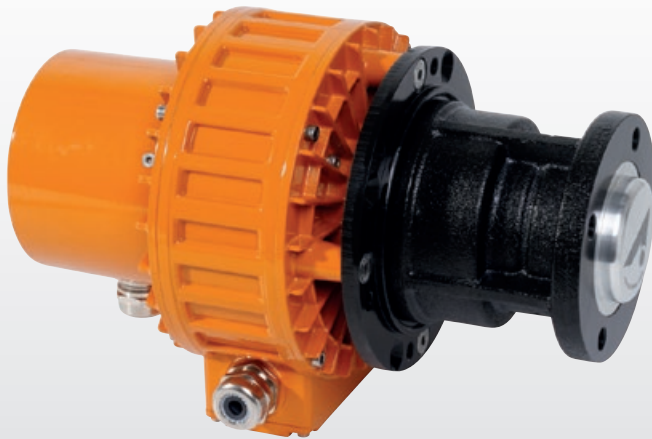


PMSG Motors



- ✓ ***Maintenance-free***
- ✓ ***Energy recuperation***
- ✓ ***High efficiency***
- ✓ ***Low noise***
- ✓ ***Huge starting torque***

Description

The HEINZMANN PMSG Wheel Hub Drive convinces due to clean and environmentally friendly drive system without any pollution and noise.

His advantages are a huge starting torque with a high overload factor. Furthermore it's highly efficient and maintenance-free motor.

Because of the direct mount to the rim no axle is needed. The PMSG has an integrated planetary gear and a wheel bearing for a direct mount on the rim. An emergency brake is optional.

It is suitable for 2- as well as for 4-wheel drives.

Range of application

- Turf applications, lawn tractors
- Harvester
- Forklift trucks
- Lifters
- Floor care machinery
- Municipal vehicles
- Commercial vehicles
- Electric cars and NEV
- Replacement for hydraulic drives



PMSG 100-500 (1.45 - 2.7 kW)

Voltage	Motor data					Gearing data			
	Rated power	Rated speed	Rated load torque	Rated current		Gear ratio	Efficiency	Rated speed	Rated load torque
	kW	rpm	Nm	A		i	%	rpm	Nm
PMSG 100-500-2-16									
24 VDC	1.45	4500	3.1	71.8		16	94	281	46
	1.4	6000	2.2	71.4		16	94	375	34
36 VDC	2.6	4500	5.5	85.6		16	94	281	83
	2.6	6000	4.1	92.4		16	94	375	62
48 VDC	2.6	4500	5.5	65.4		16	94	281	83
	2.7	6000	4.3	66.9		16	94	375	65
PMSG 100-500-2-42									
24 VDC	1.45	4500	3.1	71.8		42	94	107	121
	1.4	6000	2.2	71.4		42	94	143	88
36 VDC	2.6	4500	5.5	85.6		42	94	107	160
	2.6	6000	4.1	92.4		42	94	143	160
48 VDC	2.6	4500	5.5	65.4		42	94	107	160
	2.7	6000	4.3	66.9		42	94	143	160
▶ Cooling: Forced ventilation ▶ m = 14.5 kg ▶ Operating mode = S1									

PMSG 120-500 (3.0 - 8.0 kW)

Voltage	Motor data					Gearing data			
	Rated power	Rated speed	Rated load torque	Rated current		Gear ratio	Efficiency	Rated speed	Rated load torque
	kW	rpm	Nm	A		i	%	rpm	Nm
PMSG 120-500-2-16									
48 VDC	5.5	3000	17.5	126.9		16	94	188	160
	6.0	4500	12.7	134.0		16	94	281	160
	6.0	6000	11.9	137.0		16	94	375	160
96 VDC	6.4	3000	20.4	73.6		16	94	188	160
	7.5	4500	15.9	83.7		16	94	281	160
	8.0	6000	12.7	93.4		16	94	375	160
▶ Cooling: Forced ventilation ▶ m = 19.6 kg ▶ Operating mode = S1									

PMSG 120-1500 (3.0 - 8.0 kW)

Voltage	Motor data				Gearing data			
	Rated power	Rated speed	Rated load torque	Rated current	Gear ratio	Efficiency	Rated speed	Rated load torque
	kW	rpm	Nm	A	i	%	rpm	Nm
PMSG 120-1500-2-40								
48 VDC	5.5	3000	17.5	126.9	40	94	75	500
	6.0	4500	12.7	134.0	40	94	113	500
	6.0	6000	11.9	137.0	40	94	150	449
96 VDC	6.4	3000	20.4	73.6	40	94	75	500
	7.5	4500	15.9	83.7	40	94	113	500
	8.0	6000	12.7	93.4	40	94	150	479
▶ Cooling: Forced ventilation ▶ m = 27.8 kg ▶ Operating mode = S1								

PMSG 150-1500 (5.0 - 14.0 kW)

