



RD42
Engineering

your logic partner for the environment

A project that involves the best competences
in the field of filtration, treatment of industrial fumes,
energy efficiency and recovery

COMPANY OUTLINES

RD42 was born in 2008, with the idea of enhancing and bringing together competences in filtration and treatment of waste gases, around a common project.

The circumstances of the new global economic scenario, induced us to conceive the new reality with the maximum of flexibility and dynamism, for a new entity based on the following outlines:

- base unit solid in essential skills, historical memory and strategic contacts with customers,
- oriented towards technology and product development
- external commercial partnerships, for the development and penetration in specific markets
- network of partners with proven experience in plant engineering and project management, for development and monitoring of the projects
- joint ventures with qualified suppliers for the best selection of components and development of ancillary technologies

This kind of lean structure has puts us in condition of carrying out, with the best results, international contracts with major clients and to develop a number of reliable products and process innovations, that put **RD42** in the front row of quality supplies

OUR PROPOSAL

Establishing relationships with our Clients, based on trust and competence, for the implementation of the best technologies available and minimizing all kinds of gas and dust emissions

SUPPLY PROGRAM

- Bag filters on different series and sizes
- Electrostatic precipitators:
 - new construction, revamping,
 - original and improved spares from different brands
- Gas cooling systems
- Gas purification devices (deSO_x, deNO_x)
- Process cyclones
- Gas and dust handling devices
- Heat to Energy / Heat Recovery systems
- Turn key installations, including piping, ductwork, mechanical and electrical erection, control and HI
- _____

The key points of the design and concept of our products are:

- displacing most part of the critical work from the site to the workshop (weldings, alignments, electrical and pneumatic CONNECTIONS))
- reduction of the number of parts designed /delivered to site
- focus on Functionality, Quality, Reliability, Logistics

INDUSTRIES

RD42 is collecting the experience of engineers that have made and are still making the history, in the field of process improvement in many fields:

CEMENT

- Clinker Coolers, Kiln / Mill dedusting, gas treatment
- Integrated solutions for Cooler and Kiln
- Heat recovery, Gas conditioning and Air-quenching
- Dryers, Mills, Separators and general dedusting of whichever type and size)
- Silos and stocks complete solutions for Raw materials, Cement, Additives

LIME

- Gas treatment for Maerz and other type of kiln

STEEL

- Bag filtering systems for EAF including Gas Cooling

INCINERATION AND BIOMASS

- Complete gas treatment, Including Gas purification

GLASS

- Bag filtering solutions including Gas quenching and purification

UPGRADE AND RETROFITTING

Our personal background and reputation are built on positive feed-backs coming from our clients, reached during the years, thanks to our passion for the complete satisfaction of the end user

Upgrade, Retrofitting, Optimization are low-cost solutions involving the highest level of competence: the final result is always the full confidence of our Clients

RD42 engineers are available for activity of Diagnosis and Optimization on equipment or plants supplied by others, where the performance or functionality can to be improved

Results of this activities can be:

- Upgrading of systems under the point of view of Process, Components, Gas Distribution
- Conversion of Electrostatic Precipitators into bag filters
- Retrofitting of obsolete filters
- Conversion of mechanical rapping bag filters into modern pulse jet units
- Modernization and technological upkeeping of existing Electrostatic precipitators

GAS FLOW DISTRIBUTION

Complete mastering of the gas flow distribution is an essential skill for a correct plant design. For this aim, our engineers do not limit their action to a simple CFD analysis, but profit of their 20 years' experience to implement the best and fastest solution for the specific cases, with the aid of:

- physical models in reduced scale, complying with similarity laws criteria
- visual internal inspection on the single equipments
- CFD analysis, reduced to simple components, and composed, for avoiding reduction of the reliability of the method

Redesigning the gas distribution can result in a dramatic improvement in the device performances

INNOVATION

Research & Development is inside the DNA of RD42

Our engineers, after having been for years in the Innovation front-line of the bag filtering and related process, during these years since the foundation, have implemented new solutions for improving quality, operational aspects, reliability of our products:

- SC Bag Filters: the last generation Bag Filters, highest separation of the dust in the hoppers for low pressure loss and CA consumption
- LlogicBag Filters, high performance, 100% modular, the fast way from design to start-up
- FB self contained filter line, CFD Designed and “logistic oriented”
- New Components for bag filters including our “semi immersed” tank technology, that have reduced drastically the number of pieces
- new design for the filter top, with RD42 double roof technology, for a perfect thermal and acoustic insulation, especially intended for acid rich gas treatment

