

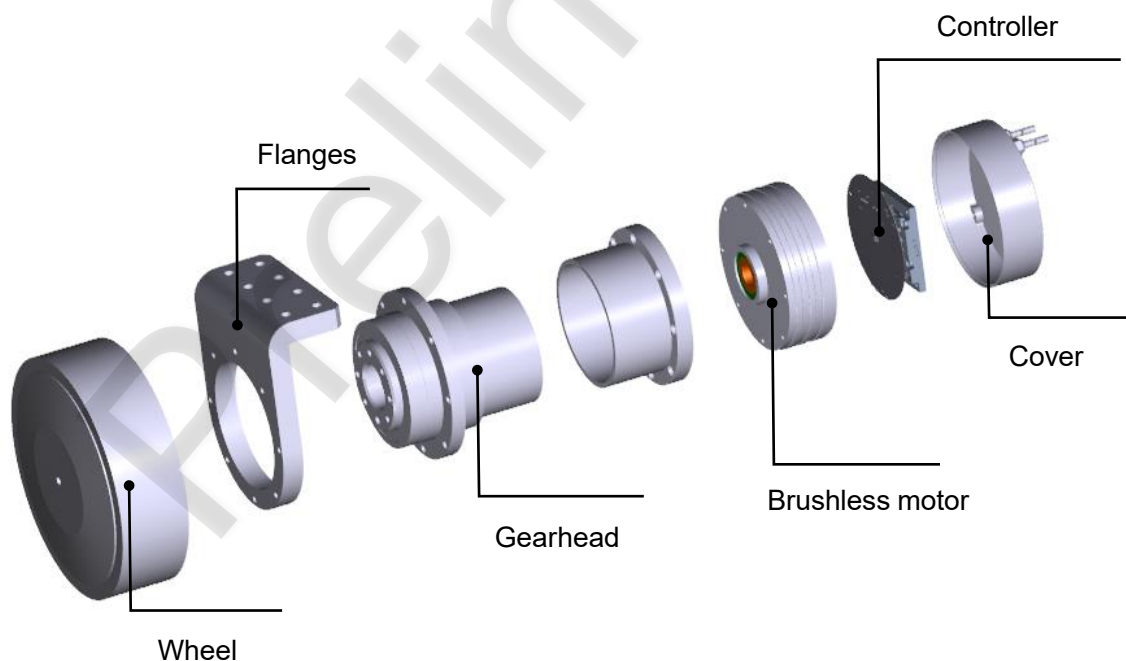
Wheel Drive Series

Modular mobility solution

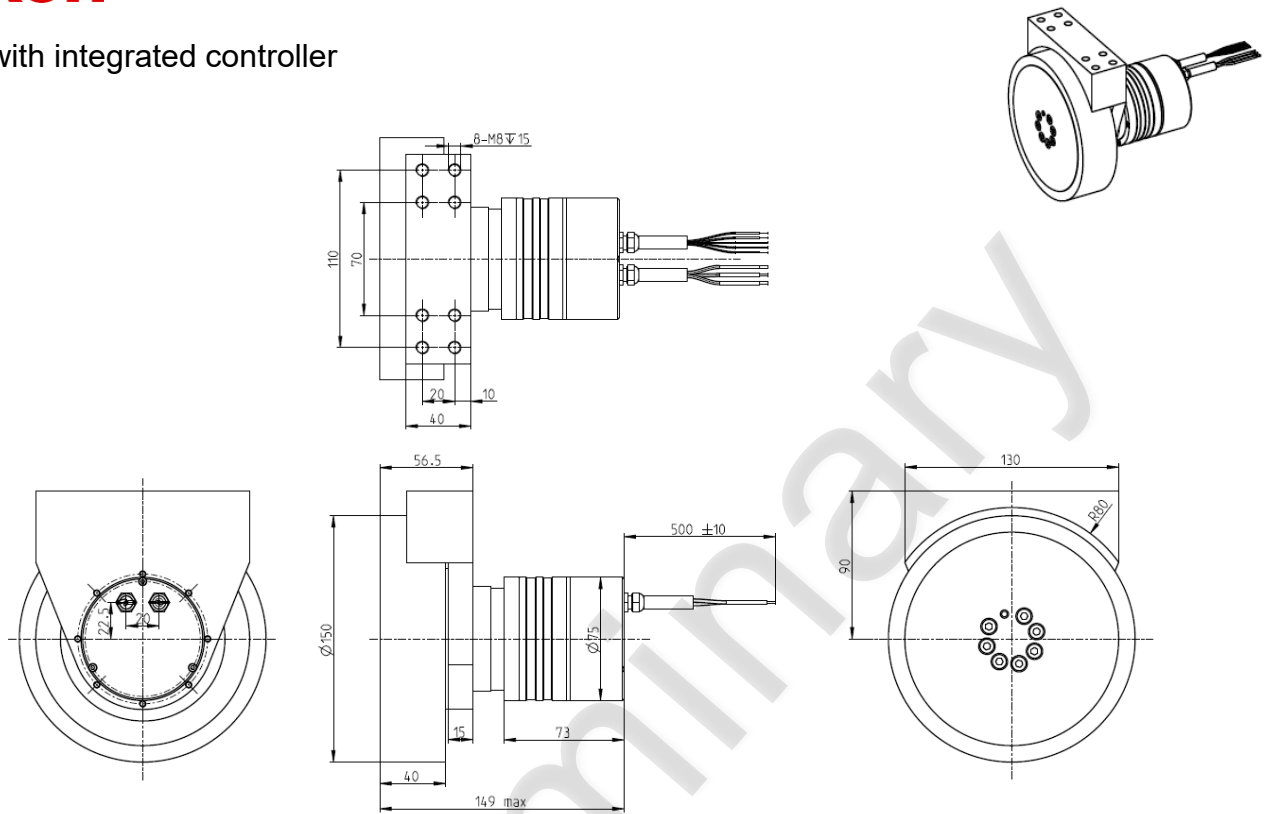
Wheel drive is widely used in various fields (medical, automation and mobility applications...), relying on its good performance and high integration.

The compact wheel drive consists of motor, gear, controller and wheel. All of the series are integrated with motors of high power and gearheads of high efficiency, which provides high torque of output. Precise position and speed control will ensure the stability of system by maxon EPOS4 controller, and customers can easily configure the parameters by EPOS Studio. In addition, customers can easily use wheel drive with the communication interface of CANopen (most selection) or EtherCAT (optional). It is noted that customers don't need to design and install the wheel themselves, the wheel will be integrated into the whole wheel drive series while the convenience of application is considered.

- Robust
- Modular
- Easy to use



WD50 with integrated controller



Drive specifications

1	Ratio	K:1	10:1	10:1	25:1	25:1
2	Nominal voltage	VDC	24	48	24	48
3	Nominal speed	rpm	135	320	51	51
4	Nominal current	A	7	7	7	7
5	Maximum current	A	15	15	15	15
6	Nominal torque	Nm	6.5	6.5	16	16
7	Maximum acceleration torque	Nm	15	15	37	37
8	Torque constant	Nm/A	0.1095	0.1095	0.1095	0.1095
9	Speed constant	rpm/V	85	85	85	85
10	Pole pairs		7	7	7	7
11	Phase to Phase resistance	Ω	0.395	0.395	0.395	0.395
12	Phase to Phase inductance	mH	0.247	0.247	0.247	0.247
13	Rotor inertia	gcm ²	22.81	22.81	22.81	22.81
14	Encoder resolution (3 channels)	lines	1024	1024	1024	1024

Electrical specifications

15	Operating voltage	VDC	24...48	Maximum radial force	N	1125
16	Continuous output current	A	5	Maximum axial force	N	1250
17	Maximum output current	A	15	Backlash	arcmin	<8

