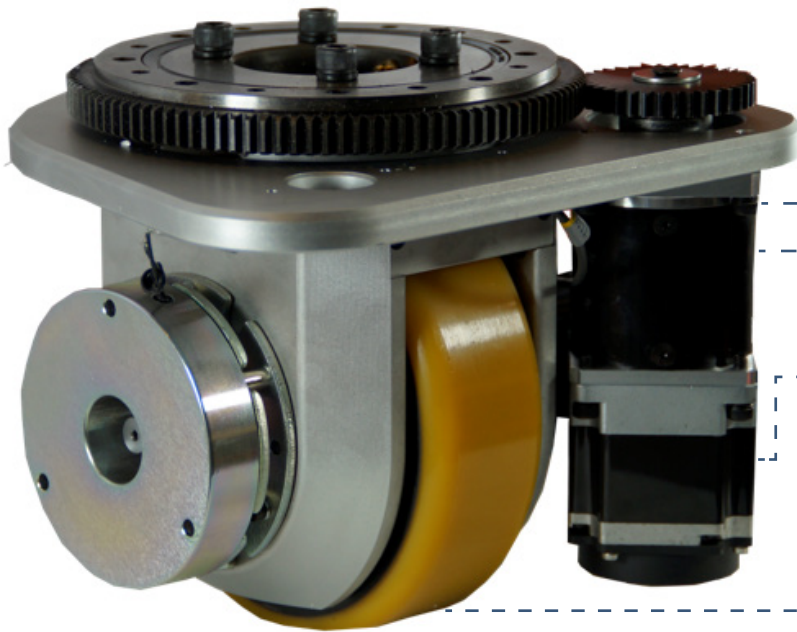


# Steering Wheel Module

## AB-SW-Customized Model

**ATOMBOTIX**



• **Rated Voltage:** 24/48V

• **Encoder:**

Incremental Encoder(2500 lines) /  
Absolute Encoder(NRZ Mode)/Posital  
Absolute Encoder(BissC Mode)

• **Communication Method:**

CAN/EtherCAT/RS485 Optional

• **Applicable Scenarios:**

Forklift Stacker, Pallet Truck,  
Lifting AMR/AGV,  
Platform AMR/AGV, Heavy Duty  
AGV, Elevated Work Platform, etc.



Integrated driving, Steering, Braking & Encoder assembly, built for robots.



Flexible Kinematic Design, Supports multiple kinematic mode.



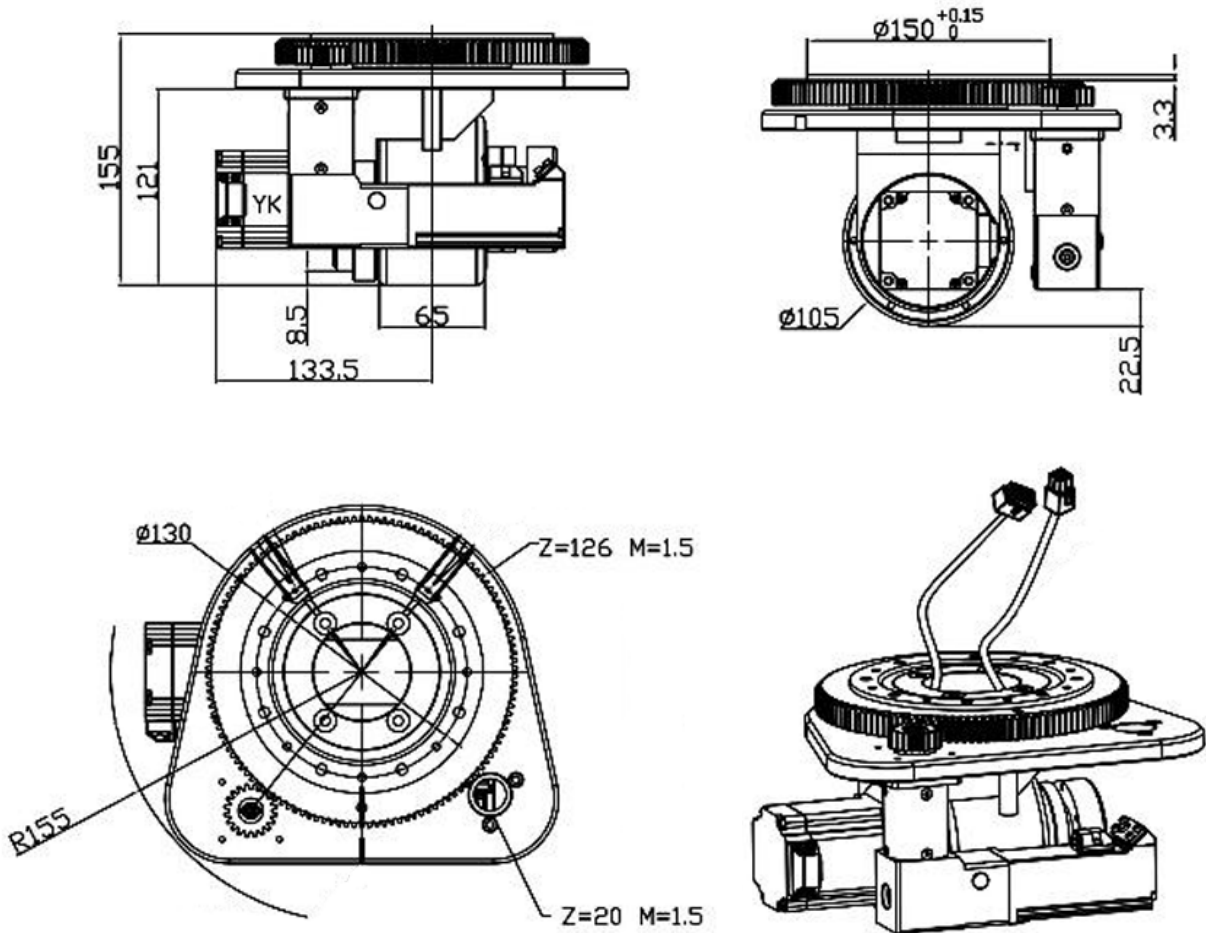
Servo System, Closed loop control with mm level accuracy.



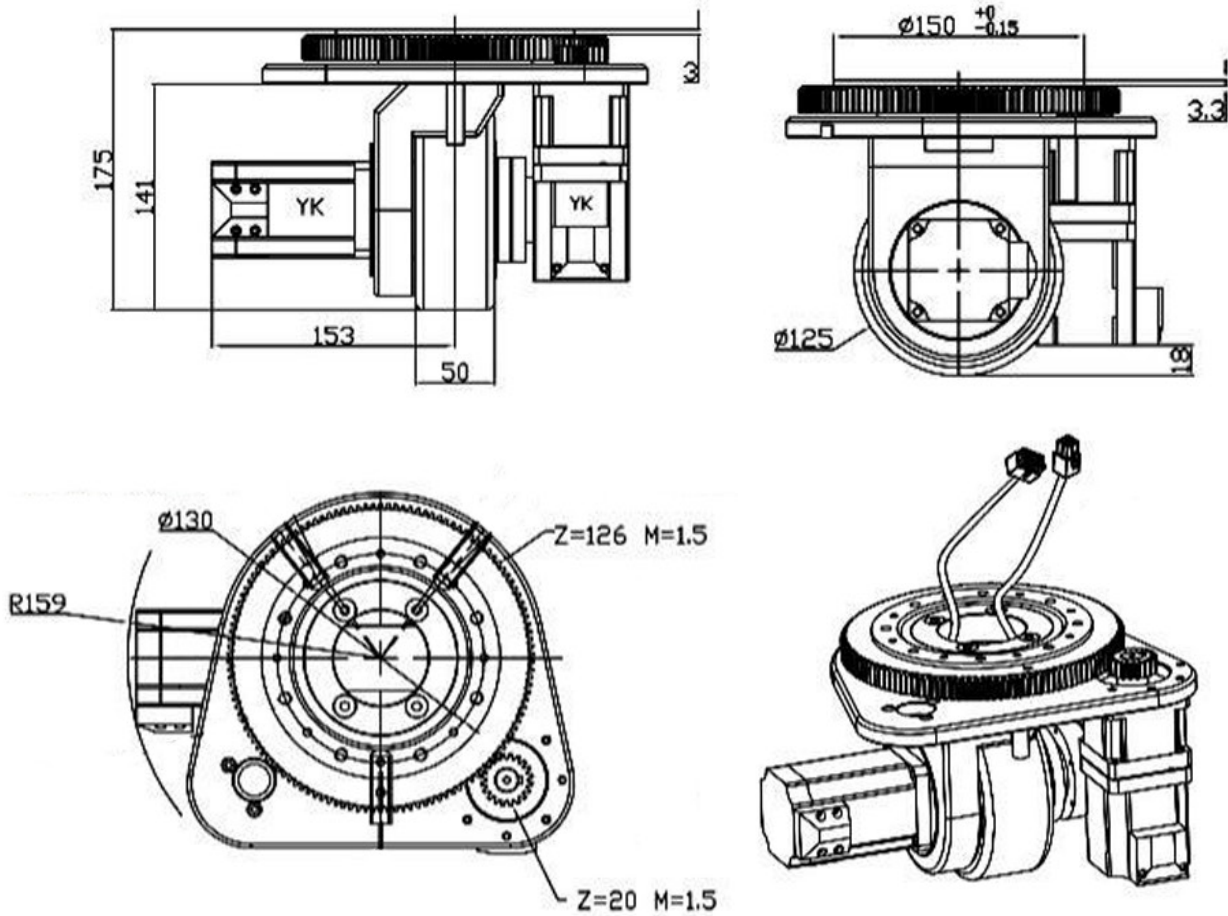
Modular Design, Easy maintenance & debugging.



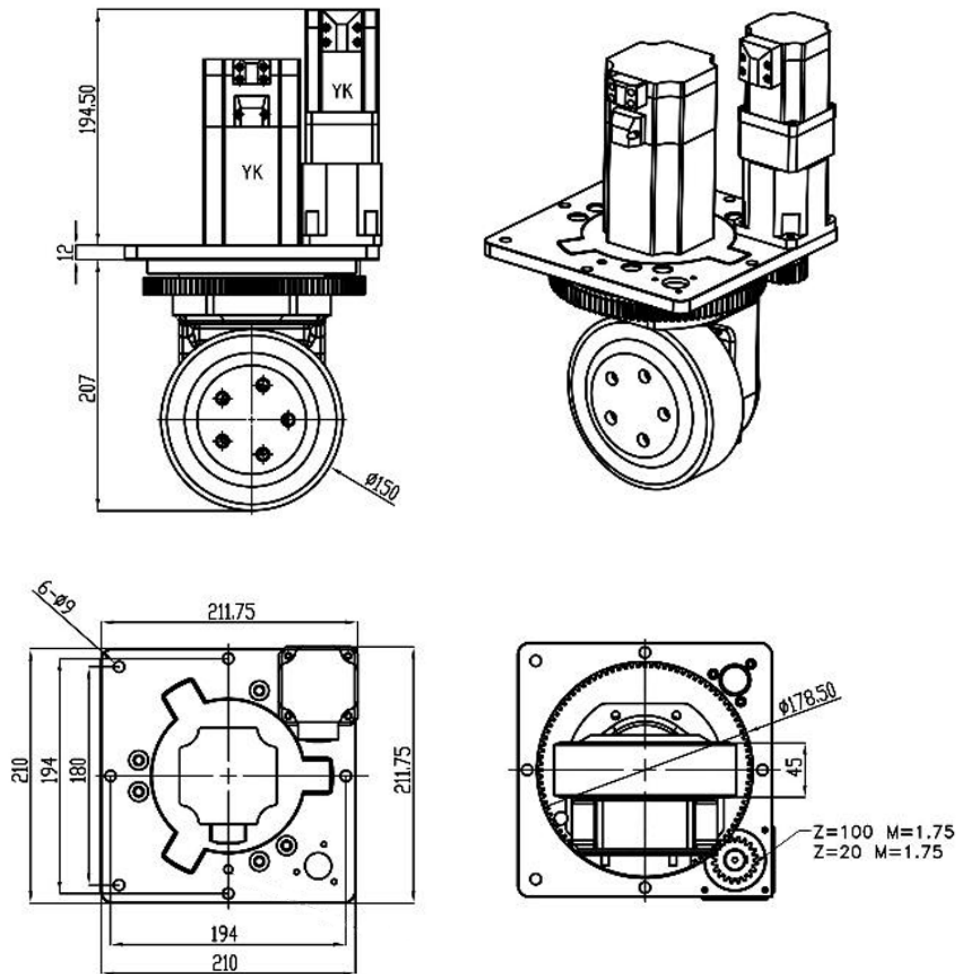
Flexible Customization, Application specific optmization.



|                                |                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D105-P0.4-C300</b>                                                                              |
| <b>Drive Motor</b>             |                                                                                                          |
| Wheel Diameter                 | 105 mm                                                                                                   |
| Height                         | 155 mm                                                                                                   |
| Working Voltage                | 48 V                                                                                                     |
| Rated Power                    | 0.4 kW                                                                                                   |
| Nominal Torque(Traction Motor) | 1.28 N·m                                                                                                 |
| Gear Ratio                     | 32                                                                                                       |
| Nominal Torque(Drive Motor)    | 34.80 N·m                                                                                                |
| RPM                            | 3000                                                                                                     |
| Encoder                        | Incremental Encoder(2500 lines)                                                                          |
| <b>Steering Motor</b>          |                                                                                                          |
| Rated Power                    | 0.1 kW                                                                                                   |
| Bearing & Gear Ratio           | 283.5                                                                                                    |
| Nominal Torque                 | 0.32 N·m                                                                                                 |
| RPM                            | 3000                                                                                                     |
| Max. Angle Limit               | ±120°                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines) /<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                          |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                  |
| Max. Payload                   | 300 kg                                                                                                   |
| Net Weight                     | 17.5 kg                                                                                                  |