ESP CONVERSION TO BAG FILTERS



Conversion of ESP to Bag Filter : Cement kiln 360,000 Am³/h 1.440 bags x 9m - Germany





Conversion of ESP to Bag Filter : Cement kiln 800,000 Am³/h 2,900 bags x 9m - Germany



ESP CONVERSION TO BAG FILTERS

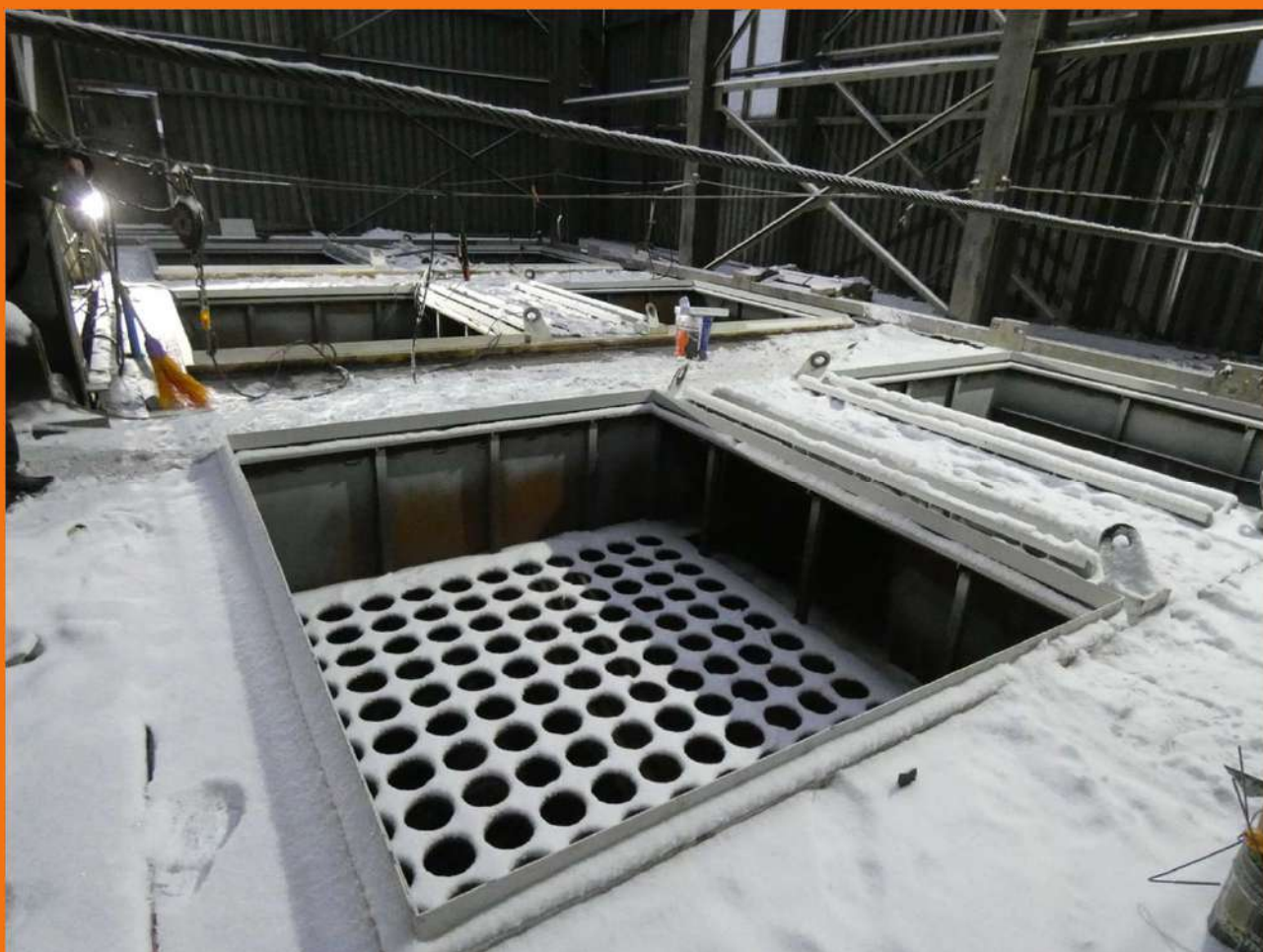


Conversion of ESP to Bag Filter 500.000 m³/h : Cement kiln + mill - Germany





*Conversion of ESP to Bag Filter 250.000 m³/h : Cement Clinker Cooler – Russia
NO HEAT EXCHANGER PROCESS*



PROCESS BAG FILTERS



*Clinker Cooler Bag Filter inside an existing building 125,000 m³/h : Wet Process Kiln – Ukraine
NO HEAT EXCHANGER PROCESS*