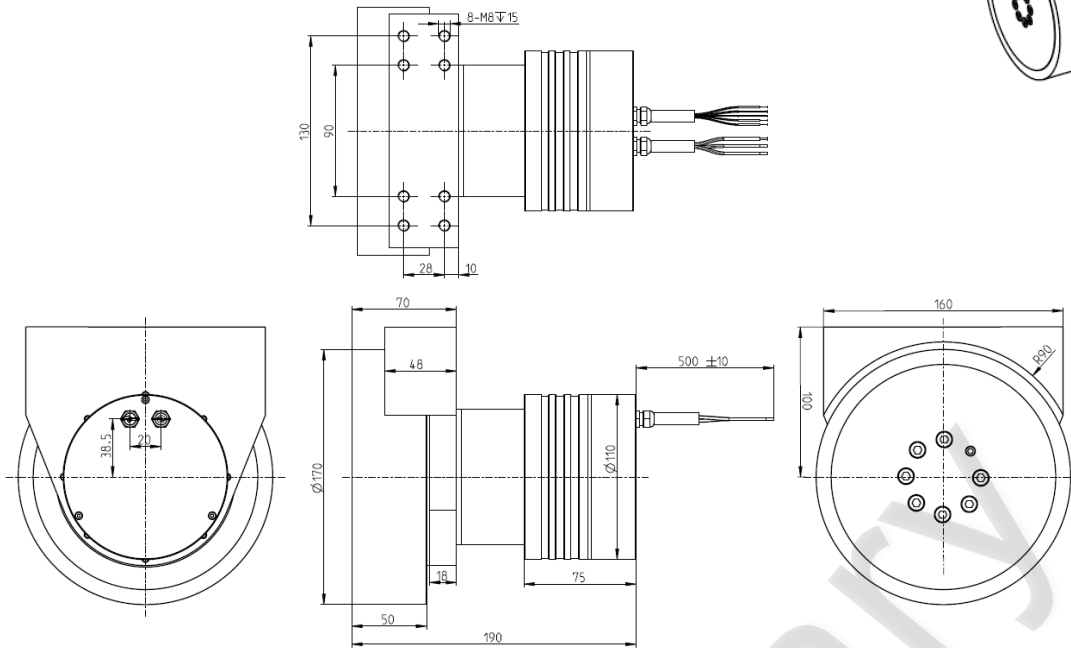
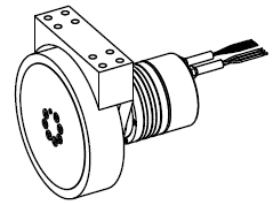
Mechanical specifications

18	Switching frequency	kHz	50	Other specifications		
19	Sampling rate of PI current controller	kHz	25	Weight	kg	--
20	Sampling rate of PI velocity controller	kHz	2.5	Operating temperature	°C	-10...40
21	Sampling rate of PID position controller	kHz	2.5	Storage temperature	°C	-20...70
22	Communication interface	CANopen		Humidity	%	20...70
				Cable length	mm	500±10

Connection

23	Power supply cable	+Vcc	Red	Communication cable	CANH	Yellow
		GND	Black		CANL	Grey
					GND	Brown

WD80 with integrated controller



Drive specifications

1	Ratio	K:1	10:1	10:1	25:1	25:1
2	Nominal voltage	VDC	24	48	24	48
3	Nominal speed	rpm	128	128	110	110
4	Nominal current	A	12	12	12	12
5	Maximum current	A	30	30	30	30
6	Nominal torque	Nm	16	16	40	40
7	Maximum acceleration torque	Nm	38	38	95	95
8	Torque constant	Nm/A	0.14	0.14	0.14	0.14
9	Speed constant	rpm/V	68	68	68	68
10	Pole pairs		7	7	7	7
11	Phase to Phase resistance	Ω	0.28	0.28	0.28	0.28
12	Phase to Phase inductance	mH	0.988	0.988	0.988	0.988
13	Rotor inertia	gcm ²	176	176	176	176
14	Encoder resolution (3 channels)	lines	1024	1024	1024	1024

Electrical specifications

15	Operating voltage	VDC	24...48	Maximum radial force	N	2800
16	Continuous output current	A	15	Maximum axial force	N	2500
17	Maximum output current	A	30	Backlash	arcmin	<8
18	Switching frequency	kHz	50	Other specifications		
19	Sampling rate of PI current controller	kHz	25	Weight	kg	--
20	Sampling rate of PI velocity controller	kHz	2.5	Operating temperature	°C	-10...40
21	Sampling rate of PID position controller	kHz	2.5	Storage temperature	°C	-20...70
22	Communication interface	CANopen		Humidity	%	20...70
				Cable Length	mm	500±10

Connection

23	Power supply cable	+Vcc	Red	Communication cable	CANH	Yellow
		GND	Black		CANL	Grey
					GND	Brown