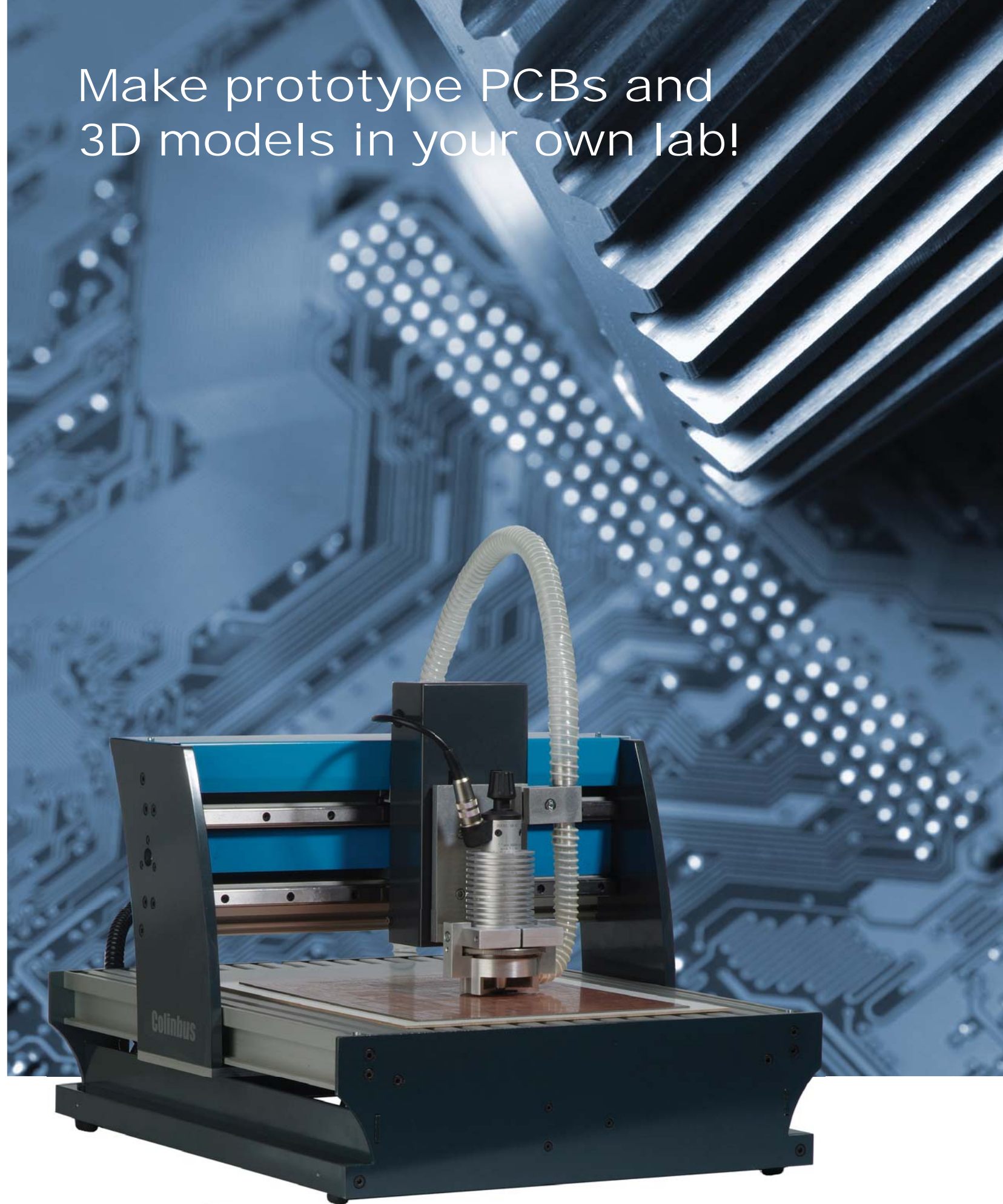


Make prototype PCBs and  
3D models in your own lab!



**Colinbus**<sup>®</sup>  
Machines for electronics labs

# Welcome to the world of Colinbus



I'm naturally very pleased that you are interested in our machines. This brochure presents the CBR, CPR and Laboflex series. These devices are specially designed for the electronics lab. From simple cnc machines to create a front panel to micron precision machinery for the manufacture of full prototypes. The new LaboFlex machines are unique in the world market and offer everything a progressive electronics lab today needs. Ask for a demonstration, we make time for you.

Frank Jacops  
Managing Director

The primary speciality of Colinbus is producing CNC machines for the electronics industry. However, in recent years these machines have attracted more and more interest from other sectors. This has led to enhanced performance of the Colinbus software and made many functions used in other areas available for use in the lab environment. The best-known examples are camera applications, 3D modelling and dispensing, but there are many others as well. Colinbus machines are so versatile that many users simply can't imagine a lab without one.