*Clinker Cooler Bag Filter + Air Quancher 125,000 m³/h : Wet Process Kiln – Ukraine
NO HEAT EXCHANGER PROCESS*



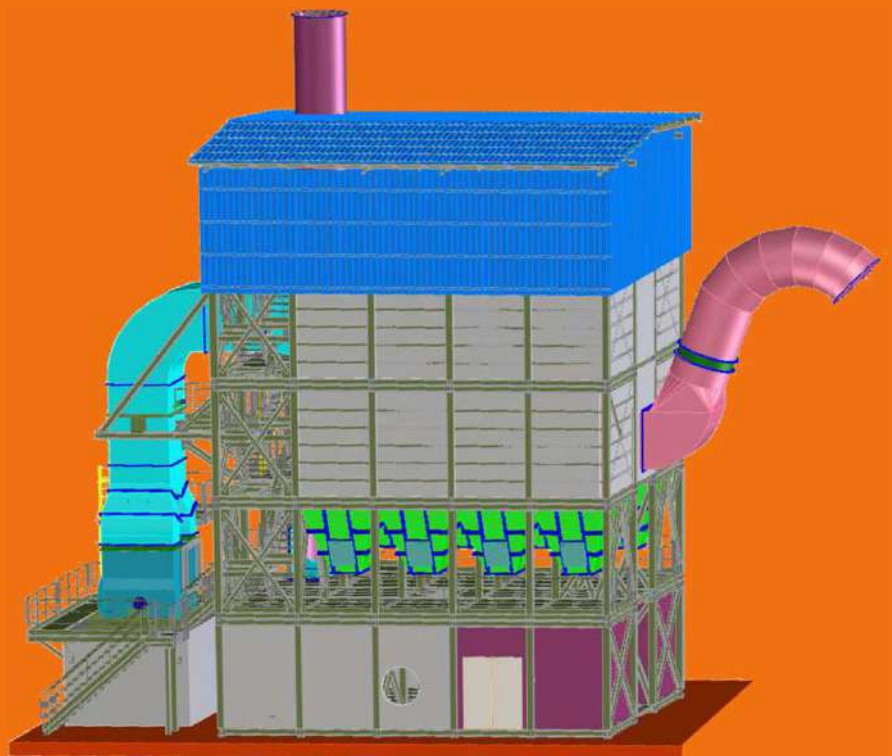
Twin Bag Filters for 400 tpd 2 Shafts lime kiln:New supply (left) FD optimization (right) - Italy



MODULAR BAG FILTERS



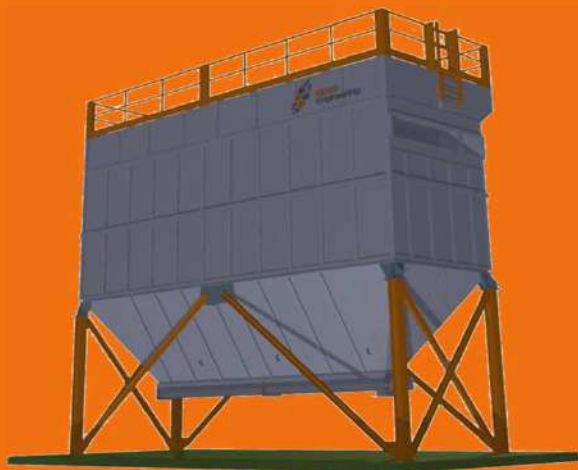
Modular bag filters, from 20 / 40' ISO freight container



Modular bag filter 180,000 m³/h on a Cement Mill (under construction)



Flexible Standard design / High quality concept applied on small units



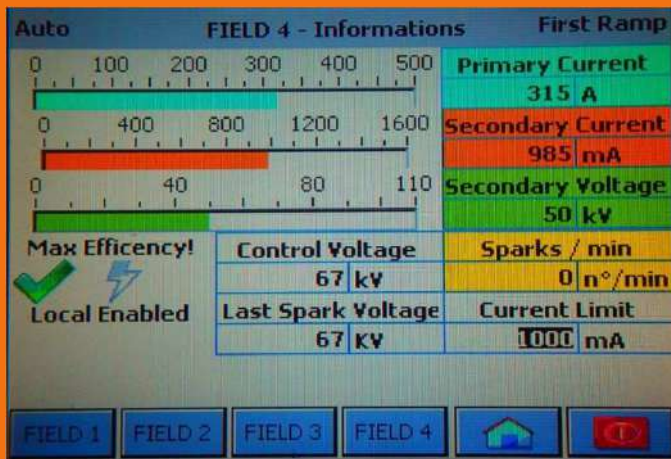


Complete revamping of ESP (mechanical – electrical): Wet Process Cement Kiln (Ukraine)



