



AUTOCLAVES






www.akarmak.com.tr



akarmak
• autoclaves • tire retreading • projects

turnkey autoclave
systems with high
degree of safety

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ABOUT US

Akarmak, founded in 1990, manufactures autoclaves and pressure vessels for various industries including the Composite Materials, Glass Industry, Tire Retreading - Rubber Vulcanization, Building Materials, Medical Waste Sterilization.

Our autoclaves are manufactured in our state-of-the-art manufacturing facilities in the city of Eskisehir, with close proximity to major cities and ports. From the customer requirement acquisition stage to design, manufacturing, test, delivery and on-site commissioning, Akarmak is capable of providing turnkey and boutique solutions for every customer need.

The autoclaves are designed using advanced design tools and software meeting the highest safety and quality standards. We approach every project as unique and custom-made, and we can handle customer specific requests. The autoclaves are manufactured with limited reliance on outside suppliers and carried out by an experienced, highly trained and certified work force and technical staff.

Akarmak has the following certifications including those for autoclave and pressure vessel manufacturing:

- Pressured Equipment Directive (PED) 2014/68/EU (CE) - ASME SEC VII D.1.
- EAC (GOST)
- EN 3834-2
- AD2000
- Other certificates that may be required by different countries and jurisdictions.

To certify our autoclaves, we work with internationally well-known certificate agencies such as Bureau Veritas, TUV, Hartford Steam Boilers.

Thank you for your interest in our company and our products. We look forward to realizing successful projects with you and enhancing your value chain with high quality products.

Please do not hesitate to contact us if you have any questions. You can also visit us at www.akarmak.com.tr and to get more information about our company and our products.

QUICK FACTS

- State of the art machinery manufacturing facility
- Professional management team with experience and knowledge
- Highly-skilled workforce (incl. certified welders)
- High machining capacity and advanced design capabilities
- Conveniently located in the hub city of Eskisehir (close to ports and major cities)
- ISO 9001 - 2008 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 allow Akarmak to manage high-volume projects

FACTORY

LOCATION

Eskisehir, Turkey Conveniently located close to ports and major cities.

FACTORY

27.000 m² factory space in Eskişehir Industrial Zone

QUALITY

ISO 9001-2008 certified with advanced engineering capabilities

Pressured Equipment Directive (PED) 2014/68/EU (CE) - ASME SEC
VII D.1.
EAC (GOST)
EN 3834-2
AD2000



AUTOCLAVES

Safety is critical when it comes to autoclaves, and manufacturing is based on accepted standards.

AKAR'S AUTOCLAVE SYSTEMS SAFETY IS GUARANTEED BY THE FOLLOWING

Material used is special material used for pressure vessels.

Safety switches used at the door system showing the door as open/closed and locked

Advanced PLC control system controlling maximum and minimum pressure values through PLC

Mechanical over pressure valve system

Manufacturing based on 97/23/EC Pressure Equipment Directives (PED) or ASME or GOST-R standards

Manufacturing based on 98/37/AT Machinery Safety Regulation

Manufacturing based on CE, ASME, GOST-R standards

Certified autoclaves by world well-known certification agencies such as Bureau Veritas, TUV, Hartford Steam Boilers etc.

10 year safety guarantee as part of CE/ASME



COMPOSITE AUTOCLAVES

FOR PRODUCTION & LAB APPLICATIONS

AEROSPACE



AUTOMOTIVE



MOTO SPORTS



MARINE INDUSTRIES



Ø 4000 x 14.200 mm
(Manufacture for Turkish Airlines)

TECHNICAL FEATURES

Composite Autoclaves for Aerospace Applications meeting Boeing and NADCAP standards.

Composite autoclaves for various composite material curing applications in production

Up to Ø 5000 and ability to offer custom-made sizes to respond to customers unique requests

