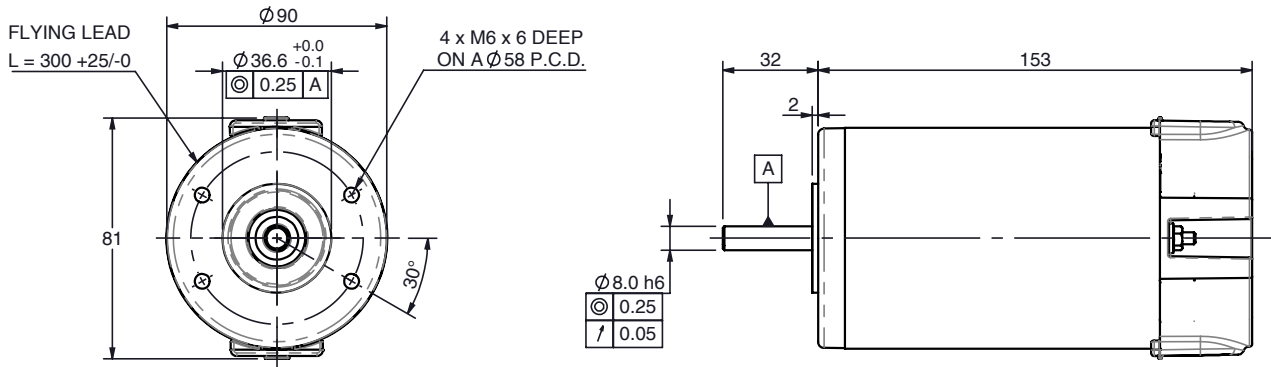


PM90-180 PMDC motor

Ø90 mm frame // 75 mm stack

parvalux
by **maxon**



all dimensions in mm

Part number key

Modular	#####
Standard	#####
Calculated data	#####

Please see our customisation options page for details on the modifications available on our products. Advice and guidance on these options are available from your local sales engineer.

Technical data

1 Part number		-	-	-
2 Nominal power	W	236	283	283
3 Nominal voltage	V	12	24	48
4 No load speed	rpm	3750	3417	3376
5 No load current	A	3.4	1.2	0.6
6 Nominal speed	rpm	2500	3000	3000
7 Nominal continuous torque (S1)	Nm	0.9	0.9	0.9
8 Nominal continuous current (S1)	A	33.2	14.5	7.3
9 Max. intermittent torque (S2 - 15 minutes)	Nm	1.50	1.50	1.50
10 Stall current	A	83.5	93.0	58.0
11 Stall torque	Nm	2.38	6.14	7.71
12 Stack length	mm	75	75	75
13 Maximum efficiency	%	69	79	80
14 Terminal resistance	Ω	0.116	0.312	0.426
15 Terminal inductance	mH	78.3	422.3	1620.0
16 Speed constant	rpm/V	311.3	135.9	68.0
17 Torque constant	Nm/A	0.03	0.07	0.13
18 Speed torque gradient	rpm/Nm	16674	5471	433.0
19 Rotor inertia	gcm²	8.65 x 10 ⁻⁴	8.65 x 10 ⁻⁴	8.65 x 10 ⁻⁴

Thermal data

20 Ambient temperature	°C	40
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Mechanical data

21 Radial load [distance from flange]	N [mm]	200 [15]
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Other data

22 Number of poles		2
23 Weight	Kg	4.00
24 IP rating		IP54
25 Enclosure		Enclosed
26 Insulation Class		F
27 Reversible		Yes

Compatible products

Gearbox	Page #	Brake	Page #	Controller	Page #
GB80	224	1.5 Nm	258	SC 50/15	262
L Box	226	2.0 Nm	259	EPOS	265
LIW	242	4.0 Nm	260	ESCON	274
PGx70	250	Power-On	261		
GB12	232				
GB9	234				
LIS	244	Encoder	Page #		
LWS	236	Incr. 5-pin	254		
GB14	237	Incr. 10-pin	254		
GB65	238	Diff. 10-pin	255		
		Magnetic	256		