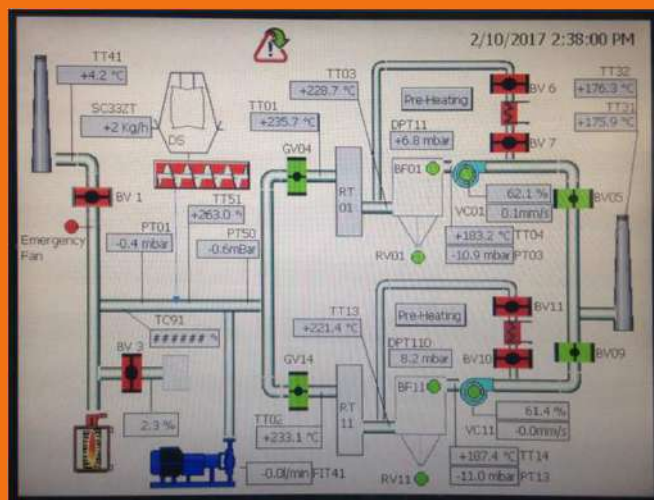


Complete revamping of ESP (mechanical – electrical): Glass Furnace - Italy



Mechanical and High Voltage Revamping - Cement Kiln ESP - Ukraine

TURN KEY GAS CLEANING - GLASS



Gas Cleaning for Stone-wool furnace: 1,300 °C Hot Piping and air quencher



Gas Cleaning for Stone-wool furnace – Twin Filters with side gas distribution



New Gas distribution inside a kiln bag house+ ESP emptying and repairs 500,000 m³/h Cement kiln





Press Ring RD42, Bag fixing system



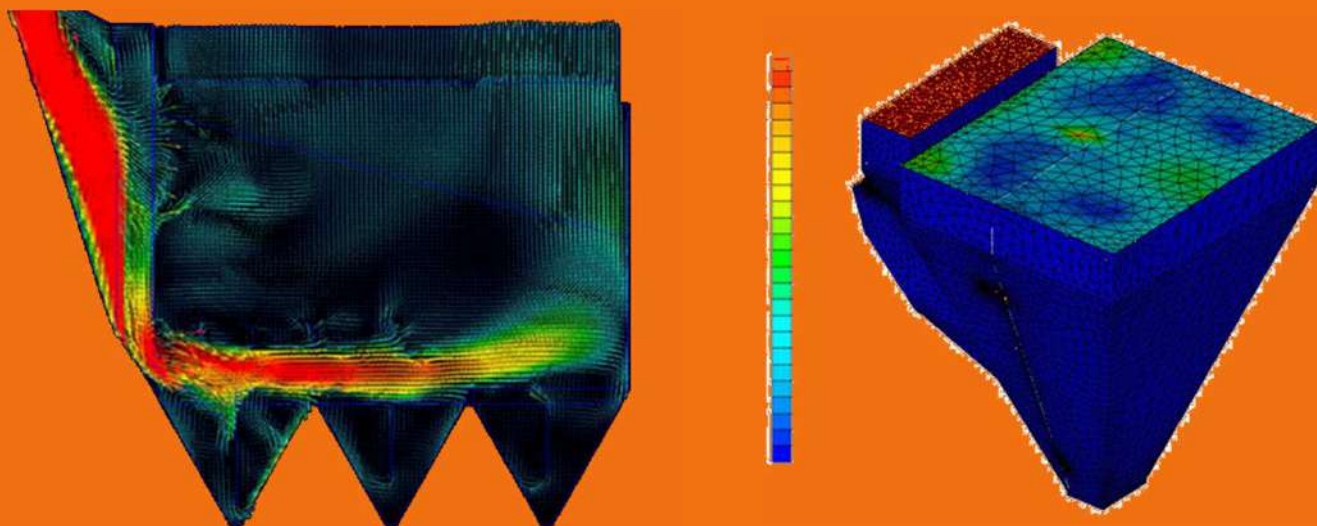
Details of the Cleaning System



Tanks equipped with pneumatic controls



Tanks inside acoustic enclosures



CFD Analysis supports the design, for all the different products proposed by RD42, from the smallest to the largest



