



SERIE 59

HIGH RESOLUTION HOLLOW SHAFT INCREMENTAL ENCODER FOR INDUSTRIAL APPLICATIONS

- Resolution up to 50000 pulses per turn
- External diameter 58 mm
- Hollow shaft up to Ø 15 mm
- Protection class IP67 according to DIN EN 60529
- Shaft fixing through front or rear clamp
- Anti-rotation system through flexible flange, pin torque support or anti-turn stick
- Connection by cable (other cable length available) or industrial connector M12 or M23



Optical Encoder



Incremental Encoder



High shaft load capacity



Vibration and shock resistant



IP 67

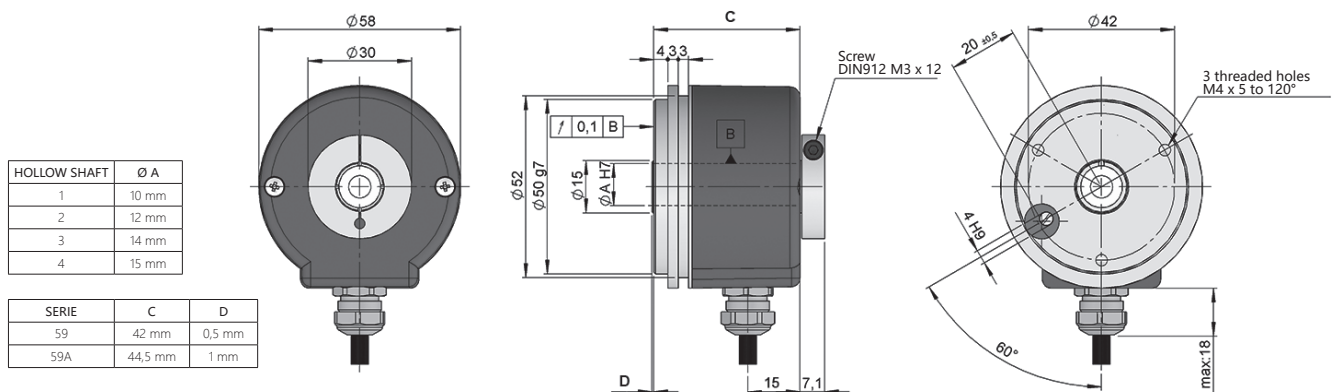


Temperature range



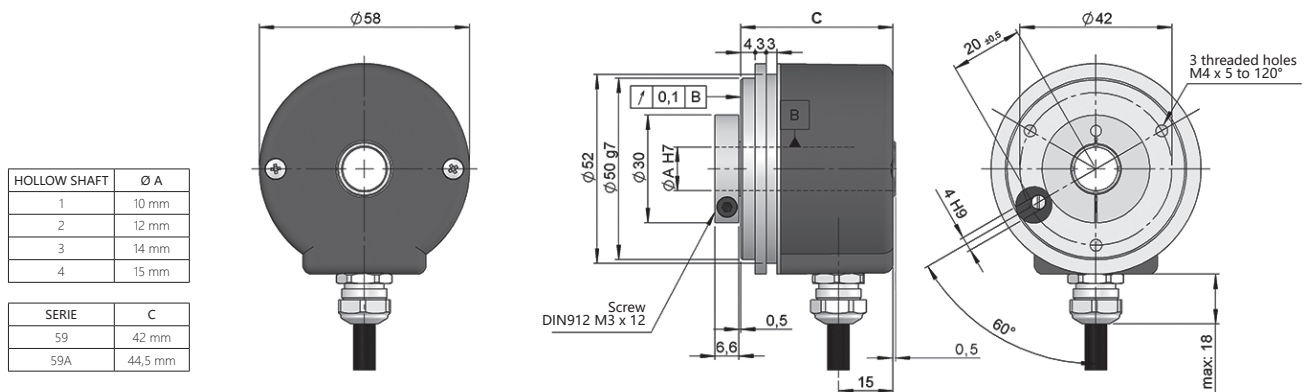
Express Delivery

Rear clamp



Drawing mechanical option type 1, hollow shaft type 2, connection type 1

Frontal clamp



Drawing mechanical option type 2, hollow shaft type 2, connection type 1



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REFERENCE							Reference example: 59-21111-1024
Serie	Mechanical option	Hollow shaft	Output signals	Connection	Power Supply / Electronic output	Pulses number	Special customer
59/59A -	☐	☐	☐	☐	☐ -	☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐
59. IP65	1. Rear clamp	1. Ø 10 mm	1. ABZ, $\overline{ABZ}$	1. Radial cable	0. 11...30 VDC / NPN Open collector 11...30 VDC	(*)	GT00. -40°C
59A. IP67	2. Frontal clamp	2. Ø 12 mm 3. Ø 14 mm 4. Ø 15 mm	2. AB, $\overline{AB}$	2. Radial M23 12p CW 3. Radial M12 8p CCW	1. 11...30 VDC / Line driver differential Push-Pull 11...30 VDC 2. 5 VDC / RS422 5 VDC (compatible TTL) 6. 11...30 VDC / RS422 5 VDC (compatible TTL)		

Order your reference
Step file 3D

info@encoderhohner.com
service available in 24 h

