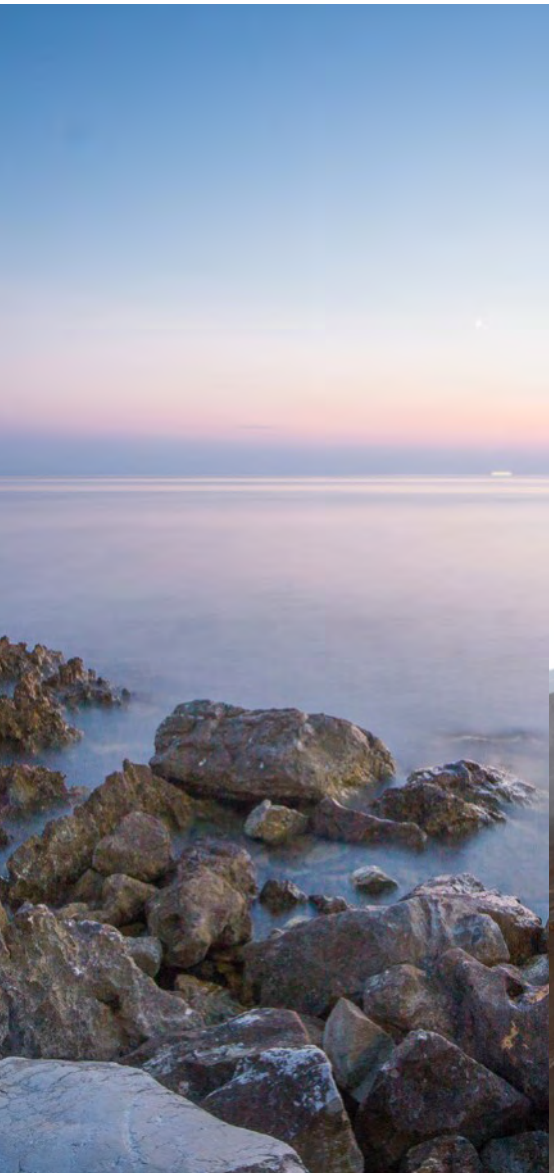
SULZER

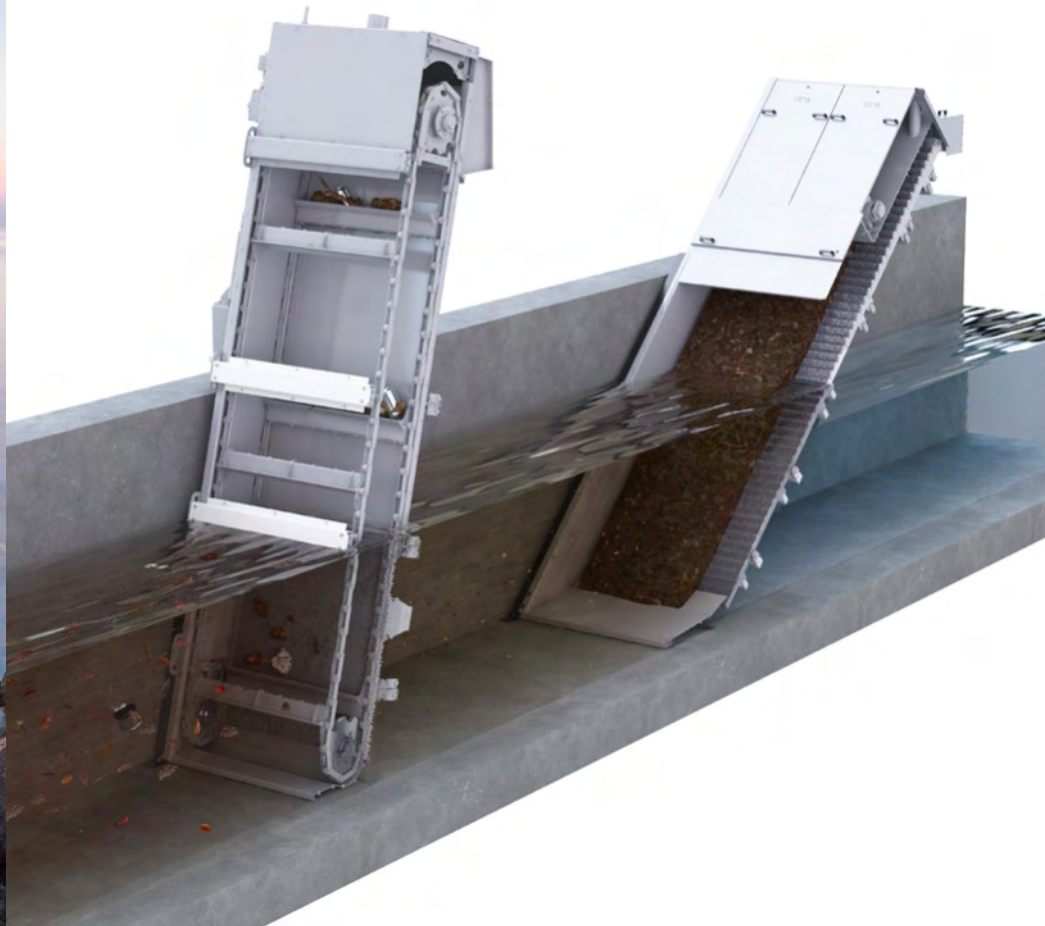
Nordic Water

Screening solutions

MevaScreen

coarse and fine screen solutions





Main industries and applications

The MevaScreen is designed for the effective removal of solids from a water stream as a primary process for water treatment.

Screen solutions are part of the range of wastewater processing equipment designed to optimize the performance of water treatment plants and other applications with challenging processes. Ideal for sewage treatment plants and industrial water treatment, MevaScreen products set the standard for reliability and cost efficiency.

Primary screening is an essential process for water treatment plants, both municipal and industrial, for removing material that could otherwise damage downstream equipment.

Coarse screens are the first step in processing wastewater, intercepting and removing large debris that might damage equipment such as pumps or slow down fine screens downstream, making them less effective. Fine screens are essential for extracting smaller items that can pass through coarse screens, removing the majority of the inorganic solids for proper disposal.

MevaScreens offer a range of designs that can be tailored for specific applications to ensure the most effective solution is installed.