Reagent injector & cyclonic separator
Vertical lime kiln- Italia



Micro ESP – 1.000 m³/h – 30 kV
Abrasives Industry - Italia



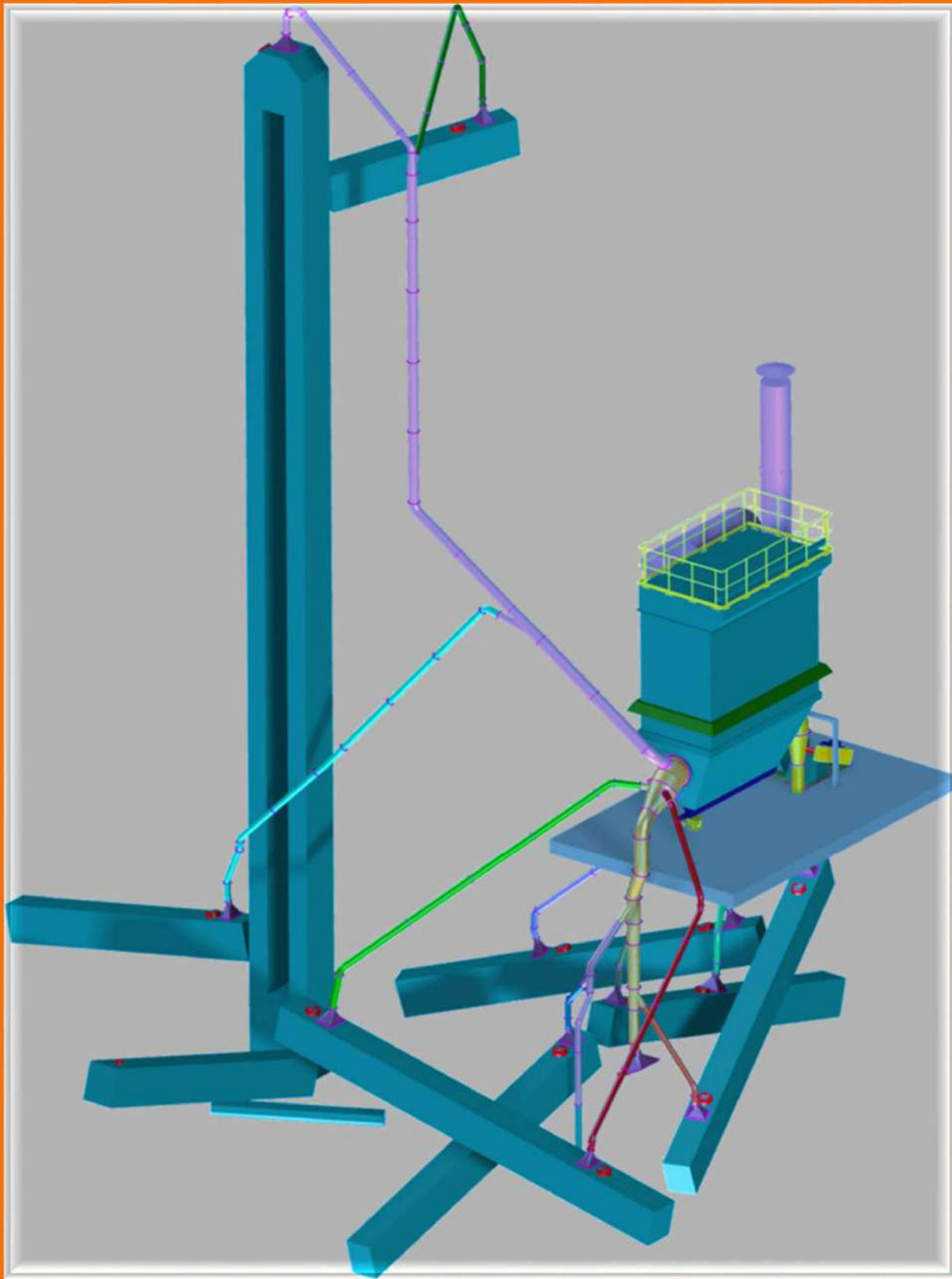
Cyclones ø3.2 m x 11 – Cement Kin Gas PH - Germany

ESP - SPARES



Spares for rapping system on ESP, supplied on custom design





Complete aspiration network for Lime Storage transport

Our proposal concerns either new or existing plants and includes:

- *Definition of the suction points and air flows*
- *3D Laser Scanner (on existing plants)*
- *3D Preliminary single-line layout*
- *Diameters and pressure losses evaluation*
- *Calibrated flanges insertion*
- *Detail 3D drawings*
- *Erection, Calibration and Commissioning*



RD42 Engineering Srl

P.za Matteotti 3, 20063,
Cernusco sul Naviglio Italia
tel +39 02 92862474
fax +39 02 92862466
info@rd42.com -
sales@rd42.com
www.rd42.com