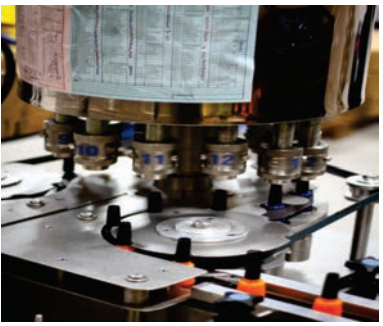
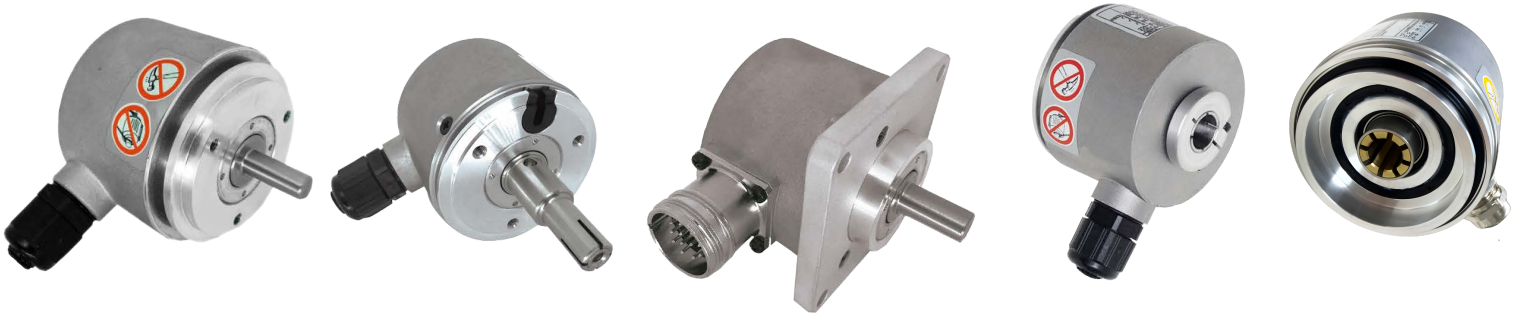
DYNAPAR™
INNOVATION - CUSTOMIZATION - DELIVERY




Incremental Encoder B58N



RoHS

Made in Brazil

The ultimate in quality, precision, and reliability.

Manufactured in Brazil, the B58N Series Incremental Encoder is a robust, compact, and highly versatile device.

Offering a wide range of mechanical configurations, it is available in solid shaft, hollow shaft, through-bore shaft, and expanding shaft versions, along with a variety of flanges and mounting brackets.

Incorporating state-of-the-art optical and electronic technologies, the B58N Series encodersfeature the following key characteristics:

- Resolution from 1 to 10,000 PPR
- Protection against overvoltage, reverse polarity, and output short circuits
- 58 mm outer diameter
- Operating temperature range: 0°C to 100°C
- Storage temperature range: -20°C to 100°C
- Compact design, weighing approximately 400 g
- 1-year warranty against manufacturing defects

Mechanical Characteristics

Maximum Speed	6000 RPM
Bearing Life	20,000 hours (100 N load and maximum speed)
Starting Torque	0.6 N·cm (solid shaft) and 1.0 N·cm (hollow, expanding, and through-bore shaft)
Moment of Inertia	35 g·cm² (solid shaft), 28 g·cm² (hollow shaft), and 45 g·cm² (expanding shaft)
Runout (radial play)	+/- 0,13 mm
Endplay (axial play)	+/- 1,27 mm
Shaft diameter options	
Solid	6 mm, 8 mm, 10 mm ou 12 mm
Hollow	8 mm, 10 mm, 12 mm ou 15 mm
Through-bore	8 mm
Expanding	8 mm ou 10 mm
Hubshaft	12 mm

Turbo Production

CUSTOMIZED PRODUCTS AVAILABLE IN 24 hours

*Check service conditions.

Mechanical characteristics

Maximum rotation	6000 RPM
Bearing life	20,000 hours (100 N load and maximum rotation speed)
Starting torque	0.6 N·cm (solid shaft) and 1.0 N·cm (hollow, expanding, and through-bore shaft)
Moment of inertia	35 g·cm² (solid shaft), 28 g·cm² (hollow shaft), and 45 g·cm² (expanding shaft)
Runout (radial play)	+/- 0,13 mm
Endplay (axial play)	+/- 1,27 mm
Solid shaft diameter **Hollow** **Through-bore** **Expanding** **Hub shaft**	6 mm, 8 mm, 10 mm, 12 mm 8 mm, 10 mm, 12 mm ou 15 mm 8 mm 8 mm ou 10 mm 12 mm

Electrical characteristics

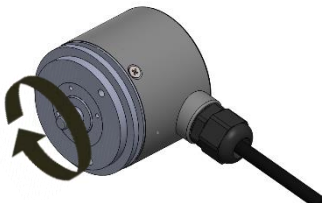
Power supply	5 to 26 Vcc
Outputs	HTL (5-26 VCC) ou TTL (5 VCC) máximo 40mA -Line-Driver
Consumption	< 60 mA + output loads
Max. frequency	200 kHz
Resolution	1 to 10.000 PPR
Electrical protection	Reverse polarity, short circuit between outputs, and overvoltage protection
Signal format	Two signals (A and B – quadrature), reference signal (Z), and complementary signals.
Phase shift	Up to 625 PPR: 90° ± 15°; above 625 PPR: 90° ± 30°
Simetria	Up to 1024 PPR: 180° ± 18°; above 1024 PPR: 180° ± 25°
Sinal de referência (Z, Marker, Index)	Format 1 - Unsynchronized reference – "Ungated" (standard) Format 2 - Reference synchronized with the rising edge of channel B – "Gated" (only for 1024 and 2048 PPR)

Environmental Characteristics

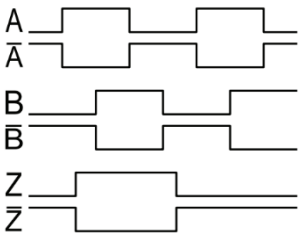
Operating temperature	0°C to 100°C
Storage temperature:	-20°C to 100° C
Shock	100 G for 11 milliseconds
Vibration	5 Hz to 2000 Hz at 20 G
Humidity	Up to 98% non-condensing
IP protection rating	IP67; for code 6=J, L, S (8-pin connector): IP65
Certifications	RòHS Compliant

Signal format

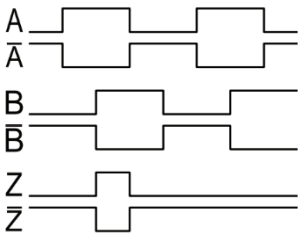
Clockwise rotation
Positive phase shift (rising edge of channel A before channel B)



Format 1 (Z "Ungated")



Format 2 (Z "Gated")



