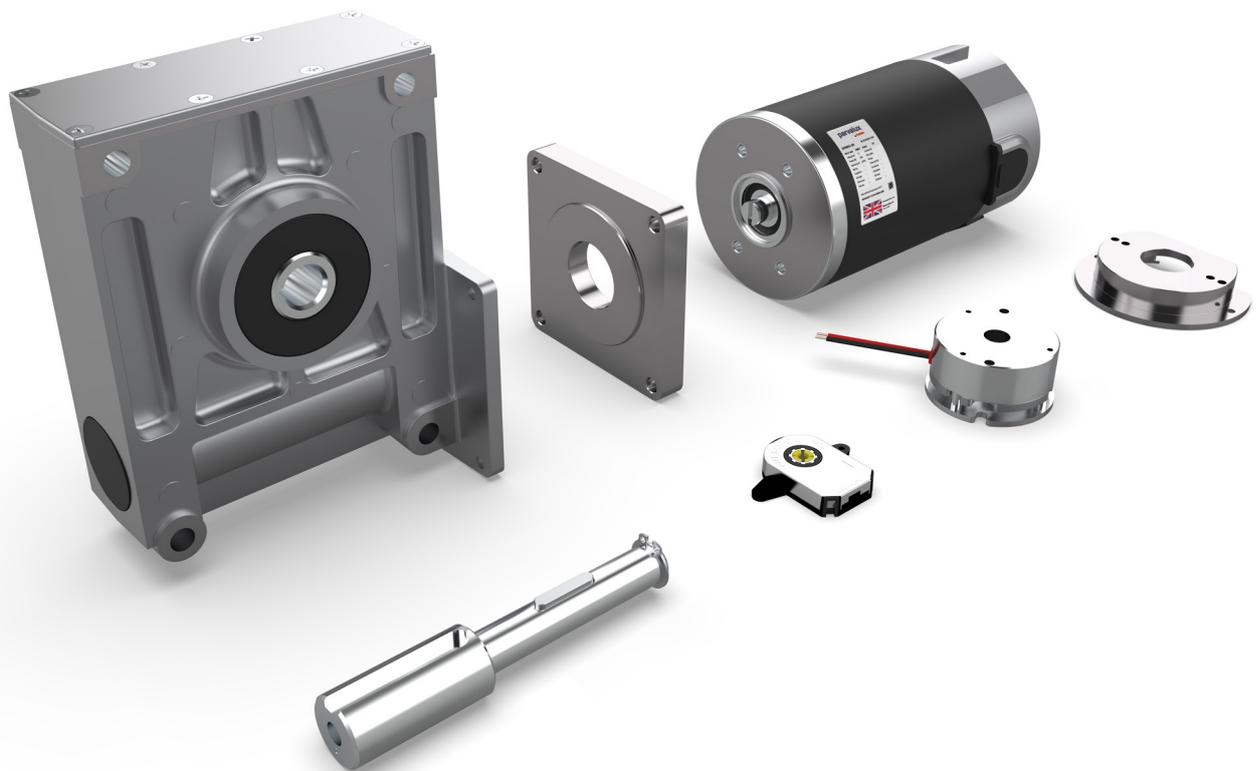


# Modular Range Guide

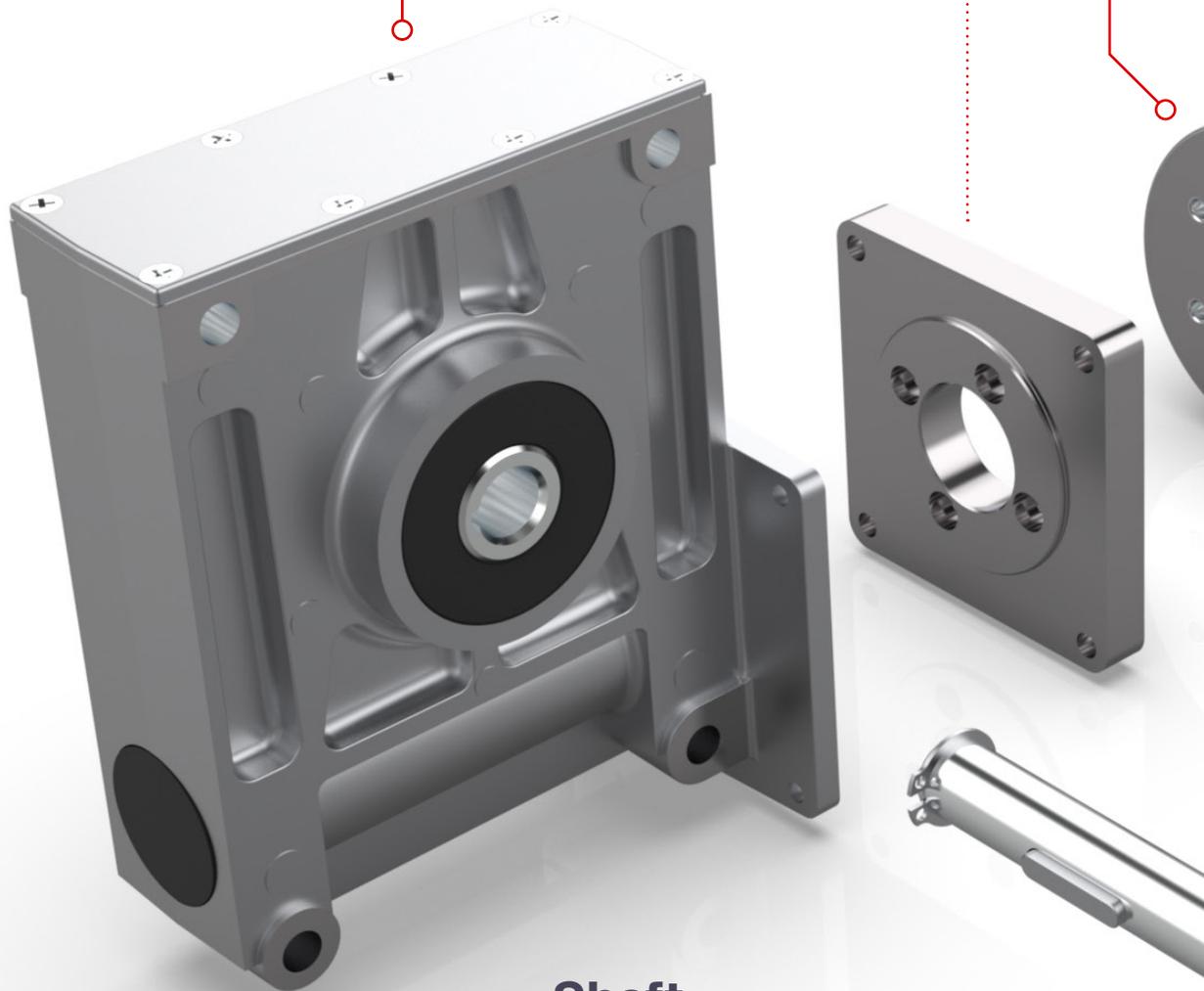


## Gearbox

Combined with our modular motors through use of a simple mounting flange, our gearbox range offers a range of gear ratios and comes as standard with a hollow shaft.

## Motor

With options in both motor voltage and output speed, you can configure your DC brushed or DC brushless motor to meet your exact performance requirements.



.....  
Available in  
quantities of up to  
**10 pieces**  
.....