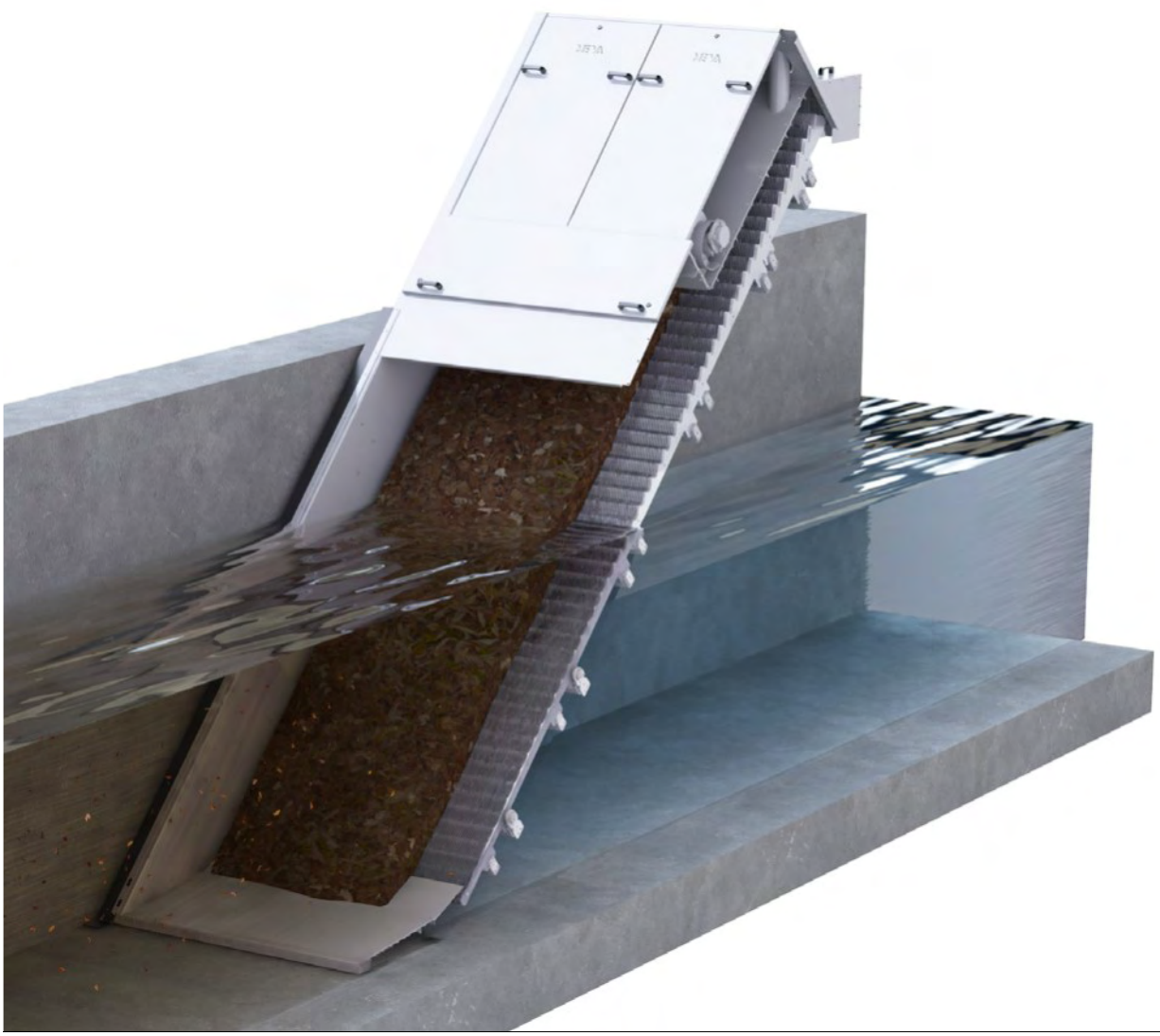
This is how it works
MevaScreen RSM

Designed for channel installations up to 2’000 mm in width, the MevaScreen RSM offers discharge heights up to 4.5 meters, with a slot width 1-6 mm.

The unique, patented design offers several advantages, especially at the lower levels below the water’s surface. The MevaScreen RSM has a motion that ensures a high rate of capture for debris and ensures a uniform slot width over the entire screening surface. The progressive step motion of the screen transports a small part of the screenings mat during each cycle, minimizing the ‘rush’ of water that is often seen with more traditional designs.

As debris collects on the bars, the build-up of materials helps to trap smaller particles, forming a mat that is gradually elevated from the water stream and into a collection chute. The design of this state-of-the-art screen also minimizes the risk from blockage by sand and grit.

The MevaScreen RSM operates intermittently based on a preset upstream water level, which is monitored by a sensor above the inlet channel. Once the level drops to a predetermined point, the screen motion stops. The design offers the highest separation degree of solids on the market.



Features and benefits
MevaScreen RSM

Efficient movement
This state-of-the-art, progressive step screen employs a patented design to deliver unmatched performance in wastewater screening. The MevaScreen RSM has a motion that ensures a uniform slot width over the entire screening surface. The unique linkage geometry ensures screenings are moved along the complete length of the bars, minimizing the 'rush' of water that is often seen with more traditional designs

High energy efficiency
The efficiency of movement is mirrored in the excellent energy efficiency of the MevaScreen RSM. The patented pulse operation provides fewer running hours, which results in reduced energy consumption as well as less mechanical wear. The high screen capture rate delivers a very efficient removal of more than 80% of debris from the water flow.

