



Tyre Retreading Machinery

*a division of
Marangoni Meccanica*



BLACK DRAGON 90



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BLACK DRAGON 90

The BLACK DRAGON 90 is an exclusive premium building machine designed for the application of tread and sidewall on passenger, light truck and truck tyres.

The machine is equipped with one 90mm "pin" barrel type extruder for tread application, one 40mm extruder for sidewall application, and a rotating turret with two chucks.

Consequently, while the tread is applied on one chuck, the sidewall application can be carried out on the second chuck, thus maximizing the machine productivity and providing in a very fast time a bead to bead green tyre ready for curing.

The operator can follow the two parallel cycles and only has to take care of the program selection and of the loading/unloading of the tyre, while the start and the end of the cycle are fully automatic. The software has high versatility, allowing quick changes in the program according to the tyre size; the

program features as standard the automatic compensation of the casing profile: a laser system scans the buffed casing profile and then the program calculates automatically the compensation of any asymmetric profile, granting a final result as per receipt chosen.

For the tread, the high degree of building uniformity is achieved by using a shaped strip that is applied to the tyre directly after calendering, thus avoiding any deformation of the shape/dimension and variations of the temperature that can occur in conventional long-conveying of extrudate. Automatic calibration programs for different compounds are also featured, in order to ensure a constant result of the application. The program also allows to select different thicknesses in the sidewall application, a feature particularly important for bus tyres.

MAIN FEATURES

- Tread application
 - Pin type extruder diameter 90 mm, ratio 1:12, with vertical gearbox
 - Application head with 3 axis control with calender 100 mm
 - Extruder motor three-phase servo ventilated 57 kW with inverter
 - Group of calender application with brushless with automatic strip cutting
 - Calender application with controlled axis
- Sidewall application
 - Extruder diameter 40 mm
 - 3 Controlled axis
 - Automatic feeding system
- Rotating turret with two chucks
- Three ranges of chuck units
 - 10" - 17,5" for passenger tyres (pneumatic opening)
 - 13" - 20" for passenger, 4x4, light truck tyres (hydraulic opening)
 - 15" - 24,5" for light truck and truck tyres (hydraulic opening)
- Exclusive Thermostatisation unit with closed circuit (alternatively, set of TCUs can be installed)
- Program with 2 parallel cycles
- Unlimited programs capacity
- Possibility of asymmetric rubber application on the sidewall (for bus tyres)
- Automatic compensation of asymmetric buffed casing profiles
- Better quality of the green tyre, bead to bead application
- Capacity of extrusion of different types of compound, higher flexibility
- Circumference measuring device
- PC with touch screen 15"
- Web cam and modem USB for online technical assistance
- Metal Detector on extruder feeding (optional)

OVERALL DIMENSIONS AND WEIGHT

BLACK DRAGON 90

Width	4400 mm
Height (from floor)	2200 mm
Length	6400 mm
Weight	8500 kg

TECHNICAL DATA

BLACK DRAGON 90

Max. diameter of the tyre	1260 mm
Min. diameter of the tyre	660 mm
Max. cross sectional width of the tyre	500 mm
Min. cross sectional width of the tyre	130 mm
Max. diameter of the bead (depends on version)	24,5"
Min. diameter of the bead (depends on version)	10"
Total installed power	125 kW
Power supply voltage	400/460 V
Auxiliary voltage	24 Vdc
Supply frequency	50/60 Hz
Air supply pressure	8 bar
Average productivity*	
• Passenger tyres	40/50 tyres/hour
• 4X4 and light truck tyres	25/30 tyres/hour
• Truck tyres	15/20 tyres/hour (315/80 R 22.5) bead to bead

* The average productivity is approximate and may vary depending on the compound used and on the settings chosen by the operator.

Example layout of BLACK DRAGON 90

