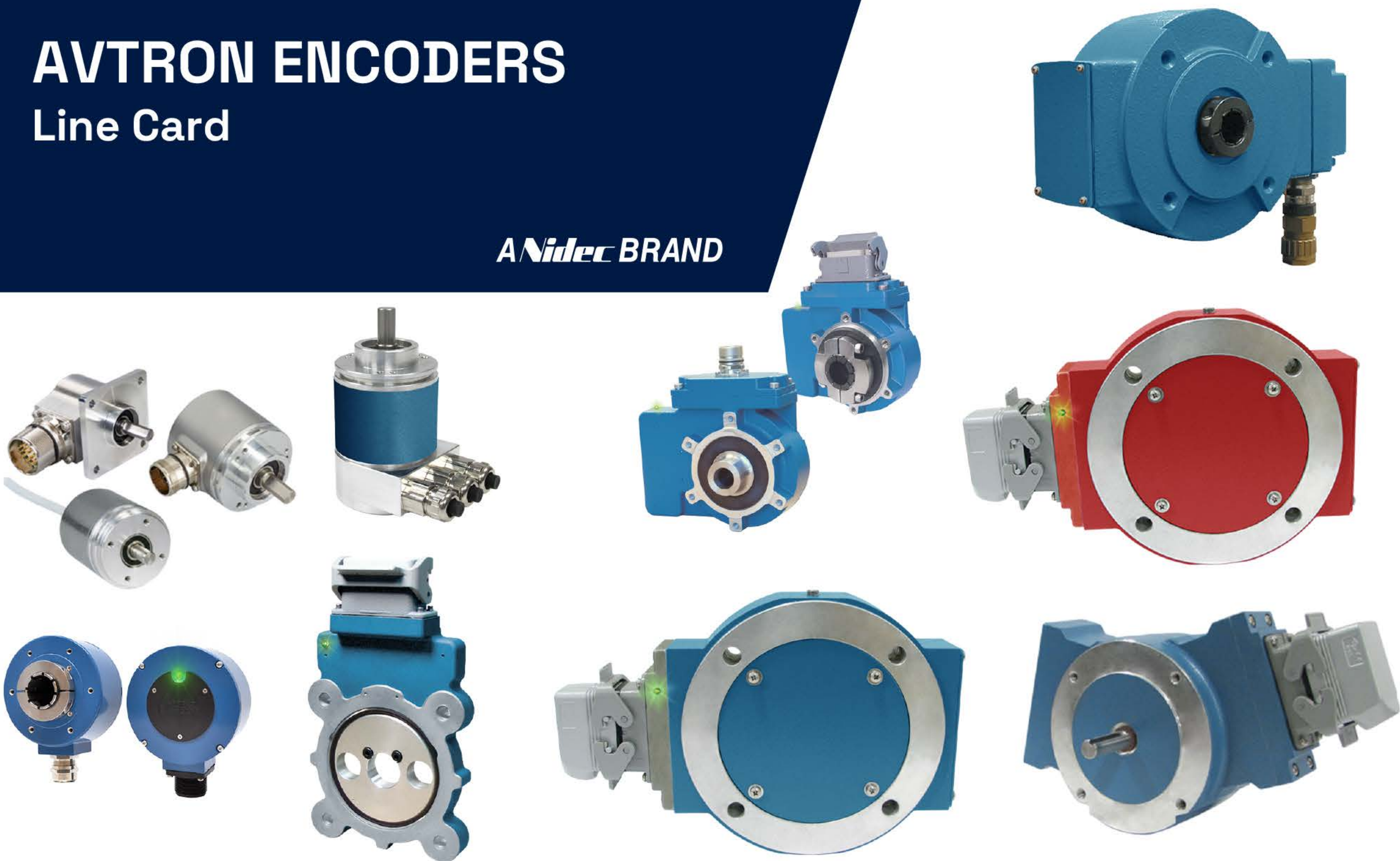


**AVTRON ENCODERS**  
Line Card

*A Nidec* BRAND







Avtron Encoders are the world's largest-selling brand of heavy and harsh duty encoders. We sell to a wide range of industries from paper mills to metals, mining, wind power and oil & gas drilling. Anywhere an encoder failure would cost money and downtime, you need an Avtron Encoder.

#### Why Avtron Encoders are Superior:

- More durable than competitive units
- Cast aluminum housings
- Potted electronics
- Oversized bearings
- Modular models have no bearings
- Wide-Gap technology
- LED Diagnostics

Avtron magnetic sensors increase reliability by being impervious to the dirt, dust, oil and liquids that disable optical encoders. Every Avtron Encoder is 100% tested - not sampled or randomly selected. Some Avtron models have experienced over 4,500,000 hours Mean-Time-Between-Failure in outdoor applications!

