

# Customized Membrane Solutions for Fruit Juice Filtration

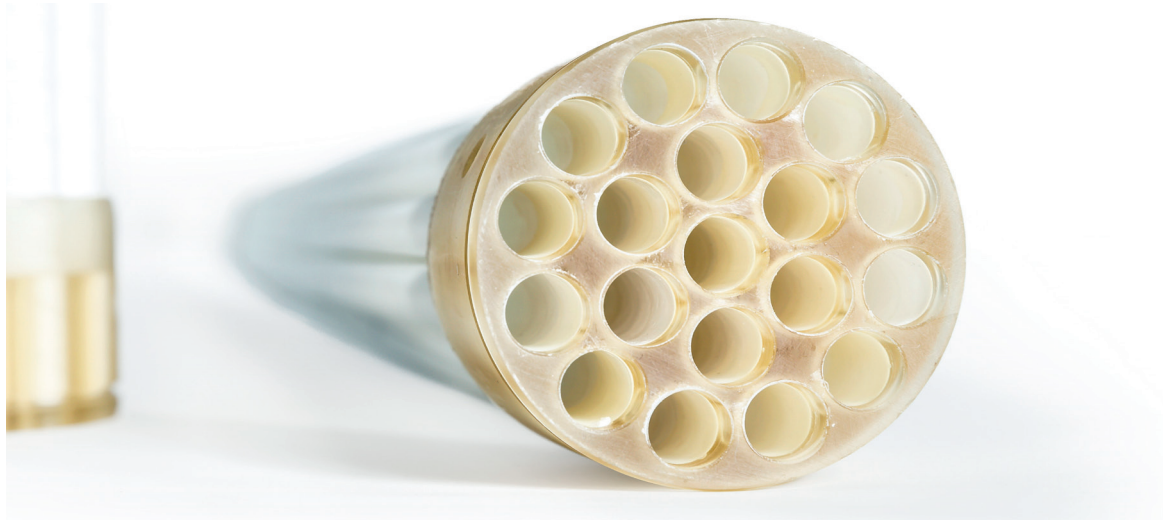


 **CUT**  
Membrane Technology

[www.cut-membrane.com](http://www.cut-membrane.com)  
[www.juice-filtration.com](http://www.juice-filtration.com)



# T-CUT Filtration Modules for Efficient Juice Clarification



Fruit juices are produced as naturally cloudy or clear juice and chosen according to personal tastes. Those that prefer clear juice want their juice to be crystal-clear and vividly colored without any trub residue, which can settle on the sides of the bottle or bottom of the glass after a short period of time.

Trub is the smallest particles that are produced from the pulp of the fruit, the skin, the stalks, the flower buds, cores and any foreign substances that get in the juice during the extraction process. This includes proteins, colloidal substances and not least, micro-organisms.

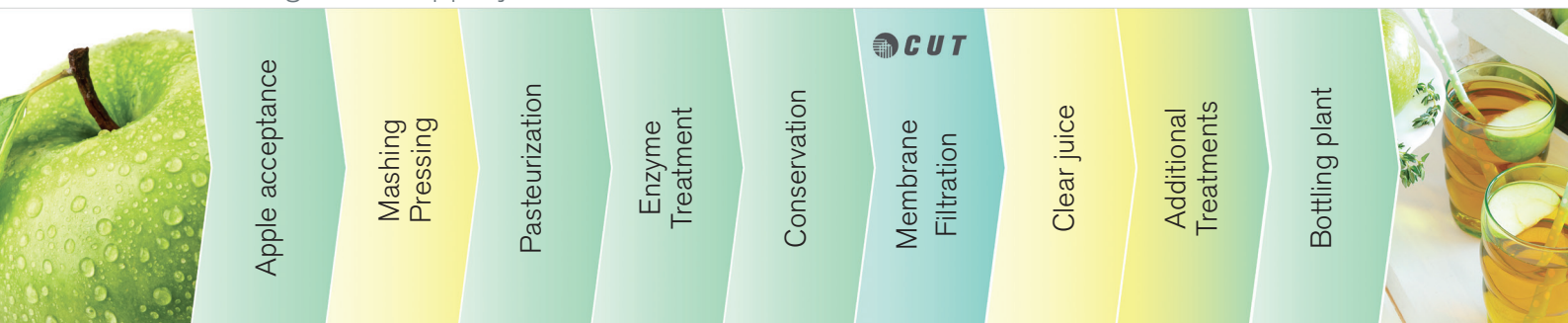
Depending on the type of fruit and technology used for extraction, some of this trub can reduce the shelf life of extracted juice or cause undesirable aromas.

Trub removal is absolutely imperative with regard to producing juice concentrates for the food and beverage industries. They can affect the visual and sensory qualities of products such as spritzers, fruit flavoured mineral waters, fruit teas, jellies or fruit gums.

Crossflow membrane filtration using T-CUT Core ultrafiltration modules is the most elegant of the various options for juice clarification.