(*) 10000 to 50000 pulses with interpolation. Available 10000 direct optical pulses without interpolating upon request.

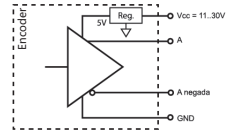
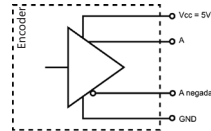
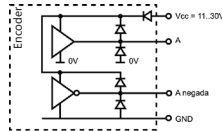
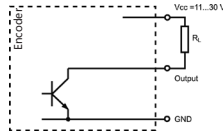
The required anti-rotation system is not included in the reference (order separately). Anti-rotation system is supplied disassembled and includes the screws required for assembly to the encoder. All systems available in the sections "MOUNTING ACCESSORIES".

MECHANICAL SPECIFICATIONS	
Materials	Cover: Zamac Housing: Aluminium Shaft: Stainless Steel
Bearings	Ballraces
Bearings lifetime	1x10 ¹⁰ rev.
Housing fixing	Anti-rotation pin, Flexible flange or Anti-turn stick
Permitted misalignment	±0.5 mm axial, ±0.3 mm radial (90.1014, 90.1024)
Shaft fixing	Front or Rear clamp
Hollow shaft diameter	10, 12, 14 or 15 mm
Maximum number of revolutions permitted mechanically	6000 rpm
Protection against dust and splashes according to DIN EN 60529	IP65 - Standard IP67 - Option 59A
Rotor inertia moment	30 gcm ² (59) 40 gcm ² (59A)
Starting torque at 20°C (68°F)	≤ 0.02 Nm (59) ≤ 0.04 Nm (59A)
Maximum load permitted on axial shaft	40 N
Maximum load permitted on radial shaft	80 N
Weight approx.	0.5 Kg
Operating temperature range	-20°C to +80°C - Standard -40°C to +80°C - Special Customer GT00
Vibration according to DIN EN 60068-2-6	100 m/s ² (10Hz...2000Hz)
Shock according to DIN EN 60068-2-27	1000 m/s ² (6ms)
Maximum pulses per turn	50000
Radial connection	2 meters cable or industrial connector M12 or M23 (other cable lengths available on order) Female connector not included

