



AUTOCLAVES

2009



AKAR'S AUTOCLAVE MANUFACTURING PROGRAM

COMPANY INFORMATION

Akar, founded in 1990, manufactures machines for the tire retreading industry and the steel industry. We operate in the Eskisehir Organized Industrial Zone in a 19,000 m² facility. Akar is a dynamic, well-respected, growth oriented and export-oriented company.



As part of our tire retreading equipment manufacturing program, we produce autoclaves with various sizes suitable for curing both truck tires and OTR (Off The Road) tires. To date, Akar has manufactured autoclaves with diameters from 1,500 mm to 4,600 mm. While we offer standard sizes of autoclaves to our clients, we also welcome custom-made design requests from our customers. We can design, manufacture, deliver and start up our machines at customers' sites and provide ongoing spare parts and after-sale service.

QUICK FACTS

- 18- year old company operating in the Eskisehir Industrial Zone
- Conveniently located in the hub city of Eskisehir (close distance to the ports and major cities such as Istanbul, Ankara, Bursa)
- State of the art machinery manufacturing facility
- 19,000 m² factory space
- Professional management team
- Over 80 highly-skilled technical work force and staff
- High machining capacity and advanced design capabilities
- ISO 9001 – 2000 certified and providing CE Certification
- Well executed future growth plans
- Export and growth oriented international company
- High degree of flexibility and access to numerous subcontractor companies and suppliers

DESIGN



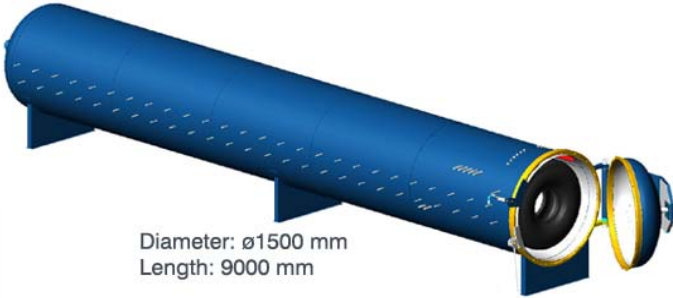
Steam, Water and Air Fixture

Akar's own technical team is capable of designing the autoclaves for our customers. Our technical office is equipped with state-of-the-art design equipment with 3D design tools. While we offer standard sizes of autoclaves to our clients, we can also design custom-made requests from our customers.



Diameter: \varnothing 3500 mm
Length: 4960 mm

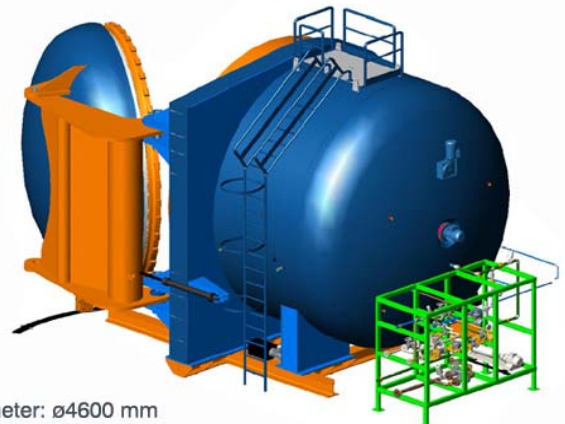
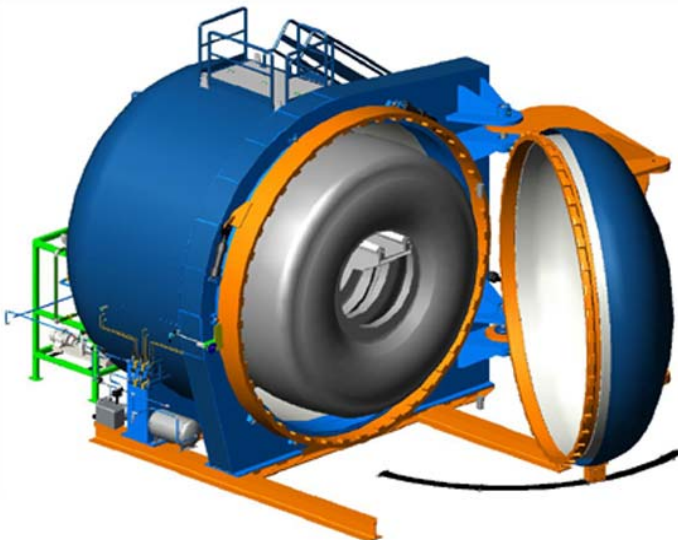
Depending on our customers' requirements, our autoclaves are able to include



