

Many drying processes require the release of the solvent. The best-known solvent is water. To accelerate proceedings, energy in form of heat is supplied. This is called an evaporation of water.

The THERMOcure principle

A combination of radiation in the infrared area and warm air aims to bring energy into the wet water film that needs to be cured. The energy input causes the acceleration of the evaporation process, while a defined air circulation and extraction provide for the secure removal of the released water.

Depending on the machine speed, the solvent content and the film thickness, a particular drying line and hence amount of energy is needed. The required energy can be pulled from different combinations of IR radiators, carbon radiators and warm air.

IRM radiators

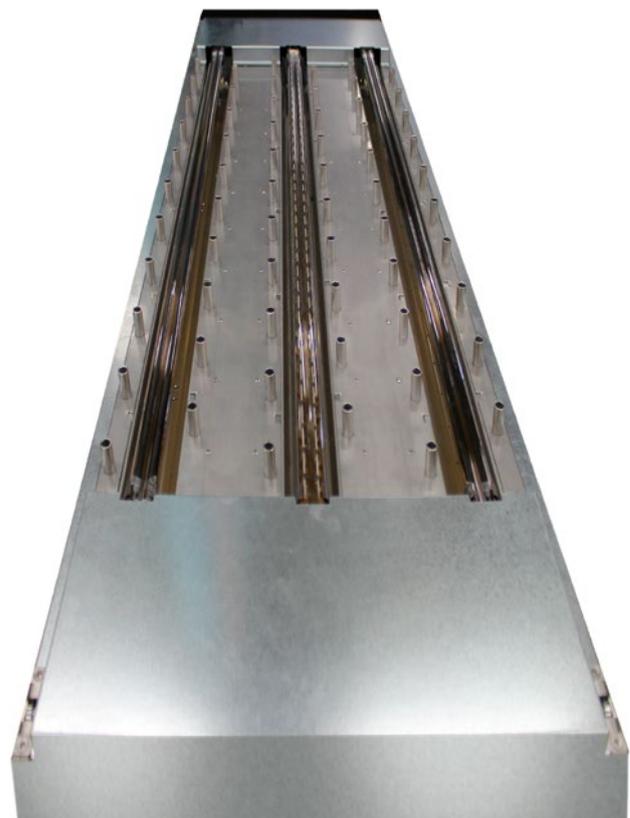
They effect a fast energy supply and hence a fast heating of the ink film. 0.9 - 2.9 μm (peak width at half-height) is the typical wavelength area of medium-wave IR radiators.

IRC radiators

In contrast to IRM radiators, carbon radiators effect a stronger warming near the surface of the wet film. 1.1 - 3.7 μm (peak width at half-height) is the typical wavelength area of carbon radiators.

Warm air

Warm air is produced in a heating register in order to maintain the temperature level and to peel off the solvent from the surface. Therefore warm air is applied on the film surface at high speed via a blow opening with optimised nozzle function.



Construction

The WIR dryer is completely erected in a cassette. Depending on the spatial conditions, there are different standard widths available. Individual adjustments are possible. For a fast lamp change, the cable clamps of the IR radiators are accessible from below.

Configuration

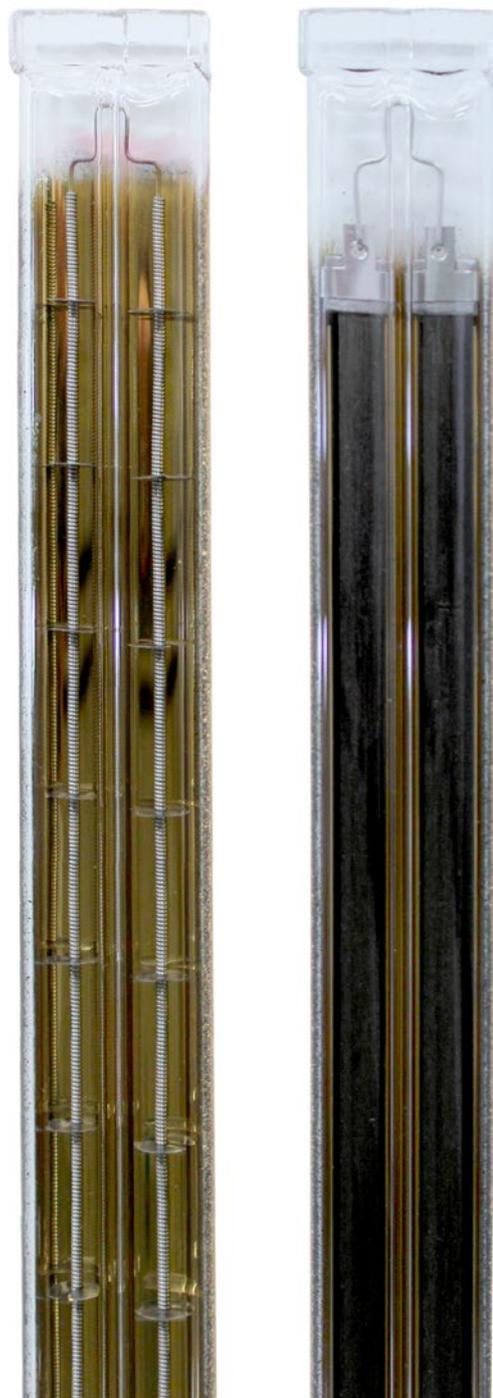
The construction widths decide over the configuration possibilities. A selection between IR or carbon radiator is possible per cassette. We are pleased to share our knowledge in this area. Radiators are completely dispensable on request. The following table describes the maximum occupancy.

Width [mm]	Nozzles	Radiators
320	4	2
520	6	3
720	8	4

Technical data

Both the temperature and the radiator power can be continuously regulated. Hence the optimum adaptation to the process is guaranteed.

IR	30 - 100 %
Warm air	30 - 100 °C
IRM	60 W/cm
IRC	45 W/cm
Heating register	18, 33, 50 kW
Supply and extract air	m ³ /h depending on size



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