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CODING

CONFIGURATOR B58N

COD 1: MODEL	COD 2: PPR	Cod 3: FLANGE	Cod 4: EIXO	Cod 5: OUTPUT	Cod 6: CONNECTION	Cod 7: CABLE	Cod 8: PLUG
B58N	□□□□	□	□	□	□	□	□
B58N	0001 a 10.000* *consider A000 for PPR 10,000	**Solid Shaft**		**Format 1: "Ungated"**		**Cabo Press**	
		S Flange Synchro	6 6 mm	A 5V (TTL)	A Side	1 1,5 Meters	0 Without Plug
		K Flange Clamping	8 8mm	B 5-26V (HTL)	B Rear	2 2 Meters	
		Q Square Flange	A 10 mm			3 3 Meters	**CONIN (M23)**
		A Round Flange	C 12 mm			4 4 Meters	A Female Schedule
		Z Flange Special BA	J 6,35 mm (1/4")	**Format 2: "Gated"**		5 5 Meters	B Female Counterclockwise
		F Round Flange Ø115mm		C 5V (TTL)		6 6 Meters	R Counterclockwise Male
		Hollow shaft		D 5-26V (HTL)		7 7 Meters	S Male Schedule
		D Front Fastening	8 8 mm	K 5-26V ABZ (HTL)		8 8 Meters	
		H Rear attachment (except for 15mm axle)	A 10 mm			9 9 Meters	**Conect. 8 pin.**
			C 12 mm			A 10 Meters	L Plug
			E 14 mm			B 15 Meters	
			F 15 mm			C 20 Meters	**Militar 10 pin.**
		Expansive Shaft				D 25 Meters	2 Male
		X Expansive Shaft	8 8 mm			E 30 Meters	7 Male + Plug
			A 10 mm (longo) ponta 53,9 mm			F 35 Meters	
			S 10 mm (curto) ponta 37,5 mm			G 40 Meters	**M12 - 8 pin.**
		Solid Thru-Axle				H 45 Meters	J Counterclockwise Male
		P Solid Thru-Axle	8 8 mm			I 50 Meters	
		Semi-Hollow Shaft (Hubshaft)				P 0,15 Meters	**Conector DB9**
		D Semi-Hollow Shaft	G 12 mm			S 0,5 Meters	K Male
		Solid Thru-Axle				T 1,0 Meters	
		P Solid Thru-Axle	8 8 mm				
		Shaft with integrated coupling					
		R Semi Hollow Shaft	A 10 mm				
					CONIN Male Thread Exterma (M23)		
					C Side Time + Plug	0 No Cable	0 Without Plug
					D Counterclockwise Side + Plug		
					E Rear Clock+Plug		
					F Counterclockwise Rear + Plug		
					CONIN Male Thread Exterma (M23)		
					G Side Hours	0 No Cable	0 Without Plug
					H Lateral Counterclockwise		
					Q Back Schedule		
					R Counterclockwise Rear		
					Conect. 8 Pin.		
					J Rear + Plug	0 No Cable	0 Without Plug
					L Lateral + Plug		
					S Lateral		

[1] Includes mating plug

[2] Does not include mating plug

Example of coding

B58N 0512 SABA 1A

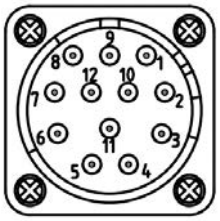
B58N encoder, 512 PPR, 10 mm solid shaft, 5 VDC to 26 VDC output, side cable gland, 1.5 m cable, M23 female connector, clockwise, internal thread

.

PINOUT

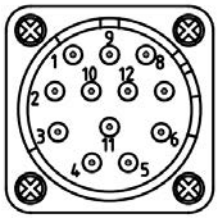
CODE 6 – CONNECTION (COVER)

- C/E/H/Q (Clockwise Male M23 Connector, External Thread)



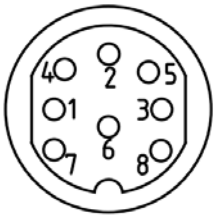
Pin	Function
1	GND
2	VCC
3	Channel A+
4	Channel B+
5	Channel A-
6	Channel B-
7	Channel Z+
8	Channel Z -
9	Housing
10	-
11	-
12	-

- D/F/G/R (Counterclockwise Male M23 Connector, External Thread)



Pin	Function
1	Channel B -
2	-
3	Channel Z+
4	Channel Z -
5	Channel A+
6	Channel A-
7	-
8	Channel B+
9	Housing
10	GND
11	-
12	VCC

- **J or L or S (8 pins)***

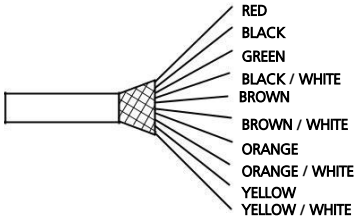


Pin	Function
1	GND
2	VCC
3	*Channel A+
4	*Channel B+
5	*Channel A -
6	*Channel B-
7	Channel Z+
8	Channel Z -
*negative phase shift	

CODE 8 – PLUG (CABLE END) 10-

CONDUCTOR CABLE

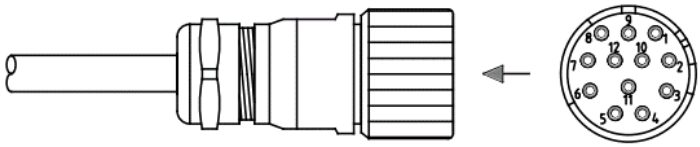
- **0 (**Without plug**)**



Wire	Function
Red	VCC
Black	GND
Green	Housing
Black / White	Not used
Brown	Channel A+
Brown / White	Channel A-
Orange	Channel B+
Orange/White	Channel B-
Yellow	Channel Z+
Yellow/White	Channel Z -

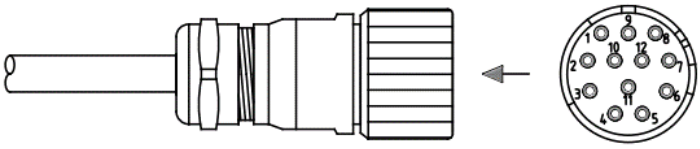
CONIN (M23)

- **A** (Female clockwise, internal thread)



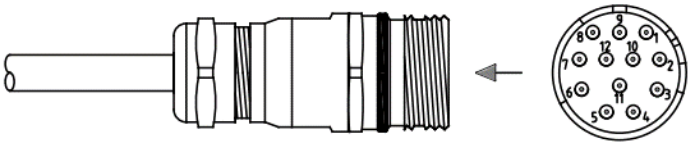
Pin	Function
1	GND
2	VCC
3	Channel A+
4	Channel B+
5	Channel A-
6	Channel B-
7	Channel Z+
8	Channel Z -
9	Housing
10	-
11	-
12	-

- **B (**Female counterclockwise, internal thread**)**



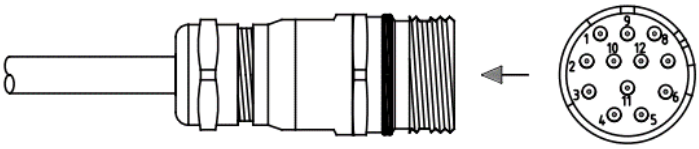
Pin	Function
1	Channel B-
2	-
3	Channel Z+
4	Channel Z-
5	Channel A+
6	Channel A-
7	-
8	Channel B+
9	Housing
10	GND
11	-
12	+VCC

- **S (**Male clockwise, external thread**)**



Pin	Function
1	GND
2	VCC
3	Channel A+
4	Channel B+
5	Channel A-
6	Channel B-
7	Channel Z+
8	Channel Z-
9	Housing
10	-
11	-
12	-

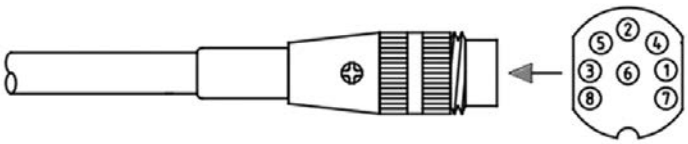
- R (L `kd bn t msdqbknbj v hrd+ dwsdqm`k sgqd`c)



Pin	Function
1	Channel B-
2	-
3	Channel Z+
4	Channel Z-
5	Channel A+
6	Channel A-
7	-
8	Channel B+
9	Housing
10	GND
11	-
12	+VCC

CONECTOR 8 PINS

- L (Male)*

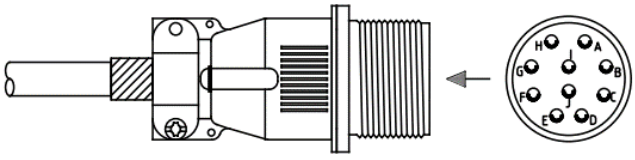


Pin	Function
1	GND
2	VCC
3	*Channel A+
4	*Channel B+
5	*Channel A -
6	*Channel B-
7	Channel Z+
8	Channel Z -

*negative phase shift

MILITAR 10 PINS

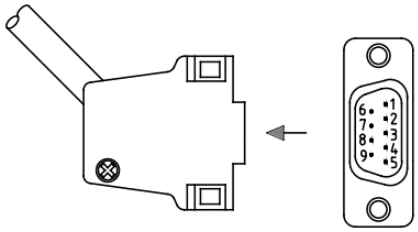
- 2 or 7 (Male)



Pin	Function
A	Channel A+
B	Channel B+
C	Channel Z+
D	VCC
E	-
F	GND
G	Housing
H	Channel A-
I	Channel B-
J	Channel Z-

CONECTOR DB9

- K (Male)



