

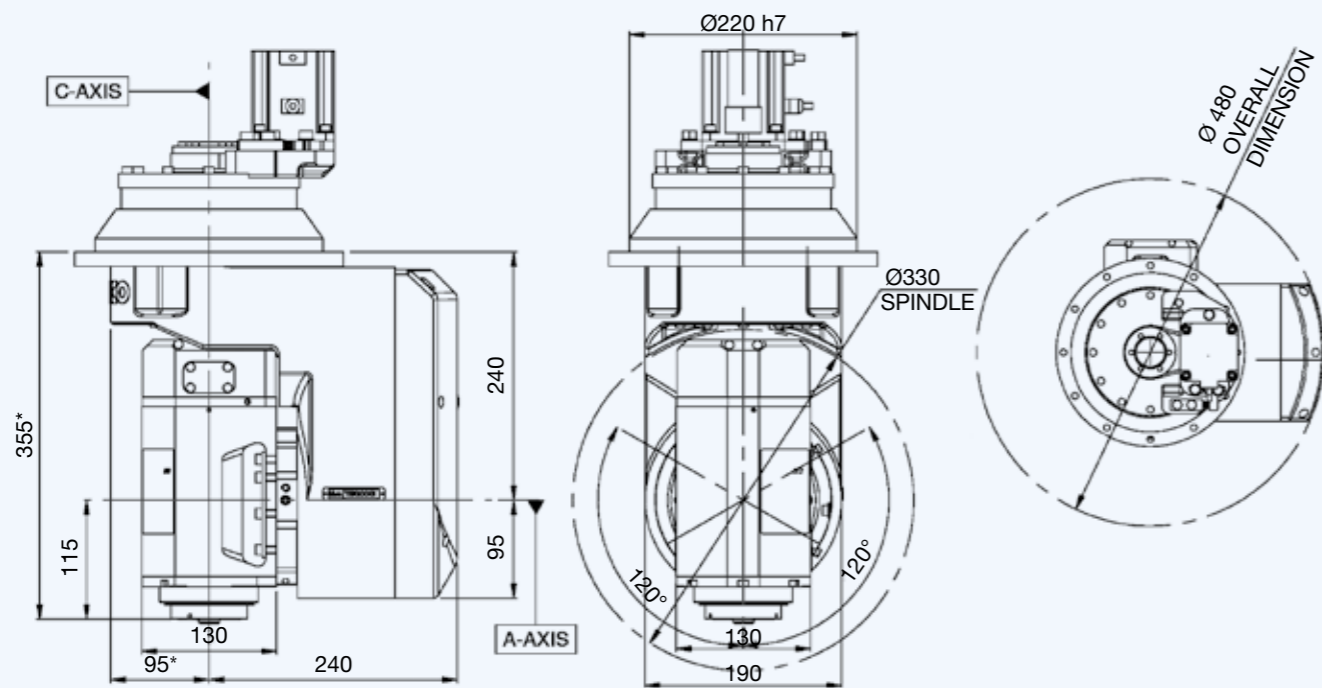
# SERIE TILT TILT J



AVAILABLE WITH



## LAYOUT



## OPTIONALS DELL'ELETTROMANDRINO / ELECTROSPINDLE OPTIONS

- Monitoraggio temperatura cuscinetti / Temperature monitoring of bearings
- Misuratore di velocità / Speed monitoring
- Sensori di vibrazione / Vibration sensor
- Encoder\*

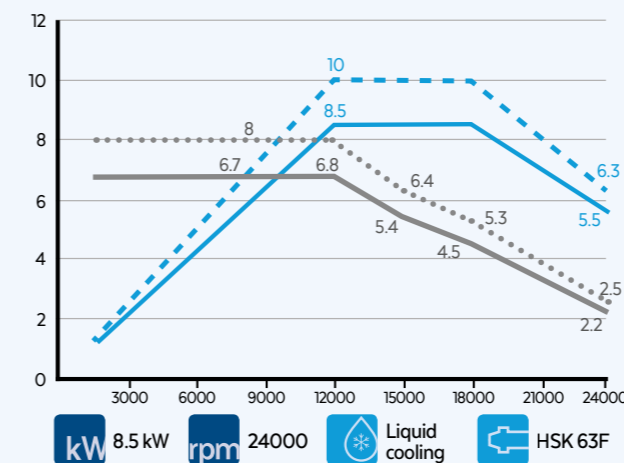
## SPECIFICHE TECNICHE / TECHNICAL SPECIFICATIONS

\*Sono disponibili altre marche di motorizzazioni a richiesta  
\*Other engine brands are available on demand

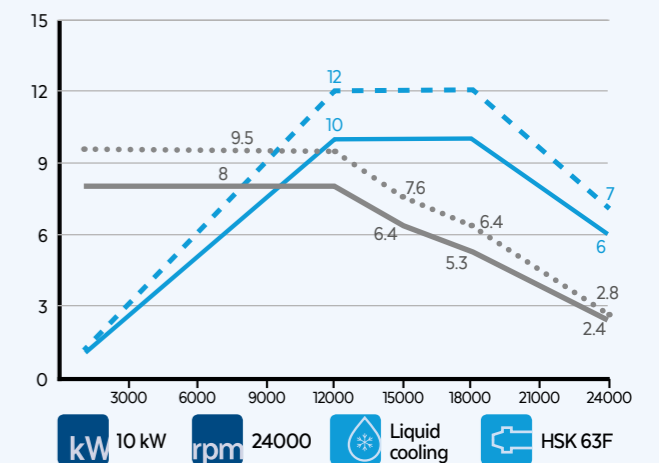
	ASSE A / A AXIS	ASSE C / C AXIS
Servomotore / Servomotor	Yaskawa*	Yaskawa*
Potenza servomotore / Servomotor power	0,40 kW	0,40 kW
Encoder servomotore / Servomotor encoder	Absolute Absolute 20 Bit	Absolute Absolute 20 Bit
Riduttore / Gearbox	Harmonic Drive	Harmonic Drive
Coppia max continua / Max. continuous torque	380 Nm	380 Nm
Coppia di picco / Peak torque	570 Nm	570 Nm
Max rotazione asse / Max axis rotation	±120°	±320°
Freni meccanici / Mechanical blocking of axes	No	No
Velocità posizionamento max / Max. positioning speed	6.100°/'	6.100°/'
Velocità di lavoro max / Max operating speed	3.700°/'	3.700°/'
Precisione di posizionamento assi / Axis positioning accuracy	1 arcmin	1 arcmin
Peso / Weight		60 kg

