

**SEGATRICE A NASTRO PER METALLI FERROSI  
BAND SAW FOR FERROUS METALS  
BANDSAEGEMASCHINE FÜR EISENMETALLE  
SCIE A RUBAN POUR METAUX FERREUX  
SIERRA DE CINTA PARA METALES FERROSOS  
ЛЕНТОЧНЫЙ РАСПИЛОВОЧНЫЙ СТАНОК ДЛЯ МЕТАЛЛОВ**

**MANUALE DI ISTRUZIONI PER L'USO - INSTRUCTION MANUAL FOR OPERATION  
BETRIEBSANLEITUNG - MANUEL D'INSTRUCTIONS POUR L'EMPLOI  
MANUAL DE INSTRUCCIONES DE USO  
РУКОВОДСТВО ПО ЭКСПЛУАТАЦИИ И ТЕХОБСЛУЖИВАНИЮ**

**COSTRUTTORE:  
MANUFACTURER:  
ERBAUER:  
CONSTRUCTEUR:  
CONSTRUCTOR:  
ИЗГОТОВИТЕЛЬ:**

**MACC s.r.l. SCHIO ( VI ) - ITALY**

**MODELLO:  
MODEL:  
MODELL:  
MODELE:  
MODELO:  
МОДЕЛЬ:**

**SPECIAL 650 DI**

**MATRICOLA:  
SERIAL NUMBER:  
KENNNUMMER:  
MATRICULE:  
MATRICULA:  
СЕРИЙНЫЙ НОМЕР:**

**ANNO DI COSTRUZIONE:  
YEAR OF CONSTRUCTION:  
BAUJAHR:  
ANNEE DE CONSTRUCTION:  
AÑO DE COSTRUCCION:  
ГОД ИЗГОТОВЛЕНИЯ:**

**2016**







**DICHIARAZIONE DI CONFORMITA' 'CE'  
CERTIFICATE OF CONFORMITY 'EEC'  
KONFORMITÄTSBESCHEINIGUNG 'EWG'  
DECLARATION DE CONFORMITE 'CE'  
DECLARACION DE CONFORMIDAD 'CE'  
ДЕКЛАРАЦИЯ О СООТВЕТСТВИИ 'CE'**

**MACC Costruzioni Meccaniche s.r.l. - Via Lago di Albano, 10 - 36015 Schio (VI) Italy  
Tel.: 0445/575005 Fax: 0445/575006 Web site: [www.macc.it](http://www.macc.it) E-mail: [info@macc.it](mailto:info@macc.it)**

- Dichiaro, sotto la propria responsabilità, che la macchina nuova descritta in appresso:
- Declares, by its own undertaking, that the new machine described below:
- Erklärt auf eigene Verantwortung, daß die nachstehend beschriebene neue Maschine:
- Déclare sous sa propre responsabilité, que la machine neuve décrite de suite:
- Declara, bajo la propia responsabilidad, que la nueva máquina descrita a continuación:
- Заявляет под личную ответственность, что описанная новая машина под названием:

**SEGATRICE A NASTRO PER METALLI  
BAND SAW MACHINE FOR METALS  
BANDSAEGEMASCHINE FÜR EISENMETALLE  
SCIE A RUBAN POUR METAUX  
SIERRA DE CINTA PARA METALES  
ЛЕНТОЧНЫЙ РАСПИЛОВОЧНЫЙ СТАНОК ДЛЯ МЕТАЛЛОВ**

**TIPO - TYPE - TYP - TYPE – TIPO - ТИП**

**SPECIAL 650 DI**

**MATRICOLA - SERIAL NUMBER - KENNNUMMER - MATRICULE – MATRICULA - СЕРИЙНЫЙ НОМЕР**

**ANNO DI COSTRUZIONE – YEAR OF CONSTRUCTION - BAUJAHR – ANNEE DE CONSTRUCTION  
AÑO DE CONSTRUCCION - ГОД ИЗГОТОВЛЕНИЯ**

**2016**

- E' CONFORME ALLA DIRETTIVA MACCHINE 2006/42/CE, ALLA DIRETTIVA COMPATIBILITA' ELETTROMAGNETICA 2004/108/CE ED ALLA DIRETTIVA BASSA TENSIONE 2006/95/CE.
- IS IN COMPLIANCE WITH THE 2006/42/EEC MACHINERY DIRECTIVE, 2004/108/EEC DIRECTIVE ON ELECTROMAGNETIC COMPATIBILITY, 2006/95/EEC LOW VOLTAGE DIRECTIVE.
- DEN NORMEN BEZÜGLICH DER MASCHINEN-RICHTLINIE 2006/42/EWG, 2004/108/EWG RICHTLINIE ZUR ELEKTROMAGNETISCHEN KOMPATIBILITÄT, 2006/95/EWG RICHTLINIE FÜR NIEDERSpannung ENTSPRICHT.
- EST CONFORME A LA DIRECTIVE MACHINES 2006/42/CEE, 2004/108/CEE DIRECTIVE SUR LA COMPATIBILITÉ ÉLECTROMAGNÉTIQUE, 2006/95/CEE DIRECTIVE BASSE TENSION.
- HA SIDO FABRICADA CONFORME A LA DIRECTIVA MÁQUINAS 2006/42/CEE, 2004/108/CEE DIRECTIVA COMPATIBILIDAD ELECTROMAGNÉTICA, 2006/95/CEE DIRECTIVA BAJA TENSION.
- ОТВЕЧАЕТ ТРЕБОВАНИЯМ ДИРЕКТИВЫ ПО МАШИНАМ 2006/42/СЕ, ДИРЕКТИВЫ ОБ ЭЛЕКТРОМАГНИТНОЙ СОВМЕСТИМОСТИ 2004/108/СЕ И ДИРЕКТИВЫ О НИЗКОМ НАПРЯЖЕНИИ 2006/95/СЕ.

Nome della persona autorizzata a costituire il 'Fascicolo Tecnico' - Name of the person authorized to represent the 'Technical File' - Name der Person, auf die "Technical File" vertreten - Nom de la personne autorisée à représenter le 'dossier technique' - Nombre de la persona autorizada para representar a la "Ficha Técnica" - Фамилия, имя лица, уполномоченного составить техническую документацию

**Franco Luciano**

MACC Costruzioni Meccaniche s.r.l. - Via Lago di Albano, 10 – 36015 Schio (VI) Italy Tel.: 0445/575005 Fax: 0445/575006

Nome del Rappresentante Legale - Name of the Legal Representative - Name des Gesetzlichen Vertreters  
Nom du Représentant Légal - Apellido del Representante Legal - Фамилия, имя законного представителя:

**Zanella Gianfranco**

MACC Costruzioni Meccaniche s.r.l. - Via Lago di Albano, 10 – 36015 Schio (VI) Italy Tel.: 0445/575005 Fax: 0445/575006

**Firma - Signature - Unterschrift - Signature - Firma - Подпись:**

**Schio, 2016**





E' SEVERAMENTE VIETATO UTILIZZARE LA MACCHINA SENZA LIQUIDO DI TAGLIO.

IT IS STRICTLY FORBIDDEN TO USE THE MACHINE WITHOUT CUTTING FLUID.

ES IST STRENG VERBOTEN, DIE MASCHINE OHNE SCHNEIDFLÜSSIGKEIT IN BETRIEB ZU NEHMEN.

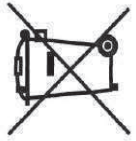
IL EST SEVEREMENT INTERDIT D'UTILISER LA MACHINE SANS LIQUIDE DE COUPE.

SE PROHÍBE TERMINANTEMENTE UTILIZAR LA MÁQUINA SIN LÍQUIDO DE CORTE.

É SEVERAMENTE PROIBIDO UTILIZAR A MÁQUINA SEM LÍQUIDO DE CORTE.

Категорически запрещена эксплуатация машины без смазочно-охлаждающей жидкости

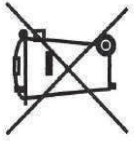




**Felislegesség váltéktromos és elektronikus készülékek hulladékaként való eltávolítása (Használható az Európai Unió és egyéb európai országok szelektív hulladékgyűjtési rendszerében)**

Ez a szimbólum a készüléket vagy a csomagolásán azt jelzi, hogy a terméket ne kezelje háztartási hulladékként. Kérjük, hogy az elektromos és elektronikai hulladékok gyűjtésére kijelölt gyűjtőhelyen adja le. A felislegesség váltéktromos és elektronikus készülékek elhelyezését segíti megelőzni a környezést és az emberi egészség károsodását, mely bekövetkezhetne, ha nem követi a hulladék kezelés helyes módját. Az anyagok újrahasznosítása segít a természeti erőforrások megőrzésében. A termék újrahasznosítása érdekében további információért forduljon a kishelyén az illetékesekhez, a helyi hulladékgyűjtő szolgáltatóhoz vagy ahhoz az üzemhez, ahol a terméket megvásárolta.

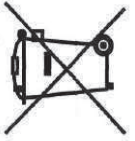
Cesky



**Nakládání s nepotřebným elektrickým a elektronickým zařízením (platné v Evropské unii a dalších evropských státech uplatňujících oddělený systém sběru)**

Tento symbol umístěný na výrobku nebo jeho balení upozorňuje, že s výrobkem po ukončení jeho životnosti by nemělo být nakládáno jako s běžným odpadem z domácnosti. Místo toho by měl být zvoleno dí z sběrného místa, určeného k recyklaci elektrických výrobků a zařízení. Dodržení této instrukce zabrání negativním dopadům na životní prostředí a zdraví lidí, které naopak může být ohroženo nesprávným nakládáním s výrobkem při jeho likvidaci. Recyklováním materiálů, z nichž je vyroben, pomůžete zachovat přírodní zdroje. Pro získání dalších informací o recyklaci tohoto výrobku kontaktujte, prosíme, místní orgány státní správy, místní firmu zabezpečující likvidaci a sběr odpadu nebo prodejnu, v níž jste výrobek zakoupili.

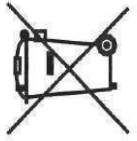
Slovensky



**Likvidácia starých elektrických a elektronických zariadení (Plati v Európskej únii a ostatných európskych krajinách so zavedeným separovaným zberom)**

Tento symbol na výrobku alebo obale znamená, že s výrobkom nemôže byť nakladané ako s domovým odpadom. Miesto, tohto je potrebné ho doručiť do vyhradeného zberného miesta na recykláciu elektrozariadení. Tým, že zaisíte správne zneškodnenie, pomôžete zabrániť potenciálnym negatívnym vplyvom na životné prostredie a ľudské zdravie, ktoré by v opačnom prípade hrozili pri nesprávnom nakládaní s týmto výrobkom. Recyklácia materiálov pomôha uchovávať prírodné zdroje. Pre získanie ďalších podrobných informácií o recyklácii tohoto výrobku kontaktujte prosím váš miestny alebo obecný úrad, miestnu službu pre zber domového odpadu alebo predajnu, kde ste výrobok zakúpili.

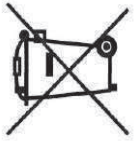
Türkçe



**Eski Elektrikli & Elektronik Ekipmanların Atılması (Avrupa Birliği'nde ve aynı toplama sistemlerine sahip diğer Avrupa ülkelerinde uygulanır)**

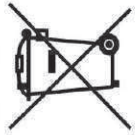
Ürün veya ambalajı üzerindeki bulunan bu sembol, bu ürünün bir ev atığı olarak muamele görmemesi gerektirir. Ürün, elektrikli ve elektronik ekipmanların geri dönüşümü için mevcut olan uygun toplama noktasına teslim edilmelidir. Bu ürünün doğru şekilde atılması sağlanarak, bu ürüne yanlış müdahale edilmemesi konusunda ortamı çikabileceğiniz ve çevre ile insan sağlığı üzerindeki olumsuz etkileri önlemeye yardımcı olursunuz. Malzemenin geri dönüşümü, doğal kaynakları korumamıza yardımcı olacaktır. Bu ürünün geri dönüşümüne ilgili daha fazla bilgi için, lütfen yerel yönetim biriminden veya bu ürünün satıldığı mağazaya danışınız.

Slovensko



**Oddajja stare električne in elektronske opreme (veljavno v evropski uniji in ostalih evropskih državah s sistemom zbiranja ločenih odpadkov)**

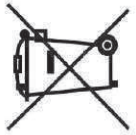
Če se na izdelku ali na njegovi embalaži nahaja ta simbol, pomeni, da z izdelkom ne smete ravnati enako kot z drugimi gospodinjstskimi odpadki. Morate ga oddati na ustrezno zbirno mesto za recikliranje električne in elektronske opreme. S pravilno oddajo tega izdelka boste pomagali preprečiti negativne posledice na okolje in zdravje ljudi, do katerih bi prišlo v primeru neustreznega ravnanja ob odstranitvi tega izdelka. Recikliranje materiala bo pripomoglo k ohranjanju naravnih virov. Podrobnejše informacije o recikliranju tega izdelka lahko dobite pri lokalni mestni upravi, službi oddajanja gospodinjstskih odpadkov ali v trgovini, kjer ste izdelek kupili. Odpadno električno in elektronsko opremo lahko oddate brezplačno tudi distributerju neposredno ob dobavi električne oz. elektronske opreme.



**Утилизация электрического и электронного оборудования (директива применяется в странах Евросоюза и других европейских странах, где действуют системы раздельного сбора отходов)**

Данный знак на устройстве или его упаковке обозначает, что данное устройство нельзя утилизировать вместе с прочими бытовыми отходами. Его следует сдать в соответствующий приемный пункт переработки электрического и электронного оборудования. Неправильная утилизация данного изделия может привести к потенциально негативному влиянию на окружающую среду и здоровье людей, поэтому для предотвращения подобных последствий необходимо выполнить специальные требования по утилизации этого изделия. Переработка данных материалов поможет сохранить природные ресурсы. Для получения более подробной информации о переработке этого изделия обратитесь в местные органы городского управления, службу сбора бытовых отходов или в магазин, где было приобретено изделие.

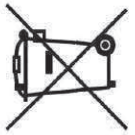
Suomi



**Käyttötästä polstetun sähkö- ja elektronikkalaitteen hävitys (Euroopan Unioni ja muiden Euroopan maiden keräysjärjestelmät)**

Symboli, joka on merkitty tuotteen tai sen pakkaukseen, osoittaa, että tätä tuotetta ei saa käsitellä talousjätteenä. Tuote on sen sijaan luovutettava sopivaan sähkö- ja elektronikkalaitteiden kierrätyksessä huolehtivaan keräyspisteeseen. Tämän tuotteen asianmukaisen hävittämisen varmistamisella autetaan estämään sen mahdolliset ympäristön ja terveyteen kohdistuvat haittavaikutukset, jota voi aiheuttaa muussa tapauksessa tämän tuotteen epäasianmukaista jätekäsittelyä. Materiaalien kierrätyksellä luonnontarjota. Tarkempia tietoja tämän tuotteen kierrättämisestä saa paikallisesta kunnantoinnistosta.

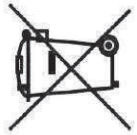
Dansk



**Bortskaffelse af elektrisk og elektronisk udstyr (gælder i EU og andre europæiske lande med egne indsamlingssystemer)**

Hvis dette symbol findes på produktet eller på emballagen betyder det, at det pågældende produkt ikke må bortskaffes som almindeligt husholdningsaffald. Du skal i stedet aflevere det på et indsamlingssted, så det elektriske og elektroniske udstyr kan blive genbrugt. Når du bortskaffer produktet korrekt, hjælper du med at forhindre de mulige negative påvirkninger af miljøet eller sundheden, der kan opstå, hvis produktet bortskaffes på uopassende vis. Genbrug af materialer er med at bevare naturens ressourcer. Yderligere oplysninger om genbrug af produktet fås på kommunen, på genbrugscentralen eller i den butik, hvor du købte produktet.

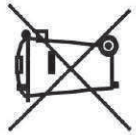
Portugués



**Tratamento de Equipamentos Eléctricos e Electrónicos no final da sua vida útil (Aplicável na União Europeia e em países Europeus com sistemas de recolha selectiva de resíduos)**

Este símbolo, colocado no produto ou na sua embalagem, indica que este não deve ser tratado como resíduo urbano indiferenciado. Deve sim ser colocado num ponto de recolha destinado a resíduos de equipamentos eléctricos e electrónicos. Assegurando-se que este produto é correctamente depositado, irá prevenir potenciais consequências negativas para o ambiente, bem como para a saúde, que de outra forma poderiam ocorrer pelo mau manuseamento destes produtos. A reciclagem dos materiais contribui para a conservação dos recursos naturais. Para obter informação mais detalhada sobre a reciclagem deste produto, por favor contacte o município onde reside, os serviços de recolha de resíduos da sua área ou a loja onde adquiriu o produto.

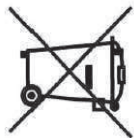
Ελληνικά



**Ανοχή της Παλαιού Ηλεκτρικού & Ηλεκτρονικού Εξοπλισμού(ισχύει στην Ευρωπαϊκή Ένωση και άλλες Ευρωπαϊκές χώρες με ξεχωριστά συστήματα περιουλοποίησης)**

Το σύμβολο αυτό επάνω στο προϊόν ή στη συσκευασία του σημαίνει, ότι το προϊόν δεν πρέπει να πεταχτεί μαζί με τα οικιακά απορρίμματα αλλά πρέπει να παραδοθεί σε ένα κατάλληλο σημείο συλλογής ηλεκτρονικού και ηλεκτρικού υλικού προς ανακύκλωση. Με το να βεβαιωθείτε ότι το προϊόν πετάγεται σωστά, βοηθάτε στην πρόληψη πιθανών αρνητικών επιπτώσεων στο περιβάλλον και την υγεία. Η ανακύκλωση των υλικών θα βοηθήσει στην εξοικονόμηση φυσικών πόρων. Για περισσότερες πληροφορίες σχετικά με την ανακύκλωση αυτού του προϊόντος, παρακαλούμε επικοινωνήστε με τις υπηρεσίες καθαριότητας του δήμου σας ή το κατάστημα όπου αγοράσατε το προϊόν.

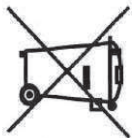
English



**Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)**

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

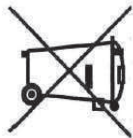
Français



**Traitement des appareils électriques et électroniques en fin de vie (Applicable dans les pays de l'Union Européenne et aux autres pays européens disposant de systèmes de collecte sélective)**

Ce symbole, apposé sur le produit ou sur son emballage, indique que ce produit ne doit pas être traité avec les déchets ménagers. Il doit être remis à un point de collecte approprié pour le recyclage des équipements électriques et électroniques. En s'assurant que ce produit est bien mis au rebut de manière appropriée, vous aidez à prévenir les conséquences négatives potentielles pour l'environnement et la santé humaine. Le recyclage des matériaux aidera à conserver les ressources naturelles. Pour toute information supplémentaire au sujet du recyclage de ce produit, vous pouvez contacter votre municipalité, votre déchetterie ou le magasin où vous avez acheté le produit.

Deutsch



**Entsorgung von gebrauchten elektrischen und elektronischen Geräten (Anzuwenden in den Ländern der Europäischen Union und anderen europäischen Ländern mit einem separaten Sammelsystem für diese Geräte)**

Das Symbol auf dem Produkt oder seiner Verpackung weist darauf hin, dass dieses Produkt nicht als normaler Haushaltsabfall zu behandeln ist, sondern an einer Annehmestelle für das Recycling von elektrischen und elektronischen Geräten abgegeben werden muss. Durch Ihren Beitrag zum korrekten Entsorgen dieses Produkts schützen Sie die Umwelt und die Gesundheit Ihrer Mitmenschen. Umwelt und Gesundheit werden durch falsches Entsorgen gefährdet. Materialrecycling hilft den Verbrauch von Rohstoffen zu verringern. Weitere Informationen über das Recycling dieses Produkts erhalten Sie von Ihrer Gemeinde, den kommunalen Entsorgungsbetrieben oder dem Geschäft, in dem Sie das Produkt gekauft haben.

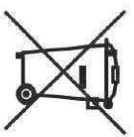
Español



**Tratamiento de los equipos eléctricos y electrónicos al final de su vida útil (Aplicable en la Unión Europea y en países europeos con sistemas de recogida selectiva de residuos)**

Este símbolo en su equipo o su embalaje indica que el presente producto no puede ser tratado como residuos domésticos normales, sino que deben entregarse en el correspondiente punto de recogida de equipos eléctricos y electrónicos. Asegurándose de que este producto es desechado correctamente, Ud. está ayudando a prevenir las consecuencias negativas para el medio ambiente y la salud humana que podrían derivarse de la incorrecta manipulación de este producto. El reciclaje de materiales ayuda a conservar las reservas naturales. Para recibir información detallada sobre el reciclaje de este producto, por favor, contacte con su ayuntamiento, su punto de recogida mas cercano o el distribuidor donde adquirió el producto.

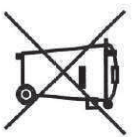
Nederlands



**Verwijdering van Oude Elektrische en Elektronische Apparaten (Toepasbaar in de Europese Unie en andere Europese landen met gescheiden ophaalsystemen)**

Het symbool op het product of op de verpakking wijst erop dat dit product niet als huishoudafval mag worden behandeld. Het moet echter naar een plaats worden gebracht waar elektrische en elektronische apparatuur wordt gerecycled. Als u ervoor zorgt dat dit product op de correcte manier wordt verwijderd, voorkomt u mogelijk voor mens en milieu negatieve gevolgen die zich zouden kunnen voordoen in geval van verkeerde afvalbehandeling. De recycling van materialen draagt bij tot het vrijwaren van natuurlijke bronnen. Voor meer details in verband met het recyclen van dit product, neemt u het best contact op met de gemeentelijke instanties, het bedrijf of de dienst belast met de verwijdering van huishoudafval of de winkel waar u het product hebt gekocht.

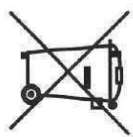
Svenska



**Omhändertagande av gamla elektriska och elektroniska produkter (Användbar i den Europeiska Unionen och andra Europeiska länder med separata insamlingsystem)**

Symbolen på produkten eller emballaget anger att produkten inte får hanteras som hushållsavfall. Den skall i stället lämnas in på uppsamlingsplats för återvinning av el- och elektronikkomponenter. Genom att säkerställa att produkten hanteras på rätt sätt bidrar du till att förebygga eventuellt negativa miljö- och hälsoeffekter som kan uppstå om produkten kasseras som vanligt avfall. Återvinning av material hjälper till att bibehålla naturens resurser. För ytterligare upplysningar om återvinning bör du kontakta lokala myndigheter eller sopsamlingsföretag eller affären där du köpte varan.

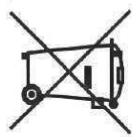
Italiano



**Trattamento del dispositivo elettrico ed elettronico a fine vita (Applicabile in tutti i paesi dell'Unione Europea e in quelli con sistema di raccolta differenziata)**

Questo simbolo sul prodotto o sulla confezione indica che il prodotto non deve essere considerato come un normale rifiuto domestico, ma deve invece essere consegnato ad un punto di raccolta appropriato per il riciclo di apparecchi elettrici ed elettronici. Assicurandovi che questo prodotto sia smaltito correttamente, voi contribuite a prevenire potenziali conseguenze negative per l'ambiente e per la salute che potrebbero altrimenti essere causate dal suo smaltimento inadeguato. Il riciclaggio dei materiali aiuta a conservare le risorse naturali. Per informazioni più dettagliate circa il riciclaggio di questo prodotto, potete contattare l'ufficio comunale. Il servizio locale di smaltimento rifiuti oppure il negozio dove l'avete acquistato.

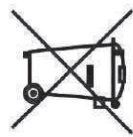
Język polski



**Podzycie się Zużytego Sprzętu (Stosowane w krajach Unii Europejskiej i w pozostałych krajach europejskich mających własne systemy zbiórki)**

Taki symbol na produkcie lub jego opakowaniu oznacza, że produkt nie może być traktowany jako odpad komunalny, lecz powinno się go dostarczyć do odpowiedniego punktu zbiórki sprzętu elektrycznego i elektronicznego, w celu recyklingu. Poprzez upewnienie się, że dyspozycja dotyczyca produktu jest poprawna, zapobiega się potencjalnym negatywnym wpływom na środowisko oraz zdrowie ludzi, jakie mogłyby wystąpić w przypadku niewłaściwego postępowania. Recykling materiałów pomoże w ochronie naturalnych źródeł. W celu uzyskania bardziej szczegółowych informacji na temat recyklingu tego produktu, należy skontaktować się z naszymi lokalnymi biurami, ze służbami oczyszczania śmiecia lub ze sklepem, w którym zakupiony został ten produkt.

Norsk



**Avhending av gamle elektriske og elektroniske apparater (gjelder i EU og andre europeiske land med separat innsamlingsystem)**

Dette symbolet på produktet eller innpakningen indikerer at dette produktet ikke må håndteres som husholdningsavfall. I stedet skal det leveres inn til spesielt innsamlingspunkt for gjenvinning av det elektriske og elektroniske utstyret. Ved å sørge for at dette produktet avhendes på korrekt måte, vil du hjelpe til med å forhindre potensielle negative påvirkninger på miljøet og helse, som ellers kan være resultatet av feilaktig avfallshåndtering av dette produktet. Gjenvinning av disse materialene vil hjelpe til med å vare på våre naturressuser. For mer informasjon om gjenvinning av dette produktet, kan du kontakte lokale myndigheter.



# INSTRUCTION MANUAL SPECIAL 650 DI

This operation instruction manual conforms to the requirements of the Machine Directive 2006/42/EEC and later amendments. In this light, special attention has been given to safety aspects and accident prevention in the work-place for each stage in the machine's "life". Information which could be of particular assistance to the operator has been highlighted.

