



## WASHING TUNNEL WITH MOVABLE CLEANING NOZZLES AND EXTRACTIBLE CARRIAGE FL EVOLUTION SERIES dedicated to the cleaning of the PRINTING PRESSES components

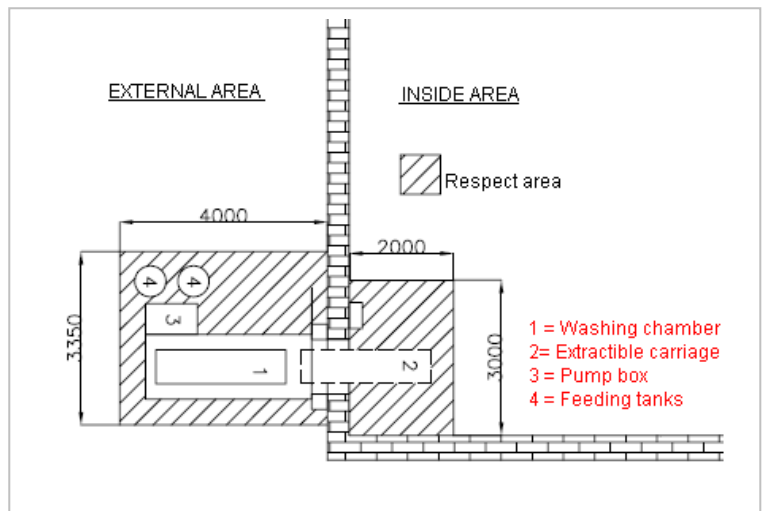
The washing units **FL EVOLUTION** series were developed for the cleaning of parts in rotogravure and flexoprinting machines, and were designed and manufactured by **IRAC TECH** to solve all cleaning problems once and for all, even for parts that are difficult to clean using traditional systems.

**FL EVOLUTION** is the ultimate product available on the market: cleaning unit that combine the best in terms of features such as: power, performance, easy to operate, sturdiness and reliability, brought together thanks to an excellent technical research.



### TECHNICAL FEATURES

- All IRAC TECH cleaning machines are **totally pneumatic**, ensuring total safety and peace of mind when using either inflammable or non-inflammable products. It is suitable also to clean the parts with water and detergent.
- The FL Evolution is provided with a separated box**, which is the hart of the system, containing the pneumatic pump, exchange valves, hydraulic and pneumatic connections, to which are linked up the feeding tanks containing the washing liquid. This feature permits ,first to place the box outside the working area as to have the minimum quantity of solvent inside the factory, second it is very easy to dismount and send it back to IRAC TECH for maintenance purposes if necessary.
- The movement of the cleaning bars is guaranteed by a **pneumatic cylinder that remains outside the washing unit with magnetic transport**, covered by an exclusive IRAC TECH ® patent, to prevent any interruptions.
- The nozzles are located on the **mobile cleaning bars**: these operate alternately to provide maximum impact power and give total coverage of the parts to be cleaned while keeping low operating pressure (not above 6 atmospheres).
- The whole washing system, including both its internal and external parts, **is made in AISI 304 stainless steel**. This safeguards the tank's durability, whatever product is to be used; furthermore, stainless steel ensures that sparks are not generated in case of accidental impacts.
- IRAC TECH washing units are fitted with passive safety devices** to protect again overpressure and vacuum. These safety devices are automatically tested each time the working day is about to start. The machine will not start its cycle should the safety devices appear to be ineffective.





7. During the loading and unloading of the machine, or even when the access door is simply open, a pneumatic-electric translator manages the transmission of an electric signal in order to start an electric fan that will intake any fumes that may exit the loading door. These fumes are taken up by means of two ducts on the edge of the door, which form a capture barrier and are able to prevent the dispersion of fumes in the surrounding area.
8. **The re-circulation of the cleaning liquids** is implemented by means of a high-capacity, double-diaphragm pump with flow rate from 350 to 500 l/min.
9. **Feeding tank/s:**

**Feeding tank/s type AV made in stainless steel (capacity 110-150 litres).** Those tanks, since they are interchangeable, can be inserted directly in our **AV series solvent recyclers** for rapid regeneration. This is done without the need for transferring and transporting liquids in containers that are unsuitable for these kinds of liquids.

**Conical feeding tank/s (capacity 150-300 litres)** made in stainless steel equipped *with auxiliary pneumatic pump* in order to unload the polluted solvent into your container and load the clean solvent.

