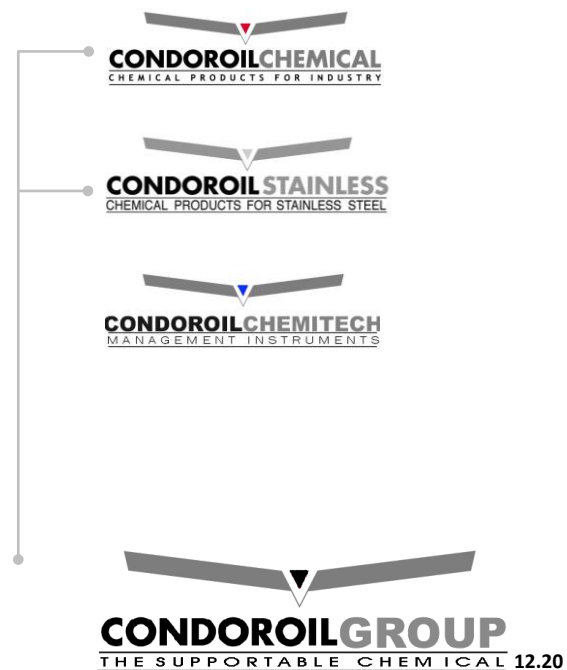




Several factors could be listed to understand how important the technical section is in CONDOROIL: qualified people, well-equipped laboratories, sophisticated instrumentation, testing and control rooms, industrial pilot units, patents and innovative processes, ISO 9001:2015 certification. It is important to emphasize that CONDOROIL is a 360° (degrees) partner of the user for the solution of any problem related to the chemical treatment of metal surfaces. Personnel expert about process plants, about production, about chemical product and its reactions, about the treatment and/or recovery of the waste-water, works as a team and is always available to study and propose alternative and innovative solutions. The staff, always in contact with the user, remains directly involved in the research phases ensuring a strong personal motivation that guarantees rapid and targeted responses.

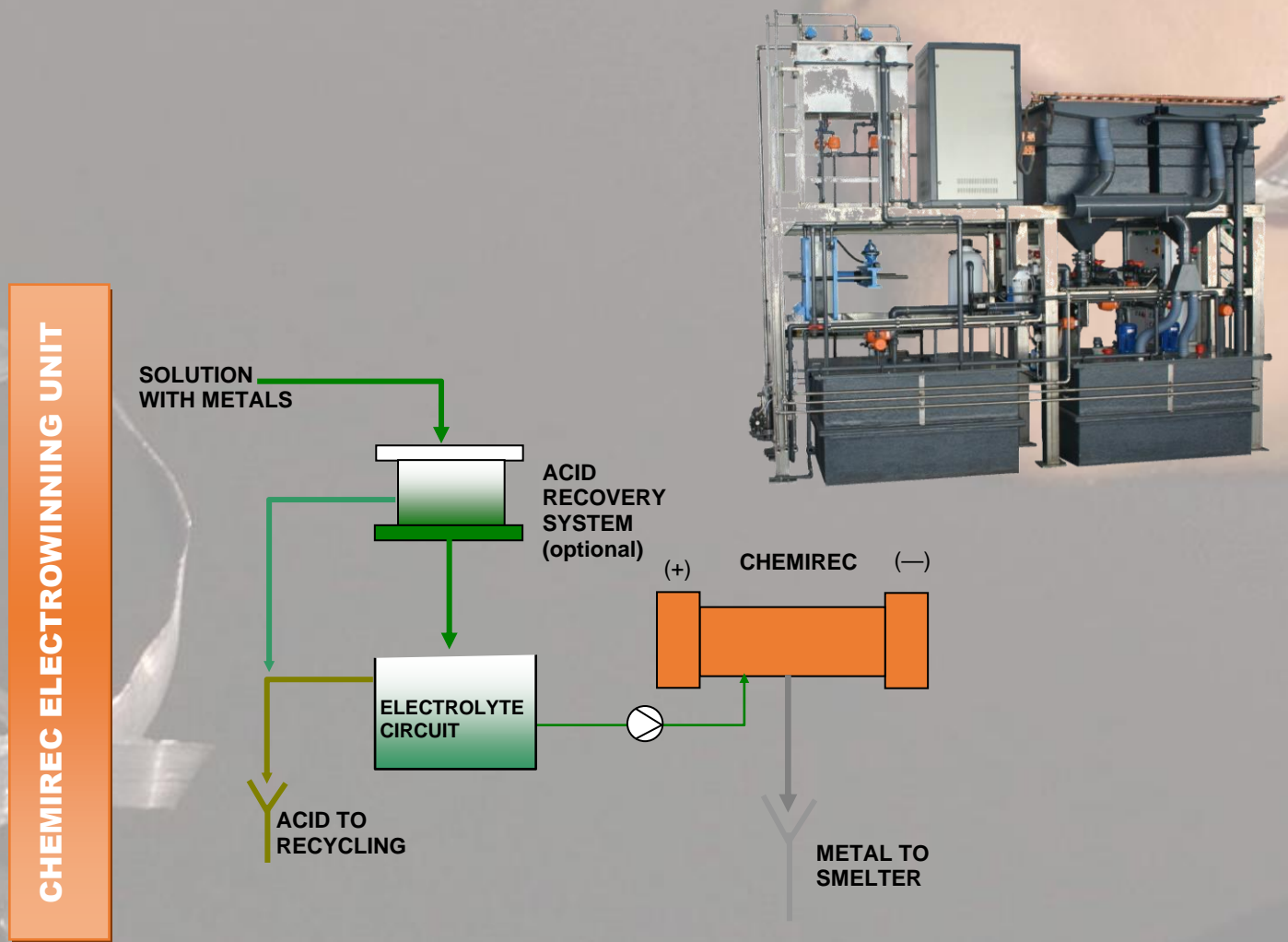
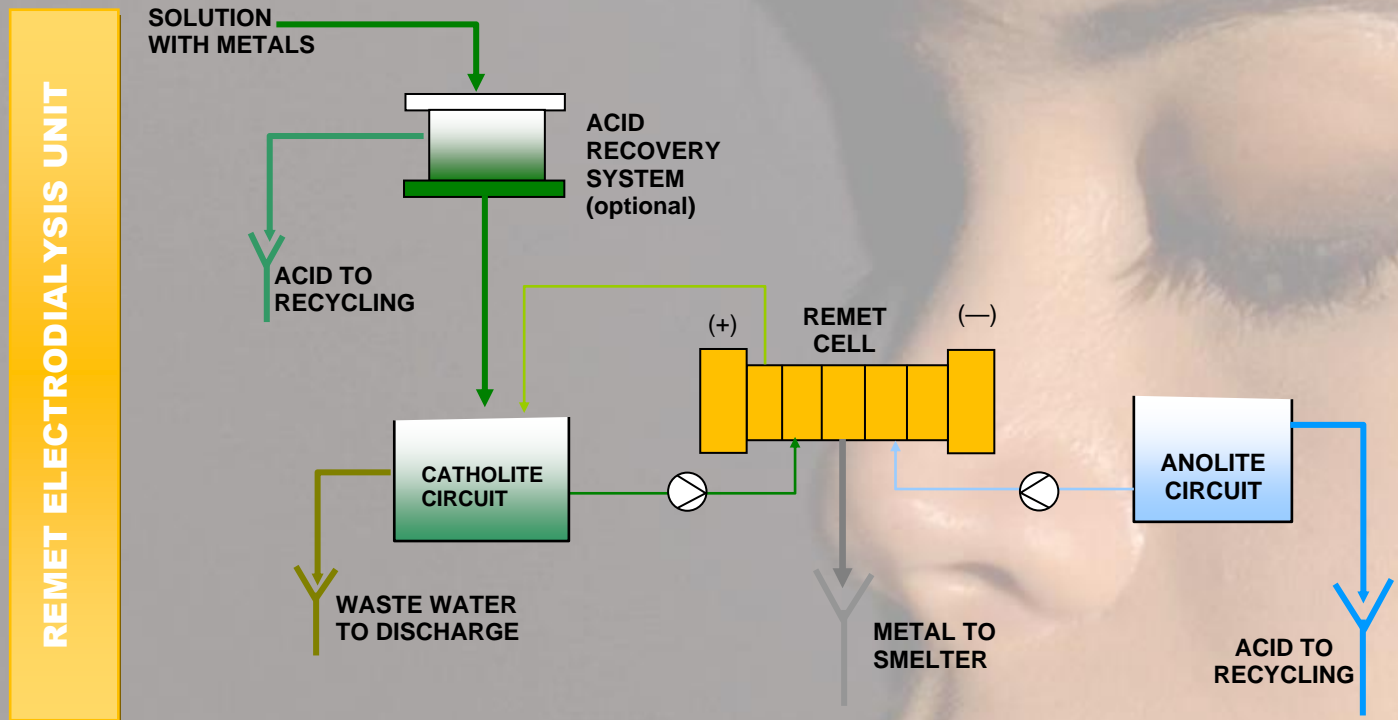