**The "Operating instructions" are an integral part of the machine and should be consulted before, during and after the start up of the machine and whenever else required. The content of these instructions should always be carefully observed.** The observance of the above is the only way to achieve the two fundamental aims of this manual:

- Optimization of machine performance.
- Prevent damage to the machine and injury to the operator.

The index of the chapters and the index of the drawings, diagrams and tables is contained in chapter 1 and can be used to help the location of specific information.

<b>CAUTION: BEFORE INSTALLING THE MACHINE, READ THE OPERATING INSTRUCTIONS CAREFULLY</b>
--

## INFORMATION ABOUT MAINTENANCE ASSISTANCE

### GUARANTEE

MACC S.r.l. products are guaranteed against material and manufacturing defects for a period of 12 months from the date of delivery or, if the machine is installed by MACC employees, from the date of machine start up. The buyer is only entitled to the replacement of parts which are acknowledged as faulty: carriage and packing are at the buyer's expense. In the event of the above, the following information should be supplied:

1. Date and number of purchasing document
2. Machine model
3. Serial number
4. Code of any relevant drawings

Requests for compensation for the inactivity of the machine will not be accepted. The guarantee does not cover uses which are not in line with these operating instructions which are an integral part of the machine. Nor is maintenance covered if the instructions supplied are not observed. The guarantee will not cover machines which have undergone unauthorized modifications. Modification or tampering with the safety devices is strictly forbidden.

### CONTENTS

Introduction

Machine installation and putting it into operation

Safety processes and prevention from work accidents

#### **A. Technical description and operation**

- 1.) Basic technical parameters**
- 2.) Cut operation**
- 3.) Blades**
  - Blade tension
  - Blade guide
  - Drive and cutting speed
  - Cutting pressure
  - Blade pressure (feed)
  - Cooling
  - Selection of proper blade
  - Shape of teeth
  - Blade quality
  - Blade change
  - Fixing of material
  - Instructions towards correct cut
- 4.) Electrical equipment**

#### **B.) Machine service and cleaning**

#### **C.) Transport and packing**

#### **D.) Special safety checks**

#### **E.) Information on environmental noise**

#### **F.) Laying off – Dismantling**

#### **G.) List of spare parts**

## ENCLOSURES

ENCL. TYPE	DESCRIPTION	ENCL No.
Table	Cutting capacity - Cutting speeds	1
Drawings	Handling and transportation - Overall dimensions	2
Drawings	Motor pump tank – Control Panel - Bench	3
Drawings	Vice – Rotating arm – Rotation stop system	4
Drawings	Blade guide – Bow driven side	5
Drawings	Bow motor side - Guard bow	6
Drawings	Hydraulic diagram	7
Diagram	Wiring diagram	8

### INTRODUCTION

Bandsaw machine for metal SPECIAL 650 DI +60° -60° is semi-automatic machine for cutting of all metal materials. It is especially used for material cutting in workshops where it is necessary to cut elements in the angles +60°÷ -60° in semi-automatic regime.

The machine is provided with a special mobile vice, whose position changes during linear feeding before or after the blade (perpendicular position), enabling rotation on both sides of the arm and consequently the cutting both on the right and on the left.

SPECIAL 650 DI is used to cut ferrous materials, steel alloys, cast iron, copper, aluminium alloys.

**It is not allowed to cut wood, meat, bones, glass, all materials based on wood. If you want to cut materials, which are not written in our tables, be informed by producer or seller of machine.**

It is necessary to use proper parameters of machine while cutting. In order to achieve optimum machine capacity and to keep tolerance of rectangularity, it is necessary to correctly install machine and to select blade, cut feeding and cooling liquid.

In this manual for operation, there are written all data necessary for successful operation and service.

### MACHINE INSTALLATION AND PUTTING IT INTO OPERATION

- 1.) The machine is installed on horizontal and fixed support plate which will have loading capacity for machine, special accessories and maximum weight of cut material.
- 2.) Required space for machine installation – see Drw.4, Encl.2.
- 3.) Pay attention to minimum distance – min. 1 m from walls respectively from other machines.
- 4.) The operating temperature of the room, in which the machine will work, can be in the range of 0°÷40°C.
- 5.) Pedestal and roller conveyors (if required) must be in horizontal position in order to keep rectangularity of cut. At setting up, the water level must be placed on the putting area of vice.
- 6.) The electric connection of the machine must be performed by qualified personnel, in a dry environment.
- 7.) Before putting machine into operation, it is necessary to fit all the required accessories.
- 8.) Plates used for conducting coolant liquid away, which are removed during transportation, must be assembled to machine pedestal using the special screws.
- 9.) Before first switch on of the machine
  - a. Check for correct blade movement (an arrow on the motor pulley indicates the rotation direction).
  - b. Tension the band by rotating the handwheel 102 to the end of stroke (Draw.10 Encl.5). At this stage LED 1 on the control panel switches off (this LED turns on also in case of band failure).  
Always remember to loosen the tension on the belt when work is terminated using the handwheel to prevent it from being stretched and weakened.
  - c. Check for the amount and the supply of the coolant.
  - d. Check for correct placing and fixing of the material which will be cut
  - e. Check for the distance between the blade and the material to be cut (the blade mustn't be in contact with the material to be cut at machine switch on).
  - f.

#### Use cautions:

**It is necessary to keep following instruction during machine operation:**

- **It is prohibited to catch the moving blade**
- **It is prohibited to catch the moving brush for scraping filings.**
- **Do not open the safety covers during operation.**

# SAFETY PROCESSES AND PREVENTION FROM WORK ACCIDENTS

## GENERAL REGULATIONS

Before installation, to be informed about safety measures.

- 1.) Installation, operation, service and repair of machine should be performed by qualified staff.
- 2.) It is required to know general work skills and to keep valid safety conditions by operating staff.
- 3.) Staff must be equipped with safety means and protective glasses, earpieces, gloves. Wear and footwear must be suitable for this operation.
- 4.) The personnel in charge of the use of the machine is responsible for its maintenance and for the efficiency of the security devices.
- 5.) These safety measures are general and are valid for machines and equipments of various types.

Except general measures for machines and their parts, these special safety conditions are also valid for:

a. Operating instructions of machine must be still available to operating staff, operation and service must be performed according to this operating book.

b. Non – keeping measures during machine operation or parts damage of our production direct to guaranty invalidity.

Producer is not responsible for damage or accidents which were caused by non-keeping safety measures or insufficient care during manipulation, operation, service, or repair of machine and at the connecting of machine by non-qualified staff.

### Safety standards complied with during the design and construction of the machine

The machine produced by us is in compliance with:

**2006/42/EEC Machinery Directive** (ex 98/37/EEC, as amended by the 89/392EEC, 91/368/EEC, 93/44/EEC and 93/68/EEC Directives).

The following Standards apply:

- EN ISO 12100-1 2005 Safety of machinery. Basic concepts, general principles for design, basic methodology.
- EN ISO 12100-2 2005 Safety of machinery. Basic concepts and general principles for design. Specifications and technical principles.
- EN 418 1994 Safety of machinery. Emergency stop devices, functional aspects - design principles.
- EN 983 1996 Safety requirements related to systems and components for hydraulic and pneumatic transmissions.
- EN 1037 1995 Isolation and energy dissipation. Prevention of unexpected start-up.
- EN 1088 1995 Interlocking devices associated with guards — Principles for design and selection.
- EN 60204-1 1998 Safety of machinery. Electrical equipment of machines. General requirements.
- EN 294 1992 Safety distances to prevent danger zones being reached by the upper limbs.

**89/336/EEC Directive on electromagnetic compatibility** as amended by the 92/31/EEC, 96/68/EEC, 93/97/EEC and 93/68/EEC.

The following Standards apply:

- EN 55014-1 2000 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus.
- EN 61000-3-2 2000 Electromagnetic compatibility – Limits for harmonic current emissions.
- EN 61000-3-11 2000 Electromagnetic compatibility (EMC) – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems.
- EN 55022 1998 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.
- EN 61000-4-2 1995 Electromagnetic compatibility (EMC) Part 4: Testing and measurement techniques Section 2: Electrostatic discharge immunity test. EMC Base Publication.
- EN 61000-4-4 2004 Electromagnetic compatibility (EMC) Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test.
- EN61000-4-6 1996 Electromagnetic compatibility (EMC) Part 4: Testing and measurement techniques. Section 6: Immunity to conducted disturbances, induced by radio-frequency fields.

73/23/EEC Low Voltage Directive, as amended by the 93/68/EEC Directive.

Directive 2003/11/EC Restrictions on the marketing and use of certain dangerous substances and preparations (pentabromodiphenyl ether, octabromodiphenyl ether).

Directive 2002/44/EC of the European Parliament and of the Council of 25 June 2002 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (vibration) (sixteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC).

## A. TECHNICAL DESCRIPTION AND OPERATION

### 1.) SPECIAL 650 DI BASIC TECHNICAL PARAMETERS

	∅	□	▭
<b>90°</b>	460	450	450x620
<b>45° right</b>	450	430	400x450
<b>45° left</b>	450	410	340x450
<b>60° right</b>	240	300	220x320
<b>60° left</b>	300	300	270x420

<b>Three phase power supply</b>	
Motor power	2.2 kW
Motor revolutions	1450 rpm
Cutting speed	22 - 73m/1'
Control unit motor	0.37 kW
Electric pump	0.09 kW
Fly wheel dimensions	∅500 mm
Blade size (length x width x thick)	5270 x 34 x 1.1 mm
Cutting thickness	1,5 mm
Cutting angle	60° dx – 60° sx
Material clamping vice max opening	620 mm
Jaws height	250 mm
Jaws length	235 mm
Bed height	760 mm~
Coolant tank capacity	50 litri
Machine weight	~12260 N (1250 kg)

Special 650 with inverter  
Blade speed:

Position	0	1	2	3	4	5	6	7	8	9	10
Meters/1'	22	25	30	36	41	47	53	60	65	72	73

- Machine complete with inverter.
- Machine with digital device displaying degrees.

### 2.) CUTTING OPERATION

Before starting cutting operations, if the inclination of the cut is not as desired, correct it or change it by loosening the special lever 118 and rotating the arc until the desired position is reached. Read the number of degrees corresponding to the position on the display located on the control panel.

When the desired number of degrees has been reached, remember to fix the lever 118 in position.

Turn on the machine using the main switch 228 and rotate the speed regulator 203 onto the required speed. The oil pump start-up is obtained by the RESET A key, press again the RESET key to bring the saw frame to the high position.

If the machine does not perform any movement whichever button is pressed, the two phases of the line cable must be inverted, this inverts the direction the oil pump motor rotates in.

This instrument enables the top and bottom cutting limits to be programmed directly by means of the control keyboard.

To memorize the top position limit, cutting starting point, bring the blade close to the material to be cut and position it at about 5mm from it using keys C and F. To memorize the position, press key D(Start). Each time the key D(Start) is pressed, automatically the cutting start point is memorized. To memorise the bottom cutting limit, bring the blade to the desired low point using the key F and press the button E (Memory), which will blink 3 times, indicating memorization is completed.

To make a cut after storing the high and low limit desired, start the cutting cycle by pressing the Start D.

Before performing this last operation, make sure the descent regulator 68 is closed, in order to prevent the blade from descending too quickly onto the piece to be cut.

Position the part on a work surface. Press the button Start "D" to start a cut cycle. The blade starts to rotate, closes the vice and the bow starts to go down. By means of the adjuster 68, it is possible change the descent speed the arc.

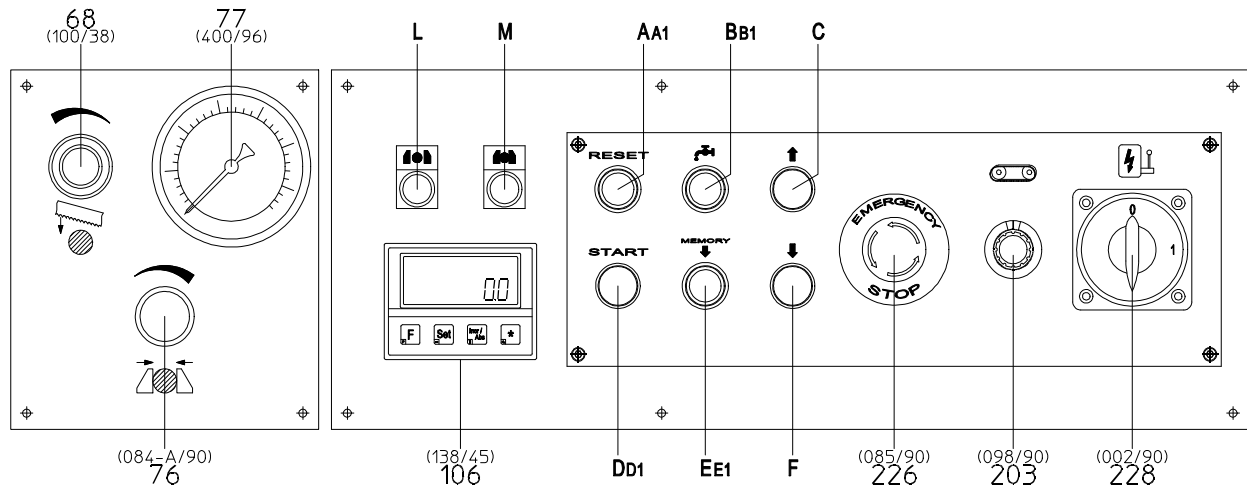
Once hitting the low limit initially set, the saw frame goes back to the cutting start position and the blade stops

To stop the cutting cycle, press the RESET key A. In order for the bow to return to its cutting start position, press RESET key A another time.

To use the coolant, key (led) B must be on.

If the machine remains idle for more than 3 mins., the oil pump automatically switches off. To switch it back on again, press RESET A push button.

ON MACHINE WITH HYDRAULIC PRESSING ONLY RIGHT ROTATION FOR ANGULAR CUTS



- A. RESET button
- B. motorized cooling pump ON-OFF button
- C. bow up button
- D. START button
- E. bow low limit memorization button
- F. bow down button
- L. command button open vice
- M. command button closure vice
- A1. RESET button led
- B1. motorized cooling pump button led
- D1. START button led
- E1. bow bottom limit setting key led
- 68. bow down speed regulator
- 76. vice closure pressure regulator
- 77. vice closure pressure gauge
- 106. cutting angle viewer
- 203. potentiometer belt speed variation
- 226. emergency button
- 228. ON-OFF main switch

### 3.) BLADES

#### BLADE TENSION

Tension the band by rotating the handwheel 102 to the end of stroke (Draw.10 Encl.5). At this stage LED 1 on the control panel switch off (these LED turn on also in case of band failure). Always remember to loosen the tension on the band when work is terminated using the handwheel to prevent it from being stretched and weakened.

REQUIRED BLADE TENSION : is set up by the manufacturer.

#### BLADE GUIDE

The blocks of the blade guide are fastened on two holders. There are placed cocks with regulation of coolant liquid on blade guide. The blade is ensured by bearing and widia pads.

The distance of the mobile blade guide is adjustable according to the dimensions of the material to be cut.

During blade installation, it is important that the blade guides are not damaged.

#### DRIVE AND CUTTING SPEED

Blade is driven by electromotor (placed on machine bow) through inverter for the purpose of reaching necessary cutting speed.

#### REGULATION OF CUTTING SPEED

The blade speed is selected by the potentiometer (203) on the control panel. Choose the speed depending on the type of material that must be cut.

In case of broken blade, its drive stops in automatic regime.

#### CUTTING PRESSURE

During test, cutting pressure is set up on the average value and can be changed only when processing specific types of steel.

Bow descent speed is adjusted by the regulator 68 located on the control panel.

**CAUTION:**

**When descent speed is high it is necessary to use blades with large teeth to avoid teeth breakage!**

**BLADE PRESSURE ( FEED )**

Blade pressure (feed) into cut is committed by cutting pressure which is changed through the regulator 68 on the panel. Regulator 68:

- with value set to "0" the blade must not descent,
- at setting up "10" we obtain the largest feed which is used while cutting solid materials by blade with large teeth.

**MAIN RULE:**

**With close teeth and thin profile, use a low bow descent speed.**

**COOLING**

The coolant is sent through the pump piping 108 Draw. 5/Ann. 3 towards the blades through cocks 109 Drw. 9/Ann. 5 and then to the blade. The pump is located on the coolant tank 2 Drw. 5/Ann. 3 located on the bed on the rear of the machine. Concentration mixture of a coolant liquid and water is in the relation 1 : 20 (at normal operation).

**CAUTION:**

**Cast iron is cut without cooling!**

**SELECTION OF PROPER BLADE**

The selection of a proper blade depending on the material is important for the cutting power. It can be difficult because there is a large number of blades of different quality and various teeth.

We recommend to use BIMETALL blades. They are high quality blades, which enable to cut all the materials without frequent changes of blade. Its quality is much higher than standard blades.

In certain cases, it is advantageous to use blade marked SPECIAL, especially in case when there is frequent damage of teeth that is caused by attendance mistakes.

If you want to use all possibilities of machine, e. g. when you work larger amount of the same material and cross section, you should choose optimum teeth, tooth shape, and the best quality of blade.

## SHAPE OF TEETH

Standard ( N ) – angle of tooth inclination 0°. It is suitable for cutting cast iron and steel materials.

Rack ( K ) – angle of tooth 10°. It is suitable for brittle materials, e. g. non-iron metals and less hard steel.

Combinated teeth ( C ) – variable teeth with different angles and shapes, suitable for all materials even in the case of frequent changes of profile.

### BLADE QUALITY

SPECIAL type – blade suitable for all materials included alloy steel. It is not used in cases of rustless and acid – proof steel. Average life – 20,000 to 30,000 cm<sup>2</sup> type C 45.

BIMETALL type M 42 – blade suitable for all the materials indicated in the chart. We recommend its use to cut average amounts of material 50,000 to 70,000 cm<sup>2</sup>, C 45.

**We strongly discourage the use of blades with ruined or insufficiently sharp cutting edges**

**TABLE FOR TEETH SELECTION**

Thickness of material	< 2	2-10	10-25	25-50	50-80	80-120	< 120
<b>Worked material</b>							
Free machining steel	22 N	18 N	10 N	8-7 N	6 N/H	4 N/H	3 H
Structural steel to St 42	22 N	18 N	14-10 N	8-7 N	6 N/H	4 N/H 3 H	3 H
Structural steel to St 70, noble steel	30-22 N	22-18 N	14-10 N	8-7 N	6 N/H	4 N/H	3 H
Unalloy tool steel	30-22 N	18 N	14 N	8 N	8-7 N	6-4 N/H	4 N/H
Alloy tool steel	30-22 N	18 N	14 N	8 N	8-7 N	6-4 N/H	4 N/H
Cast iron	-	14 N	14-10 N	10-8 N	8-7 N	6-4 N	4 N
Grey cast iron	-	14 N	14-10 N	10-8 N	8-7 N	6-4 N	4 N
Aluminium, aluminium alloy	18 N	10 N	8-6 N/H	6-4 N/H	3 S/H	3 S/H	3 S/H
Bronze	18 N	14 N	10 N	8 N	6 H	4-3 H	3 H/S
Brass	18 N	14 N	10 N	8 N	6 N/H	4 H 3 H/S	3 H/S
Cooper	18 N	14 N	10 N	8 N	6N/H	4 H 3 H/S	3 H/S

### BLADE CHANGE

Before putting a new blade into operation, it is necessary to make a run in. During running in, lower the bow slowly. Running in must be made by cutting material up to a diameter of 300 mm in about 15 mins.

Changing a blade is a dangerous operation because its sharp teeth are not provided with protections. Workers must take care for work that has to be performed by qualified staff.

#### **CAUTION!**

Change of blade requires worker should have prescribed work facilities and adequate covers.

Main machine switch must be switched off and insured against switch on!

#### **PROCESS OF BLADE CHANGE**

1. Bow upstroke and fixing (about 15° from the horizontal position).
2. Switch off main switch.
3. Remove cut material from the machine.
4. Open bow guard 57 Drw. 10/Ann. 5 and their lockings, remove the blade guide guard 67-130 Drw. 9-10/Ann. 5.
5. Release as much as possible the blade guide by slackening the blade tightening handwheel 102 Drw. 10/Ann. 5.
6. Press the blade so that it leaves the guide and take it out from the machine, holding it by both hands.
7. Take blade into hands, make "rolling movement" and fasten blade by wire.
8. Check the correct rotation direction of the blade. The cutting edges of the teeth should be in the direction of the blade movement.
9. If it is not like this turn blade "on back".
10. Insert the blade into the machine. (pass the blade through the guides and then through the driving pulleys).

#### **CAUTION!**

Bottom part of blade ( without teeth ) should lay on driving pulleys.

#### **CAUTION!**

Danger of accident! Hold the blade by both hands as far as possible from yourself and slowly turn it. Do not leave blade from hands in any case!

#### **CAUTION!**

Replace all safety guards and fix them securely in position

## MATERIAL FIXING

Vice (no. 9, Draw.7, Encl.4) is used for placing and fixing of cut material. Material is placed in front jaw (no.10, Draw.7, Encl.4). By pressing push button (M), hydraulic cylinder is activated and material is fixed. By pressing push button (L), material in vice is released. It is setting up distance of vice opening by switch, mainly during repeated cutting cycle. Vice is manually moved on linear guide to left or right dependent on arm deflection at angle cuts different to 0°. In this chosen position, vice is fixed by lever (no.49-118 Draw.8 Encl.4).

### CAUTION!

Take care for the fact that material must be strongly fixed after each change of jaw position. Thin profiles should be adequately fixed not to be deformed.

Take care for keeping safety regulations while fixing and working materials.

## INSTRUCTIONS TOWARDS CORRECT CUTTING

### TOOTH DEFORMATION

Each tooth of blade can tolerate certain pressure in dependence of blade quality. If you overcome this measure, tooth will break. It can be a moment of fulfilling space among teeth by greater amount of filings.

Fulfilling space among teeth (filings) is possible if material with big cross section is worked by blade with small pitch of teeth (e.g. diameter 100 mm, teeth 10, and feed 6).

In some cases, material with big cross section can be cut by soft blade, but feed should be less (e.g. 0,5 or 1).

Damage of teeth happens with large amount of filings if thin profiles are worked by blade which has too narrow teeth, or if there is set up large feed.

Frequent damage of blades causes not keeping of operating instructions.

### BLADE LIFE

Damage of teeth is caused :

- Unsuitable cutting speed.
- Unsuitable selection of blade quality for worked material.
- not using of cooling or using of insufficient cooling.

### MATERIAL WITH VARIOUS CROSS SECTION

While cutting some types of material, e.g. profile bars and tubes, cross section changes. In this case, we recommend you to use blade with combined teeth. The number of teeth for blade length is possible to determine according to the table (see under). Feed must be smaller than „3“ and during often change of profile, feed must be much more smaller to avoid tooth damage.

## TEETH FOR CUTTING TUBES AND PROFILES



D (mm)	< 40	80	100	150	200	300
Ep (mm)	Number of teeth/inch (about 25 mm)					
	8/12	8/12	8/12	8/12	6/10	6/10
8	8/12	6/10	6/10	6/10	6/10	4/6
12	6/10	4/6	4/6	4/6	4/6	3/4
15		4/6	4/6	3/4	3/4	3/4
20		4/6	4/6	3/4	3/4	3/4
30		3/4	3/4	3/4	2/3	2/3
50				2/3	2/3	2/3



## 4.) ELECTRIC EQUIPMENT

1. Voltage system :
  - 3 F – 50 Hz, 400V electric drives
  - Low tension 24V controls
2. Electro-motors are protected from progressive overload by thermal relay and from short-circuit by fuse.
3. Appliances are connected from system 3F – 50 Hz, 400V with earthing protection.
4. Installed power:
  - overall installed power  $P = 3 \text{ kW}$ ~
  - max current  $I_n = 8 \text{ A}$  ~

### **B. MACHINE SERVICE AND CLEANING**

It is necessary to follow those commands during machine service and cleaning :

- 1.) Main switch must be switched off and protected from chance switch on.
- 2.) All work must be performed by qualified staff or controlled by them.
- 3.) Before switching on machine, check if all persons making service are out of dangerous zone.

#### **COOLANT LIQUID**

Check daily level of coolant liquid that does not have to decrease below 1/3. If this happens, fulfil tank immediately!

#### **HYDRAULIC EQUIPMENT**

During service and repairs, it is necessary not to have hydraulic mechanism under pressure. Check level of hydraulic oil every day during the first week of operation. Later, once a week. Fulfil oil until maximum level during each checking.

Change of oil :

- first time after working of 50 to 100 hours.
- then, after every 200 hours of operation, at least 1 x year.

It is necessary to keep cleanness during service and repairs!

Use oil AGIP ARNICA 32 or corresponding equivalent of other brands.

#### **MACHINE CASING**

On wearing surfaces or surfaces with non-attended coating, there must be oiled surface. Oiling is perform during machine cleaning.

Regular cleaning of machine and early removal of filings is condition of good machine efficiency.

Filings is necessary to remove from the zone of driving mechanism, from the inside part of the bow protection and tank with coolant liquid.

#### **CAUTION :**

Do not use inflammable or evaporated substances as cleaners!

Protect electric parts meaning motor, switch, electric box etc. from humidity!

Do not perform welding works or other repairs during high temperatures in the nearest of oil systems and electric supply! Oil remainders from tank is necessary to clean by cleaners before this type of work.

It is necessary to switch off machines from electric network during idle time!

#### **EQUIPMENT AND PRIMARY COMPONENTS**

Components and equipment are constructed for bandsaw machine – models SPECIAL 650 DI. Usage of foreign components on those machines can negatively influence their operation. In those case, producer is not responsible for possible failures.

### **X. TRANSPORT AND PACKING**

Machine is transported by assistance of high-lifting vehicle or crane.

During transport, machine must be screwed on palette.

During transport by crane use cables hooked to the four lifting pegs Drw. 3/Ann. 2.