During operation, the equipment intakes solvent or water from the appropriate tank, independently collects it and sends it back to the same departure tank. Therefore, the liquid does not remain inside the tank for long periods but just for the time strictly necessary for cleaning. This feature makes it possible to have the interior of the tank free of significant amounts of liquids and secondly to confine all the solvent (or water) in special reservoirs.



AV feeding tanks

- Solvent recycler mod. AV110

- Conical feeding tank cap. 150 lt.

10. The main feature of the latest "**FL EVOLUTION**" series is its **sliding and removable basket** that enables easier positioning of heavy parts such as cylinders, Anilox, small tanks and the like, as direct access is also possible by means of small lifting devices. On the extractable carriage are arranged shelves and bars for the coupling of the pieces, placed so as to receive the product flow from washing (either solvent or water and detergent). Moreover the carriage, in a special configuration, can receive and accommodate the trolleys of **rotogravure printing machines**.
11. Should it be necessary to load the carriage next to the printing machine, **a shuttle is available** (optional) which goes to and from between the cleaning machine and the loading position. It is possible to eliminate any idle time with **two shuttles and an additional removable basket** (optional) because the last carriage can be loaded at the same time as cleaning, ready to be put inside the tank.



12. **Washing device for Anilox cylinders and traditional cylinders (OPTIONAL).** This device is composed of an adjustable frame in length in which two pairs of wheels forming the support for the Anilox or the traditional cylinder. One of the wheels is provided with coupling dragged shaft. This group is mounted on the extractible carriage to easily position it. Once the carriage reaches its working position the dragged coupling fits on the sprocket coupling which is driven by a pneumatic motor with reducer. It is also available the rotation of the cylinders with a hydraulic system in order to reduce the consumption of air (about 1000 lt. / min.) (Optional). For the washing of the cylinders a dedicated pipe is placed on the left of the right vertical washing bar and is powered independently. The specific function of cylinders' washing is achieved by a switch positioned on the pneumatic control unit. In this case every other type of washing is excluded.



13. **External position washing device for the cleaning of no. 5 injection hoses (Optional)**



FL EVOLUTION 2100 x 650 x 1100 ALRS manufactured in 2005  
*Suitable to the washing of the components of the printing presses and ink injection hoses*

14. **Control panel:** The unit's functions (washing – rinsing – blowing) are controlled by means of an intrinsically flameproof pneumatic panel. The functions are **semi-automatic (LSt – LRSt)** where the functions of washing, blowing and eventually rinsing have to be activated from time to time by operator, or **automatic (ALS – ALRS)** where the functions proceed without any external intervention.

**The standard working times are the following (version ALRS - FI Evolution 1600-2100):**

- Washing cycle                    t.max 8'
- Pause                                t.max 4'
- Rinsing cycle                    t.max 4'
- Pause                                t.max 4'
- Blowing                            t.max 4'

*Total maximum time 24' included pauses*





**Example of installation by our customer located near Verona**



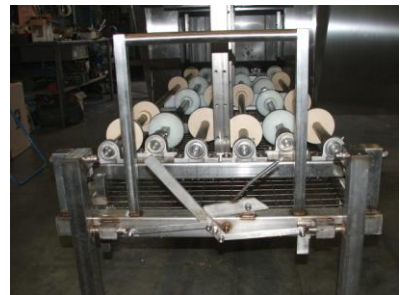
Automatic distillation plant mod. MAV 200 connected in close circuit loop with our washing tunnel FI Evolution

Washing tunnel mod. FI Evolution 2100X800X1300

Pump box and feeding tanks with 150 lt. capacity each supplied with loading/unloading pump equipe with minimum and maximum level gauges interfaced with distillation plant mod. MAV 200



Special device for the washing of no. 08 cylinders (4 Anilox- 4 rubber)





Distillatori per solventi  
Solvent recyclers

Depuratori per acque  
Water purifying

Impianti di lavaggio  
Washing plants

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| USEFUL WASHING SIZES |            |           |           |
|----------------------|------------|-----------|-----------|
| MODEL                | LENGHT (L) | DEPTH (P) | HIGHT (H) |
| FL 1600/A            | 1600 mm.   | 650 mm.   | 1000 mm.  |
| FL 1600/B            | 1600 mm.   | 1000 mm.  | 1300 mm.  |
| FL 2100/A            | 2100 mm.   | 650 mm.   | 1300 mm.  |
| FL 2100/B            | 2100 mm.   | 1000 mm.  | 1300 mm.  |
| FL 2600/A            | 2600 mm.   | 650 mm.   | 1300 mm.  |
| FL 2600/B            | 2600 mm.   | 1000 mm.  | 1300 mm.  |
| FL 2600/C            | 2600 mm.   | 1000 mm.  | 1800 mm.  |