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OUTPUT SIGNALS



OUTPUT CIRCUIT	NPN Open Collector	Push-Pull Differential	RS422 (TTL compatible)	RS422 (TTL compatible)
Reference code	0	1	2	6
Power supply	11...30 VDC	11...30 VDC	5 VDC ±5%	11...30 VDC
Output voltage	11...30 VDC	11...30 VDC	5 VDC	5 VDC
Consumption	40 mA	Typical: 45 mA Max: 150 mA	Typical: 70 mA Max: 150 mA	Typical: 80 mA Max: 160 mA
Max. load capability / channel	40 mA	±30 mA	±20 mA	±20 mA
Length of cable allowed	50 m (24 VDC)	100 m	1200 m	1200 m
“Low” signal level	VOL < 0.4 VDC (24 VDC)	VOL < 2.5 VDC	VOL < 0.5 VDC	VOL < 0.5 VDC
“High” signal level	VOH > 22 VDC (24 VDC)	VOH > VCC – 3 VDC	VOH > 2.5 VDC	VOH > 2.5 VDC
Frequency	100 kHz	200 kHz	300 kHz	300 kHz
Short circuit protection	Not permanent	Yes	Yes	Yes
Protection polarity inversion	Yes	Yes	No	Yes

Channel B leads (90° electric) channel A, view from the shaft, shaft rotating clockwise

CONNECTION

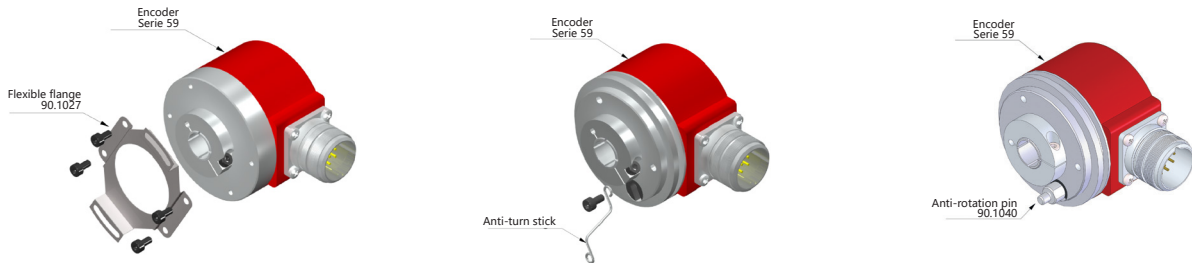


	Cable 3x2x0.14+2x0.34 95.0008003	Connector M12 8p CCW	Connector M23 12p CW
GND	Black (BK)	1	1
+UB	Red (RD)	2	2
A	Yellow (YE)	3	3
B	Green (GN)	4	4
$\bar{A}$	Brown (BN)	5	5
$\bar{B}$	Blue (BU)	6	6
Z	Grey (GY)	7	7
$\bar{Z}$	Orange (OG)	8	8
Case	Shield	Case	Case

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ACCESSORIES EXAMPLES



All the accessories available in the section "MOUNTING ACCESSORIES".

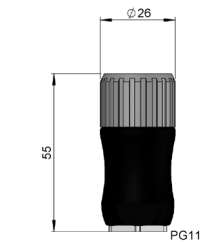
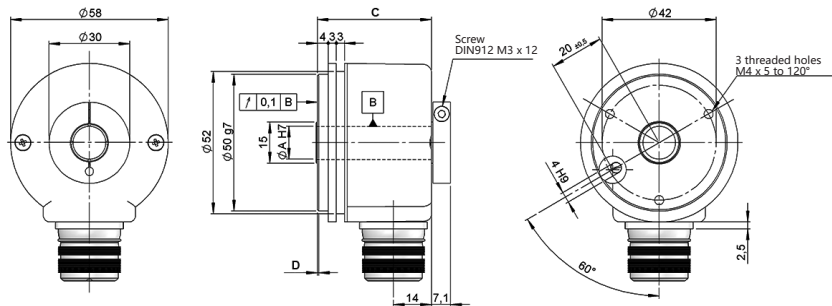
CONNECTION DIMENSIONS