## User friendly

Operating a CNC machine is a job for a specialist, and it's certainly not desirable to confront electronics engineers and technicians with G-code or any other form of machine mumbo-jumbo. This means that the biggest challenge is to develop software that makes it easy to import and process data regardless of its complexity. For example, it's difficult to avoid dealing with Gerber and Excellon formats when you're milling PCBs. Over the years, these file formats have become industry standards, but only a few people understand them in detail. Our experience (more than 20 years) thus came in handy for writing the new ColiLiner and ColiDrive software. It is now, without question, the most powerful and user-friendly software of its type. It has never been easier to make your own milled PCBs.

## Customer Service

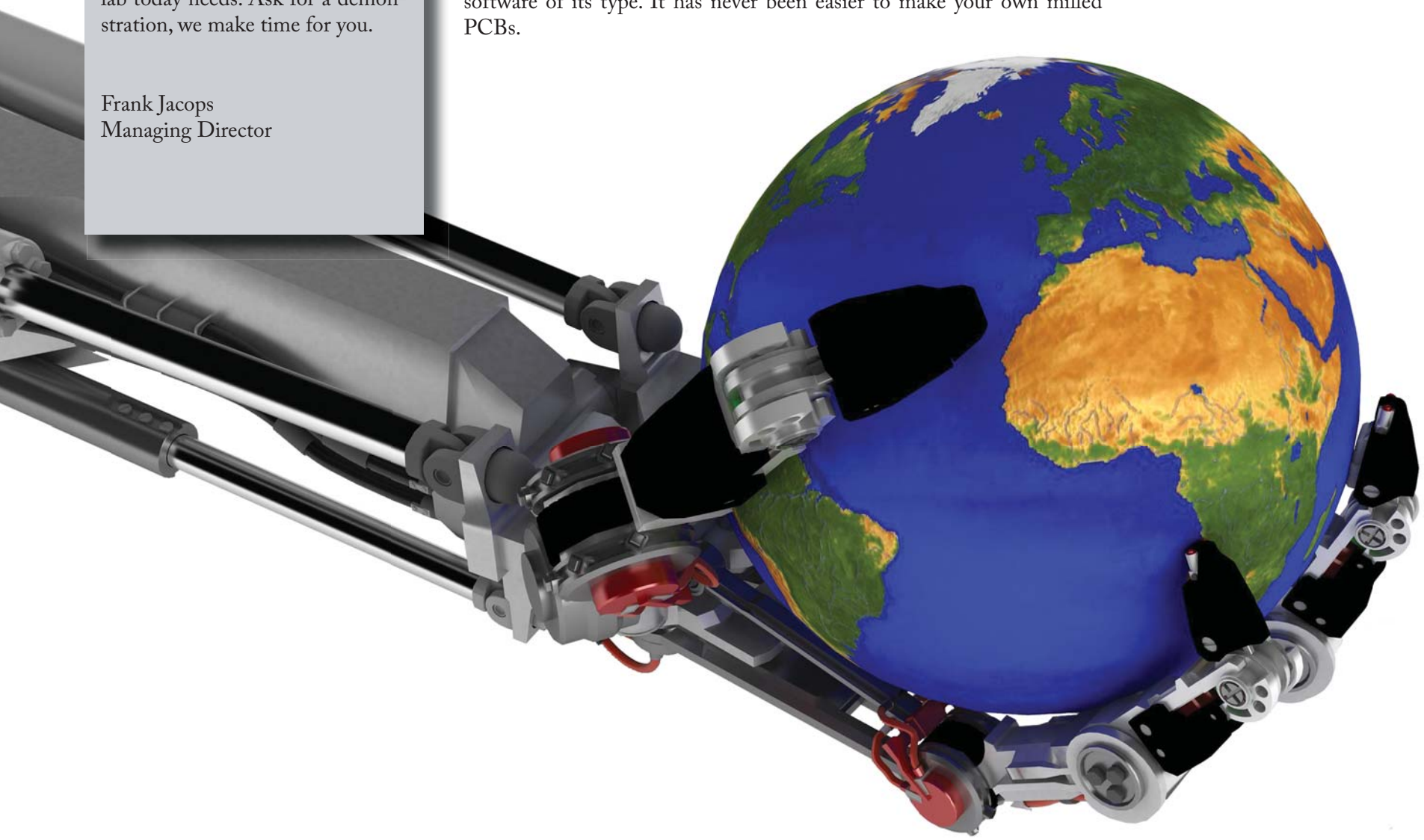
Colinbus guarantees exceptionally reliable machines. If any technical problems nevertheless arise, you can count on an extensive service package as described below:

**Hotline support:** The basic requirements that Colinbus fulfils are a user friendly operator interface, sound user instructions, and quality training. If you still have questions, you can count on our hotline support. Our expert employees will help you find a solution. This service is provided by telephone or e-mail in six different languages. Thanks to the built-in remote service module (RSM), technical problems can be resolved without an on-site visit. Our specialists can test our machines regardless of how far away they are. This service saves our customers a lot of money and results in faster solutions to their problems.

