

THE DACAPO COMPANY

Dacapo DB200 Strip wind Builder



The Dacapo DB200 is a modern reliable strip wind builder, built on the base of an Orbitread® 200. The bed frame, front end and other mechanical parts are kept from the original builder. The builder is upgraded with:

- ✓ New electric cabinet with PLC control and soft starter for the extruder
- ✓ New PC based operator workstation
- ✓ New spin motor and gear box
- ✓ New winding radius adjustment motor and screw
- ✓ New Azimuth motor and gear box
- ✓ New or refurbished extruder gear box and thrust bearing block
- ✓ New extruder screw
- ✓ New or refurbished extruder barrel
- ✓ New pneumatic system
- ✓ New 2 zone temperature control system

Altogether, this will give a modern, reliable strip wind builder, easy to operate and maintain.

The PC is the operator's interface to the builder. The PC is used to create building programs, to select which building program to use and to store statistical and measurement data.

- *A building program is created using a graphical picture of the tyre. The tyre profile is divided into 1 to 25 zones. Building program data for each zone is entered to a table. A practically unlimited number of building programs can be stored.*
- *The operator Changes to a new tyre size by selecting the adherent building program from a list. Extruder temperatures, tread profile etc are automatically set for the new building program without any other intervention from the operator. To change the building program takes less than 5 seconds unless the extruder temperature changes too.*
- *After finishing the building of a tyre, the PC stores all process data in a database. This data can be retrieved by tyre, by building program or by batch.*

Several builders could be networked together or to a server. A common database for building programs and process data can then be used.

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Builder features

Standard builder equipment

- ✓ Integral 3" extruder
- ✓ Integral 2 zone temperature control system.
- ✓ Soft start extruder motor drive.
- ✓ PC operator workstation (common to all Dacapo builders)

Options

- ✓ Temperature sensor to measure the extruded strip temperature.
- ✓ Strip break sensor
- ✓ 3" Plasticscrew

Alarms - prevent building a tyre

- ✓ The extruder temperatures are outside the set tolerances

Warnings - continue the building process

- ✓ Extruder load warning limit
- ✓ Extruder temperatures
- ✓ Extruded rubber temperature (option)

Alarms - stop the building process

- ✓ Extruder high load
- ✓ Broken strip (option)

Data storing

Per building program or size

- ✓ Number of built tyres
- ✓ Average building time
- ✓ Total rubber consumption

Per batch

- ✓ Operator
- ✓ Batch start time
- ✓ Batch stop time
- ✓ Number of built tyres
- ✓ Average building time
- ✓ Total rubber consumption

Per operator

- ✓ Operator log-in time
- ✓ Operator log-out time
- ✓ Number of built tyres
- ✓ Average building time
- ✓ Total rubber consumption

Per tyre

- ✓ Building program / size
- ✓ Tyre ID
- ✓ Date / time
- ✓ Operator
- ✓ Rubber compound name
- ✓ Rubber compound batch
- ✓ Rubber compound lot
- ✓ Rubber used weight
- ✓ Building time
- ✓ Extruder mean load
- ✓ Extruder speed
- ✓ Strip mean / max / min stretch
- ✓ Extruder mean temperatures
- ✓ Extruded mean / max / min strip temperature (option)

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Technical specification

Physical dimensions

| | |
|----------------------|---|
| Weight | 1275 kg |
| Size (L x D x H, mm) | 2490 x 710 x 1800 (highest point: electric cabinet) |

Utility requirements

| | |
|-----------------|-------------------------|
| Air | 10 bar, clean dry air |
| Main supply | 3x400VAC (3 phase + PE) |
| Frequency | 50 –60 Hz |
| Nominal current | 63A |

Extruder

| | |
|-----------------------|---|
| Type | 3" {LD 9:1} |
| Motor size | 18.5kW |
| Speed | 72 RPM |
| Capacity | Approx. 3 kg/min. [depending on compound] |
| Typical building time | 12" < 30s 15" < 50 s 25" < 500 s |

Tyre size capacity 12" - 30" / small hub 10" - 20"

| | |
|------------------|--|
| Maximum diameter | 1420 mm |
| Bead width | 125 mm - 480 mm with standard hub assembly |
| Bead diameter | 12" - 30" / small hub 10" - 20" |

Water temperature control system

| | |
|----------------------|---|
| Number of zones | 2 |
| Temperature accuracy | ±1.5° |
| Chiller system | not included, choose from: <ul style="list-style-type: none">▪ Customer supplied cooling water▪ External fan chiller▪ External processing water chiller |

Regulations and standards

The builder is designed to fulfill regulations and standards for the European and American market.

For the EU market the following will apply:

- ✓ Machine safety regulations EN292-1 and EN292-1 following the provision of directive 89/392/EEC with amendments
- ✓ EMC regulations following the provisions of directive 89/336/EEC
- ✓ Electrical equipment of machines EN 60-201-1 following the provisions of directive 73/23/EEC

Spare parts and service

The builder is designed using only well known high quality components. Spare parts are available Worldwide from the suppliers as well as through Dacapo LTD.

| | | | |
|---------------|----------------|------|----------------------|
| PLC system | Modicon | from | Schneider automation |
| Motor drives | Altivar 58 | from | Telemecanique |
| Vision system | Visionscape | from | RVSI Acuity |
| Gear boxes | various models | from | Benzler |
| Pneumatics | | from | Rexroth |
| Etc. | | | |

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