

**PROTFILT<sup>®</sup>** SH-ITB KFT.  
FILTER TECHNIQUES 

**PROFESSIONAL  
FILTERING  
SOLUTIONS**



Completely stainless steel filter unit  
for acidic media (Unilever plant)



Stainless steel filter cartridges  
(Rauch soft drinks factory)



Industrial plastic filter housing with sieve  
for alkaline media  
(Hungarian chemical plant)



Mobile filtering unit  
(Pharmaceuticals factory)



## ***Design and construction of tailor made filtering equipment:***

Protfilt builds tailor made filtering equipment for fluids and gases based on world class patented technology.

Depending on the requirements, we carry out full turn-key projects or work as part of your development team to build the SPECIFIC equipment you need.

## ***We have a solution to all of your filtering issues - call us today for a free quote:***

**If you have any kind of filtering issue, just tell us what:**

- is your substance
- particle size is allowed
- throughput rate you need

**Leave the rest to us, we will:**

- cover engineering
- handle procurement
- build the filter
- deliver to your site
- assemble a turn-key project

## ***We guarantee low cost and high quality based on superior technology and proven track record:***

**Fineness guarantee:** We guarantee filtration fineness by the 1 micron level – if a larger particle gets through we compensate you

**Lifetime guarantee:** We provide lifetime guarantee on key parts e.g. filter cartridge

**Low lifetime costs:** Lifetime costs are very low due to technology and materials used:

- Key parts are made of stainless steel, which makes replacement cycle extremely long
- Filter surface is formulated in a way that allows full and automatic backwashing i.e. no need for dismantling for manual wash or frequent replacement

**Low investment cost:** Initial CAPEX is low due to

- Eastern-European labour cost base
- 100% own technology i.e. no expensive purchased parts

**Superior technology:** Our technology has proven its superiority against competing solutions under demanding circumstances (water, oil, acids, alkali, gasses, etc.)

**Proven track record:** We serve several industries from oil, gas, aluminum, rubber and other chemicals, through food, pharma and municipality water treatment, to mining.





## ***Over 30 years of research and design experience***

Protfilt - a registered trade mark – stands for PROtection of the environment and machines by FILtration.

The patent was registered in 1984, the company was founded in 1991, by Lajos Szabó PhD and Zsolt Szabó, father and son, both mechanical engineers.

Starting from a garage shop, today we work on 1872 m<sup>2</sup> building including our own workshop, warehouse, filtering laboratory and offices. The company, located in Budaörs near Hungary's capital, employs 28 workers.



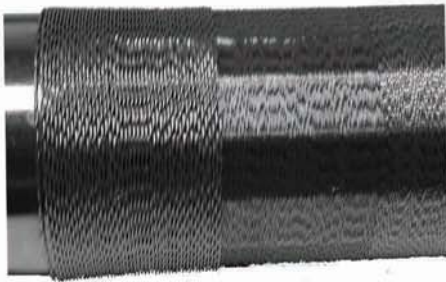
Show room and production area

## Patented technology ensures top quality

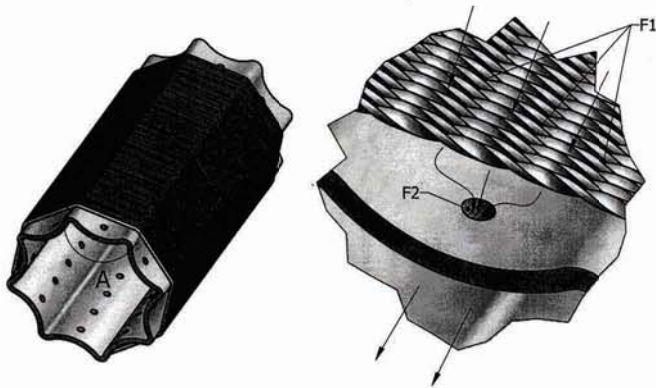
The patent is built on a self-developed technology where the filter surface is created from a specially prepared stainless steel wire. This wire is wound on a stainless steel perforated cylindrical carrier (deformed tube), which also has a specially designed shape for maximum stability. Filtering fineness can be adjusted with very high precision between 2 and 100 microns, based on client needs.

