CASTEL 180 TORUS

FPT INDUSTRIE S.P.A.

HORIZONTAL
MILLING MACHINE

PATENTED EQUIPMENT

autocal technologies
TECHNOLOGY

ARES 4.0+ DIGITAL INTELLIGENCE
PANTENT PENDING

MillTurning CENTER

THE ITALIAN STYLE

EMPOWERING INNOVATION

CORPORATE SYSTEM
UNIQUE IN THE WORLD

MACHINE RANGE

PRODUCTION LINE AUTOMATION

SERVICE DURING AND AFTER SALES SERVICE

INTERNATIONAL PATENT

ACCESSORIES

PANTENT PENDING

DIGITAL PLANT MANAGEMENT

ADVANCE CLAMPING SYSTEM

STOCK OF SPARE PARTS

TRAINING CENTER

FRICTION STIR WELDING

For more than 50 years FPT INDUSTRIE S.p.A. has been manufacturing CNC milling and boring machines for the mechanical and die & mould fields.
Since its establishment in 1969, FPT INDUSTRIE S.p.A. has greatly increased and significantly consolidated its presence on the domestic and International market, confirming its brand as the epitome of technology, accuracy and reliability.
The constant growth of the company affirms the validity of the adopted manufacturing and commercial strategies.
The success of FPT INDUSTRIE S.p.A. is determined by its capacity to generate new ideas and above all by the continuous research and development of new processes, products, services and corporate image. The research team is particularly attentive to market demands and at the same time committed to offer a totally reliable service to the end user.

FPT INDUSTRIE S.p.A. produce da più di 50 anni macchine alesatrici e fresatrici a controllo numerico per il settore della meccanica generale e per il settore della stampistica. Dalla sua costituzione, avvenuta nel 1969, ad oggi, FPT INDUSTRIE S.p.A. ha incrementato e consolidato significativamente la propria presenza sul mercato italiano e sui mercati internazionali, affermando il proprio marchio come sinonimo di tecnologia, precisione ed affidabilità.
Lo sviluppo dell'azienda non ha conosciuto rallentamenti nel tempo a conferma della riuscita delle proprie strategie produttive e commerciali.
FPT INDUSTRIE S.p.A. deve il suo successo alla continua produzione di idee innovative e soprattutto al continuo lavoro di ricerca nell'ambito del miglioramento dei processi, dei prodotti, dei servizi e della propria immagine aziendale. Tale ricerca è particolarmente attenta alle esigenze del mercato e nel contempo molto sensibile all'importanza dell'affidabilità del servizio al cliente finale.

FPT INDUSTRIE S.p.A. verfügt über mehr als 50 Jahre Erfahrung in der Produktion von NC-gesteuerten Fräsmaschinen und Bohrwerken für Einsatzbereiche wie allgemeine Mechanik und Formenbau. FPT INDUSTRIE S.p.A. hat seine Anteile im italienischen und internationalen Markt seit seiner Gründung im Jahr 1969 stetig ausgebaut.
Das Markenzeichen von FPT INDUSTRIE S.p.A. steht weltweit für Technologie, Präzision und Zuverlässigkeit.
Die konstant fortschreitende Unternehmensentwicklung ist der Beweis der gezielten Produktions- und Vertriebsstrategien. Seinen Erfolg verdankt FPT INDUSTRIE S.p.A. den innovativen Entwicklungen, besonders aber der konsequenten Forschung zur Optimierung von Prozessen, Produkten und Dienstleistungen. Bei der Forschung werden Schwerpunkte auf die Marktanforderungen insbesondere auf Serviceleistungen für den Kunden gerichtet.

FPT INDUSTRIE S.p.A. produit depuis plus de 50 ans des fraiseuses-aléseuses à contrôle numérique pour le secteur de la mécanique générale et pour le secteur des moules. De sa constitution, qui a eu lieu en 1969, à ce jour FPT INDUSTRIE S.p.A. a développé et consolidé d'une façon significative sa présence sur le marché italien et sur les marchés internationaux, en affirmant sa propre marque comme synonyme de technologie, précision et fiabilité.
Le développement de l'entreprise n'a pas connu de ralentissements ce qui confirme la réussite des propres stratégies de production et commerciales. FPT INDUSTRIE S.p.A. doit son succès à la recherche d'idées innovantes et surtout au travail continu pour l'amélioration des procédés de fabrication, des produits, des services et de son image. Cette recherche est très attentive aux exigences du marché et très sensible aussi à l'importance de la fiabilité du service au client final.

FLEXIBILITY IN PRODUCTION

CASTEL Terus 180 is a cross moving column machining centre, with table moving in longitudinal direction, which offers following functional advantages:

- Highest flexibility thanks to the wide range of accessories available;
- Operator easier access to the machining area;
- Better chip removal.