Female connector not included

Connection 2 Radial

Fixation 1 Rear clamp

M23 12p
male panel
clockwise



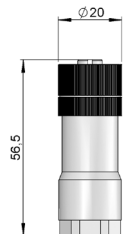
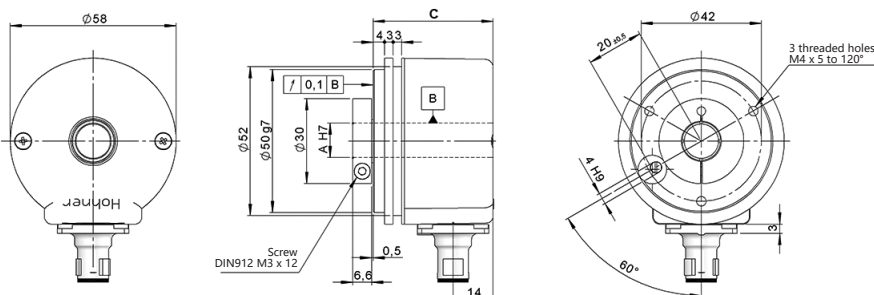
Female connector
95.0007131

Pre-assembled cable
89.005.02.000.XX
Length in meters

Connection 3 Radial

Fixation 2 Frontal clamp

M12 8p
male panel
counter clockwise



Female connector
95.0007152

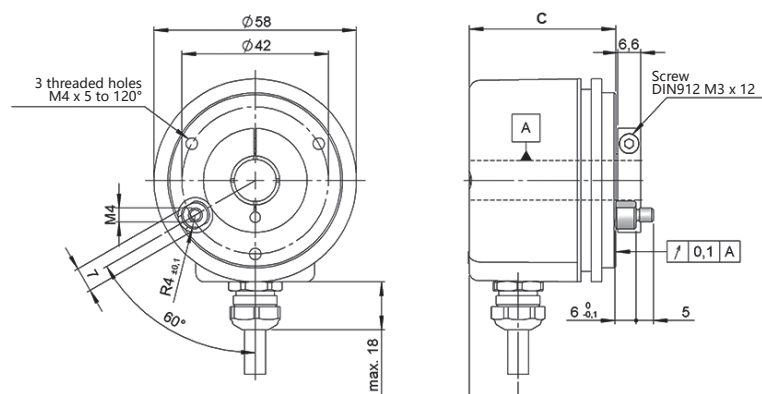
Pre-assembled cable
89.003.02.000.XX
Length in meters

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ANTI-ROTATION SYSTEMS DIMENSIONS

