# Assembly Instruction for Kit Version (No shaft Flange)

Kit versions are available in the following types :

| | | | |
|---|---|---|---|
| 22A ERCK | 28A ERCK | 25A RSK | 30A RSK |
| 22I ERCK | 28I ERCK | 25I RSK | 30I RSK |
| 22P ERCK | 28P ERCK | 25P RSK | 30P RSK |
| 22Y ERCK | 28Y ERCK | 25Y RSK | 30Y RSK |
| 22W ERCK | 28W ERCK | 25W RSK | 30W RSK |
| 22C ERCK | 28C ERCK | 25C RSK | 30C RSK |

By default, magnet is provided with all Kit versions. Magnet holders with magnet fixed on it are provided on request. Magnet holders should be pressed down on the application shaft. Magnet holder for shaft diameters of 1/8", 4 mm, 6 mm, 1/4" and 8 mm are available. Also customized magnet holders to fit special shafts are available on request. User can select the magnet holder according to shaft diameter for their application. Fig A shows the kit version with the different parts. Fig B1 shows a magnet fixed on the magnet holder. Fig B2 shows a magnet holder. Figures C1 to C5 shows magnet holders of different diameters.
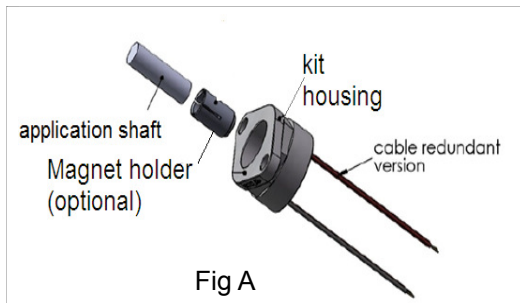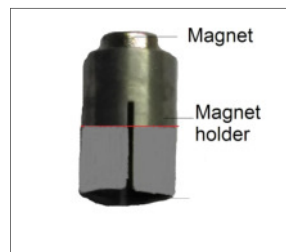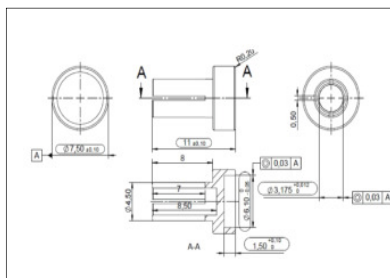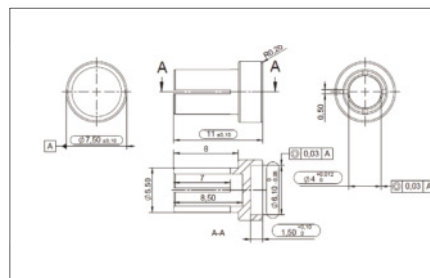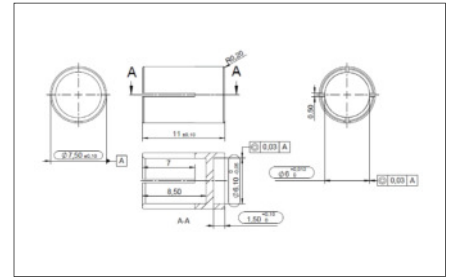
**Magnet Holder**


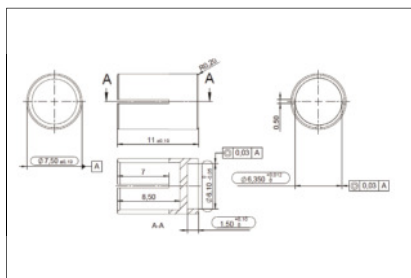
Fig A



Fig B1



Fig B2



Fig C1



Fig C2



Fig C3



Fig C4
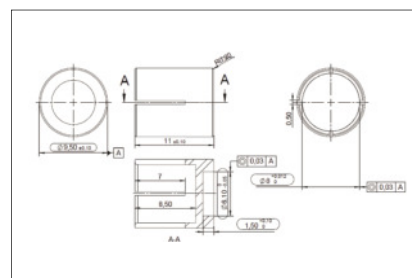


Fig C5

Following table shows the partcodes for different sizes of the magnet holders :

| Fig. Nos | Size | Partcode |
|---|---|---|
| C1 | Magnet holder of 1/8" diameter with glued magnet | 340503 |
| C2 | Magnet holder of 4 mm diameter with glued magnet | 340500 |
| C3 | Magnet holder of 6 mm diameter with glued magnet | 340501 |
| C4 | Magnet holder of 1/4" diameter with glued magnet | 340504 |
| C5 | Magnet holder of 8 mm diameter with glued magnet | 340502 |

# A. Procedure for assembly of kit version using magnet holder

1. Press down the magnet holder (with magnet fitted on it) to the application shaft.
2. Take the sensor & bring it concentric to the magnet holder mounted on shaft. Concentricity of magnet with inner diameter i.e blind hole should be maintained while assembling the encoder.
3. Fix two holes of the flange of kit in such a way that the mounting surface of kit is at distance of x mm from edge of the magnet holder.
4. This distance x will ensure the correct air gap required between hall IC and magnet to give optimum output. The distance x is given in below table.

