parvalux
by maxon

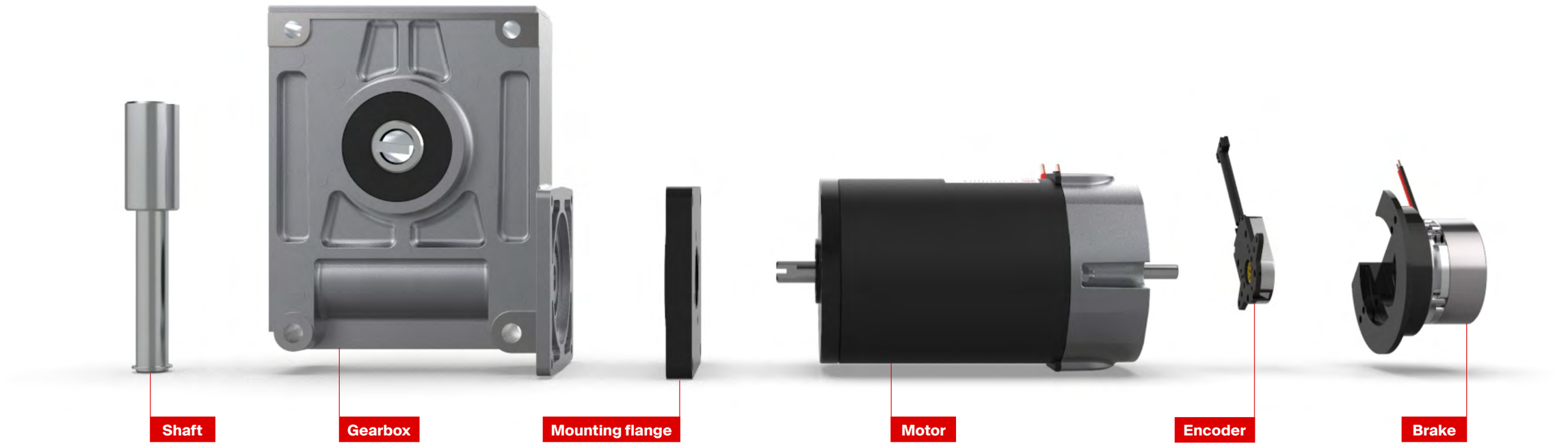
Modular Range

parvalux.com/modular-range

We know how to move

product out the door within 72 hours

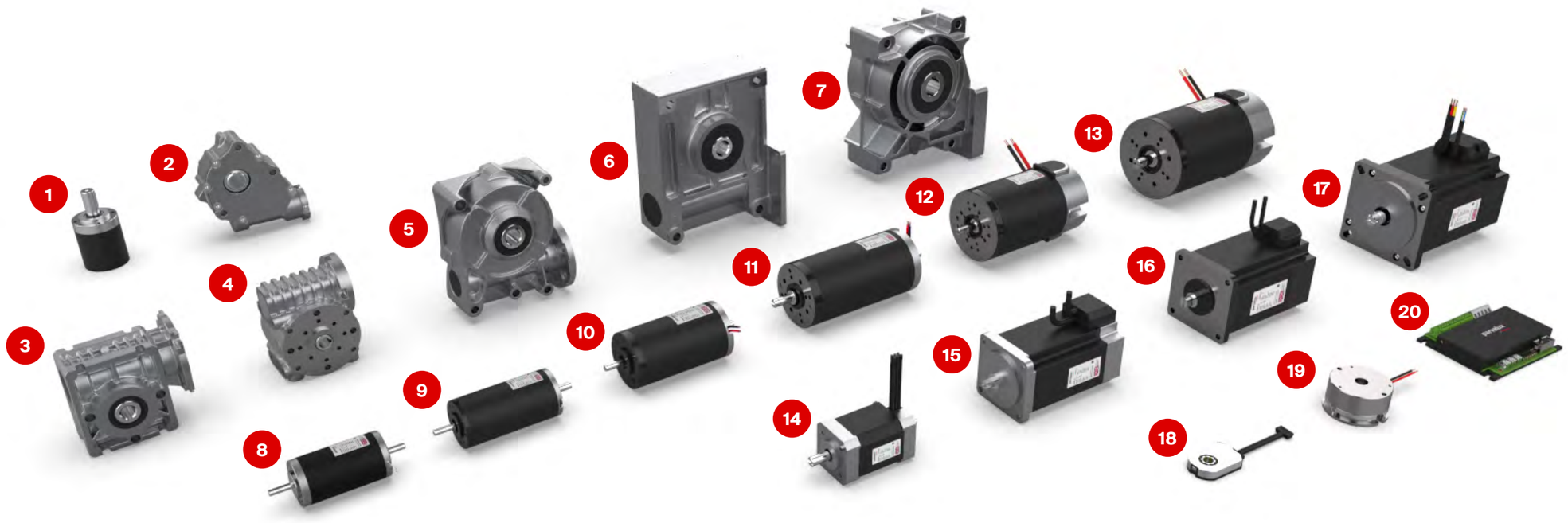
Featuring both brushed and brushless motors, an ever-expanding range of gearboxes, and a selection of accessories to fine tune your configuration, the **Parvalux modular range** offers a rapid route to proof-of-concept with orders shipped within 72 hours of confirmation.



Modular Range 2026

Contents

Visit **parvalux.com/modular-range** to start building your modular solution.



Easy as one.two.three.

Need help?
Our expert team of engineers have extensive experience in specifying Parvalux products for a wide range of applications. Contact your local sales engineer, found on page 134, if you require any assistance.

Step 1.

Determine your required output performance.

Every application can vary; however, the main factors to consider when selecting a motor-gearbox combination are voltage, speed, and torque.

Our modular range caters for voltages of 12 - 48V, up to 4500 rpm speed, and between 0.038 - 176.4 Nm of torque.

Step 2.

Select your motor and gearbox combination.

Gearboxes enable you to reduce the output speed of your motor, while also increasing the torque. However, we also offer motor only solutions where very high speed and low torque is required.

Further details on the output performance of each combination within the modular range can be found throughout the rest of this guide.

Step 3.

Fine tune your selection and order your modular solution.

Our range of accessories include brakes, encoders, controllers, and shaft extension kits, enabling you to tailor your selection to your application.

Once you've created a solution that matches your requirements, contact the Parvalux team to order in quantities of up to 10 pieces.

Start building!

Scan the QR code to start building your own modular solution using our online configurator.

Modular Matrix

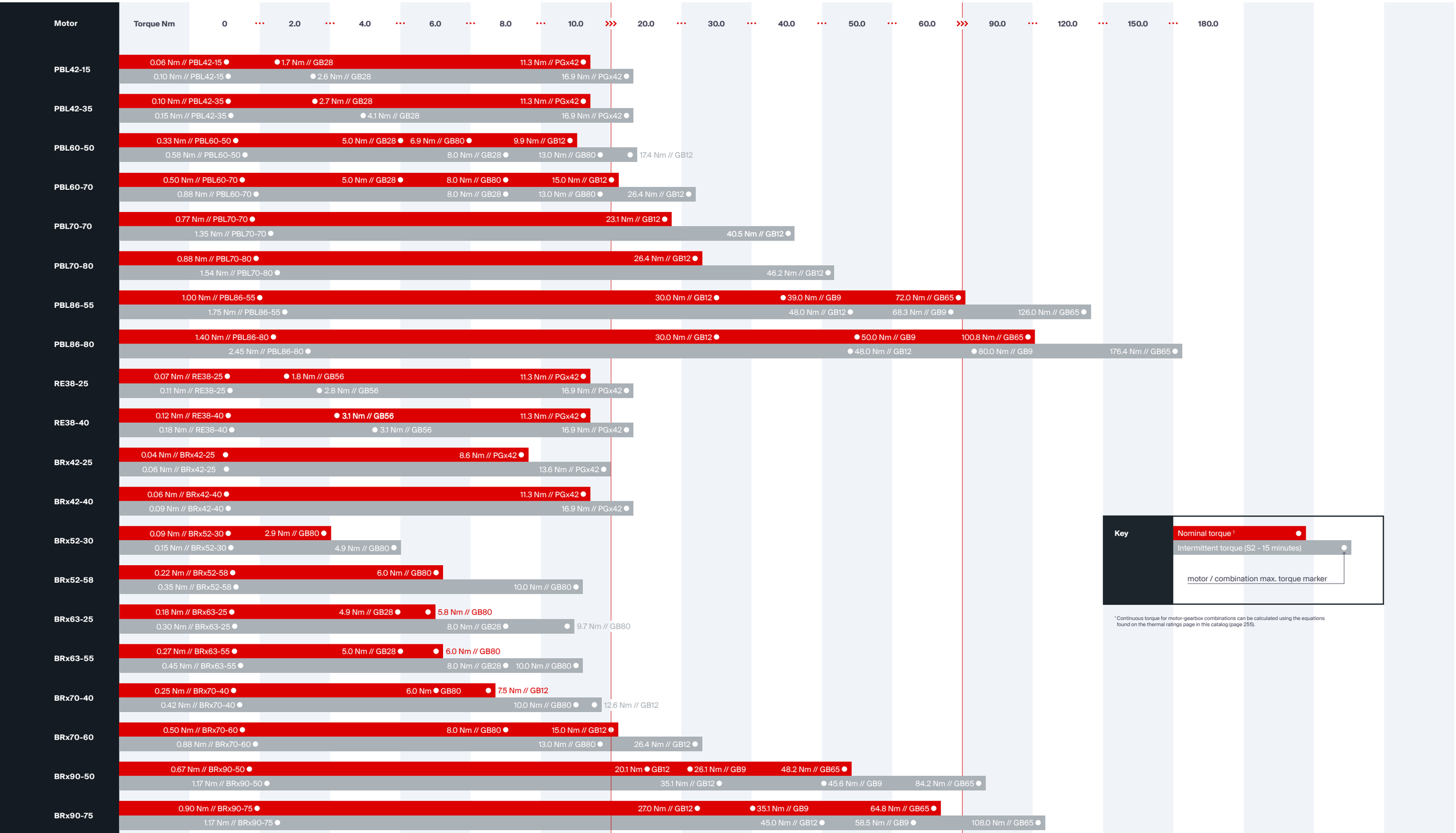
Use the table below to identify compatible motor and gearbox combinations and the accessories available within the modular system.

Motor	Gearbox							Accessories			
	GB28	GB80	GB12	GB56	GB9	GB65	PGx42	Encoder	Brake	Enc + Brake	Controller
PBL42	781249						875216	781280			---
PBL60	781251	854740	781252					---	---	781281	---
PBL70			781255					---	---	781281	---
PBL86			781260		781261	781261		---	---	781284	---
RE38				---			865932	781275			---
BRx42							865932	781275			---
BRx52		854737						837660			---
BRx63	781239	854739						781276	781276	865630	---
BRx70		854737	781242					---	---	781277	---
BRx90			781244		781247	781247		---	---	781279	---
Shaft kit	735908	860809	735903		735898	854742					

Key				
	######	Compatible combination (###### = mounting flange part number)	######	Compatible accessory (###### = mounting flange part number)
	######	Compatible shaft extension kit (###### = shaft kit part number)	---	Compatible accessory (--- = no mounting flange needed between components)

Modular Selection Guide

Quickview of the torque output of the modular range combinations.



[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page in this catalog (page 255).

Modular Motors

Available as motor-only or combined with a gearbox, our modular motor range includes both BLDC and PMDC variants, varying options for frame size, stack length and voltage, and can be combined with a number of our modular accessories to fine tune your modular configuration to your exact specification.

Explore the range over the next few pages or scan the QR code to view the range online and begin building your modular range solution.

BRx90

→ 90 mm diameter frame
→ 50 mm and 75 mm stack length

BRx42

→ 42 mm diameter frame
→ 19 mm and 34 mm stack length

PBL60

→ 60 mm square frame
→ 50 mm and 70 mm stack length

BRx52

→ 52 mm diameter frame
→ 30 mm and 58 mm stack length

BRx70

→ 70 mm diameter frame
→ 40 mm and 60 mm stack length

PBL86

→ 86 mm square frame
→ 55 mm and 80 mm stack length

PBL42

→ 42 mm square frame
→ 15 mm and 35 mm stack length

BRx63

→ 63 mm diameter frame
→ 25 mm and 55 mm stack length

RE38

→ 38 mm diameter frame
→ 25 mm and 40 mm stack length

PBL70

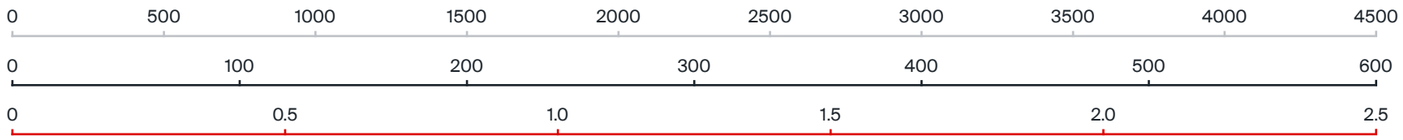
→ 70 mm square frame
→ 70 mm and 80 mm stack length

Overview

BLDC Motors

Our range of BLDC modular motors includes 4 different frame sizes, each of which is available in 2 different stack lengths. Use the tables below to quickly compare the specifications of the different motors or take a look at the individual datasheets of each motor to discover their full specifications.

Key	Speed **rpm**	
	Power **W**	
	Cont. torque **Nm**	Int. torque **Nm**



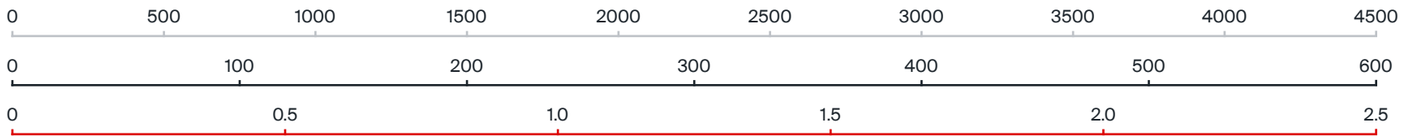
	PBL42-15	Speed **4000 rpm**
	☐42 mm / 15 mm stack	Power **26 W**
	24V / 48V	Torque **0.06 / 0.10 Nm**
	PBL42-35	Speed **4000 rpm**
	☐42 mm / 35 mm stack	Power **42 W**
	24V / 48V	Torque **0.10 / 0.15 Nm**
	PBL60-50	Speed **3000 rpm**
	☐60 mm / 50 mm stack	Power **104 W**
	24V / 48V	Torque **0.33 / 0.58 Nm**
	PBL60-70	Speed **3000 rpm**
	☐60 mm / 70 mm stack	Power **157 W**
	24V / 48V	Torque **0.50 / 0.88 Nm**

Overview

BLDC Motors

Our range of BLDC modular motors includes 4 different frame sizes, each of which is available in 2 different stack lengths. Use the tables below to quickly compare the specifications of the different motors or take a look at the individual datasheets of each motor to discover their full specifications.

Key	Speed **rpm**	
	Power **W**	
	Cont. torque **Nm**	Int. torque **Nm**



PBL70-70	Speed **4500 rpm**	
□70 mm / 70 mm stack	Power **363 W**	
48V	Torque **0.77 / 1.35 Nm**	

PBL70-80	Speed **4500 rpm**	
□70 mm / 80 mm stack	Power **415 W**	
48V	Torque **0.88 / 1.54 Nm**	

PBL86-55	Speed **4000 rpm**	
□80 mm / 55 mm stack	Power **419 W**	
48V	Torque **1.00 / 1.75 Nm**	

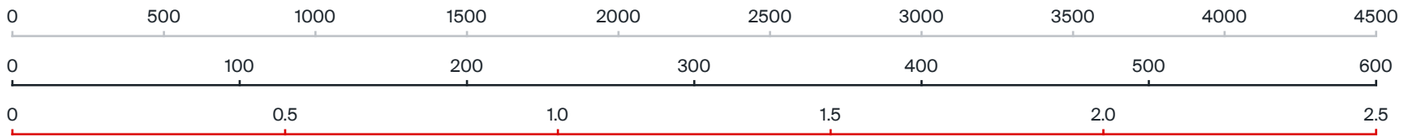
PBL86-80	Speed **4000 rpm**	
□80 mm / 80 mm stack	Power **586 W**	
48V	Torque **1.40 / 2.45 Nm**	

Overview

PMDC Motors

Our range of PMDC modular motors includes 6 different frame sizes, each of which is available in 2 different stack lengths. Use the tables below to quickly compare the specifications of the different motors or take a look at the individual datasheets of each motor to discover their full specifications.

Key	Speed **rpm**	
	Power **W**	
	Cont. torque **Nm**	Int. torque **Nm**



	RE38-25	Speed **3250 rpm**
	☐38 mm / 25 mm stack	Power **24 W**
	24V / 48V	Torque **0.07 / 0.11 Nm**

	RE38-40	Speed **3200 rpm**
	☐38 mm / 40 mm stack	Power **40 W**
	24V / 48V	Torque **0.12 / 0.18 Nm**

	BRx42-25	Speed **3000 rpm**
	☐42 mm / 19 mm stack	Power **12 W**
	12V / 24V	Torque **0.04 / 0.06 Nm**

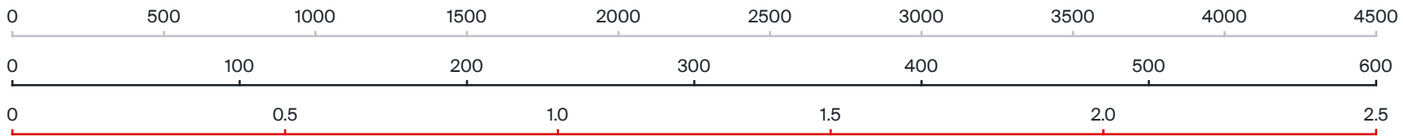
	BRx42-40	Speed **3000 rpm**
	☐42 mm / 34 mm stack	Power **20 W**
	12V / 24V / 48V	Torque **0.06 / 0.09 Nm**

Overview

PMDC Motors

Our range of PMDC modular motors includes 6 different frame sizes, each of which is available in 2 different stack lengths. Use the tables below to quickly compare the specifications of the different motors or take a look at the individual datasheets of each motor to discover their full specifications.

Key	Speed **rpm**	
	Power **W**	
	Cont. torque **Nm**	Int. torque **Nm**



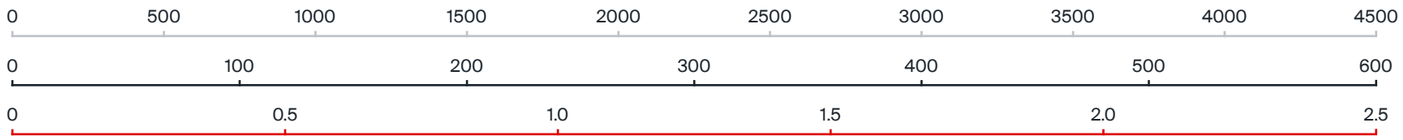
	BRx52-30	Speed **3000 rpm**
	☐52 mm / 30 mm stack	Power **28 W**
	12V / 24V / 48V	Torque **0.09 / 0.15 Nm**
	BRx52-58	Speed **3000 rpm**
	☐52 mm / 58 mm stack	Power **69 W**
	12V / 24V / 48V	Torque **0.22 / 0.35 Nm**
	BRx63-25	Speed **3000 rpm**
	☐63 mm / 25 mm stack	Power **57 W**
	12V / 24V / 48V	Torque **0.18 / 0.30 Nm**
	BRx63-55	Speed **3000 rpm**
	☐63 mm / 55 mm stack	Power **85 W**
	12V / 24V / 48V	Torque **0.27 / 0.45 Nm**

Overview

PMDC Motors

Our range of PMDC modular motors includes 6 different frame sizes, each of which is available in 2 different stack lengths. Use the tables below to quickly compare the specifications of the different motors or take a look at the individual datasheets of each motor to discover their full specifications.

Key	Speed **rpm**		Power **W**	Cont. torque **Nm**	Int. torque **Nm**



	BRx70-40	Speed **3000 rpm**
	□70 mm / 40 mm stack	Power **79 W**
	12V / 24V / 48V	Torque **0.25 / 0.42 Nm**

	BRx70-60	Speed **3000 rpm**
	□70 mm / 60 mm stack	Power **157 W**
	12V / 24V / 48V	Torque **0.50 / 0.88 Nm**

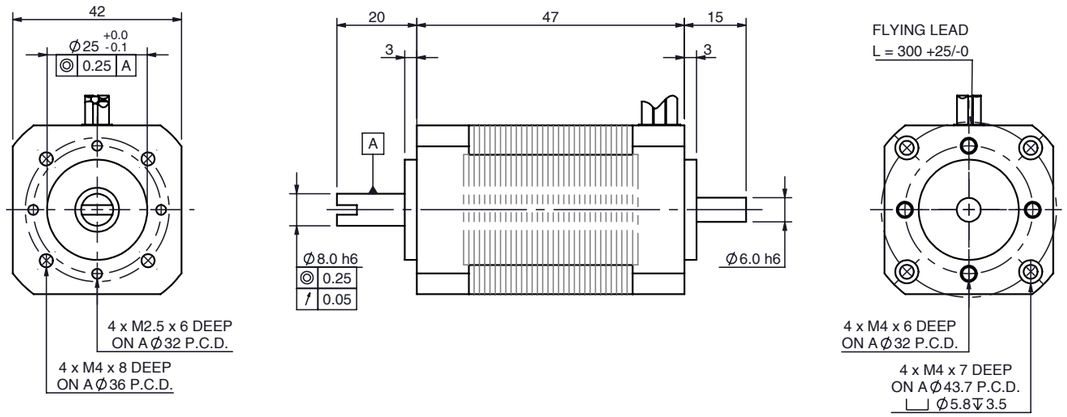
	BRx90-50	Speed **3000 rpm**
	□90 mm / 50 mm stack	Power **210 W**
	12V / 24V / 48V	Torque **0.67 / 1.17 Nm**

	BRx90-75	Speed **3000 rpm**
	□90 mm / 75 mm stack	Power **283 W**
	12V / 24V / 48V	Torque **0.90 / 1.50 Nm**

PBL42-15 BLDC motor

Ø42 mm frame // 15 mm stack

all dimensions in mm



Part number key	
Modular	######
Standard	######
Calculated data	######

	Technical data				Connection details		
					Lead colour	Lead gauge	Function
1	Part number		776614	776615	Red	UL1569/26 AWG	VCC
2	Nominal power	W	26	26	Black	UL1569/26 AWG	GND
3	Nominal voltage	V	24	48	Yellow	UL1569/26 AWG	Hall A
4	No load speed	rpm	6068	6227	Green	UL1569/26 AWG	Hall B
5	No load current	A	0.4	0.3	Blue	UL1569/26 AWG	Hall C
6	Nominal speed	rpm	4000	4000			
7	Nominal continuous torque (S1)	Nm	0.063	0.063	Yellow	UL1569/20 AWG	Phase U
8	Nominal continuous current (S1)	A	1.8	1.0	Green	UL1569/20 AWG	Phase V
9	Max Intermittent torque (S2 - 15 minutes)	Nm	0.095	0.095	Blue	UL1569/20 AWG	Phase W
10	Stall current	A	6.50	3.34			
11	Stall torque	Nm	0.21	0.21			
12	Stack length	mm	15	15			
13	Maximum efficiency	%	75	75			
14	Ra	Ω	1.8	7.1			
15	Rl	mH	2.23	0.91			
16	Speed constant	rpm/V	230.4	142.0			
17	Torque constant	Nm/A	0.032	0.070			
18	Speed torque gradient	rpm/Nm	28152	29351			
19	Rotor inertia	Kgcm²	3.3 x 10^{-6}	3.3 x 10^{-6}			
20	Weight	Kg	0.30	0.30			

Thermal data		
22 Ambient temperature	°C	40

Mechanical data		
23 Radial load [distance from flange]	N [mm]	130 [15]
24 Radial play	mm [@g]	0.06 [450]
25 Axial end play	mm [@g]	0.06 [450]

Other data		
26 Number of poles		8
27 Winding type		Delta
28 Hall effect angle (electrical angle)	°	120
29 IP Rating		IP54
30 Enclosure		Enclosed
31 Insulation Class		B

Compatible products

Gearbox	Page #
GB28	74
PGx42	80

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

PBL42-15 Combinations

Quickview - combination drawing and technical data

	Combination drawing	Technical data						
PBL42-15-GB28		Gear material		Bronze	Bronze	Bronze		
		Gear ratio [1]	:1	4	30	70		
		Speed	rpm	267	133	67		
		Nominal torque	Nm	0.7	1.2	1.7		
		Intermittent torque	Nm	1.1	1.9	2.6		
PBL42-15-PGx42		Gear material		Steel	Steel	Steel	Steel	Steel
		Gear ratio [stages] [1]	:1	4.3 [1]	19 [2]	66 [3]	150 [4]	353 [4]
		Speed	rpm	930	211	61	27	11
		Nominal torque	Nm	0.2	1.0	3.0	6.0	11.3
		Intermittent torque	Nm	0.4	1.5	4.5	9.1	16.9

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

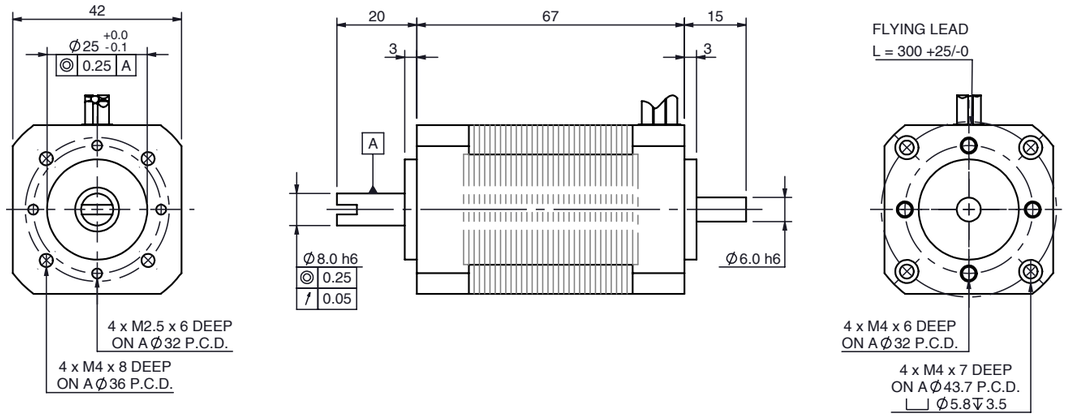
→ Technical data displayed above calculated based on **PBL42-15 48V 4000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

PBL42-35 BLDC motor

Ø42 mm frame // 35 mm stack

all dimensions in mm



Part number key	
Modular	######
Standard	######
Calculated data	######

	Technical data				Connection details		
			776616	776617	Lead colour	Lead gauge	Function
1	Part number				Red	UL1569/26 AWG	VCC
2	Nominal power	W	42	42	Black	UL1569/26 AWG	GND
3	Nominal voltage	V	24	48	Yellow	UL1569/26 AWG	Hall A
4	No load speed	rpm	5835	6001	Green	UL1569/26 AWG	Hall B
5	No load current	A	0.4	0.3	Blue	UL1569/26 AWG	Hall C
6	Nominal speed	rpm	4000	4000			
7	Nominal continuous torque (S1)	Nm	0.10	0.10	Yellow	UL1569/20 AWG	Phase U
8	Nominal continuous current (S1)	A	2.6	1.3	Green	UL1569/20 AWG	Phase V
9	Max Intermittent torque (S2 - 15 minutes)	Nm	0.15	0.15	Blue	UL1569/20 AWG	Phase W
10	Stall current	A	9.6	5.0			
11	Stall torque	Nm	0.4	0.4			
12	Stack length	mm	35	35			
13	Maximum efficiency	%	77	75			
14	Ra	Ω	0.87	3.35			
15	Rl	mH	1.30	5.41			
16	Speed constant	rpm/V	251.7	132.2			
17	Torque constant	Nm/A	0.043	0.093			
18	Speed torque gradient	rpm/Nm	14157	13361			
19	Rotor inertia	Kgcm²	5.5 x 10^{-6}	5.5 x 10^{-6}			
20	Weight	Kg	0.45	0.45			

	Thermal data		
22	Ambient temperature	°C	40

	Mechanical data		
23	Radial load [distance from flange]	N [mm]	130 [15]
24	Radial play	mm [@g]	0.06 [450]
25	Axial end play	mm [@g]	0.06 [450]

	Other data		
26	Number of poles		8
27	Winding type		Delta
28	Hall effect angle (electrical angle)	°	120
29	IP Rating		IP54
30	Enclosure		Enclosed
31	Insulation Class		B

Compatible products

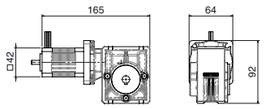
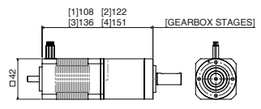
Gearbox	Page #
GB28	74
PGx42	80

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

PBL42-35 Combinations

Quickview - combination drawing and technical data

	Combination drawing		Technical data						
PBL42-35-GB28			Gear material		Bronze	Bronze	Bronze		
			Gear ratio [1]	:1	15	30	60		
			Speed	rpm	267	133	67		
			Nominal torque	Nm	1.1	2.0	2.7		
			Intermittent torque	Nm	1.7	2.9	4.1		
PBL42-35-PGx42			Gear material		Steel	Steel	Steel	Steel	Steel
			Gear ratio [stages] [1]	:1	4.3 [1]	19 [2]	66 [3]	150 [4]	353 [4]
			Speed	rpm	930	211	61	27	11
			Nominal torque	Nm	0.4	1.5	4.8	9.6	11.3
			Intermittent torque	Nm	0.6	2.3	7.1	14.4	16.9

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

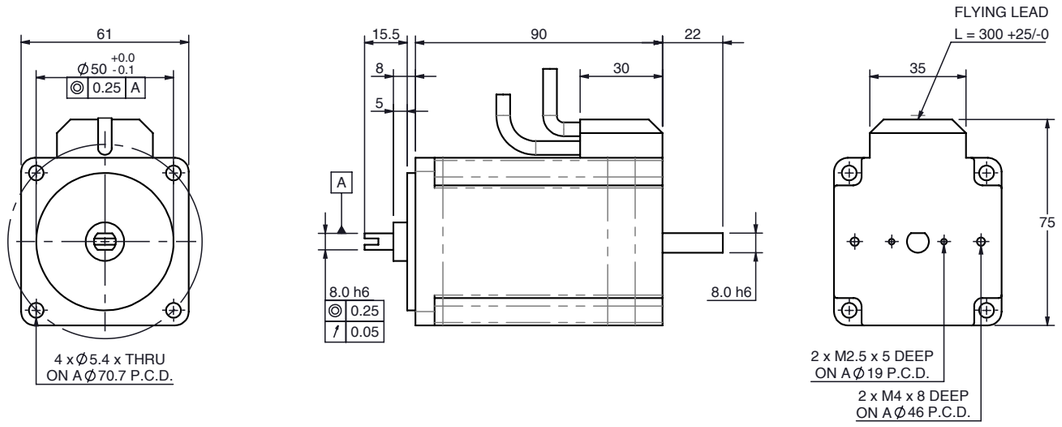
→ Technical data displayed above calculated based on **PBL42-35 48V 4000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

PBL60-50 BLDC motor

Ø60 mm frame // 50 mm stack

all dimensions in mm



Part number key	
Modular	######
Standard	######
Calculated data	######

Technical data				Connection details		
1 Part number		776618	776619	Lead colour	Lead gauge	Function
2 Nominal power	W	104	104	Red	UL1007/26 AWG	VCC
3 Nominal voltage	V	24	48	Black	UL1007/26 AWG	GND
4 No load speed	rpm	3798	3827	Blue	UL1007/26 AWG	Hall A
5 No load current	A	1.1	0.5	Green	UL1007/26 AWG	Hall B
6 Nominal speed	rpm	3000	3000	White	UL1007/26 AWG	Hall C
7 Nominal continuous torque (S1)	Nm	0.33	0.33	Red	UL1007/18 AWG	Phase U
8 Nominal continuous current (S1)	A	6.1	3.0	Yellow	UL1007/18 AWG	Phase V
9 Max Intermittent torque (S2 - 15 minutes)	Nm	0.58	0.58	Black	UL1007/18 AWG	Phase W
10 Stall current	A	41.00	26.40			
11 Stall torque	Nm	2.6	3.4			
12 Stack length	mm	50	50			
13 Maximum efficiency	%	80	84			
14 Ra	Ω	0.202	0.757			
15 Rl	mH	0.21	0.86			
16 Speed constant	rpm/V	159.6	80.7			
17 Torque constant	Nm/A	0.07	0.13			
18 Speed torque gradient	rpm/Nm	1502.6	1152.9			
19 Rotor inertia	Kgcm²	4.97 x 10^{-5}	4.97 x 10^{-5}			
20 Weight	Kg	1.20	1.20			

Thermal data		
21 Ambient temperature	°C	40

Mechanical data		
22 Radial load [distance from flange]	N [mm]	350 [15]
23 Radial play	mm [@g]	0.025 [450]
24 Axial end play	mm [@g]	0.025 [450]

Other data		
25 Number of poles		8
26 Winding type		Delta
27 Hall effect angle (electrical angle)	°	120
28 IP Rating		IP54
29 Enclosure		Enclosed
30 Insulation Class		B