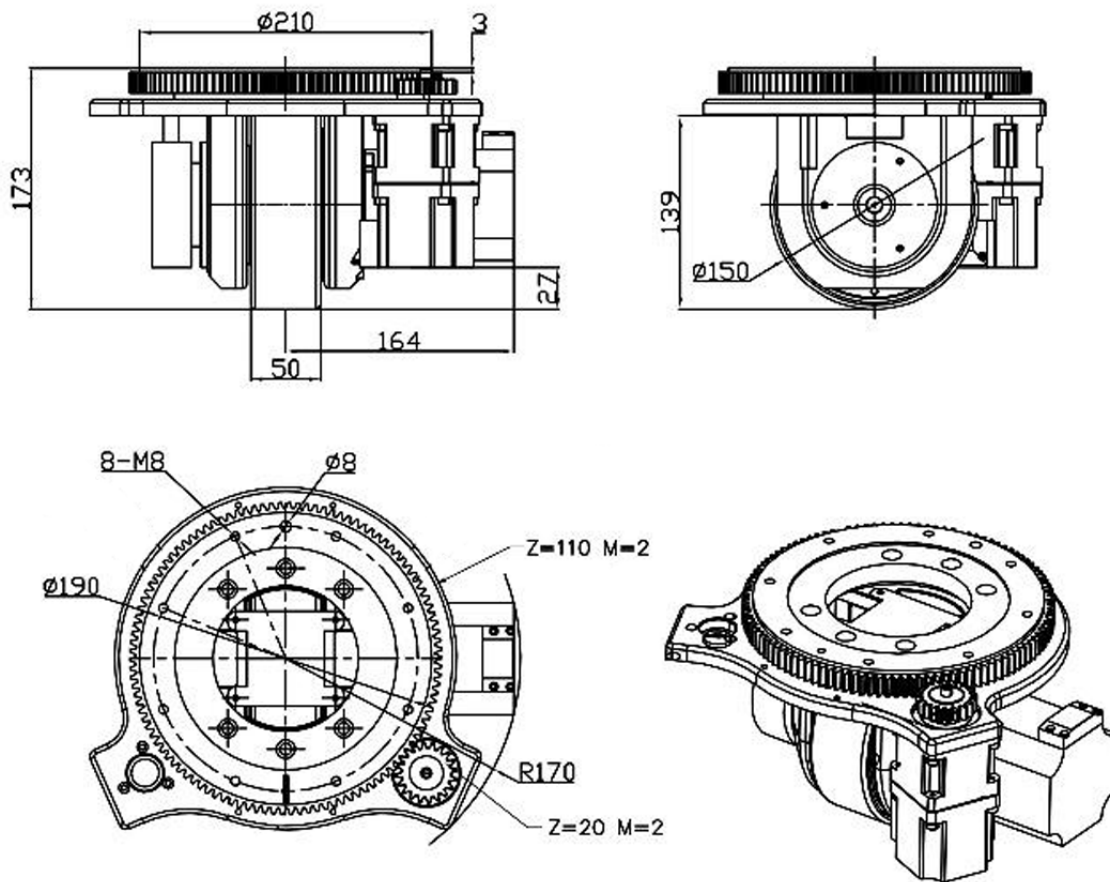


|                                |                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D125-P0.4-C350</b>                                                                              |
| <b>Drive Motor</b>             |                                                                                                          |
| Wheel Diameter                 | 125 mm                                                                                                   |
| Height                         | 175 mm                                                                                                   |
| Working Voltage                | 48 V                                                                                                     |
| Rated Power                    | 0.4 kW                                                                                                   |
| Nominal Torque(Traction Motor) | 1.28 N·m                                                                                                 |
| Gear Ratio                     | 24/32                                                                                                    |
| Nominal Torque(Drive Motor)    | 26.11 N·m / 34.82 N·m                                                                                    |
| RPM                            | 3000                                                                                                     |
| Encoder                        | Incremental Encoder(2500 lines)                                                                          |
| <b>Steering Motor</b>          |                                                                                                          |
| Rated Power                    | 0.1 kW                                                                                                   |
| Bearing & Gear Ratio           | 283.5                                                                                                    |
| Nominal Torque                 | 0.32 N·m                                                                                                 |
| RPM                            | 3000                                                                                                     |
| Max. Angle Limit               | ±120°                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines) /<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                          |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                  |
| Max. Payload                   | 350 kg                                                                                                   |
| Net Weight                     | 17.5 kg                                                                                                  |

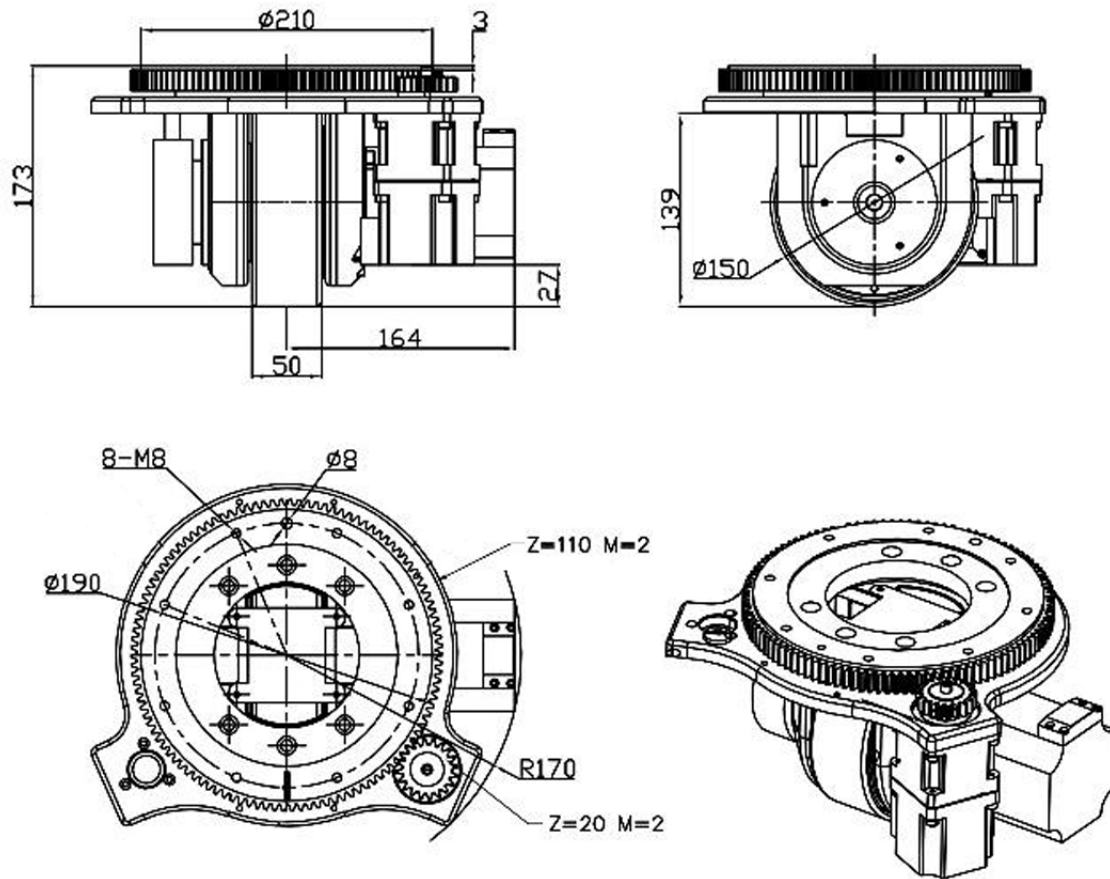


| Model                          | AB-SW-D150-P0.75-C500-V                                                                                  |
|--------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Drive Motor</b>             |                                                                                                          |
| Wheel Diameter                 | 150 mm                                                                                                   |
| Height                         | 413.5 mm                                                                                                 |
| Working Voltage                | 24/48 V                                                                                                  |
| Rated Power                    | 0.75 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 2.39 N·m                                                                                                 |
| Gear Ratio                     | 18.9                                                                                                     |
| Nominal Torque(Drive Motor)    | 38.00 N·m                                                                                                |
| RPM                            | 3000                                                                                                     |
| Encoder                        | Incremental Encoder(2500 lines)                                                                          |
| <b>Steering Motor</b>          |                                                                                                          |
| Rated Power                    | 0.2 kW                                                                                                   |
| Bearing & Gear Ratio           | 250                                                                                                      |
| Nominal Torque                 | 0.32 N·m                                                                                                 |
| RPM                            | 3000                                                                                                     |
| Max. Angle Limit               | ±180°                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines) /<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                          |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                  |
| Max. Payload                   | 500 kg                                                                                                   |
| Net Weight                     | 25 kg                                                                                                    |

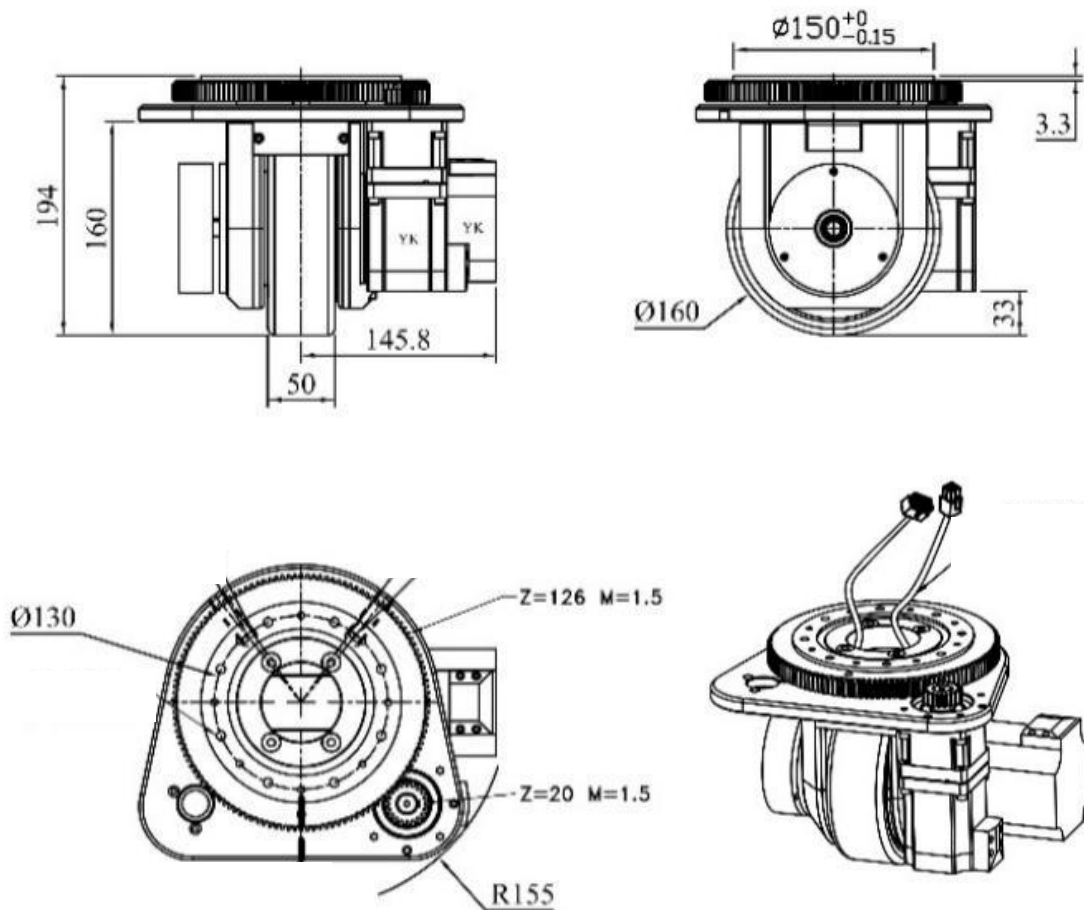




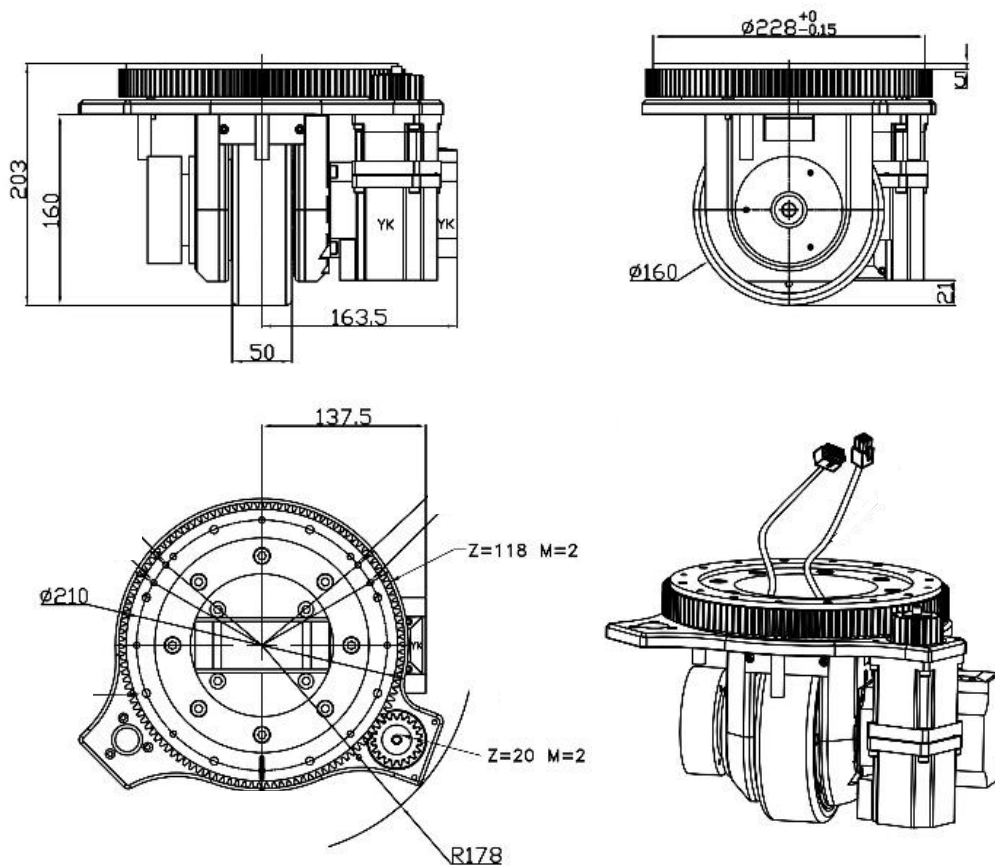
|                                |                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D150-P0.75-C600</b>                                                                             |
| <b>Drive Motor</b>             |                                                                                                          |
| Wheel Diameter                 | 150 mm                                                                                                   |
| Height                         | 173 mm                                                                                                   |
| Working Voltage                | 48 V                                                                                                     |
| Rated Power                    | 0.75 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 2.39 N·m                                                                                                 |
| Gear Ratio                     | 20/32                                                                                                    |
| Nominal Torque(Drive Motor)    | 40.63/60.01 N·m                                                                                          |
| RPM                            | 3000                                                                                                     |
| Encoder                        | Incremental Encoder(2500 lines)                                                                          |
| <b>Steering Motor</b>          |                                                                                                          |
| Rated Power                    | 0.1 kW                                                                                                   |
| Bearing & Gear Ratio           | 247.5                                                                                                    |
| Nominal Torque                 | 0.32 N·m                                                                                                 |
| RPM                            | 3000                                                                                                     |
| Max. Angle Limit               | ±120°                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines) /<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                          |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                  |
| Max. Payload                   | 600 kg                                                                                                   |
| Net Weight                     | 21 kg                                                                                                    |