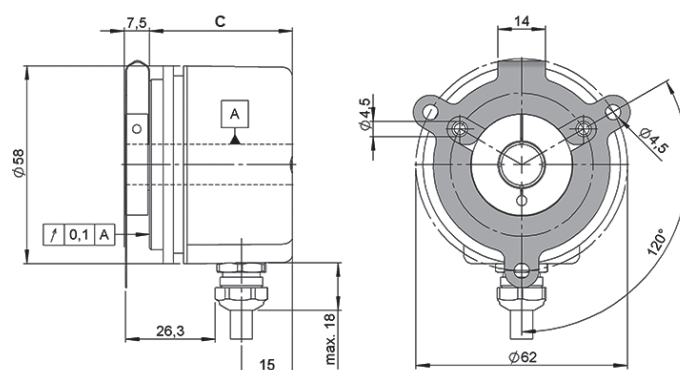
Anti-rotation pin
90.1040



90.1040



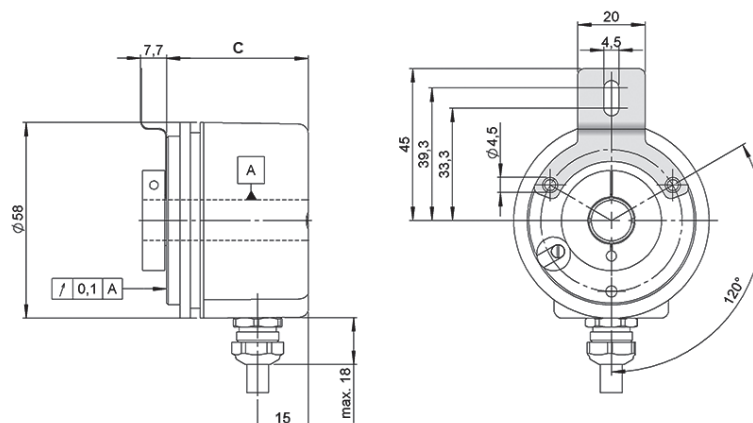
Flexible flange
90.1014



90.1014



Flexible flange
90.1018



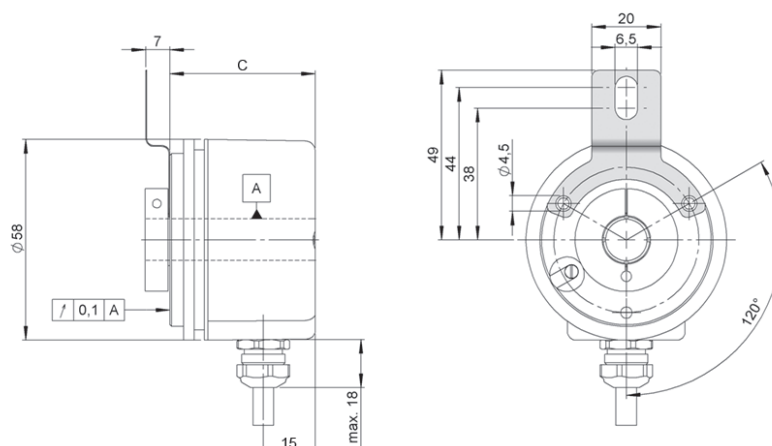
90.1018



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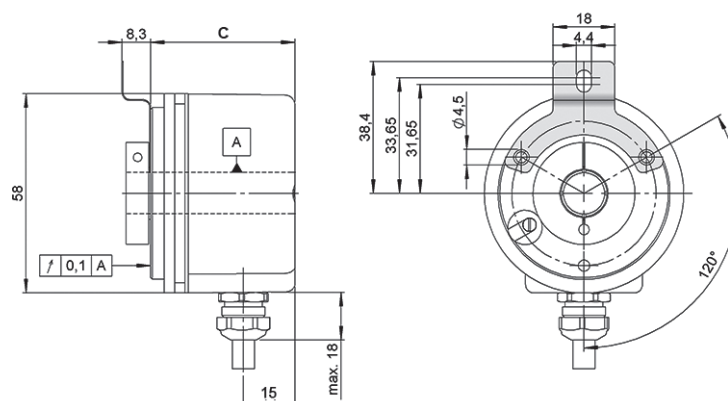
Flexible flange
90.1020



90.1020



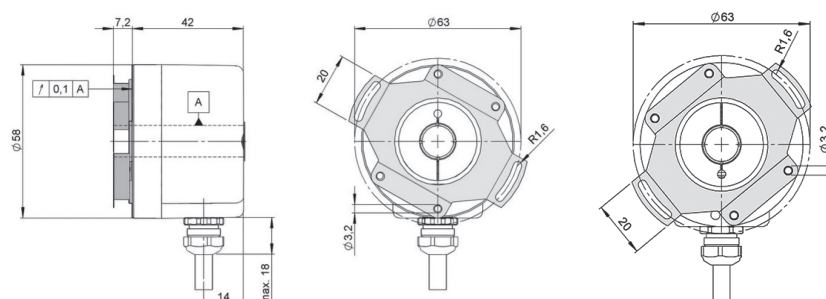
Flexible flange
90.1024



90.1024



Flexible flange
90.1027



90.1027



Orientation for hollow shaft
types 1 (ø10mm) and 2
(ø12mm)

Orientation for hollow shaft
types 3 (ø14mm) and 4
(ø15mm)



This flexible flange requires a
special customer code in the
reference: 59-XXXX-XXXX.
GG02