Structure dimensioning, positioning and shape of the ribs have been determined by using FEM calculations. CASTEL Terus 180 is characterized by its column group having an integrated and monolithic structure including the column and the column-saddle. The peculiar symmetric structure guarantees high rigidity, vibration damping and ensures a very good thermal stability.

CASTEL Terus 180 è un centro di lavoro con montante mobile trasversale e tavola mobile in longitudinale che offre vantaggi funzionali quali:

- alta flessibilità grazie alla vasta gamma di accessori disponibili;
- facile accesso dell'operatore alla zona di lavorazione;
- ottimale rimozione dei trucioli.

Il dimensionamento delle strutture, il posizionamento e la forma delle nervature sono state determinate con l'utilizzo di tecniche di calcolo FEM. La CASTEL Terus 180 si caratterizza per il suo gruppo montante con una struttura integrata e monolitica che comprende il montante e il carro portamontante. La particolare struttura simmetrica garantisce elevata rigidità, capacità di assorbimento delle vibrazioni ed assicura un'ottima stabilità termica.

CASTEL Terus 180 ist ein Bearbeitungszentrum mit quer verfahrbarem Ständer und längs verfahrbarem Tisch, welches folgende Vorteile bietet:

- Höchste Flexibilität dank der großen Auswahl an verfügbarem Zubehör;
- Erleichteter Zugang für den Bediener zum Arbeitsbereich;
- Bessere Späneentsorgung.

Die Strukturdimensionierung, die Positionierung und die Form der Verrippungen wurden durch FEM-Kalkulationen berechnet. Die CASTEL Terus 180 zeichnet sich durch den integrierten und monolithischen Maschinenständer aus, dessen Struktur den Ständer selbst und den Querschlitten vereint. Die besondere symmetrische Struktur verleiht der Maschine große Dämpfungsfähigkeit gegen Vibrationen und gewährleistet hohe thermische Stabilität.

CASTEL Terus 180 est un centre d'usinage avec montant mobile en transversal et table mobile en longitudinal qui offre des avantages fonctionnels tels que:

- une plus grande flexibilité grâce à la grande variété d'accessoires disponibles;
- un accès facile de l'opérateur à la zone d'usinage;
- une meilleure évacuation des copeaux.

Le dimensionnement des structures, le positionnement et la forme des nervures ont été faits avec l'emploi des techniques FEM.
CASTEL TERUS 180 se caractérise par son groupe montant avec une structure intégrée et monolithique qui comprend le montant et le chariot porte-montant. La particulière structure symétrique présente une haute capacité d'absorption des vibrations et assure la plus grande stabilité thermique.

FLEXIBILITY IN PRODUCTION

Excellent view of the workpiece both from the front and side of the machine and the operator workstation

Ottima visibilità del pezzo lavorato sia dal fronte e da lato macchina che dalla zona operatore

Optimale Sicht auf das bearbeitete Werkstück sowohl von vorne, als auch von den Seiten und vom Bedienerbereich aus.

Visibilité excellente de la pièce usinée soit du côté frontal et latéral de la machine, soit de la zone de l'opérateur

MILLING - TURNING VERSION

ONE HEAD - TWO APPLICATIONS

MILLING

TURNING

HSK-T100 attachment for milling and turning operation

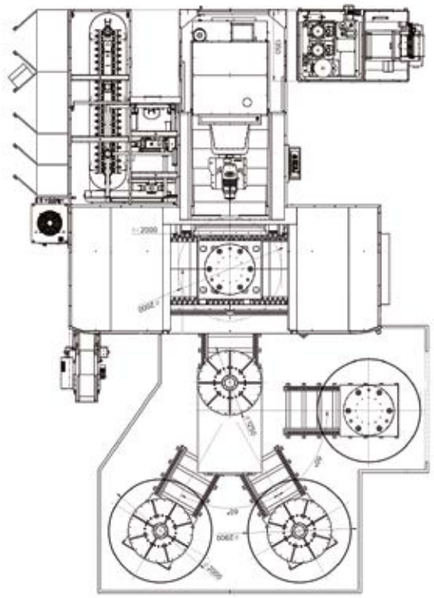
Attacco HSK-T100 per operazioni di fresatura e tornitura

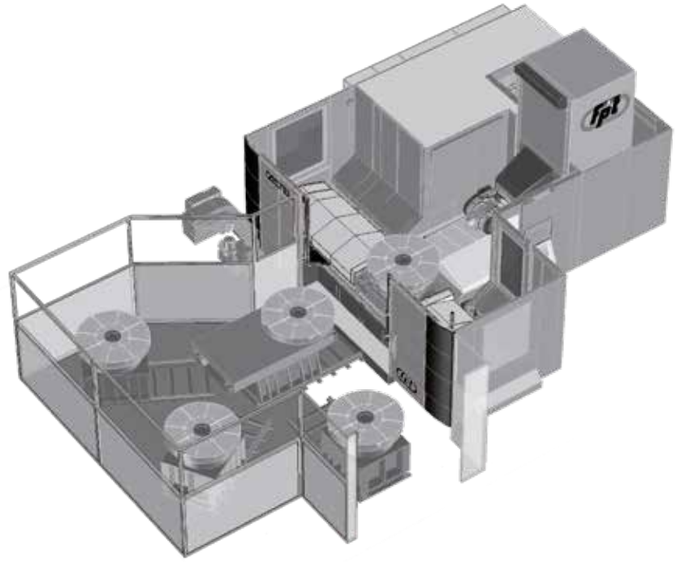
HSK-T100 Aufnahme für Fräs - und Drehbearbeitungen