Environmental sustainability
Sulzer's environmental credentials are also on show – In addition to the energy savings, the MevaScreen RSM also uses low-friction bar spacers, boosting sustainability with an expected product life in excess of 20 years. In addition, the self-cleaning design of the screen means there is no need for the rotating brushes or spray bars seen in other screen technologies.

This is how it works
MevaScreen RS, DS

Designed for channel installations up to 2’000 mm in width, the MevaScreen RS offers discharge heights up to 4.7 meters.

The design has proven itself for more than 30 years as reliable and efficient in some of the most challenging applications, such as storm water, pulp and paper, textiles, breweries and meat processing. The MevaScreen RS can be specified to suit each application; offering a throughput up to 15’000 m^3/h, slot widths between 2 and 6 mm, this compact solution is ideal for both tanks and inlet channels.

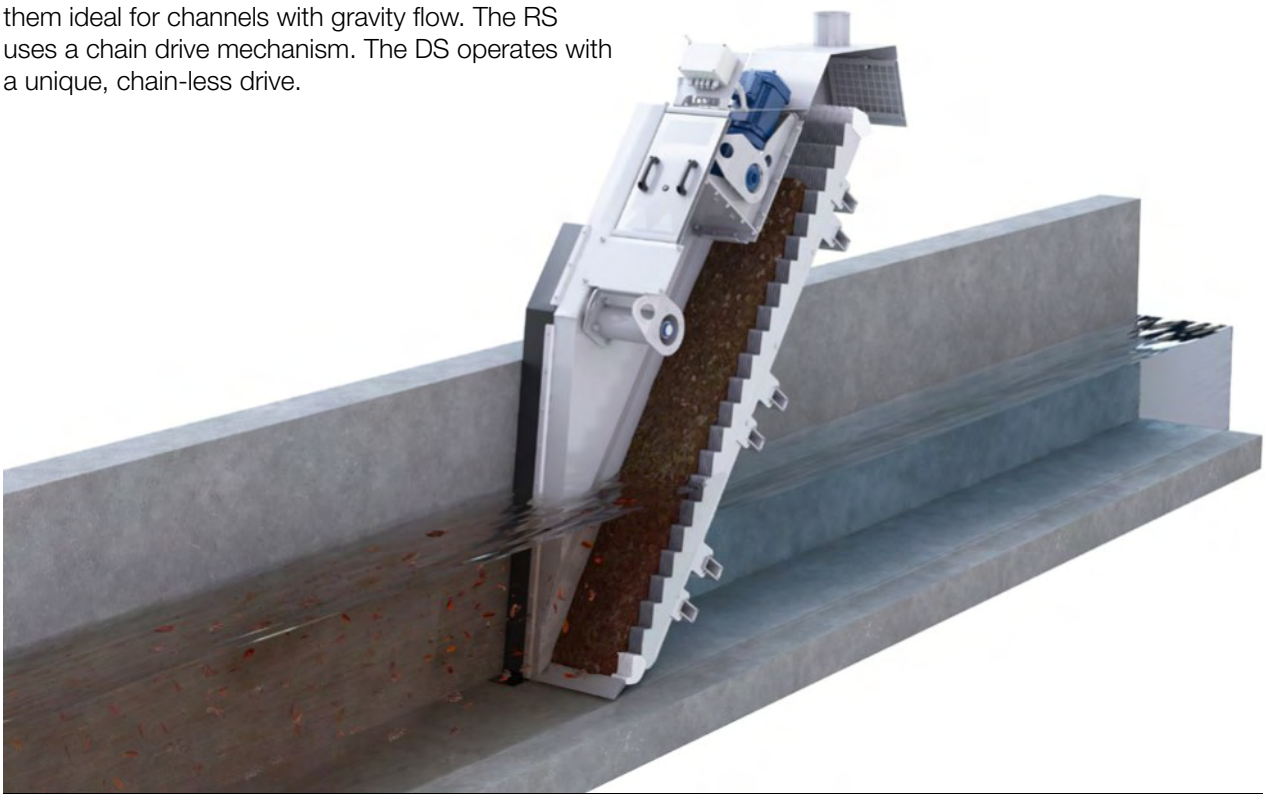
Constructed using 304 or 316 stainless steel, the MevaScreen RS delivers long-term reliability and excellent energy efficiency. The design includes a self-cleaning screen area, which does not require rotating brushes or wash water, as well as low friction bar spacers that extend the life of the bars.

