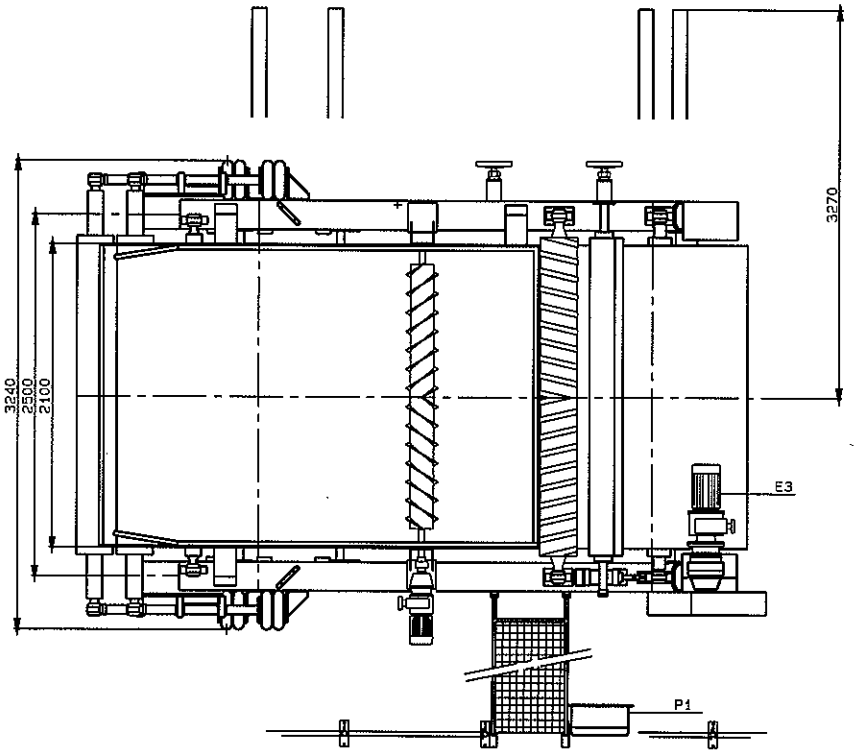
Dimensioni in millimetri
All dimensions are millimeter.

REV.	DESCRIZIONE / DESCRIPTION	DATE	DWG.	CHECK.	APP.
A	Emissione disegno / First issue	05-01-96	PORRI		



Bracci cantilever
per cambio teli
Cantilever arms
for belts replacement





Peso macchina: A vuoto Kg.10500 - In funzione: Kg.11500
Machine weight: Dry Kg.10500 - Operating: Kg.11500
Dimensioni teli: Superiore 2100x9450 - Inferiore 2100x9450
Belts dimensions: Upper 2100x9450 - Lower 2100x9450
Velocita' teli / Belts speed: 2 - 10 m/min.
Giri coclea / Distribution screw speed: 10 -52 rpm.

Pressione acqua-aria / Water-air supply pressure: 6 Bar
Consumo aria / Air consumption: Nm^3/h. 7
Consumo acqua / Wash water consumption: m^3/h. 15

CE

DESCRIZIONE/DESCRIPTION	CONNESSIONI/CONNESSION	Q/Qty	POS/ITEM
M.E. coclea 0.75Kw. 380V. 50Hz. 3 fasi Distrib.screw el.motor 0.75Kw.380V.50Hz.3ph	Pressac.PG13.5/Cable gland PG13.5	1	E2
M.E.teli 4Kw. 380V. 50Hz. 3 fasi Belts drive elect.motor 4Kw.380V.50Hz.3ph	Pressac.PG16 / Cable gland PG16	1	E3
Ausiliari I.E / Auxil.contacts 24-220V.50Hz	Pressac.ø3/4" / Cable gland 3/4"M.BSP	1	E1
Ingresso aria/Air inlet supply	ø1/4"M-3/8"F / D1/4"M.adapt.3/8"F.BSP	1	P1
Scar.acqua tubo lav./Wash water pipe outlet	Portag. ø50/Pipe 50 O.D. with hose	2	C4
Scar.acqua lav./Belts wash water outlet	Tubo ø70 /Pipe 70 O.D.	4	C5
Ingr. acqua lav./Belts wash water inlet	ø2" gas M. / Dia.2" M. BSP	2	C3
Scarico filtrato/Filtrate discharge	Tubo ø101.6 / Pipe 101.6 O.D.	2	C2

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Posiz.arc File: VA3

DENOMINAZIONE/TITLE: Assieme vers.destra / Rigth hand assembly

DWG. DIS.N. 60404560 — Rev. A

MACCHINA TIPO/MACHINE TYPE	SCALA/SCALE	DATA/DATE	DISEGNATO/DRAW
BPF 2000 I -BERGMANN-	1: //	05-01-96	PORRI

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.
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CONTROLLATO/CHECK. | APPROVATO/APPROVED

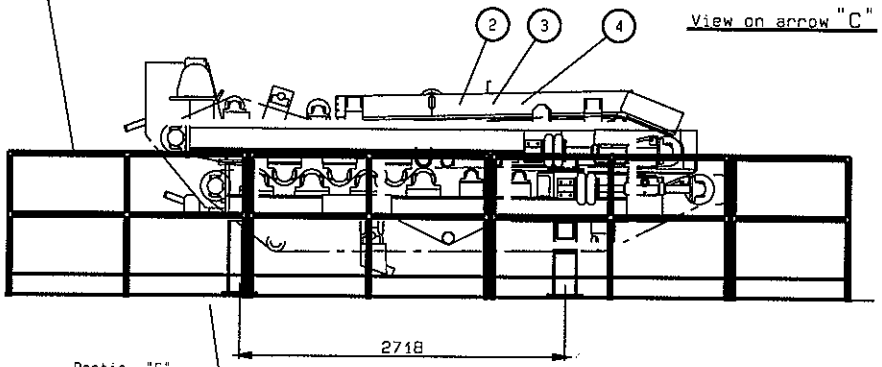
REV.	DESCRIZIONE / DESCRIPTION	DATE	DWG.	CHECK.	APP.
A	Emissione disegno / First issue	24.5.95	Antoniazzi		

Ringhiere antinfortunistiche .Materiale: acciaio zinc.a caldo

Safety handrail. Material: Carbon steel hot dip galvanized.

Vista da "C"

View on arrow "C"

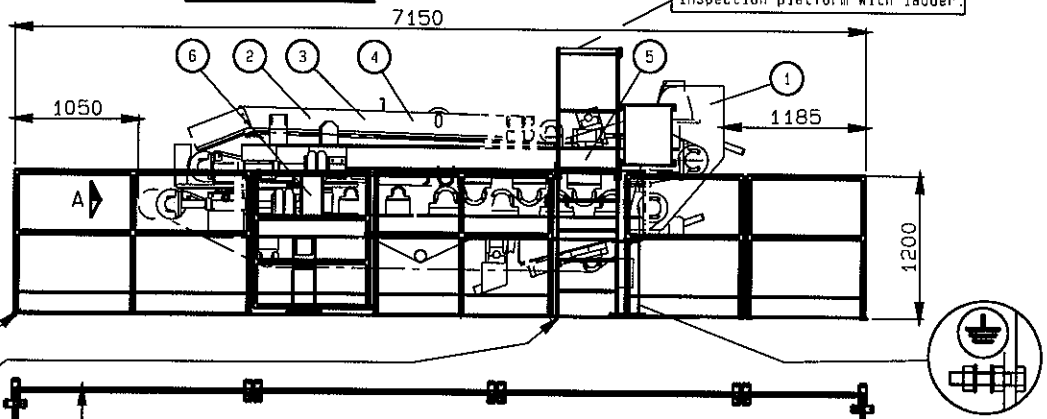


Partic. "E"

See detail "E"

Vista da "B"

View on arrow "B"



Piano ispezione con scala.

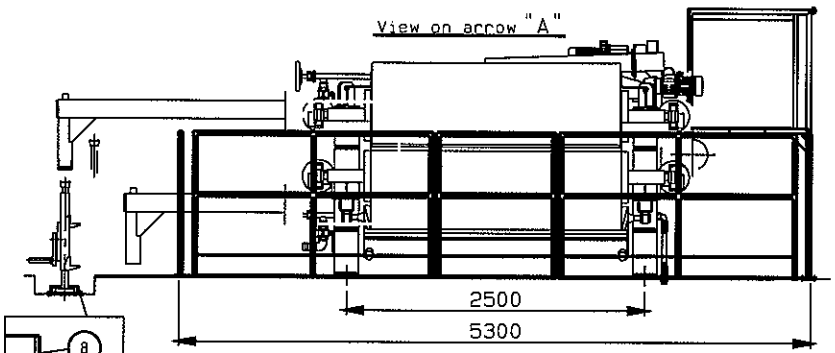
Inspection platform with ladder.

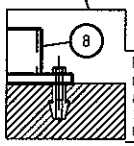
Fissare al pavimento con 2 tasselli M12 cad. piede.

To be fix on the floor by 2 anchor bolts each one.

Vista da "A"

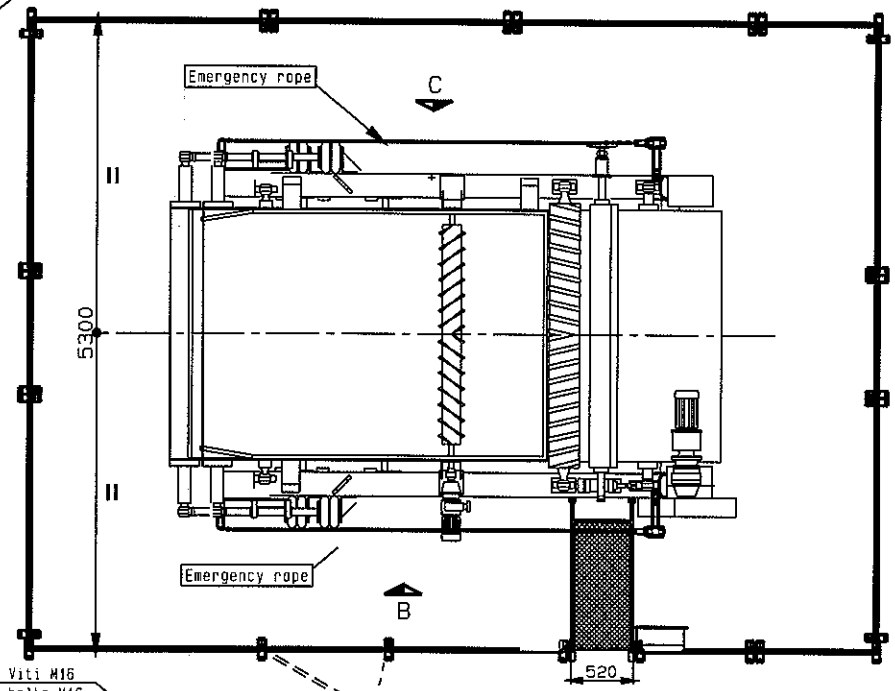
View on arrow "A"

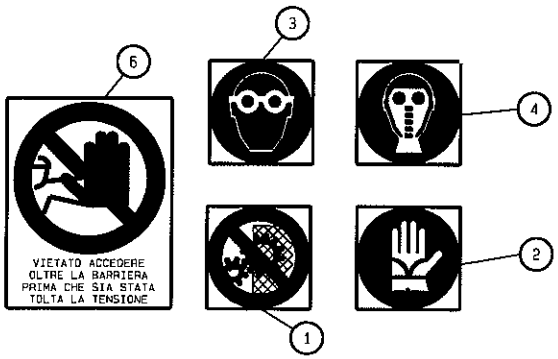


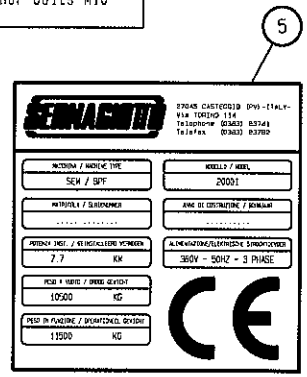


Piastra incastro piede binda (fornita). Fissare al pavimento con 2 tasselli M10 ciascuna. Totale n°4 piastre.

Anchor plate to keep the foot of the lifting jack (included in the supply). To be fix on the floor by 2 anchor bolts M10 each plate. Total plates: 4 pcs.





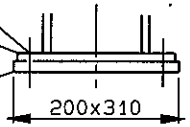


N.2 Viti M16

N.2 bolts M16

Piastra piede

Foot plate



Part."E" / DETAIL "E"

Piastra fissaggio piede (fornita). Saldare alla piastra da inghisare (non fornita)

Counter foot plate (supplied) to be welded all around on the relevant anchor foundation plate (not supplied).

8	Piastra incastro piede binda				N	4	60210182
7	Vite	A2	TE	M 8x30 UNI5739	N	2	14691068
6	Vite	A2	TE	M 6x16 UNI5739	N	4	14691077
5	Rosetta	A2	piana	M 8x17 UNI6592	N	2	14653037
4	Rosetta	A2	piana	M10x21 UNI6592	N	2	14653028
3	Rosetta	A2	pia.#	6.5x18 sp=1.5 F.L.	N	4	14653008
2	Dado	A2	E	M 8 UNI5588	N	2	14641035
1	Dado	A2	E	M10 UNI5588	N	2	14641021

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POSIZ.ARC. File VA3

DENOMINAZIONE/TITLE: Dispositivi sicurezza macchina / Safety

DWG. DIS. N. 60404569 A

MACCHINA TIPO/MACHINE TYPE: SEM/BPF 2000 I

SCALA/SCALE: 1: //

DATA/DATE: 24.5.95

DISEGNATO/DRAWN: Antoniazzi

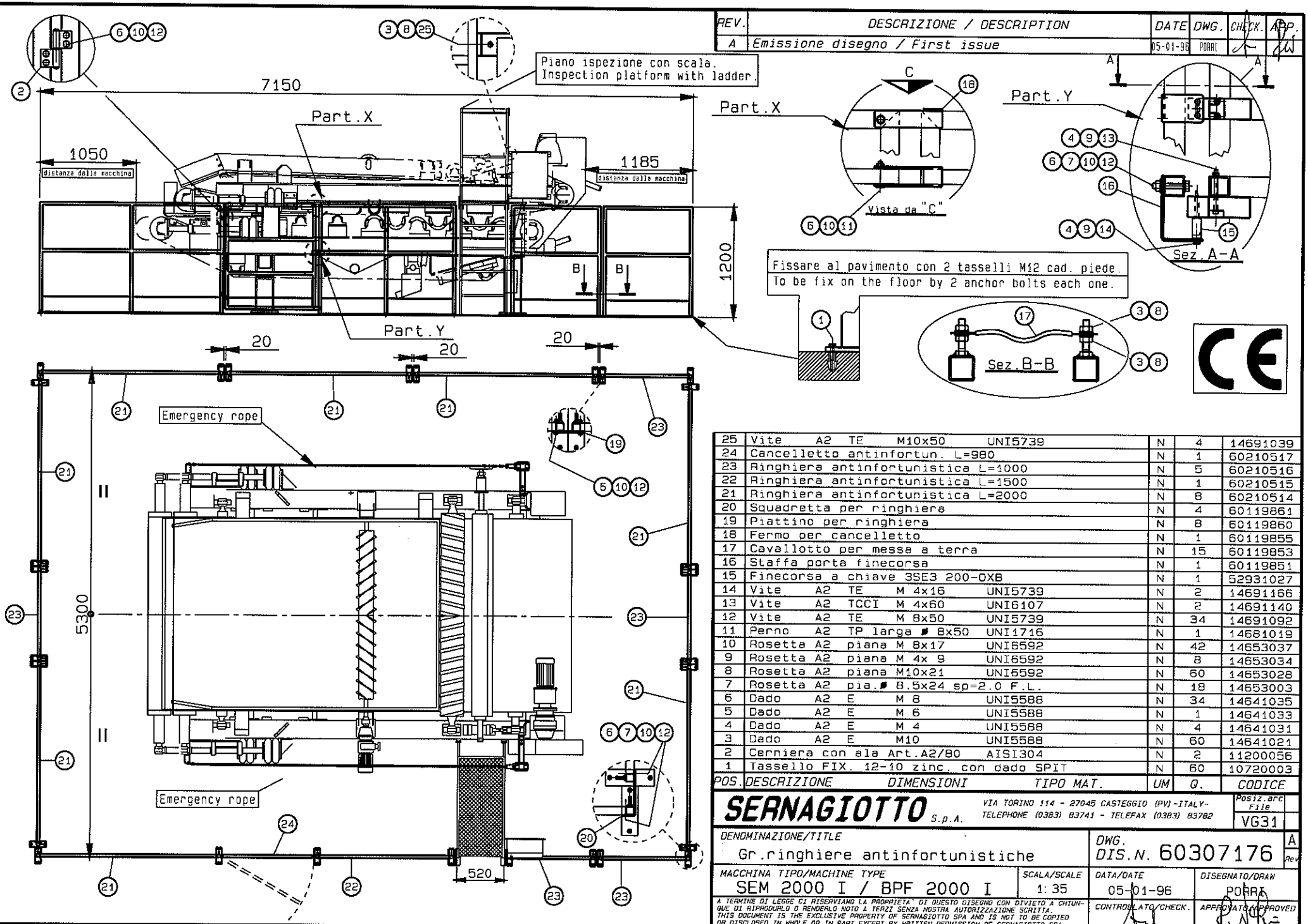
CONTROLLATO/CHECK.

APPROVATO/APPROVED

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file: ass/60404569-b

REV.	DESCRIZIONE / DESCRIPTION	DATE	DWG.	CHECK.	APP.
A	Emissione disegno / First issue	05-01-96	PORRI		



POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
25	Vite	A2 TE	M10x50 UNI5739	N	4	14691039
24	Cancelletto antinfortun.	L=980		N	1	60210517
23	Ringhiera antinfortunistica	L=1000		N	5	60210516
22	Ringhiera antinfortunistica	L=1500		N	1	60210515
21	Ringhiera antinfortunistica	L=2000		N	8	60210514
20	Squadretta per ringhiera			N	4	60119861
19	Piattino per ringhiera			N	8	60119860
18	Fermo per cancelletto			N	1	60119855
17	Cavallotto per messa a terra			N	15	60119853
16	Staffa porta finecorsa			N	1	60119851
15	Finecorsa a chiave	3SE3 200-0XB		N	1	52931027
14	Vite	A2 TE	M 4x16 UNI5739	N	2	14691166
13	Vite	A2 TCCI	M 4x60 UNI6107	N	2	14691140
12	Vite	A2 TE	M 8x50 UNI5739	N	34	14691092
11	Perno	A2 TP larga	ø 8x50 UNI1716	N	1	14681019
10	Rosetta	A2 piana	M 8x17 UNI6592	N	42	14653037
9	Rosetta	A2 piana	M 4x 9 UNI6592	N	8	14653034
8	Rosetta	A2 piana	M10x21 UNI6592	N	60	14653028
7	Rosetta	A2 pia.	ø 8.5x24 sp=2.0 F.L.	N	18	14653003
6	Dado	A2 E	M 8 UNI5588	N	34	14641035
5	Dado	A2 E	M 6 UNI5588	N	1	14641033
4	Dado	A2 E	M 4 UNI5588	N	4	14641031
3	Dado	A2 E	M10 UNI5588	N	60	14641021
2	Cerniera con ala	Art.A2/80	AISI304	N	2	11200056
1	Tassello FIX. 12-10 zinc.	con dado SPIT		N	60	10720003

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Posiz.arc File: VG31

DENOMINAZIONE/TITLE: Gr.ringhiere antinfortunistiche

DWG. DIS.N. 60307176 A Rev.

MACCHINA TIPO/MACHINE TYPE: SEM 2000 I / BPF 2000 I

SCALA/SCALE: 1:35

DATA/DATE: 05-01-96

DISEGNATO/DRAW: PORRI

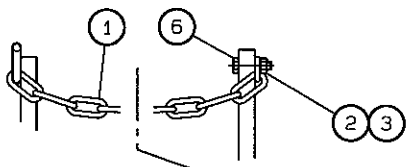
CONTROLLATO/CHECK.

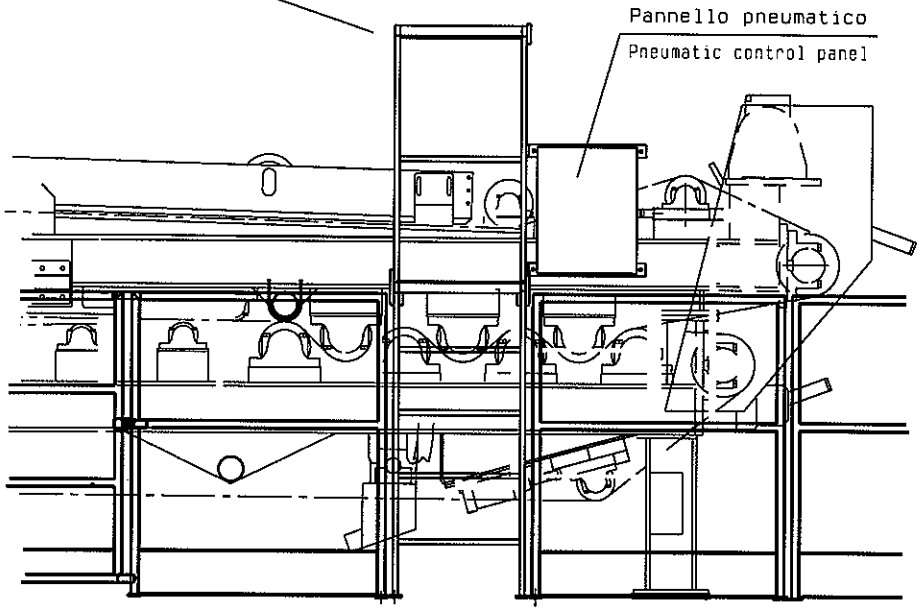
APPROVATO/APPROVED

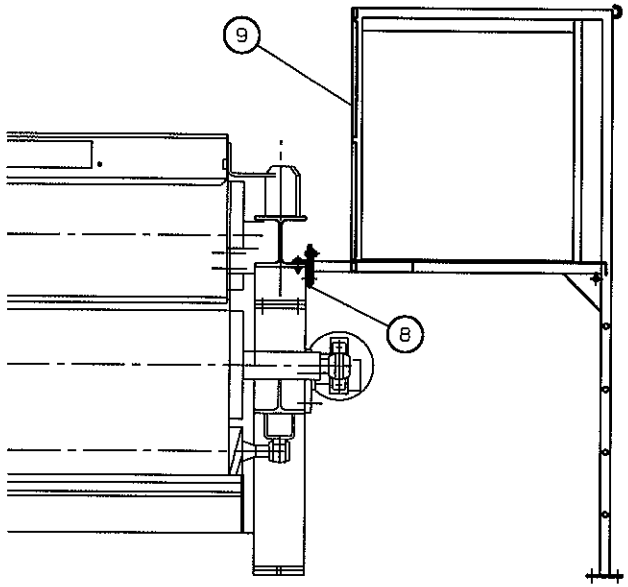
A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.
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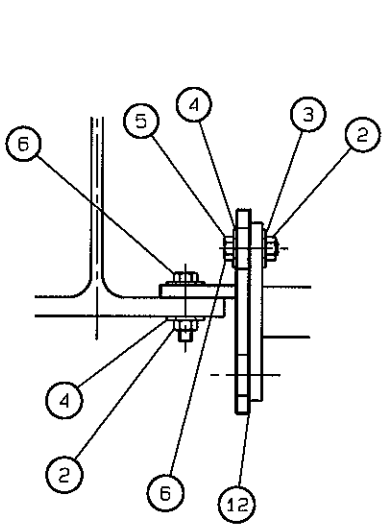
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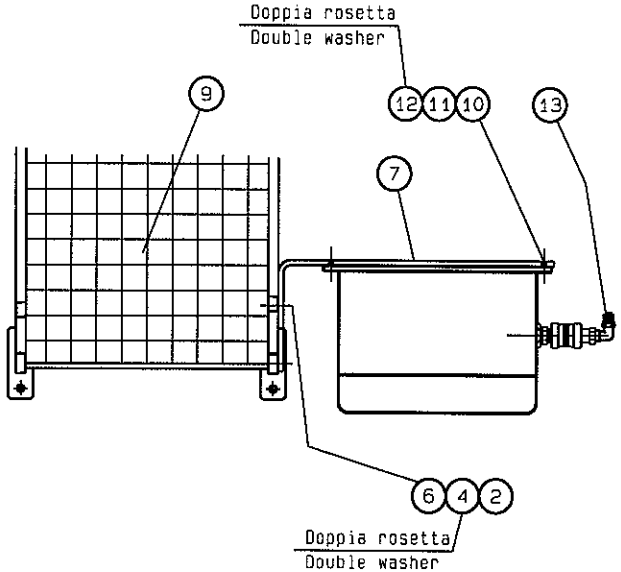
REV.	DESCRIZIONE / DESCRIPTION	DATE	DWG.	CHECK.	APP.
A	Emissione disegno / First issue	14.3.96	Antoniazzi		











POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
13	Raccordo L M. MC16 10 14			N	2	12850073
12	Rosetta A2 F.L. ø6.5x18x1.5			N	8	14653008
11	Dado A2 TE M6 UNI5588			N	4	14641033
10	Vite A2 TE M6x30 UNI 5739			N	4	14691080
9	Piano ispezione con scala			N	1	60210522
8	Staffa fissaggio scala			N	2	60209988
7	Staffa sostegno Q.P.			N	2	60119859
6	Vite A2 TE M10x50 UNI5739			N	7	14691039
5	Vite A2 TE M10x40 UNI5739			N	4	14691037
4	Rosetta A2 piana M10 UNI6592			N	16	14653028
3	Rosetta A2 F.L. ø10.5x30x2			N	6	14653004
2	Dado A2 TE M10 UNI5588			N	10	14641021
1	Catena ø6.4 x26.7 zincata			Mt	1	13810021

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Posiz.arc File: VG3

DENOMINAZIONE/TITLE: Mont. piano ispezione con scala

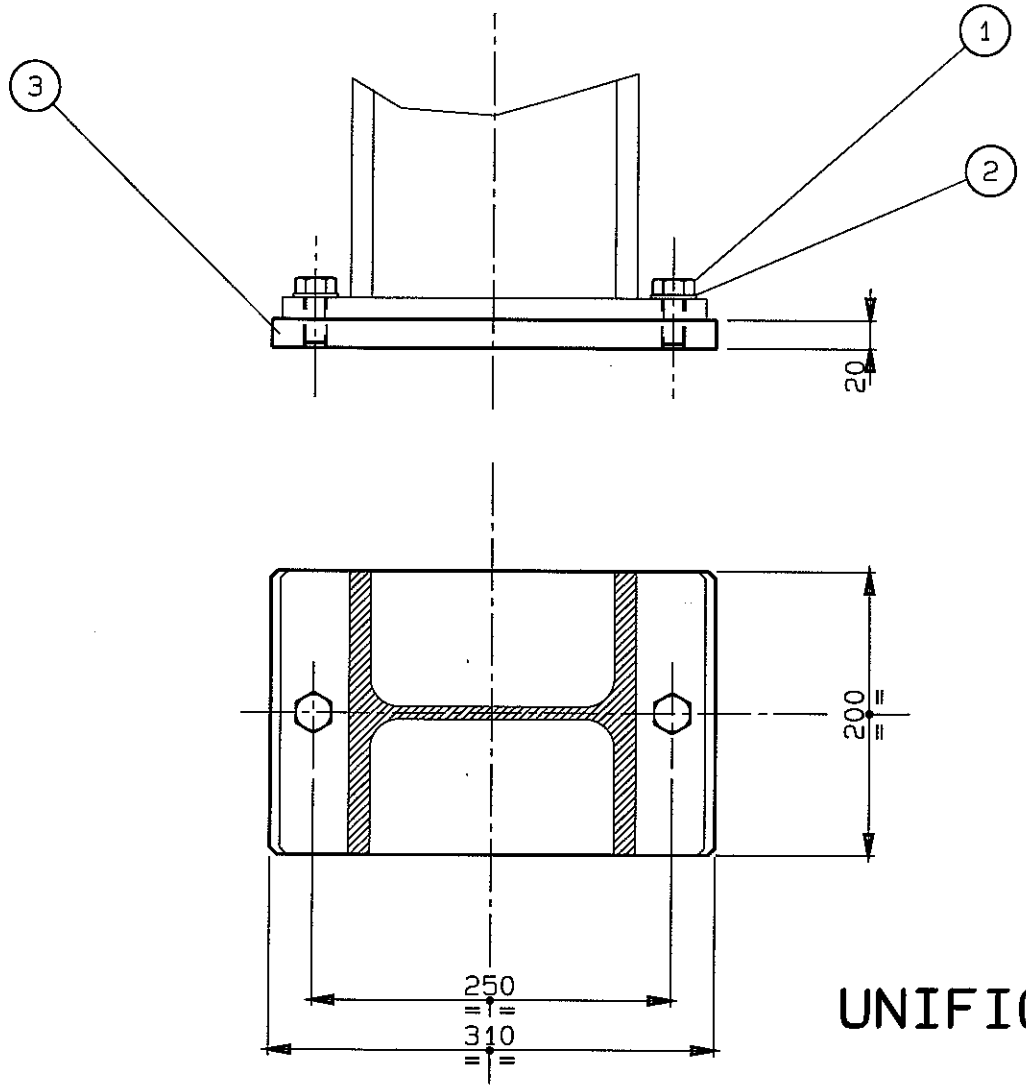
DWG. DIS.N. 60307272 — Rev A

MACCHINA TIPO/MACHINE TYPE	SCALA/SCALE	DATA/DATE	DISEGNATO/DRAW
BPF 2000 I	1:20	14.3.96	Antoniazzi

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.
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REV.	MODIFICHE	DATA	DIS.	APP.	C.Q.
A	Emissione disegno	22.8.90	A.P.		



