

# COLINBUS CBR Range

## COLINBUS

O.L. VROUWESTRAAT 31 B - 2800 MECHELEN

T +32 15 43 10 81 F +32 15 43 00 85

E-mail : main@franklin-industries.com

Http:// www.colinbus.com

Valid from 09/2006

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- > Colinbus MultiStab system
- > Built-in control system
- > Combination of steel and aluminium
- > Hybrid motors
- > Prof. Cam and interface software incl.



COLM0001

### **COLINBUS CBR-40/N**

CNC machine built to do any kind of non-heavy duty job. Working area 300 mm x 400 mm x 100, incl. software package - consisting of machine control software and RAMS (CAM software).

Delivered without spindle or fixation plate.

COLM0002

### **COLINBUS CBR-60/N**

CNC machine built to do any kind of non-heavy duty job. Working area 400 mm x 600 mm x 100, incl. software package - consisting of machine control software and RAMS (CAM software).

Delivered without spindle or fixation plate.

COLM0003

### **COLINBUS CBR-80/N**

CNC machine built to do any kind of non-heavy duty job. Working area 600 mm x 800 mm x 100, incl. software package - consisting of machine control software and RAMS (CAM software).

Delivered without spindle or fixation plate.

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## OPTIONS

### COLINBUS Spindles

COLS0001	<b>FCT-300</b> Spindle motor 135 W; AC; 230V; 15.000 - 35.000 rpm
COLS0002	<b>Fixation clamp for FCT-300</b>
COLS0003	<b>IAC-500</b> Spindle motor 500 W; AC; 230V; 11.000 - 25.000 rpm
COLS0004	<b>IAC-500/11</b> Spindle motor 500 W; 110V; 11.000 - 25.000 rpm
COLS0005	<b>Fixation clamp for IAC-500 and IAC-500/11</b>

### COLLET CHUCKS FOR IAC-500 AND IAC-500/11

COLS0010	<b>CCH 500-03</b> Collet chuck 3 mm
COLS0011	<b>CCH 500-04</b> Collet chuck 4 mm
COLS0012	<b>CCH 500-05</b> Collet chuck 5 mm
COLS0013	<b>CCH 500-06</b> Collet chuck 6 mm
COLS0014	<b>CCH 500-31</b> Collet chuck 1/8" mm
NR	<b>Also available on demand: 1 / 1,5 / 2 / 2,5 / 3,5 / 4,5 / 5,08 / 5,5 / 6,35 mm</b>

COLS0006	<b>COL HIPF30</b> High Precision High Frequency Motor with frequency inverter* - 30.000 rpm * needs to be built in by manufacturer
COLS0007	<b>Fixation clamp for COL HIPF30</b>
COLS0008	<b>JAG-33 K1</b> Spindle motor 170 W; 21V; max 60.000 rpm Precision High Frequency Spindle / Frequency inverter included
COLS0009	<b>Fixation block and clamp for JAG-33 K1</b>

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## OPTIONS

### COLINBUS Accessories

COLA0001	<b>TNT-40</b> T-nut table for CBR-40/N
COLA0002	<b>TNT-60</b> T-nut table for CBR-60/N
COLA0003	<b>TNT-80</b> T-nut table for CBR-80/N
COLA0004	<b>VT-40</b> Vacuum table for CBR-40/N
COLA0005	<b>VT-60</b> Vacuum table for CBR-60/N
COLA0006	<b>VT-80</b> Vacuum table for CBR-80/N
COLA0007	<b>T-nut fixation blocks (10 pcs)</b> For T40; T60 ,T80, Laboflex and CLR and CPR machines
COLA0008	<b>Universal clampers 1 set</b>
COLA0009	<b>Dust extraction system (for low dust volume and fine particles)</b>
COLA0010	<b>HEPA Filter for Dust extraction system (COL0066)</b> HEPA is an industrial standard and stands for High Efficiency Particulate Air To avoid fine particals to get in the air
COLA0011	<b>Powerswitch PS1</b> Software controlled automatic switching of dust extraction system or any other device

### COLINBUS Microjet MKS-G100

COLA0016	<b>MICROJET MKS-G100</b> Special, minimal coolant and lubricant system for thin-bodied coolants/lubricants. The Microjet minimal lubrication system sprays the lubricant directly where it is needed at the work piece or tool.
COLA0017	<b>Switch block voor MKS-G100</b>
COLA0018	<b>Spray block with 2 sprays</b>
COLA0019	<b>Spray block with 1 spray</b>

# COLINBUS CIR Range

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- > Stress-resistant and face-milled profiles.
- > Hybrid motors
- > Ball Screw Spindles on all axes
- > Double linear guidings on all axes
- > High-precision aluminium profiles



Table-top model

COLM0004

### COLINBUS CIR-280-T

CNC machine for a wide range of applications. Working area: y= 280 mm x= 490 mm z= 75 mm.

Clamping surface: y= 850 mm x= 750 mm.

Incl. machine control and CAM software; T-nut table. Built-in CDC-700 controller.

COLM0005

### COLINBUS CIR-500-T

Desktop model

CNC machine for a wide range of applications. Working area: y= 500 mm x= 530 mm z= 160 mm.

Clamping surface: y= 850 mm x= 750 mm.

Incl. machine control and CAM software; T-nut table. Built-in CDC-700 controller.

COLM0005

### COLINBUS CIR-500-F

Same as CIR-500-T but floor model with storage space

COLM0006

### COLINBUS CIR-500-FH

Same as CIR-500-F but with closed dust-and-sound cabinet

COLM0007

### COLINBUS CIR-750-T/1

Desktop model

CNC machine for a wide range of applications. Working area: y= 1100 mm x= 530 mm z= 160 mm.

Clamping surface: y= 1100 mm x= 750 mm.

Incl. machine control software; T-nut table. Built-in CDC-700 controller.

COLM0008

### COLINBUS CIR-750-F

Same as CIR-750-T but floor model on under-carriage with storage space

COLM0009

### COLINBUS CIR-750-FH

Same as CIR-750-F but with closed dust-and-sound cabinet

COLM0010

### COLINBUS CIR-750-T/4

CNC machine for a wide range of applications. Working area: y= 1100 mm x= 530 mm z= 460 mm. **Same machine as CIR750/1 but Z axis = 460 mm!**

Clamping surface: y= 1100 mm x= 750 mm.

Incl. machine control and CAM software; T-nut table. Built-in CDC-700 controller.

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- > Stress-resistant and face-milled profiles.
- > Hybrid motors
- > Ball Screw Spindles on all axes
- > Double linear guidings on all axes
- > High-precision aluminium profiles



Floor model

COLM0011

### COLINBUS CIR-850-T (Desktop model)

Desktop model

CNC machine for a wide range of applications. Working area: y= 850 mm x= 780 mm z= 160 mm.