Cône HSK-T100 pour des opérations de fraisage et tournage

MillTurning
CENTER

AUTOMATIC PALLET SYSTEM - MILLING TURNING VERSION





HEADS RANGE

TUPC/TU144 HEAD

BUILT-IN MOTOR

UNIVERSAL HEAD - INDEX AXIS

Max. spindle speed	r.p.m	5.000	7.000
Power	kW (Hp)	up to 34 (45,6)	up to 34 (45,6)
Torque	Nm (lbf.ft)	up to 830 (612,2)	up to 830 (612,2)
Taper		ISO 50 / HSK A100	ISO 50 / HSK A100
Positioning		0.001° (2,5° TU144 HEAD)	0.001° (2,5° TU144 HEAD)
Turn-mill HSK-T100		Available	Available

TUDD HEAD

BUILT-IN MOTOR

UNIVERSAL HEAD - DIRECT DRIVE AXIS

Max. spindle speed	r.p.m	5.000	7.000
Power	kW (Hp)	up to 28 (37,5)	up to 28 (37,5)
Torque	Nm (lbf.ft)	up to 500 (368,7)	up to 500 (368,7)
Taper		ISO 50 / HSK A100	ISO 50 / HSK A100
Positioning		0.001° / Continuous	0.001° / Continuous
Turn-mill HSK-T100		Available	Available

TTW HEAD

HI-FREQUENCY SPINDLE

FORK HEAD - DIRECT DRIVE AXIS

Max. spindle speed	r.p.m	14.000	18.000	28.000
Power	kW (Hp)	up to 60 (80,4)	up to 28 (37,5)	up to 100 (134,1)
Torque	Nm (lbf.ft)	up to 180 (132,7)	up to 100 (73,7)	up to 57 (42,0)
Taper		HSK A100	HSK A63	HSK A63
Positioning		Continuous	Continuous	Continuous

TTL30 HEAD

HI-FREQUENCY SPINDLE

TILT HEAD - DIRECT DRIVE AXIS

Max. spindle speed	r.p.m	8.000
Power	kW (Hp)	up to 63 (84,4)
Torque	Nm (lbf.ft)	up to 500 (368,7)
Taper		HSK A100
Positioning		Continuous
Turn-mill HSK-T100		Available

TECHNICAL DATA

TRAVELS -CORSE -VERFAHRWEGE -COURSES

Longitudinal - Longitudinale - Längs - Longitudinale	mm (in)	2.000 - 2.500 - 3.000 (78,7 - 98,4 - 118,1)
Cross travel - Corsa Trasversale - Quer - Transversale	mm (in)	1.800 (70,9)
Vertical travel - Corsa Verticale - Vertikal - Verticale	mm (in)	1.800 -1.300 (70,9 - 51,2)
Feed rate - Velocità di avanzamento - Vorschubgeschwindigkeit - Vitesse d'avance	mm/min (ipm)	25.000 (984,2)
AUTOMATIC TOOL CHANGER : Tools - Utensili - Werkzeuge - Outils	n°	46 - 92 - 138 - 192 ...

MILLING TABLE

RT12		
Loading capacity - Portata Tischbelastung - Capacité de poids	ton	12
Min. table dimension - Dim. min. tavola Mind. Tischabmessung - Dim. minimum de la table	mm (in)	1.500 x 1.500 (59,1 x 59,1)
Max table dimension - Dim. max. tavola Max. Tischabmessung - Dimension max. de la table	mm (in)	1.500 x 1.750 (59,1 x 68,9)
Automatic Pallet Changer	mm (in)	1.250 x 1.250 (49,2 x 49,2) 1.500 x 1.500 (59,1 x 59,1) 1.600 x 1.600 (63 x 63)

