

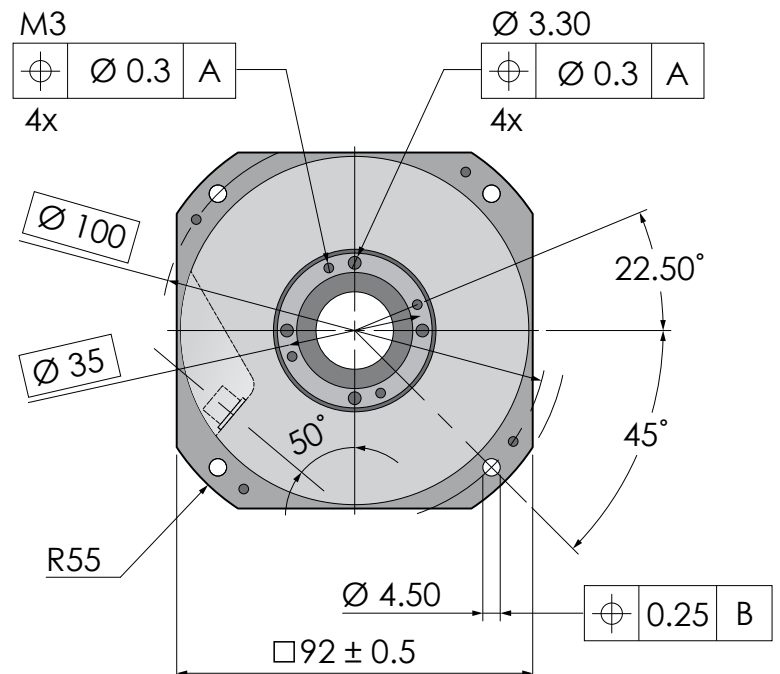
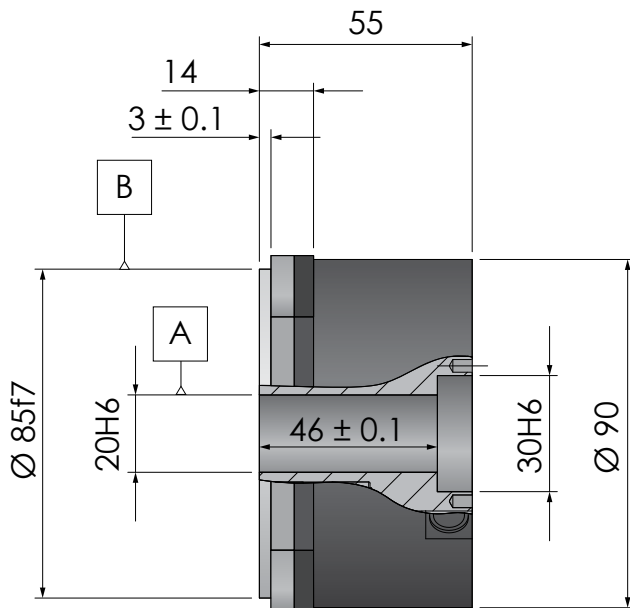
## AH 90 series

- Hollow shaft w built in housing coupling
- 18,000 lines per disc
- Accuracy up to  $\pm 2.5$  arc seconds
- Typically used precision positioning and synchronization of rotary tables, and industrial robots



### Compatible with:

- Heidenhain RON 200 series - RON 225 RON 275 RON 280, RON 285, RON 287, RON 285C, and RON 287C
- Fagor H-D90



# AH 90 series

|                               | AH 9001                                                 | AH9002    | AH 9005   | AH 9010 | AH 9000                              |
|-------------------------------|---------------------------------------------------------|-----------|-----------|---------|--------------------------------------|
| Line count                    | 18,000                                                  |           |           |         |                                      |
| Pulses per revolution         | 18,000                                                  | 36,000    | 90,000    | 180,000 | 18,000                               |
| Output Signal                 | TTL/RS422                                               |           |           |         | 1 Vpp, differential                  |
| Max. output frequency         | ≥ 160 kHz                                               | ≥ 320 kHz | ≥ 800 kHz | ≥ 1 MHz | ≥ 180 kHz                            |
| Max. mechanical speed         | 5,000 RPM                                               |           |           |         |                                      |
| Measuring step                | 0.005°                                                  | 0.0025°   | 0.001°    | 0.0005° | <i>depends on external circuitry</i> |
| Accuracy grade                | ± 5 arc sec and ± 2.5 arc sec                           |           |           |         |                                      |
| Reference mark                | Single or 36 distance coded marks per revolution        |           |           |         |                                      |
| Permissible axial shaft play  | 0.1 mm                                                  |           |           |         |                                      |
| Supply voltage                | 5 V ± 5%                                                |           |           |         |                                      |
| Supply current (without load) | ≤ 150 mA                                                |           |           |         |                                      |
| Outlet type                   | Cable or housing connector (HR25 miniature 8 pin round) |           |           |         |                                      |
| Max. cable length             | 100 m                                                   |           |           |         | 150 m                                |
| Environmental protection      | IP64 (IEC 60529)                                        |           |           |         |                                      |
| Operating temperature range*  | -20°C...+70°C                                           |           |           |         |                                      |
| Storage temperature range     | -30°C...+80°C                                           |           |           |         |                                      |
| Humidity                      | 98% (non-condensing)                                    |           |           |         |                                      |
| Vibration (55 ÷ 2000 Hz)      | ≤ 100 m/s <sup>2</sup> (IEC 60068-2-6)                  |           |           |         |                                      |
| Shock (6 ms)                  | ≤ 300 m/s <sup>2</sup> (IEC 60068-2-27)                 |           |           |         |                                      |
| Weight (without cable)        | Approx. 1.1 kg (2.4 lb)                                 |           |           |         |                                      |
| Rotor moment of inertia       | ≤ 65 · 10 <sup>-6</sup> kgm <sup>2</sup>                |           |           |         |                                      |
| Starting torque               | ≤ 0.08 Nm                                               |           |           |         |                                      |
| Natural frequency             | ≥ 10,000 Hz                                             |           |           |         |                                      |

\*for best accuracy, operating outside 0°C...+50°C is not recommended

## Ordering Guide *example: AH 9005-D-4*

| AH 90XX                                                                                                                                    | -X                                                                                                             | -X                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Model</b> <ul style="list-style-type: none"> <li>AH 9000</li> <li>AH 9001</li> <li>AH 9002</li> <li>AH 9005</li> <li>AH 9010</li> </ul> | <b>Reference mark</b> <ul style="list-style-type: none"> <li>S - single</li> <li>D - distance coded</li> </ul> | <b>Outlet type</b> <ul style="list-style-type: none"> <li>C - housing connector</li> <li>1 - 1m cable</li> <li>2 - 2m cable</li> <li>3...</li> </ul> |