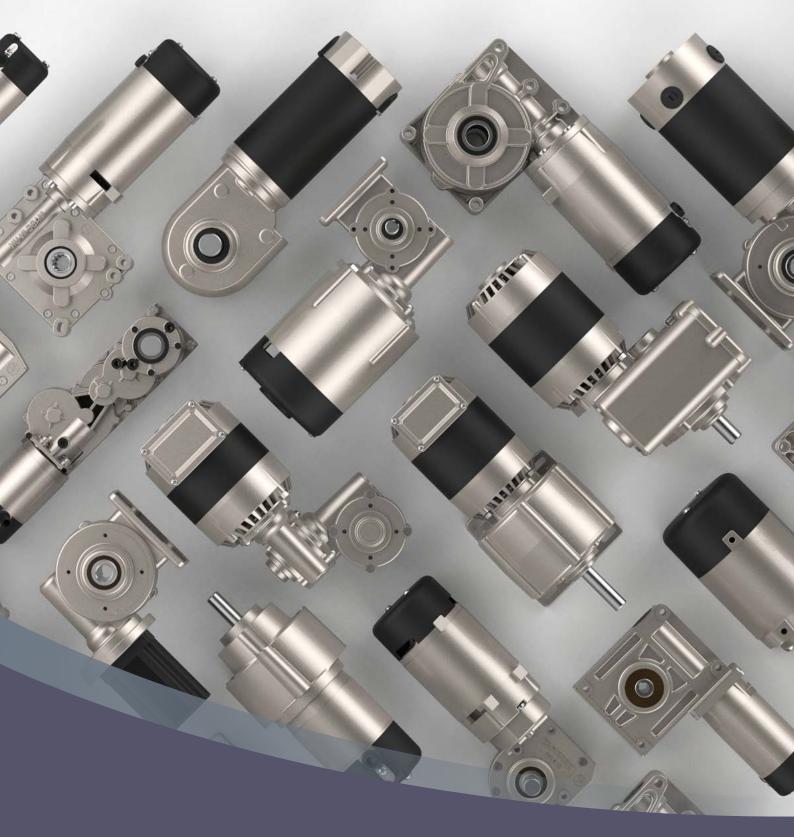
# PARVALUX



# Parvalux

**Electric Motors & Electric Geared Motors** 



# ELECTRIC MOTORS & ELECTRIC GEARED MOTORS

Parvalux designs and manufactures a huge range of AC and DC motors, both brushed and brushless, as well as a wide range of matching gearboxes that are suitable for a broad range of applications in the Healthcare, Industrial, and Leisure sectors.

As well as a huge range of standard products we also offer semi-custom and fully bespoke design options to ensure you have a geared motor solution that exactly meets the needs of your application.

This brochure displays our products across our DC, AC, and Brushless ranges, presented in ascending maximum torque order. Such is the wide variety in performance capabilities when combining a Parvalux motor and gearbox, the ranges shown below each product for speed and power are the complete ranges for the gearbox in question when paired with any motor in the Parvalux range. Along with this, there are icons displaying the most common applications that the product is used on, giving you a point of reference for your own application.







### **Contents**

**About Us** 

Overview Design Process Quality Assurance Parvalux Plus Sourcing Service Icon Key - Applications	03 05 05 06
DC Solutions	07
DC Motors DC Geared Motors	07
VIPER3 Wiper Motor	13
<b>Brushless Solutions</b>	14
DC Brushless Motors DC Brushless Geared Motors	14 15
AC Solutions	19
AC Motors AC Geared Motors	19 21
Choosing Your Motor	24
<b>Customisation Options</b>	25
Parvalux Birmingham	27
EMC Guidelines	29
CE Directive	29

# **ABOUT US OVERVIEW**

Parvalux's geared motor solutions are found in a huge range of applications from the safety critical, such as those in healthcare like wheelchairs and patient hoists, to powering the windscreen wipers on the world's largest ships and fastest trains. They are also used extensively in the leisure industry in everything from golf trolleys and carts, to caravan movers and clay pigeon traps.

