

# VEGA 3.90 M

## CHARIOT PORTE-CAMES

Machine 1 tête à chariot ouvert, enfilage direct du fil  
Porte-cames triple chutes avec report bidirectionnel dans chaque chute  
Fonction trois-pistes techniques avec bouche-trou intégré  
Serre de mailles à changement électronique sans limite à tout instant  
Sélection Steiger électronique des aiguilles

## FONTURES

Longueur utile 90 cm (130 cm option)  
Module presse-maille sur fonture rapportée  
Pince-fil, coupe-fil et pique-fil intégré  
Chevalement sélectif +/- 42 mm  
Avec possibilité de corrections  
Jauge E14 équipées d'aiguilles talons noyés à report fraisé  
Sélection par une seule clavette mono-sélecteur  
Auto-nettoyage par aspirateur Venturi  
Peigne de tirage

## GUIDE-FILS

8 guide-fils motorisés (16 option)  
Cantré externe 8 arrêts aux nœuds (16 option)  
Programmation automatique du pilotage des guide-fils  
Dispositif frameur unique  
Vanisage de haute qualité réalisable par guide-fils multiples  
Distributeur de fil jeteur type Argyle (option)  
Kit support fournisseurs avec alimentation intégrée (option)

## POSSIBILITÉS / PERFORMANCES

Tous types de jacquards et structures  
Formes, finitions, divers, chaînettes, col intégré, intarsia façon Steiger  
Reprise de tricotage sur aiguilles vides  
Fléchage illimité grâce à son tirage actif à 25 mm de la formation de maille  
Model Version 9 mise à jour, assistance et maintenance cumulées (option)  
Model+ 2.0 mise à jour, assistance et maintenance cumulées (option)

## ENTRAÎNEMENTS

Chariot par moteur "brushless" course variable à l'aiguille de 0 à 1,60 m/sec.  
Guide-fil moteur Brushless  
Tirage tricot par moteur à courant continu avec possibilité d'inversion

## CONTRÔLES / SÉCURITÉS

S-Touch 2.0  
Toutes sécurités nécessaires pour arrêter la machine en cas de casse-fil, nœud, choc, surcharge, bourrage  
Batterie de sauvegarde du programme en cas de coupure de courant  
Arrêt au bourrage rétractable  
Carte accès réseau-atelier 10/100 Mbp  
Programme d'auto-diagnostic  
Mémoire machine 1 Gb  
Interface utilisateur par écran tactile couleur 10"  
Clé USB pour transfert et sauvegarde des programmes  
Maintenance préventive  
Contrôle dimensionnel DTC (option)  
Netcontrol : gestion de la production (option)  
Duoknit : tricoté 2 articles sur la fonture (option)

## DIMENSIONS/CONSOMMATION

Longueur : 2510 mm  
Hauteur : 1420/2200 mm  
Largeur : 790/1320 mm  
Poids : 850 Kg  
Puissance : AC400V +/-10% ; 50Hz ; 1,5 KW

## CARRIAGE - CAM BOXES

Single head without cam carriage bridge, with direct yarn feeding from the top.  
Three systems cam boxes each with integrated bi-directional transfer  
Unlimited patterning possibility with the Three-Way-Technique integrated split-stitch function  
Stitch length controlled electronically with possibilities to modify any time  
Electronic needle selection

## NEEDLEBEDS

Working width 90 cm (130 cm option)  
Sinker module on additional needlebed  
Yarn clamps / scissors and yarn picks integrated  
Selective racking over +/-42 mm with possibility of correction  
Gauge E14 equipped with grooved retracted transfer needles  
Mono-selector  
Auto cleaning by venturi  
Comb Steiger patent

## YARN CARRIERS

Equipped with 8 motorised yarn carriers (16 option)  
Outside creel with 8 yarn tensioners (16 option) independently programmable yarn carriers  
Unique device for in-lay for technical articles  
Plating with 2 yarn carriers  
Yarn carriers type "Argyle" (option)  
Kit for supporting yarn feeding unit (option)

