

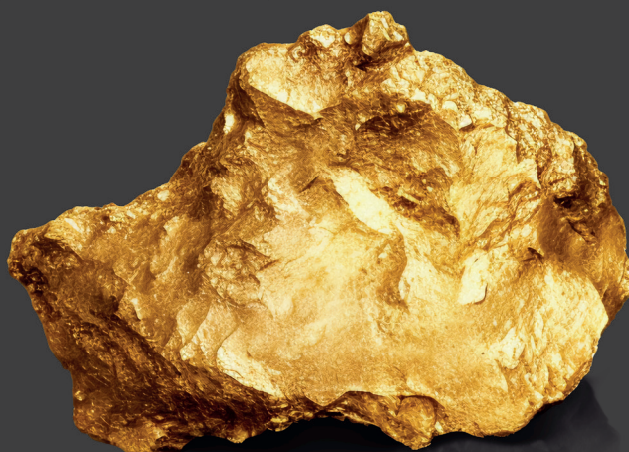
# OPI | GROUP

Opificio Progettazioni Industriali



TRADITION AND TECHNOLOGY

## PRECIOUS METAL TREATMENT AND REFINING



GOLD



SILVER



COPPER



JEWELRY



INCINERATORS



PURIFICATION



# OPI | GROUP

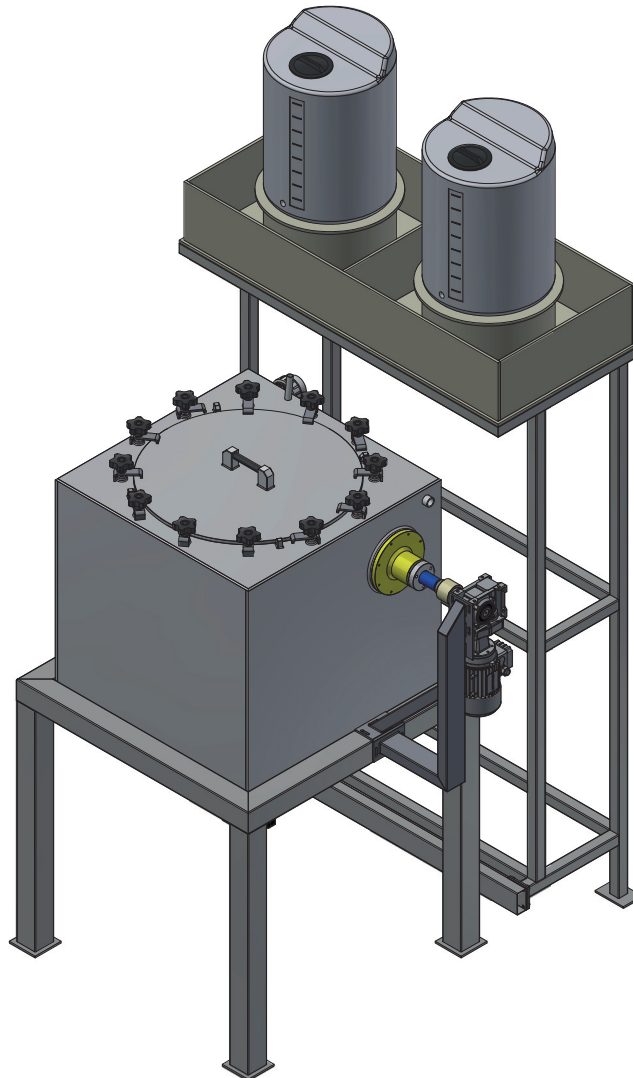
Opificio Progettazioni Industriali

## GOLD

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## ACQUAREGIA GOLD REFINERY



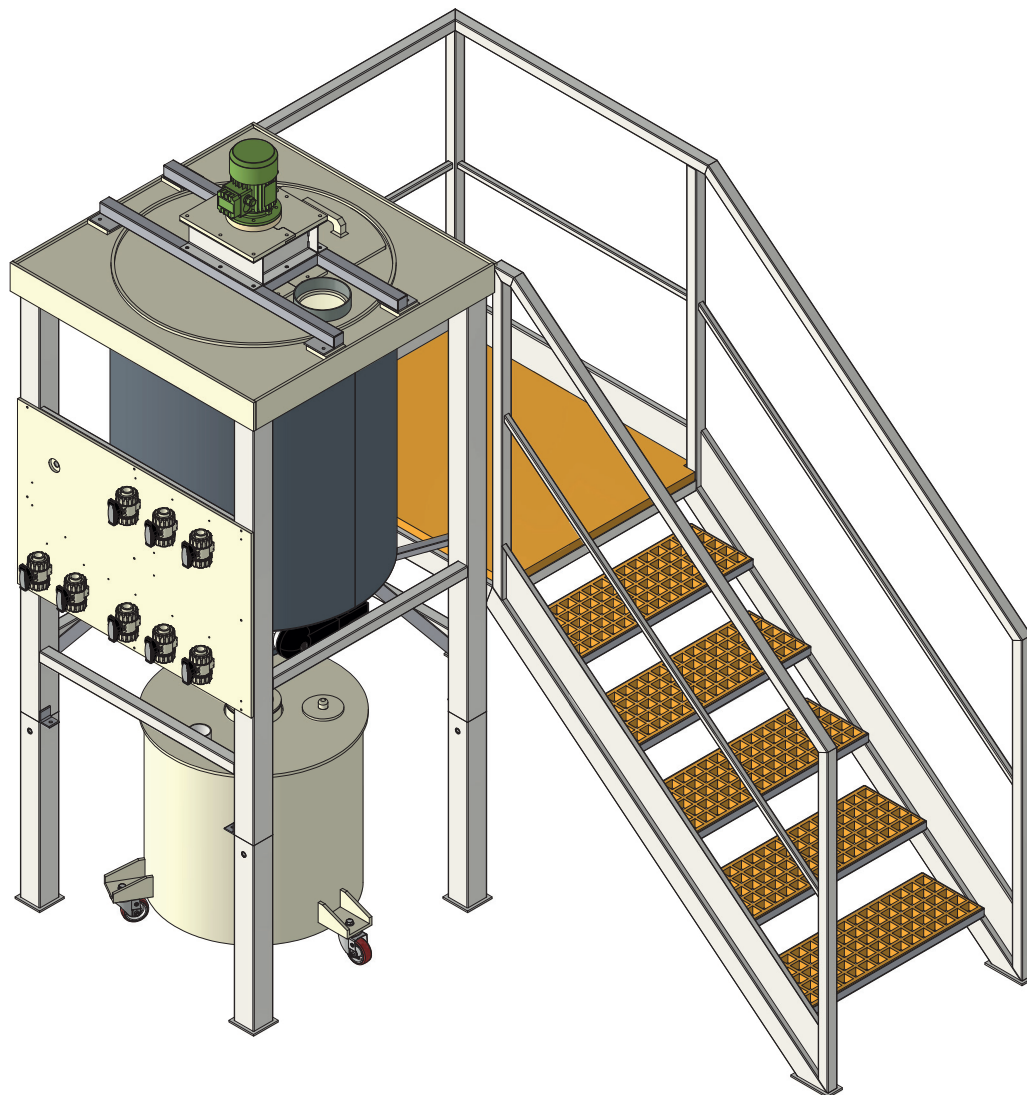
MODEL	K5	K25	K50	K100
CAPACITY lt	5	25	50	100
POWER kW	0,55	0,55	1,5	1,5
HEATING POWER kW	6,00	6,00	6,00	12,00
OVERALL DIMENSIONS mm	2000X1000XH2000	2500x1500xH2500	2500x1500xH2500	5000x2000xH2500

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.





## PRECIPITATOR

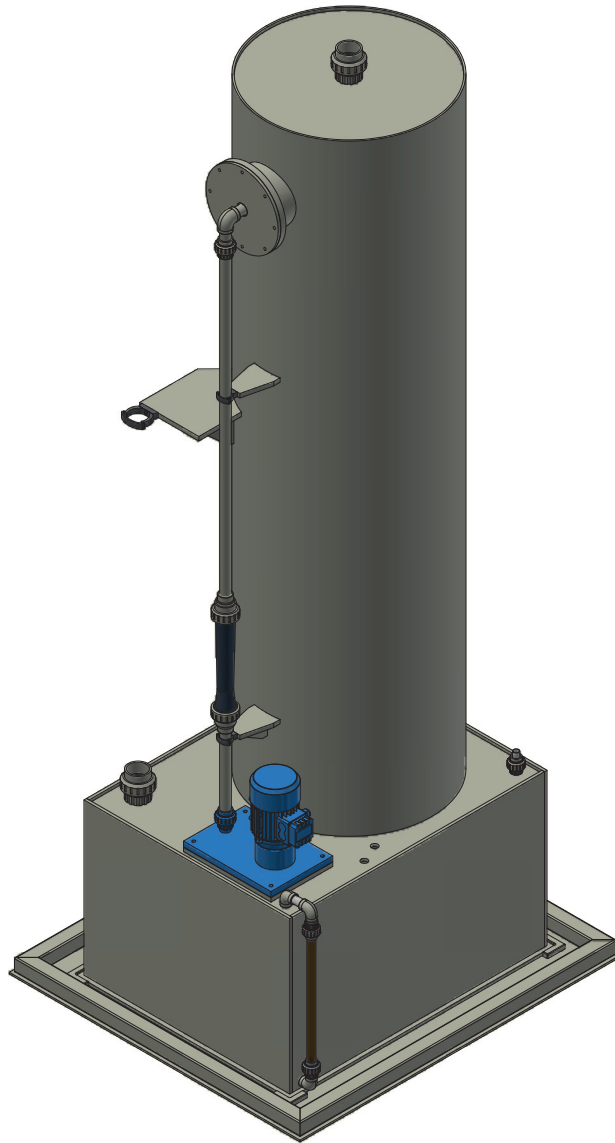


MODEL	PR150	PR500	PR1200
CAPACITY lt	150	500	1200
POWER kW	0,55	1,50	2,50
OVERALL DIMENSIONS mm	1000x1000xH1500	1200x1200xH2000	1500x1500xH2400