Except general valid transportation regulations, it is necessary to follow these instructions :

- Machine is transported to customer with out-assembled covers for conducting away liquid. Those are strongly fixed to machine itself during transport.
- Machine is transported to customer in adequate package.
- Wrapping material corresponds to local regulations
- The parts of the machine with raw surface (without coating) are provided with a slight layer of oil which must not be removed.
- The coolant tank is empty during transport.
- Any overhanging part or spare part are not fitted and are transported separately.
- Take care for projecting parts of machine, e. g. grip and handwheel.

**There must not be put power lifting system on machine arm!**

## D. SPECIAL SAFETY CHECKS

- A. Before using the machine, check carefully that the safety devices are in good working order, that the mobile parts are not blocked, that no parts are damaged and that all the components are installed correctly and are functioning properly.
- B. Make sure, before operating the machine, that the screws of the guards and other protective devices are adequately secured, especially the screws of the bow guard.**
- C. Check that the safety microswitches and the emergency button are functioning correctly. Test them during a loadless machine cycle.**
- D. Make sure that the mobile guard does not leave uncovered an angle of more than 5° in order to prevent fingers from entering.**
- E. Pay attention to environmental conditions. Do not expose the machine to rain; to not use it in damp environments, position the machine on a clean dry floor that has no oil or grease stains.
- F. Before using the machine, the operator should make sure that all tools and service spanners used for maintenance or adjustment have been removed.

### GENERAL SAFETY RULES

- A. Wear appropriate clothing. The operator's clothing should not be loose or dangling nor should it have parts which could easily get caught. Sleeves should contain elastic. Belts, rings or chains should not be worn. Long hair should be kept in a net.
- B. Avoid unstable operating positions. Find a safe and evenly balanced position to operate the machine.
- C. Keep the work area tidy, untidiness increases the risk of accidents.
- D. Do not use the power supply cable to disconnect the plug from the socket. Protect the cable from high temperatures, oil or sharp edges. For outdoor use, only use extension cables which are in line with current regulations.

### MEASURES TO PREVENT RESIDUAL RISKS

- A. The removal of guards and tampering with the safety devices is strictly forbidden.
- B. Gloves should always be worn.
- C. Standard work clothing should be used and kept closed and should not have flapping parts.
- D. The machine should not be cleaned with liquids under pressure.
- E. In the event of fire, extinguishers should not be used unless they are the powder type. The electric power supply to the machine should always be disconnected in these circumstances.
- F. Do not insert foreign bodies into the motor cover and to not supply the machine with voltage by tampering with the safety microswitches or main switch.
- G. Take the necessary precautions to avoid the machine being started by other people during loading, adjustment, piece changing or cleaning.**

### *Etichette di avviso, obbligo, divieto sulla macchina*

		MACC Costruzioni Meccaniche Srl Via Lago di Albano, 10 36015 Schio (VI) ITALY Tel. +39 0445 575001-05 Fax +39 0445 575006 Web site www.macc.it	
<b>Modello - Model</b>	<b>Massa - Weight (Kg)</b>		
<b>Matricola - Serial number</b>	<b>Anno - Year</b>		
Centralina idraulica - Hydraulic unit: <b>AGIP ARNICA 32</b> Scatola ingranaggi - Gearbox : <b>AGIP BLASIA 220</b> Punti a grasso - Grease points : <b>AGIP GREASE MU 2</b>			



•NON RIMUOVERE I DISPOSITIVI E LE PROTEZIONI DI SICUREZZA!  
 •BESCHERMKAPPEN EN BEVEILIGINGEN MOGEN NIET VERWIJDERD WORDEN!  
 •DO NOT REMOVE THE SAFETY DEVICES AND GUARDS!  
 •DIE SCHUTZVORRICHTUNGEN NICHT ENTFERNEN!  
 •NE PAS ENLEVER LES DISPOSITIFS ET LES PROTECTIONS DE SECURITE!  
 •NO QUITAR LOS DISPOSITIVOS Y LAS PROTECCIONES DE SEGURIDAD!



**COLLEGATO  
CONNECTED  
230 VOLT**

**COLLEGATO  
CONNECTED  
400 VOLT**

## **E. INFORMATION ON ENVIRONMENTAL NOISE**

An environmental noise test carried out on the SPECIAL 650 DI band saw machine, identical to the machine to which these operation instructions refer, has given the following results:

Acoustic radiation pressure

1.  $L_{Aek} = 83.2$  dB (A).
2.  $L_{peak} = 93.2$  dB (the maximum allowed value is 140 dB).
3. The level of background noise has no influence = 48.5-54.2 dB (A)

The considerable data are the result of tests made under the D.lgs. 277/1991 in the implementation of the directives nr. 80/1107/CEE, nr. 82/605/CEE, nr.84/477/CEE, and 88/642/CEE.

## **F. LAYING OFF – DISMANTLING**

If the machine is to be laid off or left idle for a long period, the following operations must be carried out:

1. Disconnect the machine from the electricity mains.
2. Empty oil from the gear box and cooling liquid from its tank to avoid corrosion.
3. Clean carefully the machine by getting rid of all traces of grease, especially on the worked parts that must be protected with anti-oxidants.
4. Cover the machine with a sheet, preferably not plastic as it can cause rust due to the humidity condensation.
5. Store the machine in a closed, dust-free place.

If the machine must be definitively dismantled, its components must be sub-divided for the purpose of a possible recycle of the materials and for the environment safety. The following table is given for your guidance:

<b>Steels</b>	<b>Electric and electronic components</b>	<b>Light alloy</b>	<b>Cast iron</b>	<b>Copper bronze</b>	<b>Plastics and rubber</b>
Screws	Component list	Motor casing	Structural parts	Motor winding	Hydraulic tubes
Rollers	Push buttons and control systems (relays, etc.)			Transformers	Seals
Springs				Bushings	Seals
Cylinders					
Flanges, Pivots					
Base					
Tank					
Guards					

Exhausted oil disposal must be performed in compliance with Directives 75\439\EC and 87\101\EC.

Electric components disposal must be performed in compliance with Directives 2002/95/EC and 2002/96/EC.

## G. LIST OF SPARE PARTS

POS.	DESCRIPTION	CODE	Q.TY
1	Base	001/45	1
2	Motor driver pump tray	002/45	1
3	Bench	003/45	1
4	Piece supporting table	004/45	1
5	Plate supporting table	005/45	1
6	Counter vice jaw	006/45	2
7			
8	Vice support	097-A/45	1
9	Auction vice jaw	119/45	2
10	Vice jaw	118/45	1
11			
12	Bench gib	003-A/45	1
13	Closing plate	117-B/45	1
14	Vice movement fillet	014/45	1
15	Rotating arm	015/45	1
16	Rotating arm pin	016/45	1
17	Bow cover hinge	057-A/45	2
18	Clamping lever M10x40	061/35	2
19	Rotating arm flange	019/45	1
20	Bow	020/45	1
21	Driving pulley	021/45	1
22	Driven pulley	022/45	1
23	Reducer shaft	023/45	1
24	Reducer shaft spacer	024/45	1
25	Blade tensioning pin	025/45	1
26	Pin bearing blade tensioning spacer	026/45	1
27	Blade tensioning pin	027/45	1
28	Blade tensioning plate	028/45	1
29			
30	Blade tensioning plate guide	030/45	1
31	Blade tensioning screw	031/45	1
32			
33	Mobile Bladeguide arm	033/45	1
34	Mobile Bladeguide slide	034-A/45	1
35	Bladeguide gib	035/45	1
36	Fixed bladeguide	036-A/45	1
37	Movable bladeguide	037-A/45	1
38	Bow cylinder fork	038/45	1
39			
40	Rotation pin	040/45	1
41	Bow cylinder rear pin	041/45	1
42	Bow cylinder front pin	042/45	1
43	Bow cylinder	043/45	1
44	Vice cylinder	044/45	1
45	Rotation stop above jaw	045/45	1
46	Rotation stop lower jaw	046/45	1
47	Graduated scale	047/45	1
48	Rotation stop lever flat	048/45	1
49	Rotation stop lever	049/45	1
50	Rotation jaw stop screw	050/45	1
51	Rotation bracket pin	051/45	1
52	Rotation bracket	052/45	1
53	Rotating bushing	053/45	1
54	Bench lockup front flat	054/45	1
55	Bench lockup rear flat	055/45	1
56	Crucible	056/45	1
57	Bow guard	057/45	1
58	Bladeguide guard	058/45	1
59	Bow lockup flat	059/45	1
60	Blade adjustment plate	060/45	4
61	Lateral guard grate	061/45	1
62	Outlet/Inlet lateral guard	062/45	2
63	Potentiometer bracket	063-A/45	1
64	Potentiometer cover	064/45	1

65	Brush guard	065/45	1
66	Control panel	066-D/45	1
67	Bladeguide guard	067/45	1
68	Compensated regulator bow descent	100/38	1
69	Blade tensioning bushing	069/45	1
70	Rotation stop sliding block	070-A/45	1
71			
72	Brush support	072/45	1
73	Brush shaft	073/45	1
74	Brush pin	074/45	1
75	Rotating shaft small disk	075/45	2
76	Vice pressure regulator	084-A/90	1
77	Vice pressure manometer 0-40 BAR	400/96	1
78	Rear guard	001-B/45	1
79	Vice adjustment plug nut	014-A/45	2+1
80	Lifting stake	001-A/35	4
81	Bladeguide fixing plug	090/45	1
82	Belleville washer 40x20,4x1,5 DIN2093	458/95	34
83			
84			
85	Washer	067/31	2
86			
87	Vice cylinder support	116/45	1
88	Bow support block	039-A/45	2
89			
90			
91	Blade M42 5270x34x1,1 Z3/4	090/75	1
92	Oil retainer 75-90-8	136/45	2
93	Bearing 30315	135/45	2
94	Bearing 61903 2RS	142/45	1
95	Bearing 6004 2RS	074/11	2
96	Bearing 6000 2RS	163/50	12
97	Bearing 6308 2RS	133/45	2
98	Bearing 6309 2RS	134/45	2
99	Potentiometer	362/90	1
100	Bushing Glycodur 5055-60	130/45	2
101	Unit V.24 c.a.	084/90	1
102	Blade tensioning handwheel	029/03	1
103	Circlip	490/95	1
104	Eye tie rod M12	035/38	2
105	Return spring	030/07	1
106	Degrees display	138/45	1
107	Bushing Igus GFM-2528-16	131/45	2
108	Coolant pump PA-35	089/90	1
109	Blade guide tap	031/96	2
110	Water barrel	510/95	2
111	Adhesive tape fixed cap	272/90	1
112	Motor M100	230/80	1
113	Reduction unit R 1/40	234/80	1
114			
115	Handwheel D.40 M8x20	077/25	1
116	Eye tie rod M8x40	525/95	1
117	Eye tie rod M10x70	043/31	1
118	Handle L.90 F.M12	075/11	1
119	V RING VA 0-100	132/45	1
119-A	Circlip	429/95	1
120	Reduction unit flange	076/45	1
121	Brush	141/45	1
122	Brush rubber	088/45	1
123			
124	Bench lever nut	024/03	1
125	Cage AXK 2035	109/32	1
126	Thrust bearing AS 20 35	108/32	2
127	Motor unit M71 V400/50 3F HP0,5	220/80	1
128	Hydraulic panel	066-A/45	1
129	Brush fixing washer	088/50	1
130	Blade additional guard	080/45	1
131	Idler pulley washer	082/45	1

132	Motor pulley washer	081/45	1
133	Joint fork M24x2 d125	140/45	1
134	Magnetic reader support	079/45	1
135	Centesimal magnetic bar	138-A/45	1
136	Tank handle	038/09	1
137	Tank	077/45	1
138	Tank support plate	078/45	1
139	Cover micro key support	089/45	1
140	Microswitch ERSCE E 100 01 S5I	030/90	1
141			
142			
143	Vice button	086/90	2
144			
151	Solenoid valve	351/90	2
152	Block solenoid valve	074-C/90	1
200	Plate with electrical components	102/43	1
201	Control panel	053-G/38	1
202	Fuse 10x38 gG 4A	204/90	2
203	Blade speed potentiometer	098/90	1
204			
205	Transformer 100VA 0-230-400V 0-24V	044/90	1
206			
207	Panasonic relay with 4 contacts 24Vac Socket Panasonic HC 4	112/90 112-A/90	1 1
208	Fuse 10x38 aM 16A	207/90	3
209	Fuse carrier WEBER PCH3x38	092/90	2
210	Omega holed bar	048/90	1
211	Omega holed bar	046/90	1
212	Terminal CABUR CBD.2	222/90	14
213			
214			
215	Thermal relay SGC1-A1210 B7 24V	032/90	3
216	Auxiliary contact LA1-DN 11	200/90	1
217			
218	Thermal relay SGR2-D1308 2.5-4A	053/90	1
219	Fuse carrier WEBER PCH1x38	093/90	1
220	Fuse carrier WEBER PCH2x38	094/90	1
221	Fuse 10x38 gG 6A	205/90	1
222			
223	Luminous button march	087/90	4
224	Button march TCQZB4BA2	086/90	2
225			
226	Emergency button	085/90	1
227			
228	Main switch CA0120003207+G595	002/90	1
228	Yellow terminal cover G3228	065/90	1
229	Earth connection bar	050/90	1
230	Control panel seal	054/38	1
231	Fuse 10x38 aM 2A	356/90	3
232	Board SMD 200	357/90	1
233			
234	Inverter 2,2 kW	096/90	1
235			
236			

## Montageanleitung

Positionsanzeige

(Original)

## Mounting instructions

Position Indicator

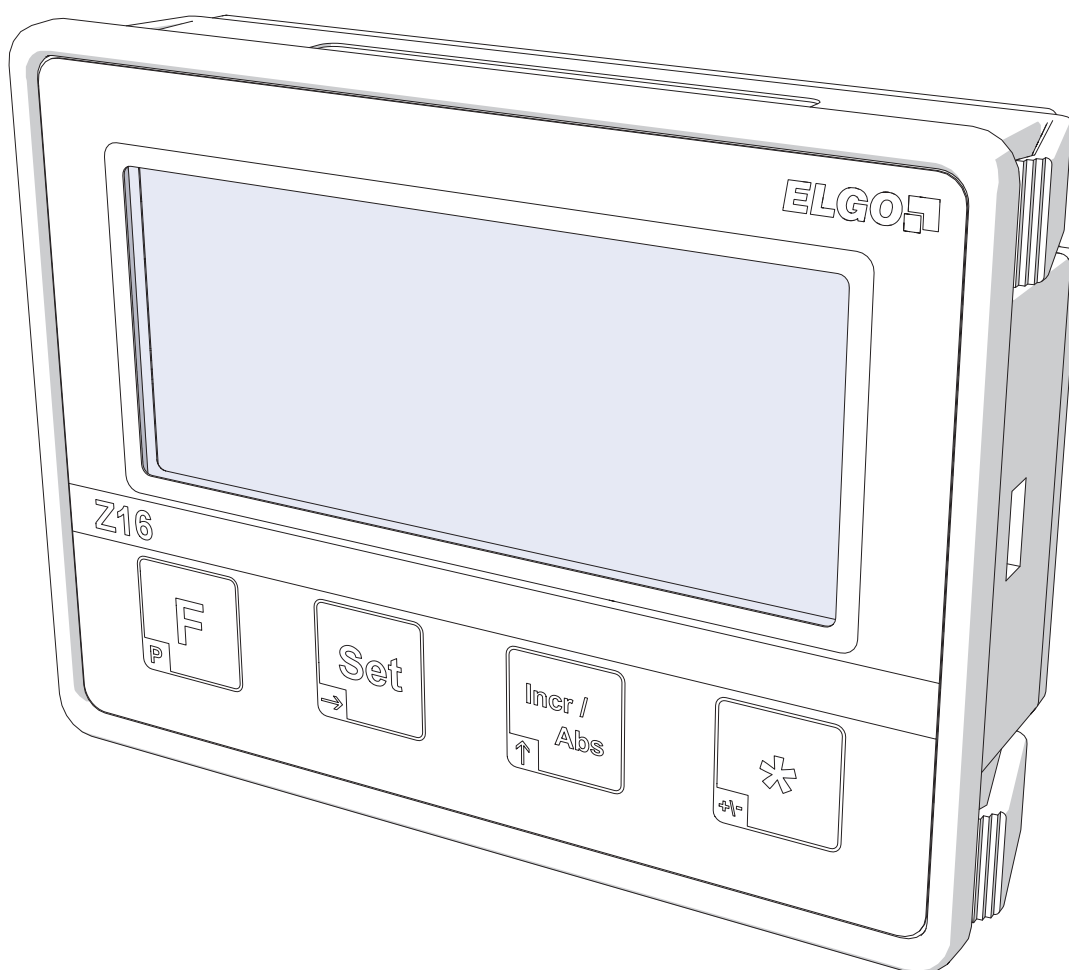
(Translation of the original mounting instructions)

## Instructions de montage

Indicateur de position

(Traduction du manuel de montage original)

# IZ16E



Herausgeber ELGO Batscale AG

Föhrenweg 20  
FL-9496 Balzers

Technischer Support ☎ +49 (0) 7731 9339 – 0

☎ +49 (0) 7731 2 13 11

✉ [support@elgo.de](mailto:support@elgo.de)

Dokumenten- Nr. D-100042

Dokumenten- Name D-100042\_6-14

Artikelnummer 799000652

Dokumenten- Revision Rev. 1

Ausgabedatum 04.02.2014

# 1 Inhalt / Content

1	Inhalt / Content.....	2
2	Technische Daten / Technical data.....	2
3	Zu diesem Dokument / About this Document / A propos de ce document	3
4	Abmessungen / Dimensions .....	5
5	Installation Magnetband / Installation magnetic tape.....	6
6	Aufbau und Funktion / Structure and function.....	7

## 2 Technische Daten / Technical data

### 2.1 Anzeige / Indicator

LCD:	1 x 7 Zählerdekaden / Counter decades mit Vorzeichen, Batteriestatus / Battery Status, Maßeinheiten / Units of measurement
Maßeinheiten / Units of Measurement:	mm, m, Inch, °
Blickwinkel / Viewing direction:	12 o'clock
Versorgungsspannung / Supply voltage:	Integriertes Batteriefach / Integrated battery 1 x C or external 1,5V...3,0V
Verpolungsschutz / Reverse polarity protection:	Nein / No
Verfahrgeschwindigkeit / Movement speed:	max. 4m/s
Betriebstemperatur / Operating temp.:	0°C ... + 50°C
Lagertemperatur / Storage temperature:	-10°C ... +60°C
Luftfeuchtigkeit / Humidity:	max. 95 %, nicht kondensierend / Non-condensing
Frontplattenausbruch / Front panel cut-out:	B x H = 93 <sup>0/+0.8</sup> x 67 <sup>-0/+0.6</sup> mm
Frontplattendicke / Front panel thickness	1.00mm – 3.50mm
Schutzklasse Frontseite / Protection class front:	IP 54 (im eingebauten Zustand / In installed condition)
Schutzklasse Rückseite / Protection class back:	IP 40
Schutzklasse Sensor / Protection class sensor	IP 67

### 2.2 Magnetband / Magnetic tape

Betriebstemperatur / Operation temperature	0° C ... + 50° C
Genauigkeit bei 20° C in mm / Accuracy at 20° C in mm	+/- (0,025+0,02 x L) L = Messlänge in Meter/Measuring length in meters
Ausdehnungskoeffizient / Lengths coefficient of expansion	$\alpha = 16 \times 10^{-6} \times 1/K$





### 3 Zu diesem Dokument / About this Document / A propos de ce document




#### 3.1 Funktion / Function / Fonction

- D Die vorliegende Montageanleitung liefert die erforderlichen Informationen für die Montage, die Inbetriebnahme, den sicheren Betrieb sowie die Demontage des IZ16E. Die Montageanleitung ist stets in einem leserlichen Zustand und zugänglich aufzubewahren.
- E These mounting instructions provide all the information you need for mounting, commissioning, the safe operation and disassembly of the IZ16E. The mounting instructions must be available in a legible condition and complete version in the vicinity of the device.
- F Le présent mode d'emploi contient les informations nécessaires au montage, au raccordement, à la mise en service, à un fonctionnement sûr ainsi que des remarques importantes concernant le démontage du IZ16E. Il est important de conserver le mode d'emploi (en condition lisible) près de l'appareil, accessible à tout moment comme partie intégrante du produit.

#### 3.2 Zielgruppe: autorisiertes Fachpersonal / Target group: Authorized Qualified Personnel / Groupe cible: personnel spécialisé autorisé

- Sämtliche in dieser Montageanleitung beschriebenen Handhabungen dürfen nur durch ausgebildetes und vom Anlagenbetreiber autorisiertes Fachpersonal durchgeführt werden.
- D Installieren und nehmen Sie das Gerät nur dann in Betrieb, wenn Sie die Montageanleitung gelesen und verstanden haben. Machen Sie sich mit den geltenden Vorschriften über Arbeitssicherheit und Unfallverhütung vertraut.
- Auswahl und Einbau der Geräte sowie ihre steuerungstechnische Einbindung sind an eine qualifizierte Kenntnis der einschlägigen Gesetze und normativen Anforderungen durch den Maschinenhersteller geknüpft.
- All operations described in these mounting instructions must be carried out only by trained specialist personnel, authorized by the plant operator.
- E Please make sure that you have read and understood these mounting instructions and that you know all applicable prescriptions regarding occupational safety and accident prevention prior to installation and commissioning.
- Selection and installation of the devices as well as their embedding into the controlling system require qualified knowledge of the applicable laws and normative requirements on the part of the machine manufacturer.
- F Uniquement du personnel qualifié, spécialisé et habilité par l'exploitant de l'installation est autorisé à effectuer les instructions décrites dans ce mode d'emploi.
- Il est important de lire et de comprendre le mode d'emploi avant l'installation et la mise en service du composant. Vous devez également connaître les prescriptions en vigueur concernant la sécurité du travail et la prévention des accidents.
- Pour le choix et le montage des composants ainsi que leur intégration dans le circuit de commande, le constructeur de machines doit observer les exigences des directives harmonisées et des règlements en vigueur.

#### 3.3 Verwendete Symbolik / Explanation of the Symbols used / Symboles utilisés

- D  **Vorsicht:**  
Bei Nichtbeachten dieses Warnhinweises können Störungen oder Fehlfunktionen die Folge sein.  
**Warnung:**  
Bei Nichtbeachten dieses Warnhinweises können ein Personenschaden und/oder ein Schaden an der Maschine die Folge sein.
- E  **Caution:**  
Failure to comply with this warning notice could lead to interferences or malfunctions.  
**Warning:**  
Failure to comply with this warning notice could lead to physical injury and/or damage to the machine.
- F  **Attention:**  
Le non-respect de cette recommandation peut entraîner des pannes ou des défauts de fonctionnement.  
**Avertissement:**  
Le non-respect de cette instruction peut entraîner des blessures physiques et/ou des dommages à la machine.

### 3.4 Bestimmungsmäßiger Gebrauch / Appropriate Use / Définition de l'application

- D Der IZ16E darf nur für durch den Hersteller zugelassene Anwendungen eingesetzt werden.
- E The IZ16E must be exclusively used for the applications authorized by the manufacturer.
- F L' IZ16E ne doit être utilisé que pour les applications autorisées par le fabricant.

### 3.5 Allgemeine Sicherheitshinweise / General Safety Instructions / Consignes de sécurité générales

- D Die Sicherheitshinweise der Montageanleitung sowie landesspezifische Installations-, Sicherheits- und Unfallverhütungsvorschriften sind zu beachten.  
Alle Angaben ohne Gewähr. Änderungen, die dem technischen Fortschritt dienen, vorbehalten.
- E The user must observe the safety instructions in these mounting instructions, the country-specific installation standards as well as all applicable safety regulations and accident prevention rules.  
The information contained in these mounting instructions manual is provided without liability. Subject to technical modifications.
- F Les consignes de sécurité de ce mode d'emploi, les standards d'installation spécifiques au pays concerné ainsi que les dispositions de sécurité et les règles de prévention d'accidents sont à observer.  
Les caractéristiques et recommandations figurant dans ce document sont uniquement données à titre d'information et sans engagement contractuel de notre part. Sous réserve de modifications techniques.

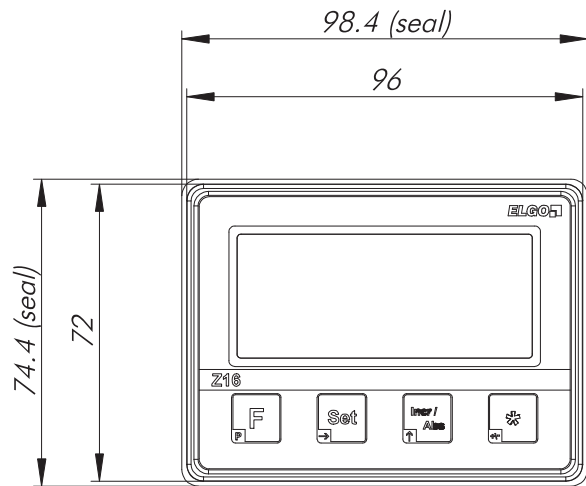
### 3.6 Haftungsausschluss / Exclusion of Liability / Clause de non-responsabilité

- D Für Schäden und Betriebsstörungen, die durch Montagefehler oder Nichtbeachtung dieser Montageanleitung entstehen, wird keine Haftung übernommen. Für Schäden, die aus der Verwendung von nicht durch den Hersteller freigegebenen Ersatz- oder Zubehörteilen resultieren, ist jede weitere Haftung des Herstellers ausgeschlossen.  
Jegliche eigenmächtige Reparaturen, Umbauten und Veränderungen sind aus Sicherheitsgründen nicht gestattet und schließen eine Haftung des Herstellers für daraus resultierende Schäden aus.
- E We shall accept no liability for damage and malfunctions resulting from incorrect mounting or failure to comply with these mounting instructions. The manufacturer shall accept no liability for damage resulting from the use of unauthorized spare parts or accessories.  
For safety reasons, invasive work on the device as well as arbitrary repairs, conversions and modifications to the device are strictly forbidden; the manufacturer shall accept no liability for damage resulting from such invasive work, arbitrary repairs, conversions and/or modifications to the device.
- F Nous déclinons les dommages et défaillances issus d'un montage erroné ou de la non-observation des instructions de ce mode d'emploi. Nous déclinons également la responsabilité pour les dommages résultant de l'utilisation d'accessoires ou de pièces de rechange non autorisés par le fabricant.  
Pour des raisons de sécurité, il est strictement interdit de transformer ou modifier un dispositif de sécurité de sa propre initiative. Le fabricant ne peut être tenu responsable pour les dommages y découlant.