## ELETTROMANDRINI DISPONIBILI / AVAILABLE ELECTROSPINDLES

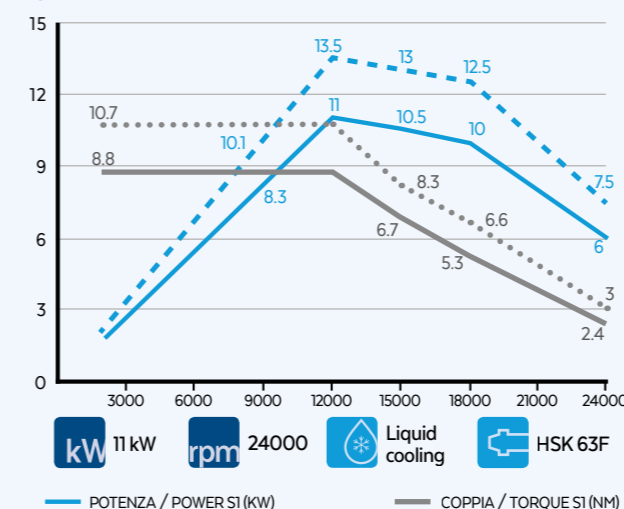
QX-2 8.5/12 24 63F NC



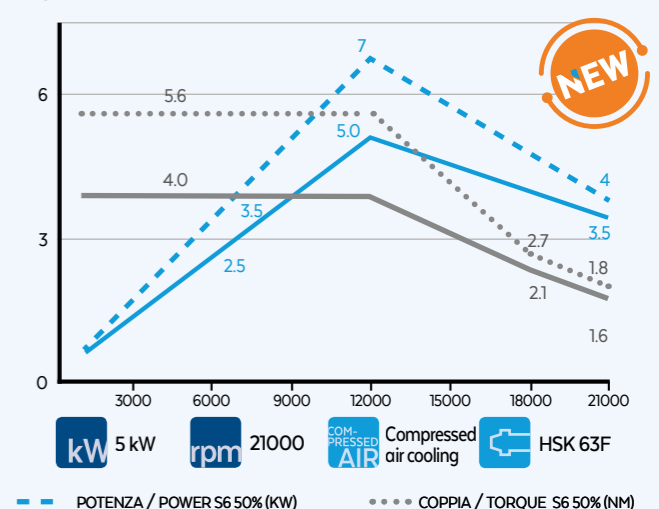
QX-2 10/12 24 63F NC



QX-2 11/12 24 63F NC



QX-1C 5/12 21 63F NC



# SERIE TILT

## TILT J

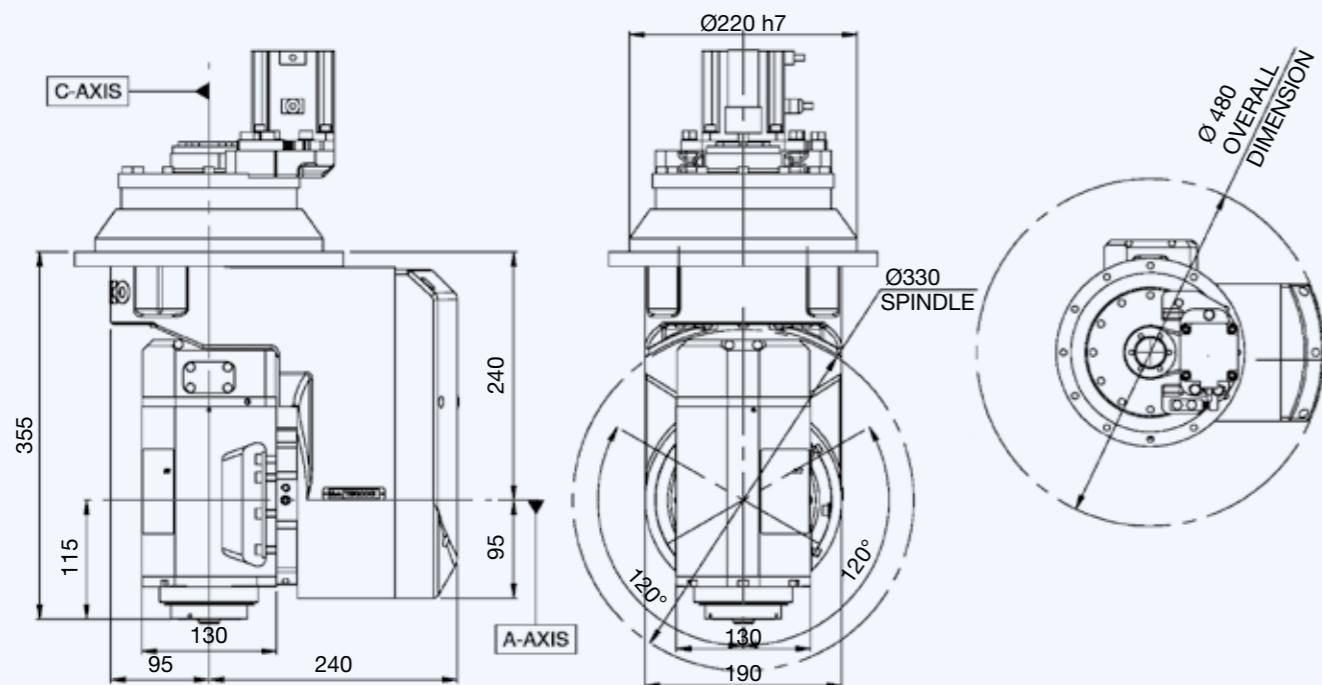
### HIGH SPEED



AVAILABLE WITH



#### LAYOUT



#### OPTIONALS DELL'ELETTROMANDRINO / ELECTROSPINDLE OPTIONS

- Monitoraggio temperatura cuscinetti / Temperature monitoring of bearings
- Misuratore di velocità / Speed monitoring
- Sensori di vibrazione / Vibration sensor
- Encoder

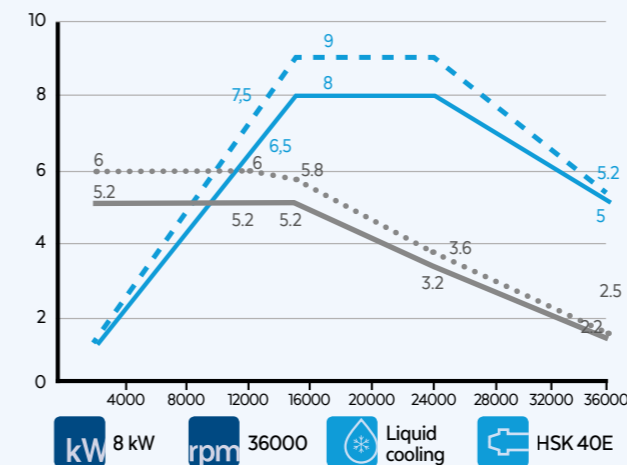
#### SPECIFICHE TECNICHE / TECHNICAL SPECIFICATIONS

\*Sono disponibili altre marche di motorizzazioni a richiesta  
\*Other engine brands are available on demand

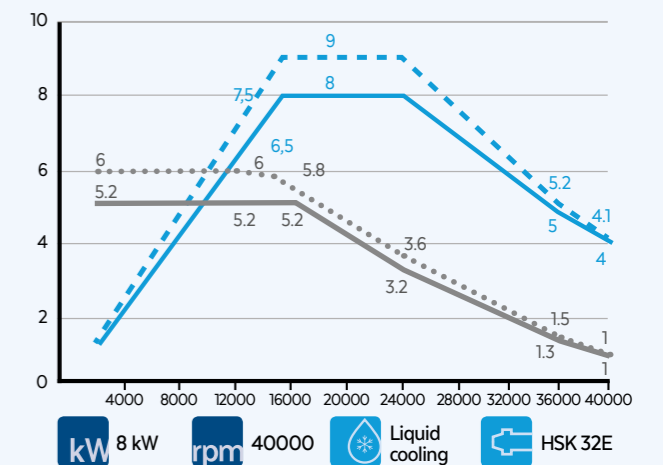
	ASSE A / A AXIS	ASSE C / C AXIS
Servomotore / Servomotor	Yaskawa*	Yaskawa*
Potenza servomotore / Servomotor power	0,40 kW	0,40 kW
Encoder servomotore / Servomotor encoder	Assoluto Absolute 20 Bit	Assoluto Absolute 20 Bit
Riduttore / Gearbox	Harmonic Drive	Harmonic Drive
Coppia max continua / Max. continuous torque	380 Nm	380 Nm
Coppia di picco / Peak torque	570 Nm	570 Nm
Max rotazione asse / Max axis rotation	$\pm 120^\circ$	$\pm 320^\circ$
Freni meccanici / Mechanical blocking of axes	No	No
Velocità posizionamento max / Max. positioning speed	6.100°/'	6.100°/'
Velocità di lavoro max / Max operating speed	3.700°/'	3.700°/'
Precisione di posizionamento assi / Axis positioning accuracy	1 arcmin	1 arcmin
Peso / Weight		60 kg

#### ELETTROMANDRINI DISPONIBILI / AVAILABLE ELECTROSPINDLES

QX-2 8/15 36 40E NC



QX-2 8/15 40 32E NC



— POTENZA / POWER SI (kW)    — COPPIA / TORQUE SI (NM)    - - - POTENZA / POWER S6 50% (kW)    . . . . COPPIA / TORQUE S6 50% (NM)

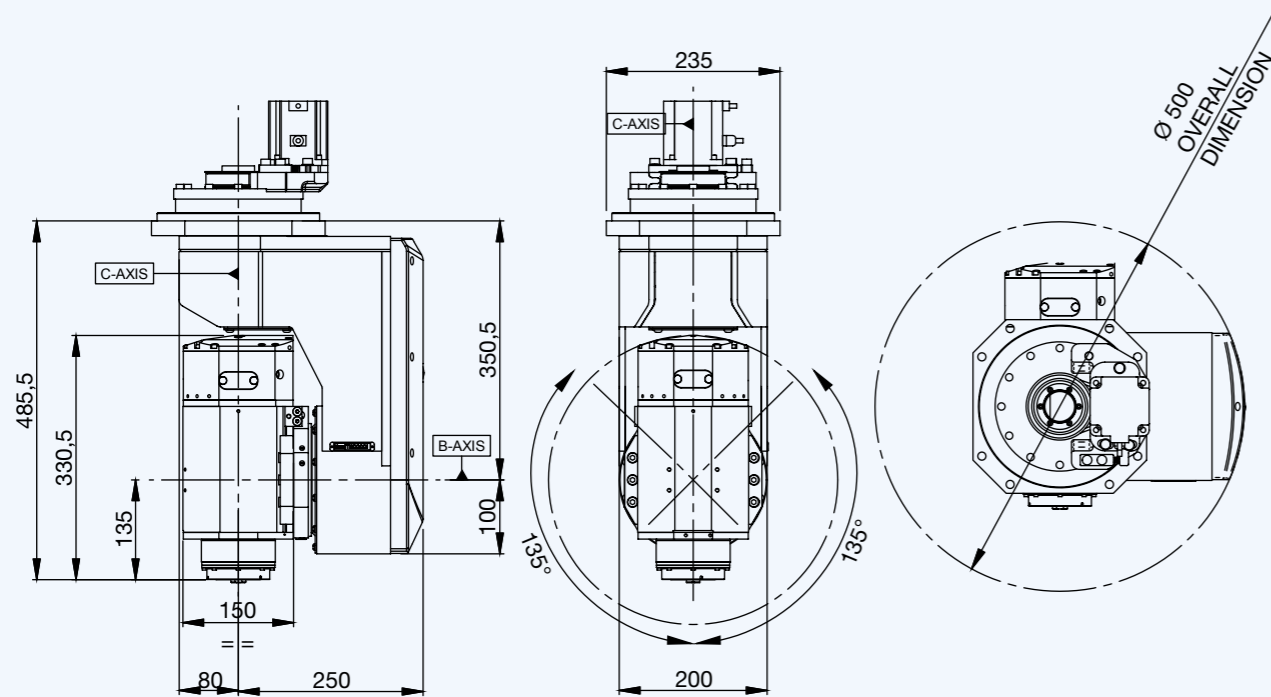
# SERIE TILT TILT K



AVAILABLE WITH



## LAYOUT



## OPTIONALS DELL'ELETTROMANDRINO / ELECTROSPINDLE OPTIONS

- Naso lungo / Long nose
- HSK 63E
- HSK 63A
- Monitoraggio temperatura cuscinetti / Temperature monitoring of bearings
- Misuratore di velocità / Speed monitoring
- Sensori di vibrazione / Vibration sensor
- Encoder

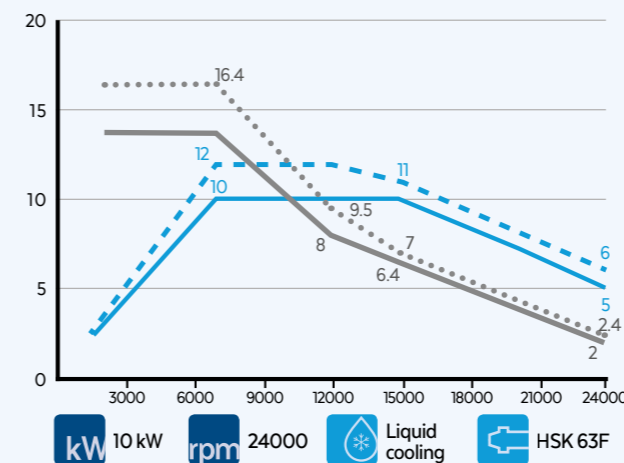
## SPECIFICHE TECNICHE / TECHNICAL SPECIFICATIONS

\*Sono disponibili altre marche di motorizzazioni a richiesta  
\*Other engine brands are available on demand

