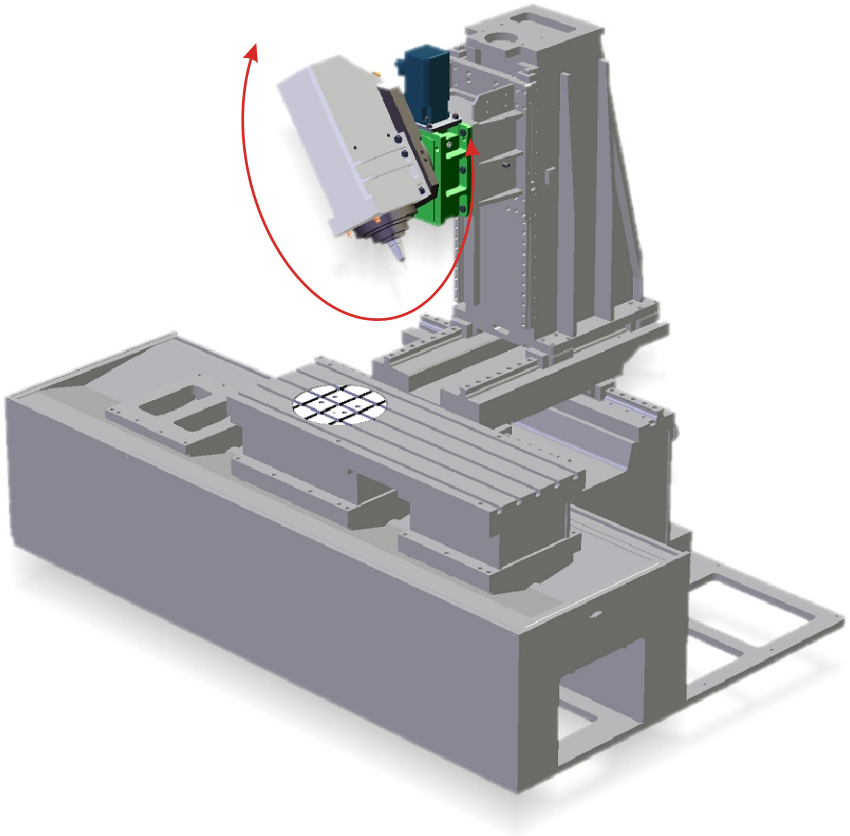
MD-M

Teste di fresatura tiltanti
Tilting heads for milling

Trasmissione meccanica
Mechanical transmission
Bloccaggio idraulico
Hydraulic clamping