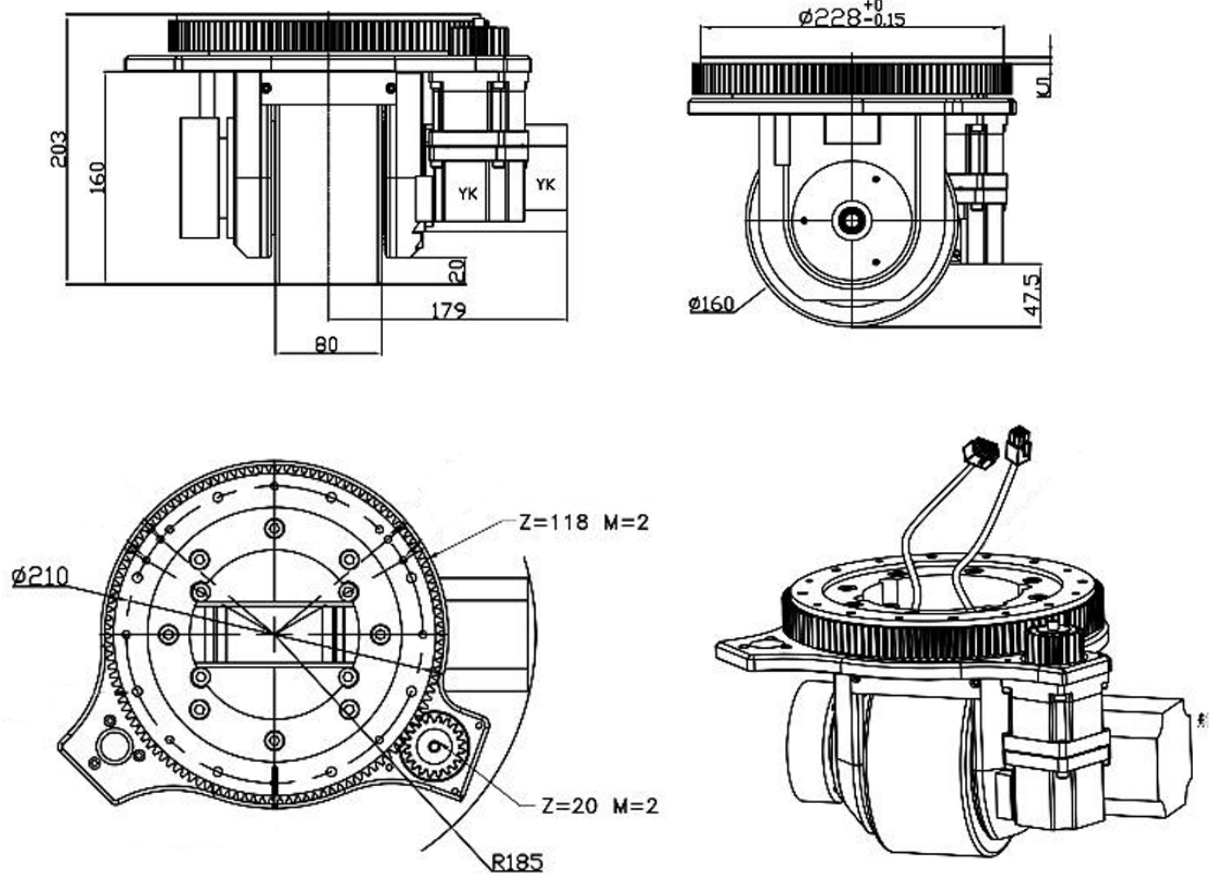
|                                |                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D150-P1.0-C600</b>                                                                              |
| <b>Drive Motor</b>             |                                                                                                          |
| Wheel Diameter                 | 150 mm                                                                                                   |
| Height                         | 173 mm                                                                                                   |
| Working Voltage                | 48 V                                                                                                     |
| Rated Power                    | 1.0 kW                                                                                                   |
| Nominal Torque(Traction Motor) | 3.20 N·m                                                                                                 |
| Gear Ratio                     | 20/32                                                                                                    |
| Nominal Torque(Drive Motor)    | 54.40/87.04 N·m                                                                                          |
| RPM                            | 3000                                                                                                     |
| Encoder                        | Incremental Encoder(2500 lines)                                                                          |
| <b>Steering Motor</b>          |                                                                                                          |
| Rated Power                    | 0.1 kW                                                                                                   |
| Bearing & Gear Ratio           | 247.5                                                                                                    |
| Nominal Torque                 | 0.32 N·m                                                                                                 |
| RPM                            | 3000                                                                                                     |
| Max. Angle Limit               | ±120°                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines) /<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                          |
| Drive Communication            | EherCat/CanOpen/Modbus                                                                                   |
| Max. Payload                   | 600 kg                                                                                                   |
| Net Weight                     | 21 kg                                                                                                    |



|                                |                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D160-P0.4-C350</b>                                                                              |
| <b>Drive Motor</b>             |                                                                                                          |
| Wheel Diameter                 | 160 mm                                                                                                   |
| Height                         | 194 mm                                                                                                   |
| Working Voltage                | 24/48 V                                                                                                  |
| Rated Power                    | 0.4 kW                                                                                                   |
| Nominal Torque(Traction Motor) | 1.27 N·m                                                                                                 |
| Gear Ratio                     | 20/32                                                                                                    |
| Nominal Torque(Drive Motor)    | 21.59/34.54 N·m                                                                                          |
| RPM                            | 3000                                                                                                     |
| Encoder                        | Incremental Encoder(2500 lines)                                                                          |
| <b>Steering Motor</b>          |                                                                                                          |
| Rated Power                    | 0.2 kW                                                                                                   |
| Bearing & Gear Ratio           | 63                                                                                                       |
| Nominal Torque                 | 0.64 N·m                                                                                                 |
| RPM                            | 3000                                                                                                     |
| Max. Angle Limit               | ±141°                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines) /<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                          |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                  |
| Max. Payload                   | 350 kg                                                                                                   |
| Net Weight                     | 21 kg                                                                                                    |

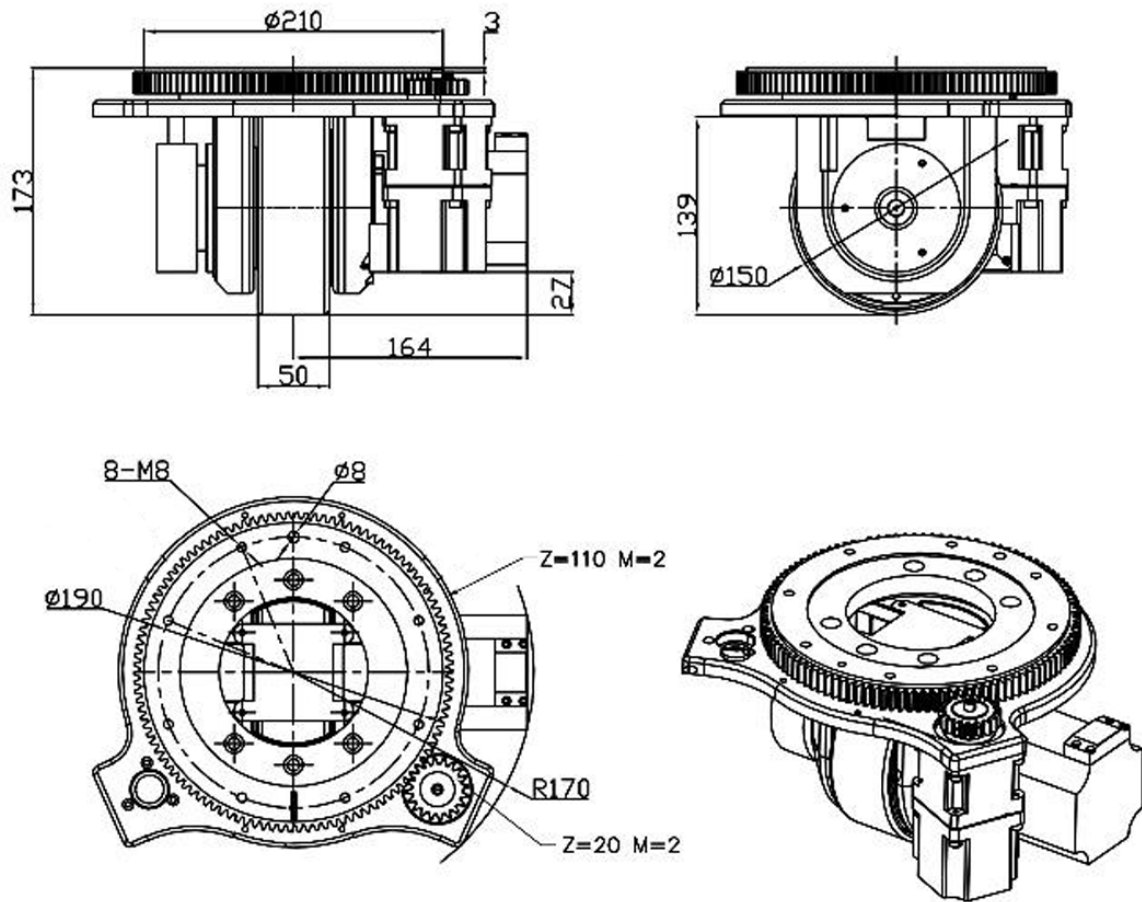


|                                |                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D160-P0.75-C800</b>                                                                             |
| <b>Drive Motor</b>             |                                                                                                          |
| Wheel Diameter                 | 160 mm                                                                                                   |
| Height                         | 203 mm                                                                                                   |
| Working Voltage                | 24/48 V                                                                                                  |
| Rated Power                    | 0.75 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 2.39 N·m                                                                                                 |
| Gear Ratio                     | 32                                                                                                       |
| Nominal Torque(Drive Motor)    | 65.01 N·m                                                                                                |
| RPM                            | 3000                                                                                                     |
| Encoder                        | Incremental Encoder(2500 lines)                                                                          |
| <b>Steering Motor</b>          |                                                                                                          |
| Rated Power                    | 0.1 kW                                                                                                   |
| Bearing & Gear Ratio           | 265.5                                                                                                    |
| Nominal Torque                 | 0.32 N·m                                                                                                 |
| RPM                            | 3000                                                                                                     |
| Max. Angle Limit               | ±120°                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines) /<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                          |
| Drive Communication            | EherCat/CanOpen/Modbus                                                                                   |
| Max. Payload                   | 800 kg                                                                                                   |
| Net Weight                     | 21 kg                                                                                                    |

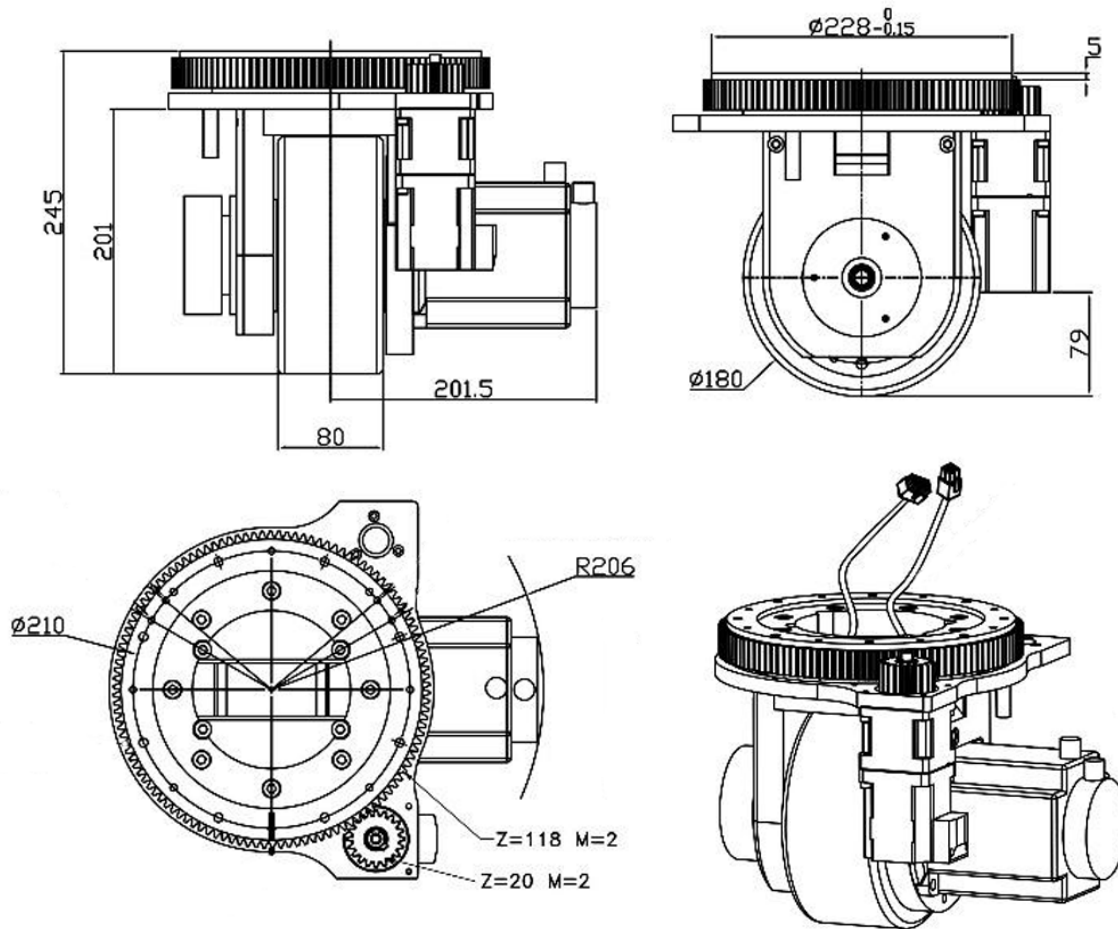


|                                |                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D160-P1.0-C1000</b>                                                                             |
| <b>Drive Motor</b>             |                                                                                                          |
| Wheel Diameter                 | 160 mm                                                                                                   |
| Height                         | 203 mm                                                                                                   |
| Working Voltage                | 48 V                                                                                                     |
| Rated Power                    | 1.0 kW                                                                                                   |
| Nominal Torque(Traction Motor) | 3.20 N·m                                                                                                 |
| Gear Ratio                     | 20/32                                                                                                    |
| Nominal Torque(Drive Motor)    | 54.40/87.04 N·m                                                                                          |
| RPM                            | 3000                                                                                                     |
| Encoder                        | Incremental Encoder(2500 lines)                                                                          |
| <b>Steering Motor</b>          |                                                                                                          |
| Rated Power                    | 0.1 kW                                                                                                   |
| Bearing & Gear Ratio           | 265.5                                                                                                    |
| Nominal Torque                 | 0.32 N·m                                                                                                 |
| RPM                            | 3000                                                                                                     |
| Max. Angle Limit               | ±120°                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines) /<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                          |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                  |
| Max. Payload                   | 1000 kg                                                                                                  |
| Net Weight                     | 21 kg                                                                                                    |

