



Pharmaceutical Machinery Division

WASHING MACHINE



I
E
W
M

Internal and External washing machine

Rev. 00

The IEWM is an automatic linear machine, designed for the washing of glass or plastic containers of various sizes with a high degree of accuracy and reliability.

The machine parts that are in contact with the interior of the vials and the process fluids are made of AISI 316L stainless steel.

Parts that are not in contact with the interior of the vials and the process fluids such as frame, shaft, bearings, etc. are in AISI 304 stainless steel.

The surface finish is mirror polished for parts in contact with fluids such as pipes, nozzles, needles, tanks, valves, basins.

Polyethylene is used for infeed and outfeed guides and blocks assembly. Hoses are made of silicone.

To improve washing efficiency there are mobile washing needles. The fluid injection valves open when the needles are completely introduced into the vials and stay open for the time set for each container size and each fluids.

The non-removable internal parts can be easily cleaned; there are no obstructions or liquid collection points and the machines are self-draining.



Machine infeed



External washing detail

Washing fluid consumption is reduced to a minimum both by use of a recycling circuit as well as by optimizing the spraying phases and timing.

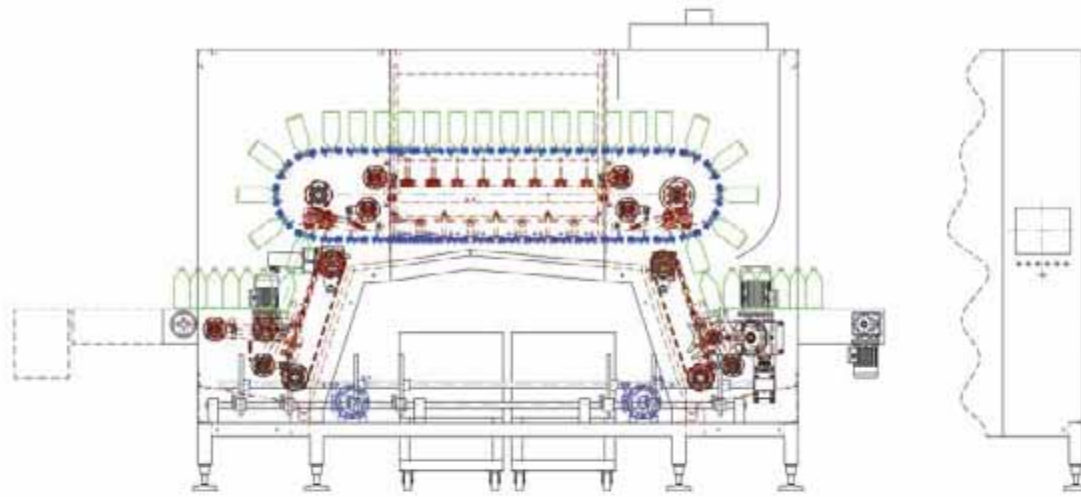
Size change operations are limited to minor adjustments taking approximately five minutes.