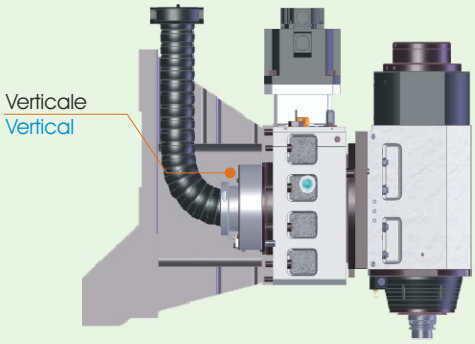
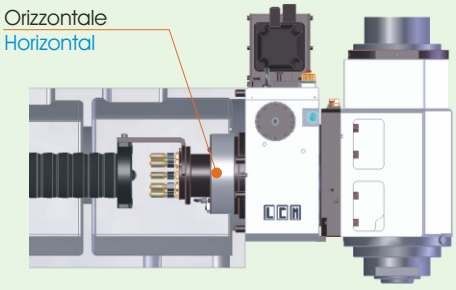
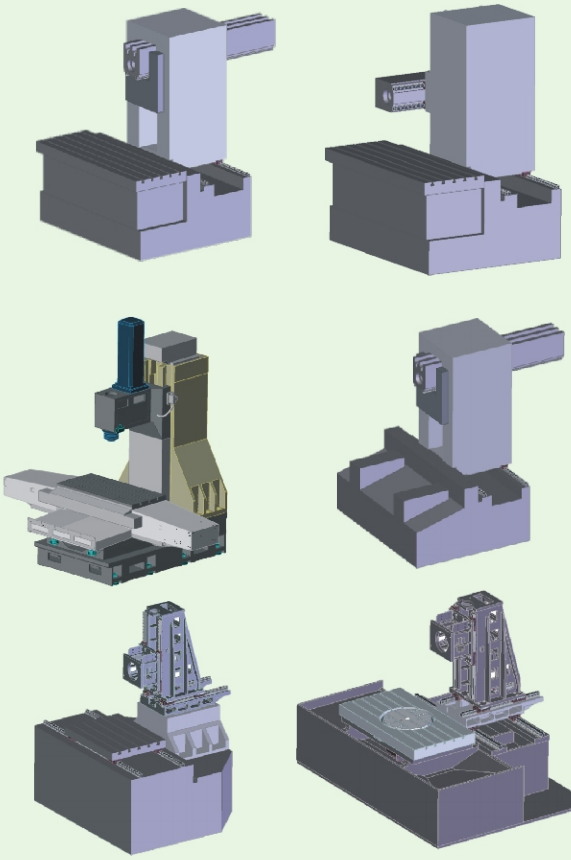
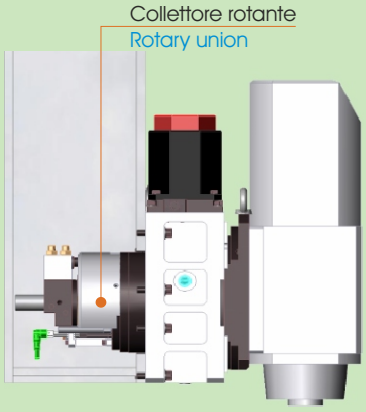
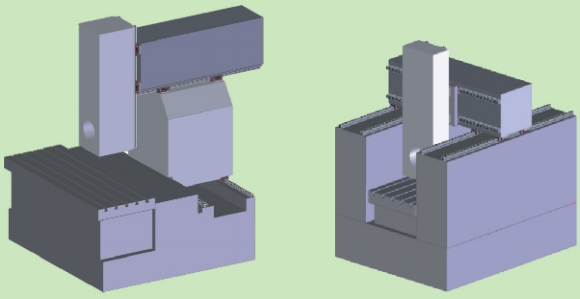
Le teste serie MD sono la soluzione ideale per i costruttori i che vogliono realizzare fresatrici con il 4° asse posto dietro all'elettromandrino.
I gruppi MD-M consentono di inclinare, in continuo, l'asse mandrino da +100° a -100°. Sono dotati di sistemi di trasmissione meccanici, di bloccaggi idraulici e di encoder di posizionamento ad alta risoluzione montati diretti in asse.
Per poter soddisfare le specifiche esigenze di applicazione, i modelli della serie MD sono 5 e possono essere forniti in alcune differenti versioni.
La scelta della miglior configurazione può essere effettuata in alcuni semplici passggi:

1. Scelta della grandezza in funzione delle dimensioni e potenza dell'elettromandrino previsto.
2. Al fine di offrire al cliente la possibilità di utilizzare elettromandrini non costruiti da LCM, i gruppi MD possono essere predisposti per il fissaggio di elettomandrini quadri e con specifici alloggiamenti per mandrini a cartuccia.
3. In funzione della tipologia di macchina e degli spazi a disposizione, scegliere la migliore posizione del motore e verificare la necessità di un distributore rotante integrato utile al contenimento degli ingombri totali della testa.

The MD series head represents the best solution for makers producing 5 axis machines who require the 4th axis behind the spindle.
The MD-M units allow the spindle axis to be tilted with continuous motion from +100° to -100°. They have mechanical transmission system, hydraulic clamping and high resolution encoder mounted in axis.
To meet customer demands, 5 versions are available in various configurations.
Selection of the head is determined by some basic requirements:

1. Choice of size dependant on required spindle dimensions and capacity.
2. To provide greater flexibility, MD units can be prepared for square spindles not manufactured by LCM, or, with a housing designed for cartridge spindles.
3. Dependant on machine construction and space limitations, different motor locations and a choice of flexible cable system or rotary union is possible.