Compatible products

Gearbox	Page #
GB28	74
GB80	75
GB12	76

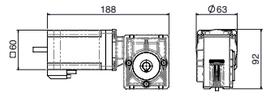
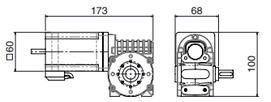
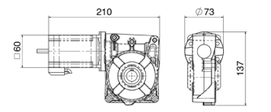
Brake	Page #
1.5 Nm	118

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

PBL60-50 Combinations

Quickview - combination drawing and technical data

	Combination drawing	Technical data				
PBL60-50-GB28		Gear material		Bronze	Bronze	Bronze
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	200	100	50
		Nominal torque	Nm	3.7	5.0	5.0
		Intermittent torque	Nm	6.5	8.0	8.0
PBL60-50-GB80		Gear material		Composite	Composite	Composite
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	200	100	50
		Nominal torque	Nm	3.8	6.9	6.0
		Intermittent torque	Nm	6.7	12.2	10.0
PBL60-50-GB12		Gear material		Bronze	Bronze	Bronze
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	200	100	50
		Nominal torque	Nm	3.7	6.4	9.9
		Intermittent torque	Nm	6.5	11.3	17.4

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

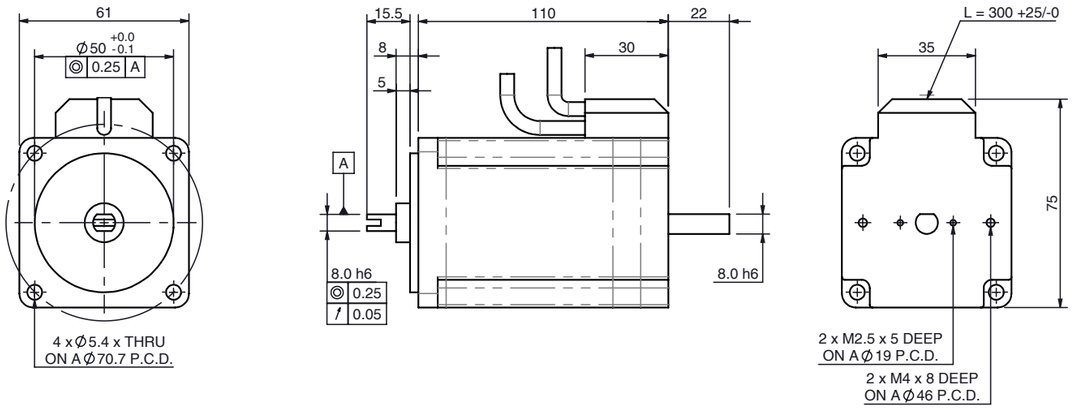
→ Technical data displayed above calculated based on **PBL60-50 48V 3000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

PBL60-70 BLDC motor

Ø60 mm frame // 70 mm stack

all dimensions in mm



Part number key	
Modular	######
Standard	######
Calculated data	######

Technical data				Connection details		
1 Part number		776620	776621	Lead colour	Lead gauge	Function
2 Nominal power	W	157	157	Red	UL1007/26 AWG	VCC
3 Nominal voltage	V	24	48	Black	UL1007/26 AWG	GND
4 No load speed	rpm	3983	3811	Blue	UL1007/26 AWG	Hall A
5 No load current	A	1.7	0.7	Green	UL1007/26 AWG	Hall B
6 Nominal speed	rpm	3000	3000	White	UL1007/26 AWG	Hall C
7 Nominal continuous torque (S1)	Nm	0.5	0.5	Red	UL1007/18 AWG	Phase U
8 Nominal continuous current (S1)	A	9.9	4.6	Yellow	UL1007/18 AWG	Phase V
9 Max Intermittent torque (S2 - 15 minutes)	Nm	0.88	0.88	Black	UL1007/18 AWG	Phase W
10 Stall current	A	63.44	36.90			
11 Stall torque	Nm	3.7	4.5			
12 Stack length	mm	70	70			
13 Maximum efficiency	%	0.77	0.83			
14 Ra	Ω	0.12	0.48			
15 Rl	mH	0.12	0.56			
16 Speed constant	rpm/V	167.30	80.34			
17 Torque constant	Nm/A	0.06	0.12			
18 Speed torque gradient	rpm/Nm	1121.90	870.34			
19 Rotor inertia	Kgcm²	7.28 x 10^{-5}	7.28 x 10^{-5}			
20 Weight	Kg	1.60	1.60			

Thermal data		
21 Ambient temperature	°C	40

Mechanical data		
22 Radial load [distance from flange]	N [mm]	350 [15]
23 Radial play	mm [@g]	0.025 [450]
24 Axial end play	mm [@g]	0.025 [450]

Other data		
25 Number of poles		8
26 Winding type		Delta
27 Hall effect angle (electrical angle)	°	120
28 IP Rating		IP54
29 Enclosure		Enclosed
30 Insulation Class		B

Compatible products

Gearbox	Page #
GB28	74
GB80	75
GB12	76

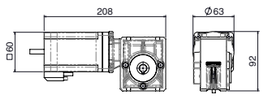
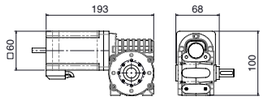
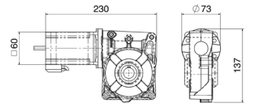
Brake	Page #
1.5 Nm	118

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

PBL60-70 Combinations

Quickview - combination drawing and technical data

	Combination drawing	Technical data				
PBL60-70-GB28		Gear material [1]		Bronze	Bronze	Bronze
		Gear ratio [2]	:1	15	30	60
		Speed	rpm	200	100	50
		Nominal torque	Nm	5.0	5.0	5.0
		Intermittent torque	Nm	8.0	8.0	8.0
PBL60-70-GB80		Gear material [1]		Composite	Composite	Composite
		Gear ratio [2]	:1	15	30	60
		Speed	rpm	200	100	50
		Nominal torque	Nm	5.8	8.0	6.0
		Intermittent torque	Nm	10.2	13.0	10.0
PBL60-70-GB12		Gear material [1]		Bronze	Bronze	Bronze
		Gear ratio [2]	:1	15	30	60
		Speed	rpm	200	100	50
		Nominal torque	Nm	5.6	9.8	15.0
		Intermittent torque	Nm	9.9	17.2	26.4

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

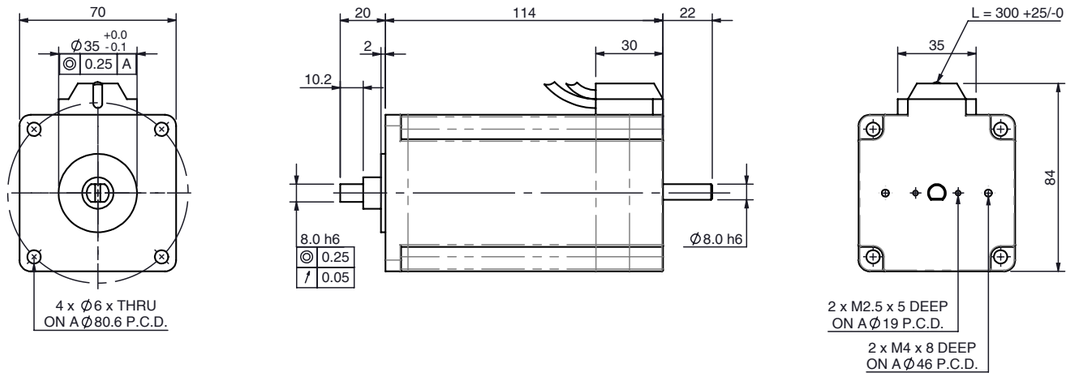
→ Technical data displayed above calculated based on **PBL60-70 48V 3000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

PBL70-70 BLDC motor

Ø70 mm frame // 70 mm stack

all dimensions in mm



Part number key	
Modular	######
Standard	######
Calculated data	######

Technical data			
1	Part number		776622
2	Nominal power	W	363
3	Nominal voltage	V	48
4	No load speed	rpm	4857
5	No load current	A	1.4
6	Nominal speed	rpm	4500
7	Nominal continuous torque (S1)	Nm	0.77
8	Nominal continuous current (S1)	A	8.9
9	Max Intermittent torque (S2 - 15 minutes)	Nm	1.35
10	Stall current	A	68.2
11	Stall torque	Nm	6.9
12	Stack length	mm	70
13	Maximum efficiency	%	84
14	Ra	Ω	0.15
15	Rl	mH	0.283
16	Speed constant	rpm/V	102.2
17	Torque constant	Nm/A	0.103
18	Speed torque gradient	rpm/Nm	731.0
19	Rotor inertia	Kgcm²	2.39 x 10^{-4}
20	Weight	Kg	2.20

Connection details		
Lead colour	Lead gauge	Function
Red	UL1569/26 AWG	VCC
Black	UL1569/26 AWG	GND
Blue	UL1569/26 AWG	Hall A
Green	UL1569/26 AWG	Hall B
White	UL1569/26 AWG	Hall C
Red	UL3266/16 AWG	Phase U
Yellow	UL3266/16 AWG	Phase V
Black	UL3266/16 AWG	Phase W

Thermal data		
21 Ambient temperature	°C	40

Mechanical data		
22 Radial load [distance from flange]	N [mm]	350 [15]
23 Radial play	mm [@g]	0.025 [450]
24 Axial end play	mm [@g]	0.025 [450]

Other data		
25 Number of poles		8
26 Winding type		Delta
27 Hall effect angle (electrical angle)	°	120
28 IP Rating		IP54
29 Enclosure		Enclosed
30 Insulation Class		B

Compatible products

Gearbox	Page #
GB80	75
GB12	76

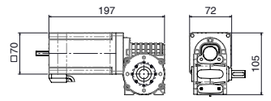
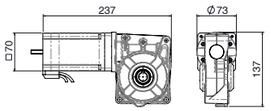
Brake	Page #
1.5 Nm	118

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

PBL70-70 Combinations

Quickview - combination drawing and technical data

	Combination drawing	Technical data				
PBL70-70-GB80		Gear material		Composite	Composite	Composite
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	300	150	75
		Nominal torque	Nm	8.0	8.0	6.0
		Intermittent torque	Nm	13.0	13.0	10.0
PBL70-70-GB12		Gear material		Bronze	Bronze	Bronze
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	300	150	75
		Nominal torque	Nm	8.7	15.0	23.1
		Intermittent torque	Nm	15.2	26.3	40.5

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

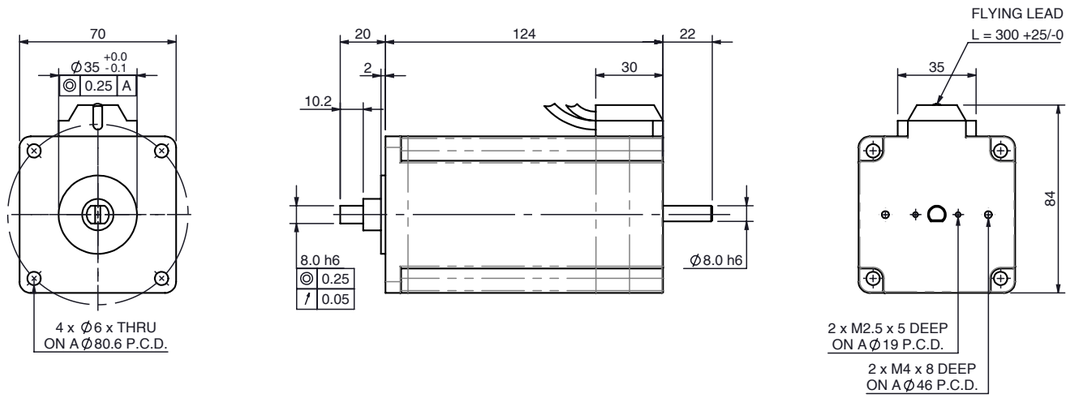
→ Technical data displayed above calculated based on **PBL70-70 48V 4500 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

PBL70-80 BLDC motor

Ø70 mm frame // 80 mm stack

all dimensions in mm



Part number key	
Modular	######
Standard	######
Calculated data	######

Technical data			
1	Part number		776623
2	Nominal power	W	415
3	Nominal voltage	V	48
4	No load speed	rpm	4902
5	No load current	A	1.5
6	Nominal speed	rpm	4500
7	Nominal continuous torque (S1)	Nm	0.88
8	Nominal continuous current (S1)	A	10.4
9	Max Intermittent torque (S2 - 15 minutes)	Nm	1.54
10	Stall current	A	75.6
11	Stall torque	Nm	7.3
12	Stack length	mm	80
13	Maximum efficiency	%	82
14	Ra	Ω	0.151
15	Rl	mH	0.22
16	Speed constant	rpm/V	103
17	Torque constant	Nm/A	0.10
18	Speed torque gradient	rpm/Nm	691.7
19	Rotor inertia	Kgcm²	2.77 x 10^{-4}
20	Weight	Kg	2.60

Connection details		
Lead colour	Lead gauge	Function
Red	UL1569/26 AWG	VCC
Black	UL1569/26 AWG	GND
Blue	UL1569/26 AWG	Hall A
Green	UL1569/26 AWG	Hall B
White	UL1569/26 AWG	Hall C
Red	UL3266/16 AWG	Phase U
Yellow	UL3266/16 AWG	Phase V
Black	UL3266/16 AWG	Phase W

Thermal data		
21 Ambient temperature	°C	40

Mechanical data		
22 Radial load [distance from flange]	N [mm]	350 [15]
23 Radial play	mm [@g]	0.025 [450]
24 Axial end play	mm [@g]	0.025 [450]

Other data		
25 Number of poles		8
26 Winding type		Delta
27 Hall effect angle (electrical angle)	°	120
28 IP Rating		IP54
29 Enclosure		Enclosed
30 Insulation Class		B

Compatible products

Gearbox	Page #
GB80	75
GB12	76

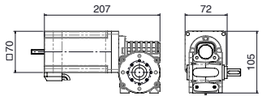
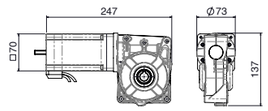
Brake	Page #
1.5 Nm	118

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

PBL70-80 Combinations

Quickview - combination drawing and technical data

	Combination drawing	Technical data				
PBL70-80-GB80		Gear material		Composite	Composite	Composite
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	300	150	75
		Nominal torque	Nm	8.0	8.0	6.0
		Intermittent torque	Nm	13.0	13.0	10.0
PBL70-80-GB12		Gear material		Bronze	Bronze	Bronze
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	300	150	75
		Nominal torque	Nm	9.9	17.2	26.4
		Intermittent torque	Nm	17.3	30.0	46.2

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

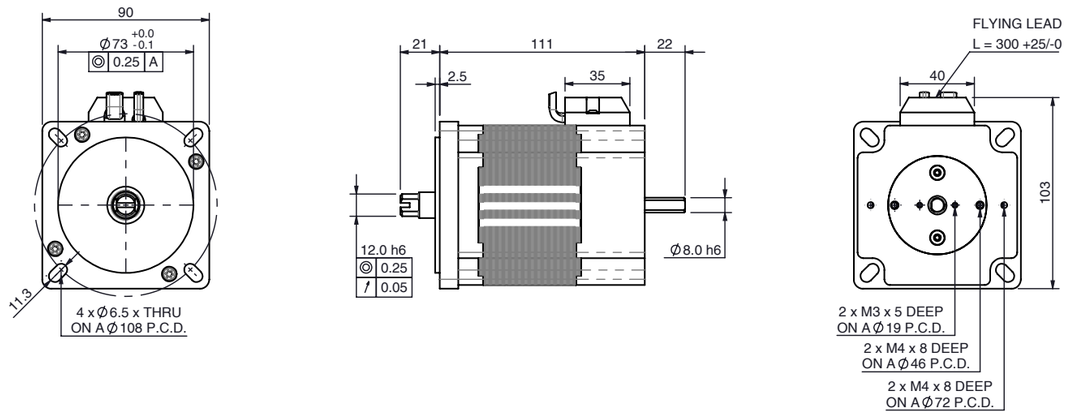
→ Technical data displayed above calculated based on **PBL70-80 48V 4500 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

PBL86-55 BLDC motor

Ø86 mm frame // 55 mm stack

all dimensions in mm



Part number key	
Modular	######
Standard	######
Calculated data	######

Technical data			
1	Part number		776624
2	Nominal power	W	419
3	Nominal voltage	V	48
4	No load speed	rpm	4342
5	No load current	A	1.2
6	Nominal speed	rpm	4000
7	Nominal continuous torque (S1)	Nm	1.0
8	Nominal continuous current (S1)	A	10.3
9	Max Intermittent torque (S2 - 15 minutes)	Nm	1.75
10	Stall current	A	93
11	Stall torque	Nm	10.1
12	Stack length	mm	55
13	Maximum efficiency	%	85
14	Ra	Ω	0.087
15	Rl	mH	0.23
16	Speed constant	rpm/V	90.8
17	Torque constant	Nm/A	0.11
18	Speed torque gradient	rpm/Nm	439.5
19	Rotor inertia	Kgm^2	2.04×10^{-4}
20	Weight	Kg	3.20

Connection details		
Lead colour	Lead gauge	Function
Red	UL1569/26 AWG	VCC
Black	UL1569/26 AWG	GND
Blue	UL1569/26 AWG	Hall A
Green	UL1569/26 AWG	Hall B
White	UL1569/26 AWG	Hall C
Red	UL1569/14 AWG	Phase U
Yellow	UL1569/14 AWG	Phase V
Black	UL1569/14 AWG	Phase W

Thermal data			
21	Ambient temperature	°C	40

Mechanical data			
22	Radial load [distance from flange]	N [mm]	350 [15]
23	Radial play	mm [@g]	0.06 [450]
24	Axial end play	mm [@g]	0.08 [450]

Other data			
25	Number of poles		8
26	Winding type		Delta
27	Hall effect angle (electrical angle)	°	120
28	IP Rating		IP54
29	Enclosure		Enclosed
30	Insulation Class		B

Compatible products

Gearbox	Page #
GB12	76
GB9	77
GB65	78

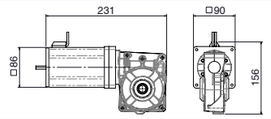
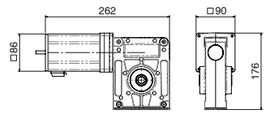
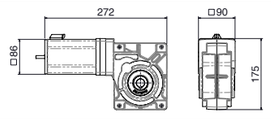
Brake	Page #
1.5 Nm	118

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

PBL86-55 Combinations

Quickview - combination drawing and technical data

	Combination drawing	Technical data					
PBL86-55-GB12		Gear material		Bronze	Bronze	Bronze	
		Gear ratio [1]	:1	15	30	60	
		Speed	rpm	267	133	67	
		Nominal torque	Nm	11.3	19.5	30.0	
		Intermittent torque	Nm	19.7	34.1	48.0	
PBL86-55-GB9		Gear material		Composite.	Composite	Composite.	
		Gear ratio [stages] [1]	:1	15	30	60	
		Speed	rpm	267	133	67	
		Nominal torque	Nm	12.8	22.5	39.0	
		Intermittent torque	Nm	22.3	39.4	68.3	
PBL86-55-GB65		Gear material		Bronze	Bronze	Bronze	Bronze	Bronze
		Gear ratio [1]	:1	20	40	80	120	160
		Speed	rpm	200	100	50	33	25
		Nominal torque	Nm	16.2	30.4	56.0	72.0	68.8
		Intermittent torque	Nm	28.4	53.2	98.0	126.0	120.4

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

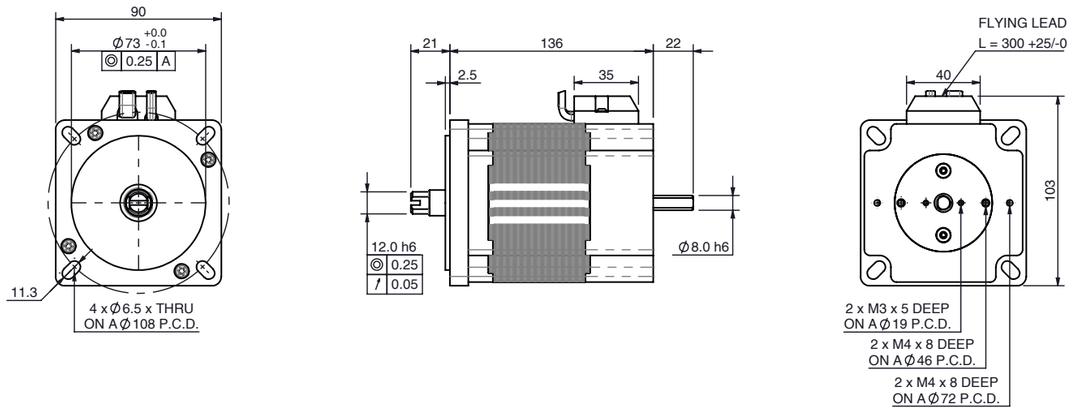
→ Technical data displayed above calculated based on **PBL86-55 48V 4000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

PBL86-80 BLDC motor

Ø86 mm frame // 80 mm stack

all dimensions in mm



Part number key	
Modular	######
Standard	######
Calculated data	######

Technical data			
1	Part number		776625
2	Nominal power	W	586
3	Nominal voltage	V	48
4	No load speed	rpm	4192
5	No load current	A	1.9
6	Nominal speed	rpm	4000
7	Nominal continuous torque (S1)	Nm	1.4
8	Nominal continuous current (S1)	A	14.4
9	Max Intermittent torque (S2 - 15 minutes)	Nm	2.45
10	Stall current	A	116
11	Stall torque	Nm	12.7
12	Stack length	mm	80
13	Maximum efficiency	%	83
14	Ra	Ω	0.057
15	Rl	mH	0.16
16	Speed constant	rpm/V	87.9
17	Torque constant	Nm/A	0.11
18	Speed torque gradient	rpm/Nm	345.6
19	Rotor inertia	Kgm²	2.9 x 10^{-4}
20	Weight	Kg	4.20

Thermal data		
21	Ambient temperature	°C	40

Mechanical data		
22	Radial load [distance from flange]	N [mm]	350 [15]
23	Radial play	mm [@g]	0.06 [450]
24	Axial end play	mm [@g]	0.08 [450]

Other data		
25	Number of poles		8
26	Winding type		Delta
27	Hall effect angle (electrical angle)	°	120
28	IP Rating		IP54
29	Enclosure		Enclosed
30	Insulation Class		B

Connection details		
Lead colour	Lead gauge	Function
Red	UL1569/26 AWG	VCC
Black	UL1569/26 AWG	GND
Blue	UL1569/26 AWG	Hall A
Green	UL1569/26 AWG	Hall B
White	UL1569/26 AWG	Hall C
Red	UL1569/14 AWG	Phase U
Yellow	UL1569/14 AWG	Phase V
Black	UL1569/14 AWG	Phase W

Compatible products

Gearbox	Page #
GB12	76
GB9	77
GB65	78

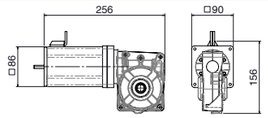
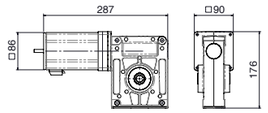
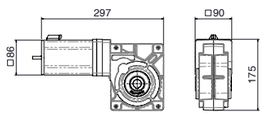
Brake	Page #
1.5 Nm	118

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

PBL86-80 Combinations

Quickview - combination drawing and technical data

	Combination drawing									
PBL86-80-GB12										
PBL86-80-GB9										
PBL86-80-GB65										

Technical data						
Gear material		Bronze	Bronze	Bronze		
Gear ratio [1]	:1	15	30	60		
Speed	rpm	267	133	67		
Nominal torque	Nm	15.8	27.3	30.0		
Intermittent torque	Nm	27.6	47.8	48.0		
Gear material		Composite.	Composite	Composite.		
Gear ratio [stages] [1]	:1	15	30	60		
Speed	rpm	267	133	67		
Nominal torque	Nm	17.9	31.5	50.0		
Intermittent torque	Nm	31.2	55.1	80.0		
Gear material		Bronze	Bronze	Bronze	Bronze	Bronze
Gear ratio [1]	:1	20	40	80	120	160
Speed	rpm	200	100	50	33	25
Nominal torque	Nm	22.7	42.6	78.4	100.8	96.3
Intermittent torque	Nm	39.7	74.5	137.2	176.4	168.6

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

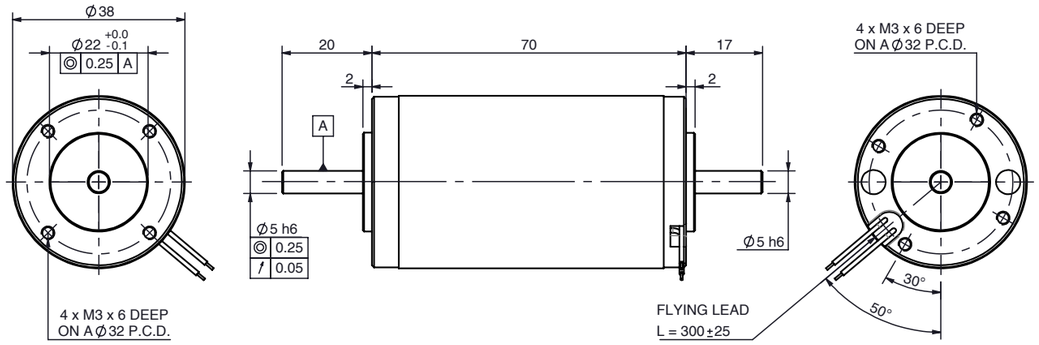
→ Technical data displayed above calculated based on **PBL86-80 48V 4000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

RE38-25 PMDC motor

Ø38 mm frame // 25 mm stack

all dimensions in mm



Part number key			
Modular	######		
Standard	######		
Calculated data	######		

Please see our customization 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		857662	857663
2	Nominal power	W	24	24
3	Nominal voltage	V	24	48
4	No load speed	rpm	4090	4175
5	No load current	A	0.2	0.1
6	Nominal speed	rpm	3250	3250
7	Nominal continuous torque (S1)	Nm	0.07	0.07
8	Nominal continuous current (S1)	A	1.37	0.70
9	Max. intermittent torque (S2 - 15 minutes)	Nm	0.11	0.11
10	Stall current	A	7.64	3.83
11	Stall torque	Nm	0.41	0.41
12	Stack length	mm	25	25
13	Maximum efficiency	%	0.78	0.77
14	Terminal resistance	Ω	2.53	9.91
15	Terminal inductance	mH	2.29	9.15
16	Speed constant	rpm/V	173.6	87.9
17	Torque constant	Nm/A	0.05	0.11
18	Speed torque gradient	rpm/Nm	10197	10541
19	Rotor inertia	gcm²	9.5 x 10^{-6}	9.5 x 10^{-6}

Thermal data			
20	Ambient temperature	°C	40

Mechanical data			
21	Radial load [distance from flange]	N [mm]	60 [20]

Other data			
22	Number of poles		2
23	Weight	Kg	0.30
24	IP rating		IP50
25	Enclosure		Enclosed
26	Insulation Class		F
27	Reversible		Yes

Compatible products

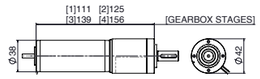
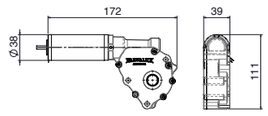
Gearbox	Page #
PGx42	80
GB56	77

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

RE38-25 Combinations

Quickview - combination drawing and technical data

	Combination drawing		Technical data					
RE38-25-PGx42		Gear material		Bronze	Bronze	Bronze	Bronze	Bronze
		Gear ratio [stages] [1]	:1	4.3 [1]	19 [2]	66 [3]	150 [4]	353 [4]
		Speed	rpm	755.8	171.1	49.2	21.7	9.2
		Nominal torque	Nm	0.3	1.1	3.3	6.7	11.3
		Intermittent torque	Nm	0.4	1.7	5.2	10.6	16.9
RE38-25-GB56		Gear material		Composite	Composite	Composite	Composite	Composite
		Gear ratio [stages] [1]	:1	4	30	70	4	30
		Speed	rpm	108.3	81.3	67.7	54.2	46.4
		Nominal torque	Nm	1.2	1.5	1.7	1.8	1.8
		Intermittent torque	Nm	1.9	2.4	2.6	2.8	2.8

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

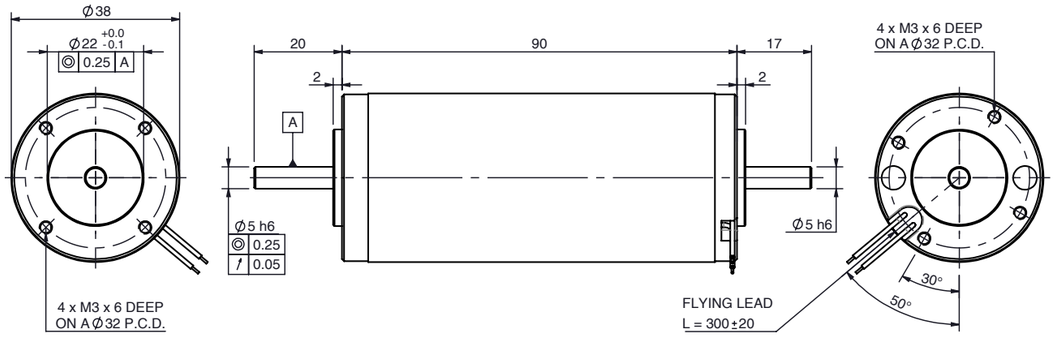
→ Technical data displayed above calculated based on **RE38-25 48V 3250 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

RE38-40 PMDC motor

Ø38 mm frame // 40 mm stack

all dimensions in mm



Part number key			
Modular	######		
Standard	######		
Calculated data	######		

Please see our customization 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		857664	857665
2	Nominal power	**W**	40	40
3	Nominal voltage	**V**	24	48
4	No load speed	**rpm**	4065	3856
5	No load current	**A**	0.23	0.12
6	Nominal speed	**rpm**	3200	3200
7	Nominal continuous torque (S1)	**Nm**	0.12	0.12
8	Nominal continuous current (S1)	**A**	2.20	1.11
9	Max. intermittent torque (S2 - 15 minutes)	**Nm**	0.18	0.18
10	Stall current	**A**	10.7	5.9
11	Stall torque	**Nm**	0.63	0.68
12	Stack length	**mm**	40	40
13	Maximum efficiency	**%**	0.77	0.77
14	Terminal resistance	**Ω**	1.72	6.86
15	Terminal inductance	**mH**	1.62	6.92
16	Speed constant	**rpm/V**	170.7	81.6
17	Torque constant	**Nm/A**	0.06	0.12
18	Speed torque gradient	**rpm/Nm**	6533	5830
19	Rotor inertia	**gcm²**	1.3 x 10^{-5}	1.3 x 10^{-5}

Thermal data			
20	Ambient temperature	**°C**	40

Mechanical data			
21	Radial load [distance from flange]	**N [mm]**	60 [20]

Other data			
22	Number of poles		2
23	Weight	**Kg**	0.40
24	IP rating		IP50
25	Enclosure		Enclosed
26	Insulation Class		F
27	Reversible		Yes

Compatible products

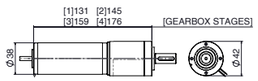
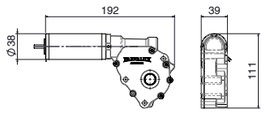
Gearbox	Page #
PGx42	80
GB56	77

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

RE38-40 Combinations

Quickview - combination drawing and technical data

	Combination drawing	Technical data					
RE38-40-PGx42		Gear material		Bronze	Bronze	Bronze	Bronze	Bronze
		Gear ratio [stages] [1]	:1	4.3 [1]	19 [2]	66 [3]	150 [4]	353 [4]
		Speed	rpm	744.2	168.4	48.5	21.3	9.1
		Nominal torque	Nm	0.5	1.8	5.7	11.3	11.3
		Intermittent torque	Nm	0.7	2.8	8.6	16.9	16.9
RE38-40-GB56		Gear material		Composite	Composite	Composite	Composite	Composite
		Gear ratio [stages] [1]	:1	4	30	70	4	30
		Speed	rpm	106.7	80.0	66.7	53.3	45.7
		Nominal torque	Nm	2.1	2.6	2.9	3.1	3.0
		Intermittent torque	Nm	3.2	3.9	4.3	4.6	4.5

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

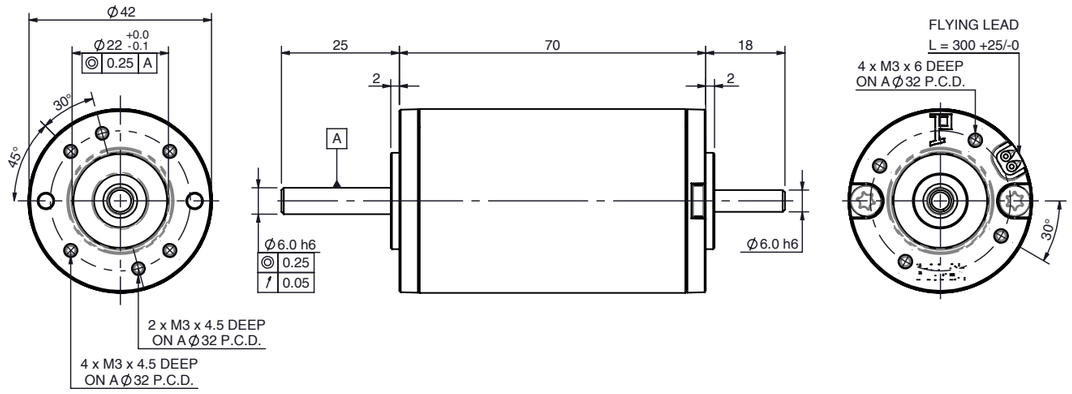
→ Technical data displayed above calculated based on **RE38-40 48V 3200 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