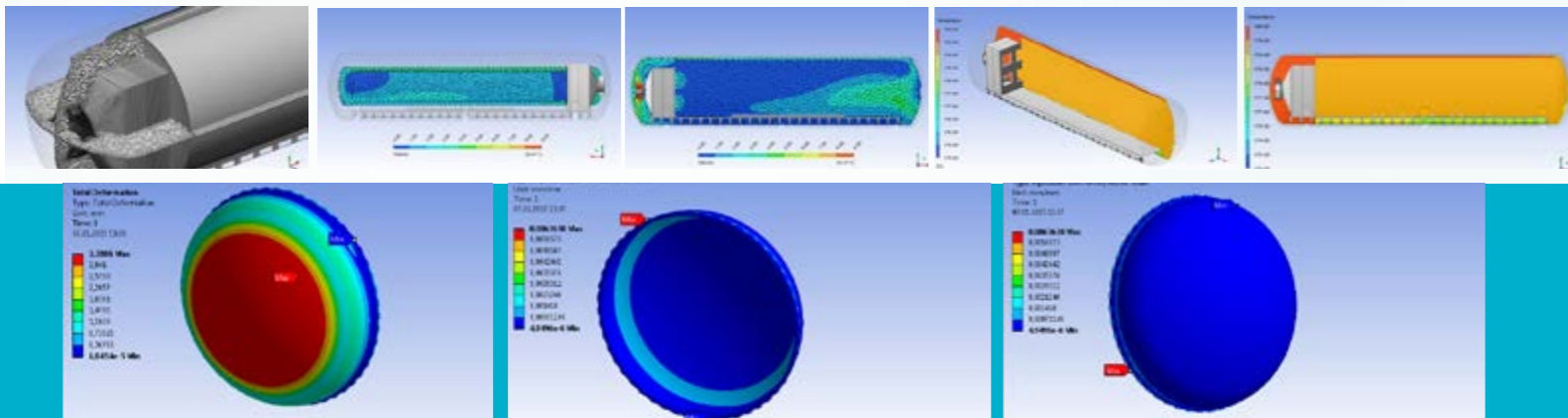
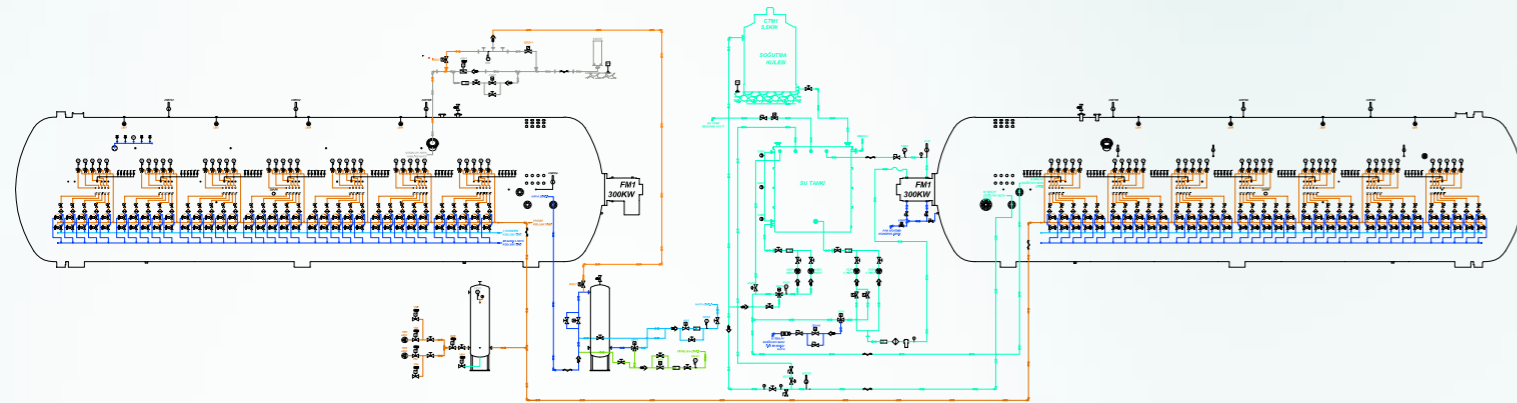
260 °C (500 °F) @ 10,5 Bar (150 psi) ; 400 °C (750 °F) @ 14 Bar (200 psi) working conditions

Specifically designed and offered for R&D usage at universities, research centers, laboratories and preproduction tests



COMPOSITE AUTOCLAVES & CURING OVENS

FOR PRODUCTION & LAB APPLICATIONS

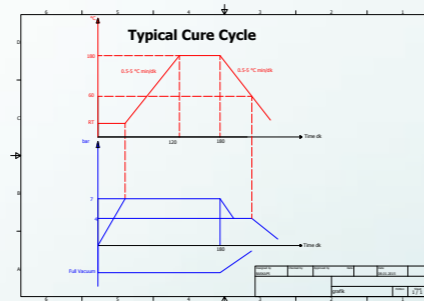


User friendly and maintenance-free PC based control system offering the best heating, cooling rates and temperature uniformity

Adaptable to different electrical voltage conditions

Project specific number of vacuum, thermocouple connections

Ability to set up turnkey systems including cooling units, autoclave trolleys, compressor sets, nitrogen units.



Highest safety standards



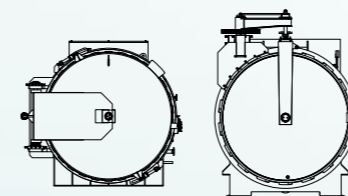
CURING OVENS

Authorized onsite commissioning and assembly services around the world and ongoing after-sale support

Manufactured at state-of-the-art manufacturing facilities

Advanced safety features with available certification of PED 97/23/EC CE, ASME, GOST-R

10 year safety guarantee as part of CE/ASME



Safe Bayonet Door
Closure Systems



GLASS LAMINATION AUTOCLAVES & CLEAN ROOM

FLAT (ARCHITECTURAL) GLASS

AUTO GLASS

BULLET RESISTANT GLASS

User friendly control system

Energy conservative heating and insulation system

Multiple point safety control devices and built with highest safety standards

Optional features: Vacuum system, autoclave trolleys, cooling units, compressor sets