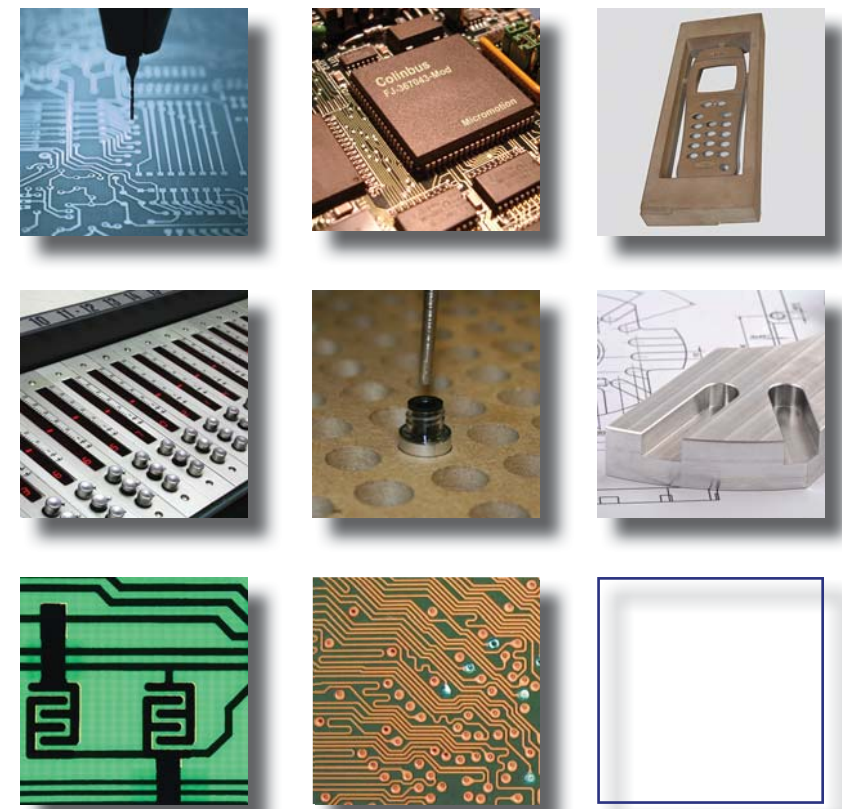
**Replacement parts and repairs:** The Colinbus parts service guarantees the highest availability and the shortest delivery time. This is possible because Colinbus is one of the few manufacturers that makes nearly all of its own parts. Mechanical components,

electronic components and software: they all come from the same plant. If the RSM service cannot resolve a problem, skilled technicians are available for an on-site service call to clear up the problems. We provide telephone support to companies that have their own maintenance departments, to assist them in identifying and replacing defective components.

**Experience on tap:** We have more than 25 years of experience in PCB milling technology, along with machinists who have been intimately involved in 3D prototype construction for many years. That's a lot of experience, and we are glad to share it with you.



# Applications



# CBR series



## Colinbus CBR-40

The CBR-40 is the smallest machine of the CBR series. This machine, with its effective work surface of 300 by 400 mm, is suitable for all sorts of precision tooling. The CBR-40 is widely used in the electronics and jeweler industries. Apart from this, this device can be found in the most unexpected places. The CBR-40 is so multi-functional that there isn't a company or organization that wouldn't be able to use this machine. Thanks to the low prices individuals can practice their hobbies to a professional level and schools are able to furnish complete classrooms, giving each student their own machine to work with. The software is so extraordinary simple to use that anyone can work with the machine.

