

POLAR C



THE CENTRIFUGE FOR DE-OILING, DRYING, RINSING, COATING AND RUST-PROOFING.

- Easy operation
- Automatic sequence of operations
- Small floor space required
- Versatile use for de-oiling, drying, oiling or coating etc..
- Special applications with purpose designed features for difficult work-parts
- Very low residual moisture values are achievable
- High operating safety
- Short pay-back time



APPLICATION

The POLAR range of Centrifuges are very versatile in the separation of liquids from solids.

In metal cutting applications they are used for the **recovery of coolants** such as neat cutting oils and soluble oils from swarf in the processing for Waste Management and materials re-utilization. The residual moisture content of steel and brass swarf after centrifugation is normally below 2%.

The centrifuging of component work-parts not only recovers valuable coolants but de-oils the work-parts for any following process operations or for bowl-feeding and handling.

The centrifuging of work-parts leaves a very thin-film residual coating which provides some corrosion protection.

With the use of the optionally available hot-air, blower drying facility, POLAR type centrifuges are used in many electroplating companies for the **drying** of components after finishing processes. Firstly the centrifuging cycle spins off most of the liquid or water the remaining film being dried by the switchable temperature, hot-air blowing cycle. The result is a low energy, short cycle process producing clean, stain free work-parts.

Centrifuge POLAR types are also used for thin-film **oil-ing** or **coating** and for this purpose the centrifuge work drum carrier is fitted with an outer oil tight jacket. The perforated work drum inside the jacket is flooded with the oil or coating fluid during a slow rotation period to completely immerse the work before the centrifuge accelerates to full speed spinning out all the oil leaving only a thin-film coating on the parts.

The coating film can be controlled by means of the centrifuging speed and duration.

OPERATION

All the centrifuge operations are automatically controlled, however the work basket containing the work material to be centrifuged is handled manually or is hoist assisted when provided, into and out of the centrifuge. The lid opening and closing, although gas-strut assisted are also manually done by the operator for centrifuges up to size C 61 (larger centrifuges are pneumatically actuated).

OPTIONAL EQUIPMENT

For your specific application, we offer the following optional equipment:

- Integral hot-air-blower with three heat settings
- Stepless heating temperature control
- Rinsing or oiling facility
- Stepless speed control with display
- Centrifuge mounted swing-jib and electric hoist
- Facility to accept rectangular perforated work pans
- Special carriers for work parts to prevent their distortion
- Micro mesh, wire-mesh work basket linings (up to a mesh size of 40 µm)
- Collection tank for spun-off coating liquid complete with float switch and recirculation pump all wired to a junction box
- Swivel discharge outlet for different liquid types, manual or automatic actuation
- Alternative construction in stainless steel
- Drip pan according to the German water resources law (WHG)
- Work basket transportation trolley



CONSTRUCTION

The centrifuge has a specially designed drive motor to cope with the high forces generated. The work basket carrier is connected directly to the motor shaft and this assembly is mounted in a flexible bearing housed in the baseframe so that it is self-centring under load. Depending on the specific application a suitable work basket is provided (see illustration).

The centrifuge hinged lid is balanced with a gas-strut and only when the lid is closed and safety locked can the centrifuging cycle be started. At the end of the centrifuging cycle the rotation stops and the safety latch can be released to allow unloading.

POLAR centrifuges up to size C 61 (inclusive) have the controls integrated within the machine casing.