## Shaft

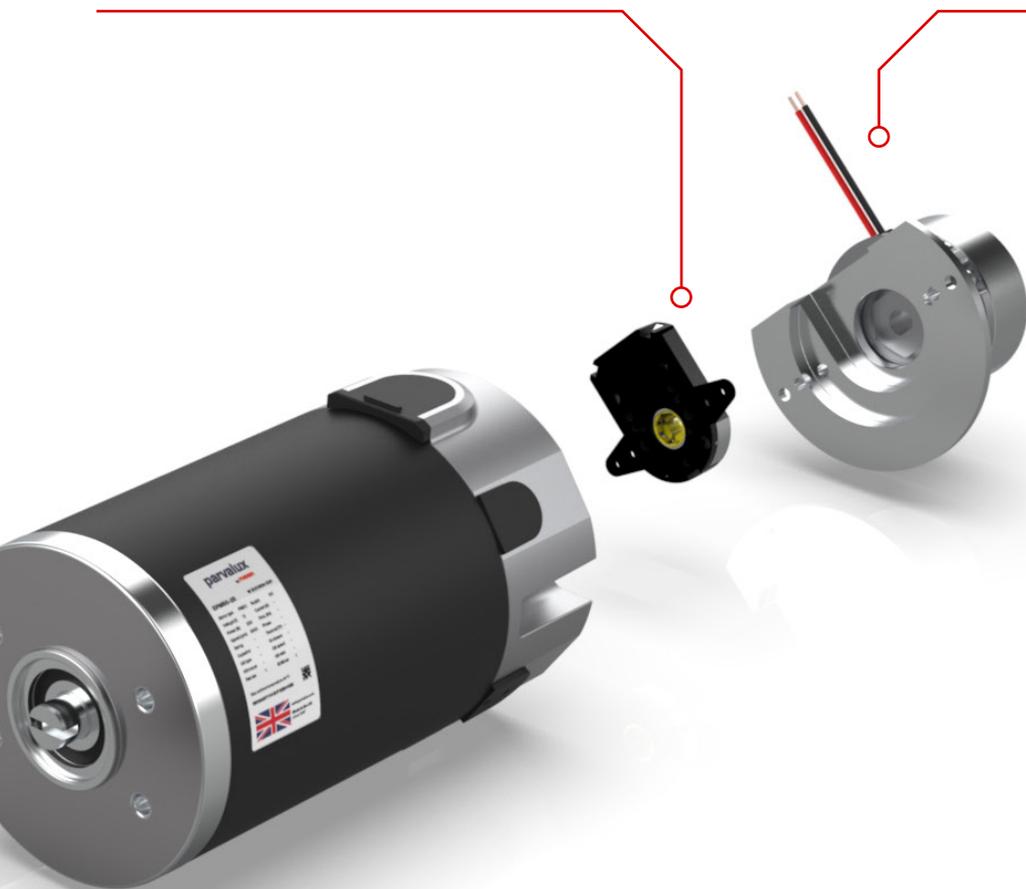
Secured through a keyway and slot, our shaft extension kits offer a quick-fit solution where a hollow shaft isn't quite right for your application.

## Encoder

Add our incremental encoder to your modular configuration to enable further control to the power supply of your system.

## Brake

Intelligently designed to fit around our encoders through use of a mounting flange, our 1.5 Nm brakes combine seamlessly with our modular range motors.

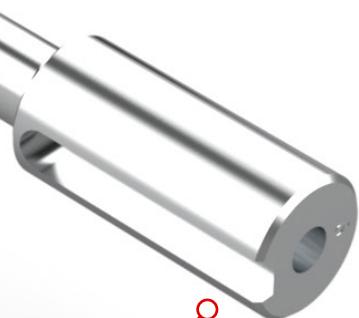


## Simply Modular

Quick to configure. Quick to build. Quick to deliver.

Configure your own solution online; selecting your motor and gearbox, and adding accessories such as encoders, brakes, controllers, and shaft extension kits to create a solution perfectly suited to your specific application.

Visit [www.parvalux.com](http://www.parvalux.com) to build your own solution through our online product configurator.



# Easy as **one** **two** **three**

 Our expert team of engineers have extensive experience in specifying Parvalux products for a wide range of applications, contact them today 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 0.063 - 80.0 Nm of torque.



Build and order your own combination using our online configurator, found at [www.parvalux.com](http://www.parvalux.com).

## Step 2.

Select your motor and gearbox combination.

Gearboxes enable you to reduce the output speed of your motor, whilst 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.



### Product type

### Page

Motor only

**6**

Gearbox only

**12**

Combinations

**14**

# Motor Specifications

## Quick View

The next few pages display a quick view of the specifications of each of the motors within the modular range. Voltage, power, and torque are the best starting points in motor selection as these provide the basis for the output performance of DC motors.

Within our range you'll find both brushed and brushless options at different frame sizes and stack lengths. Generally, the larger the frame size, the more powerful the motor, however, there is some cross-over between the varying stack lengths of similar sized motors.

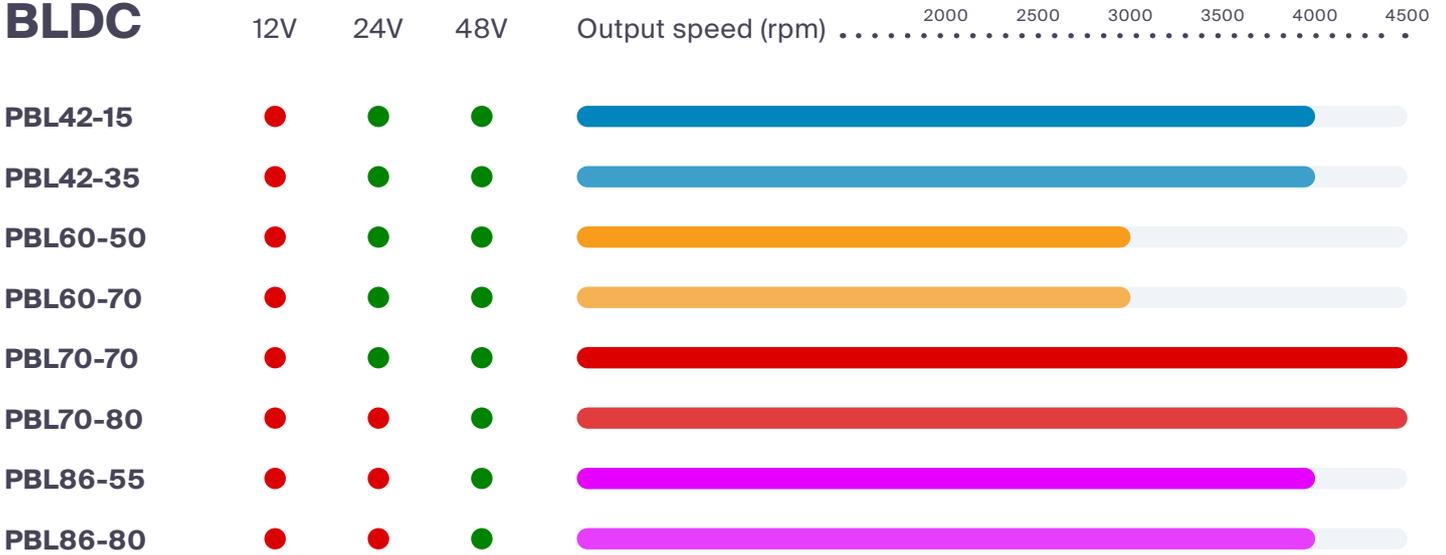
For a more detailed specification of each motor please refer to the datasheets and product range catalogue found at [parvalux.com](http://parvalux.com).