## POSSIBILITIES / PERFORMANCES

All types of jacquard and structures  
Shape, cast-off, V-neck, etc.  
Press-on on empty needles  
Narrowing by retained stitch  
Model Version 9 updates, assistance and maintenance (option)  
Model+ 2.0 updates, assistance and maintenance (option)

## DRIVES

Carriage brushless motor adjustable from 0 to 1,60 m / sec. max.  
Yarn carrier encoders  
Upper take down system with possibility of reversing drive

## CONTROLS / SECURITIES

S-Touch 2.0  
All necessary devices to stop the machine in case of yarn breakage, knot, running out of yarn, shock, fabric  
Press-off, over-heating motors, load-up detector  
Reserve battery (in case of power failure)  
Load - up detector  
Self diagnostic  
Backup capacity 1 Giga  
Network 10/100 Mbps  
10" color touch-screen interface  
Interface \_USB stick  
Preventive maintenance module  
Dimension and Tension Control: DTC (option)  
Netcontrol production control (option)  
Duoknit : 2 samples produced on the same needle-bed (option)

## DIMENSIONS

Length: 2510 mm  
Height: 1420/2200 mm  
Width: 790/1320 mm  
Weight: 850 kg  
Power consumption: AC400V +/-10% ; 50Hz ; 1,5 KW

## CARRO CON PIASTRE PORTA CAMES

Macchina a una testa a carro aperto, con alimentazione diretta del filo.  
Piastrre porta camme a tre cadute con trasporto bidirezionale in ogni caduta.  
Tre vie tecniche con tappabuchi integrato.  
Gradazioni di maglia con controllo elettronico illimitato in ogni istante.  
Selezione elettronica Steiger degli aghi.

## FRONTURE

Lunghezza utile 90cm (130 cm opzione).  
Sinker su fonture supplementare  
Pinza, forbice e prendi filo integrati.  
Spostamento selettivo +/- 42 mm con possibilità di correzione.  
Finezze E14 con ago fresato a tallone annegato.  
Selezione con una sola platina monoselettore.  
Autopulizia con aspiratore Venturi.  
Pettine di tiraggio.

## GUIDAFILI

8 guidafili motorizzati orizzontalmente. (16 opzione)  
Cantra esterna di 8 tensioni (16 opzione).  
Programmazione automatica del posizionamento dei guidafili.  
Esclusivo dispositivo tramatore  
Vanisé di alta qualità realizzabile con guidafili multipli.  
Guidafili con beccuccio tipo "Argyle" (opzione).  
Kit per supporto di fornitori di filo (opzione).

## POSSIBILITA'/PRESTAZIONI

Tutti i tipi di Jacquard strutturato.  
Capi sagomati, finiture, catenelle, scollo integrato, intarsio tipo Steiger.  
Rimagliatura su aghi vuoti.  
Fléchage illimitato grazie al tiraggio attivo a 25 mm. dalla formazione delle maglie.  
Model Versione 9 con aggiornamenti, assistenza e manutenzione (opzione).  
Model+ 2.0 con aggiornamenti, assistenza e manutenzione (opzione).

## TRAINO

Motore "brushless", corsa variabile sull'ago da 0 a max. 1,60 m/sec.  
Motori brushless per guidafili.  
Motore a corrente continua per tiraggio con possibilità di inversione.

## CONTROLLI/SICUREZZE

S-Touch 2.0  
Tutte le sicurezze necessarie per arrestare la macchina in caso di rottura di filo, nodi, choc, sovraccarico, salva aghi, etc.  
Batteria di salvaguardia del programma (in caso di black-out elettrico).  
Salva-aghi retraibile.  
Scheda gestione collegamento in rete 10/100 Mbps.  
Programma di autodiagnostica.  
Memoria macchina 1 Gb.  
Interfaccia utilizzatore tramite touch-screen da 10" a colori.  
Uscita per chiave USB.  
Modulo di manutenzione preventiva  
Controllo dimensionale ad anello chiuso: DTC (opzione).  
Netcontrol: gestione della produzione (opzione).  
Duoknit: lavora contemporaneamente 2 articoli sulla frontura (opzione).