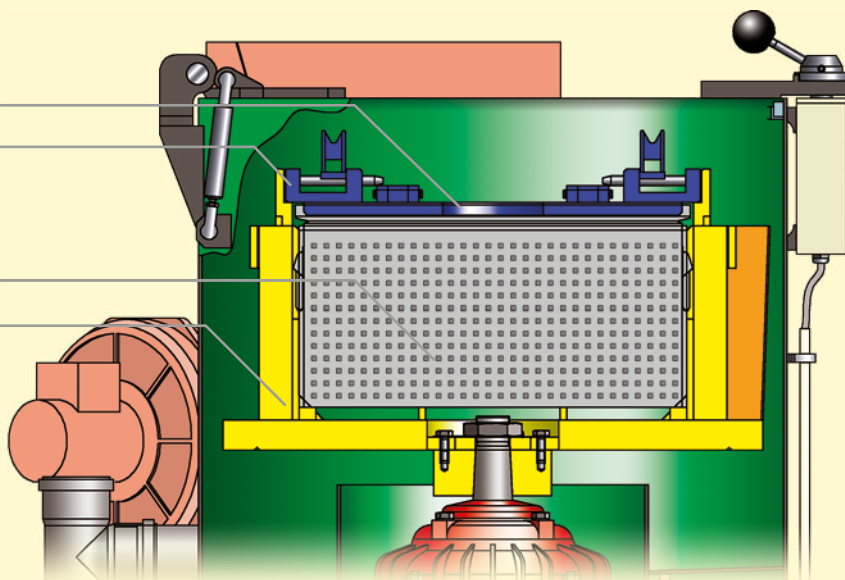
Box / basket lid

Box / basket lid latch

Perforated box or basket (by customer)

Box / basket carrier

POLAR-Centrifuge with adapter for perforated boxes or baskets



Locking lid

Conical outer casing (optional)

Heating channel (optional)

Dispensing device (optional)

Basket

Basket carrier

Centrifuge motor

Heating / Heating-blower (optional)

