

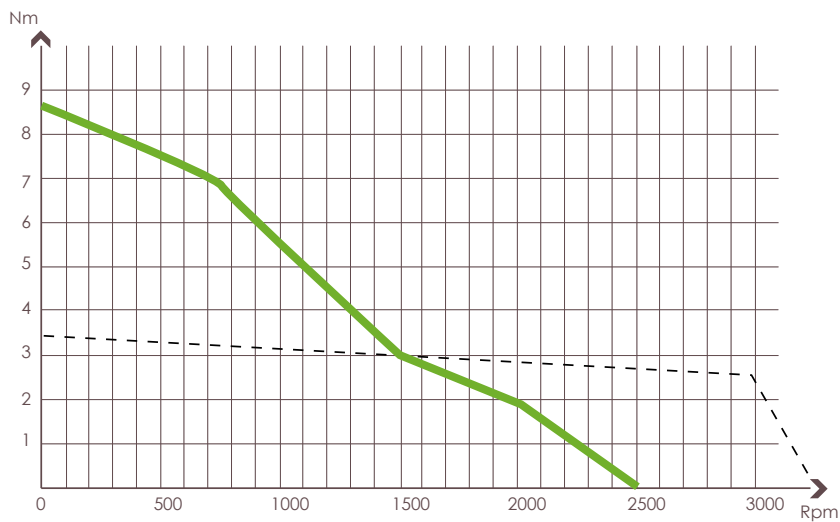
## • STEPLESS CONTROL

THE NEW GENERATION OF SERVODRIVE



## • TORQUE CURVE COMPARISON: STEPLESS VERSUS BRUSHLESS

# The ambition *to move the limits*



Torque curves considering S1 duty cycle

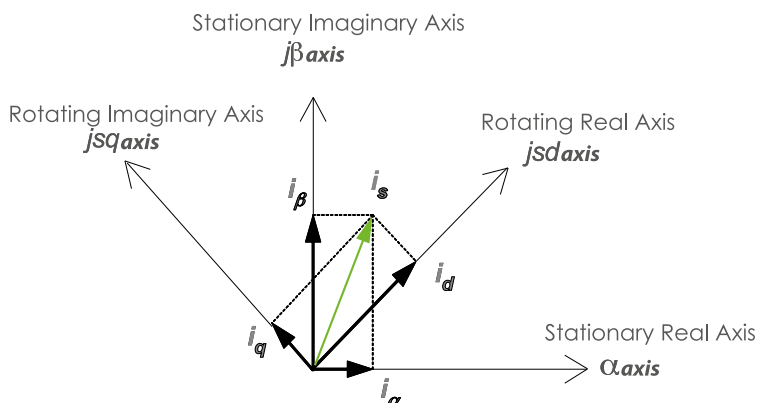
### Stepless motor

Stall torque 8,7Nm - 8A/phase - 120V  
Overall dimensions: square flange 86mm, length 173mm

### Brushless motor

Stall torque 3,4Nm - 2,3A/phase - 400V  
Overall dimensions: square flange 91mm, length 177mm

## • VECTOR CONTROL CURRENT MODULATION



- > Minimum speed and torque ripple
- > Low vibration
- > Low noise
- > High torque density
- > Low power consumption
- > High stiffness



## • INTEGRATED STEPLESS DRIVE

### HARDWARE FEATURES

#### Power supply

65-130Vdc [Nominal 120Vdc]

#### Control supply

20-130Vdc [Nominal 120Vdc]

#### Current

Maximum current internally set  
(depends on motor)

#### Feedback

Incremental encoder  
Multiturn absolute encoder

#### Encoder output

Incremental encoder output (only APD version)

#### Digital input

N. 3 optoisolated PNP digital inputs  
N. 2 differential (+24V or +5V/Line driver) digital inputs  
(used as general purpose, encoder input or step-dir input).