BRx42-25 PMDC motor

Ø42 mm frame // 19 mm stack

all dimensions in mm



Part number key		
Modular	######	
Standard	######	
Calculated data	######	

Please see our customization 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		781076	781077
2	Nominal power	W	12	12
3	Nominal voltage	V	12	24
4	No load speed	rpm	4091	4006
5	No load current	A	0.280	0.150
6	Nominal speed	rpm	3000	3000
7	Nominal continuous torque (S1)	Nm	0.038	0.038
8	Nominal continuous current (S1)	A	1.60	0.78
9	Max. intermittent torque (S2 - 15 minutes)	Nm	0.06	0.06
10	Stall current	A	5.30	2.78
11	Stall torque	Nm	0.13	0.14
12	Stack length	mm	19	19
13	Maximum efficiency	%	71	71
14	Terminal resistance	Ω	2.09	7.02
15	Terminal inductance	mH	1.56	7.26
16	Speed constant	rpm/V	354.6	175.1
17	Torque constant	Nm/A	0.03	0.05
18	Speed torque gradient	rpm/Nm	32623	29121
19	Rotor inertia	gcm²	1.0 x 10^{-5}	1.0 x 10^{-5}

Thermal data			
20	Ambient temperature	°C	40

Mechanical data			
21	Radial load [distance from flange]	N [mm]	60 [15]

Other data			
22	Number of poles		2
23	Weight	Kg	0.39
24	IP rating		IP54
25	Enclosure		Enclosed
26	Insulation Class		F
27	Reversible		Yes

Compatible products

Gearbox	Page #
PGx42	80

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

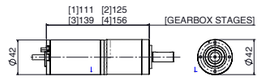
Controller	Page #
SC 50/15	120

BRx42-25 Combinations

Quickview - combination drawing and technical data

Combination drawing

BRx42-25-PGx42



Technical data

Gear material		Bronze	Bronze	Bronze	Bronze	Bronze
Gear ratio [stages] [1]	:1	4.3 [1]	19 [2]	66 [3]	150 [4]	353 [4]
Speed	rpm	697.7	157.9	45.5	20.0	8.5
Nominal torque	Nm	0.1	0.6	1.8	3.6	8.6
Intermittent torque	Nm	0.2	0.9	2.9	5.8	13.6

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

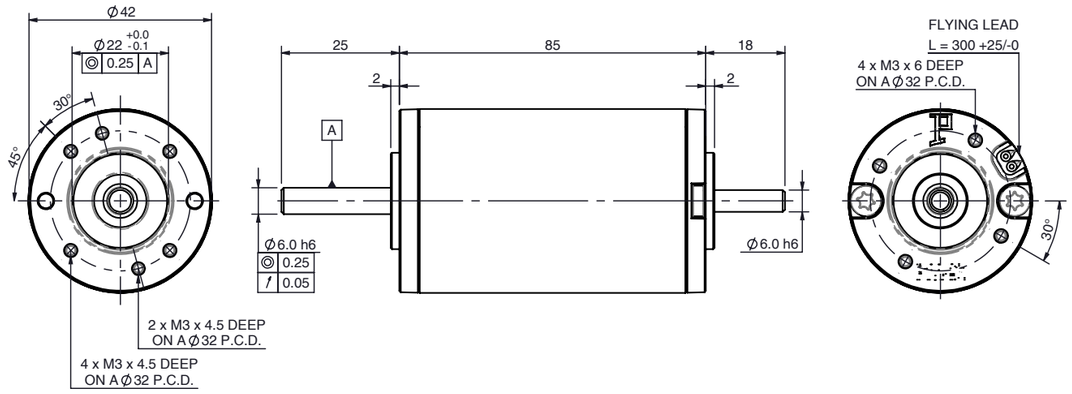
→ Technical data displayed above calculated based on **BRx42-25 24V 3000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

BRx42-40 PMDC motor

Ø42 mm frame // 34 mm stack

all dimensions in mm



Part number key	
Modular	######
Standard	######
Calculated data	######

Please see our customization 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		781079	781080	781081
2	Nominal power	W	18	18	18
3	Nominal voltage	V	12	24	48
4	No load speed	rpm	3925	3931	4054
5	No load current	A	0.20	0.10	0.08
6	Nominal speed	rpm	3000	3000	3000
7	Nominal continuous torque (S1)	Nm	0.057	0.057	0.057
8	Nominal continuous current (S1)	A	2.20	1.06	0.51
9	Max. intermittent torque (S2 - 15 minutes)	Nm	0.09	0.09	0.09
10	Stall current	A	8.50	4.79	1.92
11	Stall torque	Nm	0.20	0.26	0.27
12	Stack length	mm	34	34	34
13	Maximum efficiency	%	0.74	0.76	0.85
14	Terminal resistance	Ω	1.51	4.35	17.25
15	Terminal inductance	mH	1.01	4.39	18.29
16	Speed constant	rpm/V	329	164	87.5
17	Torque constant	Nm/A	0.03	0.06	0.12
18	Speed torque gradient	rpm/Nm	17670	14935	18613
19	Rotor inertia	gcm²	1.4 x 10^{-5}	1.4 x 10^{-5}	1.4 x 10^{-5}

Thermal data			
20	Ambient temperature	°C	40

Mechanical data			
21	Radial load [distance from flange]	N [mm]	60 [15]

Other data			
22	Number of poles		2
23	Weight	Kg	0.52
24	IP rating		IP54
25	Enclosure		Enclosed
26	Insulation Class		F
27	Reversible		Yes

Compatible products

Gearbox	Page #
PGx42	80

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

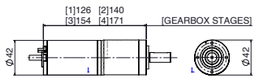
Controller	Page #
SC 50/15	120

BRx42-40 Combinations

Quickview - combination drawing and technical data

BRx42-40-PGx42

Combination drawing



Technical data

Gear material		Bronze	Bronze	Bronze	Bronze	Bronze
Gear ratio [stages] [1]	:1	4.3 [1]	19 [2]	66 [3]	150 [4]	353 [4]
Speed	rpm	697.7	157.9	45.5	20.0	8.5
Nominal torque	Nm	0.2	0.9	2.7	5.5	11.3
Intermittent torque	Nm	0.3	1.4	4.3	8.6	16.9

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

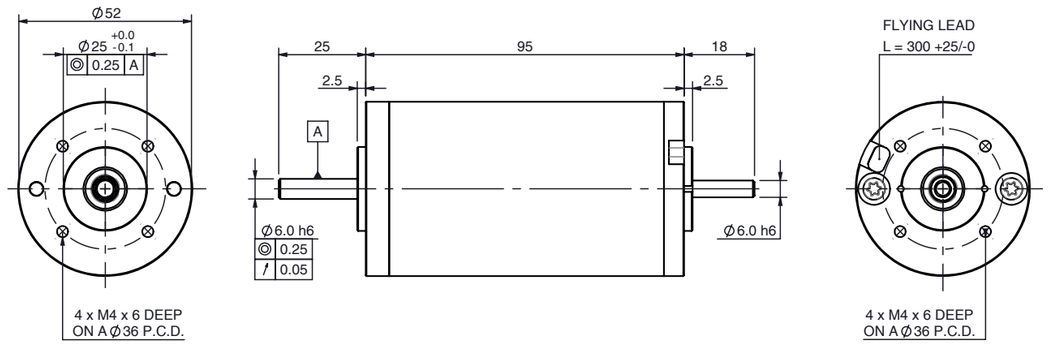
→ Technical data displayed above calculated based on **BRx42-40 48V 3000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

BRx52-30 PMDC motor

Ø52 mm frame // 30 mm stack

all dimensions in mm



Part number key		
Modular	######	
Standard	######	
Calculated data	######	

Please see our customization 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		787108	787109	787110
2	Nominal power	W	28	28	28
3	Nominal voltage	V	12	24	48
4	No load speed	rpm	3853	3561	3547
5	No load current	A	0.80	0.51	0.20
6	Nominal speed	rpm	3000	3000	3000
7	Nominal continuous torque (S1)	Nm	0.09	0.09	0.09
8	Nominal continuous current (S1)	A	3.4	1.7	0.9
9	Max. intermittent torque (S2 - 15 minutes)	Nm	0.15	0.15	0.15
10	Stall current	A	16.2	9.8	5.0
11	Stall torque	Nm	0.43	0.50	0.56
12	Stack length	mm	30	30	30
13	Maximum efficiency	%	76	78	71
14	Terminal resistance	Ω	0.43	1.93	6.69
15	Terminal inductance	mH	0.675	2.713	11.390
16	Speed constant	rpm/V	332.4	154.9	76.7
17	Torque constant	Nm/A	0.03	0.060	0.120
18	Speed torque gradient	rpm/Nm	7585	7250	6692
19	Rotor inertia	gcm²	2.33 x 10^{-5}	2.33 x 10^{-5}	2.33 x 10^{-5}

Thermal data			
20	Ambient temperature	°C	40

Mechanical data			
21	Radial load [distance from flange]	N [mm]	90 [15]

Other data			
22	Number of poles		2
23	Weight	Kg	0.85
24	IP rating		IP54
25	Enclosure		Enclosed
26	Insulation Class		F
27	Reversible		Yes

Compatible products

Gearbox	Page #
GB80	75

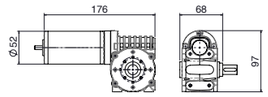
Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

BRx52-30 Combinations

Quickview - combination drawing and technical data

Combination drawing	Technical data				
BRx52-30-GB80	Gear material		Composite	Composite	Composite
	Gear ratio [1]	:1	15	30	60
	Speed	rpm	200.0	100.0	50.0
	Nominal torque	Nm	1.0	1.9	2.9
	Intermittent torque	Nm	1.7	3.2	4.9



Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

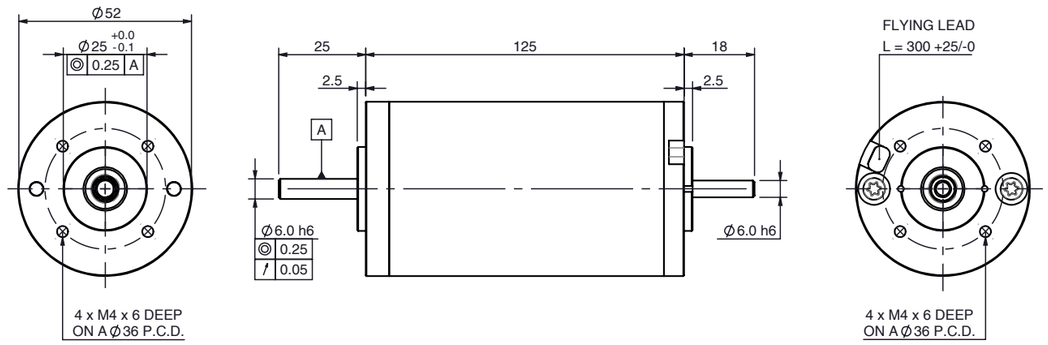
→ Technical data displayed above calculated based on **BRx52-30 48V 3000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

BRx52-58 PMDC motor

Ø52 mm frame // 58 mm stack

all dimensions in mm



Part number key		
Modular	######	
Standard	######	
Calculated data	######	

Please see our customization 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		787111	787113	787114
2	Nominal power	W	48	69	69
3	Nominal voltage	V	12	24	48
4	No load speed	rpm	3513	3840	3838
5	No load current	A	0.60	0.40	0.16
6	Nominal speed	rpm	2850	3000	3000
7	Nominal continuous torque (S1)	Nm	0.16	0.22	0.22
8	Nominal continuous current (S1)	A	5.5	3.9	2.2
9	Max. intermittent torque (S2 - 15 minutes)	Nm	0.35	0.35	0.35
10	Stall current	A	23.6	19.0	9.5
11	Stall torque	Nm	0.7	1.1	1.0
12	Stack length	mm	58	58	58
13	Maximum efficiency	%	73	80	80
14	Terminal resistance	Ω	0.570	0.937	3.420
15	Terminal inductance	mH	0.385	1.272	5.217
16	Speed constant	rpm/V	300.4	161.8	80.8
17	Torque constant	Nm/A	0.031	0.056	0.100
18	Speed torque gradient	rpm/Nm	5166	3805	4411
19	Rotor inertia	gcm²	5.7 x 10^{-5}	5.7 x 10^{-5}	5.7 x 10^{-5}

Thermal data			
20	Ambient temperature	°C	40

Mechanical data			
21	Radial load [distance from flange]	N [mm]	90 [15]

Other data			
22	Number of poles		2
23	Weight	Kg	1.16
24	IP rating		IP54
25	Enclosure		Enclosed
26	Insulation Class		F
27	Reversible		Yes

Compatible products

Gearbox	Page #
GB80	75

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

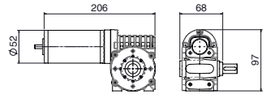
Controller	Page #
SC 50/15	120

BRx52-58 Combinations

Quickview - combination drawing and technical data

Combination drawing

BRx52-58-GB80



Technical data

Gear material		Composite	Composite	Composite
Gear ratio [1]	:1	15	30	60
Speed	rpm	200.0	100.0	50.0
Nominal torque	Nm	2.5	4.6	6.0
Intermittent torque	Nm	4.0	7.4	10.0

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

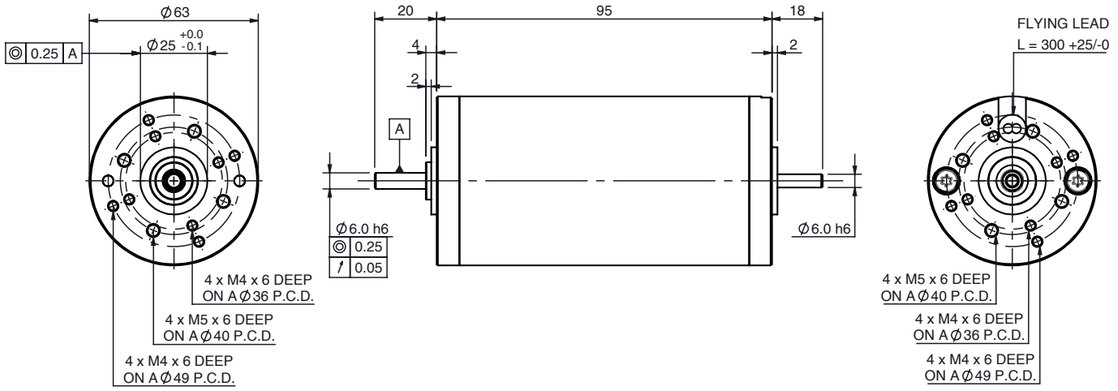
→ Technical data displayed above calculated based on **BRx52-58 48V 3000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

BRx63-25 PMDC motor

Ø63 mm frame // 25 mm stack

all dimensions in mm



Part number key		
Modular	######	
Standard	######	
Calculated data	######	

Please see our customization 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		781083	781084	781085
2	Nominal power	W	47	57	57
3	Nominal voltage	V	12	24	48
4	No load speed	rpm	3488	3591	3621
5	No load current	A	0.6	0.30	0.15
6	Nominal speed	rpm	2500	3000	3000
7	Nominal continuous torque (S1)	Nm	0.18	0.18	0.18
8	Nominal continuous current (S1)	A	6.0	3.0	1.6
9	Max. intermittent torque (S2 - 15 minutes)	Nm	0.30	0.30	0.30
10	Stall current	A	19.4	11.8	6.9
11	Stall torque	Nm	0.6	0.7	0.8
12	Stack length	mm	25	25	25
13	Maximum efficiency	%	67	84	84
14	Terminal resistance	Ω	1.260	1.649	5.130
15	Terminal inductance	mH	0.5016	2.204	8.520
16	Speed constant	rpm/V	298.1	151.7	76.5
17	Torque constant	Nm/A	0.03	0.06	0.12
18	Speed torque gradient	rpm/Nm	6269	5656	5037
19	Rotor inertia	gcm^2	7.4 x 10^{-5}	7.4 x 10^{-5}	7.4 x 10^{-5}

Thermal data			
20	Ambient temperature	°C	40

Mechanical data			
21	Radial load [distance from flange]	N [mm]	150 [15]

Other data			
22	Number of poles		2
23	Weight	Kg	0.85
24	IP rating		IP54
25	Enclosure		Enclosed
26	Insulation Class		F
27	Reversible		Yes

Compatible products

Gearbox	Page #
GB28	74
GB80	75

Brake	Page #
1.5 Nm	118

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

BRx63-25 Combinations

Quickview - combination drawing and technical data

	Combination drawing	Technical data				
BRx63-25-GB28		Gear material		Bronze	Bronze	Bronze
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	200.0	100.0	50.0
		Nominal torque	Nm	2.0	3.5	4.9
		Intermittent torque	Nm	3.4	5.9	8.0
BRx63-25-GB80		Gear material		Composite	Composite	Composite
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	200.0	100.0	50.0
		Nominal torque	Nm	2.1	3.8	5.8
		Intermittent torque	Nm	3.5	6.3	9.7

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

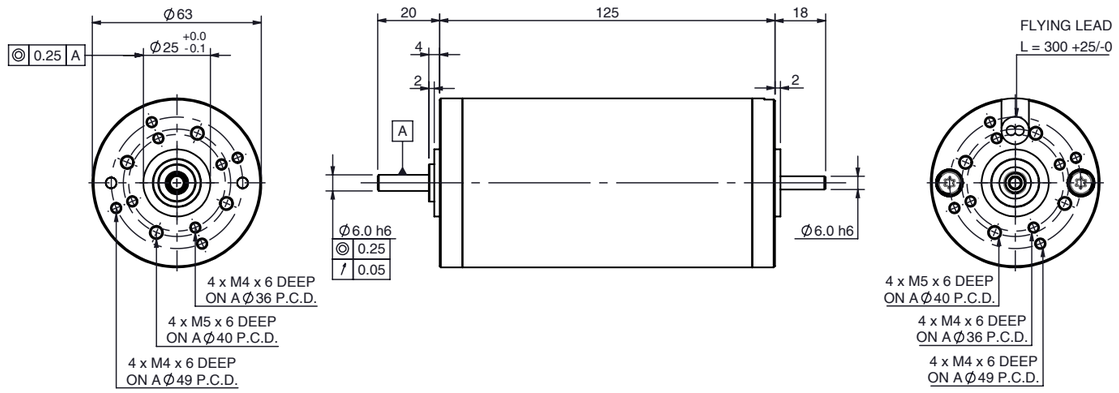
→ Technical data displayed above calculated based on **BRx63-25 48V 3000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

BRx63-55 PMDC motor

Ø63 mm frame // 55 mm stack

all dimensions in mm



Part number key		
Modular	######	
Standard	######	
Calculated data	######	

Please see our customization 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		781088	781089	781090
2	Nominal power	W	79	85	85
3	Nominal voltage	V	12	24	48
4	No load speed	rpm	3665	3617	3613
5	No load current	A	0.70	0.31	0.18
6	Nominal speed	rpm	2800	3000	3000
7	Nominal continuous torque (S1)	Nm	0.27	0.27	0.27
8	Nominal continuous current (S1)	A	9.2	4.7	2.4
9	Max. intermittent torque (S2 - 15 minutes)	Nm	0.45	0.45	0.45
10	Stall current	A	38.3	27.9	19.2
11	Stall torque	Nm	1.16	1.65	2.20
12	Stack length	mm	55	55	55
13	Maximum efficiency	%	76	81	85
14	Terminal resistance	Ω	0.745	0.593	2.300
15	Terminal inductance	mH	0.198	0.92	3.60
16	Speed constant	rpm/V	303.1	150.9	75.4
17	Torque constant	Nm/A	0.03	0.06	0.10
18	Speed torque gradient	rpm/Nm	3181	2336	1741
19	Rotor inertia	gcm^2	9.3×10^{-5}	9.3×10^{-5}	9.3×10^{-5}

Thermal data			
20	Ambient temperature	°C	40

Mechanical data			
21	Radial load [distance from flange]	N [mm]	150 [15]

Other data			
22	Number of poles		2
23	Weight	Kg	1.16
24	IP rating		IP54
25	Enclosure		Enclosed
26	Insulation Class		F
27	Reversible		Yes

Compatible products

Gearbox	Page #
GB28	74
GB80	75

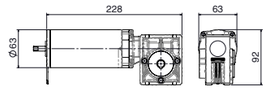
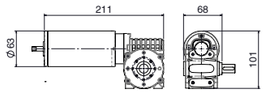
Brake	Page #
1.5 Nm	118

Controller	Page #
SC 50/15	120

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

BRx63-55 Combinations

Quickview - combination drawing and technical data

	Combination drawing	Technical data				
BRx63-55-GB28		Gear material		Bronze	Bronze	Bronze
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	200.0	100.0	50.0
		Nominal torque	Nm	3.0	5.0	5.0
		Intermittent torque	Nm	5.1	8.0	8.0
BRx63-55-GB80		Gear material		Composite	Composite	Composite
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	200.0	100.0	50.0
		Nominal torque	Nm	3.1	5.7	6.0
		Intermittent torque	Nm	5.2	9.5	10.0

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

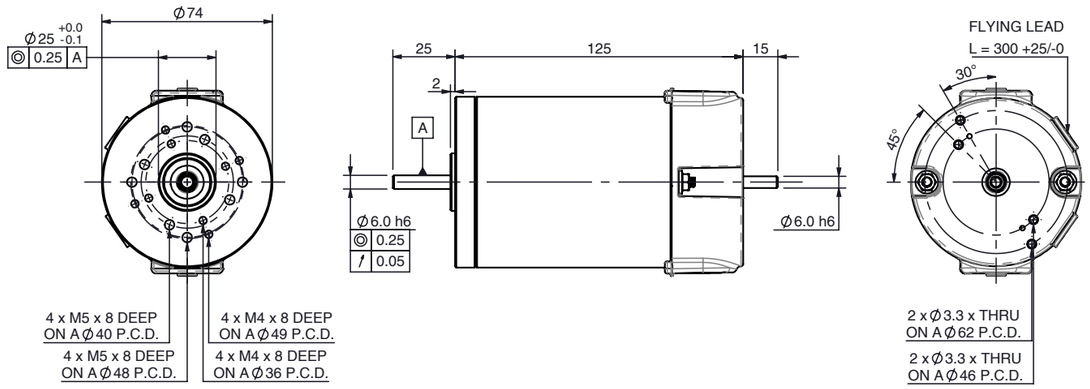
→ Technical data displayed above calculated based on **BRx63-55 48V 3000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

BRx70-40 PMDC motor

Ø70 mm frame // 40 mm stack

all dimensions in mm



Part number key		
Modular	######	
Standard	######	
Calculated data	######	

Please see our customization 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		781092	781093	781094
2	Nominal power	W	79	79	79
3	Nominal voltage	V	12	24	48
4	No load speed	rpm	3340	3433	3167
5	No load current	A	1.50	0.80	0.28
6	Nominal speed	rpm	3000	3000	3000
7	Nominal continuous torque (S1)	Nm	0.25	0.25	0.25
8	Nominal continuous current (S1)	A	9.2	4.7	2.1
9	Max. intermittent torque (S2 - 15 minutes)	Nm	0.42	0.42	0.42
10	Stall current	A	59.2	33.5	18.7
11	Stall torque	Nm	1.8	2.1	2.4
12	Stack length	mm	40	40	40
13	Maximum efficiency	%	71	78	78
14	Terminal resistance	Ω	0.13	0.44	1.86
15	Terminal inductance	mH	0.253	1.235	5.060
16	Speed constant	rpm/V	280.1	145.0	66.6
17	Torque constant	Nm/A	0.03	0.06	0.13
18	Speed torque gradient	rpm/Nm	1944	1784	1415
19	Rotor inertia	gcm²	1.83 x 10^{-4}	1.83 x 10^{-4}	1.83 x 10^{-4}

Thermal data			
20	Ambient temperature	°C	40

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

Other data			
22	Number of poles		2
23	Weight	Kg	1.85
24	IP rating		IP54
25	Enclosure		Enclosed
26	Insulation Class		F
27	Reversible		Yes

Compatible products

Gearbox	Page #
GB80	75
GB12	76

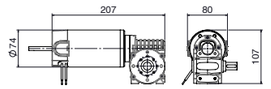
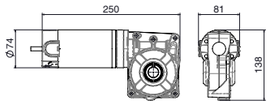
Brake	Page #
1.5 Nm	118

Controller	Page #
SC 50/15	120

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

BRx70-40 Combinations

Quickview - combination drawing and technical data

	Combination drawing	Technical data				
BRx70-40-GB80		Gear material		Composite	Composite	Composite
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	200.0	100.0	50.0
		Nominal torque	Nm	2.9	5.3	6.0
		Intermittent torque	Nm	4.9	8.8	10.0
BRx70-40-GB12		Gear material		Bronze	Bronze	Bronze
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	200.0	100.0	50.0
		Nominal torque	Nm	2.8	4.9	7.5
		Intermittent torque	Nm	4.7	8.2	12.6

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

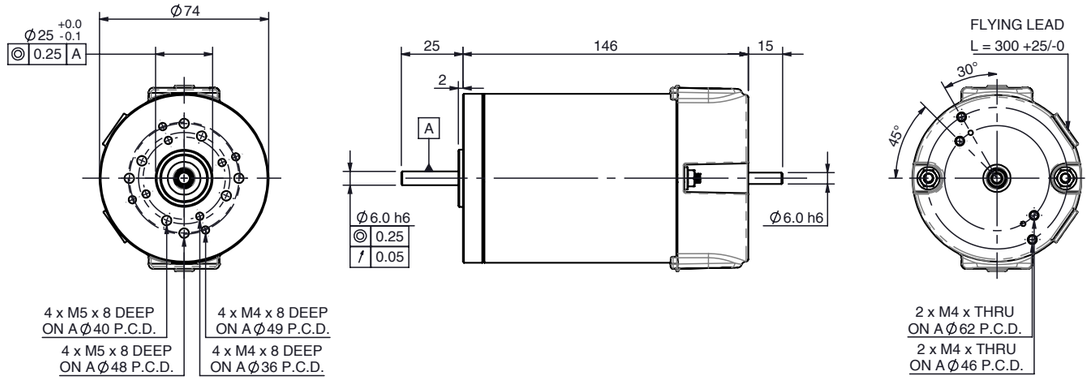
→ Technical data displayed above calculated based on **BRx70-40 48V 3000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

BRx70-60 PMDC motor

Ø70 mm frame // 60 mm stack

all dimensions in mm



Part number key		
Modular	######	
Standard	######	
Calculated data	######	

Please see our customization 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		781095	781096	781097
2	Nominal power	W	157	157	157
3	Nominal voltage	V	12	24	48
4	No load speed	rpm	3970	3580	3310
5	No load current	A	1.80	0.80	0.37
6	Nominal speed	rpm	3000	3000	3000
7	Nominal continuous torque (S1)	Nm	0.5	0.5	0.5
8	Nominal continuous current (S1)	A	21.0	9.0	4.2
9	Max. intermittent torque (S2 - 15 minutes)	Nm	0.88	0.88	0.88
10	Stall current	A	70.7	48.0	28.7
11	Stall torque	Nm	1.8	2.8	3.6
12	Stack length	mm	60	60	60
13	Maximum efficiency	%	72	79	82
14	Terminal resistance	Ω	0.10	0.36	1.51
15	Terminal inductance	mH	0.15	0.81	3.29
16	Speed constant	rpm/V	333.1	150.4	69.1
17	Torque constant	Nm/A	0.026	0.060	0.130
18	Speed torque gradient	rpm/Nm	2423	1383	985
19	Rotor inertia	gcm²	2.5 x 10^{-4}	2.5 x 10^{-4}	2.5 x 10^{-4}

Thermal data			
20	Ambient temperature	°C	40

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

Other data			
22	Number of poles		2
23	Weight	Kg	2.25
24	IP rating		IP54
25	Enclosure		Enclosed
26	Insulation Class		F
27	Reversible		Yes

Compatible products

Gearbox	Page #
GB80	75
GB12	76

Brake	Page #
1.5 Nm	118

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

BRx70-60 Combinations

Quickview - combination drawing and technical data

	Combination drawing		Technical data			
BRx70-60-GB80		Gear material		Composite	Composite	Composite
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	200.0	100.0	50.0
		Nominal torque	Nm	5.8	8.0	6.0
		Intermittent torque	Nm	10.2	13.0	10.0
BRx70-60-GB12		Gear material		Bronze	Bronze	Bronze
		Gear ratio [1]	:1	15	30	60
		Speed	rpm	200.0	100.0	50.0
		Nominal torque	Nm	5.6	9.8	15.0
		Intermittent torque	Nm	9.9	17.2	26.4

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

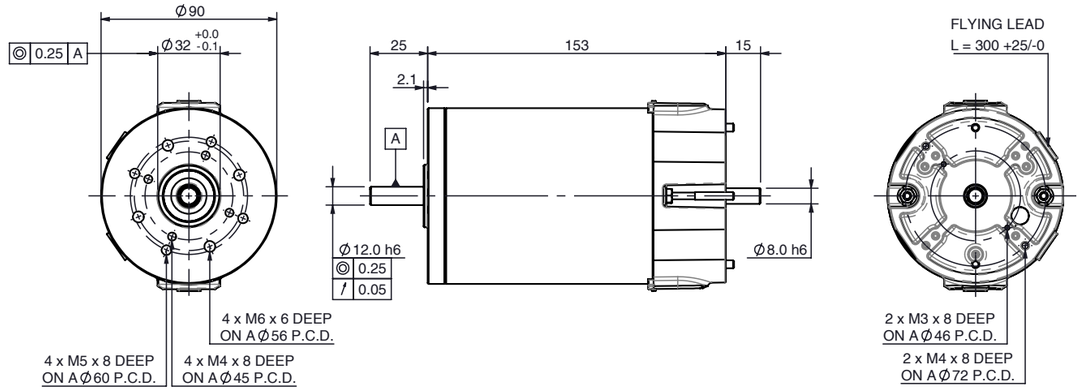
→ Technical data displayed above calculated based on **BRx70-60 48V 3000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

BRx90-50 PMDC motor

Ø90 mm frame // 50 mm stack

all dimensions in mm



Part number key		
Modular	######	**Please see our customization options page for details on the modifications available on our products.** Advice and guidance on these options are available from your local sales engineer.
Standard	######	
Calculated data	######	

Technical data					
1	Part number		781102	781103	781104
2	Nominal power	**W**	157	210	210
3	Nominal voltage	**V**	12	24	48
4	No load speed	**rpm**	3870	3423	3480
5	No load current	**A**	2.6	1.1	0.6
6	Nominal speed	**rpm**	3000	3000	3000
7	Nominal continuous torque (S1)	**Nm**	0.50	0.67	0.67
8	Nominal continuous current (S1)	**A**	25.5	10.5	5.7
9	Max. intermittent torque (S2 - 15 minutes)	**Nm**	1.17	1.17	1.17
10	Stall current	**A**	83.7	82.1	51.8
11	Stall torque	**Nm**	2.40	5.61	6.70
12	Stack length	**mm**	50	50	50
13	Maximum efficiency	**%**	67	81	80
14	Terminal resistance	**Ω**	0.112	0.294	0.580
15	Terminal inductance	**mH**	100.5	504.4	1987.0
16	Speed constant	**rpm/V**	314.9	139.0	69.1
17	Torque constant	**Nm/A**	0.030	0.069	0.130
18	Speed torque gradient	**rpm/Nm**	1509.7	590.0	511.0
19	Rotor inertia	**gcm²**	6.57 x 10^{-4}	6.57 x 10^{-4}	6.57 x 10^{-4}

Thermal data			
20	Ambient temperature	**°C**	40

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

Other data			
22	Number of poles		2
23	Weight	**Kg**	3.60
24	IP rating		IP54
25	Enclosure		Enclosed
26	Insulation Class		F
27	Reversible		Yes

Compatible products

Gearbox	Page #
GB12	76
GB9	78
GB65	79

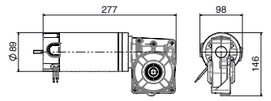
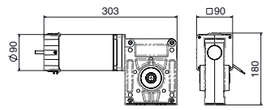
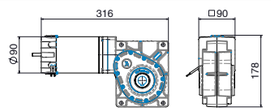
Brake	Page #
1.5 Nm	118

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

BRx90-50 Combinations

Quickview - combination drawing and technical data

	Combination drawing	Technical data						
BRx90-50-GB12		Gear material		Bronze	Bronze	Bronze		
		Gear ratio [1]	**:1**	15	30	60		
		Speed	**rpm**	200.0	100.0	50.0		
		Nominal torque	**Nm**	7.5	13.1	20.1		
		Intermittent torque	**Nm**	13.2	22.8	35.1		
BRx90-50-GB9		Gear material		Composite	Composite	Composite		
		Gear ratio [1]	**:1**	15	30	60		
		Speed	**rpm**	200.0	100.0	50.0		
		Nominal torque	**Nm**	8.5	15.1	26.1		
		Intermittent torque	**Nm**	14.9	26.3	45.6		
BRx90-50-GB65		Gear material		Bronze	Bronze	Bronze	Bronze	Bronze
		Gear ratio [1]	**:1**	20	40	80	120	160
		Speed	**rpm**	150.0	75.0	37.5	25.0	18.8
		Nominal torque	**Nm**	10.9	20.4	37.5	48.2	46.1
		Intermittent torque	**Nm**	19.0	35.6	65.5	84.2	80.5

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

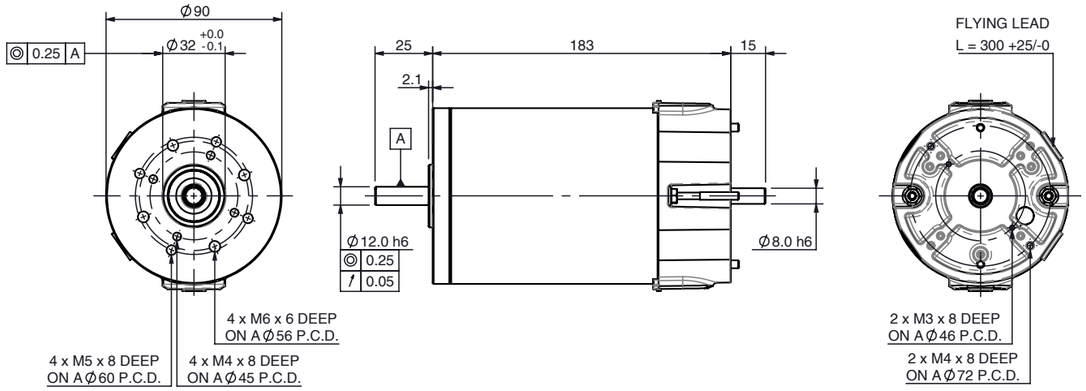
→ Technical data displayed above calculated based on **BRx90-50 48V 3000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

BRx90-75 PMDC motor

Ø90 mm frame // 75 mm stack

all dimensions in mm



Part number key		
Modular	######	**Please see our customization options page for details on the modifications available on our products.** Advice and guidance on these options are available from your local sales engineer.
Standard	######	
Calculated data	######	

	Technical data				
1	Part number		781106	781107	781108
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	1667.4	547.1	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

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

	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 #
GB12	76
GB9	78
GB65	79

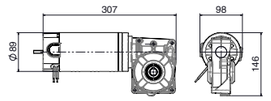
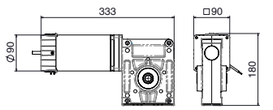
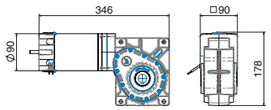
Brake	Page #
1.5 Nm	118

Encoder	Page #
Incr. 5-pin	116
Incr. 10-pin	116
Diff. 10-pin	117

Controller	Page #
SC 50/15	120

BRx90-75 Combinations

Quickview - combination drawing and technical data

	Combination drawing		Technical data					
BRx90-75-GB12			Gear material		Bronze	Bronze	Bronze	
			Gear ratio [1]	:1	15	30	60	
			Speed	rpm	200.0	100.0	50.0	
			Nominal torque	Nm	10.1	17.6	27.0	
			Intermittent torque	Nm	16.9	29.3	45.0	
BRx90-75-GB9			Gear material		Composite	Composite	Composite	
			Gear ratio [1]	:1	15	30	60	
			Speed	rpm	200.0	100.0	50.0	
			Nominal torque	Nm	11.5	20.3	35.1	
			Intermittent torque	Nm	19.1	33.8	58.5	
BRx90-75-GB65			Gear material		Bronze	Bronze	Bronze	Bronze	Bronze
			Gear ratio [1]	:1	20	40	80	120	160
			Speed	rpm	150.0	75.0	37.5	25.0	18.8
			Nominal torque	Nm	14.6	27.4	50.4	64.8	61.9
			Intermittent torque	Nm	24.3	45.6	84.0	108.0	103.2

Key

Modular combination / modular gear ratio

Notes

[1] Full, non-modular gear ratio options displayed in our latest product range catalog found at parvalux.com.