## DIMENSIONI/CONSUMI

Lunghezza: 2510 mm  
Altezza: 1420/2200 mm  
Larghezza: 790/1320 mm  
Peso: 850 kg.  
Potenza: AC 400V +/- 10%; 50 Hz; 1,5 KW.

# MODEL+ 2.0

STEIGER offers new software solutions to optimize the output of your machines. Discover MODEL+ 2.0: intuitive, powerful and easy to access, it makes programming of integral knitting, multilayer knitting, complex in-lay and Intarsia available to the greatest number of people. The key features include intarsia, plating switch, and jacquard auto-processing, which enable the user to maximize the advantages of motorized yarn guides as well as modern and user-friendly drawing tools.



# NETCONTROL 2.0

With Netcontrol 2.0, the production control software, just connect your machines to a server and optimize the productivity of your workshop.

## Features:

- Networking machines
- Online monitoring of the machines' status
- Centralised production management
- Statistics
- Preventive maintenance

## Customer benefits:

- Simplified production supervision
- Cost reduction
- Quality and productivity monitoring
- Increased productivity
- Planification of the machine maintenance

**Steiger** is a renowned flat knitting machine manufacturer based in Vionnaz, Switzerland. Founded in 1949, the company is part of CiXing group since 2010 and employs approximately 100 people worldwide. It is the technology leader for industrial knitting machines used for technical and medical products. In the fashion world, it is recognised for the quality of its stitch and for its Intarsia machines. Steiger delivers its products worldwide through a sales and extended service network. A corporate culture based on innovation and a partnership with CiXing group has enabled Steiger to remain the technology leader in the flat knitting industry.

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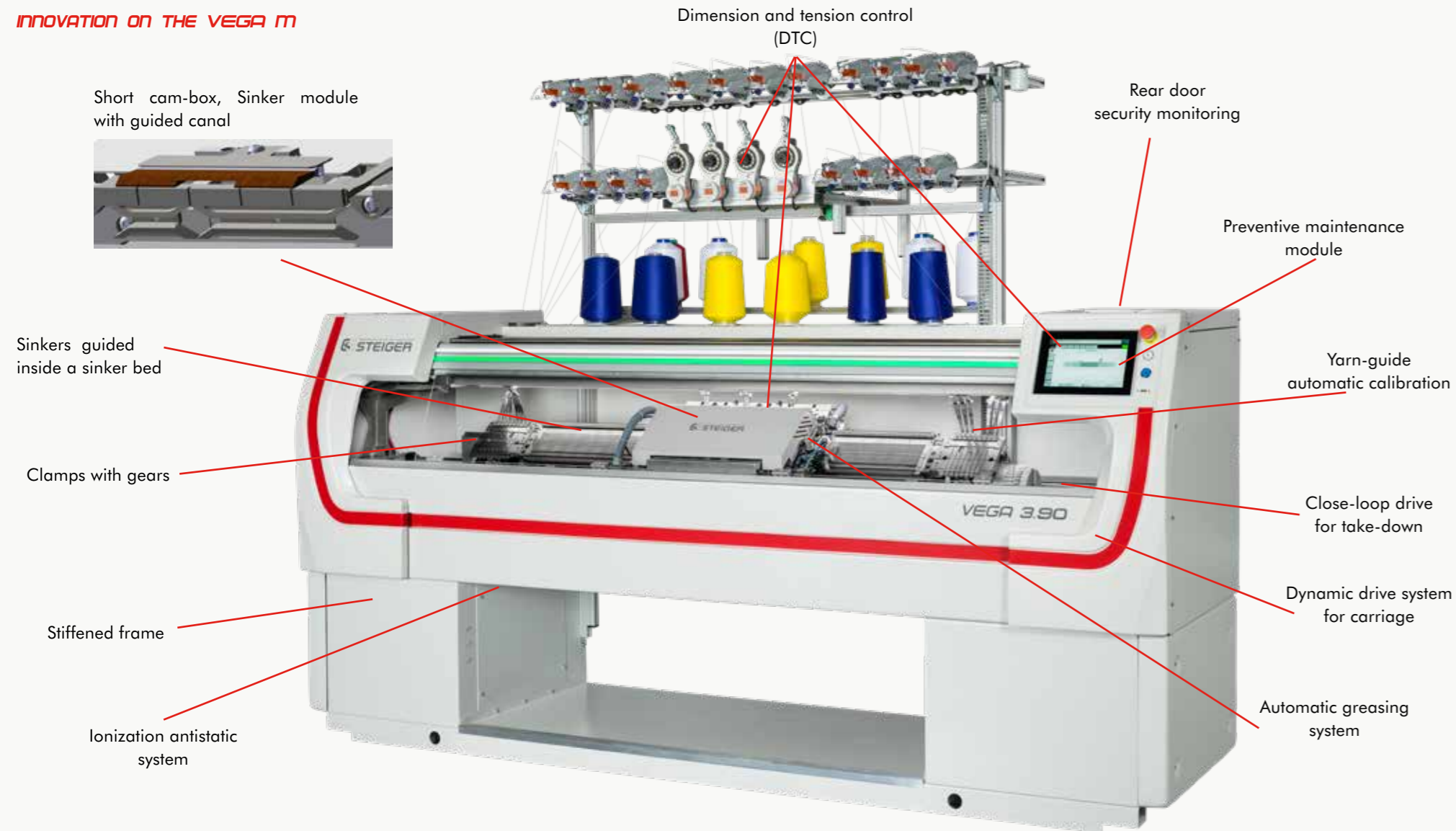
## Flat knitting machine