UNIFICATO

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
3	Piastra di fondazione			N	4	60115701
2	Rosetta A2 piana M16 UNI 6592			N	8	14653038
1	Vite A2 TE M16 x 35 UNI 5739			N	8	14691111

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TELEX 320172 SERNA I - FAX (0383-83782)
TELEPHONE (0383) 83741

Posizione archivio: VG41

DENOMINAZIONE: Gr. piastre di fondazione

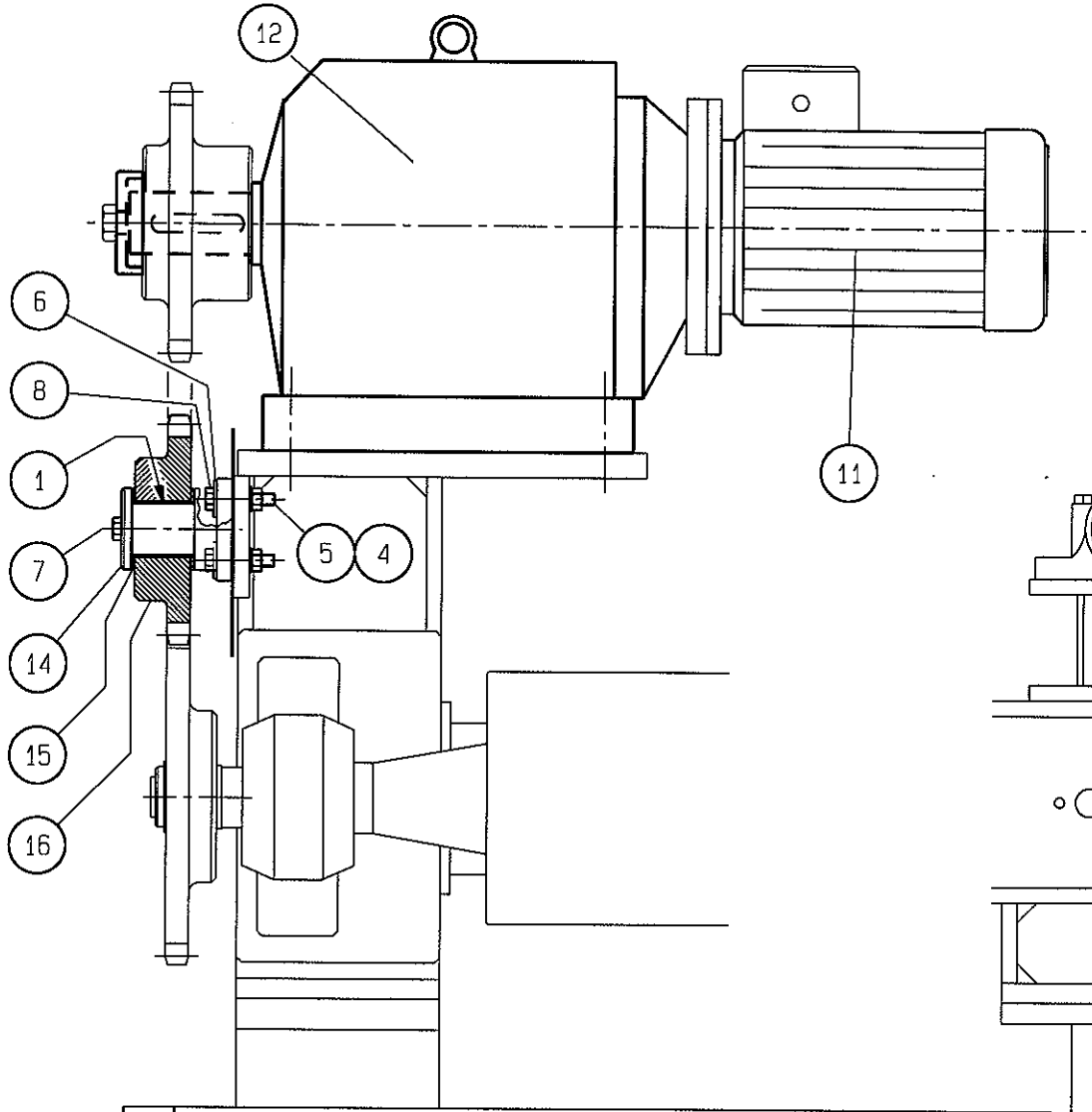
DIS.N. 60304591 — Rev A

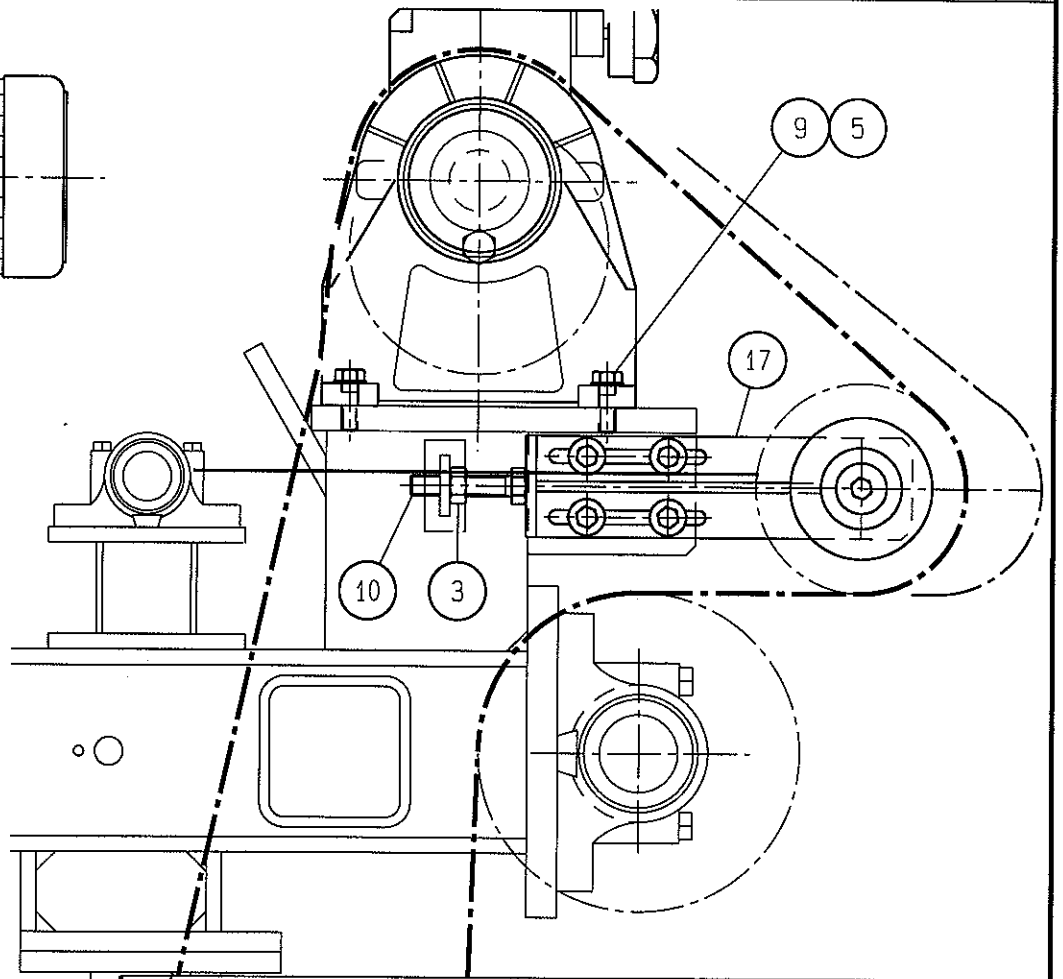
MACCHINA TIPO	SCALA	DATA	DISEGNATO	APP.	C.Q.
SEM 2000	1:5	22.8.90	ANTONIAZZI		

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA` DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	DESCRIZIONE / DESCRIPTION	DATE	DWG.	CHECK.	APP.
A	Emissione disegno / First issue	5.1.96	Antoniazzi		





POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
17	SLITTA PIGNONE TENDICATENA			N	1	60210261
16	INGRANAGGIO TENDICATENA			N	1	60118820
15	DISTANZIALE TENDICATENA			N	2	60110093
14	RONDELLA TENDICATENA			N	1	60110092
13						
12	RIDUTT. SEW R93 I=85.63			N	1	15820027
11	1ME P4 B5 KW 4 SEW			N	1	15820027
10	VITE A2 TE	M20x100	U5739	N	1	14691110
9	VITE A2 TE	M20x80	U5739	N	4	14691287
8	VITE A2 TE	M12x 60	U5737	N	4	14691046
7	VITE A2 TE	M12x 30	U5739	N	1	14691042
6	ROSETTA A2 FASCIA LARGA 13.0x36 SPESS.MINIMO 3.0			N	4	14653093
5	ROSETTA A2	PIA.M20x37	U6592	N	4	14653032
4	ROSETTA A2	PIA.M12x24.0	U6592	N	4	14653029
3	DADO A2 E	M20	U5588	N	1	14641029
2	DADO A2 E	M12	U5588	N	4	14641023
1	BOCCOLA AVVOLTA MB 50.60	DU AE		N	1	10880001

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TELEPHONE (0383) 83741 - TELEFAX (0383) 83782

Posiz.arc File: V63

DENOMINAZIONE/TITLE: MOTORIZZAZIONE E TENDICATENA

DWG. DIS.N. 60307174 A Rev

MACCHINA TIPO/MACHINE TYPE: SEM 2000-I-MOT.SEW

SCALA/SCALE: 1:5

DATA/DATE: 5.1.96

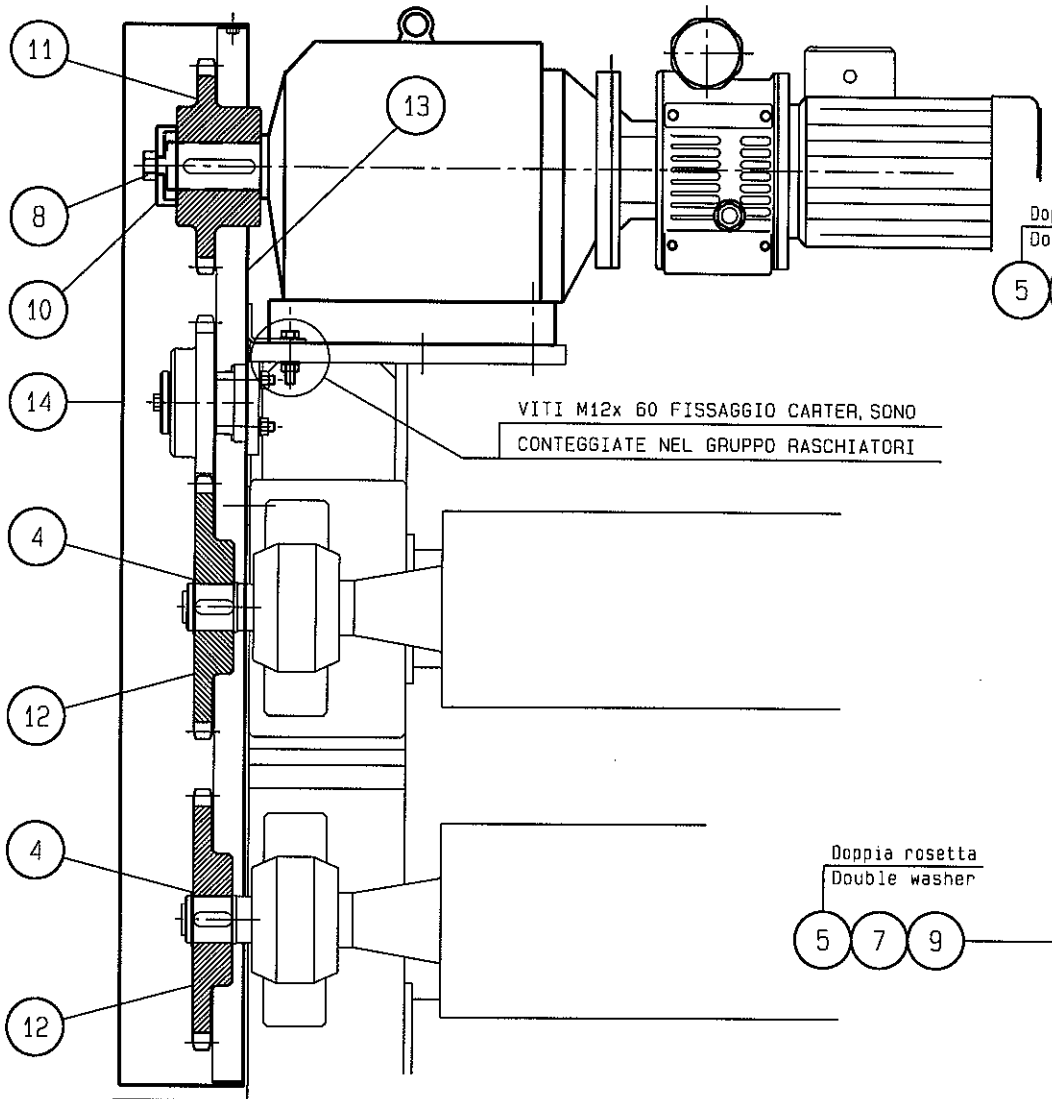
DISEGNATO/DRAW: Antoniazzi

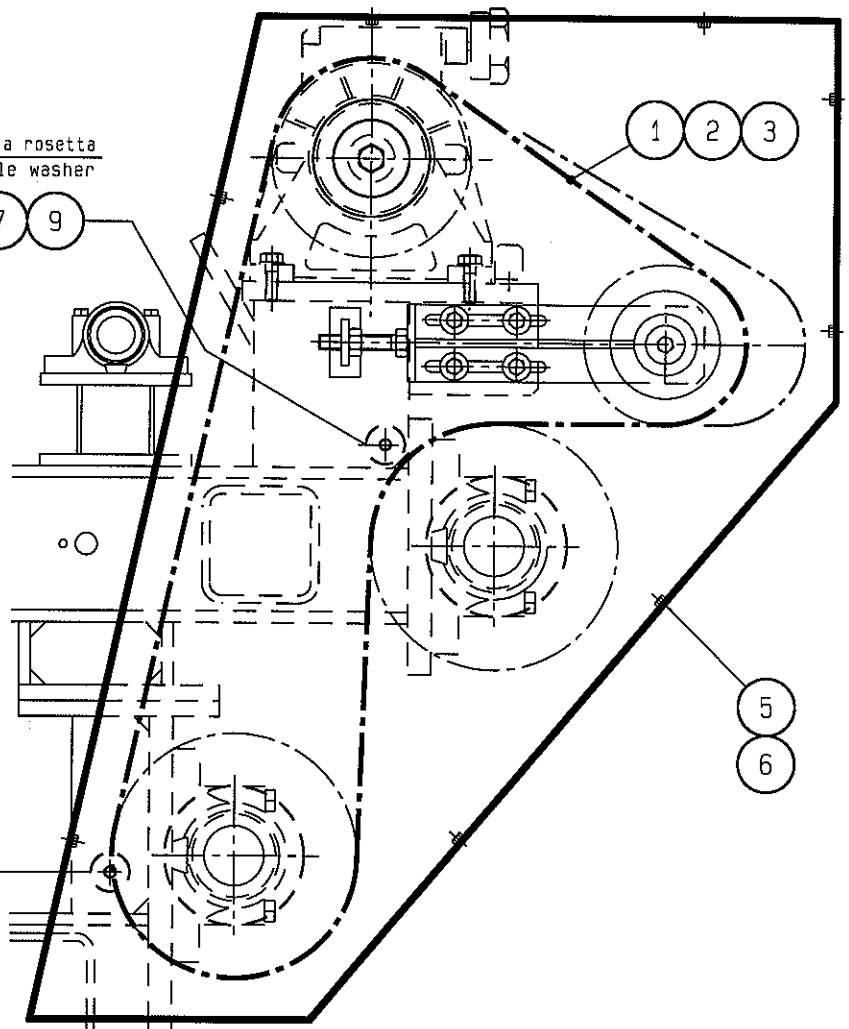
CONTROLLATO/CHECK.

APPROVATO/APPROV

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.
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REV.	DESCRIZIONE / DESCRIPTION	DATE	DWG.	CHECK.	APP.
A	Emissione disegno / First issue	2.11.95	Antoniazzi		





POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
14	CARTER COPRICATENA -DEX.-			N	1	60210490
13	PARETE INTERNA CARTER -DEX.-			N	1	60210489
12	INGRANAGGIO CONDOTTO			N	2	60119538
11	INGRANAGGIO MOTORE			N	1	60118821
10	RONDELLA PIGNONE MOTORE			N	1	60118557
9	DADO A2 E	M 8	U5588	N	2	14641035
8	VITE A2 TE	M20x 60	U5739	N	1	14691248
7	VITE A2 TE	M 8x 40	U5739	N	2	14691091
6	VITE A2 TE	M 8x 20	U5739	N	8	14691094
5	ROSETTA A2 P.D 8.5x24.0 SP2.0 F.L.			N	13	14653003
4	ANELLO D'ARRESTO ELASTICO C72 U3653 60E			N	2	10411061

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
3	CATENA RULLI SEMPLICI ACCIAIO	M 89 1.1/2 UNI7484		N	1	13810079
2	MAGLIA FALSA CATENA RULLI SEMPLICI	N59 1.1/2		N	1	13810004
1	GIUNZIONE CATENA RULLI SEMPLICI	N58 1.1/2		N	1	13810003

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VIA TORINO 114 - 27045 CASTEGGIO (PV) -ITALY-
TELEPHONE (0383) 83741 - TELEFAX (0383) 83782

Posiz.arc File: VG3

DENOMINAZIONE/TITLE: CARTER ED INGRANAGGI

DWG. DIS.N. 60307131 A Rev

MACCHINA TIPO/MACHINE TYPE: SEM 2000-I-MOT.SEW

SCALA/SCALE: 1:6.5

DATA/DATE: 2.11.95

DISEGNATO/DRAWN: Antoniazzi

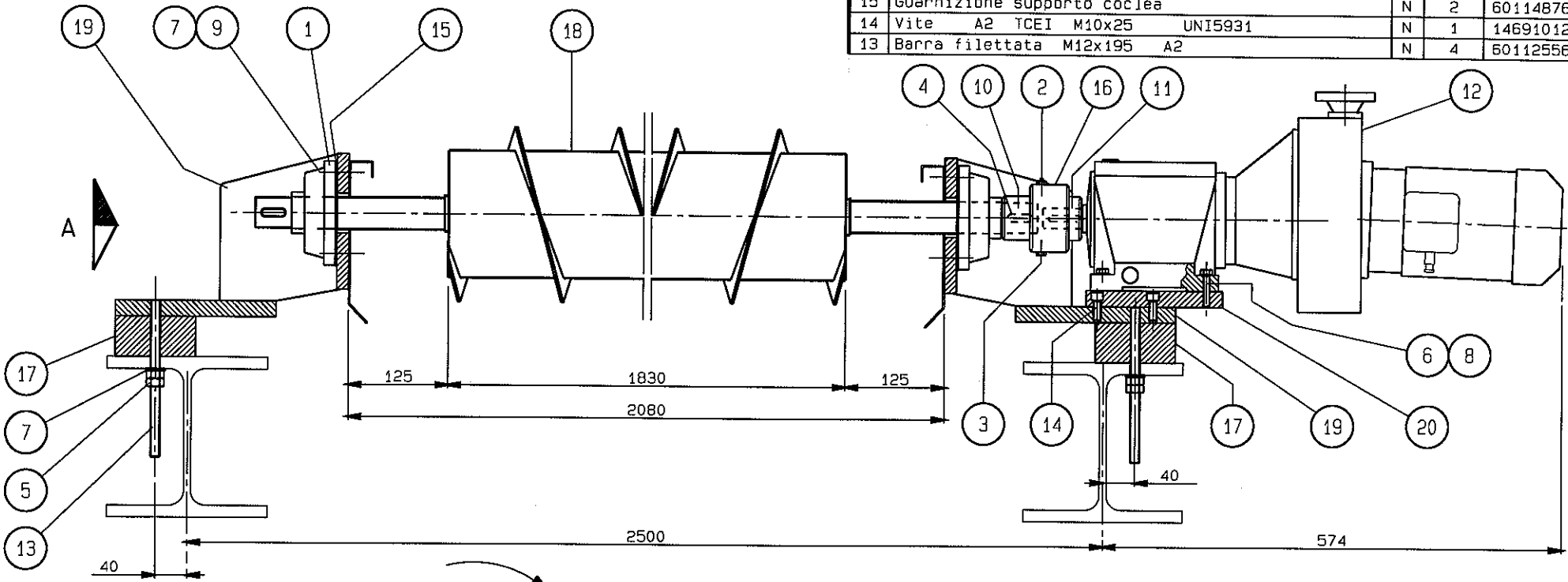
CONTROLLATO/CHECK.

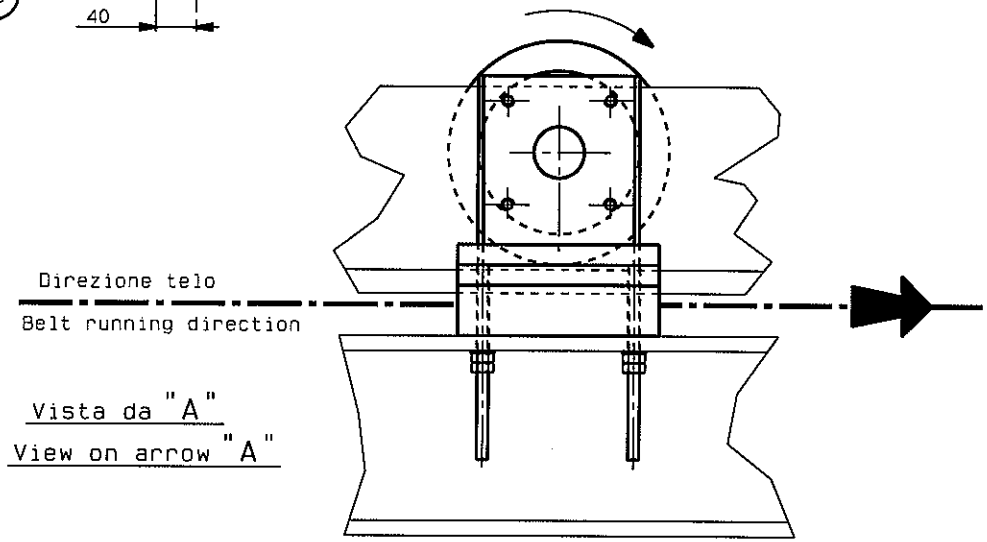
APPROVATO/APPROVED

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.
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REV.	DESCRIZIONE / DESCRIPTION	DATE	DWG	CHECK.	APP.
A	Emissione disegno	5- 1-95	ALBERTI		

/	Spessore per coclea (dotazione)	N	6	60114875
20	Spessore per Motovariatore	N	1	60119871
19	Supporto coclea	N	2	60206465
18	Coclea distribuzione prodotto	N	1	60207601
17	Spessore h=50 mm per coclea	N	2	60115968
16	Giunto GA.s 85 lavorato	N	1	60114877
15	Guarnizione supporto coclea	N	2	60114876
14	Vite A2 TCEI M10x25 UNI5931	N	1	14691012
13	Barra filettata M12x195 A2	N	4	60112556





12	Motvar. R 43 DT 80N 4 SEW	N	1	15840087
11	Vite A2 STEI M 6x10 UNI5923	N	1	14691270
10	Vite A2 STEI M 8x10 UNI5923	N	1	14691131
9	Vite A2 TE M12x30 UNI5739	N	8	14691042
8	Vite A2 TE M 8x40 UNI5739	N	4	14691091
7	Rosetta A2 Piana M12x24 UNI6592	N	12	14653029
6	Rosetta A2 Piana M 8x17 UNI6592	N	4	14653037
5	Dado A2 E M12 UNI5588	N	4	14641023
4	Linguetta A4 A10x 8x30 UNI6604	N	1	14621015
3	Tappo M 290 D 1/8 Gh	N	1	12820020
2	Ingrassatore R=17 b ø1/8 Ferro zincato	N	1	11800006
1	Supporto SKF FY40TF ø40	N	2	10860008

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VIA TORINO 114 - 27045 CASTEGGIO (PV) -ITALY-
TELEPHONE (0383) 83741 - TELEFAX (0383) 83782

Posiz. arc. File: VA3

DENOMINAZIONE/TITLE: Coclea distribuzione fango FE

DWG. DIS.N. 60404567 — Rev. A

MACCHINA TIPO/MACHINE TYPE: SEM 2000

SCALA/SCALE: 1: 5

DATA/DATE: 5- 1-95

DISEGNATO/DRAN: ALBERTI

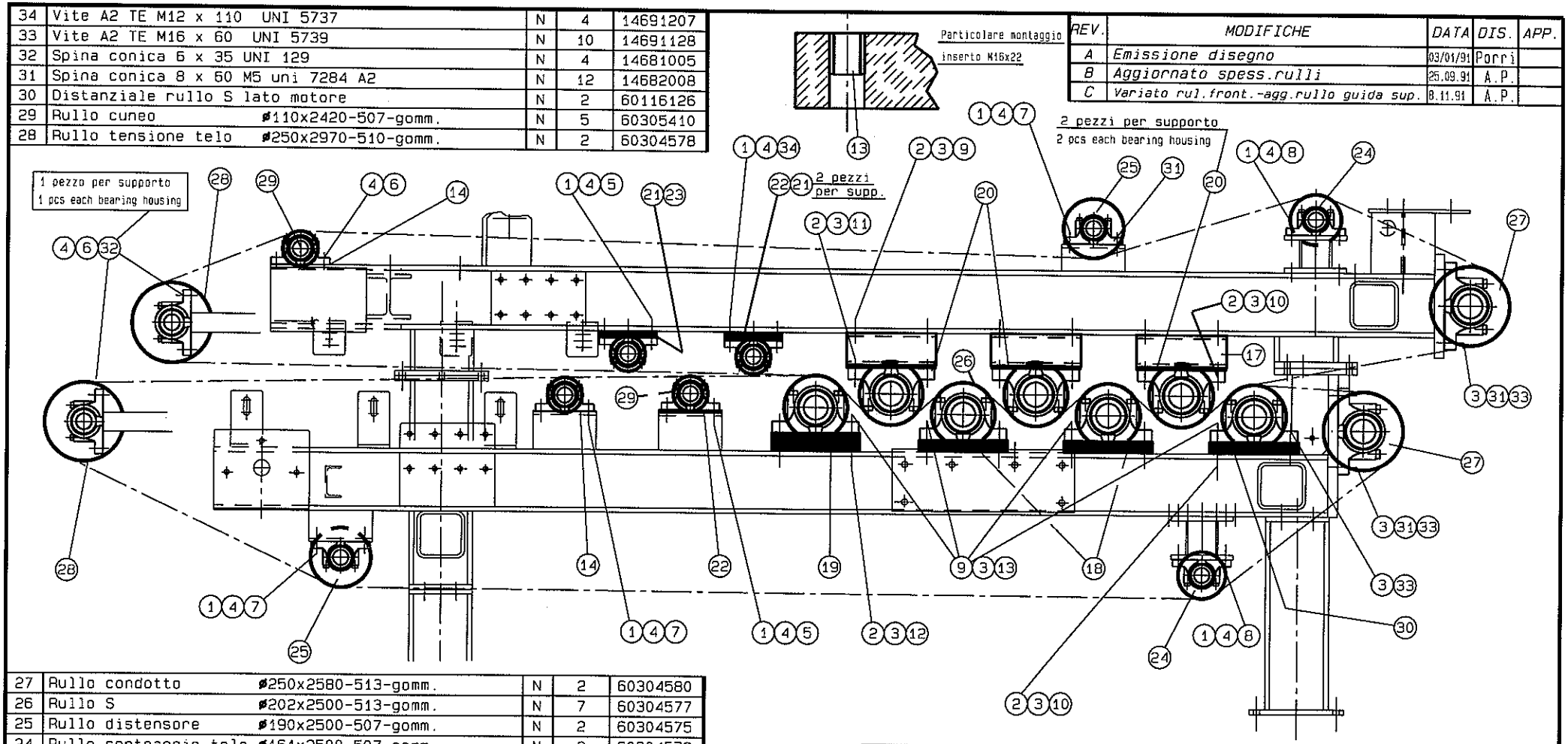
CONTROLLATO/CHECK.

APPROVATO/APPROVED

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.
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34	Vite A2 TE M12 x 110 UNI 5737	N	4	14691207
33	Vite A2 TE M16 x 60 UNI 5739	N	10	14691128
32	Spina conica 6 x 35 UNI 129	N	4	14681005
31	Spina conica 8 x 60 M5 uni 7284 A2	N	12	14682008
30	Distanziale rullo S lato motore	N	2	60116126
29	Rullo cuneo ø110x2420-507-gomm.	N	5	60305410
28	Rullo tensione telo ø250x2970-510-gomm.	N	2	60304578

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	03/01/91	Porri	
B	Aggiornato spess.rulli	25.09.91	A.P.	
C	Variato rul.front.-agg.rullo guida sup.	8.11.91	A.P.	



