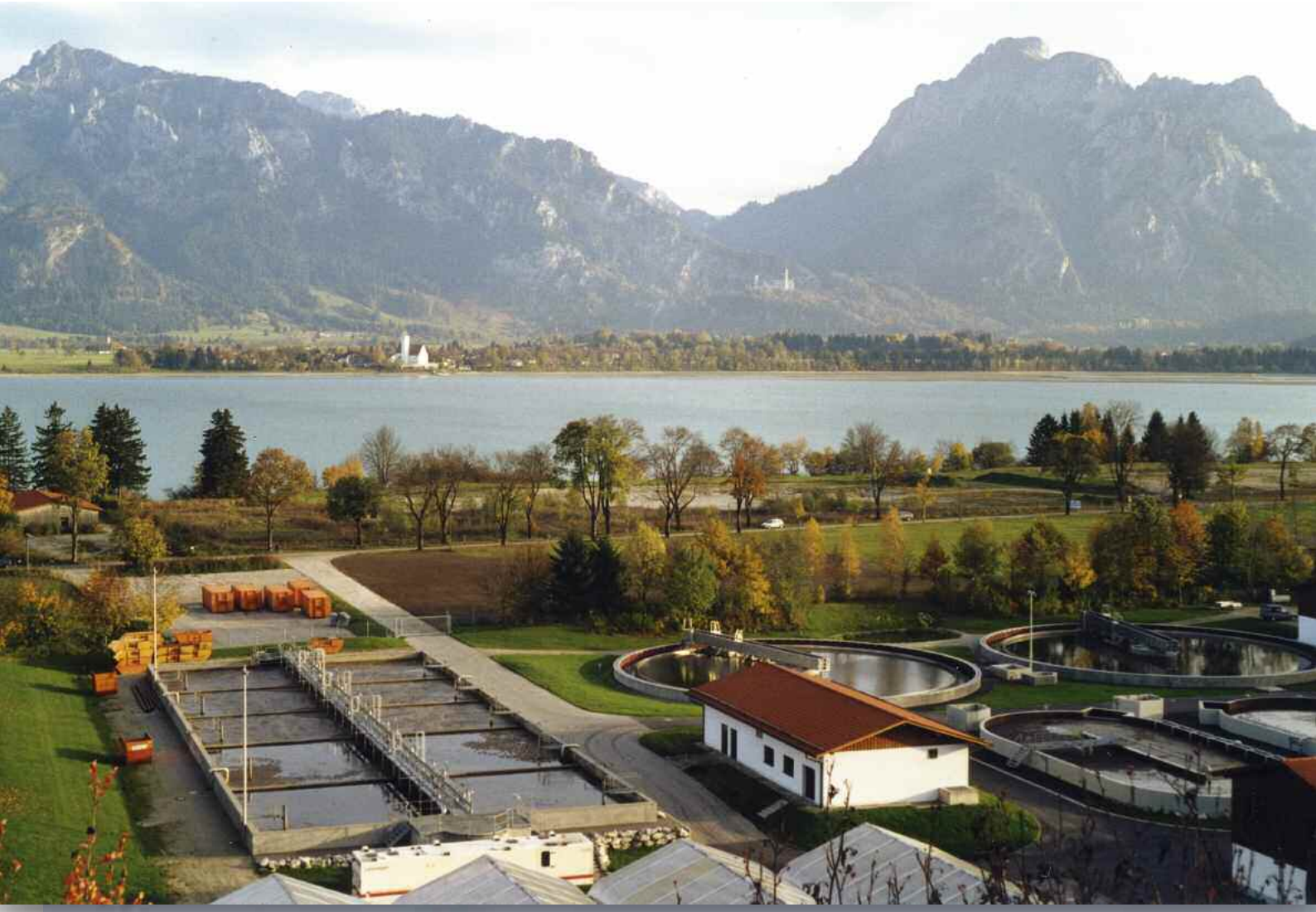
EXPERIENCE AND COMPETENCE IN WASTE WATER TECHNOLOGY

