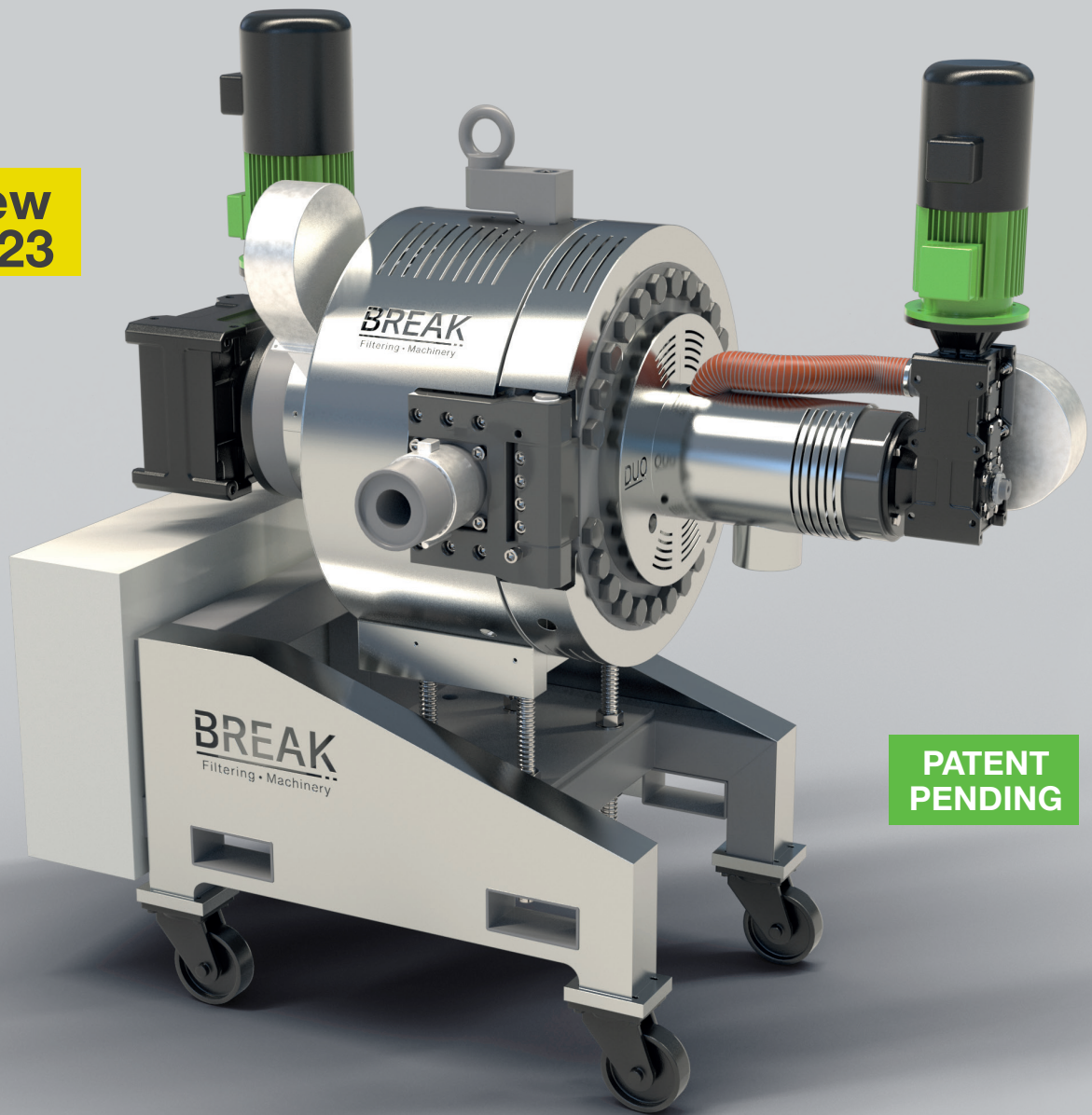


BREAK
MACHINERY

Recycling
beyond
together

New
2023



PATENT
PENDING

English

Automatic self-cleaning filtering system
with constant pressure output

DUO



Minimal waste.



Suitable for highly contaminated materials.



Constant pressure output.