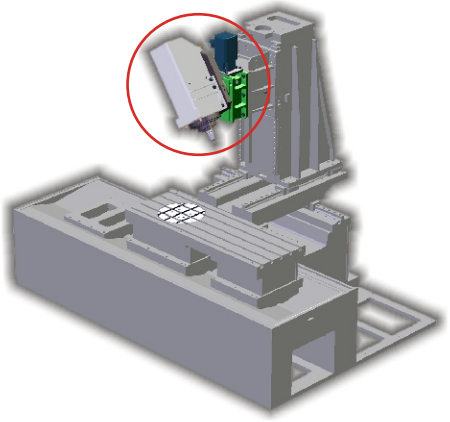
Scelta della testa in funzione della geometria della macchina
Choice of head depending on machine geometry

Tipo di testa Type of head	Geometria macchina Machine geometry
Gruppo completo di catenaria che consente la rotazione dei cavi e dei tubi di alimentazione. E' la versione standard. Units complete with robotic flexible cable chain. Fitted as standard allowing free rotation of cables and feed pipes.   I	
Gruppo completo di distributore rotante fino a 11 canali. Versione da utilizzare nei casi in cui la zona dedicata all'alloggiamento della testa ha una profondità limitata. Unit complete with up to 11 utilities rotary union. This version to be adopted in cases of limited installation depth  C	

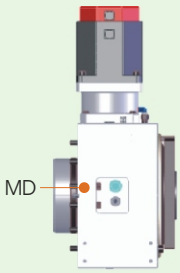
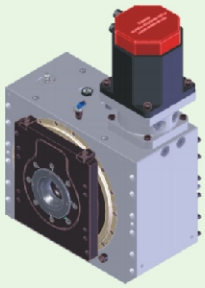
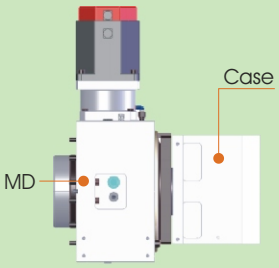
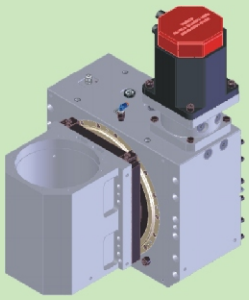
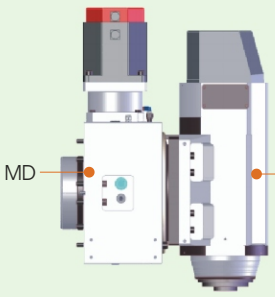
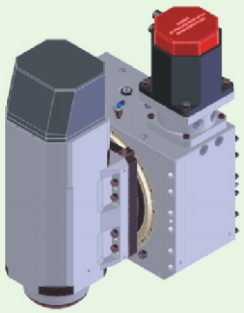
MD-M