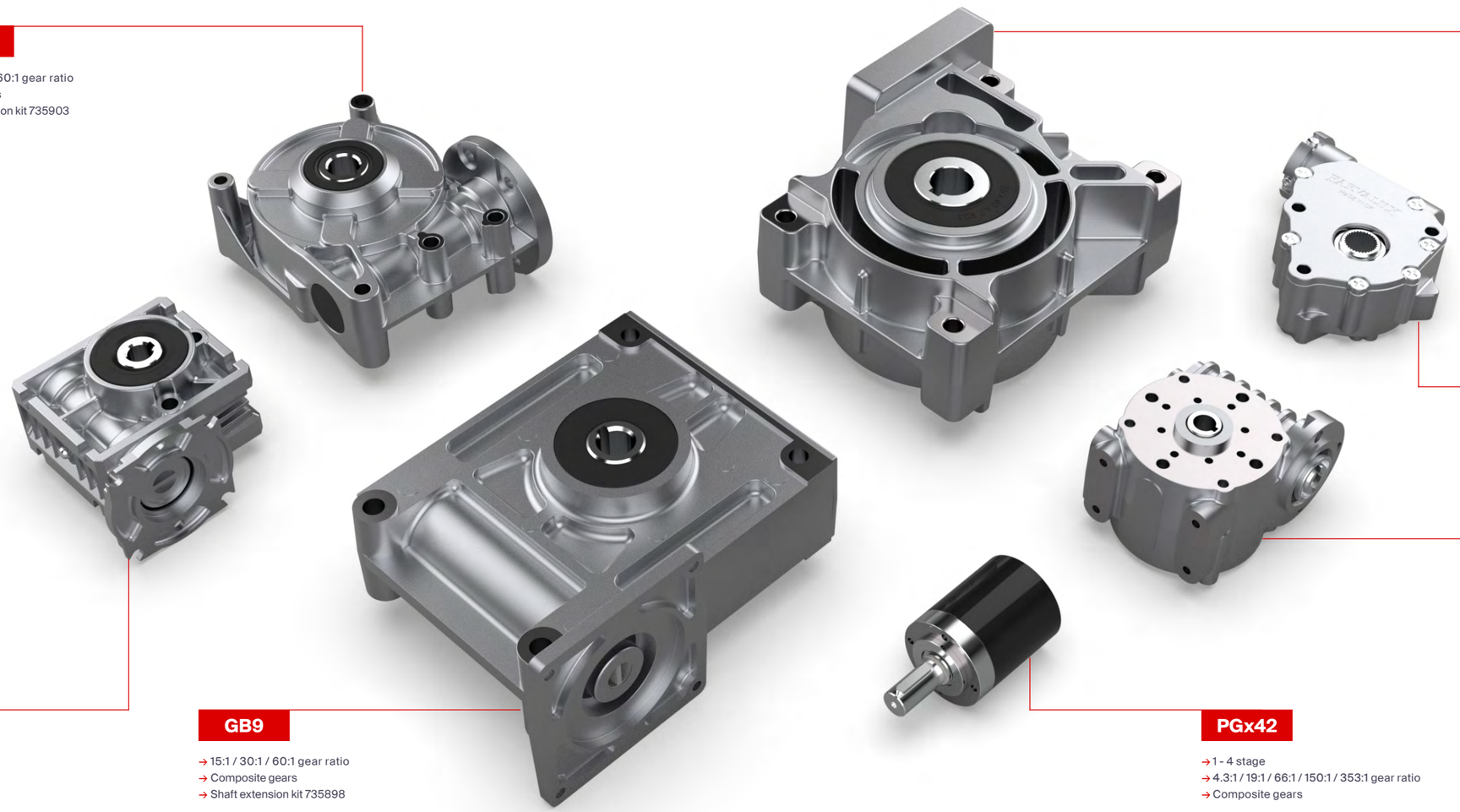
→ Technical data displayed above calculated based on **BRx90-75 48V 3000 rpm** motor. Intermittent torque displayed based on S2 - 15 minute duty cycle.

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

Modular Gearboxes

Our modular gearboxes integrate seamlessly with our modular motors through use of intelligently designed mounting flanges. The range includes options for right-angle and inline output orientation, varying gear ratios, and the choice between composite, bronze and steel gears.

Explore the range over the next few pages or scan the QR code to view the range online and begin building your modular range solution.



GB12

- 15:1 / 30:1 / 60:1 gear ratio
- Bronze gears
- Shaft extension kit 735903

GB65

- 20:1 / 40:1 / 80:1 / 120:1 / 160:1 gear ratio
- Bronze and steel gears
- Shaft extension kit 854742

GB56

- 30:1 / 40:1 / 48:1 / 60:1 / 70:1 gear ratio
- Composite gears

GB80

- 15:1 / 30:1 / 60:1 gear ratio
- Composite gears
- Shaft extension kit 860809

GB28

- 15:1 / 30:1 / 60:1 gear ratio
- Bronze gears
- Shaft extension kit 735908

GB9

- 15:1 / 30:1 / 60:1 gear ratio
- Composite gears
- Shaft extension kit 735898

PGx42

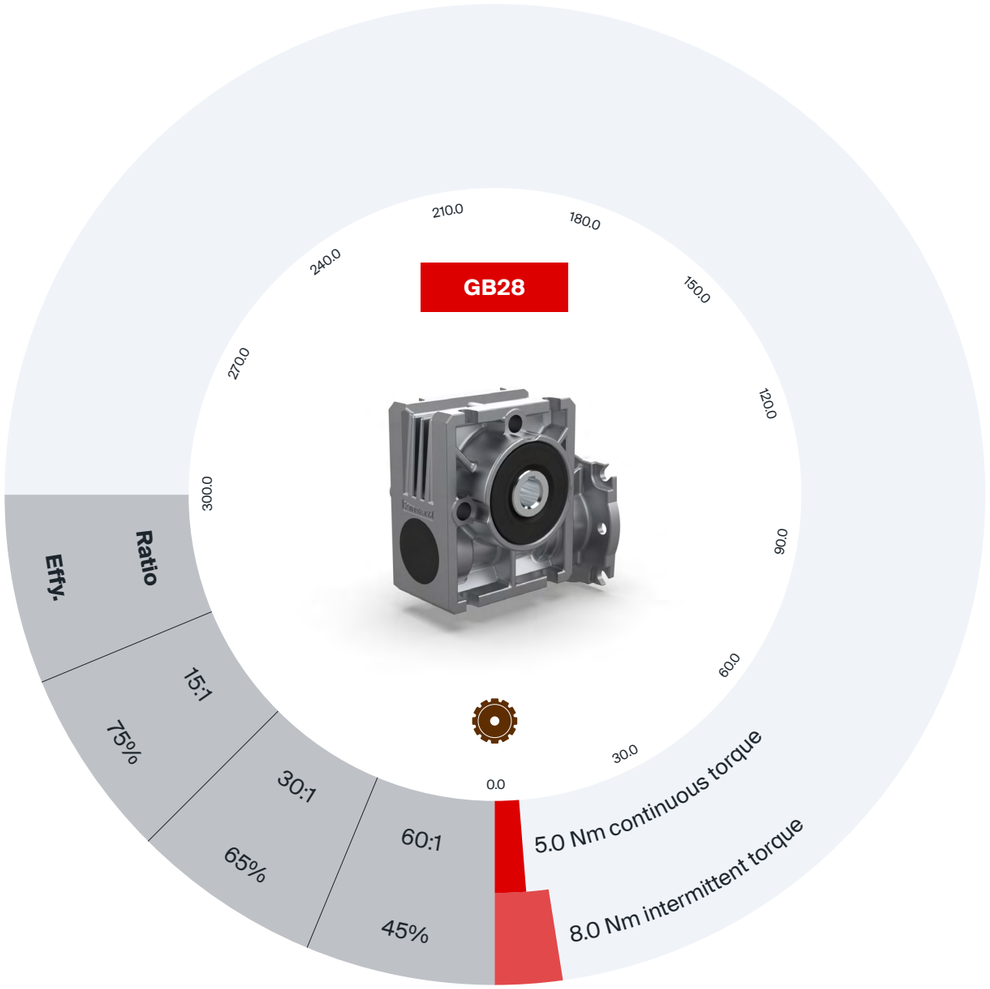
- 1 - 4 stage
- 4.3:1 / 19:1 / 66:1 / 150:1 / 353:1 gear ratio
- Composite gears

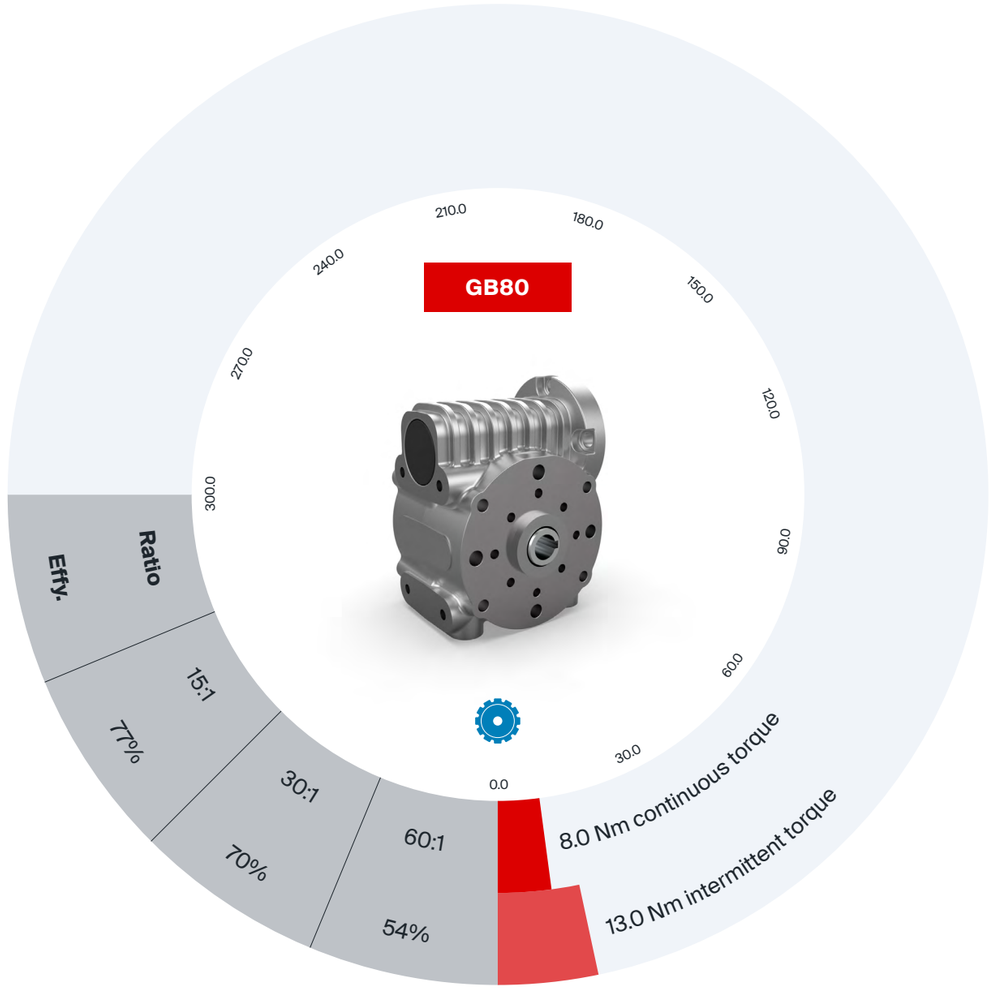
Overview - right-angle

Gearboxes

Supplied as standard with a hollow shaft, our right-angle modular gearbox range includes 6 models of varying sizes. With a range of options for gear ratio, as well as the possibility of adding a shaft extension kit to your selection, the range can be modified to meet your exact specification.

Gear material
Composite
Bronze
Steel



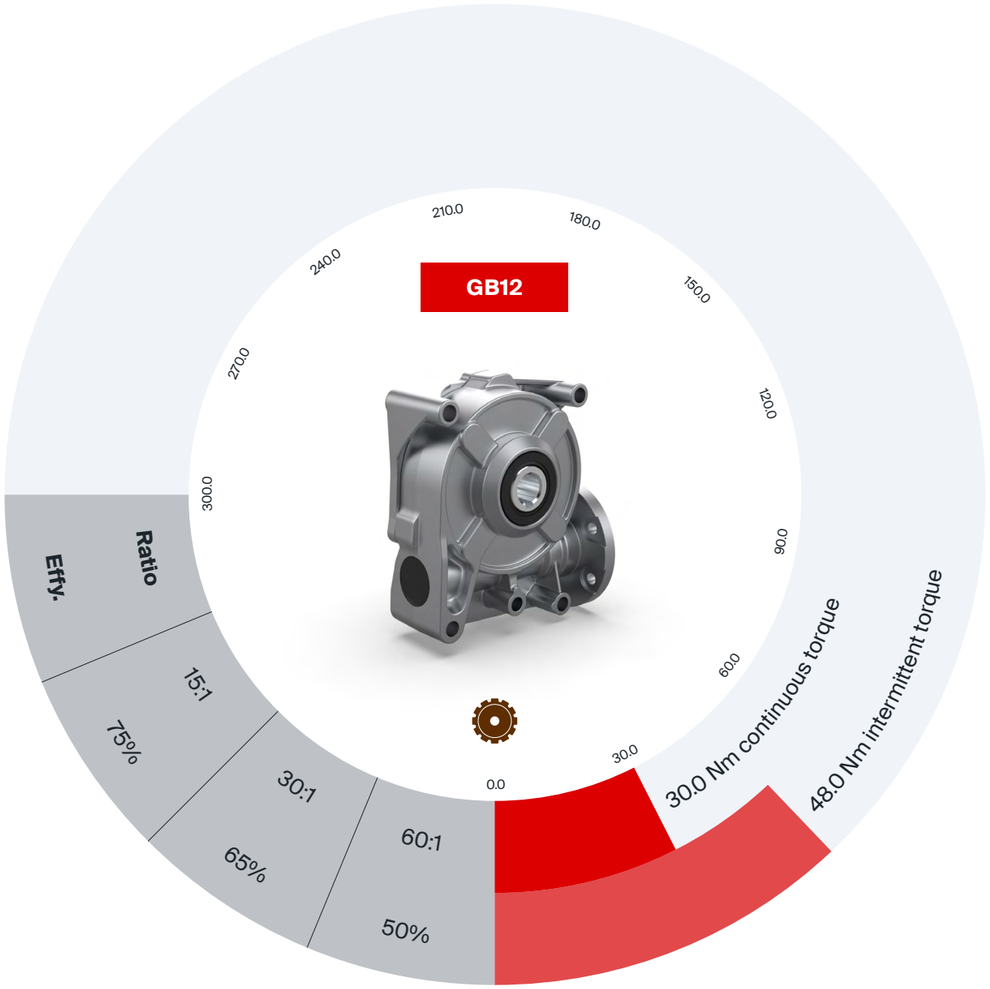


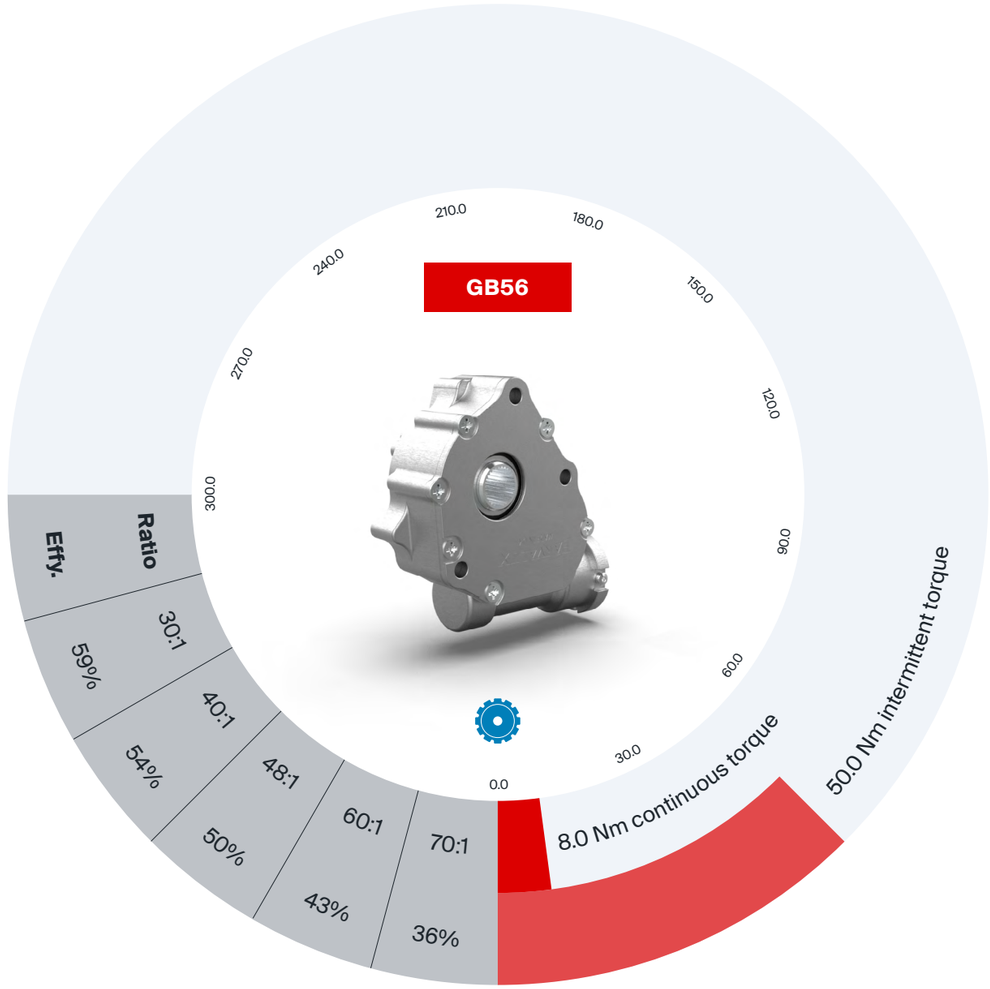
Overview - right-angle

Gearboxes

Supplied as standard with a hollow shaft, our right-angle modular gearbox range includes 6 models of varying sizes. With a range of options for gear ratio, as well as the possibility of adding a shaft extension kit to your selection, the range can be modified to meet your exact specification.

Gear material
Composite
Bronze
Steel

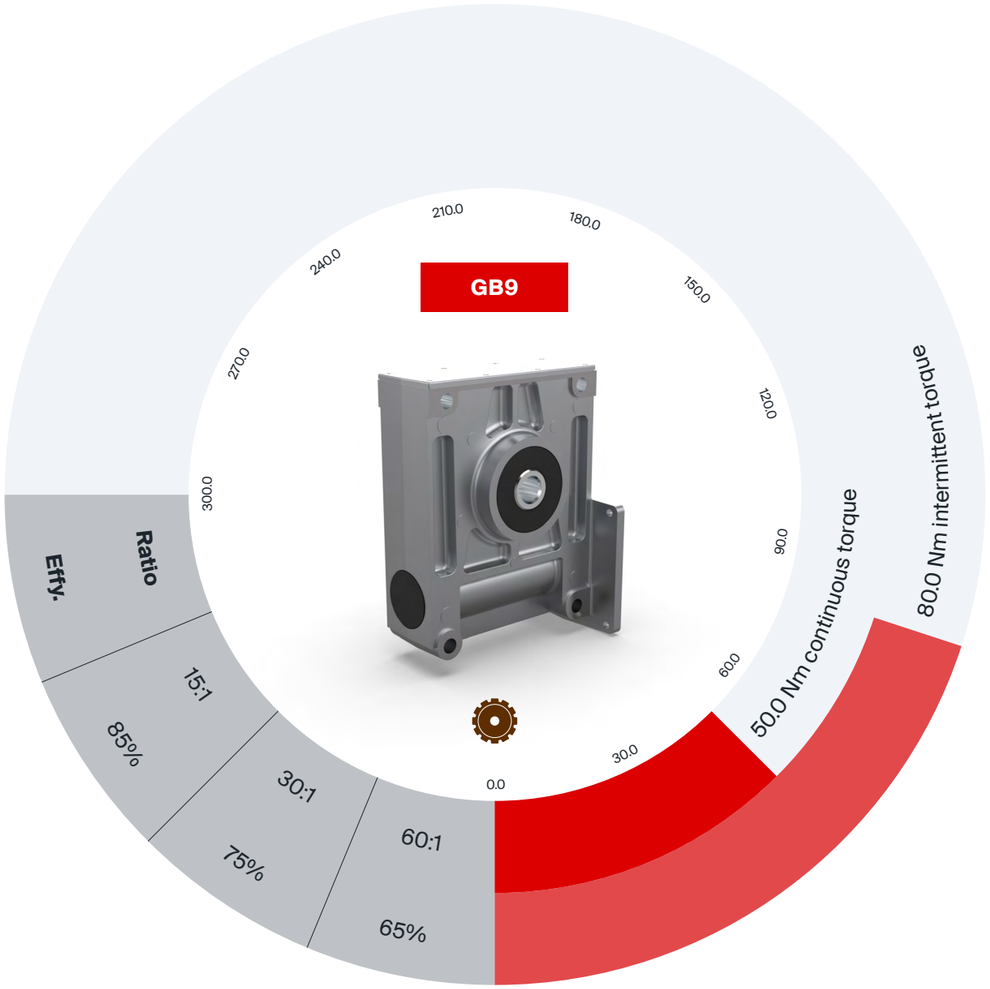


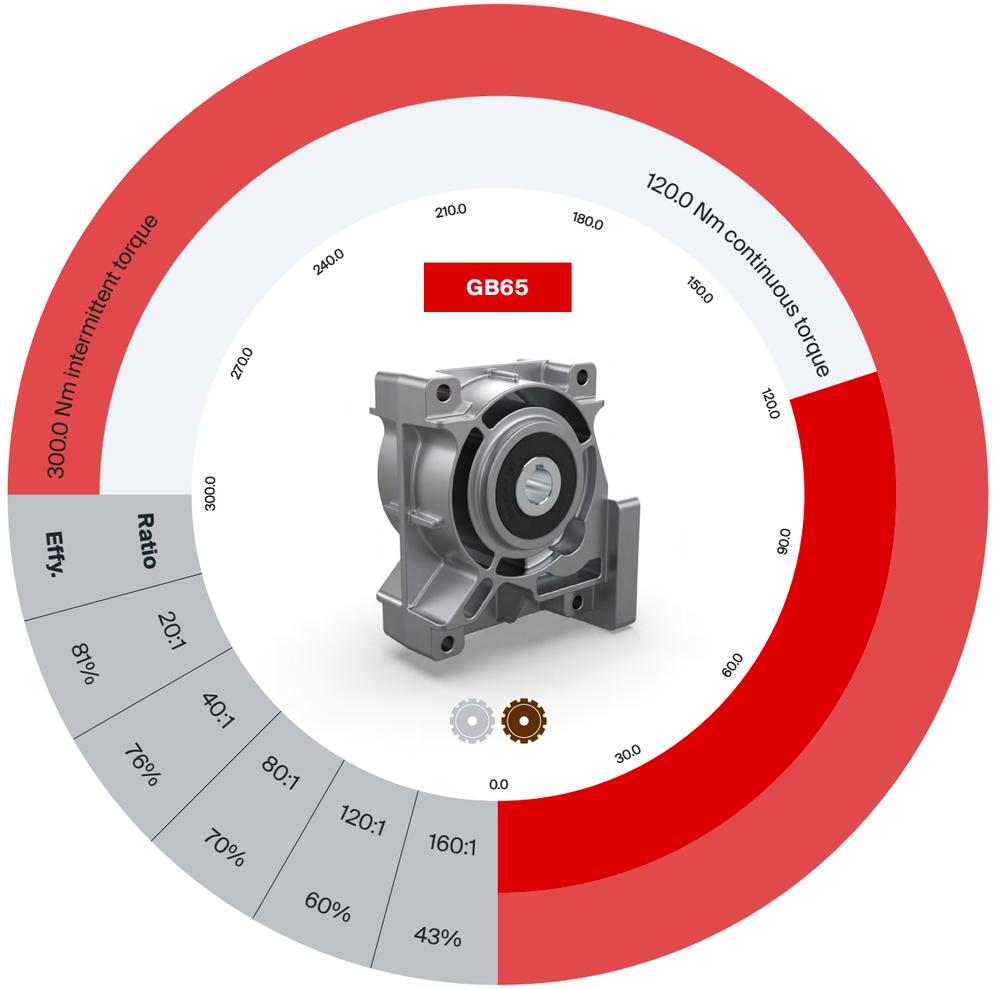


Gearboxes

Supplied as standard with a hollow shaft, our right-angle modular gearbox range includes 6 models of varying sizes. With a range of options for gear ratio, as well as the possibility of adding a shaft extension kit to your selection, the range can be modified to meet your exact specification.

Gear material
Composite
Bronze
Steel



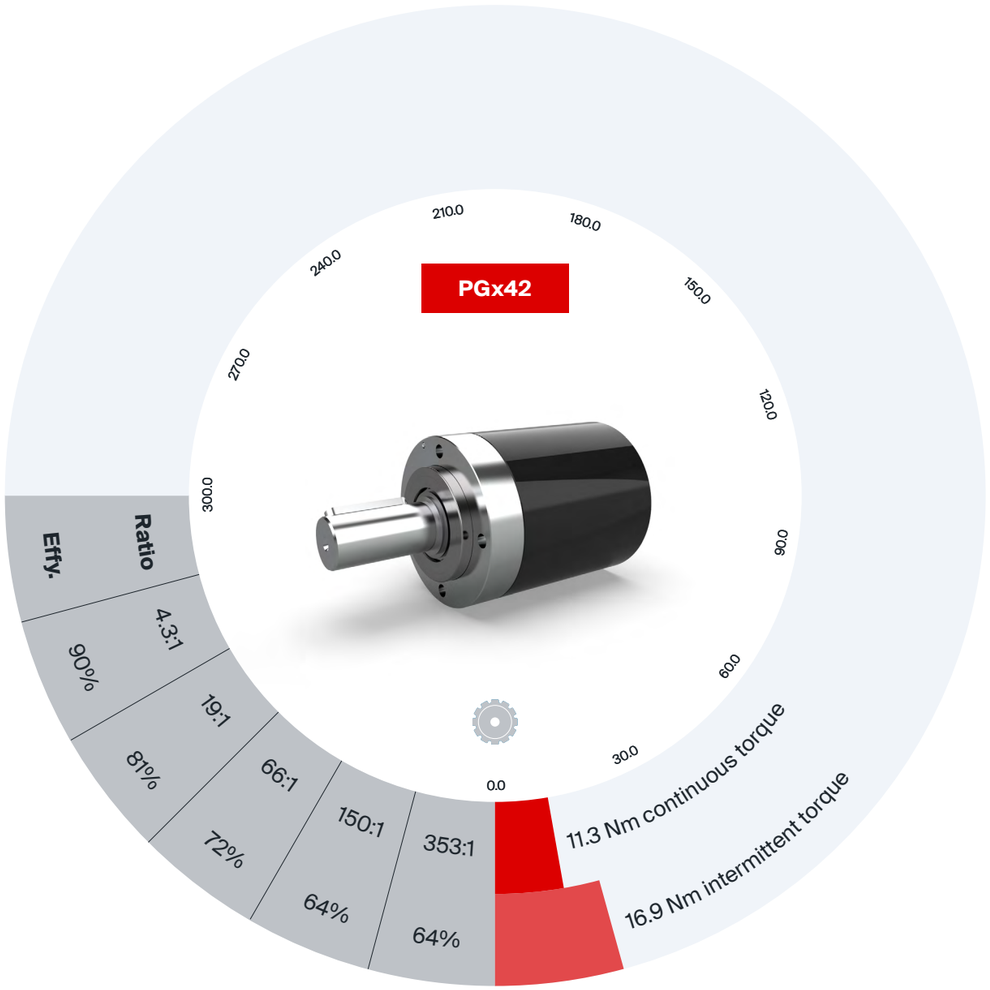


Overview - inline

Gearboxes

Our inline modular gearbox range currently only includes one frame size - the PGx42. This planetary gearbox is available as either 1, 2, 3, or 4 stage and offers 5 different gear ratios - allowing you to customize the gearbox to your specification.

Gear material
Composite
Bronze
Steel



Future additions

Future additions to the inline modular gearbox range includes two more planetary gearboxes - the PGx52 and PGx70. These new gearboxes will extend the range with two larger options that will be compatible with a wider range of modular gearboxes. Calculated data for these gearboxes can be found below.