Over the last 70 years we've built up a huge wealth of knowledge of different applications and their specific needs so the customer can trust us to help design the perfect motor and gear solution for their end product. Whilst we have thousands of standard combinations of motors and gearboxes which enable rapid prototyping, we can also offer very rapid turnaround on customisation if needed, and can even produce fully bespoke designs and incorporate additional parts of the customer's drive train.

Parvalux can offer you an easy, quality-assured solution, whatever your requirements:

#### **Production Flexibility**

Low or high volume flexibility with no minimum order quantities.

#### Technical & Engineering Expertise

Our wealth of experience and the latest technology means we can meet and support all your solution's needs.

#### **Product Modification**

We can customise and configure your product solution to your preferences

#### **Design Capability**

Totally Bespoke Product Design. We can design our products around your application.



#### **Experienced**

70 years' experience of geared motor solutions. Over 20 million products shipped



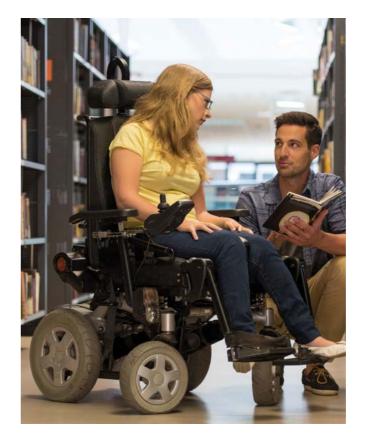
#### **Trusted**

Trusted worldwide by leading manufacturers, in a range of different industries, to power their products



#### Capable

Three state of the art factories in Europe supplying over 275,000 products per year







#### Trusted in Healthcare

With the market set to grow significantly in the future we are investing • Powered Wheelchairs heavily in designing new geared solutions to meet the specific needs of • Stairlifts each application. Our application and design engineers are well versed • Patient Hoists in the specific demands of each application - such as high torque, low • Vertical Platform Lifts noise and high efficiency for wheelchairs - and can work as an extension • Vehicular Access of your own design team to ensure you get the perfect solution to power your product.



#### Trusted at Work

Parvalux motors are trusted every day to help people in their work, • Wiper Systems whether its windscreen wipers on a high speed train or a conveyor • Vending Machines belt in a factory, you can trust us to safely power your product. • Industrial Automation We know how important service and support are too, so we have • Cleaning Equipment a dedicated service centre, centrally located in Birmingham. • Farming The team here can supply spares, as well as service, and repair • Energy products as required.



#### Trusted at Leisure

Parvalux has extensive experience in powering leisure applications • Caravan Movers such as Caravan Movers, Golf Buggies and Trolleys, Amusement • Candy Floss Machines machines, Clay Pigeon Traps, and even Candy Floss Machines. Whilst • Amusement Machines we have a huge range of standard products, we pride ourselves • Golf Trolleys on being able to design semi-custom and full bespoke solutions, • Clay Pigeon Traps offering customisation on shafts, windings, and armatures, to fully • Golf Buggies meet the requirements of your application.



# **ABOUT US DESIGN PROCESS**

Our core focus is to work as an extension to our customer's design capability from the outset. This means developing geared motor concepts for applications that meet exact technical and commercial specifications. We contribute at every design level, from initial design sketches and 3D-concept models, through to rapid prototypes for 'proof of concept'. Our geared motor solutions utilize metals and/or composite technologies to obtain the right level of performance and cost.

We use a 5-stage gateway process that encompasses initial design specification/concept, prototype, sample, pre-production and final production. We work within a multi-disciplinary team blending NPI design methodologies with advanced quality planning, production engineering, and end-to-end project management.

In tandem with extensive life tests, we rigorously analyse prototypes using 'design failure mode effects analysis' (DFMEA) to ensure that the final production version is right first time.