27	Rullo condotto ø250x2580-513-gomm.	N	2	60304580
26	Rullo S ø202x2500-513-gomm.	N	7	60304577
25	Rullo distensore ø190x2500-507-gomm.	N	2	60304575
24	Rullo centraggio telo ø161x2500-507-gomm.	N	2	60304573
23	Distanziale PP grigio sp=22x70	N	2	60115981
22	Distanziale PP grigio sp=27x70	N	4	60115980
21	Distanziale PP grigio sp=10x70	N	6	60115979
20	Distanziale PP grigio sp=10x90	N	8	60115978
19	Distanziale PP grigio sp=60x160	N	2	60115977
18	Distanziale PP grigio sp=40x160	N	4	60115976
17	Supporto rullo S h=100	N	6	60115975
16	Spessore 0.7 - SNH513 (solo per livellamento)	N	4	60112520
15	Spessore 0.7 - SNH510 (solo per livellamento)	N	2	60112227
14	Spessore 0.7 - SNH507 (solo per livellamento)	N	6	60112226
13	Inserto M16x22 30216080	N	16	19990025
12	Vite A2 TE M16x100 UNI5737	N	8	14691227
11	Vite A2 TE M16x70 UNI5739	N	8	14691273
10	Vite A2 TE M16x80 UNI5737	N	26	14691062
9	Vite A2 TE M16x50 UNI5739	N	40	14691059
8	Vite A2 TE M12x60 UNI5737	N	8	14691046
7	Vite A2 TE M12x50 UNI5739	N	12	14691045

6	Vite	A2	TE	M12x45	UNI5739	N	12	14691117
5	Vite	A2	TE	M12x80	UNI5739	N	8	14691246
4	Rosetta	A2	Piana	M12x24	UNI6592 (doppia)	N	72	14653029
3	Rosetta	A2	Piana	M16x30	UNI6592 (doppia)	N	128	14653038
2	Dado	A2	E	M16	UNI5588	N	68	14641027
1	Dado	A2	E	M12	UNI5588	N	32	14641023
POS.	DESCRIZIONE			DIMENSIONI	TIPO MAT.	UM	Q.	CODICE

SERNAGIOTTO S.p.A.
VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
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Posizione archivio: VA31

DENOMINAZIONE: RULLI

DIS.N. 60403524

MACCHINA TIPO: SEM 2000 INERTI

SCALA: 1:12

DATA: 03/01/91

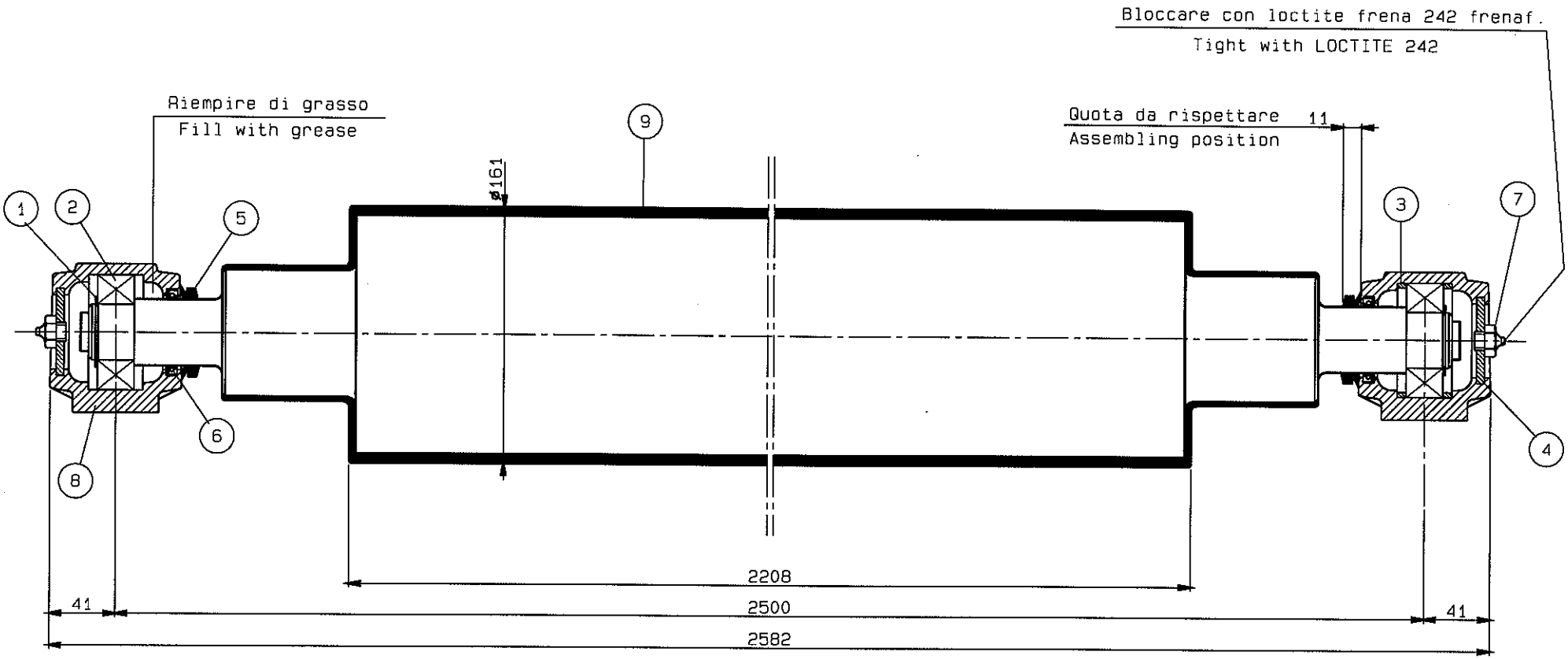
DISEGNATO: PORRI

APPROVATO:

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	25/02/90	Porri	



9	Rullo centraggio ø161x2500	N	1	60304560
8	Lavorazione supporto	N	2	60112260
7	Ingrassatore R.17B ø1/8 Fe zinc.	N	2	11800006
6	Anello tenuta albero rot. 45-60-7	N	2	11431010
5	Anello tenuta albero rot.V-RING V-45S	N	2	11431031
4	Fondello per supporto	N	2	60109547
3	Anello di arresto FRB 5.5/72 P	N	2	10860021
2	Cuscinetto 222 07 CC	N	2	10830071
1	Anello di arresto elast.C72 UNI3653 35E	N	2	10411083

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE

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Posizione archivio: VG31

DENOMINAZIONE: Rullo centraggio teli ø161x2500-507-gomm.

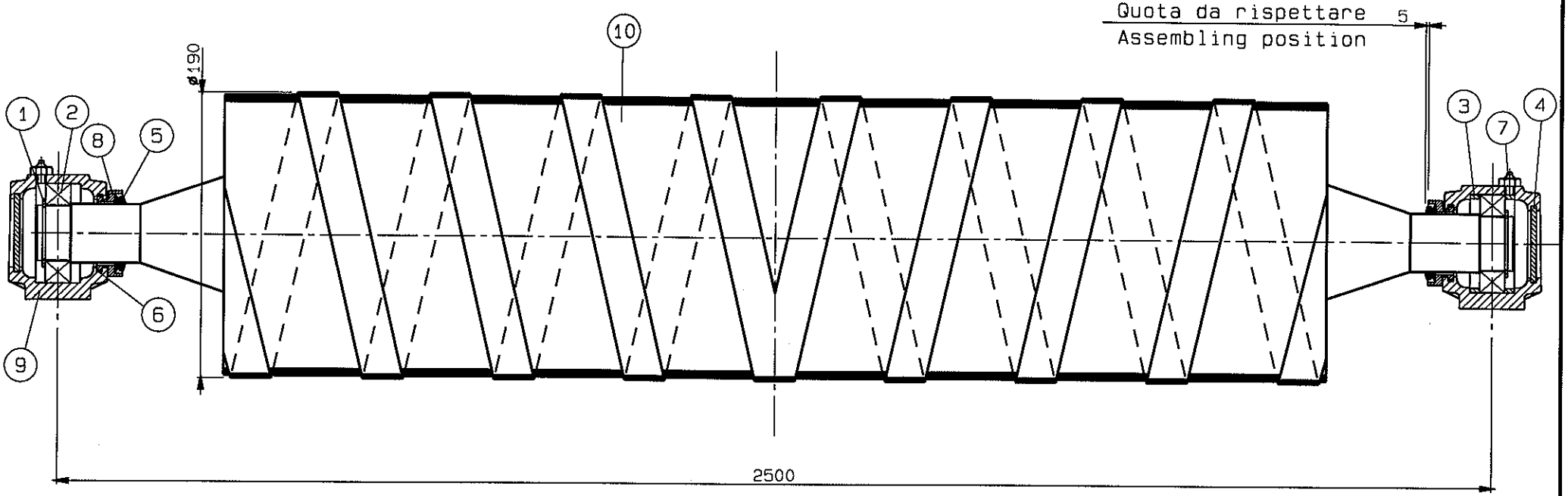
DIS.N. 60304573 — Rev. A

MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000		25/02/90	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	26/01/90	Porri	



10	Rullo distensore spiralato	N	1	60304562
9	Supporto con foro ingrassatore	N	2	60113400
8	Labirinto per supporto	N	2	60109546
7	Ingrassatore D1/4 nc tipo 1095 K31	N	2	11800013
6	Guarnizione OR 3193	N	2	11434083
5	Anello tenuta albero rot.V-RING V-40S	N	2	11431030
4	Coperchio ASNH 507/606	N	1	10860022
3	Anello di arresto FRB 5.5/72 P	N	2	10860021
2	Cuscinetto 222 07 CC	N	2	10830071
1	Anello di arresto elast.C72 UNI3653 35E	N	2	10411083

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE

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VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
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Posizione archivio: VG31

DENOMINAZIONE: Rullo distensore spir.ø190x2500-507-gomm.

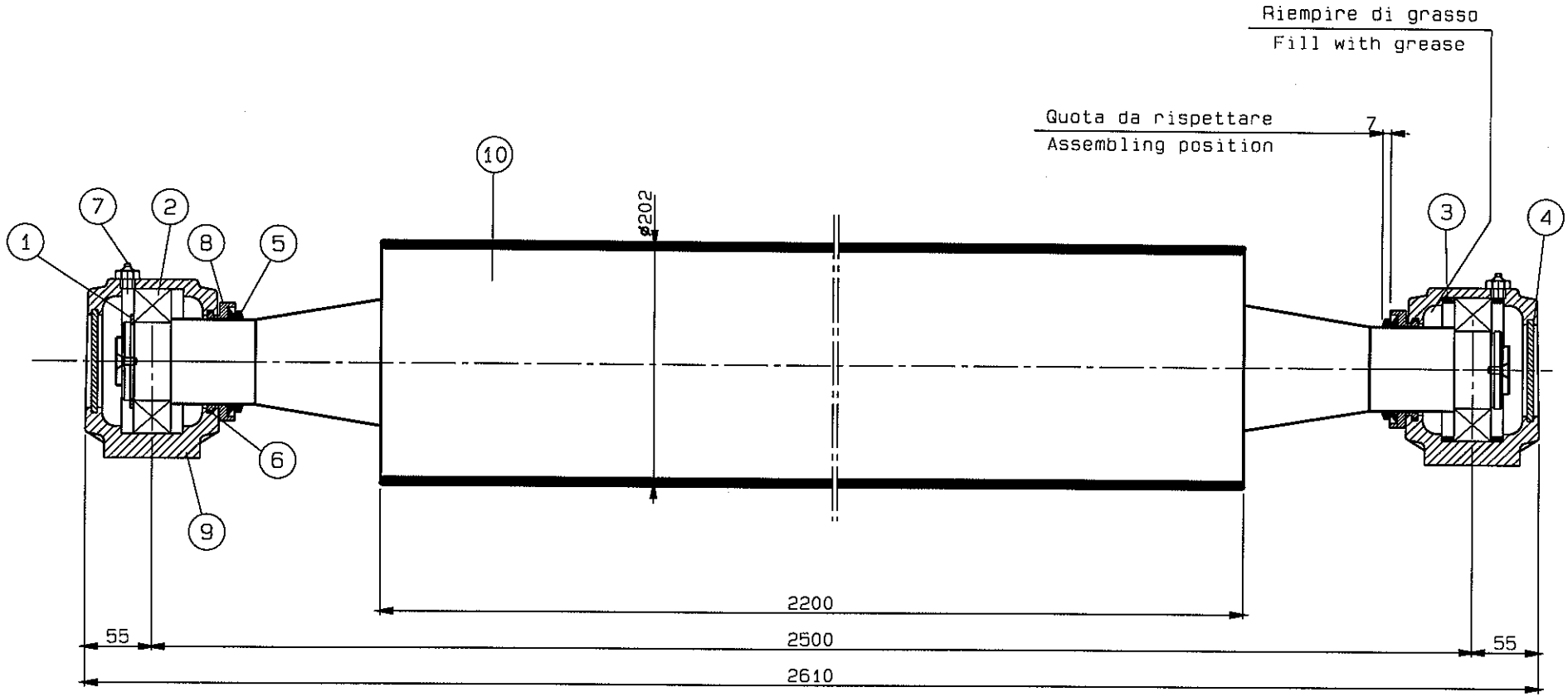
DIS.N. 60304575 — Rev. A

MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000		26/01/90	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	21/01/90	Porri	



POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
10	Rullo S	ø202x2500-perno 65		N	1	60304564
9	Supporto con foro ingrassatore			N	2	60112220
8	Labirinto per supporto			N	2	60112219
7	Ingrassatore D1/4 nc tipo 1095 K31			N	2	11800013
6	Guarnizione OR 3300			N	2	11434092
5	Anello tenuta albero rot.V-RING V-70S			N	2	11431037
4	Coperchio ASNH 513/611			N	2	10860034
3	Anello di arresto FRB 10/120 P			N	2	10860032
2	Cuscinetto 222 13 CC			N	2	10830074
1	Anello di arresto elast.C72 UNI3653 65E			N	2	10411073

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VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
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Posizione archivio: VG31

DENOMINAZIONE: Rullo S ø202x2500-513-Gomm.

DIS.N. 60304577 — Rev. A

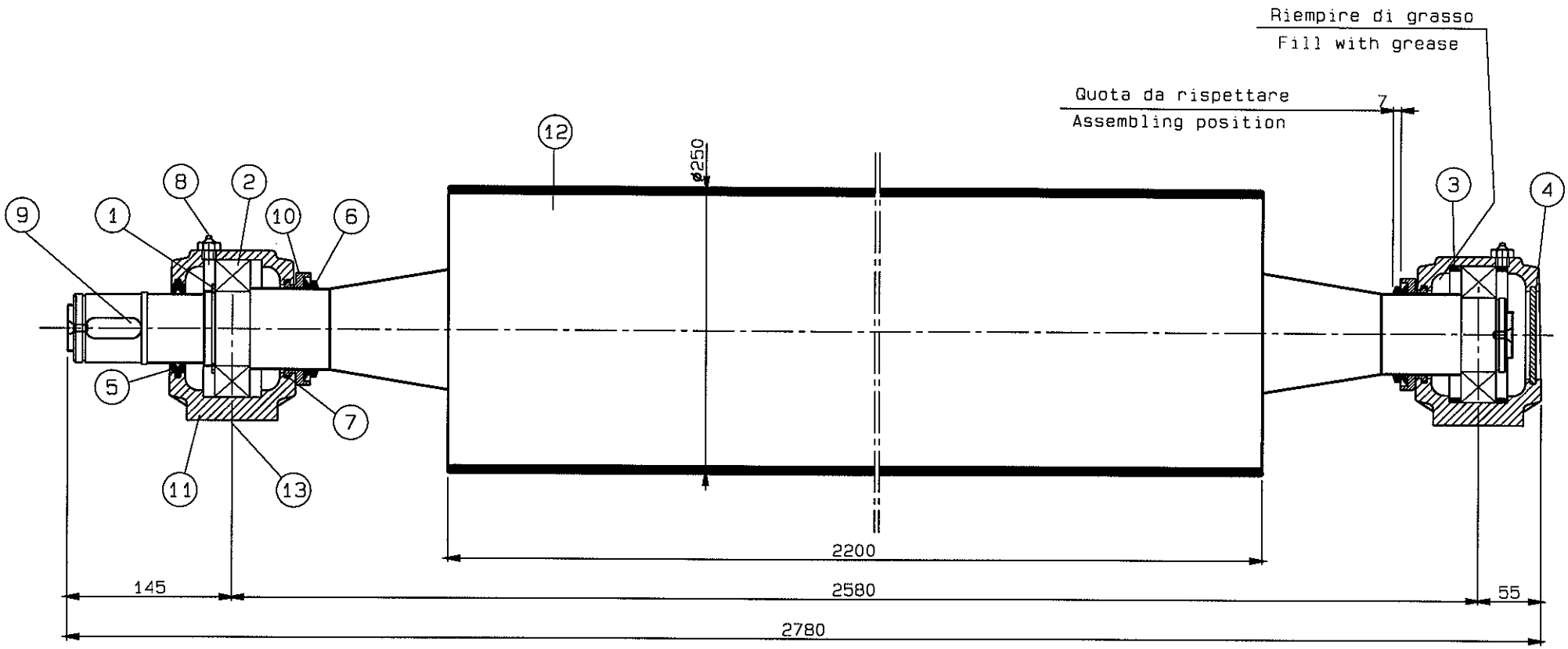
MACCHINA TIPO: SEM 2000 — SCALA:

DATA	DISEGNATO	APPROVATO
21/02/89	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	21/01/90	Porri	



POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
13	Spina A2 Conica 8H8x60 M5 UNI7284			N	4	14682009
12	Rullo condotto ø250x2580-perno 65			N	1	60304567
11	Supporto con foro ingrassatore			N	2	60112220
10	Labirinto per supporto			N	2	60112219
9	Linguetta 6S A18x11x50 UNI6604			N	1	14622041
8	Ingrassatore D1/4 nc tipo 1095 K31			N	2	11800013
7	Guarnizione OR 3300			N	2	11434092
6	Anello tenuta albero rot.V-RING V-70S			N	2	11431037
5	Protezione doppio labbro TSNA 513G			N	1	10860036
4	Coperchio ASNH 513/611			N	1	10860034
3	Anello di arresto FRB 10/120 P			N	2	10860032
2	Cuscinetto 222 13 CC			N	2	10830074
1	Anello di arresto elast.C72 UNI3653 65E			N	2	10411073

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VIA TORINO 114
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TEL. (0383) 83741 (4 linee r.a.)
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Posizione archivio: VG31

DENOMINAZIONE: Rullo condotto ø250x2580-513-Gomm.

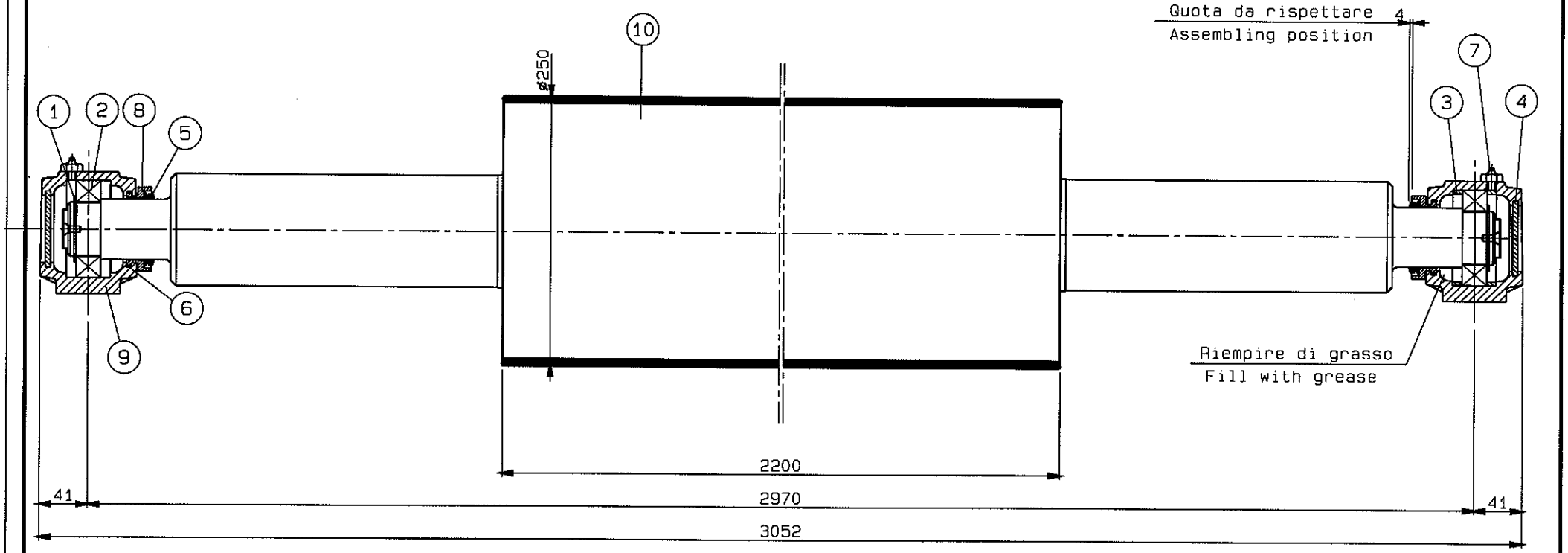
DIS.N. 60304580 — Rev. A

MACCHINA TIPO: SEM 2000 — SCALA — DATA: 21/02/89 — DISEGNATO: PORRI — APPROVATO

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	26/01/90	Porri	



POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
10	Rullo tensione telo ø250x2970			N	1	60304565
9	Supporto con foro ingrassatore			N	2	60113437
8	Labirinto per supporto			N	2	60109548
7	Ingrassatore D1/4 nc tipo 1095 K31			N	2	11800013
6	Guarnizione OR 3256			N	2	11434084
5	Anello tenuta albero rot.V-RING V-55S			N	2	11431043
4	Coperchio ASNH 510/608			N	2	10860025
3	Anello di arresto FRB 9/90 P			N	2	10860024
2	Cuscinetto 222 10 CC			N	2	10830072
1	Anello di arresto elast.C72 UNI3653 50E			N	2	10411059

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VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
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Posizione archivio: VG31

DENOMINAZIONE: Rullo tensione telo ø250x2970 -510- gomm.

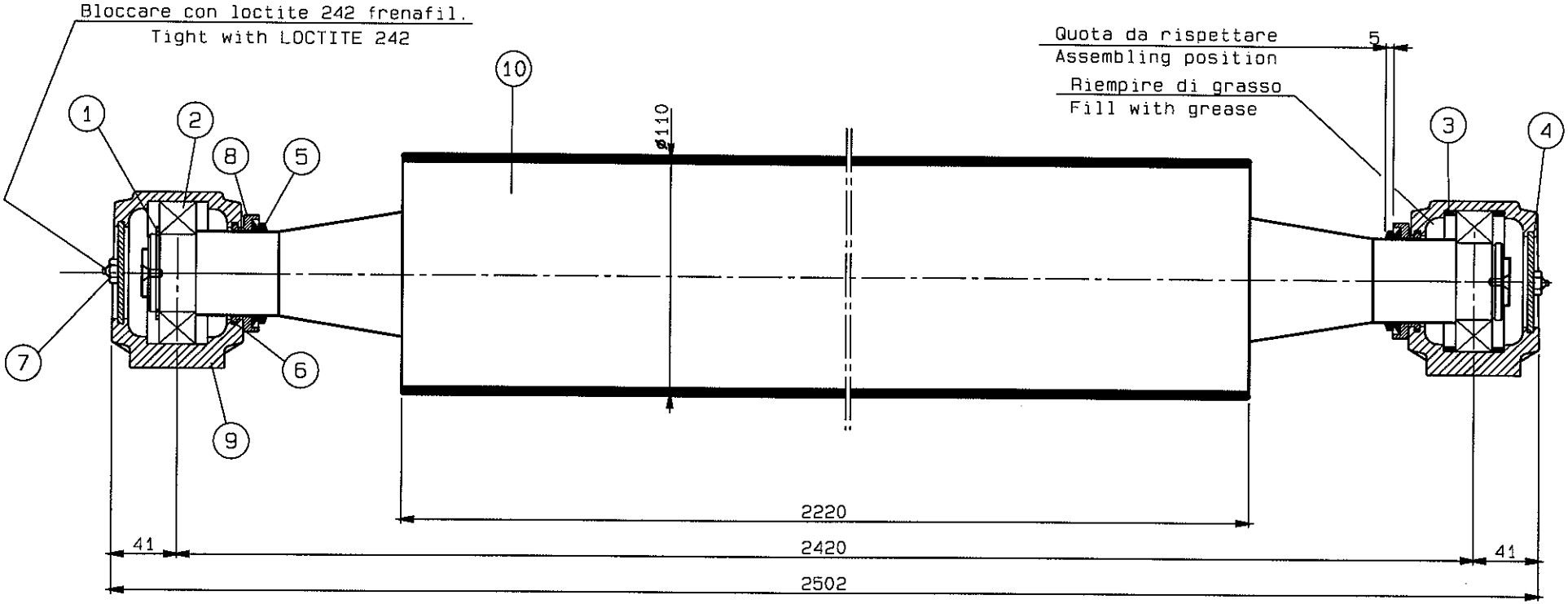
DIS.N. 60304578 — Rev. A

MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000		26/01/90	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	28.11.90	Porri	



10	Rullo ø110	N	1	60305413
9	Supporto SNH 507/606	N	2	10860027
8	Labirinto per supporto	N	2	60109546
7	Ingrassatore R17B ø1/8"	N	2	11800006
6	Guarnizione OR 3193	N	2	11434083
5	Anello tenuta albero rot.V-RING V-40S	N	2	11431030
4	Coperchio ASNH 507/606	N	2	60109547
3	Anello di arresto FRB 5.5/72 P	N	2	10860021
2	Cuscinetto 222 07 CC	N	2	10830071
1	Anello di arresto elast.C72 UNI3653 35E	N	2	10411083
POS.	DESCRIZIONE DIMENSIONI TIPO MAT.	UM	Q.	CODICE

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VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
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Posizione archivio: VG31

DENOMINAZIONE: Rullo cuneo ø110

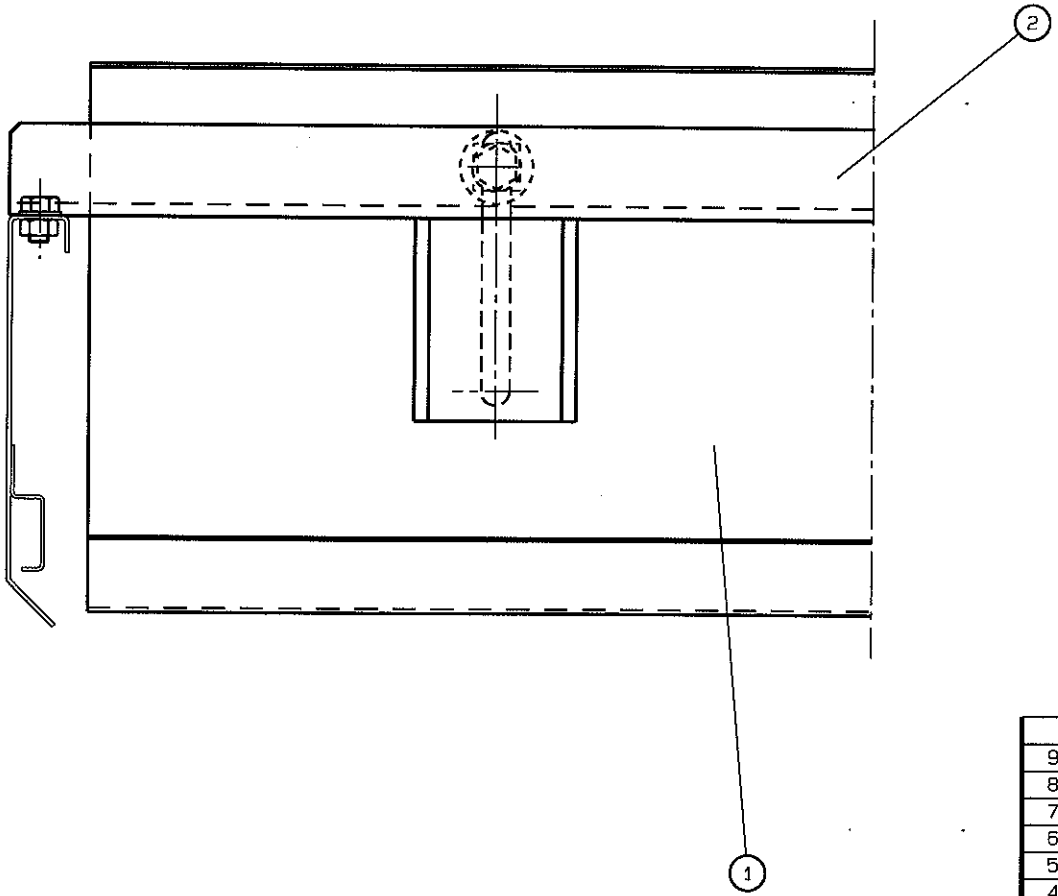
DIS.N. 60305410 — Rev. A

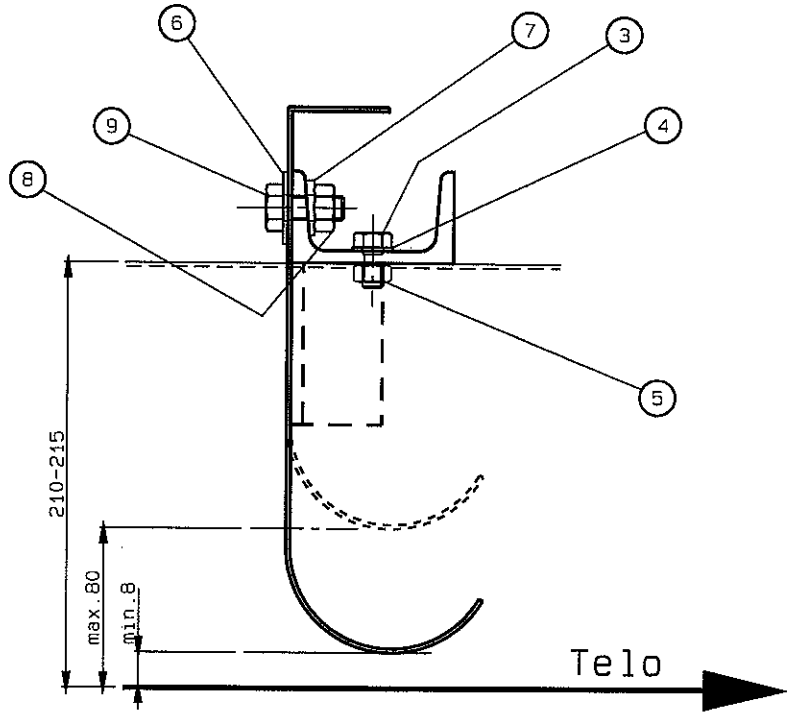
MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000		28.11.90	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.	C.Q.
A	Emissione disegno	9.7.87	A.P.		
B	Variato sp.batter.da 2 a 3mm Modific.fiss.batt.	24.9.91	A.P.		
C	Aggiornamento R.M.n°95/012	5.12.95	A.P.		