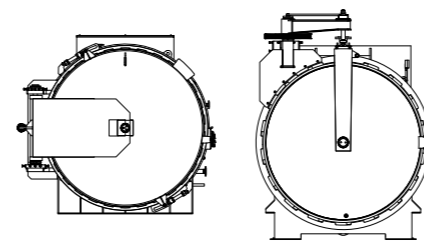
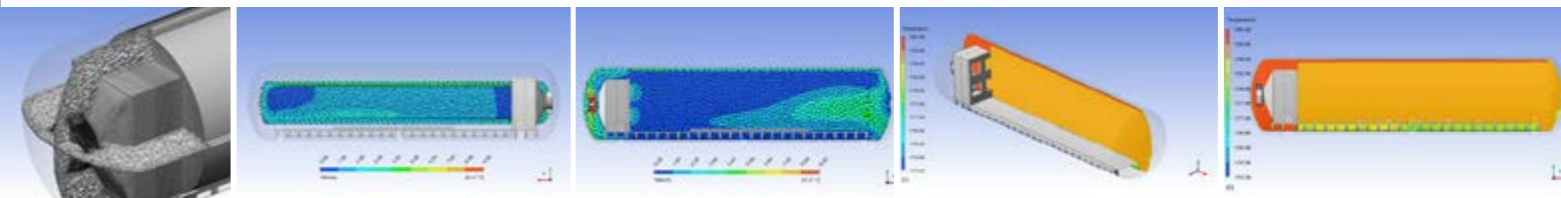
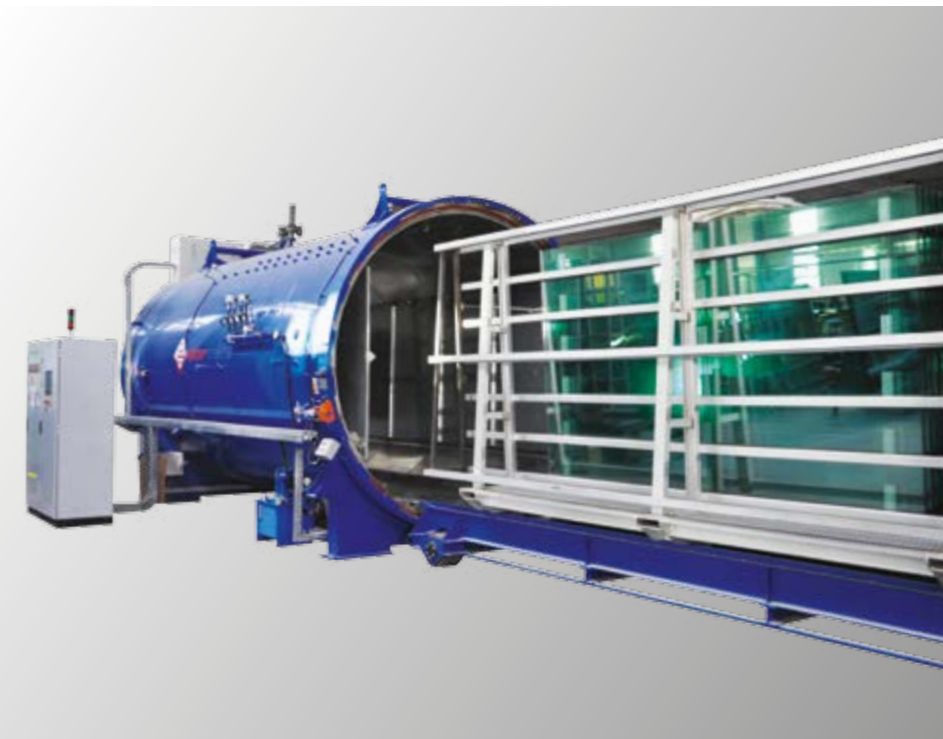
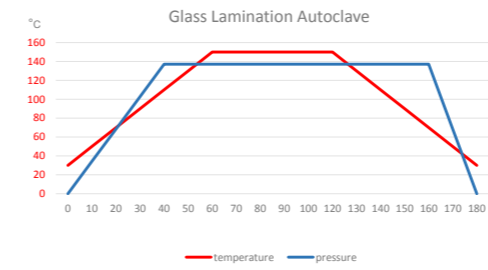
Manufactured at state-of-the-art manufacturing facilities

Advanced safety features with available certification of PED 97/23/EC CE, ASME, GOST-R

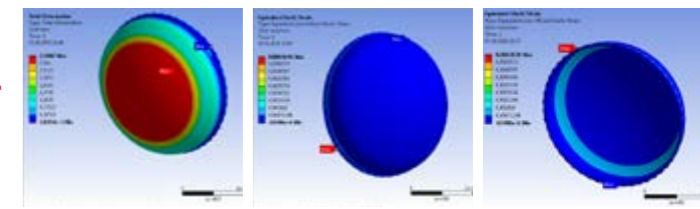
10 year safety guarantee as part of CE/ASME



