

One-stop planning, production, delivery and service



**WEEE
KNOW HOW**



**Dismantling line
for flat screens
with mercury filtration**



Factory Karlstadt



Shop Assembly



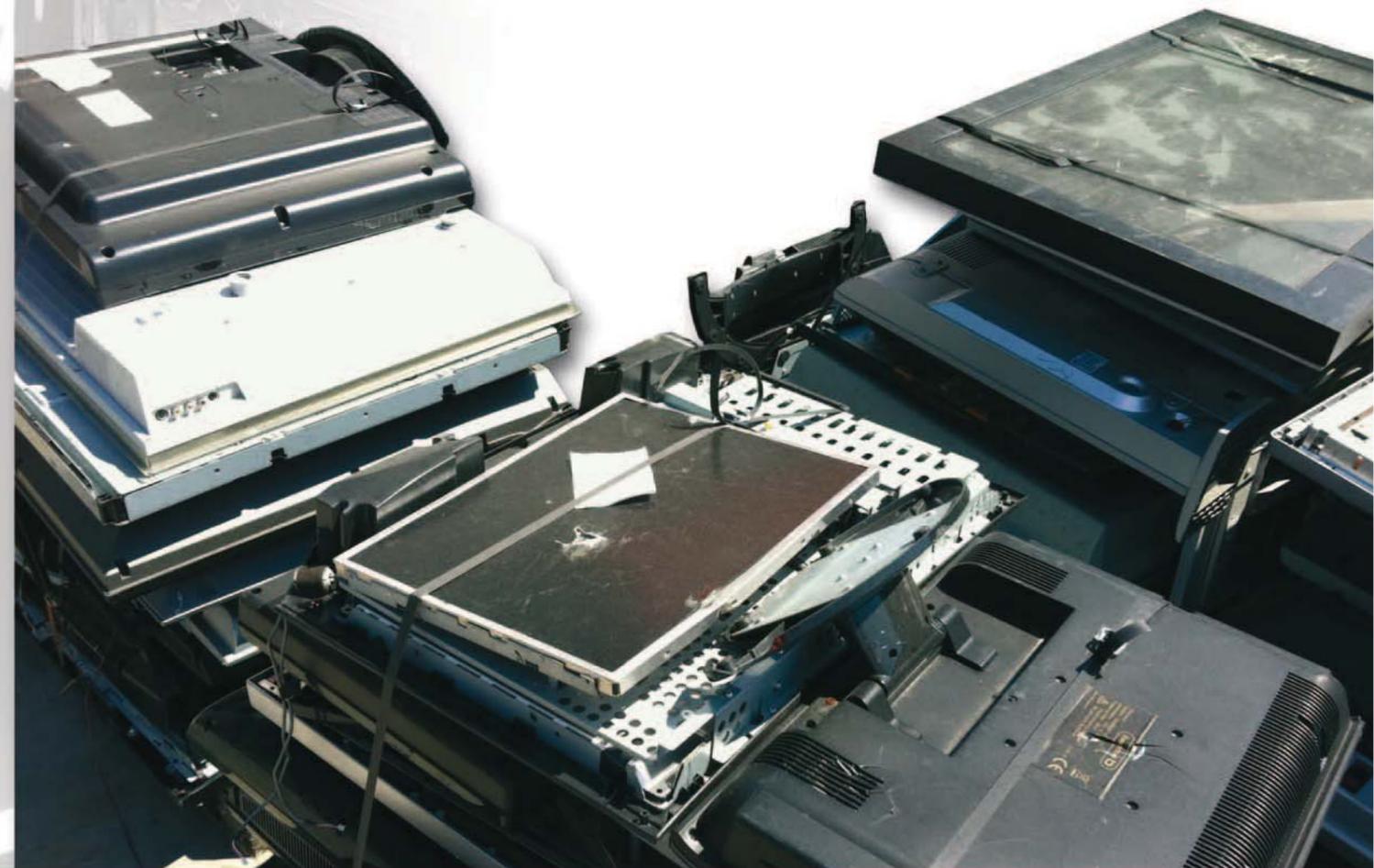
After-Sales-Service



Design Department



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1. Preamble:

A research project between IUTA (Institut für Energie- und Umwelttechnik e.V.) and URT (URT Umwelt- und Recyclingtechnik GmbH) had the target of developing a dismantling line for LC-displays.

Precondition for the works within the dismantling line will be the work-sharing based pre-treatment. The back wall only with the open laid capillary tubes will be taken into the dismantling line. 2500 visual display units (LCD-monitors, LCD-television sets and laptops) have been dismantled during the pilot tests. During these tests approximately 0.53 capillaries per dismantled unit broke down. The worst case was a mercury contamination of 13.25 mg/h. This corresponds to 5 mg mercury per capillary.