WERKSTOFF + FUNKTION
GRIMMEL WASSERTECHNIK GMBH
Ideen die klären



YOUR STRONG AND COMPETENT PARTNER IN ENVIRONMENTAL ENGINEERING

WERKSTOFF + FUNKTION Grimmel Wassertechnik is a family-owned, medium-sized mechanical engineering company operating in the field of waste water technology. The business focus is mainly on municipal, but also on industrial customers at both the national and the international level. For us, individual order handling from a single source is just as important as a customized construction, superior quality and functionality of the machines.

The decades-long experience of the company's founder Walter Grimmel and his committed staff in the fields of mechanical and plant engineering have been the foundation for developing innovative ideas in process engineering, design and machine construction since the company's founding in the year 1993.

WERKSTOFF + FUNKTION Grimmel Wassertechnik, on this basis, develops state-of-the-art concepts for user-friendly and efficient technical solutions. Numerous patents and unique technical implementations demonstrate the company's innovative strength. The company's head office located in Ober-Mörlen, a town in the heart of Germany, some 30 kilometers north of Frankfurt am Main, is an ideal location for the nation-wide distribution network with good access to international traffic connections.

Counterflow
Coarse and Fine Screen

Flat Fine Screen

Treatment of Screenings

Grit Washers

Cylindrical Grit Separator/
Compact Unit WS

Sludge Treatment

COUNTERFLOW

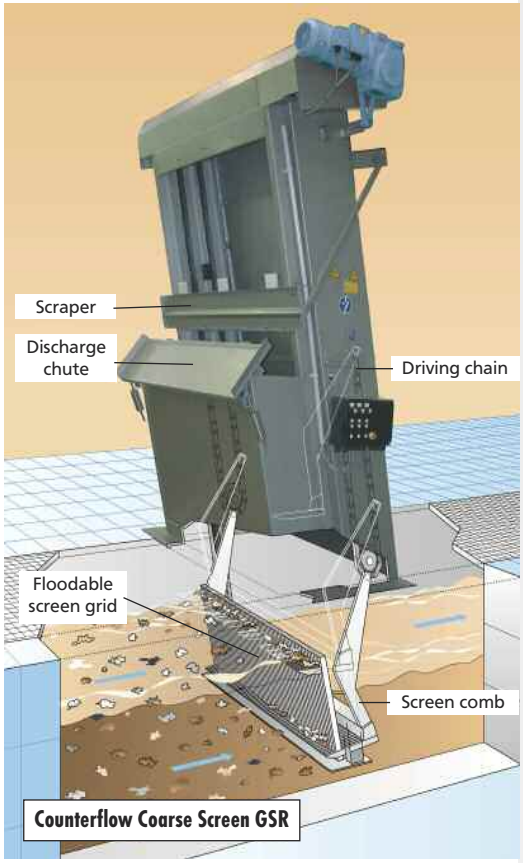
Counterflow Coarse Screen GSR

This technology guarantees an optimal separation of coarse matter and the protection of downstream units, especially sensitive plant sections such as the heavily burdened fine screens, pump stations or storm water tank inlets. The screens built from stainless steel can be designed for gap widths from 15 to 150 mm. Also in the case of large channel widths of up to 2.5 m and channel depths of up to 8 m, the Counterflow Coarse Screen GSR does an excellent job. The advantage of a submersible screen grid makes this technology ideally suited for applications in emergency bypass channels or in channels without a constructional bypass option. The operational reliability and robustness – also in outdoor installations – speak for this screen.