## 4 Abmessungen / Dimensions

### 4.1 Anzeige / Indicator

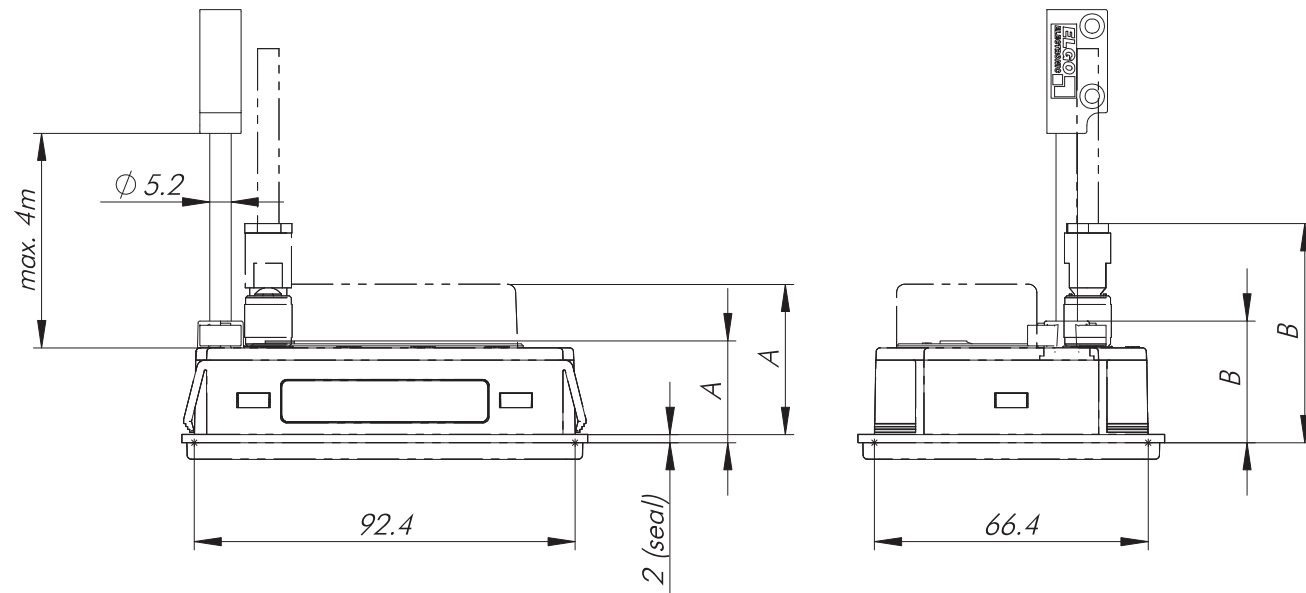
Angaben in mm / Specifications in mm



Schalttafel ausbruch / Front panel cut-out  
 $93^{-0/+0.7} \times 67^{-0/+0.6}$

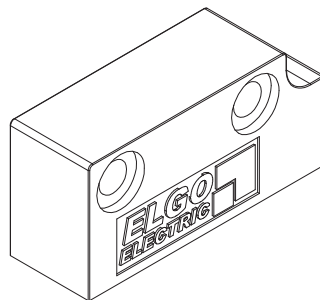
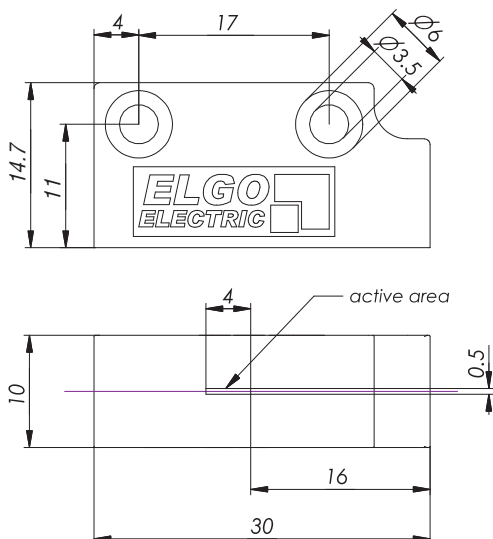
Frontplattendicke / Front panel thickness  
 1.00, 1.50, 2.00, 2.50  
 Ohne Dichtung / Without seal  
 2.50, 3.00, 3.50

Typ Type	A (mm)	B (mm)
IZ16E-XXX-1-XX,X-0	37	30
IZ16E-XXX-1-XX,X-1	37	53
IZ16E-XXX-6-XX,X-0	25	30
IZ16E-XXX-6-XX,X-1	25	53



### 4.2 Sensor / Sensor

Angaben in mm / Specifications in mm



Wichtig: Der Abstand zwischen Sensor und Magnetband muss kleiner sein als siehe Tabelle.

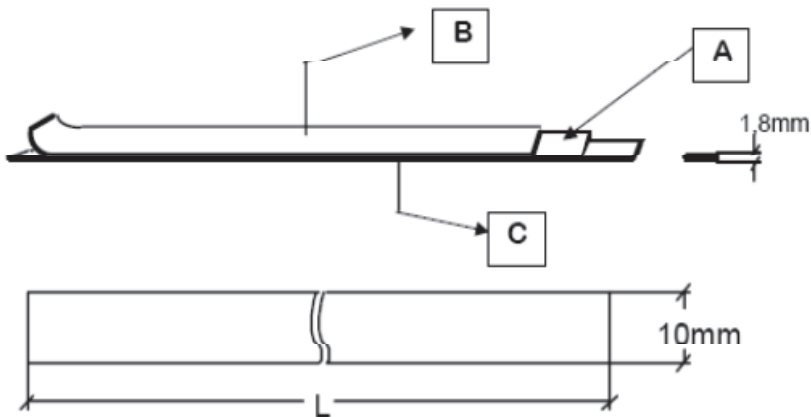
Important: The distance between the sensor and the tape has to be smaller than see table.

Typ Type	Abstand Sensor / Band Distance sensor / Band
IZ16E-XXX-X-XX,X-X	max.0,8mm

## 5 Installation Magnetband / Installation magnetic tape

### 5.1 MB20-xx-10-1-R

Das Magnetband besteht aus drei Komponenten. / The magnetic tape consists of three contents:



A: Magnetband / Magnetic tape

B: Dieses Stahlband schützt das Kunststoffband vor mechanischen Schäden und stellt gleichzeitig einen magnetischen Rückschluss dar. / This magnetic flexible steel tape protects the rubber tape against mechanical defects and represents a magnetic feedback simultaneously.

C: Diese Komponente dient zum mechanischen Schutz für das Kunststoffband und muss nach der Montage auf das magnetische Kunststoffband aufgeklebt werden. / This steel tape is used for the mechanical protection of the rubber tape and must be attached on the magnetic rubber tape after assembly.

### 5.2 Verarbeitungshinweise für das Kleben von Magnetbändern / Processing hints for the sticking of magnetic tapes

Die mitgelieferten Klebebänder kleben am besten auf sauberen, trockenen und glatten Oberflächen. Die Festigkeit der Verklebung ist direkt abhängig von dem Kontakt, den der Klebstoff zu den verklebenden Oberflächen entwickelt. Ein hoher Andruck sorgt für einen guten Oberflächenkontakt.





The provided sticky tapes stick best on clean, dry and plain surfaces.

The stability of the adhesion is directly depending on the contact, which the adhesive develops to the surfaces stuck together. High pressure results in a good surface contact.









## 6 Aufbau und Funktion / Structure and function

### 6.1 Betriebsmodus / Operation mode

Referenzwert / Reference Value		Gleichzeitig betätigen / Press simultaneous
Kettenmaß / absolut Relative / absolute		Umschaltung Inkremental – Absolut / Switch over absolute to incremental dimension
Versatzmaß / Offset		Diese Taste aktiviert die einstellbaren Versatzmaße / Switches over between the adjustable Tool-Offsets
Inch-Anzeige / Inch display		Umschaltung im Inch-Betrieb *Bruchdarstellung (1/64, 1/32, 1/16), Dezimal 0,001 Switch over to Inch operation mode *Fraction display (1/64, 1/32, 1/16), Decimal 0,001

### 6.2 Parameterebene / Parameter level

Parameterebene aktivieren / Change to program mode		Für ca. 3 Sekunden betätigen / Hold 3 sec. to enter program mode
Parameter anwählen / Select parameter		Taste einmal betätigen / Press one time
Dekaden Anwahl / Select decade		Taste einmal betätigen / Press one time
Dekade erhöhen / Increase decade		Taste einmal betätigen / Press one time
Vorzeichenwechsel / Change of sign		Taste einmal betätigen / Press one time
Parameterebene verlassen / Back to normal mode		Für ca. 3 Sekunden betätigen / Hold 3 sec. to exit program mode

## 6.3 Parameterliste / Parameter list


Parameter / Parameter	Spezifikation / Specification	Default
P01: A	Systemkonfiguration / Configuration: A = 0: positive Zählrichtung / Positive counting direction A = 1: negative Zählrichtung / Negative counting direction	0
P02: A	Anzeigemodus / Display mode: A = 0: mm - Anzeige Symbol „ mm“ / Display „ mm “ A = 1: Inch - Anzeige Symbol „ Inch“ / Display „ Inch “ A = 2: mm - Anzeige Symbol „ m“ / Display „ m “ A = 3: mm - Anzeige Symbol „ ° “ / Display „ ° “ A = 4: mm - Anzeige kein Symbol / Display no symbol	0
P03: A	Dezimalpunkt / Decimal point (0...4)	2
P05: ABC	Tastensperre / Key lock: A: "SET" (0 = nicht aktiv / not active) – (1 = aktiv / active) B: "Incr/Abs" (0 = nicht aktiv / not active) – (1 = aktiv / active) C: "*" (0 = nicht aktiv / not active) – (1 = aktiv / active)	000
P07:A	Basisauflösung / Resolution: A = 0: Auflösung / Resolution 0,01mm A = 1: Auflösung / Resolution 0,1mm	0
P08:	Multiplikationsfaktor / Pulse scaling factor (0,0001...9,9999)	1,0000
P09:	Referenzwert / Reference value (-999999,9 ... + 999999,9)	0,0
P10:	Versatzmaß 1 / Offset 1 (-999999,9 ... + 999999,9)	0,0
P11:	Versatzmaß 2 / Offset 2 (-999999,9 ... + 999999,9)	0,0
P12:	Versatzmaß 3 / Offset 3 (-999999,9 ... + 999999,9)	0,0
P13: A	Konfiguration Versatzmaße / Configuration offsets (0...3) A = 0: Versatzmaße nicht auswählbar / Offsets not selectable A = 1: Versatzmaß 1 auswählbar / Offset 1 selectable A = 2: Versatzmaß 1 & 2 auswählbar / Offsets 1 & 2 selectable A = 3: Versatzmaß 1 & 2 & 3 auswählbar / Offsets 1 & 2 & 3 selectable	3
P90: A	(ohne Funktion)	0
P99:	Software Version	X.XX

## 6.4 Kalibrierung / Calibration

Der Sensor muss sich auf dem Magnetband befinden! /

The sensor must be on the magnetic tape!

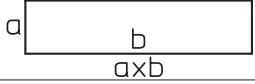
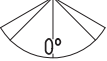




→ Gerät ausschalten / Switch off the device

→  Gleichzeitig mit Tastenbetätigung Gerät wieder einschalten /  
Hold the button during switching on the device

→ Hierbei wird die Sensorkalibrierung ausgelöst und „CAL 0“ angezeigt. Sensor langsam in eine Richtung auf dem Magnetband bewegen. Nach Abschluss der Kalibrierung (Anzeige „CAL 0“ ... „CAL 4“) befindet sich die Anzeige wieder im Normalmodus.

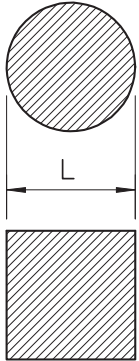
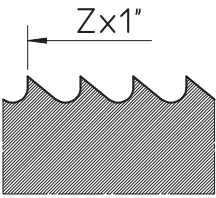
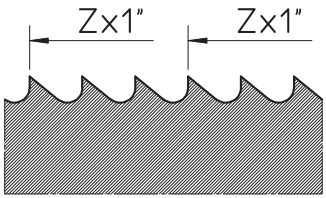
This will start the sensor calibration and "CAL 0." is displayed. Now move the sensor slowly in one direction on the tape. Upon completion of the calibration (display "CAL 0"... "CAL 4") is the display again in normal mode.

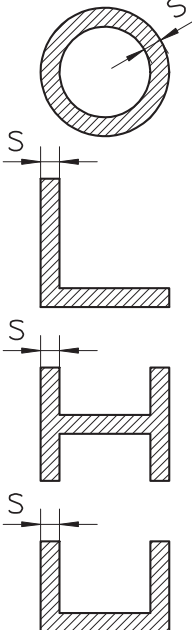
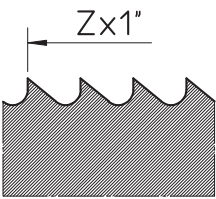
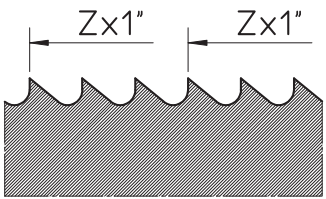
# CAPACITA' DI TAGLIO - Special 650 DI

CAPACITA' DI TAGLIO CUTTING CAPACITY - CAPACITE DE COUPE SCHNITTKAPAZITAET - CAPACIDAD DE CORTE	●	○	□	
	200	460	450	450 x 620
	200	450	430	400 x 450
	200	240	300	220 x 320
	200	450	410	340 x 450
	200	300	300	270 x 420

## SCELTA DELLA LAMA

SCELTA DELLA LAMA  
SELECTION OF BLADE  
CHOIX DE LA LAME  
WAHL DES SAEGBLATTES  
SELECCION DE LA HOJA

	L mm		
$\leq 40$	8	6/10	
$>30 < 80$	6	5/8	
$>60 < 90$	4	4/6	
$\leq 100$	3	3/4	

	S mm		
$\leq 1,5$	14	-	
$>1 < 2$	10	10/14	
$>2 < 4$	8	8/12	
$>4 < 8$	6	6/10	
$>6 < 12$	6	5/8	
$\leq 12$	4	4/6	

Velocità di taglio La macchina è dotata di variatore di velocità di taglio (inverter)		22-73 m/1'
Cutting machine The machine is equipped with variable cutting speed (inverter)		22-73 m/1'
Vitesse de coupe La machine est équipée avec la variable la vitesse de coupe (inverter)		22-73 m/1'
Schnittgeschwindigkeit Die Maschine ist ausgestattet mit Variable Schnittgeschwindigkeit (Inverter)		22-73 m/1'
Velocidad de corte La máquina está equipada con la variable de la velocidad de corte (inverter)		22-73 m/1'
Materiale Material Materiel Material Material		Velocità di taglio m/1' Cutting machine m/1' Vitesse de coupe m/1' Schnittgeschwindigkeit m/1' Velocidad de corte m/1'
Acciai da costruzione Fe37+Fe42 Structural steel Fe37+Fe42 Aciers de construction Fe37+Fe42 Baustahl Fe37+Fe42 Acero de construccion Fe37+Fe42		Pieni Solid Pleins Volles Material Pies 73~ Profilati Structural steel Profilés Profile Perfiles 73~
Acciai da costruzione Fe50+Fe70 Structural steel Fe50+Fe70 Aciers de construction Fe50+Fe70 Baustahl Fe50+Fe70 Acero de construccion Fe50+Fe70		73~
Acciai al carbonio C40+C60 Carbon steel C40+C60 Aciers au carbone C40+C60 Kohlenstoffstahl C40+C60 Acero de carbono C40+C60		73~
Acciai legati Alloyed steel Aciers allié Legierter Stahl Acero aleado		36~
Acciai inox Stainless steel Aciers inoxydables Rostfreier Stahl Acero inoxidable		36~
Ghisa grigia Grey cast iron Fonte grise Grauguß Fundición gris		73~
Leghe d'alluminio Aluminium alloys Allieges d'aluminium Legierungen aus Aluminium Aleación de Aluminio		73~
Bronzi Bronze Bronze Bronze Bronze Bronces		73~



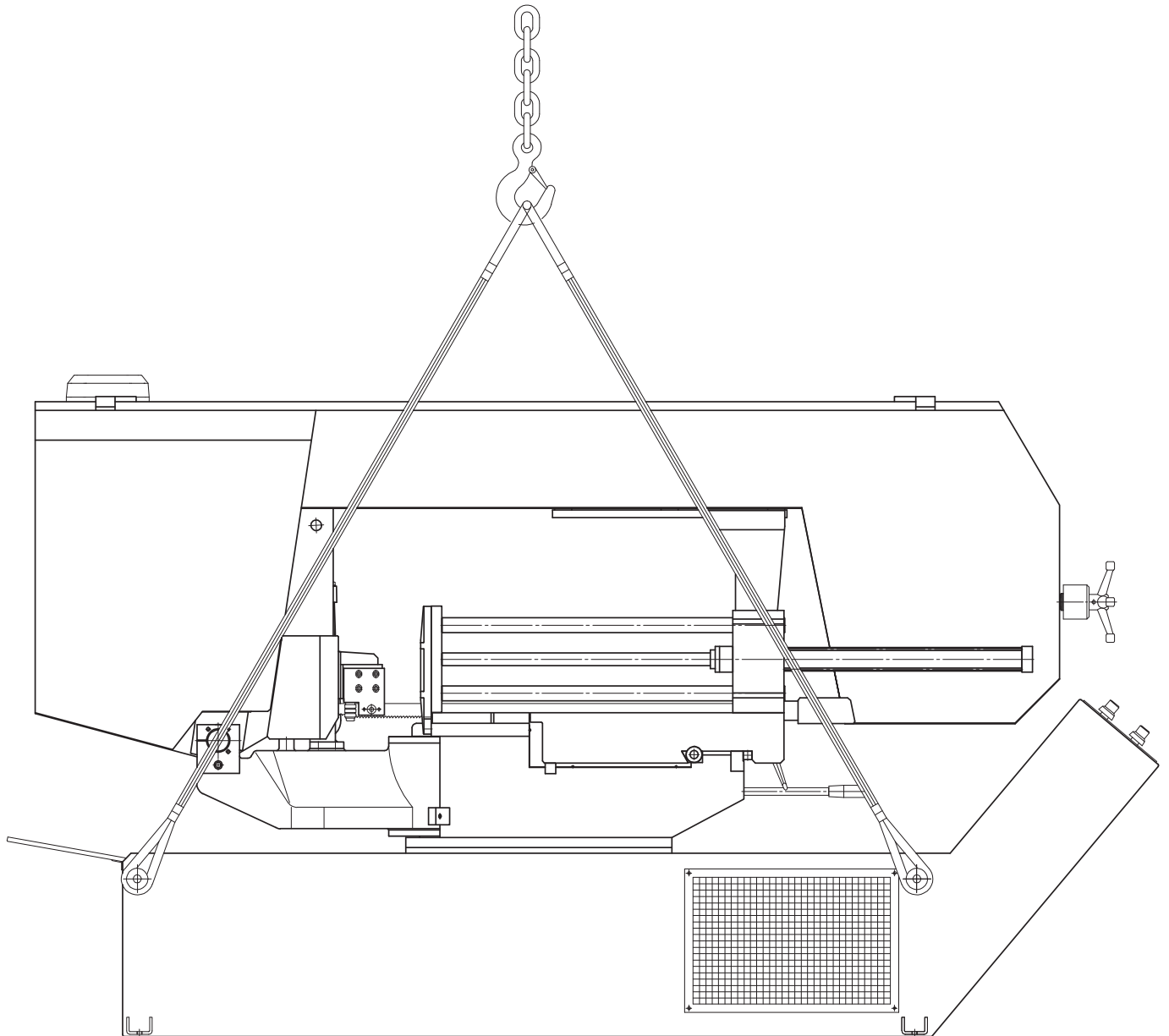
# MOVIMENTAZIONE E TRASPORTO

Handling and transportation

Manutention et transport

Handhabung und Transport

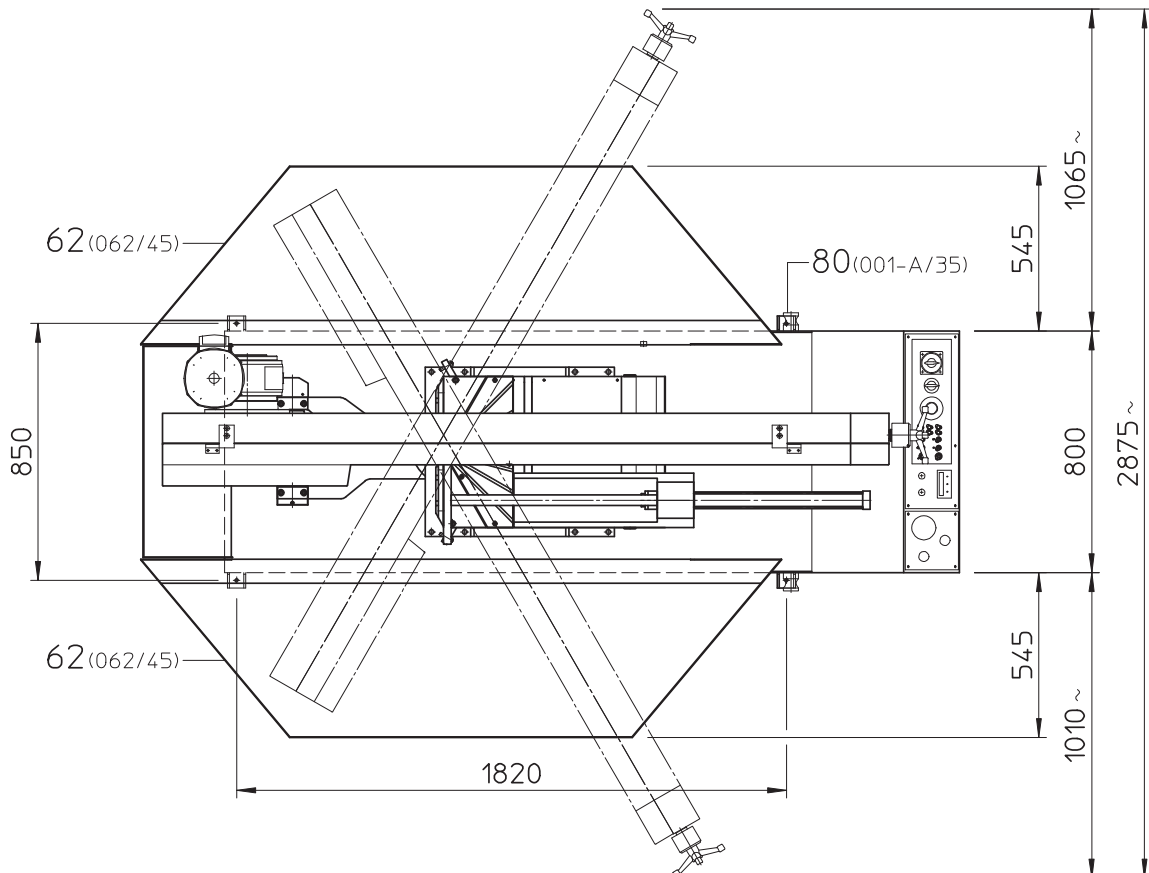
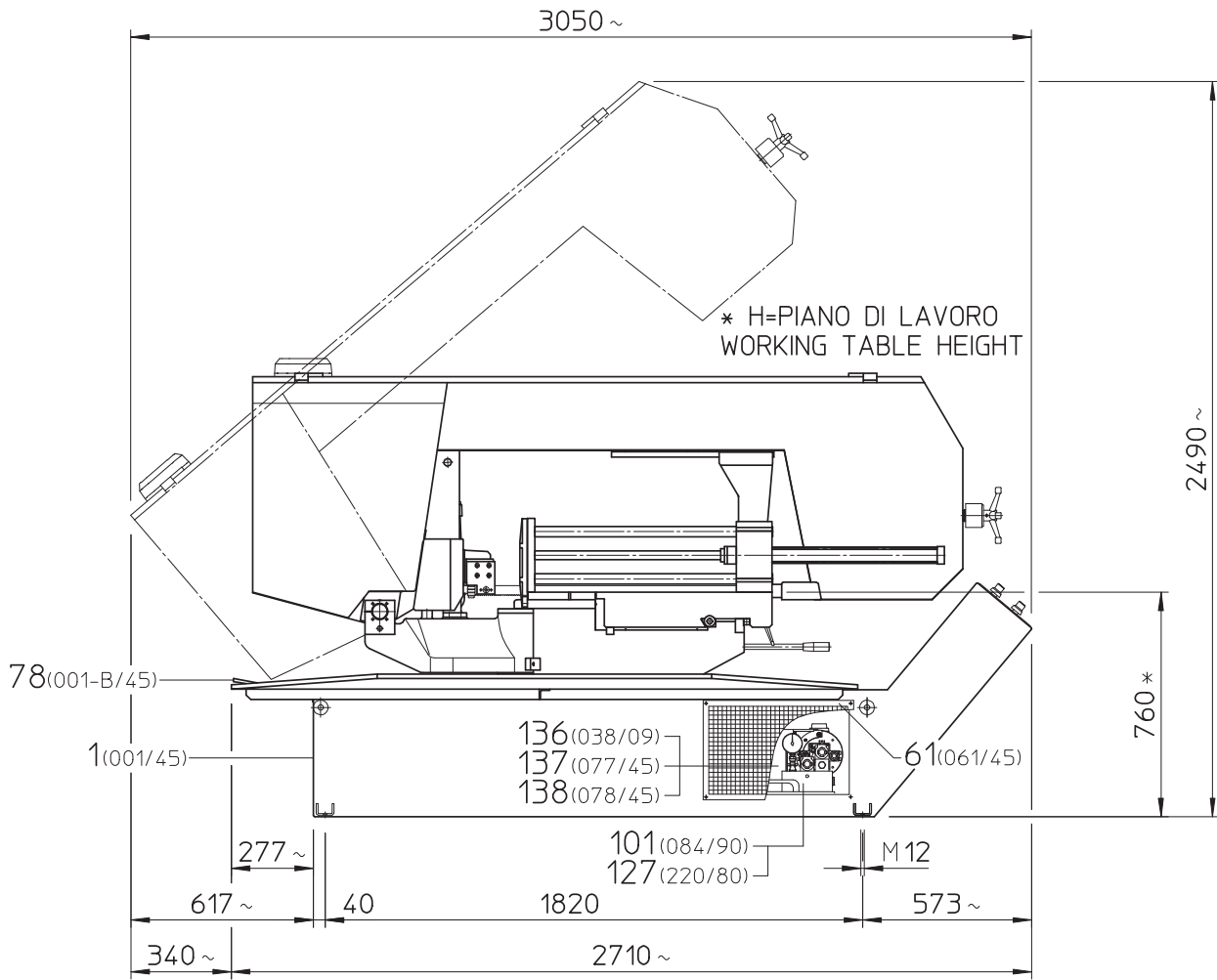
Movilizacion y transporte