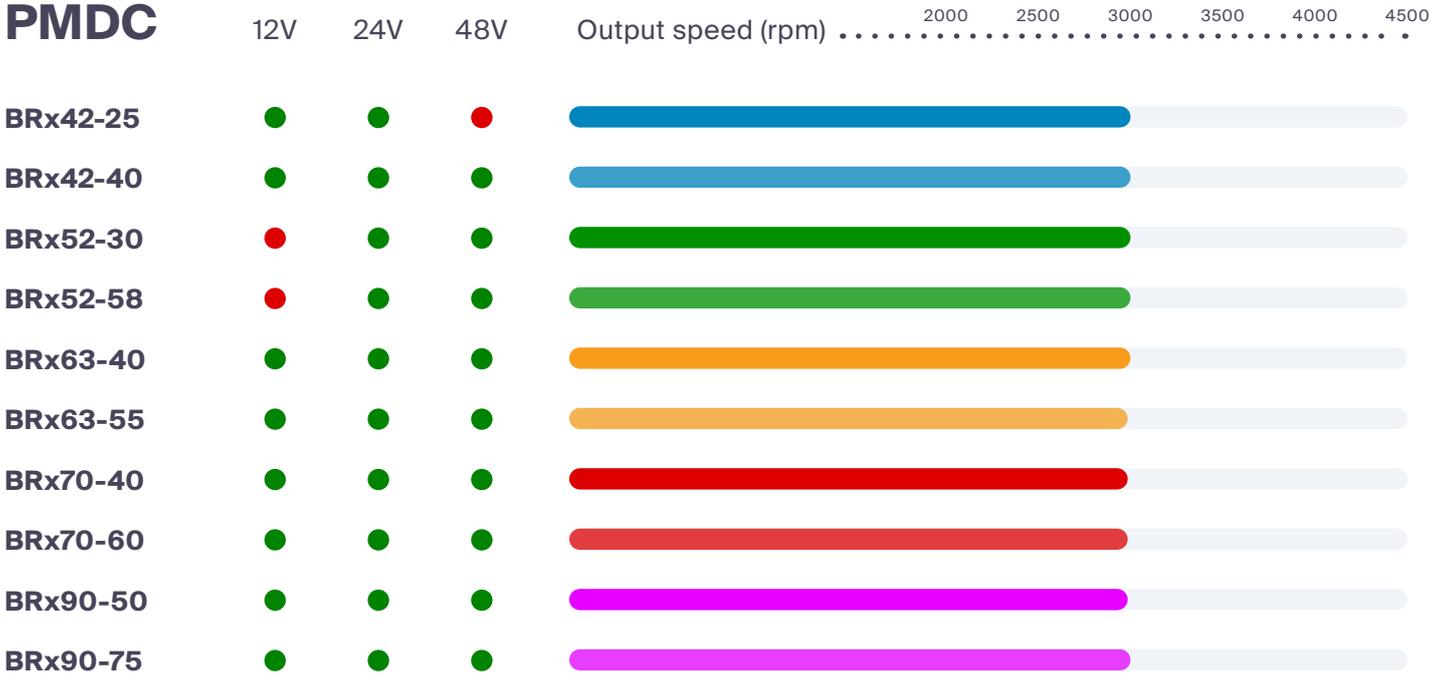
**Voltage Key**

- Available
- Currently unavailable

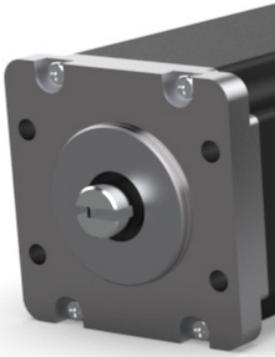
## BLDC



## PMDC



💡 Motors in the modular range are currently only available in the speed shown above. Our standard motors can be customised to produce an output speed of 1500 - 4500 rpm.