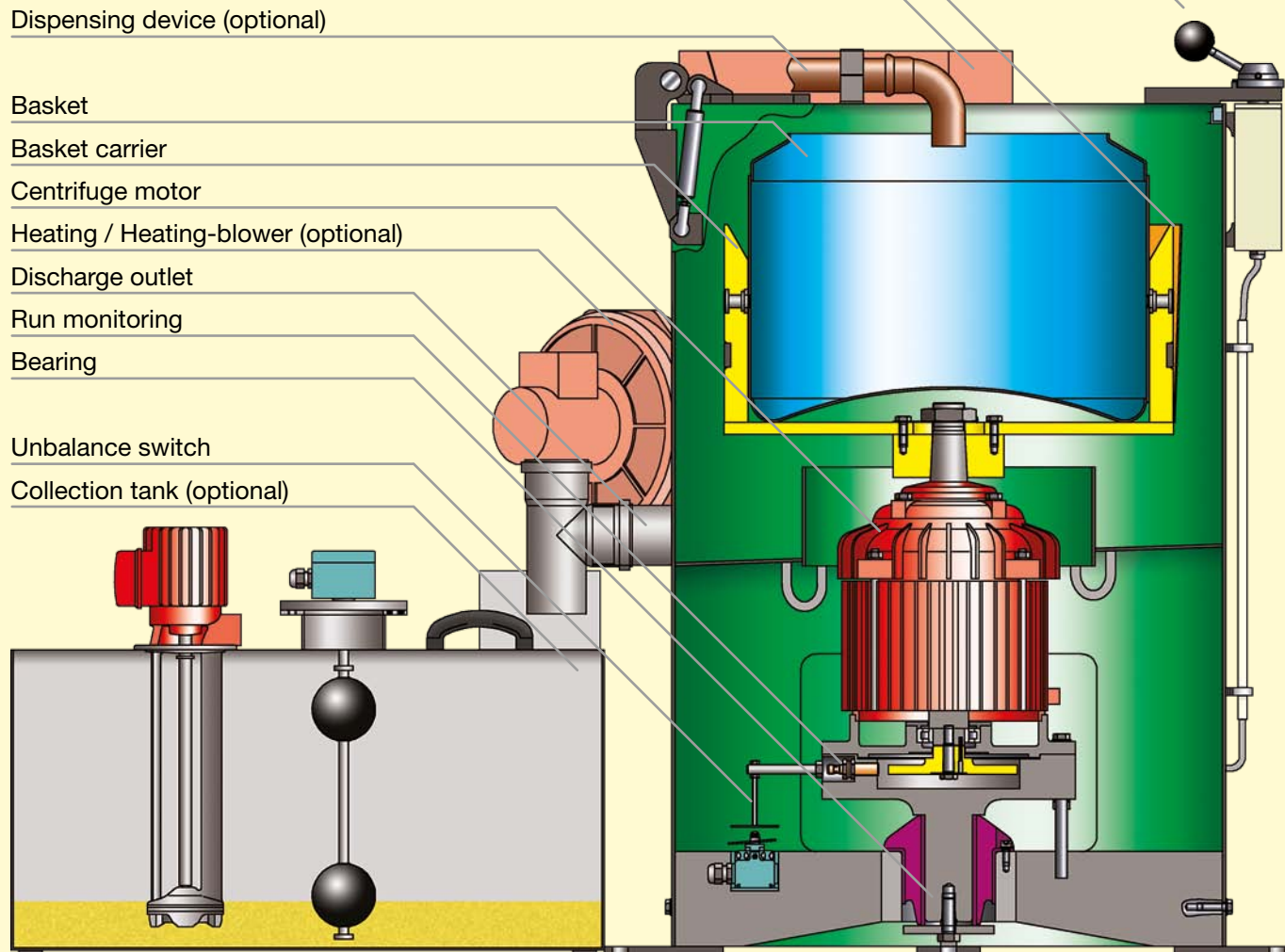
Discharge outlet

Run monitoring

Bearing

Unbalance switch

Collection tank (optional)



DIMENSIONS AND TECHNICAL DATA

| Dimension | C 31 | C 41 | C 51 | C 61 | C 71 | C 81 |
|------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| A | 2,100 mm | 2,120 mm | 2,695 mm | 2,745 mm | 2,755 mm | 3,045 mm |
| B | 530 mm | 530 mm | 530 mm | 625 mm | 625 mm | 625 mm |
| C | 915 mm | 915 mm | 1,080 mm | 1,115 mm | 1,230 mm | 1,350 mm |
| D | 1,020 mm | 1,020 mm | 1,185 mm | 1,220 mm | 1,360 mm | 1,450 mm |
| E | 465 mm | 530 mm | 535 mm | 545 mm | 630 mm | 580 mm |
| F | DN 65 | DN 65 | DN 65 | DN 65 | DN 65 | DN 65 |
| G | 500 mm | 600 mm | 700 mm | 800 mm | 960 mm | 1,100 mm |
| H | 675 mm | 775 mm | 875 mm | 975 mm | 1,220 mm | 1,385 mm |
| I | 730 mm | 865 mm | 1,010 mm | 1,110 mm | 1,285 mm | 1,400 mm |
| J | 975 mm | 1,025 mm | 1,125 mm | 1,195 mm | 1,130 mm | 1,255 mm |
| K | 1,180 mm | 1,380 mm | 1,575 mm | 1,650 mm | 1,835 mm | 2,220 mm |
| L ¹ | 1,440 mm | 1,540 mm | 1,805 mm | 1,940 mm | 2,175 mm | 2,450 mm |
| M ¹ | 620 mm | 740 mm | 860 mm | 975 mm | 1,345 mm | 1,455 mm |
| Weight | 160 kg | 320 kg | 370 kg | 460 kg | 580 kg | 720 kg |