Pin	Function
1	GND
2	Channel B+
3	Channel B-
4	Channel A-
5	Channel A+
6	-
7	Channel Z+
8	Channel Z-
9	VCC

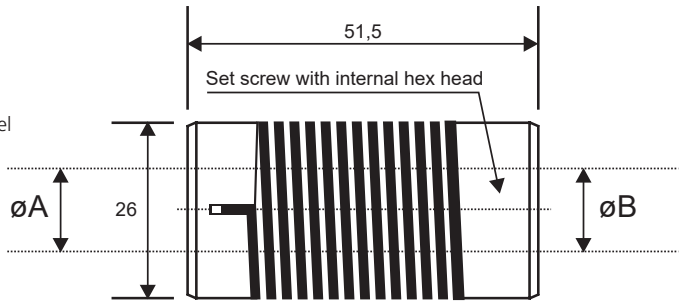
Accessories

Spring-type elastic coupling - code 300301-516-X

Maximum absolute speed	3000 RPM
Maximum torque	30 Ncm
Material	Bushing: Zamak / Spring: Nickel-plated spring steel
Maximum shaft misalignment	
Radial	+/- 1,2 mm
Axial	+/- 1 mm
Angular	+/- 8°

Code	ØA	ØB
300301-516-1	6 mm	6 mm
300301-516-2	10 mm	10 mm
300301-516-3	12 mm	12 mm
300301-516-4	10 mm	12 mm

Check other available dimensions.



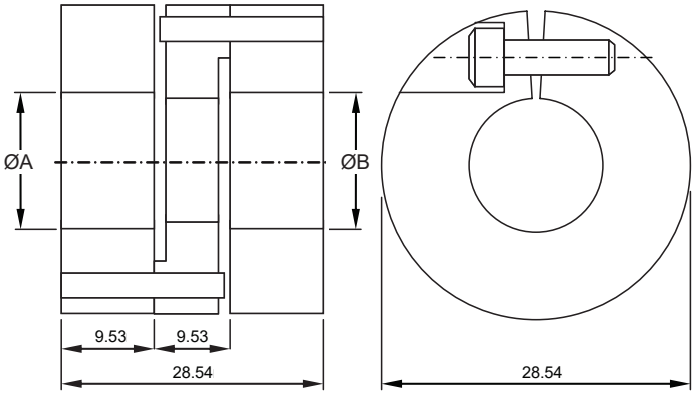
Dimensions in mm

Isolated elastic coupling - code 300301-516-XX

Shaft	Ø4 ~ Ø16 mm - specify
Maximum absolute speed	4200 RPM
Maximum torque	50 Ncm
Material	Aluminum and special plastic
Maximum shaft misalignment	
Radial	+/- 0,72 mm
Axial	+/- 0,54 mm
Angular	+/- 1,5°

Code	ØA	ØB
300301-516-S1	6 mm	3/8"
300301-516-S15	15 mm	15 mm
300301-516-S25	12 mm	15 mm
300301-516-S66	6 mm	6 mm

Check other available dimensions.

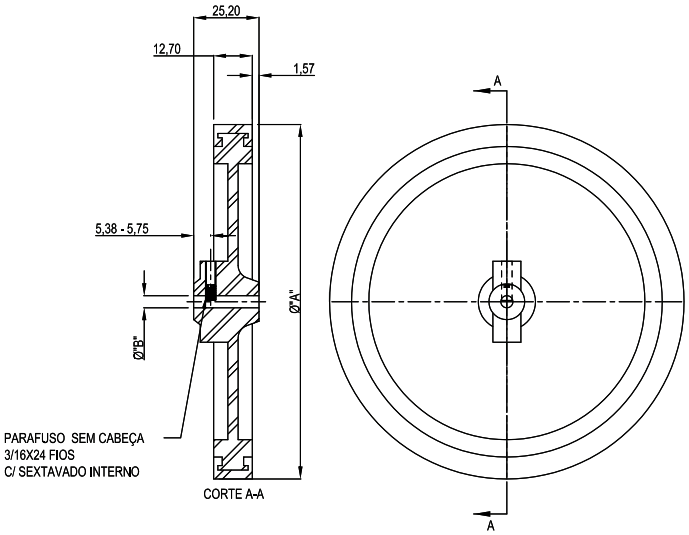


Dimensions in mm

Encoder wheel 300301-627

Code	ØA	ØB	Color
300301-627	95,35 - 95,61 mm	8,01 - 8,05 mm	Black

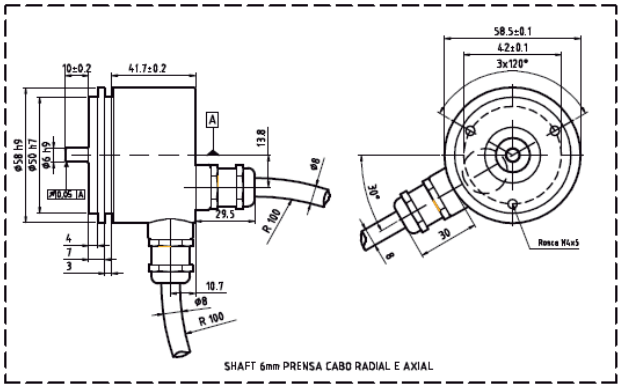
For cable harness options (cable with custom lengths and plugs), click here and check our catalog!

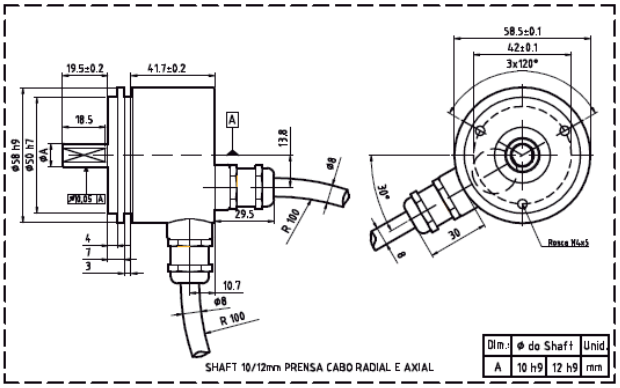


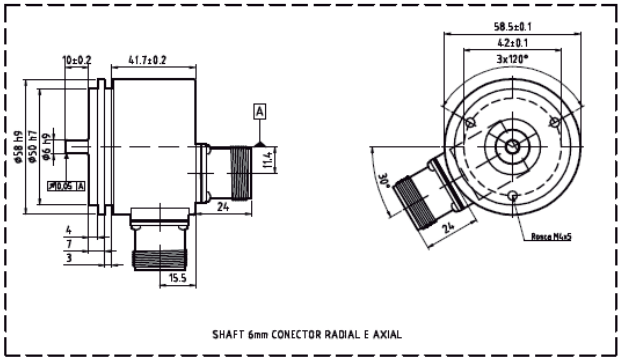
Dimensions in mm

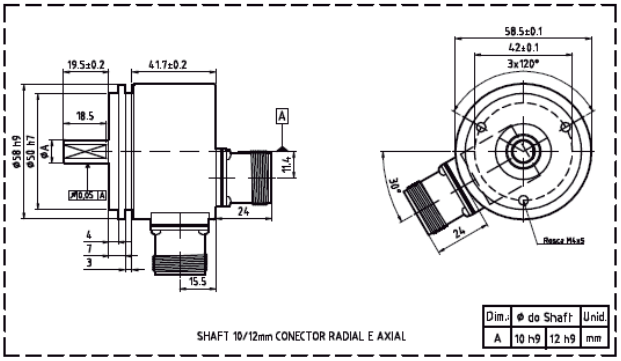
Dimensional drawing
incremental encoder B58N