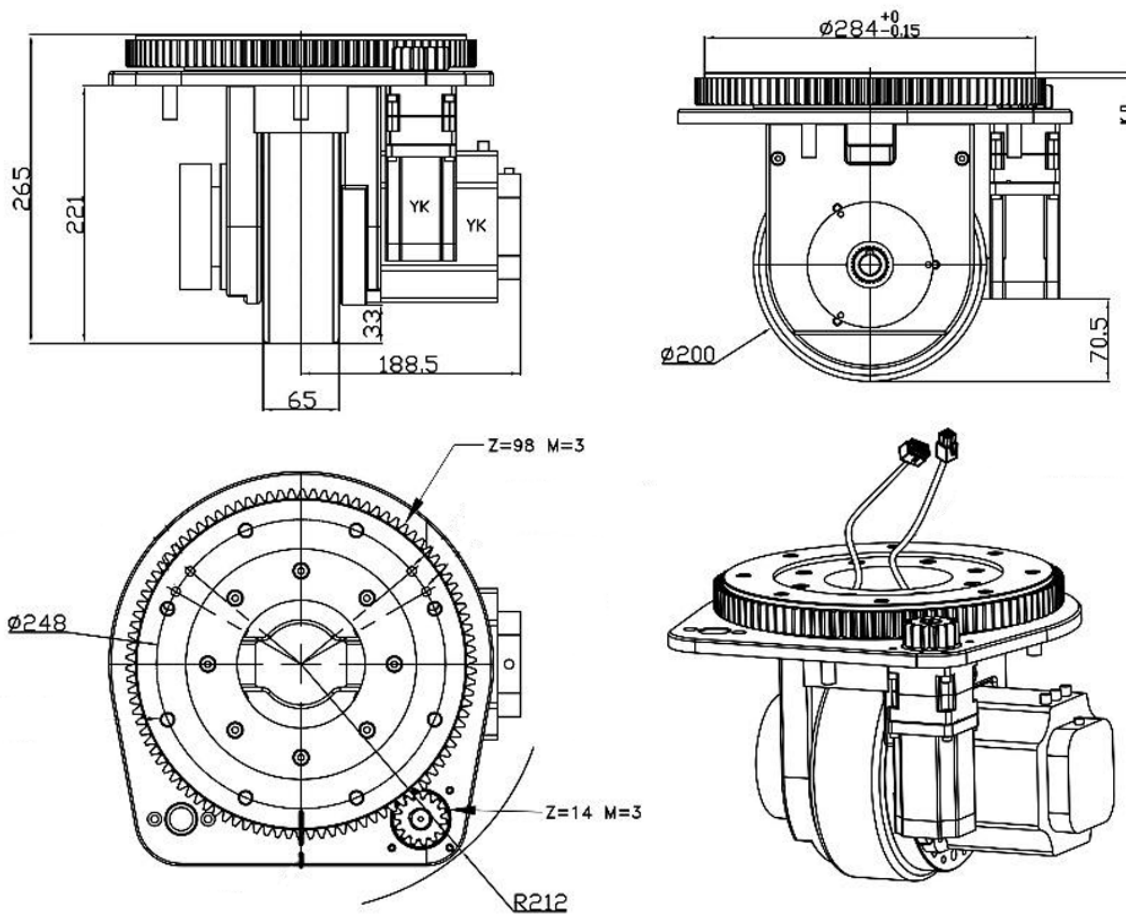




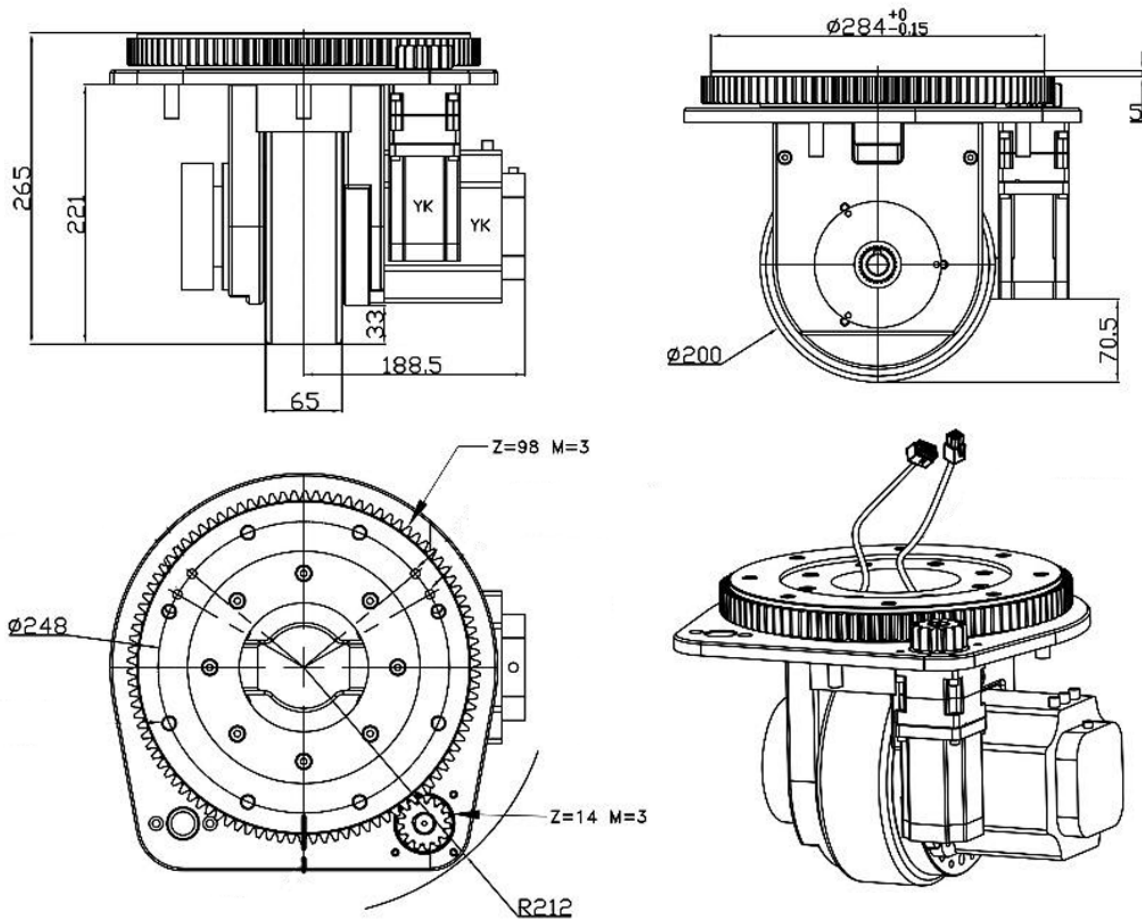
|                                |                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D150-P0.4-C600</b>                                                                              |
| <b>Drive Motor</b>             |                                                                                                          |
| Wheel Diameter                 | 150 mm                                                                                                   |
| Height                         | 173 mm                                                                                                   |
| Working Voltage                | 48 V                                                                                                     |
| Rated Power                    | 0.4 kW                                                                                                   |
| Nominal Torque(Traction Motor) | 1.27 N·m                                                                                                 |
| Gear Ratio                     | 20/32                                                                                                    |
| Nominal Torque(Drive Motor)    | 21.59/34.54 N·m                                                                                          |
| RPM                            | 3000                                                                                                     |
| Encoder                        | Incremental Encoder(2500 lines)                                                                          |
| <b>Steering Motor</b>          |                                                                                                          |
| Rated Power                    | 0.1 kW                                                                                                   |
| Bearing & Gear Ratio           | 55                                                                                                       |
| Nominal Torque                 | 0.64 N·m                                                                                                 |
| RPM                            | 3000                                                                                                     |
| Max. Angle Limit               | ±120°                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines) /<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                          |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                  |
| Max. Payload                   | 600 kg                                                                                                   |
| Net Weight                     | 21 kg                                                                                                    |



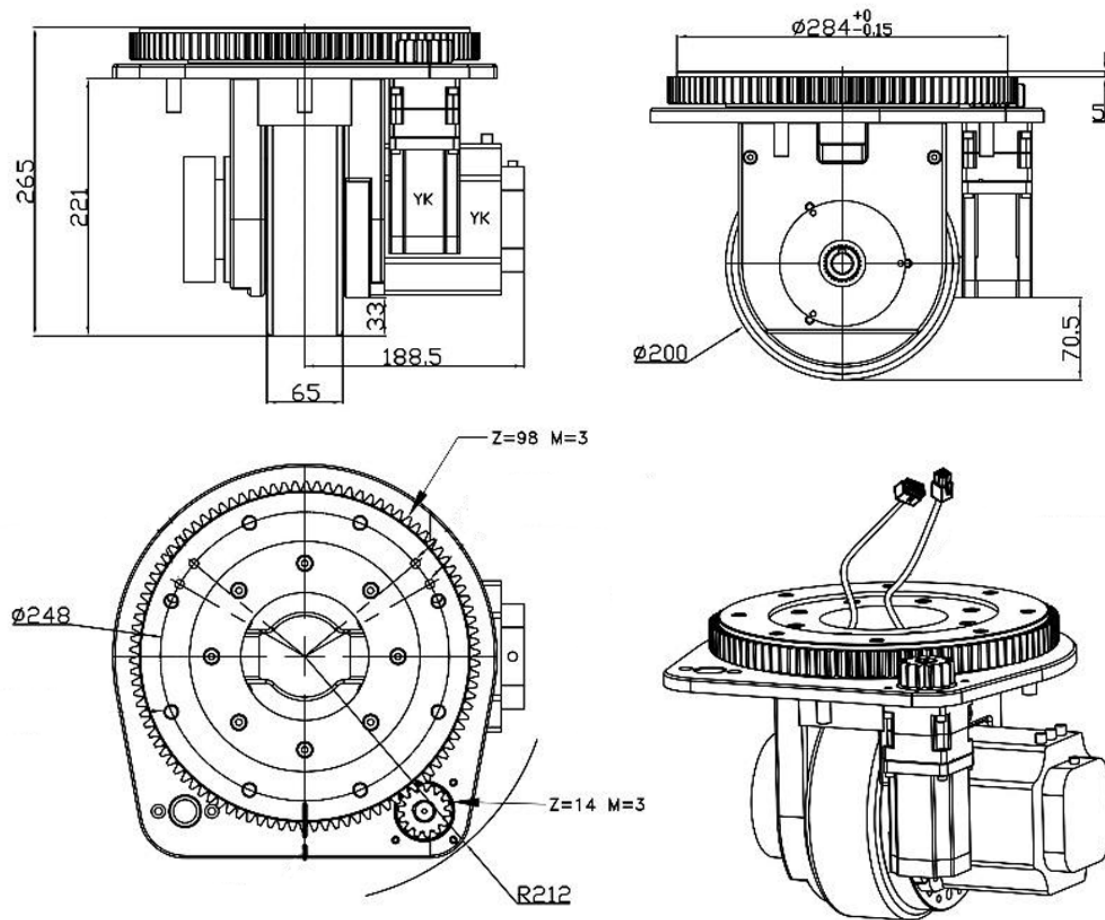
|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D180-P1.5-C1000</b>                                                                            |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 180 mm                                                                                                  |
| Height                         | 245 mm                                                                                                  |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 1.5 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 4.77 N·m                                                                                                |
| Gear Ratio                     | 24                                                                                                      |
| Nominal Torque(Drive Motor)    | 97.38 N·m                                                                                               |
| RPM                            | 3000                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 0.2 kW                                                                                                  |
| Bearing & Gear Ratio           | 265.5                                                                                                   |
| Nominal Torque                 | 0.32 N·m                                                                                                |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±120°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                 |
| Max. Payload                   | 1000 kg                                                                                                 |
| Net Weight                     | 25 kg                                                                                                   |



|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D200-P0.75-C1000</b>                                                                           |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 200 mm                                                                                                  |
| Height                         | 265 mm                                                                                                  |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 0.75 kW                                                                                                 |
| Nominal Torque(Traction Motor) | 2.40 N·m                                                                                                |
| Gear Ratio                     | 50                                                                                                      |
| Nominal Torque(Drive Motor)    | 102.00 N·m                                                                                              |
| RPM                            | 3000                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 0.2 kW                                                                                                  |
| Bearing & Gear Ratio           | 265.5                                                                                                   |
| Nominal Torque                 | 0.64 N·m                                                                                                |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±120°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                 |
| Max. Payload                   | 1000 kg                                                                                                 |
| Net Weight                     | 43 kg                                                                                                   |