| RotaCol series | Distance (x) between edge of the magnet holder and kit flange mounting surface for different Outputs | | | |
| --- | --- | --- | --- | --- |
| | Analog / PWM | SPI | Analog, SPI, PWM - 2C | Incremental, SSI, I2C |
| Ecoline, RS speed Connect | 6.3±0.5 | 6.3±0.5 | 5.8±0.5 | 5.3±0.5 |
| LoColine | 5.7±0.5 | 5.3±0.5 | | 5.3±0.5 |
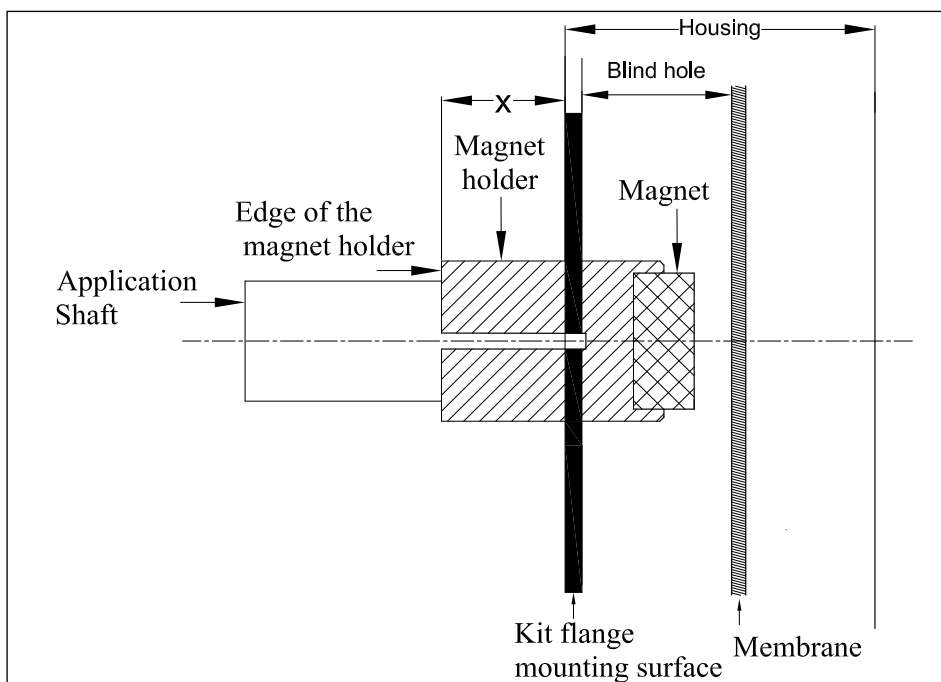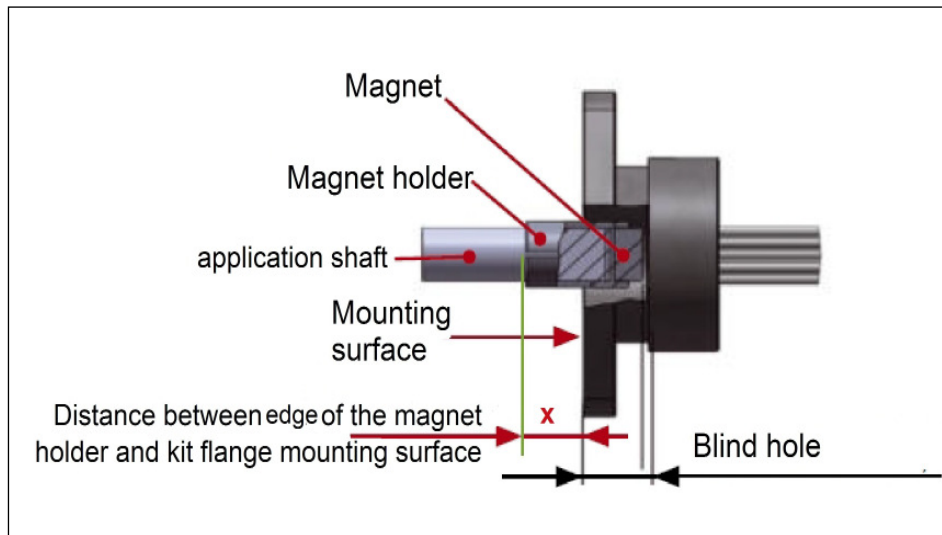
6. **Concentricity** : Take care that the magnet holder with magnet fixed on it should be concentric to the blind hole. Any variation in the concentricity will affect the output. Surface of magnet and blind hole should be parallel to each other. Please refer below table.
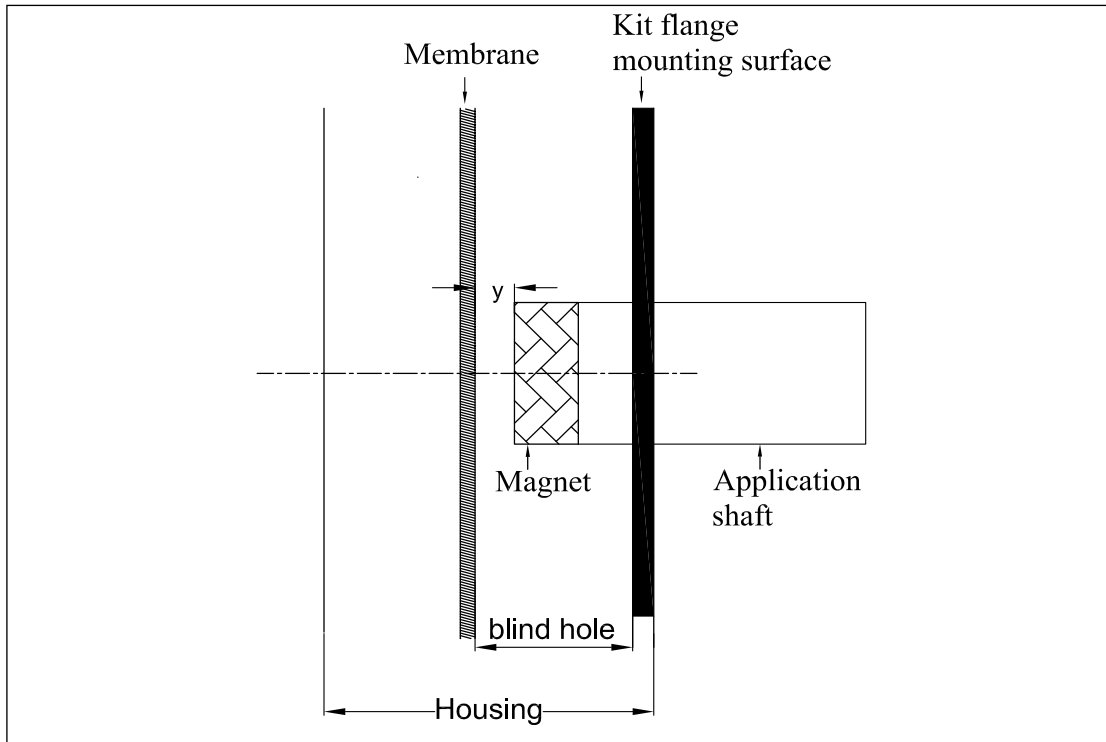
| Influence of an excentric position of the magnet relative to the housing to the signal of the sensor | |
|---|---|
| **Excentricity** | **Max. variance / 360°** |
| 0.5 mm | 0.6° |
| 0.75 mm | 1.2° |