#### Benefits:

- Your production line and machinery will work longer
- Resistance to impacts, liquids and dust ensures reliability
- Slash mean-time-to-diagnose and repair
- 24/7/365 no-charge engineering technical support
- 24-hour rush shipping available

Please visit [www.avtronencoders.com](http://www.avtronencoders.com) to configure your encoder model today.

#### Couplings:

Avtron Encoders offers a wide range of different couplings to pair with your shafted encoder.

#### Cables and Connectors:

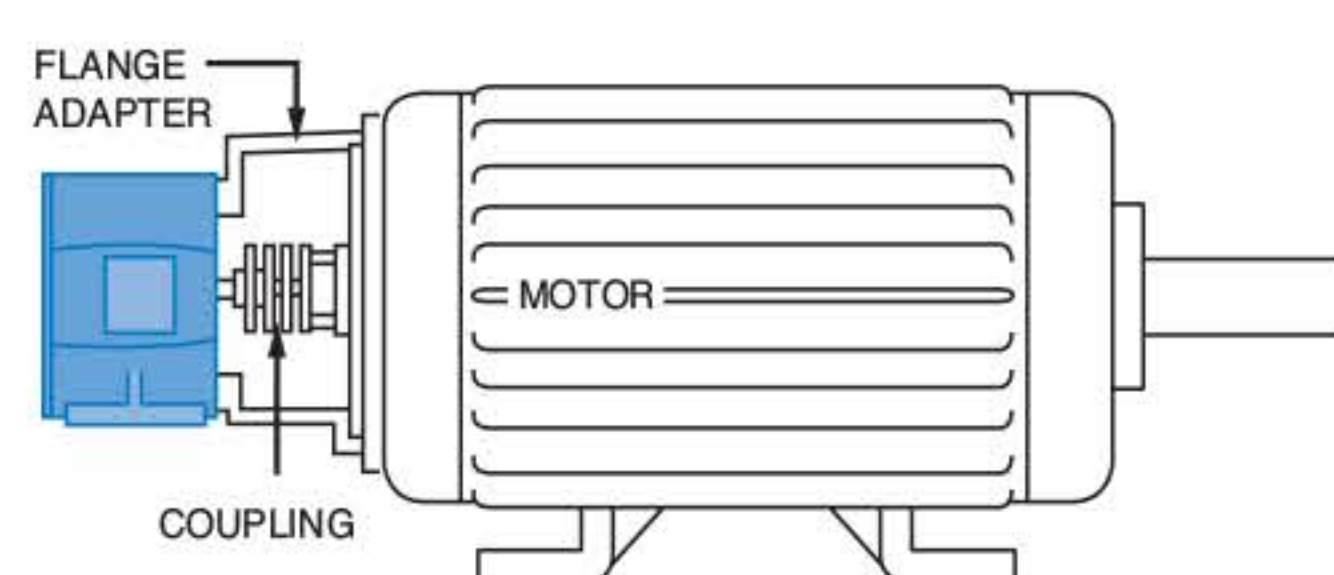
To ensure your encoder can produce the best signal possible in any application, we offer high quality cables and connectors in a number of different variations and options.

Scan the QR code to select the correct couplings, cables and connectors for your encoder model today.



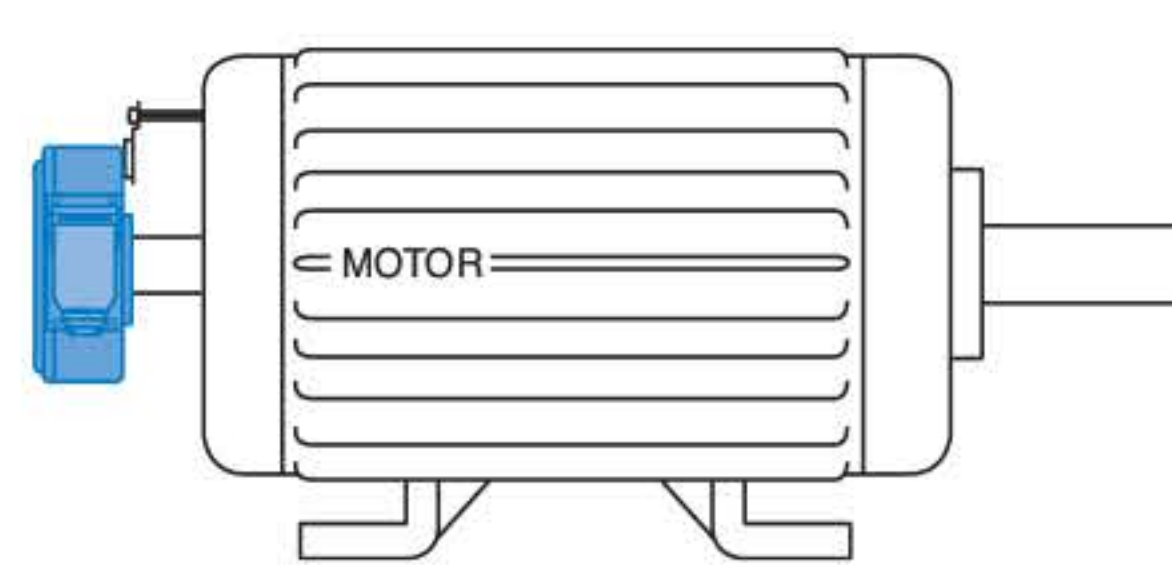
#### MOUNTING STYLES:

##### SHAFTED



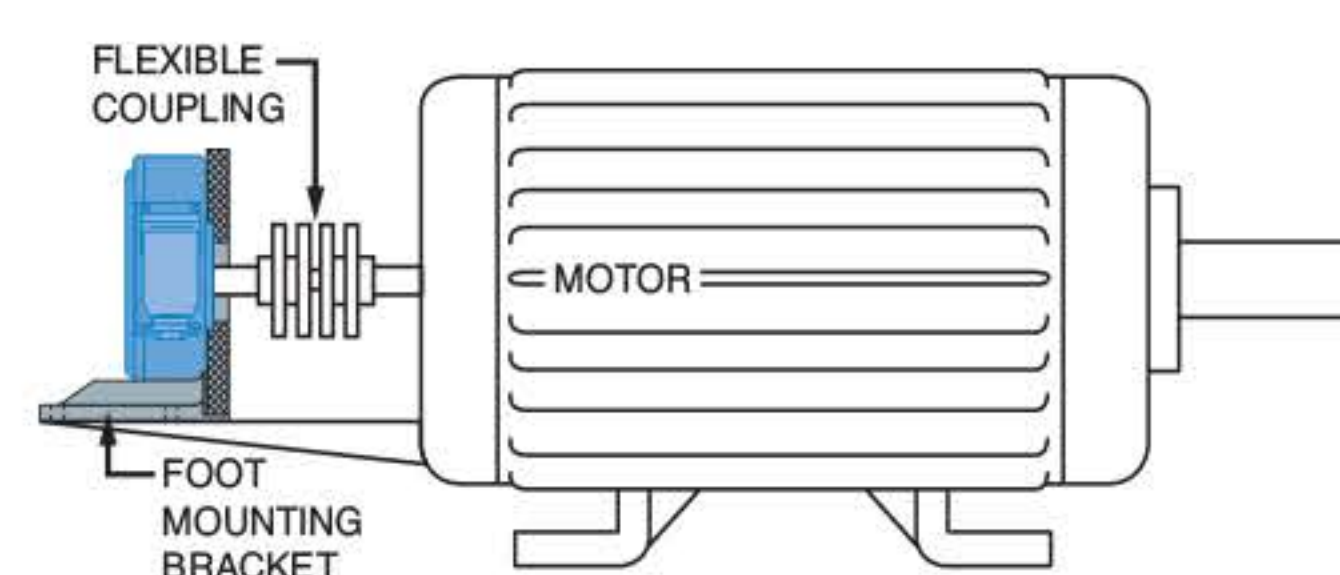
**Flange Mounting**  
(Solid Shaft Coupled) Requires flange adapter with coupling.

##### HOLLOW SHAFT



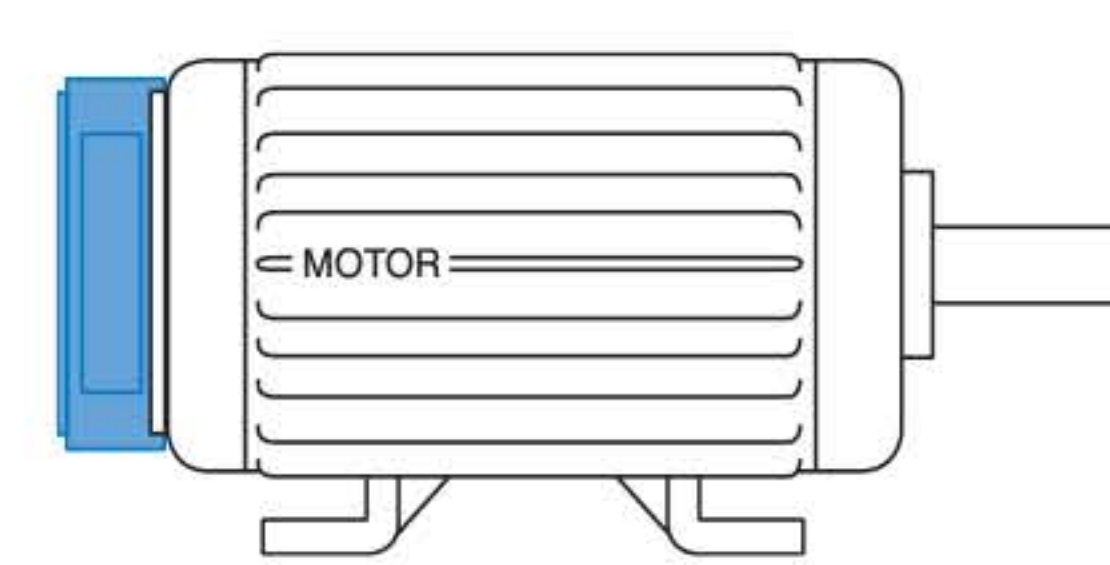
**Hollow Shaft/Tether Mounting**  
Stub shaft required. Shaft requirements depend on the encoder selected.