Clamping surface: y= 1350 mm x= 1000 mm.

Incl. machine control software; T-nut table. Built-in CDC-700 controller.

COLM0012

### COLINBUS CIR-850-F

Same as CIR-850-T but floor model with storage space

COLM0013

### COLINBUS CIR-850-FH

Same as CIR-850-F but with closed dust-and-sound cabinet

COLM0014

### COLINBUS CIR-1250-T

CNC machine for a wide range of applications. Working area: y= 1250 mm x= 1030 mm z= 160 mm.

Clamping surface: y= 1750 mm x= 1250 mm.

Incl. machine control and CAM software; T-nut table. Built-in CDC-700 controller.

COLM0015

### COLINBUS CIR-1250-F

Same as CIR-1250-T but floor model with storage space

COLM0016

### COLINBUS CIR-1250-FH

Same as CIR-1250-F but with closed dust-and-sound cabinet



FH model (with closed dust-and-sound cabinet)

## OPTIONS

### COLINBUS Spindles

COLS0003	<b>IAC-500</b> Spindle motor 500 W; AC; 230V; 11.000 - 25.000 rpm
COLS0004	<b>IAC-500/11</b> Spindle motor 500 W; 110V; 11.000 - 25.000 rpm
COLS0005	<b>Fixation clamp for IAC-500 and IAC-500/11</b>
COLS0015	<b>IAC-1050</b> Spindle motor 1050 W; AC; 230V; 11.000 - 25.000 rpm
COLS0016	<b>Fixation clamp for IAC-1050</b>
COLS0008	<b>JAG-33 K1</b> Spindle motor 170 W; 21V; max 60.000 rpm Precision High Frequency Spindle / Frequency inverter included
COLS0009	<b>Fixation block and clamp for JAG-33 K1</b>
COLS0023	<b>PES-1000</b> Frequency inverter included Motor 1000 W; 230V; 11.000 - 25.000 rpm, manual tool change
COLS0024	<b>COL-3000M</b> Frequency inverter included Motor 3 KW; 380V; max. 24.000 rpm; manual tool change
COLS0025	<b>COL-4000A</b> Frequency inverter included Motor 4 KW; 380V; max.24.000 rpm; automatic tool change with ISO 25 cones
COLS0026	<b>JAG-1500H</b> Frequency inverter included Motor 1,5KW; 230V; max 30.000 rpm; manual tool change
COLS0027	<b>JAG-1500D</b> Frequency inverter included Motor 1,5 KW; 230V; max 30.000 rpm; direc automatic tool change
COLS0028	<b>JAG-1500K</b> Frequency inverter included Motor 1,5 KW; 230V; max 30.000 rpm; automatic tool change with Iso cones
COLS0029	<b>JAG-650HF</b> Frequency inverter included High-precision motor 650W; max 60.000 rpm; manual tool change

## OPTIONS

### COLINBUS Spindles

- COLS0030      **JAG-650HFA**  
Frequency inverter included  
High-precision motor 650W; max 60.000 rpm; direct automatic tool change
- COLS0031      **JAG-1200HFM**  
Frequency inverter included  
High-precision motor 1200W; max 60.000 rpm; manual tool change
- COLS0032      **JAG-1200HFA**  
Frequency inverter included  
High-precision motor 1200W; max 60.000 rpm; direct automatic tool change

### Spindle accessories

#### COLLET CHUCKS FOR IAC-500 AND IAC-500/11

- COLS0010      **CCH 500-03**  
Collet chuck 3 mm
- COLS0011      **CCH 500-04**  
Collet chuck 4 mm
- COLS0012      **CCH 500-05**  
Collet chuck 5 mm
- COLS0013      **CCH 500-06**  
Collet chuck 6 mm
- COLS0014      **CCH 500-31**  
Collet chuck 1/8" mm
- NR              **Also available on demand: 1 / 1,5 / 2 / 2,5 / 3,5 / 4,5 / 5,08 / 5,5 / 6,35 mm**

#### COLLET CHUCKS FOR IAC-1050

- COLS0017      **CCH 1050-03**  
Collet chuck 3 mm
- COLS0018      **CCH 1050-04**  
Collet chuck 4 mm
- COLS0019      **CCH 1050-05**  
Collet chuck 5 mm
- COLS0020      **CCH 1050-06**  
Collet chuck 6 mm
- COLS0021      **CCH 1050-08**  
Collet chuck 8 mm
- COLS0022      **CCH 1050-31**  
Collet chuck 1/8" mm
- NR              **Also available on demand: 1 / 1,5 / 2 / 2,5 / 3,5 / 4,5 mm**

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## OPTIONS

### COLINBUS Accessories

- COLA0009 **Dust extraction system (for low dust volume and fine particles)**  
COLA0010 **HEPA Filter for Dust extraction system (COL0066)**  
HEPA is an industrial standard and stands for High Efficiency Particulate Air  
To avoid fine particals to get in the air
- COLA0011 **Powerswitch PS1**  
Software controlled automatic switching of dust extraction system or any other device

### COLINBUS Microjet MKS-G100

- COLA0016 **MICROJET MKS-G100**  
Special, minimal coolant and lubricant system for thin-bodied coolants/lubricants. The Microjet minimal lubrication system sprays the lubricant directly where it is needed at the work piece or tool.
- COLA0017 **Switch block voor MKS-G100**  
COLA0018 **Spray block with 2 sprays**  
COLA0019 **Spray block with 1 spray**

# COLINBUS CLR Range

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- > State of the art 3D controller
- > Using Stealt\* technologie
- > High precision Ball Screw Spindles
- > High precision linear guides
- > Standard delivered with T-nut table
- > High reliability and accuracy
- > For precise machining of:  
light metals / wood / plastics



COLM0017

### COLINBUS CLR-505

Working area: y= 500 mm x= 500 mm z= 150 mm.

Standard with one central spindle in Y-ax (optional with 2 spindles)

Incl. software package - consisting of machine control and CAM software, T-nut table and State of the art controller.

COLM0018

### COLINBUS CLR-1005

Working area: y= 1000 mm x= 500 mm z= 150 mm.

Standard with one central spindle in Y-ax (optional with 2 spindles)

Incl. software package - consisting of machine control and CAM software, T-nut table and State of the art controller.

COLM0019

### COLINBUS CLR-1010

Working area: y= 1000 mm x= 1000 mm z= 150 mm.

Standard with one central spindle in Y-ax (optional with 2 spindles)

Incl. software package - consisting of machine control and CAM software, T-nut table and State of the art controller.