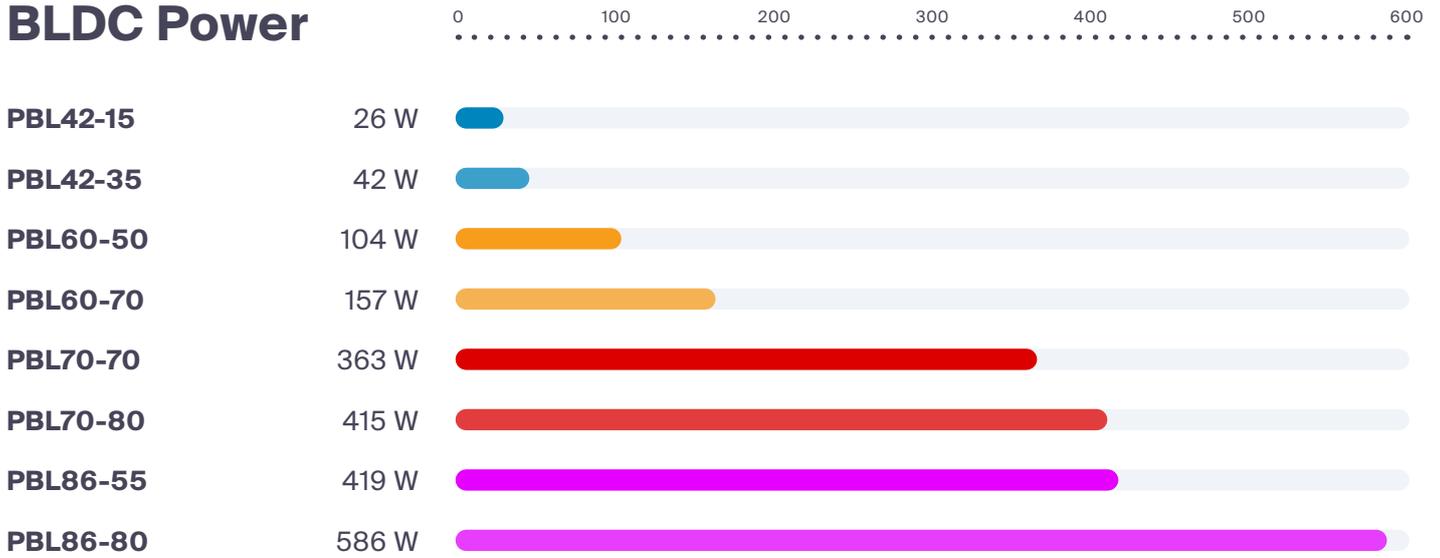


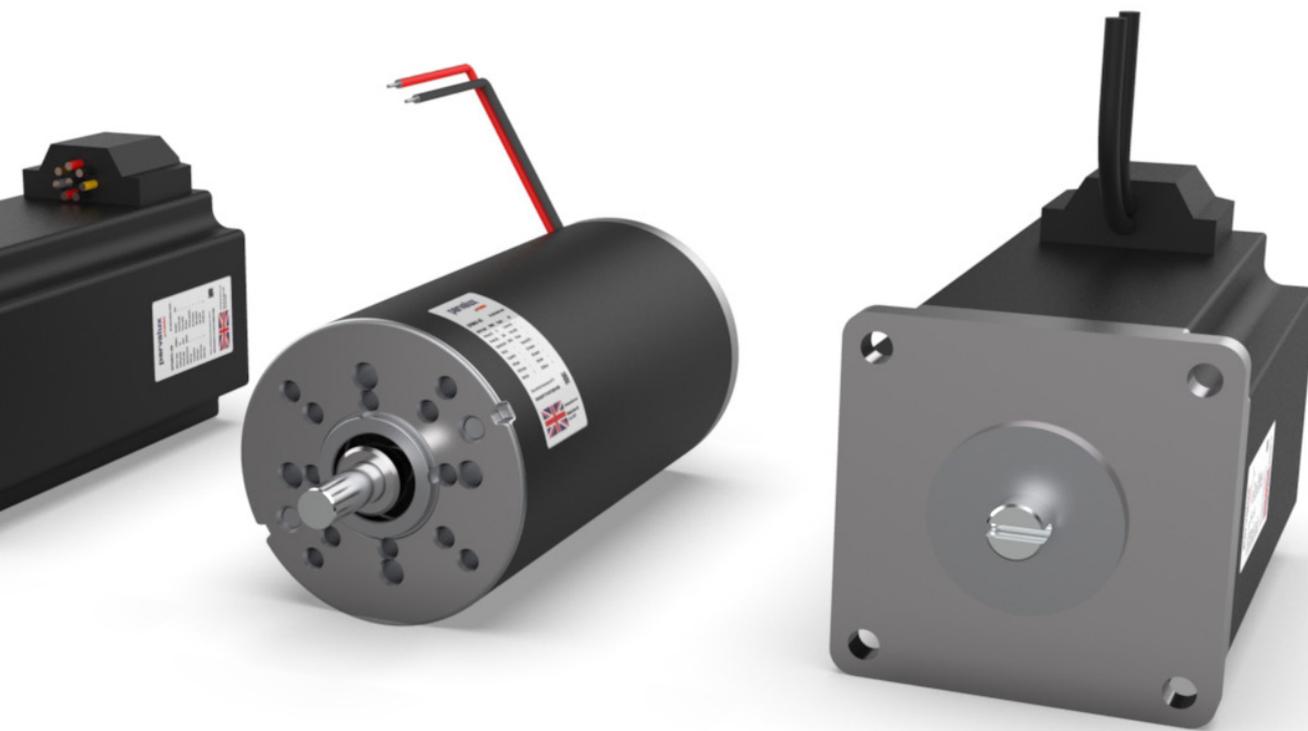
# Motor Specifications

## Power

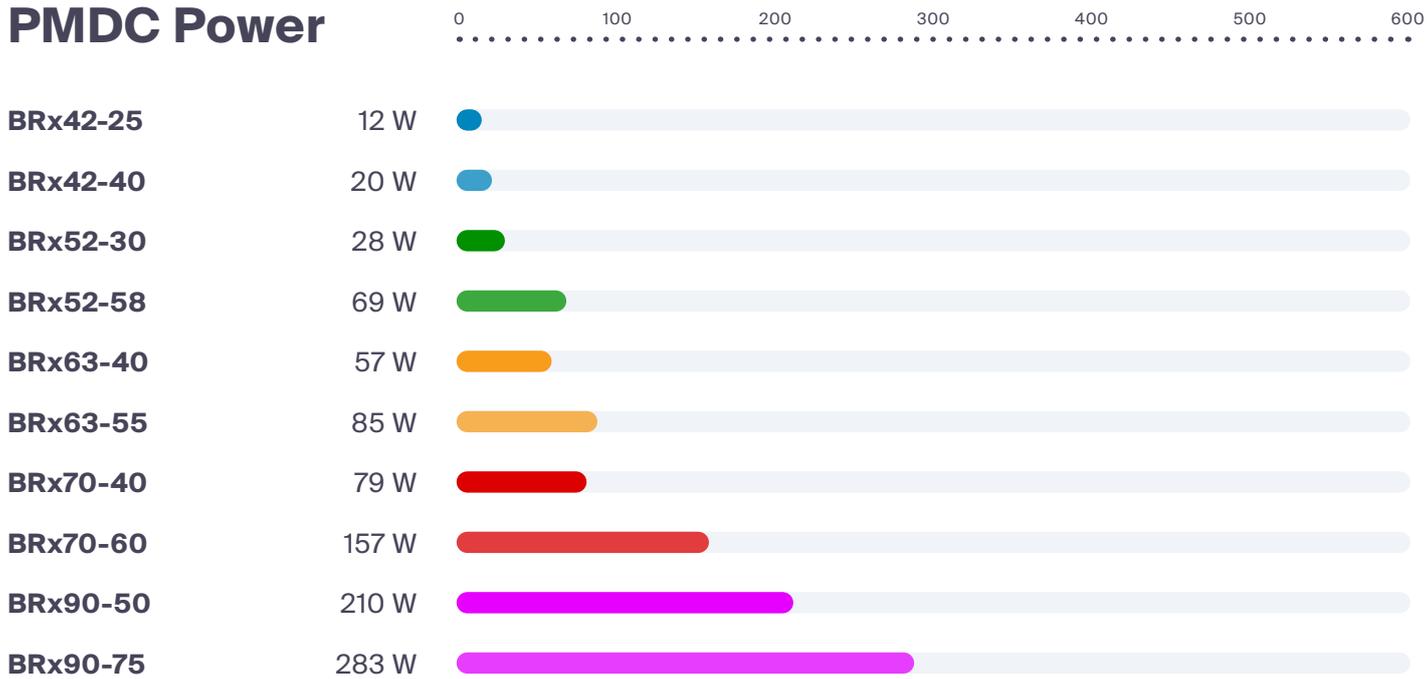
Nominal power, measured in Watts (W), represents the mechanical output power that the motor is capable of producing in continuous operation. It is calculated based on the motors speed and torque.

