



FVG SERIES

Vertical Laboratory Autoclaves

High performance
laboratory applications



 **FEDEGARI**
AUTOKLAVEN

COMPACT TOP LOADING AUTOCLAVES WITH COLOUR TSC 09[®] CONTROL UNIT

The Fedegari FVG Series are suitable for the Sterilization and Decontamination in many different Laboratory sectors as:

- Private and Public Microbiology Laboratories
- High Schools and Universities
- Research Institutes, Life Science and Biotech Lab's
- Clinical Diagnostic Lab's
- Agriculture, Environmental and Veterinary Lab's
- Quality Control Lab's in Pharma, Food / Beverage, Chemistry / Cosmetics and other industrial sectors
- Material testing laboratories

All FVG Autoclaves can treat a wide range of laboratory goods with reliable sterilization technology as: Glassware and plastic articles, unwrapped instruments, machine parts and components, porous goods (easy to deaerate), culture media and liquids in open small size containers, laboratory regular waste in open bags.



Design / Construction Top-Quality Features

- Compact size and ergonomic design
- Sterilization chamber and lid made from high corrosion resistant 316 L stainless steel, mirror polished finishing
- Operating at high-pressure and temperature (3,5 Bar A, 140°C)
- Pressure vessels (chamber + steam generator) PED certified
- Exclusive horizontal swiveling lid with pneumatic gasket "rotate-n-seal"
- Built-in 316 L st. steel electric steam generator with automatic water feed pump
- Heat recovering system for water preheating to steam generator
- Dual sensor system, by pressure and temperature for double regulation & control of sterilization process



Advantages and key benefits

- Ergonomically designed chamber for maximizing loadable capacity
- Quick connections to all utilities for easy handling and installation
- Timed free steaming with pulses for effective air removal
- 14 Free-configurable automatic programs
- Multilevel Password protected key-users access to ensure process safety
- Set of four castors for easy moving and installation in lab room

TCS 09 Microprocessor



Fully automated control with graphic LCD color display. Program progress phase graph and parameter visualization, including synoptic display with auxiliary messages. Five base different languages selectable.

Membrane safety device prevents the lid from opening even in case of minimal overpressure

Color LCD panel display

Air buffer tank for perfect chamber tightness even when compressed air is shut down

Main switch for emergency stop

Built-in electric air compressor for fast and safe lid closure with pneumatic gasket

High quality steam produced by a separate electric steam generator



Various optional kits and accessories are available for applications in different sectors and sterilization of different products:

- Air ballast kit by powered internal air compressor
- Condensate Drain cooler
- Sterilizing air filter
- Exhausted condensate recovery tank
- Pre-Vacuum pump
- External feed water tank to steam generator
- Pre and Post Vacuum drying pump
- Built-in process printer (GLP compliance)
- Electric lifting for heavy loads
- Validation port adaptor kit
- Remote connection to a PC via RS232 interface for data archiving and autoclave supervision
- Warm-up and warm-keeping programmable phases
- Automatic cycle repetition
- Non standard electrical supply and single phase version
- Detailed documentation with IQ/OQ validation procedures

Technical specification

Model	FVG1	FVG2	FVG3
Chamber volume (liters)	58	83	158
Useful loading capacity (liters)	50	75	140
Type of chamber	Vertical, with cylindrical cross-section, top-loading type		
Chamber / lid material	AISI 316 L st. steel, electropolished		
Chamber dimensions Ø x H (mm)	400 x 400	400 x 600	500 x 700
Empty weight (kg)	140	150	175
Loading height (mm)	900	900	1020
Overall dimensions WxHxD (mm)	645 x 980 x 653	645 x 980 x 653	725 x 1133 x 742
Maximum operating pressure	3,5 bar A		
Design pressure	Full vacuum / 5 bar A		
Maximum operating/design temperature	140°C / 152°C		
Standard electrical supply	400 V – 3 ph – 50 Hz + N +PE		
Installed power	4,5 kW	6,5 kW	7,5 kW
Standards / Notified Body	PED 97/23/EC – CE MARK – TÜV Certification		





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FEDEGARI (SUISSE) SA PART OF GROUP FEDEGARI AUTOCLAVI SPA

The Quality System of Fedegari (Suisse) SA has been certified in compliance with the standards ISO 9001 and ISO 13485. It's also approved according to the Annex II of the Medical Device Directive and the Module H of the Pressure Equipment Directive.



COMPLIANCE TO DIRECTIVES AND STANDARDS

FVG series are designed and manufactured in compliance with the requirements of the following European Directives and applicable standards:

A. the requirements of the following European Directives:

- Directive 2006/42/EC, Safety of machinery
- Directive 2004/108/EC, Electromagnetic compatibility
- Directive 2006/95/EC, Low-voltage devices
- Directive 97/23/CE, Pressure Equipment.

B. the following European standards:

- EN12100-1 Safety of machinery. Basic concepts, general principles for design part 1: Basic terminology, methodology.
- EN12100-2 Safety of machinery Basic concepts, general principles for design.
- EN 55011 Industrial, scientific and medical (ISM) radio-frequency equipment.
- EN 61000-4-2 Electromagnetic compatibility (EMC) Part 4: Testing and measurement techniques. Section 2: Electrostatic discharge immunity test.
- EN 61000-4-4 Electromagnetic compatibility (EMC) Part 4: Testing and measurement techniques. Section 4: Electrical fast transient/burst immunity test.
- EN 61010-1 Safety requirement for electrical equipment for measurement, control and laboratory use. Part 1: General requirement.
- EN 61010-2-040 - Safety requirement for electrical equipment for measurement, control and laboratory use. Part 2-040: Particular requirements for sterilizers and washer-disinfectors used to treat medical materials.
 - EN 13445 Unfired pressure vessels.
 - EN 14222 St. Steel shell boiler.