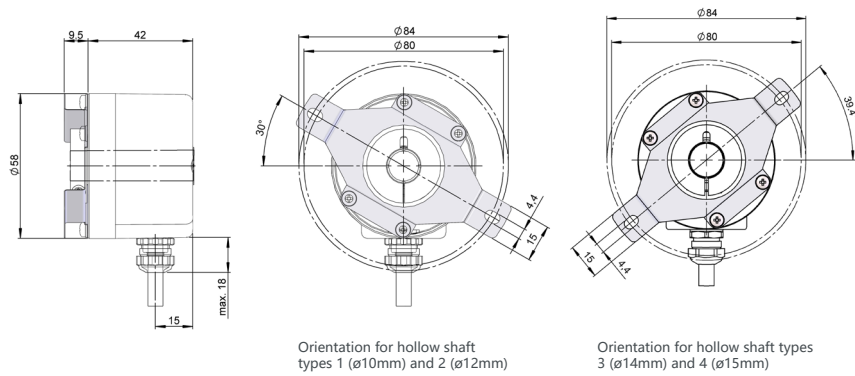
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Flexible flange 90.1045

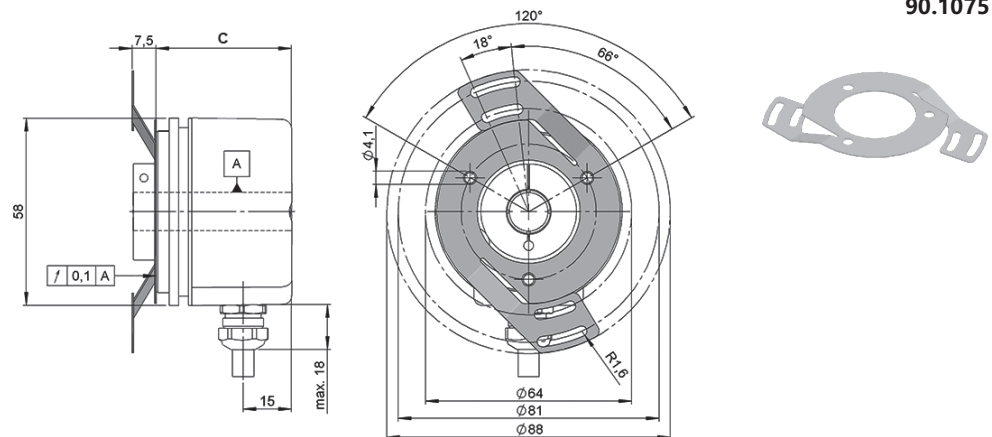
90.1045

⚠
This flexible flange requires a
special customer code in the
reference: 59-XXXX-XXXX.
GG02



