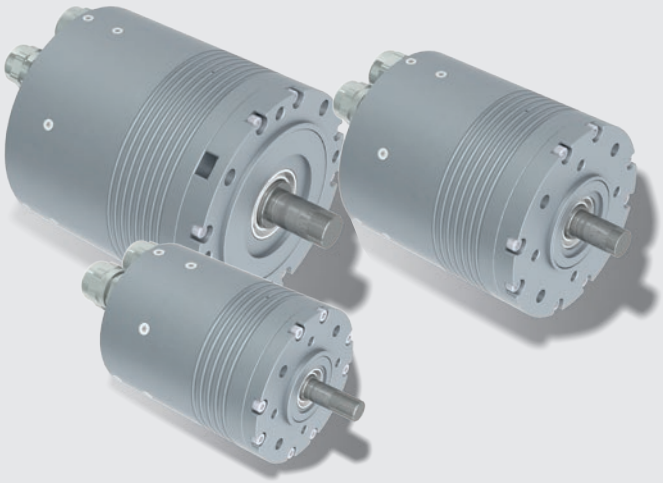


Servo motors RD50/70/85-VW

Compact drive units with industry-leading power density and a wide range of applications

With the servo motors of the RD series RoboDrive presents high-performance motors based on the well-established stator-rotor kits.
The RoboDrive technology provides the highest power density at maximum torque range and overload capability in a compact design.
The variable concept offers solutions for a variety of demanding drive applications. On request alternative voltage levels, increased speeds and integrated safety brakes are available.
The integrated absolute encoder enables high positioning accuracy and excellent speed stability.
The design of the mounting flange allows the motors to be combined with the gear units of the leading gear manufacturers.
On request the motors are delivered with gear units of Neugart, Wittenstein, Spinea and Harmonic Drive.

Key features:

- Industry-leading power density
- Excellent overload capability
- Compact design
- Absolute Sin-Cos encoder, accuracy ±0.5°
- Integrated safety brake
- Mounting flange based on B5/B14 standard
- Customized flange available
- Installation space savings by optional gearhead direct mounting

Basic data

	RD50x08-VW	RD50x14-VW	RD70x10-VW	RD70x18-VW	RD85x13-VW	RD85x26-VW
Power P [W]	155	180	270	275	430	410
Rated torque T_r [Nm]	0.27	0.50	0.74	1.25	1.43	2.60
Peak torque T_{max} [Nm]	0.9	1.4	2.3	4.0	4.5	8.3
Rotation speed n_{max}* at U_r [rpm]	5,500	3,500	3,500	2,100	2,900	1,500
Motor diameter D [mm]	61	61	80	80	96	96
Motor length L [mm] w/o brake with brake	54.3 70.1	60.7 76.5	63.5 81.4	71.4 89.3	70.3 88.2	83.7 101.6
Weight m [g] w/o brake with brake	430 595	495 660	870 1,150	995 1,280	1,300 1,700	1,630 2,040
Inertia J [kgcm^2] w/o brake with brake	0.07 0.11	0.11 0.15	0.29 0.43	0.42 0.56	0.82 1.15	1.36 1.69

* Theoretical no-load rotation speeds at U_r = 48 V. Variations can arise from operation with different inverters.
Higher rotation speeds or change of the voltage level can be achieved by adapting the interconnection scheme.

Electrical data

	RD50x08-VW	RD50x14-VW	RD70x10-VW	RD70x18-VW	RD85x13-VW	RD85x26-VW
Rated voltage U_r [V]	48	48	48	48	48	48
Rated current I_r [A]	4.8	5.0	7.0	7.0	11.0	11.0
Torque constant k_T [Nm/A]	0.057	0.098	0.106	0.180	0.130	0.244
Terminal resistance R_{TT} [mΩ]	552	800	470	655	210	323
Terminal inductance L_{TT} [µH]	720	820	800	1,350	470	920
Number of pole pairs	10	10	10	10	10	10
Sensor type*	Magnetic encoder, differential Sin-Cos-signal, signal amplitude 1 V_{PP}, signal offset $U_{dd}/2$, accuracy ± 0.5°, supply voltage U_{dd} = 5 V					

All data relate to star-serial interconnection at U_r = 48 V. The voltage level can be adapted on request.
* SSI, linear voltage, absolute parallel or incremental RS422 communication interface with resolution up to 8,192 inc/rev are available on request.

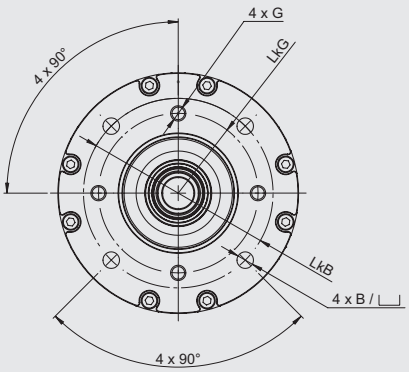
Safety brake data

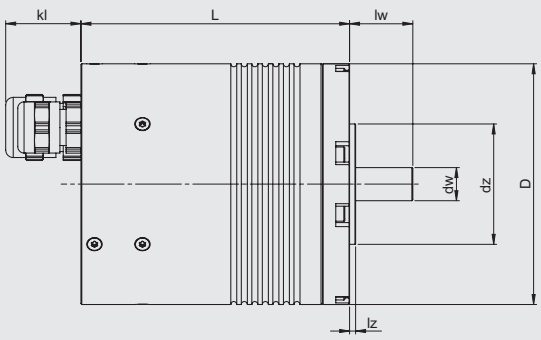
	RD50x08-VW	RD50x14-VW	RD70x10-VW	RD70x18-VW	RD85x13-VW	RD85x26-VW
Braking torque $T_{B,r}/T_{B,max}$ [Nm]	0.30/0.75	0.60/1.50	0.84/2.10	1.44/3.60	1.68/4.20	3.12/7.80
Thermal losses $P_{B,L}$ at $U_{B,r}$ [W]	2.6	2.6	3.7	3.7	5.0	5.0

All brakes are operated with a rated voltage of $U_{B,r}$ = 10 V, to open the brake an over-excitation voltage of 30 V is required.
Adaption of voltage level can be realized on request.

Dimensions

	RD50x08-VW	RD50x14-VW	RD70x10-VW	RD70x18-VW	RD85x13-VW	RD85x26-VW
Motor diameter D [mm]	61	61	80	80	96	96
Motor length L [mm] w/o brake with brake	54.3 70.1	60.7 76.5	63.5 81.4	71.4 89.3	70.3 88.2	83.7 101.6
Shaft diameter dw [mm]	8 j6	8 j6	11 j6	11 j6	14 j6	14 j6
Shaft length lw [mm]	22	22	21	21	27	27
Centering diameter dz [mm]	30 j6	30 j6	40 j6	40 j6	70 j6	70 j6
Centering length lz [mm]	2	2	2	2	2	2
Pitch circle LkG/LkB [mm]	40/46	40/46	53/63	53/63	85/85	85/85
Mounting thread G/Hole B [mm]	M4/4.5	M4/4.5	M5/5.5	M5/5.5	M6/6.6	M6/6.6
Cable gland length kl [mm]	21	21	25	25	25	25





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