



WHEEL DRIVES

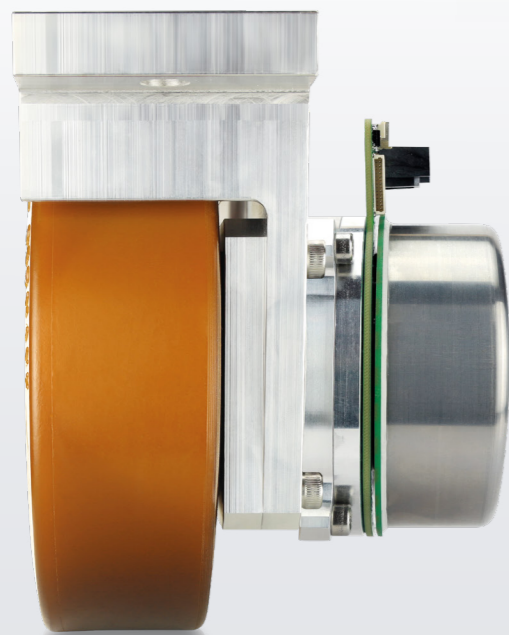
Standard and customized solutions

Modular wheel drive WD

Compact design

The WD wheel drive consists of an extremely short unit of wheel, integrated planetary gearbox and bearing. The combination with Nanotec's motors and controllers results in compact systems that simplify the development and optimization of self-propelled systems, such as service robots or AGVs. The wheel is available in a number of diameters and with different mounting flanges.

- Space-saving design
- Withstands high radial loads
- 6 different wheel diameters
- With or without mounting bracket
- Few components minimize cabling effort



Maximum flexibility

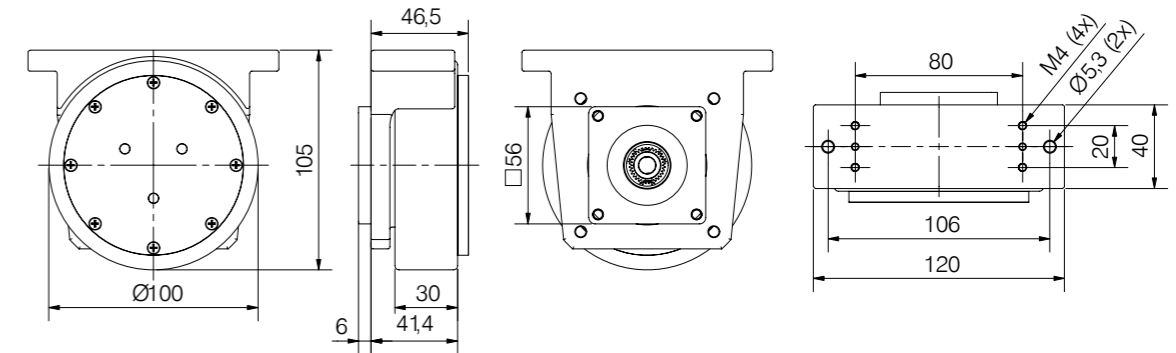
The wheel drives of the WD series can be combined with a wide range of motors, brakes and rotary encoders, and can be ordered with or without mounting bracket. Among others, Nanotec's DFA90 external rotor motor with integrated encoder is perfectly matched to the wheel drive. The total installation length of this combination is just 121.5 mm.

Custom solutions

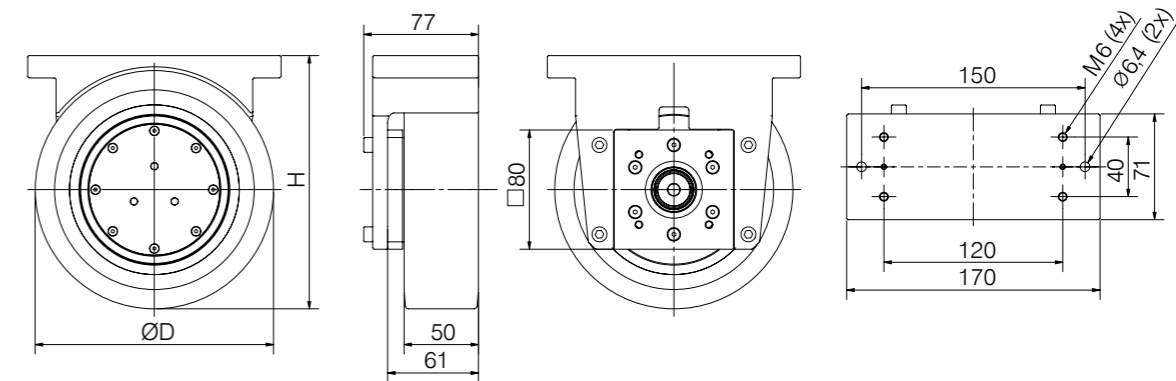
The wheel drive has a standard reduction of 1:16. Customized gear reductions are available on request. All other components can also be combined individually, and, thus, be optimally adapted to every application.