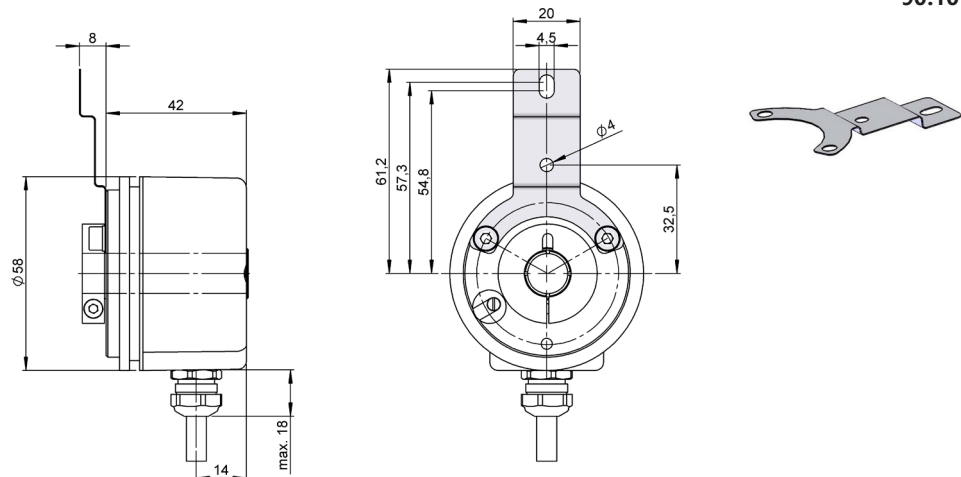
Flexible flange 90.1075

90.1075



Flexible flange 90.1076

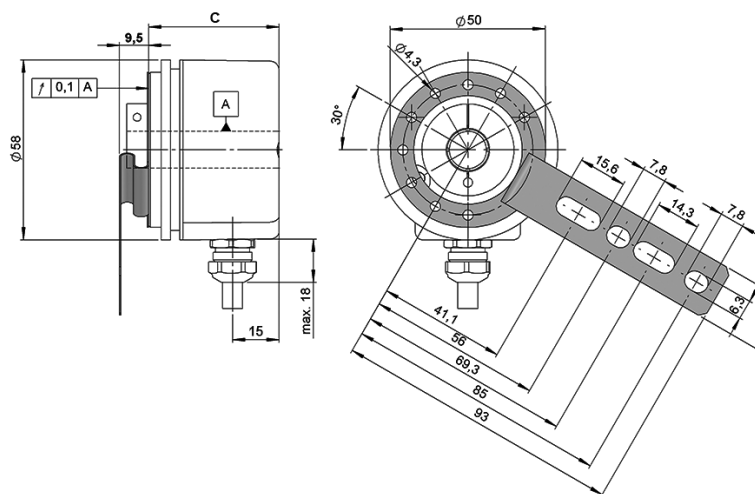
90.1076



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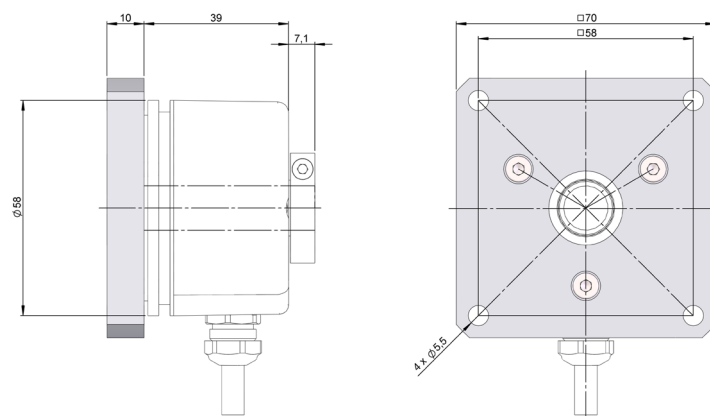
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Flexible flange
90.1095



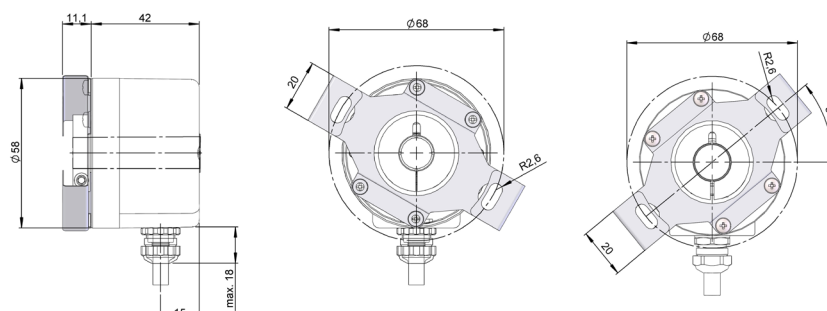
90.1095

Flange
93.0101379



93.0101379

Flexible flange
93.0102090



93.0102090



This flexible flange requires a special customer code in the reference: 59-XXXXX-XXXXX.
GG02

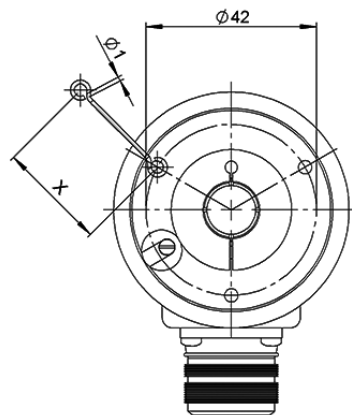
Orientation for hollow shaft types 1 (ø10mm) and 2 (ø12mm)

Orientation for hollow shaft types 3 (ø14mm) and 4 (ø15mm)

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Anti-turn stick



90.1033	X= 33 mm
90.1044	X= 83 mm
90.1043	X= 132 mm

(*) other length available on order