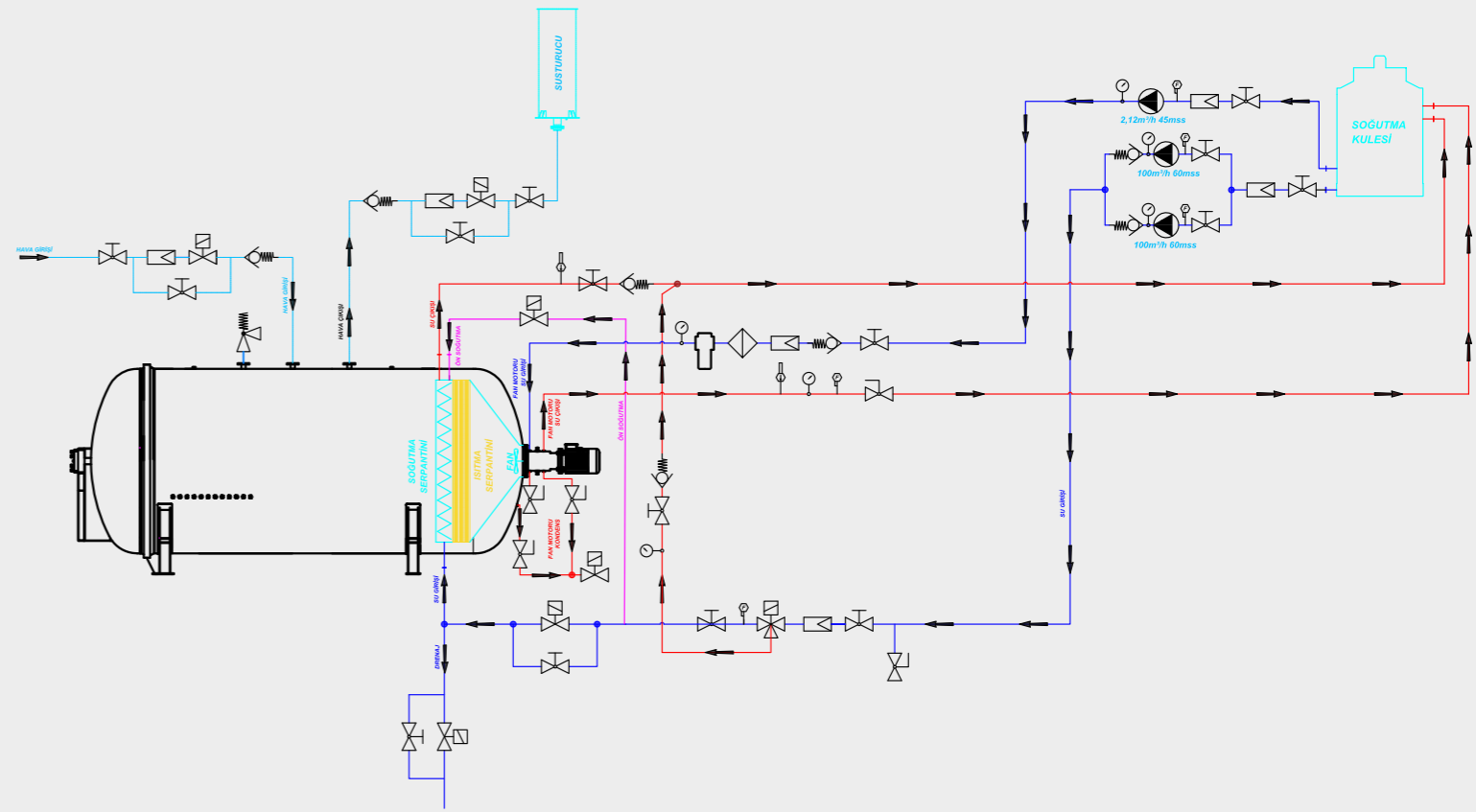
Highest safety standards



Safe Bayonet Door Closure Systems



GLASS LAMINATION AUTOCLAVES & CLEAN ROOM



Lamination Autoclaves for Flat (Architectural), Auto Glass, and Bullet Resistant laminated glass production

Custom-made solutions with various diameter and length options including jumbo size glass lamination process

Durable bayonet door system and alternative door opening systems depending on customers' project requirements