UNIFICATO

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
9	Vite A2 TE M 12 x 30 UNI5739			N	5	14691042
8	Dado A2 TE M 12 UNI 5588			N	5	14641023
7	Piastrina inclinata M12 zincata UNI5716			N	5	14659005
6	Rosetta A2 F.L. ø12.5 x 36 x 3			N	5	14653044
5	Dado A2 TE M 10 UNI 5588			N	2	14641021
4	Rosetta A2 piana M 10 UNI 6592			N	2	14653028
3	Vite A2 TE M10 x 20 UNI 5739			N	2	14691033
2	Supporto batterella			N	1	60210509
1	Batterella fanghi 2000			N	1	60119843

SERNAGIOTTO S.p.A.
VIA TORINO 114 - 27045 CASTEGGIO (PV) -ITALY-
TELEX 320172 SERNA I - FAX (0383-83782)
TELEPHONE (0383) 83741

Posizione archivio: VG31

DENOMINAZIONE		DIS.N.	
Gr.batterella fanghi (larghezza spondina 2080)		60304165	Rev A
MACCHINA TIPO: SEM 2000	SCALA: 1:2.5	DATA: 9.7.87	DISEGNATO: ANTONIAZZI

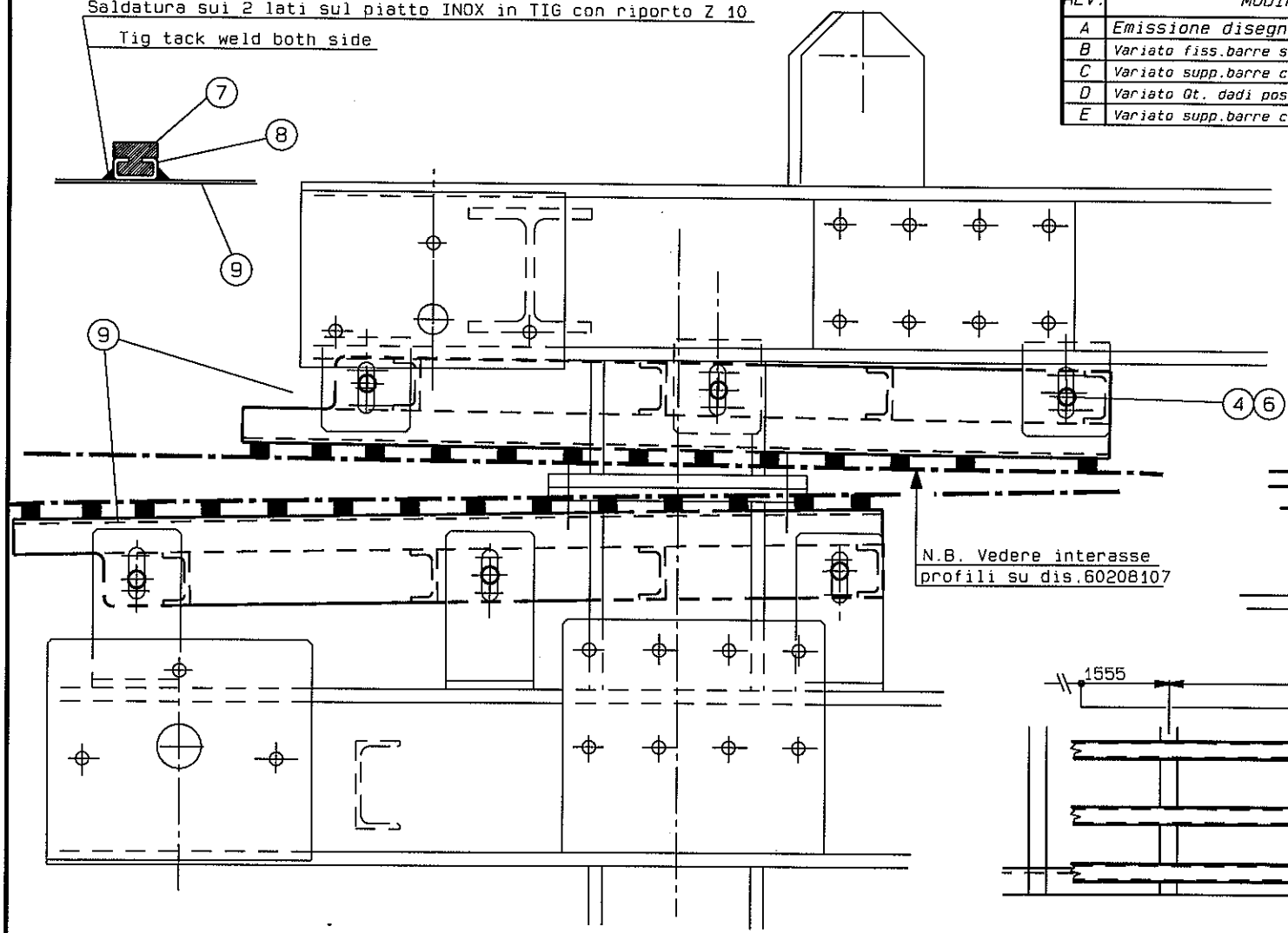
APP. | C.Q.

EX DIS.N.

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

Saldatura sui 2 lati sul piatto INOX in TIG con riporto Z 10

Tig tack weld both side



REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	18/01/91	Porri	
B	Variato fiss.barre su supporto	13.3.91	A.P.	
C	Variato supp.barre cod.60207569 in 60208107	24.10.91	A.P.	
D	Variato Qt. dadi pos.2 - Aggiunto dadi autoblocc. pos.11	22.4.92	A.P.	
E	Variato supp.barre cod.60208107 in 60208410 (Aisi304)	4.5.92	A.P.	

PREPARAZIONE BARRE (taglio)

22 barre INOX L=2210 (11 barre L=6000)

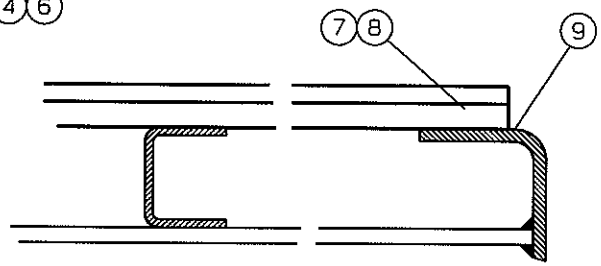
6 barre INOX L=1555 (ricavati da sfridi L=1580)

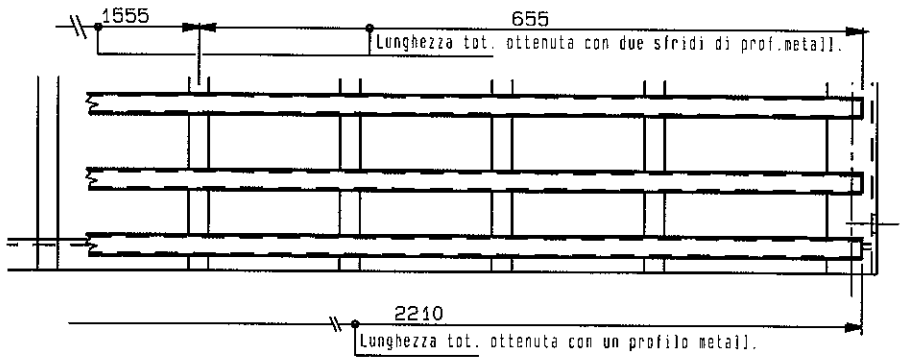
6 barre INOX L= 655 (ricavati da sfridi L=1580)

22 barre HDPE L=2210 (22 barre L=3000)

12 barre HDPE L= 790 (sfridi taglio precedente)

6 barre HDPE L= 630 (ricavati da sfridi L=790)





10				
9	Supporto profili HDPE zona cuneo	N	2	60208410
8	Profilo metall. C3 L=6000 lam.INOX	N	11	19900056
7	Profilo C3A15 L=3000 POLIZ. 500 bianco	N	22	19900047
6	Vite A2 TE M16x45 UNI5739	N	12	14691105
5				
4	Rosetta A2 Pia.D17.0x48 sp=3.5 F.L.	N	12	14653051
3				
2				
1				

SERNAGIOTTO S.p.A.

VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
TELEFAX (0383) 83782

Posizione archivio: VA31

DENOMINAZIONE: Grigliato zona cuneo

DIS.N. 60403525

MACCHINA TIPO: SEM 2000 INERTI

SCALA: 1:5

DATA: 18/01/91

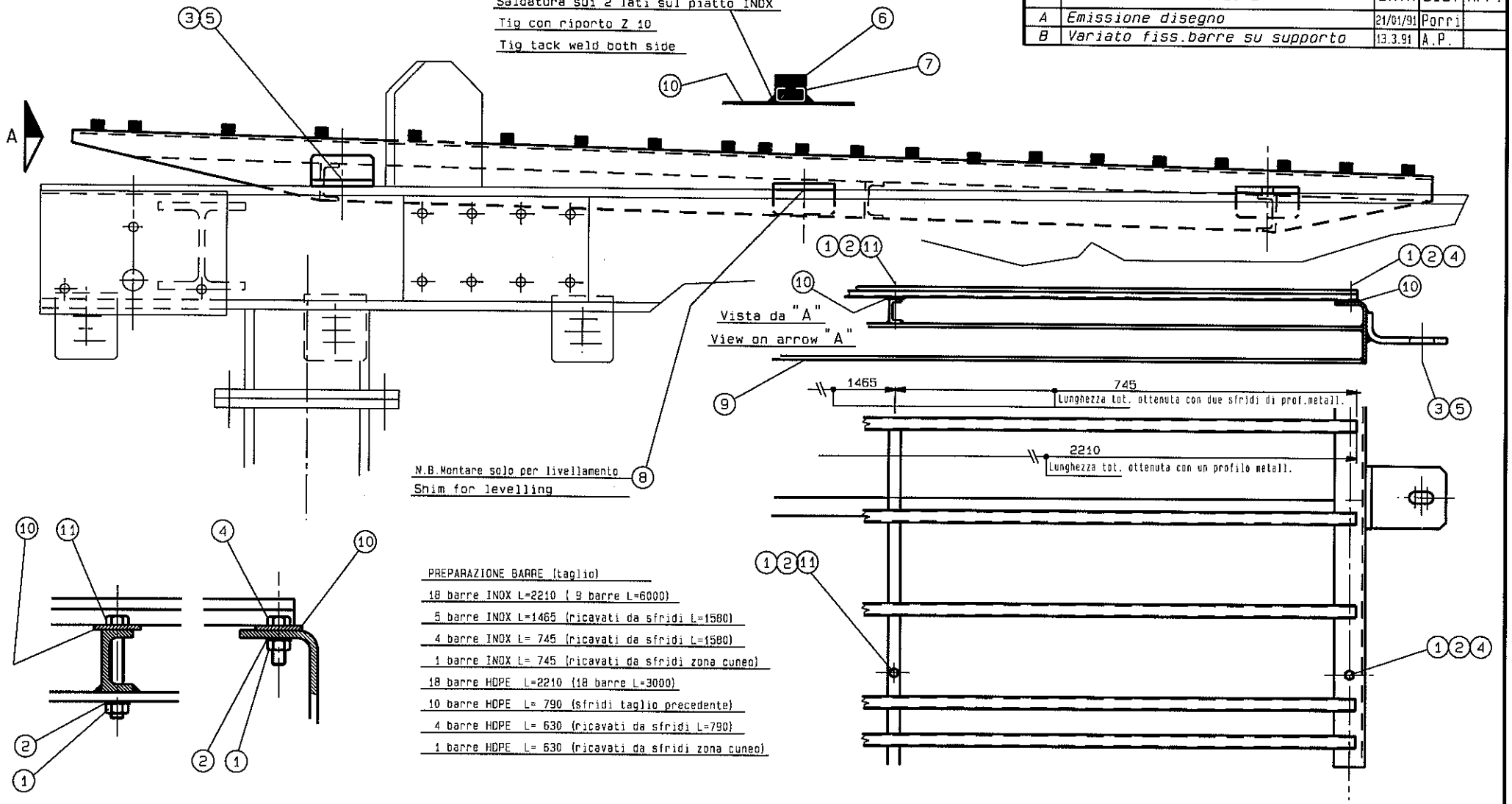
DISEGNATO: PORRI

APPROVATO:

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	21/01/91	Porri	
B	Variato fiss.barre su supporto	13.3.91	A.P.	



PREPARAZIONE BARRE (taglio)

18 barre INOX L=2210 (9 barre L=6000)
5 barre INOX L=1465 (ricavati da sfridi L=1580)
4 barre INOX L= 745 (ricavati da sfridi L=1580)
1 barre INOX L= 745 (ricavati da sfridi zona cuneo)
18 barre HDPE L=2210 (18 barre L=3000)
10 barre HDPE L= 790 (sfridi taglio precedente)
4 barre HDPE L= 630 (ricavati da sfridi L=790)
1 barre HDPE L= 630 (ricavati da sfridi zona cuneo)

11	Vite A2 TE M 8 x 60 UNI5739	N	14	14691106
10	Piatto fissaggio barre zona presgrondo	N	4	60116134
9	Supporto profili HDPE zona presgrondo	N	1	60207586
8	Spessore per supp.profili presgrondo	N	6	60116016
7	Profilo metall.C3 L=6000 lam.INOX	N	7	19900056
6	Profilo C3A15 L=3000 POLIZ.500 bianco	N	14	19900047
5	Vite A2 TE M16x40 UNI5739	N	6	14691058
4	Vite A2 TE M 8 x 25 UNI5739	N	14	14691087
3	Rosetta A2 Pia.D17.0x48 sp=3.5 F.L.	N	6	14653051
2	Rosetta A2 Piana M 8 UNI6592	N	28	14653037
1	Dado A2 E M 8 UNI5588	N	28	14641035

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE

SERNAGIOTTO S.p.A.
VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
TELEFAX (0383) 83782

Posizione archivio: VA31 B

DENOMINAZIONE: Grigliato zona presgrondo

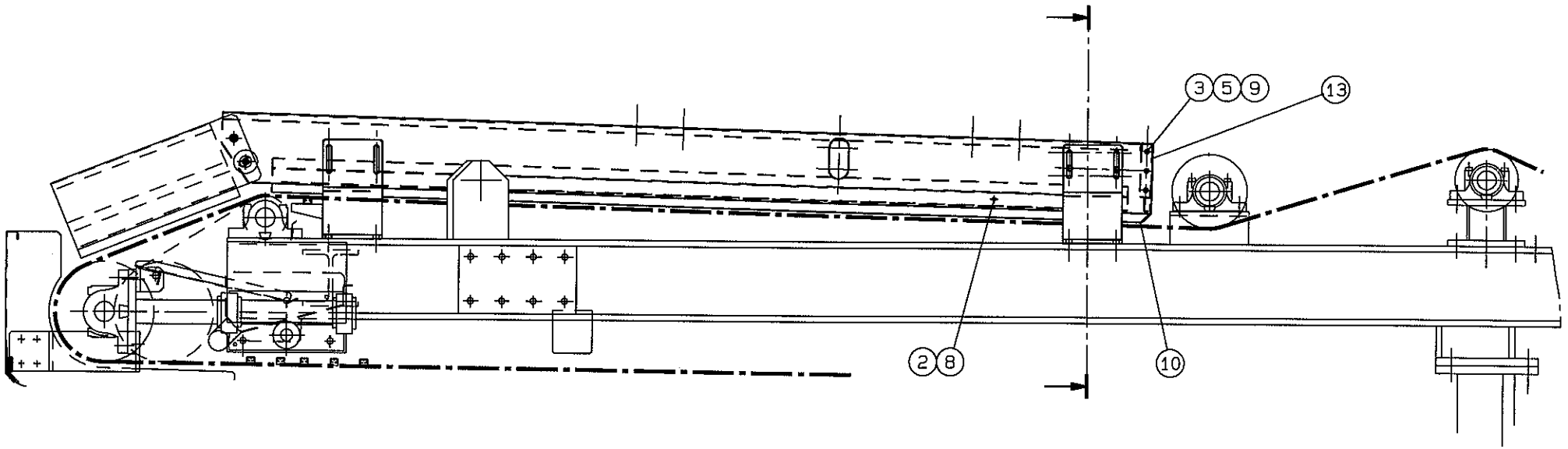
DIS.N. 60403526 A Rev.

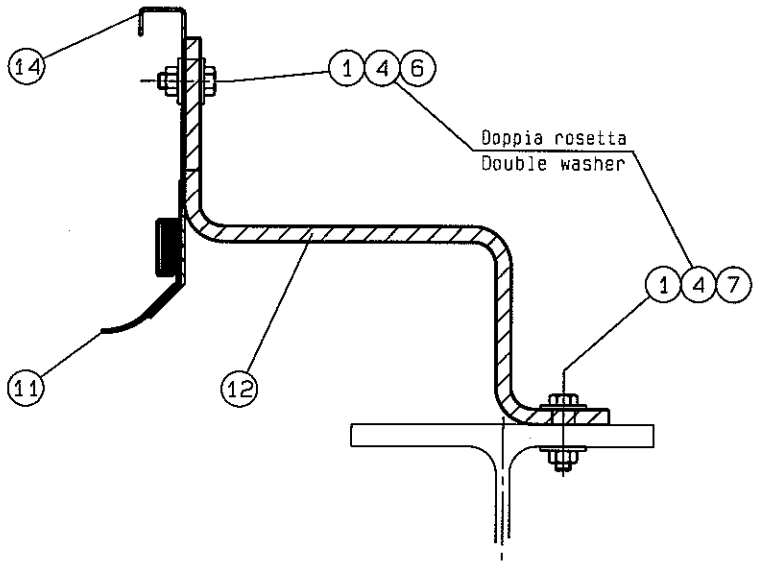
MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000 INERTI	1:6	21/01/91	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	22/01/91	Porri	
B	Variato lungh.bavetta trasvers.	13.3.91	A.P.	
C	Sostituito spondina lat.cod.60207594	24.10.91	A.P.	
	con cod.60208112			





POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
14	Spondina laterale			N	2	60208112
13	Spondina trasversale superiore			N	1	60204712
12	Staffa supporto spondine			N	4	60116028
11	Bavetta laterale			N	2	60113420
10	Bavetta trasversale superiore			N	1	60116139
9	Vite	A2 TE	M 8x16 UNI5739	N	6	14691086
8	Vite	A2 TE	M 6x25 UNI5739	N	4	14691079
7	Vite	A2 TE	M10x45 UNI5739	N	8	14691038
6	Vite	A2 TE	M10x25 UNI5739	N	8	14691034
5	Rosetta	A2 Piana	M 8x17 UNI6592	N	6	14653037
4	Rosetta	A2 Pia.D10.5x30	sp=2.5 F.L.	N	32	14653004
3	Dado	A2 E	M 8 UNI5588	N	6	14641035
2	Dado	A2 E	M 6 UNI5588	N	4	14641033
1	Dado	A2 E	M10 UNI5588	N	16	14641021

SERNAGIOTTO S.p.A.
VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
TELEFAX (0383) 83782

Posizione archivio: VG31 C B

DENOMINAZIONE: Spondine presgrondo

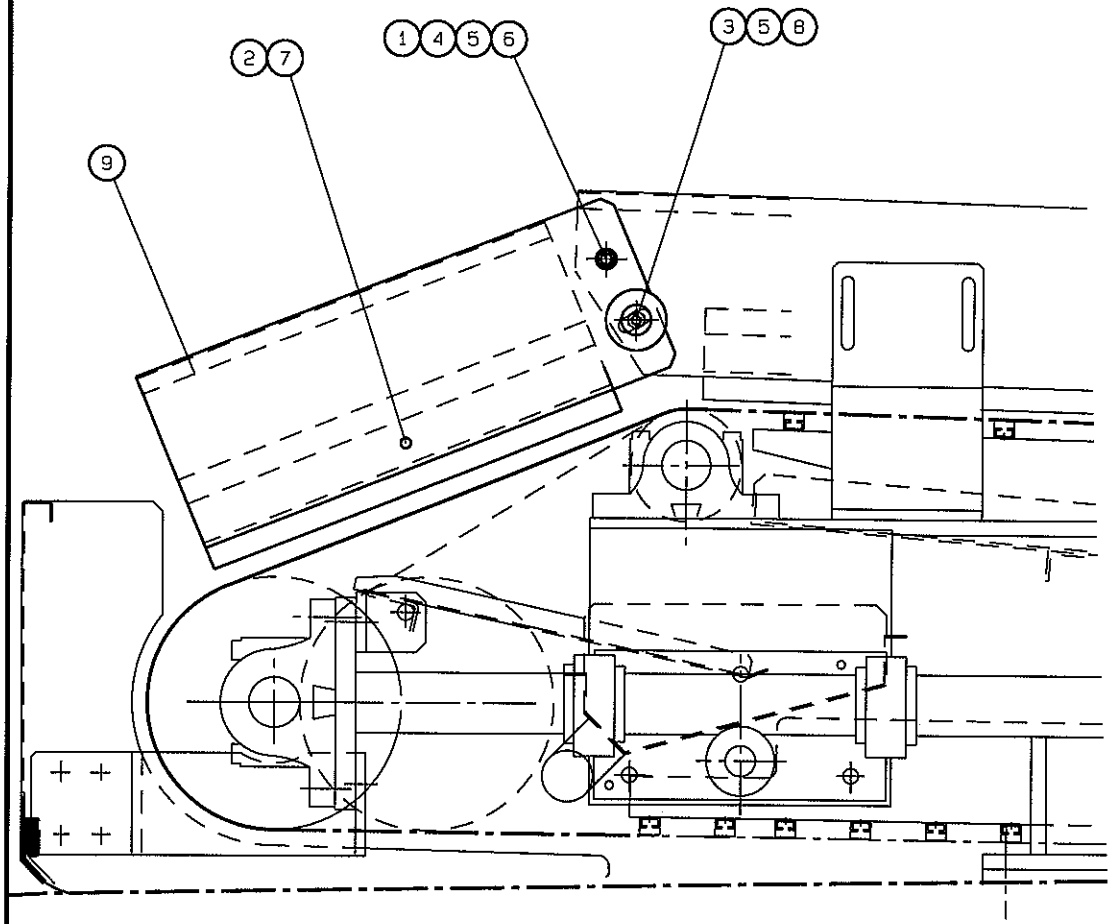
DIS.N. 60305452 A Rev

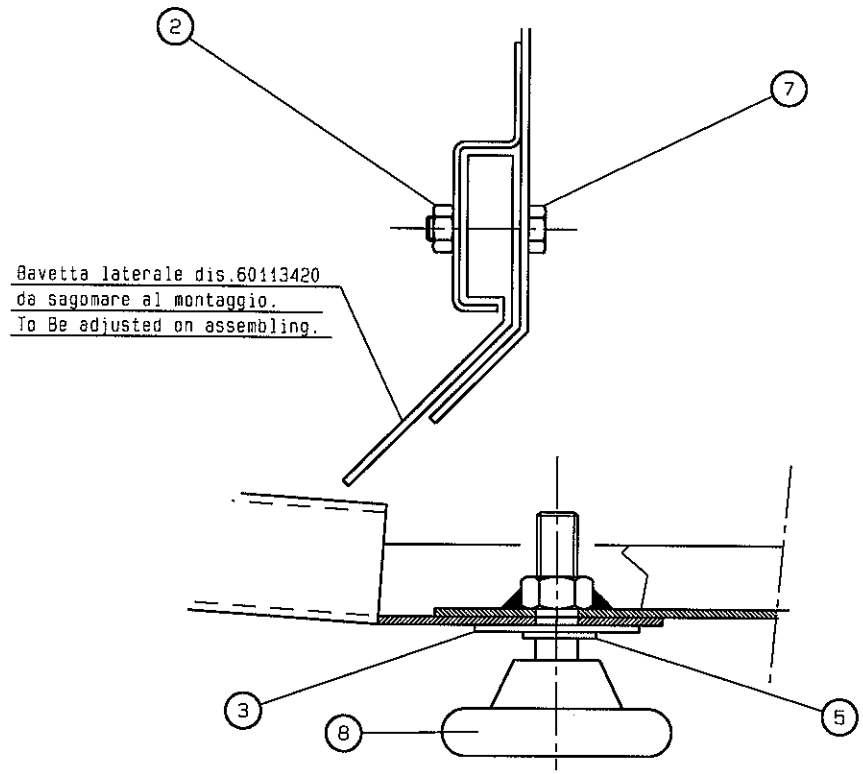
MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000 INERTI	1: 10	22/01/91	PORRI	

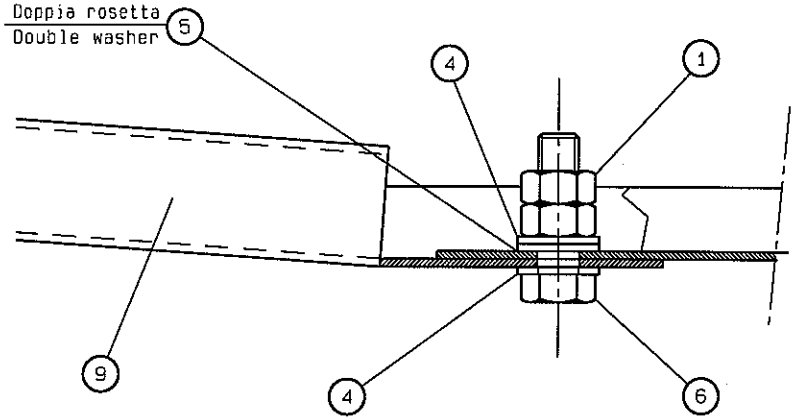
A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.	C.Q.
A	Emissione disegno	7.11.91	A.P.		







POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
9	Prolunga spondina laterale			N	2	60208129
8	Volantino VL 155/70 P M10x30 Elesa			N	2	14800032
7	Vite A2 TE M6 x 25 UNI 5739			N	2	14691079
6	Vite A2 TE M10 x 35 UNI 5739			N	2	14691036
5	Rosetta in rame ø10,5 x 18 x 2			N	6	14657002
4	Rosetta A2 piana M10 UNI 6592			N	4	14653028
3	Rosetta F.L. ø10,5 x 30 x 2,5 A2			N	2	14653004
2	Dado A2 TE M6 UNI 5588			N	2	14641033
1	Dado A2 TE M10 UNI 5588			N	4	14641021

SERNAGIOTTO S.p.A.
VIA TORINO 114 - 27045 CASTEGGIO (PV) -ITALY-
TELEX 320172 SERNA I - FAX (0383-83782)
TELEPHONE (0383) 83741

Posizione archivio: VG31

DENOMINAZIONE: Prolunga spondine laterali

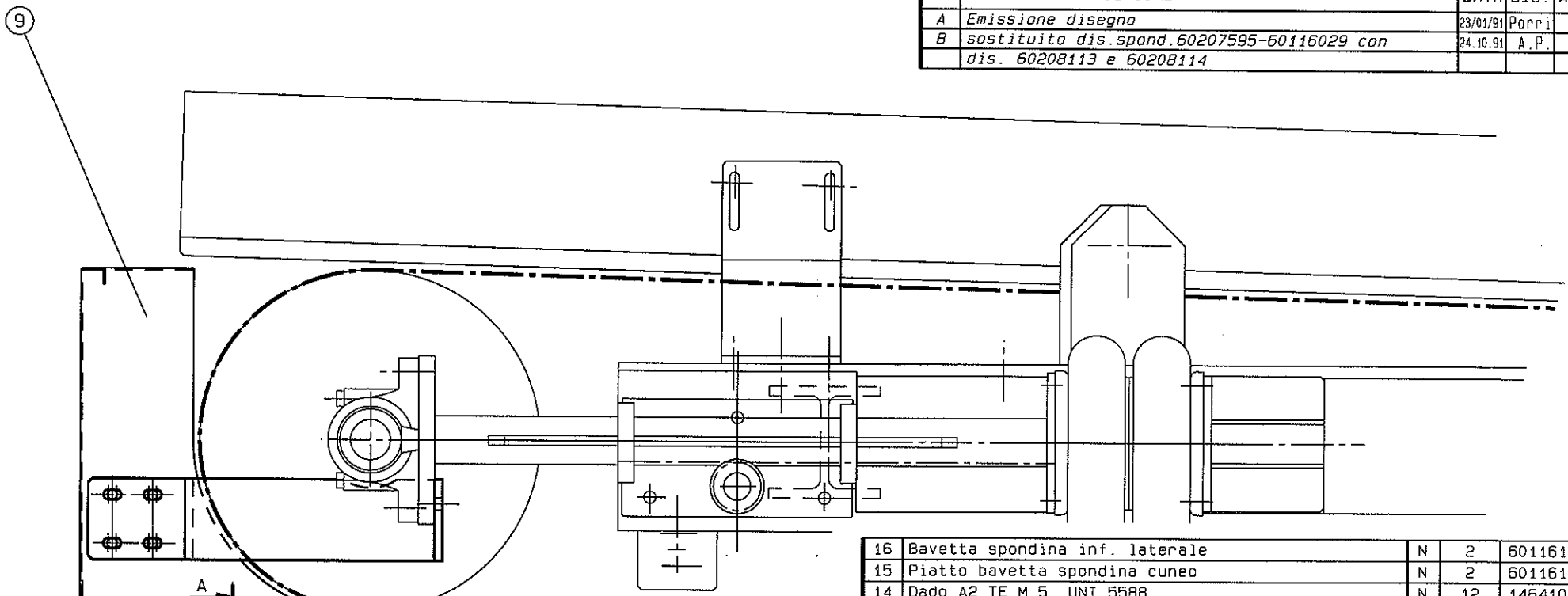
DIS.N. 60305705 — A Rev

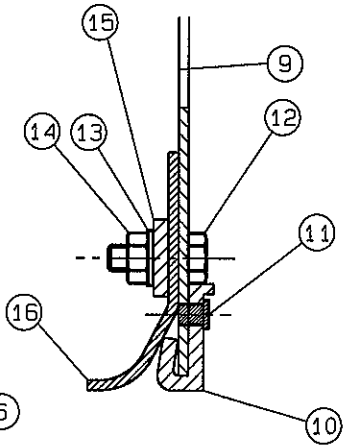
MACCHINA TIPO	SCALA	DATA	DISEGNATO	APP.	C.Q.
SEM 2000 I	1:5	8.11.91	ANTONIAZZI		

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	23/01/91	Porri	
B	sostituito dis.spond.60207595-60116029 con	24.10.91	A.P.	
	dis. 60208113 e 60208114			





Sez. A-A

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
16	Bavetta spondina inf. laterale			N	2	60116136
15	Piatto bavetta spondina cuneo			N	2	60116135
14	Dado A2 TE M 5 UNI 5588			N	12	14641032
13	Rosetta A2 piana M 5 UNI 6592			N	12	14653035
12	Vite A2 TE M5 x 16 UNI 5739			N	12	14691072
11	Rivetto in rame ø3.2 x 6 [n.3 per lato]			N	6	14603001
10	Profilo R10 BLUMER mm.680			N	2	19900060
9	Spondina trasversale inferiore			N	1	60208113
8	Staffa supporto spondina inferiore			N	2	60208114
7	Bavetta trasversale			N	1	60115925
6	Vite	A2	TE M12x30	UNI5739	N	4	14691042
5	Vite	A2	TE M10x25	UNI5739	N	8	14691034
4	Rosetta	A2	Pia.D12.5x36 sp=3.0 F.L.		N	4	14653004
3	Rosetta	A2	F.L.ø10.5 x 30 x 2.5		N	8	14653028
2	Rosetta	A2	Pia.D10.5x30 sp=2.5 F.L.		N	8	14653004
1	Dado	A2	E M10	UNI5588	N	8	14641021

SERNAGIOTTO S.p.A.

VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
TELEFAX (0383) 83782

Posizione archivio: VG31 B

DENOMINAZIONE: Spondina zona cuneo

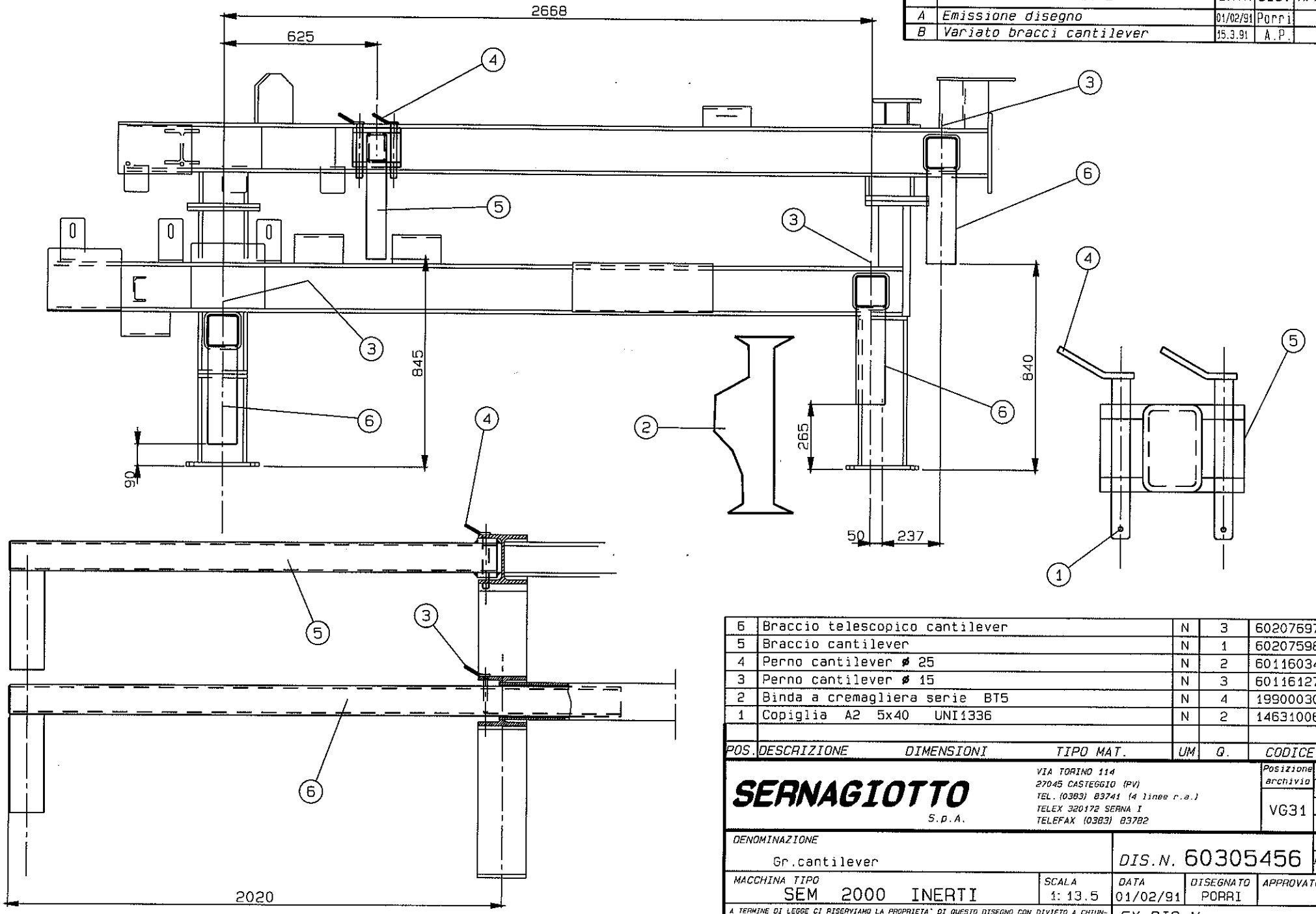
DIS.N. 60305453 A Rev

MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000 INERTI	1:5	23/01/91	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	01/02/91	Porri	
B	Variato bracci cantilever	15.3.91	A.P.	



POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
6	Braccio telescopico cantilever			N	3	60207697
5	Braccio cantilever			N	1	60207598
4	Perno cantilever ø 25			N	2	60116034
3	Perno cantilever ø 15			N	3	60116127
2	Binda a cremagliera serie BT5			N	4	19900030
1	Copiglia A2 5x40 UNI1336			N	2	14631006

SERNAGIOTTO S.p.A.

VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
TELEFAX (0383) 83782

Posizione archivio: VG31 B

DENOMINAZIONE: Gr.cantilever

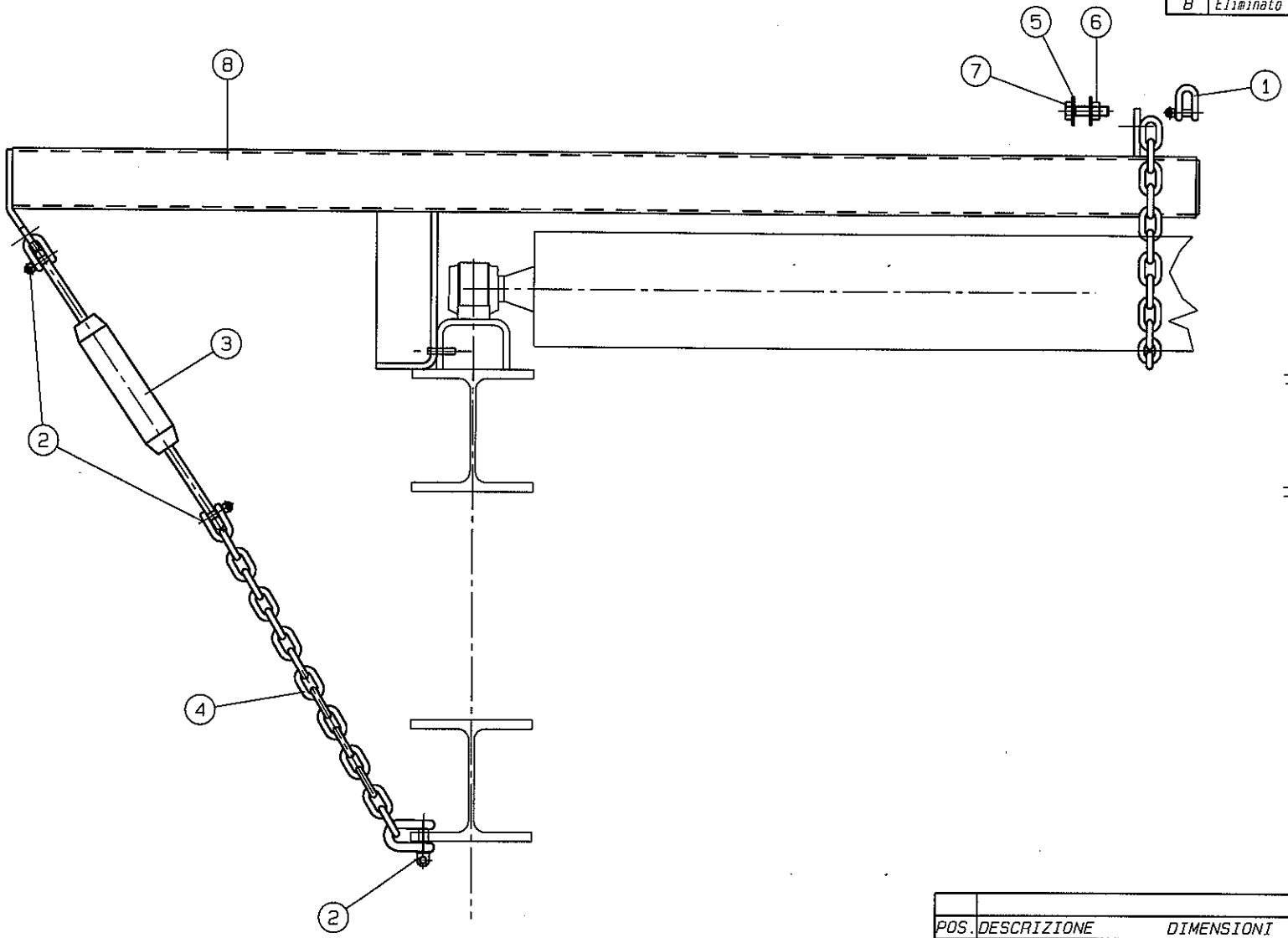
DIS.N. 60305456 A Rev

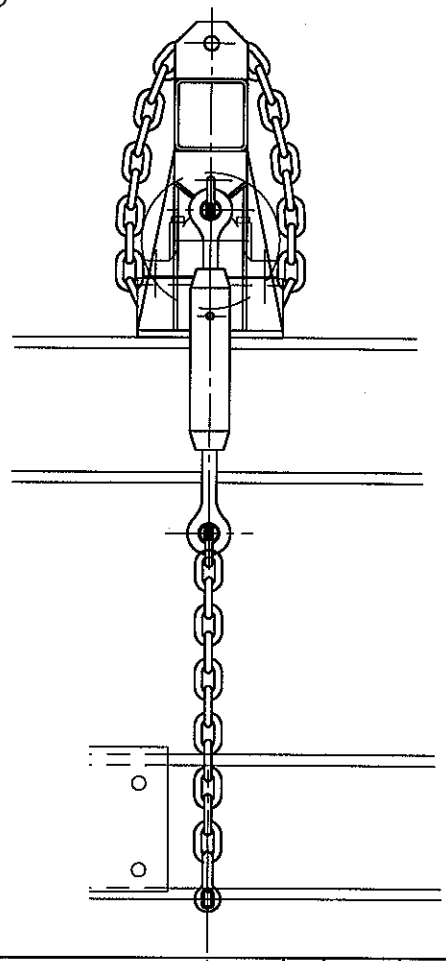
MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000 INERTI	1: 13.5	01/02/91	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	05/02/91	Porri	
B	Eliminato grillo d.10 e sost.con grillo d.14	22.5.92	Porri	





POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
8	Braccio cantilever rullo distensore			N	1	60207604
7	Vite A2 TE M16x60 UNI5739			N	1	14691128
6	Rosetta A2 Pia.D17.0x48 Sp=3.5 F.L.			N	2	14653051
5	Dado A2 E M16 UNI5588			N	1	14641027
4	Catena N.30GEN ø10 P38 zinc.			Mt	2	13810060
3	Tenditore ad occhio 3/4 TENDOC19TCI			N	1	11200041
2	Grillo ad "U" perno ø14 -zincato			N	1	11200032

SERNAGIOTTO S.p.A.

VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
TELEFAX (0383) 83782

Posizione archivio: VG31

DENOMINAZIONE: Gr.cantilever per rullo distens.sup.

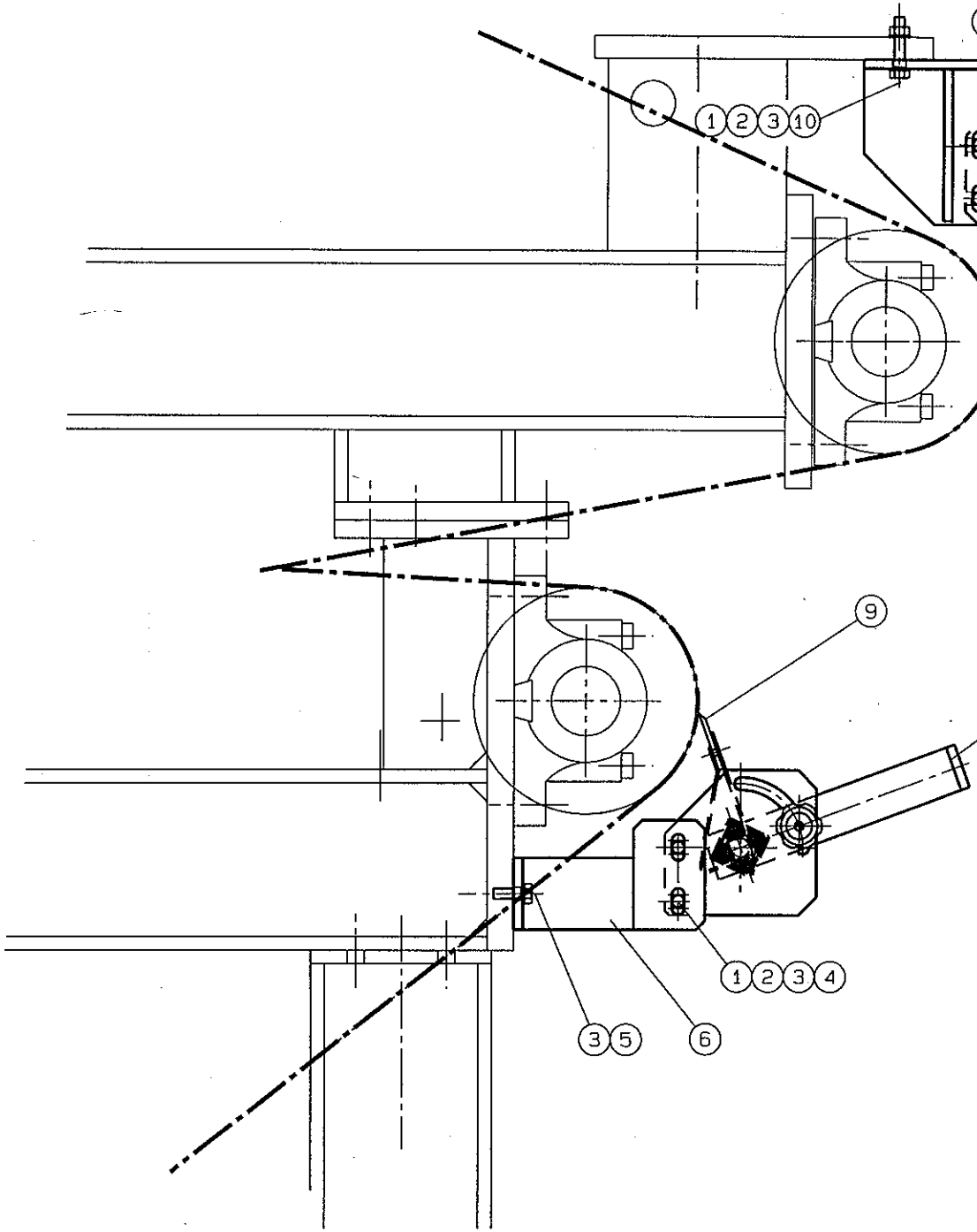
DIS.N. 60305461 Rev. B

MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000 INERTI	1:7	05/02/91	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	21/7/93	Porri	



POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
10	Vite A2 TE	M12x60 UNI5739		N	4	14691046
9	Lama raschiante ROBADUR l=2150			N	2	60116252
8	Gruppo porta lama zincato -UNIF.2000-			N	2	60304532
7	Staffa superiore raschiatore			N	2	60118140
6	Staffa inferiore raschiatore			N	2	60207563
5	Vite A2 TE	M12x35 UNI5739		N	4	14691043
4	Vite A2 TE	M12x45 UNI5739		N	8	14691117
3	Rosetta A2	Pia.D12.5x36 Sp=3.0 F.L.		N	16	14653044
2	Rosetta A2	Piana M12x24 UNI6592		N	12	14653029
1	Dado A2 E	M12 UNI5588		N	12	14641023

SERNAGIOTTO S.p.A.

VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
TELEFAX (0383) 83782

Posizione archivio: VG31

DENOMINAZIONE: Raschiatori rulli comando

DIS.N. 60306236 — Rev. A

MACCHINA TIPO: SEM 2000 INERTI

SCALA: 1:5

DATA: 21/7/93

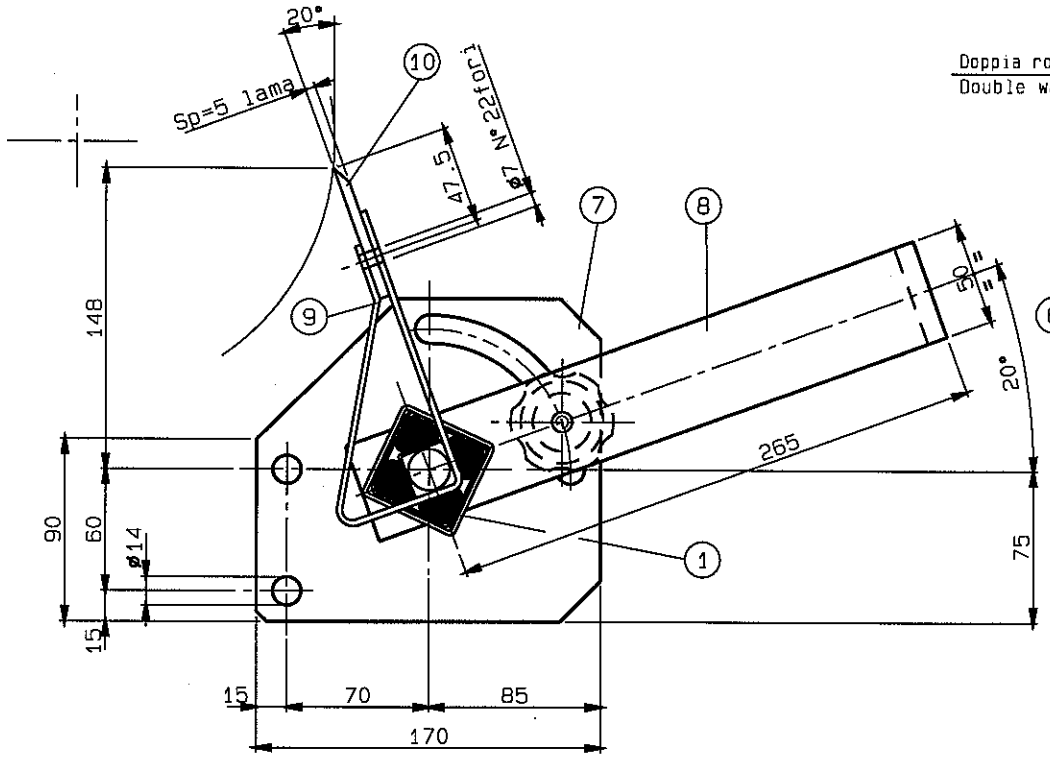
DISEGNATO: PORRI

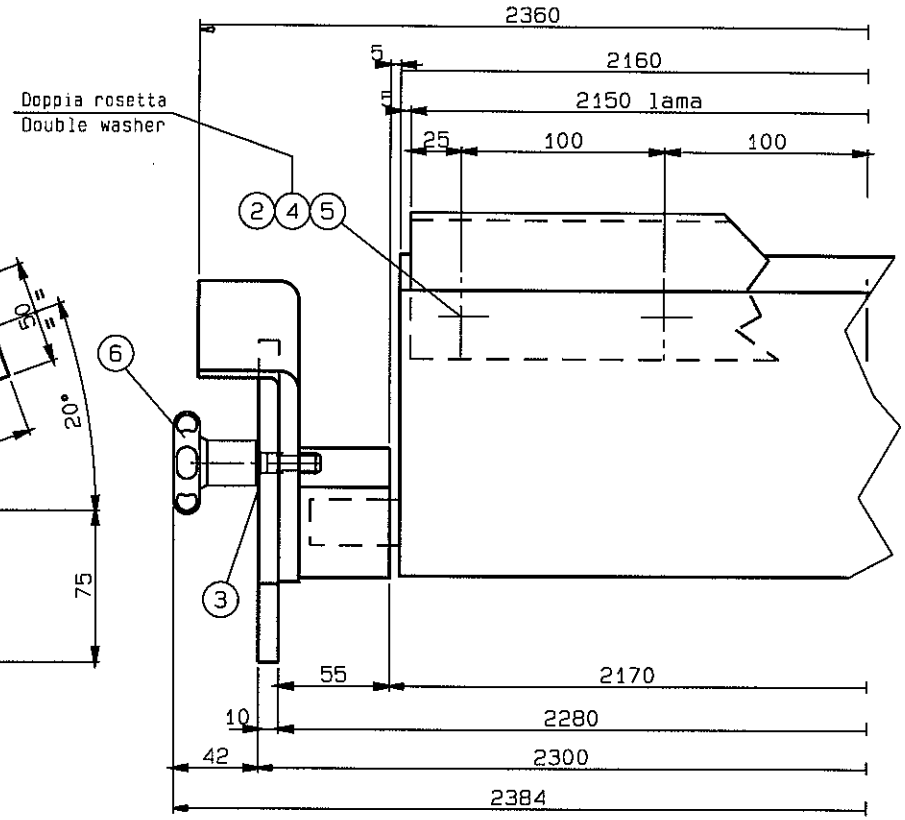
APPROVATO:

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N. 60305433

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	26/7/90	Porri	
B	Variato mat.da Fe-zinc. a AISI 304	11.7.91	A.P.	





N.B. La lama raschiante non e` conteggiata in distinta

10	Lama raschiante : CELERON cod.60115417 - ROBADUR cod.60116252			
9	Porta lama	N	1	60207023
8	Leva per porta lama	N	2	60207019
7	Piastra per porta lama	N	2	60115337
6	Volantino VL 155/70 P M10x30 ELESA	N	2	14800032
5	Vite A2 TE M 6x20 UNI5739	N	22	14691078
4	Rosetta A2 Piana M 6x12.5 UNI6592	N	44	14653036
3	Rosetta A2 Pia.D10.5x30 SP=2.5 F.L.	N	2	14653004
2	Dado A2 E M 6 UNI5588	N	22	14641033
1	Elem.elast. DRS-100437-27x40 ROSTA	N	2	10200037

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE

SERNAGIOTTO S.p.A.
VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
TELEFAX (0383) 83782

Posizione archivio: VG31 B

DENOMINAZIONE: GR.PORTA LAMA RASCHIANTE

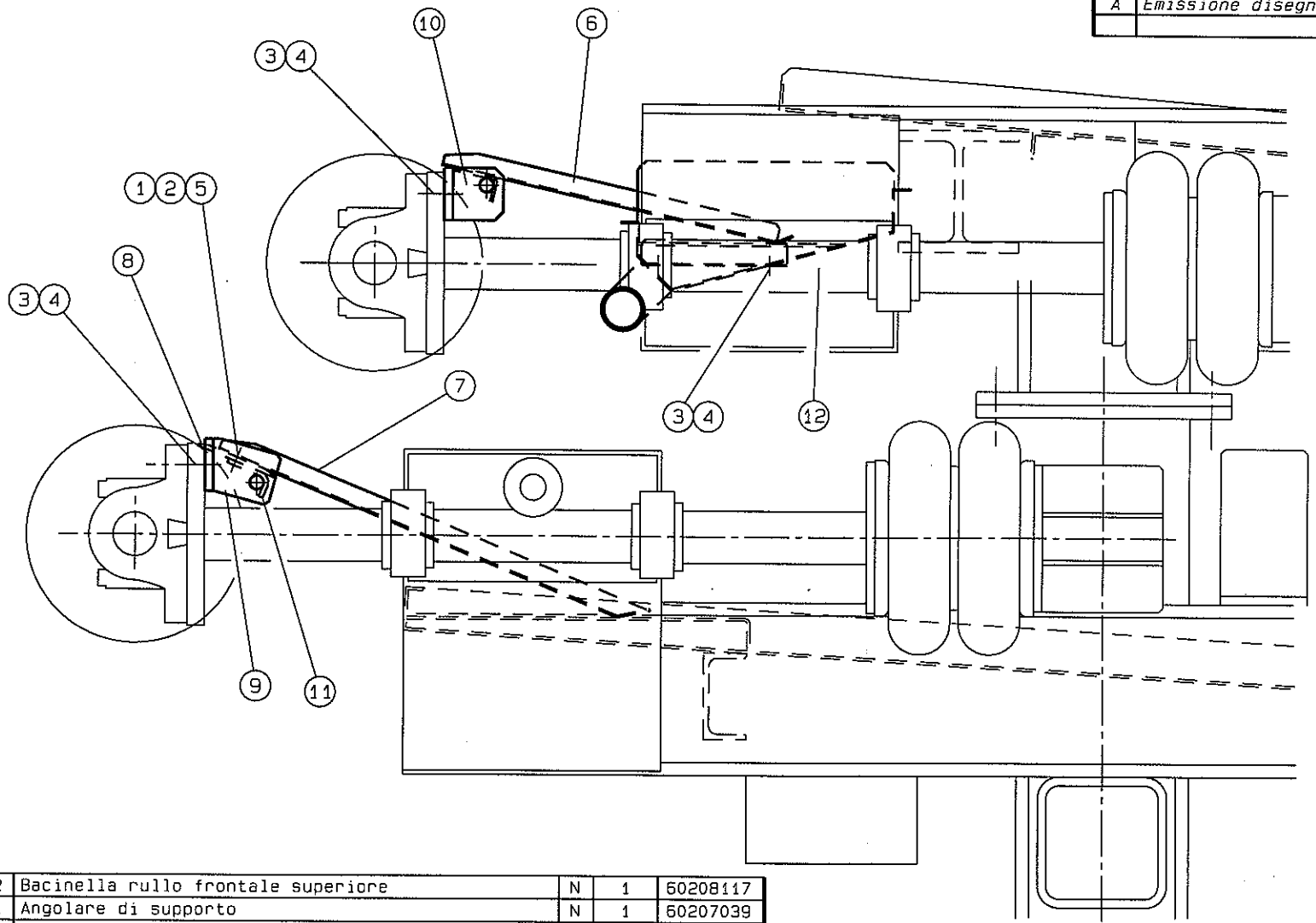
DIS.N. 60304532 A Rev.

MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000	1: 2.5	26/ 7/90	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA` DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	24/10/91	A.P.	