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



## NOX SCRUBBER

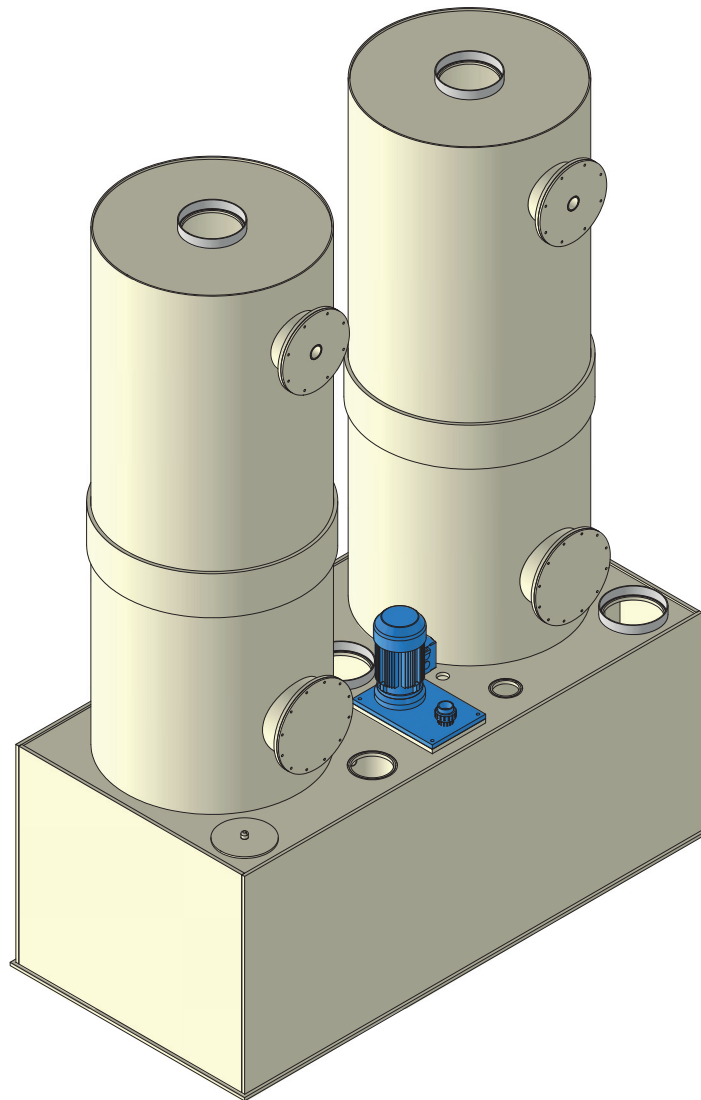


MODEL	NOx600	NOx2-600
CAPACITY mc/h	450	450
POWER kW	0,55	1,50
OVERALL DIMENSIONS mm	1000x1200xH2500	2100X1200XH2500

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



## BASIC SCRUBBER



MODEL	BS600	BS2-600	BS900	BS2-900
CAPACITY lt	800	1500	2000	3500
POWER kW	3,00	3,50	6,50	8,50
OVERALL DIMENSIONS mm	1000x1200xH2500	2000X1200XH2500	1500X1500XH2500	2500X1500XH2500

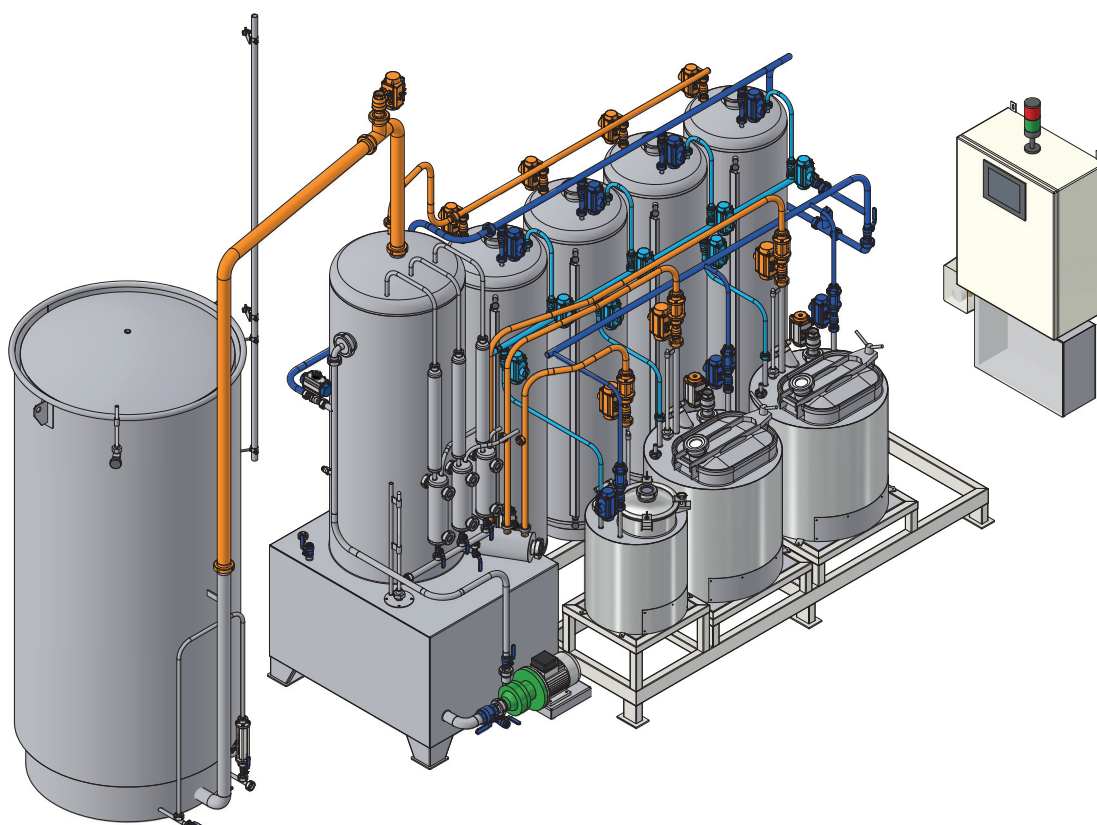
The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



## INQUARTATION SYSTEM

INQUARTATION SYSTEM by OPI Group serve to increase the quality of the alloy which will then be treated in the aquaregia refining system through dissolution with nitric acid. The systems are built with steel/titanium reactors and have the possibility of having a ZERO EMISSIONS system thanks to our installed gasometer.

All systems are modular, the customer could choose between different reactor sizes in the same machine.



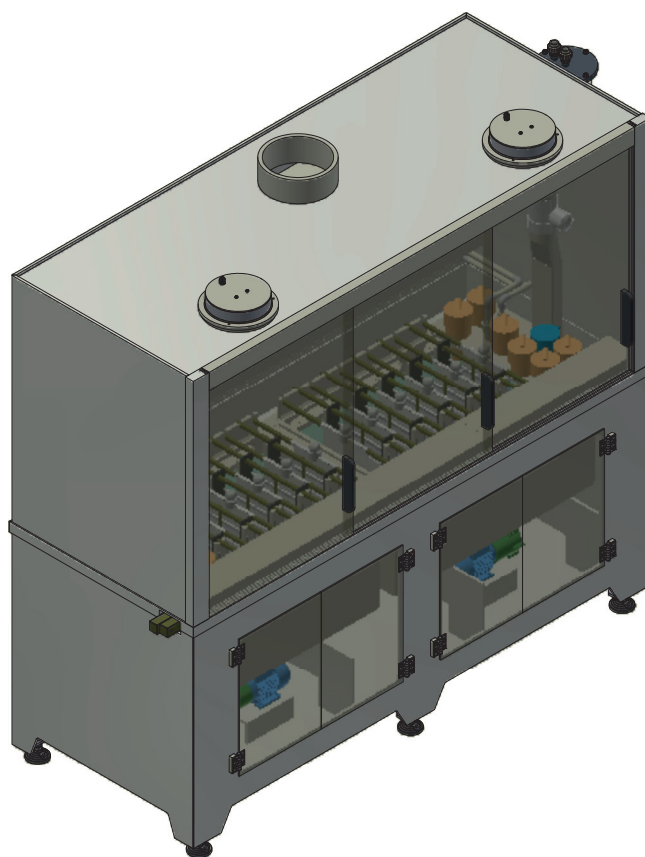
MODEL	DR30	DR100	DR250	DR500
CAPACITY lt	30	100	250	500
POWER kW	0,55	1,5	1,5	2,5
HEATING POWER kW	3,00	4,50	6,00	12,00
OVERALL DIMENSIONS mm	2000X1000XH2000	2500x1500xH2500	2500x1500xH2500	5000x2000xH2500

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



## GOLD ELECTROLYSIS

The precious metals treatment and recovery system by OPI GROUP also includes the Gold Electrolysis process that allows obtaining a fineness of 999.9/1000 Au. Like all our systems, even these ones are sized according to the customer's needs. The produced smoke is conveyed and neutralized in special smoke reduction towers, appropriately sized. The dimensioning and design of the system, in term of both quantities to be processed and positioning, will be decided together with the customer.



MODEL	GE5	GE10	GE25	GE50
CAPACITY lt	5	10	25	50
POWER kW	0,55	1,5	1,5	2,5
HEATING POWER kW	3,00	4,50	6,00	12,00
OVERALL DIMENSIONS mm	2000X1000XH2000	2500x1500xH2500	2500x1500xH2500	5000x2000xH2500

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



## GOLD

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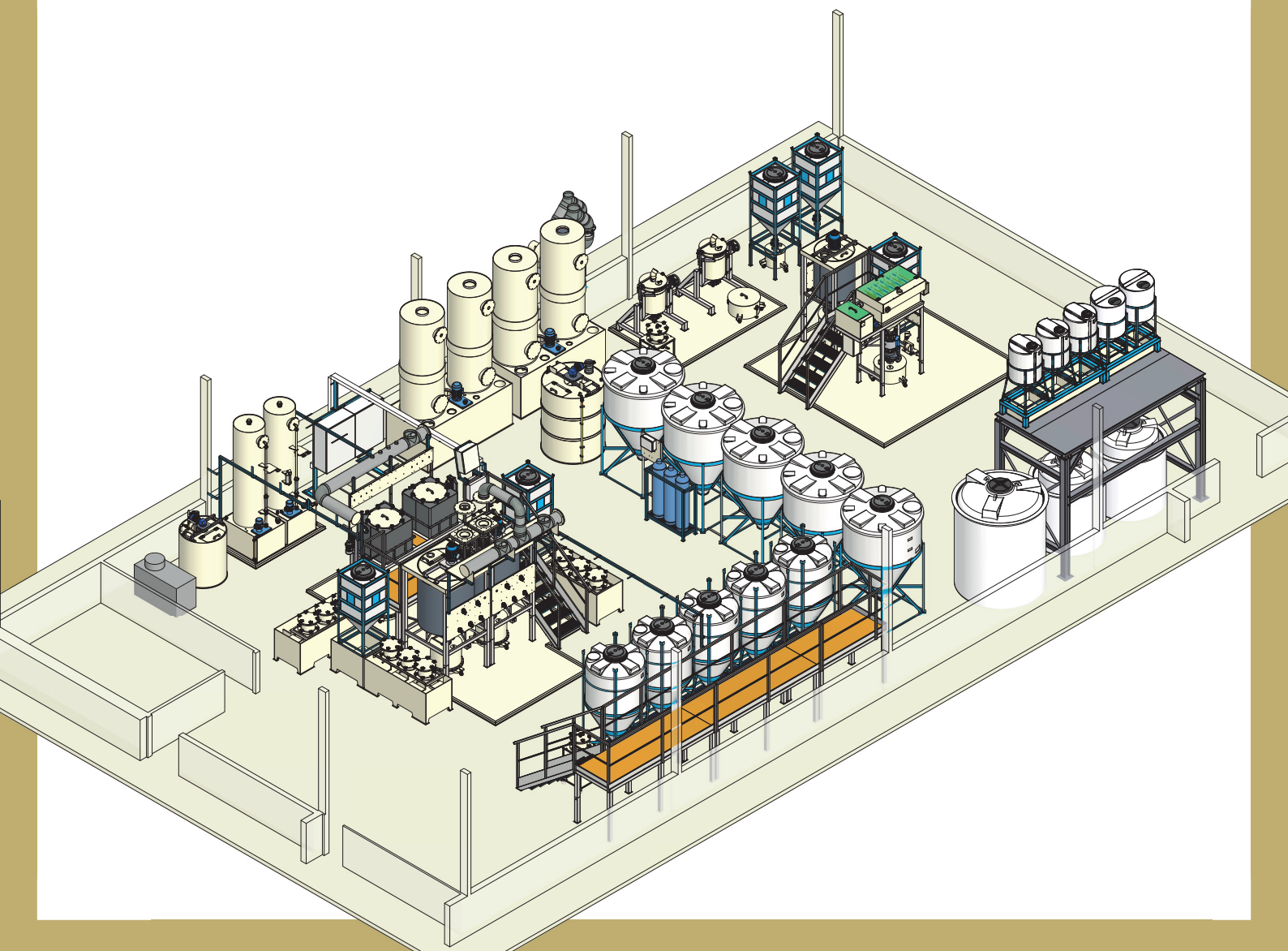
The refining plants by OPI GROUP are designed and manufactured according to the customer's needs and in compliance with anti-pollution regulations.