Unloading phase

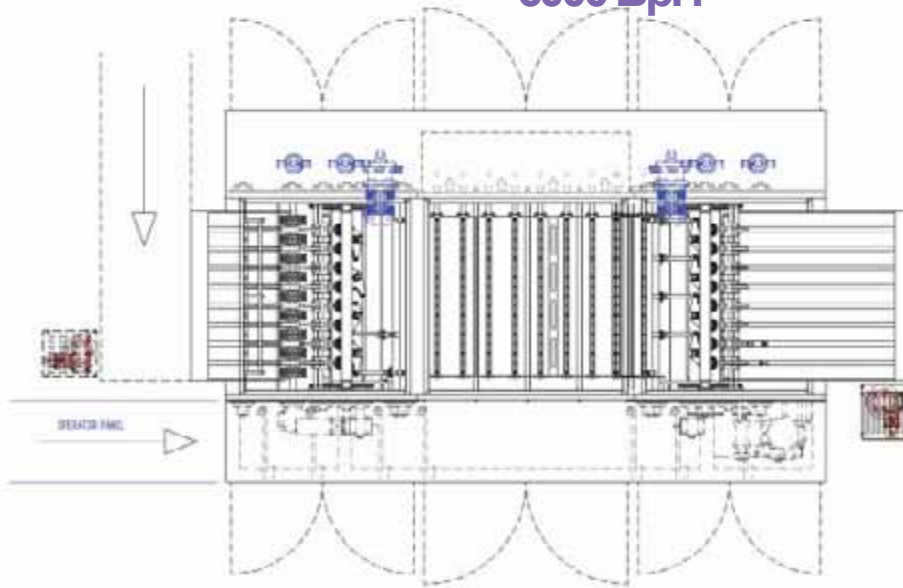
Washing cycles

1. Internal blowing with sterile air (option)
2. Internal and external washing with recycled water
3. Internal and external washing with recycled water (option)
4. Internal and external washing with recycled water (option)
5. Internal and external washing with recycled water (option)
6. Internal and external washing with fresh WFI
7. Internal and external washing with fresh WFI (option)
8. Internal and external blowing with sterile air
9. Internal blowing with sterile air (option)



Similar machine layout

6000 BpH



Accident - Prevention Project



PRELIMINARY TECHNICAL DATA

Production speed: from 3000 BpH to 20000 BpH
 Bottles Formats: from 50 ml to 1000 ml
 Comp. air pressure: At least 6 Bar constant

Standard power supply:
 400V / 50Hz / 3 phase + N + G

GF designs and manufactures its machines with the aim of reducing and, where this is possible, eliminating hazards by constantly improving the numerous safety features. These washers are constructed according to cGMP regulations and the fluid feed systems comply with the FDA regulation.

The AWM is an automatic rotary machine, designed for the washing of small glass containers of various sizes with a high degree of accuracy and reliability.

The machine parts that are in contact with the interior of the vials and the process fluids are made of AISI 316L stainless steel.

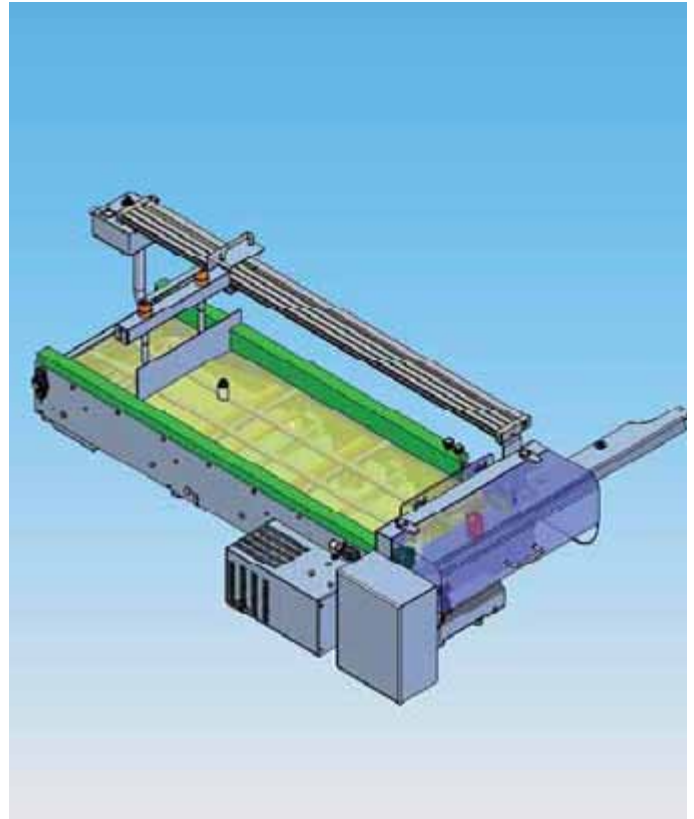
Parts that are not in contact with the interior of the vials and the process fluids such as frame, shaft, bearings, etc. are in AISI 304 stainless steel.