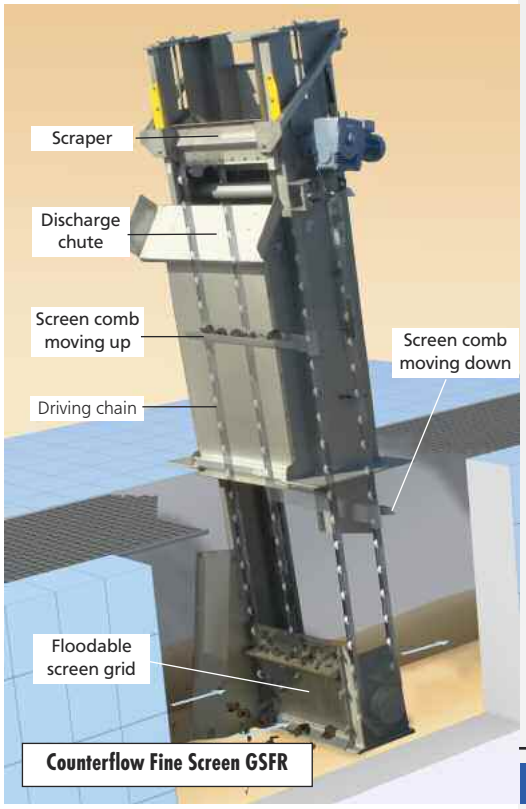
Counterflow Fine Screen GSFR

Another innovative system designed by our company for the removal of finer particles from the water flow is the Counterflow Fine Screen GSFR in well-proven quality with gap widths ranging from 10 to 150 mm. A special feature of this design is the submersible screen grid which is scraped by several circulating screen rakes. The number of scraper rakes and thus the scraping velocity are variable – thereby guaranteeing also high-load scraping. One decisive advantage of the submersible screen grid is that there is no necessity for a separate bypass channel or system. Furthermore a Counterflow Screen allows to replace and automatise cleaning of manually scraped screen grids in existing emergency bypass channels.

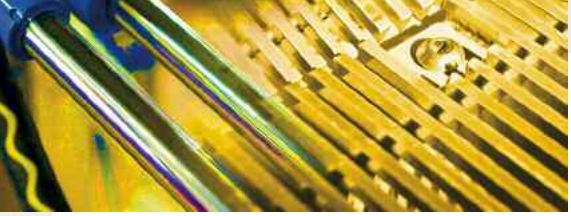
Customers can choose between coarse and fine Counterflow Screens to suit their individual process needs.



