

*Founded with the goal of providing cutting-edge solutions for solvent regeneration, **IRAC Srl** is a leading company in the distillation and recovery of industrial solvents. With years of experience and a strong commitment to innovation, IRAC Srl develops and manufactures high-performance equipment designed to optimize production processes and reduce environmental impact. Thanks to a team of experts and continuous technological research, the company offers reliable solutions that comply with the most stringent safety and quality regulations. More information is available on the official website: www.irac.it.*

ALPHA® Series Distillers - MANUAL Solvent and Water Regenerators (Registered Trademark of IRAC Srl)

The ALPHA® series represents the established line of manual distillers for solvents contaminated with inks, resins, pigments, and oils. The monoblock design with a fixed tank and tilting mechanism ensures reliability, safety, and ease of use, making ALPHA® distillers ideal for numerous industrial sectors.

CONSTRUCTION AND FUNCTIONAL FEATURES

Materials and chemical resistance

- **Stainless Steel Tank and Boiler** : Stainless steel construction ensures corrosion resistance and long operating life, reducing maintenance costs and ensuring a safe and efficient process.
- **Optimized Evaporation Surface** : The advanced design allows for fast and efficient distillation thanks to the increased heat exchange area.
- **IRSAC heat-resistant bags** : These patented components resist high temperatures and the chemical aggression of solvents, preventing scaling in the tank and minimizing cleaning and maintenance interventions.

Security and regulatory compliance

- **Compliance with CE and ATEX directives** : All ALPHA® models comply with the strict European regulations regarding safety and environments at risk of explosion.
- **Availability of ATEX EX II 3G and EX II 2G versions** :
 - **EX II 3G** : Suitable for installation in **Zone 2** (occasional potentially explosive atmospheres).
 - **EX II 2G** : Designed for installation in **Zone 1**, ensuring explosion protection even in high-risk environments.
- **Integrated security systems** :
 - Overtemperature control on thermal oil, distillate and fan motor.
 - Automatic blocking systems in case of operational anomalies.
 - IP 56-65 protection to ensure resistance to dust and liquids.

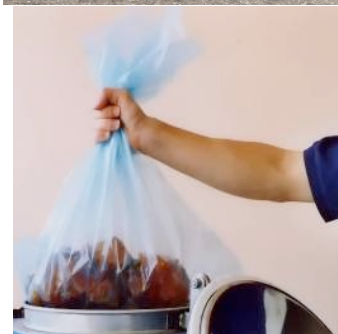


Fig. 1

AVAILABLE VERSIONS



ALPHA® 15
ATEX EX II 3G-2G



ALPHA® 30
ATEX EX II 3G- 2G



ALPHA® 70
ATEX EX II 3G-2G



ALPHA® 120
ATEX EX II 3G-2G



ALPHA® 200
ATEX EX II 3G-2G

*All models are equipped with **an ATEX electrical system** and can be equipped with **a copper or stainless steel condenser**, depending on the distillation needs.*

The ALPHA® series from IRAC Srl represents an excellent solution in the solvent regeneration sector, combining high-quality materials, cutting-edge technological solutions and a range of accessories to customize the process according to specific operational needs.

The adoption of these distillers not only allows for a significant reduction in solvent disposal and procurement costs, but also contributes to the environmental sustainability of the entire production process.

For further details, contact **IRAC Srl** or visit the official website for technical data sheets and available customization options.

COMPOSITION	ALPHA ® 15 EX II 3G EX II 2G	ALPHA ® 30 EX II 3G EX II 2G	ALPHA ® 70 EX II 3G EX II 2G	ALPHA ® 120 EX II 3G EX II 2G	ALPHA ® 200 EX II 3G EX II 2G
1. Electrical system certified and compliant with the ATEX 94/9/CE directive	•	•	•	•	•
2. Heating elements	1	1	1	2	2
3. Fixed boiler tank with built-in boiler	•	•	•	•	•
4. Tilting support	•	•	•	•	•
5. Electric motor equipped with balanced fan blades	•	•	•	•	•
6. Resistance immersed in diathermic oil	•	•	•	•	•
7. Electromechanical electrical system with temperature and working time settings	•	•	•	•	•
8. Safety devices for controlling overheating of diathermic oil	•	•	•	•	•
9. Safety devices for controlling distillate overtemperatures	•	•	•	•	•
10. Fan motor overheating safety devices	•	•	•	•	•
11. Built-in condenser with copper cooling coil	•	•	•	•	•
12. Stainless steel condenser for cooling solvent vapors, required in the distillation of chlorinated products. This item <u>excludes</u> the copper condenser.	OR	OR	OR	OR	OR
13. EPDM ® cover gasket	•	•	•	•	•
14. VITON ® gasket check the compatibility of the solvent to be treated	OR	OR	OR	OR	OR
15. Bag retaining spring (clip- sac) : equipped with a particular shape to prevent the heat-resistant bags, once lightened by the evaporated solvent, from moving with the risk of blocking the exit of the vapours	•	•	•	•	•
16. No. 03 heat-resistant bags	•	•	•	•	•
17. Diathermic oil	•	•	•	•	•