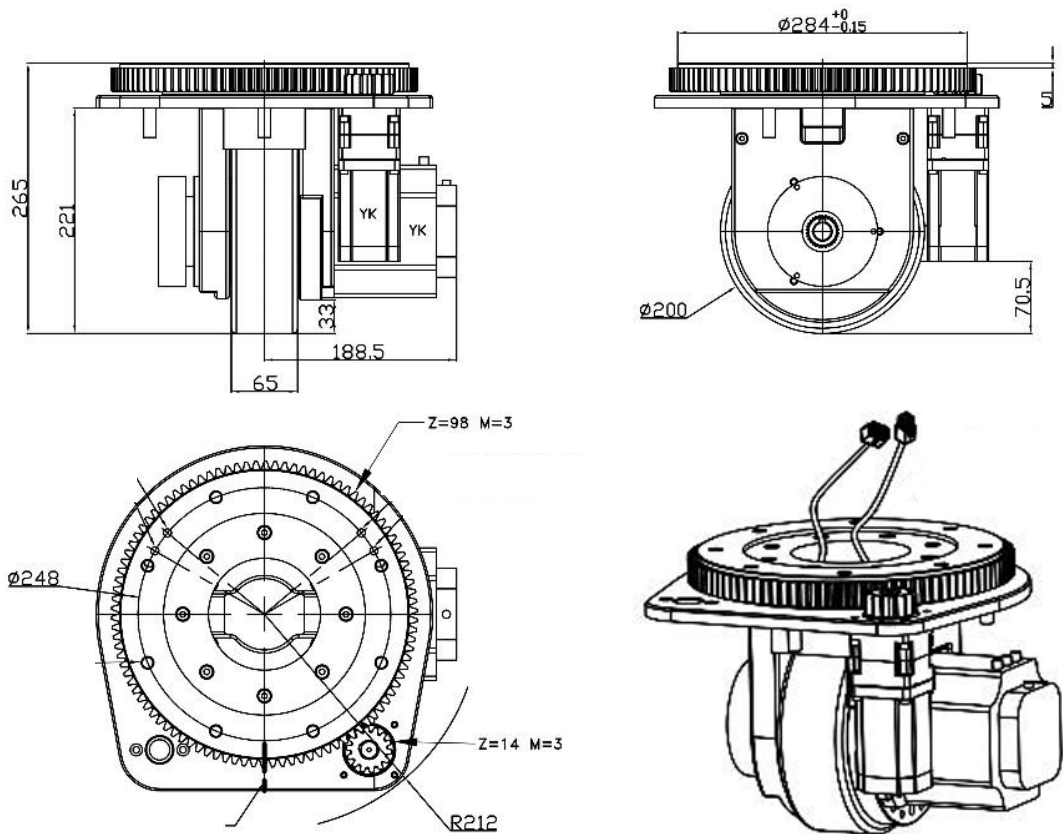


|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D200-P0.75-C1000</b>                                                                           |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 200 mm                                                                                                  |
| Height                         | 265 mm                                                                                                  |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 0.75 kW                                                                                                 |
| Nominal Torque(Traction Motor) | 2.40 N·m                                                                                                |
| Gear Ratio                     | 50                                                                                                      |
| Nominal Torque(Drive Motor)    | 102.00 N·m                                                                                              |
| RPM                            | 3000                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 0.2 kW                                                                                                  |
| Bearing & Gear Ratio           | 265.5                                                                                                   |
| Nominal Torque                 | 0.64 N·m                                                                                                |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±120°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                 |
| Max. Payload                   | 1000 kg                                                                                                 |
| Net Weight                     | 43 kg                                                                                                   |

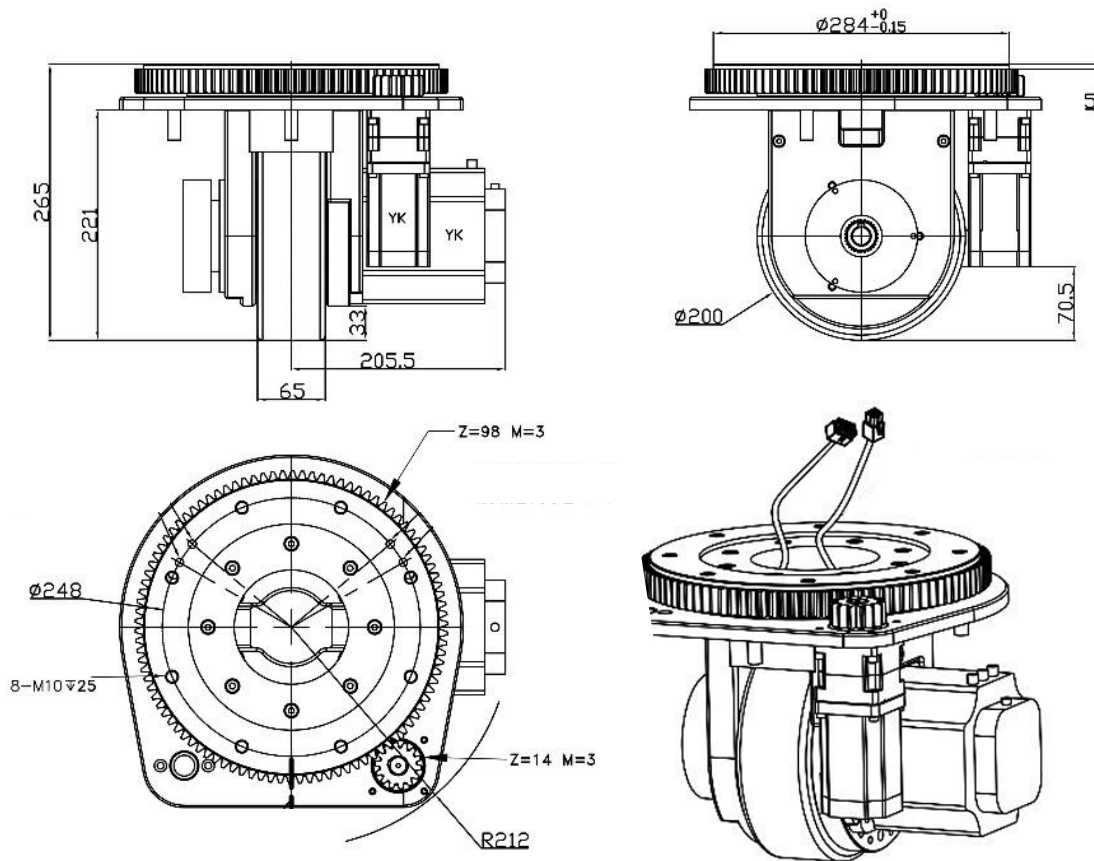


| Model                          | AB-SW-D200-P1.0-C1000                                                                                   |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 200 mm                                                                                                  |
| Height                         | 265 mm                                                                                                  |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 1.0 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 3.20 N·m                                                                                                |
| Gear Ratio                     | 24                                                                                                      |
| Nominal Torque(Drive Motor)    | 65.28 N·m                                                                                               |
| RPM                            | 3000                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 0.2 kW                                                                                                  |
| Bearing & Gear Ratio           | 265.5                                                                                                   |
| Nominal Torque                 | 1.28 N·m                                                                                                |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±120°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EherCat/CanOpen/Modbus                                                                                  |
| Max. Payload                   | 1000 kg                                                                                                 |
| Net Weight                     | 43 kg                                                                                                   |

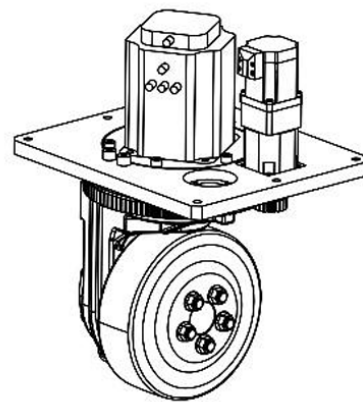
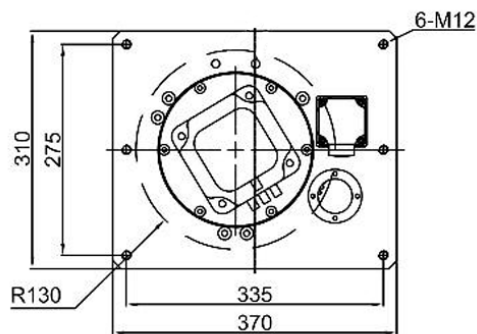
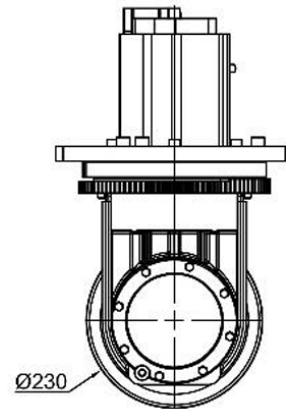
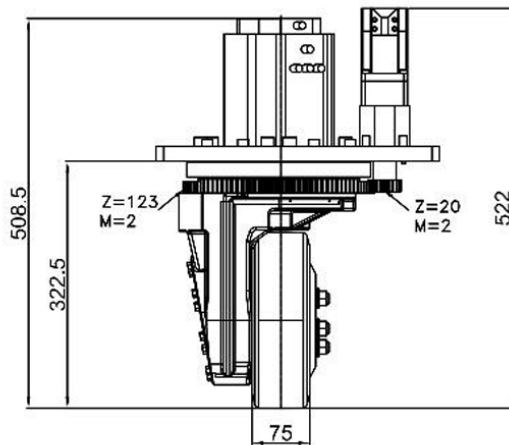




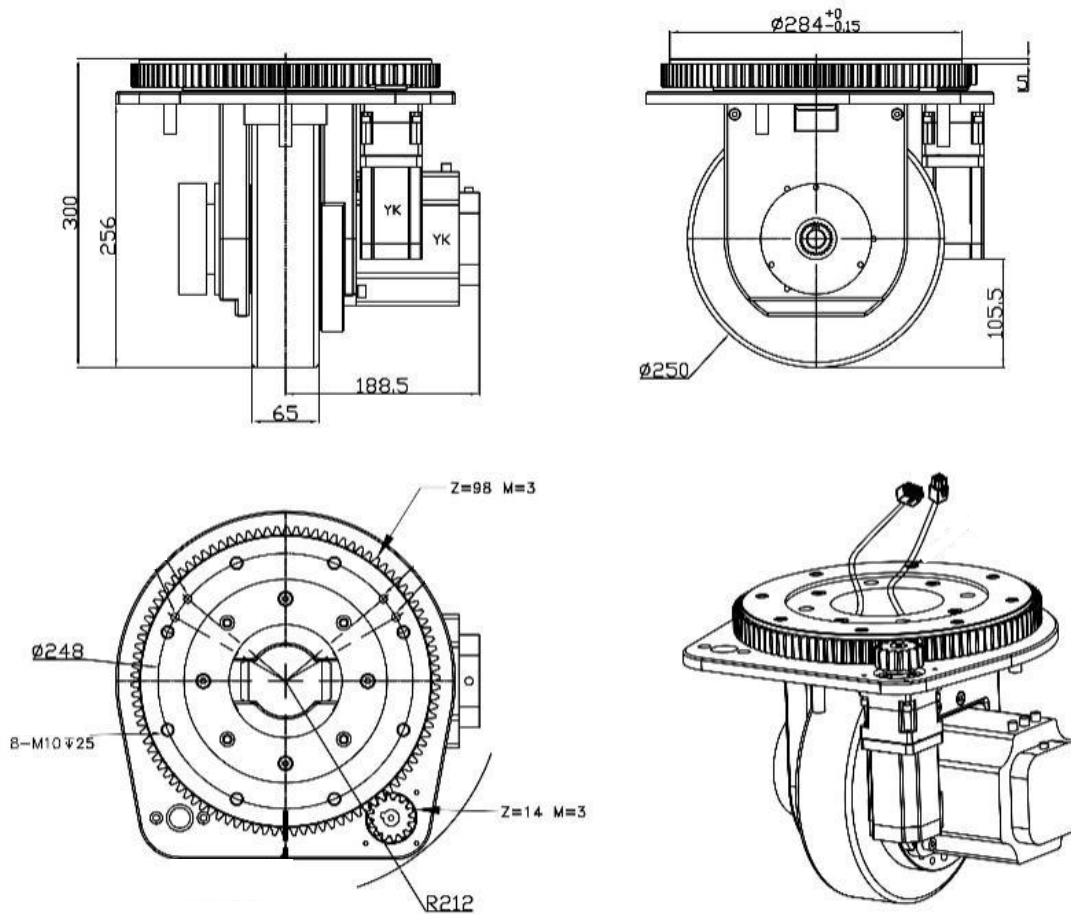
|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D200-P1.5-C1500</b>                                                                            |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 200 mm                                                                                                  |
| Height                         | 265 mm                                                                                                  |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 1.5 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 4.77 N·m                                                                                                |
| Gear Ratio                     | 32                                                                                                      |
| Nominal Torque(Drive Motor)    | 129.74 N·m                                                                                              |
| RPM                            | 3000                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 0.4 kW                                                                                                  |
| Bearing & Gear Ratio           | 220.5                                                                                                   |
| Nominal Torque                 | 1.28 N·m                                                                                                |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±120°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                 |
| Max. Payload                   | 1500 kg                                                                                                 |
| Net Weight                     | 43 kg                                                                                                   |