Flange Synchro
Option S - Base 2

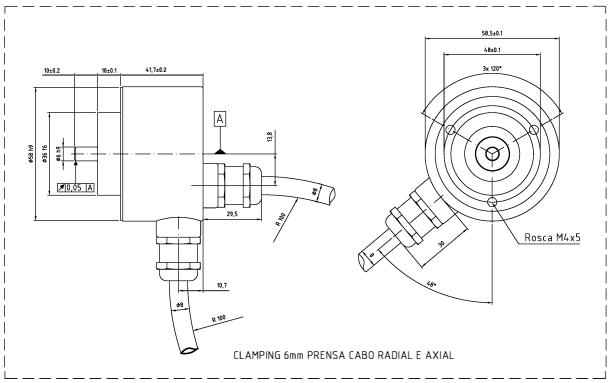


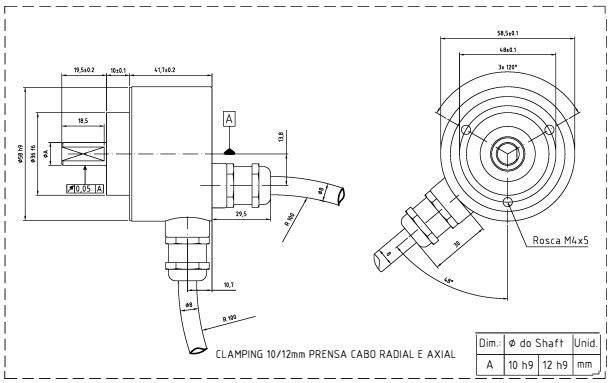


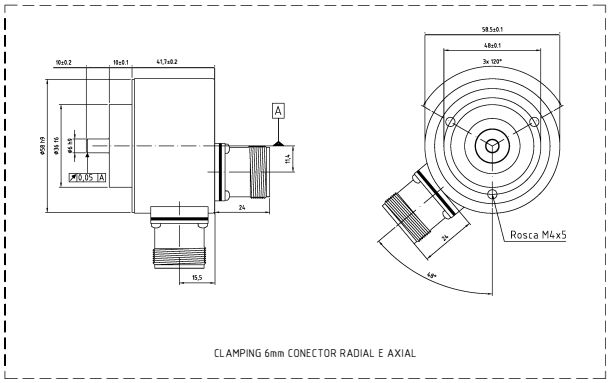


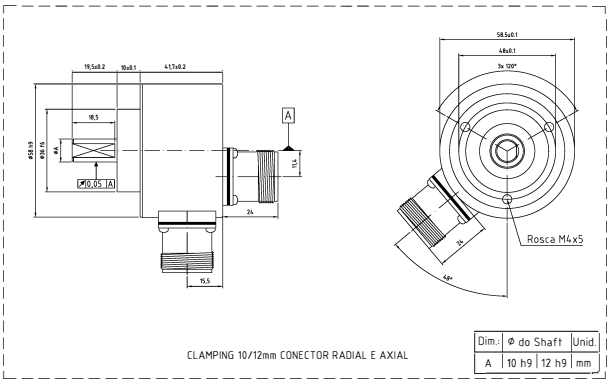


Flange Clamping
Option K - Base 3

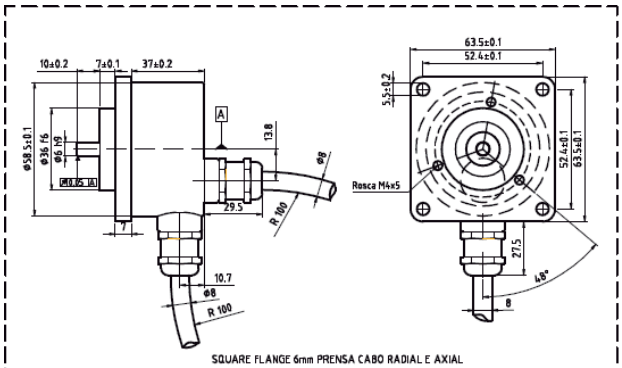


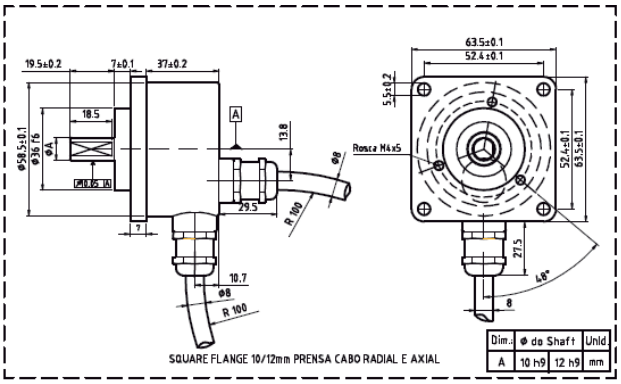


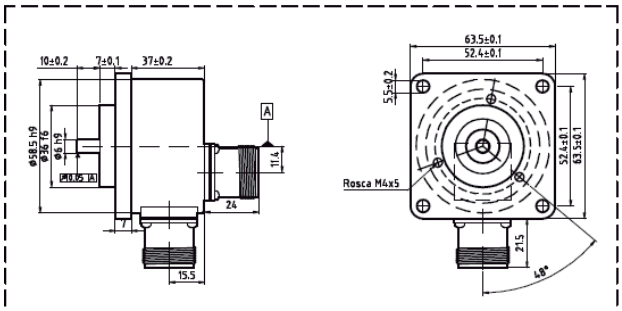


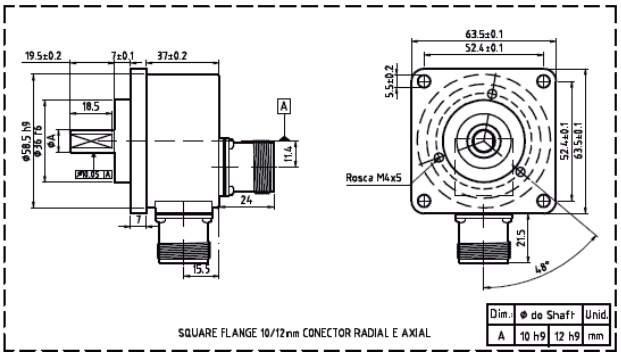


Square Flange
Option Q - Base 3 + flange

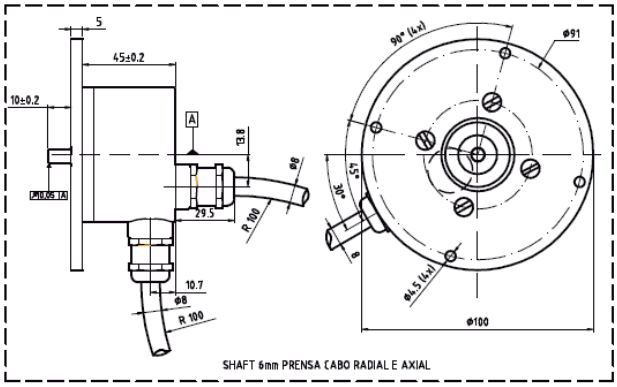


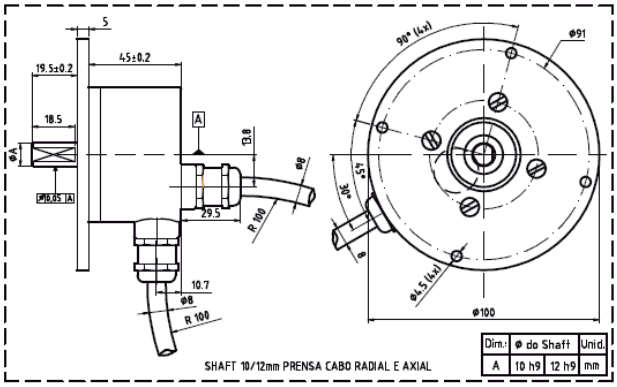


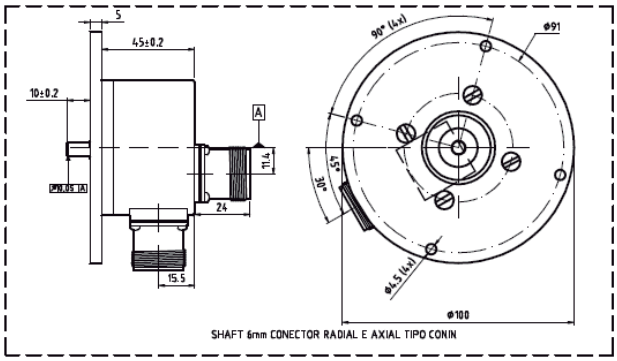


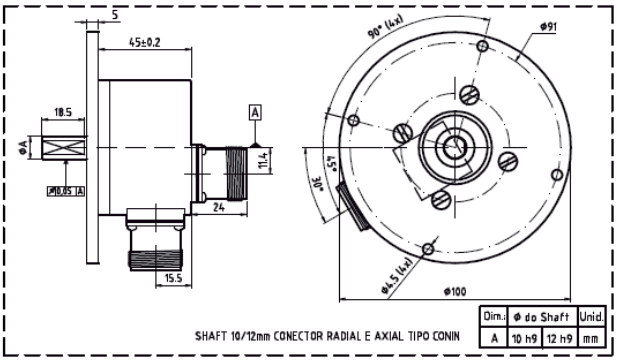


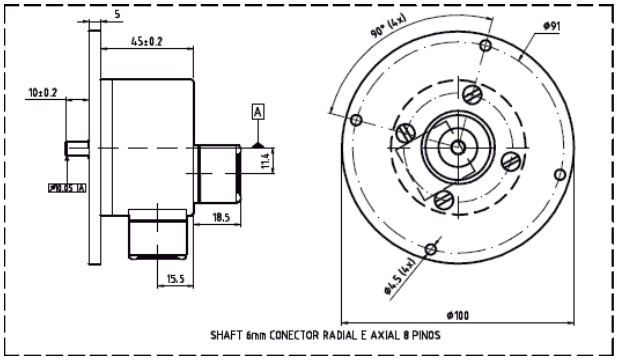
Square Flange
Option A - Base 4 + flange

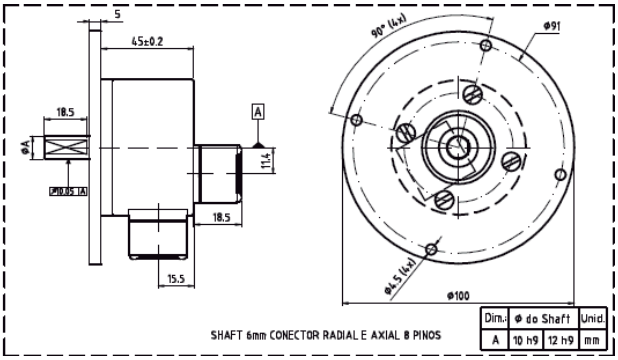




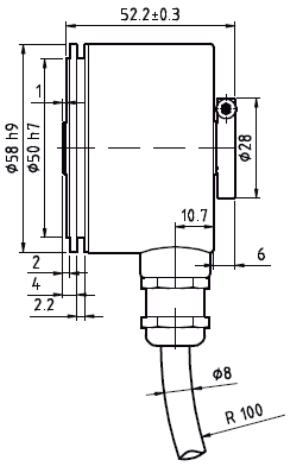