# PARVALUX + **SOURCING SERVICE**

Unable to find what you're looking for in the Parvalux Product Range? Just get in touch to discuss the requirements of your motor-gearbox solution

If one of our motors can't meet the requirements of your application the Parvalux Plus service will source a solution for

**EMAIL** sales@parvalux.com Parvalux Plus guarantees...

- Enquiry response within 24 hours
- Technical support & guidance in finding the right product solution
- All products backed by our Parvalux Promise
- Tested to meet our stringent quality standards
- Covers all motor, gearbox, and geared-motor solutions, no matter how obscure
- Stocking service available for regular volume requirements
- One supply chain to manage

**CALL** +44(0)1202 512575

# **QUALITY ASSURANCE**

Parvalux Electric Motors Ltd. Quality Management Scope

Parvalux Electric Motors Ltd design, manufacture, configure, market and distribute a range of fractional horsepower AC and DC drive systems, including electrical motors and gearboxes, for the medical/mobility, leisure and industrial markets. The Quality Management System fully complies with the requirements of ISO9001:201.

#### Parvalux Electric Motors Limited Compliance & Conformity

As the leading UK manufacturer of fraction horsepower electric motors and gearboxes, Parvalux maintains compliance to the following key standards and requirements;

- EN ISO 9001:2008 Quality Management System
- EN ISO 17050-1:2004 EC Declaration of Conformity

2006/95/EC - Low Voltage Directive

2011/65/EU - RoHS Directive



# ICON KEY APPLICATIONS

Shown below are some of the most common applications that Parvalux motors are used in. If your application is not listed, please get in touch to discuss your requirements.





**Patient** 



Vehicle Accessibility



Centrifuge







**Amusement** 



Pump **Systems** 



Rotisserie



Honey

Clay Pigeon Traps

Industrial

# Torque: 0.1 - 4.9 Nm | Speed: 1000 - 5000 RPM | Power: Up to 2030 W | Voltage: 12 - 240V



Power: Up to 1047 W

Power: Up to 250 W

Power: Up to 330 W

Power: Up to 260 W

Power: Up to 2030 W

## DC Permanent Magnet Brushed Geared Motors

Torque: 0.1 - 150 Nm | Speed: 0.2 - 1390 RPM | Voltage: 12 - 240 V

products shown in ascending torque order

The PMXX notations shown in these panels represent the complete range of DC Permanent Magnet Brushed Motors available from Parvalux.

The details shown around each product provide a performance range, along with the common applications, for the gearbox pictured when combined with a suitably rated Parvalux DC Permanent Magnet Brushed Motor.

































## DC Permanent Magnet Brushed Geared Motors

Torque: 0.1 - 150 Nm | Speed: 0.2 - 1390 RPM | Voltage: 12 - 240 V

products shown in ascending torque order























11







# VIPER3

the ultimate in wiper motor technology









Haulage Transport Marine

**BREAKAWAY TORQUE 110.0 Nm SPEED 21 - 45 RPM** 

Designed and built to withstand a variety of different environments, the new VIPER3 from Parvalux is the perfect geared motor solution for use in your large wiper system application. Trusted to work reliably in the harshest conditions, the VIPER3 can comfortably operate when faced with dust, liquid, high & low temperatures, and wide variances in humidity, allowing it to integrate seamlessly into vehicles across the rail, marine, haulage, and transport sectors.

Equipped with multiple mounting options, the space conscious design of the VIPER3 allows for it to be easily mounted into your application. This, combined with internal wiring and an enclosed commutation brush design, makes this self-contained, IP54 rated, geared motor the ideal solution for use in your large wiper system.