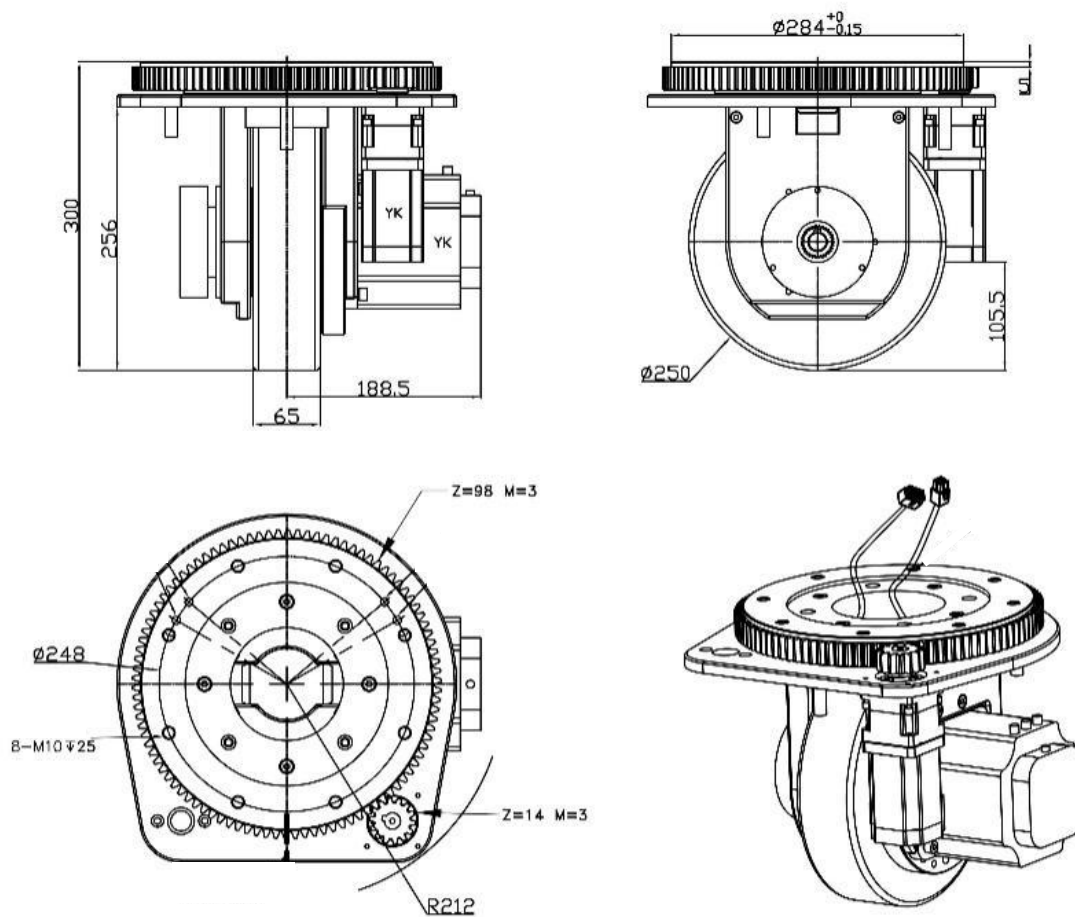
|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D200-P3.0-C1500</b>                                                                            |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 200 mm                                                                                                  |
| Height                         | 265 mm                                                                                                  |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 3.0 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 9.50 N·m                                                                                                |
| Gear Ratio                     | 24                                                                                                      |
| Nominal Torque(Drive Motor)    | 193.80 N·m                                                                                              |
| RPM                            | 3000                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 0.4 kW                                                                                                  |
| Bearing & Gear Ratio           | 220.5                                                                                                   |
| Nominal Torque                 | 1.28 N·m                                                                                                |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±120°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                 |
| Max. Payload                   | 1500 kg                                                                                                 |
| Net Weight                     | 43 kg                                                                                                   |



|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D230-P3.0-C1500</b>                                                                            |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 230 mm                                                                                                  |
| Height                         | 508.5 mm                                                                                                |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 3.0 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 9.50 N·m                                                                                                |
| Gear Ratio                     | 22/27                                                                                                   |
| Nominal Torque(Drive Motor)    | 177.65/218.03 N·m                                                                                       |
| RPM                            | 3000                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 0.4 kW                                                                                                  |
| Bearing & Gear Ratio           | 307.5                                                                                                   |
| Nominal Torque                 | 1.28 N·m                                                                                                |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±130°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                 |
| Max. Payload                   | 1500 kg                                                                                                 |
| Net Weight                     | 80 kg                                                                                                   |

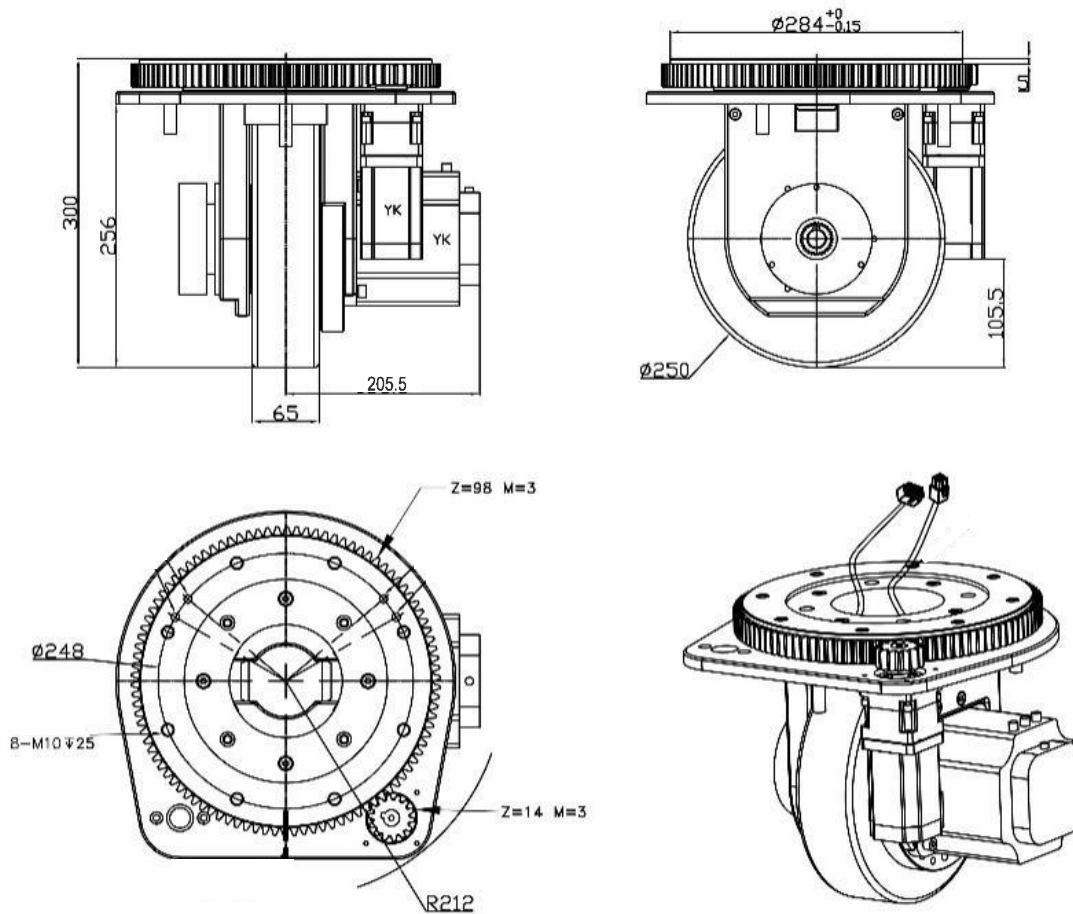


|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D250-P1.0-C1000</b>                                                                            |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 250 mm                                                                                                  |
| Height                         | 300 mm                                                                                                  |
| Working Voltage                | 24/48 V                                                                                                 |
| Rated Power                    | 1.0 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 4.77/3.20 N·m                                                                                           |
| Gear Ratio                     | 24/32                                                                                                   |
| Nominal Torque(Drive Motor)    | 97.31/65.28/129.74/87.04 N·m                                                                            |
| RPM                            | 2000/3000                                                                                               |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 0.4/0.2 kW                                                                                              |
| Bearing & Gear Ratio           | 220.5/265.5                                                                                             |
| Nominal Torque                 | 1.28/0.64 N·m                                                                                           |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±120°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                 |
| Max. Payload                   | 1000 kg                                                                                                 |
| Net Weight                     | 43 kg                                                                                                   |

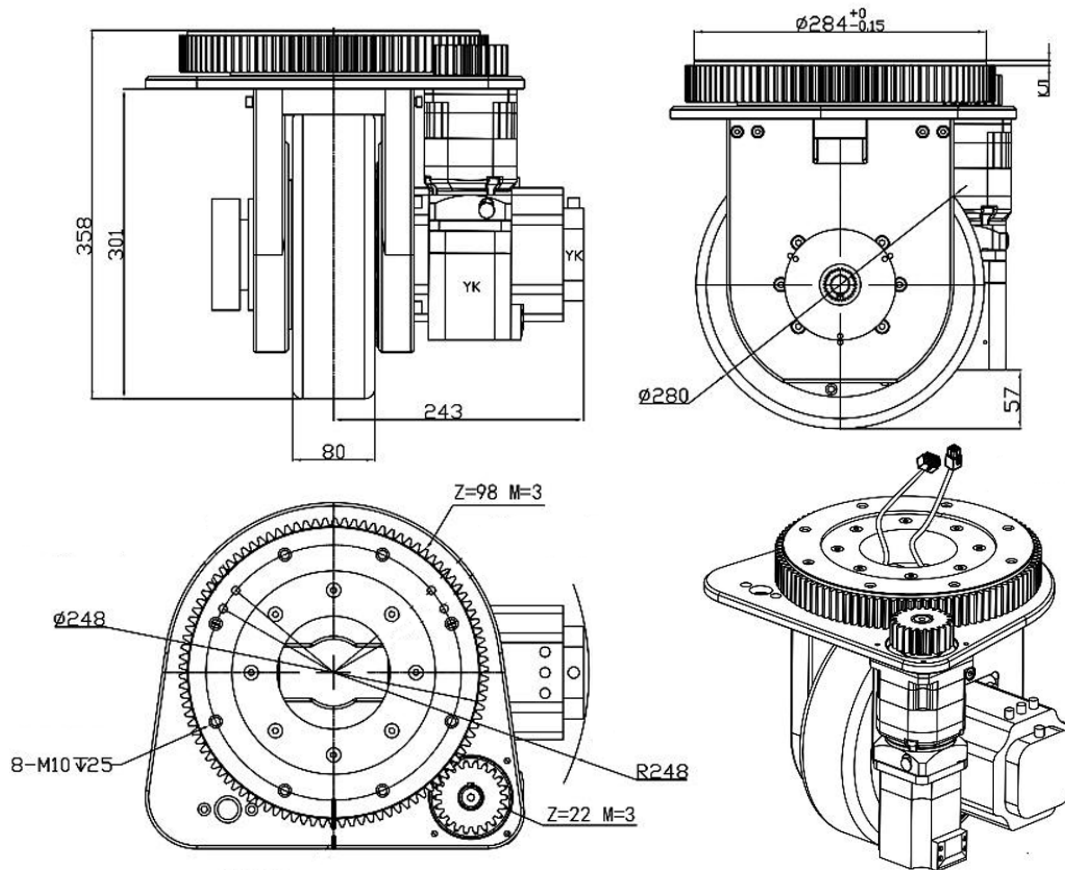


|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D250-P1.5-C1500</b>                                                                            |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 250 mm                                                                                                  |
| Height                         | 300 mm                                                                                                  |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 1.5 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 6.00/4.77 N·m                                                                                           |
| Gear Ratio                     | 24/32                                                                                                   |
| Nominal Torque(Drive Motor)    | 122.40/163.20/97.31/129.74 N·m                                                                          |
| RPM                            | 2500/3000                                                                                               |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 0.4 kW                                                                                                  |
| Bearing & Gear Ratio           | 220.5                                                                                                   |
| Nominal Torque                 | 1.28 N·m                                                                                                |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±120°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                 |
| Max. Payload                   | 1500 kg                                                                                                 |
| Net Weight                     | 43 kg                                                                                                   |

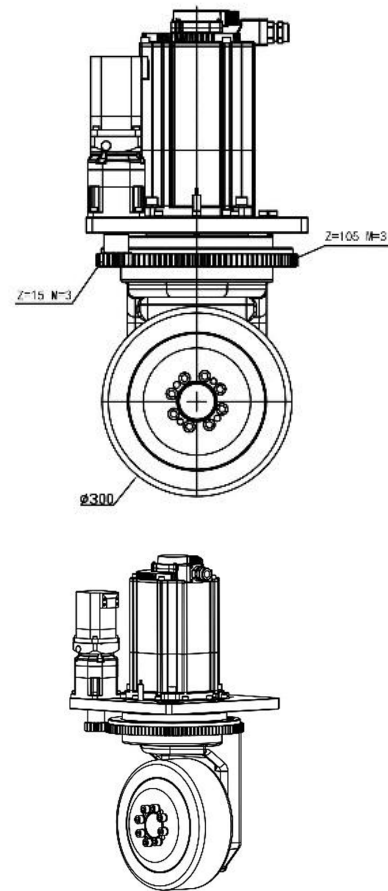
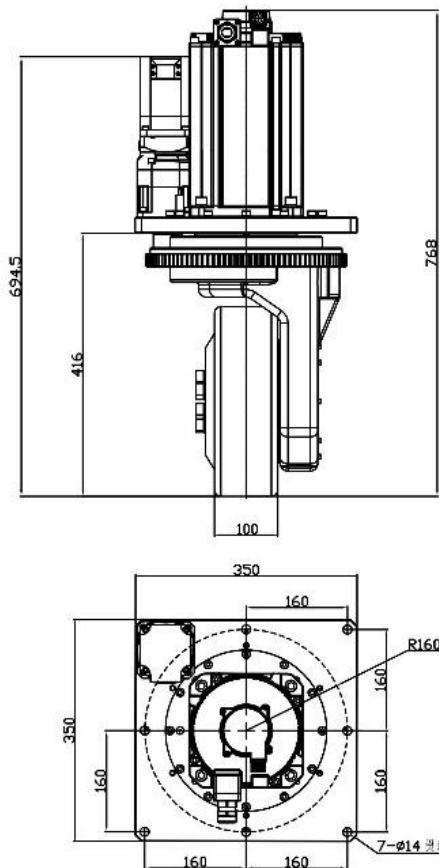