The MevaScreen RS are self-cleaning fine screens for separating solids from water. Designed to have a very low flow resistance, the screens offer the highest relative capacity of any screen on the market, making them ideal for channels with gravity flow. The RS uses a chain drive mechanism. The DS operates with a unique, chain-less drive.

The design of the MevaScreen RS, DS maintains a uniform slot width during operation. This is achieved by a robust bar fixing and intermediate, low friction spacers, every screen is fully enclosed and equipped with a ventilation connection.

The screen also has an automatic anti-blockage protection at the channel bottom, which makes it resistant to sand. For maintenance, the screen can be pivoted and is easy to clean down without removing any of the connected equipment.

The MevaScreen RS, DS operate automatically and are controlled by level sensors placed in the channel. At a preset head loss value, the screen starts and operates step by step until the water level has dropped below a predetermined point.



Features and benefits
MevaScreen RS, DS

Blockage-free operation
The MevaScreen RS, DS has automatic anti-blockage protection to prevent sand in the channel bottom from causing problems.

High energy efficiency
The large hydraulic capacity and optimized design result in fewer operating hours and less mechanical wear. Typical annual operating time is only 200 to 250 hours, reducing operating costs and improving sustainability.

Sustainable product design
The low friction bar spacers, which are used to extend the life of the screen bars, support an expected service life of 20+ years. The first RS screen was delivered 33 years ago and is still in operation.

Environmental
The self-cleaning screen area is designed to discharge waste into a compactor/conveyor without the need for rotating brushes or spray water as in other competing technologies. This simplifies operation and reduces energy consumption.

This is how it works
MevaScreen MRS

Designed for channel installations up to 3’000 mm in width, the MevaScreen MRS offers discharge heights up to 20 meters with a slot width 6-50 mm.

The MevaScreen MRS is a multi-rake design for installations with high screening loads or difficult operating conditions. The robust design ensures reliable function and low maintenance. The unique lower sprocket design shreds and tears fibrous materials that could otherwise jam the driveshaft and chain guide while the low blind zone delivers high hydraulic capacity with very low head loss. The optional curved bars (MRS C-BAR) improve the removal of stones and gravel that has built up during first flush situations.

The MevaScreen MRS can operate as a course or a fine screen with a slot width down to 6 mm. The curved bars mechanically clean the bar screen, removing solid materials from the water stream. For more challenging installations, the screen can be delivered in modules to simplify transportation and assembly.

The screen is controlled automatically, using a level sensors in the channel that start and stop the screen at pre-determined levels. The discharge scraper is fitted with a polyethylene wear section that can be easily replaced. In fact, the whole design makes maintenance and repairs a simple process. There is no need for brushes or spray water, while rake sections and bars are individually replaceable.

The drive motor is monitored electronically for optimum performance and the screen can also operate in reverse to prevent blockages.

Features and benefits
MevaScreen MRS

High reliability
The unique clog-free lower sprocket design shreds and tears fibrous material that otherwise could block the driveshaft and chain guide interrupting the operation of the screen. The self-cleaning screen minimizes complexity without the need for a rotating discharge brush.

High durability
The heavy-duty construction and high-quality materials of the MevaScreen MRS ensure a long service life. The modular design enables simplified logistics and on-site assembly. The long-life chain, which is fitted as standard, and individually replaceable bars simplify maintenance and reduce operating costs.

Environmental
The self-cleaning discharge design eliminates the need for rotating brushes or wash water, keeping operating costs to a minimum. Reduced energy consumption and high efficiency motors help to reduce the environmental footprint of this vital equipment. The encapsulated design with a ventilation connection eliminates any odor issues, minimizing any nuisance for operators and neighbors.

