

Deburring

Systems for automatic deburring

1.10



In order to conclude the process chain to machine processing of work pieces, **"Turn-Key" systems are created for edge processing in CIMOTEC**, constructed on the already available **multiple sampled product portfolio** from the area of Grinding.

Here, not only the own products for the very variable requirements for edge processing were and are **further developed**, but also the manufacturer of tools such as processing spindles with **extensive tests of prototypes** are supported in order to design the edge processing with industrial robots always in a more **process-sure** manner.

CIMOTEC systems constructs on basis of **experiences** in different categories of edge processing, such as removal of burrs in plastic-, composite- or light metal parts and deburring after machining.

Whether only leading to work piece– or tools, CIMOTEC has always the boundary conditions such as material logistics, clock cycle, volume of work and machining process, safety and operational efficiency, under control

Highest reliability, highest servicing-friendliness and thus also the **highest plant availability and operating efficiency** are present on the top rung in all solutions and products of CIMOTEC.



The classic, **versatile applicable CIMOTEC model ROBOCELL 100** has been the inspiration in design of enclosures of deburring cells. This variable concept capacitates each adjusted system design up to use by the widely known CIMOTEC grinding- and brushing machines, which are used in appropriate applications.

In tools selection, the **most effective** devices are used. We work closely together in using tools with the leading manufacturers, in order to reach the Optimum for each process.

Quick change systems for tools and gripper stations in devices with loaded work pieces guarantee a **very high machining depth**.

Robots from **ABB, FANUC Robotics and KUKA** come into use. Thus, CIMOTEC can design the plant also according to the customer's desire.

For processing of **Aluminum** and **Magnesium**, but also for other areas with the risk of fine dust, the CIMOTEC devices are supplied in **ATEX design**, if necessary. Safety is on the top rung in the total concept for CIMOTEC.

A process-sure handling of work pieces are guaranteed by **intelligent delivery logic** adjusted to on-site situations.

For programming, CIMOTEC now focuses more on the options of the **Offline Programming**, by which the processing programs can be compiled and/or optimized with **lowest production interruption**.

Your satisfaction is our gain.

Technic



CS 66



CS 65



CP 80/S



Spindelsilo

The customer can select different enclosure options from the extensive **CIMOTEC—ROBOCELL 100** delivery program according to his desire and requirements.

Whether **safety enclosures with safety fence**, the new, **lighter full enclosure with integrated steel construction-ground plate**, the **heavy subsequent full enclosure**, or the **light subsequent full enclosure** — for each case of application is the correct solution regarding **device safety, noise- and emission protection and Explosion-protection** according to the **ATEX guidelines** is deliverable.

The enclosures fulfill the latest Health and Safety at Work Act to the full extent. They are deliverable in **customer specific coloring**; almost all color preferences that are omitted can also be fulfilled.

CS 65- This is a **5-roller contact disc grinding unit with pneumatic contact roller alignment**. Also available in wet grinding design.

CS66- This is a **5-roller dual contact disc grinding unit with pneumatic contact roller alignment**. Also available in wet grinding design.

CP 80/S - Effective **grinding unit**, which can be variably loaded, according to requirement with an extensible arm with contact disks (see picture) or with disk-shaped tools such as grinding bar rings or similar tools. This device is also available in duplicate design loaded with combined, duplex attached tools.

Furthermore, CIMOTEC uses pressurized air spindles of leading manufacturers with pneumatically controllable radial or axial balance. These are assembled, especially in the ATEX design, for controlled removal of material residues and/or dusts in Silos.

Technic

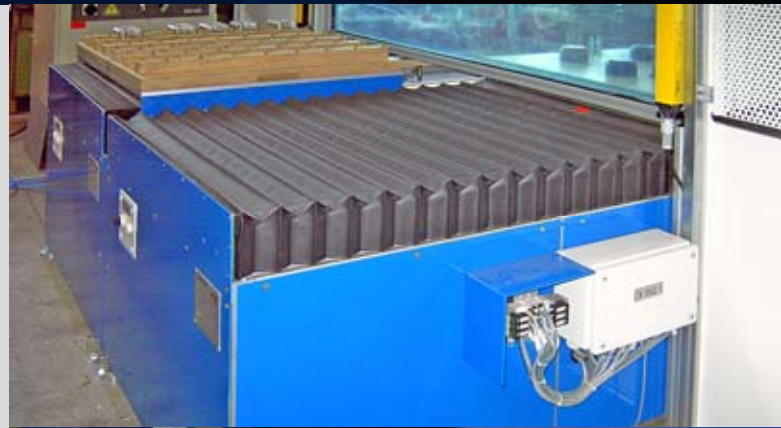
The **work-piece feeding systems** adapted to the requirements of the specific processing offer the flexibility required by the system:

The **dual fixed table stocking system** is used to place work-piece specific work-piece pallets, which are then withdrawn by the robot separately, processed and kept back again.

The **pallet circulatory stocking system**, in which, again, single work-piece pallets are fed in any quantity for processing. This system offers very high stocking quantity in the least possible space.

With the **pallet entry stocking system** also as many work-piece pallets as required can be stocked and fed. This system is the basis for customer-specific series of systems or system chains.

Other feeding systems from the CIMOTEC product range right up to system chains with successive processing are possible, for which, please get in touch with us.



Application Examples



Deburring of surface-machined Aluminum work pieces in a tool guiding robot cell. The programs are compiled on an offline simulation system and optimized over the robot control. The tool is a radial pressurized air spindle moving in all directions.



Deburring of milled Aluminum work pieces from the aviation industry. A radial moving pressurized air spindle is also used here, mounted on a robot.



Deburring application for guiding work pieces integrated into a handling cell. The mounted robot loads and unloads a processing center. During the processing period of the machine, the robot has time to deburr the grasped work piece, a steel forging from the automobile industry, on a pressurized air spindle.

Application Examples

Burrs from the indents are removed on a Magnesium work piece with a brush, which sits in an axially moving pressurized air spindle. This application is also a combination of several tasks, which are carried out by robots. The spindle is mounted on a Silo in order to specifically extract the incidental Magnesium residues and to bind in a wet dust collector. The device is designed in accordance with the ATEX guidelines.

Deburring of various burrs on a Magnesium work piece by means of various pressurized air spindles, which are housed in a Silo, mounted on a sophisticated bearing system. Like before, this device is designed in accordance with the ATEX guidelines.

As for the robot cell to remove mould separation burrs (see picture below to right) on cast parts, we also find the correct completion for their machining process.

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