Teste di fresatura tiltanti
Tilting heads for milling

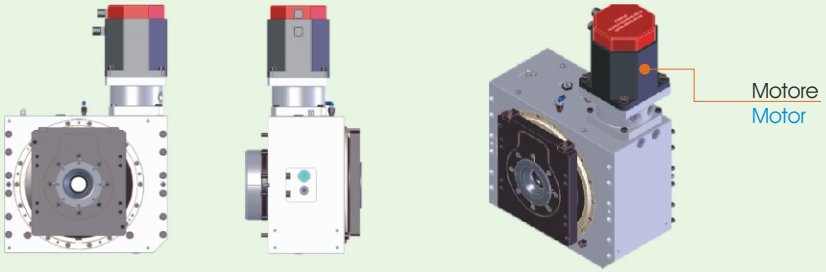
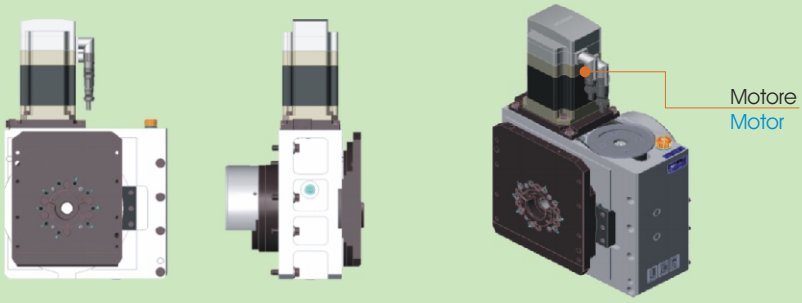
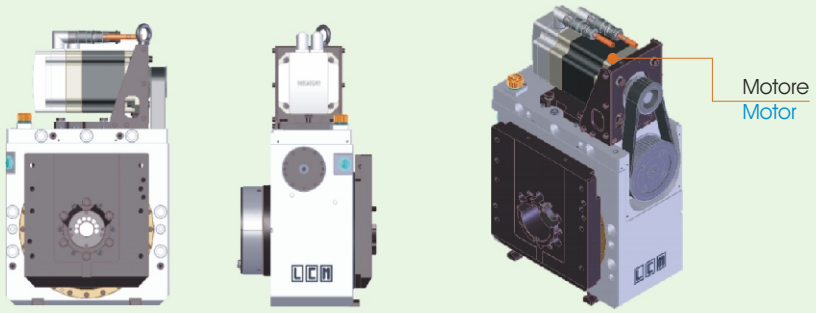
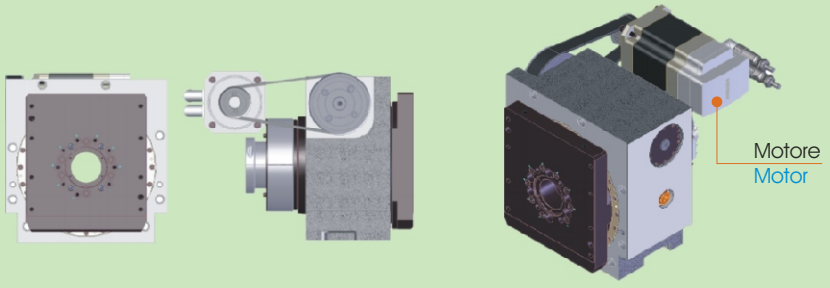
Trasmissione meccanica
Mechanical transmission
Bloccaggio idraulico
Hydraulic clamping



Scelta della configurazione frontale
Choice of spindle configuration

Caratteristiche Specifications	Tipo di testa Type of head
MD predisposto per elettromandrino quadro MD prepared for square electrospindle	  S
MD completo di case adatto al fissaggio di elettromandrino cilindrico a cartuccia MD complete of case suitable for the fixing of cartridge electrospindle	  C
MD completo di elettromandrino L.C.M. MD complete with L.C.M. electrospindle	  E

Scelta della posizione del motore
Choice of the motor position

Caratteristiche Specifications	Tipo di testa Type of head
Trasmissione motore diretta verticale Vertical motor direct transmission	 A
Trasmissione motore indiretta verticale Vertical motor indirect transmission	 B
Trasmissione motore indiretta orizzontale Horizontal motor indirect transmission	 C
Trasmissione motore indiretta esterna External motor indirect transmission	 D

I nostri ingegneri sono a disposizione per supportarVi nella scelta e nell'eventuale personalizzazione dei gruppi.
Our engineers are at your disposal to support you in the choice and personalization of the units, if necessary.