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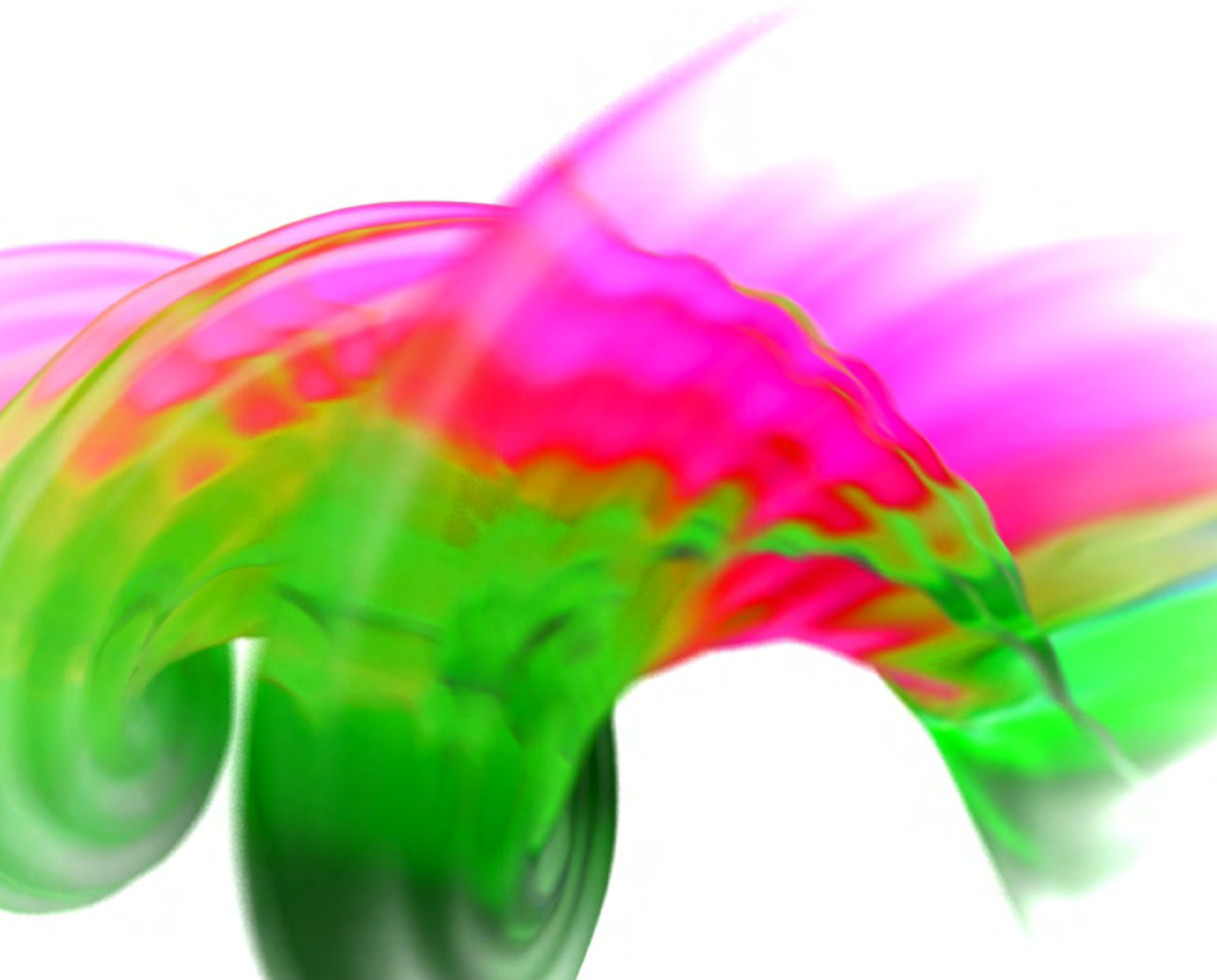
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