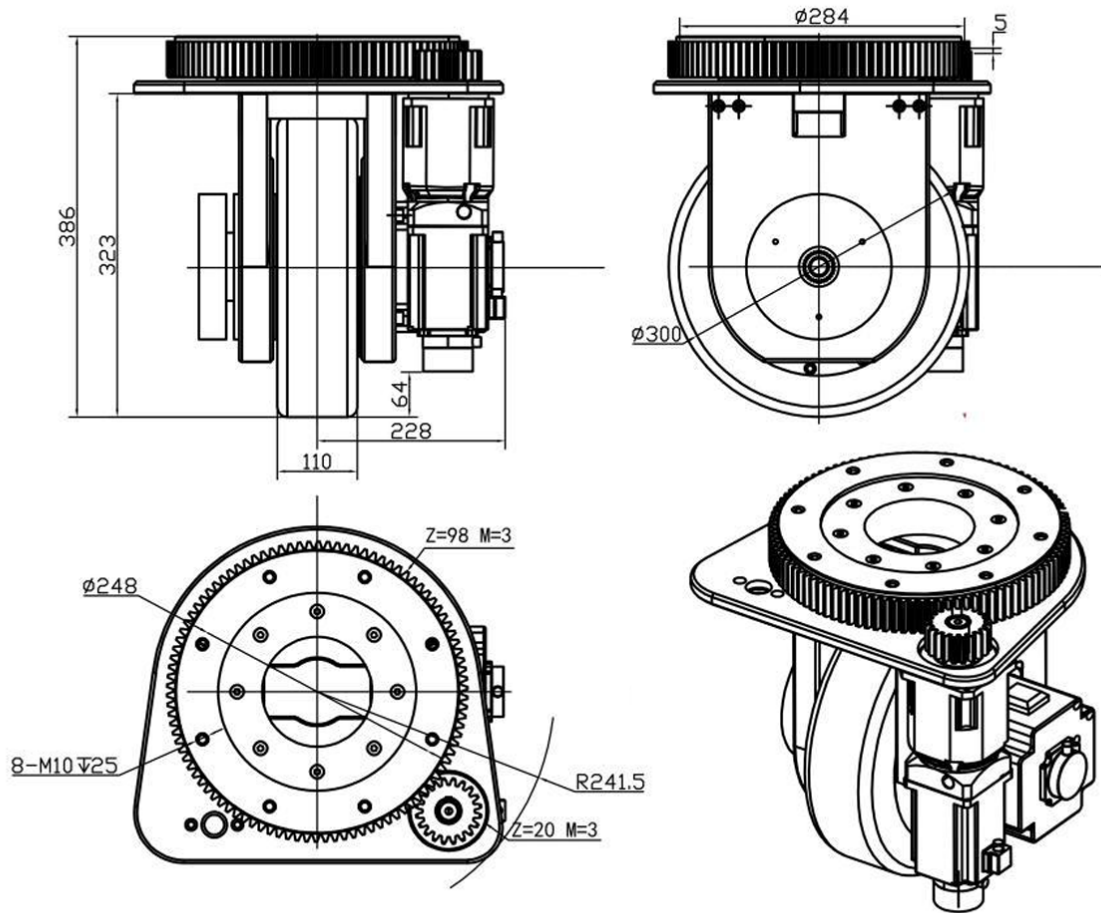
|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D250-P3.0-C1500</b>                                                                            |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 250 mm                                                                                                  |
| Height                         | 300 mm                                                                                                  |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 3.0 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 13.50/9.50 N·m                                                                                          |
| Gear Ratio                     | 24/32                                                                                                   |
| Nominal Torque(Drive Motor)    | 275.40/193.80/367.20/258.40 N·m                                                                         |
| RPM                            | 2000/3000                                                                                               |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 0.4/0.2 kW                                                                                              |
| Bearing & Gear Ratio           | 220.5/265.5                                                                                             |
| Nominal Torque                 | 1.28/0.64 N·m                                                                                           |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±120°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EherCat/CanOpen/Modbus                                                                                  |
| Max. Payload                   | 1500 kg                                                                                                 |
| Net Weight                     | 48 kg                                                                                                   |



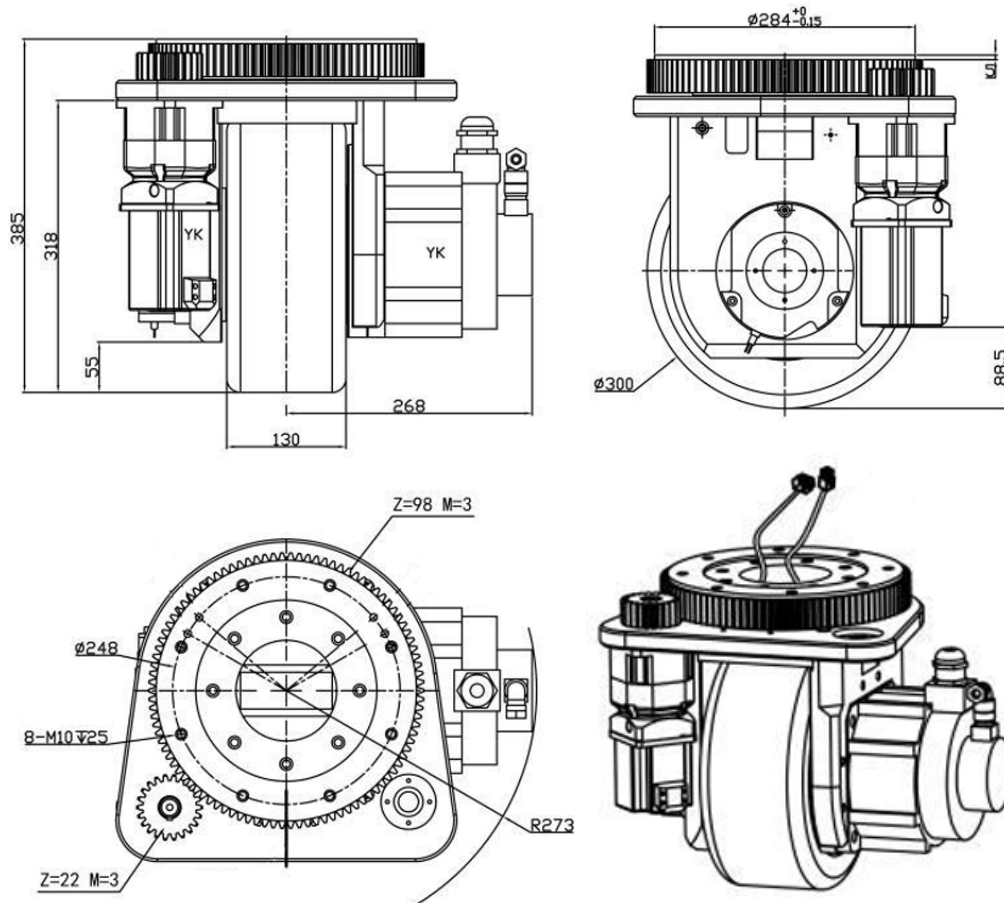
|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D280-P3.0-C3000</b>                                                                            |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 280 mm                                                                                                  |
| Height                         | 358 mm                                                                                                  |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 3.0 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 13.50/9.50 N·m                                                                                          |
| Gear Ratio                     | 11/22                                                                                                   |
| Nominal Torque(Drive Motor)    | 126.23/88.83/126.23/177.65 N·m                                                                          |
| RPM                            | 3000                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 0.75 kW                                                                                                 |
| Bearing & Gear Ratio           | 245                                                                                                     |
| Nominal Torque                 | 2.39 N·m                                                                                                |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±120°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                 |
| Max. Payload                   | 3000 kg                                                                                                 |
| Net Weight                     | 80 kg                                                                                                   |



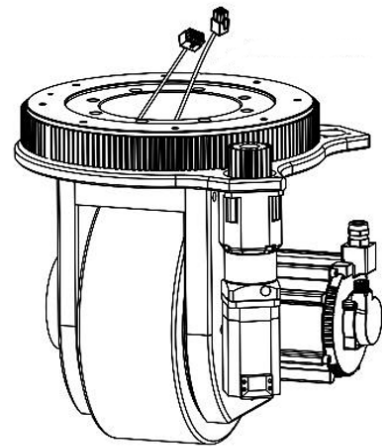
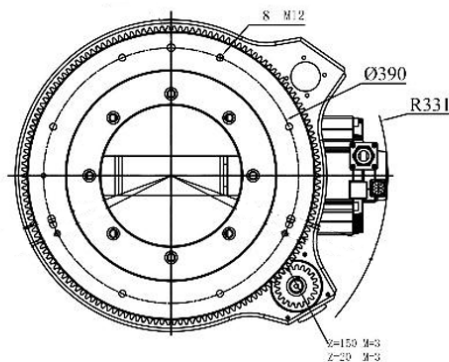
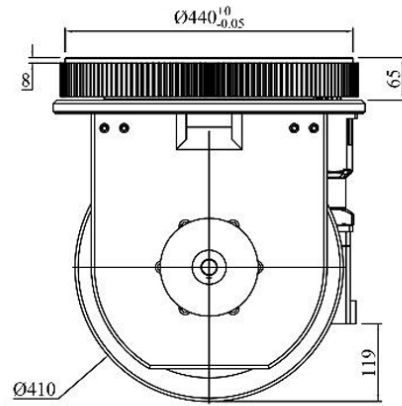
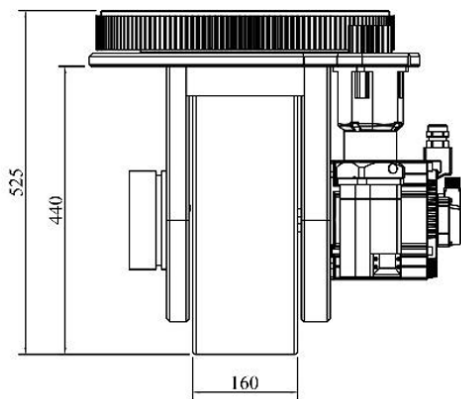
|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D300-P4.0/5.0-C2000</b>                                                                        |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 300 mm                                                                                                  |
| Height                         | 768 mm                                                                                                  |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 4.0/5.0 kW                                                                                              |
| Nominal Torque(Traction Motor) | 19.50 N·m                                                                                               |
| Gear Ratio                     | 11/22                                                                                                   |
| Nominal Torque(Drive Motor)    | 182.33/ 364.65 N·m                                                                                      |
| RPM                            | 2000/2500                                                                                               |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 0.75 kW                                                                                                 |
| Bearing & Gear Ratio           | 262.5                                                                                                   |
| Nominal Torque                 | 2.39 N·m                                                                                                |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±180°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EherCat/CanOpen/Modbus                                                                                  |
| Max. Payload                   | 2000 kg                                                                                                 |
| Net Weight                     | 95 kg                                                                                                   |



|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D300-P3.0-C3000</b>                                                                            |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 300 mm                                                                                                  |
| Height                         | 386 mm                                                                                                  |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 3.0 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 9.50 N·m                                                                                                |
| Gear Ratio                     | 40                                                                                                      |
| Nominal Torque(Drive Motor)    | 323.00 N·m                                                                                              |
| RPM                            | 3000                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 0.75 kW                                                                                                 |
| Bearing & Gear Ratio           | 245                                                                                                     |
| Nominal Torque                 | 2.39 N·m                                                                                                |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±120°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                 |
| Max. Payload                   | 3000 kg                                                                                                 |
| Net Weight                     | 80 kg                                                                                                   |

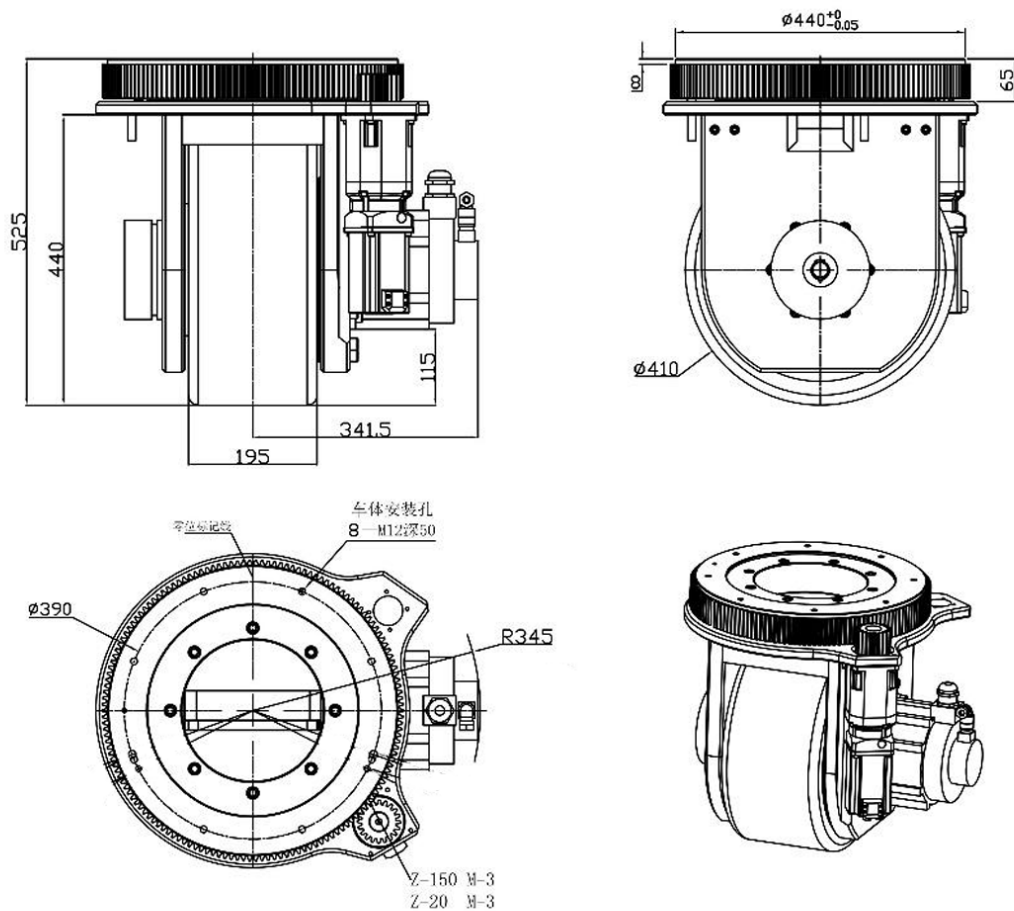


|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D300-P4.0/5.0-C3500</b>                                                                        |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 300 mm                                                                                                  |
| Height                         | 385 mm                                                                                                  |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 4.0/5.0 kW                                                                                              |
| Nominal Torque(Traction Motor) | 19.50 N·m                                                                                               |
| Gear Ratio                     | 60                                                                                                      |
| Nominal Torque(Drive Motor)    | 994.50 N·m                                                                                              |
| RPM                            | 2000/2500                                                                                               |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 1.0 kW                                                                                                  |
| Bearing & Gear Ratio           | 245                                                                                                     |
| Nominal Torque                 | 3.2 N·m                                                                                                 |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±120°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                 |
| Max. Payload                   | 3500 kg                                                                                                 |
| Net Weight                     | 95 kg                                                                                                   |