##### SHAFTED



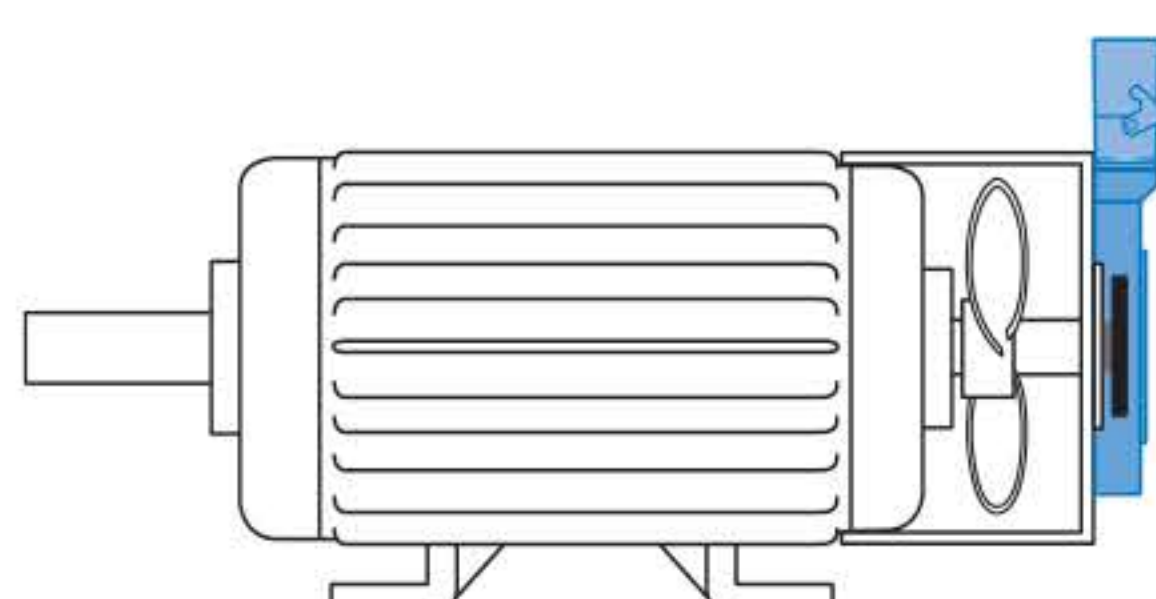
**Foot Mounting**  
Used when encoders are coupled directly to rolls, gear boxes, or motors without C-Faces.

##### MODULAR



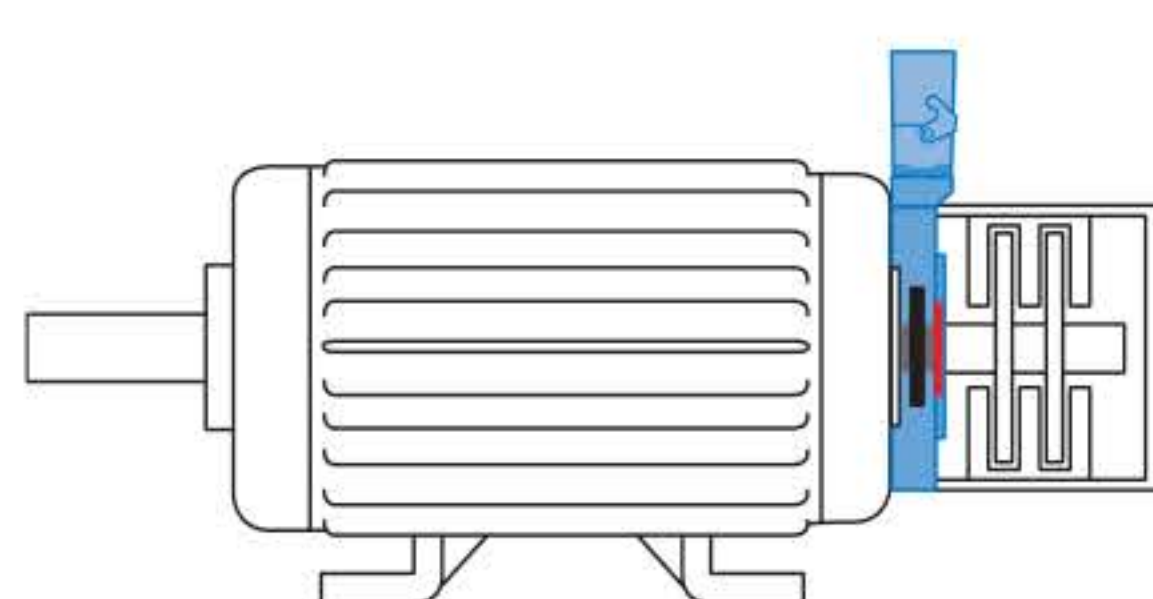
**C/FC Face Mounting**  
Requires motor stub shaft & one of the following: 115mm, 4.5", 6.75", 8.5" 12.5" C/F C-Face.