| Basket diameter | 306 mm | 406 mm | 506 mm | 606 mm | 708 mm | 808 mm |
| Basket height | 220 / 320 mm | 260 mm | 365 mm | 385 mm | 440 mm | 540 mm |
| Basket empty weight, approx. | 6 / 8 kg | 10 kg | 17 kg | 25 kg | 45 kg | 67 kg |
| Basket speed ² | 1,480 RPM | 980 RPM | 980 RPM | 735 RPM | 735 RPM | 735 RPM |
| Electrical data | C 31 | C 41 | C 51 | C 61 | C 71 | C 81 |
| Voltage ³ | 400 V / 50 Hz | 400 V / 50 Hz | 400 V / 50 Hz | 400 V / 50 Hz | 400 V / 50 Hz | 400 V / 50 Hz |
| Power Centrifuge motor | 1.8 kW | 2.25 kW | 3.75 kW | 3.75 / 4.5 kW | 4.5 / 4.5 kW | 4.5 kW |
| Power Heating ⁴ | 4 kW | 4 kW | 6 kW | 6 kW | 6 kW | 6 kW |
| Power Heating-blower | 0.14 kW | 0.14 kW | 0.18 kW | 0.18 kW | 0.18 kW | 0.18 kW |
| Through-put | C 31 | C 41 | C 51 | C 61 | C 71 | C 81 |
| Motor type | ZG5 | ZG12 | ZG25 | ZG25 / ZG45 | ZG45 / ZM160 | ZM160 |
| max. Basket loading capacity | 10 / 15 liter | 21 liter | 47 liter | 72 liter | 112 liter | 180 liter |
| max. Basket loading weight | 30 kg | 50 kg | 100 kg | 150 / 300 kg | 150 / 300 kg | 300 kg |
| max. Cycles per hour | 10 - 12 | 10 - 12 | 10 - 12 | 10 - 12 | 10 - 12 | 10 - 12 |