#### Analog input

1 Analogue IN +/-10V

#### Digital output

2 optoisolated PNP digital outputs 24Vdc max 200mA,  
(external 24Vdc required)

#### Digital bidirectional I/O

2 bidirectional optoisolated PNP digital IN/OUT

#### Interface

Profibus-DP slave  
CANopen  
RS232/485 (ModBus)

#### Available versions

Profibus-DP  
CANopen (DS402),  
ModBus RS485,  
Step/dir, ±10V with encoder output

#### Certifications: CE



### FUNCTIONAL FEATURES

#### Integrated movement features:

device profile DS402, interpolated mode,  
positioning, extended gearing function,  
homing, capture

#### Stand alone programmability

according to the standard IEC61131,  
ST language

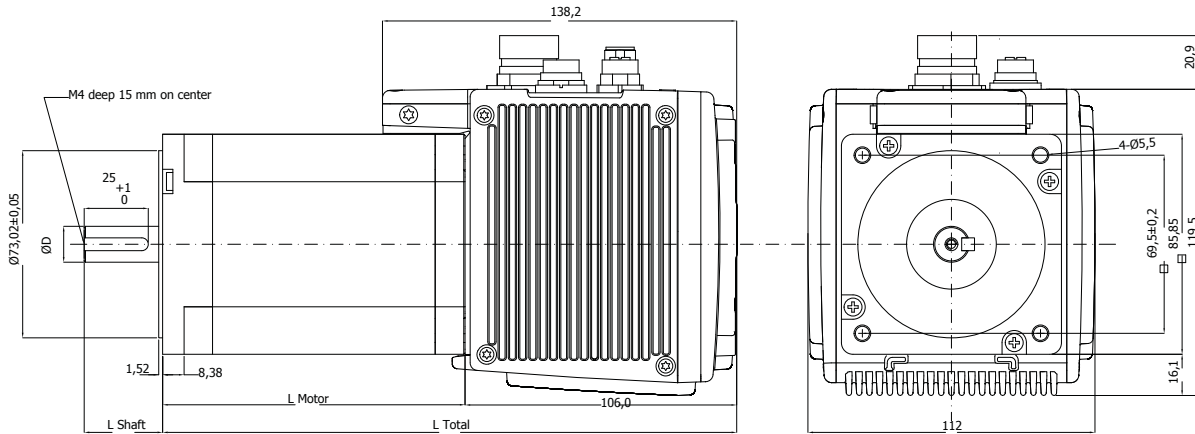
#### Capture input

#### PC parametrization tool



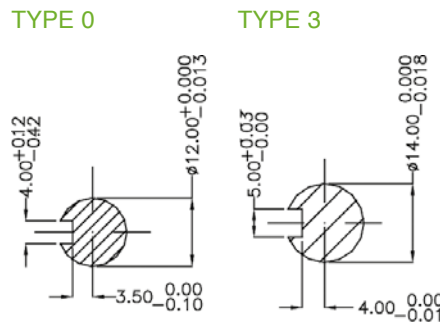
CANopen

## • OVERALL DIMENSIONS



Drive	Holding torque (Nm)	Length (mm)		Shaft		Shaft section
		L motor	L total	L Shaft	D Diameter	
ISD 1281	4,6	80	186	30,6	12	Type 0 Keyed shaft
ISD 1271	8,7	118	224	30,6	12 or 14	Type 0 or 3 Keyed shaft
ISD 1261	12	156	262	30,6	14	Type 3 Keyed shaft

