Microwave EXTRACTION

Adaptability
- Vacuum/pressure
- Nitrogen
- Ultrasonic coupling
- Steam assisted
- Surperheated steam
- Heating control
- Specific solvents
- Cosmetics, perfumes...
- Food
- Nutraceutical
- Pharmacy
- Chemical, Petrochemical
- Environment
- Viticulture (TCA...)
- Aromatic Plants in Perfume and Medicinal
- Plant extracts
- Micro algae
- Aromatic Essences
- Essential oils
- Actives ingredients,
- Sugar (beet, stevia, cane...)

Industries
- Cosmetics, perfumes
- Food
- Nutraceutical
- Pharmacy
- Chemical, Petrochemical
- Environment
- Viticulture (TCA...)

Applications
- High efficiency
- Extracts concentration
- Flavors Preservation
- Color preservation
- Organoleptic properties preservation
- Homogeneity
- Fast process
- Reliability
- Ecological (solventless process)
- Economical

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**Principle**

Microwave heating is operating **from the core to the outside**. This feature leads an extraction of active ingredients from plants by internal overpressure and osmotic effect, which allows a **very efficient extraction, fast, solventless and with high concentration of the extracts**.

Type of process: **direct (1) or assisted steam (2), water extraction (3), pressurized or vacuum chamber and controlled atmosphere (nitrogen)**.

The microwave technology enables a **very high efficiency of extraction**, the solvent may be transparent to microwave (selective heating).

The unique and patented IDCO technology allows optimization of the process.

**Appropriate technology**

**Batch or continuous**

- From 2 to 500 liters
- From 1 to 200kW (batch) et 800kW (continuous)

**Ecoextraction**

- **Solventless process**: Internal water plant, heated by microwaves, provides essential oil extraction

**Coupling microwave & ultrasound**

- Combined microwave and ultrasonic technology only for extraction in liquid (oils, solvents ...)

**Patented SSVME process**

- Performance improvement of ecoextraction by superheated steam

(SSVME Process: **Superheated Steam Vacuum Microwave assisted Extraction**)

**Extraction in liquid**

- Centrifugation possibility at end of process
- Vacuum or nitrogen
- **Multifunction equipment at laboratory scale**

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**IDCO**

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