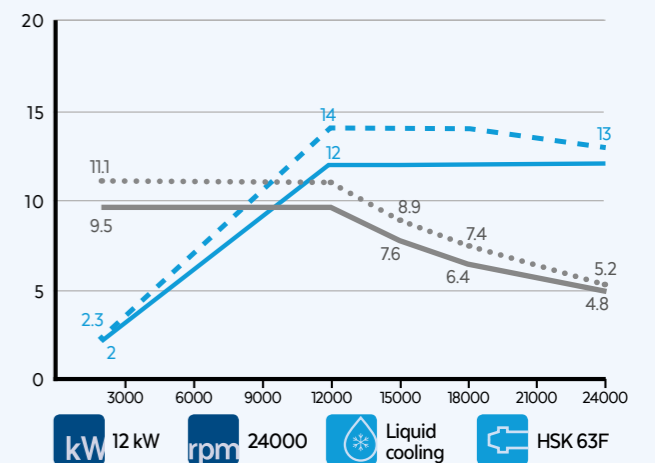
	ASSE A / A AXIS	ASSE C / C AXIS
Servomotore / Servomotor	Yaskawa*	Yaskawa*
Potenza servomotore / Servomotor power	0,40 kW	0,40 kW
Encoder servomotore / Servomotor encoder	Assoluto Absolute 20 Bit	Assoluto Absolute 20 Bit
Riduttore / Gearbox	Harmonic Drive	Harmonic Drive
Coppia max continua / Max. continuous torque	380 Nm	380 Nm
Coppia di picco / Peak torque	570 Nm	570 Nm
Max rotazione asse / Max axis rotation	±135°	±320°
Freni meccanici / Mechanical blocking of axes	No	No
Velocità posizionamento max / Max. positioning speed	6.100°/'	6.100°/'
Velocità di lavoro max / Max operating speed	3.700°/'	3.700°/'
Precisione di posizionamento assi / Axis positioning accuracy	1 arcmin	1 arcmin
Peso / Weight		100 kg

## ELETTROMANDRINI DISPONIBILI / AVAILABLE ELECTROSPINDLES

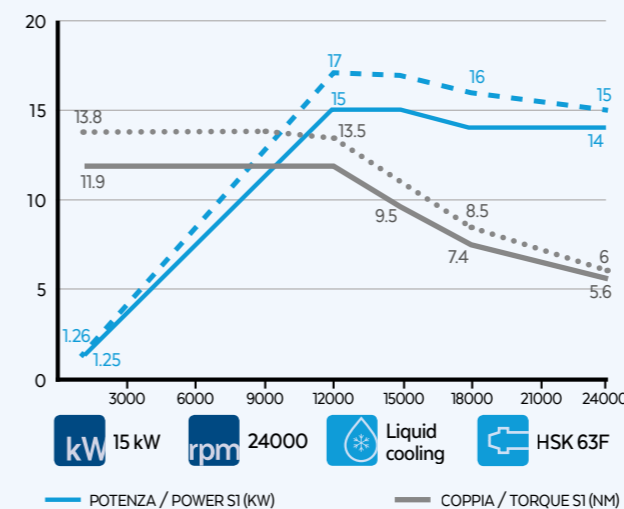
PX-2 10/7 24 63F NC



PX-2 12/12 24 63F NC



PX-2 15/12 24 63F NC



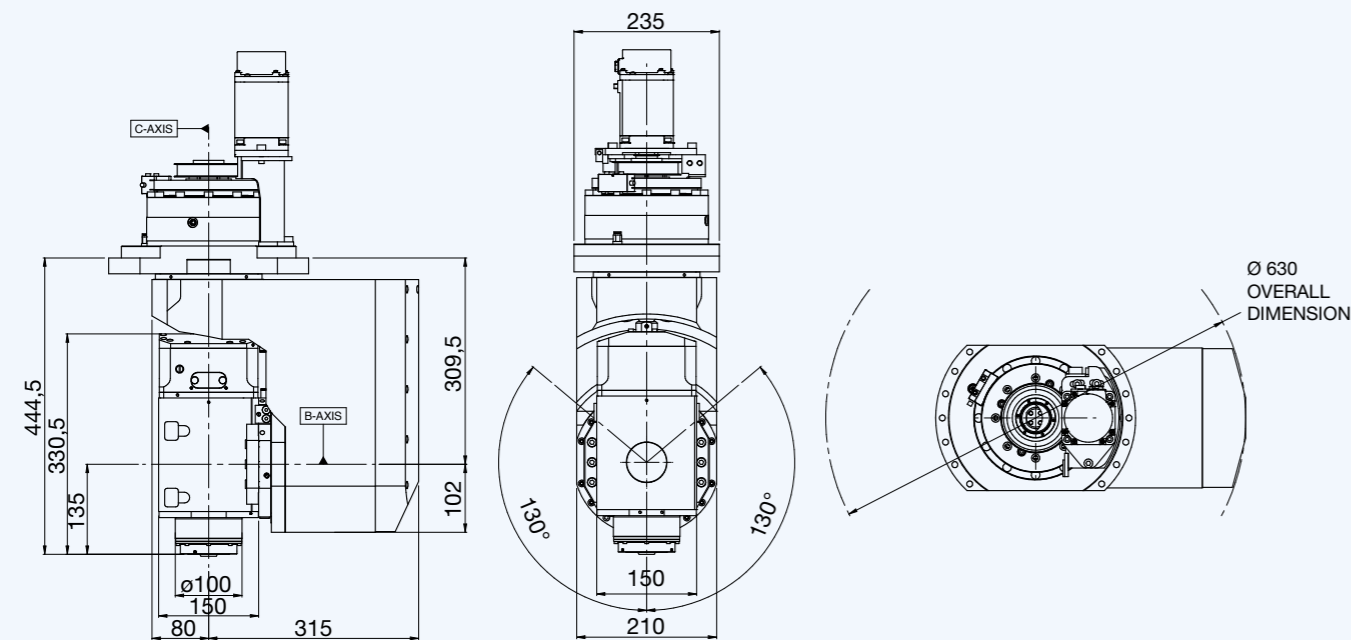
# SERIE TILT TILT K PLUS



AVAILABLE WITH



## LAYOUT



## OPTIONALS DELL'ELETTROMANDRINO / ELECTROSPINDLE OPTIONS

- HSK 63F
- HSK 63A
- Air tool
- Oil mist/MQL
- Monitoraggio temperatura cuscinetti / Temperature monitoring of bearings
- Sensore di vibrazione / Vibration sensor
- Temperature sensor
- Speed monitoring
- Encoder I1Vpp o TTL

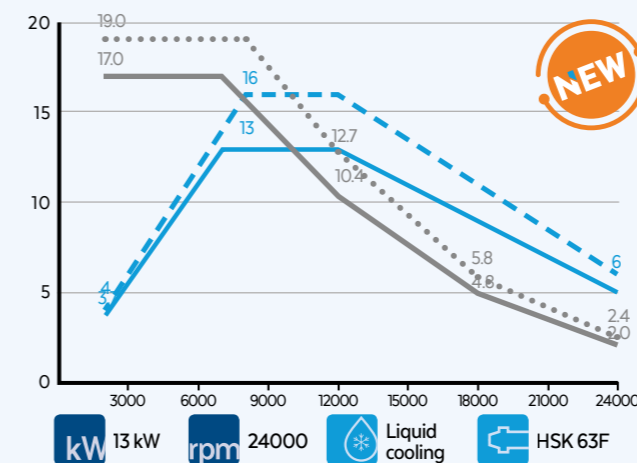
## SPECIFICHE TECNICHE / TECHNICAL SPECIFICATIONS

\*Sono disponibili altre marche di motorizzazioni a richiesta  
\*Other engine brands are available on demand

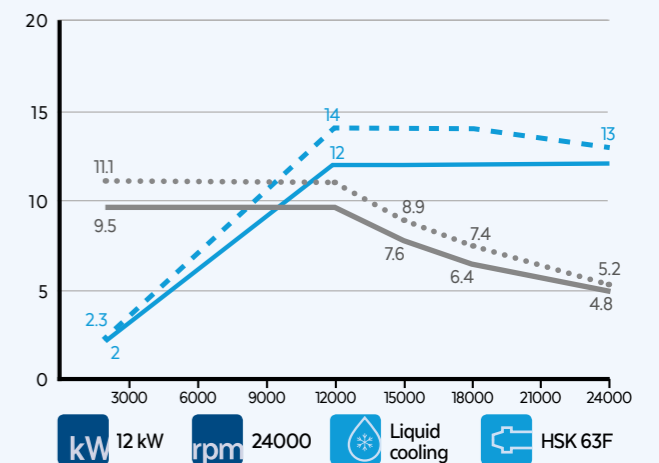
	ASSE A / A AXIS	ASSE C / C AXIS
Servomotore / Servomotor type	Yaskawa*	Yaskawa*
Potenza servomotore / Servomotor power	0,4 kW	0,65 kW
Encoder servomotore / Servomotor encoder	Assoluto Absolute 20 Bit	Assoluto Absolute 20 Bit
Riduttore / Gearbox	Sumitomo	Sumitomo
Coppia continua / Continuous torque	350 Nm	503 Nm
Coppia max continua / Max. continuous torque	1030 Nm	1030 Nm
Max rotazione asse / Max. axis rotation	±130°	±320°
Velocità posizionamento max / Max. positioning speed	6.700°/s	7.500°/s
Precisione / Accuracy	±30 arsec	±30 arsec
Repetibilità / Repeatability	±10 arsec	±10 arsec
Utenze / External air connection		n2
Peso / Weight		100 kg