	Family		
	80 Series	110 Series	
Nominal Voltage	24/48/110/220 VDC *	24/48/110/220 VDC *	
Nominal Speed	2 Speed - 21/36 or 30/45 RPM *	2 Speed - 21/36 or 30/45 RPM *	
Nominal Torque	9Nm/6.5Nm @ 21/36 RPM and 9Nm/6.5Nm @ 30/45 RPM	15Nm/10Nm @ 21/36 RPM and 15Nm/10Nm @ 30/45 RPM	
Breakaway Torque	80Nm	110Nm	
Nominal Current	3/3.7A based @ 24V 30/45RPM unit	5/6.2A based @ 24V 30/45RPM unit	
Nominal Output Power	51/56W based @ 24V 30/45RPM unit	86/86W based @ 24V 30/45RPM unit	
Direction	Clockwise or Counter Clockwise	Clockwise or Counter Clockwise	
Duty	S1	S1	
Weight	4.0Kg	4.5Kg	
EMC	EN50121-3-2 2015 Compliant	EN50121-3-2 2015 Compliant	
IP Rating	IP42/54/56	IP42/54/56	
Enclosure	TENC	TENC	
Mounting	Gearbox housing - 3x Equi-spaced M8 on a Ø72 P.C.D	Gearbox housing - 3x Equi-spaced M10 on a Ø90 P.C.D	
Output Shaft	Ø12.9, 60 Tooth Splined *	Ø12.9, 60 Tooth Splined / Ø15.0, 70 Tooth Splined *	

### **DC Brushless Motors**

Torque: 0.1 - 6.6 Nm | Speed: 2530 - 4000 RPM | Power: Up to 1750 W | Voltage: 12 - 48 V













# 3D CAD MODELS

### AVAILABLE AT WWW.PARVALUX.COM

Simply visit your chosen product's page on the site and fill out the 3D CAD request form. This will then be sent to one of the Parvalux team who will provide you with a download link for your chosen motor.

Torque: 0.1 - 150 Nm | Speed: 0.2 - 1390 RPM | Voltage: 12 - 48 V

The PBLXX notations shown in these panels represent the complete range of DC Permanent Magnet Brushless Motors available from Parvalux.

The details shown around each product provide a performance range, along with the common applications, for the gearbox pictured when combined with a suitably rated Parvalux Brushless DC Motor.

































Torque: 0.1 - 150 Nm | Speed: 0.2 - 1390 RPM | Voltage: 12 - 48 V

































Torque: 0.1 - 0.9 Nm | Speed: 900 - 6500 RPM | Power: 3.7 - 250 W | Voltage: 110 - 240 V

























### **AC Induction & Brushed Series Geared Motors**

Torque: 4.5 - 100Nm | Speed: 0.2 - 1500 RPM | Voltage: 110 - 240 V

products shown in ascending torque order

The SDXX notations shown in these panels represent the complete range of AC Induction & Brushed Series Motors available from Parvalux.

The details shown around each product provide a performance range, along with the common applications, for the gearbox pictured when combined with a suitably rated Parvalux AC Induction or Brushed Series Motor.

































### AC Induction & Brushed Series Geared Motors

Torque: 4.5 - 100Nm | Speed: 0.2 - 1576 RPM | Voltage: 110 - 240 V



















# **CHOOSING YOUR MOTOR**

The sections below give a brief overview of the different aspects of motor design that define your product. Identifying these from the outset will allow you to get the perfect geared motor solution for your application.

#### **Input Power Source**

#### Voltage

AC or DC voltage? What voltage do you need your motor to run at?

#### Frequency

50Hz? 60Hz? Both?

#### Current

Does the current draw need to be under a certain value?

#### Control

Variable Speeds? What type of control will you need?

#### **Environment**

#### Ingress Protection (IP)

Will your motor need protection against the elements? Dust, Water, etc.?

#### **Temperature**

Ambient temperature of the applications environment? Do you need to touch the motor?

#### **Gear-Motor Specification**

#### Weight

Are there any weight restrictions within your application?

#### Life Expectancy

How long will you need your motor to operate for? Does the application allow for maintenance to be carried out?

#### Noise

Is noise an important factor in your application?

#### Efficiency

Importance of your motors efficiency?

#### **Gear-Motor Performance**

#### Power (W/HP)

Watt/Horsepower requirements? Amperage limitations if using a control?

#### Speed (RPM)

High or low speed? Fixed or varying?