Voltage	Motor data				Gearing data			
	Rated power	Rated speed	Rated load torque	Rated current	Gear ratio	Efficiency	Rated speed	Rated load torque
	kW	rpm	Nm	A	i	%	rpm	Nm
PMSG 150-1500-2-16								
48 VDC	8.5	3000	27.1	191.9	16	94	188	408
	8.5	4500	18.0	190.8	16	94	281	270
	8.5	6000	13.5	192.0	16	94	375	203
96 VDC	10.5	3000	33.4	130.8	16	94	188	500
	14.0	4500	29.7	167.4	16	94	281	447
	13.0	6000	20.7	157.5	16	94	375	311
PMSG 150-1500-2-40								
48 VDC	8.5	3000	27.1	191.9	40	94	75	500
	8.5	4500	18.0	190.8	40	94	113	500
	8.5	6000	13.5	192.0	40	94	150	500
96 VDC	10.5	3000	33.4	130.8	40	94	75	500
	14.0	4500	29.7	167.4	40	94	113	500
	13.0	6000	20.7	157.5	40	94	150	500
▶ Cooling: Forced ventilation ▶ m = 37.8 kg ▶ Operating mode = S1								


The combinations described are only a selection.

The complete list of standard combinations consists of the motor list and the gear list.

Refer to the Product Catalogue Electric Drives.

Other variants on request.

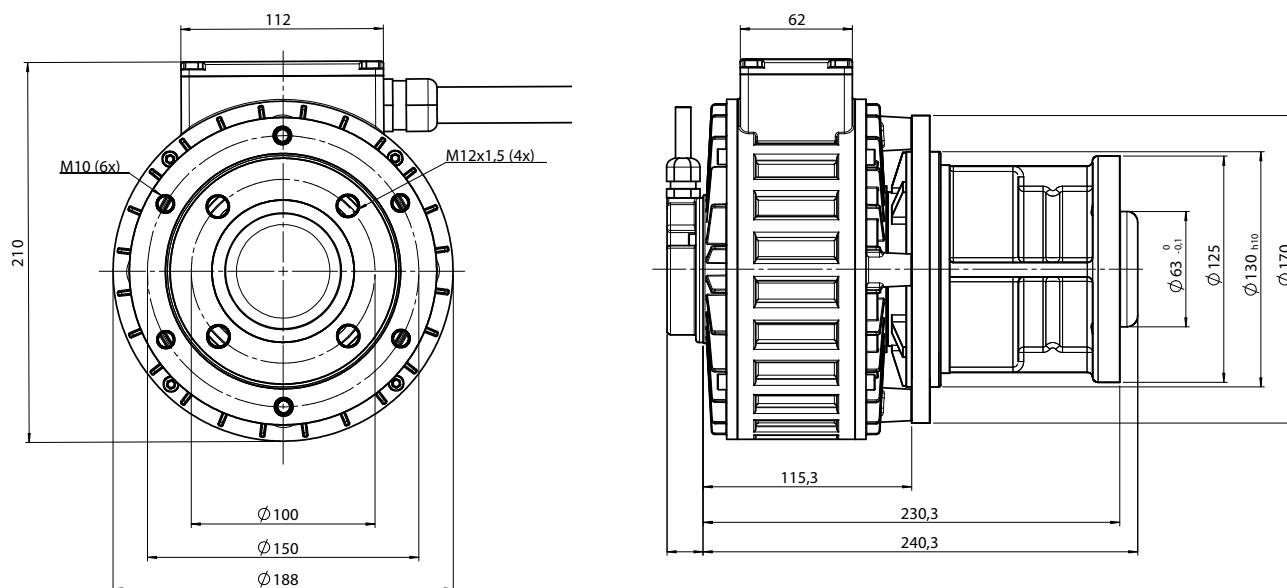
Technical Data

Gearing data	PMSG xxx-500	PMSG xxx-1500	
	Reduction possibilities <i>(some reduction possibilities are not available in standard versions)</i>	1:4/1:7/1:16/ 1:24/1:42/1:96/ 1:144/1:252 (optional manual decoupling possible)	1:5/1:8/1:25/1:40/1:64/ 1:100/1:150/1:240/1:384 (optional manual decoupling possible)
	Max. continuous torque	160 Nm	500 Nm
	Max. peak torque	500 Nm	2000 Nm
	Max. axial forces	2500 N	5000 N
	Max. radial forces	8000 N	25000 N
	Lubrication	Lifetime	Lifetime
	Lifetime	20.000 hours	20.000 hours (depending on application)
	Degree of protection	up to IP67	up to IP67
Weight planetary gear	~ 7 kg	14 – 17.5 kg	

Implementation

Power connection: Cable length 1 m, open cable ends Motor feedback: Probe with sin/cos-output
 Encoder connection: Cable length 1 m, open cable ends Temperature sensor: KTY 84-130
 Cooling: External ventilation, generated independently from motor, min. air velocity > 5 m/s required

Dimensions



Note:

Dimensions of each particular drive system depends on the different motor/gearbox combination
 In this example: PMSG 100-500 (Motor 2.2 kW, 48 V, 6000 rpm, gear with reduction ratio 1:24, 2 step, max. peak torque 500 Nm)
 Drawings of other motor/gearbox combinations on request

Subject to changes and corrections. ©Heinzmann GmbH & Co. KG, 2018



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