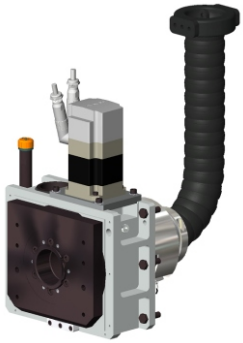
MD-M

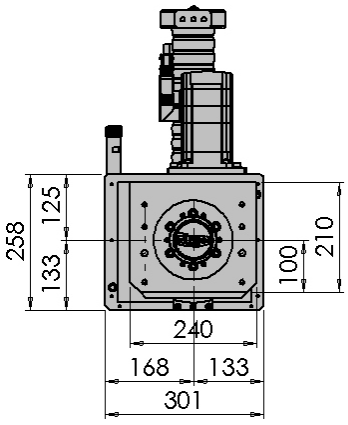
Teste di fresatura tiltanti
Tilting heads for milling

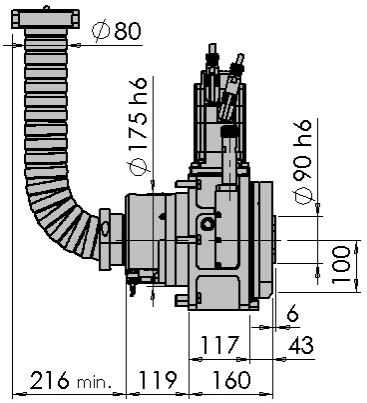
Trasmissione meccanica
Mechanical transmission
Bloccaggio idraulico
Hydraulic clamping

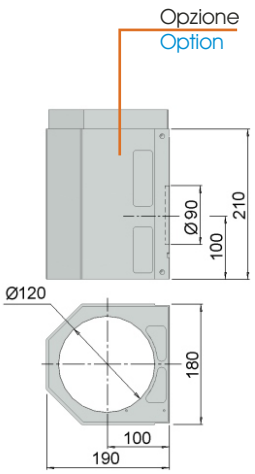
Caratteristiche - Modelli Specifications - Models		MD 90	MD 125	MD 160	MD 200
Campo di lavoro Tilt range		± 100°	± 100°	± 100°	± 100°
Velocità massima di inclinazione testa Maximum head rotation speed	RPM	50	50	33	33
Forza di bloccaggio (Pressione in ingresso) Clamping torque (Entry oil pressure)	Nm	1100 (100 Bar)	1360 (50 Bar)	2000 (50 Bar)	7300 (60 Bar)
Spinta in lavoro Working torque	Nm	168	504	1386	1386
Precisione di posizionamento Indexing accuracy	sec.	± 7	± 7	± 7	± 7
Ripetibilità Repeatability	sec.	± 3	± 3	± 3	± 3
Grandezza motore (pagina 43) Servo motor size (page 43)		3	5	6	6
Diametro massimo elettromandrino Maximum diameter of electrospindle	mm.	120	200	250	300
Peso netto testa (senza elettromandrino) Head net weight (without electrospindle)	Kg.	80	150	220	415

MD 90



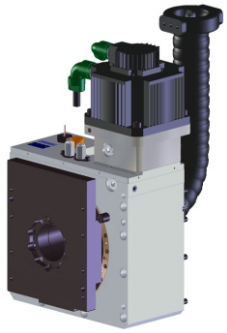


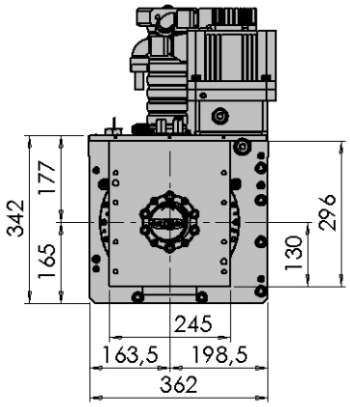


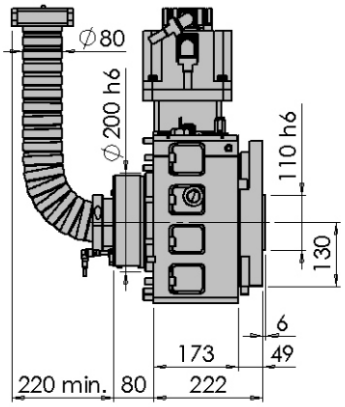


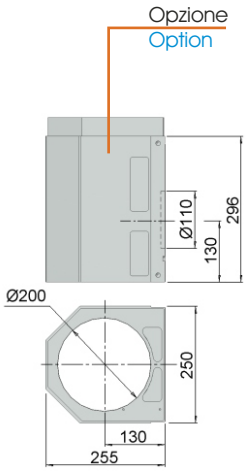
Teste di fresatura tiltanti
Tilting heads for milling

