



BOSCH

MRF 1010/2010 – Filling and Closing Machine



MRF: Series of filling and sealing machines for vials, infusion bottles and threaded bottles



MRF Series:

Monoblock filling and closing machine for processing of vials and infusion bottles up to 500 ml filling volume. Closure with rubber stoppers and aluminium overseal caps for vials, and in case of threaded bottles with droppers and screw caps. It's modular design allows the flexibility to configure the machine for the requirements of each specific project. It also provides a quick delivery (which shortens your time to market for new products) because we inventory and test individual system modules in advance, rather than manufacturing them to order.

- Wide range of vial sizes – up to 250 ml (MRF 1010) resp. 500 ml (MRF 2010)
- Designed for easy operator usage due to the high degree of automation
- Filling programs are stored and digital position indicators allow for reproducible production setup
- Fast and easy changeover (no tools required)
- Low operating costs, low wear
- Fast start up and qualification



MRF 1010/2010 The flexible concept for modern production

Output:
Up to 70/min

Flexible machine concept:

- Program controlled servomotors for pump stroke and fill needle movement
- Filling programs are stored and are recallable via the control panel
- New filling programs can be easily written by the user (by the teach-in method)

Operator-friendly due to:

- Plug-and-play philosophy which allows fast, easy, cost-saving installation and commissioning
- Simple operator control
- Easy cleaning



Filling and closing of vials and infusion bottles

The MRF machine series with exceptional benefits of quality, delivery time and price

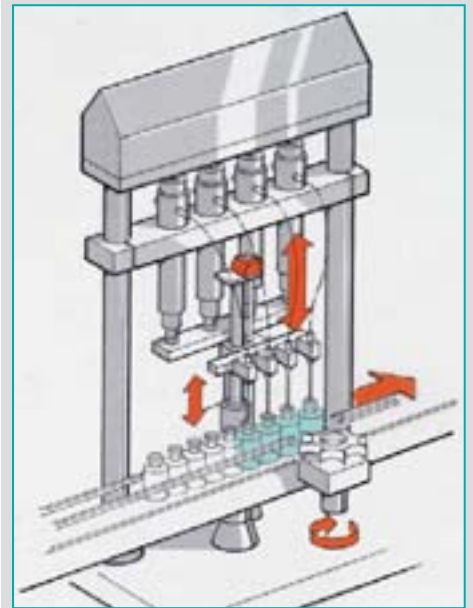
Functional dependability:

- ❑ Pick-and-place functions for pharmaceutical-compliant sealing of the containers
- ❑ Digital position indicators for reproducible settings
- ❑ Reliable index cam drive for mechanical functions

Economical operation:

- ❑ Low-wear operation
- ❑ Easy servicing, low maintenance
- ❑ Few size parts, low size part costs
- ❑ Short changeover times
- ❑ High filling capability due to single-operation filling up to 250 ml (Time-pressure filling system up to 500 ml on MRF 2010)

Filling system with rotary slide valve pumps

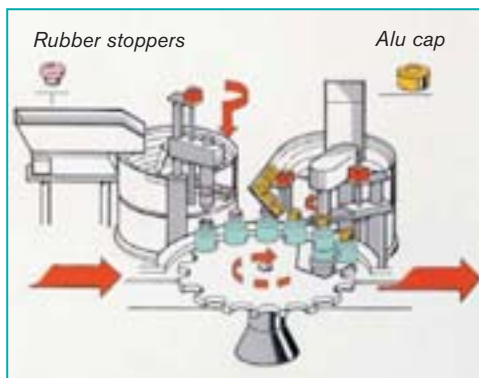


Closing station



MRF machine series: versions

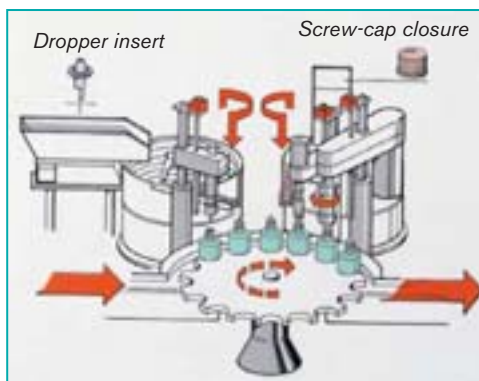
Graphic illustrations in this leaflet are examples only! Details for the final execution, including technical specifications, are provided in each project quotation.



Version for injectables and infusion bottles with overseal cap closure – MRF 1010 IN/2010:

for the filling and sealing of injection and infusion bottles.

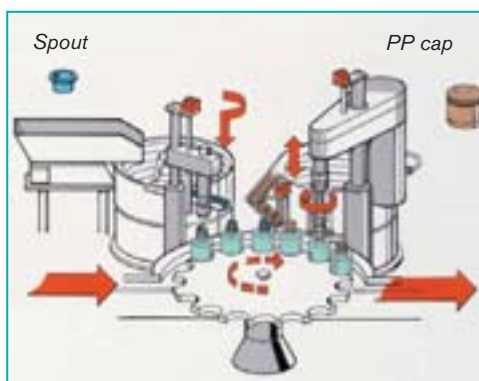
- Closures: stoppers and overseal caps.
- Work stations for
 - filling
 - stoppering
 - oversealing
- Discharge:
 - Traying off, belt as an option



Version for threaded bottles with screw-cap closure – MRF 1010 TR:

for the filling and sealing of threaded bottles with a dropper insert and screw caps or alternatively pipettes or spray pumps.