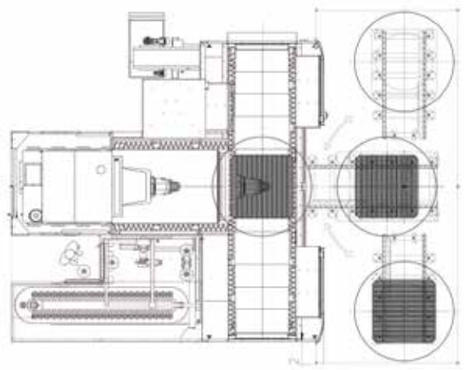
RT08F		
Loading capacity - Portata Tischbelastung - Capacité de poids	ton	8
r.p.m		60
Max table dimension - Dim. max. tavola Max. Tischabmessung - Dimension max. de la table	mm (in)	1.250 x 1.250 (49,2 x 49,2)
Automatic Pallet Changer	mm (in)	Ø 1.250 (49,2) 1.000 x 1.000 (39,4 x 39,4) 1.250 x 1.250 (49,2 x 49,2)

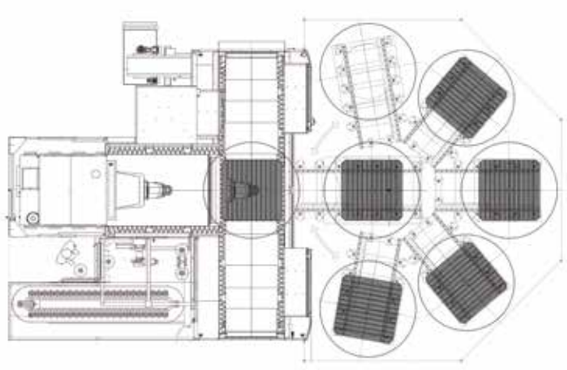
MILLING-TURNING TABLE

RT06T		
Loading capacity - Portata Tischbelastung - Capacité de poids	ton	6**
r.p.m		400
Ø	mm (in)	1.250 - 1.600 (49,2 - 63,1)
Automatic Pallet Changer	mm (in)	Ø 1.250 (49,2)

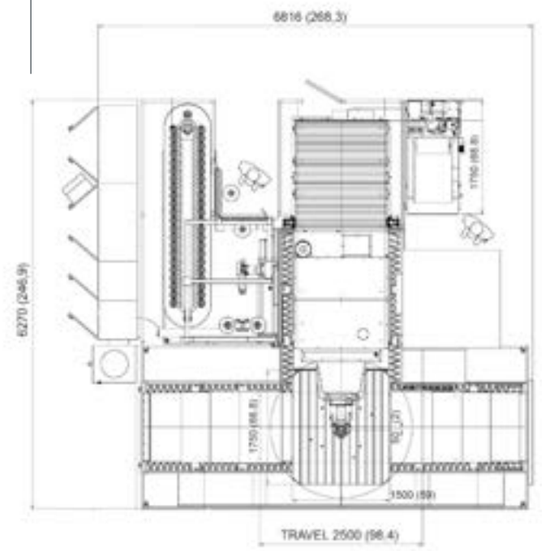
**In case of turning check weight/rpm ratio from FPT

CASTEL TERUS 180 WITH AUTOMATIC PALLET CHANGER AND AUTOMATIC TOOL CHANGER

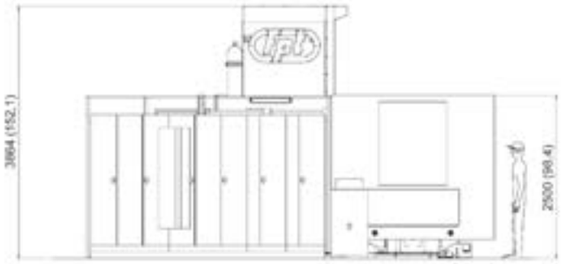


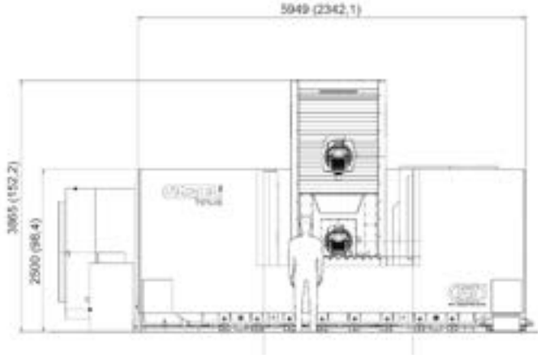


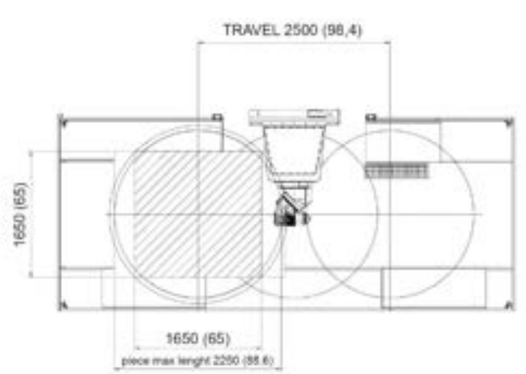
DIMENSIONS mm (in)