The surface finish is mirror polished for parts in contact with fluids such as pipes, nozzles, needles, tanks, valves, basins.

The containers are fed to the machine through an infeed belt and infeed screw.

To improve washing efficiency there are mobile washing needles. The fluid injection valves open when the needles are completely introduced into the vials and stay open for the time set for each container size and each fluids.

The non-removable internal parts can be easily cleaned; there are no obstructions or liquid collection points and the machines are self-draining.



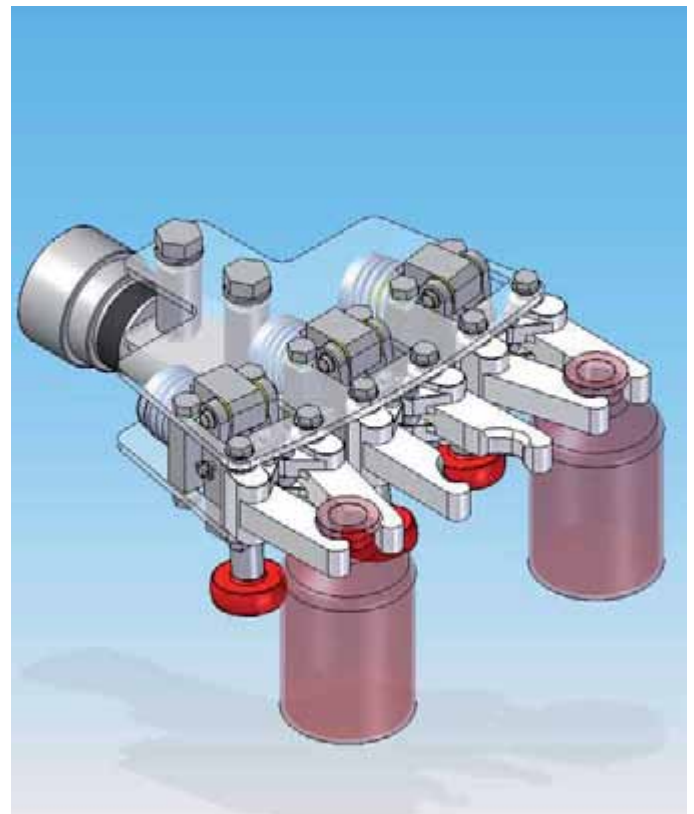
Machine infeed

Washing fluid consumption is reduced to a minimum both by use of a recycling circuit as well as by optimizing the spraying phases and timing.

Size change operations are limited to minor adjustments taking approximately five minutes.



Pincers details



Pincers in 3D

Washing cycles

1. Internal blowing with sterile air (option)
2. Internal and external washing with recycled water
3. Internal and external washing with recycled water (option)
4. Internal and external washing with recycled water (option)
5. Internal and external washing with recycled water (option)
6. Internal and external washing with fresh WFI
7. Internal and external washing with fresh WFI (option)
8. Internal and external blowing with sterile air
9. Internal blowing with sterile air (option)



GF designs and manufactures its machines with the aim of reducing and, where this is possible, eliminating hazards by constantly improving the numerous safety features. These washers are constructed according to cGMP regulations and the fluid feed systems comply with the FDA regulation.



**Accident - Prevention
Project**



PRELIMINARY TECHNICAL DATA

Production speed:	from 3000 BpH to 20000 BpH
Bottles Formats:	from 1 ml to 50 ml
Comp. air pressure:	At least 6 Bar constant
Standard power supply:	400V / 50Hz / 3 phase + N + G



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Laboratory of industrial research

Art. n. 14 of ministerial decree n. 593 of 8 august 2000

*Ministero dell'istruzione,
dell'Università e della Ricerca*

AGENTE - AGENT

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