T-slot table in option

|                |   |
|----------------|---|
| Article number | COLM0001  |
| Working Area   | X 300/ Y 400/ Z 100 mm  |
| Clamping Area  | X 430/ Y 530 mm   |
| Resolution     | 0,025 mm  |
| Repeatability  | 0,05 mm   |
| Drilling speed | 120 strokes/ min  |
| X/Y drive      | Hybride motors  |
| Z-drive        | Hybride motor   |
| Spindle motor  | option  |
| Machine table  | option  |
| Tool-changer   | option  |
| Tool-holder    | option  |
| Engraving head | option  |
| Dimensions     | W 453/ D 583/ H 468 mm  |
| Weight         | 26 Kg (57 lbs)  |
| Power Supply   | 115/ 220V, 50 - 60 Hz   |
| Software       | ColiDrive, CAM package  |
| Options        | T-slot table, vacuum table, spindle, dust extraction, sound hood etc... |

## Versatile

The CBR milling machines are built for the lighter jobs. They are not suitable for machining heavy materials. Because of their relatively large work surface and low purchase price, they are often used to take over the lighter tasks of their heavier counterparts. The machines are ideal for electronics labs, model makers, engraving firms and educational institutions. However, they are also used in professional workshops for 3D scanning, as laser or instrument tables or simply for applying glue or compounds. For example, aluminum front plates can be milled without any difficulty.



Because of the ample availability of accessories, these machines can be used in almost any sector. For a small investment, you can acquire a tool that could not only save a great deal of money but also greatly increase the flexibility (time to market) of your business.

However, CBR machines are not suitable for producing PCBs. They are not configured for this job, and they do not have sufficient precision. If you are looking for a PCB milling machine, you should be looking at the CPR and LaboFlex series.



## Colinbus CBR-60

This is the most popular machine in the CBR series. It fits neatly on a table, yet nevertheless has a very comfortable work range. The CBR-60 has a work surface of 600 by 400 mm. This proves to be a very interesting size for many applications. For example, 19 inch rack applications or jigs for cutting cardboard. However, maquette and model makers also find an ideal partner in this machine. Because the x-axis is not too long, you don't have torsion problems when performing heavy-duty work. Using a 500-Watt spindle motor, you can mill aluminum very smoothly. On the other hand, it is also possible to engrave with exceptional precision with a small, high-frequency spindle.

Vacuum table in option

|                |   |
|----------------|---|
| Article number | COLM0002  |
| Working Area   | X 400/ Y 600/ Z 100 mm  |
| Clamping Area  | X 530/ Y 730 mm   |
| Resolution     | 0,025 mm  |
| Repeatability  | 0,05 mm   |
| Drilling speed | 120 strokes/ min  |
| X/Y drive      | Hybride motors  |
| Z-drive        | Hybride motor   |
| Spindle motor  | option  |
| Machine table  | option  |
| Tool-changer   | option  |
| Tool-holder    | option  |
| Engraving head | option  |
| Dimensions     | W 553/ D 783/ H 468 mm  |
| Weight         | 29 Kg (64 lbs)  |
| Power Supply   | 115/ 220V, 50 - 60 Hz   |
| Software       | ColiDrive, CAM package  |
| Options        | T-slot table, vacuum table, spindle, dust extraction, sound hood etc... |



## Colinbus CBR-80

The CBR-80 has the largest working area. This machine is more suitable for lighter work because of its long x-bridge. It is widely used for engraving, 3D scanning and by scale model makers. Milling in lighter materials is no problem, but this machine is less suitable for milling thicker aluminum. The numerous accessories and the user-friendly software make this machine a multi-functional workstation.

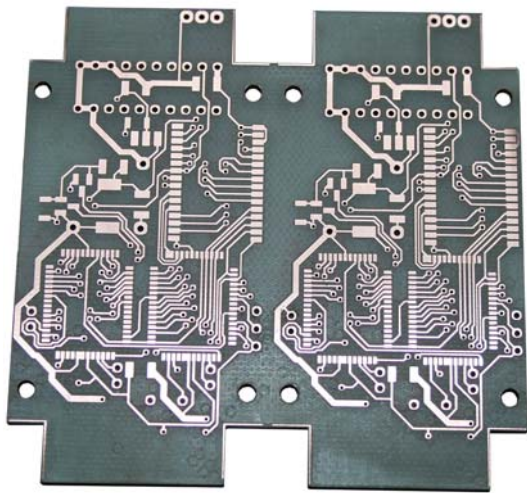
T-slot table in option

|                |   |
|----------------|---|
| Article number | COLM0003  |
| Working Area   | X 600/ Y 800/ Z 100 mm  |
| Clamping Area  | X 730/ Y 930 mm   |
| Resolution     | 0,025 mm  |
| Repeatability  | 0,05 mm   |
| Drilling speed | 120 strokes/ min  |
| X/Y drive      | Hybride motors  |
| Z-drive        | Hybride motor   |
| Spindle motor  | option  |
| Machine table  | option  |
| Tool-changer   | option  |
| Tool-holder    | option  |
| Engraving head | option  |
| Dimensions     | W 753/ D 983/ H 468 mm  |
| Weight         | 43 Kg (95 lbs)  |
| Power Supply   | 115/ 220V, 50 - 60 Hz   |
| Software       | ColiDrive, CM Package   |
| Options        | T-slot table, vacuum table, spindle, dust extraction, sound hood etc... |