### BLDC Power





## PMDC Power



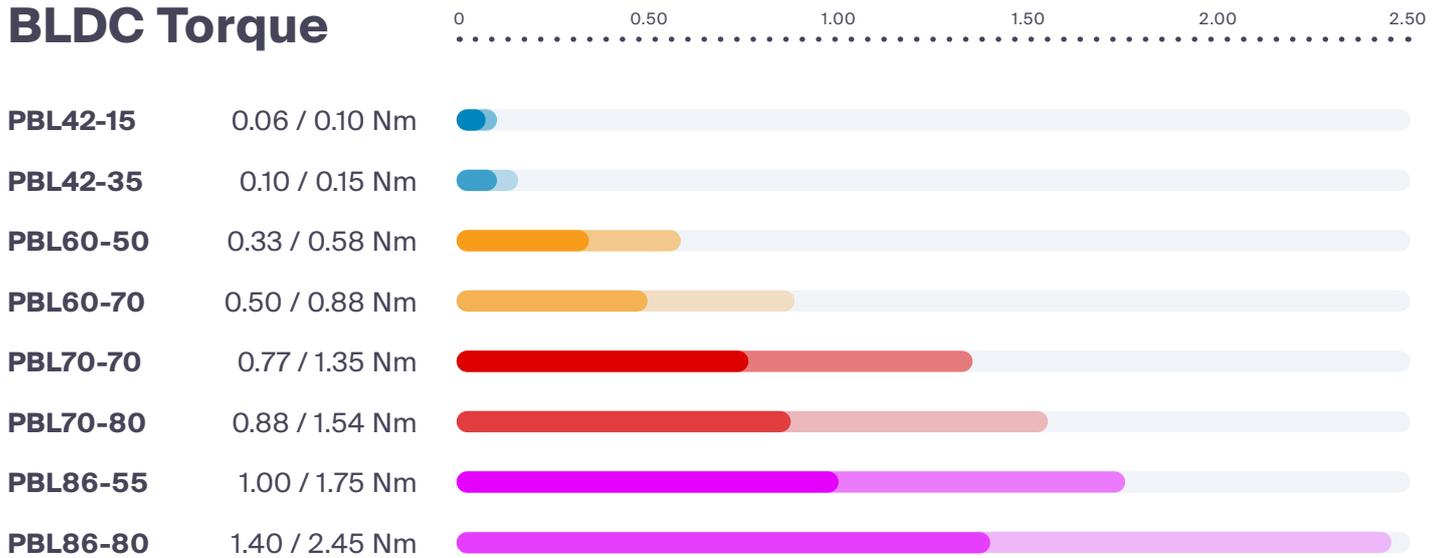


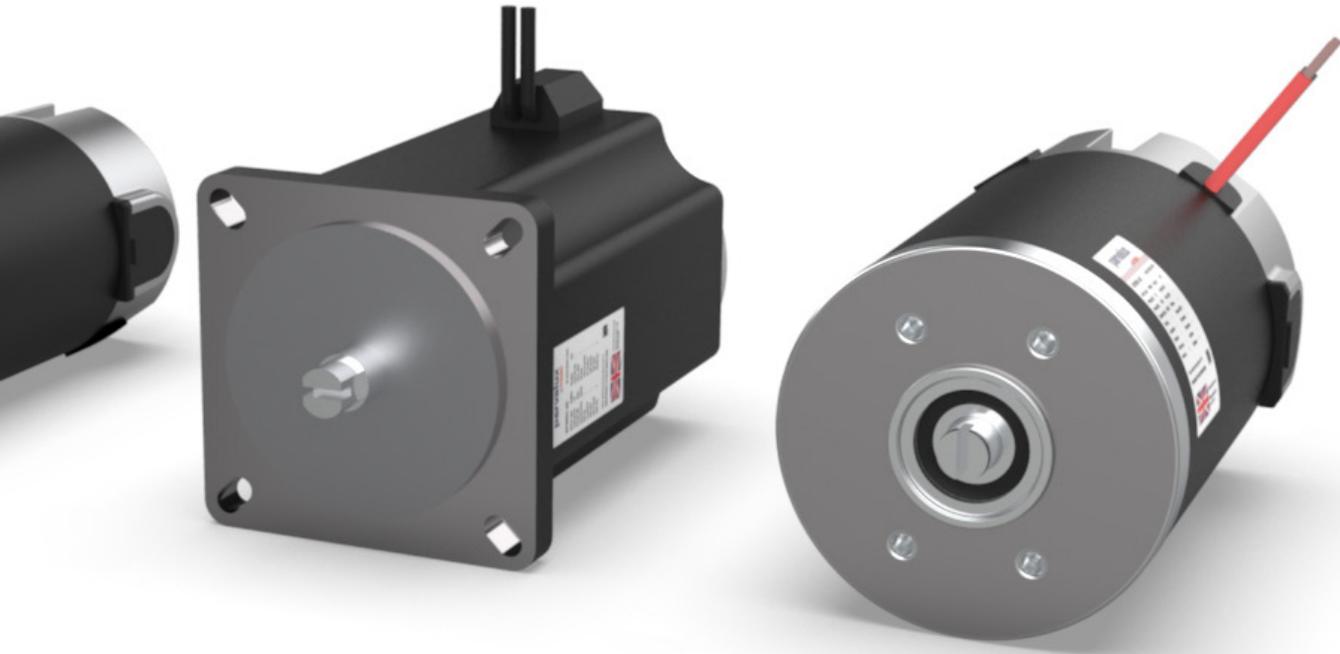
# Motor Specifications

## Torque

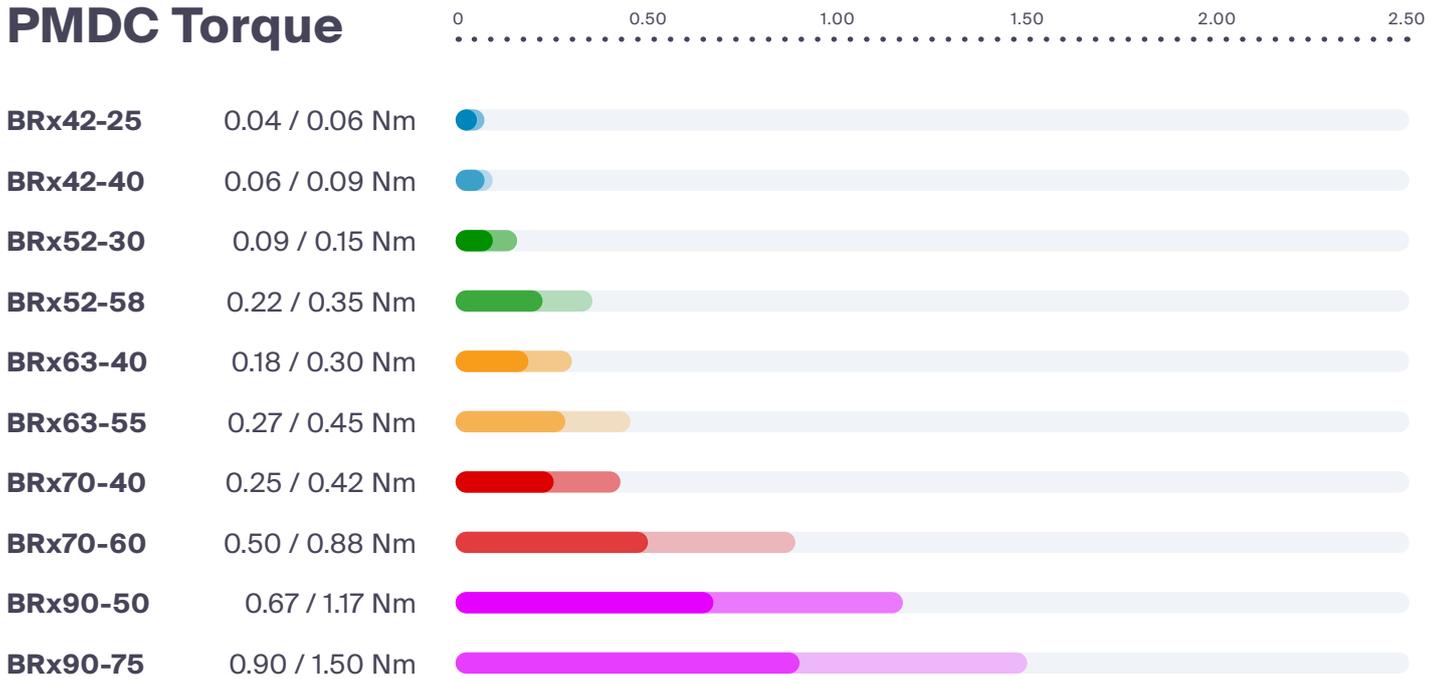
Rated torque (Nm) refers to the maximum torque that the motor can generate while operating continuously in an ambient temperature of 40°C.