12	Bacinella rullo frontale superiore	N	1	60208117
11	Angolare di supporto	N	1	60207039
10	Staffa raschiatore rullo frontale sup.	N	2	60208115
9	Piatto supp. raschiatore rullo frontale	N	2	60207356
8	Lama raschiante ROBADUR 1=2200	N	1	60116256
7	Scivolo convogliatore	N	1	60115359
6	Scivolo convogliatore zona presgrondo	N	1	60208116
5	Vite A2 TE M 6x20 UNI5739	N	22	14691078
4	Vite A2 TE M12x30 UNI5739	N	12	14691042
3	Rosetta A2 Pia.D12.5x36 Sp=3.0 F.L.	N	12	14653044
2	Rosetta A2 Piana M 6x12.5 UNI6592	N	22	14653036
1	Dado A2 E M 6 UNI5588	N	22	14641033

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE

SERNAGIOTTO S.p.A.
VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
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Posizione archivio: VG31

DENOMINAZIONE: Raschiatori rulli frontali

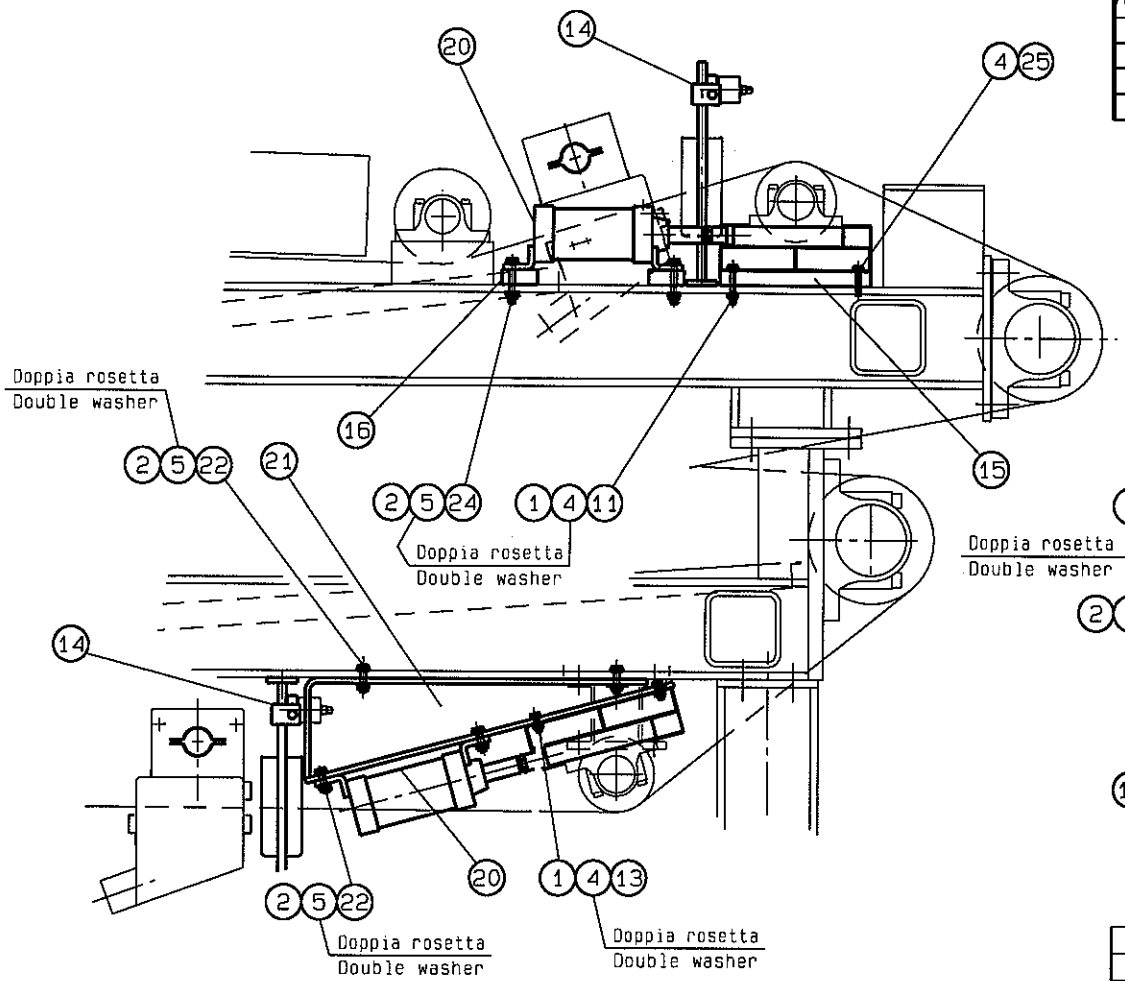
DIS.N. 60305706 A Rev

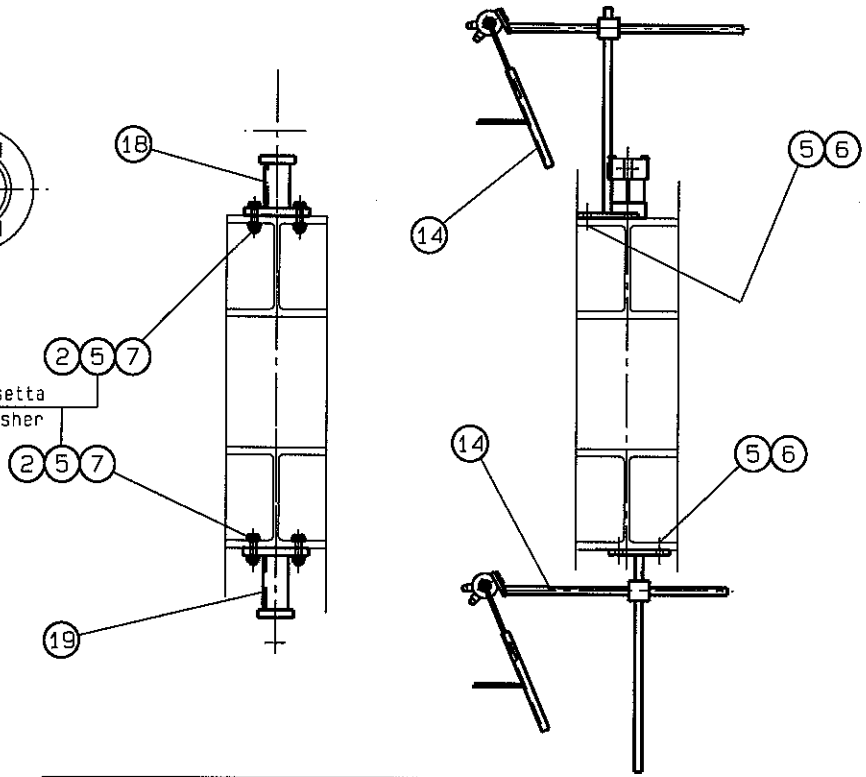
MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000 INERTI	1:5	24.10.91	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N. 60305434

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	19.12.90	A.P.	
B	Sostituito paletta distrib.60111526 con dis.60201440	28.1.92	A.P.	
C	Sostituito paletta e distributore con gruppo unificato	21.11.95	A.P.	





25	Vite A2 TE M10 x 55 UNI 5739	N	2	14691040
24	Vite A2 TE M12 x 80 UNI 5739	N	4	14691246
23				
22	Vite A2 TE M12 x 45 UNI 5739	N	8	14691117
21	Supporto cilindro g.n.inferiore	N	1	60207568
20	GR.cilindro centraggio teli	N	2	60304557
19	Supporto fisso infer.rullo centraggio	N	1	60207541
18	Supporto fisso sup.rullo centraggio	N	1	60207540
17				
16	Distanziale piedino cilindro	N	2	60115949
15	Distanziale supporto slitta	N	1	60115948
14	Distributore pneumatico e supporto	N	2	60306364
13	Vite A2 TE M10 x 30 UNI 5739	N	4	14691035
12				
11	Vite A2 TE M10 x 70 UNI 5739	N	2	14691119

7	Vite A2 TE M12 x 50 UNI 5739	N	8	14691045
6	Vite A2 TE M12x30 UNI 5739	N	4	14691042
5	Rosetta A2 piana M12 UNI 6592	N	44	14653029
4	Rosetta A2 piana M10 UNI 6592	N	14	14653028
3				
2	Dado A2 E M12 UNI 5588	N	20	14641023
1	Dado A2 E M10 UNI 5588	N	6	14641021
POS.	DESCRIZIONE DIMENSIONI TIPO MAT.	UM	Q.	CODICE

SERNAGIOTTO S.p.A.

VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
TELEFAX (0383) 83782

Posizione archivio: VA31

DENOMINAZIONE: Controllo e regolazione teli

DIS.N. 60403523

Rev: A B C

MACCHINA TIPO: SEM 2000 INERTI

SCALA: 1: 10

DATA: 19.12.90

DISEGNATO: ANTONIAZZI

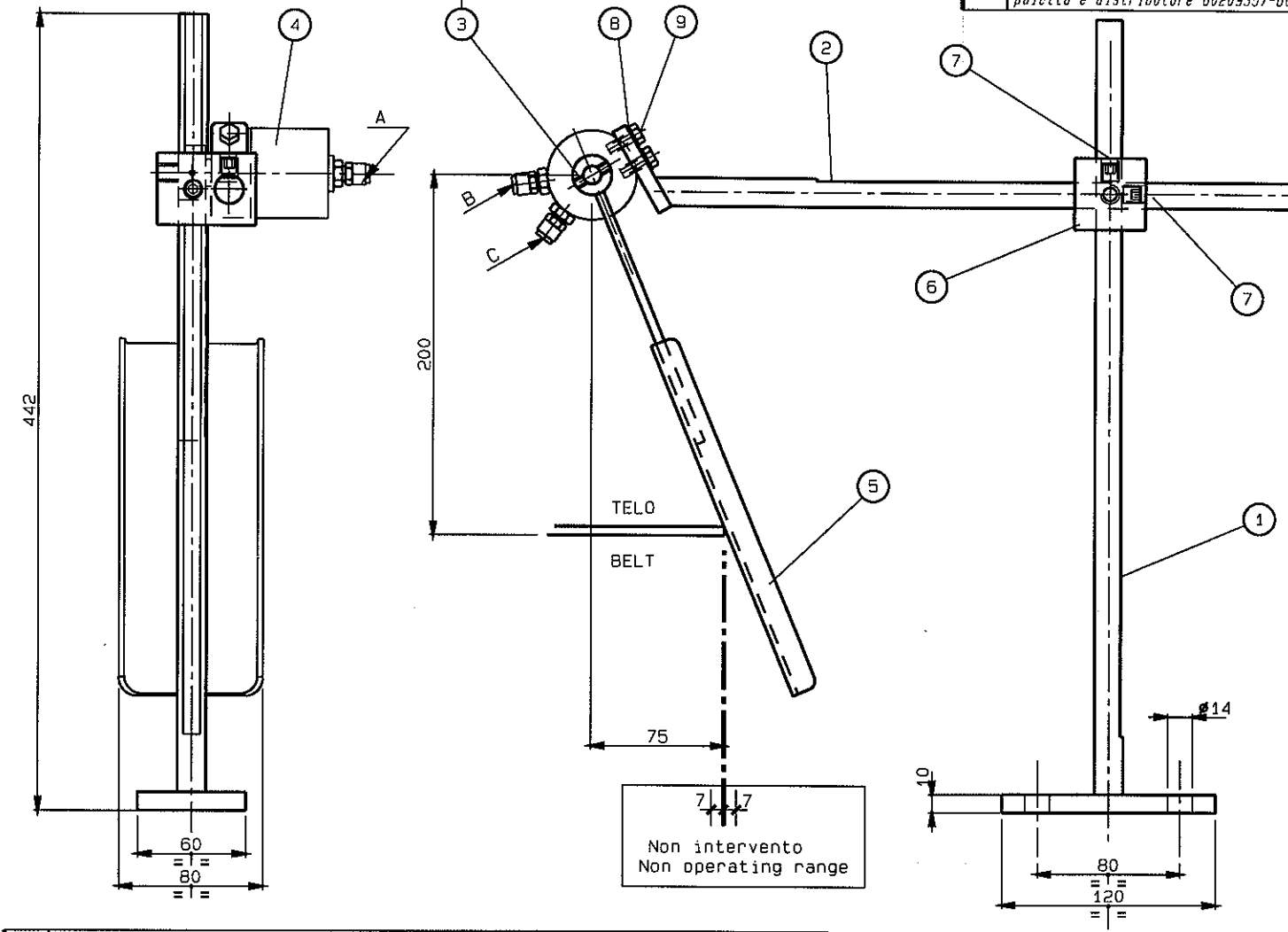
APPROVATO:

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

Dopo il montaggio della paletta sul distributore bloccare
la vite con LOCTITE 270 frenafiletti.
After positioning tight the scew item 3 and block with LOCTITE 270

REV.	MODIFICHE	DATA	DIS.	APP.	C.Q.
A	Emissione disegno	13.1.94	Antoniazzi		
B	Variato asta orizz. Sostituito distributore 60404111 con 60402001	13.9.94	Antoniazzi		
C	Eseguito piano di appoggio viti pos.7 su aste pos.1e2 . Sostituito	2.11.94	Alberti		
	paletta e distributore 60209357-60402001 con 60209869-60404299				



A) Ingresso / Inlet
B) Al cilindro / To pneum.cylinder
C) Al cilindro / To pneum.cylinder

Procedura di collaudo

1) Montare il gruppo come indicato:
2) Alimentare a 5 BAR
3) Verificare:
   - Zona di non intervento contenuta entro ± 7mm. alla distanza indicata.
   - Le perdite di aria dallo scarico centrale non devono essere rumorose.
   - A 5 BAR la paletta deve cadere in posizione verticale.

Testing procedure

1) Assemble as shown
2) Feed at 5BAR with ydrat and lubricated air.
3) Check that:
   - Rotating the paddle item 5 within the range ± 7mm. the distributor item 4 does not work. Air does not flow through the ports A and B.
   - Air leackage is constant at low noise level.
   - At 5 BAR the paddle must rotate and fall down in the vertical position (low friction)

UNIFICATO

9	Vite A2 TE M6x16 UNI5739	N	2	14691077
8	Rosetta A2 piana M6 UNI6592	N	2	14653036
7	Vite A2 STEI UNI5923 M10x10	N	2	14691197
6	Morsetto unione aste	N	1	60118408
5	Paletta distributore	N	1	60209869
4	Distributore	N	1	60404299
3	Vite A2 STEI M6x10 UNI 5927	N	1	14691236
2	Asta orizzontale	N	1	60118406
1	Asta verticale	N	1	60118407

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE

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VIA TORINO 114 - 27045 CASTEGGIO (PV) -ITALY-
TELEX 320172 SERNA I - FAX (0383-83782)
TELEPHONE (0383) 83741

Posizione archivio: VG31 (C, B, A)

DENOMINAZIONE: Distributore pneumatico e supporto

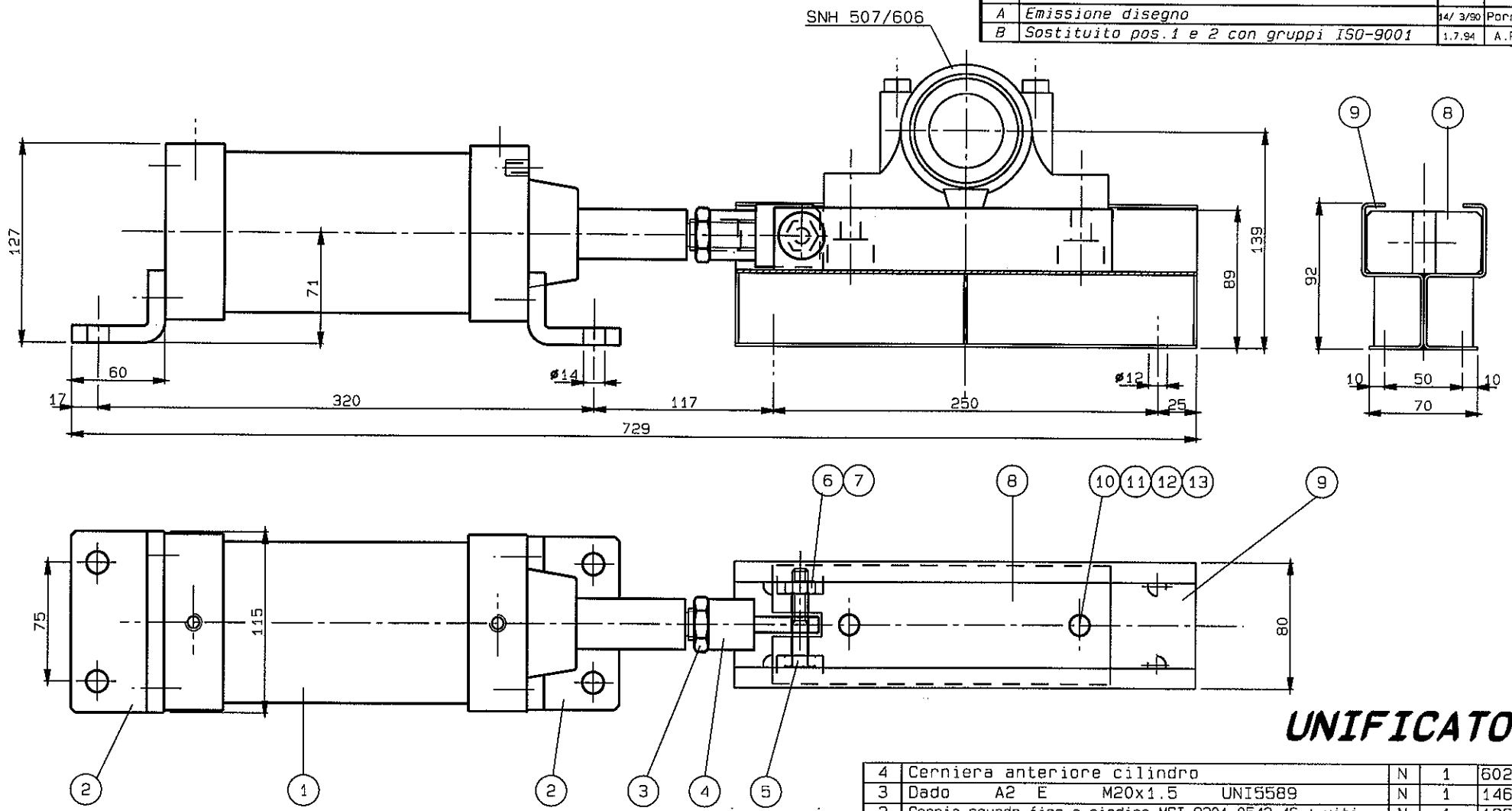
DIS.N. 60306364 Rev.

MACCHINA TIPO	SCALA	DATA	DISEGNATO	APP.	C.Q.
SEM	1:2.5	13.1.94	Antoniazzi		

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	14/ 3/90	Porri	
B	Sostituito pos.1 e 2 con gruppi ISO-9001	1.7.94	A.P.	



UNIFICATO

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
4	Cerniera anteriore cilindro			N	1	60207077
3	Dado A2 E M20x1.5 UNI5589			N	1	14641047
2	Coppia squadr.fiss.a piedino MSI-9301 0542-46 + viti			N	1	12600250
1	Cilindro C52M.100.25.100			N	1	12600249
14						
13						
12	Rosetta A2 Piana M12	UNI6592		N	2	14653029
11	Dado A2 autoblocc.M12	DIN 982		N	2	14641007
10	Vite A2 TE M12x60	UNI5737		N	2	14691046
9	Supporto slitta centraggio teli			N	1	60207078
8	Slitta centraggio teli			N	1	60115413
7	Rosetta A2 Piana M10	UNI6592		N	1	14653028
6	Dado A2 autoblocc.M10	DIN 982		N	1	14641001
5	Vite A2 TE M10x55	UNI5737		N	1	14691300

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VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
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Posizione archivio: VG31 B

DENOMINAZIONE: Gr.cilindro centraggio telo

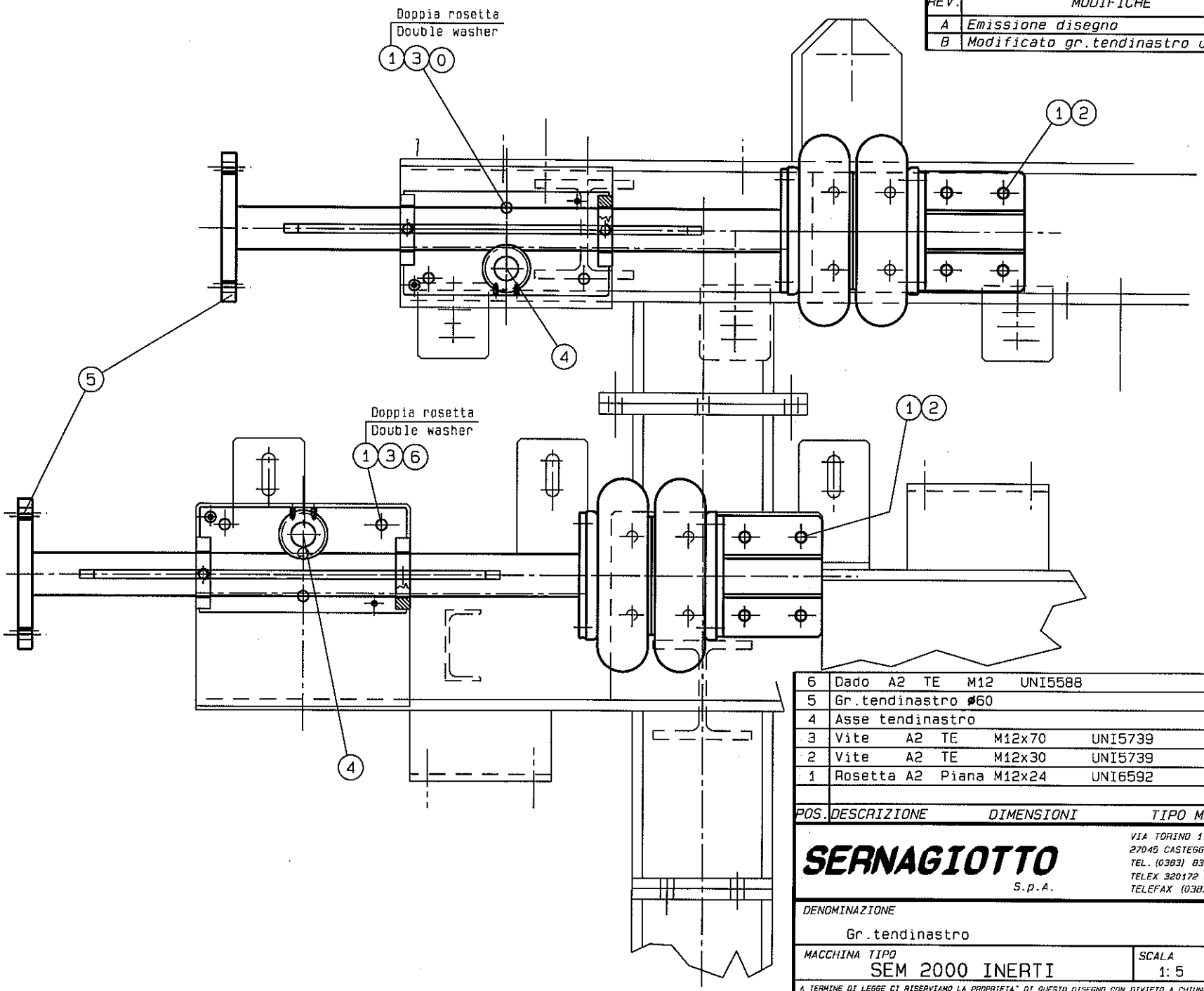
DIS.N. 60304557 A Rev

MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 1200	1: 2.5	14/ 3/90	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	18/12/90	Porri	
B	Modificato gr.tendinastro unific.	24.10.91	Porri	



POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
6	Dado A2 TE	M12	UNI5588	N	12	14641023
5	Gr.tendinastro ø60			N	4	60304488
4	Asse tendinastro			N	2	60115859
3	Vite A2 TE	M12x70	UNI5739	N	12	14691276
2	Vite A2 TE	M12x30	UNI5739	N	16	14691042
1	Rosetta A2 Piana	M12x24	UNI6592	N	40	14653029

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VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
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Posizione archivio: VA31 B

DENOMINAZIONE: Gr.tendinastro

DIS.N. 60403522 A Rev

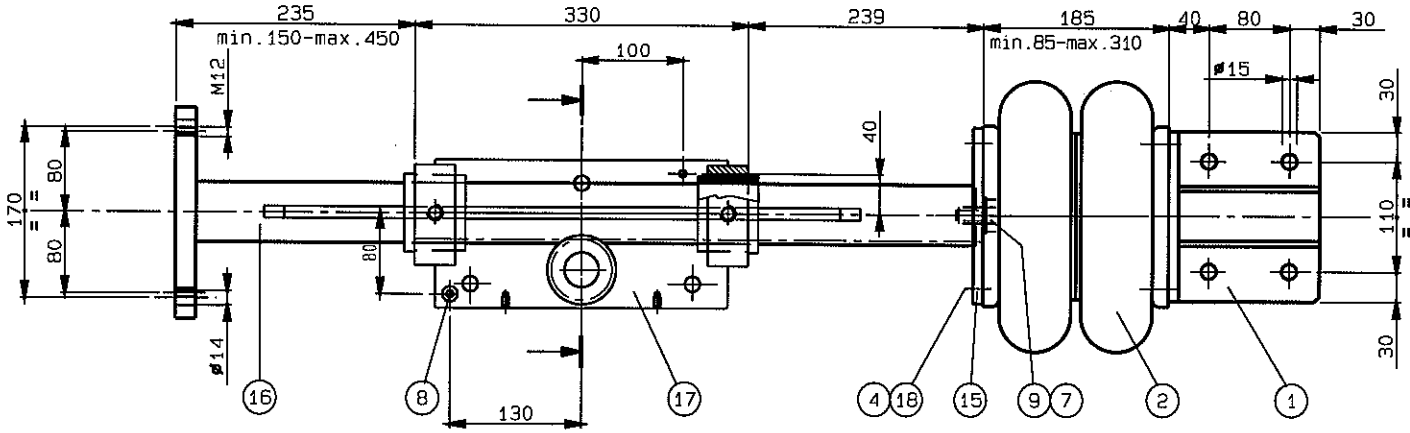
MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000 INERTI	1:5	18/12/90	PORRI	

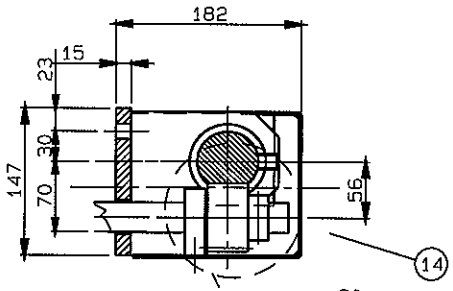
A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

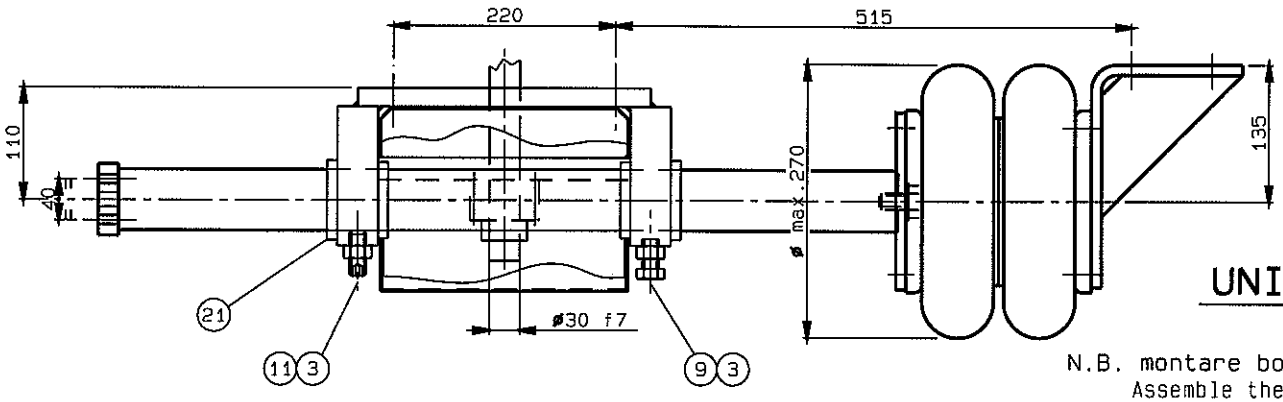
EX DIS.N.

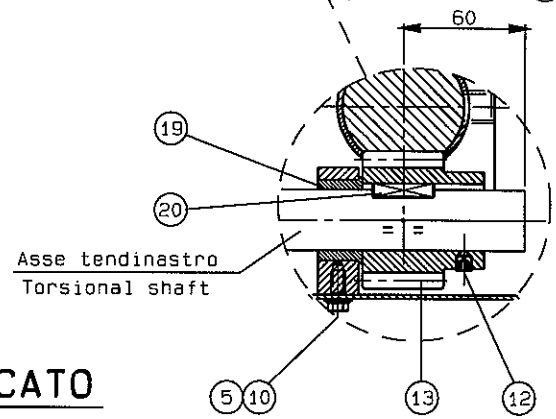
N.B. montare un gruppo destro e uno sinistro
1 L.H. and 1 L.R.

REV.	MODIFICHE	DATA	DIS.	APP.	REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	20/ 7/90	Porri		C	Sostituito protezione cremagliera	04-5-94	PORRI	
B	Sostituito boccola 60.65.20 cod.10880019	30.9.91	A.P.		D	Sostituito boccola cremagl.cod.60116568	2-11-94	ALBERTI	
	con boccola cod.60116568 e boccola					con boccola cod.60119162 e boccol.pos.19			
	cod.10880020 con cod.60116570					cod.60116570 con cod.60119160			









UNIFICATO

N.B. montare boccola pos.19 dopo aver montato l'asse tendin.
Assemble the bushing item 19 after torsional shaft positioning.

21	Boccola cremagliera	N	2	60119162
20	Linguetta A4 A 8x7x30 UNI6604	N	1	14621001
19	Boccola asse tendinastro	N	1	60119160
18	Vite A2 TE M 8x25 UNI5739	N	16	14691087
17	Supporto braccio tendinastro ø60	N	1	60207133
16	Braccio tendinastro ø60 (1 destro e 1 sinistro)	N	1	60206963
15	Disco per torpress lato cremagliera	N	1	60115283
14	Protezione cremagliera	N	1	60118775
13	Ingranaggio øp=60	N	1	60115607
12	Vite A2 STEI M 8x10 UNI5927	N	1	14691262
11	Vite A2 STEI M16x45 UNI5925	N	1	14691225
10	Vite A2 TE M 6x12 UNI5739	N	2	14691076
9	Vite A2 TE M16x30 UNI5739	N	2	14691057
8	Spina conica A2 8x35 UNI7284	N	2	14682008
7	Rosetta in rame ø16x30x3	N	1	14657004
5	Rosetta A2 Piana M 6 UNI6592	N	2	14653036
4	Rosetta A2 Piana M 8 UNI6592	N	16	14653037
3	Dado A2 E M16 UNI5588	N	2	14641027
2	Molla TORPRESS 245	N	1	12600058
1	Supporto torpress 245	N	1	60206965
POS.	DESCRIZIONE DIMENSIONI TIPO MAT.	UM	Q.	CODICE

SERNAGIOTTO S.p.A.
VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
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Posizione archivio: VG31

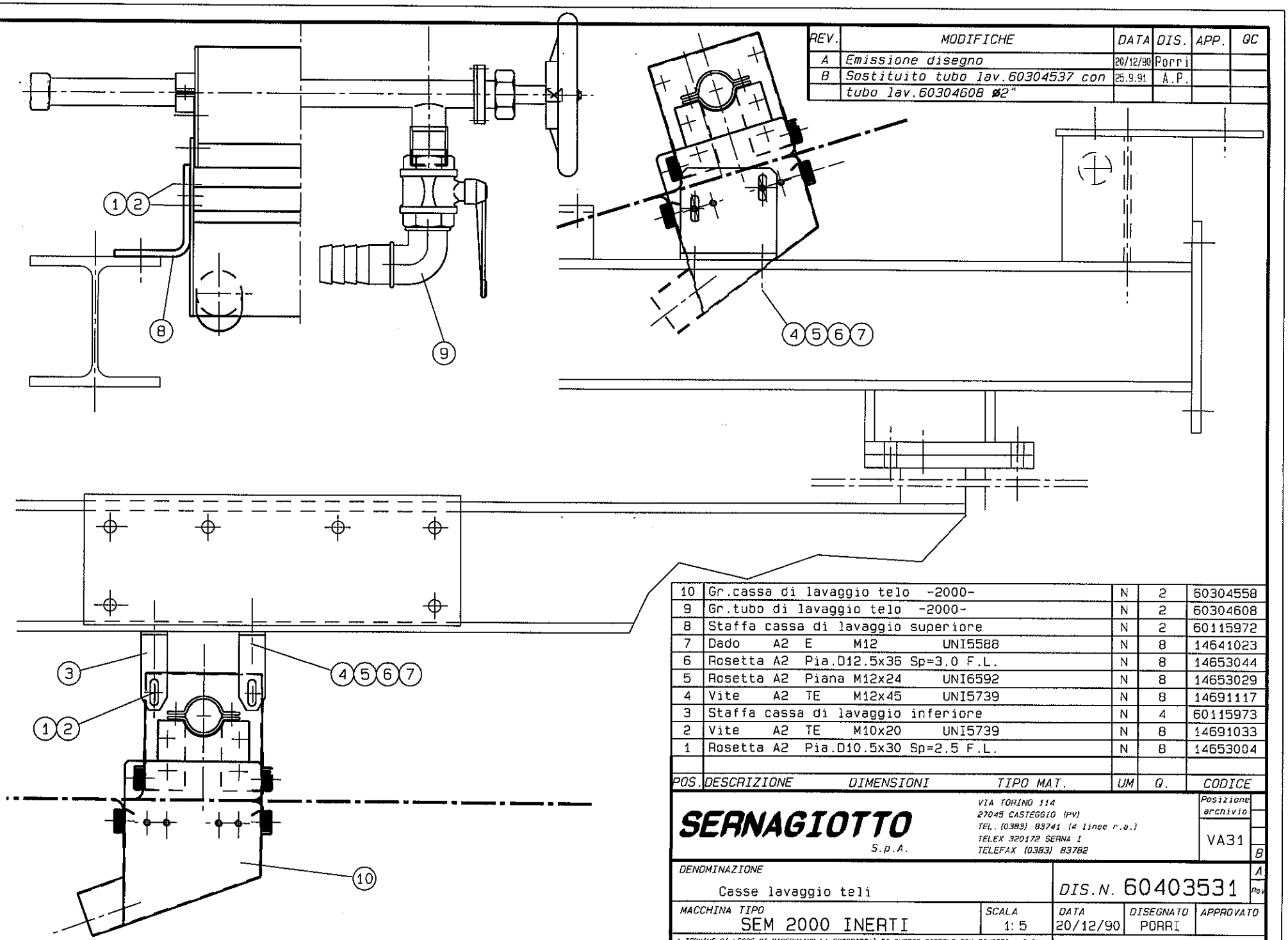
DENOMINAZIONE: Gr. tendinastro ø60

DIS.N. 60304488

MACCHINA TIPO: SEM | SCALA: 1:5 | DATA: 20/ 7/90 | DISEGNATO: Porri | APPROVATO:

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.