Technical data

WD10030



WD140 - 200



Wheel drive	Diameter "D" (mm)	Height "H" (mm)	Width (mm)	Payload (kg)	Reduction	Rated torque gearbox (Nm)	Rated speed gearbox (rpm)	Matching motors
WD10030	100	105	30	400	16	24.6	3,500	NEMA 23/24
WD14050	140	150	50	400	11 / 16 / 20 / 26	19.2 / 24.6 / 28.6 / 29.1	3,500	NEMA 23/24 / DB80 / DFA90
WD15050	150	160	50	400	11 / 16 / 20 / 26	19.2 / 24.6 / 28.6 / 29.1	3,500	NEMA 23/24 / DB80 / DFA90
WD16050	160	170	50	400	11 / 16 / 20 / 26	19.2 / 24.6 / 28.6 / 29.1	3,500	NEMA 23/24 / DB80 / DFA90
WD18050	180	190	50	400	11 / 16 / 20 / 26	19.2 / 24.6 / 28.6 / 29.1	3,500	NEMA 23/24 / DB80 / DFA90
WD20050	200	210	50	400	11 / 16 / 20 / 26	19.2 / 24.6 / 28.6 / 29.1	3,500	NEMA 23/24 / DB80 / DFA90

Combination examples	WD16050-5620-23E PD4-EB59CD-E-65	WD14050-5611-60C APBA60L048030-E	WD20050-5616-90G DFA90L048017-E	WD20050-5611-90G DFA90L048017-E
Voltage	48 V	48 V	48 V	48 V
Reduction	20.03	10.84	15.51	10.84
Diameter	160 mm	140 mm	200 mm	200 mm
Payload	250 kg	400 kg	200 kg	200 kg
Rated torque wheel	11.3 Nm	12.9 Nm	14.1 Nm	9.8 Nm
Peak torque wheel	33.9 Nm	38.8 Nm	43.7 Nm	30.6 Nm
Rated power	207 W	375 W	158 W	158 W
Rated speed AGV	1.46 m/s	2.03 m/s	1.13 m/s	1.61 m/s
Rated acceleration	0.56 m/s ²	0.46 m/s ²	0.70 m/s ²	0.49 m/s ²
Peak acceleration	1.69 m/s ²	1.39 m/s ²	2.19 m/s ²	1.53 m/s ²

Motor brake for dynamic stops

Two variants

The WD wheel drives are also available with a premounted motor brake for applications that require repeated and dynamic braking. BRAKE-BWA-1.3-8-DYN is designed for a reduction ratio of 11, and BRAKE-BWA-0.8-8-DYN is designed for reduction ratios of 16 and 20. They are intended for a rated power of 9.2 W and 2,500 braking operations.



Two variants

Both brakes are enclosed in a housing that protects them against environmental influences and penetration by foreign objects. They can be combined with motors with flange size NEMA 23/24 and 80 mm as well as motors of the DFA90 series.



Please contact our sales team if you have questions regarding a specific application or you would like to request a quote for a wheel drive with brake.

	BRAKE-BWA-0,8-8-DYN	BRAKE-BWA-1,3-8-DYN
Min. holding torque	0.8 Nm	1.3 Nm
Max. dynamic torque	2.1 Nm	3.25 Nm
Rated power	9.2 W	9.2 W
Operating voltage	24 VDC	24 VDC
Max. running time	70 ms	70 ms
Number of dyn. braking operations	2,500	2,500



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