Acquaregia Gold refining system consists of one or more reactors made of PP, PVDF plastic material or TITANIUM, within which there is a rotating barrel built in the same durable materials; that allows a better dissolution of the alloy also with an high percentage of silver inside.

Therefore, they are not static installations and allow high performance and a greater effectiveness and efficiency in the dissolution process.

Having a hot processing cycle requires lesser time than a cold processing cycle; combining it with a mobile system allows performing several dissolutions during the day. The refining plants by OPI GROUP allow working 24 hours a day. The gold refining plant is equipped with: a frame made of AISI304/316 stainless steel, suction points, stair and walking surface with anti-slip resin flooring and Buchner filters. The system also includes an electric panel to control the machine actions and the process during the operation. Smoke neutralization is implemented with fumes reduction scrubber sized according to customer requirements.

The dimensioning and design of the system, in terms of both quantities to be processed and positioning, will be decided together with the customer.



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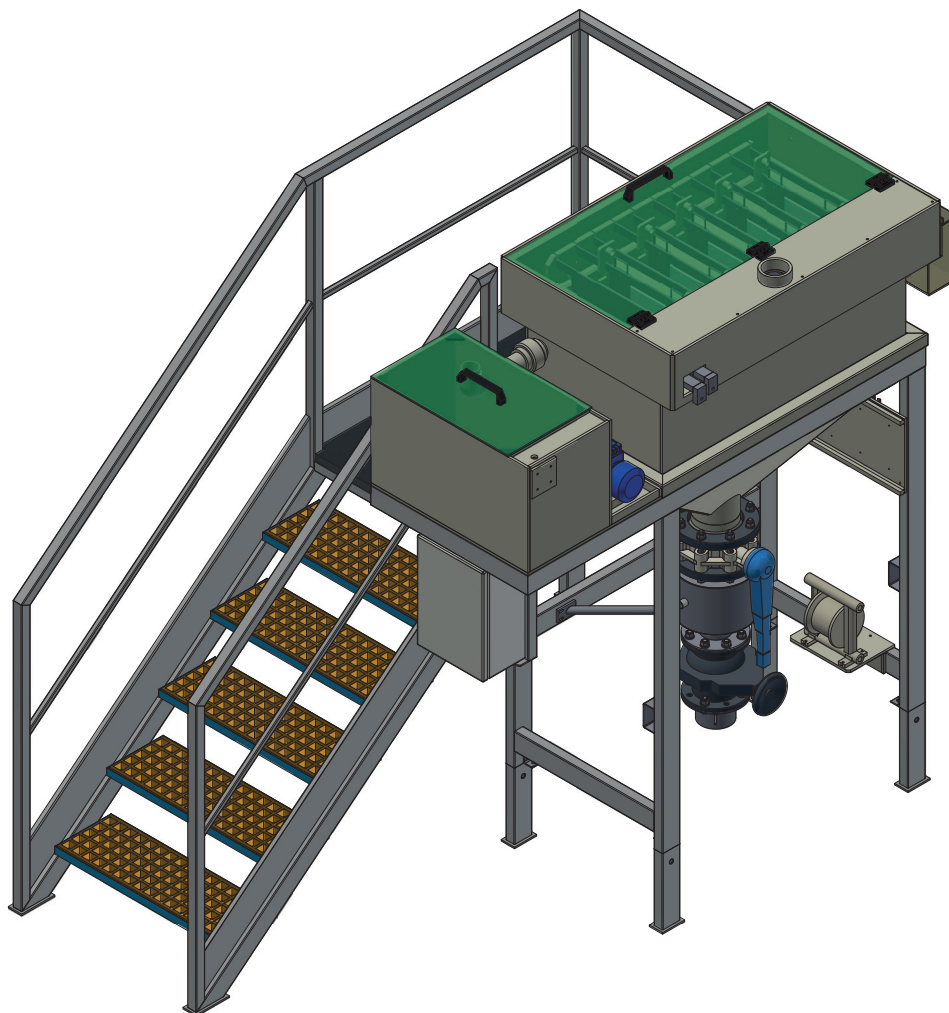
# SILVER

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## SILVER ELECTROLYSIS



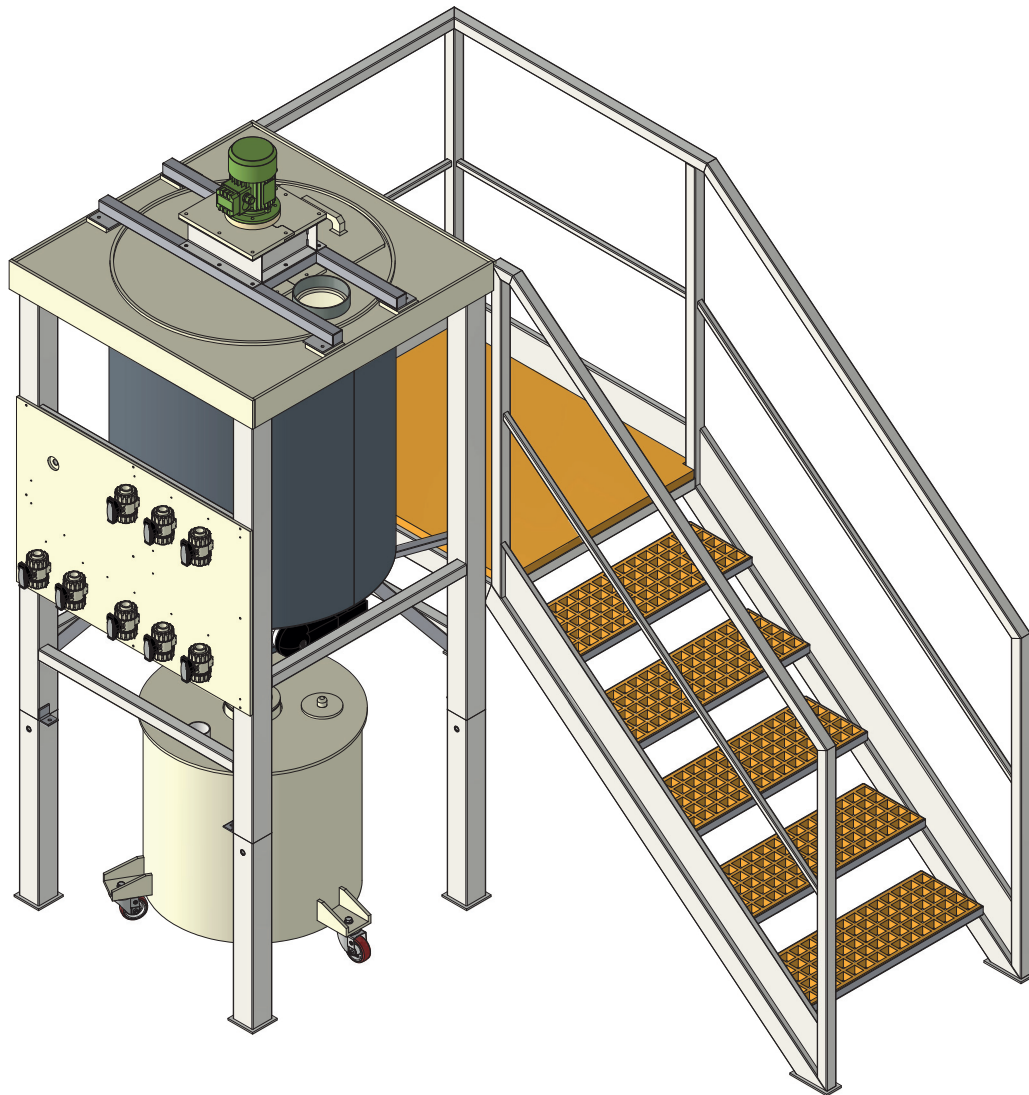
MODEL	AGR25	AGR50
PRODUCTION CAPACITY Kg/24H	15-25	30-50
TANK CAPACITY lt	450	900

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.