• = STANDARD ; 0 = OPTIONAL ; - = NOT AVAILABLE

COMPOSITION	ALPHA ® 15 EX II 3G EX II 2G	ALPHA ® 30 EX II 3G EX II 2G	ALPHA ® 70 EX II 3G EX II 2G	ALPHA ® 120 EX II 3G EX II 2G	ALPHA ® 200 EX II 3G EX II 2G
OPTIONAL					
18. Heat-resistant bags to facilitate the extraction of distillation residues, preventing them from sticking inside the tank. Available in packs of 50 and 100 bags.	○	○	○	○	○
19. Vacuum generator to be applied to the distiller for the regeneration of high-boiling solvents (with boiling point from 160°C to 210°C)	○	○	○	○	○
20. Managed Vacuum: Automatic vacuum management during the various phases of the distiller	○	○	○	○	○
21. Post-condenser: water cooling system	○	○	○	○	○
22. Polymer extractor	○	○	○	○	○
23. Boiling conveyor : accessory for the simultaneous distillation of two or more immiscible products	○	○	○	○	○
24. ESO Automatic system for suppressing any exothermic reactions with mains water injection	○	○	○	○	○
25. CAx1 Automatic loading of the distiller keg	○	○	○	○	○

Thanks to the particular conformation of the ALPHA ® series systems, it is possible to combine the machines with a series of accessories to increase their practicality and safety but also, and to a significant extent, their productivity and performance.

	IR 50-100 Heat-resistant IRSAC bags (180°C) to facilitate the extraction of distillation residues, preventing them from sticking inside the tank. Available in packs of 50 and 100 bags.
	VGS All IRAC distillers can be equipped with a vacuum generator; this reduces the boiling temperature of the injected solvent by boiling it and then bringing it, in the vapor state, to a lower temperature the higher the vacuum. The cases in which it is: 1. This is the case of solvents whose boiling point is close to or above a critical decomposition temperature. Typical examples are some chlorinated solvents. 2. High-boiling solvents with boiling points from 160°C to 210°C
VG	VG Empty Managed Automatic vacuum management during the various phases of the distiller.
	PC Post Capacitor Water cooling system required for the condensation of low-boiling products in environments with temperatures of 35-40°C.

	EP Polymer Extractor Necessary for extracting solidified and non-adherent molds from the tank. If distillation residues adhere, it is necessary to connect the extractor to the IRSAC bags.
	WITH Steam conveyor Accessory for the simultaneous distillation of two or more immiscible products
	ESO Automatic system for suppressing any exothermic reactions with mains water injection
	CA X 1 Automatic loading of contaminated solvent for 1 distillation cycle. When the "cycle start" button is activated on the electrical panel, an automatic pump will send the contaminated solvent, drawn from your container, into the distillation tank. The loading cycle will be interrupted when the level sensor is activated. An additional level of safety is represented by the timer that monitors the loading time; in the event of an anomaly, the loading will be interrupted even if the level sensor is not working correctly.