REMET & CHEMIREC UNIT

INTRODUCTION

To face the increasing of the raw material costs, and to meet the philosophy of the circular economy, CONDOROIL STAINLESS propose electrolytics units for the recovery of metals from waste coming from the metal surface treatments and from metallic scraps.

In particular, according to the waste composition, simple electrolysis unit, CHEMIREC serie, or more complex electro dialysis cell, REMET serie, are proposed.
The basic design of the units is the following:



PROCESS

This process is extremely advantageous above all from the economic point of view since it recovers dissolved metals in a metallic form and simultaneously regenerates the acids that can be recycled in the upstream process.

The spent wastes become therefore an important resource in view of the higher costs of metals, mineral acids and disposal of waste.

Process consists in a first step of free acids recovery that are recycled, followed by the REMET or the CHEMIREC process application on the residual solution containing the metallic salts.

The metals recovery system is similar to an electroplating application where, inside a series of low tension electrolytic cells (3-5 volts), metal ions in solution (properly pretreated) are reduced on cathodes to the metallic form. Then it is collected in forms of plate or, on the bottom of the cells, in form of spherules which are recovered to the smelting shape.

PLANT DESCRIPTION

Both the plants have a modular structure and consist of a series of equivalent cells according to the customer needs.

Each cell is defined with

Volume	400 l
Length	1.000 mm
Width	1.000 mm
Height from the ground	3.150 mm
Max current for each cell	1000 A/h
Working tension	3-5 V
Recovery capacity	30Kg Ni
	30 Kg Zn
	30 Kg Cu
	18 Kg Cr
	100 Kg Ag



Depending by the way of deposition the metal can be recovered as cathods plates (picture on the left) or in the form of small spherules.

In this latter case the unit is equipped with a serie of plastic blades that break down the dendrites. The small spherules produced fell down to the bottom of the cone and are discharged from the bottom of dedicated collecting tank equipped with visual inspection glass (picture on the right).



APPLICATION FIELD

**WASTES FROM
PICKLING SOLUTION
CHEMICAL AND ELECTROLYTICAL PLATING
REFINING PROCESSES
SPENT CATALIZATORS
PRINTED CIRCUIT PRODUCTION
ELECTRIC AND ELECTRONIC MATERIAL RECOVERY**