## SILVER CHLORIDE TREATMENT FROM ELECTROLYSIS

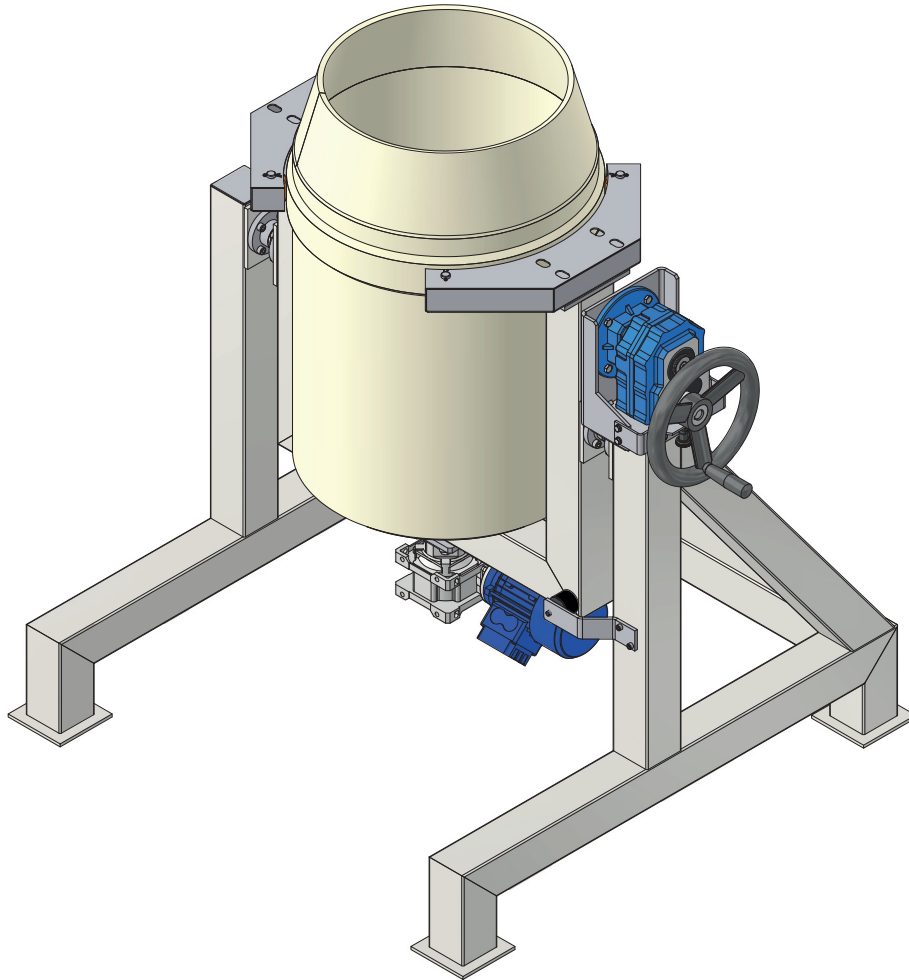


MODEL	PR500	PR1200
CAPACITY lt	500	1200
POWER kW	1,50	2,50
OVERALL DIMENSIONS mm	1200X1200XH2000	1500X1500XH2400

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



## SILVER CHLORIDE TREATMENT FROM GOLD REFINERY

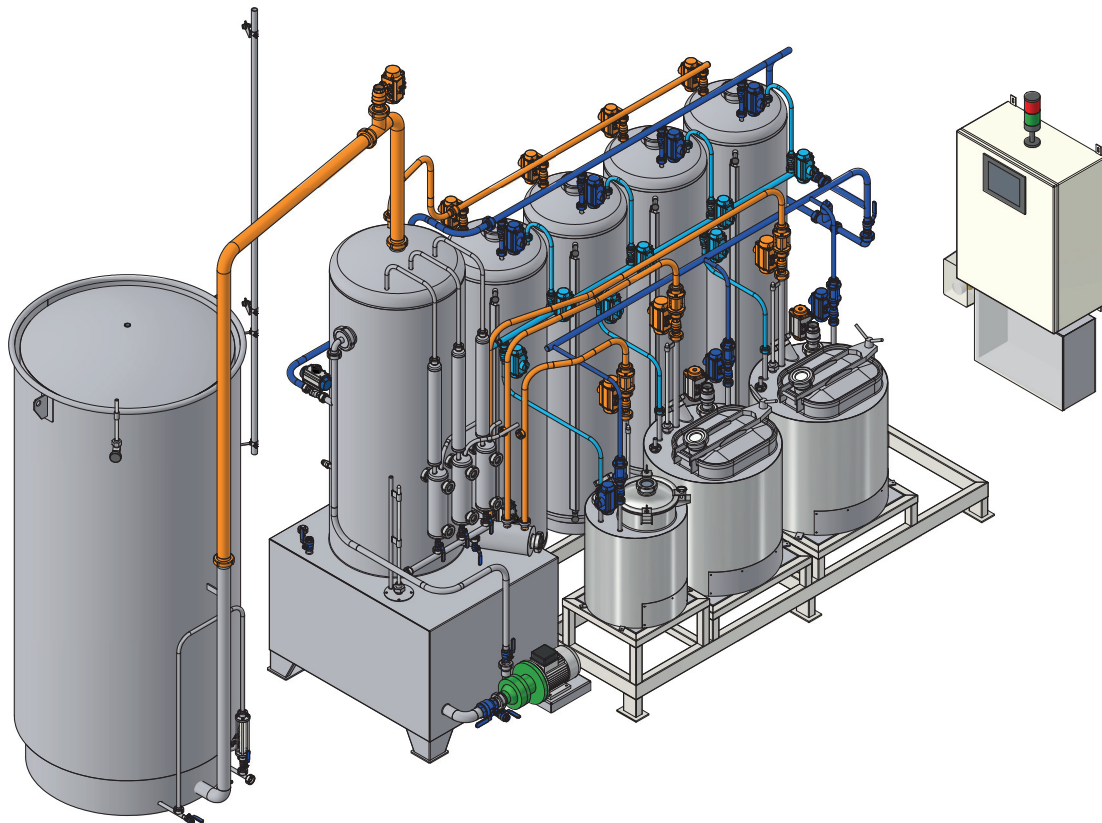


<b>MODEL</b>	<b>CA100</b>
<b>CAPACITY lt</b>	100
<b>POWER kW</b>	1,50
<b>OVERALL DIMENSIONS mm</b>	1000X1500XH1300
<b>OVERALL DIMENSIONS mm</b>	2000X1000XH2000

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



## CHEMICAL SILVER REFINING AND SILVER BATH PREPARATION



MODEL	DR30	DR100	DR250	DR500
CAPACITY lt	30	100	250	500
POWER kW	0,55	1,5	1,5	2,5
HEATING POWER kW	3,00	4,50	6,00	12,00
OVERALL DIMENSIONS mm	2000X1000XH2000	2500x1500xH2500	2500x1500xH2500	5000x2000xH2500

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



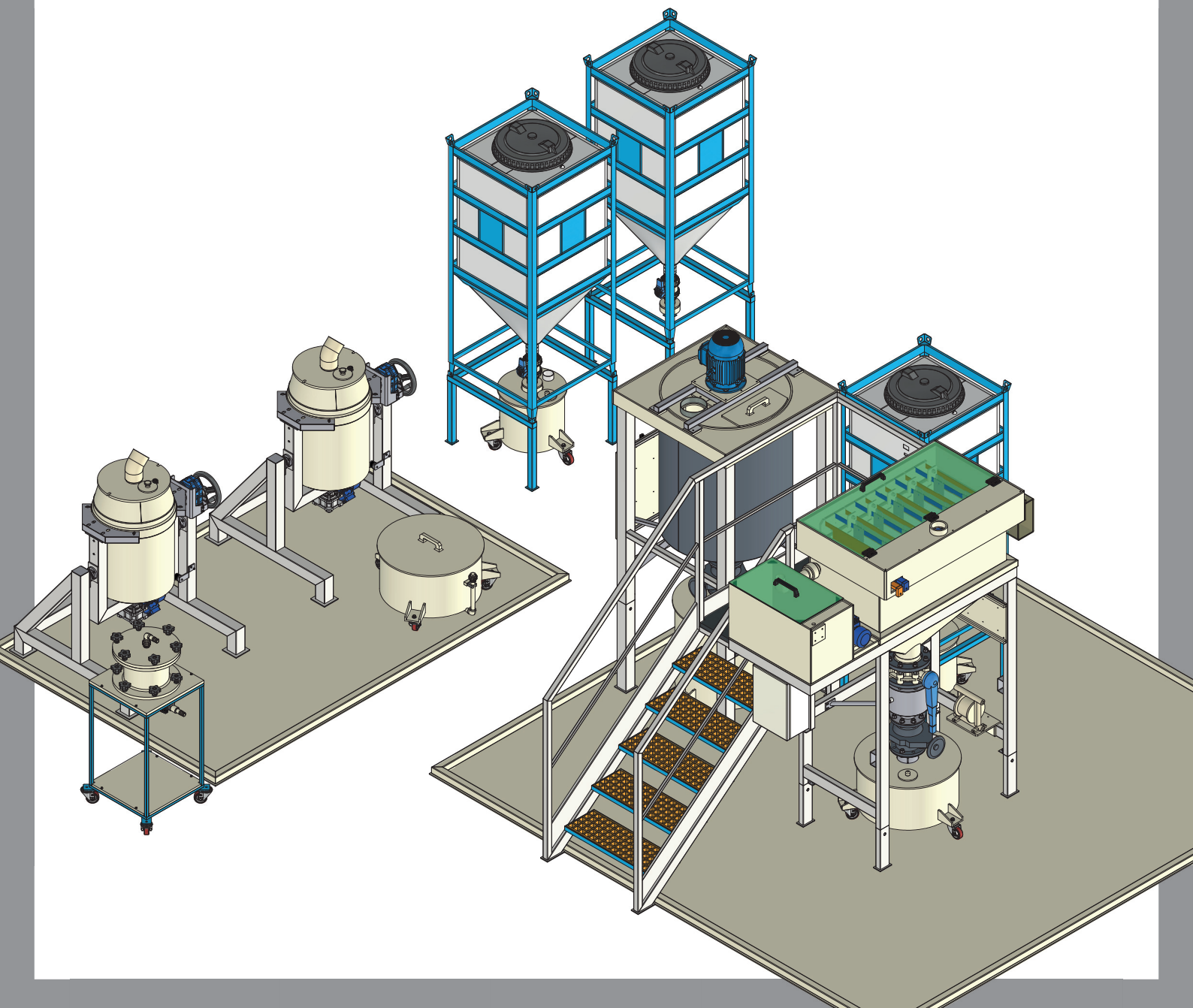
## SILVER

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OPI GROUP offers a silver electrolytic refining plant that is modular and expandable according to the amount of material to be processed. The result of this processing is 999.9/1000 fine silver. Silver electrolytic refining allows refining a minimum of 15 kg/cycle in fine bath and with 980/1000 fine silver anode. The system consists of an AISI304/316 steel frame, one or more PP tanks with support structures for anodes and cathodes, suction points, stairs and walking frame with anti-slip resin flooring, Buchner filter and rectifier. The produced fume is conveyed and neutralized in special smoke reduction towers, appropriately sized.

The solutions that are exhausted and no longer usable will be stored and treated in special reactors, where it will be possible to recover the silver contained and reuse it in the electrolysis system.

The dimensioning and design of the system, in term of both quantities to be processed and positioning, will be decided together with the customer.