COLM0020

### COLINBUS CLR-1325

Working area: y= 1300 mm x= 2500 mm z= 150 mm.

Standard with one central spindle in Y-ax (optional with 2 spindles)

Incl. software package - consisting of machine control and CAM software, T-nut table and State of the art controller.

COLM0021

### COLINBUS CLR-1510

Working area: y= 1500 mm x= 1000 mm z=150 mm.

Standard with one central spindle in Y-ax (optional with 2 spindles)

Incl. software package - consisting of machine control and CAM software, T-nut table and State of the art controller.

*\*Stealt technology. A combination of steel and aluminium gives a stressless and stable construction. As strong as solid steel but with all Stealt advantages. The CLR range uses the most recent technologies and high-value materials - mechanical and electrical wise as well as for the software.*

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- > State of the art 3D controller
- > Using Stealt\* technologie
- > High precision Ball Screw Spindles
- > High precision linear guides
- > Standard delivered with T-nut table
- > High reliability and accuracy
- > For precise machining of:  
light metals / wood / plastics



COLM0022

### COLINBUS CLR-2513

Working area: y= 2500 mm x= 1300 mm z= 150 mm.

Standard with one central spindle in Y-ax (optional with 2 spindles)

Incl. software package - consisting of machine control and CAM software, T-nut table and State of the art controller.

COLM0023

### COLINBUS CLR-2520

Working area: y= 2500 mm x= 2000 mm z= 150 mm.

Standard with one central spindle in Y-ax (optional with 2 spindles)

Incl. software package - consisting of machine control and CAM software, T-nut table and State of the art controller.

COLM0024

### COLINBUS CLR-3115

Working area: y= 3100 mm x= 1500 mm z= 150 mm.

Standard with one central spindle in Y-ax (optional with 2 spindles)

Incl. software package - consisting of machine control and CAM software, T-nut table and State of the art controller.

COLM0024

### COLINBUS CLR-3120

Working area: y= 3100 mm x= 2000 mm z= 150 mm.

Standard with one central spindle in Y-ax (optional with 2 spindles)

Incl. software package - consisting of machine control and CAM software, T-nut table and State of the art controller.

### Other dimensions possible on request!

*\*Stealt technology. A combination of steel and aluminium gives a stressless and stable construction. As strong as solid steel but with all Stealt advantages. The CLR range uses the most recent technologies and high-value materials - mechanical and electrical wise as well as for the software.*

## OPTIONS

### COLINBUS Spindles

COLS0023	<b>PES-1000</b> Frequency inverter included Motor 1000 W; 230V; 11.000 - 25.000 rpm, manual tool change
COLS0024	<b>COL-3000M</b> Frequency inverter included Motor 3 KW; 380V; max. 24.000 rpm; manual tool change
COLS0015	<b>IAC-1050</b> Spindle motor 1050 W; AC; 230V; 11.000 - 25.000 rpm
COLS0016	<b>Fixation clamp for IAC-1050</b>
COLS0025	<b>COL-4000A</b> Frequency inverter included Motor 4 KW; 380V; max.24.000 rpm; automatic tool change with ISO 25 cones
COLS0026	<b>JAG-1500H</b> Frequency inverter included Motor 1,5KW; 230V; max 30.000 rpm; manual tool change
COLS0027	<b>JAG-1500D</b> Frequency inverter included Motor 1,5 KW; 230V; max 30.000 rpm; direc automatic tool change
COLS0028	<b>JAG-1500K</b> Frequency inverter included Motor 1,5 KW; 230V; max 30.000 rpm; automatic tool change with Iso cones
COLS0029	<b>JAG-650HF</b> Frequency inverter included High-precision motor 650W; max 60.000 rpm; manual tool change
COLS0030	<b>JAG-650HFA</b> Frequency inverter included High-precision motor 650W; max 60.000 rpm; direct automatic tool change
COLS0031	<b>JAG-1200HFM</b> Frequency inverter included High-precision motor 1200W; max 60.000 rpm; manual tool change
COLS0032	<b>JAG-1200HFA</b> Frequency inverter included High-precision motor 1200W; max 60.000 rpm; direct automatic tool change

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## Spindle accessories

### COLLET CHUCKS FOR IAC-1050

COLS0017	<b>CCH 1050-03</b> Collet chuck 3 mm
COLS0018	<b>CCH 1050-04</b> Collet chuck 4 mm
COLS0019	<b>CCH 1050-05</b> Collet chuck 5 mm
COLS0020	<b>CCH 1050-06</b> Collet chuck 6 mm
COLS0021	<b>CCH 1050-08</b> Collet chuck 8 mm
COLS0022	<b>CCH 1050-31</b> Collet chuck 1/8" mm
NR	<b>Also available on demand: 1 / 1,5 / 2 / 2,5 / 3,5 / 4,5 mm</b>

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## OPTIONS

### COLINBUS Accessories

- COLA0009 **Dust extraction system (for low dust volume and fine particles)**  
COLA0010 **HEPA Filter for Dust extraction system (COL0066)**  
HEPA is an industrial standard and stands for High Efficiency Particulate Air  
To avoid fine particals to get in the air  
COLA0011 **Powerswitch PS1**  
**Software controlled automatic switching of dust extraction system or any other device**

### COLINBUS Microjet MKS-G100

- COLA0016 **MICROJET MKS-G100**  
Special, minimal coolant and lubricant system for thin-bodied coolants/lubricants. The Microjet minimal lubrication system sprays the lubricant directly where it is needed at the work piece or tool.  
COLA0017 **Switch block voor MKS-G100**  
COLA0018 **Spray block with 2 sprays**  
COLA0019 **Spray block with 1 spray**

# COLINBUS CPR Range

## COLINBUS

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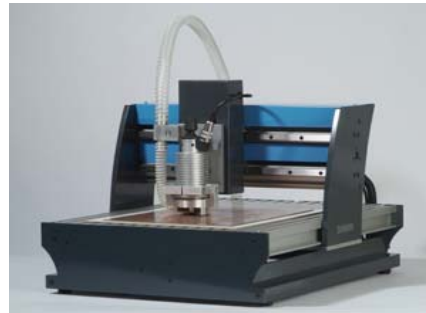
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- > Using Stealt\* technologie
- > High-precision linear guidings
- > Zero backlash technology
- > Face-milled T-nut table
- > Integrated centre-line alignment system



\*These machines are made with the Stealt technology. A combination of steel and aluminium gives a stressless and stable construction. As strong as solid steel but with all Stealt advantages. The CPR range uses the most recent technologies and high-value materials - mechanical and electrical wise as well as for the software.

COLM0025

### COLINBUS CPR-30

CNC machine for very precise machining of materials or for other high-precision tasks.

Working area y= 360 mm x= 280 mm z= 70 mm.