Diameter: \varnothing 1500 mm
Length: 9000 mm

- Electrical, direct steam and indirect steam (serpentine) heating systems
- Consol and rotation roll systems mounted within
- DPC (differential pressure control)
- Vacuum pumps
- Condense system and water discharge
- Air and water cooling

Our advanced automation and programming capability enhances our autoclaves with ability to handle custom-made requests from our customers.



Diameter: \varnothing 4600 mm
Length: 3390 mm

The table below shows an example of the autoclaves we manufacture for the tire retreading sector with indicated technical features

Product Code	AKR 295			AKR 881			AKR 384			AKR 434			AKR 389			AKR 337		
Diameter (mm)	Ø1500			Ø2300			Ø3100			Ø3500			Ø3900			Ø4600		
Useful Length (mm)	9.000			4.925			3.955			4.960			5.415			3.390		
Features	OP	O	P	OP	O	P	OP	O	P	OP	O	P	OP	O	P	OP	O	P
1 Consol	-	-	-	√	√	-	√	√	-	√	√	-	√	√	√	√	√	√
2 Monorail	-	-	√	-	-	√	-	-	√	-	-	√	-	-	-	-	-	-
3 Precured System Fixture	-	-	-	√	-	√	√	-	√	√	-	√	√	-	√	√	-	√
4 Vacuum Pump - DPC	-	-	√	√	-	√	√	-	√	√	-	√	√	-	√	√	-	√
5 Electrical Heat	-	-	√	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6 Serpentine (Indirect Steam)	-	-	√	√	-	√	√	-	√	√	-	√	√	-	√	√	-	√
7 Direct Steam	-	-	-	√	√	-	√	√	-	√	√	-	√	√	-	√	√	-
8 Air Cooling	-	-	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
9 Water Cooling	-	-	-	√	√	-	√	√	-	√	√	-	√	√	-	√	√	-
10 Air Circulation	-	-	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
11 Water Discharge from Tires	-	-	-	√	√	-	√	√	-	√	√	-	√	√	-	√	√	-

O = Orbit

P = Precured

OP = Orbit + Precured



Diameter: ø3100 mm
Length: 3955 mm



Diameter: ø1500 mm
Length: 9000 mm

PRODUCTION



Our autoclaves are manufactured in our factory with limited reliance on outside suppliers. Our advanced machinery capability assures that we meet desired delivery schedules. We maintain highly qualified staff to carry on the manufacturing process.

QUALITY

The engineering calculations of the machines are completed with advanced software tools. Our autoclaves are manufactured with Pressure Equipment **Directive 97/23/ EC (PED)**, and we provide **CE** and **GOST-R** certificate for our autoclaves issued by well-known international organizations such as Bureau Veritas. Furthermore, our autoclaves comply with the safety regulations of various organizations and countries.





DIRECT ORBIT MODE			
SET THE WORKING TIME....>	H:	5	MIN 30
PRESSURE MAX.	5.5	Bar	MIN. 5.0 Bar
TEMPERATURE MAX.	135	C°	MIN. 100 C°
TIRE ROTATION TIME	26	Sec	STOP 240 Sec
SET TIME-WATER DISCHARGE ON			15 Sec
SET TIME-WATER DISCHARGE OFF			1 Min
COOLING TEMPERATURE WITH AIR>			110 C°
COOLING TEMPERATURE WITH WATER			60 C°

STRESS RELIEVING FURNACE



Height: 3,200 mm
 Length: 9,000 mm
 Width: 4,800 mm
 Max temperature: 800 °C

The high quality materials, parts and tools are used on our autoclaves. The complete welding process is executed by certified welders. The critical parts of the autoclaves, particularly the heavily welded parts such as the quick closing door mechanism, are treated in our high capacity Stress Relieving Furnace. Furthermore, the open-surface-parts of autoclaves are sand blasted before they are painted.

We also realize the testing of our autoclaves using our steam generator at the end of the production before we ship them to our customers.



Diameter: ø3500 mm
 Length: 4960 mm





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