# OPI | GROUP

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# COPPER

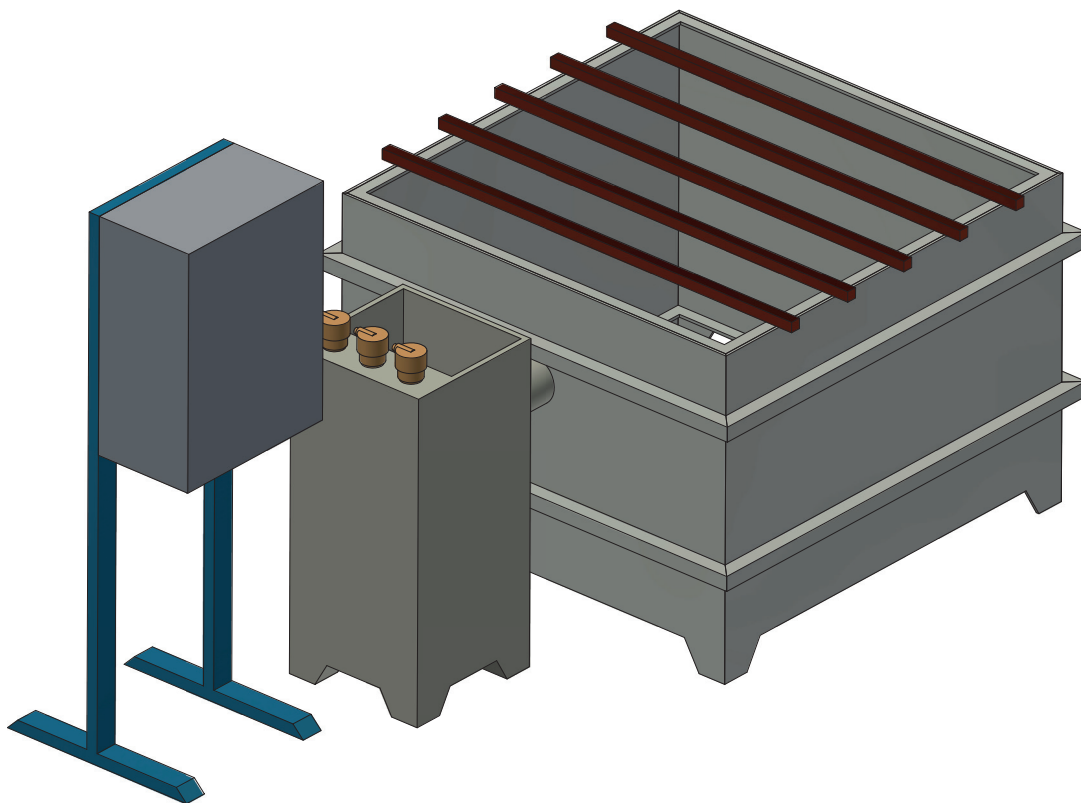
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## COPPER ELECTROLYSIS

OPI GROUP offers an electrolytic system for copper recovery and refining starting from both alloys and solutions; this system is modular and customizable according to the different customer's needs. The system consists of one or more reinforced self-extinguishing PP or PPs tanks equipped with suction system and supports for anodes and cathodes, a recirculation pump for the solution and one or more rectifiers. The result of the electrolysis allows having a copper fineness of 999.9/1000. The produced fume is conveyed and neutralized in special smoke reduction towers, appropriately sized.

The dimensioning and design of the system, in term of both quantities to be processed and positioning, will be decided together with the customer.



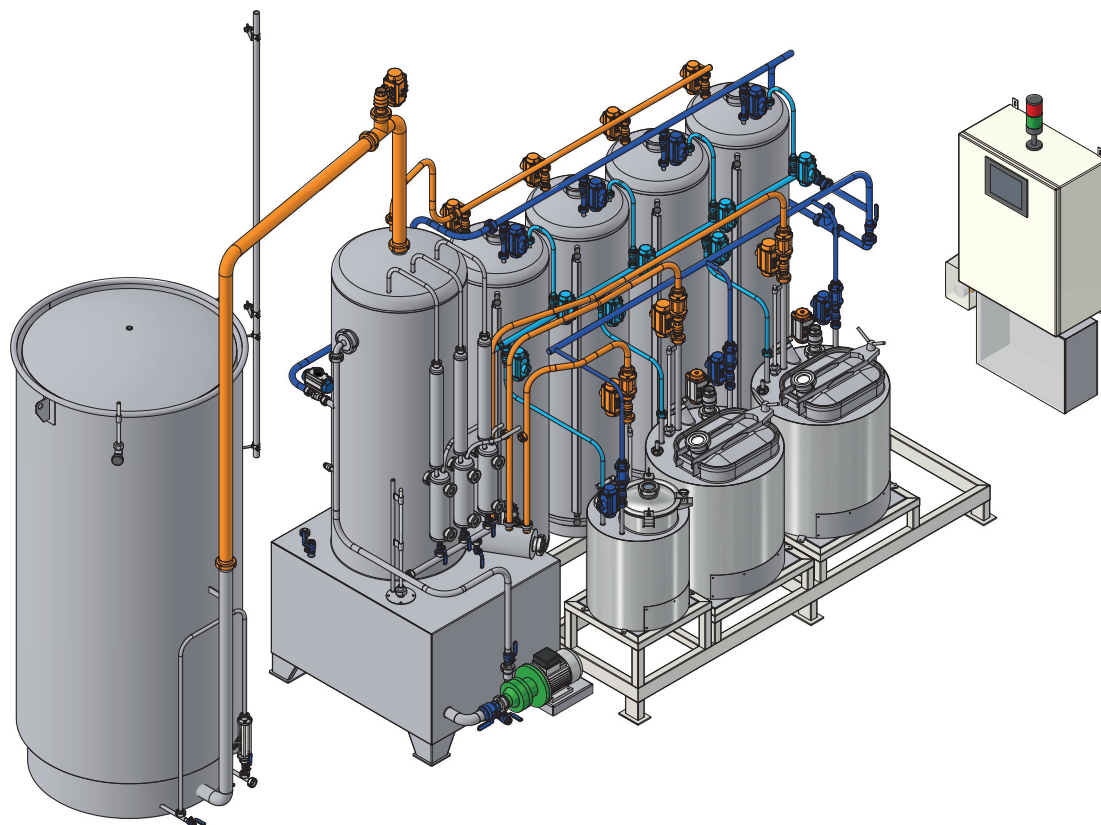
MODEL	CES25	CES50
PRODUCTION CAPACITY Kg/24H	25	50

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.





## CHEMICAL COPPER REFINING AND COPPER BATH PREPARATION



MODEL	DR30	DR100	DR250	DR500	DR500
CAPACITY lt	30	100	250	500	500
POWER kW	0,55	1,5	1,5	2,5	2,5
HEATING POWER kW	3,00	4,50	6,00	12,00	12,00
OVERALL DIMENSIONS mm	2000X1000XH2000	2500x1500xH2500	2500x1500xH2500	5000x2000xH2500	5000x2000xH2500

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.









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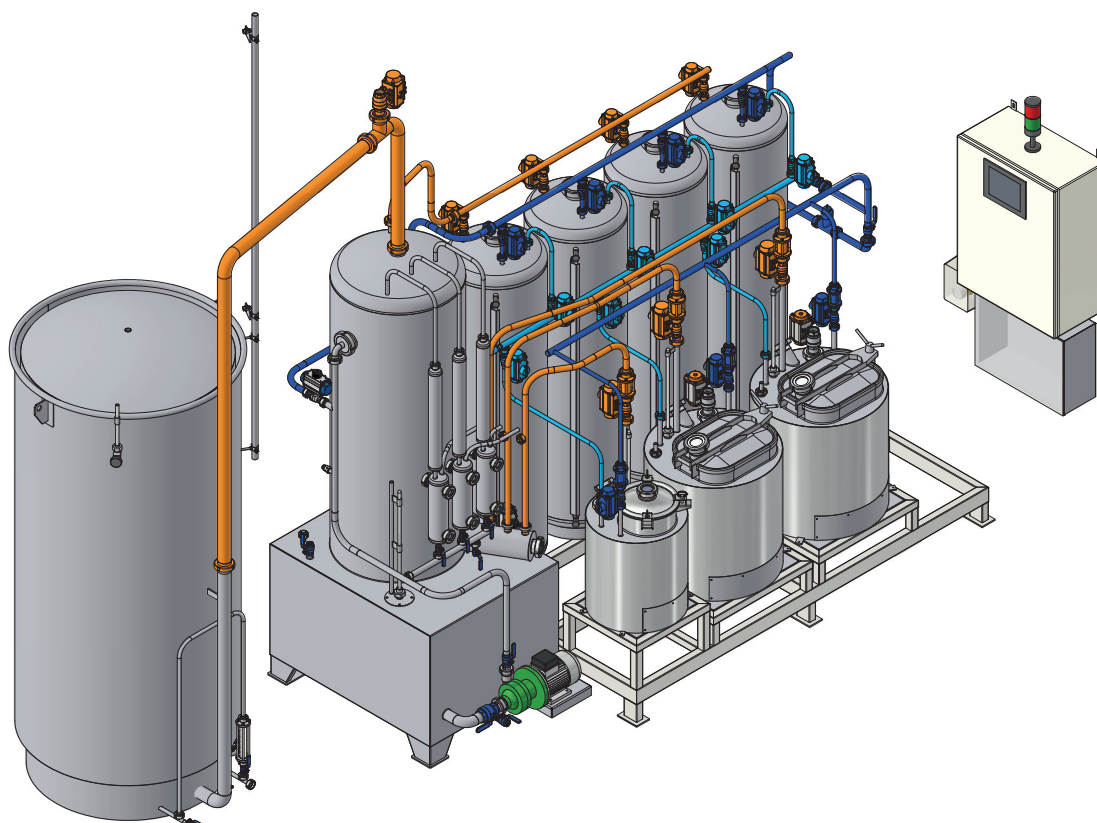
# JEWELRY

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## COPPER CORE DISSOLUTION

Dissolvers by OPI GROUP are based on an innovative chemical and technical principle, which guarantees the preservation of the final fineness of the alloy with the complete removal of copper traces from the manufactured item. One of the main features of this processing system is the **closed cycle fume reduction system**, which allows no emissions into the atmosphere, thus making this equipment a zero impact system. Our machines represent the safest and most economical solution for dissolving copper core in gold manufacture: 14 Kt. and 18 Kt.



MODEL	DR30	DR100
CAPACITY lt	30	100
POWER kW	0,55	1,5
HEATING POWER kW	3,00	4,50
OVERALL DIMENSIONS mm	2000X1000XH2000	2500x1500xH2500

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



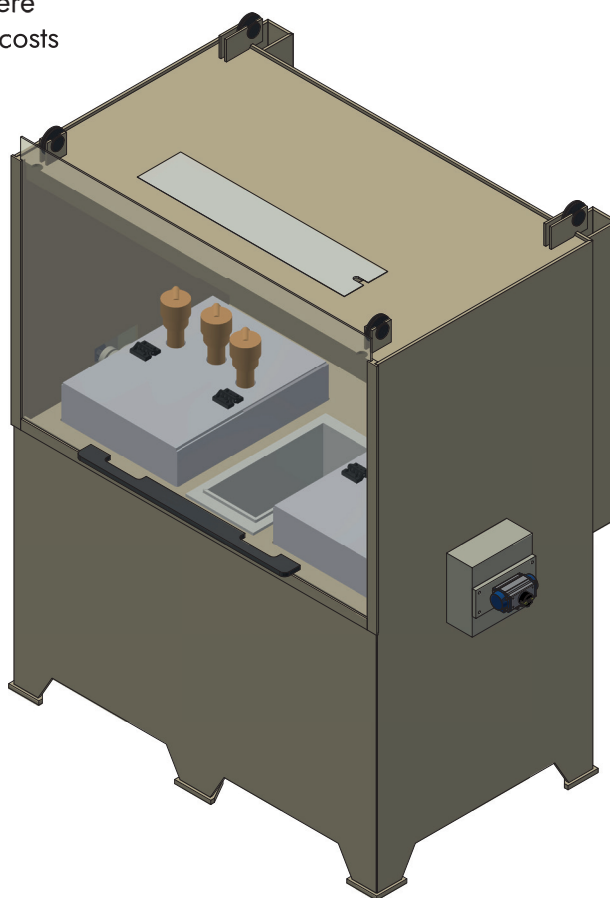
## LOW TITLE COPPER CORE DISSOLUTION

The system developed by OPI group guarantees an excellent process of dissolving the copper core in very low karat alloys, for example alloys whose gold content does not exceed 250/1000.