	ALPHA ® 15	ALPHA ® 30	ALPHA ® 70	ALPHA ® 120	ALPHA ® 200
Recommended effective capacity of the boiler tank	15 lt.	30 lt.	70 lt.	120 lt.	200 lt.
Approximate hourly production of solvent distillation	3 l/h	7.5 l/h	17.5 l/h	30 l/h	50 l/h
Average duration of a distillation cycle Solvent	4.5am	4.5am	4.5am	4.5am	4.5am
Average duration of a water distillation cycle	10-12 am	10-12 am	10-12 am	10-12 am	10-12 am
Heating power	1.6 kW	3 kW	4 kW	12 kW	12 kW
Maximum operating temperature	180°C	180°C	180°C	180°C	180°C
Voltage/Frequency	V/Hz 230/50-60	V/Hz 230/50-60	V/Hz 230/50-60	V/Hz 400/50-60	V/Hz 400/50-60
Protection	IP 56-65	IP 56-65	IP 56-65	IP 56-65	IP 56-65
Cooling	Air/Air + water optional	Air/Air + Water optional	Air/Air + water optional	Air/Air + Water optional	Air/Air + Water optional
Cooling system material	Copper / Steel optional	Copper / Steel optional	Copper / Steel optional	Copper / Steel optional	Copper / Steel optional
Dimensions in cm.	80x50.5x115	89x55.5x123	102x64x136	158x106x168	158x106x168
Weight in Kg.	Zone 1 = 136 Zone 2 = 128	Zone1= 143 Zone 2 = 135	Zone 1 = 230 Zone 2 = 215	Zone 1 = 345 Zone 2 = 310	Zone1= 360 Zone 2 = 325

ATEX ELECTRICAL SYSTEMS



ELECTRICAL PANEL IN **ATEX EX II 3G VERSION**
SUITABLE FOR INSTALLATION IN ZONE 2

DEGREE OF PROTECTION IP 56

NOT EXPLOSION-PROOF



ELECTRICAL PANEL IN **ATEX EX II 2G VERSION**
SUITABLE FOR INSTALLATION IN THE AREA

IP 66 **EXPLOSION-PROOF** PROTECTION RATING

New: NEW ALPHA® AUTOMATIC 200

NEW ALPHA® AUTOMATIC 200 model represents the evolution of the ALPHA® series, combining robustness and ease of use with an unprecedented level of automation and safety. It is the ideal choice for companies seeking maximum productivity, reduced operating costs, and guaranteed safety even in high-risk environments.

Main data

- Certification: ATEX EX II 1/2 G Ex h IIB T3 Ga/Gb (Zone 0/1/2)
- Installed power: 12 kW - Productivity: approximately 35–50 L/h (depending on operating conditions)

STANDARD FEATURES

- Heating via thermal oil.
- Automatic solvent loading (CA) via pneumatic pump.
- Automatic cold residue discharge (SFF).
- Exothermic reaction emergency (ESO) to immediately stop exothermic reactions.
- Protective Load Control (CPC) to control cycle times.
- Protective Final Load (CPF) to reduce fouling and reaction risks.

CONSTRUCTION INNOVATIONS

- Intuitive touchscreen interface with dedicated software.
- Internet connection and App (smartphone and Windows®).
- Redesigned boiler with +200% steam expansion space.
- Enhanced pre-cooling system.
- New, easily cleanable air-steam system.
- Self-supporting panels removable by a single operator.
- Separate electrical and pneumatic panels in ATEX 2 safe zone.
- Customized booster base for installation in containment tanks.



OPTIONAL AVAILABLE

- SFC – Automatic hot exhaust (energy savings up to 30%).

Automatic discharge of liquid residues at room temperature from the conical bottom and hermetic sealing disk.

The system can discharge wastewater into a **200-litre commercial drum with a tie closure** or a **1000-litre commercial IBC** (without waiting for the waste to cool).

This system results in significant energy savings as the thermal power used in the first of a series of multi-cycle distillations is not wasted but is partially reused in subsequent cycles, resulting in a 30% reduction in energy costs (calculated based on 3 consecutive cycles).

NEW: Level switch for continuous measurement of the sludge present inside the container.

NEW: Double gasket sealing system on telescopic exhaust pipe.

This option excludes the standard SFF.

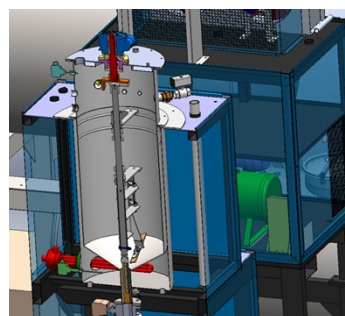


- AGI – ATEX Zone 0 mixing system with self-adhering blades.