Key

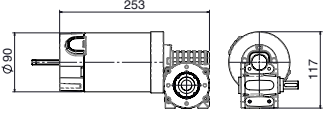
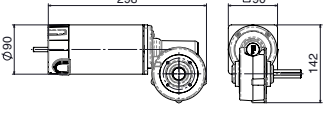
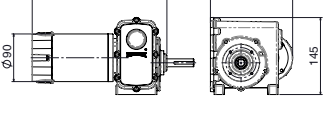
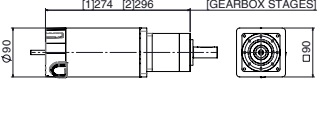
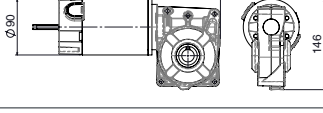
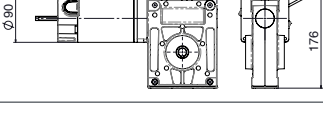
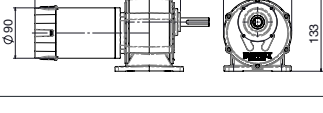
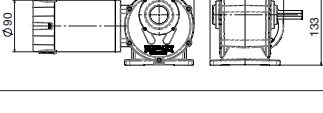
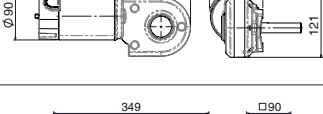

Standard combination

Modular combination

PM90-180 combinations

Quickview - combination drawing and technical data

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Combination drawing	Technical data							
	Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
	Gear ratio ²	:1	4	30	72	-	-	-
	Speed	rpm	750.0	100.0	41.7	-	-	-
	Nominal torque	Nm	3.1	8.0	5.0	-	-	-
	Intermittent torque	Nm	5.1	13.0	8.0	-	-	-
	Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
	Gear ratio ²	:1						
	Speed	rpm						
	Nominal torque	Nm						
	Intermittent torque	Nm						
	Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
	Gear ratio ²	:1	36	400	1200	36	400	1200
	Speed	rpm	83.3	7.5	2.5	83.3	7.5	2.5
	Nominal torque	Nm	24.0	28.0	28.0	24.0	45.0	45.0
	Intermittent torque	Nm	28.0	28.0	28.0	40.0	45.0	45.0
	Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
	Gear ratio [stages] ²	:1	-	-	-	3.9 [1]	21 [2]	44 [2]
	Speed	rpm	-	-	-	769.2	142.9	68.2
	Nominal torque	Nm	-	-	-	3.3	17.4	30.0
	Intermittent torque	Nm	-	-	-	5.6	29.0	37.5
	Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
	Gear ratio ²	:1	12.5	30	75	12.5	30	75
	Speed	rpm	240.0	100.0	40.0	240.0	100.0	40.0
	Nominal torque	Nm	9.6	19.4	18.0	9.0	17.6	27.0
	Intermittent torque	Nm	15.9	32.0	29.0	15.0	29.3	43.0
	Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
	Gear ratio ²	:1	12.5	30	75	12.5	30	75
	Speed	rpm	240.0	100.0	40.0	240.0	100.0	40.0
	Nominal torque	Nm	10.1	20.3	33.8	9.6	18.9	30.4
	Intermittent torque	Nm	16.9	33.8	56.3	15.9	31.5	50.6
	Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
	Gear ratio ²	:1	6	50	115	-	-	-
	Speed	rpm	500.0	60.0	26.1	-	-	-
	Nominal torque	Nm	4.2	34.7	74.0	-	-	-
	Intermittent torque	Nm	6.9	51.0	100.0	-	-	-
	Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
	Gear ratio ²	:1	48	672	3450	-	-	-
	Speed	rpm	62.5	4.5	0.9	-	-	-
	Nominal torque	Nm	29.4	100.0	100.0	-	-	-
	Intermittent torque	Nm	45.0	100.0	100.0	-	-	-
	Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
	Gear ratio ²	:1	-	-	-	20	80	160
	Speed	rpm	-	-	-	150.0	37.5	18.8
	Nominal torque	Nm	-	-	-	14.6	50.4	61.9
	Intermittent torque	Nm	-	-	-	24.3	84.0	103.2
	Gear material ¹	Comp.	Comp.	Comp.	Bronze	Bronze	Bronze	
	Gear ratio ²	:1	-	-	-	20	80	160
	Speed	rpm	-	-	-	150.0	37.5	18.8
	Nominal torque	Nm	-	-	-	14.6	50.4	61.9
	Intermittent torque	Nm	-	-	-	24.3	84.0	103.2

Key

Standard combination / standard gear ratio

Modular combination / modular gear ratio

Notes

¹ Comp. = Composite gears

² Full gear ratio options displayed on individual gearbox datasheets

→ Technical data displayed above calculated based on **PM90-180 48V 3000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

→ Simplified drawings displayed above show overall envelope size of the combination. Please see individual motor and gearbox datasheets for detailed technical drawings.