#### Torque (Nm/Lb-In)

High start or stall torque? Running torque requirements?

#### **Duty Cycle**

Operating continuously or in short bursts with time to cool down in between?

#### **General Requirements**

#### **Mounting Orientation**

How does the motor need to be mounted to the application?

#### Overhung and Side Loads

Does the application have additional loads (radial or axial) putting stress on the motor?

#### Package Size

Is there a size restriction within your application?

#### Lubrication

Grease or oil required? High or low temperature lubrication?

#### **Agency Approvals**

Any approvals that your application must meet? UL, CE, RoHS, CSA, etc.?

The Parvalux Sales Team can assist in finding you the perfect geared motor solution for your application...

CALL

**EMAIL** 

01202 512575 SALES@PARVALUX.COM

# **CUSTOMISATION OPTIONS MODIFICATIONS & FULLY BESPOKE DESIGN**

Whilst the motors and gearboxes featured in this catalogue are part of the Standard Parvalux Range, we are also able to offer a vast array of additional options and modifications; including:

- Multiple shaft options
- Electromechanical brakes
- Enhanced IP protection
- EMC suppression
- Length
- Encoders
- Gear material
- Thermal overload protection
- Drives/speed controllers

For higher volumes we are also able to offer complete customisation and fully bespoke solutions, whatever your requirements.



#### Shaft

We offer a range of single or double ended shafts for our complete motor and gearbox range. In addition to the standard shafts shown in the catalogue, we can produce special keyways, flats, drilled holes, threads, and special fittings to specific requirements. Shaft material as standard is high quality carbon-steel; alternative materials can be requested, including marine grade stainless steel.

#### **Output Flange**

Keys

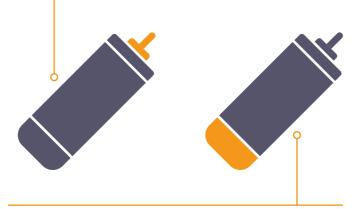
Tacho-generators

We provide a comprehensive range of motor flanges to meet IEC, NEMA and common "Eurostandard" dimensions, as well as Parvalux standard.

All motor and gearbox flanges can be customised to include extra blank/tapped holes or specially machined details.

#### Cable

Apart from our standard length of cable, alternative lengths can be specified according to your needs which can be assembled in a cable loom as required. Further options include 3 core cables, cable screening, and a huge range of connectors or crimps.



#### Brake

We provide a standard range of high-quality spring applied brakes to provide either staticholding or dynamic braking. Our standard ranges from 0.4Nm - 2.0Nm operating on a low voltage DC supply or a single phase AC supply. Alternative brakes are available on request.

#### Encoder

We provide a standard range of HEDS compatible dual channel encoders offering 200 - 1250CPR output (500CPR as standard) with index pulse. These high-performance encoders are mounted to the rear of the motor; however, we are also able to provide custom-specific mounting on the gearbox output shaft. If an alternative style of encoder is required, we are happy to source an alternative or provide a customspecific solution.

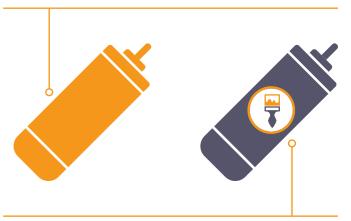


#### **Tachogenerator**

Our standard brushless tachogenerator is a 24 pole design providing 200Hz/krpm output. Mounted to the rear of the motor, the device offers simple and cost-effective feedback. Alternative tachogenerators are available on request.

#### **Fully Bespoke Solutions**

As well as providing a large range of design options based on customising existing designs, we are able to provide bespoke solutions (outand-out specials) for medium - high volume applications. In such cases our in-house design team are able to model new designs to allow rapid prototyping and test. With a strong design element as well as modern manufacturing and low cost supply chain, we are often able to provide cost-effective solutions quickly.



#### **Paint Finish**

Standard paint finish is Parvalux blue applied to induction, series wound and DC geared motors. Planetary geared motors are powder coated blue and DC brushless motors are painted black. Alternative paint colours are available on request.