¹ Dimension with open cover

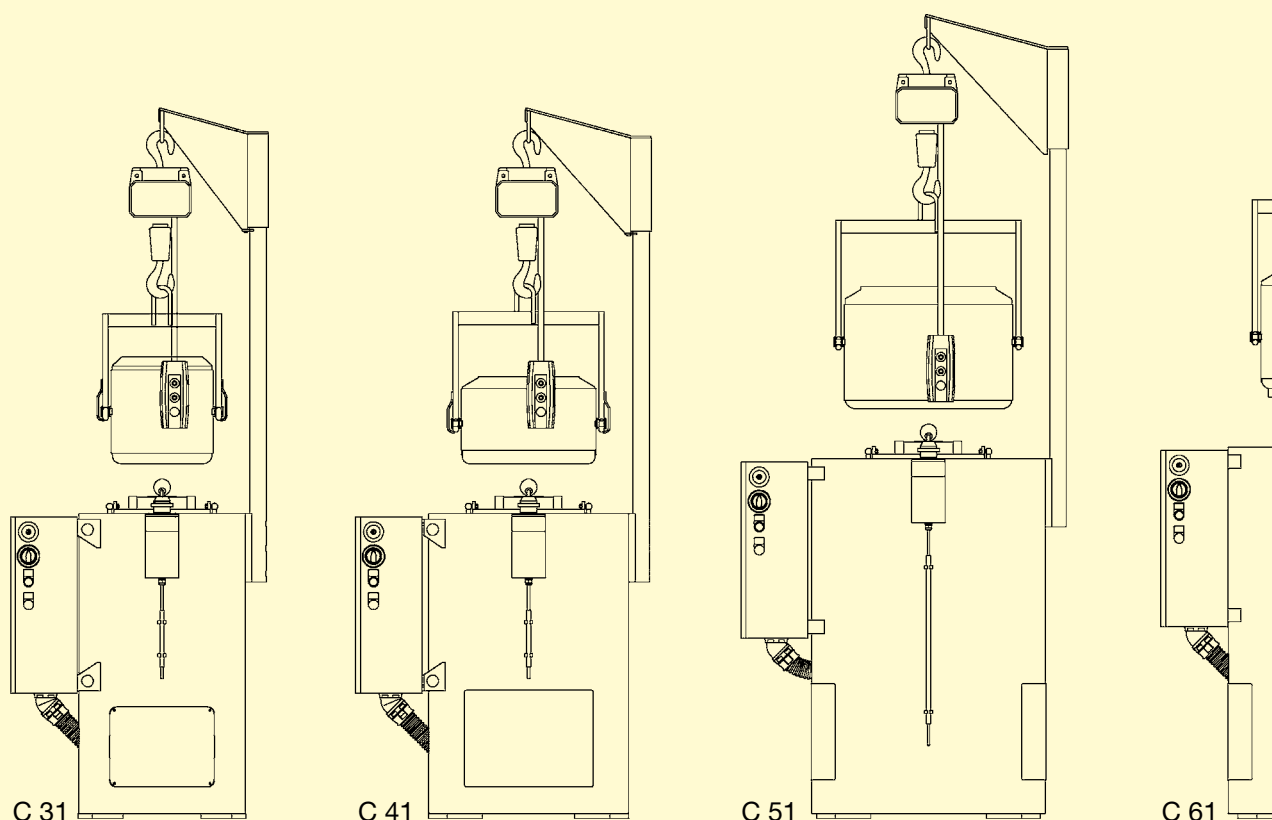
² other speeds on request

³ other voltages or frequencies on request