2. Design of Dismantling Line:

The dismantling line is consisting of aluminum profiles with linings partially transparent.

The actual table plate consists of a multiple glued wood with a stainless steel plate within the working area. Through

a circular opening with sealing, the neck of a collecting barrel for Hg-capillaries is leading in direction of the work plate. Thus broken capillaries will be directly thrown into this collecting- and transporting barrel. Gas emissions will

be captured. The opening at the front side is closed by a transparent slide valve, height adjustable. The working area and thus the whole upper part of the dismantling line is height adjustable.

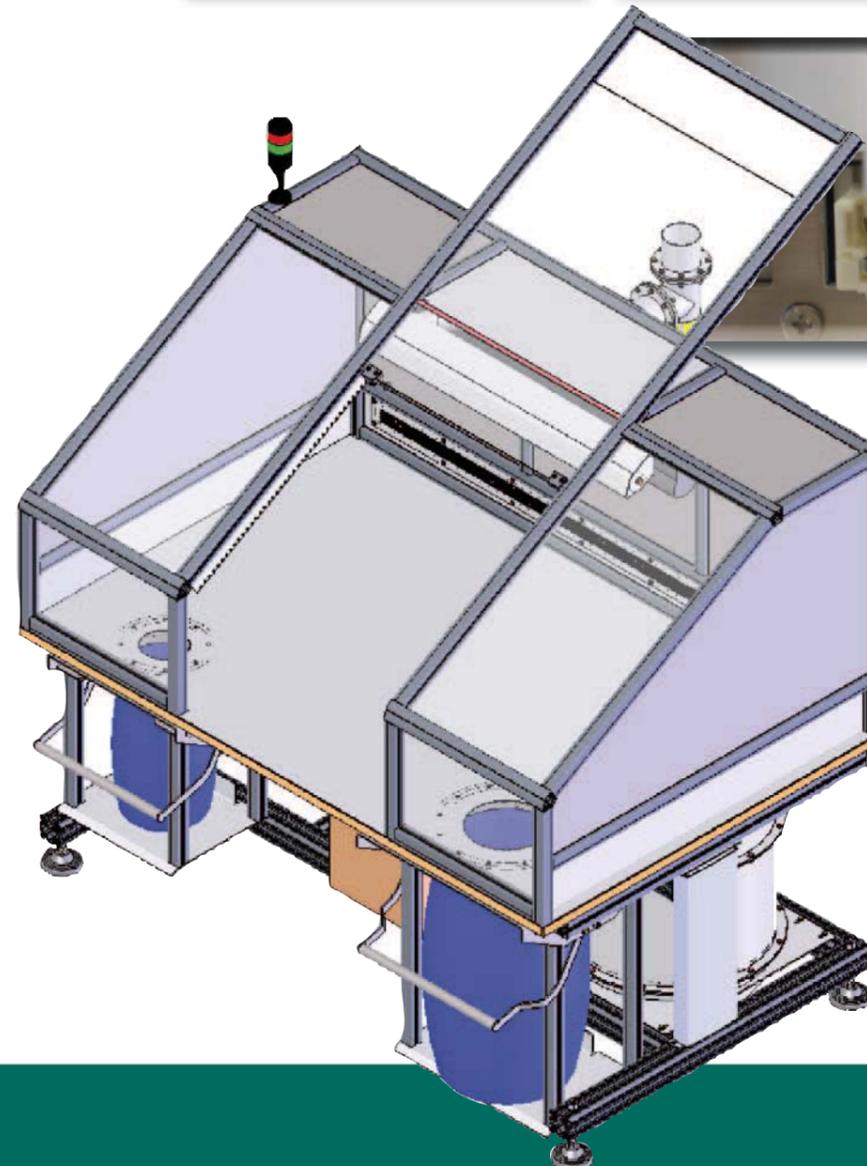


3. Hg-Filter Technology:

A filter with a sulfur doped active carbon is used in order to keep the AGW of 0.02 mg/m³.

Thus a conversion of mercury into mercury sulfide takes place (nontoxic, also referred to as cinnabar).

In order to recognize the saturation of the filter the absorbent potassium manganate is inserted into a transparent filter. When the color will change through a saturation the filter strainer can be seen.



Background lightening of flat screen for demounting

4. Technical Data:

Main dimensions L x W x H
approx. 2100 x 1600 x 2500 mm

Ventilator output
0.75 KW max. 250 m³/h

Workspace
approx. 1500 x 2000 mm

Total weight
approx. 730 kg

Height adjustment
approx. 400 mm (850 - 1300 mm)