T-CUT Core is an insert based membrane filtration solution. It removes all of the trub in a single processing stage using a compact, modularly-designed plant. Membrane plants can be run continuously or in a batch process. Neither auxiliary materials such as gelatine or bentonite are needed for binding the trub nor is kieselgur (diatomaceous earth) required as a filter aid.

Schematic diagram for apple juice clarification



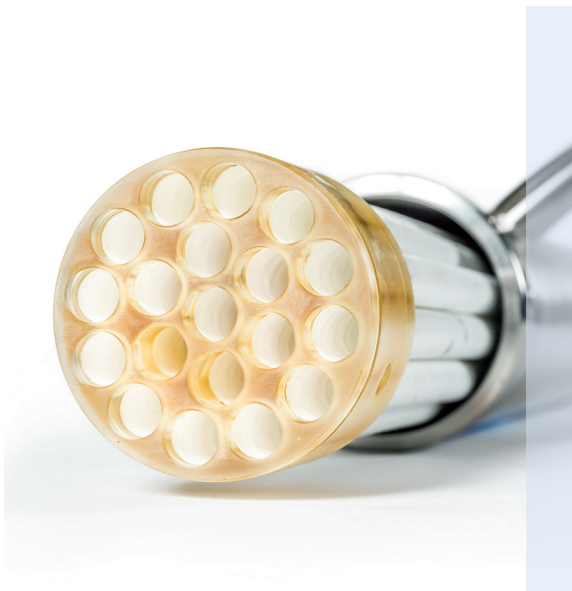
# T-CUT Core Tubular Modules – Robust and Durable

The T-CUT Core tubular module has proven effective for juice clarification.

The large membrane cross-section makes it ideally suited for the filtration of liquids with a high solids content. The pore sizes in our ultrafiltration membranes are specifically designed for each separation task: solids, colloids and micro-organisms are removed, leaving the juice's valuable ingredients, its colour and aromas remain unchanged in the filtrate.

A high concentration of trub can deposit on the surface of the filtration membrane which can block the pores and obstruct the filtrate flow. Our polymer membrane prevents accumulation of substances and allows for easy removal.

## Benefits of the new T-CUT Core Tubular Module



- High solids content processing
- High filtrate output
- Easy rinsing/cleaning
- Smooth surfaces
- High mechanical stability
- Food contact compliant
- Easy installation
- “Made in Germany”

## Customer Benefits

- Modular design with replaceable filters (cores)
- Eliminate need for filtering aids
- Easy and safe operation
- Maximum retention of the fruit juice's aroma and taste
- Safe and reliable filtration operation
- Global availability

# An Innovative and Cost-effective Solution - the T-CUT Set

CUT Membrane Technology has expanded their range of products with a new replaceable membrane set. The T-CUT set consists of single membrane tubes and their associated seals, which enable cost-effective replacements to be fitted in your module.

A standard T-CUT set consists of 18 tubular membranes and 36 seals. This is ideally suited for use as cost-effective replacements in current modules. Other sets with different membrane materials and number of tubular membranes in the core (or insert) - including customized designs - are available.



## High Filtrate Output with High Filtrate Quality

The T-CUT Set is produced in three standard lengths: 1,220 mm, 2,440mm and 3,660 mm.

Our tubular membranes are made from PES or PVDF and supported with a highly-stable non-woven fabric. This provides a robust, thermally and chemically stable membrane for food and beverage applications.

You will find the membrane areas listed in the accompanying table.

With our production facility in Erkrath/Germany, the CUT Membrane Technology Team has the technology and expertise to satisfy your membrane filtration needs for juice filtration.

We provide support to our customers in application development, piloting services, cleaning and main-tenance procedures both at Erkrath facilities or at your location.

# T-CUT Core Modules and T-CUT Set

## Technical Data T-CUT Core

T-CUT-Core		1910	3710	1912	3712
Insert Length	mm	3,050	3,050	3,658	3,658
Insert Diameter	mm	75	107	75	107
Membrane Area	m <sup>2</sup>	2.2	4.3	2.7	5.2
No. of Membranes	qty	19	37	19	37
Material (Header)		Polysulfone			
MWCO	kDa	50 - 200			
ID Membrane	mm	12.5			

## Technical Data T-CUT Set

Standard-Length	mm	1,220	2,440	3,660
Membrane Area <sup>1)</sup>	m <sup>2</sup>	0.88	1.75	2.63
MWCO	kDa	50 - 200		
ID Membrane	mm	12.5		

<sup>1)</sup> The given membrane area is valid for a set of 18 membrane tubes in standard length.  
Product Data sheet available upon request.

CUT produces a variety of micro- and ultra-filtration membranes and modules in Erkrath near Düsseldorf. With special attention on customized and optimized process engineering solutions that will meet your specific requirements.

CUT filtration modules – Made in Germany, used throughout the world.

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