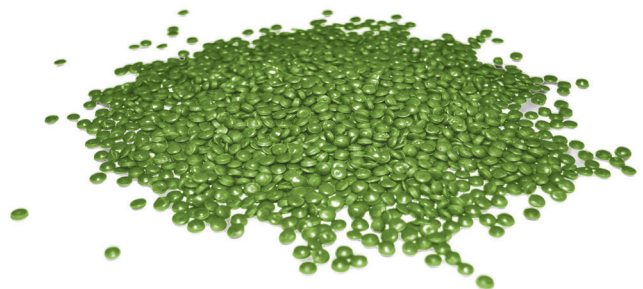
Quality polymer

Filtration is undoubtedly the most important step in obtaining a quality polymer, which is why **Break Machinery** made this process central in its mission.

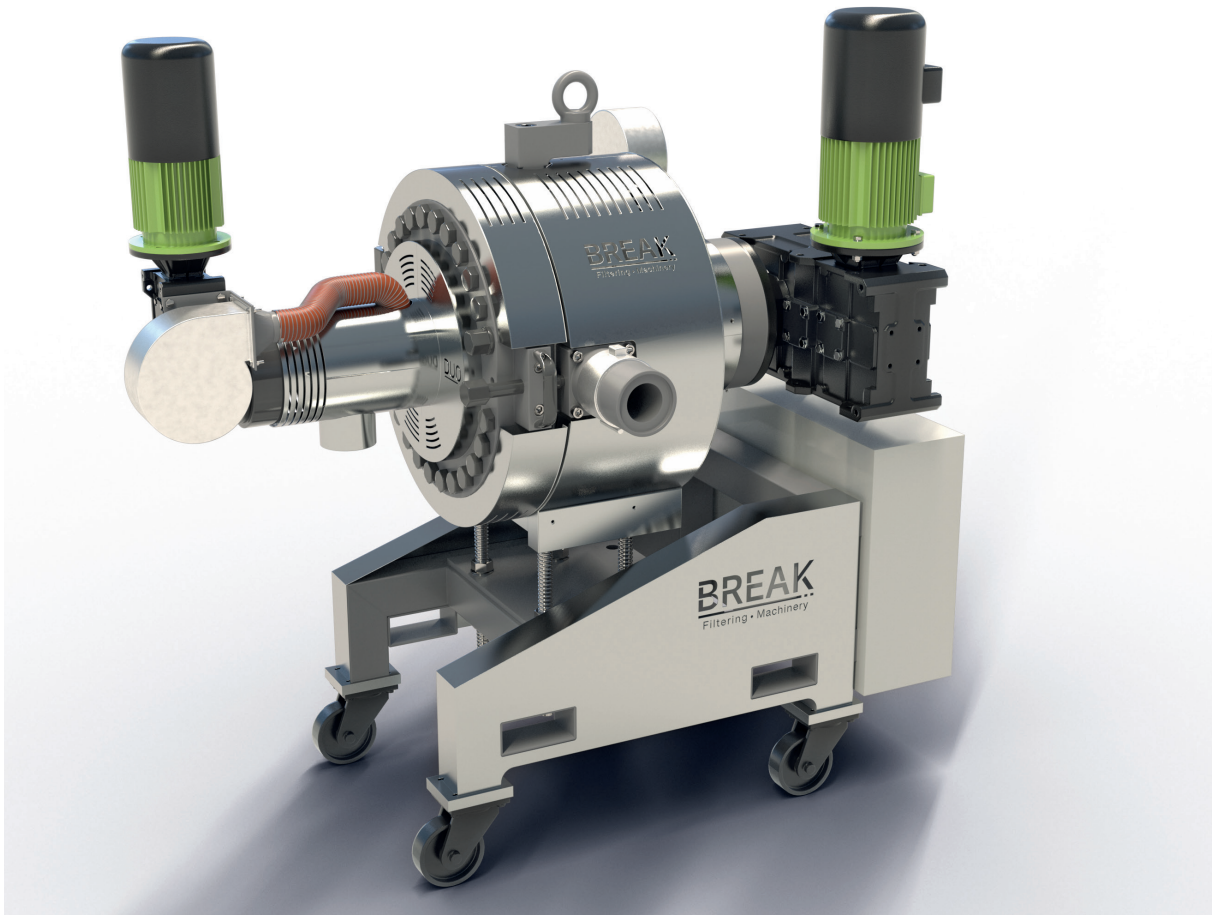


A passion for recycling, observation of solutions on the market and **listening to customers** were the starting point in the development of **DUO**.

DUO sits in the upper class among automatic machines for continuous filtering at constant pressure output.