Incl. software package - consisting of machine control and CAM software

Mechanical resolution: 5  $\mu$ m (0,2 mil)

No spindle motor included (see options)

Incl. face-milled aluminium T-nut table and integrated alignment system.

COLM0026

### COLINBUS CPR-30 / MODELLING

Very accurate CNC machine for the production of 3D models and for the execution of delicate and high-precision jobs.

Working area y= 360mm x=280mm z=70mm

Incl. software package- consisting of machine control and 3D CAM software

Mechanical resolution 1  $\mu$ m

Stronger lead motors and drivers than the CPR-30

No spindle motor included (see options)

Incl. face-milled T-nut table, integrated alignment system and state of the art controller

COLM0027

### COLINBUS CPR-30 / PCB

CNC machine for the production of prototype PCBs, sign and front panel engraving.

Working area y= 360 mm x= 280 mm z= 40 mm.

Incl. software package - consisting of machine control software and dedicated PCB engraving software.

Mechanical resolution: 5  $\mu$ m (0,2 mil)

**Spindle motor (included) speed: 30.000 rpm**

Z-axis: Hybrid motor - X/Y linear system: profile guidings / Tool change: manual

Incl. face-milled aluminium T-nut table; cyclone shaped dust extraction head to connect to vacuum cleaner; engraving head with depth control and integrated alignment system.

COLM0028

### COLINBUS CPR-30/PCB/HF

CNC machine for the production of prototype PCBs, sign and front panel engraving.

Working area y= 360 mm x= 280 mm z= 40 mm.

Incl. software package - consisting of machine control software and dedicated PCB engraving software.

Mechanical resolution: 5  $\mu$ m (0,2 mil)

**Spindle motor (included) speed: 60.000 rpm**

Z-axis: Hybrid motor - X/Y linear system: profile guidings / Tool change: manual

Incl. face-milled aluminium T-nut table; cyclone shaped dust extraction head to connect to vacuum cleaner; engraving head with depth control and integrated alignment system.

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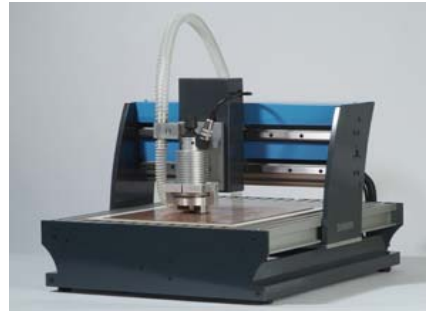
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- > Zero backlash technology
- > Face-milled T-nut table
- > Integrated centre-line alignment system



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COLM0029

### COLINBUS CPR-60

CNC machine for very precise machining of materials or for other high-precision tasks.

Working area y= 600 mm x= 400 mm z= 70 mm.

Incl. software package - consisting of machine control and CAM software

Mechanical resolution: 5  $\mu$  (0,2 mil)

**No spindle motor included (see options)**

Incl. face-milled aluminium T-nut table and integrated alignment system.

COLM0030

### COLINBUS CPR-60 / MODELLING

Very accurate CNC machine for the production of 3D models and for the execution of delicate and high-precision jobs.

Working area y= 600mm x= 400mm z=70mm

Incl. software package- consisting machine control and 3D CAM software

Mechanical resolution 1  $\mu$ m

Stronger spindle motors and drivers than the CPR-60

No spindle motor included (see options)

Incl. face-milled T-nut table, integrated alignment system and state of the art controller

COLM0031

### COLINBUS CPR-60 / PCB

CNC machine for the production of prototype PCBs, sign and front panel engraving.

Working area y= 600 mm x= 400 mm z= 40 mm.

Incl. software package - consisting of machine control software and dedicated PCB engraving software.

Mechanical resolution: 5  $\mu$  (0,2 mil)

**Spindle motor (included) speed: 30.000 rpm**

Z-axis: Hybrid motor - X/Y linear system: profile guidings / Tool change: manual

Incl. face-milled aluminium T-nut table; cyclone shaped dust extraction head to connect to vacuum cleaner; engraving head with depth control and integrated alignment system.

COLM0032

### COLINBUS CPR-60 / PCB / HF

CNC machine for the production of prototype PCBs, sign and front panel engraving.

Working area y= 600 mm x= 400 mm z= 40 mm.

Incl. software package - consisting of machine control software and dedicated PCB engraving software.

Mechanical resolution: 5  $\mu$  (0,2 mil)

**Spindle motor (included) speed: 60.000 rpm**

Z-axis: Hybrid motor - X/Y linear system: profile guidings / Tool change: manual

Incl. face-milled aluminium T-nut table; cyclone shaped dust extraction head to connect to vacuum cleaner; engraving head with depth control and integrated alignment system.

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## OPTIONS

### COLINBUS Accessories

- COLA0007      **T-nut fixation blocks (10 pcs)**
- COLA0008      **Universal clampers 1 set**
- COLA0009      **Dust extraction system (for low dust volume and fine particles)**  
COLA0010      **HEPA Filter for Dust extraction system (COL0066)**  
HEPA is an industrial standard and stands for High Efficiency Particulate Air  
To avoid fine particulates to get in the air
- COLA0011      **Powerswitch PS1**  
Software controlled automatic switching of dust extraction system or any other device
- COLA0012      **DSH-30**  
Dust and sound hood for CPR-30 and Laboflex-30 range
- COLA0013      **DSH-60**  
Dust and sound hood for CPR-60 and LaboFlex-60 range

### COLINBUS Microjet MKS-G100

- COLA0016      **MICROJET MKS-G100**  
Special, minimal coolant and lubricant system for thin-bodied coolants/lubricants. The  
Microjet minimal lubrication system sprays the lubricant directly where it is needed at the  
work piece or tool.
- COLA0017      **Switch block voor MKS-G100**  
COLA0018      **Spray block with 2 sprays**  
COLA0019      **Spray block with 1 spray**

# COLINBUS Laboflex Range

## COLINBUS

O.L. VROUWESTRAAT 31 B - 2800 MECHELEN

T +32 15 43 10 81 F +32 15 43 00 85

E-mail : main@franklin-industries.com

Http:// www.colinbus.com

Valid from 09/2006

- > Using Stealt\* technologie
- > High-precision linear guidings
- > Zero backlash technology
- > Face-milled T-nut table
- > Integrated centre-line alignment system
- > State-of-the-art 3D controller
- > Enhanced Hybrid motors



\*These machines are made with the Stealt technology. A combination of steel and aluminium gives a stressless and stable construction. As strong as solid steel but with all Stealt advantages. The Laboflex range uses the most recent technologies and high-value materials - mechanical and electrical wise as well as for the software.