The solution used for this process is a slightly acidic solution assisted by the injection of a catalyst throughout the process.

The advantages of this innovative process are:

- A) Recycling the solution with consequent recovery of dissolved copper
- B) Very low emissions into the atmosphere
- C) Limited operating and management costs



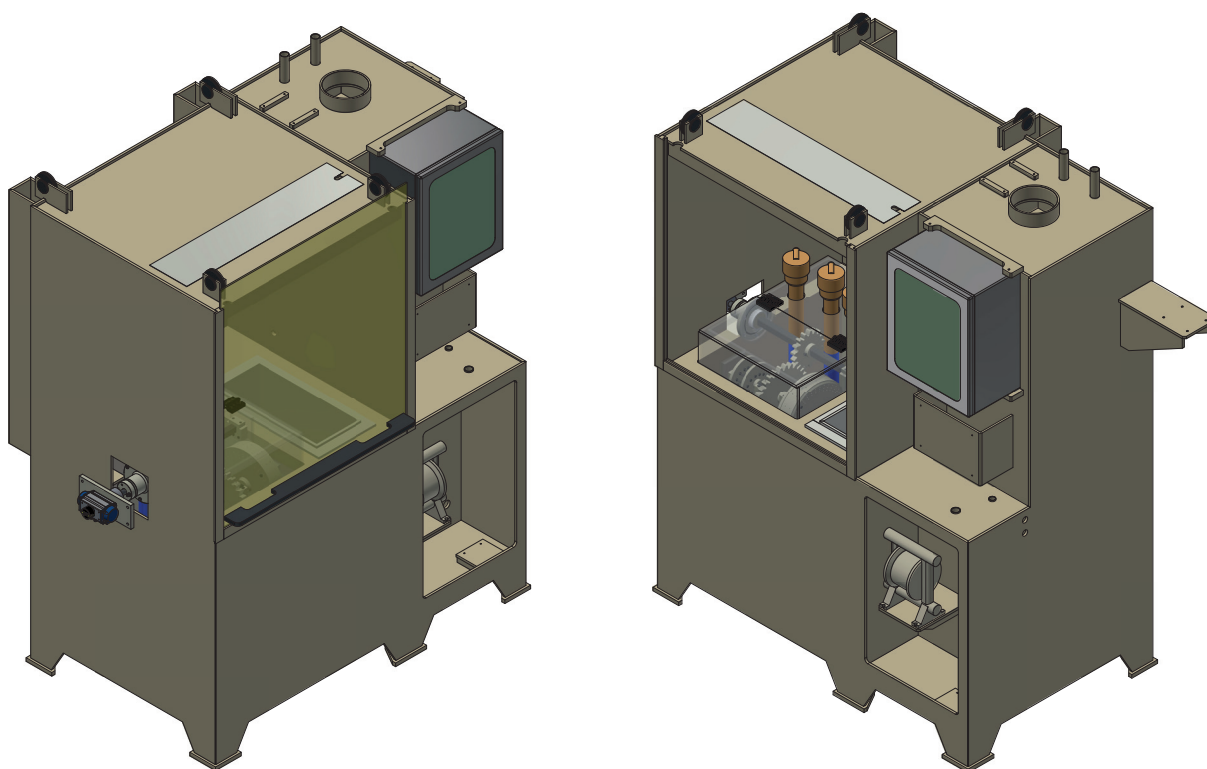
MODEL	HLK50	HLK100
CAPACITY lt	50	100
POWER kW	0,55	1,5
HEATING POWER kW	6,00	12,00
OVERALL DIMENSIONS mm	2000X1000XH2000	2500x1500xH2500

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



## IRON CORE DISSOLUTION

Iron dissolvers by OPI GROUP are based on an innovative chemical and technical principle, which guarantees the preservation of the final fineness of the alloy with the complete removal of copper traces from the manufactured item. The iron dissolution system uses a hydrochloric acid (HCL) bath in a heated tank made of PVDF plastic material, equipped with a rotating movement function to allow the solution to penetrate all the manufactured items. Smoke neutralization takes place in smoke reduction towers sized according to the customer's needs. The dimensioning and design of the system, in term of both quantities to be processed and positioning, will be decided together with the customer.



MODEL	DRFE10	DRFE20	DRFE40
CAPACITY lt	50	100	200
POWER kW	0,55	1,5	1,5
HEATING POWER kW	6,00	12,00	18,00
OVERALL DIMENSIONS mm	2000X1000XH2000	2500x1000xH2500	2500x1500xH2500

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



# OPI | GROUP

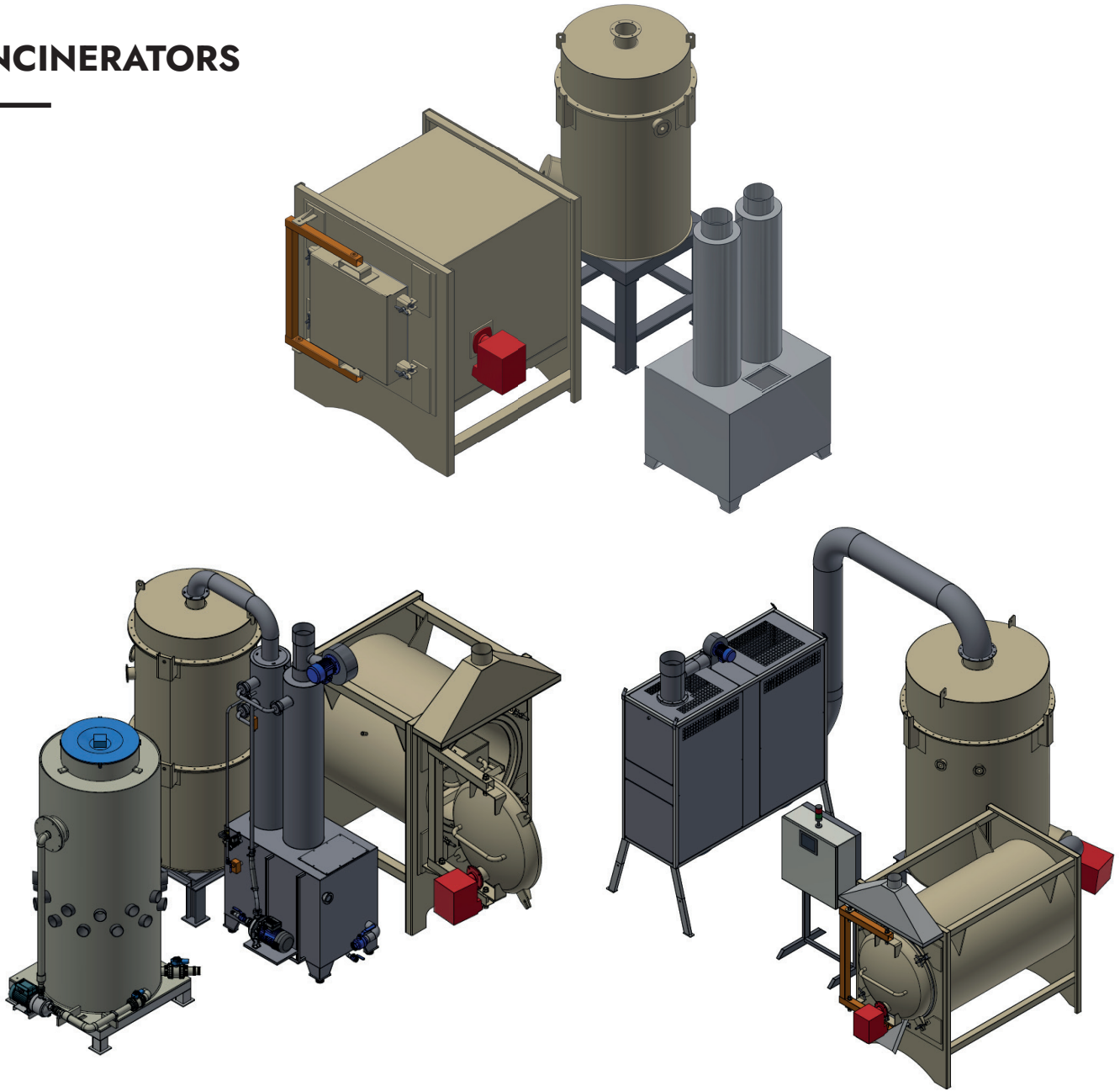
Opificio Progettazioni Industriali

# INCINERATORS

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INCINERATORS



MODEL	BP01	BP04	BP16
COMBUSTION CHAMBER CAPACITY lt	150	400	800
COMBUSTOR POWER Kw	15	25	40
POST-BURNER Kw POWER	30	80	210
OVERALL DIMENSIONS mm	3000X1700XH2400	3000X3000XH2600	4800X4300XH3200

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



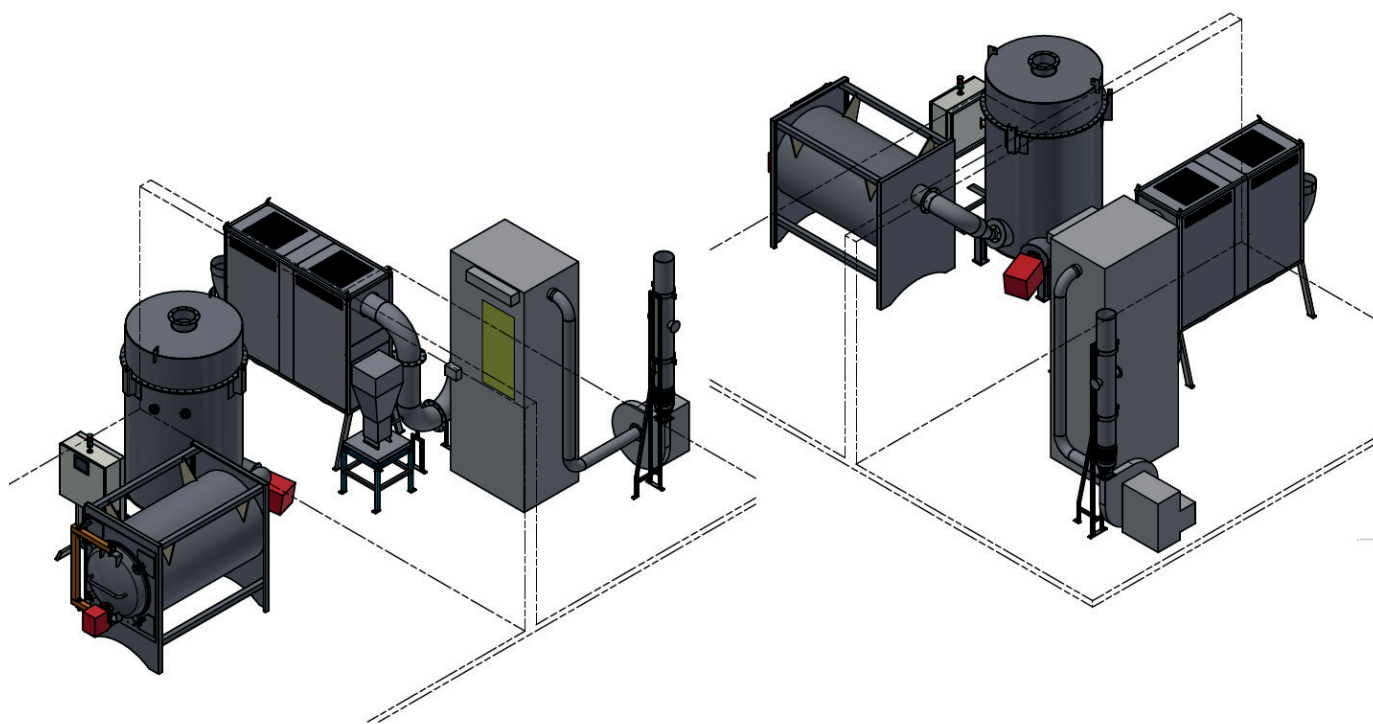
## FUME FILTERING SYSTEMS

The incineration system by OPI GROUP has been designed and built for gold companies in order to allow the recovery of precious metals lost during the manufacturing process. The treatment involves the incineration of processing waste or scraps from which the precious material is recovered. The plant by OPI GROUP is suitable to treat the following processing residues:

Material resulting from floor cleaning, work benches, cleaning machines recovery;

Filtered and pressed sludge from wastewater treatment plants. Small pieces of wood resulting from barrelling operations.