N.B.: THE ABOVE MENTIONED SIZES ARE REFERRED TO STANDARD WASHING UNITS.  
ON DEMAND: SPECIAL SIZED WASHING TUNNELS

| TECHNICAL DATAS           |                    |           |                         |                      |
|---------------------------|--------------------|-----------|-------------------------|----------------------|
| MODEL                     | TANK CAPACITY      | FEEDING   | AVERAGE AIR CONSUMPTION | SUGGESTED ASPIRATION |
| FL EVOLUTION 1600 – A/B   | 110-150-300 litres | Pneumatic | 800 lt/min              | 1500 mc/h            |
| FL EVOLUTION 2100 – A/B   | 110-150-300 litres | Pneumatic | 1100 lt/min             | 2000 mc/h            |
| FL EVOLUTION 2600 – A/B/C | 110-150-300 litres | Pneumatic | 1100 lt/min             | 2000 mc/h            |



### AVAILABLE CONFIGURATIONS

| COMPOSITION  | FL EVO<br>LT  | FL EVO<br>LST         | FL EVO<br>LRST                | FL EVO<br>ALS             | FL EVO<br>ALRS                    |
|--|---------------|-----------------------|-------------------------------|---------------------------|-----------------------------------|
| 1. Installed functions   | Timed Washing | Timed Washing Blowing | Timed Washing Rinsing Blowing | Automatic Washing Blowing | Automatic Washing Rinsing Blowing |
| 2. <b>Semi-automatic</b> pneumatic control unit: installed functions will have to be activated by the operator from time to time | •             | •                     | •                             | ----                      | ----                              |
| 3. <b>Automatic</b> pneumatic control unit: installed functions proceed automatically without external intervention              | ----          | ----                  | ----                          | •                         | •                                 |
| 4. Fully pneumatic functioning   | •             | •                     | •                             | •                         | •                                 |
| 5. Separated pump's box  | •             | •                     | •                             | •                         | •                                 |
| 6. Unit totally manufactured in Stainless Steel Aisi 304   | •             | •                     | •                             | •                         | •                                 |
| 7. Washing by means of movable and rotating nozzles  | •             | •                     | •                             | •                         | •                                 |
| 8. Sliding removable pieces' holder carriage   | •             | •                     | •                             | •                         | •                                 |
| 9. Additional extractible carriage   | o             | o                     | o                             | o                         | o                                 |
| 10. Shuttle for carriage   | o             | o                     | o                             | o                         | o                                 |
| 11. Washing device for Anilox or traditional cylinders   | o             | o                     | o                             | o                         | o                                 |
| 12. Special carriage for rotogravure printing trolley's washing  | o             | o                     | o                             | o                         | o                                 |
| 13. External piping washing device   | o             | o                     | o                             | o                         | o                                 |
| 14. Aspiration chimney   | •             | •                     | •                             | •                         | •                                 |
| 15. Side canalisation for the vapour suction during the opening of the loading door  | •             | •                     | •                             | •                         | •                                 |
| 16. Passive safety devices in the event of overpressure and depression   | •             | •                     | •                             | •                         | •                                 |
| 17. Inspection door in order to facilitate maintenance operations  | •             | •                     | •                             | •                         | •                                 |
| 18. No. of tank/s made in St/St type AV 110-150 litri (*)  | 1 (o)         | 1 (o)                 | 2 (o)                         | 2 (o)                     | 2 (o)                             |
| 19. St/St tank/s with conical bottom capacity 150 lt. each supplied with auxiliary loading / unloading solvent pump              | 1             | 1                     | 2                             | 2                         | 2                                 |
| 20. Special supports for particular pieces   | o             | o                     | o                             | o                         | o                                 |

• = AS STANDARD; o = OPTIONAL; ---- = NOT AVAILABLE

(\*) The capacity of the feeding tank/s is influenced by the size of the washing chamber and the flow rate of the pump