COLM0032

### COLINBUS LABOFLEX 30

CNC machine for the production of prototype PCBs, sign and front panel engraving and full 3D models.

Working area y= 360 mm x= 280 mm z= 40 mm.

Incl. software packages: machine control software / dedicated PCB engraving software / 3D CAM software.

Mechanical resolution: 1  $\mu$  (0,04 mil)

"State -of-the-art" 3D controller

Spindle motor (included) speed: 30.000 rpm

Z-axis: Hybrid motor - X/Y linear system: profile guidings / Tool change: manual

Incl. face-milled aluminium T-nut table / cyclone shaped dust extraction head to connect to vacuum cleaner / engraving head with depth control / integrated alignment system

COLM0033

### COLINBUS LABOFLEX 30-HF

CNC machine for the production of prototype PCBs, sign and front panel engraving and full 3D models.

Working area y= 360 mm x= 280 mm z= 40 mm.

Incl. software packages: machine control software / dedicated PCB engraving software / 3D CAM software.

Mechanical resolution: 1  $\mu$  (0,04 mil)

"State -of-the-art" 3D controller

**Spindle motor (included) speed: 60.000 rpm**

Z-axis: Hybrid motor - X/Y linear system: profile guidings / Tool change: manual

Incl. face-milled aluminium T-nut table / cyclone shaped dust extraction head to connect to vacuum cleaner / engraving head with depth control / integrated alignment system

COLM0034

### COLINBUS LABOFLEX 30 PRO

CNC machine for the production of prototype PCBs, sign and front panel engraving and full 3D models.

Working area y= 360 mm x= 280 mm z= 40 mm.

Incl. software packages: machine control software / dedicated PCB engraving software / 3D CAM software.

Mechanical resolution: 1  $\mu$  (0,04 mil)

"State -of-the-art" 3D controller

Spindle motor (included) speed: 60.000 rpm

Z-axis: Hybrid motor - X/Y linear system: profile guidings / **Tool change: automatic (10 positions)**

Incl. face-milled aluminium T-nut table / cyclone dust extraction system connection / engraving head with depth control / integrated alignment system

# COLINBUS Laboflex Range

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- > Enhanced Hybrid motors



\*These machines are made with the Stealt technology. A combination of steel and aluminium gives a stressless and stable construction. As strong as solid steel but with all Stealt advantages. The Laboflex range uses the most recent technologies and high-value materials - mechanical and electrical wise as well as for the software.

COLM0035

### COLINBUS LABOFLEX 60

CNC machine for the production of prototype PCBs, sign and front panel engraving and full 3D models.

Working area y= 600 mm x= 400 mm z= 70 mm.

Incl. software packages: machine control software / dedicated PCB engraving software / 3D CAM software.

Mechanical resolution: 1  $\mu$  (0,04 mil)

"State -of-the-art" 3D controller

Spindle motor (included) speed: 30.000 rpm

Z-axis: Hybrid motor - X/Y linear system: profile guidings / Tool change: manual

Incl. face-milled aluminium T-nut table / cyclone shaped dust extraction head to connect to vacuum cleaner / engraving head with depth control / integrated alignment system

COLM0036

### COLINBUS LABOFLEX 60-HF

CNC machine for the production of prototype PCBs, sign and front panel engraving and full 3D models.

Working area y= 600 mm x= 400 mm z= 70 mm.

Incl. software packages: machine control software / dedicated PCB engraving software / 3D CAM software.

Mechanical resolution: 1  $\mu$  (0,04 mil)

"State -of-the-art" 3D controller

**Spindle motor (included) speed: 60.000 rpm**

Z-axis: Hybrid motor - X/Y linear system: profile guidings / Tool change: manual

Incl. face-milled aluminium T-nut table / cyclone shaped dust extraction head to connect to vacuum cleaner / engraving head with depth control / integrated alignment system

COLM0037

### COLINBUS LABOFLEX 60 PRO

CNC machine for the production of prototype PCBs, sign and front panel engraving and full 3D models.

Working area y= 600 mm x= 400 mm z= 70 mm.

Incl. software packages: machine control software / dedicated PCB engraving software / 3D CAM software.

Mechanical resolution: 1  $\mu$  (0,04 mil)

"State -of-the-art" 3D controller

Spindle motor (included) speed: 60.000 rpm

Z-axis: Hybrid motor - X/Y linear system: profile guidings / **Tool change: automatic (10 positions)**

Incl. face-milled aluminium T-nut table / cyclone shaped dust extraction head to connect to vacuum cleaner / engraving head with depth control / integrated alignment system

# COLINBUS Laboflex Range

## COLINBUS

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## OPTIONS

### COLINBUS Accessories

- COLA0007 **T-nut fixation blocks (10 pcs)**  
For T40; T60 ,T80, Laboflex and CLR and CPR machines
- COLA0008 **Universal clampers 1 set**
- COLA0009 **Dust extraction system (for low dust volume and fine particles)**  
COLA0010 **HEPA Filter for Dust extraction system (COL0066)**  
HEPA is an industrial standard and stands for High Efficiency Particulate Air  
To avoid fine particals to get in the air
- COLA0011 **Powerswitch PS1**  
Software controlled automatic switching of dust extraction system or any other device
- COLA0012 **DSH-30**  
Dust and sound hood for CPR-30 and Laboflex-30 range
- COLA0013 **DSH-60**  
Dust and sound hood for CPR-60 and LaboFlex-60 range

### COLINBUS Microjet MKS-G100

- COLA0016 **MICROJET MKS-G100**  
Special, minimal coolant and lubricant system for thin-bodied coolants/lubricants. The Microjet minimal lubrication system sprays the lubricant directly where it is needed at the work piece or tool.
- COLA0017 **Switch block voor MKS-G100**
- COLA0018 **Spray block with 2 sprays**
- COLA0019 **Spray block with 1 spray**

# COLINBUS Spindles / Access

## COLINBUS

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## COLINBUS Spindles

### For Small machines

COLS0001	<b>FCT-300</b> Spindle motor 135 W; AC; 230V; 15.000 - 35.000 rpm
COLS0002	<b>Fixation clamp for FCT-300</b>
COLS0003	<b>IAC-500</b> Spindle motor 500 W; AC; 230V; 11.000 - 25.000 rpm
COLS0004	<b>IAC-500/11</b> Spindle motor 500 W; 110V; 11.000 - 25.000 rpm
COLS0005	<b>Fixation clamp for IAC-500 and IAC-500/11</b>
COLS0006	<b>COL HIPF30</b> High Precision High Frequency Motor with frequency inverter* - 30.000 rpm * needs to be built in by manufacturer
COLS0007	<b>Fixation clamp for COL HIPF30</b>
COLS0008	<b>JAG-33 K1</b> Spindle motor 170 W; 21V; max 60.000 rpm Precision High Frequency Spindle / Frequency inverter included
COLS0009	<b>Fixation block and clamp for JAG-33 K1</b>