## ELETTROMANDRINI DISPONIBILI / AVAILABLE ELECTROSPINDLES

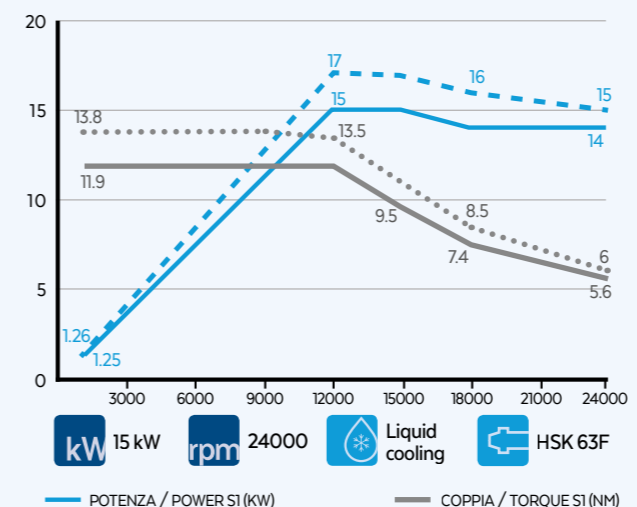
HX-2 13/7 24 63F NC



HX-2 12/12 24 63F NC



HX-2 15/12 24 63F NC



# SERIE TILT TILT H

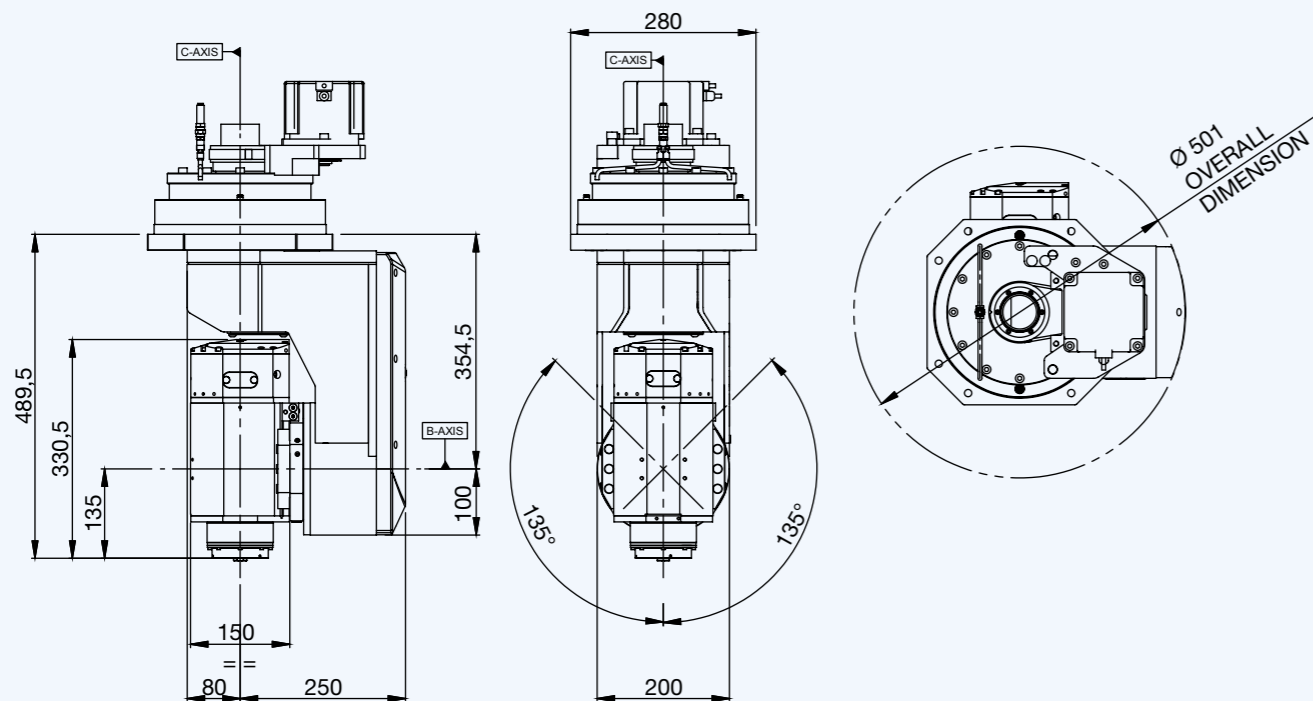


- LIGHT ALLOYS
- ADVANCED MATERIALS
- PLASTIC

AVAILABLE WITH



## LAYOUT



## OPTIONALS DELL'ELETTROMANDRINO / ELECTROSPINDLE OPTIONS

- Naso lungo  
Long nose
- HSK 63E
- HSK 63A  
(Standard on 20 kw)
- Monitoraggio temperatura cuscinetti  
Temperature monitoring of bearings
- Misuratore di velocità  
Speed monitoring
- Sensori di vibrazione  
Vibration sensor
- Encoder

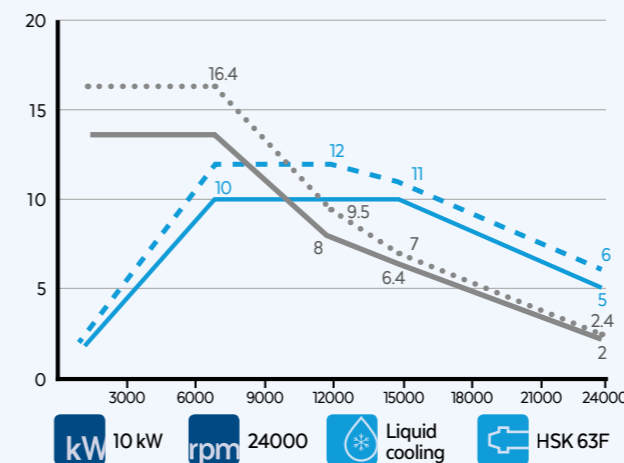
## SPECIFICHE TECNICHE / TECHNICAL SPECIFICATIONS

\*Sono disponibili altre marche di motorizzazioni a richiesta  
\*Other engine brands are available on demand

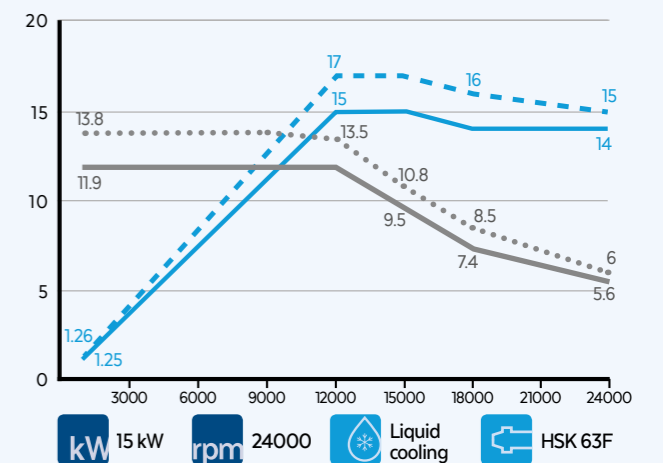
	ASSE A / A AXIS	ASSE C / C AXIS
Servomotore / Servomotor	Yaskawa*	Yaskawa*
Potenza servomotore / Servomotor power	0,40 kW	0,75 kW
Encoder servomotore / Servomotor encoder	Assoluto Absolute 20 Bit	Assoluto Absolute 20 Bit
Riduttore / Gearbox	Harmonic Drive	Harmonic Drive
Coppia max continua / Max. continuous torque	380 Nm	460 Nm
Coppia di picco / Peak torque	570 Nm	980 Nm
Max rotazione asse / Max axis rotation	±135°	±320°
Freni meccanici / Mechanical blocking of axes	Si Yes	Si Yes
Velocità posizionamento max / Max. positioning speed	6.100°/'	9.300°/'
Velocità di lavoro max / Max operating speed	3.700°/'	5.600°/'
Precisione di posizionamento assi / Axis positioning accuracy	1 arcmin	1 arcmin
Peso / Weight		120 kg