## B. Assembly for kit version without magnet holder

1. Glue the magnet  directly on the user shaft.
2. Take the sensor & bring it concentric to the magnet glued on shaft. Concentricity of magnet with inner diameter i.e blind hole should be maintained while assembling encoder.
3.  Fix two holes of the flange of kit to this position as shown in fig to ensure the distance  y given in the table below.

| RotaCol series | Distance (y) between blind hole and magnet surface for different Outputs | | | |
|---|---|---|---|---|
| | **Analog, PWM** | **SPI** | **Analog, SPI, PWM - 2C** | **Incremental, SSI, I²C** |
| **Ecoline, RS speed Connect** | 1.2±0.1 | 1.2±0.1 | 0.7±0.1 | 0.2±0.1 |
| **LoColine** | 0.6±0.1 | 0.2±0.1 | | 0.2±0.1 |
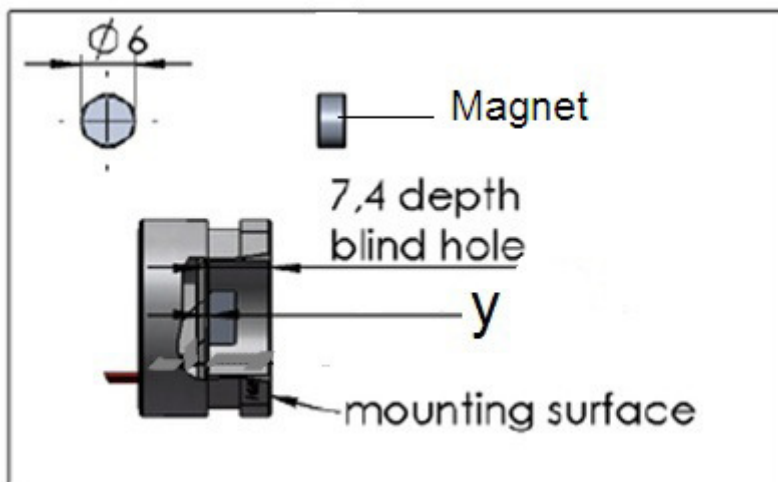
4. **Concentricity** :Take care that shaft with glued magnet should be concentric to the blind hole. Any variation in the concentricity will affect the output. Surface of magnet and blind hole should be parallel to each other. Please refer below table.

| Influence of an excentric position of the magnet relative to the housing to the signal of the sensor | |
|---|---|
| **Excentricity** | **Max. variance / 360°** |
| 0.5 mm | 0.6° |
| 0.75 mm | 1.2° |