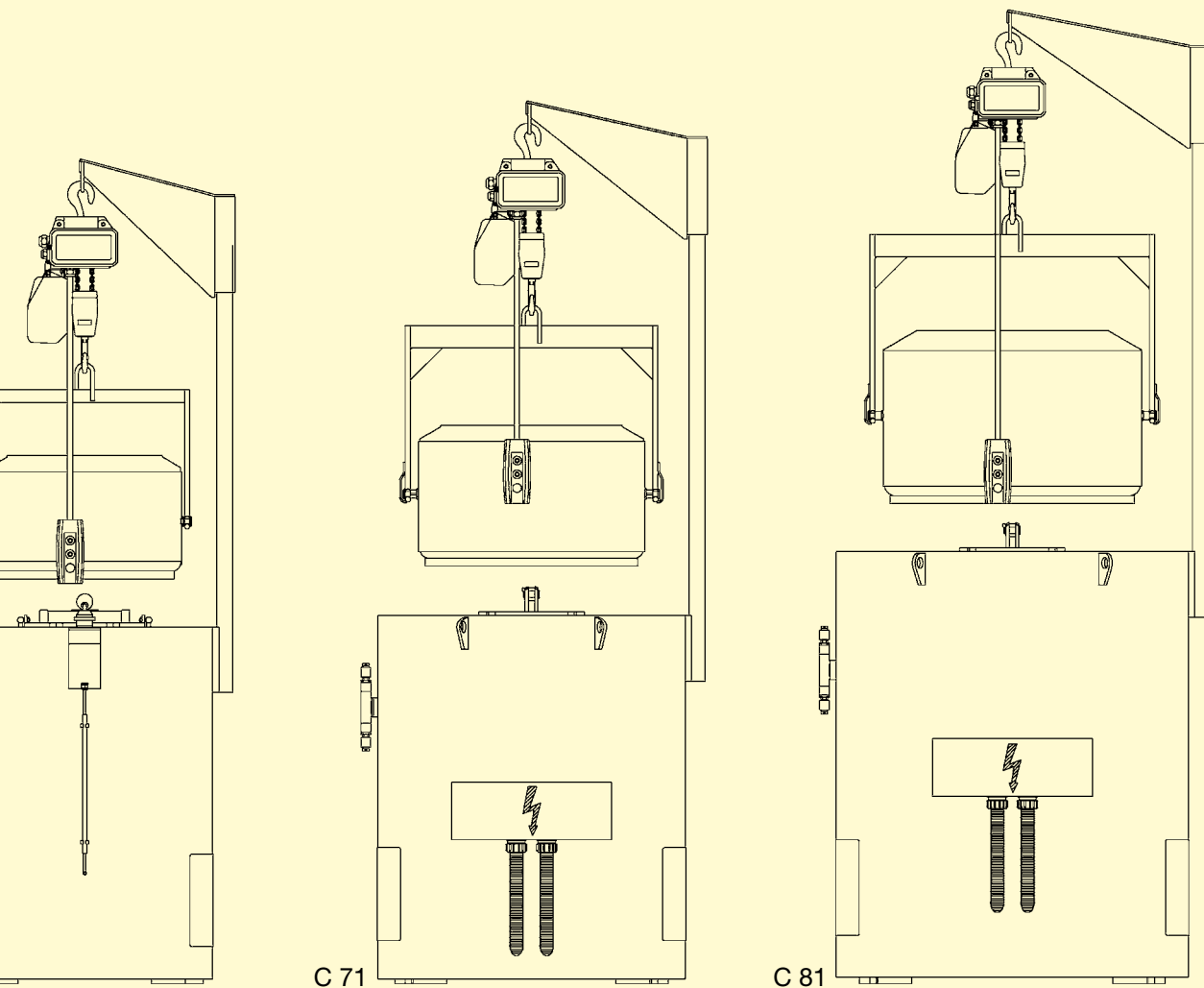
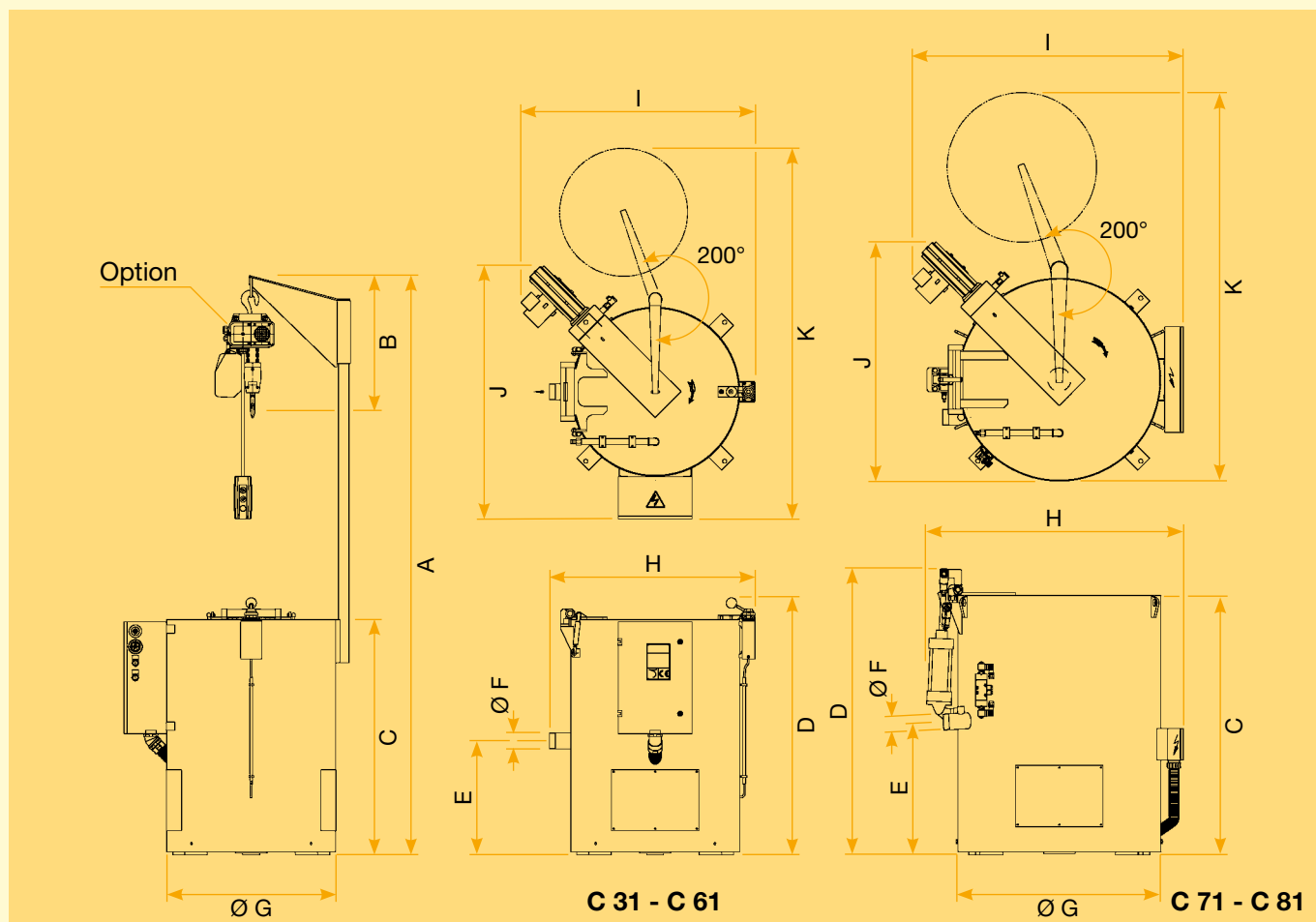
⁴ other heating power on request