##### FAN COOLED



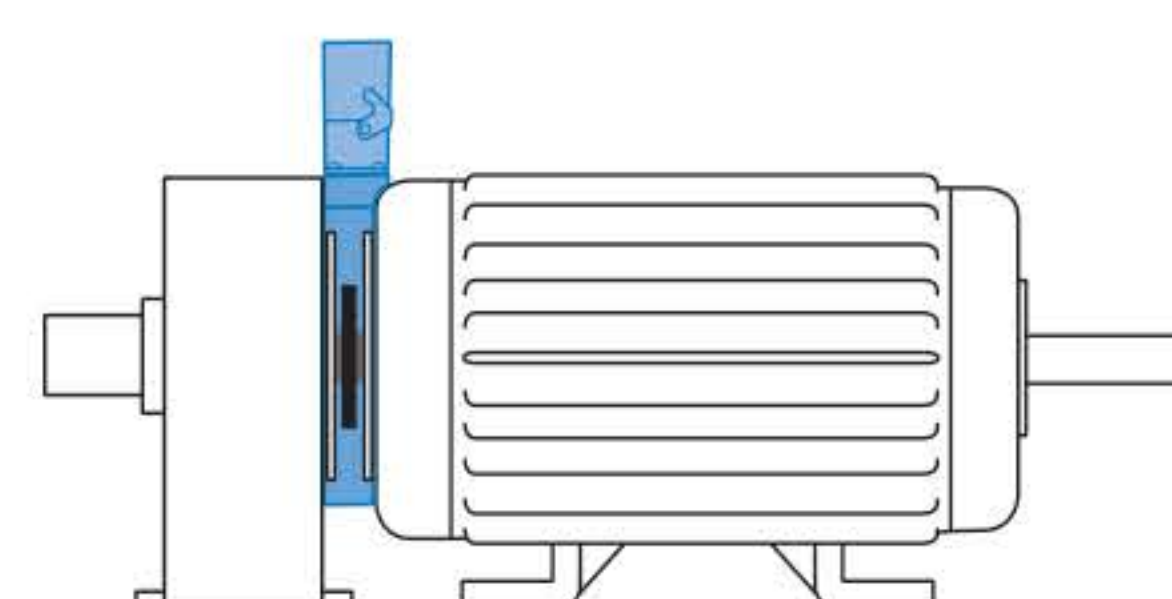
**Fan cooled/Blower cooled**  
Can be mounted before or after the blower.