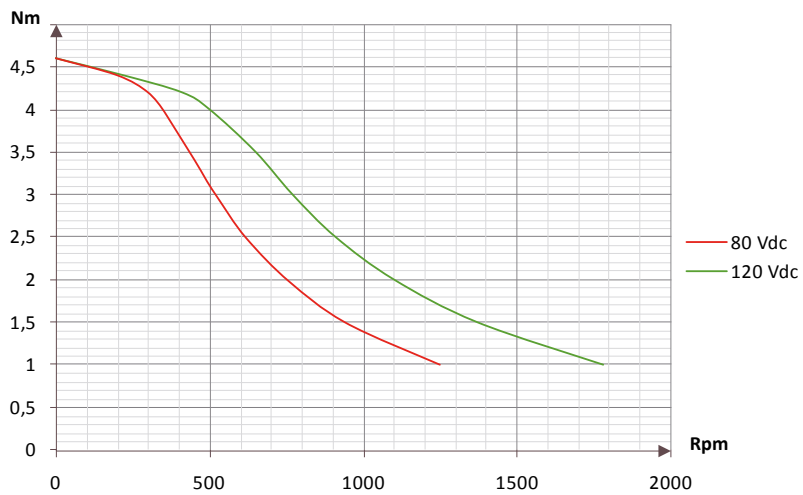
## • SHAFT SECTION TYPES



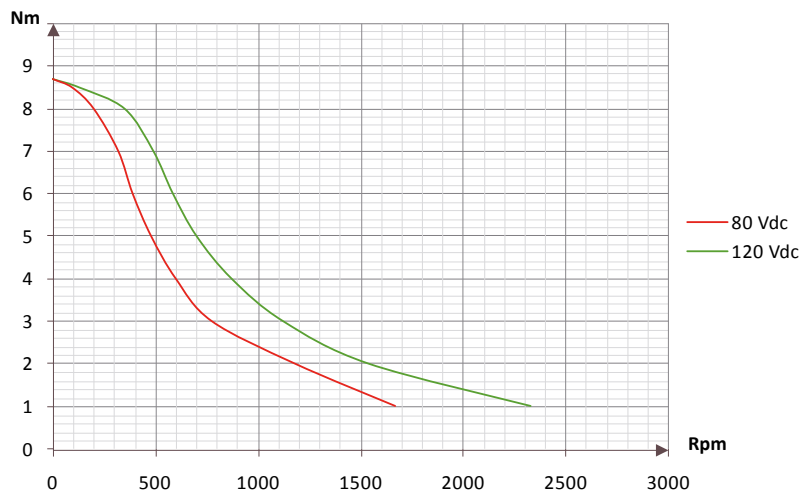
## • TECHNICAL FEATURES

Drive	Holding torque (Nm)	Phase Current (A)	Rotor Inertia (gcm <sup>2</sup> )	Phase inductance (mH)	Weight (kg)
ISD 1281	4,6	5,5	1400	4,0	3,3
ISD 1271	8,7	8,0	2700	2,9	5,1
ISD 1261	12	9,9	4000	2,9	6,6

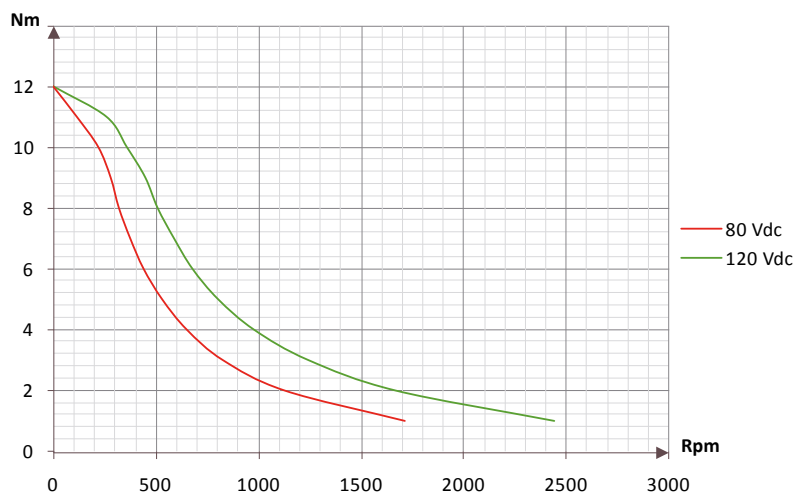
## • TORQUE CURVES



ISD 1281 - 4,6 Nm



ISD 1271 - 8,7Nm



ISD 1261 - 12Nm

# ISD

## Ordering codes

### • ISD

Ordering codes with optionals:					ISD12xy/a.bcde		
Type	Holding torque	Encoder	Com. (a)	Conn. (b)	Shaft type (c)	Option (d)	Customiz (e)
12=120V	x	y	a	b	c	d	e
y	8					0	
a	7					0 or 3	
b	6					3	