# VEGA 3.90 M



# VEGA 3.90 M

## INNOVATION ON THE VEGA M



The machine is available with 130 cm or 90 cm E14 needle-bed with 2 or 3 knitting systems:  
 VEGA 3.130 M    VEGA 3.90 M    VEGA 2.130 M    VEGA 2.90 M

La Vega Medical est la solution dédiée au tricotage d'articles orthopédiques ou médicaux développée par les spécialistes de notre Stitch Lab. Avant l'apparition de la Vega M, les machines pour le tricot médical étaient adaptées de modèle pour la mode. Avec la Vega M, la décision a été prise de concevoir un produit exclusivement dédié à cette application spécifique utilisant des fils élastiques tramés. Ce choix a permis à l'équipe de conception de sélectionner toutes les solutions techniques optimales sans concession pour d'autres applications. Le résultat est une augmentation importante de la performance de la machine avec une amélioration de chaque facteur composant le TRS (taux de rendement synthétique) = disponibilité x productivité x conformité.

The Vega Medical is the dedicated solution for knitting of orthopedic or medical items developed by the specialists in our Stitch Lab. Before the presentation of the Vega M, medical knitting machines were adapted from fashion models. With the Vega M, the decision was made to design a product exclusively dedicated to this specific application using in-lay elastic yarns. This choice has allowed the design team to select all the optimal technical solutions without concession to other applications. The result is a significant increase in machine performance with an improvement in every factor that compose the Overall Equipment Efficiency = availability x productivity x compliance.

Die Vega Medical ist die Lösung für das Stricken von orthopädischen oder medizinischen Artikeln, die von den Spezialisten in unserem Stitch Lab entwickelt wurde. Bevor es die Vega M gab, wurden medizinische Strickmaschinen von Modellen für die Modebranche adaptiert. Mit der Vega M wurde die Entscheidung getroffen, ein Produkt zu entwickeln, das ausschließlich für diese spezielle Anwendung bestimmt ist und elastische Rastergarne verwendet. Diese Entscheidung ermöglichte es dem Designteam, alle optimalen technischen Lösungen ohne Zugeständnisse für andere Anwendungen auszuwählen. Das Ergebnis ist eine erhebliche Steigerung der Maschinenleistung mit einer Verbesserung jedes einzelnen Faktors, der den Gesamtanlageneffektivität (GAE) = Verfügbarkeit x Leistungsgrad x Qualitätsgrad ausmacht.