# Colinbus PCB milling machines

## Make PCBs in your own lab!

With a Colinbus PCB milling machine, you can produce PCBs in your own lab – fast, environmentally friendly, and with unsurpassed accuracy. Waiting days or weeks for your boards to be delivered is a thing of the past. With your Colinbus CPR or LaboFlex machine, you can proceed directly from the design phase to the implementation and testing of your design. If you discover any design errors, you can immediately produce a new PCB and run your tests again. This has numerous advantages: you can reduce your time to market, your design stays inside the company for increased security, and you are no longer dependent on outside suppliers.



## The most powerful software on the market

Colinbus machines are known for their exceptional ease of use. This is primarily due to the ColiDrive control program, which combines an intuitive user interface with an especially large range of functions. In addition to ColiDrive, ColiLiner is supplied with our PCB milling machines. This program imports data generated using a CAD package and converts it into a form that can be used by the milling machine. This may be a Gerber or Excellon file for PCB production, or another format for general milling and drilling work. ColiLiner is unquestionably one of the most powerful CAM packages on the market. In addition to its flawless import options, the package includes advanced editing functions. For example, you can draw all necessary forms directly in the CAM package, which is especially useful for high-frequency applications. Other features, such as access to True Type fonts, special outlining options and many more, make ColiLiner especially convenient in use.

## CPR-30/modelling

The Colinbus CPR-30/Modelling machine is one of a kind. This machine is specially designed for very precise 3D modelling work. Unlike the other machines in the CPR family, the spindle motor is optional with this machine, and the bridge is higher. In addition, it has the same built-in electronics as the LaboFlex machine. You can select a suitable spindle motor to configure a machine that is exactly suited to the work you want to perform.



Art. Nr.: COLM0026

## Multipurpose machines

Colinbus machines give you more. They are multipurpose machines that are suitable for dozens of jobs in an electronics lab. Their outstanding precision makes them suitable for producing high-resolution PCBs. All of our PCB milling machines can mill insulation tracks with widths down to 100 µm, and they can easily drill holes as small as 0.2 mm. Thanks to our advanced software, these machines are also popular in HF labs. Especially in this regard, the possibility of producing dozens of prototype PCBs a day is highly appreciated. No matter what you have in mind – power boards, flexible PCBs, double-sided, or complex shapes – these machines can process and produce it for you. And that's not all: Colinbus PCB milling machines have much more to offer. Thanks to the flat-milled T-slot table and a handy Z axis, you can transform these machines into extremely accurate CNC table milling machines suitable for extremely fine machining. This makes standard jobs, such as making holes in electronics enclosures and producing front panels, very easy. In addition, jobs such as separating assembled PCBs, producing templates and stencils, and applying solder paste can be performed quickly and accurately.

# CPR series



## Colinbus CPR-30/HF

The CPR-30/HF machine has been especially designed for PCB milling and drilling. This machine has an extremely high-precision and has all the required features and accessories to produce Printed Circuit Boards in an easy and fast way. But this machine can do a lot more: machining of electronics cabinets and front panels just to name two examples. Because the machine has a motor-driven Z-axis and a face-milled aluminum T-nut table all this can be done in a professional way. One thing is for sure: with a CPR-30/HF machine you can highly enhance productivity of your lab.