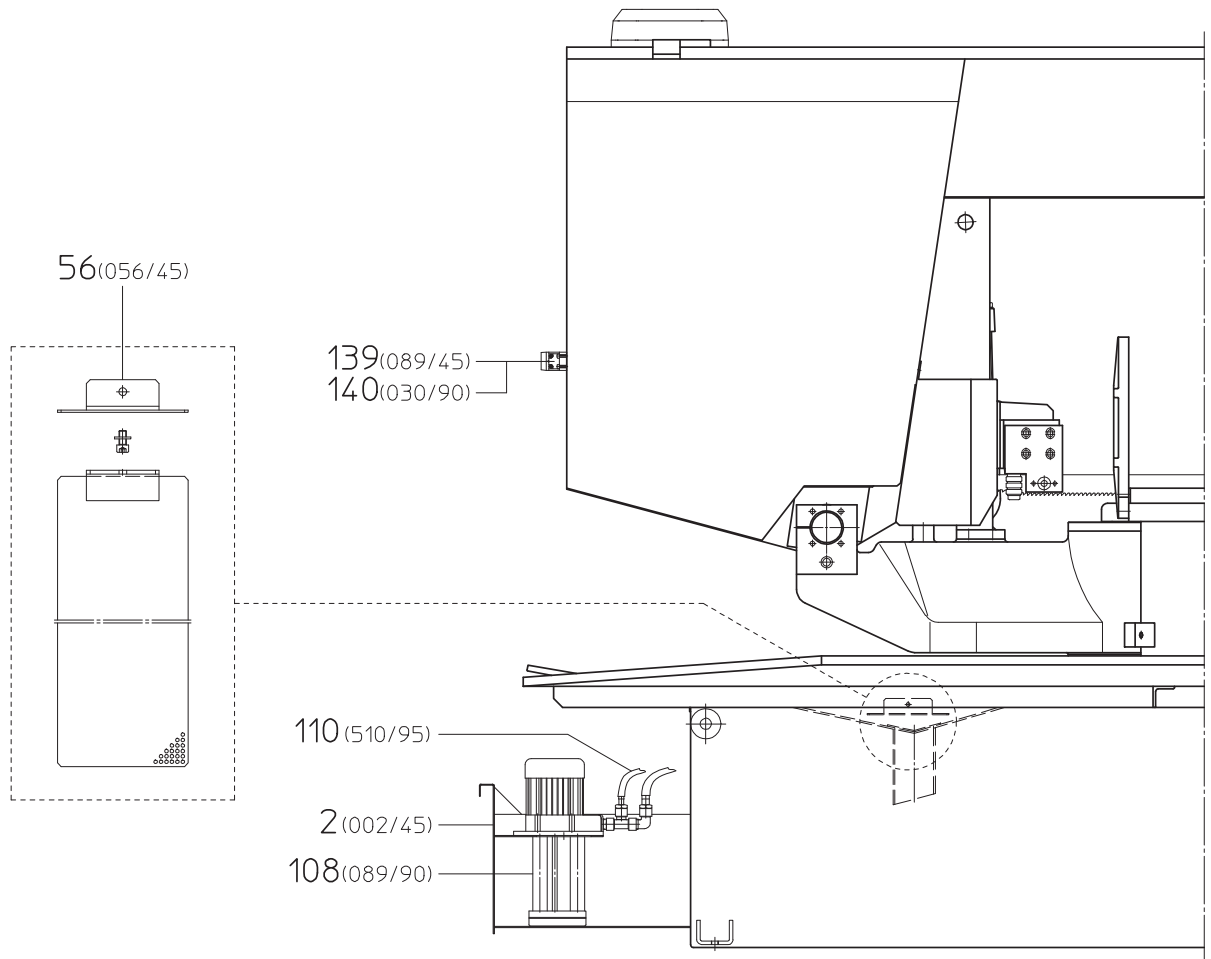


1250 kg~ - 12260 N

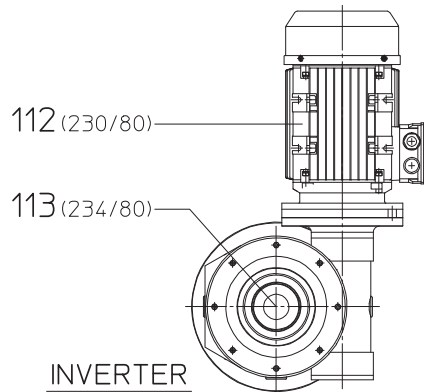
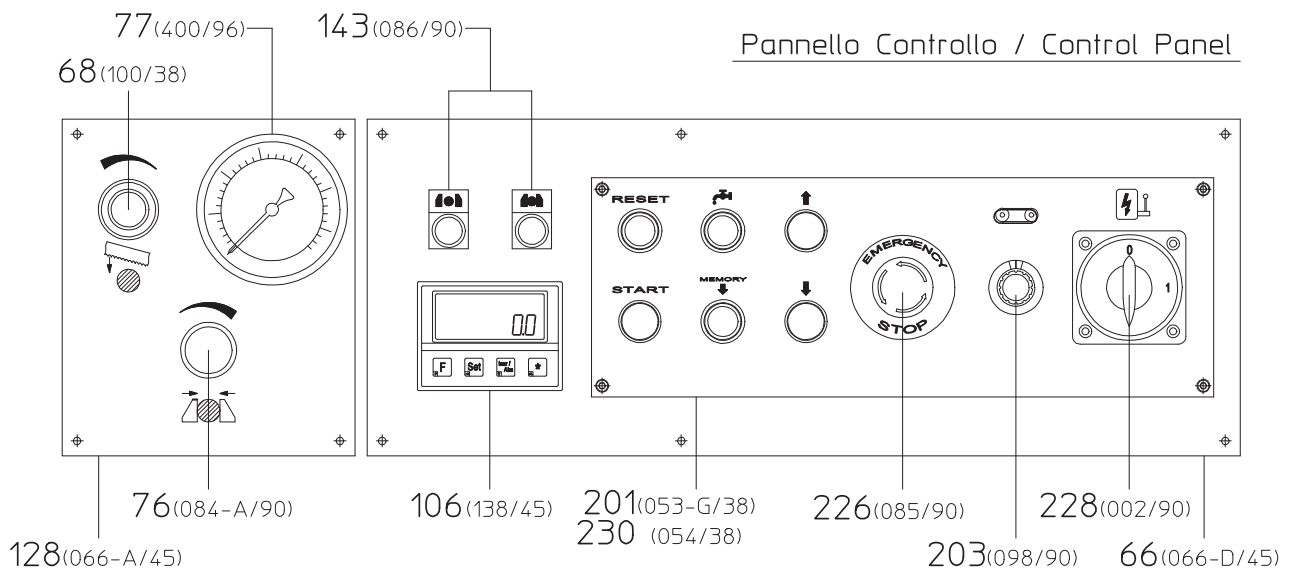
# DIMENSIONI D'INGOMBRO ED INSTALLAZIONE

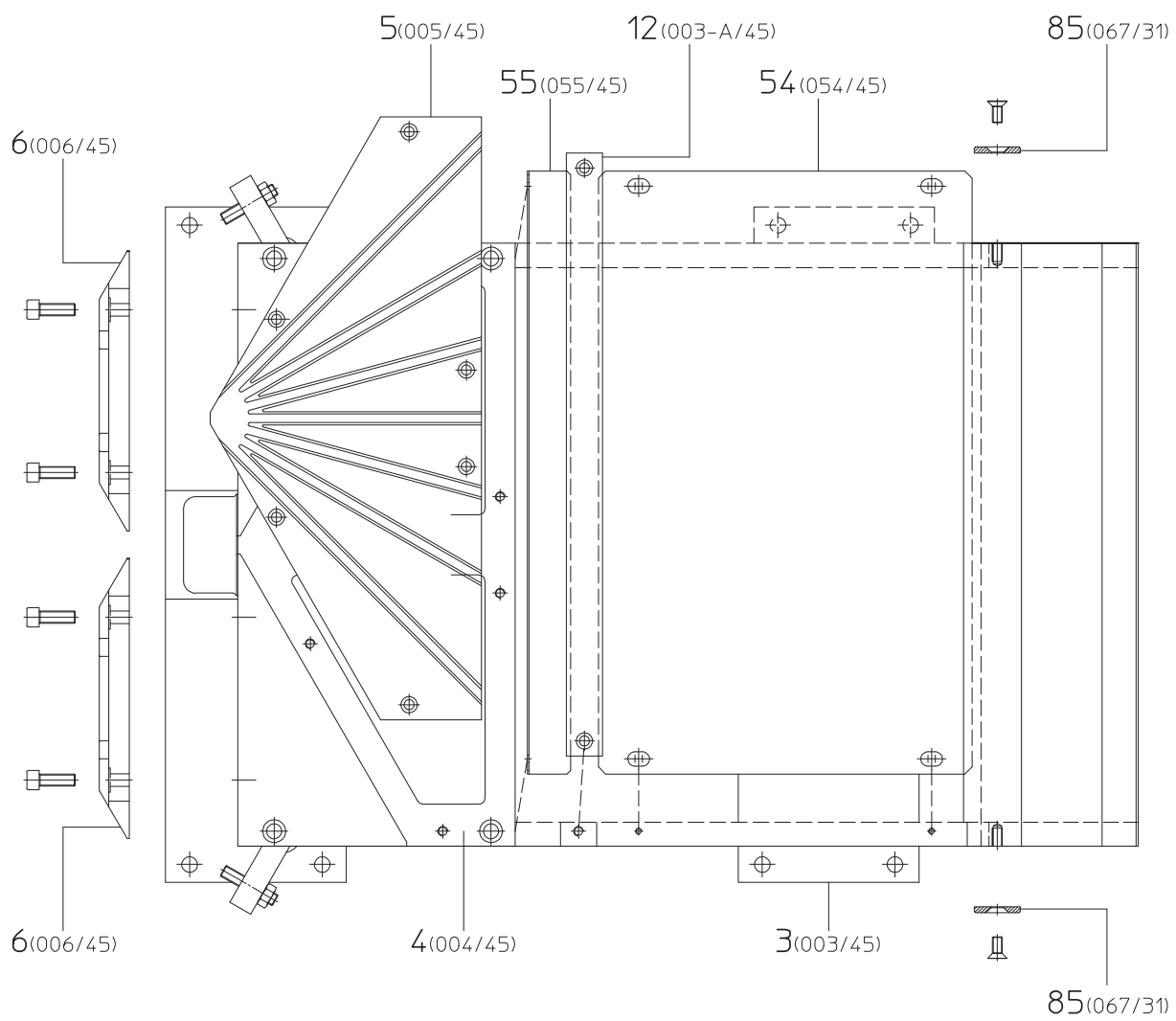
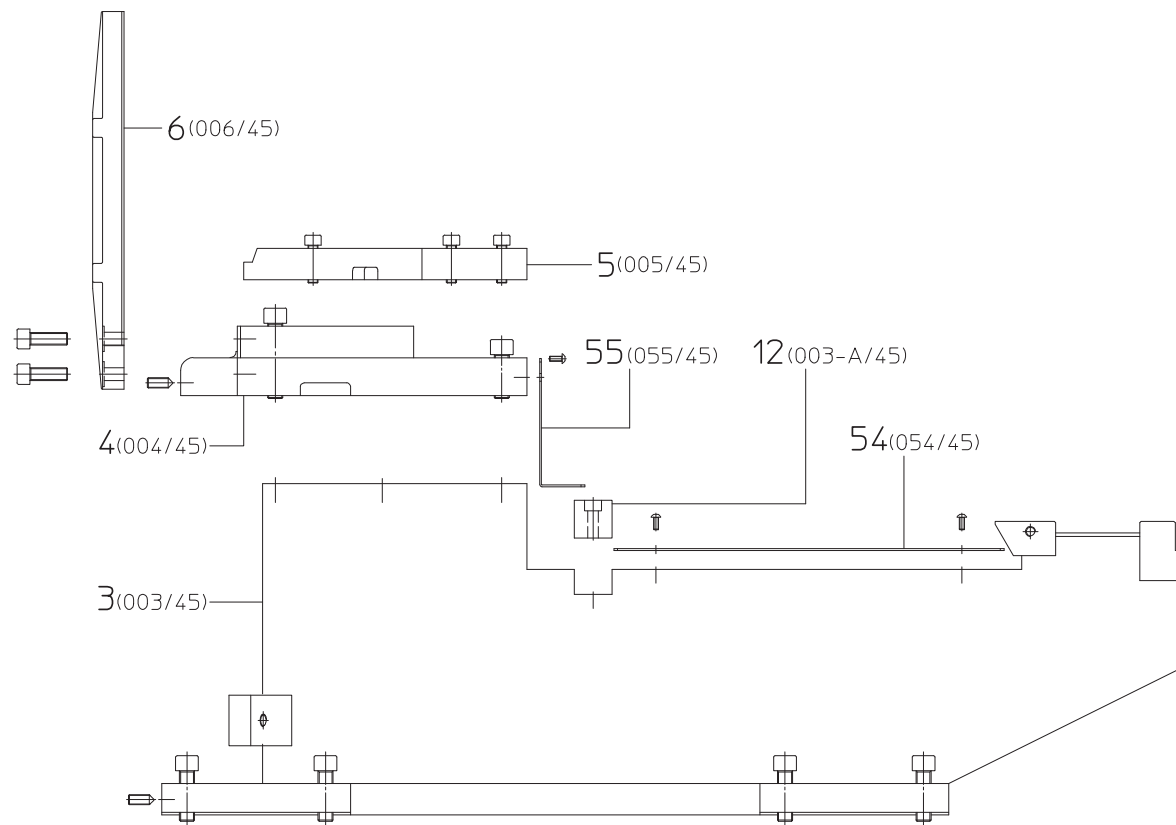
Overall dimensions and installation  
 Dimensions hors-tout et installation  
 Aussenabmessungen und installation  
 Dimensiones máximas extremas e instalación

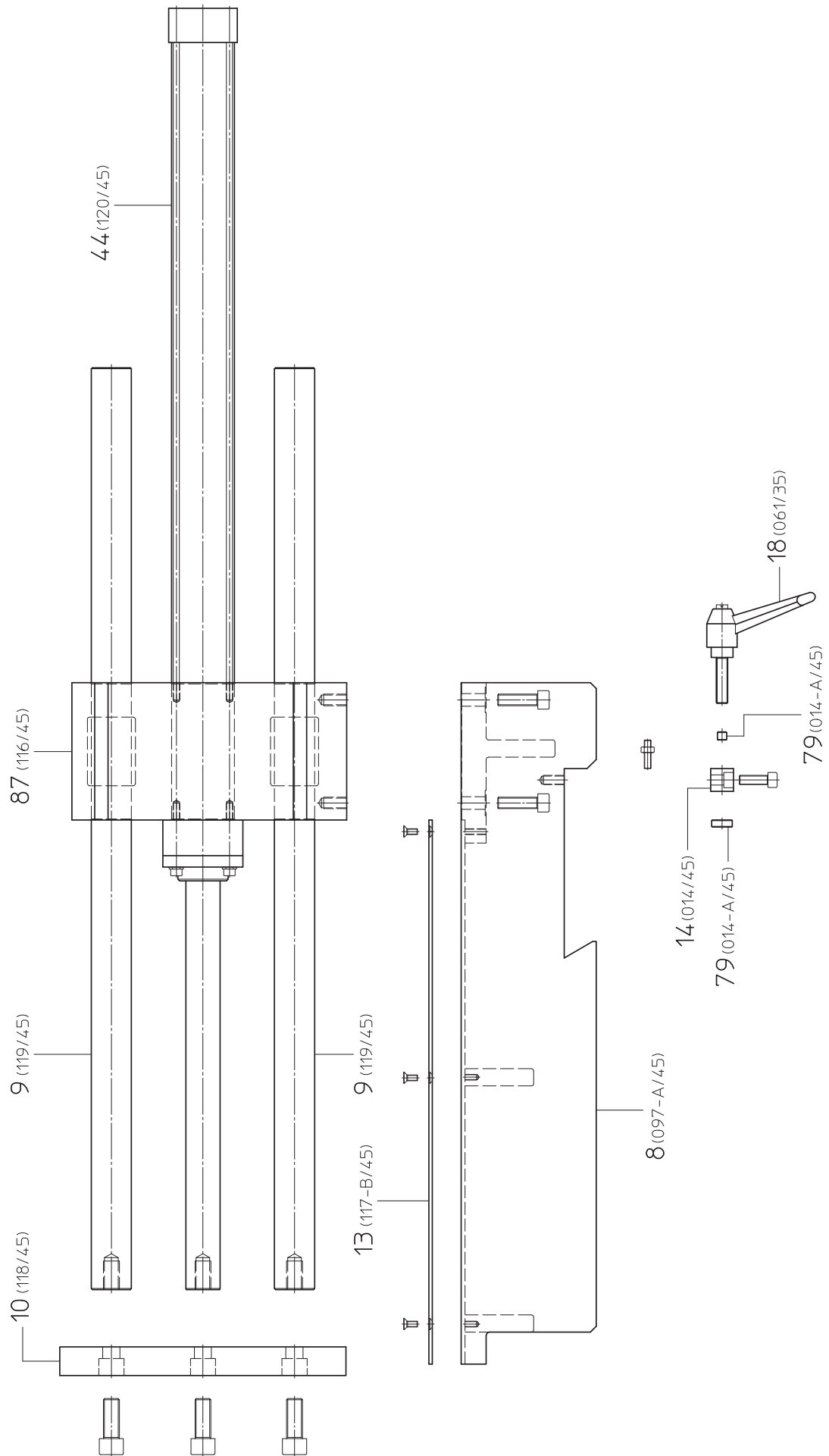


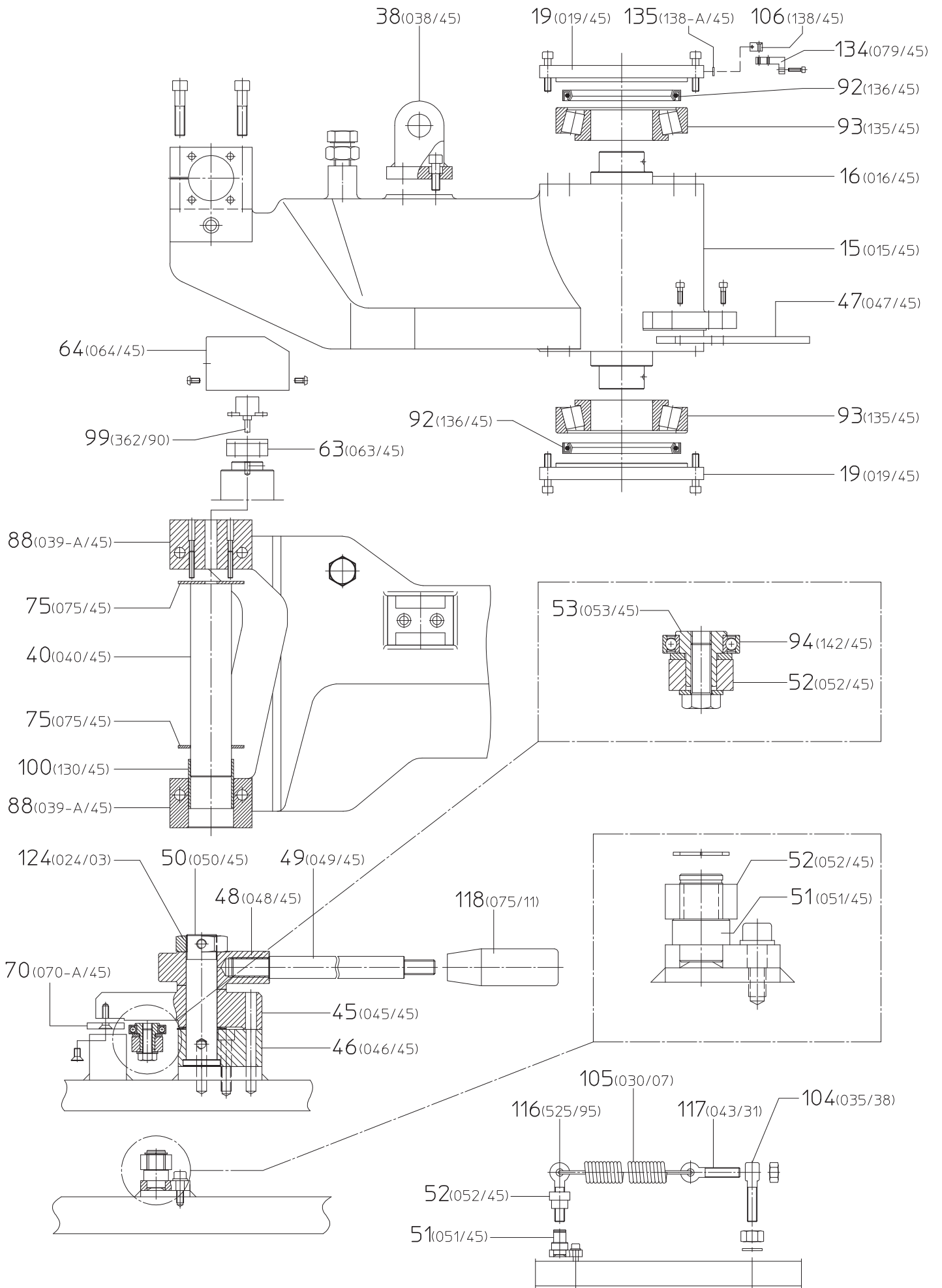


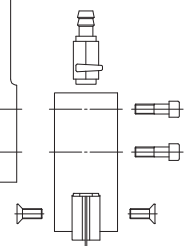
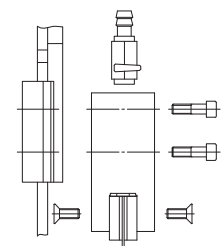
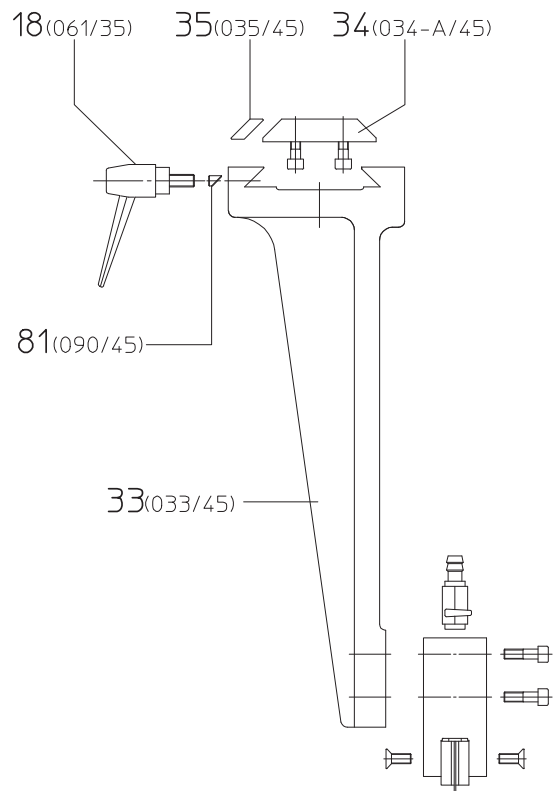
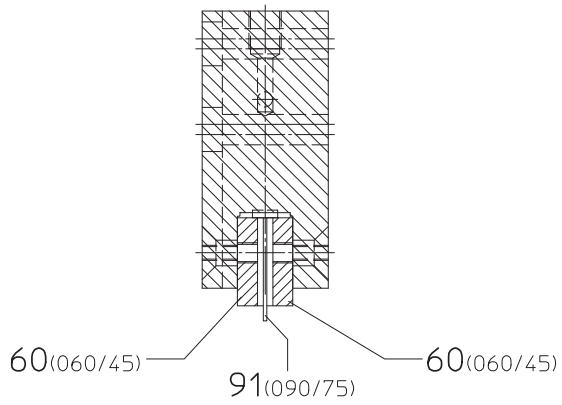
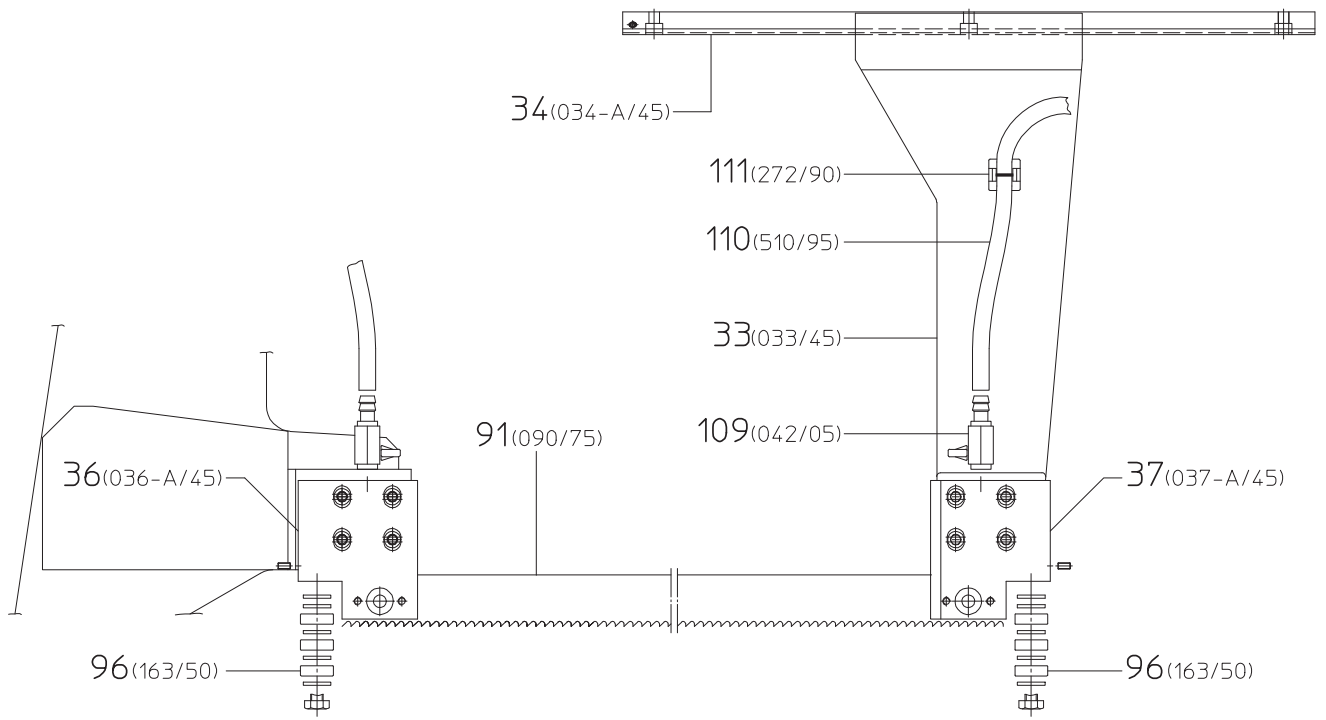
Pannello Controllo / Control Panel