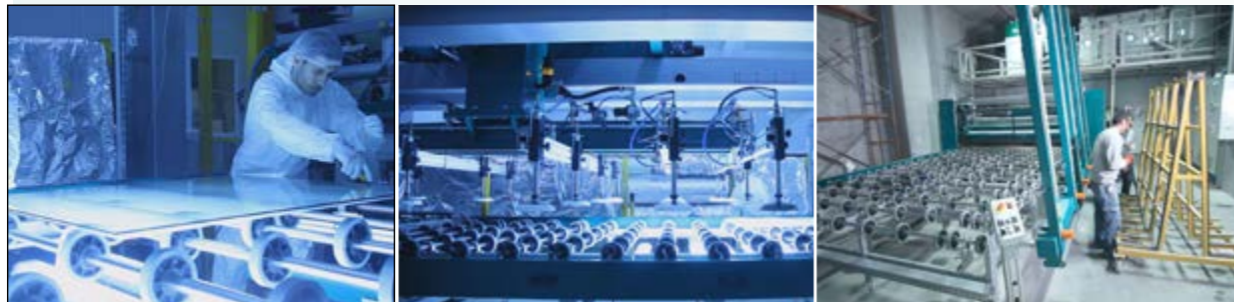
Excellent heating, pressurizing, depressurizing and cooling phases guaranteeing perfect end product

For the production of Flat Glass, Auto Glass, Bullet Resistant Glass. **HIGHEST SAFETY STANDARDS**

Design and manufacturing based on international standards including CE, ASME, GOST-R

Special motor fan system to create optimum temperature and air distribution

Standard heating system: Electrical or thermal



HIGHLY TRAINED WORK FORCE
ADVANCED ENGINEERING
MANUFACTURING CAPABILITY



TIRE RETREADING AUTOCLAVES



OTR TIRE

AUTOCLAVES

TECHNICAL FEATURES

- Certified P series material suitable for pressure vessels
- Bayonet door closure systems
- Hydraulic door opening and locking mechanism
- Precured or Orbitread system automation control
- Advanced PLC software able to control time, temperature, pressure, DPC functions (precured) automatically
- Manufactured at state-of-the-art manufacturing facilities
- Advanced safety features with available certification of PED 97/23/EC CE, ASME, GOST-R
- 10 year safety guarantee as part of CE/ASME



HIGHEST SAFETY STANDARDS



DESCRIPTIONS	Inner Diameter	Length	Capacity	Heating System	Working Pressure	Max. Working Temperature	Tire Curing
AKR 881E	2300 mm/90"	3900 mm/153"	29,50 R 25 x 4 Tires	Electrical / Indirect Steam	7 Bar/100 psi	120 °C	J Hook
AKR 881	2300 mm/90"	4900 mm/193"	29,50 R 25 x 6 Tires	Electrical / Indirect Steam	7 Bar/100 psi	170 °C	Console
AKR 384	3100 mm/122"	4000 mm/158"	27,00 R 49 x 4 Tires	Direct / Indirect Steam	7 Bar/100 psi	170 °C	Console
AKR 434	3500 mm/138"	5000 mm/197"	36,00 R 51 x 4 Tires	Direct / Indirect Steam	7 Bar/100 psi	170 °C	Console
AKR 389	3900 mm/153"	5500 mm/216"	40,00 R 57 x 4 Tires	Direct / Indirect Steam	7 Bar/100 psi	170 °C	Console
AKR 337	4600 mm/181"	3500 mm/138"	59/80 R63 x 2 Tires	Direct / Indirect Steam	7 Bar/100 psi	170 °C	Console

15" TO
63"

TRUCK TIRE

AUTOCLAVES



TECHNICAL FEATURES

- Fully computerized plc controlled
- Electrical heating system with efficient use
- Preheating feature
- Vacuum test function
- Working pressure: 6 bar (90 psi)
- Advanced safety features with available certification of PED 97/23/EC CE, ASME, GOST-R
- 10 year safety guarantee as part of CE/ASME

HIGHEST SAFETY
STANDARTS



DESCRIPTIONS

	Capacity	Inner Diameter (mm)	Length (mm)	Heating System	Working Temperature
AKR 291	12 Tires	1600 mm / 63"	4500 mm / 177"	Electric	120 °C / 248 °F
AKR 293	16 Tires	1600 mm / 63"	6000 mm / 236"	Electric	120 °C / 248 °F
AKR 294	20 Tires	1600 mm / 63"	7500 mm / 295"	Electric	120 °C / 248 °F
AKR 297	24 Tires	1600 mm / 63"	9000 mm / 354"	Electric	120 °C / 248 °F



BUILDING MATERIALS AUTOCLAVES

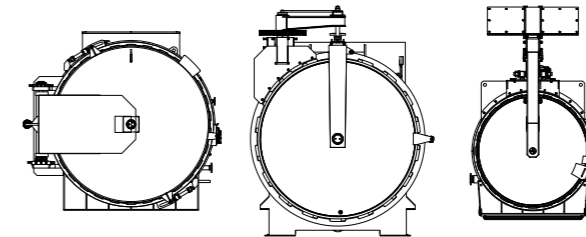
BUILDING MATERIALS AUTOCLAVES

For the production of **HIGHEST SAFETY**
AAC blocks, Sand Lime Bricks, Fiber Cement
STANDARDS