#### E.G. ISD1271/CAN.100

ISD12	7	1/	CAN	1	3	1	0
12V	8,7 Nm	Incremental encoder	Can interface	n.3 DSUB + n.1 power supply	14 mm keyed shaf	New mechanics	Circular power connector 4 poles

#### Options

x	8	4,6 Nm
	7	8,7 Nm
	6	12 Nm
y	1	Incremental encoder 2000 pulse/turn
	3	Multiturn absolute encoder 2048 pulse/turn - 4096 turns
a	CAN	CAN Communication
	APD	Analog Pulse Direction
	SER	RS485 Communication
	PRO	PROFIBUS Communication
b	1	n.3 DSUB connectors + n.1 power supply 3 poles (ONLY FOR CAN, APD)
	2	n.4 circular connectors IP67 (ONLY FOR CAN, SER)
	3	n.3 DSUB connectors + n.1 power supply 4 poles (FOR CAN, SER, PRO, APD)
c (see the available optionals above)	0	Shaft diameter: 12 mm keyed shaft (ONLY FOR ISD1281 e ISD1271)
	3	Shaft diameter: 14 mm keyed shaft (ONLY FOR ISD1261 e ISD1271)
d	0	Old mechanics (no more available)
	1	Standard mechanics
e	0	Circular power connector 4 poles
	1	Square power connector 3 poles
	–	Custom execution



CMZ engineers and manufactures electronic systems for industrial motion control.

The company targets to OEMs and systems integrators for the co-development of automatic machines featuring a deep level of customization in multi axis motion. The result: high performing machines with unique, special features.

Established in 1976 focusing on controllers, today CMZ offers a complete portfolio of solutions including the systems design, the electronics programming, the development of ready-to-use application libraries and ad-hoc softwares, alongside a wide selection of master controllers IEC61131 up to 99 axis, integrated and stand-alone drives, brushless and stepper motors up to 120 Nm strictly compact and Made in Italy, peripherals and I/O modules both digital and analogic, integrated vision systems based on machine learning technology, HMI operator panels.

CMZ's high technological and safety standing is based on its team of 70 technicians and engineers. The systems realized to date in its plant count over 125,000 units.

CMZ is part of SOGA ENERGY TEAM industrial group operating in power generation, motion and control since 1966.

CMZ sviluppa e realizza sistemi elettronici e soluzioni per il motion control industriale.

L'azienda si rivolge a OEMs e system integrators per la co-progettazione di macchine automatiche dotate di funzionalità personalizzate e speciali nella movimentazione degli assi. Il risultato: macchine ad alta performance e dalle caratteristiche uniche.

Fondata nel 1976 con focus sui controllori, oggi CMZ offre un portfolio integrale di soluzioni che include la progettazione dei sistemi, la programmazione dell'elettronica, lo sviluppo di librerie applicative ready-to-use e pacchetti software ad-hoc, affiancati a un'ampia scelta di controllori IEC 61131 programmabili fino a 99 assi, azionamenti integrati e stand-alone, motori brushless e passo-passo fino a 120 Nm rigorosamente compatti e Made in Italy, periferiche e moduli I/O digitali e analogici, sistemi di visione integrata con tecnologia machine learning, pannelli operatore HMI.

L'elevato standing tecnologico e di sicurezza di CMZ si basa su un team di 70 tecnici e ingegneri. I sistemi realizzati fino ad oggi nel sito produttivo dell'azienda sono oltre 125.000. CMZ fa parte del gruppo industriale SOGA ENERGY TEAM, attivo dal 1966 a livello internazionale nei settori power generation, motion e control.