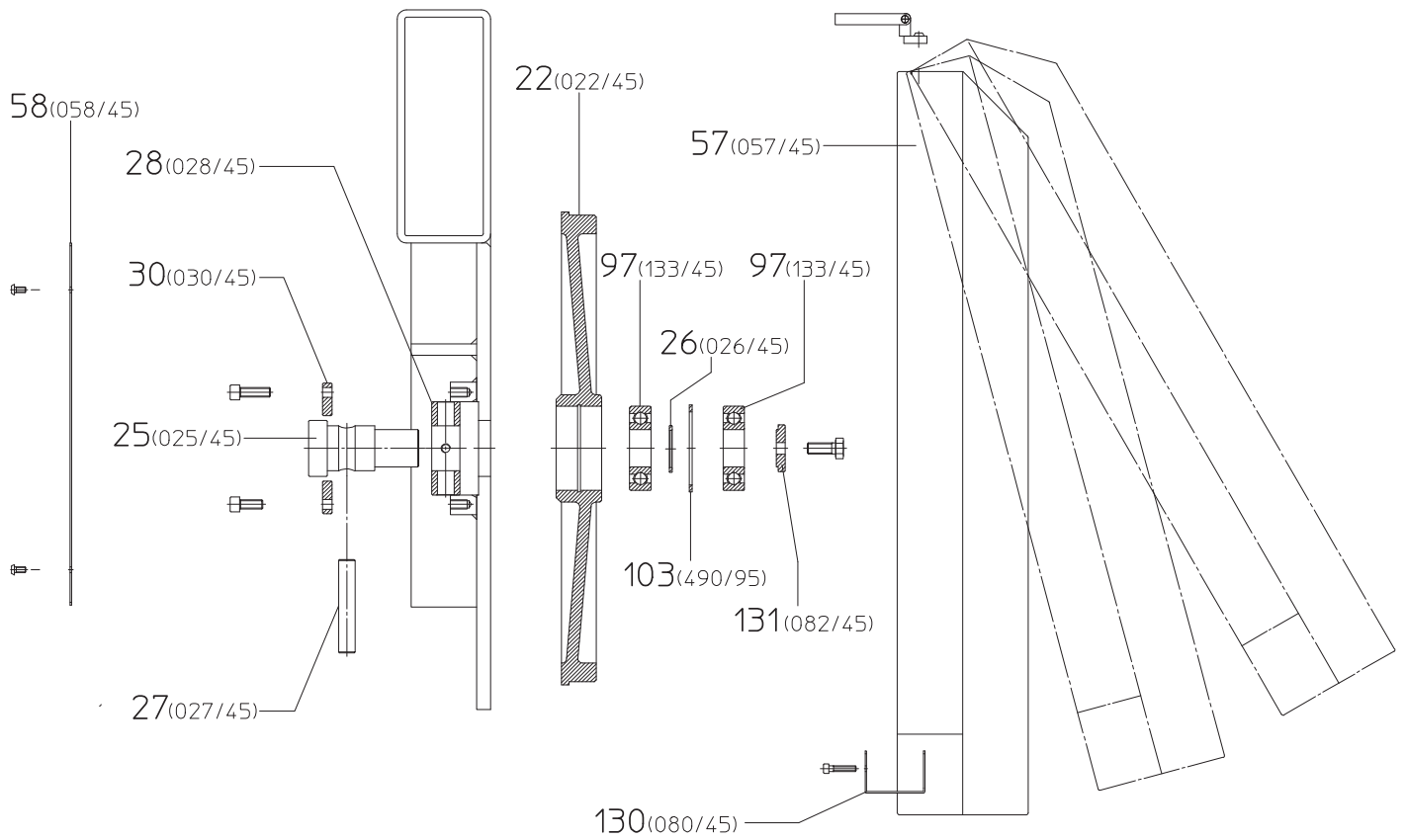
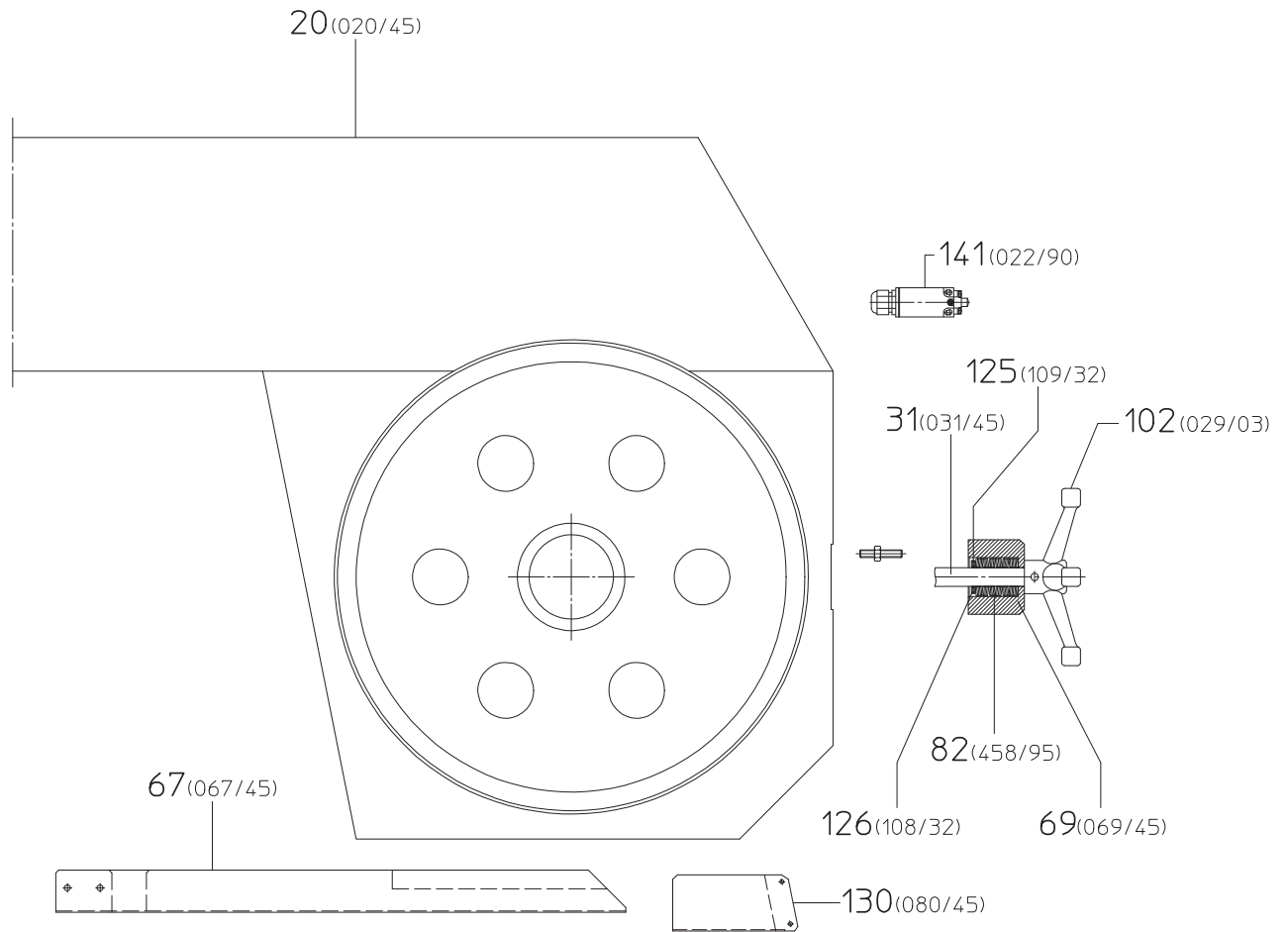




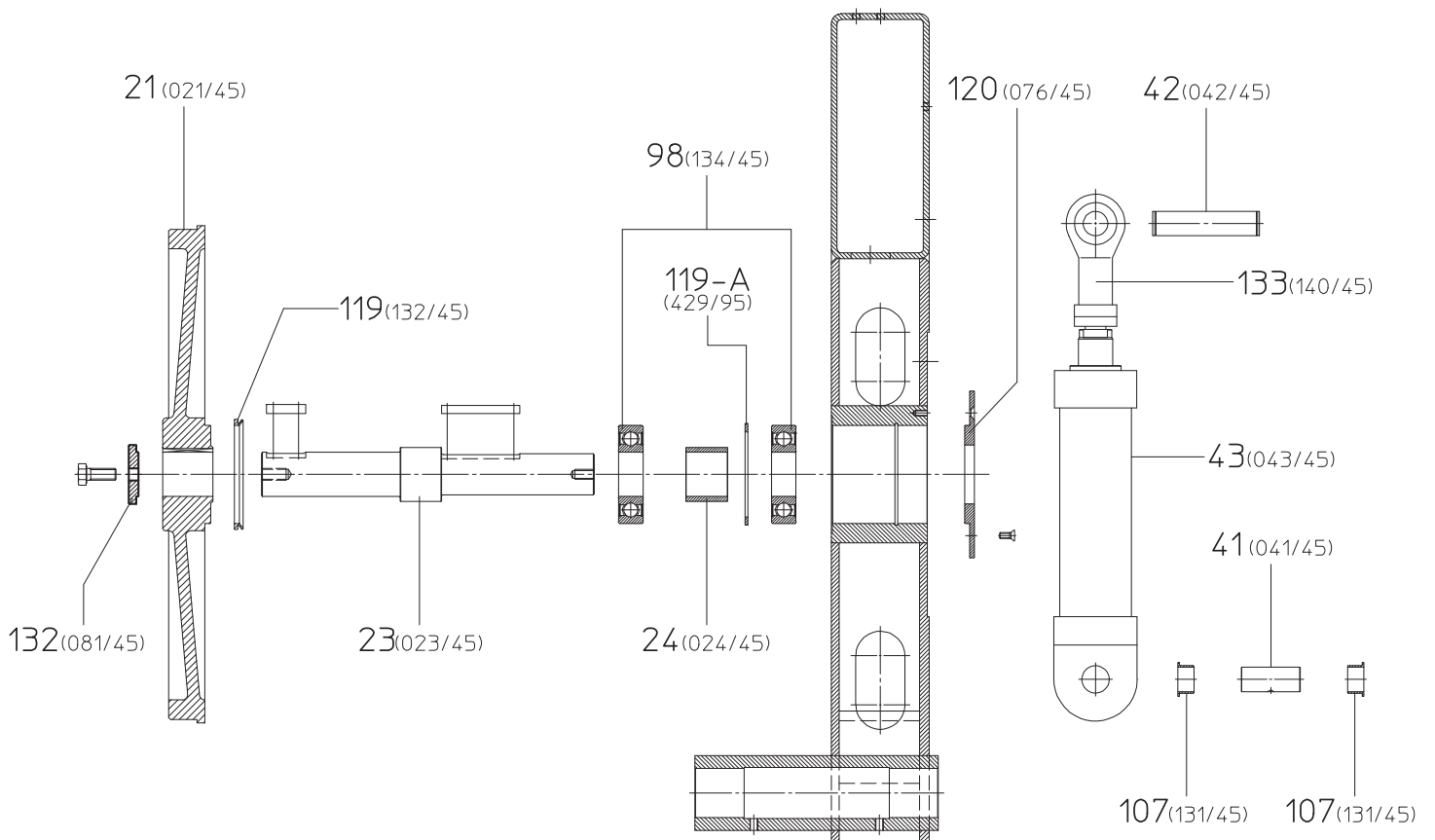
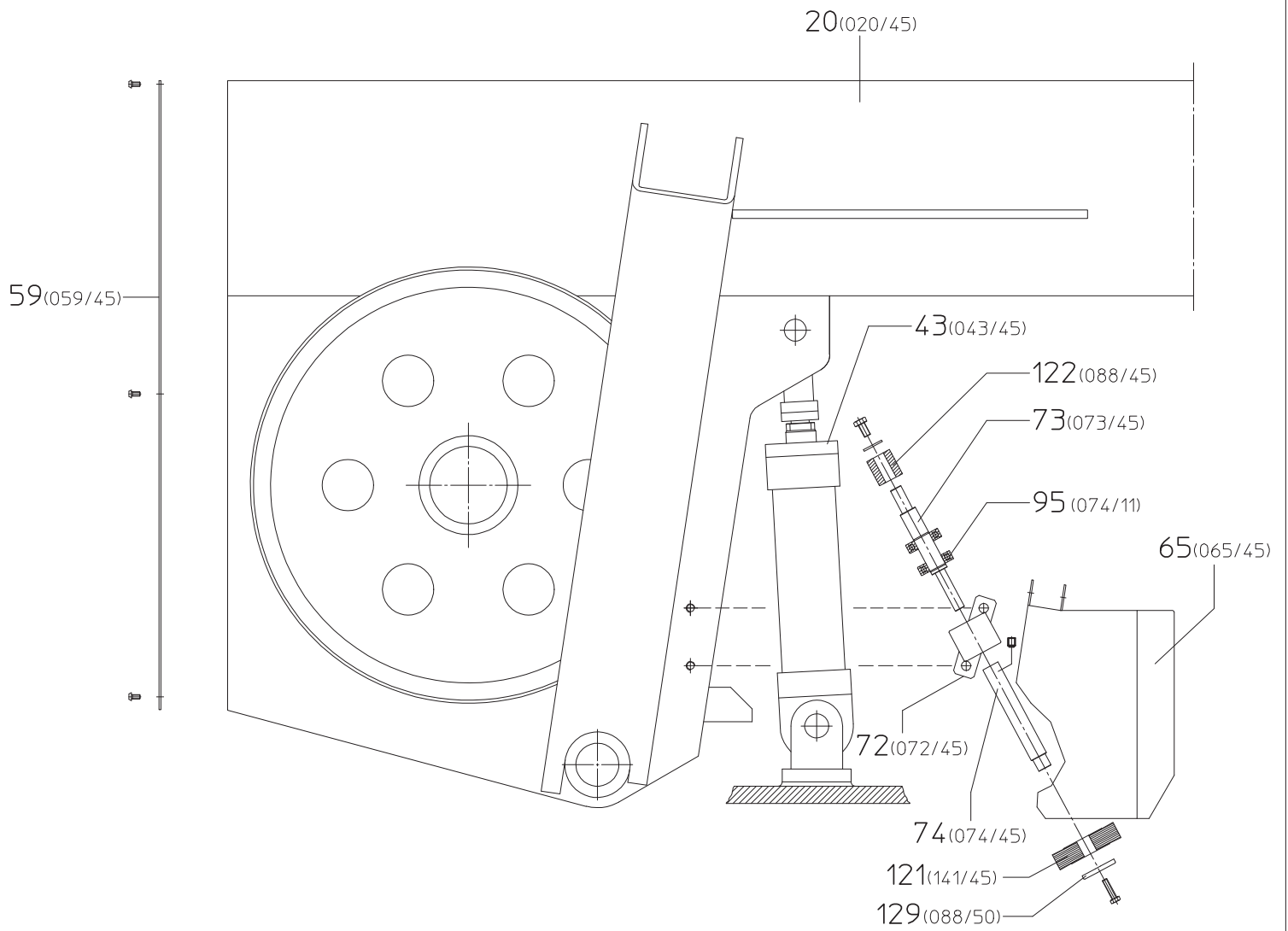










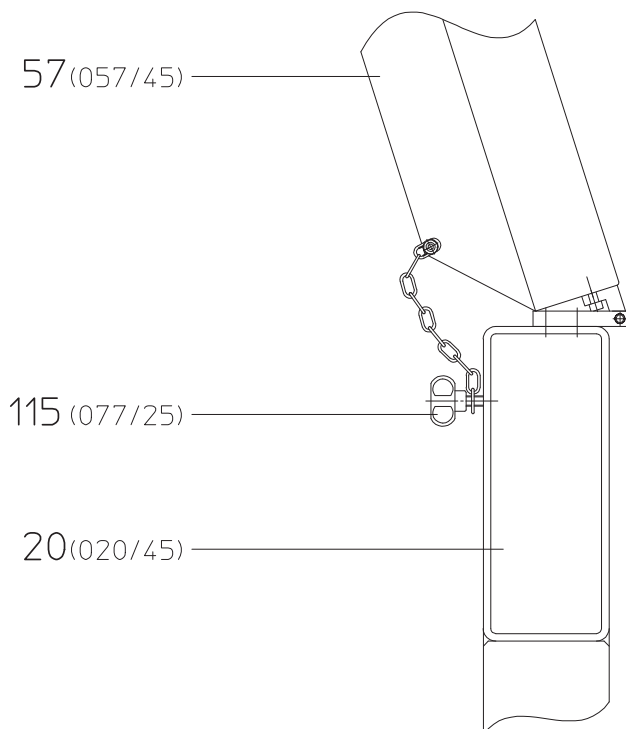
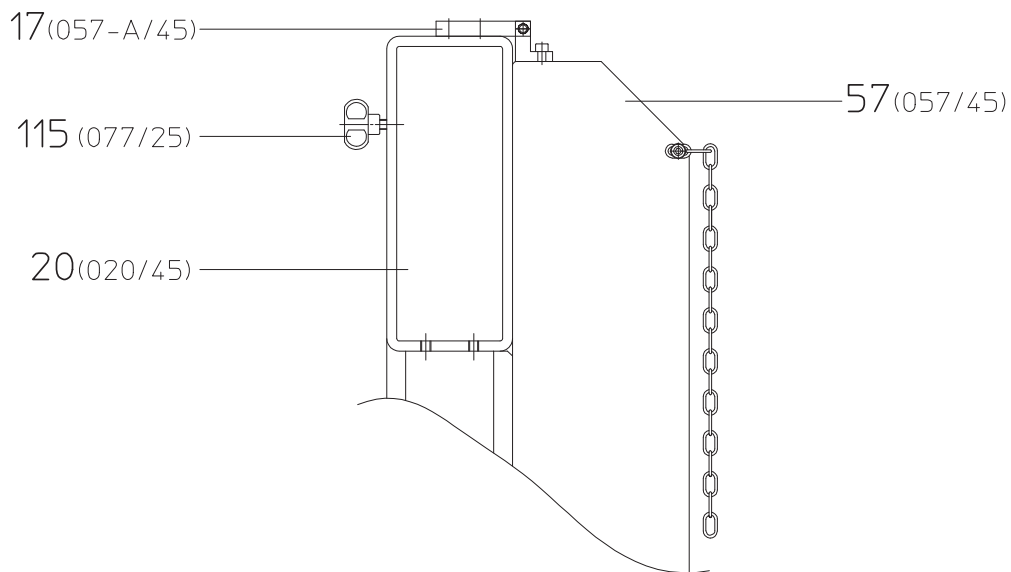


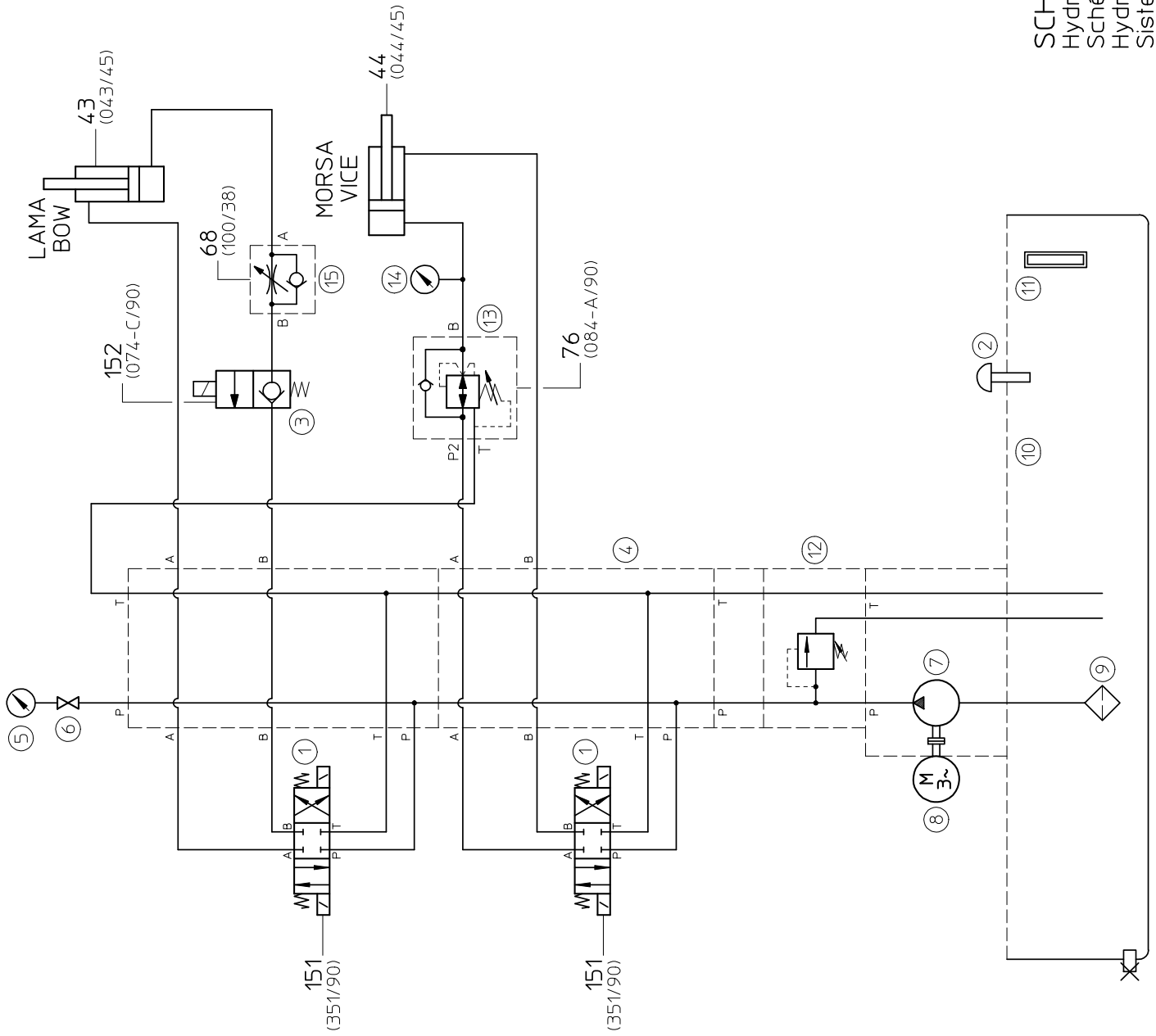
**ATTENZIONE:**

ALL'APERTURA DEL RIPARO ARCO ASSICURARLO  
CON LA CATENELLA AL VOLANTINO POSTERIORE.

**ATTENTION:**

WHEN OPENING THE BOW PROTECTION, FASTEN IT  
WITH THE CHAIN TO THE REAR HANDWHEEL.