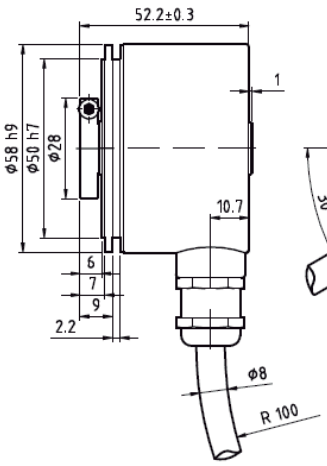




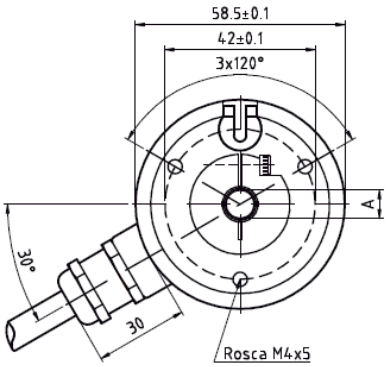
Hollow Shaft
Option D (Front mounting)- Base 1
Option H (fRear mounting) - Base 1



HOLLOW SHAFT 8mm
TRASEIRA PRENSA CABO

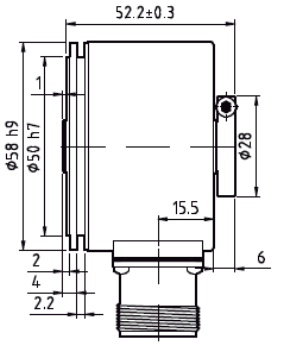


HOLLOW SHAFT 8mm
DIANTEIRA PRENSA CABO

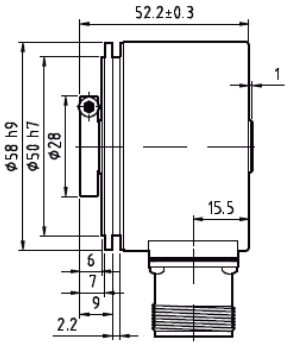


Dim.:	ø do Hollow Shaft					Unid.
A	8 H7	10 H7	12 H7	14 H7	15 H7	mm
A*	8 g8	10 g8	12 g8	14 g8	15 g8	mm

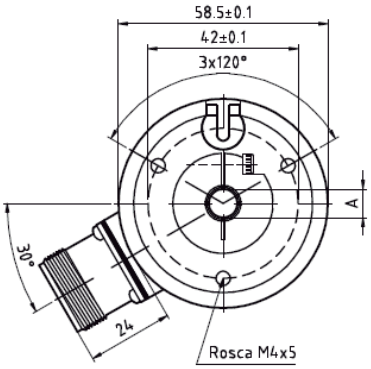
A = Diâmetro recomendado do eixo.*



HOLLOW SHAFT 8mm
TRASEIRA CONECTOR



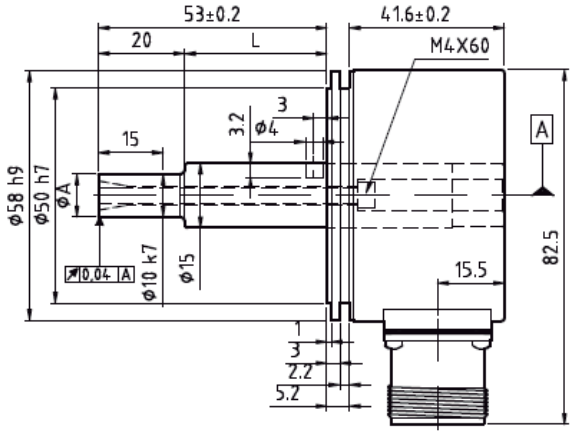
HOLLOW SHAFT 8mm
DIANTEIRA CONECTOR



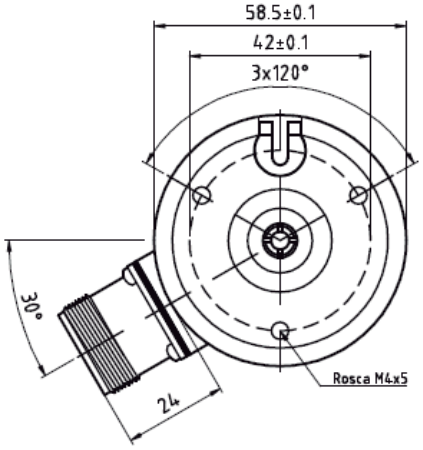
Dim.:	ø do Hollow Shaft					Unid.
A	8 H7	10 H7	12 H7	14 H7	15 H7	mm
A*	8 g8	10 g8	12 g8	14 g8	15 g8	mm