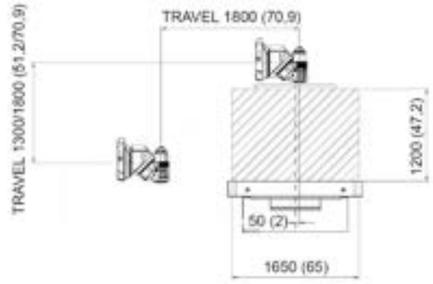


LAYOUT OF CASTEL TERUS 180
V 1300 - T 1800 - L 2500
RT 1500x1750
TU144 / TUPCG









*According to the type of head/table

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autocal technologies
TECHNOLOGY

ABSOLUTE PRECISION

Fpt technology for the automatic and independent correction of the geometry of the head by the operator

Autocal is a device developed by fpt permitting the automatic calibration of the geometry and rtcp of 5 axes or 3+2 axes heads. Lt resets the predetermined tolerances of the heads having undergone collisions, substitution of electrospindle or substitution of a spindle for normai maintenance.
In this way the machine operator will be able to reset the geometry of the head by himself, otherwise he would be obliged to ask for the intervention of the manufacturer with unavoidable loss of working days and heavy costs.
The use of fpt device -autocal. Through a very quick operation, about 30 minutes, allow to solve easily and cheaply the many problems arising from the use of boring and milling machines (option). Fpt once again overcomes barriers which are impossible for others.
Fpt not only high-tech boring machines but also care and attention to its own customers.

Tecnologia fpt per correzione automatica ed autonoma della geometria della testa da parte dello operatore

Autocal è un dispositivo studiato da fpt per consentire la calibrazione automatica della geometria e del rtcp delle teste 5 assi o 3+2, in grado di riportare all'interno delle tolleranze prefissate le teste che abbiano subito una collisione di lieve entità o la sostituzione di un elettromandrino o di un mandrino per normale manutenzione. In questo modo l'operatore della macchina sarà in grado autonomamente di ricomporre la geometria della testa, mentre altrimenti sarebbe costretto a richiedere l'intervento della casa costruttrice, con inevitabili perdite di giorni di lavoro per il riassetto, oltre gli inevitabili pesanti costi. L'utilizzo del dispositivo fpt - autocal, attraverso un'operazione velocissima, richiesti c.A. 30 Minuti, permette di risolvere facilmente ed economicamnete, i tanti inevitabili problemi che emergono nell'utilizzo delle alesatrici e delle fresatrici (opzionale). Fpt ancora una volta supera barriere per altri impossibili. Fpt non solo alesatrici di altissima tecnologia, ma anche cura ed attenzione per i propri clienti.

Fpt technologie zur automatischen und selbstständigen korrektur der kopfgeometrie seitens des bedieners

Autocal ist die von fpt entwickelte technologie zum automatischen kalibrieren der geometrie und der rtcp der 5- oder 3+2-achs-fraskopfe. Somit ist es moglich, die fraskopfe automatisch nach einer kollision geringerer bedeutung oder nach wartungsarbeiten an der (hf)-spindel zu nullen.
Auf diese weise kann der bediener die kopfgeometrie selbstständig nachjustieren, was sonst nur durch einen servicetechniker des herstellers mit unvermeidlichen und kostspieligen ausfallzeiten moglich ware.
Die fpt-autocal-technologie (als option erhaltlich) ermoglicht auf einfachste art und weise innerhalb von ca. 30 Minuten diese an fras- und bohrwerke unvermeidlichen probleme praktisch und wirtschaftlich zu losen. Fpt beweist wieder einmal, dass fast unuberwindbare barrieren genommen werden konnen.
Fpt steht nicht nur fur bohr- und fraswerke der spitzenklasse, sondern auch fur außerst kundenorientierte firmenpolitik.

Technologie fpt pour la correction automatique et autonome par l'operateur de la geometrie de la tete

Autocal est le dispositif etudié par fpt pour la calibration automatique de la géometrie et du rtcp des tetes à 5 axes ou 3+2 axes. Il peut rétablir les tollerances prefixées des tetes qui ont subi une collision mineure, le changement d'une électrobroche ou d'une brache pour le normai entretien.
Ainsi l'operateur sera capable de rétablir de façon autonome la geometrie de la tete en evitant une intervention de part du constructeur, perte de jours ouvrables et importants couts.
L'emploi du dispositif fpt-autocal (option) permet, par une rapide operation de 30 min. Environ, la resolution facile et economique des inévitables problèmes qui émergent de l'utilisation des fraiseuses aleseuses. Fpt encore une fois surmonte barrières qui sont impossibles pour les autres.
Fpt, pas seulement aleseuse à haute technologie, mais aussi soin et attention pour ses propres clients.