- Work stations:
 - filling
 - inserting drop counter
 - application of screw-cap, first tightening
 - second tightening of screw-cap
- Discharge: belt, traying off as an option.



Version for threaded bottles with Pufferproof closure – MRF 1010 TR:

for the filling and sealing of threaded bottles with tamper-evident closures.

- Work stations:
 - filling
 - inserting pour-spout ring or drop counter
 - application of PP-cap, thread roll-on
- Discharge: belt, traying off as an option.

Additional equipment, Technical data

MRF 1010/2010 technical data:

Containers:

- Selfstable containers made of glass or plastic, diameter 16 - 86 mm, height max. 190 mm.

Filling volume:

- MRF 1010 up to 250 ml
- MRF 2010 up to 500 ml

Products: Liquid products

Throughput: Up to 70/min

Subject to change without notice

Closures:

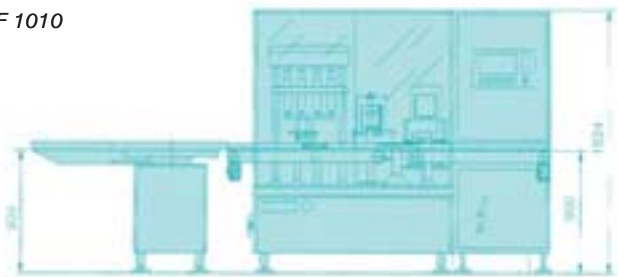
- Mushroom-type and Lyo-rubber stoppers up to dia. 32 mm, overseal caps up to dia. 36.5 mm.
- Drop counter inserts, pipettes and spray pumps for bottles up to 20 ml, screw caps up to dia. 36 mm.
- Spout inserts, pilferproof caps up to PP 32

Additional equipment items:

- Infeed turntable with delivery table
- Discharge of defective containers
- 4-head filling station/6-head (MRF 2010)

- Product manifold
- Orienting devices in aseptic construction
- Rotary movement for stopper insertion
- Noise insulation hood for cap orienting device with vibratory bowls Ø 400 mm, 550 mm
- Closure control
- Recirculating pump system for suspensions
- Bosch Smart Fill™ time-pressure filling with 2, 4 or 6 heads (MRF 2010).
- CIP/SIP version vor time-pressure filling station (MRF 2010).
- Rolling diaphragm pump system.

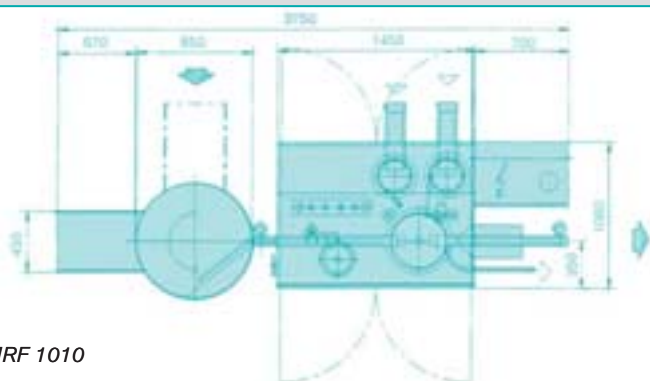
MRF 1010



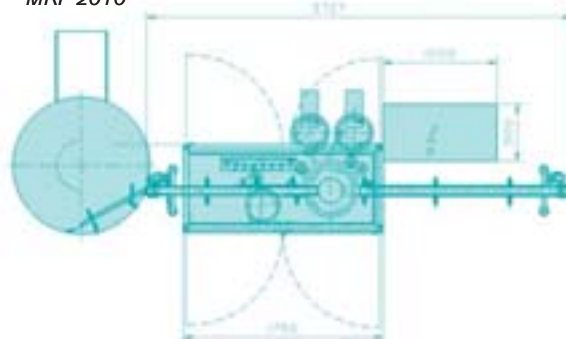
MRF 2010



MRF 1010



MRF 2010



BOSCH

Robert Bosch GmbH
Packaging Technology Division
Product Division Pharma Liquid
Blaufelder Straße 45
D-74564 Crailsheim

Postfach 14 54
D-74554 Crailsheim

Telephone +49 79 51 40 2-1
Fax +49 79 51 40 2-2 58
E-mail: vt@boschpackaging.com
Internet: www.bosch.de/vt

Robert Bosch Ltda.
Tecnologia de Embalagem
Rua Dr. Rubens Gomes Bueno, 478
04730-901 São Paulo-SP/Brasil
Telephone ++55 11 5547 5709
++55 11 5547 5831
Fax ++55 11 5547 5906
Internet: www.bosch.de/vt
E-mail: vtbr@boschpackaging.com

Bosch Packaging Technology K.K.
Hatchobori NF Bldg., 4F
2-21-6, Hatchobori
Chuo-ku
Tokyo 104 0032
Japan
Telephone +81 3 3206 2821
Fax +81 3 3206 2822
E-mail: vtjp@boschpackaging.com

Bosch Packaging Technology
Pharmaceutical Operations
8700 Wyoming Ave. N
Minneapolis, MN 55445-1836
USA
Telephone +1 763 424 4700
Fax +1 763 493 6711
E-mail: pharm-na@boschpackaging.com
Internet: www.boschpackaging.com