##### BREAK



**Break-Motor**  
Requires a C-Flange between the motor and the break.

##### GEARBOX



**Gearmotor**  
Requires a C-Flange between the motor and the gear.



**AVTRON ENCODERS ARE THE MOST RELIABLE ENCODERS IN THE WORLD.**





AV850 - Paper Mill



HS35A - Packaging



SEVERE  
DUTY



HS40



AV485



AV685



M6C



XPH8



HEAVY  
DUTY



SV850



AV56A



AV45



AV850



HS45



MILL  
DUTY



HS35X



HS44



AV6M



AV32



HS6M



M3



LIGHT  
MILL DUTY



AV6A



AV20



HS35A



AV4

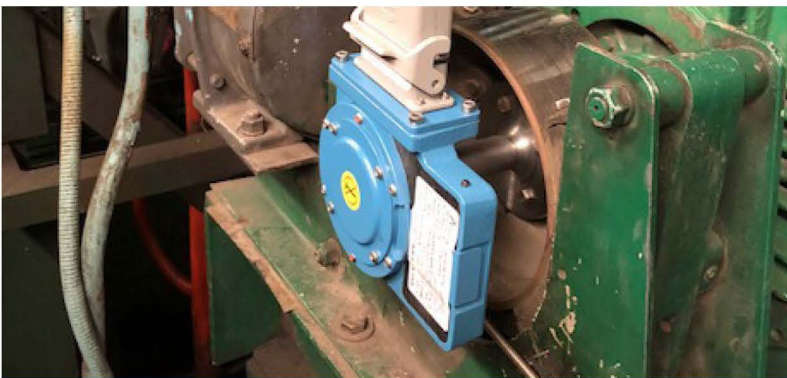


HS4

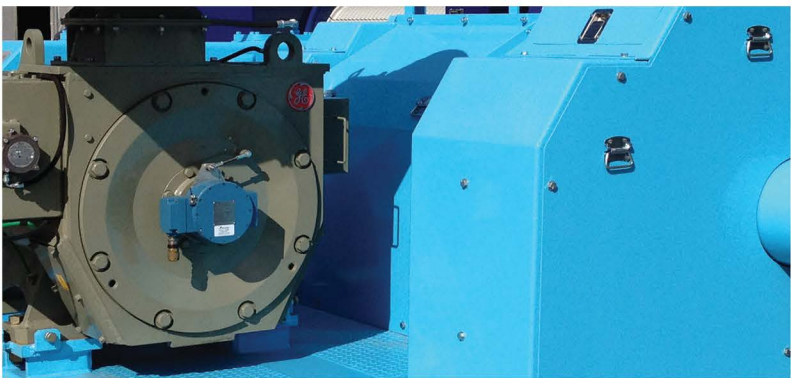




M4 - Marine Hoist



HS45 - Steel Mill



M6C - Draw Works



AV32 - Conveyor

ENCODER PRODUCT COMPARISON

|                  | Non-Hazardous Application Models and Options |          |                   |                 |                  | Safety Apps.            | Hazardous Duty Applications                                                                                                    |                   |                       |                   |                |             |      | All Application Options (Hazardous and Non-Hazardous) |                    |            |                             |                |               |              |             |            |                     |             |  |
|------------------|----------------------------------------------|----------|-------------------|-----------------|------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------|-------------------|----------------|-------------|------|-------------------------------------------------------|--------------------|------------|-----------------------------|----------------|---------------|--------------|-------------|------------|---------------------|-------------|--|
| Enclosure        | Mounting Style                               | Model    | Temperature Range | Grounding Brush | Overspeed Switch | Functional Safety Apps. | Intrinsically Safe Model                                                                                                       | Temperature Range | Explosion Proof Model | Temperature Range | Certifications |             |      | Sensing                                               | Shaft or Bore Size |            | Pulses Per Revolution (PPR) | Max Turn Count | Max Speed RPM | Max Freq kHz | Max Outputs | Thru Shaft | Replaceable Sensors | Diagnostics |  |
|                  |                                              |          |                   |                 |                  |                         |                                                                                                                                |                   |                       |                   | UL CI /Div     | UL CI /Zone | ATEX |                                                       | US                 | Metric     |                             |                |               |              |             |            |                     |             |  |
| Severe Mill Duty | Modular Sensor                               | AV5      | -40C...+120C      | -               | ✓                | SV5                     | XR5                                                                                                                            | -40C...+80C       | XP5                   | -50C...+80C       | ✓              | ✓           | ✓    | ☑                                                     | 5/8" - 4 1/2"      | 16mm-115mm | 4-100000                    | 1              | 6000          | 250kHz       | 1           | ✓          | ✓                   | ✓           |  |
|                  | Modular Sensor                               | AV12     | -40C...+120C      | -               | ✓                |                         | XR12                                                                                                                           | -40C...+80C       |                       |                   | ✓              | ✓           | ✓    | ☑                                                     | 1 3/8" - 7 7/8"    | 25-200mm   | 4-50000                     | 1              | 6000          | 250kHz       | 1           | ✓          | ✓                   | ✓           |  |
|                  | Face or Foot                                 | ▲ AV30   | -30C...+85C       | -               | -                |                         |                                                                                                                                |                   |                       |                   |                |             |      | ☑                                                     | 1/4" - 3/8"        | 6mm-11 mm  | 8192                        | 1-32768        | 5000          | NA           | 1           | -          | -                   | ✓           |  |
|                  | 56C Face or Foot                             | »» AV485 | -40C...+120C      | ✓               | ✓                |                         | XR485                                                                                                                          | -40C...+80C       |                       |                   | ✓              | ✓           | ✓    | ☑                                                     | 5/8"               | 15.88mm    | 4-50000                     | 1              | 5000          | 250kHz       | 2           | ✓          | ✓                   | ✓           |  |
|                  | Hollow Shaft                                 | ▲ HS40   | -30C...+85C       | -               | -                |                         |                                                                                                                                |                   |                       |                   |                |             |      | ☑                                                     | 5/8" - 1 1/8"      | 16-30mm    | 8192                        | 1-32768        | 5000          | NA           | 1           | -          | -                   | ✓           |  |
|                  | Hollow Shaft                                 | »» AV685 | -40C...+120C      | ✓               | ✓                |                         | XR685                                                                                                                          | -40C...+80C       |                       |                   | ✓              | ✓           | ✓    | ☑                                                     | 1 1/8"             | 28.58mm    | 4-50000                     | 1              | 5400          | 250kHz       | 2           | ✓          | ✓                   | ✓           |  |
| Heavy Mill Duty  | B10 or PY Face                               | AV44     | -30C...+100C      | ✓               | ✓                |                         |                                                                                                                                |                   |                       |                   |                |             |      | ☑                                                     | 5/16"              | 11mm       | 1-10000                     | 1              | 6000          | 250kHz       | 2           | -          | -                   | ✓           |  |
|                  | B10 Face or Foot                             | AV45     | -40C...+100C      | -               | ✓                |                         | XR4F                                                                                                                           | -40C...+80C       |                       |                   | ✓              | ✓           | ✓    | ☑                                                     | 1/2"               | 10mm-18mm  | 8-5000                      | 1              | 5000          | 165kHz       | 2           | -          | -                   | ✓           |  |