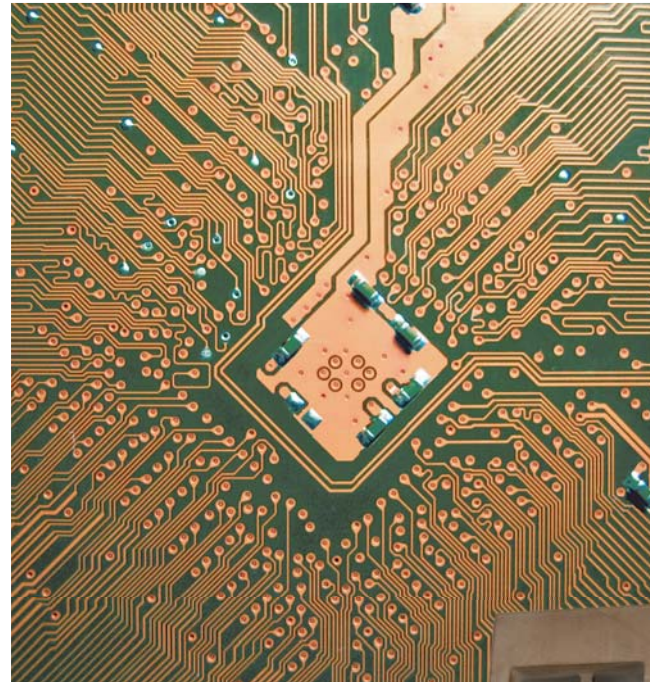
## Colinbus CPR-60/HF

The CPR-60 PCB/HF is technically equivalent to the CPR-30 PCB/HF, but it has a larger working area. This has quite a few advantages. In addition to handling larger workpieces, such as 19-inch panels, this enables you to produce small product runs faster and easier. For instance, you can mill all the layers of a multilayer PCB in a single operation, which yields considerable time savings. The CPR-60 PCB/HF is also fitted with a 60,000-rpm spindle motor, which makes it suitable for producing RF boards and high-resolution PCBs.

|                |  |  |
|----------------|--|--|
| Article number | COLM0028   | COLM0038   |
| Working Area   | X 278/ Y 360/ Z 40 mm  | X 400/ Y 600/ Z 40 mm  |
| Clamping Area  | X 415/ Y 530 mm  | X 540/ Y 770 mm  |
| Resolution     | 7,5 µm   | 7,5 µm   |
| Repeatability  | 4 µm   | 4 µm   |
| Drilling speed | 150 strokes/ min   | 150 strokes/ min   |
| X/Y drive      | Hybride motors   | Hybride motors   |
| Z-drive        | Hybride motor  | Hybride motor  |
| Spindle motor  | 60.000 RPM software controlled                               | 60.000 RPM software controlled                               |
| Machine table  | Flat-milled T-slot table                                     | Flat-milled T-slot table                                     |
| Tool-changer   | Manual with push button                                      | Manual with push button                                      |
| Tool-holder    | 1/8" standard, other in option                               | 1/8" standard, other in option                               |
| Engraving head | µm precise depth adjustment                                  | µm precise depth adjustment                                  |
| Dimensions     | W-440/ D-585/ H-390 mm                                       | W-560/ D-825/ H-390 mm                                       |
| Weight         | 39 Kg (86 lbs)   | 54 Kg (119 lbs)  |
| Power Supply   | 115/ 220V, 50 - 60 Hz  | 115/ 220V, 50 - 60 Hz  |
| Software       | ColiDrive/ ColiLiner   | ColiDrive/ ColiLiner   |
| Options        | vacuum table, camera, sound hood, head lighting, powerswitch | vacuum table, camera, sound hood, head lighting, powerswitch |

# LaboFlex: the world of 3D prototyping

Millions of designers everywhere in the world spend their time developing new products. This usually involves some sort of enclosure containing electronic and mechanical components. The development lab is dependent on suppliers for each of these components. In many cases, the main sources of frustration are long waiting times, incorrect deliveries, and expensive services. The elapsed time for product development can amount to several months, or sometimes well over a year. Suppose you had a machine that would let you make all of these components easily in your own lab, so you could produce a prototype in a few days instead of several months. Such a machine is actually available in the form of the Colinbus LaboFlex, which enables you to produce precise components, 3D models and PCBs, all with the same machine. This means that you can build a complete prototype without the aid of suppliers. Some users even use the machine to make lenses or microscopic parts that are scarcely visible to the naked eye. The sky is the limit, and creativity is king. You can design objects, try them out, modify them and try them again, as often as you wish and whenever you wish.



Insulation tracks at 100 µm and smaller



All types of 3D models: enclosures, components, etc.

## 3D prototyping process

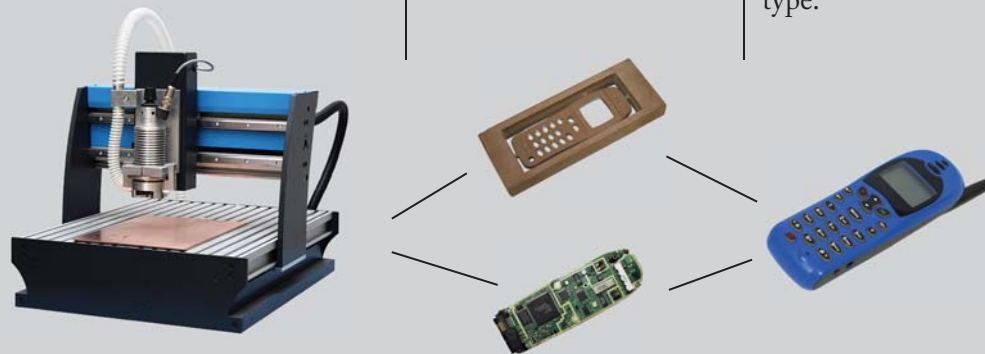
The PCB and the 3D model are designed using a CAD package. After this, a CAM package is used to generate the milling paths.