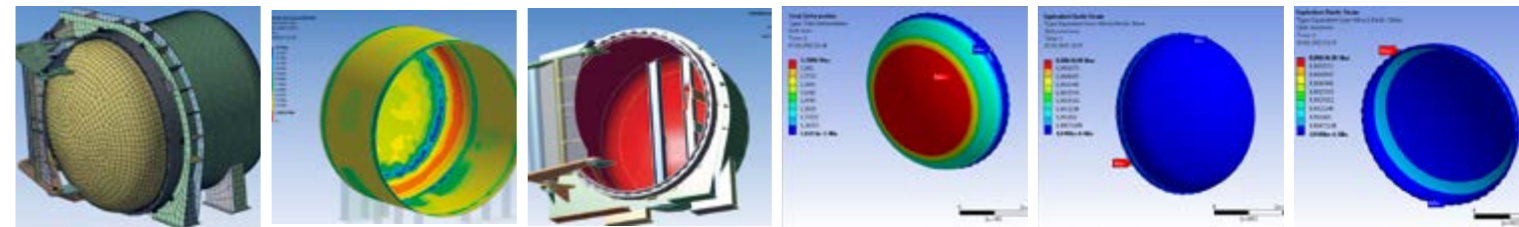


LARGE PROJECTS
REQUIRE STRONG TEAMS

Design and manufacturing based on international standards including CE, ASME, GOST-R



Safe Bayonet Door
Closure Systems



MEDICAL WASTE STERILIZATION SYSTEMS AUTOCLAVES

POST & PRE SHREDDING SYSTEMS

CE EAC ISO 9001 EN ISO 3834-2 CERTIFIED AD2000

MEDICAL WASTE STERILIZATION SYSTEM
WITH POST & PRE SHREDDED AUTOCLAVE METHODS

- High quality materials
- Various hourly capacity sterilization systems based on specific customer needs
- Full automatic and advanced automation control system with pressured direct steam sterilization in autoclave
- Automatic shredding after loading into shredder's lifter
- Advanced reporting and monitoring features
- High standard of sterilization meeting requirements by regulations
- Turnkey solutions including shredders, autoclave trolleys, steam generators, air compressor systems
- Special gasket system for perfect vacuum and pressure conditions
- Multiple safety control devices and built with highest safety standards
- Design and manufacturing with international standards including CE, ASME, GOST-R



RUBBER VULCANIZATION AUTOCLAVES

TECHNICAL FEATURES

- Custom made design and manufacturing based on specific customer needs
- Project/application specific working pressure and temperature
- Various heating systems including direct/indirect steam, electrical, gas
- Homogenous heat distribution
- Advanced automation control system and product specific recipes
- Turnkey solutions including autoclave trolleys, steam generators, air compressor systems
- Advanced safety features with available certification of PED 97/23/EC CE, ASME, GOST-R
- 10 year safety guarantee as part of CE/ASME



PRESSURE VESSELS

TECHNICAL FEATURES

- Special vessel manufacturing for project based applications such as filters, vacuum chambers, air receivers, impregnators and many more
- Custom-made sizes in diameters up to 5000 mm and working pressure up to 80 bars
- Multiple point safety control devices and built with highest safety standards
- Design and manufacturing based on international standards including CE, ASME, GOST-R



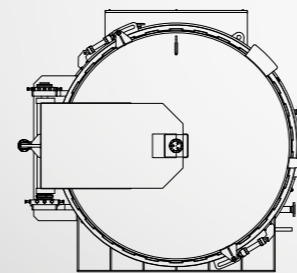
BAYONET CLOSURE SYSTEMS



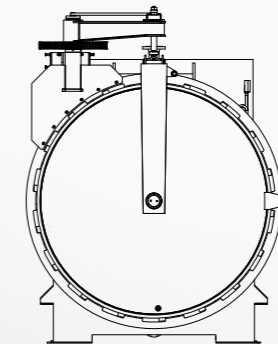
BAYONET CLOSURE SYSTEMS (Quick Closing Doors)

- Our Quick Closing Doors provide quick access and hassle-free operations for autoclaves and all kinds of other pressure vessels with devotion for quality and longevity.
- Design and manufacturing of Quick Closing Doors based on EN13445, ASME Section VIII and AD2000 standards.
- Akarmak design and manufacture state-of-the-art Quick Closing Doors with extensive knowledge over 25 years.
- Up to 5000 mm diameter
- Up to 70 bar operating pressure
- Suitable for vacuum service
- Carbon steel or stainless steel material
- Hinge mechanism with easy setup and adjustment
- Compatible for automatic or manual control
- State-of-the-art design with lower maintenance requirements