REV.	MODIFICHE	DATA	DIS.	APP.	QC
A	Emissione disegno	20/12/90	Porri		
B	Sostituito tubo lav.60304537 con	25.9.91	A.P.		
	tubo lav.60304608 ø2"				

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
10	Gr.cassa di lavaggio telo -2000-			N	2	60304558
9	Gr.tubo di lavaggio telo -2000-			N	2	60304608
8	Staffa cassa di lavaggio superiore			N	2	60115972
7	Dado A2 E	M12	UNI5588	N	8	14641023
6	Rosetta A2 Pia.	D12.5x36 Sp=3.0	F.L.	N	8	14653044
5	Rosetta A2 Piana	M12x24	UNI6592	N	8	14653029
4	Vite A2 TE	M12x45	UNI5739	N	8	14691117
3	Staffa cassa di lavaggio inferiore			N	4	60115973
2	Vite A2 TE	M10x20	UNI5739	N	8	14691033
1	Rosetta A2 Pia.	D10.5x30 Sp=2.5	F.L.	N	8	14653004

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VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
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Posizione archivio: VA31 B

DENOMINAZIONE: Casse lavaggio teli

DIS.N. 60403531 A Rev

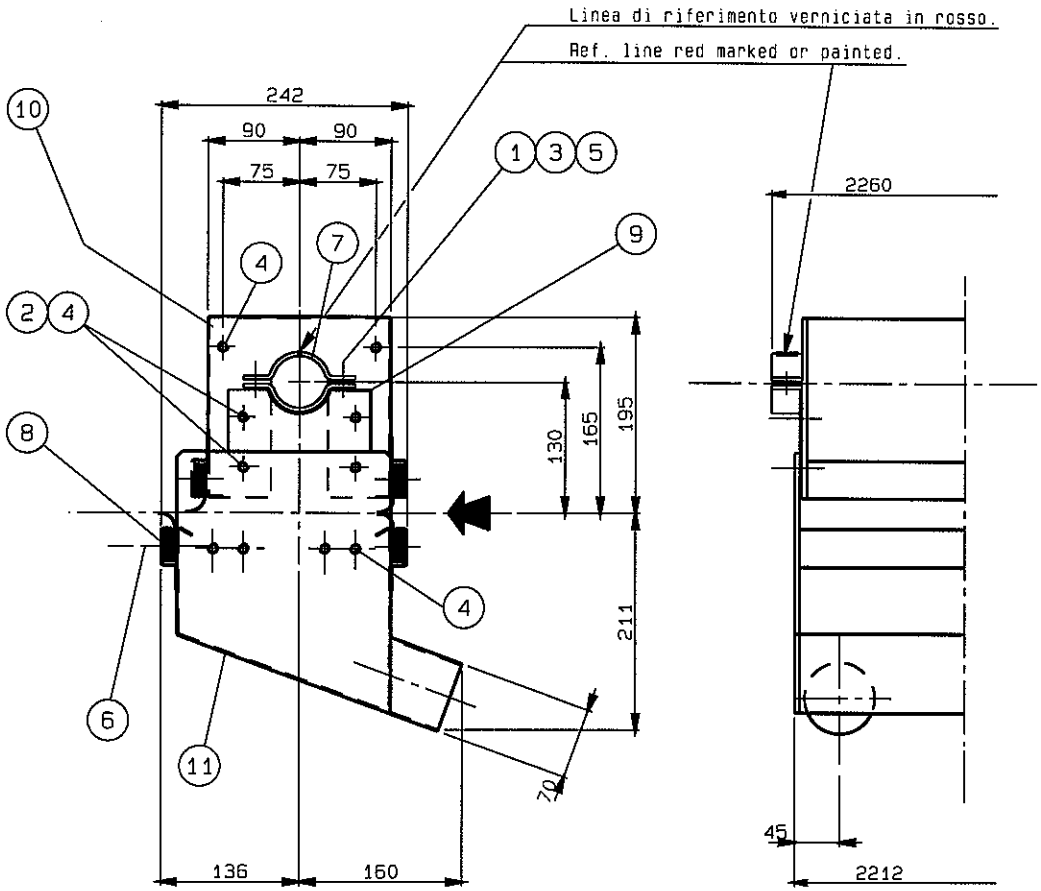
MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000 INERTI	1:5	20/12/90	PORRI	

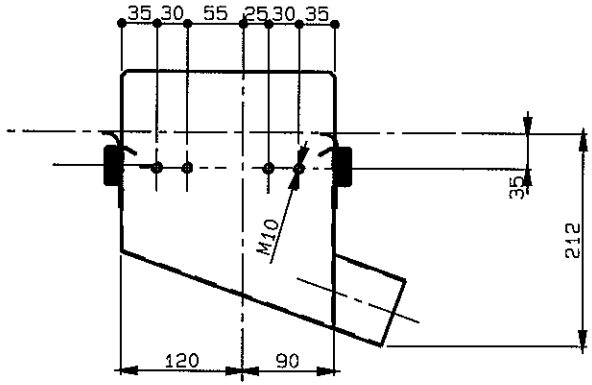
A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	18/7/90	Porri	

△	Saldatura
▭	Rivestimento o finitura superficie
▭	Trattamento termico





POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
11	Bacinella raccolta acqua lavaggio teli	-2000-		N	1	60207100
10	Cassa superiore porta tubo lavaggio teli	-2000-		N	1	60207096
9	Paraspruzzi			N	2	60115618
8	Bavetta cassa lavaggio teli	-2000-		N	4	60115612
7	Semizanca per tubo di lavaggio			N	2	60106080
6	Vite	A2 TE	M 8x20 UNI5739	N	8	14691094
5	Vite	A2 TE	M 8x30 UNI5739	N	4	14691088
4	Vite	A2 TE	M10x20 UNI5739	N	16	14691033
3	Rosetta	A2 Piana	M 8x17 UNI6592	N	4	14653037
2	Rosetta	A2 Piana	M10x21 UNI6592	N	12	14653028
1	Dado	A2 E	M 8 UNI5588	N	4	14641035

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VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
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Posizione archivio: VG 3

DENOMINAZIONE: Cassa lavaggio telo -2000-

DIS.N. 60304558 — Rev. A

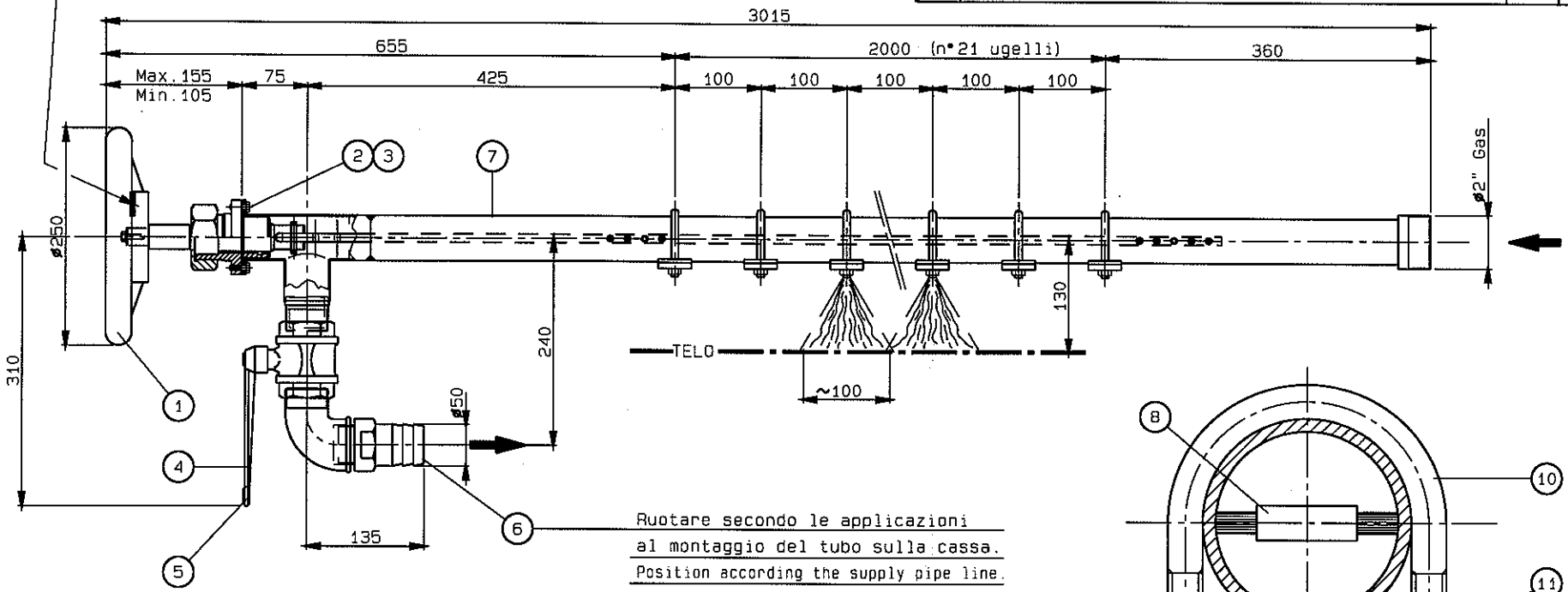
MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000	1:5	18/7/90	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.	C.Q.
A	Emissione disegno	21/12/89	PORRI		

Linea di riferimento verniciata in rosso
Ref. line red marked or painted.



15	Dado A2 E M 8 UNI5588	N	42	14641035
14	Rosetta A2 convessa M 8 DIN 127-A	N	42	14653026
13	Guarnizione ugello	N	21	60107999
12	Ugello mm.2	N	21	60107990
11	Staffa chiusura ugello tubo lavaggio	N	21	60109652
10	Supporto chiusura ugello tubo lavaggio	N	21	60109651
9				
8	Spazzola per tubo spruzzatore	N	1	60207033
7	Tubo spruzzatore	N	1	60208033
6	Portagomma M. ø1"1/2x50 art.41 RIV	N	1	12860079

5	Angolo 90° M.F. 92 ø1"1/2 GHZN	N	1	12830098
4	Valvola a sfera F.F. ø1"1/2 art.360 RIV	N	1	13030054
3	Rosetta A2 convessa M 6 DIN 127-A	N	4	14653025
2	Vite A2 TE M 6x16 UNI5739	N	4	14691077
1	Gruppo comando spazzola per tubo di lavaggio	N	1	60304478
POS.	DESCRIZIONE DIMENSIONI TIPO MAT.	UM	Q.	CODICE

SERNAGIOTTO S.p.A.
VIA TORINO 114 - 27045 CASTEGGIO (PV) -ITALY-
TELEX 320172 SERNA I - FAX (0383-83782)
TELEPHONE (0383) 83741

Posizione archivio: VG31

DENOMINAZIONE: Tubo lavaggio telo

DIS.N. 60304608 — Rev. A

MACCHINA TIPO	SCALA	DATA	DISEGNATO	APP.	C.Q.
SEM 2000	1:5	21/12/89	PORRI		

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

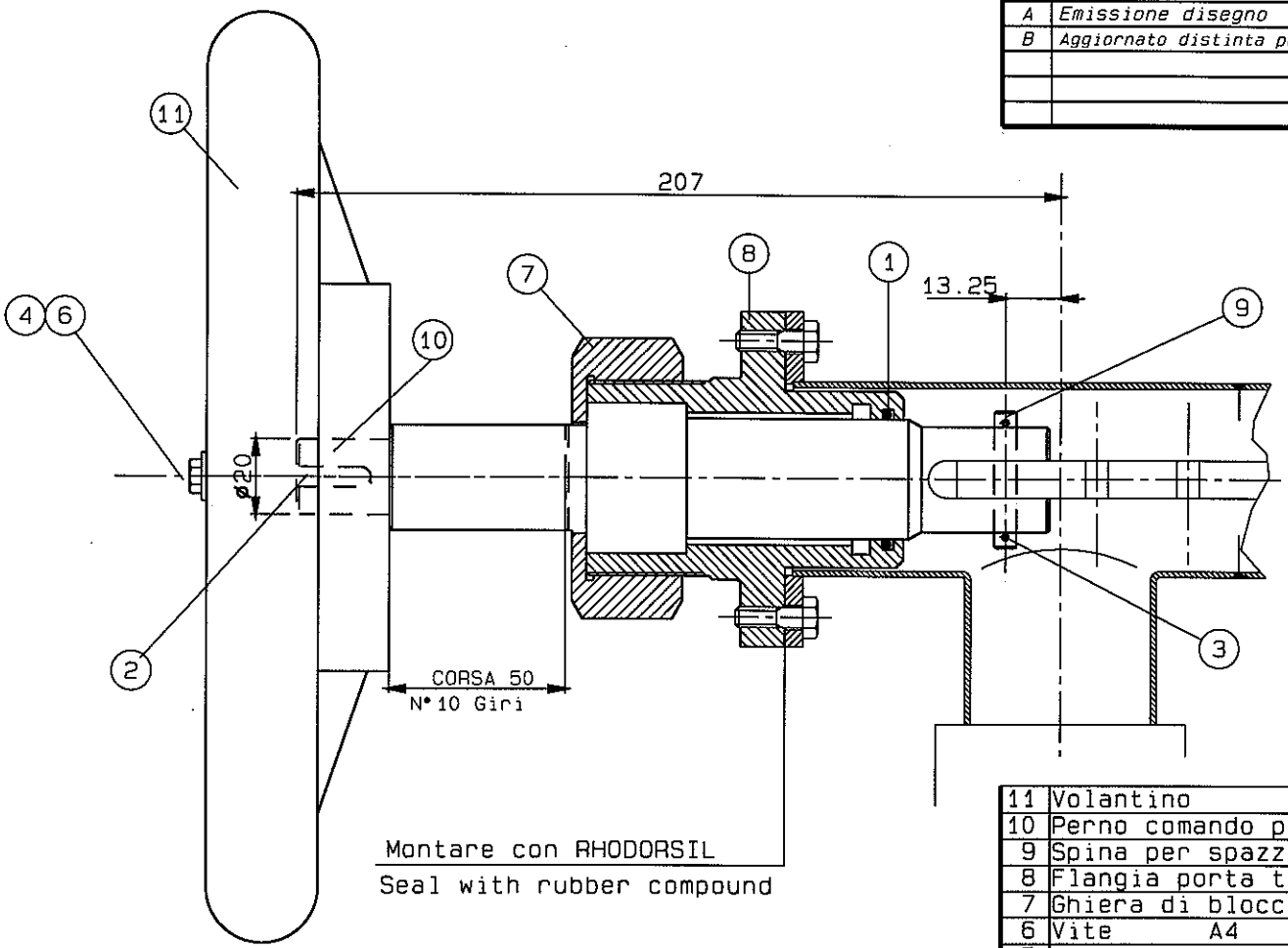
EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	16/10/89	PORRI	
B	Aggiornato distinta per produzione	14.5.92	A.P.	

△ Saldatura

Rivestimento o finitura superficie

Trattamento termico



UNIFICATO

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
11	Volantino			N	1	60115117
10	Perno comando pulitore			N	1	60115116
9	Spina per spazzola			N	1	60110862
8	Flangia porta tenuta			N	1	60110849
7	Ghiera di bloccaggio			N	1	60107994
6	Vite	A4	TE M 8x16 UNI5739	N	1	14697047
5						
4	Rosetta	A4	P.D 8.5x24 SP=2.5 F.L.	N	1	14653053
3	Copiglia	A4	2x15 UNI1336	N	2	14634011
2	Linguetta	A4	A 6x6x20 UNI6604	N	1	14621010
1	Guarnizione OR 4118			N	1	11434057
0						

SERNAGIOTTO S.p.A.
VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
TELEFAX (0383) 83782

Posizione archivio: VG31 B

DENOMINAZIONE: Gr. COMANDO SPAZZOLA PER TUBO LAVAGGIO

DIS.N. 60304478 A Rev

MACCHINA TIPO: Tubo lavaggio SEM

SCALA: //

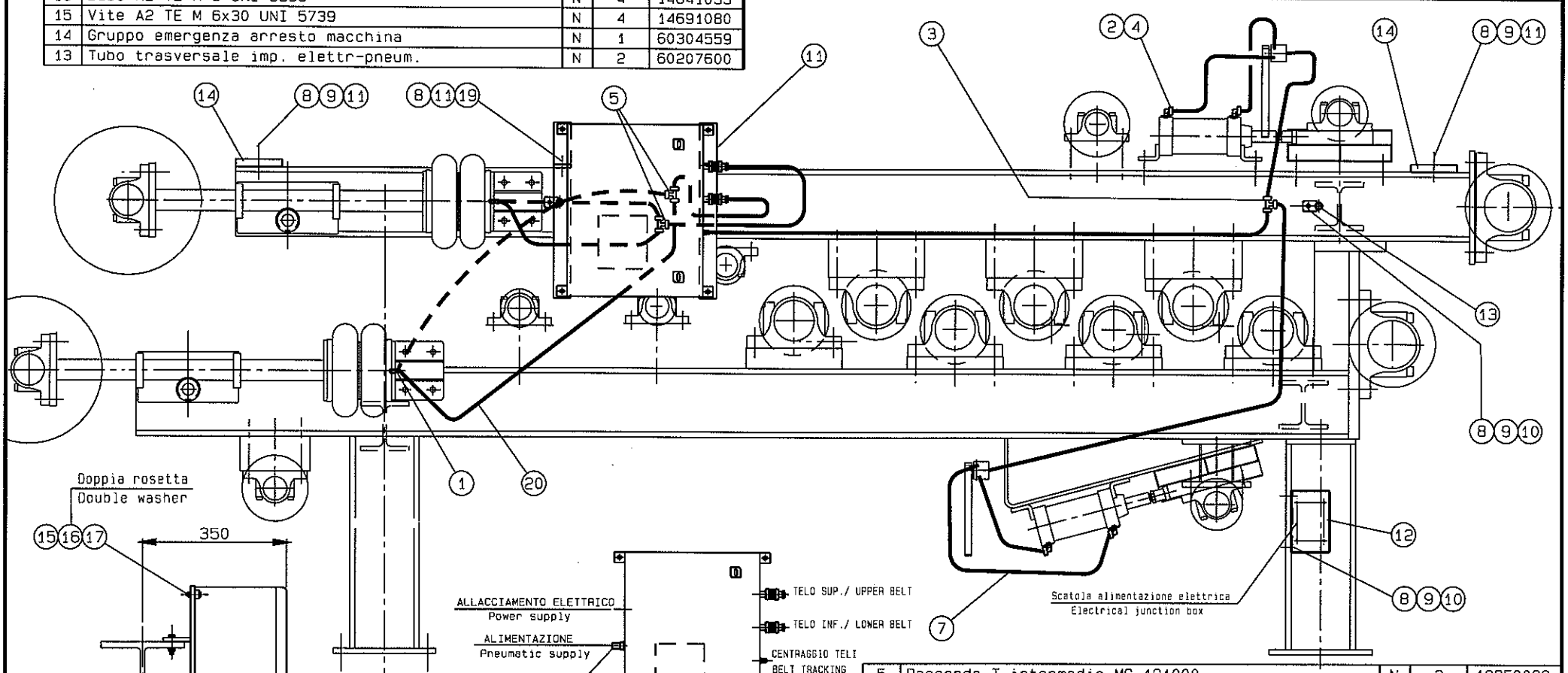
DATA	DISEGNATO	APPROVATO
16/10/89	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	14/01/90	Porri	
B	Montato pannello pneum.a bordo macchina	29.5.91	Porri	
C	Variato tubi aria Torpress da ø6 a ø10	8.10.91	Porri	

20	Tubo RILSAN NA 10-B	Mt	12	14050018
19	Rosetta A2 F.L. ø8.5 x 24 x 2.5	N	4	14653003
18	Staffa fissaggio quadro	N	2	60207611
17	Rosetta A2 F.L.ø6.5 x 18 x 2	N	8	14653008
16	Dado A2 TE M 6 UNI 5588	N	4	14641033
15	Vite A2 TE M 6x30 UNI 5739	N	4	14691080
14	Gruppo emergenza arresto macchina	N	1	60304559
13	Tubo trasversale imp. elettr-pneum.	N	2	60207600



5	Raccordo T intermedio MC 191000	N	2	12850082
4	Riduzione MF RA015 1/2-1/4	N	4	12850071
3	Racc.T interm. M. MC 190600	N	1	12850063
2	Racc. angol. M. MC 160614	N	4	12850060
1	Racc. diritto M. MC 111014	N	4	12850072

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE

12	Squadretta scatola alimentazione elettrica	N	1	60116037
11	Vite A2 TE M 8x40 UNI5739	N	12	14691091
10	Vite A2 TE M 8x30 UNI5739	N	4	14691088
9	Rosetta A2 Piana M 8x17 UNI6592	N	12	14653037
8	Dado A2 E M 8 UNI5588	N	16	14641035
7	Tubo RILSAN NA 06/B ø6x4	Mt	8	14050016
6	Riduzione MF 2531 CL D3/8-1 4	N	1	12860051

SERNAGIOTTO S.p.A.
VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
TELEFAX (0383) 83782

Posizione archivio: VG31 C B A Rev

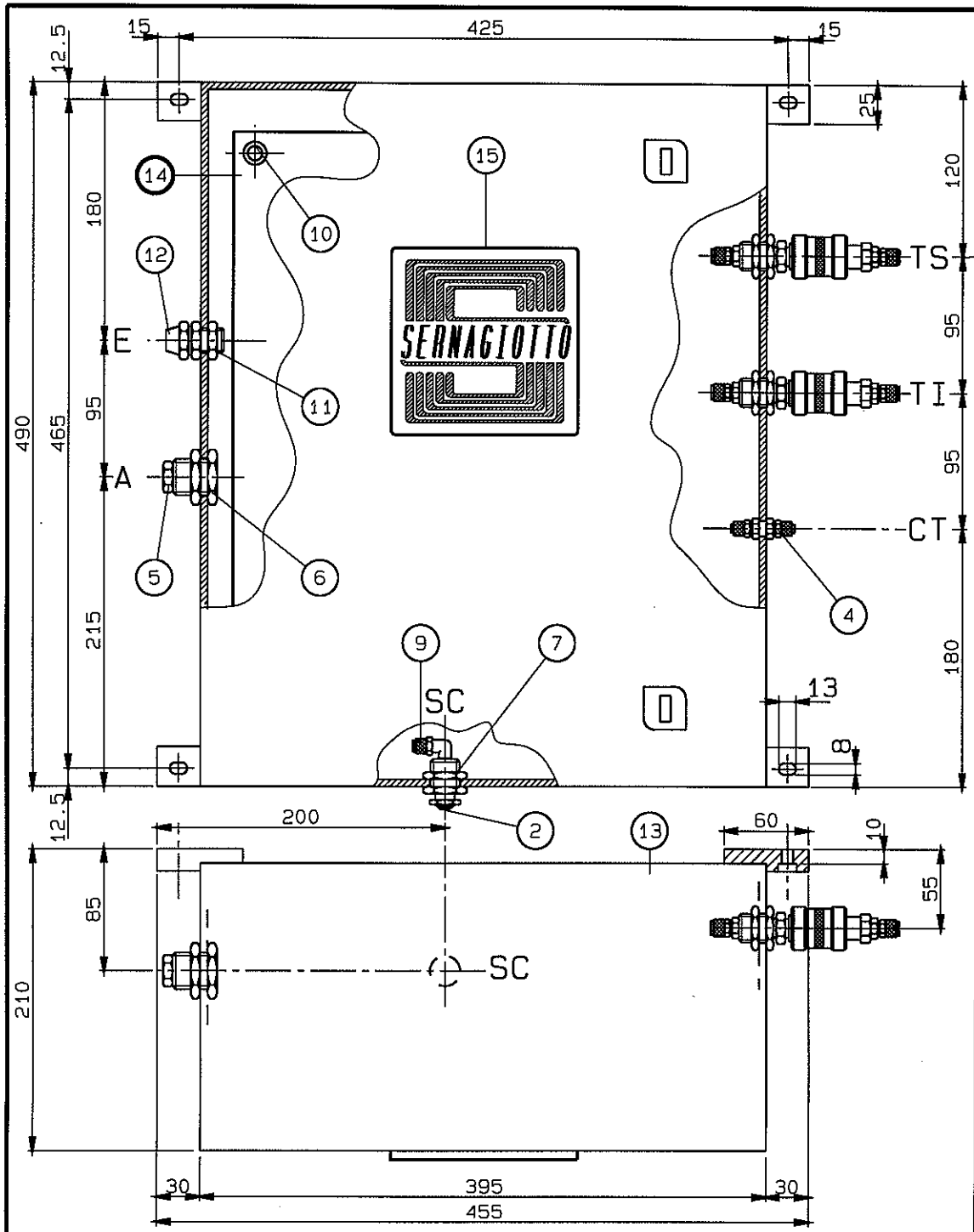
DENOMINAZIONE: Impianto pneumatico

DIS.N. 60305454

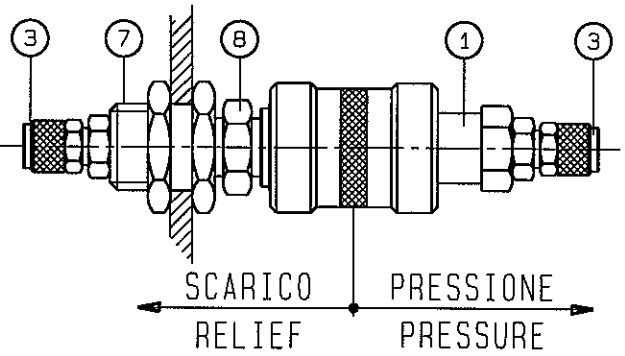
MACCHINA TIPO: SEM 2000 INERTI | SCALA: 1:11 | DATA: 14/01/90 | DISEGNATO: PORRI | APPROVATO:

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.