|                  | Modular 4.5"                                 | AV56A    | -40C...+100C      | -               | ✓                |                         | XR56                                                                                                                           | -40C...+80C       |                       |                   | ✓              | ✓           | ✓    | ☑                                                     | 1/2" - 3 3/16"     | 10-85mm    | 4-5000                      | 1              | 5400          | 250kHz       | 2           | ✓          | -                   | ✓           |  |
|                  | Modular 4.5"                                 | AV56S    | -40C...+100C      | -               | ✓                |                         |                                                                                                                                |                   |                       |                   |                |             |      | ☑                                                     | 1/2" - 3 3/16"     | 10-85mm    | 4-5000                      | 1              | 5400          | 250kHz       | 1           | ✓          | -                   | ✓           |  |
|                  | Modular 6.75"                                | AV67A    | -40C...+100C      | -               | ✓                |                         |                                                                                                                                |                   |                       |                   |                |             |      | ☑                                                     | 1/2" - 3 3/16"     | 10-85mm    | 4-5000                      | 1              | 5400          | 250kHz       | 1           | ✓          | -                   | ✓           |  |
|                  | Modular 8.5"                                 | AV85A    | -40C...+100C      | -               | ✓                |                         | XR85                                                                                                                           | -40C...+80C       |                       |                   | ✓              | ✓           | ✓    | ☑                                                     | 1/2" - 3 3/16"     | 10-85mm    | 4-5000                      | 1              | 5400          | 250kHz       | 2           | ✓          | -                   | ✓           |  |
|                  | Modular 115mm                                | AV115    | -40C...+100C      | -               | ✓                |                         | XR115                                                                                                                          | -40C...+80C       |                       |                   | ✓              | ✓           | ✓    | ☑                                                     | 1/2" - 3 3/16"     | 10-85mm    | 4-5000                      | 1              | 5400          | 250kHz       | 2           | ✓          | -                   | ✓           |  |
|                  | Modular 12.5"                                | AV125    | -40C...+100C      | -               | ✓                |                         | XR125                                                                                                                          | -40C...+80C       |                       |                   | ✓              | ✓           | ✓    | ☑                                                     | 1 3/8" - 7 7/8"    | 25-200mm   | 4-5000                      | 1              | 5000          | 250kHz       | 2           | ✓          | ✓                   | ✓           |  |
|                  | Modular 8.5"                                 | AV850    | -40C...+100C      | -               | ✓                | SV850                   | XR850                                                                                                                          | -40C...+80C       | XP8                   | -50C...+85C       | ✓              | ✓           | ✓    | ☑                                                     | 5/8" - 4 1/2"      | 16mm-115mm | 4-5000                      | 1              | 6000          | 250kHz       | 2           | ✓          | ✓                   | ✓           |  |
|                  | Hollow Shaft                                 | HS44     | -30C...+100C      | ✓               | ✓                |                         |                                                                                                                                |                   |                       |                   |                |             |      | ☑                                                     |                    | 12-17mm    | 1-10000                     | 1              | 6000          | 250kHz       | 2           | -          | -                   | ✓           |  |
|                  | Hollow Shaft                                 | HS45     | -40C...+100C      | -               | ✓                |                         | XR45                                                                                                                           | -40C...+80C       |                       |                   | ✓              | ✓           | ✓    | ☑                                                     | 5/8" - 1 3/8"      | 16-30mm    | 8-5000                      | 1              | 5000          | 165kHz       | 2           | ✓          | -                   | ✓           |  |
|                  | Hollow Shaft                                 | M7       | -45C...+80C       | -               | -                |                         |                                                                                                                                |                   | M6C                   | -40C...+80C       | -              | -           | ✓    | ☑                                                     | 1" - 1 1/8"        | 25-60mm    | 240-1200                    | 1              | **5000        | 150kHz       | 2           | -          | -                   | ✓           |  |
| Mill Duty        | Modular Au-to-Center                         | AV32     | -40C...+100C      | -               | -                |                         |                                                                                                                                |                   |                       |                   |                |             |      | ☑                                                     | 1/4" - 1"          | 4-25mm     | 32-5000                     | 1              | 6000          | 250kHz       | 1           | -          | -                   | -           |  |
|                  | Hollow Shaft                                 | HS35M    | -20C...+85C       | -               | -                | *                       | -40°C rating is optional                                                                                                       |                   |                       |                   |                |             |      | ☑                                                     | 1/2" - 1 1/8"      | 12-20mm    | 1-3072                      | 1              | 4700          | 165kHz       | 2           | ✓          | -                   | -           |  |