## ELETTROMANDRINI DISPONIBILI / AVAILABLE ELECTROSPINDLES

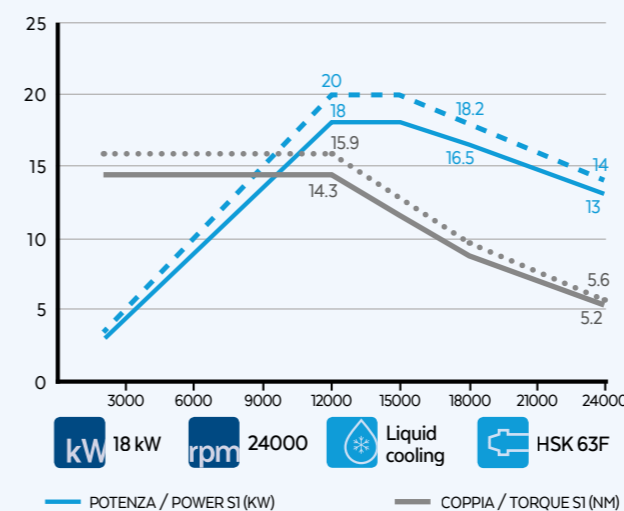
PX-2 10/7 24 63F NC



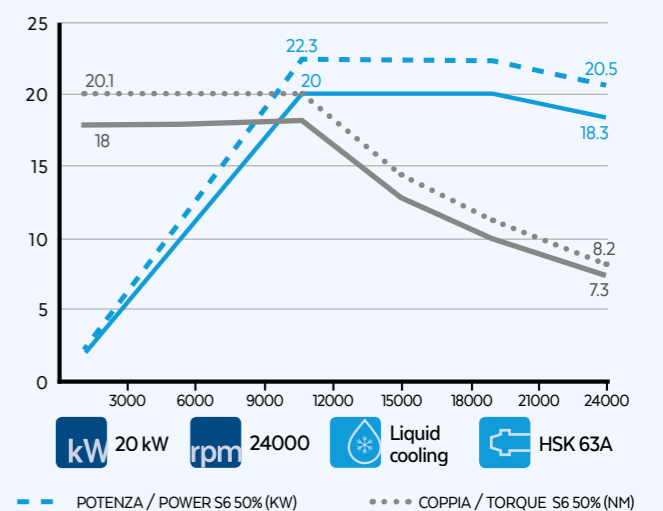
PX-2 15/12 24 63F NC



PX-2 18/12 24 63F NC



PX-2 20/10 24 63A NC ES SYNCHRONOUS



# SERIE TILT TILT H PLUS

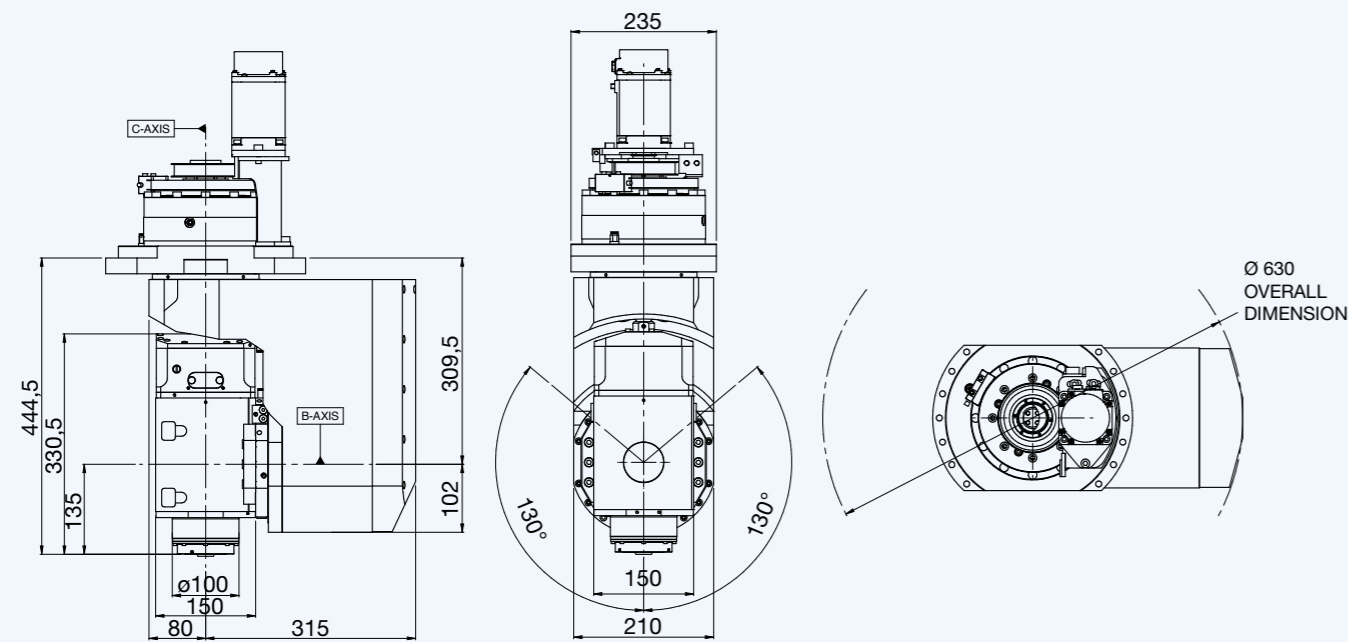


- NEW**
- LIGHT ALLOYS
- ADVANCED MATERIALS
- PLASTIC

AVAILABLE WITH



## LAYOUT



## OPTIONALS DELL'ELETTROMANDRINO / ELECTROSPINDLE OPTIONS

- HSK 63F
- HSK 63A
- Air tool
- Oil mist/MQL
- Monitoraggio temperatura cuscinetti  
Temperature monitoring of bearings
- Sensore di vibrazione  
Vibration sensor
- Temperature sensor
- Speed monitoring
- Encoder I/Vpp o TTL

## SPECIFICHE TECNICHE / TECHNICAL SPECIFICATIONS

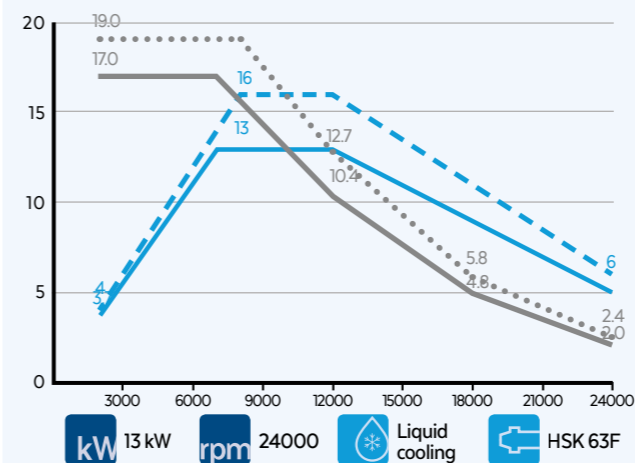
\*Sono disponibili altre marche di motorizzazioni a richiesta  
\*Other engine brands are available on demand

	ASSE A / A AXIS	ASSE C / C AXIS
Servomotore / Servomotor type	Yaskawa*	Yaskawa*
Potenza servomotore / Servomotor power	0,4 kW	0,65 kW
Encoder servomotore / Servomotor encoder	Assoluto Absolute 20 Bit	Assoluto Absolute 20 Bit
Riduttore / Gearbox	Sumitomo	Sumitomo
Coppia continua / Continuous torque	350 Nm	503 Nm
Coppia max continua / Max. continuous torque	1030 Nm	1030 Nm
Max rotazione asse / Max. axis rotation	±130°	±320°
Velocità posizionamento max / Max. positioning speed	6.700°/'	7.500°/'
Freni meccanici / Holding brake	Si Yes	Si Yes
Encoder assi / Axis encoder	Si Yes	Si Yes
Precisione / Accuracy	±30 arsec (±5 arsec)*	±30 arsec (±5 arsec)*
Ripetibilità / Repeatability	±10 arsec (±5 arsec)*	±10 arsec (±5 arsec)*
Utenze / External air connection		n2
Peso / Weight		100 kg