Counterflow Coarse Screen GSR



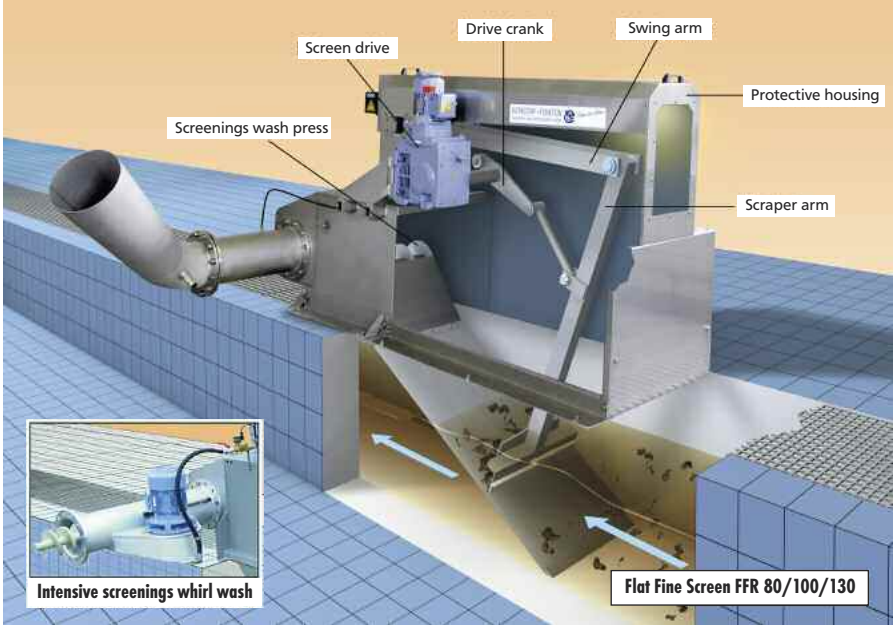
Counterflow Fine Screen GSFR



FLAT FINE SCREENS

Flat Fine Screen with electric drive

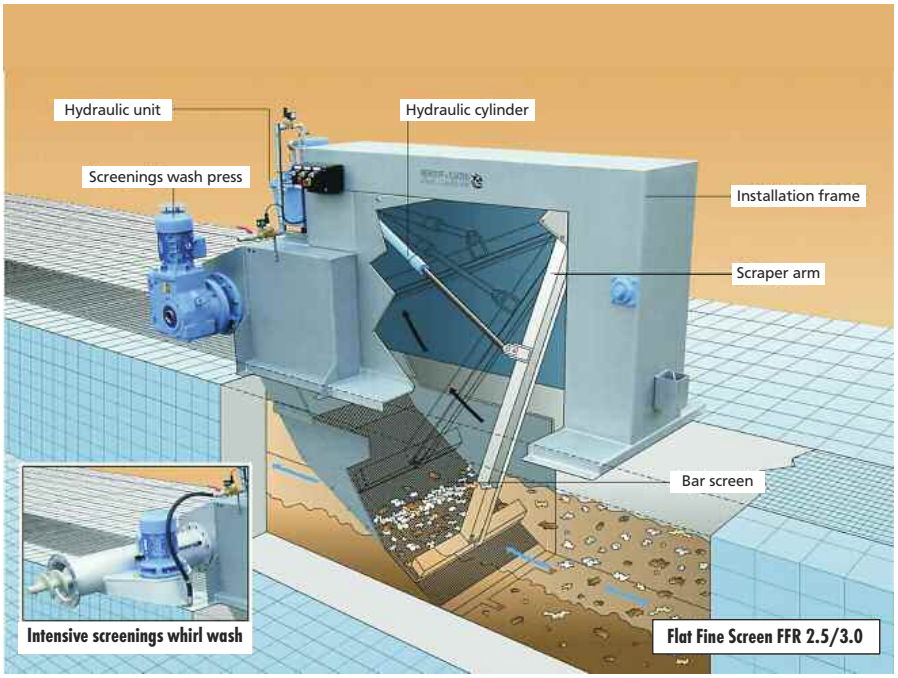
As soon as finer particles need to be separated from the sewage plant intake, the product of choice is the patented Flat Fine Screen which can be designed with gap widths of 1 to 6 mm. For channel depths of up to 1.3 m and applications in stainless steel tanks, this type of screen is delivered with electric motor drive and directly integrated Screenings Wash Press. Special features: later change of gap width easily possible, high hydraulic capacity due to 30° position of screen grid, full use of the channel width and documented lowest incidences of malfunction or maintenance.



Upon request, the electric Flat Fine Screen is also available with lighting of the machine interior.

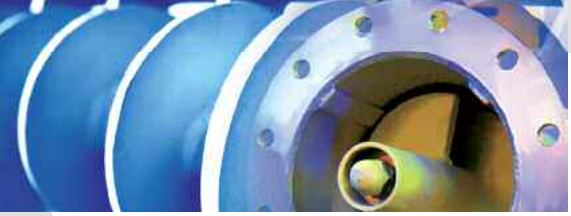
Flat Fine Screen with hydraulic drive

The Flat Fine Screen with hydraulic drive is used for larger channel depths between 1.3 m up to 2.5 m. This type of screen has already been proven in hundreds of applications under severe operating conditions with channel widths of up to 2.5 m. Due to its individual design it is also possible to replace the screen grid with a modified gap width later during operation by simple means and low costs. The clear, reliable and user-friendly stainless steel design and the hydraulic capacity that can be achieved with this technical solution convince every expert. This screen additionally guarantees lowest possible maintenance-level with respect to lubrication,