DUO



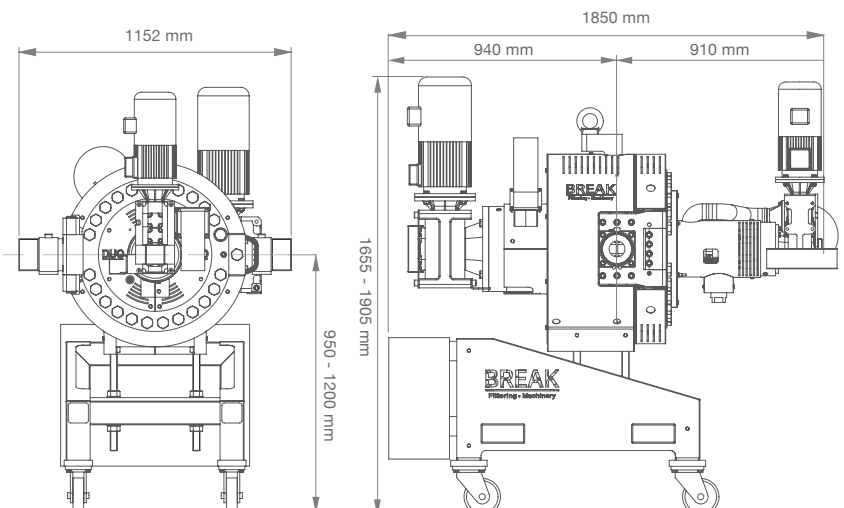
BREAK DUO automatic self-cleaning filtering system with constant pressure output

This is a **double screen system** that achieves maximum productivity while assuring high end product quality.

The **scraper disc geometry** and the innovative **discharge system** permit the **removal of contamination in a fast and controlled way, and reduce the amount of waste.**

	DUO
Filtering surface area [cm ²]	1750
Heating zones	7
Max. pressure [bar]	350
Max. flow rate [kg/h] ⁽¹⁾	3000
Weight [kg]	1800
Total installed power [kW]	30
Filtration [µm]	60-2000

(1) The flow rate depends on various factors: the melt viscosity, the degree of filtration, the type of contaminant and its percentage, the production line.



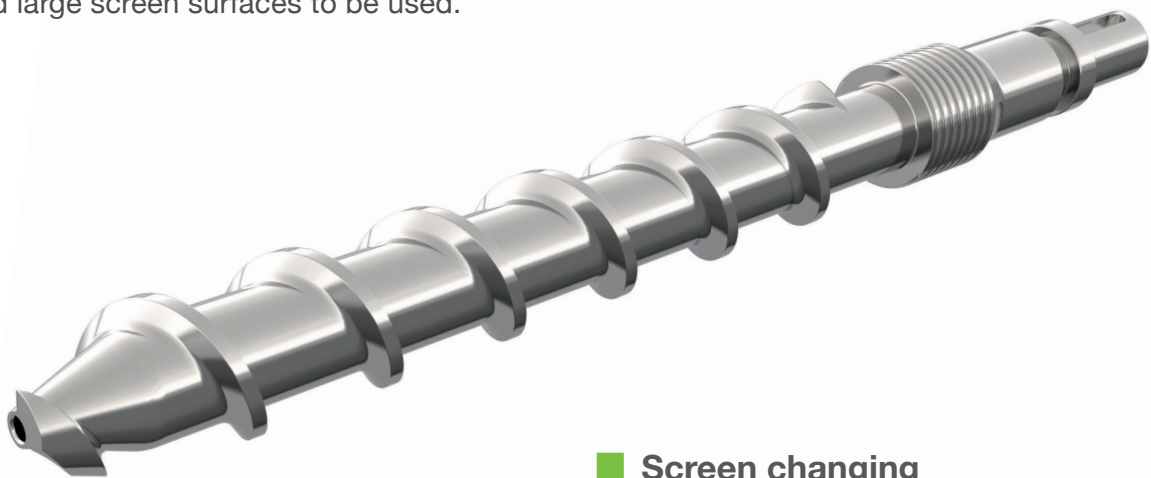
Technical advantages

■ Continuous filtration

The operating principle of **DUO** enables it to work in continuous mode and at constant pressure.

■ Double screen

DUO uses two screens. This allows the size of the filtration chamber to be kept small and large screen surfaces to be used.