Our experience now allows us to meet the customers' needs related to the recovery and treatment of processing operations not related to the gold industry, such as material coming from electronic cards, button cells, etc



SCRUBBER

AIR-AIR HEAT EXCHANGER

SLEEVE FILTRATION

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.









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# PURIFICATION

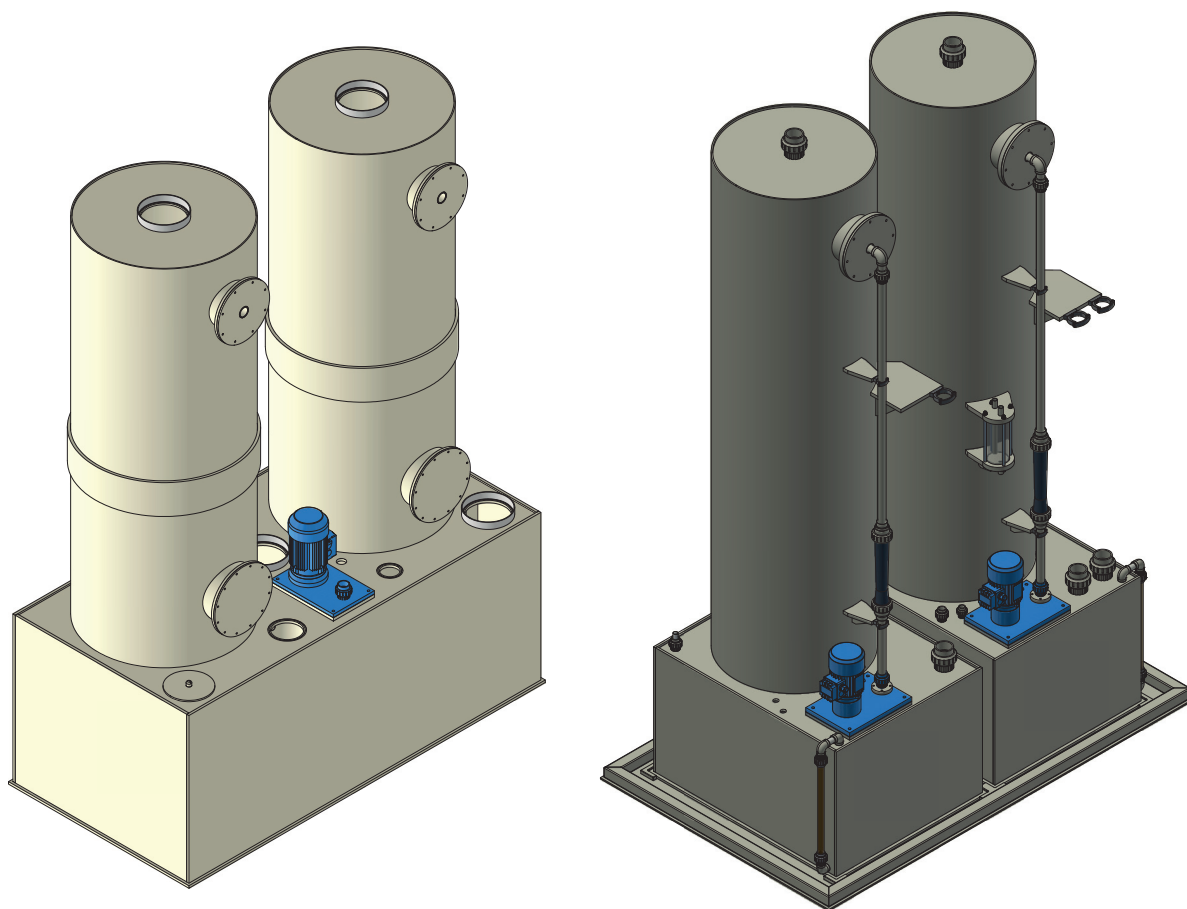
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## FUME TREATMENT SYSTEMS

OPI GROUP offers a wide range of products to reduce the emissions into the atmosphere. Each reduction tower is proportionate to the customer's (both practical and structural) needs and to the process that is meant to be performed; They are made of (self-extinguishing) PP/PPs and consist of a (acidic or basic) smoke washing tower, a solution containment tank, one or more solution recirculation pumps and an extractor fan sized according to the tower and to the number of suction points.

OTHER MODELS AND DIMENSIONS ON REQUEST



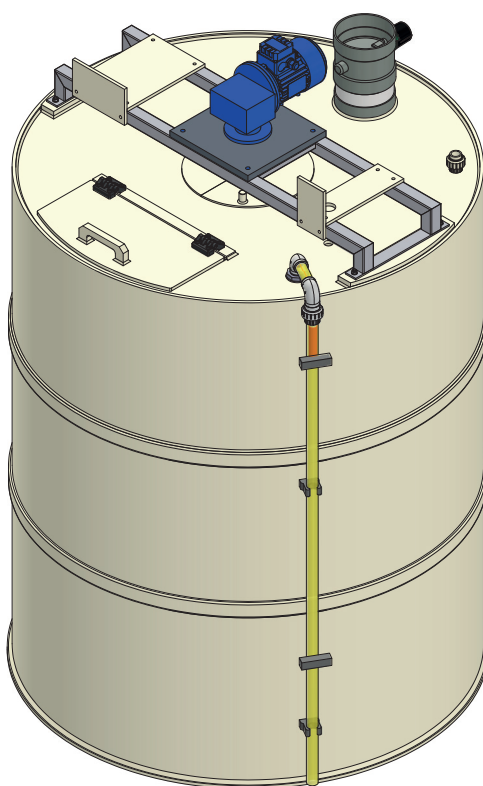
MODEL	BS600	BS2-600	BS900	BS2-900
CAPACITY mc/h	800	1500	2000	3500
POWER kW	3,00	3,50	6,50	8,50
OVERALL DIMENSIONS mm	1000x1200xH2500	2000X1200XH2500	1500X1500XH2500	2500X1500XH2500

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



## HYDROXIDE TREATMENT

The residual liquids resulting from the refining of precious metals contain various metals (copper, iron, cadmium, nickel, etc.); these solutions require to be properly treated in order to eliminate the heavy metals therein contained thus reducing disposal costs. OPI GROUP offers automated processes for the on-site treatment of effluents. The produced smoke is conveyed and neutralized in special smoke reduction towers, appropriately sized. The dimensioning and design of the system, in term of both quantities to be processed and positioning, will be decided together with the customer.



MODEL	HT500	HT1000	HT2000
CAPACITY lt	500	1000	2000
POWER kW	1,50	1,50	1,5
OVERALL DIMENSIONS mm	800X800X1200	1300X1300X1000	1300X1300X1800

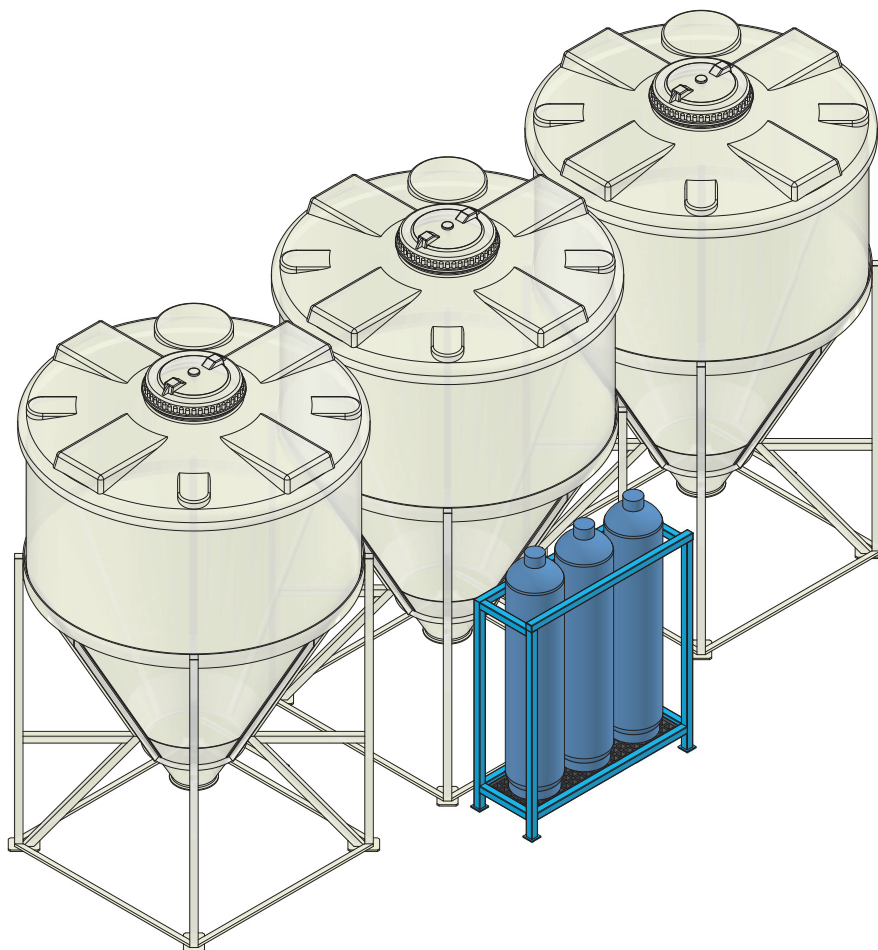
The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



## SELECTIVE RESIN TREATMENT

The liquid waste resulting from precious metals refining processes contains, in solution, both filler metals of the refined alloys and traces of the same precious metals.

OPI GROUP offers precious metal recovery systems based on physical and chemical techniques that aim for maximum excellence of the result.