### BLDC Torque





## PMDC Torque



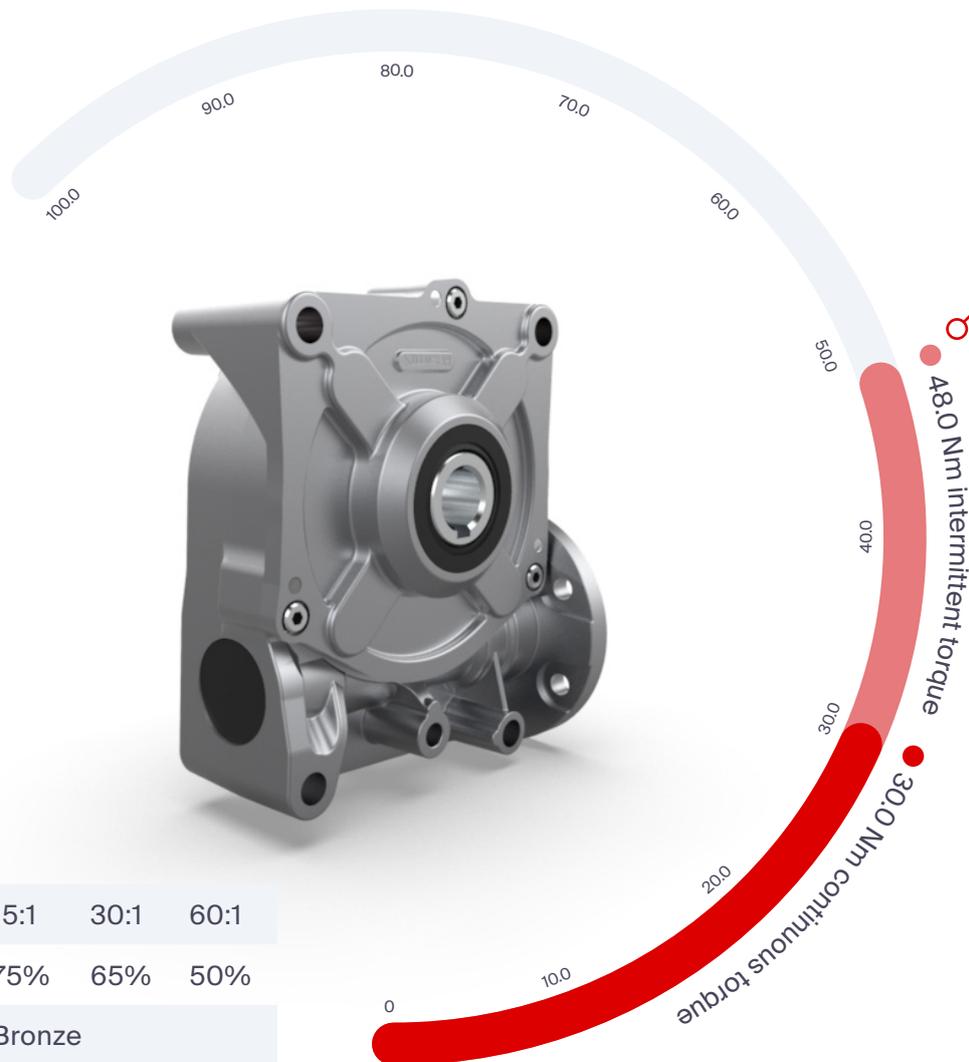
There are two values shown for torque; these represent the max. continuous torque and max. intermittent torque (S2 - 15 minutes) of each motor. These are also depicted by the darker and lighter bars on the sliders above.

# Gearbox Specifications

## Quick View

Gearboxes enable the output speed of a motor to be reduced and the torque to be increased. These changes can have a big effect on the final output performance of the combination that you select to power your application.

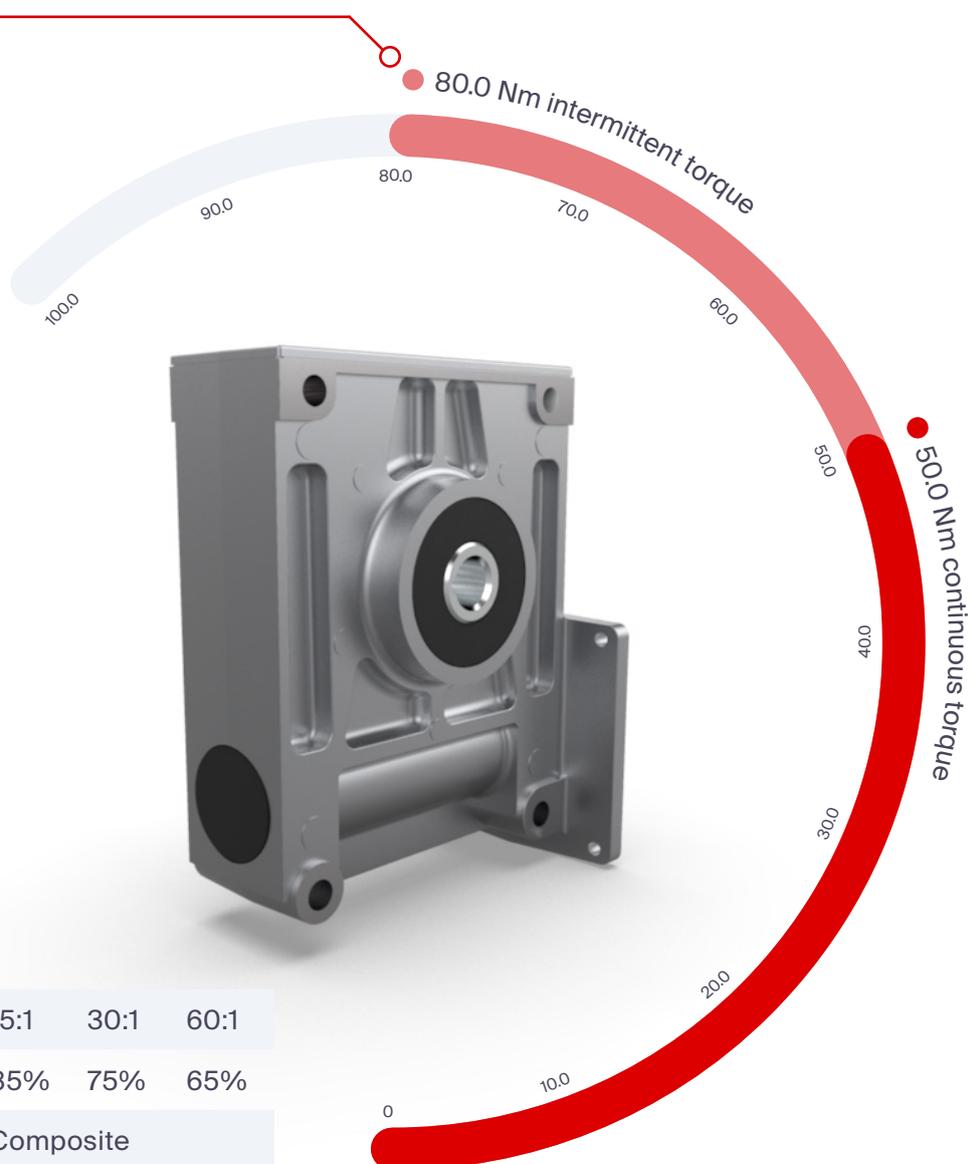
 Intermittent torque rated at S2 - 15 minutes duty cycle.