# PARVALUX BIRMINGHAM SERVICE CENTRE

Based in a central UK location, the Parvalux Service Centre is a dedicated business focussed on delivering a highly responsive service for low volume customer sales. Additional services include a comprehensive range of options for after sales care to all customers purchasing Parvalux products.

### **Fast Delivery Times**

With an extensive stock holding, our dedicated service team is able to select, configure, and dispatch products with fast delivery times.

With a strong service ethos, our team are experienced in converting an urgent requirement into the correctly configured product, quickly and efficiently. Conveniently located in the centre of the UK, deliveries can be arranged for next day, timed if required. Same day dispatch for urgent requirements are possible, please enquire with our service team.

### Warranty

Before returning items please call a member of our sales team to obtain an RMA number.

Any unit proving faulty that is currently out of warranty must be returned to PSC complete, with carriage paid, for examination to be repaired or replaced at our discretion. PSC Address: Unit 4, 26 Avenue Road, Birmingham, B6 4DY, UK.

All returns in warranty must be clearly marked with their RMA number and sent to: Returns department, Parvalux, 490 Wallisdown Road, Bournemouth BH11 8PU, UK.









### **Extensive Stock**

With over £300,000 stock holding, the service centre is able to provide fast response turnaround for both urgent requirements and small volumes.

The service centre holds extensive stock covering all key parts and components for the Parvalux product range. Because of this, the service team can configure a wide range of solutions quickly and efficiently. Complete geared motors are available in small volume, as well as replacement parts and accessories.

## **Rapid Service**

With a dedicated and experienced serviceteam, we provide a rapid response to enquiries as well as an out-of-hours service response.

Our service-team has extensive experience with the complete range of Parvalux products both current and older lines. Their culture is one of customer focus, customer service, and fast response.

With a fast track facility (out of hours) and same day/next day focus, our team can provide that essential service for urgent requirements.

### Diagnostics & Repair

With extensive knowledge of current and past product lines, our technicians can repair and refurbish products back to factory standard.

With over sixty years manufacturing heritage and over 20 million geared motors shipped globally, our service team is equipped to deal with any enquiry. We often see products with over 30 years' service history that can be overhauled and returned to trouble-free service.

Our technicians have all been factory-trained and have served with many years of Parvalux experience. For this reason, we provide a complete diagnostics and repair service for any Parvalux product produced. Using standard OE parts, all Parvalux products can be repaired back to factory-standard.

service@parvalux.com | +44(0)121 333 5964 | Unit 4, 26 Avenue Road, Birmingham, B6 4DY

### **EMC Guidelines**

Products	PM1 - PM110	
Voltage	AC 110V / 240V DC 12V / 240V	
Directive	2004 / 108 / EC	
Standards	EN55014 EN61000-6-4 EN61000-6-3	Class A Class B

In order to meet the directive 2004/108/EC, an EMC filter is required in the power supply line to all motor types. The filter is selected according to voltage, speed, & current

We strongly recommend that you contact one of our technical advisors to ensure correct selection.

#### The following table provides a summary of all recommended filters:

Motor		Filter	Standard	
Туре	Voltage	RPM	rittei	Stallualu
PM1 - PM60	12V - 300V	1500 - 5000	10A / 25A / 50A	EN55014
PM90	12V	4000 / 3000	50A	EN61000-6-4 Class A
PM90	12V	2000 / 1500	25A	EN61000-6-4 Class A
PM90	24V	4000 / 3000	25A	EN61000-6-4 Class A
PM90	24V	2000 / 1500	10A	EN61000-6-4 Class A
PM92 - 110	12V	4000	65A	EN61000-6-4 Class A
PM92 - 110	12V	3000	50A	EN61000-6-4 Class A
PM92 - 110	12V	2000 / 1500	25A	EN61000-6-4 Class A
PM92 - 110	24V	4000 / 3000 / 2000 / 1500	25A	EN61000-6-4 Class A