MD 125

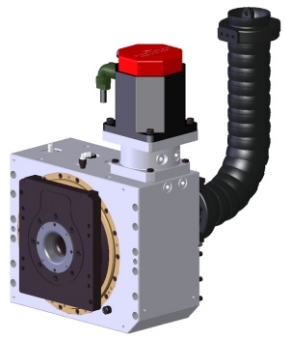


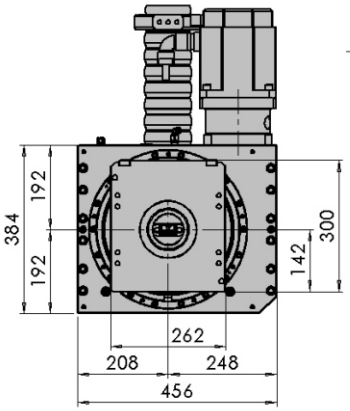


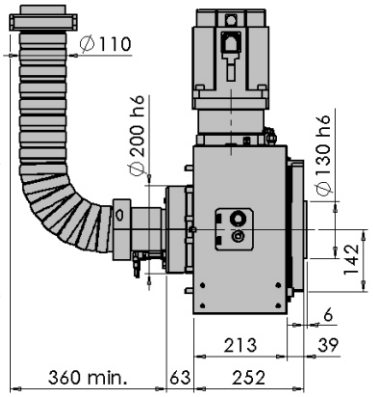


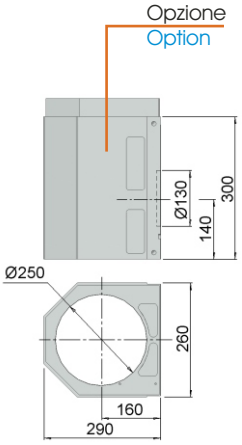
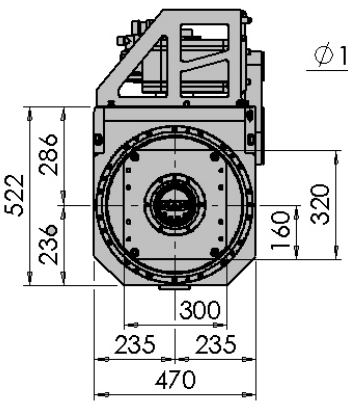
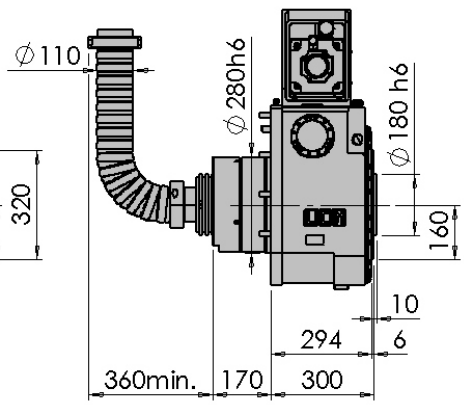
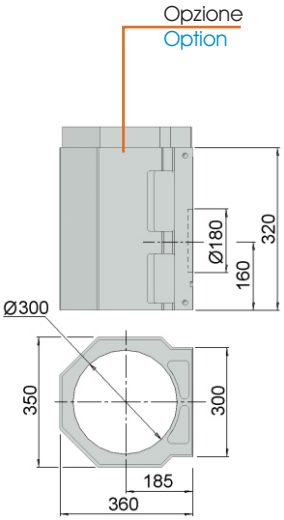


MD 160









MD 200