



Tyre Retreading Machinery

*a division of
Marangoni Meccanica*



OMEGA XTRUDER 90-120



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OMEGA XTRUDER 90-120

The OMEGA range of tread building machines is designed to guarantee optimal processing and application of tread compounds by method of strip winding on passenger, light truck and truck tyres.

The machines are supplied with "pin" barrel type extruders of two different diameters, 90 and 120 mm, to suit the size, range and quantity of tyres to be processed, and with tyre mounting hydraulic expandable chucks.

The process of tread application is fully automatic and the operator 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 the program calculates automatically the compensation of any asymmetric profile, granting a final result as per receipt chosen.

The high degree of building uniformity is achieved by using a shaped strip that is applied to the tyre directly after calendaring, 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.

In the version of 120 mm, during the building process, the casing is driven by a chuck that will adjust its speed in order to ensure the same peripheral speed of the distributor roller at every point on the profile.

MAIN FEATURES

- Pin type extruder (90 or 120 mm) with vertical gearbox
- Application head with 3 axis control with profiling calender
- Extruder motor three-phase servo ventilated with inverter
- Group of calender application with brushless with automatic strip cutting
- Expandable chuck unit
- Three ranges of chucks:
 - 10"-17,5" for passenger and light truck tyres (pneumatic opening)→Omega 90
 - 13"- 20" for passenger, light truck and 4x4 tyres (hydraulic opening)→Omega 90
 - 15"-25" for light truck, truck and small OTR tyres (hydraulic opening)→Omega 90-120
- Exclusive Thermostation unit with closed circuit (alternatively, set of TCUs can be installed)
- Counterweight extruder to builder roller dancer to regulate calender speed
- Tyre rotation motor synchronised with the application roll→Omega 120
- Unlimited program capacity
- Possibility of asymmetric rubber application
- Automatic compensation of asymmetric buffed casing profiles
- Capacity of extrusion of different types of compound, high flexibility
- PC with touch screen 15"
- Web cam and modem USB for online technical assistance
- Circumference measuring device
- Metal Detector on extruder feeding (optional)
- Electrical cabinet air conditioning (optional)

OVERALL DIMENSIONS AND WEIGHT

	OMEGA 90	OMEGA 120
Width	~ 3330 mm	~ 4500 mm
Height (from floor)	~ 1800 mm	~ 2000 mm
Length	~ 5230 mm	~ 6500 mm
Weight	~ 5000 kg	~ 9500 kg

TECHNICAL DATA

	OMEGA 90	OMEGA 120
Extruder diameter	90 mm	120 mm
Extruder ration D/L	1:12	1:14
Diameter calender application roller	100 mm	120 mm
Extruder motor power	~ 57 kW	~ 110 kW
Max. outer diameter of the tyre	1400 mm	1400 mm
Min. outer diameter of the tyre	560 mm	620 mm
Max. cross sectional width of the tyre	550 mm	550 mm
Min. cross sectional width of the tyre	130 mm	150 mm
Max. diameter of the bead (depends on version)	25"	25"
Min. diameter of the bead (depends on version)	10"	15"
Total installed power	~ 90 kW	~ 180 kW
Power supply voltage	400/460 V	400/460 V
Auxiliary voltage	24 Vdc	24 Vdc
Supply frequency	50/60 Hz	50/60 Hz
Air supply pressure	8 bar	8 bar
Average productivity*:		
• Passenger tyres	40/50 tyres/hour	-
• 4x4 and light truck tyres:	25/30 tyres/hour	40/45 tyres/hour
• Truck tyres:	15/20 tyres/hour	20/30 tyres/hour

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

Example layout of OMEGA XTRUDER 90