A = Diâmetro recomendado do eixo.*

Expanding shaft - Option X - Base 1

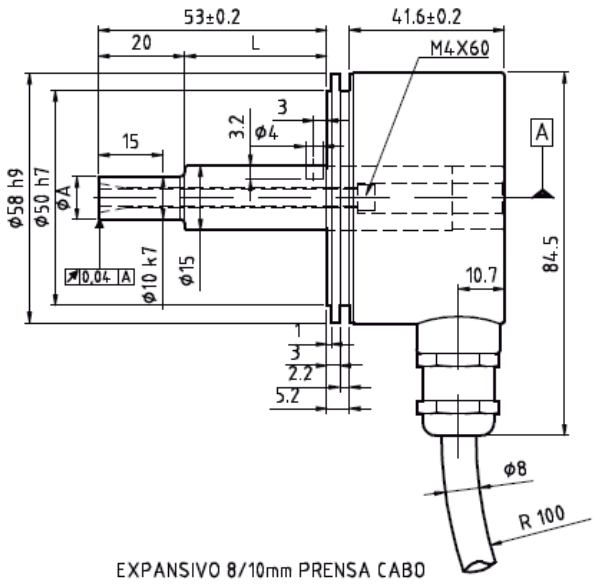


EXPANSIVO 8/10mm CONECTOR

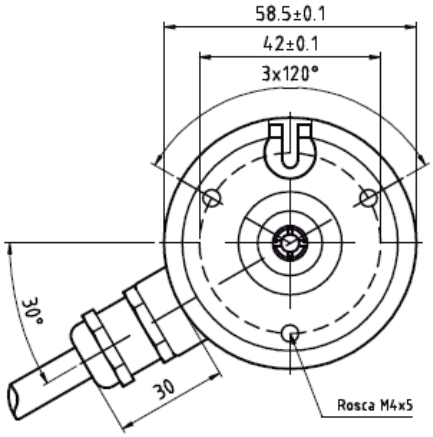


Dim.:	ϕ do Shaft		Unid.
A	8 h7	10 h7	mm
L	18	33	mm
A*	8 G8	10 G8	mm

A = Diâmetro recomendado do acoplamento*



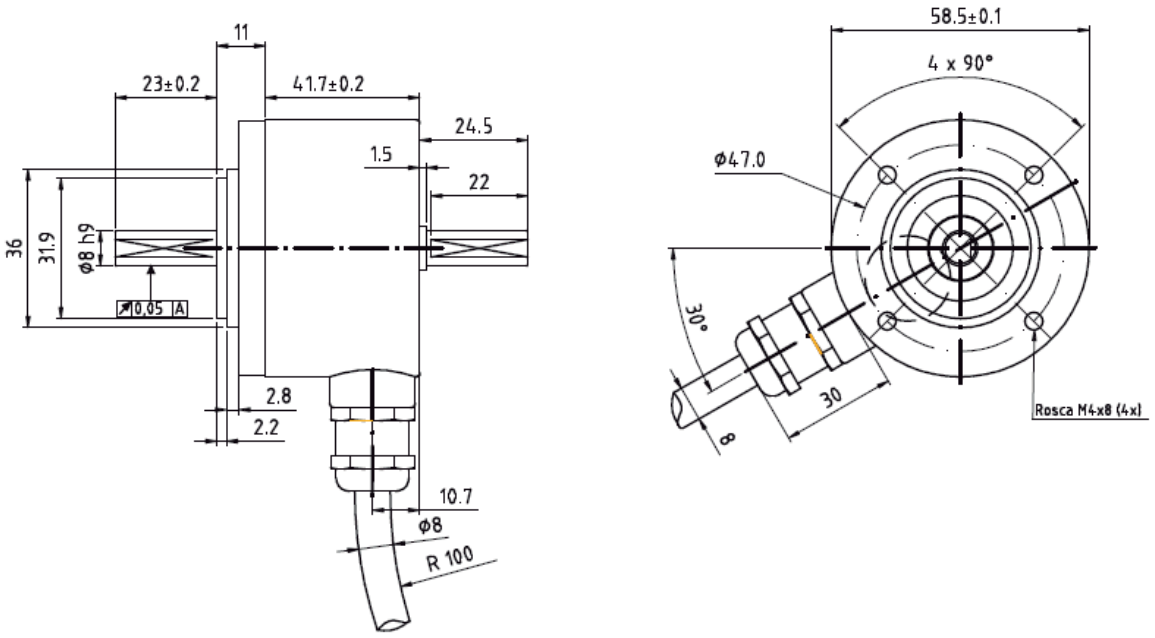
EXPANSIVO 8/10mm PRENSA CABO



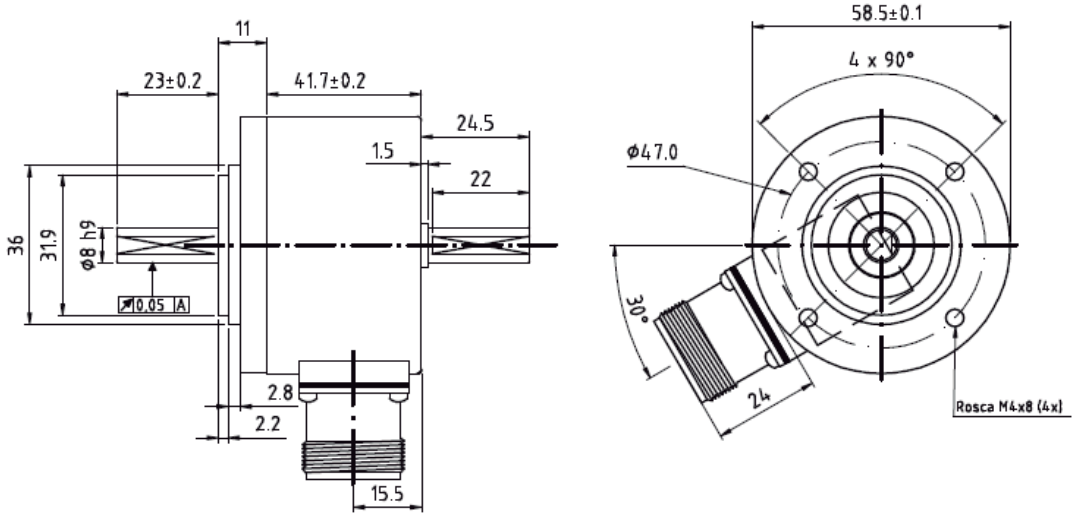
Dim.:	ϕ do Shaft		Unid.
A	8 h7	10 h7	mm
L	18	33	mm
A*	8 G8	10 G8	mm