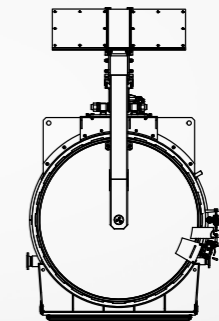
HINGE TYPES



CLASSICAL



DAVIT HINGE



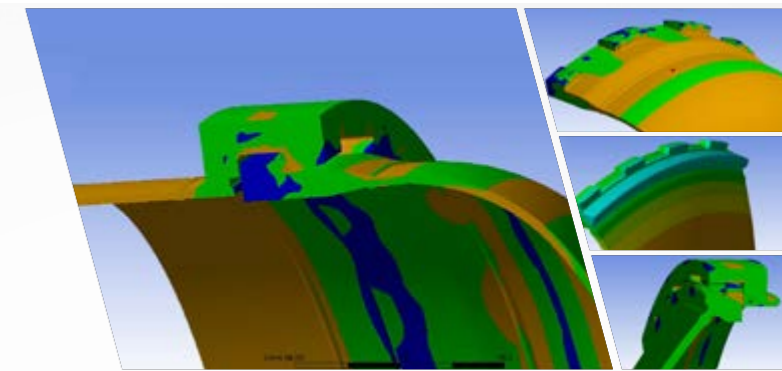
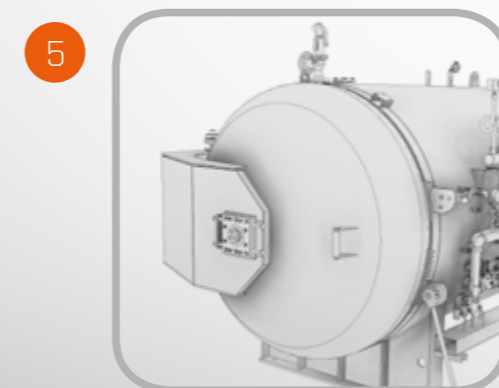
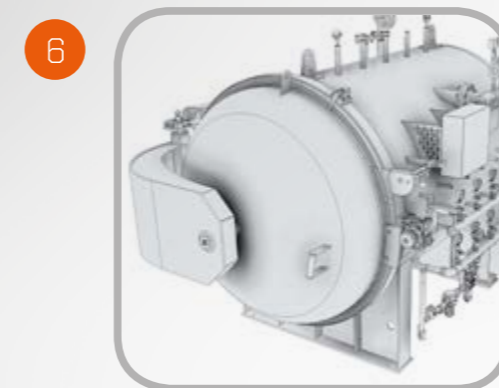
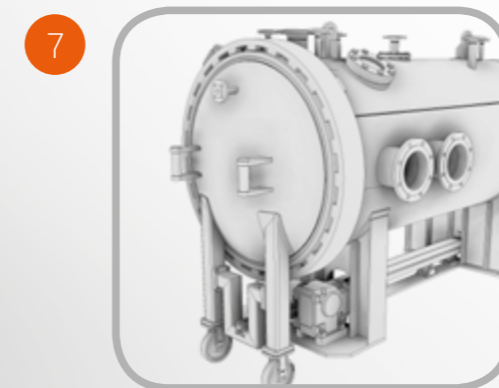
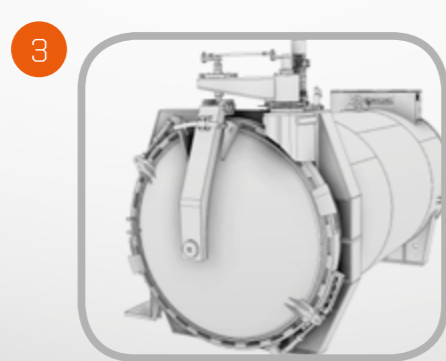
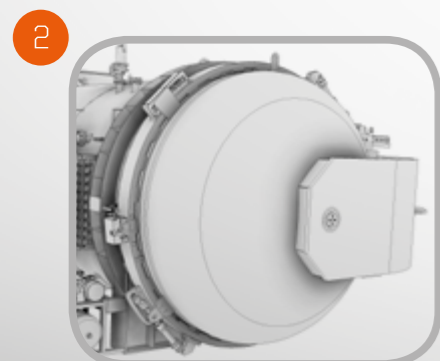
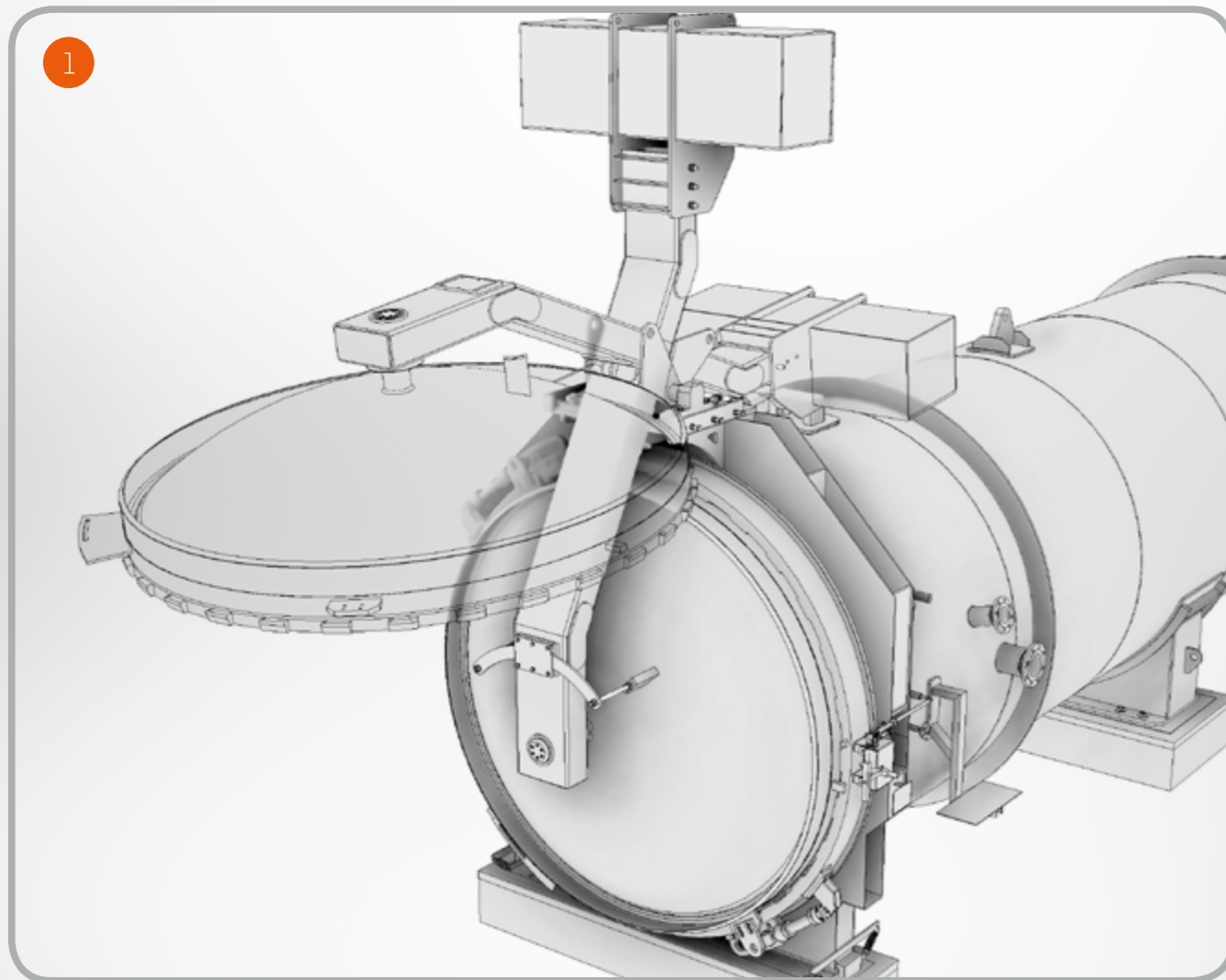
COUNTER WEIGHT