PLATFORM

MARES 4.0+

DIGITAL INTELLIGENCE

Platform MARES 4.0+ is the new exclusive IT platform for Industry 4.0 designed and developed by whom produces, uses and manages the integration of machines for over 50 years. MARES 4.0 + is the only platform that allows the interconnection of machines from different manufacturers and with different electronics and an operator interface directly integrated on the machines.

Die MARES 4.0+-Plattform ist die neue, exklusive IT-Plattform für Industrie 4.0. Ausgearbeitet und entwickelt durch einen Maschinenhersteller mit über 50 Jahren Erfahrung im Betrieb und Management der Maschinenintegration, ist MARES 4.0 + die einzige Plattform, mit welcher Maschinen verschiedener Hersteller und mit verschiedenen Elektroniken vernetzt werden können und eine maschinenintegrierte Bedienoberfläche ermöglicht wird.

La Piattaforma MARES 4.0+ è la nuova esclusiva piattaforma informatica per Industria 4.0 studiata e messa a punto da chi produce, utilizza e gestisce l'integrazione delle macchine da oltre 50 anni. MARES 4.0 + è l'unica piattaforma che consente di interconnettere le macchine di produttori differenti e con elettroniche differenti e di avere un'interfaccia operatore direttamente integrata sulle macchine.

La plate-forme MARES 4.0+ est la nouvelle plate-forme informatique exclusive pour l'industrie 4.0 conçue et développée par ceux qui produisent, utilisent et gèrent l'intégration de machines depuis plus de 50 ans. MARES 4.0 + est la seule plate-forme qui vous permet d'interconnecter des machines de différents fabricants et avec différentes électroniques et de disposer d'une interface opérateur directement intégrée aux machines.

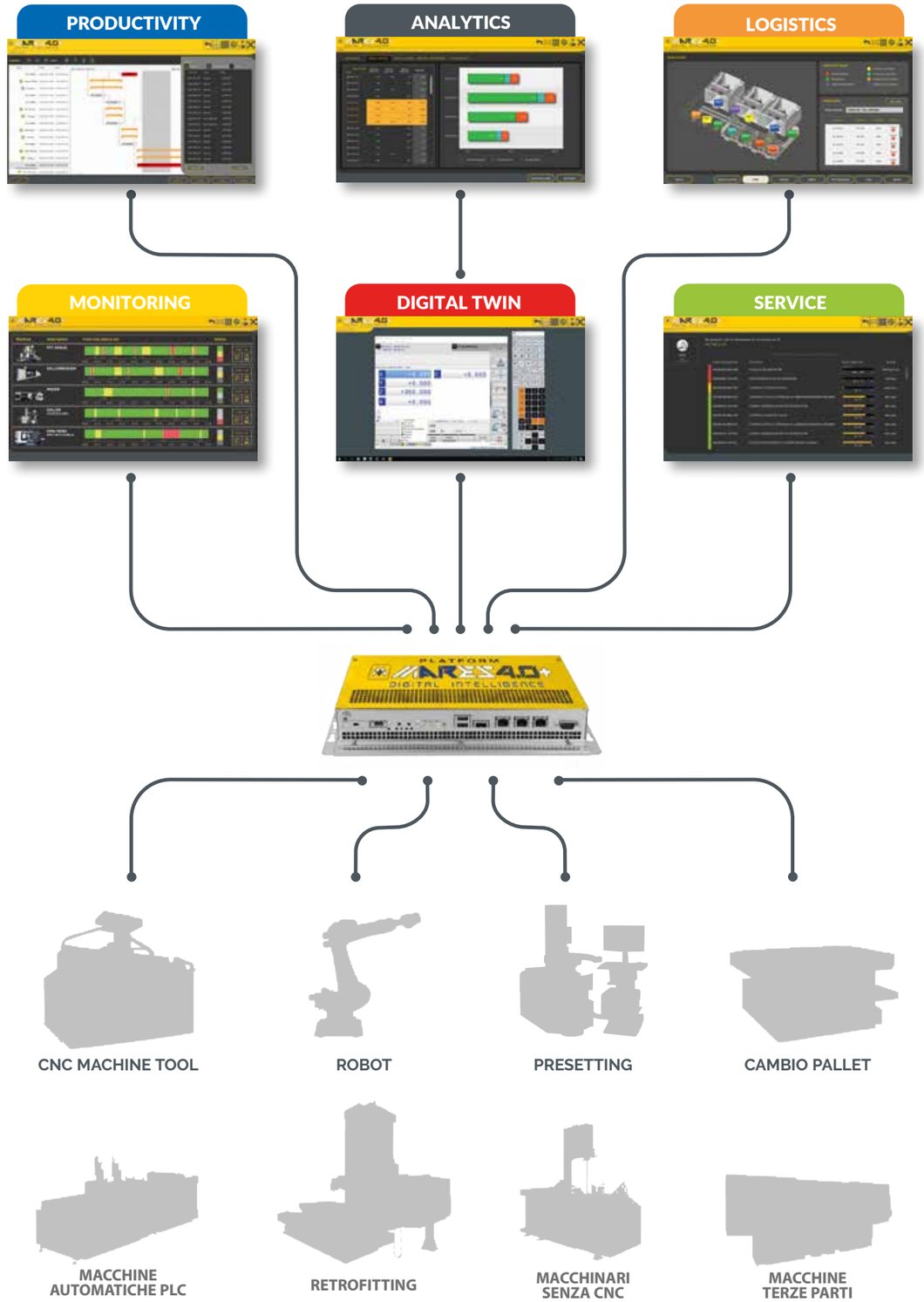
MARES 4.0+ DIGITAL INTELLIGENCE
PANTENT PENDING