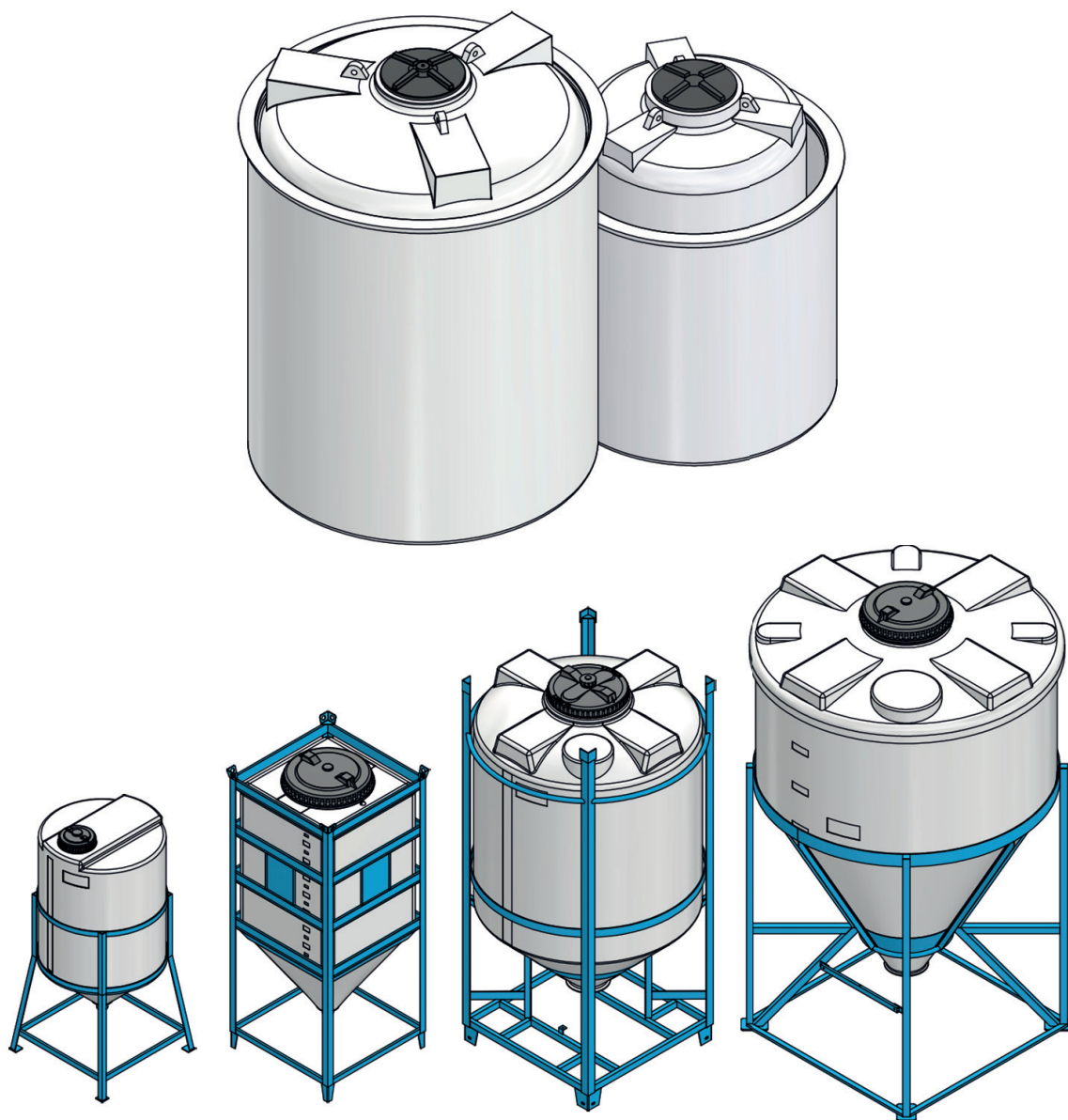
MODEL	RES50	RES80
CAPACITY lt	150	240
POWER kW	0,55	0,55
OVERALL DIMENSIONS mm	1500X500XH1500	1800X500XH1500

The dimensions are to be considered INDICATIVE and without stairs and/or walkways.



## STORAGE AND TREATMENTS

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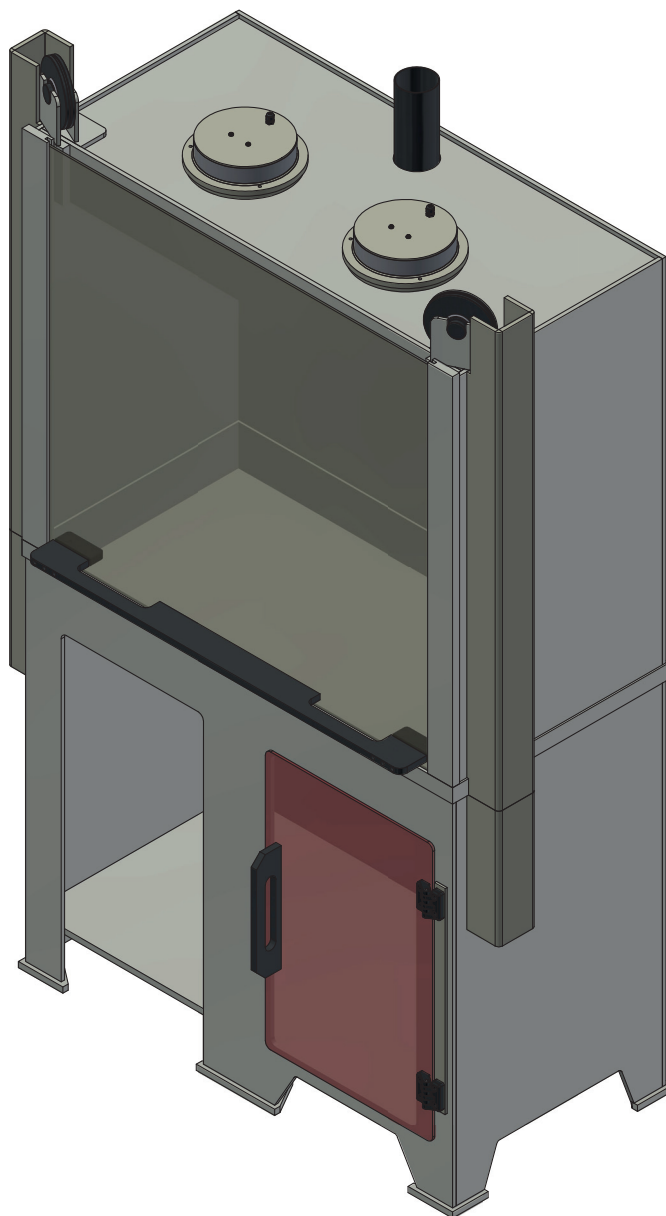


**DEDICATED SYSTEMS FOR THE TREATMENT OF LIQUIDS AND  
DEDICATED STORAGE ACCORDING TO THE CUSTOMER'S NEEDS**



## ANALYSIS LABORATORY

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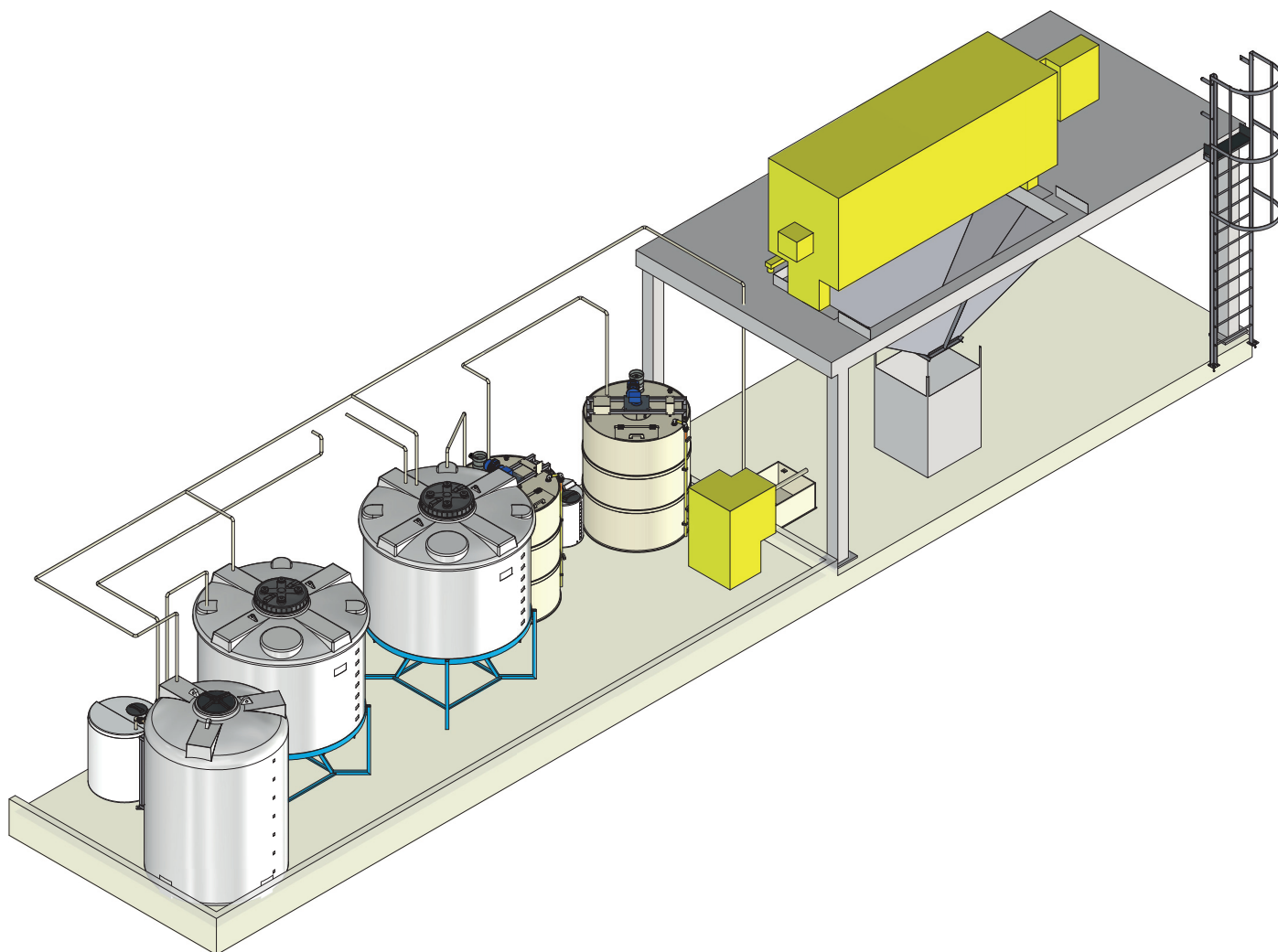


**CONSTRUCTION OF ANALYSIS LABORATORIES ON CUSTOMER REQUEST**



## WATER TREATMENT

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**DEDICATED SYSTEMS FOR THE TREATMENT OF WASTEWATER,  
ACCORDING TO THE CUSTOMER'S NEEDS**





**OPI | GROUP**

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**opigroup.it**

Our expertise, our consolidated experience and the specialized human resources that make up our team allow us to guarantee high quality products and to operate with maximum flexibility.



**OPI GROUP SRL**

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