The PCB and the enclosure are both milled on a Colinbus LaboFlex machine.

The PCB is assembled, and the 3D models are spray-painted in the appropriate colours.

The components are then assembled to produce a fully functional prototype.

CAD — CAM —



# LaboFlex



## LaboFlex 30/HF

The Colinbus LaboFlex 30/HF is the first commercially available machine that can produce precise PCBs as well as full-fledged 3D models. With its incredible resolution of 0.23 µm, high working speed and spindle with micron-level accuracy, this machine is a unique product. This is a true in-house prototyping machine, which can be used to produce not only the PCB but also the entire device. This makes it an ideal machine for every development and design lab. The LaboFlex 30/HF is specially configured for 3D milling with a 70-mm Z axis, and it is equipped with a flat-milled T-slot table as standard.



## LaboFlex 60/HF

The LaboFlex 60/HF is technically equivalent to the LaboFlex 30/HF, but it has a larger working area. Thanks to the robust structure of the LaboFlex machines, this does not affect the accuracy. The advantage is that you can handle larger workpieces and produce small product runs much faster, which can be especially handy with 3D jobs. Workpieces thicker than 7 cm are constructed in layers, and in many cases all of these layers can be milled at the same time with this machine.

|                |  |  |
|----------------|--|--|
| Article number | COLM0033   | COLM0036   |
| Working Area   | X 278/ Y 360/ Z 70 mm  | X 400/ Y 600/ Z 70 mm  |
| Clamping Area  | X 415/ Y 530 mm  | X 540/ Y 770 mm  |
| Resolution     | 0,23 µm  | 0,23 µm  |
| Repeatability  | 1 µm   | 1 µm   |
| Drilling speed | 150 strokes/ min   | 150 strokes/ min   |
| X/Y drive      | Hybride motors   | Hybride motors   |
| Z-drive        | Hybride motor  | Hybride motor  |
| Spindle motor  | 60.000 RPM software controlled                               | 60.000 RPM software controlled                               |
| Machine table  | Flat-milled T-slot table                                     | Flat-milled T-slot table                                     |
| Tool-changer   | Manual with push button                                      | Manual with push button                                      |
| Tool-holder    | 1/8" standard, other in option                               | 1/8" standard, other in option                               |
| Engraving head | µm precise depth adjustment                                  | µm precise depth adjustment                                  |
| Dimensions     | W-440/ D-585/ H-390 mm                                       | W-560/ D-825/ H-390 mm                                       |
| Weight         | 40 Kg (88 lbs)   | 55 Kg (121 lbs)  |
| Power Supply   | 115/ 220V, 50 - 60 Hz  | 115/ 220V, 50 - 60 Hz  |
| Software       | ColiDrive/ ColiLiner/ 3D CAM                                 | ColiDrive/ ColiLiner/ 3D CAM                                 |
| Options        | vacuum table, camera, sound hood, head lighting, powerswitch | vacuum table, camera, sound hood, head lighting, powerswitch |

# LaboFlex Pro

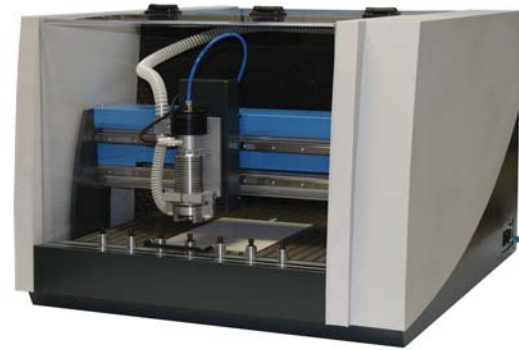


## LaboFlex 30 Pro

The LaboFlex 30 Pro is the top-end PCB/3D machine in the Colinbus product line. Its features include ultra-high precision, high speed, and outstanding ease of use. Thanks to the pneumatic tool changer, the machine can operate unattended for extended periods. The LaboFlex Pro is an essential tool in every professional development lab. It can handle every job, including precision RF circuits, SMD stencils, and realistic 3D models. With this machine in house, the creativity of your designers is immediately visible and your ideas are instantly sellable.