A = Diâmetro recomendado do acoplamento*

Solid through shaft - Option P - Base 4

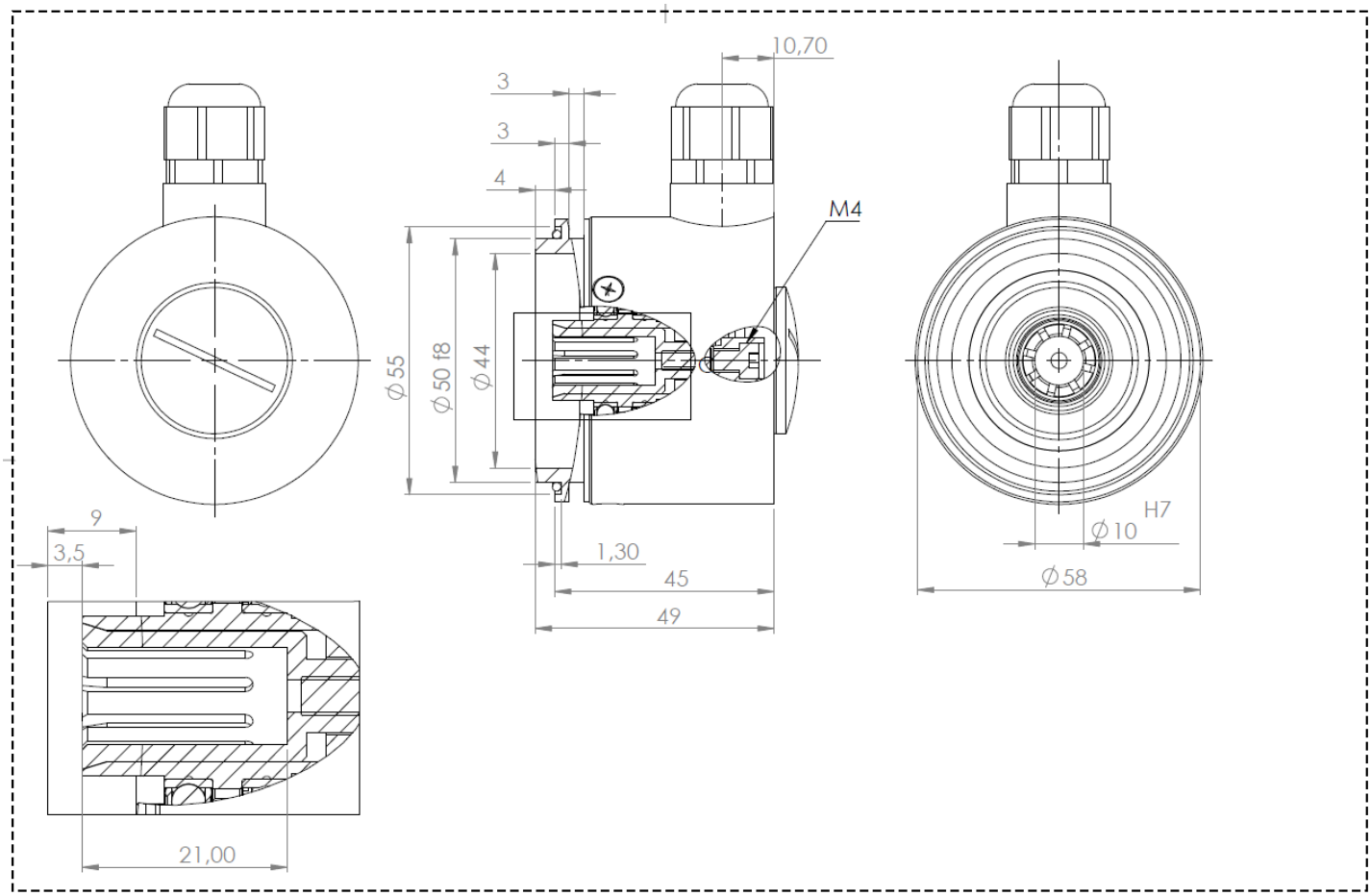


PASSANTE 8mm PRENSA CABO RADIAL E AXIAL

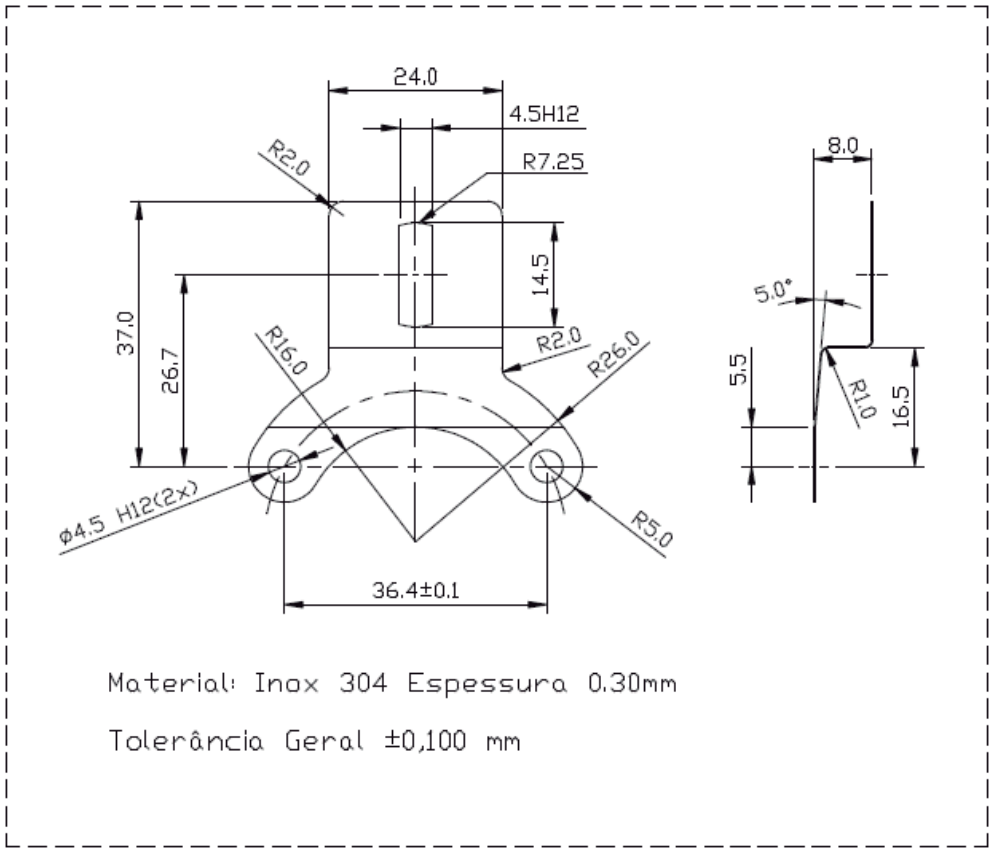


PASSANTE 8mm CONECTOR RADIAL E AXIAL

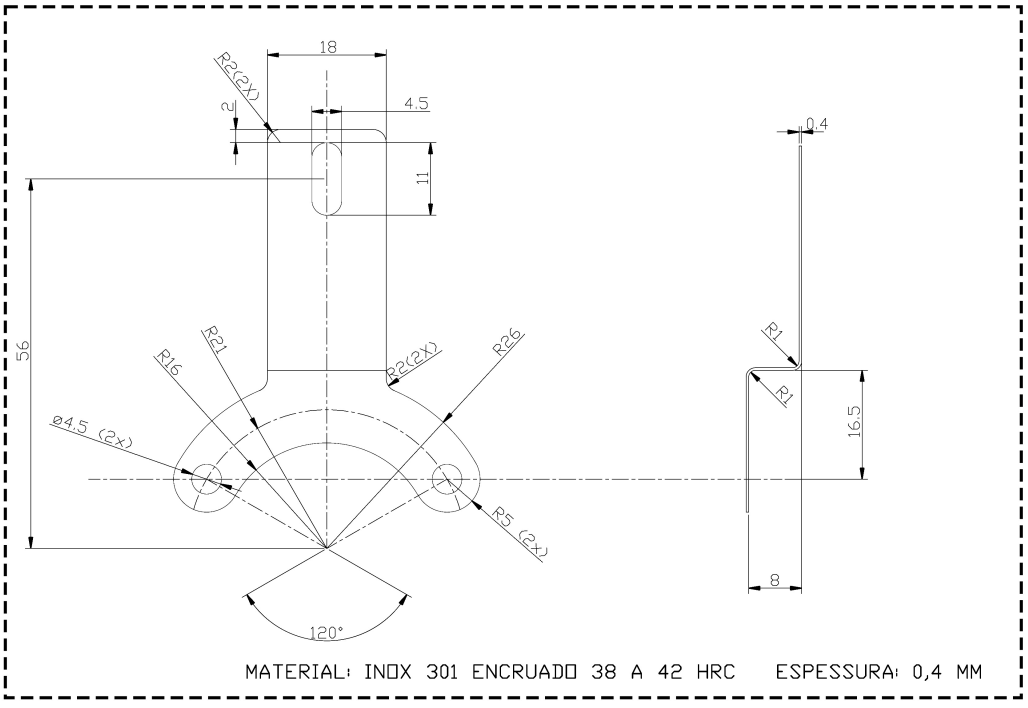
Semi hollow shaft Option R