■ Cleaning efficiency

The special geometry of the 6-blade rotating scraper disc enables excellent cleaning even at low rotational speeds.

■ Single discharge screw

Impurities are discharged by means of a single screw capable of conveying the contaminants collected from both screen surfaces.

■ Versatility

DUO is designed for the filtration of various types of plastic materials. It is engineered to handle different types of contamination such as paper, wood, aluminium, copper, etc...

■ Reliability

DUO is manufactured using high quality alloy steel and anti-wear treatments are applied to the most stressed parts.

It is also engineered to withstand high line pressure (up to 350 bar).

■ Screen changing

DUO is designed to make maintenance and screen changing procedures simple without having to disassemble parts of the machine.

■ Flexibility

The ability to adjust the speed of the discharge screw allows even the most contaminated materials to be treated according to customer requirements.

■ Proportion of impurities

DUO can be used to filter materials with high proportion of impurities (up to 15% by weight depending on the type of contaminant).

Economic advantages

■ Productivity

The continuous filtering system with constant pressure maximises line productivity.

■ Savings

The efficiency of the cleaning system in continuous mode extends the life of the laser screen, resulting in lower consumable purchase costs.

■ Minimal waste

The screw rotates independently of the scraper disc. In this way, waste can be minimised depending on contamination.

■ Labour

The innovative design reduces cleaning and replacement time for screens and blades. The need for operator presence is greatly reduced. Routine and unscheduled maintenance operations are also simple, fast and carried directly at the client's production site.

■ Optimisation

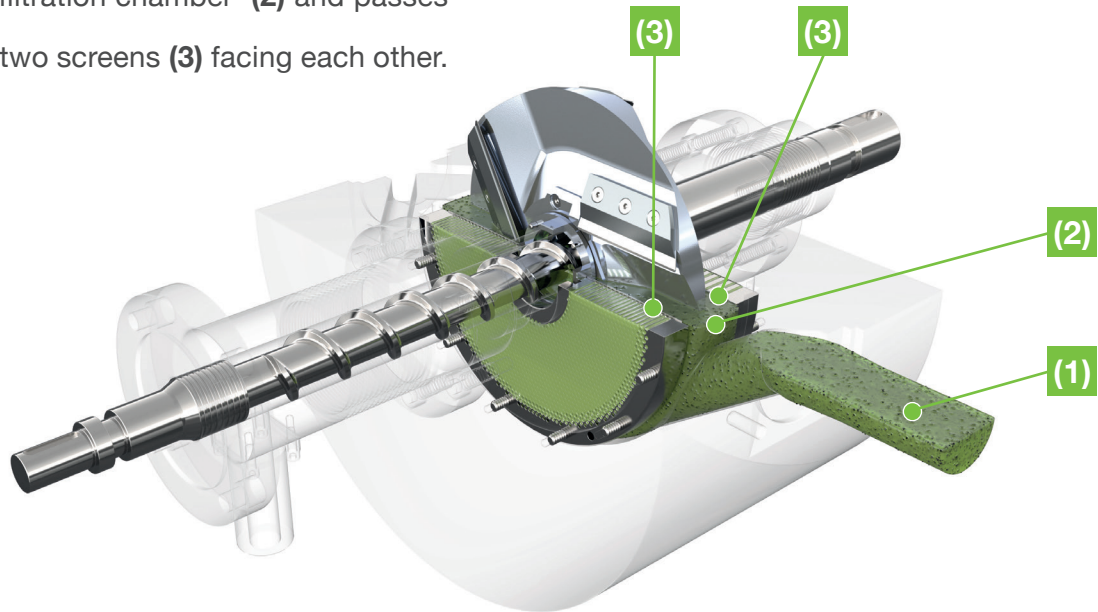
The ability to adjust the discharge screw independently of the speed of the scraper disc facilitates the treatment of highly contaminated materials.



Operating principle

DUO: high filtering efficiency

The molten plastic material **(1)** is conveyed into the filtration chamber **(2)** and passes through two screens **(3)** facing each other.