### The technology's advantages are:

- continuous (no fixed increments) adjustability of filtering fineness
- one layer formulation allowing for perfect and fully automatic backwashing
- stainless steel construction guaranteeing long lifetime
- cartridge and surface material and construction allow for working under high pressure and corrosive substances



$$\Sigma F1 \leq F2$$



The principle of the brevet with drawing and photo



## ***Tailored design and manufacturing***

**Our staff has more than 30 years experience in the filtration industry, hence we can offer a solutions to any kind of filtering process, e.g.:**

- Physical separation systems up to many thousands m<sup>3</sup>/hour liquid or gas
- Chemical, chemo-physical treatment (activated carbon, ion exchange resin, reverse osmosis, centrifugal technology, etc.)
- fully automated PLC controlled filter systems

Our filters are individually designed to meet the requirements of the client. Any kind of special requests are accommodated in a short period of time.

### **Other important advantages:**

- very high filtration fineness: as high as 2 microns in a 1 layer system
- perfect cleanability
- high operating pressure and temperature
- amazing lifetime economics throughout the long operation time supported by easily replaceable filter layer (without changing the carrier)
- fully flexible sizing in terms of filter surfaces (tens of square meters)

We have numerous references in almost every field of the heavy and light industry such as oil industry, energy industry, food industry, mining, pharmaceutical industry, breweries, wineries, construction industry, car industry, etc.



NaOH filtering unit in the mining industry

Completely automated filtering unit for hot plastic



Oil filtering unit

Thermal water filtering unit



Complete water preparation system for pharmaceutical purposes



Complex filtering system with gravel bed and reverse osmosis unit in the tire industry

Reverse osmosis system in the car industry





## Case studies on recent projects



**Name:** Methane gas filter for the power sector

Flow rate: 150 m<sup>3</sup>/h

Junction diameter: 100 mm

Filtering fineness: 20 micron

Filter surface: 1 m<sup>2</sup>

Description: Normal steel housing with polypropylene nonwoven textile filter media

Price for filter: USD 2 750



## Case studies on recent projects



**Name:** Thermal water filtering system (95°C warm water) for district heating  
**Flow rate:** 150 m<sup>3</sup>/h  
**Junction diameter:** 150 mm  
**Filtering fineness:** pre-filter 80 micron, main filter 25 micron  
**Filter surface:** 3.3 m<sup>2</sup>

### Description:

- Full stainless steel construction.
- Parallel filtering solution: one unit is in operation while the other is being cleaned by a reverse water flow, ensuring continuous operation
- Dirt is removed via a valve on the bottom of the filter housings

Price for complete unit: USD 40 000

## Case studies on recent projects



<b>Name:</b>	<b>Wine filter unit with glass filter housing for wineries</b>
Flow rate:	10 m <sup>3</sup> /hour
Junction diameter:	80 mm
Filtering fineness:	25 micron
Filter surface:	0.6 m <sup>2</sup>

Description: Completely made from stainless steel and borosilicate glass in order to see the filtering process

Price: USD 4 000



## Case studies on recent projects



**Name:**

Flow rate:

Maximum pressure:

Maximum temperature:

Maximum pressure drop on filter surface:

Size of filter housing:

Junction diameter:

Filtering fineness:

**Condensed water filtering unit for power plants**

200 m<sup>3</sup>/hour

16 bar

130°C

1.6 bar

diameter: 0.6 meter; height: 2.7 meter

200 mm

5 micron

Price: USD 25 000

## Case studies on recent projects



**Name:** Hydrochlorid acid gas filter unit for the chemical industry  
**Flow rate:** 4 000 m<sup>3</sup>/hour  
**Junction diameter:** 500 mm  
**Filtering fineness:** 15 micron  
**Filter surface:** 10.5 m<sup>2</sup>

**Description:** Full stainless steel to withstand acidic substance

**Price:** USD 15 000



## ***Consultation, service and warranty***

Our engineers are at your service to help you with any kind of filtering issues, using the latest computer aided design technologies. We will always recommend you the most appropriate equipment and answer any questions you may have. We will assist you with installation or execute full mounting upon your request. Please do not hesitate to turn to us, should you have any kind of filtering related questions.

We provide a 12 month technical warranty on all our systems valid from the date of purchase or the installation. We provide a lifetime warranty on all PROTFILT cartridges.





## ***PROFILT LLC*** ***Filter Systems and Water Treatment***

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