# COLINBUS Spindles / Access

## COLINBUS

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## COLINBUS Spindles

### For Bigger machines

COLS0015	<b>IAC-1050</b> Spindle motor 1050 W; AC; 230V; 11.000 - 25.000 rpm
COLS0016	<b>Fixation clamp for IAC-1050</b>
COLS0023	<b>PES-1000</b> Frequency inverter included Motor 1000 W; 230V; 11.000 - 25.000 rpm, manual tool change
COLS0024	<b>COL-3000M</b> Frequency inverter included Motor 3 KW; 380V; max. 24.000 rpm; manual tool change
COLS0025	<b>COL-4000A</b> Frequency inverter included Motor 4 KW; 380V; max.24.000 rpm; automatic tool change with ISO 25 cones
COLS0026	<b>JAG-1500H</b> Frequency inverter included Motor 1,5KW; 230V; max 30.000 rpm; manual tool change
COLS0027	<b>JAG-1500D</b> Frequency inverter included Motor 1,5 KW; 230V; max 30.000 rpm; direc automatic tool change
COLS0028	<b>JAG-1500K</b> Frequency inverter included Motor 1,5 KW; 230V; max 30.000 rpm; automatic tool change with Iso cones
COLS0029	<b>JAG-650HF</b> Frequency inverter included High-precision motor 650W; max 60.000 rpm; manual tool change
COLS0030	<b>JAG-650HFA</b> Frequency inverter included High-precision motor 650W; max 60.000 rpm; direct automatic tool change
COLS0031	<b>JAG-1200HFM</b> Frequency inverter included High-precision motor 1200W; max 60.000 rpm; manual tool change
COLS0032	<b>JAG-1200HFA</b> Frequency inverter included High-precision motor 1200W; max 60.000 rpm; direct automatic tool change

## Spindle accessories

### COLLET CHUCKS FOR IAC-500 AND IAC-500/11

COLS0010	<b>CCH 500-03</b> Collet chuck 3 mm
COLS0011	<b>CCH 500-04</b> Collet chuck 4 mm
COLS0012	<b>CCH 500-05</b> Collet chuck 5 mm
COLS0013	<b>CCH 500-06</b> Collet chuck 6 mm
COLS0014	<b>CCH 500-31</b> Collet chuck 1/8" mm
NR	<b>Also available on demand: 1 / 1,5 / 2 / 2,5 / 3,5 / 4,5 / 5,08 / 5,5 / 6,35 mm</b>

### COLLET CHUCKS FOR IAC-1050

COLS0017	<b>CCH 1050-03</b> Collet chuck 3 mm
COLS0018	<b>CCH 1050-04</b> Collet chuck 4 mm
COLS0019	<b>CCH 1050-05</b> Collet chuck 5 mm
COLS0020	<b>CCH 1050-06</b> Collet chuck 6 mm
COLS0021	<b>CCH 1050-08</b> Collet chuck 8 mm
COLS0022	<b>CCH 1050-31</b> Collet chuck 1/8" mm
NR	<b>Also available on demand: 1 / 1,5 / 2 / 2,5 / 3,5 / 4,5 mm</b>

## COLINBUS Accessories

COLA0001	<b>TNT-40</b> T-nut table for CBR-40/N
COLA0002	<b>TNT-60</b> T-nut table for CBR-60/N
COLA0003	<b>TNT-80</b> T-nut table for CBR-80/N
COLA0004	<b>VT-40</b> Vacuum table for CBR-40/N
COLA0005	<b>VT-60</b> Vacuum table for CBR-60/N
COLA0006	<b>VT-80</b> Vacuum table for CBR-80/N
COLA0007	<b>T-nut fixation blocks (10 pcs)</b> For T40; T60 ,T80, Laboflex and CLR and CPR machines
COLA0008	<b>Universal clampers 1 set</b>
COLA0009	<b>Dust extraction system (for low dust volume and fine particles)</b>
COLA0010	<b>HEPA Filter for Dust extraction system (COL0066)</b> HEPA is an industrial standard and stands for High Efficiency Particulate Air To avoid fine particals to get in the air
COLA0011	<b>Powerswitch PS1</b> Software controlled automatic switching of dust extraction system or any other device
COLA0012	<b>DSH-30</b> Dust and sound hood for CPR-30 and Laboflex-30 range
COLA0013	<b>DSH-60</b> Dust and sound hood for CPR-60 and LaboFlex-60 range

## COLINBUS Microjet MKS-G100



COLA0016

### **MICROJET MKS-G100**

Special, minimal coolant and lubricant system for thin-bodied coolants/lubricants. The Microjet minimal lubrication system sprays the lubricant directly where it is needed at the work piece or tool.

COLA0017

### **Switch block voor MKS-G100**

COLA0018

### **Spray block with 2 sprays**

COLA0019

### **Spray block with 1 spray**

## Ultrasonic cutter



COLA0020

### **POL- 4030**

Plotter mount type

Ultrasonic vibration of 40000 cycle per second on cutting blade reduces cutting resistance dramatically and makes it easy to cut various materials such as rubber, thermoplastics, leather, prepregs and other materials hard-to-cut with conventional knife blade.

## **Tool sets with 1/8 inch shaft**

The mentioned tools are special-design tools developed for the production of PCB prototypes by means of a circuit board plotter.

COLCTS0001

### **Tool set 1**

10 PCB engraving tool - Normal Line Milling 36 mm, 0.2 - 0.5 mm (REF COLCT0001)

#### Drill Bits 38 mm long

5 d = 0.60 mm (REF COLCT0023)

5 d = 0.70 mm (REF COLCT0024)

5 d = 0.80 mm (REF COLCT0025)

5 d = 0.90 mm (REF COLCT0027)

5 d = 1.00 mm (REF COLCT0028)

2 d = 1.10 mm (REF COLCT0029)

2 d = 1.30 mm (REF COLCT0032)

2 d = 1.50 mm (REF COLCT0034)

1 d = 2.95 mm (REF COLCT0048)

1 d = 3.00 mm (REF COLCT0049)

#### Contour Router 38 mm long

1 d = 1.00 mm (REF COLCT0013)

1 d = 2.00 mm (REF COLCT0015)

#### End Mill 36 mm long

2 d = 1.00 mm (REF COLCT0007)

1 d = 2.00 mm (REF COLCT0008)

2 d = 0.40 mm - RF End Mill (REF COLCT0005)