PGx52					
Gear ratio	**:1**	5.3	16	63	111
Stage		1	2	3	3
Max. continuous torque	**Nm**	5.0	15.0	30.0	30.0
Max. intemittent torque	**Nm**	7.0	23.0	45.0	45.0
Efficiency	**%**	95	92	89	89

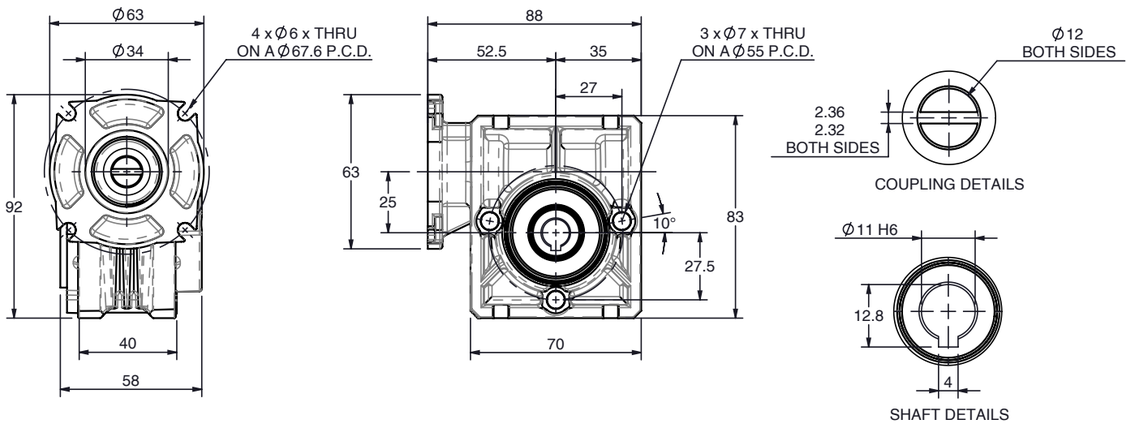
PGx70				
Gear ratio	**:1**	3.9	16	21
Stage		1	2	2
Max. continuous torque	**Nm**	10.0	30.0	30.0
Max. intemittent torque	**Nm**	12.5	37.5	37.5
Efficiency	**%**	95	92	92

Data above is estimated, calculated data and is subject to change.

GB28 Right-angle gearbox // Bronze gears

15:1 - 60:1 ratio // 8.0 Nm

all dimensions in mm



Part number key		
Modular	######	Standard version of the GB28 offers further customization options, including shaft modifications and an extended range of gear ratios, etc. Advice and guidance on these options are available from your local sales engineer.
Standard	######	
Calculated data	######	

Technical data					
1	Part number		735904	735906	735907
2	Gear ratio	:1	15	30	60
3	Stages		1	1	1
4	Max. continuous torque (S1) [1,2]	Nm	5.0	5.0	5.0
5	Max. intermittent torque [2]	Nm	8.0	8.0	8.0
6	Efficiency	%	75	65	45
7	Backlash	arc.min	10-25	10-25	10-25
8	Max. axial load (dynamic)	N	300	300	300
9	Max. radial load, 12 mm from flange	N	400	400	400
10	Weight	Kg	0.83	0.83	0.83
11	Gear material		Bronze	Bronze	Bronze

[1] S1 duty cycle based on 3000 RPM input speed. [2] Please refer to the thermal rating limits of the gearbox found on page 255 of our product range catalog.

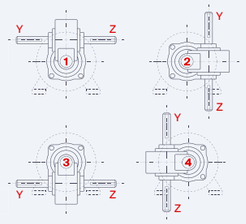
Compatible products

BLDC	Page #
PBL42-15	
PBL42-30	
PBL60-50	
PBL60-70	

PMDC	Page #
BRx63-25	
BRx63-55	
BRx63-25	
BRx63-55	

Shaft extension	Page #
735908	122

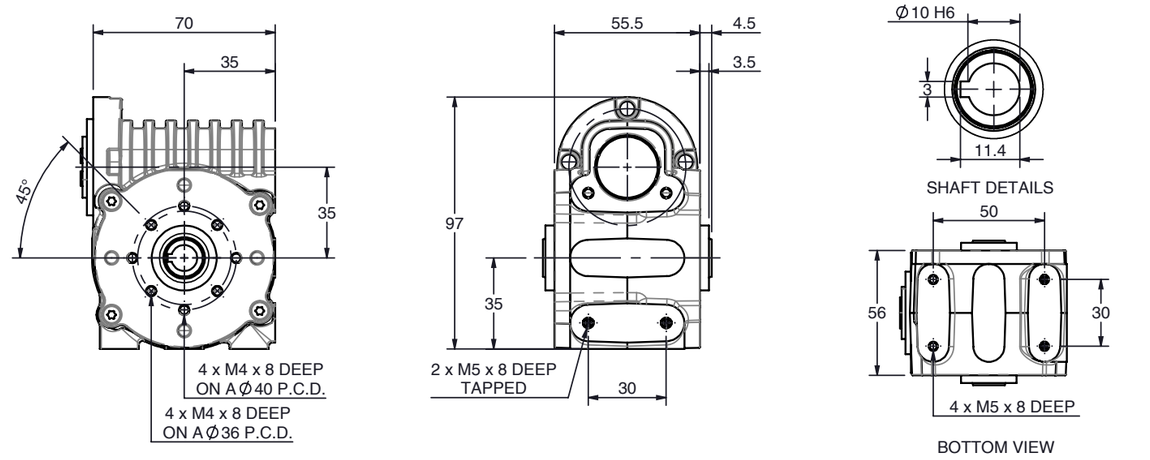
Gearbox output position



GB80 Right-angle gearbox // Composite gears

4:1 - 72:1 ratio // 13.0 Nm

all dimensions in mm



Part number key		
Modular	######	Standard version of the GB80 offers further customization options, including shaft modifications and an extended range of gear ratios, etc. Advice and guidance on these options are available from your local sales engineer.
Standard	######	
Calculated data	######	

Technical data					
1	Part number		888018	888020	888021
2	Gear ratio	:1	15	30	60
3	Stages		1	1	1
4	Max. continuous torque (S1) [1,2]	Nm	8.0	8.0	6.0
5	Max. intermittent torque [2]	Nm	13.0	13.0	10.0
6	Efficiency	%	77	70	54
7	Backlash	arc.min	10-25	10-25	10-25
8	Max. axial load (dynamic)	N	300	300	300
9	Max. radial load, 12 mm from flange	N	350	350	350
10	Weight	Kg	0.7	0.7	0.7
11	Gear material		Composite	Composite	Composite

[1] S1 duty cycle based on 3000 RPM input speed. [2] Please refer to the thermal rating limits of the gearbox found on page 255 of our product range catalog.

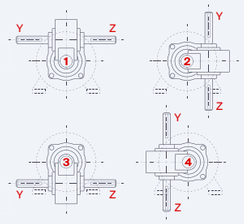
Compatible products

BLDC	Page #
PBL60-50	
PBL60-70	
PBL70-70	
PBL70-80	

PMDC	Page #
BRx52-30	
BRx52-58	
BRx63-25	
BRx63-55	
BRx70-25	
BRx70-60	

Shaft extension	Page #
860809	122

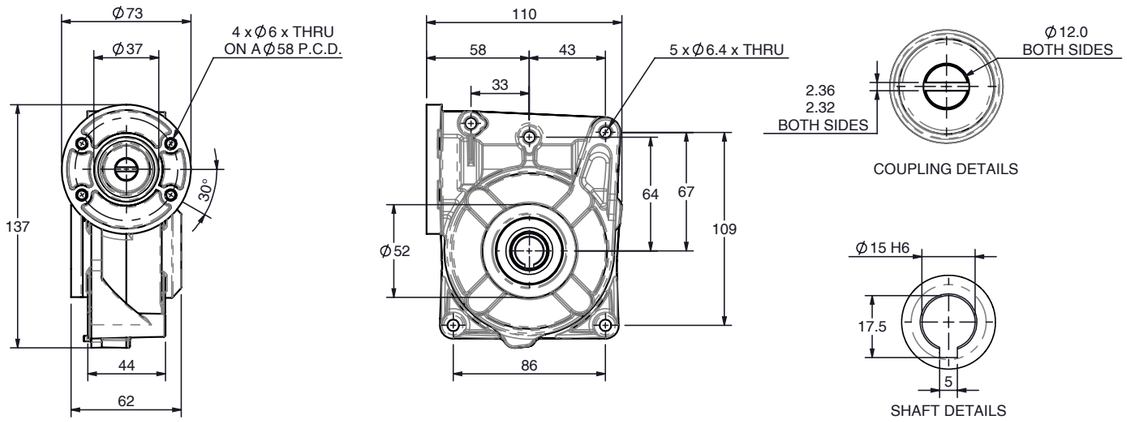
Gearbox output position



GB12 Right-angle gearbox // Bronze gears

12.5:1 - 75:1 ratio // 48.0 Nm

all dimensions in mm



Part number key	
Modular	######
Standard	######
Calculated data	######

Standard version of the GB12 offers further customization options, including shaft modifications and an extended range of gear ratios, etc. Advice and guidance on these options are available from your local sales engineer.

Technical data					
1	Part number		735900	735901	735902
2	Gear ratio	:1	15	30	60
3	Stages		1	1	1
4	Max. continuous torque (S1) [1] [2]	Nm	30.0	30.0	30.0
5	Max. intermittent torque [2]	Nm	48.0	48.0	48.0
6	Efficiency	%	75	65	50
7	Backlash	arc.min	10-25	10-25	10-25
8	Max. axial load (dynamic)	N	600	600	600
9	Max. radial load, 12 mm from flange	N	800	800	800
10	Weight	Kg	1.5	1.5	1.5
11	Gear material		Bronze	Bronze	Bronze

[1] S1 duty cycle based on 3000 RPM input speed. [2] Please refer to the thermal rating limits of the gearbox found on page 255 of our product range catalog.

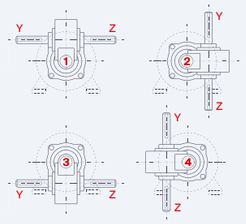
Compatible products

BLDC	Page #
PBL60-50	
PBL60-70	
PBL70-70	
PBL70-80	
PBL86-55	
PBL86-80	

PMDC	Page #
BRx70-40	
BRx70-60	
BRx90-50	
BRx90-75	

Shaft extension	Page #
735903	122

Gearbox output position

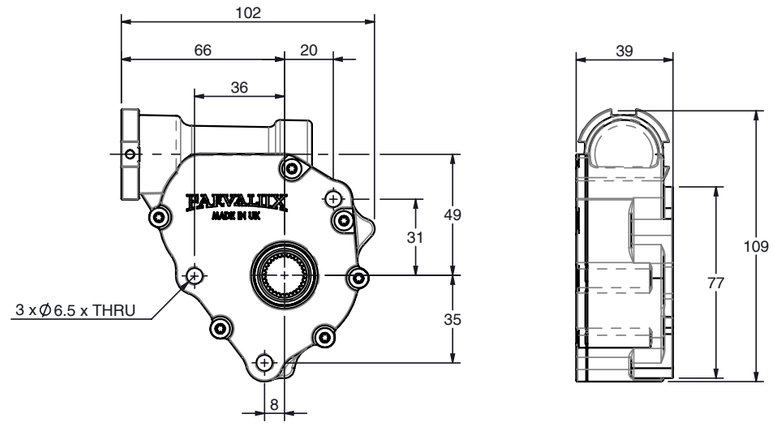


(V) = ventilated

GB56 Right-angle gearbox // Composite gears

30:1 - 70:1 ratio // 50.0 Nm

all dimensions in mm



Part number key	
Modular	######
Standard	######
Calculated data	######

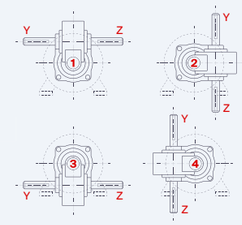
Technical data						
1	Part number		861141	861142	861143	861144	861145
2	Gear ratio (worm)	:1	30	40	48	60	70
3	Gear ratio (worm)		3.05	3.05	3.05	3.05	3.05
4	Stages		2	2	2	2	2
5	Max. continuous torque (S1) [1] [2]	Nm	8.0	8.0	8.0	8.0	8.0
6	Max. intermittent torque [2]	Nm	50.0	50.0	50.0	50.0	50.0
7	Efficiency	%	59	54	50	43	36
8	Backlash	arc.min	10-25	10-25	10-25	10-25	10-25
9	Max. axial load (dynamic)	N	300	300	300	300	300
10	Max. radial load, 12 mm from flange	N	400	400	400	400	400
11	Weight	Kg	0.6	0.6	0.6	0.6	0.6
12	Gear material		Composite	Composite	Composite	Composite	Composite

[1] S1 duty cycle based on 3000 RPM input speed. [2] Please refer to the thermal rating limits of the gearbox found on page 255 of our product range catalog.

Compatible products

PMDC	Page #
RE38-25	
RE38-40	

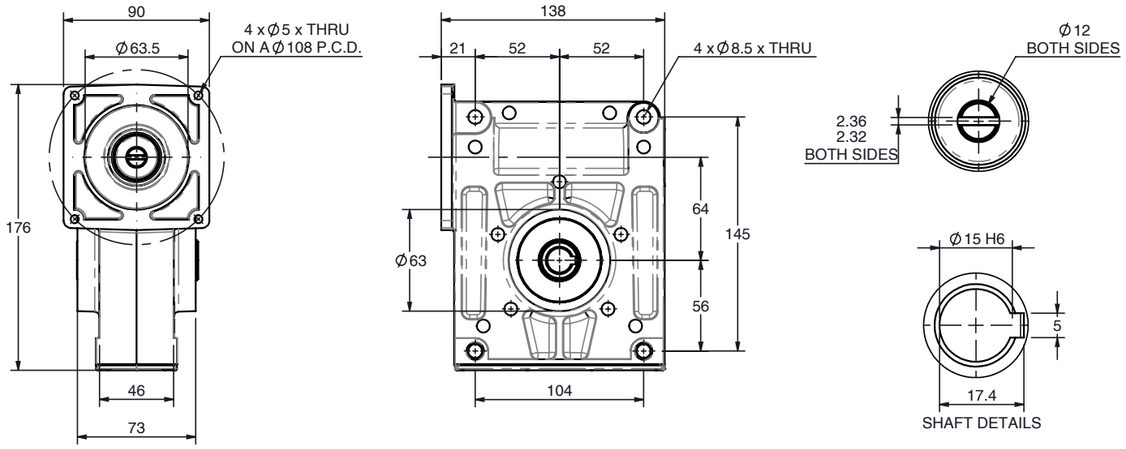
Gearbox output position



GB9 Right-angle gearbox // Composite gears

12.5:1 - 75:1 ratio // 80.0 Nm

all dimensions in mm



Part number key		
Modular	######	Standard version of the GB9 offers further customization options, including shaft modifications and an extended range of gear ratios, etc. Advice and guidance on these options are available from your local sales engineer.
Standard	######	
Calculated data	######	

Technical data					
1 Part number		735894	735895	735896	
2 Gear ratio	:1	15	30	60	
3 Stages		1	1	1	
4 Max. continuous torque (S1) [1,2]	Nm	50.0	50.0	50.0	
5 Max. intermittent torque [2]	Nm	80.0	80.0	80.0	
6 Efficiency	%	85	75	65	
7 Backlash	arc.min	10-25	10-25	10-25	
8 Max. axial load (dynamic)	N	600	600	600	
9 Max. radial load, 12 mm from flange	N	800	800	800	
10 Weight	Kg	2.3	2.3	2.3	
11 Gear material		Composite	Composite	Composite	

[1] S1 duty cycle based on 3000 RPM input speed. [2] Please refer to the thermal rating limits of the gearbox found on page 255 of our product range catalog.

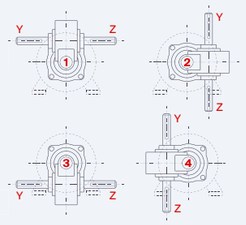
Compatible products

BLDC	Page #
PBL86-55	
PBL86-80	

PMDC	Page #
BRx90-50	
BRx90-75	

Shaft extension	Page #
735898	123

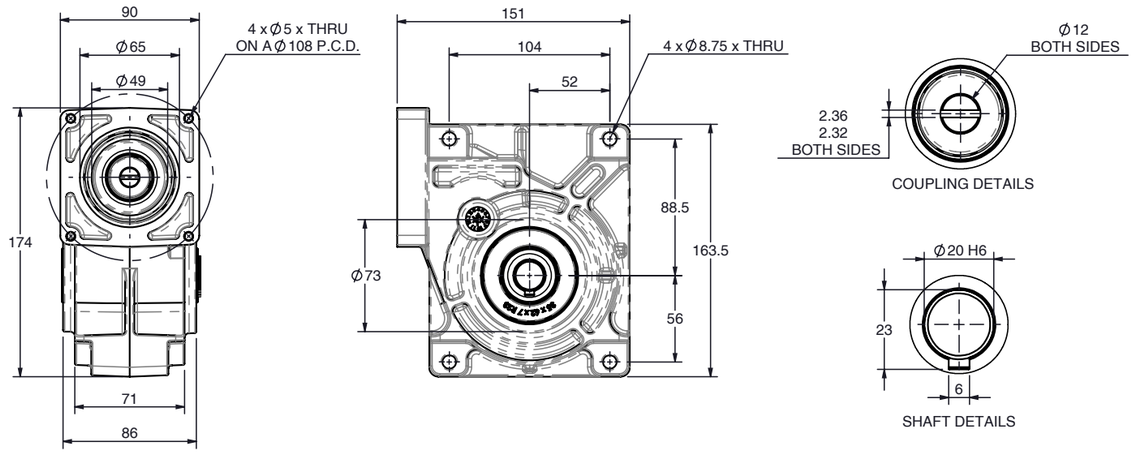
Gearbox output position



GB65 Right-angle gearbox // Steel / bronze gears

60:1 - 160:1 ratio // 300.0 Nm

all dimensions in mm



Part number key		
Modular	######	Standard version of the GB65 offers further customization options, including shaft modifications and an extended range of gear ratios, etc. Advice and guidance on these options are available from your local sales engineer.
Standard	######	
Calculated data	######	

Technical data						
1 Part number		854060	853270	827936	827934	827943
2 Gear ratio	:1	20	40	80	120	160
3 Stages		2	2	2	2	2
4 Max. continuous torque (S1) [1,2]	Nm	120.0	120.0	120.0	120.0	120.0
5 Max. intermittent torque [2]	Nm	300.0	300.0	300.0	300.0	300.0
6 Efficiency	%	81	76	70	60	43
7 Backlash	arc.min	35-65	35-65	35-65	35-65	35-65
8 Max. axial load (dynamic)	N	1750	1750	1750	1750	1750
9 Max. radial load, 12 mm from flange	N	2335	2335	2335	2335	2335
10 Weight	Kg	3.5	3.5	3.5	3.5	3.5
11 Gear material [3]		S / B	S / B	S / B	S / B	S / B

[1] S1 duty cycle based on 3000 RPM input speed. [2] Please refer to the thermal rating limits of the gearbox found on page 255 of our product range catalog.

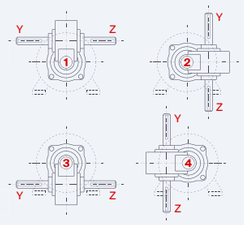
Compatible products

BLDC	Page #
PBL86-55	
PBL86-80	

PMDC	Page #
BRx90-50	
BRx90-75	

Shaft extension	Page #
854742	123

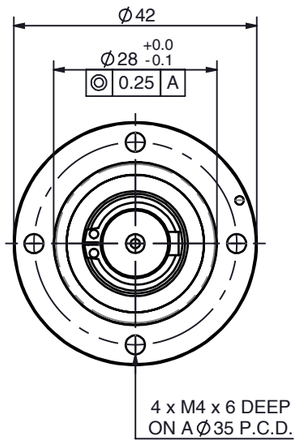
Gearbox output position

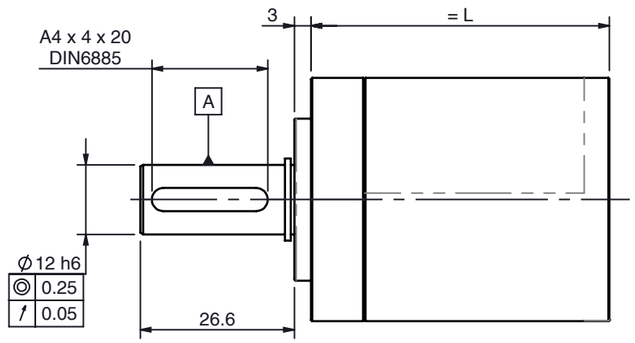


PGx42 Inline planetary gearbox // Steel gears

3.5:1 - 936:1 ratio // 16.9 Nm

all dimensions in mm





Part number key	
Modular	######
Standard	######
Calculated data	######

Planetary gearboxes are only available as part of a motor-gearbox combination and cannot be purchased as a gearbox-only unit. Please contact your local sales engineer to discuss your combination options.

	Technical data						
1	Part number		891037	891038	891039	891040	891041
2	Gear ratio	:1	4.3	19	66	150	353
3	Stages		1	2	3	4	4
4	Max. continuous torque (S1) [1]	Nm	2.3	5.6	11.3	11.3	11.3
5	Max. intermittent torque	Nm	3.4	8.5	16.9	16.9	16.9
6	Efficiency	%	90	81	72	64	64
7	Backlash	arc.min	36	48	60	60	60
8	Max. axial load (dynamic)	N	150	150	150	150	150
9	Max. radial load, 12 mm from flange	N	120	240	360	360	360
10	Weight	Kg	0.26	0.36	0.46	0.56	0.56
11	Gear material		Steel	Steel	Steel	Steel	Steel
12	Max. continuous input speed	rpm	6000	6000	6000	6000	6000
13	Max. intermittent input speed	rpm	8000	8000	8000	8000	8000
14	Ambient temperature	°C	-40...100	-40...100	-40...100	-40...100	-40...100
15	Max. transmissable power	W	580	580	580	580	580
16	Length	mm	37.3	51.8	66.3	80.8	80.8

[1] S1 duty cycle based on 3000 RPM input speed.

Modular system

BLDC	Page #
PBL42-15	
PBL42-35	

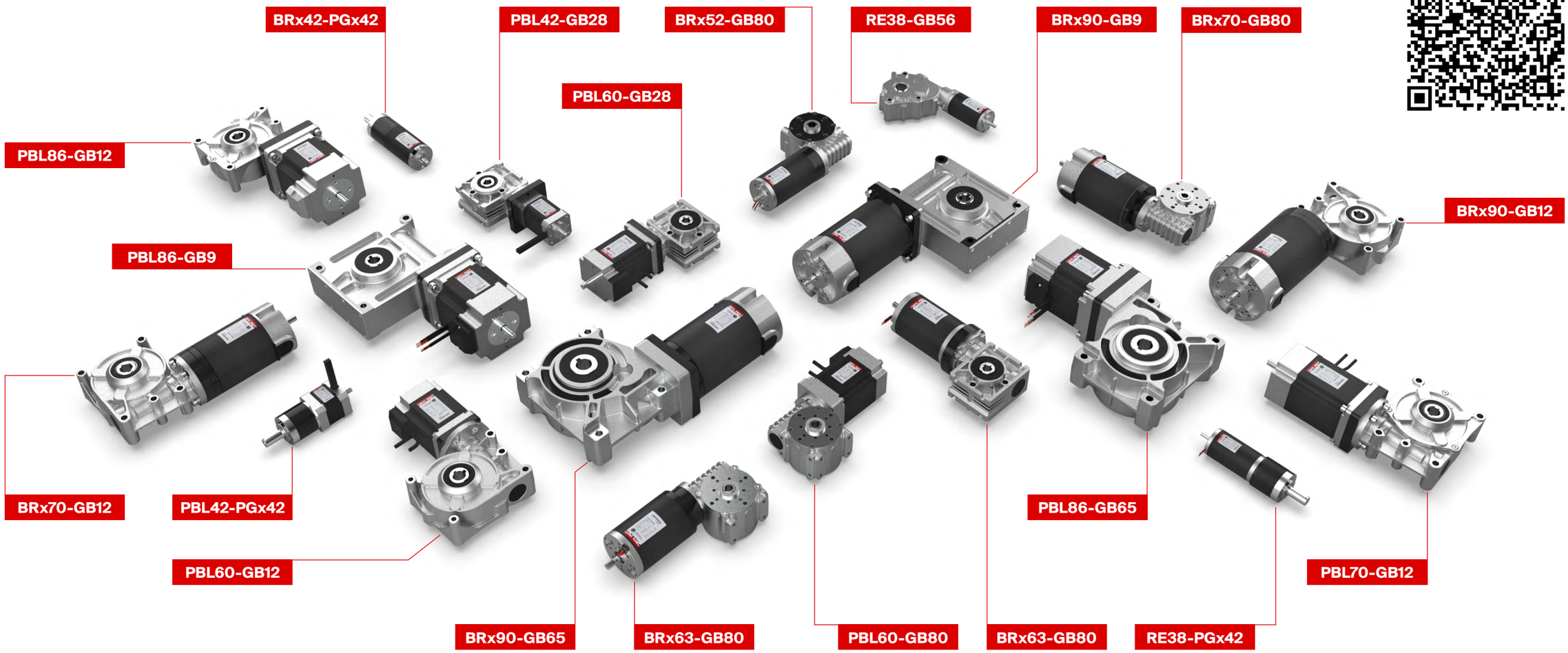
PMDC	Page #
RE38-25	
RE38-40	
BRx42-25	
BRx42-40	

Notes

Modular Combinations

With a wide range of motor and gearbox combinations, as well as options for both motor voltage and gear ratio, an extensive output specification is available across the modular range.

Explore the range displayed throughout this section or scan the QR code to find out more.



Combinations

PGx42

Available in 1 - 4 stages, and in 5 different gear ratios, the PGx42 planetary gearbox can be combined with the RE38 and BRx42 PMDC motors and the PBL42 BLDC motor.

RE38-PGx42

Max. speed **756 rpm**

Max. power **40 W**

Max. torque **16.9 Nm**

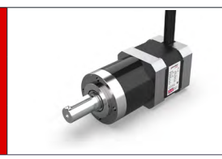
BRx42-PGx42

Max. speed **698 rpm**

Max. power **18 W**

Max. torque **16.9 Nm**

PBL42-PGx42



Max. speed **930 rpm**

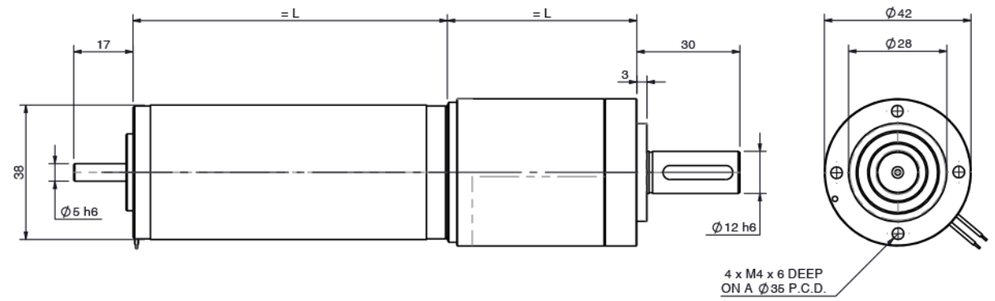
Max. power **42 W**

Max. torque **16.9 Nm**

RE38-PGx42 PMDC planetary geared motor

24 - 48 V // 24 - 40 W // 9 - 756 rpm // 0.3 - 16.9 Nm

all dimensions in mm



Combination data											
Motor		RE38-25	RE38-25	RE38-25	RE38-25	RE38-25	RE38-40	RE38-40	RE38-40	RE38-40	RE38-40
Voltage	V	24-48	24-48	24-48	24-48	24-48	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48
Nominal motor power	W	24	24	24	24	24	40	40	40	40	40
Gearbox ratio	:1	4.3	19	66	150	353	4.3	19	66	150	353
Nominal speed	rpm	756	171	49	22	9	744	168	48	21	9
Continuous torque (S1)	Nm	0.3	1.1	3.3	6.7	11.3	0.5	1.8	5.7	11.3	11.3
Intermittent torque (S2 - 15 mins)	Nm	0.4	1.7	5.2	10.6	16.9	0.7	2.8	8.6	16.9	16.9

Motor data					
Part number		857662	857663	857664	857665
Nominal power	W	24	24	40	40
Nominal voltage	V	24	48	24	48
Nominal speed	rpm	3250	3250	3200	3200
Continuous torque (S1)	Nm	0.07	0.07	0.12	0.12
Intermittent torque (S2 - 15 minutes)	Nm	0.11	0.11	0.18	0.18
Weight	Kg	0.30	0.30	0.40	0.40
Stack length	mm	25	25	40	40
Motor length	mm	70	70	90	90

Gearbox data						
Part number		891037	891038	891039	891040	891041
Ratio	:1	4.3	19	66	150	353
Stage		1	2	3	4	4
Max. continuous torque (S1) [1]	Nm	2.3	5.6	11.3	11.3	11.3
Max. intermittent torque	Nm	3.4	8.5	16.9	16.9	16.9
Efficiency	%	90	81	72	64	64
Max. axial load (dynamic)	N	150	150	150	150	150
Max. radial load, 12mm from flange	N	120	240	360	360	360
Weight	Kg	0.26	0.36	0.46	0.56	0.56
Gearbox length	mm	37.3	51.8	66.3	80.8	80.8
Gear material		Steel	Steel	Steel	Steel	Steel

[1] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
N/A	-

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388
Mounting flange	781275

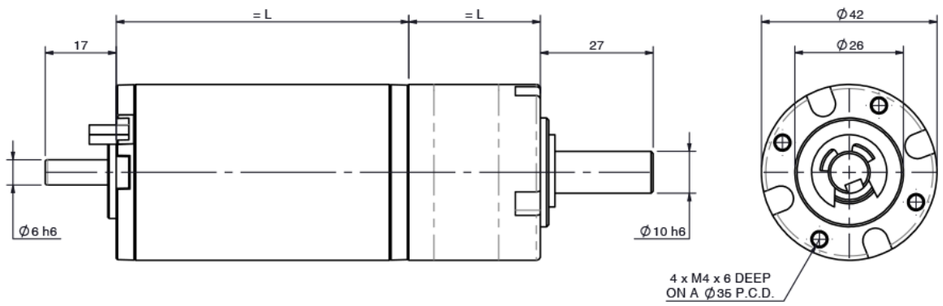
Controller	Part Number
SC 50/15	738950

Shaft extension	Part number
N/A	-

BRx42-PGx42 PMDC planetary geared motor

12 - 48 V // 12 - 18 W // 8 - 698 rpm // 0.1 - 16.9 Nm

all dimensions in mm



Combination data											
Motor		BRx42-25	BRx42-25	BRx42-25	BRx42-25	BRx42-25	BRx42-40	BRx42-40	BRx42-40	BRx42-40	BRx42-40
Voltage	V	12 - 24	12 - 24	12 - 24	12 - 24	12 - 24	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48
Nominal motor power	W	12	12	12	12	12	18	18	18	18	18
Gearbox ratio	:1	4.3	19	66	150	353	4.3	19	66	150	353
Nominal speed	rpm	698	158	45	20	8	698	158	45	20	8
Continuous torque (S1)	Nm	0.1	0.6	1.8	3.6	8.6	0.2	0.9	2.7	5.5	11.3
Intermittent torque (S2 - 15 mins)	Nm	0.2	0.9	2.9	5.8	13.6	0.3	1.4	4.3	8.6	16.9

Motor data						
Part number		781076	781077	781079	781080	781081
Nominal power	W	12	12	18	18	18
Nominal voltage	V	12	24	12	24	28
Nominal speed	rpm	3000	3000	3000	3000	3000
Continuous torque (S1)	Nm	0.038	0.038	0.057	0.057	0.057
Intermittent torque (S2 - 15 minutes)	Nm	0.06	0.06	0.09	0.09	0.09
Weight	Kg	0.39	0.39	0.52	0.52	0.52
Stack length	mm	25	25	40	40	40
Motor length	mm	70	70	85	85	85

Gearbox data						
Part number		891037	891038	891039	891040	891041
Ratio	:1	4.3	19	66	150	353
Stage		1	2	3	4	4
Max. continuous torque (S1) [1]	Nm	2.3	5.6	11.3	11.3	11.3
Max. intermittent torque	Nm	3.4	8.5	16.9	16.9	16.9
Efficiency	%	90	81	72	64	64
Max. axial load (dynamic)	N	150	150	150	150	150
Max. radial load, 12mm from flange	N	120	240	360	360	360
Weight	Kg	0.26	0.36	0.46	0.56	0.56
Gearbox length	mm	37.3	51.8	66.3	80.8	80.8
Gear material		Steel	Steel	Steel	Steel	Steel

[1] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
N/A	-

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388
Mounting flange	781275

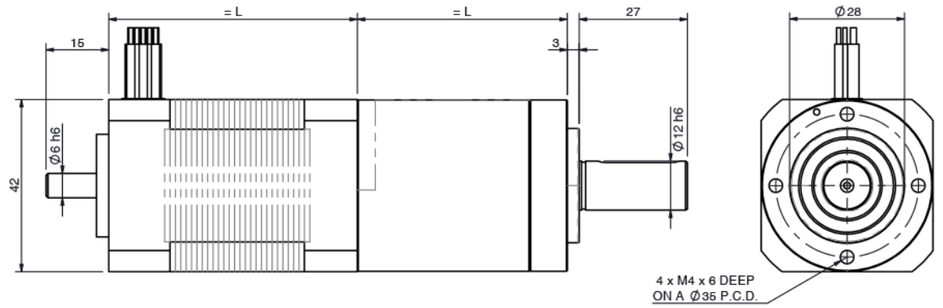
Controller	Part Number
SC 50/15	738950

Shaft extension	Part number
N/A	-

PBL42-PGx42 PMDC planetary geared motor

24 - 48 V // 26 - 42 W // 11 - 930 rpm // 0.2 - 16.9 Nm

all dimensions in mm



Combination data											
Motor		PBL42-15	PBL42-15	PBL42-15	PBL42-15	PBL42-15	PBL42-35	PBL42-35	PBL42-35	PBL42-35	PBL42-35
Voltage	V	12 - 24	12 - 24	12 - 24	12 - 24	12 - 24	12 - 24	12 - 24	12 - 24	12 - 24	12 - 24
Nominal motor power	W	26	26	26	26	26	42	42	42	42	42
Gearbox ratio	:1	4.3	19	66	150	353	4.3	19	66	150	353
Nominal speed	rpm	930	211	61	27	11	930	211	61	27	11
Continuous torque (S1)	Nm	0.2	1.0	3.0	6.0	11.3	0.4	1.5	4.8	9.6	11.3
Intermittent torque (S2 - 15 mins)	Nm	0.4	1.5	4.5	9.1	16.9	0.6	2.3	7.1	14.4	16.9

Motor data						Connection details		
Part number		776614	776615	776616	776617	Lead colour	Lead gauge	Function
Nominal power	W	26	26	42	42	Red	UL1569/26 AWG	VCC
Nominal voltage	V	24	48	24	48	Black	UL1569/26 AWG	GND
Nominal speed	rpm	4000	4000	4000	4000	Yellow	UL1569/26 AWG	Hall A
Continuous torque (S1)	Nm	0.063	0.063	0.10	0.10	Green	UL1569/26 AWG	Hall B
Intermittent torque (S2 - 15 minutes)	Nm	0.095	0.095	0.15	0.15	Blue	UL1569/26 AWG	Hall C
Weight	Kg	0.30	0.30	0.45	0.45	Yellow	UL1569/20 AWG	Phase U
Stack length	mm	15	15	35	35	Green	UL1569/20 AWG	Phase V
Motor length	mm	47	47	67	67	Blue	UL1569/20 AWG	Phase W

Gearbox data						
Part number		891037	891038	891039	891040	891041
Ratio	:1	4.3	19	66	150	353
Stage		1	2	3	4	4
Max. continuous torque (S1) [1]	Nm	2.3	5.6	11.3	11.3	11.3
Max. intermittent torque	Nm	3.4	8.5	16.9	16.9	16.9
Efficiency	%	90	81	72	64	64
Max. axial load (dynamic)	N	150	150	150	150	150
Max. radial load, 12mm from flange	N	120	240	360	360	360
Weight	Kg	0.26	0.36	0.46	0.56	0.56
Gearbox length	mm	37.3	51.8	66.3	80.8	80.8
Gear material		Steel	Steel	Steel	Steel	Steel

[1] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
N/A	-

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388
Mounting flange	781275

Controller	Part Number
SC 50/15	738950

Shaft extension	Part number
N/A	-

Combinations

GB28

Supplied as standard with a hollow shaft, the GB28 right-angle gearbox is compatible with the PBL42 and PBL60 BLDC motors and the BRx63 PMDC motor. Add a shaft extension kit to the GB28 for further customization.