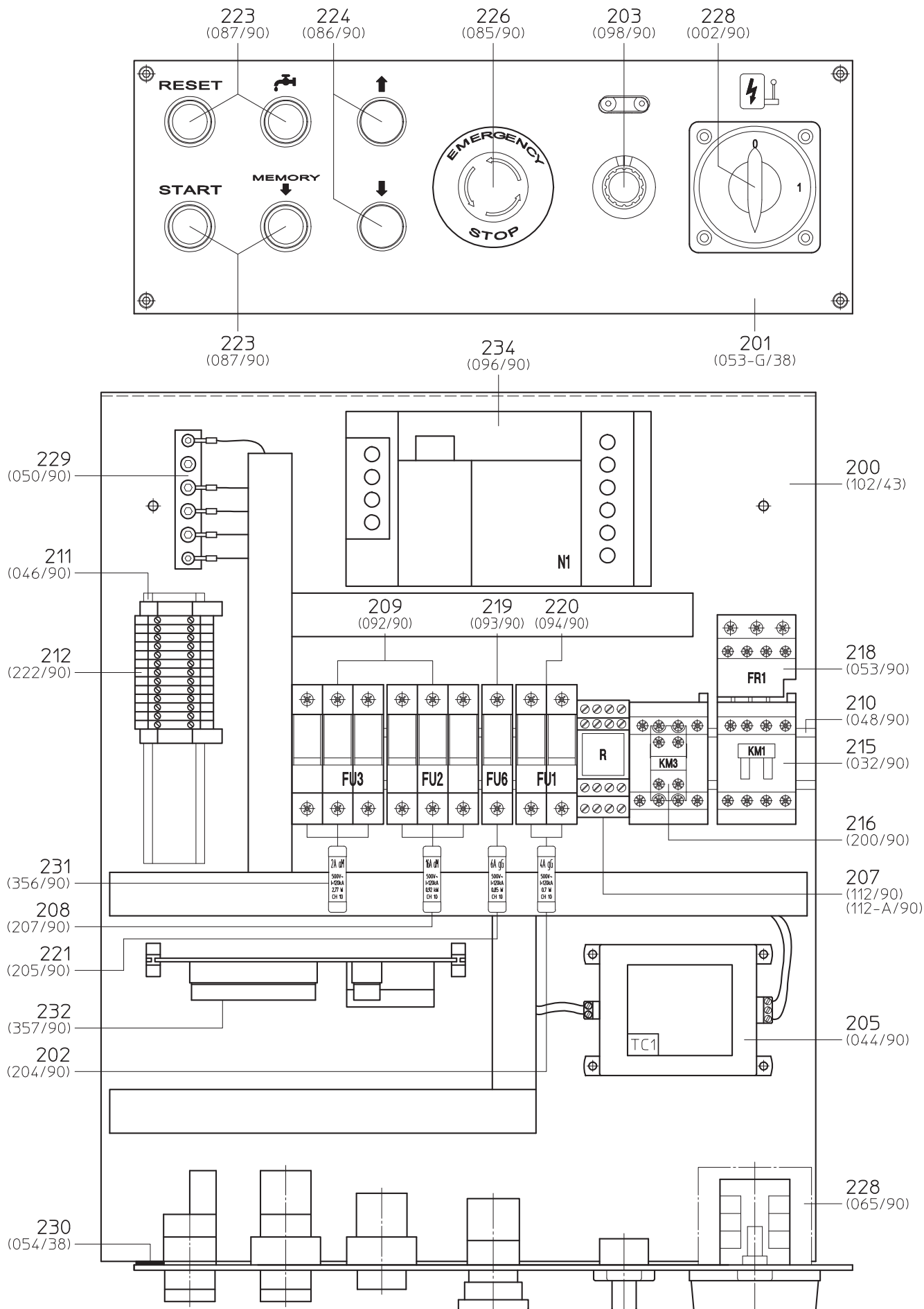
BOBINE : 24Vdc  
 Coils  
 Bobines  
 Spulen  
 Bobinas

SCHEMA IMPIANTO IDRAULICO  
 Hydraulic Diagram  
 Schéma installation Hydraulique  
 Hydraulikschema  
 Sistema Hidraulica

Pos.	Q.tà/Q.ty	Descrizione / Description	Cod.
1	2	ELETTROVALVOLA	ATOS DHI.0711.23 - 24VDC 351/90
		SOLENOID VALVE	
2	1	TAPPO	FBN TP1.02600
		PLUG	
3	1	ELETTROVALVOLA DI BLOCCO	074-C/90
		LOCK SOLENOID VALVE	
4	2	BLOCCHETTO	BDK BL41
		BLOCK	
5	1	MANOMETRO 0/100 A.R. ø63	ITALMANOMETRI
		MANOMETER 0/100 A.R. ø63	
6	1	ESCLUSORE	FLUID PRESS FPEA1G1/4B
		SNUBBING PRESSURE GAUGE VALVE	
7	1	POMPA	MARZOCCHI N1031082
		PUMP	
8	1	MOTORE 0.55kW 4P B5 230/400V 50Hz	220-B/80
		MOTOR 0.55kW 4P B5 230/400V 50Hz	
9	1	FILTRO	FBN FR1.02392
		FILTER	
10	1	SERBATOIO A DISEGNO	077/45
		TANK AS DRAWING	
11	1	SPIA LIVELLO 1/2"	
		WARNING LIGHT 1/2"	
12	1	COLLETTORE	HY TYPE A1
		MANIFOLD	
13	1	RIDUTTRICE DI PRESSIONE SINGOLA	084-A/90
		PRESSURE REDUCING SINGLE	
14	1	MANOMETRO 0/60 A.P. ø63+MICROFD1/8".1/4 300	
		MANOMETER 0/60 A.P.ø63+MICROFD1/8".1/4 300	
15	1	REGOLATORE DISCESA ARCO	100/38
		COMPENSATED REGULATOR BOW DESCENT	

# PANNELLO COMANDI SPECIAL 650 DI

## CONTROL PANEL SPECIAL 650 DI







	ITALIANO	ENGLISH	DEUTSCH
<b>FR1</b>	RELE' TERMICO MOTORE POMPA OLIO	THERMAL RELAY OIL PUMP MOTOR	THERMISCHES RELAIS OIL PUMPE MOTOR
<b>FR2</b>	RELE' TERMICO MOTORE LAMA	THERMAL RELAY BLADE MOTOR	THERMISCHES RELAIS SÄGEBLATTMOTOR
<b>FR3</b>	RELE' TERMICO MOTORE REFRIGERANTE	THERMAL RELAY COOLANT MOTOR	THERMISCHES RELAIS ÜHLMITTEL MOTOR
<b>FR4</b>	RELE' TERMICO MOTORE ESTRATTORE TRUCIOLI	RELAY THERMAL CHIPS EXTRACTOR MOTOR	THERMISCHES RELAIS CHIP EXTRACTORMOTOR
<b>FR5</b>	RELE' TERMICO MOTORE GUIDA PEZZO	THERMAL RELAY GUIDA-PIECE MOTOR	THERMISCHES RELAIS Motor Führungsstück
<b>FTC</b>	FOTOCELLULA PRESENZA MATERIALE	MATERIAL PRESENCE PHOTOELECTRIC CELL	Photozelle Werkstoff Anwesenheit.
<b>FU1</b>	FUSIBILI PROTEZIONE TRASFORMATORE	FUSE TRANSFORMER PROTECTION	SICHERUNG TRAF0 SCHUTZ
<b>FU2</b>	FUSIBILI PROTEZIONE MOTORI	FUSE MOTOR PROTECTION	SICHERUNG MOTOR SCHUTZ
<b>FU3</b>	FUSIBILI PROTEZIONE POMPA REFRIGERANTE	FUSE COOLANT PUMP PROTECTION	SICHERUNG KÜHLMITTELPOMPE SCHUTZ
<b>FU4</b>	FUSIBILI PROTEZIONE ALIMENTATORE	FUSE FEEDER PROTECTION	SICHERUNG ZUFÜHRER SCHUTZ
<b>FU5</b>	FUSIBILI PROTEZIONE 24 V dc	FUSE 24 V dc PROTECTION	SICHERUNG 24 V dc SCHUTZ
<b>FU6</b>	FUSIBILI PROTEZIONE 24 V ac	FUSE 24 V ac PROTECTION	SICHERUNG 24 V ac SCHUTZ
<b>FU7</b>	FUSIBILE PROTEZIONE MOTORE INVERTER	FUSE INVERTER PROTECTION	GESCHWINDIGKEITUMRICHTER SICHERUNGSDRAHT
<b>G</b>	GALLEGGIANTE	FLOAT	SCHWIMMER
<b>H1</b>	SPIA PRESENZA LINEA	SPY LINE PRESENCE	LINE PRÄSENZ LAMPE
<b>H2</b>	SPIA LAMA IN TENSIONE	SPY BLADE IN TENSION	BLATT TENSION LAMPE
<b>H3</b>	SPIA START CICLO	SPY CYCLE START	ZYKLUS START LAMPE
<b>K</b>	TELERUTTORE TERMORESISTENZA	THERMO-RESISTANCE CONTROL SWITCH	KONTAKTGEBER WIDERSTANDSTHERMOMETER
<b>KM0</b>	TELERUTTORE ALIMENT. INVERTER	INVERTER FEEDING CONTROL SWITCH	Fernschalter Frequenzumrichter Versorgung
<b>KM1</b>	TELERUTTORE MOTORE POMPA OLIO	OIL PUMP MOTOR REMOTE CONTROL SWITCH	KONTAKTGEBER ZENTRALHYDRAULIK MOTOR
<b>KM2</b>	TELERUTTORE MOTORE LAMA	BLADE MOTOR REMOTE CONTROL SWITCH	KONTAKTGEBER SÄGEBLATTMOTOR
<b>KM3</b>	TELERUTTORE POMPA REFRIGERANTE	COOLANT PUMP REMOTE CONTROL SWITCH	KONTAKTGEBER KÜHLMITTELPUMPE
<b>KM4</b>	TELERUTTORE ESTRATTORE TRUCIOLI (COCLEA)	CHIP EXTRACTOR CONTROL SWITCH	KONTAKTGEBER SPÄNE AUSZIEHER
<b>KM5</b>	TELERUTTORE MOTORE GUIDA PEZZO	THERMAL RELAY GUIDA-PIECE MOTOR CONTROL SWITCH	KONTAKTGEBER Motor Führungsstück
<b>KM6</b>	TELERUTTORE POMPA RECUPERO REFRIGERANTE	COOLANT RECYCLE PUMP THERMAL RELAY	KONTAKTGEBER KUEHLMITTELPUMPE
<b>M1</b>	MOTORE POMPA OLIO	OIL PUMP MOTOR	ZENTRALHYDRAULIKMOTOR
<b>M2</b>	MOTORE LAMA	BLADE MOTOR	SÄGEBLATTMOTOR
<b>M3</b>	MOTORE POMPA REFRIGERANTE	COOLANT PUMP MOTOR	KÜHLMITTELPUMPE MOTOR
<b>M4</b>	MOTORE ESTRATTORE TRUCIOLI	CHIP EXTRACTOR MOTOR	SPAENEAUSSASSVORRICHTUNG MOTOR
<b>M5</b>	MOTORE ROTAZIONE TESTA	SAWHEAD ROTATION MOTOR	DREHUNGS KOPF MOTOR
<b>M50</b>	MOTORE GUIDA PEZZO	GUIDA-PIECE MOTOR	FÜHRUNGSSTÜCK MOTOR



<b>M6</b>	MOTORE AVANZAMENTO MATERIALE	MATERIAL FEEDING OTOR	VORSCHUBMATERIAL MOTOR
<b>P1</b>	POTENZIOMETRO POSIZIONAMENTO LAMA	BLADE POSITIONING POTENTIOMETER	SÄGEBLATT-STENUNG POTENZIOMETER
<b>P2</b>	POTENZIOMETRO VELOCITA' LAMA	BLADE SPEED POTENTIOMETER	SÄGEBLATT-GESCHWINDIGKEIT POTENZIOMETER
<b>PX1</b>	SENSORE ROTAZIONE LAMA	BLADE ROTATION SENSOR	BLATT UMDREHUNGSSENSOR
<b>QS1</b>	INTERRUPTORE GENERALE	MAIN ON / OFF SWITCH	HAUPTSCHALTER
<b>QS2</b>	INTERRUPTORE / COMMUTATORE DI VELOCITA'	SWITCH / SPEED CHANGE OVERSWITCH	SCHALTER / GESCHWINDIGKEIT UMSCHALTER
<b>QS3</b>	INTERRUPTORE POMPA REFRIGERANTE	COOLANT PUMP SWITCH	KÜHLMITTELpumpe SCHALTER
<b>R</b>	RELE' COMANDO MARCIA ROTAZIONE LAMA	ROTATING BLADE COMMAND RELAY	SÄGEBLATT UMDREHUNG POTENZIOMETER
<b>R1</b>	RELE' COMANDO TELERUTTORE POMPA OLIO	OIL PUMP REMOTE CONTROL SWITCH COMMAND RELAY	RELAIS OIL PUMPE FERNSCHALTER
<b>R10</b>	RELE' PRESSINO ON	VERTICAL VICE RELAY	SENKRECHT SCHRAUBSTOCK RELE
<b>R2</b>	RELE' COMANDO TELERUTTORE LAMA	BLADE REMOTE CONTROL SWITCH COMMAND RELAY	RELAIS BLATT FERNSCHALTER
<b>R5</b>	RELE' COMANDO MICROLUBRIFICAZIONE	MICROLUBRICATION COMMAND RELAY	MIKROSPRÜHEINRICHTUNGSTEUER RELAIS
<b>RT</b>	RELE' TEMPORIZZATORE	TIMER RELAY	ZEITGEBER RELE
<b>RX</b>	RELE' COMANDO TERMOSTATO	THERMOSTAT COMMAND RELAY	THERMOSTATSTEUER RELAIS
<b>RYV5</b>	RELE' DISCESA LAMA	BADE DESCENT RELAY	SAEGEBLATT ABSTIG RELE
<b>S</b>	SELETTTORE FUNZIONE	FUNCTION SELECTOR	FUNKTION WÄHLER
<b>S10</b>	SELETTTORE PRESSINO ON	VERTICAL VICE ON CHANGEOVER SWITCH	GESCHWINDIGKEITUMRICHTER WAEHLER ON
<b>S4</b>	SELETTTORE CAMBIO LAMA	BLADE RELACEMENT CHANGEOVER SWITCH	SAEGEBLATT WAEHLSCHALTER
<b>SB1</b>	PULSANTE DI ARRESTO EMERGENZA	EMERGENCY PUSH BUTTON	NOT AUS TASTER
<b>SB11</b>	PULSANTE DETENSIONAMENTO LAMA	BLADE DETENSIONING BUTTON	SAEGEBLATT ENSPANNSCHALTER
<b>SB12</b>	PULSANTE TENSIONAMENTO LAMA	BLADE TENSIONING BUTTON	SAEGEBLAT SPANNSCHALTER
<b>SB2</b>	PULSANTE START CICLO	CYCLE START BUTTON	ZYKLUS START TASTER
<b>SB3</b>	PUSANTE DI RESET	RESET BUTTON	RESETTASTER
<b>SB4</b>	PULSANTE CHIUSURA MORSA	LOCK VICE BUTTON	SPANNSOCH SCHLIEß TASTER
<b>SB5</b>	PULSANTE APERTURA MORSA	OPEN VICE BUTTON	SPANNSTOCK ÖFFNUNG TASTER
<b>SB6</b>	PULSANTE DI SALITA	BUTTON UP	OBEN TASTER
<b>SB7</b>	PULSANTE DI DISCESA	BUTTON DOWN	HINTEN TASTER
<b>SB8</b>	PULSANTE REFRIGERANTE "ON"	REFRIGERANTE BUTTON "ON"	KÜHLUNG EIN TASTER
<b>SB9</b>	PULSANTE MEMORY	MEMORY BUTTON	MEMORY TASTER
<b>SB90</b>	PULSANTE DI SBLOCCO	RELEASE BUTTON	AUSLOESER TASTE
<b>SQ02</b>	MICROINTERRUPTORE CARTER APERTO SX	COVER OPEN MICROSWITCH	SCHUTZ GEÖFFNET ENDSCHALTER
<b>SQ1</b>	MICROINTERRUPTORE ROTTURA LAMA	MICROSWITCH BLADE FAILURE	ENDSCHALTER BLATT GEBROCHEN

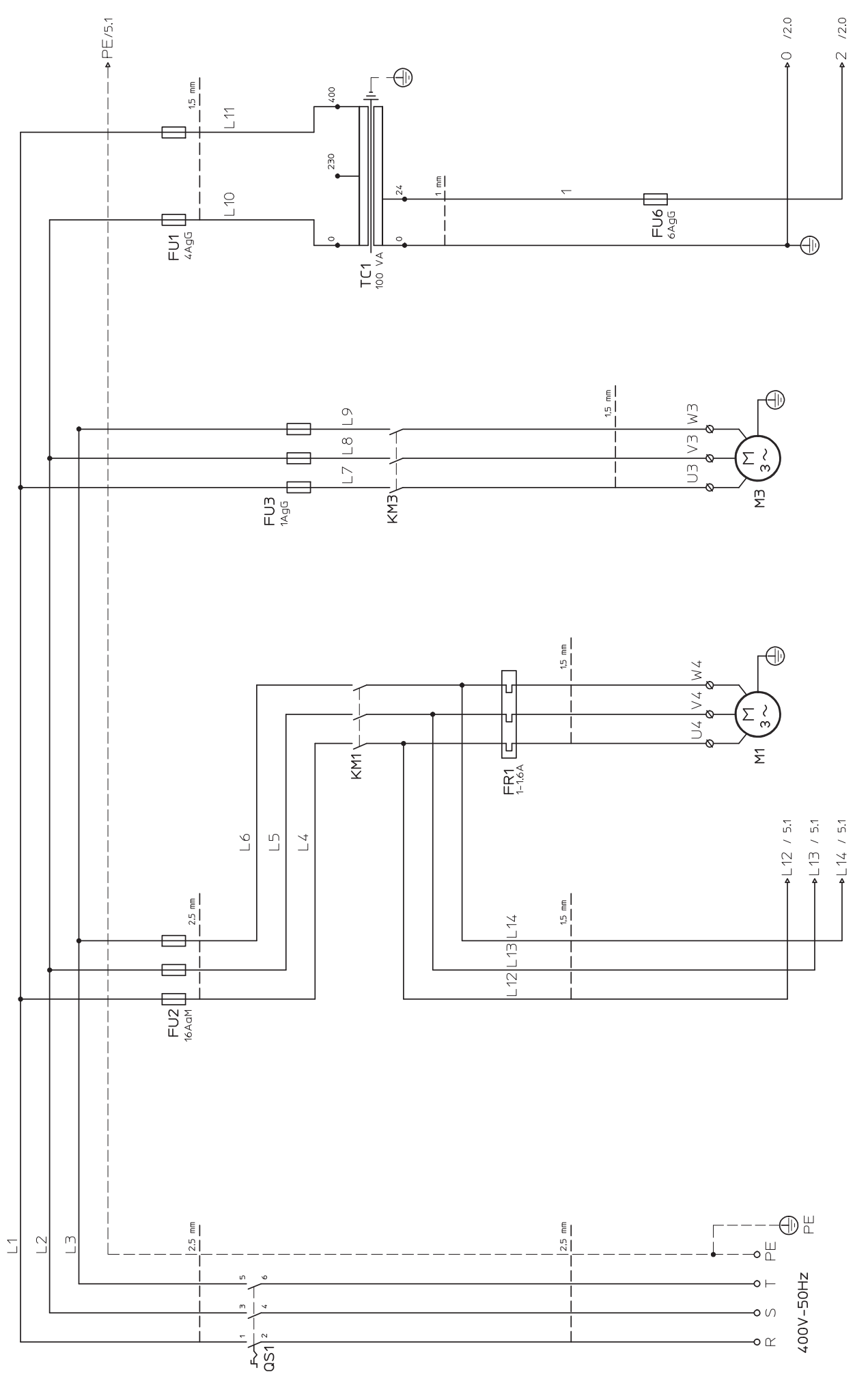




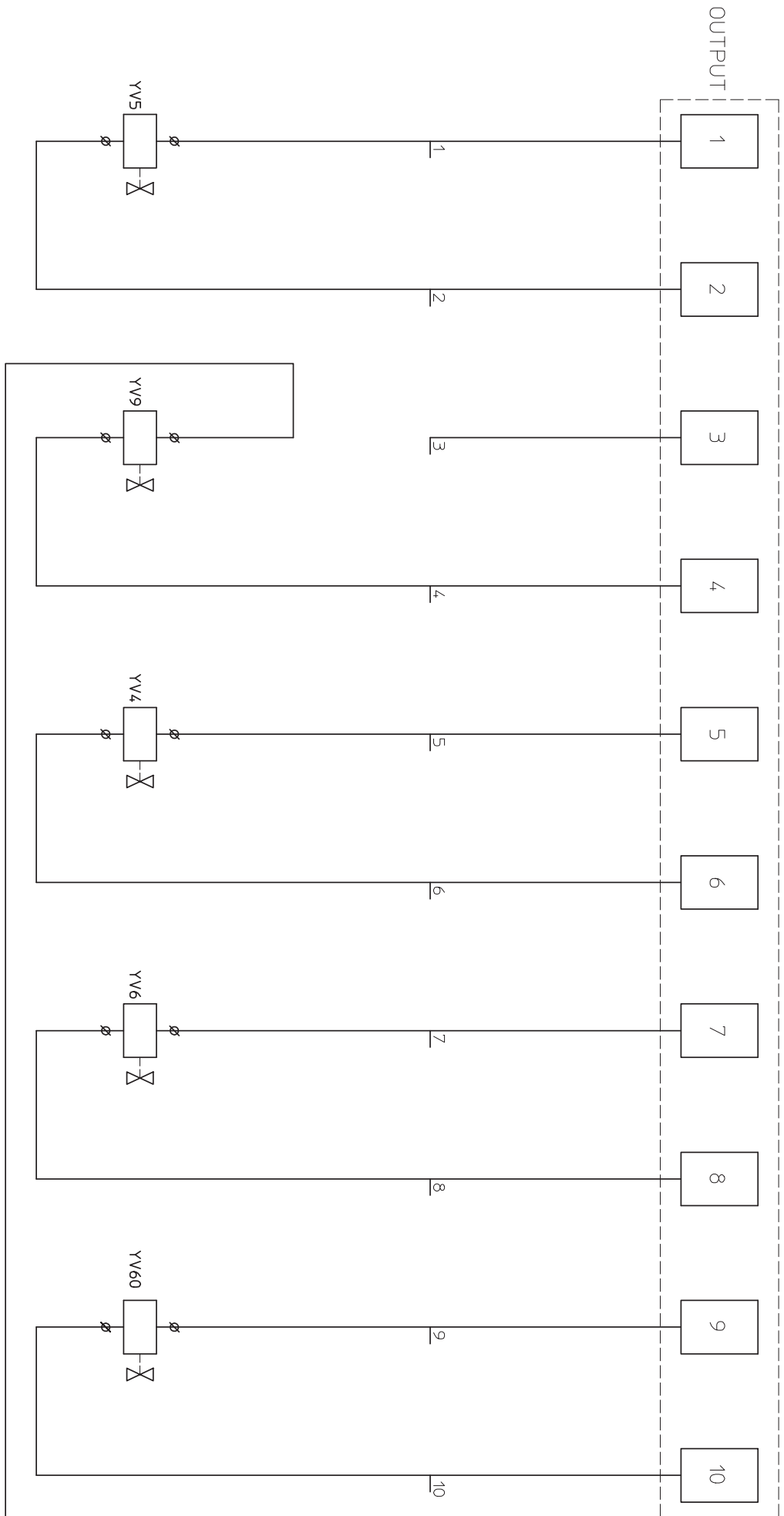
<b>SQ10</b>	MICROINTERRUTTORE START A PEDALE	PEDAL MICROSWITCH START	PEDALS MIKROSCHALTER
<b>SQ11</b>	MICROINTERRUTTORE CHIUSURA MORSA A PEDALE	PEDAL VICE CLOSING MICROSWITCH	FußSCHALTER SPENNSTOCK SCHLIEßEN MIKROSCHALTER
<b>SQ15</b>	FINECORS A GUIDA PEZZO AVANTI	MICROSWITCH GUIDE-PIECE FORWARD	ENDSCHALTER FÜHRUNGSSTÜCK NACH VORNE
<b>SQ16</b>	FINECORS A GUIDA PEZZO INDIETRO	MICROSWITCH GUIDE-PIECE BACKWARD	ENDSCHALTER FÜHRUNGSSTÜCK NACH HINTEN
<b>SQ18</b>	FINECORS A SOLLEVATORE ALTO	MICROSWITCH LIFT UP POSITION	HEBEWERK NACH OBEN ENDSCHALTER
<b>SQ2</b>	MICROINTERRUTTORE CARTER APERTO	MICROSWITCH PROTECTION CASE	ENDSCHALTER SCHUTZGEHÄUSE
<b>SQ20</b>	PRESSOSTATO CHIUSURA MORSA	VICE PRESSURE SWITCH	SPANNDRUCK TASTE
<b>SQ3</b>	FINECORS A CARRO AVANTI	MICROSWITCH CARRIAGE FORWARD	ENDSCHALTER WAGEN VORNE
<b>SQ30</b>	FINECORS A ROTAZIONE -45°	MICROSWITCH -45° ROTATION	-45° UMDREHUNG ENDSCHALTER
<b>SQ4</b>	FINECORS A CARRO INDIETRO	MICROSWITCH CARRIAGE BACK	ENDSCHALTER WAGEN ZURÜCK
<b>SQ5</b>	FINECORS A TESTA ALTA	MICROSWITCH HEAD / BOW UP	ENDSCHALTER BÜGEL NACH OBEN
<b>SQ6</b>	FINECORS A TESTA BASSA	MICROSWITCH HEAD / BOW DOWN	ENDSCHALTER BÜGEL NACH UNTEN
<b>SQ7</b>	MICROINTERRUTTORE FINE MATERIALE	MICROSWITCH BAR END	ENDSCHALTER STANGENENDE
<b>SQ70</b>	PROSSIMITI PRESENZA PEZZO	MICROSWITCH PIECE PRESENCE	STÜCKANWESENHEIT ENDSCHALTER
<b>SQ8</b>	MICROINTERRUTTORE MANIGLIONE	MICROSWITCH HANDLE	ENDSCHALTER GRIFF
<b>SQ9</b>	MICROINTERRUTTORE START MANUALE	MICROSWITCH MANUAL START	ENDSCHALTER MANUELL START
<b>T</b>	TEMPORIZZATORE	TIMER	ZEITGEBER
<b>TC1</b>	TRASFORMATORE	TRANSFORMER	TRANSFORMATOR
<b>TR</b>	TERMOSTATO	THERMOSTAT	THERMOSTAT
<b>TR</b>	TERMORESISTENZA	THERMO-RESISTANCE	THERMO-WIDERSTAND
<b>YV1</b>	ELETTROVALVOLA CARRO AVANTI LENTO	CARRIAGE SLOW FORWARD MOTION SOLENOID VALVE	ELEKTROVENTIL WAGEN LANGSAM VORNE
<b>YV10</b>	ELETTROVALVOLA SBLOCCAGGIO MANUALE	MANUAL UNLOCKING SOLENOID VALVE	ELEKTROVENTIL MANUELL AUFHEBUNG
<b>YV11</b>	ELETTROVALVOLA DETENSIONAMENTO LAMA	UNTIGHTNING BLADE SOLENOID VALVE	SAEGBLATT ENTSPANNUNG MAGNETVENTIL
<b>YV11</b>	ELETTROVALVOLA DETENSIONAMENTO LAMA	BLADE DETENSIONING SOLENOID VALVE	ELETRISCHESVETIL SAEGBLATT ENSPANNUNG
<b>YV12</b>	ELETTROVALVOLA TENSIONAMENTO LAMA	TIGHTNING BLADE SOLENOID VALVE	SAEGBLATT SPANNUNG MAGNETVENTIL
<b>YV12</b>	ELETTROVALVOLA TENSIONAMENTO LAMA	BLADE TENSIONING SOLENOID VALVE	ELETRISCHESVENTIL SAEGBLATT SPANNUNG
<b>YV15</b>	ELETTROVALVOLA SOLLEVATORE CARICATORE	LOADER LIFT SOLENOID VALVE	LADEMAGAZIN HEBEWERK ELEKTROVENTIL
<b>YV16</b>	ELETTROVALVOLA MORSA CARICATORE	LOADER VICE SOLENOID VALVE	LADEMAGAZINSPANNSTOCK ELEKTROVENTIL
<b>YV18</b>	ELETTROVALVOLA GUIDA PEZZO AVANTI	GUIDE-PIECE FORWARD VALVE	ELEKTROVENTIL ZAUN NACH VORNE
<b>YV19</b>	ELETTROVALVOLA GUIDA PEZZO INDIETRO	GUIDE-PIECE BACKWARD VALVE	ELEKTROVENTIL HINTEREN ZAUN
<b>YV2</b>	ELETTROVALVOLA CARRO INDIETRO LENTO	CARRIAGE SLOW BACK MOTION SOLENOID VALVE	ELEKTROVENTIL WAGEN LANGSAM ZURÜCK
<b>YV20</b>	SBLOCCAGGIO ROTAZIONE	ROTATION UNLOCK	UMDREHUNG LOSMACHEN