Mixing system with blades that adhere to the heat exchange surface, always keeping the boiler tank clean, ensuring better heat transmission and lower energy costs. This system also ensures higher hourly productivity. The blades are also installed inside the waste discharge pipe to prevent blockages and the risk of exothermic reactions. The scraper has an average lifespan of 8,500-9,000 hours.

NEW: **ATEX Zone 0** certified mixing system. Each machine produced is individually certified. An external certification body will carry out tests on every single machine produced by IRAC Srl.

NEW: Easy-to-remove blade drive shaft for maintenance. One of our technicians will be equipped with a special jib crane.



- VAL – Vacuum distillation with liquid ring pump.

Vacuum system with liquid ring pump. The great advantage of vacuum distillation is that the solvent is evaporated at a temperature approximately 30–40°C lower, drastically reducing the risks associated with exothermic reaction and speeding up the distillation cycle, ensuring higher productivity.

NEW: All elements can be easily positioned for maintenance.

NEW: Insulation of pipes and cooling tank for the vacuum pump.

NEW: Cooling system equipped with insulated plate exchanger.



- CHI – Remote chiller for constant cooling.

Cooling chiller to be remotely installed in a non-hazardous area. The cooling level is kept constant by a dedicated chiller and solvent losses conditioned by the ambient temperature, well over 10%, are avoided.

- PC – High temperature water post-condenser.

Post-dispersible water condenser: it activates automatically, during periods of higher ambient temperatures, when the distillate leaving the primary condenser exceeds 50°C.

- MEMO CONTROL – Remote assistance and monitoring.

Monitoring system for each operating cycle of the MAV/CEO series distillation plant. This system allows for adjustments to the machine's program directly from the manufacturer's headquarters.

The customer will only need a **LAN network connection**. Memo Control is not just a data recording but often a "real assistance at no cost".

- SGL INOX 2000 L – Solvent loading/unloading management system with double stainless-steel tank.

Management of LOADING/UNLOADING of solvent between the MAV distiller and two tanks for accumulating exhausted liquid and distilled liquid.

- No. 02 horizontal Aisi 304 stainless steel tanks of 2000 capacity each, equipped with level switches connected to the distillation system for managing pre-loading, automatic loading and unloading of the distillate.
- The contaminated solvent storage tank is equipped with a solvent loading pump and a solvent recirculation pump, in order to keep the solvent homogeneous.
- The distillate solvent storage tank is equipped with a distillate booster pump for use at a maximum distance of 40 m on level ground without bends (larger booster pumps are available upon request). Any subsequent utilities are not included in the price.

NEW: Continuously measuring level switches on both tanks.

NEW: Continuous mixing system for dirty solvent. Adjustable for both duration and frequency. This solution ensures consistently consistent dirty solvent.

NEW: Automatic STANDBY system. When the distiller stops because there is not enough solvent to treat, or the distillate is too full, it will restart automatically as soon as the levels are restored.

NEW: Pneumatic liquid management panel installed on board the structure.

NEW: SELF-CLEANING system. The dirty solvent loading line, to be distilled, can be manually diverted to load the distiller with clean distilled solvent. During periods of machine downtime, such as summer holidays, it is advisable to distil clean solvent before shutting down the machine and shutting down the machine with clean solvent inside. This solution prevents the formation of scale and sludge deposits on the bottom.

NEW: Dip tube (with safety valve) for drawing dirty/clean solvent from other sources.

NEW: Flexible EPDM hoses with connectors and terminals installed (even on-site during installation) with a hydraulic crimping tool.

NEW: Light signal tower to be installed in a clearly visible area inside the building.

NEW: Tank support structure designed and built for maintenance. Both tanks are equipped with quick-release couplings for the pipes and eyebolts for easy removal.

NEW: The pumps are installed in such a way as to carry out convenient and quick maintenance.

NEW: Tanks equipped with large hatches to facilitate cleaning if necessary.



COMPETITIVE ADVANTAGES

- Greater productivity than manual models.
- Complete process automation.
- Maximum safety with ATEX certification up to Zone 0.
- Reduced energy consumption (up to 30%).
- Simplified maintenance with modular design.
- Connectivity and remote assistance with Memo Control.