PBL42-GB28

- Max. speed **267 rpm**
- Max. power **42 W**
- Max. torque **4.1 Nm**

BRx63-GB28

- Max. speed **200 rpm**
- Max. power **85 W**
- Max. torque **8.0 Nm**

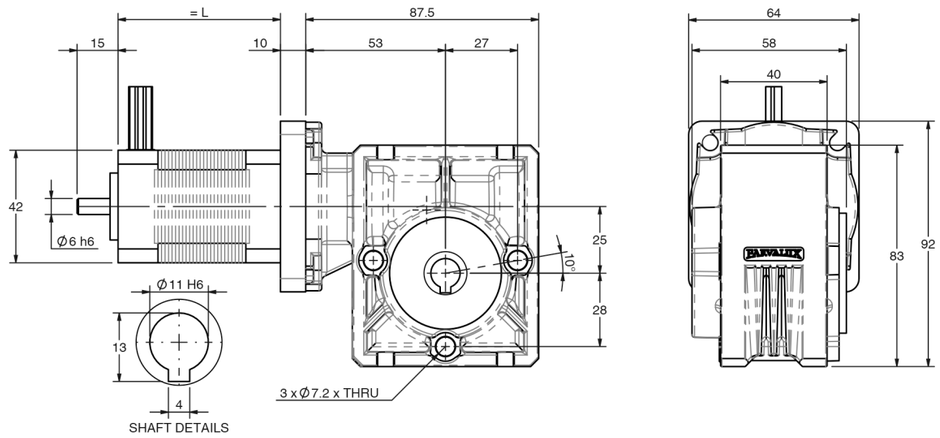
PBL60-GB28

- Max. speed **200 rpm**
- Max. power **157 W**
- Max. torque **8.0 Nm**

PBL42-GB28 BLDC right-angle geared motor

24 - 48 V // 26 - 42 W // 67 - 267 rpm // 0.7 - 4.1 Nm

all dimensions in mm



Combination data							
Motor		PBL42-15	PBL42-15	PBL42-15	PBL42-35	PBL42-35	PBL42-35
Voltage	V	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48
Nominal motor power	W	26	26	26	42	42	42
Gearbox ratio	:1	15	30	60	15	30	60
Nominal speed	rpm	267	133	67	267	133	67
Nominal torque [1]	Nm	0.7	1.2	1.7	1.1	2.0	2.7
Intermittent torque (S2 - 15 mins)	Nm	1.1	1.9	2.6	1.7	2.9	4.1

Motor data					
Part number		776614	776615	776616	776617
Nominal power	W	26	26	42	42
Nominal voltage	V	24	48	24	48
Nominal speed	rpm	4000	4000	4000	4000
Continuous torque (S1)	Nm	0.063	0.063	0.10	0.10
Intermittent torque (S2 - 15 minutes)	Nm	0.095	0.095	0.15	0.15
Weight	Kg	0.30	0.30	0.45	0.45
Stack length	mm	15	15	35	35
Length	mm	47	47	67	67

Connection details		
Lead colour	Lead gauge	Function
Red	UL1569/26 AWG	VCC
Black	UL1569/26 AWG	GND
Yellow	UL1569/26 AWG	Hall A
Green	UL1569/26 AWG	Hall B
Blue	UL1569/26 AWG	Hall C
Yellow	UL1569/20 AWG	Phase U
Green	UL1569/20 AWG	Phase V
Blue	UL1569/20 AWG	Phase W

Gearbox data				
Part number		735904	735906	735907
Ratio	:1	15	30	60
Max. continuous torque (S1) [2]	Nm	5.0	5.0	5.0
Max. intermittent torque	Nm	8.0	8.0	8.0
Efficiency	%	75	65	45
Max. axial load (dynamic)	N	300	300	300
Max. radial load, 12mm from flange	N	400	400	400
Weight	Kg	0.83	0.83	0.83
Gear material		Bronze	Bronze	Bronze

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
N/A	-

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388
Mounting flange	781275

Controller	Part Number
SC 50/15	738950

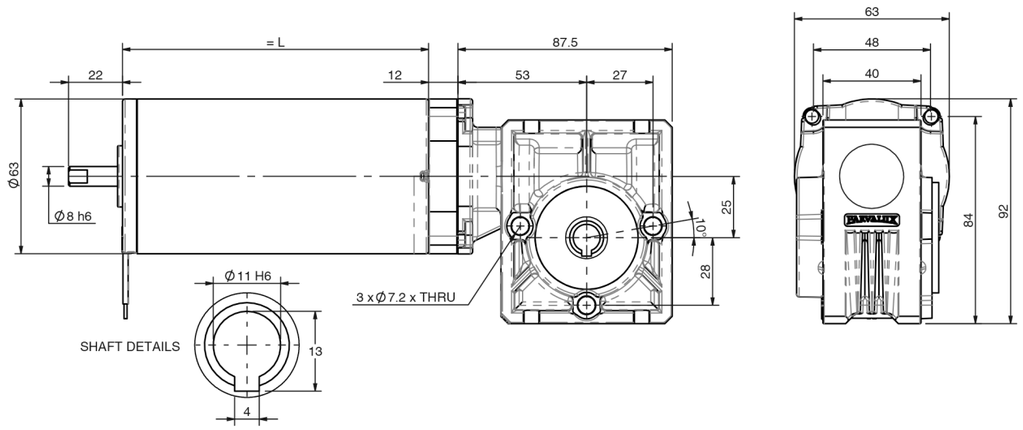
Shaft extension	Part number
GB28 shaft kit	735908

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

BRx63-GB28 PMDC right-angle geared motor

all dimensions in mm

12 - 48 V // 47 - 85 W // 42 - 200 rpm // 2.0 - 8.0 Nm



Combination data							
Motor		BRx63-25	BRx63-25	BRx63-25	BRx63-55	BRx63-55	BRx63-55
Voltage	V	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48
Nominal motor power	W	47 - 57	47 - 57	47 - 57	79 - 85	79 - 85	79 - 85
Gearbox ratio	:1	15	30	60	15	30	60
Nominal speed	rpm	167 - 200	83 - 100	42 - 50	187 - 200	93 - 100	47 - 50
Nominal torque [1]	Nm	2.0	3.5	4.9	3.0	5.0	5.0
Intermittent torque (S2 - 15 mins)	Nm	3.4	5.9	8.0	5.1	8.0	8.0

Motor data							
Part number		781083	781084	781085	781088	781089	781090
Nominal power	W	47	57	57	79	85	85
Nominal voltage	V	12	24	48	12	24	48
Nominal speed	rpm	2500	3000	3000	2800	3000	3000
Continuous torque (S1)	Nm	0.18	0.18	0.18	0.27	0.27	0.27
Intermittent torque (S2 - 15 minutes)	Nm	0.30	0.30	0.30	0.45	0.45	0.45
Weight	Kg	0.85	0.85	0.85	1.16	1.16	1.16
Stack length	mm	25	25	25	55	55	55
Length	mm	95	95	95	125	125	125

Gearbox data				
Part number		735904	735906	735907
Ratio	:1	15	30	60
Max. continuous torque (S1) [2]	Nm	5.0	5.0	5.0
Max. intermittent torque	Nm	8.0	8.0	8.0
Efficiency	%	75	65	45
Max. axial load (dynamic)	N	300	300	300
Max. radial load, 12mm from flange	N	400	400	400
Weight	Kg	0.83	0.83	0.83
Gear material		Bronze	Bronze	Bronze

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
1.5 Nm brake	735914
Mounting flange	781276

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388
Mounting flange	781275

Controller	Part Number
SC 50/15	738950

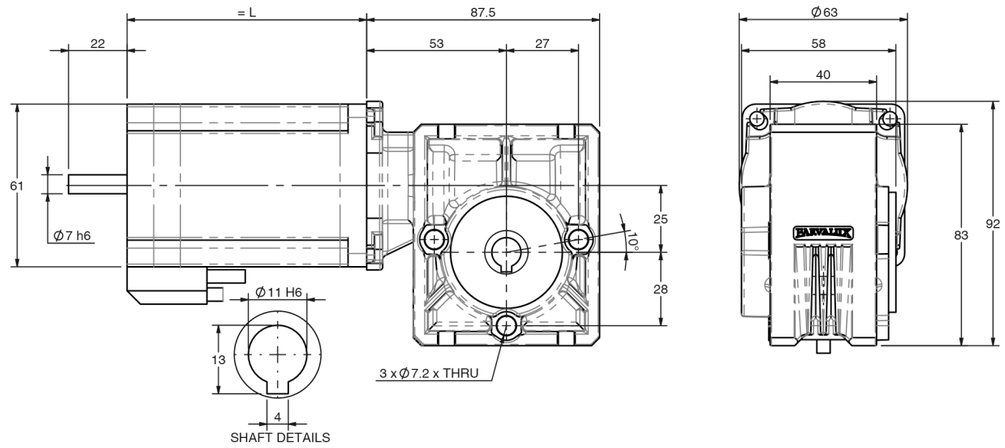
Shaft extension	Part number
GB28 shaft kit	735908

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

PBL60-GB28 BLDC right-angle geared motor

all dimensions in mm

24 - 48 V // 104 - 157 W // 50 - 200 rpm // 3.7 - 8.0 Nm



Combination data							
Motor		PBL60-50	PBL60-50	PBL60-50	PBL60-70	PBL60-70	PBL60-70
Voltage	V	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48
Nominal motor power	W	104	104	104	157	157	157
Gearbox ratio	:1	15	30	60	15	30	60
Nominal speed	rpm	200	100	50	200	100	50
Nominal torque [1]	Nm	3.7	5.0	5.0	5.0	5.0	5.0
Intermittent torque (S2 - 15 mins)	Nm	6.5	8.0	8.0	8.0	8.0	8.0

Motor data					
Part number		776618	776619	776620	776621
Nominal power	W	104	104	157	157
Nominal voltage	V	24	48	24	48
Nominal speed	rpm	3000	3000	3000	3000
Continuous torque (S1)	Nm	0.33	0.33	0.50	0.50
Intermittent torque (S2 - 15 minutes)	Nm	0.58	0.58	0.88	0.88
Weight	Kg	1.20	1.20	1.60	1.60
Stack length	mm	50	50	70	70
Length	mm	90	90	110	110

Connection details		
Lead colour	Lead gauge	Function
Red	UL1569/26 AWG	VCC
Black	UL1569/26 AWG	GND
Blue	UL1569/26 AWG	Hall A
Green	UL1569/26 AWG	Hall B
White	UL1569/26 AWG	Hall C
Red	UL3266/18 AWG	Phase U
Yellow	UL3266/18 AWG	Phase V
Black	UL3266/18 AWG	Phase W

Gearbox data				
Part number		735904	735906	735907
Ratio	:1	15	30	60
Max. continuous torque (S1) [2]	Nm	5.0	5.0	5.0
Max. intermittent torque	Nm	8.0	8.0	8.0
Efficiency	%	75	65	45
Max. axial load (dynamic)	N	300	300	300
Max. radial load, 12mm from flange	N	400	400	400
Weight	Kg	0.83	0.83	0.83
Gear material		Bronze	Bronze	Bronze

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
1.5 Nm brake	735914
Mounting flange	781281

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388
Mounting flange	781275

Controller	Part Number
SC 50/15	738950

Shaft extension	Part number
GB28 shaft kit	735908

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

Combinations

GB80

Supplied as standard with a hollow shaft, the GB80 right-angle gearbox is compatible with the BRx52, BRx63, and BRx70 PMDC motors and the PBL60 BLDC motor. Add a shaft extension kit to the GB80 for further customization.

BRx52-GB80

Max. speed **200 rpm**

Max. power **69 W**

Max. torque **10.0 Nm**

BRx63-GB80

Max. speed **200 rpm**

Max. power **85 W**

Max. torque **10.0 Nm**

PBL60-GB80

Max. speed **200 rpm**

Max. power **157 W**

Max. torque **13.0 Nm**

BRx70-GB80

Max. speed **200 rpm**

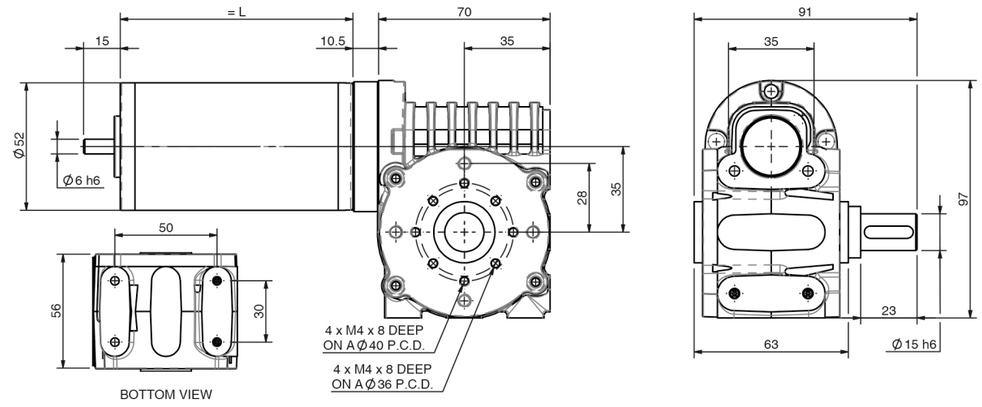
Max. power **157 W**

Max. torque **13.0 Nm**

BRx52-GB80 PMDC right-angle geared motor

12 - 48 V // 28 - 69 W // 48 - 200 rpm // 1.0 - 10.0 Nm

all dimensions in mm



Combination data							
Motor		BRx52-30	BRx52-30	BRx52-30	BRx52-58	BRx52-58	BRx52-58
Voltage	V	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48
Nominal motor power	W	28	28	28	48 - 69	48 - 69	48 - 69
Gearbox ratio	:1	15	30	60	15	30	60
Nominal speed	rpm	200	100	50	190 - 200	95 - 100	48 - 50
Nominal torque [1]	Nm	1.0	1.9	2.9	1.8 - 2.5	3.4 - 4.6	5.2 - 6.0
Intermittent torque (S2 - 15 mins)	Nm	1.7	3.2	4.9	4.0	7.4	10.0

Motor data							
Part number		787108	787109	787110	787111	787113	787114
Nominal power	W	28	28	28	48	69	69
Nominal voltage	V	12	24	48	12	24	48
Nominal speed	rpm	3000	3000	3000	2850	3000	3000
Continuous torque (S1)	Nm	0.09	0.09	0.09	0.16	0.22	0.22
Intermittent torque (S2 - 15 minutes)	Nm	0.15	0.15	0.15	0.35	0.35	0.35
Weight	Kg	0.85	0.85	0.85	1.16	1.16	1.16
Stack length	mm	30	30	30	58	58	58
Length	mm	95	95	95	125	125	125

Gearbox data				
Part number		888018	888020	888021
Ratio	:1	15	30	60
Max. continuous torque (S1) [2]	Nm	8.0	8.0	6.0
Max. intermittent torque	Nm	13.0	13.0	10.0
Efficiency	%	77	70	54
Max. axial load (dynamic)	N	300	300	300
Max. radial load, 12mm from flange	N	350	350	350
Weight	Kg	0.7	0.7	0.7
Gear material		Composite	Composite	Composite

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
N/A	-

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388
Mounting flange	837660

Controller	Part Number
SC 50/15	738590

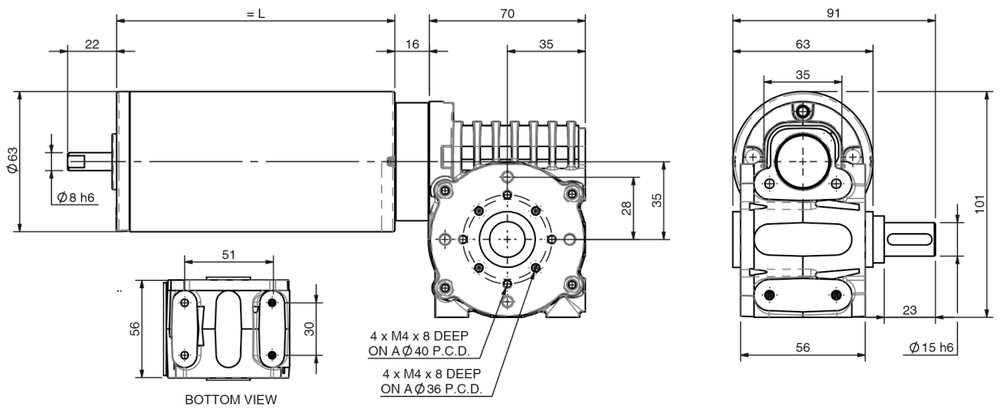
Shaft extension	Part number
GB80 shaft kit	860809

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

BRx63-GB80 PMDC right-angle geared motor

all dimensions in mm

12 - 48 V // 47 - 85 W // 42 - 200 rpm // 2.1 - 10.0 Nm



Combination data							
Motor		BRx63-25	BRx63-25	BRx63-25	BRx63-55	BRx63-55	BRx63-55
Voltage	V	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48
Nominal motor power	W	47 - 57	47 - 57	47 - 57	79 - 85	79 - 85	79 - 85
Gearbox ratio	:1	15	30	60	15	30	60
Nominal speed	rpm	167 - 200	83 - 100	42 - 50	187 - 200	93 - 100	47 - 50
Nominal torque [1]	Nm	2.1	3.8	5.8	3.1	5.7	6.0
Intermittent torque (S2 - 15 mins)	Nm	3.5	6.3	9.7	5.2	9.5	10.0

Motor data							
Part number		781083	781084	781085	781088	781089	781090
Nominal power	W	47	57	57	79	85	85
Nominal voltage	V	12	24	48	12	24	48
Nominal speed	rpm	2500	3000	3000	2800	3000	3000
Continuous torque (S1)	Nm	0.18	0.18	0.18	0.27	0.27	0.27
Intermittent torque (S2 - 15 minutes)	Nm	0.30	0.30	0.30	0.45	0.45	0.45
Weight	Kg	0.85	0.85	0.85	1.16	1.16	1.16
Stack length	mm	25	25	25	55	55	55
Length	mm	95	95	95	125	125	125

Gearbox data				
Part number		888018	888020	888021
Ratio	:1	15	30	60
Max. continuous torque (S1) [2]	Nm	8.0	8.0	6.0
Max. intermittent torque	Nm	13.0	13.0	10.0
Efficiency	%	77	70	54
Max. axial load (dynamic)	N	300	300	300
Max. radial load, 12mm from flange	N	350	350	350
Weight	Kg	0.7	0.7	0.7
Gear material		Composite	Composite	Composite

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
1.5 Nm brake	735914
Mounting flange	781276

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388
Mounting flange	781276

Controller	Part Number
SC 50/15	738590

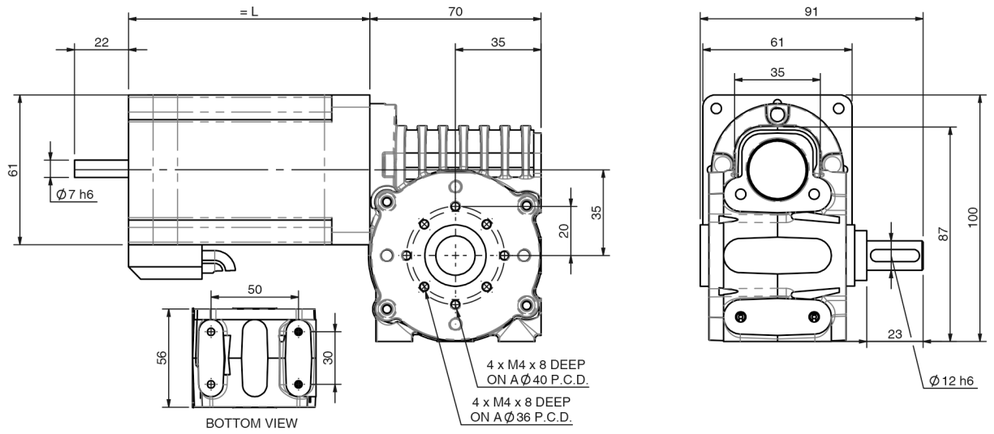
Shaft extension	Part number
GB80 shaft kit	860809

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

PBL60-GB80 BLDC right-angle geared motor

all dimensions in mm

24 - 48 V // 104 - 157 W // 50 - 200 rpm // 3.8 - 13.0 Nm



Combination data							
Motor		PBL60-50	PBL60-50	PBL60-50	PBL60-70	PBL60-70	PBL60-70
Voltage	V	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48
Nominal motor power	W	104	104	104	157	157	157
Gearbox ratio	:1	15	30	60	15	30	60
Nominal speed	rpm	200	100	50	200	100	50
Nominal torque [1]	Nm	3.8	6.9	6.0	5.8	8.0	6.0
Intermittent torque (S2 - 15 mins)	Nm	6.7	12.2	10.0	10.2	13.0	10.0

Motor data					
Part number		776618	776619	776620	776621
Nominal power	W	104	104	157	157
Nominal voltage	V	24	48	24	48
Nominal speed	rpm	3000	3000	3000	3000
Continuous torque (S1)	Nm	0.33	0.33	0.50	0.50
Intermittent torque (S2 - 15 minutes)	Nm	0.58	0.58	0.88	0.88
Weight	Kg	1.20	1.20	1.60	1.60
Stack length	mm	50	50	70	70
Length	mm	90	90	110	110

Connection details		
Lead colour	Lead gauge	Function
Red	UL1569/26 AWG	VCC
Black	UL1569/26 AWG	GND
Blue	UL1569/26 AWG	Hall A
Green	UL1569/26 AWG	Hall B
White	UL1569/26 AWG	Hall C
Red	UL3266/18 AWG	Phase U
Yellow	UL3266/18 AWG	Phase V
Black	UL3266/18 AWG	Phase W

Gearbox data				
Part number		888018	888020	888021
Ratio	:1	15	30	60
Max. continuous torque (S1) [2]	Nm	8.0	8.0	6.0
Max. intermittent torque	Nm	13.0	13.0	10.0
Efficiency	%	77	70	54
Max. axial load (dynamic)	N	300	300	300
Max. radial load, 12mm from flange	N	350	350	350
Weight	Kg	0.7	0.7	0.7
Gear material		Composite	Composite	Composite

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
1.5 Nm brake	735914
Mounting flange	781281

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388

Controller	Part Number
SC 50/15	738590

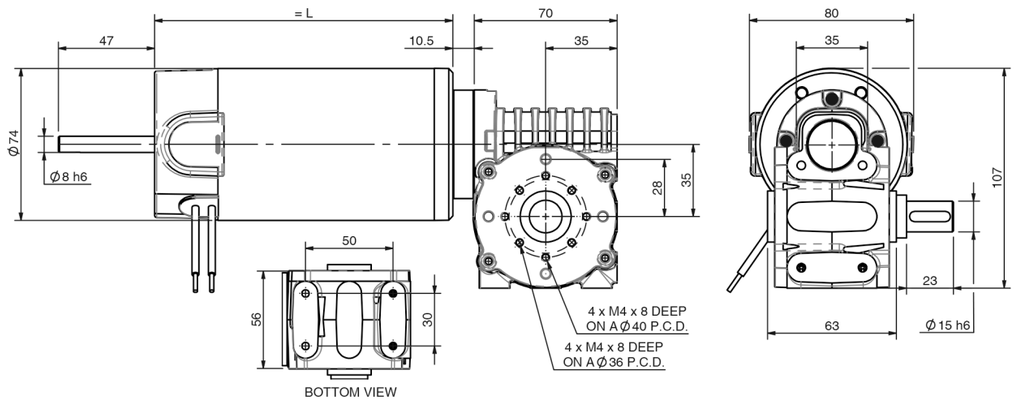
Shaft extension	Part number
GB80 shaft kit	860809

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

BRx70-GB80 PMDC right-angle geared motor

12 - 48 V // 79 - 157 W // 50 - 200 rpm // 2.9 - 13.0 Nm

all dimensions in mm



Combination data							
Motor		BRx70-40	BRx70-40	BRx70-40	BRx70-60	BRx70-60	BRx70-60
Voltage	**V**	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48
Nominal motor power	**W**	79	79	79	157	157	157
Gearbox ratio	**:1**	15	30	60	15	30	60
Nominal speed	**rpm**	200	100	50	200	100	50
Nominal torque [1]	**Nm**	2.9	5.3	6.0	5.8	8.0	6.0
Intermittent torque (S2 - 15 mins)	**Nm**	4.9	8.8	10.0	10.2	13.0	10.0

Motor data							
Part number		781092	781093	781094	781095	781096	781097
Nominal power	**W**	79	79	79	157	157	157
Nominal voltage	**V**	12	24	48	12	24	48
Nominal speed	**rpm**	3000	3000	3000	3000	3000	3000
Continuous torque (S1)	**Nm**	0.25	0.25	0.25	0.50	0.50	0.50
Intermittent torque (S2 - 15 minutes)	**Nm**	0.42	0.42	0.42	0.88	0.88	0.88
Weight	**Kg**	1.85	1.85	1.85	2.25	2.25	2.25
Stack length	**mm**	40	40	40	60	60	60
Length	**mm**	125	125	125	146	146	146

Gearbox data					
Part number		888018	888020	888021	
Ratio	**:1**	15	30	60	
Max. continuous torque (S1) [2]	**Nm**	8.0	8.0	6.0	
Max. intermittent torque	**Nm**	13.0	13.0	10.0	
Efficiency	**%**	77	70	54	
Max. axial load (dynamic)	**N**	300	300	300	
Max. radial load, 12mm from flange	**N**	350	350	350	
Weight	**Kg**	0.7	0.7	0.7	
Gear material		Composite	Composite	Composite	

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
1.5 Nm brake	735914
Mounting flange	781277

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388

Controller	Part Number
SC 50/15	738590

Shaft extension	Part number
GB80 shaft kit	860809

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

Notes

Combinations

GB12

Supplied as standard with a hollow shaft, the GB12 right-angle gearbox is compatible with the BRx70 and BRx90 PMDC motors and the PBL60, PBL70, and PBL86 BLDC motor. Add a shaft extension kit to the GB12 for further customization.