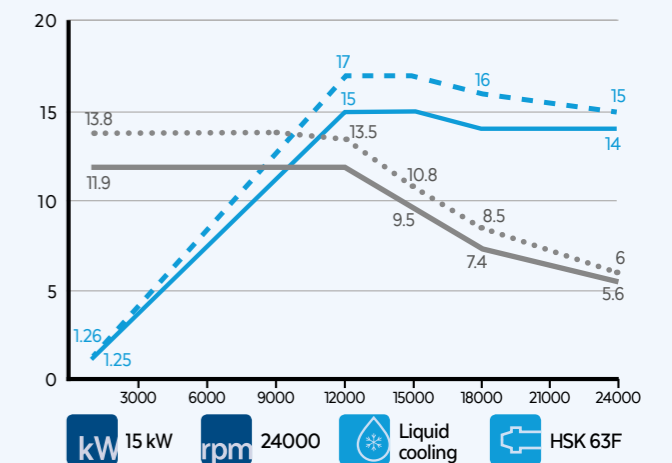
\*Con encoder assi / With encoder axis

## ELETTROMANDRINI DISPONIBILI / AVAILABLE ELECTROSPINDLES

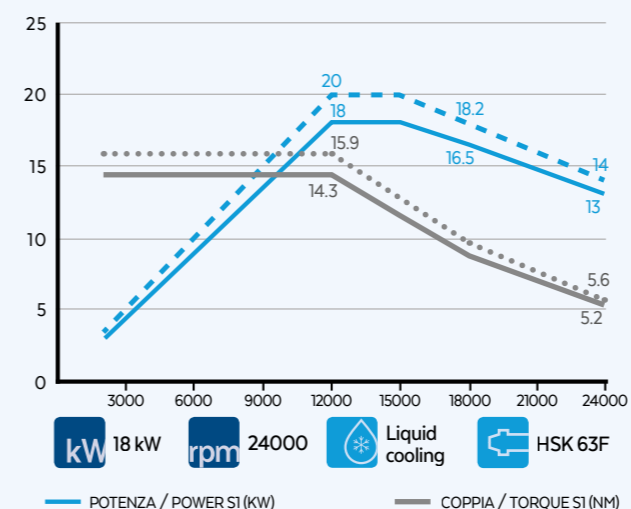
HX-2 13/7 24 63F NC



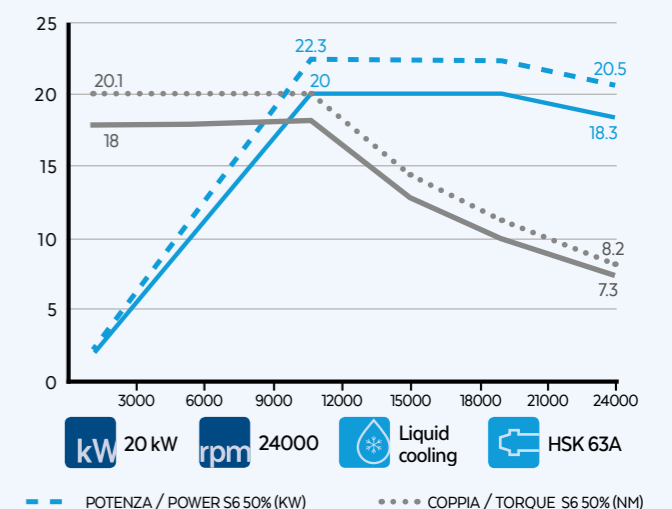
HX-2 15/12 24 63F NC



HX-2 18/12 24 63F NC



HX-2 20/10 24 63A NC ES SYNCHRONOUS



# SERIE TILT TILT V

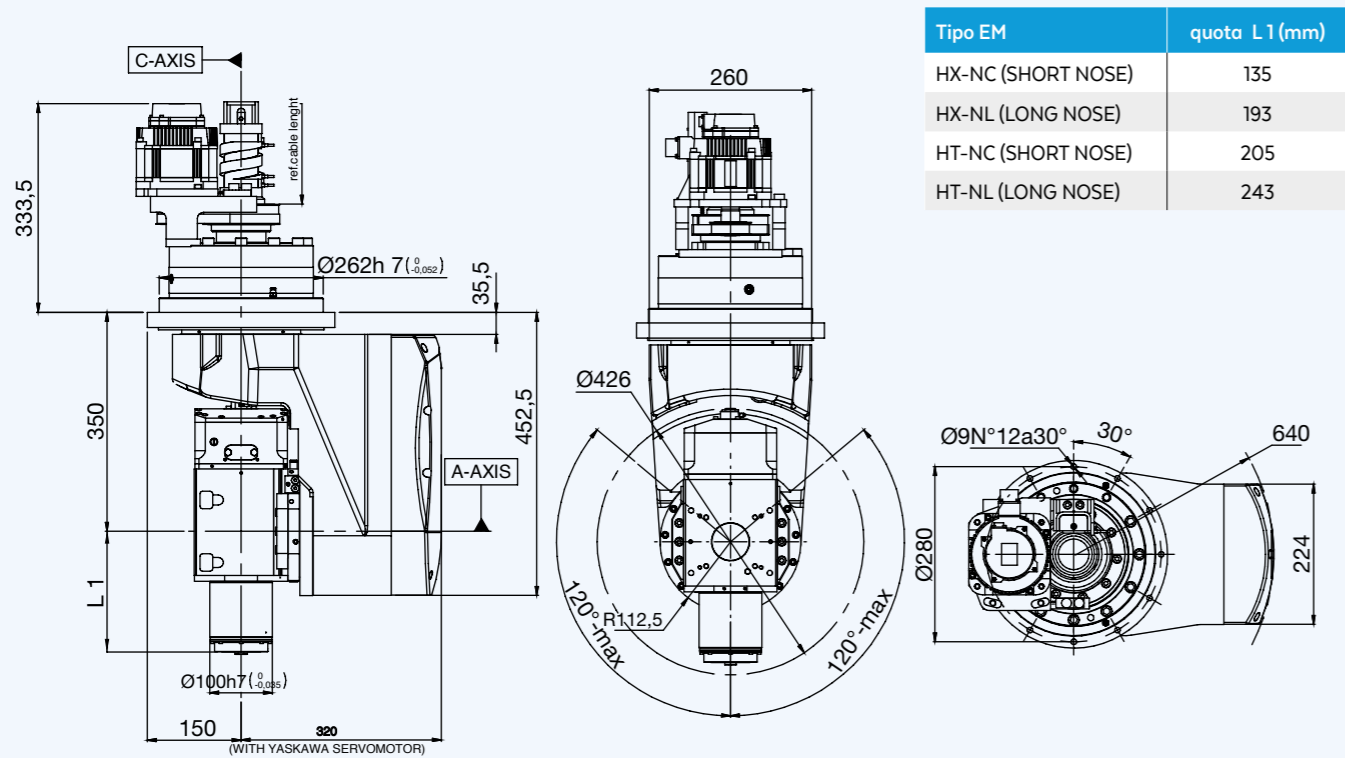


- LIGHT ALLOYS
- ADVANCED MATERIALS
- PLASTIC
- WOOD

AVAILABLE WITH



## LAYOUT



## OPTIONALS DELL'ELETTROMANDRINO / ELECTROSPINDLE OPTIONS

- Naso corto / Short nose
- HSK 63E
- HSK 63A
- Oil mist/ MQL
- Monitoraggio temperatura cuscinetti / Temperature monitoring of bearings
- Misuratore di velocità / Speed monitoring
- Sensori di vibrazione / Vibration sensor
- Air tool

\*Il mandrino HT comporta un aumento di 50mm rispetto alla quota riportata nello schema  
\*When the unit is with HT spindle the quote increases by 50 mm from the one represented in the plan

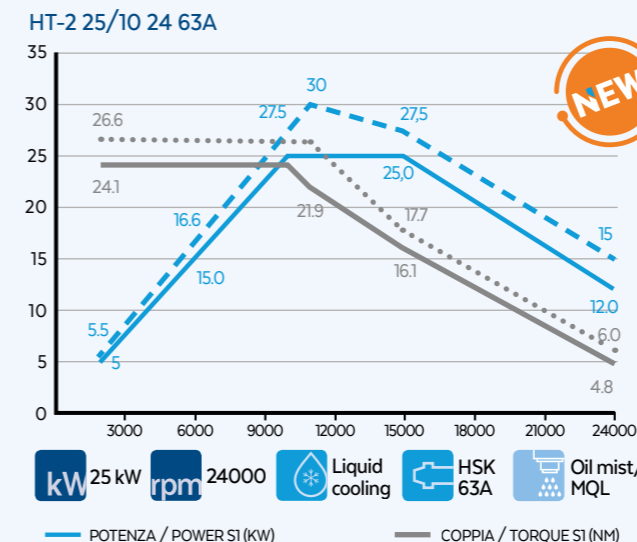
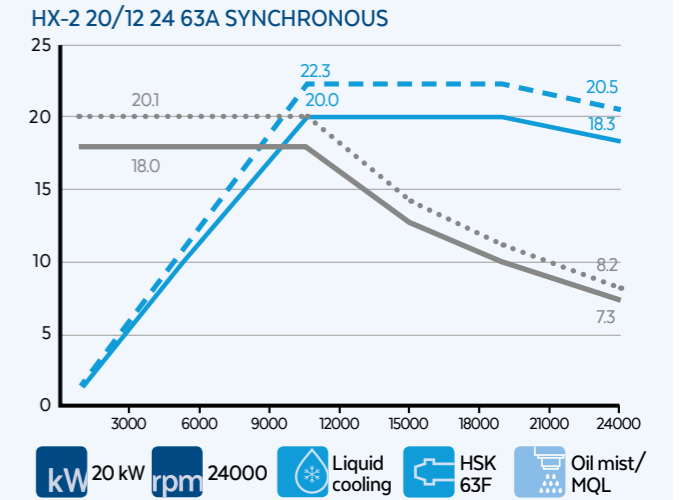
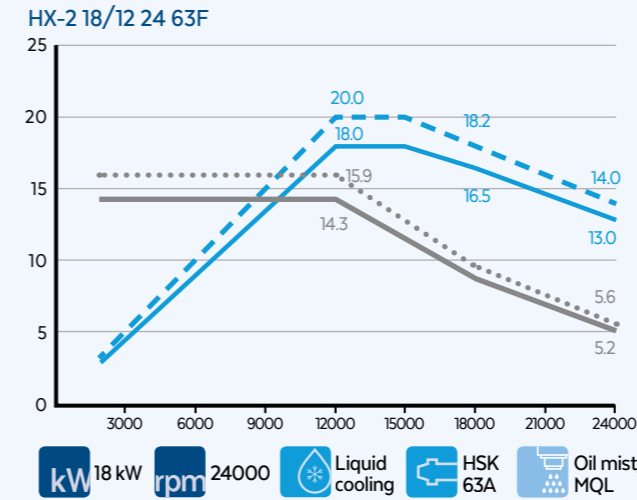
## SPECIFICHE TECNICHE / TECHNICAL SPECIFICATIONS

\*Sono disponibili altre marche di motorizzazioni a richiesta  
\*Other engine brands are available on demand

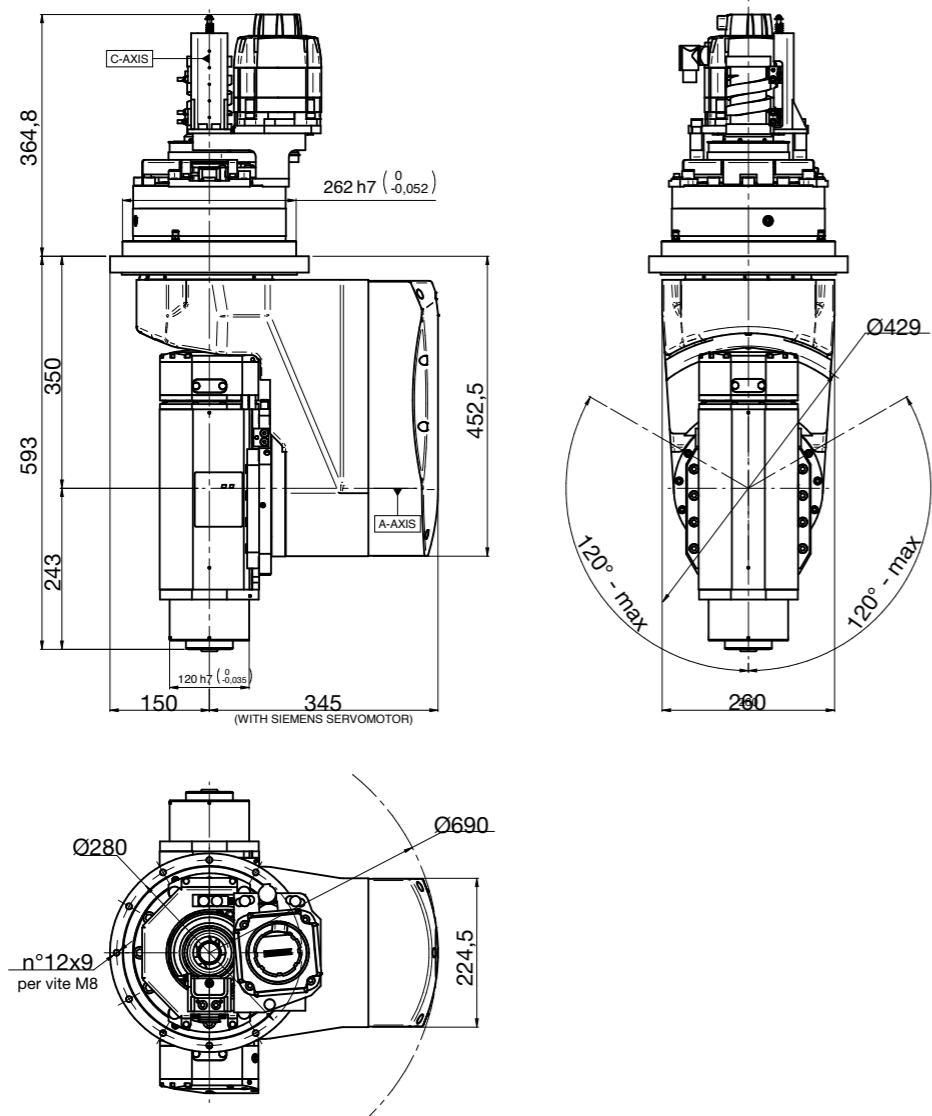
	ASSE A / A AXIS	ASSE C / C AXIS
Servomotore / Servomotor	Yaskawa*	Yaskawa*
Potenza servomotore / Servomotor power	0,75 kW	0,85 kW
Encoder servomotore / Servomotor encoder	Assoluto Absolute 20 Bit	Assoluto Absolute 20 Bit
Riduttore / Gearbox	Sumitomo	Sumitomo
Coppia max continua / Max. continuous torque	425 Nm	635 Nm
Coppia di picco / Peak torque	1030 Nm	1962 Nm
Max rotazione asse / Max axis rotation	±120°	±320°
Velocità posizionamento max / Max. positioning speed	10.000°/'	12.500°/'
Freni meccanici / Mechanical blocking of axes	Si Yes	Si Yes
Encoder assi / Axis encoder optional	Si Yes (OPT)	Si Yes (OPT)
Precisione / Accuracy	±30 arcsec (±5 arcsec)*	±30 arcsec (±5 arcsec)*
Ripetibilità / Repeatability	±10 arcsec (±5 arcsec)*	±10 arcsec (±5 arcsec)*
UtENZE / External air connections		n2
Peso / Weight		150 kg