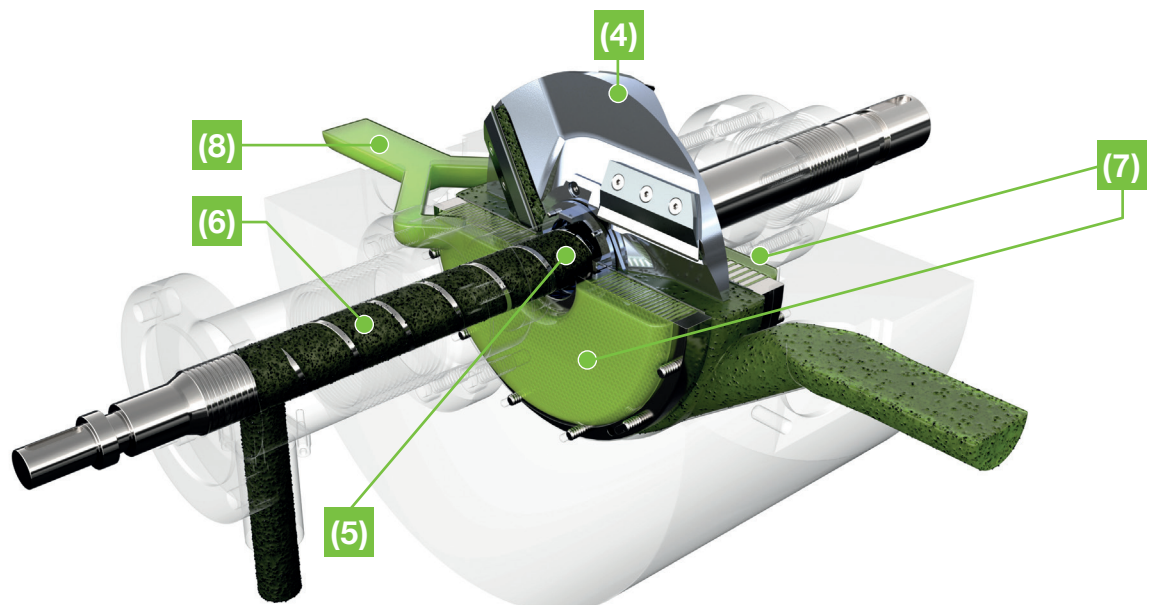


Between the two screens there is a scraper disc **(4)**, equipped with interchangeable blades, which rotates to remove the contamination deposited on the screens by channelling it into the disc itself **(5)**.

The centre of the scraper disc communicates with an independent

discharge screw **(6)** that ejects the contaminated material.

The filtered molten plastic material **(7)** from the two screens then rejoins the outlet channel **(8)** to proceed to the next process.



Technical features

■ Double filtering surface

DUO is equipped with two perforated discs (breakers), thus increasing the filtering surface and the production volume.

■ Innovative scraper disc

The scraper disc, placed between the two screens, is fitted with blades on both sides and by rotating removes contamination from both surfaces. Its innovative shape prevents filtered contaminants from returning into the melt.

The screen surfaces are cleaned continually, allowing longer periods of use compared to traditional technologies.

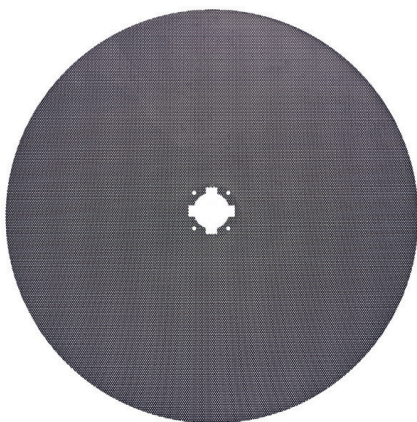
■ Component quality

All **DUO** components and consumables are made of high-quality materials to ensure high wear resistance.

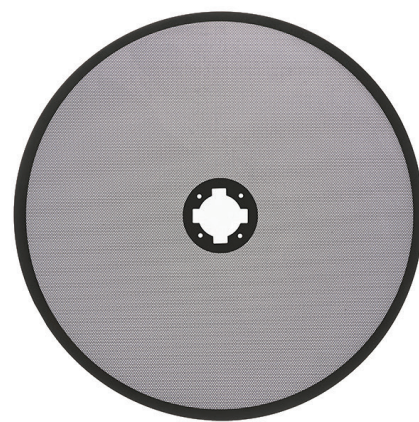


■ Laser filtration

The laser screen is crucial in the operation of **DUO**. The filter discs are perforated using the very latest laser technology and processed for resistance to wear. The conical shape of the holes facilitates the smooth flow of the melt.



*Duo Punched
Screen*



*Duo Laser
Screen*



**Environmental sustainability
is always at the core of our vision.**

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