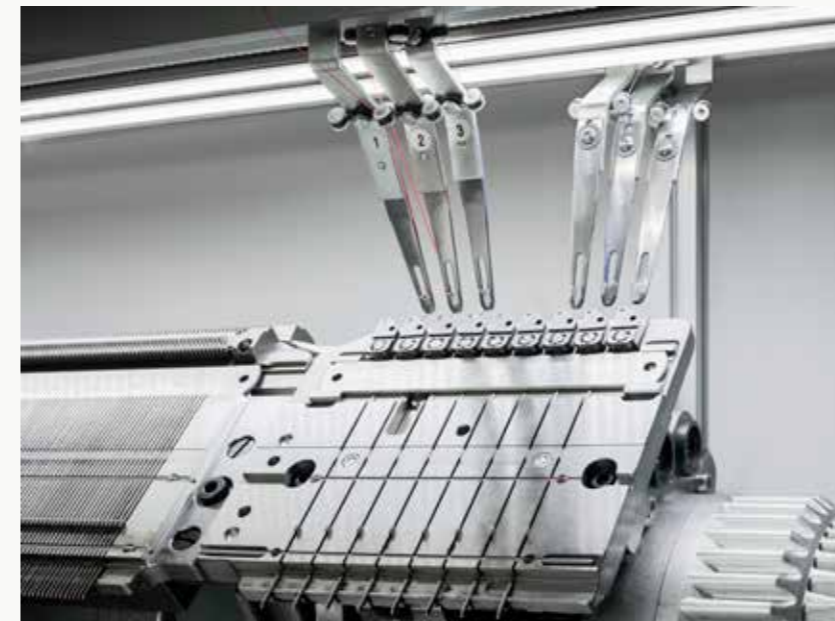
Vega Medical è la soluzione dedicata alla lavorazione a maglia di articoli ortopedici o medicali sviluppata dagli specialisti del nostro Stitch Lab. Prima della Vega M, le macchine per maglieria medicale erano adattate dai modelli per la moda. Con Vega M si è deciso di progettare un prodotto esclusivamente dedicato a questa specifica applicazione, utilizzando filati elastici tramati. Questa scelta ha permesso al team di progettazione di selezionare tutte le soluzioni tecniche ottimali senza concessioni ad altre applicazioni. Il risultato è un aumento significativo delle prestazioni della macchina con un miglioramento di tutti i fattori che compongono il "Efficienza complessiva della risorsa produttiva" = disponibilità x produttività x conformità.

## INCREASED PERFORMANCES



Short, light, the **cam-box** has been designed exclusively for medical application. Combined with the new **dynamic electronic drive system**, the acceleration and deceleration performances of the cam-box have also been enhanced. In order to support this increased carriage reactivity, Steiger has also strengthened the **stiffness of the main frame**.