### GB12

Ratio	15:1	30:1	60:1
Efficiency	75%	65%	50%
Material	Bronze		

 Additional gearbox options will be added to the modular range in the near future. This will include a further 2 right-angle gearboxes and up to 5 inline planetary options.



## GB9

Ratio	15:1	30:1	60:1
Efficiency	85%	75%	65%
Material	Composite		

# Combination Specifications

## Quick View

With just a mounting flange needed between the motor and gearbox, our modular range combinations can be integrated seamlessly to provide an extended range of power for your applications.

### PBL70-70-GB12 48V

260 mm x 73 mm x 137 mm



**Power (W)**

363



**Speed (rpm)**

75 - 300



**Max. Torque (Nm)**

23.1 (Cont) / 40.5 (Int)



Combination	W	rpm	Nm (Cont)	Nm (Int)
PBL70-70-GB12 15:1	363	300	8.7	15.2
PBL70-70-GB12 30:1	363	150	15.0	26.3
PBL70-70-GB12 60:1	363	75	23.1	40.5

### PBL70-80-GB12 48V

270 mm x 73 mm x 137 mm



**Power (W)**

415



**Speed (rpm)**

75 - 300



**Max. Torque (Nm)**

26.4 (Cont) / 46.2 (Int)



Combination	W	rpm	Nm (Cont)	Nm (Int)
PBL70-80-GB12 15:1	415	300	9.9	17.3
PBL70-80-GB12 30:1	415	150	17.2	30.3
PBL70-80-GB12 60:1	415	75	26.4	46.2

## BRx70-40-GB12 12V / 24V / 48V

271 mm x 74 mm x 139 mm



**Power (W)**

79



**Speed (rpm)**

50 - 200



**Max. Torque (Nm)**

23.1 (Cont) / 40.5 (Int)



Combination	W	rpm	Nm (Cont)	Nm (Int)
BRx70-40-GB12 15:1	79	200	2.8	4.7
BRx70-40-GB12 30:1	79	100	4.9	8.2
BRx70-40-GB12 60:1	79	50	7.5	12.6

## BRx70-60-GB12 12V / 24V / 48V

292 mm x 74 mm x 139 mm



**Power (W)**

157



**Speed (rpm)**

50 - 200



**Max. Torque (Nm)**

15.0 (Cont) / 26.4 (Int)



Combination	W	rpm	Nm (Cont)	Nm (Int)
BRx70-60-GB12 15:1	157	200	5.6	9.9
BRx70-60-GB12 30:1	157	100	9.8	17.2
BRx70-60-GB12 60:1	157	50	15.0	26.4

# Combination Specifications

## Quick View

With just a mounting flange needed between the motor and gearbox, our modular range combinations can be integrated seamlessly to provide an extended range of power for your applications.

### PBL86-55-GB12 48V

257 mm x 86 mm x 146 mm



**Power (W)**  
419



**Speed (rpm)**  
67 - 267



**Max. Torque (Nm)**  
30.0 (Cont) / 48.0 (Int)



Combination	W	rpm	Nm (Cont)	Nm (Int)
PBL86-55-GB12 15:1	363	267	11.3	19.7
PBL86-55-GB12 30:1	363	133	19.5	34.1
PBL86-55-GB12 60:1	363	67	30.0	48.0

### PBL86-80-GB12 48V

283 mm x 86 mm x 146 mm



**Power (W)**  
586



**Speed (rpm)**  
67 - 267



**Max. Torque (Nm)**  
26.4 (Cont) / 46.2 (Int)



Combination	W	rpm	Nm (Cont)	Nm (Int)
PBL86-80-GB12 15:1	586	267	15.8	27.6
PBL86-80-GB12 30:1	586	133	27.3	47.8
PBL86-80-GB12 60:1	586	67	30.0	48.0

## BRx90-50-GB12 12V / 24V / 48V

271 mm x 74 mm x 139 mm



### Power (W)

210



### Speed (rpm)

50 - 200



### Max. Torque (Nm)

23.1 (Cont) / 40.5 (Int)



Combination	W	rpm	Nm (Cont)	Nm (Int)
BRx90-50-GB12 15:1	210	200	7.5	13.2
BRx90-50-GB12 30:1	210	100	13.1	22.8
BRx90-50-GB12 60:1	210	50	15.0	35.1

## BRx90-75-GB12 12V / 24V / 48V

292 mm x 74 mm x 139 mm



### Power (W)

283



### Speed (rpm)

50 - 200



### Max. Torque (Nm)

27.0 (Cont) / 45.0 (Int)



Combination	W	rpm	Nm (Cont)	Nm (Int)
BRx90-75-GB12 15:1	283	200	10.1	16.9
BRx90-75-GB12 30:1	283	100	17.6	29.3
BRx90-75-GB12 60:1	283	50	27.0	45.0

# Combination Specifications

## Quick View

With just a mounting flange needed between the motor and gearbox, our modular range combinations can be integrated seamlessly to provide an extended range of power for your applications.

### PBL86-55-GB9 48V

280 mm x 86 mm x 176 mm



**Power (W)**  
419



**Speed (rpm)**  
67 - 267



**Max. Torque (Nm)**  
39.0 (Cont) / 68.3 (Int)



Combination	W	rpm	Nm (Cont)	Nm (Int)
PBL86-55-GB9 15:1	419	267	12.8	22.3
PBL86-55-GB9 30:1	419	133	22.5	39.4
PBL86-55-GB9 60:1	419	67	39.0	68.3

### PBL86-80-GB9 48V

306 mm x 86 mm x 176 mm



**Power (W)**  
586



**Speed (rpm)**  
67 - 267



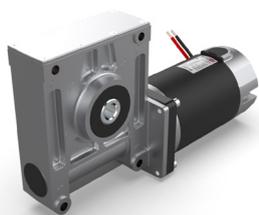
**Max. Torque (Nm)**  
50.0 (Cont) / 80.0 (Int)



Combination	W	rpm	Nm (Cont)	Nm (Int)
PBL86-80-GB9 15:1	586	267	17.9	31.2
PBL86-80-GB9 30:1	586	133	31.5	55.1
PBL86-80-GB9 60:1	586	67	50.0	80.0

## BRx90-50-GB9 12V / 24V / 48V

355 mm x 90 mm x 180 mm



**Power (W)**

210



**Speed (rpm)**

50 - 200



**Max. Torque (Nm)**

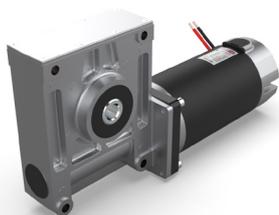
26.1 (Cont) / 45.6 (Int)



Combination	W	rpm	Nm (Cont)	Nm (Int)
BRx90-50-GB9 15:1	210	200	8.5	14.9
BRx90-50-GB9 30:1	210	100	15.1	26.3
BRx90-50-GB9 60:1	210	50	26.1	45.6

## BRx90-75-GB9 12V / 24V / 48V

355 mm x 90 mm x 180 mm



**Power (W)**

283



**Speed (rpm)**

50 - 200



**Max. Torque (Nm)**

35.1 (Cont) / 58.5 (Int)

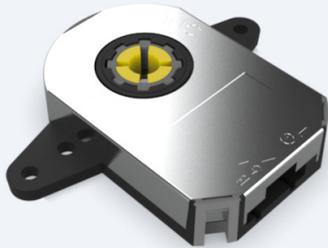


Combination	W	rpm	Nm (Cont)	Nm (Int)
BRx90-75-GB9 15:1	283	200	11.5	19.1
BRx90-75-GB9 30:1	283	100	20.3	33.8
BRx90-75-GB9 60:1	283	50	35.1	58.5

# Modular Accessories

## Fine Tune Your Configuration

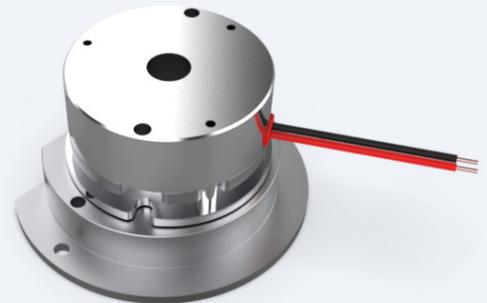
Here at Parvalux, we appreciate that sometimes it's the small things that can really make a difference, that's why we offer a range of accessories to enable more precise control of your motor-gearbox system.