YV3	ELETTROVALVOLA MORSA MOBILE	MOVABLE VICE SOLENOID VALVE	ELEKTROVENTIL BEWEGLICHER SPANNSTOCK
YV30	ELETTROVALVOLA MORSA MOBILE CHIUDE	CLOSE MOVABLE VICE VALVE	BEW. SPANNSTOCK SCHLIEß ELEKTROVENTIL
YV30P	ELETTROVALVOLA PRESSINO CARRO	CARRIAGE VICE SOLENOID VALVE	ELETRISCHESVENTIL SCHRAUBSTOCK VORSCHUBWAGEN
YV31	ELETTROVALVOLA RUOTA ARCO LENTO	SLOW BOW ROTATION SOLENOID VALVE	LANGSAM SÄGEARMUMDREHUNG ELEKTROVENTIL
YV37	ELETTROVALVOLA RUOTA DX	ROTATION LEFTWARDS SOLENOID VALVE	UMDREHUNG LINKS ELEKTROVENTIL
YV38	ELETTROVALVOLA RUOTA SX	ROTATION RIGHTWARDS SOLENOID VALVE	UMDREHUNG RECHTS ELEKTROVENTIL
YV4	ELETTROVALVOLA SALITA	UP STROKE SOLENOID VALVE	ELEKTROVENTIL ANSTIEG
YV5	ELETTROVALVOLA DISCESA	DOWN STROKE SOLENOID VALVE	ELEKTROVENTIL ABSTIEG
YV50	ELETTROVALVOLA DISCESA LAMA RAPIDA	QUICK LOWERING SOLENOID VALVE	SCHNELL ELEKTROVENTIL ABSTIEG
YV6	ELETTROVALVOLA APERTURA MORSA FISSA	FIXED VICE OPENING SOLENOID VALVE	ELEKTROVENTIL FESTER SPANNSTOCK ÖFFNUNG
YV60	ELETTROVALVOLA CHIUSURA MORSA FISSA	FIXED VICE CLOSING SOLENOID VALVE	ELEKTROVENTIL FESTER SPANNSTOCK SCHLIESSEN
YV60P	ELETTROVALVOLA PRESSINO FISSO	FIXED VICESOLENOID VALVE	ELETRISCHESVENTIL FESTSCHRAUBSTOCK
YV61	ELETTROVALVOLA SPAZZOLA	BRUSH VALVE	BÜRSTE ELEKTROVENTIL
YV62	ELETTROVALVOLA ATTIVAZIONE 2a POMPA OLIO	SECOND OIL PUMP	ZWEITE ÖLPUMPE EIN ELEKTROVENTIL
YV7	ELETTROVALVOLA CARRO AVANTI	CARRIAGE FORWARD SOLENOID VALVE	ELEKTROVENTIL WAGEN VORNE
YV70	ELETTROVALVOLA SPAZZOLA	BRUSH SOLENOID VALVE	BUERSTE MAGNETVENTIL
YV8	ELETTROVALVOLA CARRO INDIETRO	CARRIAGE BACK SOLENOID VALVE	ELEKTROVENTIL WAGEN ZURÜCK
YV9	ELETTROVALVOLA BLOCCO	MANUAL LOCKING SOLENOID VALVE	ELEKTROVENTIL BLOCK
YV90	ELETTROVALVOLA MICROLUBRIFICAZIONE	MICROLUBRICATION SOLENOID	MIKROSPRÜHEINRICHTUNG ELEKTROVENTIL



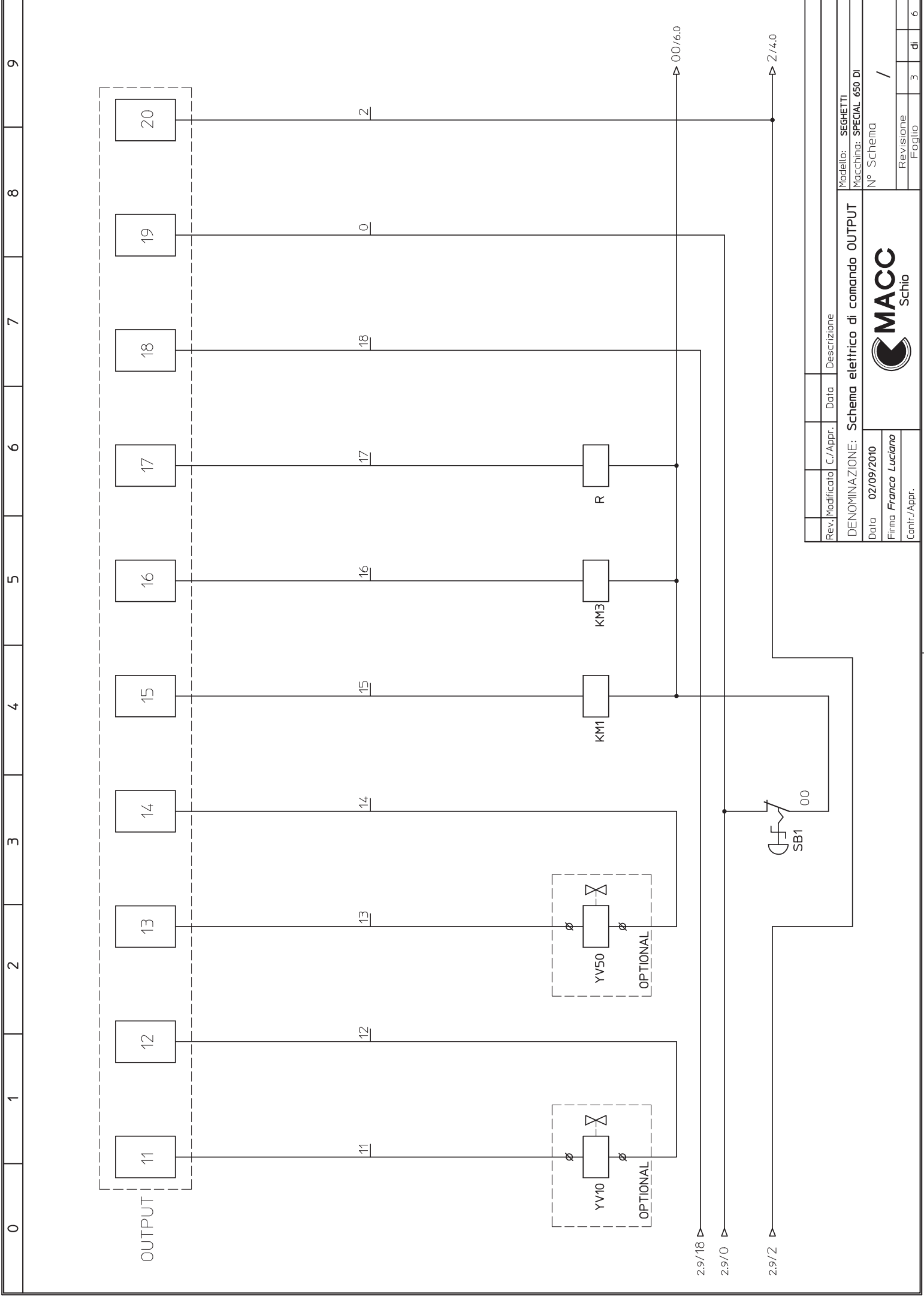
Rev./Modificato	C./Appr.	Data	Descrizione
			DENOMINAZIONE: <b>Schema elettrico di potenza</b>
Modella: <b>SEGHETTI</b> Macchina: <b>SPECIAL 650 DI</b> N° Schema: <b>/</b>			
Data: <b>02/09/2010</b> Firma: <b>Franco Luciano</b>		Revisione: <b>1</b> Foglio: <b>1</b> di <b>6</b>	
			



19 / 0 ▷ ▷ 18 / 3:0  
 19 / 2 ▷ ▷ 2 / 3:0

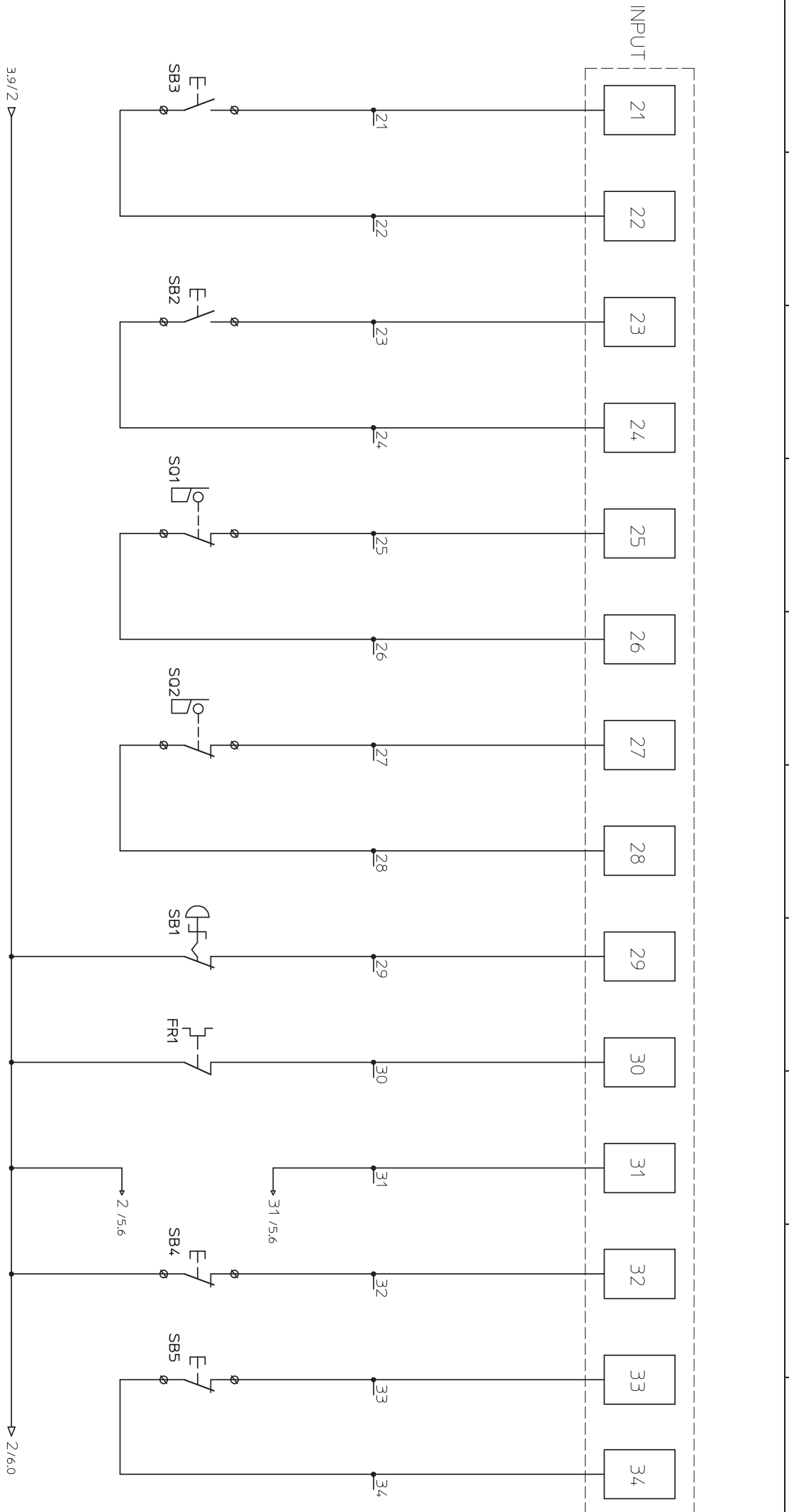
Rev.	Modificato	C./Appr.	Data	Descrizione
DENOMINAZIONE: Schema elettrico di comando OUTPUT				
Data	02/09/2010			
Firma	Franco Luciano			
Confr./Appr.	Schio			
Modello: SEGHETTI				
Macchina: SPECIAL 650 DI				
N° Schema /				
Revisione	Foglio			
2	6			





Rev./Modificato	C./Appr.	Data	Descrizione
DENOMINAZIONE: Schema elettrico di comando OUTPUT			
Modello: SEGNETTI			
Macchina: SPECIAL 650 DI			
N° Schema /			
Data 02/09/2010			Revisione
Firma <i>Franco Luciano</i>			Foglio
Contr./Appr.			3
			di
			6





Rev.	Modificato	C./Appr.	Data	Descrizione

DENOMINAZIONE: **Schema elettrico di comando INPUT**

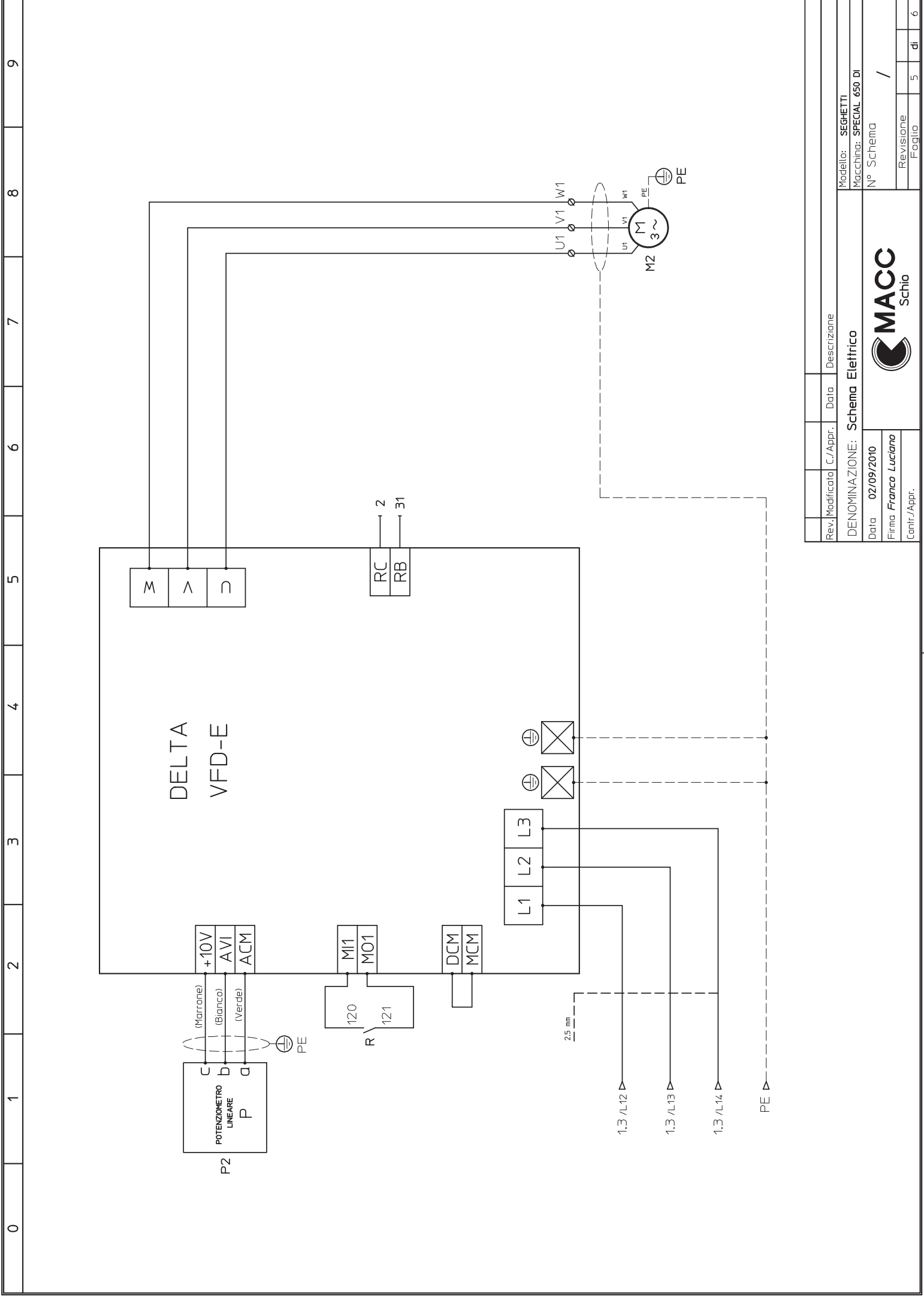
Data: 02/09/2010

Firma: *Franco Luciano*

Confr./Appr.:



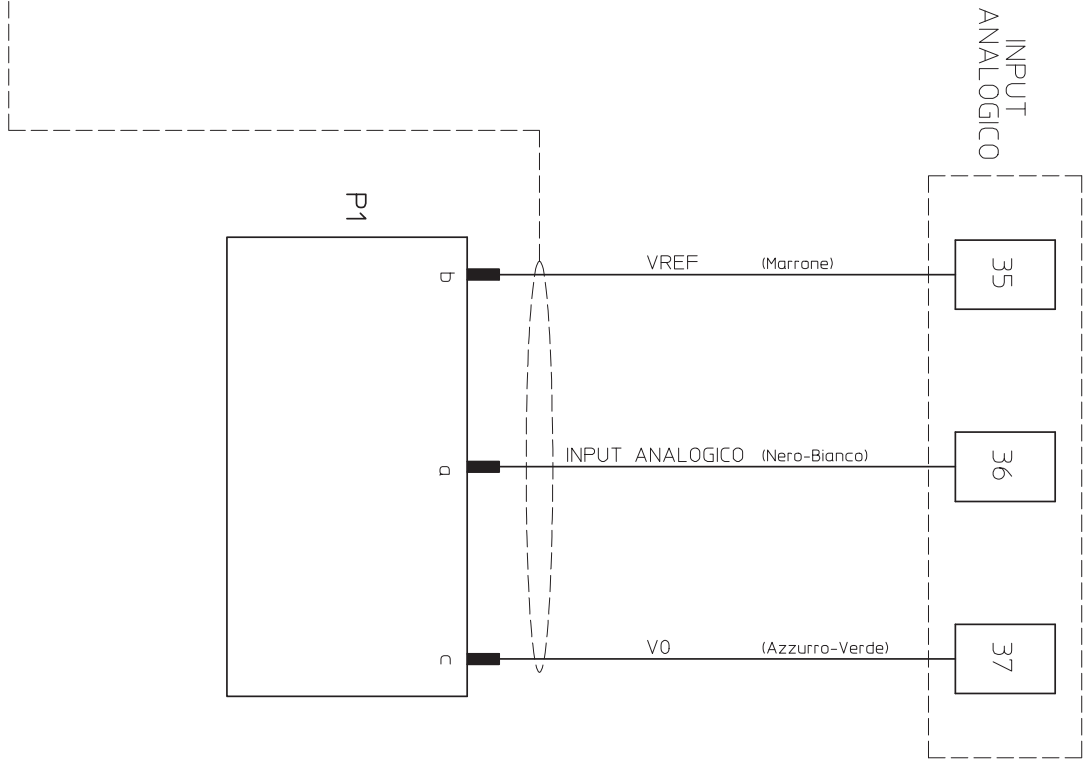
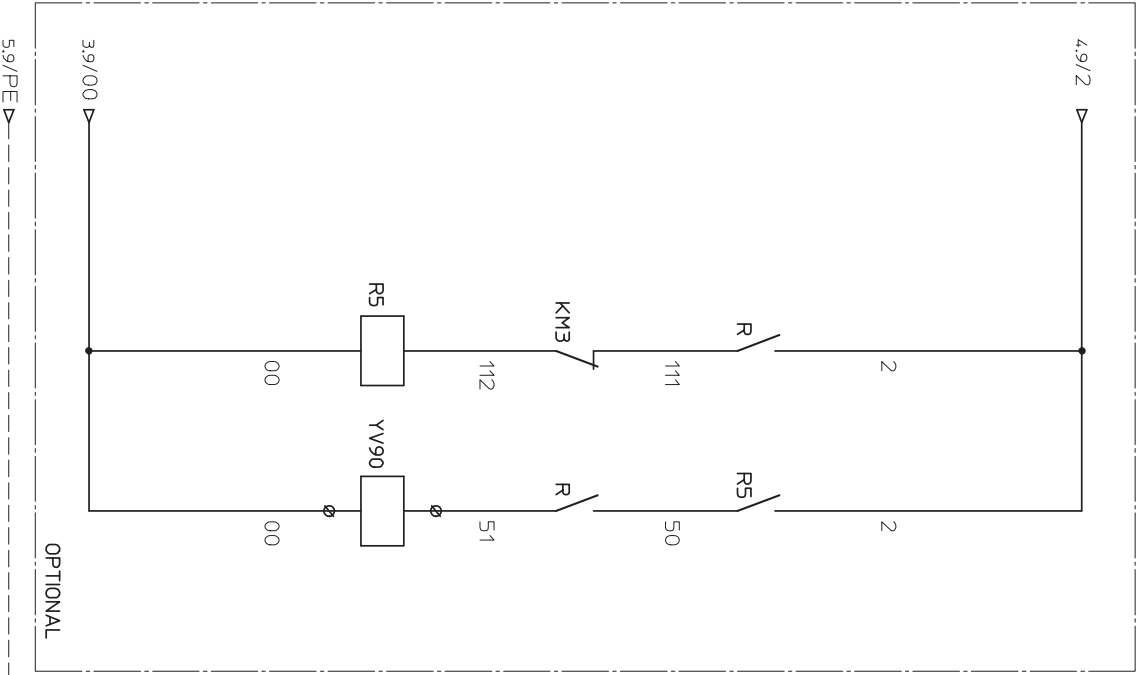
Modello:	SEGETTI
Macchina:	SPECIAL 650 DI
N° Schema	/
Revisione	
Foglio	4 di 6



Rev./Modificato	C./Appr.	Data	Descrizione
DENOMINAZIONE: <b>Schema Elettrico</b>			
Data <b>02/09/2010</b>			
Firma <b>Franco Luciano</b>			
Contr./Appr.			
Modello: <b>SEGNETTI</b>			
Macchina: <b>SPECIAL 650 DI</b>			
N° Schema <b>/</b>			
Revisione	Foglio	5	6



0 1 2 3 4 5 6 7 8 9



Rev./Modificatio	C./Appr.	Data	Descrizione

DENOMINAZIONE: **Schema INPUT analogico**

Data: **02/09/2010**

Firma: **Franco Luciano**

Canlr./Appr.:



Modello:	SEGNETTI
Macchina:	SPECIAL 650 DI
N° Schema	/
Revisione	
Foglio	6 di 6



CONTROLLATO IL:	16/03/2015
DA:	
REV.:	2