PBL60-GB12

Max. speed **200 rpm**
Max. power **157 W**
Max. torque **26.4 Nm**

BRx70-GB12

Max. speed **200 rpm**
Max. power **157 W**
Max. torque **26.4 Nm**

PBL70-GB12

Max. speed **300 rpm**
Max. power **415 W**
Max. torque **46.2 Nm**

BRx90-GB12

Max. speed **200 rpm**
Max. power **283 W**
Max. torque **45.0 Nm**

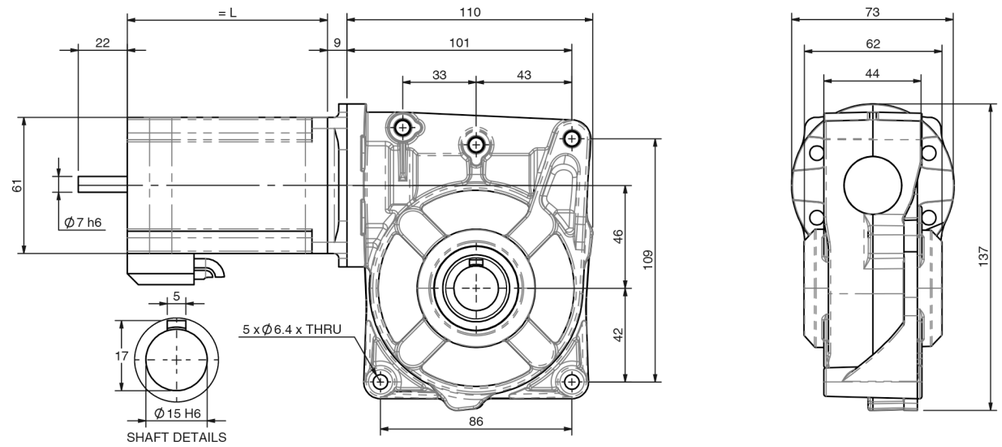
PBL86-GB12

Max. speed **267 rpm**
Max. power **586 W**
Max. torque **48.0 Nm**

PBL60-GB12 BLDC right-angle geared motor

24 - 48 V // 104 - 157 W // 50 - 200 rpm // 3.7 - 26.4 Nm

all dimensions in mm



Combination data							
Motor		PBL60-50	PBL60-50	PBL60-50	PBL60-70	PBL60-70	PBL60-70
Voltage	V	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48
Nominal motor power	W	104	104	104	157	157	157
Gearbox ratio	:1	15	30	60	15	30	60
Nominal speed	rpm	200	100	50	200	100	50
Nominal torque [1]	Nm	3.7	6.4	9.9	5.6	9.8	15.0
Intermittent torque (S2 - 15 mins)	Nm	6.5	11.3	17.4	9.9	17.2	26.4

Motor data					
Part number		776618	776619	776620	776621
Nominal power	W	104	104	157	157
Nominal voltage	V	24	48	24	48
Nominal speed	rpm	3000	3000	3000	3000
Continuous torque (S1)	Nm	0.33	0.33	0.50	0.50
Intermittent torque (S2 - 15 minutes)	Nm	0.58	0.58	0.88	0.88
Weight	Kg	1.20	1.20	1.60	1.60
Stack length	mm	50	50	70	70
Length	mm	90	90	110	110

Connection details		
Lead colour	Lead gauge	Function
Red	UL1569/26 AWG	VCC
Black	UL1569/26 AWG	GND
Blue	UL1569/26 AWG	Hall A
Green	UL1569/26 AWG	Hall B
White	UL1569/26 AWG	Hall C
Red	UL3266/18 AWG	Phase U
Yellow	UL3266/18 AWG	Phase V
Black	UL3266/18 AWG	Phase W

Gearbox data				
Part number		735900	735901	735902
Ratio	:1	15	30	60
Max. continuous torque (S1) [2]	Nm	30.0	30.0	30.0
Max. intermittent torque	Nm	48.0	48.0	48.0
Efficiency	%	75	65	50
Max. axial load (dynamic)	N	600	600	600
Max. radial load, 12mm from flange	N	800	800	800
Weight	Kg	1.5	1.5	1.5
Gear material		Bronze	Bronze	Bronze

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
1.5 Nm brake	735914
Mounting flange	781281

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388

Controller	Part Number
SC 50/15	738590

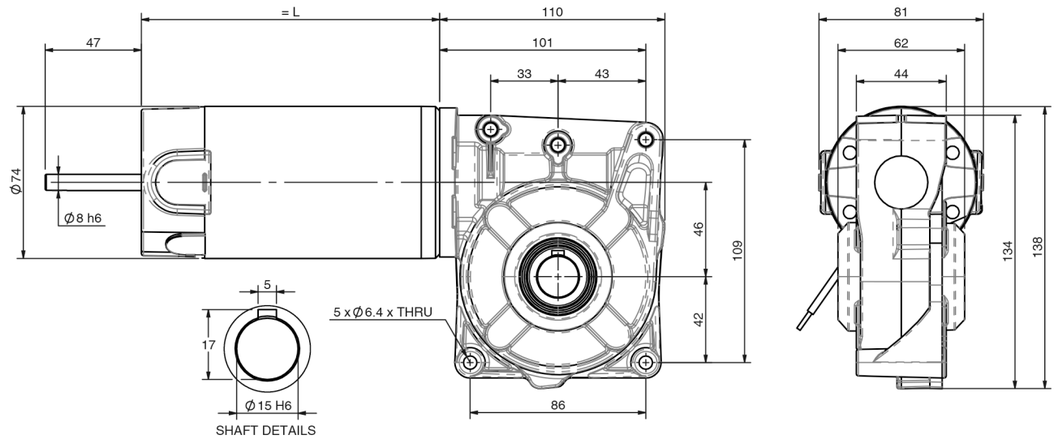
Shaft extension	Part number
GB12 shaft kit	735903

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

BRx70-GB12 PMDC right-angle geared motor

12 - 48 V // 79 - 157 W // 50 - 200 rpm // 2.8 - 26.4 Nm

all dimensions in mm



Combination data							
Motor		BRx70-40	BRx70-40	BRx70-40	BRx70-60	BRx70-60	BRx70-60
Voltage	V	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48
Nominal motor power	W	79	79	79	157	157	157
Gearbox ratio	:1	15	30	60	15	30	60
Nominal speed	rpm	200	100	50	200	100	50
Nominal torque [1]	Nm	2.8	4.9	7.5	5.6	9.8	15.0
Intermittent torque (S2 - 15 mins)	Nm	4.7	8.2	12.6	9.9	17.2	26.4

Motor data							
Part number		781092	781093	781094	781095	781096	781097
Nominal power	W	79	79	79	157	157	157
Nominal voltage	V	12	24	48	12	24	48
Nominal speed	rpm	3000	3000	3000	3000	3000	3000
Continuous torque (S1)	Nm	0.25	0.25	0.25	0.50	0.50	0.50
Intermittent torque (S2 - 15 minutes)	Nm	0.42	0.42	0.42	0.88	0.88	0.88
Weight	Kg	1.85	1.85	1.85	2.25	2.25	2.25
Stack length	mm	40	40	40	60	60	60
Length	mm	125	125	125	146	146	146

Gearbox data				
Part number		735900	735901	735902
Ratio	:1	15	30	60
Max. continuous torque (S1) [2]	Nm	30.0	30.0	30.0
Max. intermittent torque	Nm	48.0	48.0	48.0
Efficiency	%	75	65	50
Max. axial load (dynamic)	N	600	600	600
Max. radial load, 12mm from flange	N	800	800	800
Weight	Kg	1.5	1.5	1.5
Gear material		Bronze	Bronze	Bronze

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
1.5 Nm brake	735914
Mounting flange	781277

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388

Controller	Part Number
SC 50/15	738590

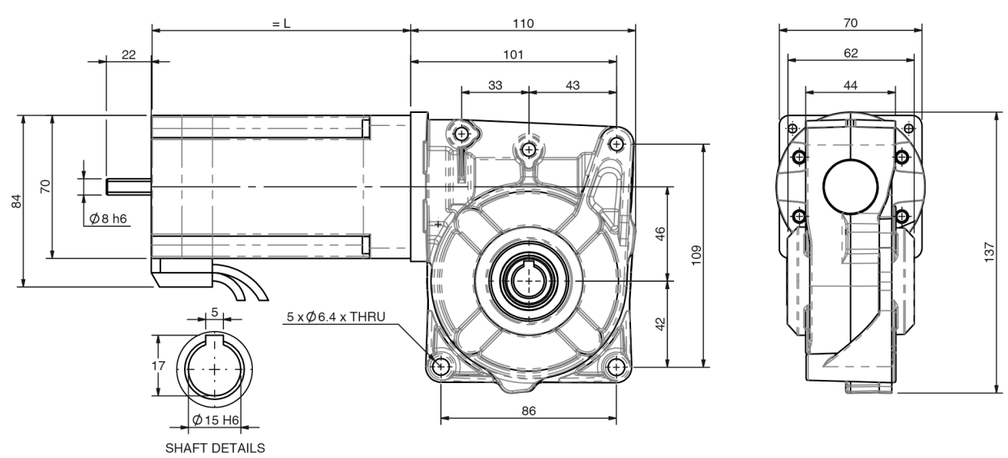
Shaft extension	Part number
GB12 shaft kit	735903

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

PBL70-GB12 BLDC right-angle geared motor

48 V // 363 - 415 W // 75 - 300 rpm // 8.7 - 46.2 Nm

all dimensions in mm



Combination data							
Motor		PBL70-70	PBL70-70	PBL70-70	PBL70-80	PBL70-80	PBL70-80
Voltage	V	48	48	48	48	48	48
Nominal motor power	W	363	363	363	415	415	415
Gearbox ratio	:1	15	30	60	15	30	60
Nominal speed	rpm	300	150	75	300	150	75
Nominal torque [1]	Nm	8.7	15.0	23.1	9.9	17.2	26.4
Intermittent torque (S2 - 15 mins)	Nm	15.2	26.3	40.5	17.3	30.0	46.2

Motor data			
Part number		776622	776623
Nominal power	W	363	415
Nominal voltage	V	48	48
Nominal speed	rpm	4500	4500
Continuous torque (S1)	Nm	0.77	0.88
Intermittent torque (S2 - 15 minutes)	Nm	1.35	1.54
Weight	Kg	2.20	2.60
Stack length	mm	40	60
Length	mm	114	124

Connection details

Lead colour	Lead gauge	Function
Red	UL1569/26 AWG	VCC
Black	UL1569/26 AWG	GND
Blue	UL1569/26 AWG	Hall A
Green	UL1569/26 AWG	Hall B
White	UL1569/26 AWG	Hall C
Red	UL3266/16 AWG	Phase U
Yellow	UL3266/16 AWG	Phase V
Black	UL3266/16 AWG	Phase W

Gearbox data				
Part number		735900	735901	735902
Ratio	:1	15	30	60
Max. continuous torque (S1) [2]	Nm	30.0	30.0	30.0
Max. intermittent torque	Nm	48.0	48.0	48.0
Efficiency	%	75	65	50
Max. axial load (dynamic)	N	600	600	600
Max. radial load, 12mm from flange	N	800	800	800
Weight	Kg	1.5	1.5	1.5
Gear material		Bronze	Bronze	Bronze

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
1.5 Nm brake	735914
Mounting flange	781281

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388

Controller	Part Number
SC 50/15	738590

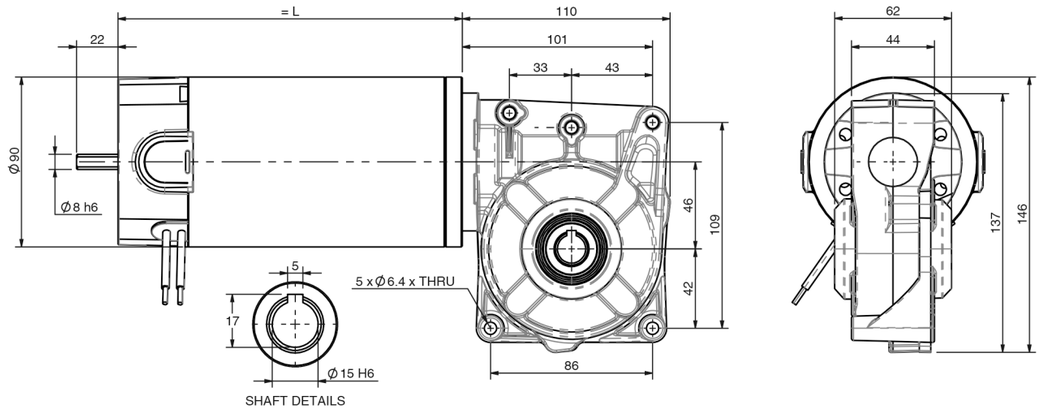
Shaft extension	Part number
GB12 shaft kit	735903

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

BRx90-GB12 PMDC right-angle geared motor

all dimensions in mm

12 - 48 V // 157 - 283 W // 42 - 200 rpm // 5.6 - 45.0 Nm



Combination data							
Motor		BRx90-50	BRx90-50	BRx90-50	BRx90-75	BRx90-75	BRx90-75
Voltage	V	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48
Nominal motor power	W	157 - 210	157 - 210	157 - 210	236 - 283	236 - 283	236 - 283
Gearbox ratio	:1	15	30	60	15	30	60
Nominal speed	rpm	200	100	50	167 - 200	83 - 100	42 - 50
Nominal torque [1]	Nm	5.6 - 7.5	9.8 - 13.1	15.0 - 20.1	10.1	17.6	27.0
Intermittent torque (S2 - 15 mins)	Nm	13.2	22.8	35.1	16.9	29.3	45.0

Motor data							
Part number		781102	781103	781104	781106	781107	781108
Nominal power	W	157	210	210	236	283	283
Nominal voltage	V	12	24	48	12	24	48
Nominal speed	rpm	3000	3000	3000	2500	3000	3000
Continuous torque (S1)	Nm	0.50	0.67	0.67	0.90	0.90	0.90
Intermittent torque (S2 - 15 minutes)	Nm	1.17	1.17	1.17	1.50	1.50	1.50
Weight	Kg	3.60	3.60	3.60	4.00	4.00	4.00
Stack length	mm	50	50	50	75	75	75
Length	mm	153	153	153	183	183	183

Gearbox data				
Part number		735900	735901	735902
Ratio	:1	15	30	60
Max. continuous torque (S1) [2]	Nm	30.0	30.0	30.0
Max. intermittent torque	Nm	48.0	48.0	48.0
Efficiency	%	75	65	50
Max. axial load (dynamic)	N	600	600	600
Max. radial load, 12mm from flange	N	800	800	800
Weight	Kg	1.5	1.5	1.5
Gear material		Bronze	Bronze	Bronze

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
1.5 Nm brake	735914
Mounting flange	781279

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388

Controller	Part Number
SC 50/15	738590

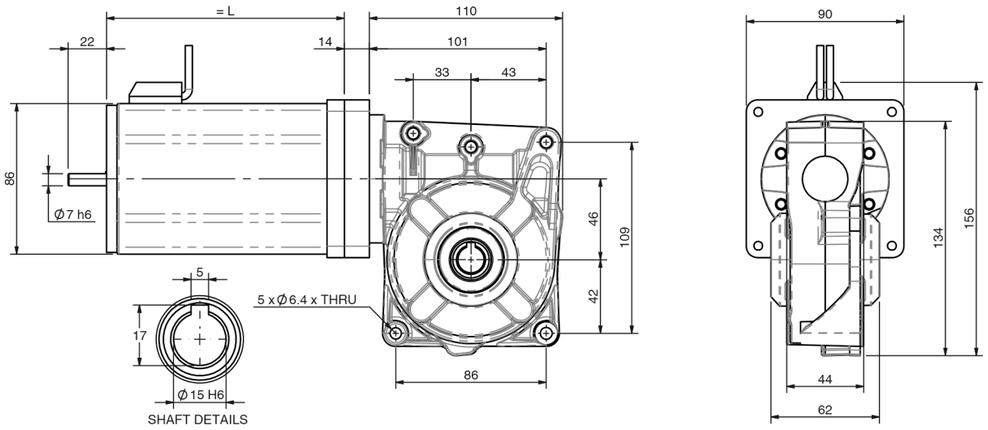
Shaft extension	Part number
GB12 shaft kit	735903

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

PBL86-GB12 BLDC right-angle geared motor

all dimensions in mm

48 V // 419 - 586 W // 67 - 267 rpm // 11.3 - 48.0 Nm



Combination data							
Motor		PBL86-55	PBL86-55	PBL86-55	PBL86-80	PBL86-80	PBL86-80
Voltage	V	48	48	48	48	48	48
Nominal motor power	W	419	419	419	586	586	586
Gearbox ratio	:1	15	30	60	15	30	60
Nominal speed	rpm	267	133	67	267	133	67
Nominal torque [1]	Nm	11.3	19.5	30.0	15.8	27.3	30.0
Intermittent torque (S2 - 15 mins)	Nm	19.7	34.1	48.0	27.6	47.8	48.0

Motor data			
Part number		776624	776625
Nominal power	W	419	586
Nominal voltage	V	48	48
Nominal speed	rpm	4000	4000
Continuous torque (S1)	Nm	1.00	1.40
Intermittent torque (S2 - 15 minutes)	Nm	1.75	2.45
Weight	Kg	3.20	4.20
Stack length	mm	55	80
Length	mm	111	136

Connection details		
Lead colour	Lead gauge	Function
Red	UL1569/26 AWG	VCC
Black	UL1569/26 AWG	GND
Blue	UL1569/26 AWG	Hall A
Green	UL1569/26 AWG	Hall B
White	UL1569/26 AWG	Hall C
Red	UL1569/14 AWG	Phase U
Yellow	UL1569/14 AWG	Phase V
Black	UL1569/14 AWG	Phase W

Gearbox data				
Part number		735900	735901	735902
Ratio	:1	15	30	60
Max. continuous torque (S1) [2]	Nm	30.0	30.0	30.0
Max. intermittent torque	Nm	48.0	48.0	48.0
Efficiency	%	75	65	50
Max. axial load (dynamic)	N	600	600	600
Max. radial load, 12mm from flange	N	800	800	800
Weight	Kg	1.5	1.5	1.5
Gear material		Bronze	Bronze	Bronze

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
1.5 Nm brake	735914
Mounting flange	781284

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388

Controller	Part Number
SC 50/15	738590

Shaft extension	Part number
GB12 shaft kit	735903

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

Combinations

GB56

Supplied as standard with a hollow shaft, the GB56 right-angle gearbox is compatible with the RE38 PMDC motor, offering high levels of torque in a compact, slimline package.

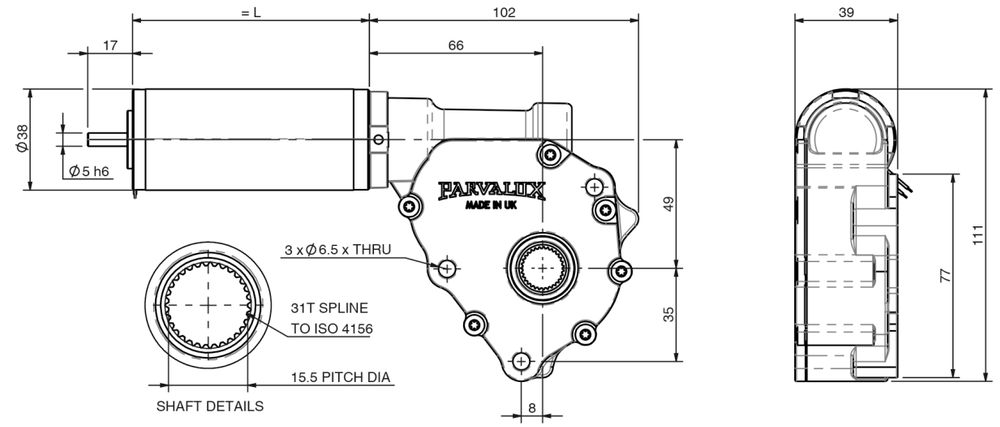
RE38-GB56

- Max. speed **108 rpm**
- Max. power **40 W**
- Max. torque **4.5 Nm**

RE38-GB56 PMDC right-angle geared motor

24 - 48 V // 24 - 40 W // 46 - 108 rpm // 1.2 - 4.5 Nm

all dimensions in mm



Combination data											
Motor		RE38-25	RE38-25	RE38-25	RE38-25	RE38-25	RE38-40	RE38-40	RE38-40	RE38-40	RE38-40
Voltage	**V**	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48	24 - 48
Nominal motor power	**W**	24	24	24	24	24	40	40	40	40	40
Gearbox ratio	**:1**	30	40	48	60	70	30	40	48	60	70
Nominal speed	**rpm**	108	81	68	54	46	107	80	67	53	46
Nominal torque [1]	**Nm**	1.2	1.5	1.7	1.8	1.8	2.1	2.6	2.9	3.1	3.0
Intermittent torque (S2 - 15 mins)	**Nm**	1.9	2.4	2.6	2.8	2.8	3.2	3.9	4.3	4.6	4.5

Motor data						
Part number		857662	857663	857664	857665	
Nominal power	**W**	24	24	40	40	
Nominal voltage	**V**	24	48	24	48	
Nominal speed	**rpm**	3250	3250	3200	3200	
Continuous torque (S1)	**Nm**	0.07	0.07	0.12	0.12	
Intermittent torque (S2 - 15 minutes)	**Nm**	0.11	0.11	0.18	0.18	
Weight	**Kg**	0.30	0.30	0.40	0.40	
Stack length	**mm**	25	25	40	40	
Length	**mm**	70	70	90	90	

Gearbox data						
Part number		861141	861142	861143	861144	861145
Ratio	**:1**	30	40	48	60	70
Max. continuous torque (S1) [2]	**Nm**	8.0	8.0	8.0	8.0	8.0
Max. intermittent torque	**Nm**	50.0	50.0	50.0	50.0	50.0
Efficiency	**%**	59	54	50	43	36
Max. axial load (dynamic)	**N**	300	300	300	300	300
Max. radial load, 12mm from flange	**N**	400	400	400	400	400
Weight	**Kg**	0.6	0.6	0.6	0.6	0.6
Gear material		Composite	Composite	Composite	Composite	Composite

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
N/A	-

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388
Mounting flange	781275

Controller	Part Number
SC 50/15	738950

Shaft extension	Part number
N/A	-

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

Combinations

GB9

Supplied as standard with a hollow shaft, the GB9 right-angle gearbox is compatible with the BRx90 PMDC motor and the PBL86 BLDC motor. Add a shaft extension kit to the GB9 for further customization.

BRx90-GB9

Max. speed **200 rpm**

Max. power **283 W**

Max. torque **58.5 Nm**

PBL86-GB9

Max. speed **267 rpm**

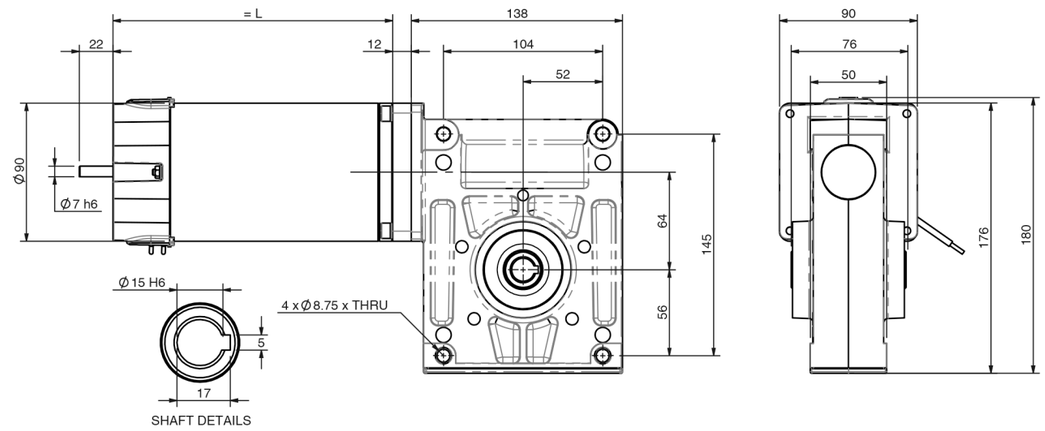
Max. power **586 W**

Max. torque **80.0 Nm**

BRx90-GB9 PMDC right-angle geared motor

12 - 48 V // 157 - 283 W // 42 - 200 rpm // 6.4 - 58.5 Nm

all dimensions in mm



SHAFT DETAILS

Combination data							
Motor		BRx90-50	BRx90-50	BRx90-50	BRx90-75	BRx90-75	BRx90-75
Voltage	V	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48
Nominal motor power	W	157 - 210	157 - 210	157 - 210	236 - 283	236 - 283	236 - 283
Gearbox ratio	:1	15	30	60	15	30	60
Nominal speed	rpm	200	100	50	167 - 200	83 - 100	42 - 50
Nominal torque [1]	Nm	6.4 - 8.5	11.3 - 15.1	19.5 - 26.1	11.5	20.3	35.1
Intermittent torque (S2 - 15 mins)	Nm	14.9	26.3	45.6	19.1	33.8	58.5

Motor data							
Part number		781102	781103	781104	781106	781107	781108
Nominal power	W	157	210	210	236	283	283
Nominal voltage	V	12	24	48	12	24	48
Nominal speed	rpm	3000	3000	3000	3000	3000	3000
Continuous torque (S1)	Nm	0.50	0.67	0.67	0.90	0.90	0.90
Intermittent torque (S2 - 15 minutes)	Nm	1.17	1.17	1.17	1.50	1.50	1.50
Weight	Kg	3.60	3.60	3.60	4.00	4.00	4.00
Stack length	mm	50	50	50	75	75	75
Length	mm	153	153	153	183	183	183

Gearbox data				
Part number		735900	735901	735902
Ratio	:1	15	30	60
Max. continuous torque (S1) [2]	Nm	50.0	50.0	50.0
Max. intermittent torque	Nm	80.0	80.0	80.0
Efficiency	%	85	75	65
Max. axial load (dynamic)	N	600	600	600
Max. radial load, 12mm from flange	N	800	800	800
Weight	Kg	2.3	2.3	2.3
Gear material		Composite	Composite	Composite

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
1.5 Nm brake	735914
Mounting flange	781279

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388

Controller	Part Number
SC 50/15	738590

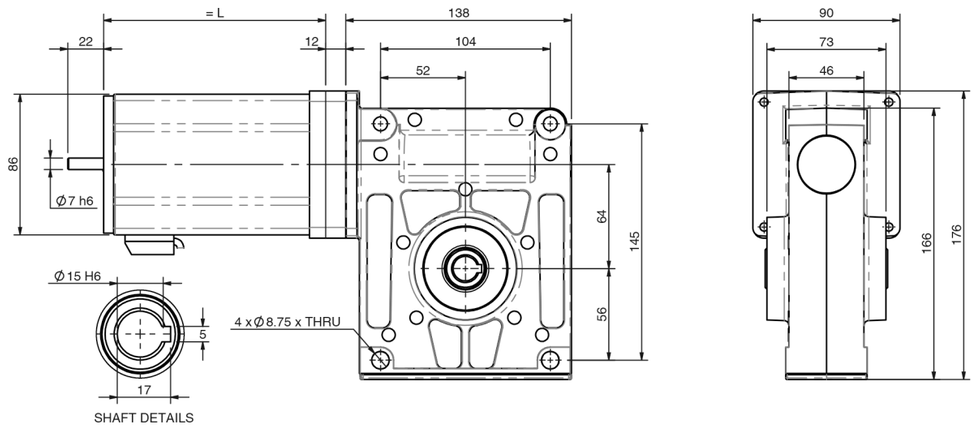
Shaft extension	Part number
GB9 shaft kit	735898

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

PBL86-GB9 BLDC right-angle geared motor

48 V // 419 - 586 W // 67 - 267 rpm // 12.8 - 80.0 Nm

all dimensions in mm



Combination data							
Motor		PBL86-55	PBL86-55	PBL86-55	PBL86-80	PBL86-80	PBL86-80
Voltage	V	48	48	48	48	48	48
Nominal motor power	W	419	419	419	586	586	586
Gearbox ratio	:1	15	30	60	15	30	60
Nominal speed	rpm	267	133	67	267	133	67
Nominal torque [1]	Nm	12.8	22.5	39.0	17.9	31.5	50.0
Intermittent torque (S2 - 15 mins)	Nm	22.3	39.4	68.3	31.2	55.1	80.0

Motor data			
Part number		776624	776625
Nominal power	W	419	586
Nominal voltage	V	48	48
Nominal speed	rpm	4000	4000
Continuous torque (S1)	Nm	1.00	1.40
Intermittent torque (S2 - 15 minutes)	Nm	1.75	2.45
Weight	Kg	3.20	4.20
Stack length	mm	55	80
Length	mm	111	136

Connection details		
Lead colour	Lead gauge	Function
Red	UL1569/26 AWG	VCC
Black	UL1569/26 AWG	GND
Blue	UL1569/26 AWG	Hall A
Green	UL1569/26 AWG	Hall B
White	UL1569/26 AWG	Hall C
Red	UL1569/14 AWG	Phase U
Yellow	UL1569/14 AWG	Phase V
Black	UL1569/14 AWG	Phase W

Gearbox data				
Part number		735900	735901	735902
Ratio	:1	15	30	60
Max. continuous torque (S1) [2]	Nm	50.0	50.0	50.0
Max. intermittent torque	Nm	80.0	80.0	80.0
Efficiency	%	85	75	65
Max. axial load (dynamic)	N	600	600	600
Max. radial load, 12mm from flange	N	800	800	800
Weight	Kg	2.3	2.3	2.3
Gear material		Composite	Composite	Composite

[2] S1 duty cycle based on 3000rpm input speed

Combination accessories

Brake	Part number
1.5 Nm brake	735914
Mounting flange	781284

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388

Controller	Part Number
SC 50/15	738590

Shaft extension	Part number
GB9 shaft kit	735898

Notes

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

Combinations

GB65

Supplied as standard with a hollow shaft, the GB65 right-angle gearbox is compatible with the BRx90 PMDC motor and the PBL86 BLDC motor. Add a shaft extension kit to the GB65 for further customization.

BRx90-GB65

Max. speed **150 rpm**

Max. power **283 W**

Max. torque **108.0 Nm**

PBL86-GB65

Max. speed **200 rpm**

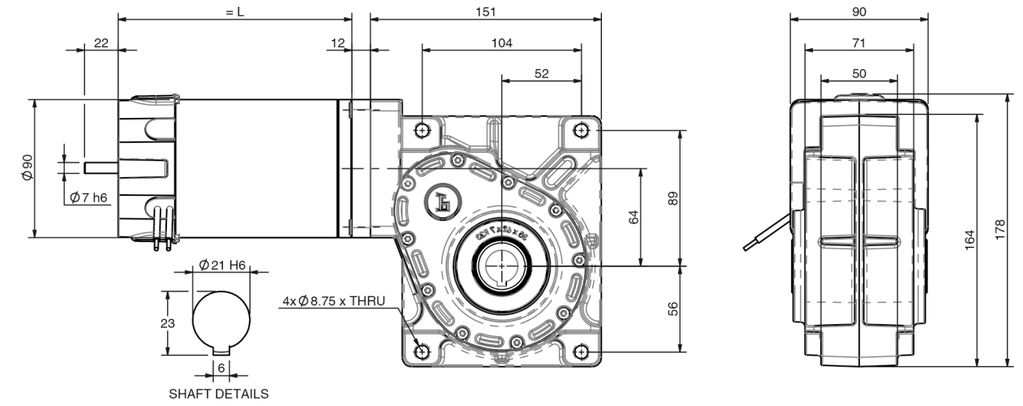
Max. power **586 W**

Max. torque **176.4 Nm**

BRx90-GB65 PMDC right-angle geared motor

12 - 48 V // 157 - 283 W // 19 - 150 rpm // 8.1 - 103.2 Nm

all dimensions in mm



Combination data											
Motor		BRx90-50	BRx90-50	BRx90-50	BRx90-50	BRx90-50	BRx90-75	BRx90-75	BRx90-75	BRx90-75	BRx90-75
Voltage	V	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48	12 - 48
Nominal motor power	W	157 - 210	157 - 210	157 - 210	157 - 210	157 - 210	236 - 283	236 - 283	236 - 283	236 - 283	236 - 283
Gearbox ratio	:1	20	40	80	120	160	20	40	80	120	160
Nominal speed	rpm	150	75	38	25	19	125 - 150	63 - 75	31 - 38	21 - 25	16 - 19
Nominal torque [1]	Nm	8.1 - 10.9	15.2 - 20.4	28.0 - 37.5	36.0 - 48.2	34.4 - 46.1	14.6	27.4	50.4	64.8	61.9
Intermittent torque (S2 - 15 mins)	Nm	19.0	35.6	65.5	84.2	80.5	24.3	45.6	84.0	108.0	103.2

Motor data							
Part number		781102	781103	781104	781106	781107	781108
Nominal power	W	157	210	210	236	283	283
Nominal voltage	V	12	24	48	12	24	48
Nominal speed	rpm	3000	3000	3000	2500	3000	3000
Continuous torque (S1)	Nm	0.50	0.67	0.67	0.90	0.90	0.90
Intermittent torque (S2 - 15 minutes)	Nm	1.17	1.17	1.17	1.50	1.50	1.50
Weight	Kg	3.60	3.60	3.60	4.00	4.00	4.00
Stack length	mm	50	50	50	75	75	75
Length	mm	153	153	153	183	183	183

Gearbox data						
Part number		854060	853270	827936	827934	827943
Ratio	:1	20	40	80	120	160
Max. continuous torque (S1) [2]	Nm	120.0	120.0	120.0	120.0	120.0
Max. intermittent torque	Nm	300.0	300.0	300.0	300.0	300.0
Efficiency	%	81	76	70	60	43
Max. axial load (dynamic)	N	1750	1750	1750	1750	1750
Max. radial load, 12mm from flange	N	2335	2335	2335	2335	2335
Weight	Kg	3.5	3.5	3.5	3.5	3.5
Gear material [3]		S / B	S / B	S / B	S / B	S / B

[2] S1 duty cycle based on 3000rpm input speed [3] Gear material: S = Steel / B = Bronze

Combination accessories

Brake	Part number
1.5 Nm brake	735914
Mounting flange	781279

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388

Controller	Part Number
SC 50/15	738590

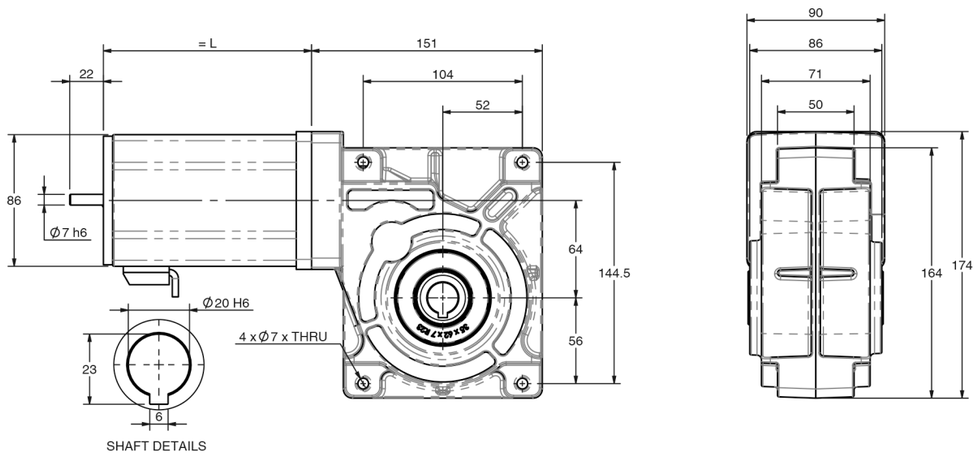
Shaft extension	Part number
GB65 shaft kit	854742

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

PBL86-GB65 BLDC right-angle geared motor

48 V // 419 - 586 W // 25 - 200 rpm // 16.2 - 168.3 Nm

all dimensions in mm



Combination data											
Motor		PBL86-55	PBL86-55	PBL86-55	PBL86-55	PBL86-55	PBL86-80	PBL86-80	PBL86-80	PBL86-80	PBL86-80
Voltage	**V**	48	48	48	48	48	48	48	48	48	48
Nominal motor power	**W**	419	419	419	419	419	586	586	586	586	586
Gearbox ratio	**:1**	20	40	80	120	160	20	40	80	120	160
Nominal speed	**rpm**	200	100	50	33	25	200	100	50	33	25
Nominal torque [1]	**Nm**	16.2	30.4	56.0	72.0	68.8	22.7	42.6	78.4	100.8	96.3
Intermittent torque (S2 - 15 mins)	**Nm**	28.4	53.2	98.0	126.0	120.4	39.7	74.5	137.2	176.4	168.3

Motor data			
Part number		776624	776625
Nominal power	**W**	419	586
Nominal voltage	**V**	48	48
Nominal speed	**rpm**	4000	4000
Continuous torque (S1)	**Nm**	1.00	1.40
Intermittent torque (S2 - 15 minutes)	**Nm**	1.75	2.45
Weight	**Kg**	3.20	4.20
Stack length	**mm**	55	80
Length	**mm**	111	136

Connection details		
Lead colour	**Lead gauge**	**Function**
Red	UL1569/26 AWG	VCC
Black	UL1569/26 AWG	GND
Blue	UL1569/26 AWG	Hall A
Green	UL1569/26 AWG	Hall B
White	UL1569/26 AWG	Hall C
Red	UL1569/14 AWG	Phase U
Yellow	UL1569/14 AWG	Phase V
Black	UL1569/14 AWG	Phase W

Gearbox data						
Part number		854060	853270	827936	827934	827943
Ratio	**:1**	20	40	80	120	160
Max. continuous torque (S1) [2]	**Nm**	120.0	120.0	120.0	120.0	120.0
Max. intermittent torque	**Nm**	300.0	300.0	300.0	300.0	300.0
Efficiency	**%**	81	76	70	60	43
Max. axial load (dynamic)	**N**	1750	1750	1750	1750	1750
Max. radial load, 12mm from flange	**N**	2335	2335	2335	2335	2335
Weight	**Kg**	3.5	3.5	3.5	3.5	3.5
Gear material [3]		S / B	S / B	S / B	S / B	S / B

[2] S1 duty cycle based on 3000rpm input speed [3] Gear material: S = Steel / B = Bronze

Combination accessories

Brake	Part number
1.5 Nm brake	735914
Mounting flange	781284

Encoder	Part Number
Incremental 5-pin	735912
Incremental 10-pin	919386
Differential 10-pin	919388

Controller	Part Number
SC 50/15	738590

Shaft extension	Part number
GB65 shaft kit	854742

[1] Continuous torque for motor-gearbox combinations can be calculated using the equations found on the thermal ratings page of our product range catalog (page 255).