The types C 71 and C 81 are build with separate control unit.

Technical and textual subject to modifications.



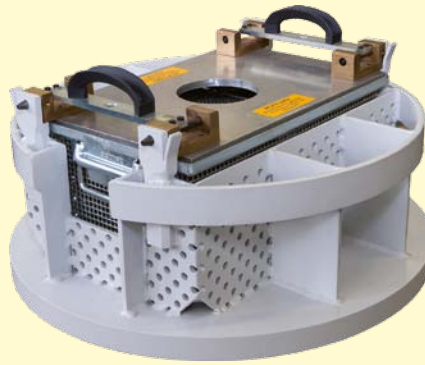
DIMENSIONS AND TECHNICAL DATA



STANDARD BASKET- AND BOX CARRIER OF THE POLAR C CENTRIFUGES



Basket carrier with basket

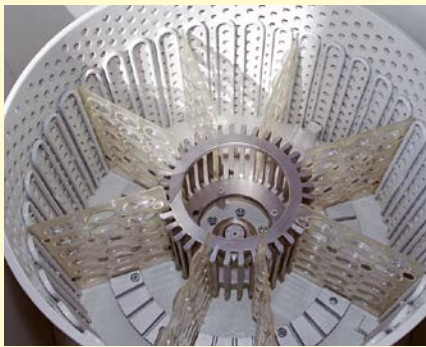


Rectangular box / basket carrier with lid



Conical Basket carrier with insert basket

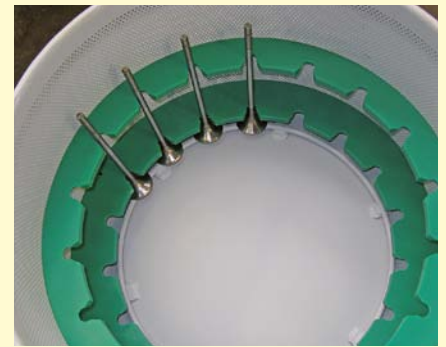
EXAMPLES FOR SPECIAL CARRIERS



Special carrier for the drying of molds for the chocolate processing



Conical basket with insert pan and cover ...



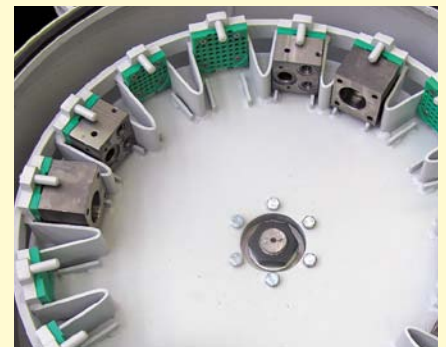
Special carrier for de-oiling valve tappets



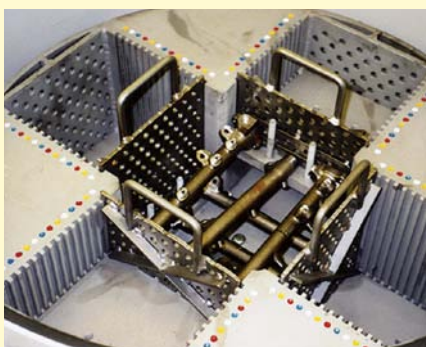
Special carrier for de-oiling surgical needles



... pan placed into the basket ...



Special carrier for de-oiling casings



Special carrier for de-oiling pipe systems



... cover mounted and locked



Special carrier for de-oiling small parts in workpiece carriers

OPTIONAL EQUIPMENT FOR THE POLAR C CENTRIFUGES



OUR DEMONSTRATION/TEST UNIT



To be able to achieve ideal solutions and to select suitable units from the range of Gebr. Steimel products, it is often necessary to determine by tests in the preliminary project stages, the appropriate equipment for various applications. Steimel has therefore provided a test plant facility, which is available to our customers for simulated trials to be carried-out with their swarf material etc.

Steimel are quite prepared to conduct these tests to determine the right equipment for particular applications.

Our engineers working with our customers, to determine the best project solutions, will prepare their proposals and quotations to meet your specific requirements.

APPLICATION EXAMPLES



▲ POLAR C centrifuge for coating of bulk materials with tank and drip tray



▲ POLAR C centrifuge for de-oiling of parts in boxes; with swing-jib



▲ POLAR C for de-oiling of parts and swarf; with oil cleaning centrifuge and oil tank



▲ POLAR C centrifuge for de-oiling of parts before washing

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COMPETENCE AND PASSION.