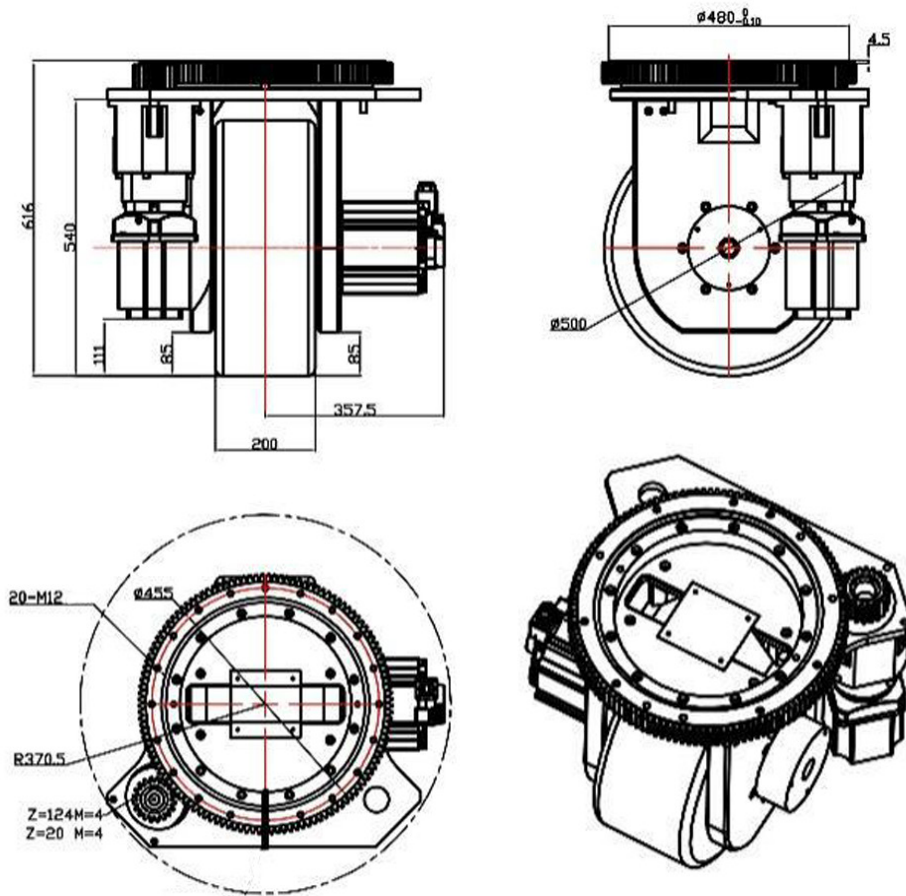


|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D410-P4.3-C4500</b>                                                                            |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 410 mm                                                                                                  |
| Height                         | 525 mm                                                                                                  |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 4.3 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 27.00 N·m                                                                                               |
| Gear Ratio                     | 70/100                                                                                                  |
| Nominal Torque(Drive Motor)    | 1606.50/2295.00 N·m                                                                                     |
| RPM                            | 1500                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 1.0 kW                                                                                                  |
| Bearing & Gear Ratio           | 750                                                                                                     |
| Nominal Torque                 | 3.2 N·m                                                                                                 |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±110°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                 |
| Max. Payload                   | 4500 kg                                                                                                 |
| Net Weight                     | 200 kg                                                                                                  |

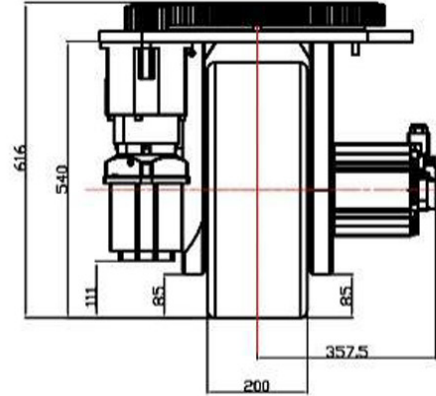




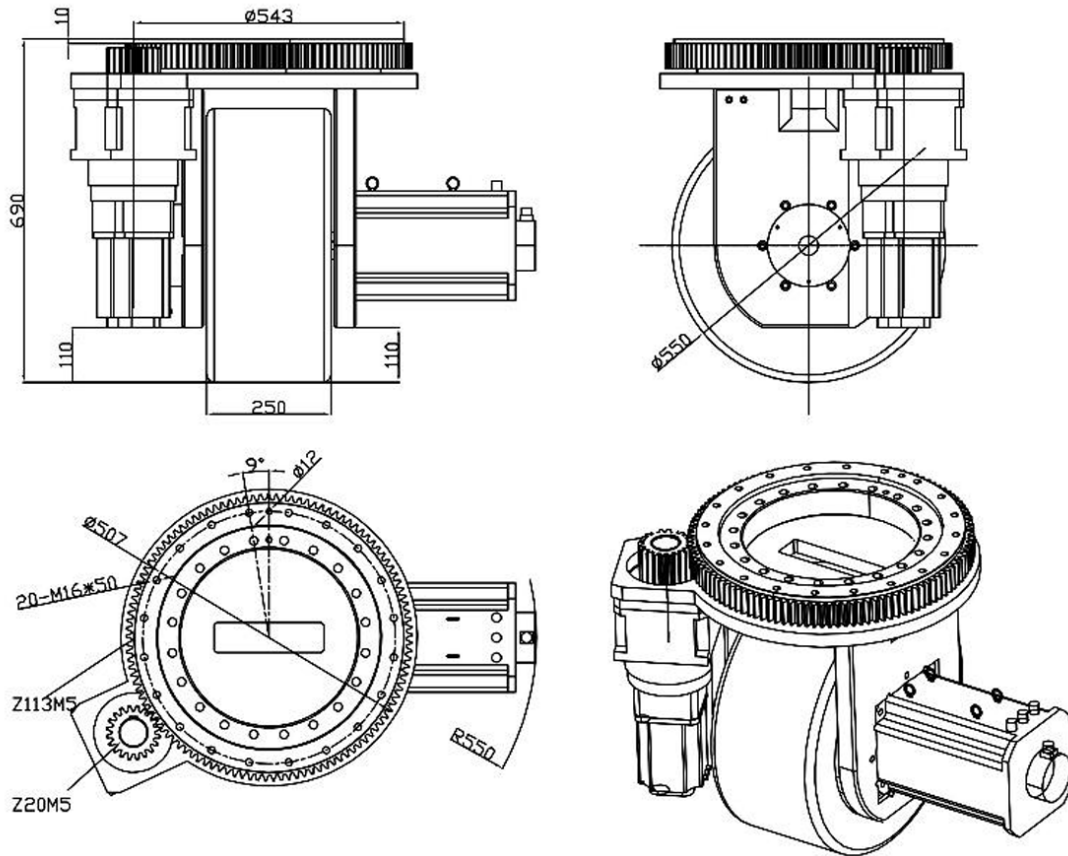
|                                |                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D410-P5.7-C4500</b>                                                                            |
| <b>Drive Motor</b>             |                                                                                                         |
| Wheel Diameter                 | 410 mm                                                                                                  |
| Height                         | 525 mm                                                                                                  |
| Working Voltage                | 48 V                                                                                                    |
| Rated Power                    | 5.7 kW                                                                                                  |
| Nominal Torque(Traction Motor) | 27.00 N·m                                                                                               |
| Gear Ratio                     | 70/100                                                                                                  |
| Nominal Torque(Drive Motor)    | 1606.50/2295.00N·m                                                                                      |
| RPM                            | 2000                                                                                                    |
| Encoder                        | Incremental Encoder(2500 lines)                                                                         |
| <b>Steering Motor</b>          |                                                                                                         |
| Rated Power                    | 1.0 kW                                                                                                  |
| Bearing & Gear Ratio           | 750                                                                                                     |
| Nominal Torque                 | 3.2 N·m                                                                                                 |
| RPM                            | 3000                                                                                                    |
| Max. Angle Limit               | ±110°                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>/Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                         |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                 |
| Max. Payload                   | 4500 kg                                                                                                 |
| Net Weight                     | 200 kg                                                                                                  |



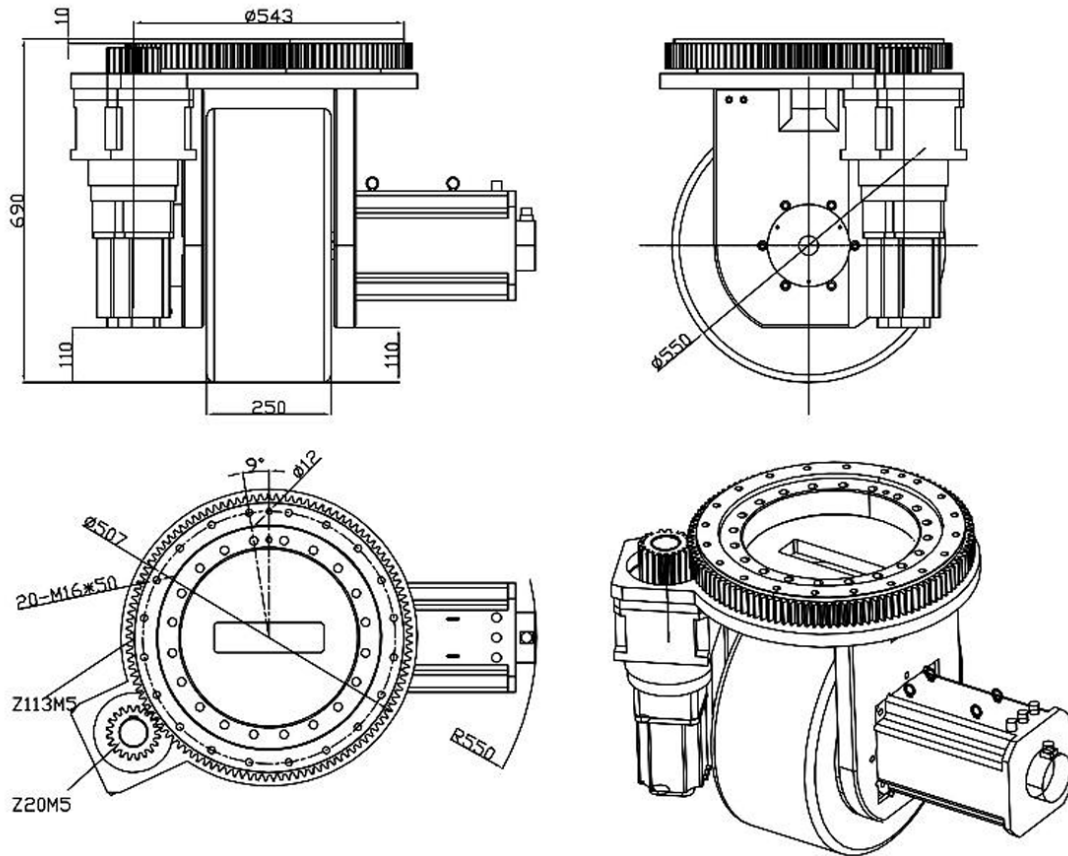
|                                |                                                                                                        |
|--------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D500-P5.5-C6000</b>                                                                           |
| <b>Drive Motor</b>             |                                                                                                        |
| Wheel Diameter                 | 500 mm                                                                                                 |
| Height                         | 616 mm                                                                                                 |
| Working Voltage                | 48 V                                                                                                   |
| Rated Power                    | 5.5 kW                                                                                                 |
| Nominal Torque(Traction Motor) | 36.00 N·m                                                                                              |
| Gear Ratio                     | 70                                                                                                     |
| Nominal Torque(Drive Motor)    | 2142.00 N·m                                                                                            |
| RPM                            | 1500                                                                                                   |
| Encoder                        | Incremental Encoder(2500 lines)                                                                        |
| <b>Steering Motor</b>          |                                                                                                        |
| Rated Power                    | 1.5/3 kW                                                                                               |
| Bearing & Gear Ratio           | 375/372                                                                                                |
| Nominal Torque                 | 4.77/9/54 N·m                                                                                          |
| RPM                            | 3000                                                                                                   |
| Max. Angle Limit               | ±120°                                                                                                  |
| Encoder                        | Incremental Encoder(2500 lines)/<br>Absolute Encoder(NRZ Mode)<br>Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                                                                                        |
| Drive Communication            | EtherCat/CanOpen/Modbus                                                                                |
| Max. Payload                   | 6000 kg                                                                                                |
| Net Weight                     | 350 kg                                                                                                 |



www.atombotix.com



|                                |                                      |
|--------------------------------|--------------------------------------|
| <b>Model</b>                   | <b>AB-SW-D550-P7.5-C15000</b>        |
| <b>Drive Motor</b>             |                                      |
| Wheel Diameter                 | 550 mm                               |
| Height                         | 690 mm                               |
| Working Voltage                | 96 V                                 |
| Rated Power                    | 7.5 kW                               |
| Nominal Torque(Traction Motor) | 48.00 N·m                            |
| Gear Ratio                     | 120                                  |
| Nominal Torque(Drive Motor)    | 4896.00 N·m                          |
| RPM                            | 1500                                 |
| Encoder                        | Incremental Encoder(2500 lines)      |
| <b>Steering Motor</b>          |                                      |
| Rated Power                    | 3 kW                                 |
| Bearing & Gear Ratio           | 565                                  |
| Nominal Torque                 | 9.5 N·m                              |
| RPM                            | 3000                                 |
| Max. Angle Limit               | ±120°                                |
| Encoder                        | Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                      |
| Drive Communication            | EtherCat/CanOpen/Modbus              |
| Max. Payload                   | 15000 kg                             |
| Net Weight                     | 450 kg                               |



| Model                          | AB-SW-D550-P20-C15000                |
|--------------------------------|--------------------------------------|
| <b>Drive Motor</b>             |                                      |
| Wheel Diameter                 | 550 mm                               |
| Height                         | 690 mm                               |
| Working Voltage                | 96 V                                 |
| Rated Power                    | 20 kW                                |
| Nominal Torque(Traction Motor) | 98.00 N·m                            |
| Gear Ratio                     | 40                                   |
| Nominal Torque(Drive Motor)    | 3332.00 N·m                          |
| RPM                            | 2000                                 |
| Encoder                        | Incremental Encoder(2500 lines)      |
| <b>Steering Motor</b>          |                                      |
| Rated Power                    | 3 kW                                 |
| Bearing & Gear Ratio           | 565                                  |
| Nominal Torque                 | 9.5 N·m                              |
| RPM                            | 3000                                 |
| Max. Angle Limit               | ±120°                                |
| Encoder                        | Posital Absolute Encoder(BissC Mode) |
| <b>Specification</b>           |                                      |
| Drive Communication            | EtherCat/CanOpen/Modbus              |
| Max. Payload                   | 15000 kg                             |
| Net Weight                     | 450 kg                               |

