ENGLISH

FBF ITALIA

H.P. Homogenizers & Plunger Pumps

Industrial Homogenizers R SERIES

We have been manufacturing homogenizers since 1987. Our evolution led us in 2000 to launch the Millennium Series, confirming our position at the highest quality levels on the market. In 2010 we introduced the Buffalo Series, machines so well conceived that since then they have required only minor detailed updates: what we are offering you is 17 years of production reliability.

Bruno Fattori – President and Founder

TECHNICAL DATA SHEET MODELS:

FBF075R
FBF090R
FBF110R

See the technical data sheet

MADE IN ITALY
Italian Technology

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COMPRESSION HEAD AND HOMOGENIZING VALVES

- **Compression head: 5-YEAR WARRANTY** against fatigue failure, thanks to an innovative structural design and the use of a one-piece forged Duplex stainless-steel block (Super Duplex for pressures above 300 bar).
- **Pumping plungers:** stainless steel with a dual coating: chrome + DLC (Diamond Like Carbon ~2,000 HV). Minimal friction and exceptional wear resistance.
- **Water chambers:** equipped with double guide bushings for the perfect alignment, cooling and lubrication of the pumping plungers. Thanks to the interconnected water passages, water consumption is extremely low (~120 l/h).
- **Valve assemblies:** reversible valve seats and hemispherical-profile valves; optimized fluid dynamics ensure maximum volumetric efficiency.
- **Homogenizing stage (standard):** high-efficiency homogenizing valves, controlled by a hydropneumatic unit specifically designed to prevent the onset of vibrations.
- **Pressure monitoring:** digital pressure gauge complete with sanitary diaphragm seal.
- **Safety:** spring-loaded overpressure valve in strict hygienic design, with quick-replacement wear components (valve seat and valve).

DRIVE SYSTEM

- **Pump body:** High-strength cast iron construction with reinforced sections, engineered to withstand high loads and minimize mechanical vibrations.
- **Crankshaft:** machined from solid special steel, ultrasonically tested, heat-treated and fully nitrided. The use of 5 roller bearings (4 cylindrical and 1 tapered) guarantees maximum structural rigidity.
- **Transmission:** two-stage reduction system, with a V-belt first stage featuring semi-automatic belt tensioning and a second stage consisting of helical gears integrated into the pump body. The low-speed gear is mounted directly on the crankshaft.
- **Lubrication System:** Hydraulic power unit with a dedicated tank to ensure constant pressurization, complete with level sensor and alarms for abnormal pressure and temperature conditions, as well as a water/oil heat exchanger and filtration unit. Transmission components operate in an oil bath for optimal heat dissipation.
- **Electric Motors:** High-efficiency, 4-pole, three-phase AC main motor from leading manufacturers. Auxiliary motors for the hydraulic power unit and forced ventilation are also rated for continuous duty.
- **Internal ventilation:** electric fan dedicated to air exchange and hot air extraction from inside the machine to ensure optimal thermal dissipation.
- **Structure:** Load-bearing frame made of square-section tubular steel, surface pre-treated and protected by a two-layer powder coating. Fully enclosed with brushed stainless-steel panels.

MACHINE EQUIPMENT

- **Control panel:** machine operation via an electromechanical push-button control panel.
- **Spare parts kit (initial supply):** complete set of gaskets, springs for valve assemblies and safety valve components.
- **Maintenance:** set of dedicated tools for routine maintenance.
- **Lubricating oil:** initial oil fill for pump body, gear reducer and hydraulic unit.
- **Documentation:** operation and maintenance manuals supplied digitally on USB drive.

OPTIONS AND CONFIGURATIONS

- **Second homogenizing stage:** servo-assisted by hydropneumatic unit, with dedicated digital pressure gauge.
- **Pulsation dampeners:** installed at product inlet and outlet, also available in a version specifically designed for aseptic processes.
- **Product inlet pressure gauge:** automatic disengagement of homogenizing pressure in case of product underfeeding.
- **Pumping plungers:** in chromium carbide or solid ceramic.
- **Flow rate control:** electrical control panel for fixed flow rate (indoor, painted steel enclosure) or variable flow rate (outdoor, stainless-steel enclosure).
- **Interface and automation:** local control via touchscreen or interfacing for remote control from the central PLC. Automatic or semi-automatic adjustment of homogenizing pressures.
- **Aseptic execution:** pumping plungers and impact heads flushed with sterile condensate generated by a dedicated integrated system.
- **High-pressure pump configuration:** available as a standalone positive displacement pump or in a combined configuration with a homogenizing stage.

R SERIES

PERFORMANCE	
Pressure (bar)	Flow rate min-max (l/h)
130	18,000 - 25,500
150	15,500 - 22,000
180	12,250 - 19,000
200	10,750 - 17,000
230	10,500 - 15,000
250	9,500 - 13,500
300	8,000 - 11,000
400	5,700 - 8,000
600	3,100 - 5,100
TECHNICAL DATA	
Number of pistons	3
Stroke (mm)	100
Dimensions WxDxH (cm)	180x225x155
Max net weight fixed flow rate (kg)	3,500
Cooling/lubrication water (l/h)	100-120
Lubricating oil ISO VG 150 (l)	54
FBF075R - main motor (kW)	75.0
FBF090R - main motor (kW)	90.0
FBF110R - main motor (kW)	110.0

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FBF ITALIA Srl
Via Are, 2 , 43038 Sala Baganza (PR) Italy

Ph.: +39 0521 54 82 11 **Fax:** +39 0521 83 51 79
eMail: info@fbfitalia.it **Web:** www.fbfitalia.it