CLOSURE

TYPES

CONTROL TYPES

Manual / Hydraulic / Pneumatic / Electrical



Top-notch design methods and principles with worldwide viability

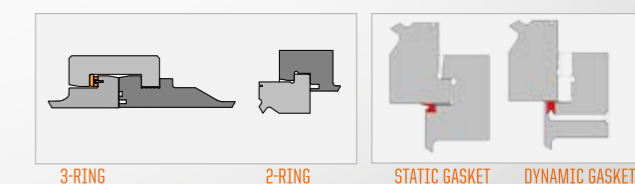
Safe Quick Closing Doors geometry generated with finite element method



Interlocking mechanism prevents unintentional door opening



Special form on the door locking mechanism allows any possible pressure relief without opening the door.

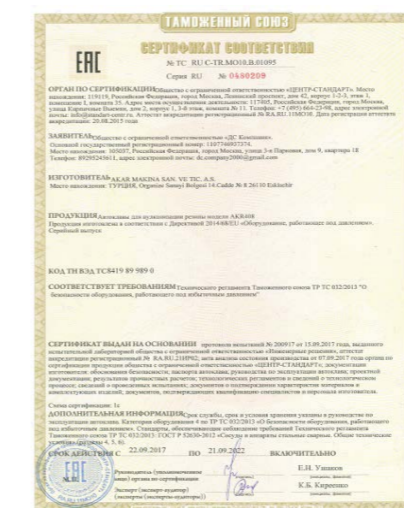


3-ring system provides anti friction on the gasket, thus a longer useful gasket life.



CERTIFICATIONS

Safe turnkey
autoclave systems for our
customers around the globe





www.akarmak.com.tr



AKAR MAKİNA SAN. ve TİC. A.Ş.

A : Organize Sanayi Bölgesi 14. Cd.
No:8 26110 Eskişehir / TURKEY
T : +90.222 236 17 00
F : +90.222 236 17 02
E : info@akarmak.com.tr

İSTANBUL OFFICE

A : Yenişehir Mah. Osmanlı Bul. No:2A/51
Kurtköy / Pendik / İstanbul
T : +90.216 504 47 39
F : +90.216 504 47 42