+250 INSTALLATIONS

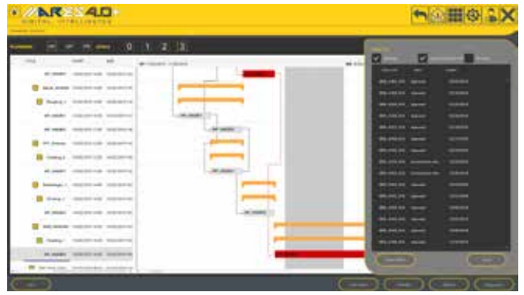
MULTI SITE CONNECTION

READY FOR INDUSTRY 5.0

REAL TIME MANAGEMENT



PRODUCTIVITY



The applications belonging to this group are aimed at managing productivity and controlling the efficiency of the machine.

JOB SERVER — Production order detail management in the single machine, Storage and consulationof workpiece programs to be performed by the single machine, Remotely loading of partprograms (combined with Job Server).

SCHEDULER ASSEMBLY — Infinite capacity production scheduling by allocating the different phases of the working cycle to work teams, and updating their progress according to the number of resources daily assigned to every team.

MDO — Data analysis of productivity; Assessment of equipment effectiveness O.E.E. (Overall Equipment Effectivess).

IMPORT ORDER — Automatic import of production order data into JOB Server from a file created by the management system ERP, PLM, PDM, CAD/CAM etc.

JOB CLIENT — Automated integration with other machines of the production cycle; Production order detail management and distribution to every machine in the network; Storage and consultation of workpiece programs.

TOOLS MANAGER — Tool lifetime; wear assessment; Tool requirements assessment; Tool loading and unloading list from magazine.

SCHEDULER — Production scheduling and allocation of resources to the different phases of the working cycle.

RESOURCE DATABASE — Configuration of resource characteristics (machines, people) for their correct assignment and management in the various applications.

LOGISTICS

The applications belonging to this group are aimed at managing production logistics, FMS and processing cells.

FACTORY LOGISTICS — Management of the localization of the single incoming and outgoing packing cases comprising a production batch in intermediate storage areas between the different machining phases.

FMC — Management of a machining cell comprised of several machines and a system for the displacement and automatic loading/unloading of workpieces, by considering all the elements as a single entity collecting the significant data of every machine.

FMS — Management of machines with palletized systems, by defining a precise production cycle, with the possibility to modify the production flow to meet the various requirements that may arise.

TRACKING MANAGER — Production batch logistic flow tracking.

ANALYSIS

The applications belonging to this group are aimed at the statistical analysis of production data.

ANALYSIS — Creation of a set of reports relevant to production and productivity statistics of the interconnected machines, with the possibility to verify the reasons why real machine efficiency differs from the ideal value.

QUALITY — Management of the control plans of workpieces or production batches. Possibility to monitor the quality trend of the production process.

MONITORING

The applications belonging to this group aim at monitoring machine status, monitoring working conditions and using adaptive control software for process deviations.

MONITORING — Continuous monitoring of the working conditions and process parameters of the interconnected machines and graphical view of machine activities in real time.

CBE — Electric spindle balancing control system.

ALARM — History of error events, with the possibility to display information about the causes that generated them and the activities to be performed to restore machine operation.

GREEN MODE — Optimization of machine energy consumptions, by avoiding wastage when the machine is not working. Possibility to program automatic switching off and re-ignitions of the machine and automatic Warm-Up cycles.

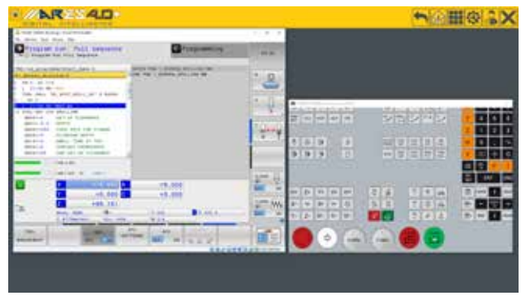
AUTOCAL — Check and calibration of the kinematic parameters of the milling head.

SRV — System for the detection of collisions and excessive vibrations.

EXTRACAL — System able to qualify the geometric health of the machine.