Sound hood in option

|                |  |
|----------------|--|
| Article number | COLM0034   |
| Working Area   | X 278/ Y 360/ Z 70 mm  |
| Clamping Area  | X 415/ Y 530 mm  |
| Resolution     | 0,23 µm  |
| Repeatability  | 1 µm   |
| Drilling speed | 150 strokes/ min   |
| X/Y drive      | Hybride motors   |
| Z-drive        | Hybride motor  |
| Spindle motor  | 60.000 RPM software controlled                               |
| Machine table  | Flat-milled T-slot table                                     |
| Tool-changer   | Automatic (pneumatic)  |
| Tool-holder    | 1/8" standard, other in option                               |
| Engraving head | µm precise depth adjustment                                  |
| Dimensions     | W-440/ D-585/ H-390 mm                                       |
| Weight         | 43 Kg (95 lbs)   |
| Power Supply   | 115/ 220V, 50 - 60 Hz  |
| Software       | ColiDrive/ ColiLiner/ 3D CAM                                 |
| Options        | vacuum table, camera, sound hood, head lighting, powerswitch |



## LaboFlex 60 Pro

This is our most popular LaboFlex machine. The combination of automatic tool changing, a large working area, exceptional precision, and the unique ability to produce both PCBs and 3D models makes this machine one of a kind. The LaboFlex 60 Pro is an excellent choice for departments and companies that must keep all PCBs and models inside their own lab for security reasons. Small product runs can easily be fabricated fully unattended with extremely high accuracy.

Sound hood in option

|                |  |
|----------------|--|
| Article number | COLM0037   |
| Working Area   | X 400/ Y 600/ Z 70 mm  |
| Clamping Area  | X 540/ Y 770 mm  |
| Resolution     | 0,23 µm  |
| Repeatability  | 1 µm   |
| Drilling speed | 150 strokes/ min   |
| X/Y drive      | Hybride motors   |
| Z-drive        | Hybride motor  |
| Spindle motor  | 60.000 RPM software controlled                               |
| Machine table  | Flat-milled T-slot table                                     |
| Tool-changer   | Automatic (pneumatic)  |
| Tool-holder    | 1/8" standard, other in option                               |
| Engraving head | µm precise depth adjustment                                  |
| Dimensions     | W-560/ D-825/ H-390 mm                                       |
| Weight         | 59 Kg (130 lbs)  |
| Power Supply   | 115/ 220V, 50 - 60 Hz  |
| Software       | ColiDrive/ ColiLiner/ 3D CAM                                 |
| Options        | vacuum table, camera, sound hood, head lighting, powerswitch |

## Accessories and options

### Through-hole plating



The Colinbus Metalab enables you to produce professional-quality through-hole plated PCBs in your own lab. Thanks to its compact dimensions, it is at home in every lab. The fluids used in the machine are nearly odourless and do not require any maintenance other than occasional refilling. The Metalab is equipped with state-of-the-art electronics. The digital controller ensures reliable plating of holes as small as 0.2 mm. Thanks to the perfectly controllable copper thickness, you can also use this system with multilayer boards.

### Camera systems

All Colinbus machines can be equipped with a camera. Fiducial recognition for the alignment of multilayer printing is the most well-known application, but with a Colinbus camera can be done much more. You can also use the Colinbus camera systems for measuring, registration and inspection.



### Vacuum tables

Colinbus has extensive experience with vacuum tables and can supply a suitable type for every application. All Colinbus machines can be equipped with a vacuum table. Perforated tables are especially useful in the electronics industry. They are ideal for securely holding thin materials, such as stencils, flexible circuit boards, and the like.



### Accessories



Colinbus offers you top-quality tools and accessories at competitive prices. Everything you need to produce PCBs and 3D models is available. For milling printed circuit boards, special tools have been developed that make it possible to mill insulation tracks smaller than 100 µm. For more information, see [www.colinbus.com/webshop](http://www.colinbus.com/webshop).

### Dust extraction – micro cooling systems – sound cabinets – software – spindles

A large variety of accessories are available for all Colinbus machines. They can expand the capabilities of the machines and make the job easier. Consult our website for more information. Orders can be placed via our web shop, by telephone, or by e-mail.

[www.colinbus.com/webshop](http://www.colinbus.com/webshop)



Worldwide distribution

**Colinbus**<sup>®</sup>  
Technology for everyday applications

**Franklin Industries N.V.**

Industriepark 62  
2235 Hulshout  
Belgium - Europe  
Tel: +32/15/43.10.81  
Fax: +32/15/43.00.85  
Email: [info@colinbus.com](mailto:info@colinbus.com)

[www.colinbus.com](http://www.colinbus.com)

Colinbus distributor:

All stated specifications are subject to change without prior notice.

Any price list included with this catalogue does not form part of the catalogue. Prices are subject to change without prior notice. Contact your Colinbus dealer or distributor for current prices.

Colinbus, ProtoLiner, ColiLiner, ColiDrive, and Franklin Industries are registered trademarks. All other trademarks are used solely for indicative purposes and may be registered by other companies or persons.