### Encoders

Add our incremental encoder to your modular configuration to enable further control to the power supply of your system.

Our incremental encoder offers 48 - 2048 PPR, 6.0 mA of current consumption, and fits seamlessly to the rear of the PMDC and BLDC motors within the modular range.



### Brakes

Adding a brake to your modular configuration couldn't be easier. Mounting directly to the back of the motor, or onto a mounting flange that fits around the encoder when needed, our 1.5 Nm brake adds that extra reassurance when holding a load on your system.

Currently, the 1.5 Nm brake is only suitable for a few motors within the modular range, however, we plan to extend our brake range in the near future.



Our 1.5 Nm brake can be used on our PBL60, PBL70, and PBL86 brushless motors, and our BRx63, BRx70, and BRx90 brushed motors.



## Shafts

Our current range of modular gearboxes are supplied with a hollow shaft as standard; however, we also offer shaft extension kits for both our GB9 and GB12 gearboxes.

Secured through a keyway and slot, our shaft extension kits offer a quick-fit solution where a hollow shaft isn't quite right for your application.



## Controllers

Intelligent motion control can extend the possibilities of your configuration.

The Parvalux SC 50/15 controller has been developed in conjunction with our parent company, maxon, and integrates seamlessly with the PMDC and BLDC motors within the modular range.

# Building Automation

## Recommended Combinations

Building automation touches many people's lives, often without them even realizing. Revolving, hinged or sliding security points, elevator doors, car park barriers, roller blinds, CCTV, and HVAC applications all fall under the building automation umbrella and each application requires reliable motor drives in order to function.

Electric door manufacturers are increasingly seeking greater efficiency in door motor drive units, as well as needing long-term reliability and durability. Parvalux delivers on all fronts with a range of AC and DC brushed and brushless geared motors trusted globally in buildings and on mass transit systems, such as train, bus and elevator doors.

Access control systems such as security barriers, swipe card or proximity entry points in office buildings benefit from leveraging IoT (Internet of Things) technologies; however, these essential functions are only effective when allied to reliable and durable motor drives.

With an expanding population all over the world, 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 an advantage against your competitors.

We also have extensive experience in providing geared motor solutions to a number of different door automation applications, such as:

- Access control
- Shutter and blind closers
- Pool cover closers



### Door Automation

BRx70-GB12

BRx90-GB12



### Access Control

BRx70-GB12

BRx90-GB12



Recommended combinations for these applications will be added in the near future. Please contact our sales team if assistance is needed in selecting your solution.

# Material Handling

## Recommended Combinations

The modern warehouse sector has embraced motorized 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.

Since the start of the pandemic, there has been meteoric growth in online shopping, most of this being fulfilled via large, complex warehousing and distribution hub facilities. Parvalux was able to react quickly with standard and custom gear motor designs for conveyor belt systems, picking systems, parcel sorting equipment, pallet shuttles and automated storage and retrieval systems (ASRS).

The Parvalux modular range includes a number of different combinations that are well suited to many of the applications found in this fast paced and rapidly developing industry. When the demand for a quick turnaround to take a concept to market is at an all time high, our modular range solutions can provide the perfect starting point for proof of concept, which can later be customized to meet your exact requirements.



### Conveyors

PBL86

BRx70-GB12

BRx90-GB12

BRx90-GB9



### ASRS

BRx70-GB12

BRx90-GB12

BRx90-GB9

We also have extensive experience in providing geared motor solutions to a number of different material handling applications, such as:

- Automated shrink wrapping
- Pallet and tray shuttles
- Sorting machines



Recommended combinations for these applications will be added in the near future. Please contact our sales team if assistance is needed in selecting your solution.



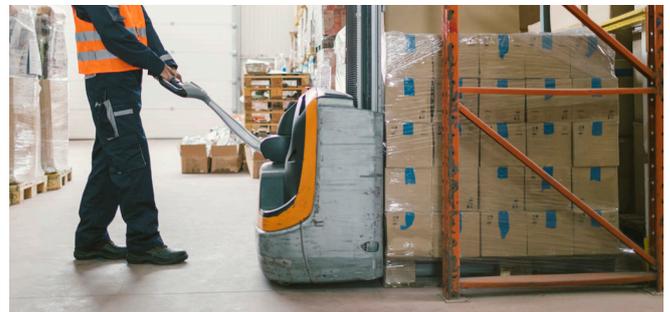
### AGVs

BRx70-GB12

BRx90-GB12

BRx90-GB9

PLB86-GB9



### Warehouse Tugs

BRx70-GB12

BRx90-GB12

PBL70-GB12

PBL86-GB12

BRx90-GB9

PLB86-GB9

# Mobility Solutions

## Recommended Combinations

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. Our ability to travel, go shopping, take outdoor recreation and even play sports can be extended with the help of a range of mobility solutions.

Parvalux has demonstrable experience providing reliable and robust drive systems for a range of mobility products, from electric wheelchairs to mobility scooters and even golf buggies and carts. Manufacturers benefit from our ability to customize our geared motor products to meet their specific need and our willingness to develop fully custom solutions, where required.

The Parvalux modular range includes a number of different combinations that are well suited to many of the applications found in this ever-growing industry.

Although many of the solutions we provide for this sector usually require some customization, our modular range can be utilized to quickly provide proof of concept for a range of mobility solution projects.



### Stairlifts

BRx70-GB12

BRx90-GB12

PBL70-GB12

PBL86-GB12

BRx90-GB9

PBL86-GB9



### Patient Hoists

BRx70-GB12

BRx90-GB12

PBL70-GB12

We also have extensive experience in providing geared motor solutions to a number of different mobility applications, such as:

- Mobility scooters
- Mobility vehicles
- Powered wheelchairs
- Taxi step actuators
- Wheelchair ramps



Recommended combinations for these applications will be added in the near future. Please contact our sales team if assistance is needed in selecting your solution.



### Platform Lifts

BRx70-GB12

BRx90-GB12

BRx90-GB9



### Wheelchair Lifts

BRx70-GB12

PBL70-GB12

# parvalux

by **maxon**



Our expert team of design engineers are also well-versed in customizing our standard range or creating a fully custom solution from scratch.

Get in touch today to discuss your requirements.

## Can't find what you're looking for?

Our standard range of products include additional options for PMDC, BLDC and AC motors, as well as right-angle and inline gearboxes.

Visit [www.parvalux.com/us](http://www.parvalux.com/us) to explore the entire range.

125 Dever Drive, Taunton, MA 02780



[www.parvalux.com/us](http://www.parvalux.com/us)