## CLAMP AND SCISSOR

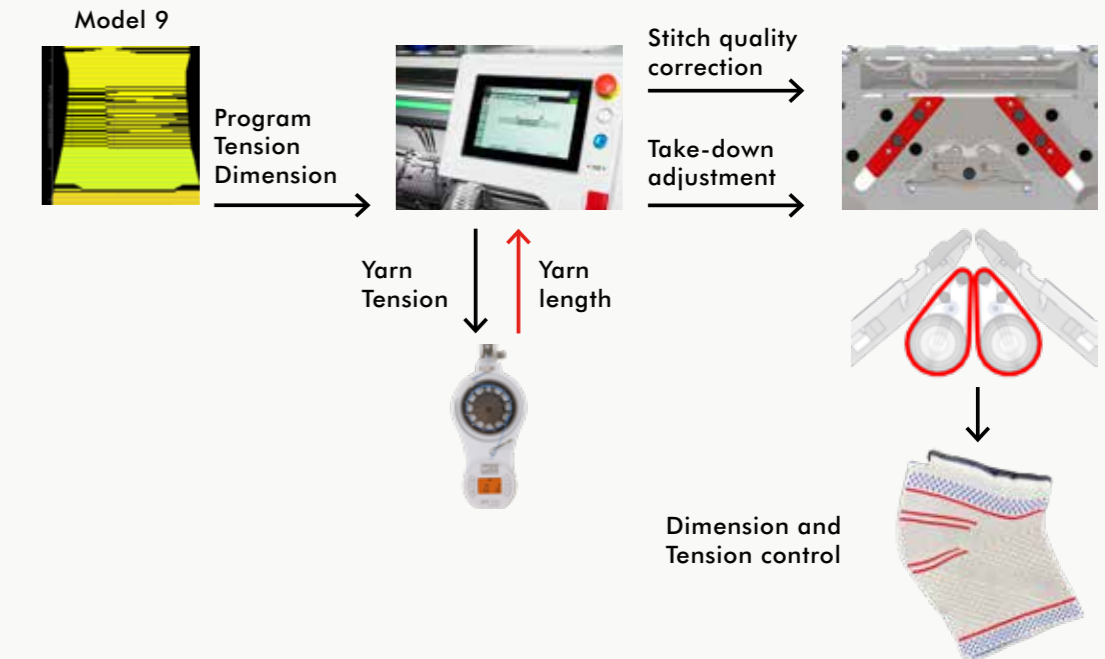


The new clamp and scissor system ensures that the yarns of the yarn-carriers are independently gripped. Gears prevent the yarn from escaping and guarantee the correct yarn gripping or cutting. High intensity LED ribbons illuminate the needlebed and highlight the formation of the stitch.

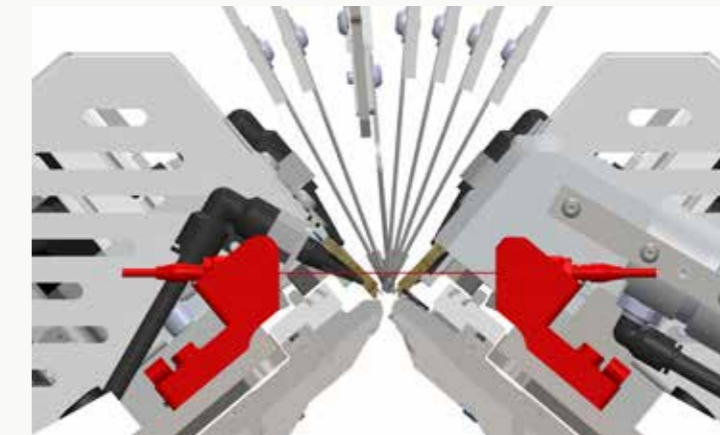
## DTC: ENSURING ENHANCED PRODUCT QUALITY

The Vega M includes a system called Dimension and Tension Control (DTC) to ensure the geometry and the compression class of the final article. It is based on 4 systems: Remote control of the yarn tension - Measure of absorbed yarn length (LFA) - Stitch quality correction - Take-down drive using a close loop control.

The compression class, which is ensured through the use of the elastane yarn and the dimension of the final product, are programmed directly by Model 9. In order to secure dimensions adapted to the patient limb, the DTC system calculates the yarn length required to knit each zone of the article. The variation of the stitch quality sets the vertical stitch dimension and guarantees the exact size of the custom made orthotics. The Dimension and tension control (DTC) therefore guarantees that the final article corresponds to the specification required by the therapist.



## ENLARGED AVAILABILITY



Steiger has also developed a new software module called **Preventive Maintenance** which helps to limit the unplanned machine stops. The machine indicates when the necessary maintenance actions must be done and by whom. Information is available not only on the machine itself but also at the production manager's workstation, making it easier to prepare the maintenance program for the relevant team.

In order to limit interventions on the machine, Steiger has also included some innovative elements such as the **automatic greasing system** for the needle-bed and the **integrated ionization system** that makes the yarn antistatic and thus further reduces the working time for the operators.

The **automatic calibration of the yarn-guides** using sensors installed on the cam-box allows continuous monitoring of the yarn-guide position accuracy.

## SINKER SYSTEM



The main innovation arises from a completely new sinker system. The perfect guiding of the sinker using a sinker bed and a new activation system has resulted in an optimal maintaining of the elastic yarn during the creation of the stitch. No elastane is knitted together with the base yarn even with an increased production speed. This function is programmable. During a knitting row it can be activated or deactivated several times according to the defined program.