Notes

Modular Accessories

Our range of modular accessories integrate seamlessly with the range through use of intelligently designed mounting flanges and fixings.

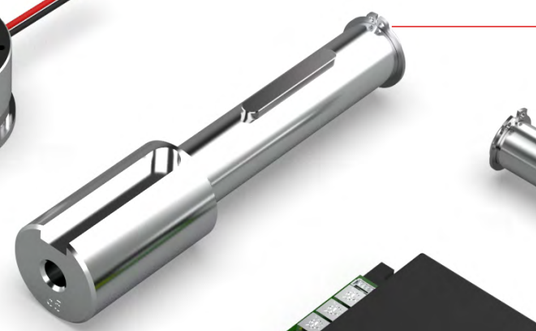
Fine tune your selection by adding a brake, encoder, or controller to your motor, and a shaft extension kit to your gearbox to ensure your configuration meets the exact requirements of your application.

1.5 Nm brake

→ Part number 735914

GB65 shaft kit

→ Part number 854742

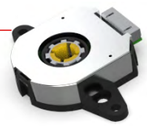


Incremental encoder

→ Part number 735912 (5-pin) / 919386 (10-pin)

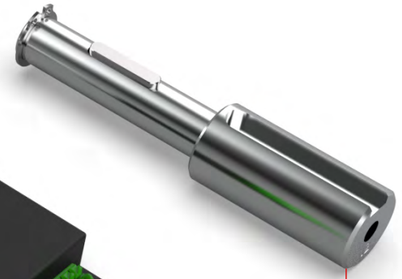
Differential encoder

→ Part number 919388



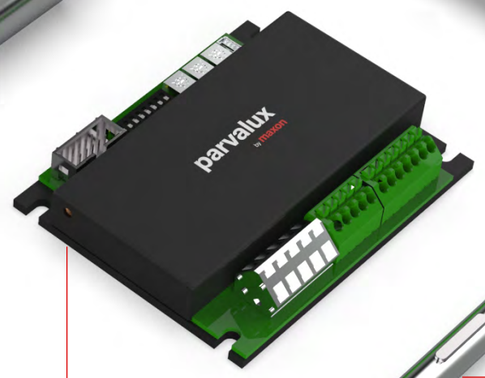
GB12 shaft kit

→ Part number 735903



GB28 shaft kit

→ Part number 735908



GB80 shaft kit

→ Part number 860809

GB9 shaft kit

→ Part number 735898

SC 50/15 controller

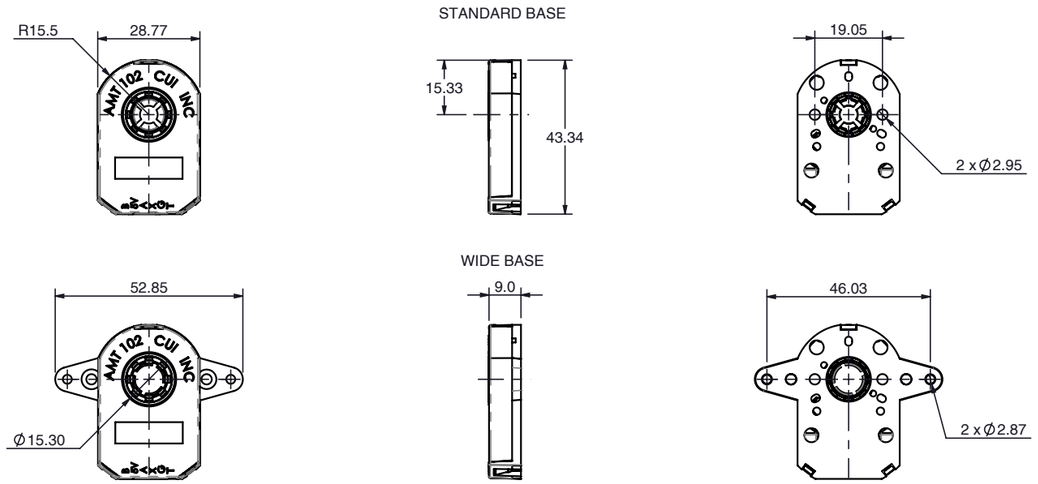
→ Part number 738590

Incremental Encoder

Incremental encoder 5-pin 735912 // **Incremental encoder 10-pin** 919386

all dimensions in mm

wiring details available on request



	Electrical data	Conditions / description		min	typ	max
1	Power supply (VDD)	VDD	V	3.6	5.0	5.5
2	Current consumption [1]	with unloaded output	mA		6.0	
3	Output high level		V	VDD 0.8		
4	Output low level		V			0.4
5	Output current [2]	CMOS sink / source per channel	mA			2.0
6	Rise / fall time		ns		30	

	Incremental characteristics	Conditions / description		min	typ	max
1	Channels	Quadrature A, B, and X index				
2	Waveform	CMOS voltage square wave				
3	Phase difference	A leads B for CCW rotation (viewed from the front)	°		90	
4	Quadrature resolutions [1]	48, 96, 100, 125, 192, 200, 250, 256, 384, 400, 500, 512, 800, 1000, 1024, 2048	PPR			
5	Index [2]	one pulse per 360° rotation				
6	Accuracy		°		0.25	
7	Quadrature duty cycle (at each resolution)	256, 512, 1024, 2048	%	49	50	51
		48, 96, 100, 125, 192, 200, 250, 384, 400, 500	%	47	50	53
		800, 1000	%	43	50	56

[1] Resolution selected via adjustable DIP switch, pre-set to 2048 PPR. All resolutions are listed as pre-quadrature, meaning the final number of counts is PPR x 4

[2] Some stepper motors may leak a magnetic field causing the index pulse to not function properly (non-magnetic version available with 8 pulses per revolution)

	Mechanical data	Conditions / description		min	typ	max
1	Motor shaft length		mm	9		
2	Weight		g		20.5	
3	Axial play		mm			±0.3
4	Rotational speed (at each resolution)	192, 284, 400, 500, 800, 1000, 1024, 2048	rpm			7500
		48, 96, 100, 125, 200, 250, 256, 512	rpm			15000

	Environmental	Conditions / description		min	typ	max
1	Operating temperature [1]		°C	-40		100
2	Humidity	non-condensing	%			95
3	Vibration	20~500 Hz, 1 hour each XYZ	G			10
4	Shock	11 ms, ±XYZ direction	G			50
5	RoHS	2011 / 65 / EU				

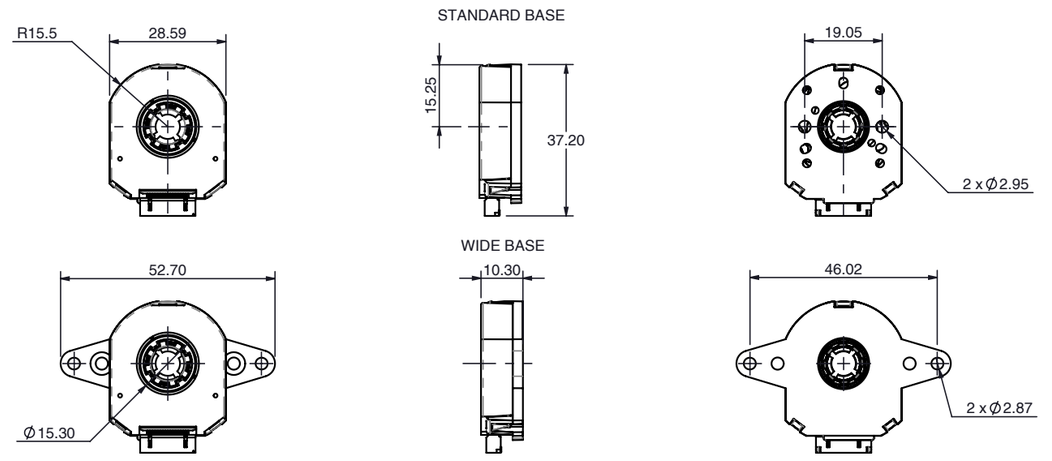
1 Encoders with operating temperature of -40 - 125°C are available as a custom order

Differential Encoder

919388

all dimensions in mm

wiring details available on request



	Electrical data	Conditions / description		min	typ	max
1	Power supply (VDD)	VDD	V	4.5	5.0	5.5
2	Start-up time [1]		ms		200	
3	Current consumption	with unloaded output	mA		16	
4	Single ended channels	output high level	V	VDD 0.1		
		output low level	V			0.1
		output current (per channel)	mA			15
		rise/fall time	ns		8	
5	Differential RS-422 channels	output high level	V	3		
		output low level	V			0.1
		output current (per channel)	mA			25
		rise/fall time	ns	7	11	20

[1] Encoder must be stationary during start-up

	Incremental characteristics	Conditions / description		min	typ	max
1	Channels	CMOS voltage (S) - A, B, Z / Quadrature line driver (Q) - A, A, B, B, Z, Z				
2	Waveform	CMOS voltage square wave				
3	Phase difference	A leads B for CCW rotation (viewed from the front)				
4	Quadrature resolutions [1]	48, 96, 100, 125, 192, 200, 250, 256, 384, 400, 500, 512, 800, 1000, 1024, 2048	PPR			
5	Index [2]	one pulse per 360° rotation				
6	Accuracy		°		0.2	
7	Quadrature duty cycle (at each resolution)	256, 512, 1024, 2048	%	49	50	51
		48, 96, 100, 125, 192, 200, 250, 384, 400, 500	%	47	50	53
		800, 1000	%	43	50	56

[1] Resolution selected via adjustable DIP switch, pre-set to 2048 PPR. All resolutions are listed as pre-quadrature, meaning the final number of counts is PPR x 4

[2] Some stepper motors may leak a magnetic field causing the index pulse to not function properly (non-magnetic version available with 8 pulses per revolution)

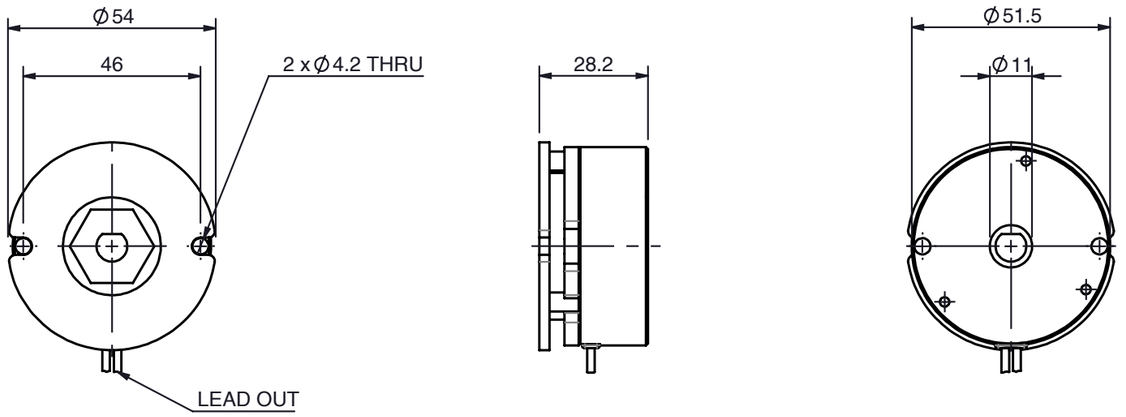
	Mechanical data	Conditions / description		min	typ	max
1	Motor shaft length		mm	9		
2	Weight	Weight varies by configuration	g		15.7	
3	Axial play		mm			±0.3
4	Rotational speed (at each resolution)	48, 96, 100, 125, 182, 200, 250, 256, 384, 400, 500, 512, 800, 1000, 1024, 2048	rpm			8000
		360, 768, 1600, 2000, 4096	rpm			4000
		2500	rpm			2500

	Environmental	Conditions / description		min	typ	max
1	Operating temperature		°C	-40		100
2	Humidity	non-condensing	%			85
3	Vibration	20~500 Hz, 1 hour each XYZ	G			5
4	Shock	11 ms, ±XYZ direction	G			200
5	RoHS	2011 / 65 / EU				

1.5 Nm Brake

735914

all dimensions in mm



	Technical data		
1	Static torque	**Nm**	1.5
2	Ambient temperature	**°C**	-20 to +40
3	Duty cycle	**%**	50
4	Voltage	**V**	12 - 48
5	Power	**W**	11

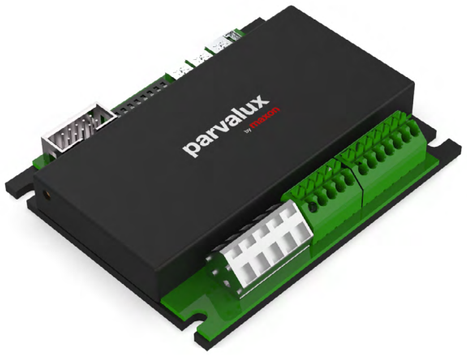
	Mounting		
	Flange mount		
1	End plate outer diameter	**mm**	75.0
2	Mounting PCD	**mm**	68.0
3	Number of holes		2, 3 or 4

Notes

SC 50/15 BLDC / PMDC controller

738590

Hardware reference document available at parvalux.com.



	Electrical rating		
1	Nominal power supply voltage $+V_{cc}$	VDC	12 - 50
2	Absolute supply voltage $+V_{min}$ / $+V_{max}$	VDC	10 / 56
3	Output voltage (max.)	V	0.98 x $+V_{cc}$
4	Output current I_{cont} / I_{max} (< 10 s)	A	15 / 30
5	Pulse width modulation frequency	kHz	53.6
6	Sampling rate PI speed controller	kHz	5.36
7	Max. efficency	%	98
8	Max. speed - PMDC motor		Open loop: limited by max. permissable speed (motor) and max. output voltage (controller) Closed loop: 5000 to 15,000 rpm, dependent on configuration
9	Max. speed - BLDC motor		2500 ... 30,000 rpm, dependent on configuration
10	Built-in filter choke	nH; A	3 x 200; 15

	Inputs and outputs	
1	Digital input - «Enable»	Logic +2.1 ... +30 VDC
2	Digital input - «Direction»	Logic +2.1 ... +30 VDC
3	Digital input - «Stop»	Logic +2.1 ... +30 VDC
4	Digital output - «Ready»	Logic signal output, 3.3 VDC, Ri: 2.2 kΩ, Push-Pull
5	Analog input - «Speed set value»	PWM signal (fixed amplitude 0 ... 5 VDC, 1 kHz ... 10 kHz)
6	Digital hall sensors H1, H2, H3	+2.0 ... +24 VDC (internal pull-up)
7	Digital incremental encoder signals A, A\, B, B\	EIA RS422, max. 1 MHz, max. 100 kHz (single-ended)

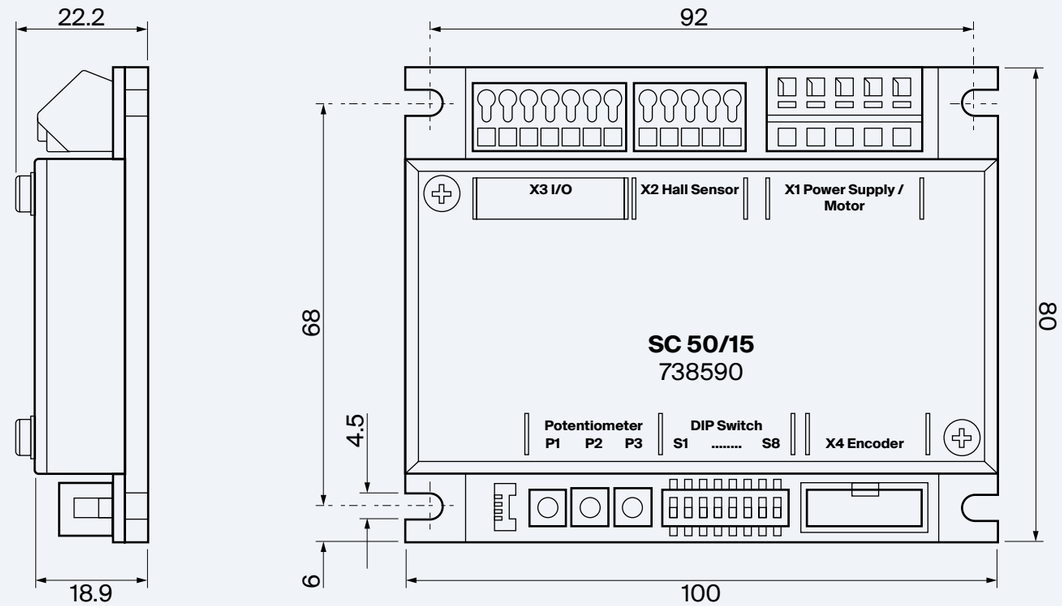
	Voltage outputs	
1	Sensor supply voltage V_{sensor}	+5 VDC / I_L ≤100 mA

	Motor connections	
1	PMDC motor	+ motor, - motor
2	BLDC motor	Motor winding 1, motor winding 2, motor winding 3

	Configuration	
1	DIP switch	SMD type, 8 position for the setting of: • Motor Type • Control Mode • Speed Set Value Source • Speed Sensor Selection / Encoder Resolution • Hall Sensor Polarity • Speed Range Selection
2	Potentiometers	3 x angular type 210° for the setting of: • Speed Ramp/Speed Set Value • Continuous/Maximum Current Limit • Controller Gain

	Status indicators	
1	Device status - Operation	Green LED
2	Device status - Error	Red LED

	Physical		
1	Weight	g	151
2	Dimensions (L x W x H)	mm	100.0 x 80.0 x 22.2
3	Mounting		Slotted flange for M4 screws

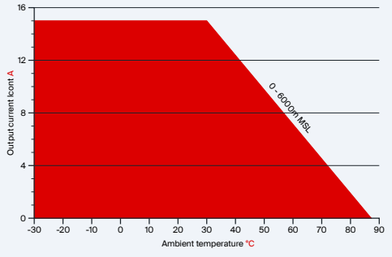


	Environment		
1	Temperature - Operation	°C	-30 ... +30
2	Temperature - Extended range [a]	°C	+30 ... +84; Derating: -0.278 A/°C
3	Temperature - Storage	°C	-30 ... +85
4	Altitude [b]	m	0 ... 6000 MSL
5	Humidity	%	5 ... 90 (condensation not permitted)

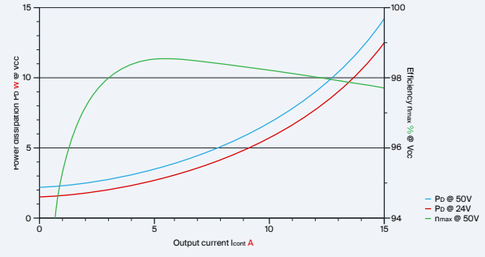
[a] Operation within the extended range is permitted. However, a respective derating (declination of output current I_{cont}) as to the stated values will apply. [b] Operating altitude in meters above Mean Sea Level, MSL.

Thermal data

Derating of output current



Power dissipation and efficiency

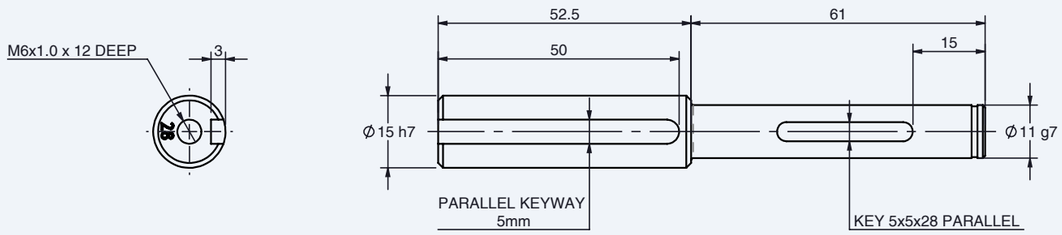


Shaft Extension Kits

all dimensions in mm

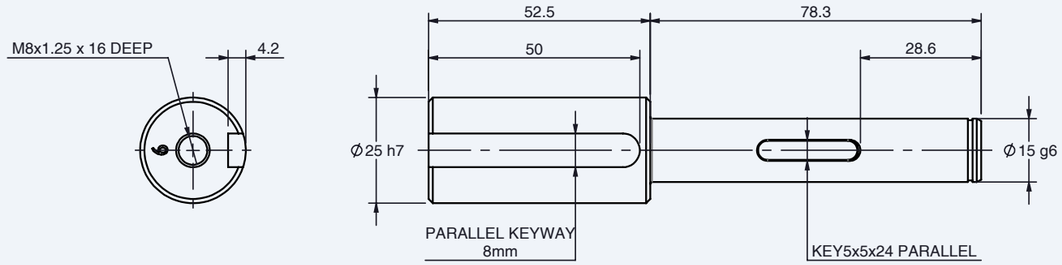
GB28 shaft kit

735908



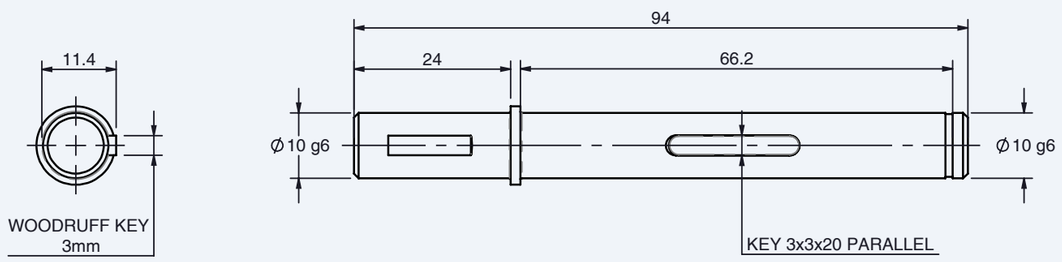
GB9 shaft kit

735898



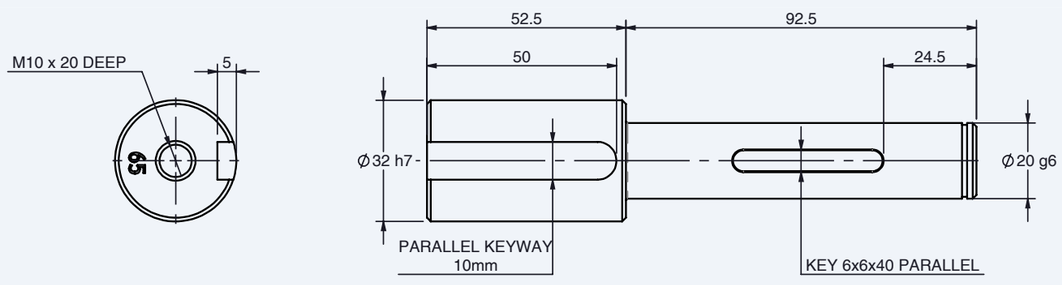
GB80 shaft kit

860809



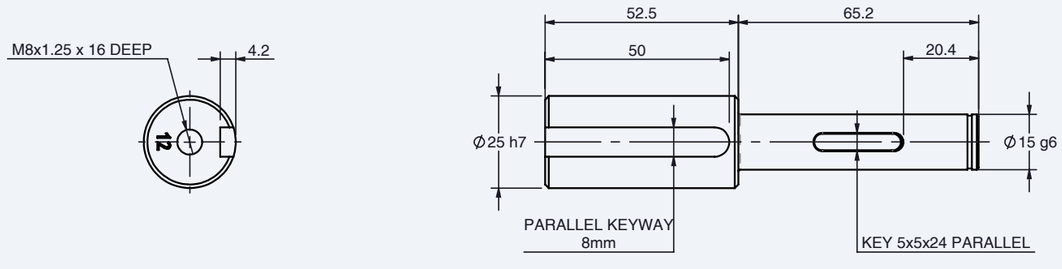
GB65 shaft kit

854742



GB12 shaft kit

735903



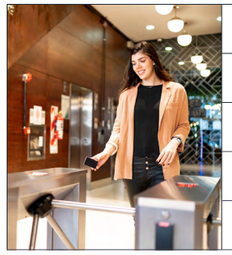
Shaft extension kit assembly

Our modular shaft extension kits are supplied, as standard, disassembled from their appropriate gearboxes. This enables you to select the output position of your shaft when assembling the shaft and gearbox yourself.

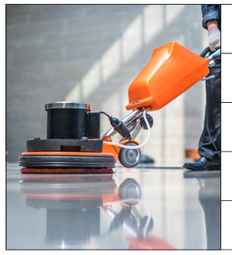
To assemble the shaft extension kit to your gearbox simply slide the shaft through the hollow shaft fully and fasten on the non-output side using the circlip included (shown in red on this image). For additional support in the assembly process please contact your local sales engineer.

We know how to move

your project to market

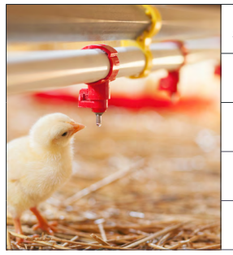


Building Automation
→ Access control
→ Door automation
→ Automated blinds
+ more



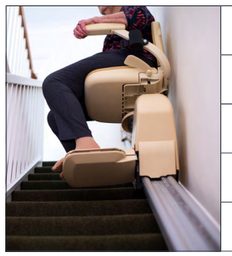
Industrial Automation
→ Cleaning equipment
→ Mixing equipment
→ Printing equipment
+ more

Transport & Logistics
→ Caravan movers
→ Wiper systems
→ Tarp pullers
+ more



Agriculture Equipment
→ Honey extractors
→ Feeding systems
→ Ventilation systems
+ more

Material Handling
→ AGVs
→ Conveyors
→ Packaging automation
+ more



Mobility Solutions
→ Patient hoists
→ Powered wheelchairs
→ Stairlifts
+ more

Leisure Equipment
→ Amusement machines
→ Clay pigeon traps
→ Golf trolleys
+ more

Medical Equipment
→ Air pumps
→ Medical fluid pumps
→ Ventilators
+ more

With over 75 years of experience in motor manufacture, Parvalux delivers high-performance, reliable solutions across a diverse range of industries and markets. From industrial automation and leisure to mobility solutions and agriculture equipment, we combine extensive engineering expertise with advanced manufacturing capabilities to create geared electric motors that meet your exact specification.

Our flexible approach, commitment to innovation, and rigorous quality control enable us to support both high-volume production and highly customized applications, making us a trusted partner for market-leaders worldwide.

Recommended Solutions

Building Automation

Ease of access in public places is of paramount importance in ensuring the efficient and safe movement of people from one place to another. This in turn has seen growth in the need for reliable building automation solutions in a number of applications worldwide. With a higher level of competition in this sector, the Parvalux modular range can provide a quicker route from concept to manufacture, enabling you to gain a competitive advantage in this ever-growing market.

Modular solution	Max. power (W)	Max. speed (rpm)	Max. torque (Nm)	Door automation	Access control	Page #
→ RE38-PGx42	40	756	16.9	✓	✓	85
→ BRx42-PGx42	18	698	16.9	✓	✓	86
→ PBL42-PGx42	42	930	16.9	✓	✓	87
→ BRx52-GB80	69	200	10.0	✓	✓	93
→ BRx63-GB80	85	200	10.0	✓	✓	94
→ PBL60-GB80	157	200	13.0	✓	✓	95
→ BRx70-GB80	157	200	13.0	✓	✓	96
→ BRx70-GB12	157	200	26.4	✓	✓	100
→ BRx90-GB12	283	200	45.0	✓	✓	102
→ RE38-GB56	40	108	4.5	✓	✓	105

We also have extensive experience in providing drive solutions for pool cover closers and automatic blind systems. Contact your local sales engineer today to discuss your requirements.

Recommended Solutions

Material Handling

The modern warehouse sector has embraced motorzsed automated material handling equipment to support employee safety and drive efficiency. Parvalux has significant experience supporting some of the largest and most innovative intralogistics equipment manufacturers on the market today, and the introduction of the modular range enables us to expedite the design process of new projects at a faster rate, shortening the time to full scale production.

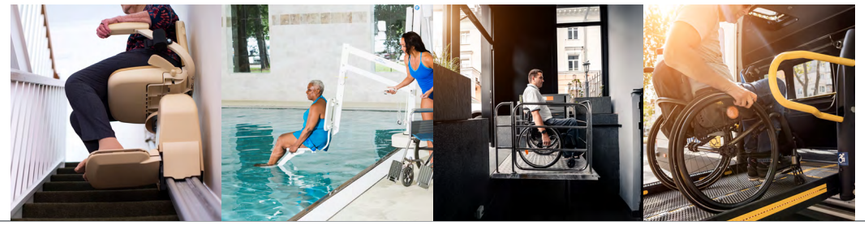
Modular solution	Max. power (W)	Max. speed (rpm)	Max. torque (Nm)	Conveyors	ASRS	AGVs	Warehouse tugs	Page #
→ PBL42-PGx42	42	930	16.9	✓	✓	✓		85
→ PBL60-GB28	157	200	8.0			✓		91
→ PBL60-GB80	157	200	13.0	✓	✓	✓		95
→ BRx70-GB12	157	200	26.4	✓	✓	✓	✓	100
→ PBL70-GB12	415	300	46.2	✓			✓	101
→ BRx90-GB12	283	200	45.0	✓	✓	✓	✓	102
→ PBL86-GB12	586	267	48.0	✓			✓	103
→ BRx90-GB9	283	200	58.5	✓	✓	✓	✓	107
→ PBL86-GB9	586	267	80.0	✓		✓	✓	108
→ BRx90-GB65	283	150	108.0	✓			✓	111
→ PBL86-GB65	586	200	176.4	✓			✓	112

We also have extensive experience in providing drive solutions for automatic shrink wrapping, packaging automation, pallet and tray shuttles, and sorting machines. Contact your local sales engineer today to discuss your requirements.

Recommended Solutions

Mobility Solutions

It's a fact of life that advances in healthcare mean people are now living longer and, as we age, we become more reliant on mobility products to support independent living. With a greater demand for mobility solutions, the competition between manufacturers of applications within this fast-paced market has never been higher. The modular range enables greater flexibility within the design stage of your project and ultimately leads to a shortened time to proof-of-concept, giving you the competitive advantage.



Modular solution	Max. power (W)	Max. speed (rpm)	Max. torque (Nm)	Stairlifts	Patient hoists	Platform lifts	Wheelchair lifts	Page #
→ BRx63-GB28	85	200	8.0		✓			90
→ PBL60-GB28	157	200	8.0		✓			91
→ BRx52-GB80	69	200	10.0		✓			93
→ BRx63-GB80	157	200	13.0		✓			94
→ PBL60-GB80	157	200	13.0		✓			95
→ PBL70-GB80	415	300	46.2		✓			96
→ BRx70-GB12	157	200	26.4	✓	✓	✓	✓	100
→ PBL70-GB12	415	300	46.2	✓	✓		✓	101
→ BRx90-GB12	283	200	45.0	✓	✓	✓	✓	102
→ PBL86-GB12	586	267	48.0	✓			✓	103
→ BRx90-GB9	283	200	58.5	✓		✓	✓	107
→ PBL86-GB9	586	267	80.0	✓			✓	108
→ BRx90-GB65	283	150	108.0	✓		✓	✓	111
→ PBL86-GB65	586	200	176.4	✓			✓	112

We also have extensive experience in providing drive solutions for mobility scooters, vehicle access and powered wheelchairs. Contact your local sales engineer today to discuss your requirements.

Your next steps...

Start Building

If you're ready to start building your modular solution visit **parvalux.com/modular-range** or scan the QR code to the right.

Here, you can choose to start your modular build from a motor, gearbox, or motor-gearbox combination, or select one of our recommended combinations for specific applications.

This will take you to our online configurator where you can add accessories and order your build in quantities of up to 10 pieces, all on a 72-hour turnaround!

Standard Range

If you can't find anything within the modular range that meets your requirements, we have an extensive range of standard motors and gearboxes that can be found within our product range catalog.

Visit **parvalux.com/catalogs** to explore the range.

Custom Solutions

Our expert team of design engineers are well-versed in modifying our standard range to suit or can even create a complete custom solution from scratch.

Visit **parvalux.com/custom-drive-solutions** to take a look at some of our previous creations.

If you require any further information about the modular range, standard products, or the custom drive solutions we offer, our expert team of sales engineers are on-hand to answer any questions you may have. Find your local sales engineer on the next page and get in touch to discuss your requirements.

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maxon

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by maxon

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