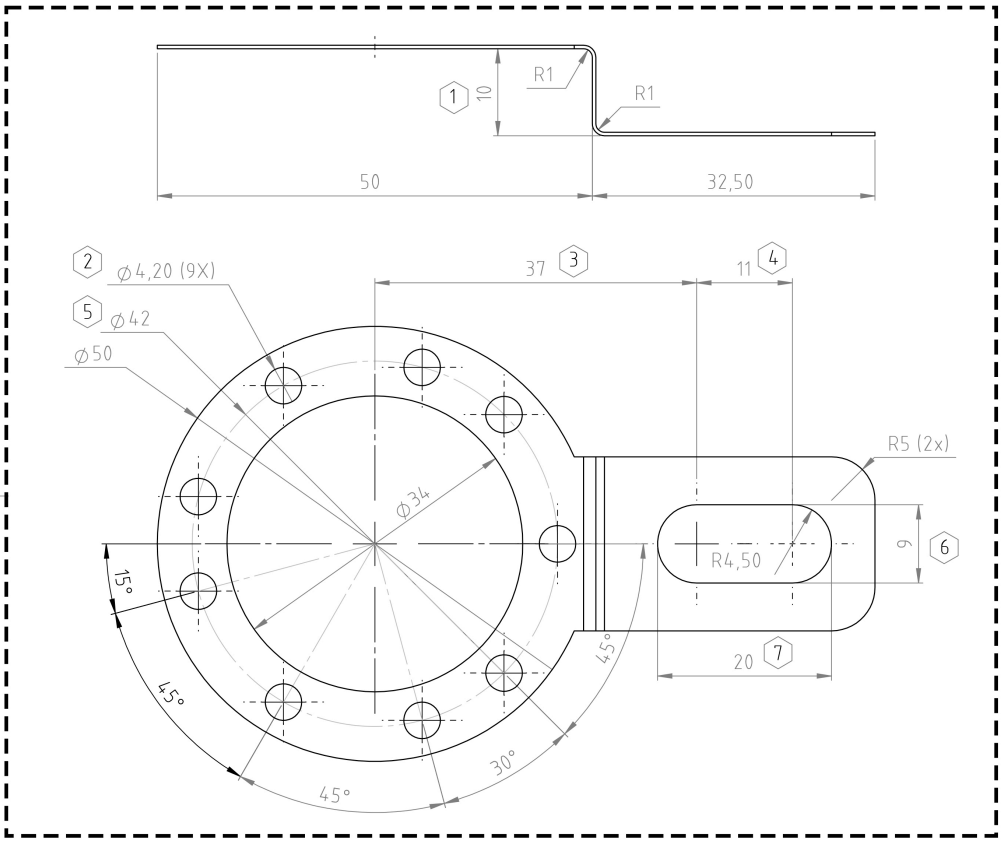
Mounting bracket 300302-792



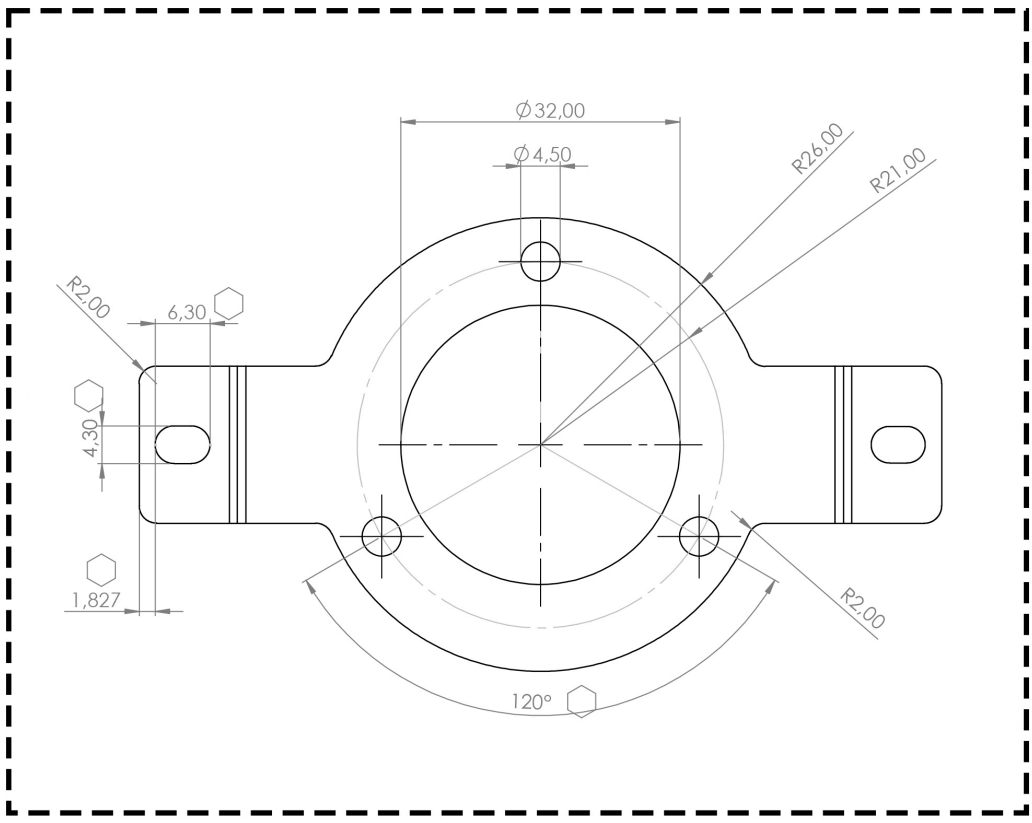
Mounting bracket 300302-**801**



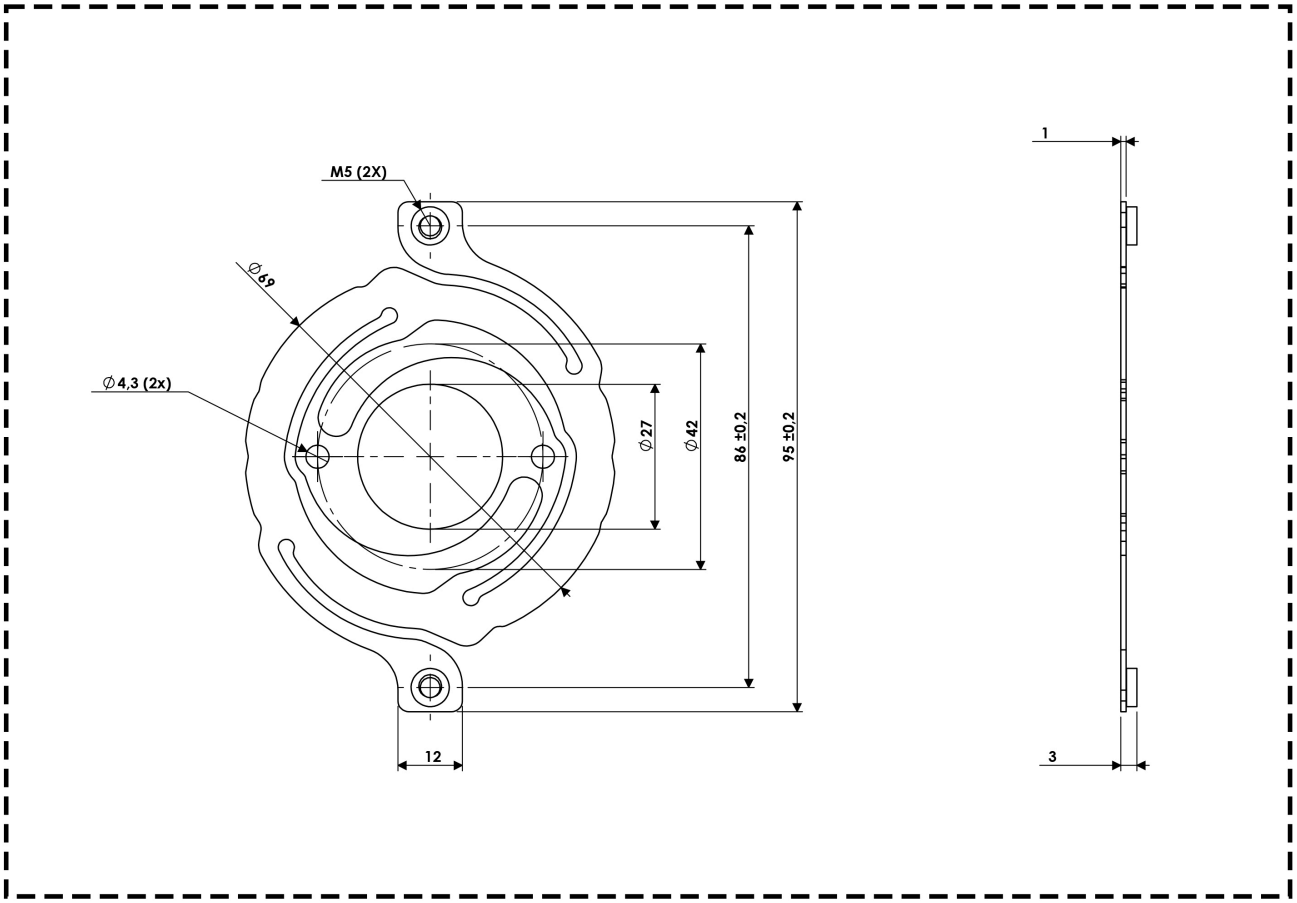
Mounting bracket EN13LMW_REV_B-1



Mounting bracket EN13LMW-S



Mounting bracket EN13LMSEW



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