\*Con encoder assi / With encoder axis

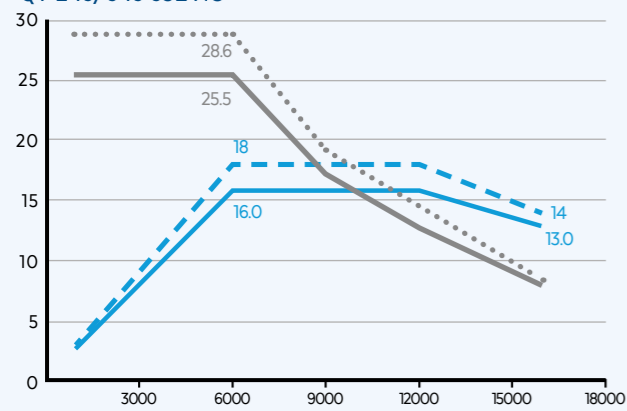
## ELETTROMANDRINI DISPONIBILI / AVAILABLE ELECTROSPINDLES



SERIE TILT  
TILT V QT



QT-2 16/6 16 63E NC

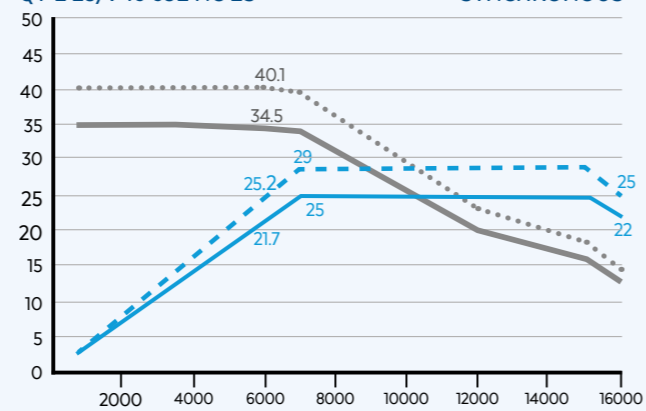


kW 16 kW  
 rpm 16000  
 Liquid cooling  
 HSK 63E

— POTENZA / POWER SI (KW)  
 — COPPIA / TORQUE SI (NM)

QT-2 25/7 16 63E NC ES

SYNCHRONOUS



kW 25 kW  
 rpm 16000  
 Liquid cooling  
 HSK 63E

Encoder 1Vpp o TTL  
 — POTENZA / POWER S6 50% (KW)  
 ····· COPPIA / TORQUE S6 50% (NM)





# SERIE TILT TILT W

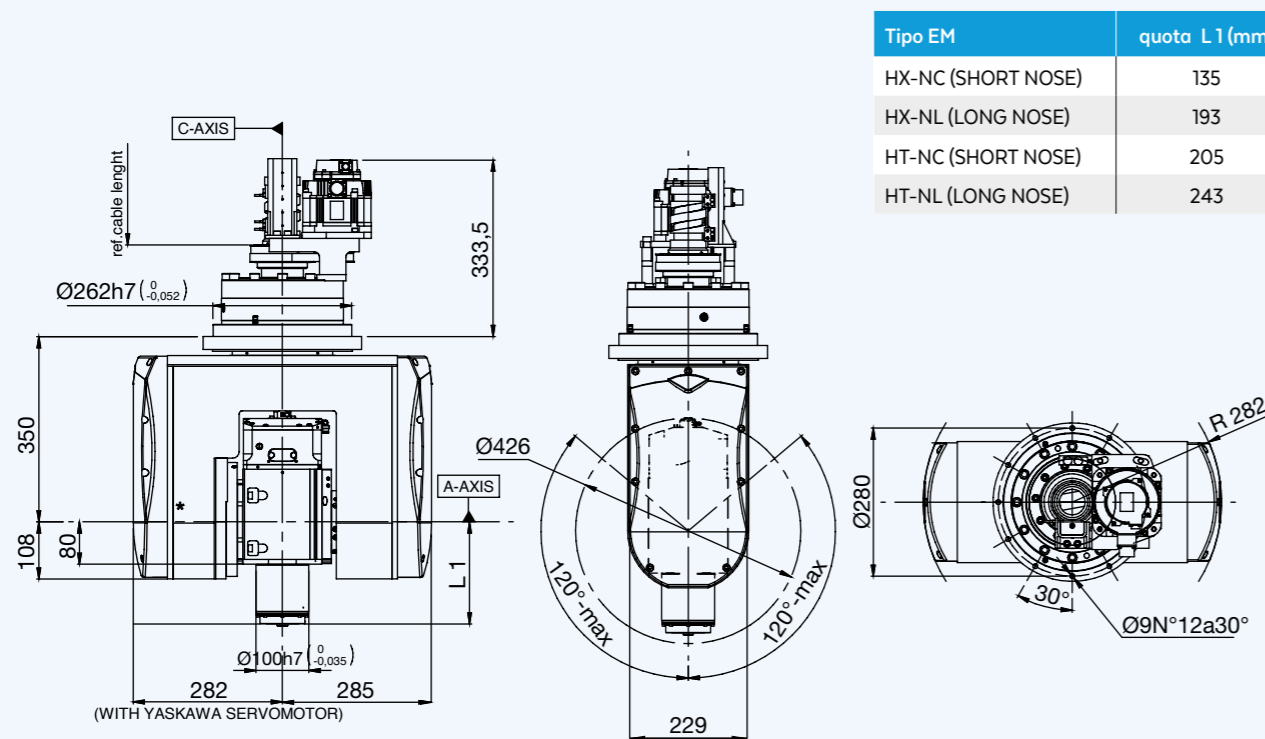


- LIGHT ALLOYS
- ADVANCED MATERIALS
- PLASTIC
- WOOD

AVAILABLE WITH



## LAYOUT



## OPTIONALS DELL'ELETTROMANDRINO / ELECTROSPINDLE OPTIONS

- Naso corto / Short nose
- HSK 63F
- HSK 63A
- Oil mist/ MQL
- Monitoraggio temperatura cuscinetti / Temperature monitoring of bearings
- Misuratore di velocità / Speed monitoring
- Sensori di vibrazione / Vibration sensor
- Air tool

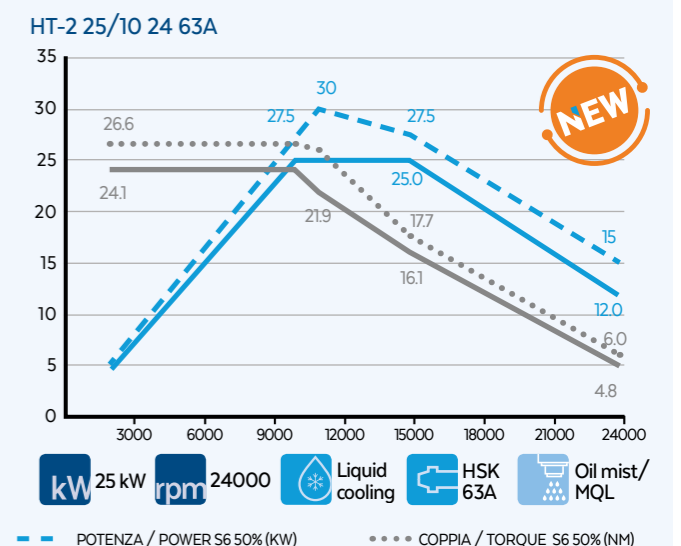
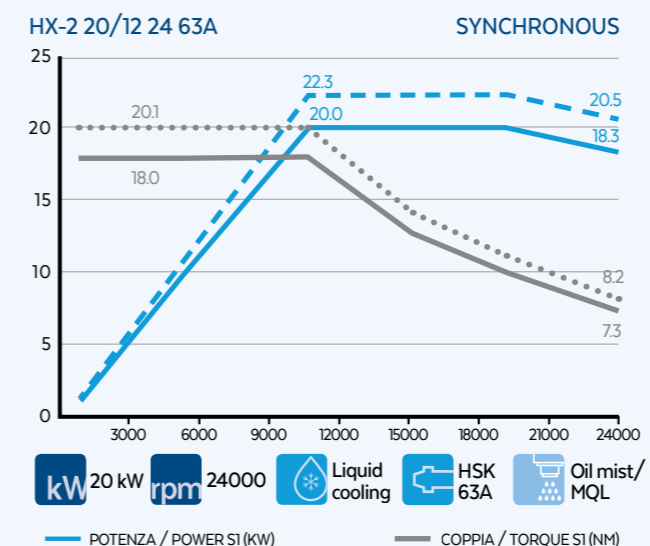
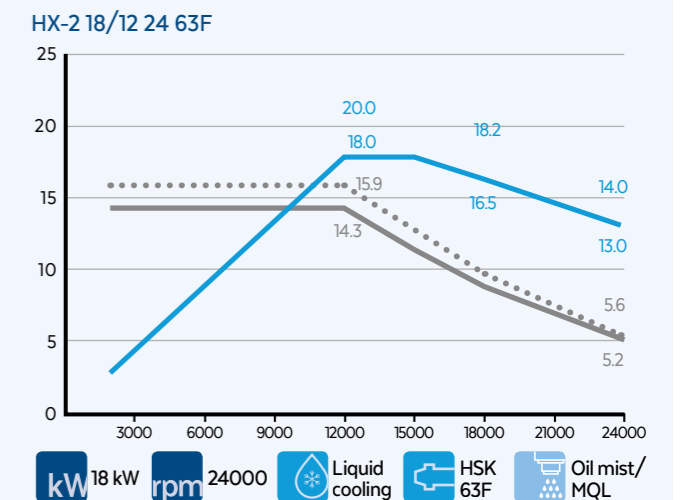
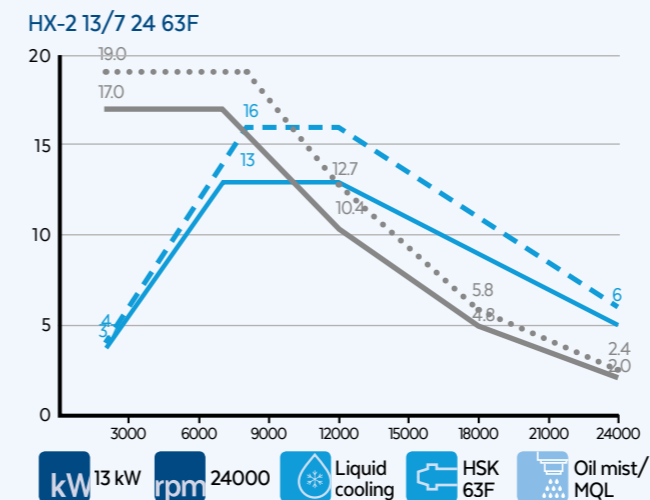
## SPECIFICHE TECNICHE / TECHNICAL SPECIFICATIONS