# **GET IN TOUCH**

The Parvalux Sales Team can assist in selecting the perfect geared motor for your application

+44(0)1202 512 575

EMAIL SALES@PARVALUX.COM

### **CE Directive**

#### **Standards for Safe Operation**

EN60034-1:2004	Rotating Electrical Machines. Rating & Performance
EN60034-5:2001	Rotating Electrical Machines. Degrees of protection provided by the integral design of rotating electrical machines (IP code)
EN60034-6:1991	Rotating Electrical Machines. Methods of Cooling (IC Code)
EN60034-8:2002	Rotating Electrical Machines. Terminal Markings & Direction of Rotation
EN60034-9:2005	Rotating Electrical Machines. Noise Limits
EN60034-11:2004	Rotating Electrical Machines. Thermal Protection
EN60034-12:2002	Rotating Electrical Machines. Starting Performance of Single-Speed. Three-Phase Cage Induction Motors
EN60034-18-1:1994	Rotating Electrical Machines. Functional Evaluation of Insulation Systems. General Guidelines
EN60204-1:2006	Electrical Equipment of Machines. General Requirements

#### Standards for Compliance with EMC Limit Values

EN55014-1:2006	Electromagnetic Compatibility. Requirements for Household Appliances, Electric Tools, & Similar Apparatus. Emission
EN61000-6-1:2007	Electromagnetic Compatibility (EMC). Generic Standards. Immunity for Residential, Commercial, & Light-Industrial Environments
EN61000-6-2:2006	Electromagnetic Compatibility (EMC). Generic Standards. Immunity for Industrial Environments
EN61000-6-3:2007	Electromagnetic Compatibility (EMC). Generic Standards. Emission Standard. For Residential, Commercial, & Light- Industrial Environments
EN61000-6-4:2007	Electromagnetic Compatibility (EMC) Generic Standards. Emission Standard. For Industrial Environments

#### **CE Marking**

With the declaration of conformity and the CE mark on the product the manufacturer certifies that the product complies with the requirements of all relevant EC New Approach Directives.

#### CE Marking & the Responsibilities of the Customer

It is the responsibility of the customer or machine manufacturer who places an assembly or finished product using a Parvalux product on the market within the EC, to comply with the New Approach Directives relevant to that assembly or finished product.

#### Low Voltage Directive 73/23/EEC - 2006/95/EC

Parvalux chooses to adopt EN60204-1 for motors within the scope of the Low Voltage Directive, and also to comply with the safety aspects of this standard for motors with operating voltages below the scope of the LVD. Equipment with voltage ratings in the range 50-1000Vac and 75-1500Vdc is covered.

## Electromagnetic Compatibility Directive 89/336/EEC - 2004/108/EC

The Electromagnetic Compatibility (EMC) Directive exists to govern the radio frequency electromagnetic emissions from equipment such that in its intended use it does not disturb other equipment. The Directive also governs the immunity of electrical equipment containing electronic components to electromagnetic interference that may be produced by other electrical equipment. Parvalux products comply with the EMC Directive when installed in accordance with the manufacturer's instructions.

#### Machinery Directive 98/37/EC

The Machinery Directive describes a machine as "an assembly of linked parts or components, at least one of which moves, with the appropriate actuators, control and power circuits, etc., joined together for a specific application..." Parvalux products as supplied do not have a specific application as they do not perform a complete mechanical function and must be installed by a competent person. As a result, compliance with the Machinery Directive is not required provided that a safety standard relevant to the type of equipment is adopted, for example the generic electrical safety standard EN60204-1.

**E&OE:** Whilst every effort has been made to ensure the accuracy of the information in this catalogue purchasers should ensure they receive the latest specifications for the product they are purchasing. Product specifications and appearances may change due to our commitment to continuous product improvement.

**Terms and Conditions:** All sales are subject to our Terms and Conditions available from our website **www.parvalux.com** 



#### PARVALUX (HEAD QUARTERS)

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