IAT — Software for the acquisition of the temperature values of machine structures over time, with the application of a compensation algorithm.

DIGITAL TWIN



The applications belonging to this group aim at simulating work programs and virtualizing production processes of the machine. They also check for any collisions and programming errors to avoid damages to the machine and hazardous situations.

SIMULATION — Start of the simulation program of the numerical control.

VIRTUAL MACHINING — Possibility to start a virtualization program of the production process of the machine by simulating not only the machining program but also all machine movements, included auxiliary movements.

SERVICE

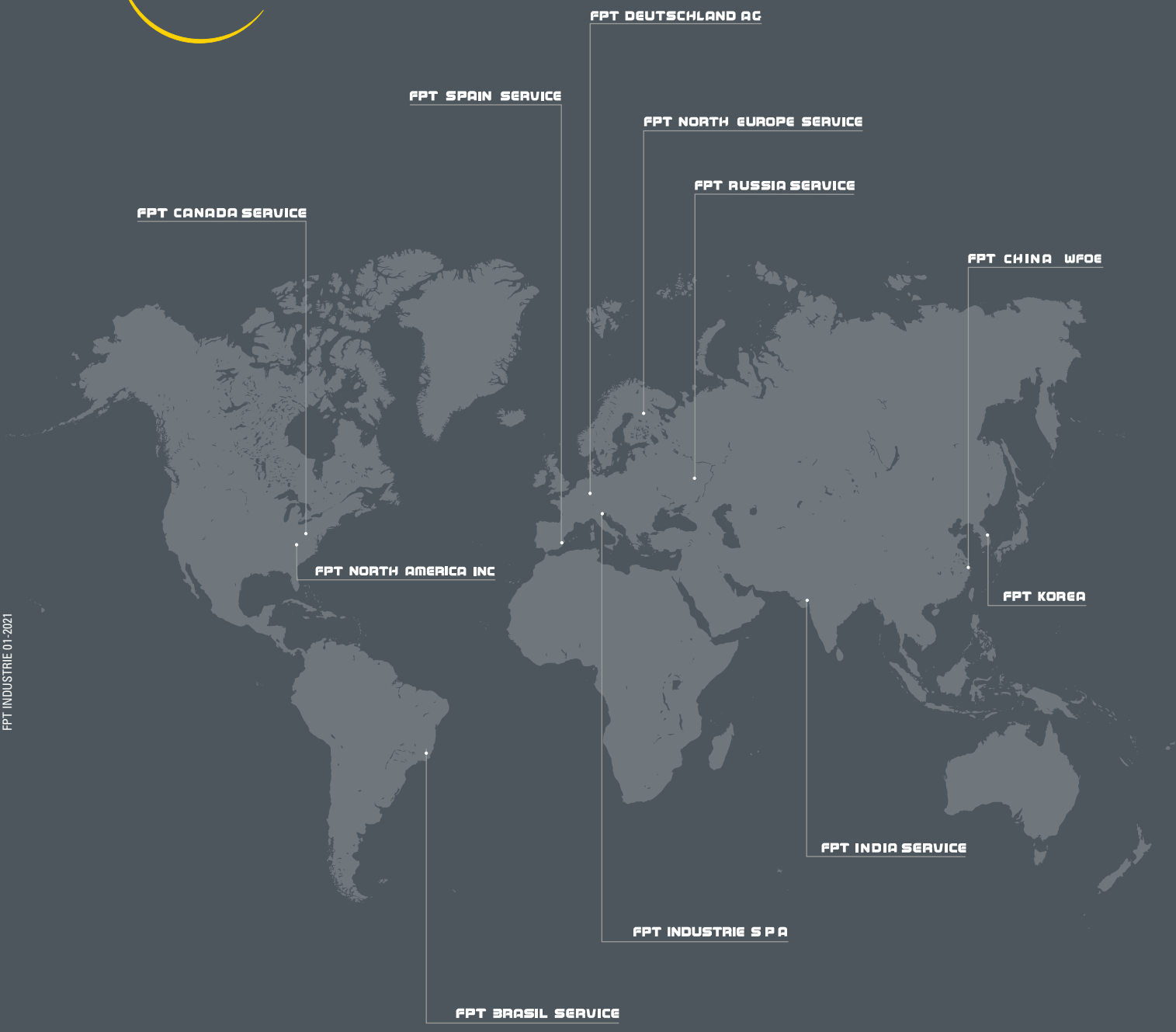
The applications belonging to this group aim at properly managing the machine, providing both technical support for its use and technical assistance service.

TELESERVICE — Systems for telemaintenance and/or telediagnosis and/or remotely control; Remote video monitoring.

MAINTENANCE — Management of the scheduled maintenance operations of the machines.

USERMANUAL — Online viewing of machine manuals, with interactive browsing between the documents to simplify their consultation.

FPT WORLD



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