|                  | Hollow Shaft                                 | M3       | -40C...+85C       | ✓               | ✓                | **                      | 3600 RPM maximum for bore > 2" [52mm]                                                                                          |                   |                       |                   |                |             |      | ☑                                                     | 1 1/2" - 2 3/8"    | 48-60mm    | 6000                        | 1              | **5000        | 150kHz       | 2           | ✓          | -                   | -           |  |
|                  | Hollow Shaft                                 | HS35X    | -40C...+100C      | -               | -                |                         |                                                                                                                                |                   |                       |                   |                |             |      | ☑                                                     | 1/2" - 1"          | 12-20mm    | 1-5000                      | 1              | 6000          | 125kHz       | 1           | ✓          | -                   | ✓           |  |
| Light Mill Duty  | Face or Foot                                 | AV4      | -40C...+85C       | -               | -                | »»»                     | May require additional cooling                                                                                                 |                   |                       |                   |                |             |      | ☑                                                     | 1/4", 3/8"         | 6-11mm     | 1-16384                     | 1              | 6000          | 1000kHz      | 1           | -          | -                   | ✓           |  |
|                  | Hollow Shaft                                 | HS4      | -40C...+85C       | -               | -                |                         |                                                                                                                                |                   |                       |                   |                |             |      | ☑                                                     | 1/4" - 5/8"        | 6 - 15mm   | 1-16384                     | 1              | 6000          | 1000kHz      | 1           | -          | -                   | ✓           |  |
|                  | Face or Foot                                 | ▲ AV6A   | -40C...+85C       | -               | -                | ^                       | Analog position signals of resolver are converted to digital signals by external analog-to-digital board not provided by Nidec |                   |                       |                   |                |             |      | ☑                                                     | 3/8"               | 6-10mm     | 256-65536                   | 1-16384        | *6k/12k*      | NA           | 1           | -          | -                   | ✓           |  |
|                  | Face or Foot                                 | ▲ AV6M   | -40C...+85C       | -               | -                |                         |                                                                                                                                |                   |                       |                   |                |             |      | ☑                                                     | 3/8"               | 6-10mm     | 4096-8192                   | 1-32768        | 12k           | NA           | 1           | -          | -                   | ✓           |  |
|                  | Face or Foot                                 | AV20     | -40C...+100C      | -               | -                | +                       | 6000 RPM multi-turn, 12000 RPM single-turn                                                                                     |                   |                       |                   |                |             |      | ☑                                                     | 1/4", 3/8"         | 10mm       | 1-3600                      | 1              | 6000          | 125kHz       | 1           | -          | -                   | -           |  |
|                  | Face or Foot                                 | AV25     | -40C...+100C      | -               | -                |                         |                                                                                                                                |                   |                       |                   |                |             |      | ☑                                                     | 1/4", 3/8"         | 10mm       | 1-5000                      | 1              | 6000          | 125kHz       | 1           | -          | -                   | -           |  |
|                  | Hollow Shaft                                 | ▲ HS6A   | -40C...+85C       | -               | -                | ▲                       | Absolute Encoder                                                                                                               |                   |                       |                   |                |             |      | ☑                                                     | 1/4 - 1/2"         | 8-15mm     | 256-65536                   | 1-16384        | *6k/12k*      | NA           | 1           | -          | -                   | ✓           |  |
|                  | Hollow Shaft                                 | ▲ HS6M   | -30C...+85C       | -               | -                |                         |                                                                                                                                |                   |                       |                   |                |             |      | ☑                                                     | 1/4 - 1/2"         | 6-15mm     | 4096-8192                   | 1-32768        | 12k           | NA           | 1           | -          | -                   | ✓           |  |
|                  | Hollow Shaft                                 | HS25A    | -20C...+100C      | -               | -                |                         | All values may vary, please consult factory or website.                                                                        |                   |                       |                   |                |             |      | ☑                                                     | 3/8" - 3/4         | 6-16mm     | 1-3600                      | 1              | 6000          | 125kHz       | 1           | -          | -                   | -           |  |
|                  | Hollow Shaft                                 | HS35A    | -20C...+100C      | -               | -                |                         |                                                                                                                                |                   |                       |                   |                |             |      | ☑                                                     | 1/2" - 1"          | 12-20mm    | 1-5000                      | 1              | 6000          | 125kHz       | 1           | ✓          | -                   | -           |  |

\* -40°C rating is optional

\*\* 3600 RPM maximum for bore > 2" [52mm]

»» May require additional cooling

^ Analog position signals of resolver are converted to digital signals by external analog-to-digital board not provided by Nidec

+ 6000 RPM multi-turn, 12000 RPM single-turn

▲ Absolute Encoder

All values may vary, please consult factory or website.





## COMPANY LOCATIONS

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