COLCTS0002

### **Set of Accessories 1**

1 Tool Set 1 (REF CTS0001)

10 Copper plate FR4, A4, 1 side 35 µm (REF COLCT0057)

10 Copper plate FR4, A4, 2 sides 35 µm (REF COLCT0058)

10 Drill underlay material DIN A4: 210 mm x 297 mm (REF COLCT0050)

1 Tape (5 pcs) (REF COLCT0061)

1 PCB cleaner (5pcs) (REF COLCT0062)

COLCTS0003

### **Set of Accessories 2**

1 Tool Set 1 (REF CTS0001)

10 Copper plate FR4, A3, 1 side 35 µm (REF COLCT0059)

10 Copper plate FR4, A, 2 sides 35 µm (REF COLCT00560)

10 Drill underlay material DIN A: 420 mm x 297 mm (REF COLCT0051)

1 Tape (5 pcs) (REF COLCT0061)

1 PCB cleaner (5pcs) (REF COLCT0062)

## **Tool sets for 2 and 3D milling**

COLCTS0004 Adapter Ring  
**Tool set 2**

### **Solid Carbide End Mill Z1 for Alu**

Mills for aluminium with hardness 52 - 68 HRC

**Helix angle 40° / 1 flute / Uncoated**

***D2 = 3 mm***

2 d1 = 1 mm / L2 = 4 mm / L1 = 40 mm (REF COLCT0070)

2 d1 = 2 mm / L2 = 8 mm / L1 = 40 mm (REF COLCT0071)

2 d1 = 3 mm / L2 = 14 mm / L1 = 40 mm (REF COLCT0072)

### **Solid Carbide End Mill Z2 for Alu**

Mills for aluminium with hardness 52 - 68 HRC

**Helix angle 40° / 2 flutes / Uncoated**

***D2 = 3 mm***

2 d1 = 1 mm / L2 = 4 mm / L1 = 40 mm (REF COLCT0077)

2 d1 = 2 mm / L2 = 8 mm / L1 = 40 mm (REF COLCT0078)

2 d1 = 3 mm / L2 = 12 mm / L1 = 40 mm (REF COLCT0079)

### **Solid Carbide Ball Nose Micro End Mill**

**Helix angle 30° / 2 flutes / Uncoated**

***D2 = 3 mm***

2 d1 = 0,5 mm / L2 = 1 mm / L1 = 40 mm / R = 0,25° (REF COLCT0098)

2 d1 = 1,0 mm / L2 = 2 mm / L1 = 40 mm / R = 0,50° (REF COLCT0099)

2 d1 = 1,5 mm / L2 = 3 mm / L1 = 40 mm / R = 0,75° (REF COLCT0100)

2 d1 = 2,0 mm / L2 = 4 mm / L1 = 40 mm / R = 1,00° (REF COLCT0101)

## **Tools with 1/8 inch shaft**

The mentioned tools are special-design tools developed for the production of PCB prototypes by means of a circuit board plotter.

### **PCB engraving tools 36 mm long**

COLCT0001	Normal line Milling 0.2 - 0.5 mm <i>Conical tool for isolation tracks of 0.2 to 0.5 mm on 35 <math>\mu</math>m copper</i>
COLCT0002	Fine-line Milling 0.1 - 0.15 mm <i>Conical tool for isolation tracks 0.1 to 0.15 mm on 17 <math>\mu</math>m copper</i>

### **End Mills 36 mm long**

#### **Micro mills for RF applications (2 flutes)**

COLCT0003	d = 0.15 mm
COLCT0004	d = 0.25 mm
COLCT0005	d = 0.40 mm

#### **Cylindric tool for engraving of aluminium and wider isolation tracks**

COLCT0006	d = 0.80 mm
COLCT0007	d = 1.00 mm
COLCT0008	d = 2.00 mm
COLCT0009	d = 3.00 mm

### **End Mills 38 mm long**

COLCT0010	d = 1.00 mm
COLCT0011	d = 2.00 mm
COLCT0012	d = 3.00 mm

## **Tools with 1/8 inch shaft**

The mentioned tools are special-design tools developed for the production of PCB prototypes by means of a circuit board plotter.

### **Contour Routers 38 mm long**

COLCT0013	d = 1.00 mm
COLCT0014	d = 1.50 mm
COLCT0015	d = 2.00 mm
COLCT0064	d = 2.50 mm
COLCT0016	d = 3.00 mm

### **Router 38 mm long**

COLCT0063	V-Groef router 45°
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### **Drill Bits 38 mm long**

Cylindric tool for drilling of printed circuit boards

COLCT0017	d = 0.20 mm
COLCT0018	d = 0.30 mm
COLCT0019	d = 0.30 mm EL
COLCT0020	d = 0.40 mm
COLCT0021	d = 0.40 mm EL
COLCT0022	d = 0.50 mm
COLCT0023	d = 0.60 mm
COLCT0024	d = 0.70 mm
COLCT0025	d = 0.80 mm
COLCT0026	d = 0.85 mm
COLCT0027	d = 0.90 mm
COLCT0028	d = 1.00 mm
COLCT0029	d = 1.10 mm
COLCT0030	d = 1.20 mm
COLCT0031	d = 1.25 mm
COLCT0032	d = 1.30 mm
COLCT0033	d = 1.40 mm
COLCT0034	d = 1.50 mm
COLCT0035	d = 1.60 mm
COLCT0036	d = 1.70 mm
COLCT0037	d = 1.80 mm
COLCT0038	d = 1.90 mm
COLCT0039	d = 2.00 mm
COLCT0040	d = 2.10 mm
COLCT0041	d = 2.20 mm
COLCT0042	d = 2.30 mm
COLCT0043	d = 2.40 mm
COLCT0044	d = 2.50 mm
COLCT0045	d = 2.60 mm
COLCT0046	d = 2.70 mm
COLCT0047	d = 2.90 mm
COLCT0048	d = 2.95 mm
COLCT0049	d = 3.00 mm

## Solid Carbide End Mill Z1 for Alu

Mills for aluminium with hardness 52 - 68 HRC

### Helix angle 40° / 1 flute / Uncoated



#### **D2 = 3 mm**

COLCT0070	d1 = 1 mm / L2 = 4 mm / L1 = 40 mm
COLCT0071	d1 = 2 mm / L2 = 8 mm / L1 = 40 mm
COLCT0072	d1 = 3 mm / L2 = 14 mm / L1 = 40 mm

#### **D2 = 4 mm**

COLCT0073	d1 = 4 mm / L2 = 15 mm / L1 = 50 mm
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#### **D2 = 5 mm**

COLCT0074	d1 = 5 mm / L2 = 16 mm / L1 = 50 mm
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#### **D2 = 6 mm**