REV.	MODIFICHE	DATA	DIS.	APP.	C.Q.
A	Emissione disegno	23/1/91	PORRI		
B	Variato collegamento TI-TS tubo da ø6 a ø10	04/10/91	PORRI		



COLLEGAMENTI

- E Alimentazione elettrica / Power supply
- A Alimentazione pneumatica / Pneumatic supply
- SC Scarico condensa / Condensed drain
- CT Centraggio teli / Belt tracking
- TS Tensione telo superiore / Upper belt tension
- TI Tensione telo inferiore / Lower belt tension

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
15	Targa SERNAGIOTTO N°2med			N	1	13600053
14	Piastra porta strumenti			N	1	60305468
13	Foratura cassa			N	1	60116053
12	Pressacavo OT nich.	ø3/8		N	1	55142001
11	Controdado OT	ø3/8		N	1	55114005
10	Supp.fiss. 364-02	MARINA		N	1	51964005
9	Raccordo L maschio	MC	16.08.14	N	1	12850099
8	Nipplo	RA	012.14.14	N	2	12850098
7	Passaparete	RA	044.00.14	N	3	12850096
6	Passaparete	RA	044.00.38	N	1	12850095
5	Riduzione MF	RA 014	3/8-1/4	N	1	12850094
4	Raccordo passalamiera	MC	15.06.00	N	1	12850090
3	Raccordo diritto M	MC	11.10.14	N	4	12850072
2	PN silenziatore	RA	032.00.14	N	1	12600150
1	PN valvola a corsoio 6500713		1/4	N	2	12600105

SERNAGIOTTO S.p.A.
VIA TORINO 114 - 27045 CASTEGGIO (PV) -ITALY-
TELEX 320172 SERNA I - FAX (0383-83782)
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Posizione archivio: VG31 B

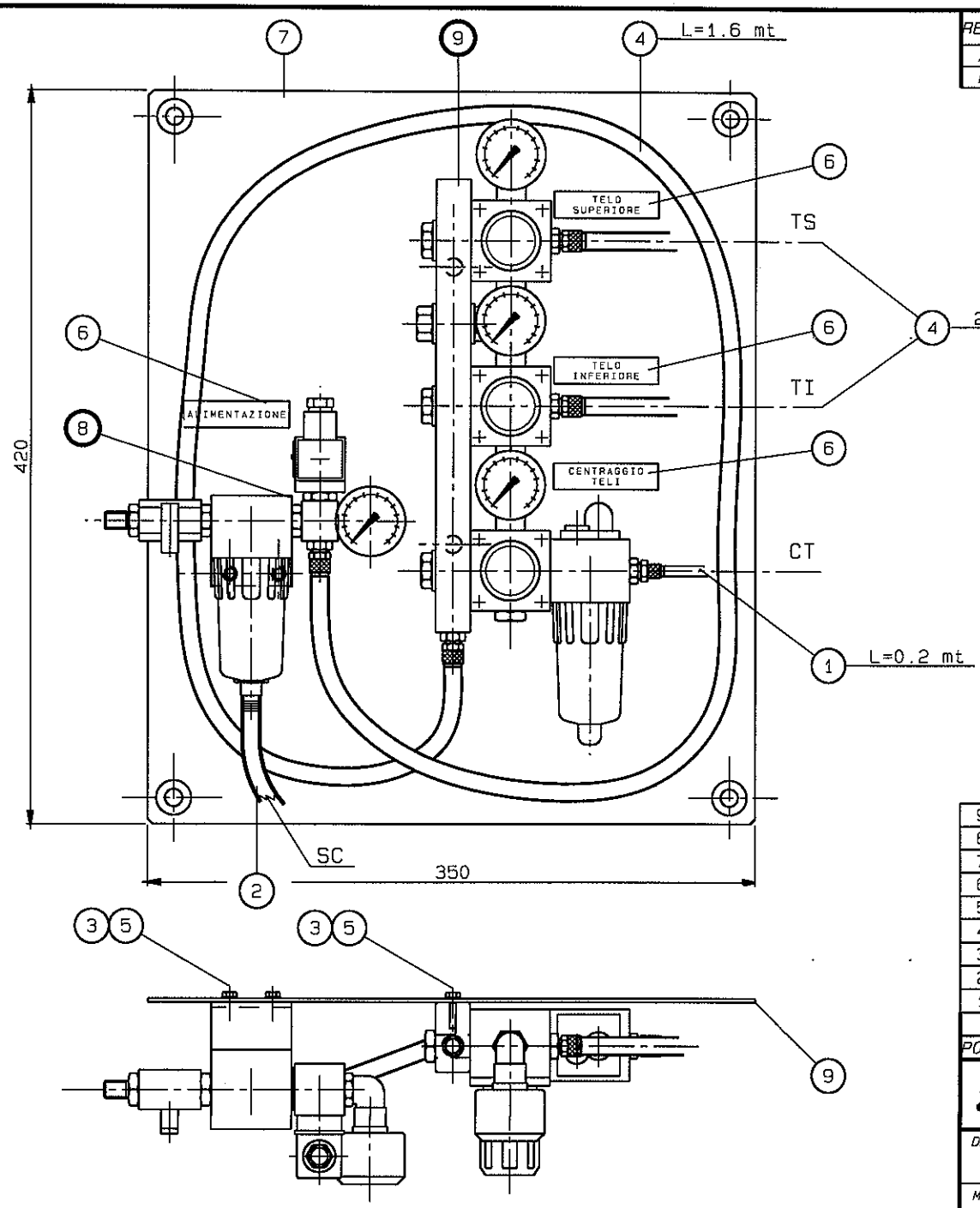
DENOMINAZIONE: GUADRO COMANDI PNEUMATICO

DIS.N. 60304586 A Rev.

MACCHINA TIPO	SCALA	DATA	DISEGNATO	APP.	C.Q.
SEM	1: 3	23/1/91	PORRI		

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.



REV.	MODIFICHE	DATA	DIS.	APP.	C.Q.
A	Emissione disegno	23/01/91	PORRI		
B	Variato tubi pos.4 da ø6 a ø10	04/10/91	PORRI		

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
9	Gr. distribuzione			N	1	60305470
8	Gr. alimentazione			N	1	60305469
7	Foratura piastra			N	1	60116054
6	Targhette per quadro I.P.			N	1	60116033
5	Vite	A2	TE M 4x16	UNI5739	N	4	14691166
4	Tubo	RILSAN	NA 10/B	ø10x8	Mt	2	14050018
3	Rosetta A2	piana M 4x9		UNI6592	N	4	14653034
2	Tubo	gomma trasp.		ø5x8 GEMMA	Mt	0.2	14080005
1	Tubo	RILSAN	NA 06/B	ø6x4	Mt	0.2	14050016

SERNAGIOTTO S.p.A.
VIA TORINO 114 - 27045 CASTEGGIO (PV) -ITALY-
TELEX 320172 SERNA I - FAX (0383-83782)
TELEPHONE (0383) 83741

Posizione archivio: VG31

DENOMINAZIONE: Piastra porta strumenti

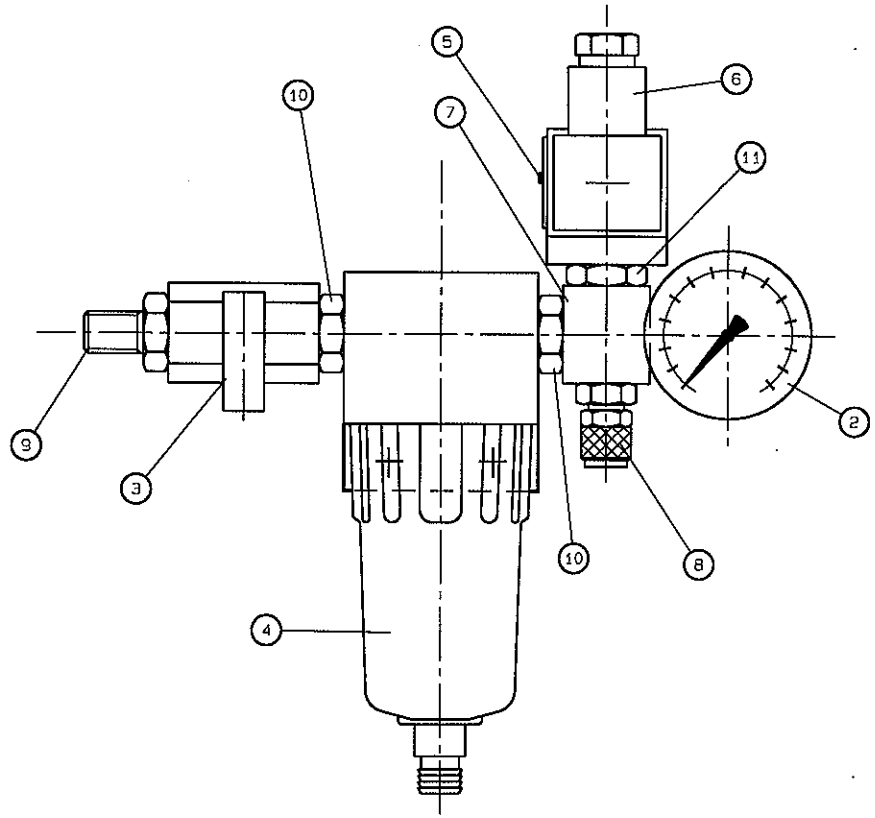
DIS.N. 60305468

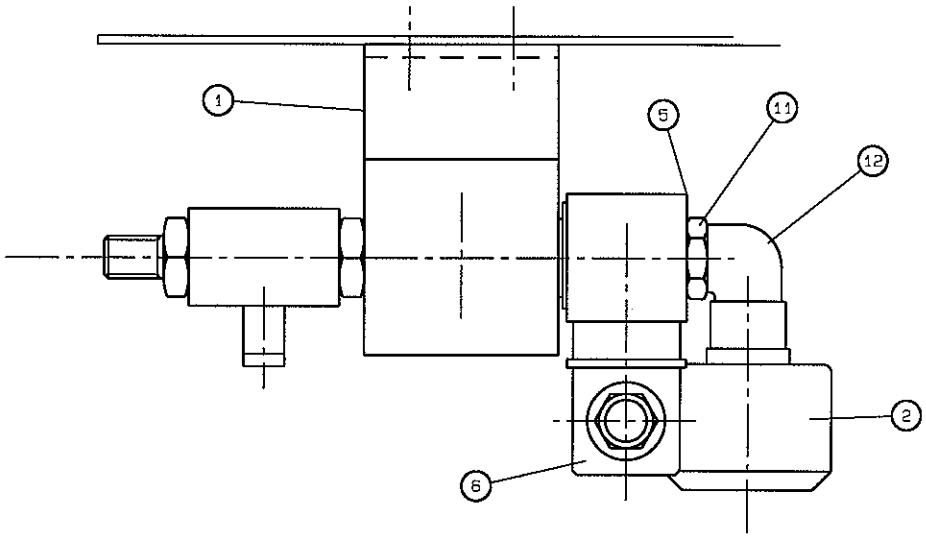
Rev: A B

MACCHINA TIPO	SCALA	DATA	DISEGNATO	APP.	C.Q.
SEM	1:2.5	23/01/91	PORRI		

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.





REV.	MODIFICHE	DATA	DIS.	APP.	C.Q.
A	Emissione disegno	23/01/91	PORRI		
B	Variato pos.7-8-10-11 per tubo da ø6 a ø10	04/10/91	PORRI		

POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
12	Racc. L MF RA 022 18.18			N	1	12850101
11	Riduzione MF RA 014 14.18			N	2	12850110
10	Nipplo RA 012 14.14			N	2	12850098
9	Nipplo RA 012 14.38			N	1	12850097
8	Racc. diritto M MC 11.10.14			N	1	12850072
7	PN ripartitore RA 029.00 14			N	1	12600155
6	PN connettore elettrico per VE 13			N	1	12600186
5	PN pressostato PMC 10			N	1	12600181
4	PN filtro MINI FIL 08A 1/4			N	1	12600180
3	PN valvola MV24 0014			N	1	12600179
2	PN manometro MAN 10/40 1/8			N	1	12600163
1	PN staffa di montaggio 9090.1756			N	1	12600162

SERNAGIOTTO S.p.A.
VIA TORINO 114 - 27045 CASTEGGIO (PV) -ITALY-
TELEX 320172 SERNA I - FAX (0383-83782)
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Posizione archivio: VG31 B

DENOMINAZIONE: GRUPPO ALIMENTAZIONE

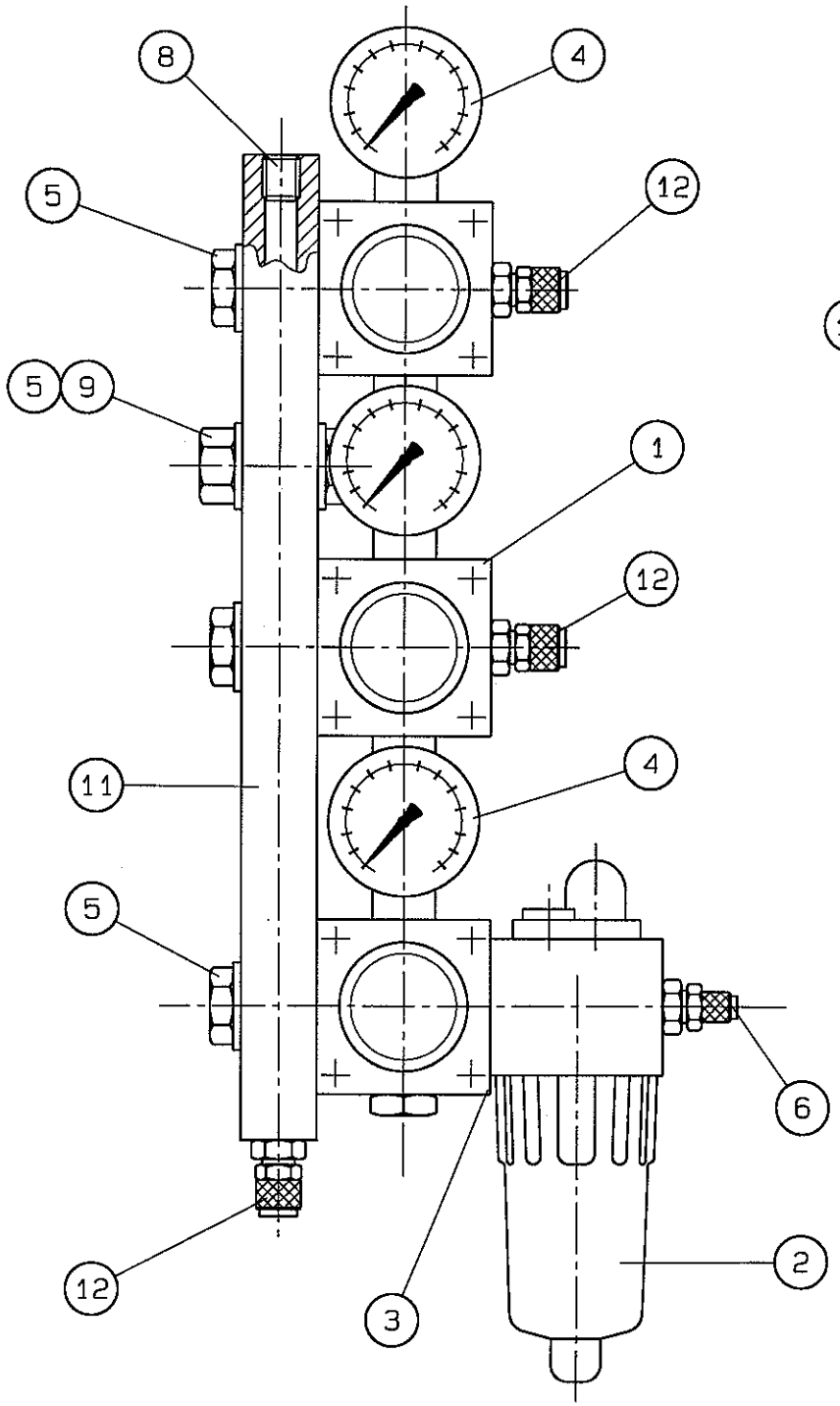
DIS.N. 60305469 A Rev

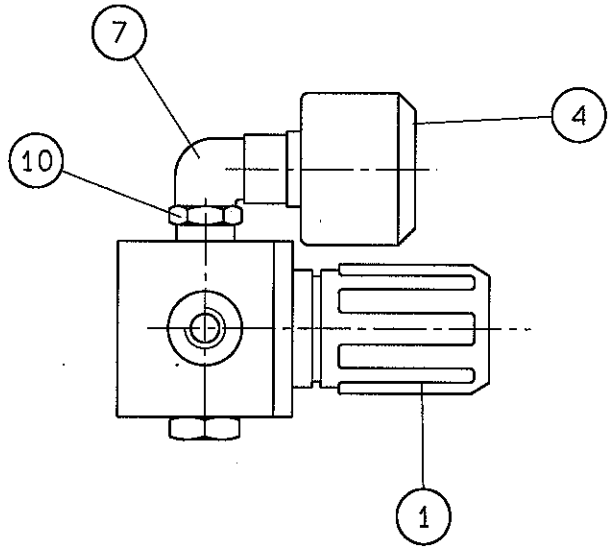
MACCHINA TIPO	SCALA	DATA	DISEGNATO	APP.	C.Q.
SEM	---	23/01/91	PORRI		

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.	C.Q.
A	Emissione disegno	23/01/91	PORRI		
B	Variato pos.12 per tubo da ø6 a ø10	04/10/91	PORRI		





POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
12	Racc.diritto M MC 11.10.14			N	3	12850072
11	Collettore per rid.MINI REG			N	1	60116055
10	Prolunga MF RA 039.18.22			N	3	12850105
9	Tappo F RA 020.00.14			N	1	12850104
8	Tappo conico RA 043.00.14			N	1	12850103
7	Racc. L M/F RA 022.18.18			N	3	12850101
6	Racc.diritto M MC 11.06.14			N	1	12850056
5	PN asta sing. MR 31.00.14			N	4	12600188
4	PN manometro MAN 10/40 1/8			N	3	12600163
3	PN kit di montaggio DIM/REG 9090.1755			N	1	12600154
2	PN lubrific. MINI DIM 08A 1/4			N	1	12600147
1	PN riduttore MINI REG 08A 1/4			N	3	12600146

SERNAGIOTTO S.p.A.
VIA TORINO 114 - 27045 CASTEGGIO (PV) -ITALY-
TELEX 320172 SERNA I - FAX (0383-83782)
TELEPHONE (0383) 83741

Posizione archivio: VG31 B

DENOMINAZIONE: GRUPPO DISTRIBUZIONE

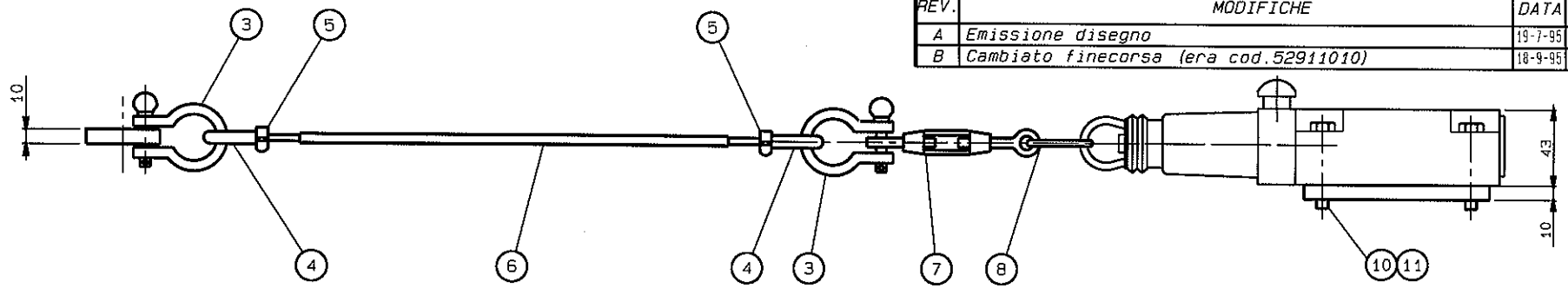
DIS.N. 60305470 A Rev

MACCHINA TIPO	SCALA	DATA	DISEGNATO	APP.	C.Q.
SEM	---	23/01/91	PORRI		

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

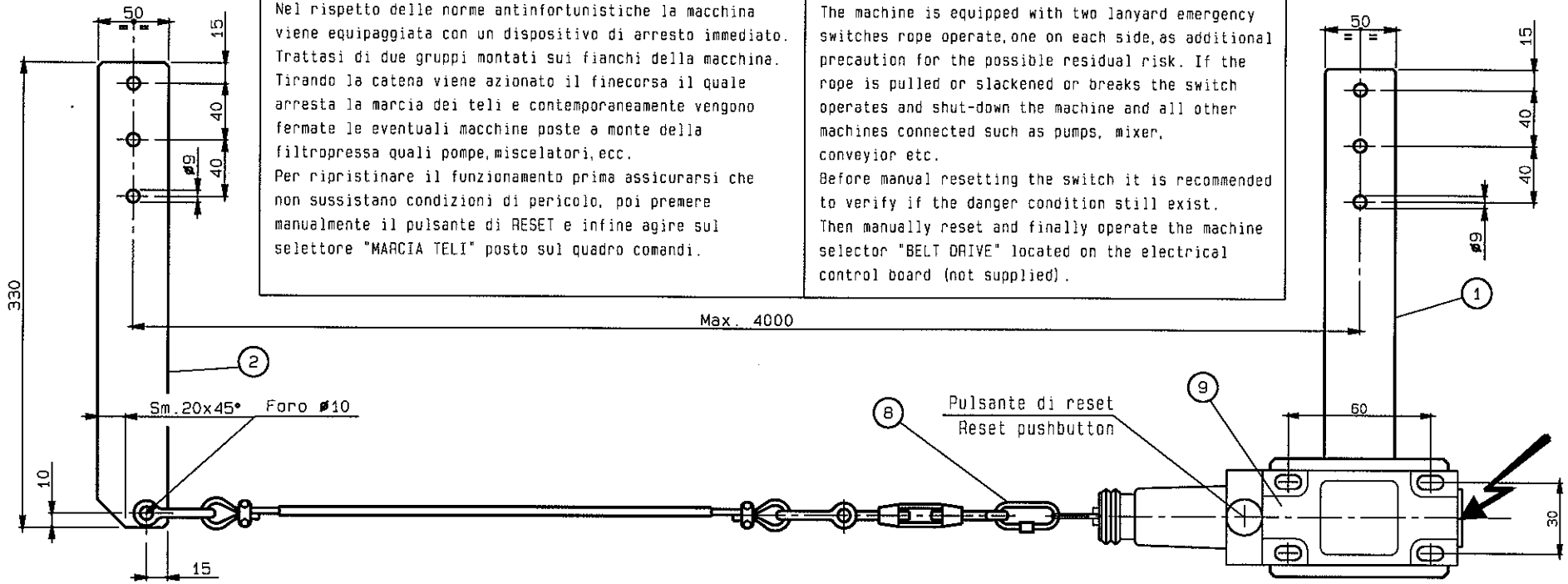
EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.	C.Q.
A	Emissione disegno	19-7-95	PORRI		
B	Cambiato finecorsa (era cod.52911010)	18-9-95	PORRI		



Nel rispetto delle norme antinfortunistiche la macchina viene equipaggiata con un dispositivo di arresto immediato. Trattasi di due gruppi montati sui fianchi della macchina. Tirando la catena viene azionato il finecorsa il quale arresta la marcia dei teli e contemporaneamente vengono fermate le eventuali macchine poste a monte della filtropressa quali pompe, miscelatori, ecc.
Per ripristinare il funzionamento prima assicurarsi che non sussistano condizioni di pericolo, poi premere manualmente il pulsante di RESET e infine agire sul selettore "MARCIA TELI" posto sul quadro comandi.

The machine is equipped with two lanyard emergency switches rope operate, one on each side, as additional precaution for the possible residual risk. If the rope is pulled or slackened or breaks the switch operates and shut-down the machine and all other machines connected such as pumps, mixer, conveyor etc.
Before manual resetting the switch it is recommended to verify if the danger condition still exist.
Then manually reset and finally operate the machine selector "BELT DRIVE" located on the electrical control board (not supplied).



POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
11	Rosetta A2 piana M5 UNI6592			N	4	14653035
10	Vite A2 TCEI M5x45 UNI5931			N	4	14691208
9	Finecorsa a tirante riarmo man.LIFELINE 2 LRS-2			N	1	52911012
8	Giunzione per catena ø3.5 x28 ø3.5 zincata			N	1	19900135
7	Tenditore ø3/16" zincato foro ø9 L=106/172			N	1	11200059
6	Fune metallica con rivest.plastica ø3.5			Mt	5	19900134
5	Morsetto per fune ø3.5 zincato			N	2	19900133
4	Redance aperta per fune ø3.5 zincata			N	2	19900132
3	Grillo ad arpa ø7 h=28 UNI1950 tipo A zincato			N	2	11200040
2	Supporto cavetto			N	1	60115442
1	Supporto finecorsa LIFELINE 2			N	1	60119758

SERNAGIOTTO S.p.A.
VIA TORINO 114 - 27045 CASTEGGIO (PV) -ITALY-
TELEX 320172 SERNA I - FAX (0383-83782)
TELEPHONE (0383) 83741

Posizione archivio: VG31 B

DENOMINAZIONE: Gr.finecorsa emerg. arresto macchina

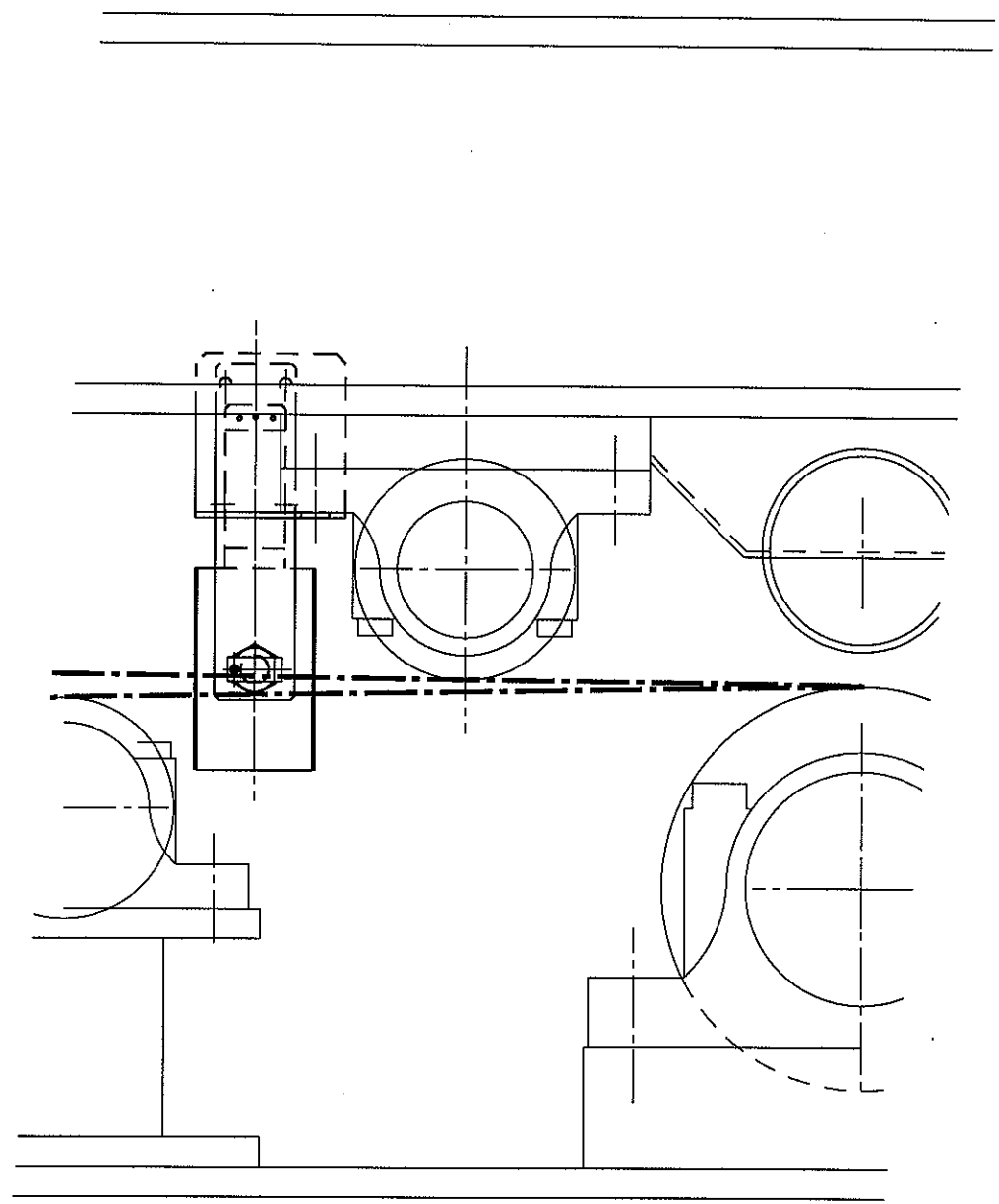
DIS.N. 60306785 A

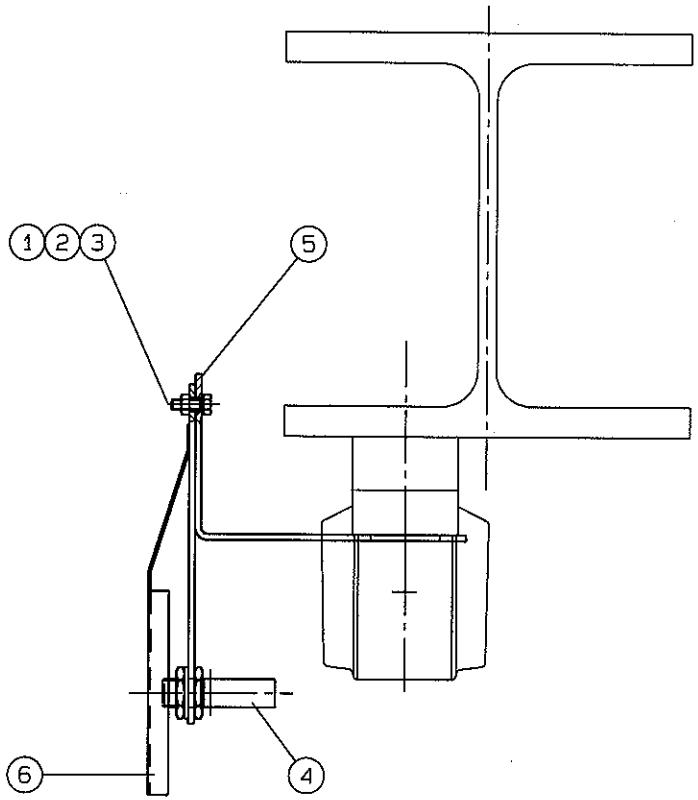
MACCHINA TIPO	SCALA	DATA	DISEGNATO	APP.	C.Q.
SEM	1:3	19-7-95	PORRI		

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.

REV.	MODIFICHE	DATA	DIS.	APP.
A	Emissione disegno	30/1/91	Porri	
B	Sostituito finecorsa 52931010 con 52931025	6.12.94	A.P.	





POS.	DESCRIZIONE	DIMENSIONI	TIPO MAT.	UM	Q.	CODICE
6	Paletta porta finecorsa			N	2	60207599
5	Staffa per finecorsa			N	2	60116036
4	Finecorsa BERO	3RG4072-0KB00	NC	N	2	52931025
3	Vite	A2 TE	M 5x16 UNI5739	N	4	14691072
2	Rosetta	A2 Piana	M 5x16 UNI6592	N	4	14653035
1	Dado	A2 E	M 5 UNI5588	N	4	14641032

SERNAGIOTTO S.p.A.

VIA TORINO 114
27045 CASTEGGIO (PV)
TEL. (0383) 83741 (4 linee r.a.)
TELEX 320172 SERNA I
TELEFAX (0383) 83782

Posizione archivio: VG31

DENOMINAZIONE: Gruppo emergenza teli

DIS.N. 60305455

Rev: B A

MACCHINA TIPO	SCALA	DATA	DISEGNATO	APPROVATO
SEM 2000 INERTI	1:2.5	30/1/91	PORRI	

A TERMINE DI LEGGE CI RISERVIAMO LA PROPRIETA' DI QUESTO DISEGNO CON DIVIETO A CHIUNQUE DI RIPRODURLO O RENDERLO NOTO A TERZI SENZA NOSTRA AUTORIZZAZIONE SCRITTA.

EX DIS.N.