\*Sono disponibili altre marche di motorizzazioni a richiesta  
\*Other engine brands are available on demand

	ASSE A / A AXIS	ASSE C / C AXIS
Servomotore / Servomotor	Yaskawa*	Yaskawa*
Potenza servomotore / Servomotor power	0,75 kW	0,85 kW
Encoder servomotore / Servomotor encoder	Assoluto Absolute 20 Bit	Assoluto Absolute 20 Bit
Riduttore / Gearbox	Sumitomo	Sumitomo
Coppia max continua / Max. continuous torque	425 Nm	635 Nm
Coppia di picco / Peak torque	1030 Nm	1962 Nm
Max rotazione asse / Max axis rotation	±120°	±320°
Velocità posizionamento max / Max. positioning speed	10.000°/'	12.500°/'
Freni meccanici / Mechanical blocking of axes	Si Yes	Si Yes
Encoder assi / Axis encoder optional	Si Yes (OPT)	Si Yes (OPT)
Precisione / Accuracy	±30 arcsec (±5 arcsec)*	±30 arcsec (±5 arcsec)*
Ripetibilità / Repeatability	±10 arcsec (±5 arcsec)*	±10 arcsec (±5 arcsec)*
Utenze / External air connections		n2
Peso / Weight		210 kg

\*Con encoder assi / With encoder axis

## ELETTROMANDRINI DISPONIBILI / AVAILABLE ELECTROSPINDLES



# SERIE TILT TILT TLP

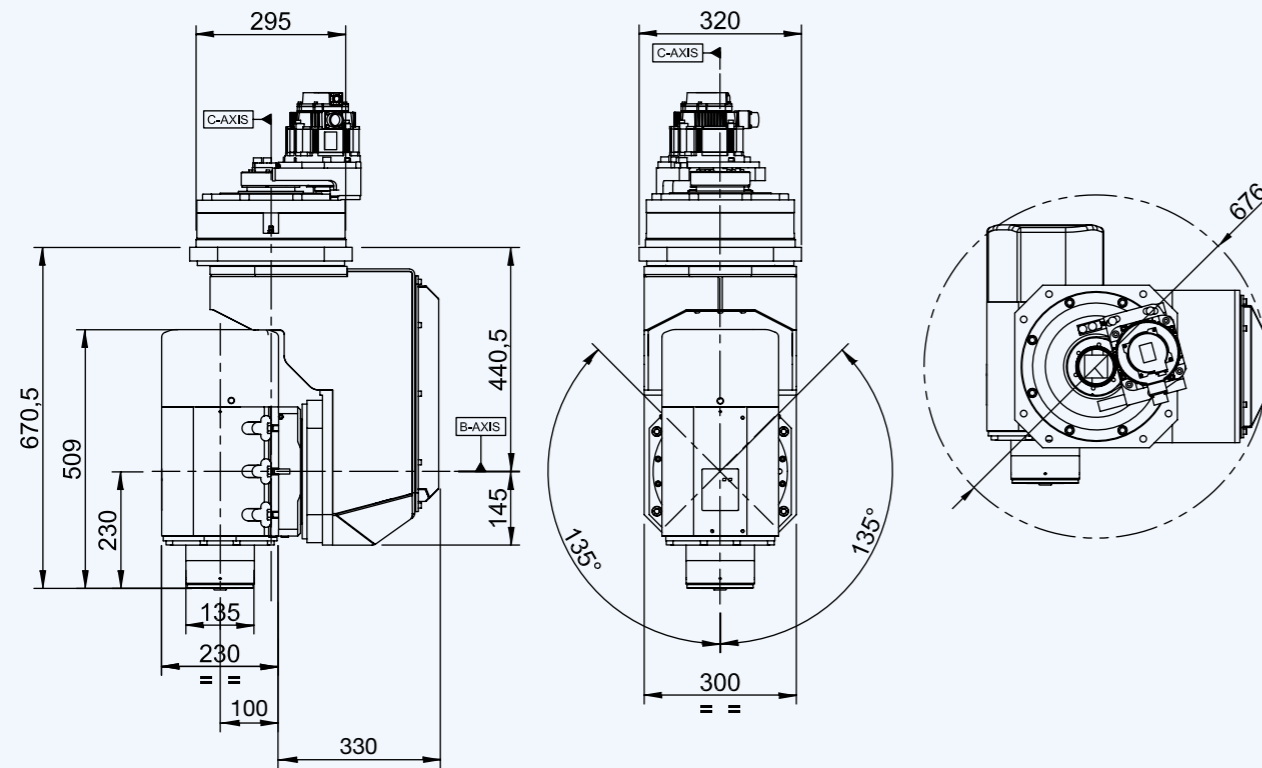


- LIGHT ALLOYS
- ADVANCED MATERIALS
- PLASTIC
- WOOD

AVAILABLE WITH



## LAYOUT



## OPTIONALS DELL'ELETTROMANDRINO / ELECTROSPINDLE OPTIONS

- Oil mist/MQL
- Monitoraggio temperatura cuscinetti  
Temperature monitoring of bearings
- Misuratore di velocità  
Speed monitoring
- Sensori di vibrazione  
Vibration sensor
- Air tool
- Encoder (standard with hsk 63A)

## SPECIFICHE TECNICHE / TECHNICAL SPECIFICATIONS

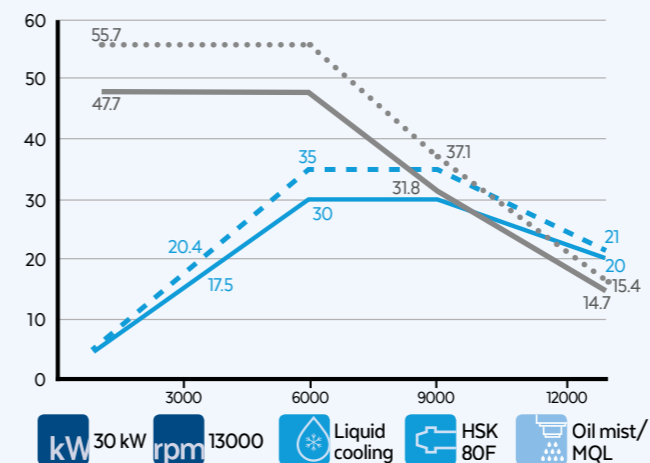
\*Sono disponibili altre marche di motorizzazioni a richiesta  
\*Other engine brands are available on demand

	ASSE A / A AXIS	ASSE C / C AXIS
Servomotore / Servomotor	Yaskawa*	Yaskawa*
Potenza servomotore / Servomotor power	0,75 kW	0,85 kW
Encoder servomotore / Servomotor encoder	Assoluto Absolute 20 Bit	Assoluto Absolute 20 Bit
Riduttore / Gearbox	Sumitomo	Sumitomo
Coppia max continua / Max. continuous torque	360 Nm	636 Nm
Coppia di picco / Peak torque	1062 Nm	3188 Nm
Max rotazione asse / Max axis rotation	±135°	±320°
Velocità posizionamento max / Max. positioning speed	6.100°/'	9.300°/'
Freni meccanici / Mechanical blocking of axes	Si Yes	Si Yes
Encoder assi / Axis encoder optional	Si Yes (OPT)	Si Yes (OPT)
Precisione / Accuracy	±30 arcsec (±5 arcsec)*	±30 arcsec (±5 arcsec)*
Ripetibilità / Repeatability	±10 arcsec (±5 arcsec)*	±10 arcsec (±5 arcsec)*
Velocità di lavoro max / Max operating speed	3.700°/'	5.600°/'
Precisione di posizionamento assi / Axis positioning accuracy	1 arcmin	1 arcmin
Peso / Weight		250 kg

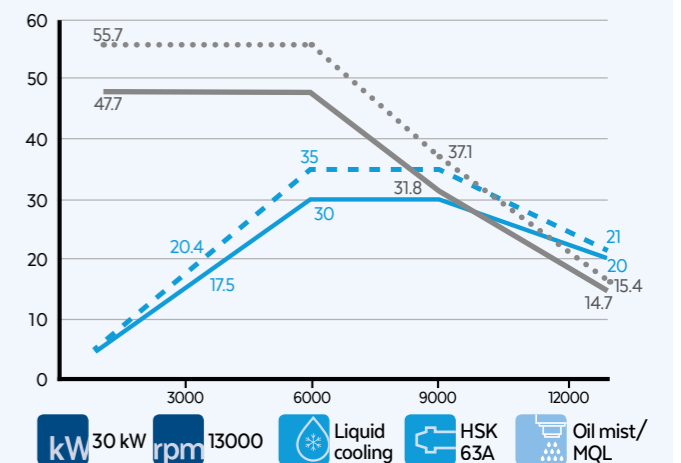
\*Con encoder assi / With encoder axis

## ELETTROMANDRINI DISPONIBILI / AVAILABLE ELECTROSPINDLES

### QM-2 30/6 13 80F NC



### QM-2 30/6 13 63A NC ES



### QM-2 30/6 13 85S NC