COLCT0084	d1 = 3 mm / L2 = 14 mm / L1 = 40 mm
COLCT0085	d1 = 3 mm / L2 = 16 mm / L1 = 65 mm

COLCT0086	d1 = 4 mm / L2 = 15 mm / L1 = 50 mm
COLCT0087	d1 = 4 mm / L2 = 18 mm / L1 = 65 mm

COLCT0088	d1 = 5 mm / L2 = 16 mm / L1 = 50 mm
COLCT0089	d1 = 5 mm / L2 = 20 mm / L1 = 65 mm

COLCT0075	d1 = 6 mm / L2 = 18 mm / L1 = 57 mm
COLCT0090	d1 = 6 mm / L2 = 24 mm / L1 = 68 mm

#### **D2 = 8 mm**

COLCT0076	d1 = 8 mm / L2 = 20 mm / L1 = 63 mm
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## Solid Carbide End Mill Z2 for Alu

Mills for aluminium with hardness 52 - 68 HRC

**Helix angle 40° / 2 flutes / Uncoated**



### ***D2 = 3 mm***

COLCT0077	d1 = 1 mm / L2 = 4 mm / L1 = 40 mm
COLCT0078	d1 = 2 mm / L2 = 8 mm / L1 = 40 mm
COLCT0079	d1 = 3 mm / L2 = 12 mm / L1 = 40 mm

### ***D2 = 4 mm***

COLCT0080	d1 = 4 mm / L2 = 11 mm / L1 = 50 mm
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### ***D2 = 5 mm***

COLCT0081	d1 = 5 mm / L2 = 13 mm / L1 = 50 mm
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### ***D2 = 6 mm***

COLCT0091	d1 = 3 mm / L2 = 12 mm / L1 = 40 mm
COLCT0092	d1 = 3 mm / L2 = 16 mm / L1 = 65 mm

COLCT0093	d1 = 4 mm / L2 = 11 mm / L1 = 50 mm
COLCT0094	d1 = 4 mm / L2 = 18 mm / L1 = 65 mm

COLCT0095	d1 = 5 mm / L2 = 13 mm / L1 = 50 mm
COLCT0096	d1 = 5 mm / L2 = 20 mm / L1 = 65 mm

COLCT0082	d1 = 6 mm / L2 = 13 mm / L1 = 57 mm
COLCT0097	d1 = 6 mm / L2 = 24 mm / L1 = 68 mm

### ***D2 = 8 mm***

COLCT0083	d1 = 8 mm / L2 = 19 mm / L1 = 63 mm
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## Solid Carbide Ball Nose Micro End Mill



**Helix angle 30° / 2 flutes / Uncoated**

***D2 = 3 mm***

COLCT0098	d1 = 0,5 mm / L2 = 1 mm / L1 = 40 mm / R = 0,25°
COLCT0099	d1 = 1,0 mm / L2 = 2 mm / L1 = 40 mm / R = 0,50°
COLCT0100	d1 = 1,5 mm / L2 = 3 mm / L1 = 40 mm / R = 0,75°
COLCT0101	d1 = 2,0 mm / L2 = 4 mm / L1 = 40 mm / R = 1,00°

## Solid Carbide Ball Nose Micro End Mill Long



**Helix angle 30° / 2 flutes / Uncoated**

***D2 = 3 mm***

COLCT0102	d1 = 1,0 mm / L2 = 2 mm / L1 = 65 mm / R = 0,50°
COLCT0103	d1 = 2,0 mm / L2 = 4 mm / L1 = 65 mm / R = 1,00°

## Solid Carbide Ball Nose End Mill



**Helix angle 30° / 2 flutes / Uncoated**

***D2 = 3 mm***

COLCT0110	d1 = 3,0 mm / L2 = 8 mm / L1 = 40 mm / R = 1,5°
	<b><i>D2 = 4 mm</i></b>
COLCT0111	d1 = 4,0 mm / L2 = 11 mm / L1 = 50 mm / R = 2,0°
	<b><i>D2 = 5 mm</i></b>
COLCT0112	d1 = 5,0 mm / L2 = 13 mm / L1 = 50 mm / R = 2,5°
	<b><i>D2 = 6 mm</i></b>
COLCT0113	d1 = 6,0 mm / L2 = 13 mm / L1 = 57 mm / R = 3,0°

## Solid Carbide Micro End Mill

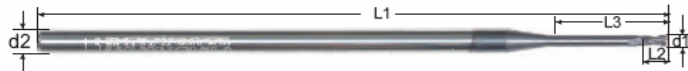


**Helix angle 30° / 2 flutes / Uncoated**

***D2 = 3 mm***

COLCT0104	d1 = 0,5 mm / L2 = 1 mm / L1 = 40 mm
COLCT0105	d1 = 1,0 mm / L2 = 2 mm / L1 = 40 mm
COLCT0106	d1 = 1,5 mm / L2 = 3 mm / L1 = 40 mm
COLCT0107	d1 = 2,0 mm / L2 = 4 mm / L1 = 40 mm

## Solid Carbide Micro End Mill Long



**Helix angle 30° / 2 flutes / Uncoated**

***D2 = 3 mm***

COLCT0108	d1 = 1,0 mm / L2 = 2 mm / L1 = 65 mm
COLCT0109	d1 = 2,0 mm / L2 = 4 mm / L1 = 65 mm

## Solid Carbide Mini End Mill



**Helix angle 30° / 4 flutes / Uncoated**

***D2 = 6 mm***

COLCT0114	d1 = 3,0 mm / L2 = 6 mm / L1 = 57 mm / R = 1,5°
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## **Consumption Material**

### **Drill underlay material (pack at 10 pieces each)**

**d = 2 mm**

COLCT0050 Drill underlay material DIN A4: 210 mm x 297 mm  
COLCT0051 Drill underlay material DIN A3: 420 mm x 297 mm

### **Copper plates**

#### **FR3 (pack at 10 pieces each)**

Epoxyd resin without glass fibre

COLCT0053 A4, 1 side 35 µm  
COLCT0054 A4, 2 sides 35 µm  
COLCT0055 A3, 1 side 35 µm  
COLCT0056 A3, 2 sides 35 µm

#### **FR4 (pack at 10 pieces each)**

Epoxyd resin with glass fibre (necessary for galvanic through-hole plating)

COLCT0057 A4, 1 side 35 µm  
COLCT0058 A4, 2 sides 35 µm  
COLCT0059 A3, 1 side 35 µm  
COLCT0060 A3, 2 sides 35 µm

COLCT0061 Tape (width: 19 mm, length: 50 m), to fix the PCB on the table top (5pcs)  
COLCT0062 PCB-cleaner (pack at 5 pieces)

### **Modeling material**

Block of 20 x 10 cm