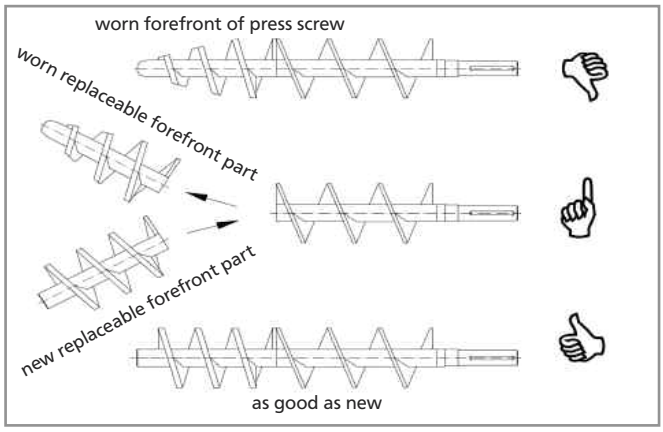


adjusting, re-tensioning or replacement of wear parts.

Our screen grids with wedge-profile design and variable gap width have proved to be ideally suited for the reliable operation of solids separation systems.



TREATMENT OF SCREENINGS



The optional Intensive Screening Washer represents an ideal, space-saving addition to the integrated wash presses of the Flat Fine Screen and ensures reduction of faecal matters even under extreme conditions. This system is based on a very simple and therefore reliable technology.

For the screenings transport and compaction are various sizes of stand-alone Screenings Wash Presses or conveyors available. Due to the purposeful process and structural design of the unit it is possible to obtain good washing and pressing results with little maintenance efforts.

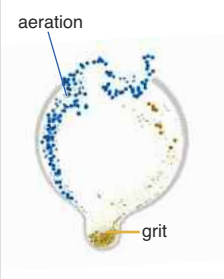
Particular mention has to be made of the patented Screw Press replacement part which contributes to reduced operational expenses.

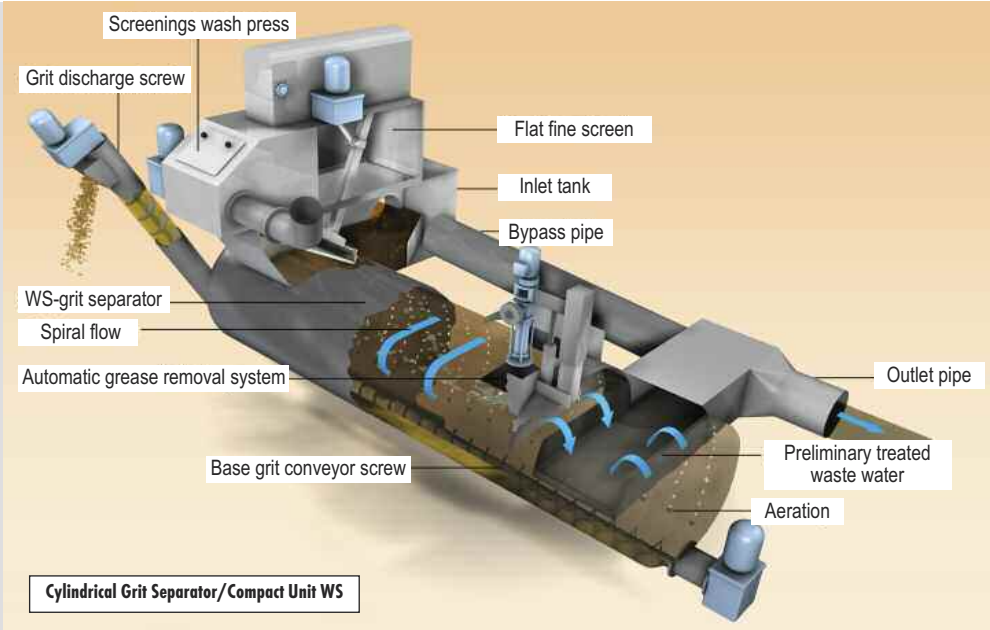
GRIT WASHERS

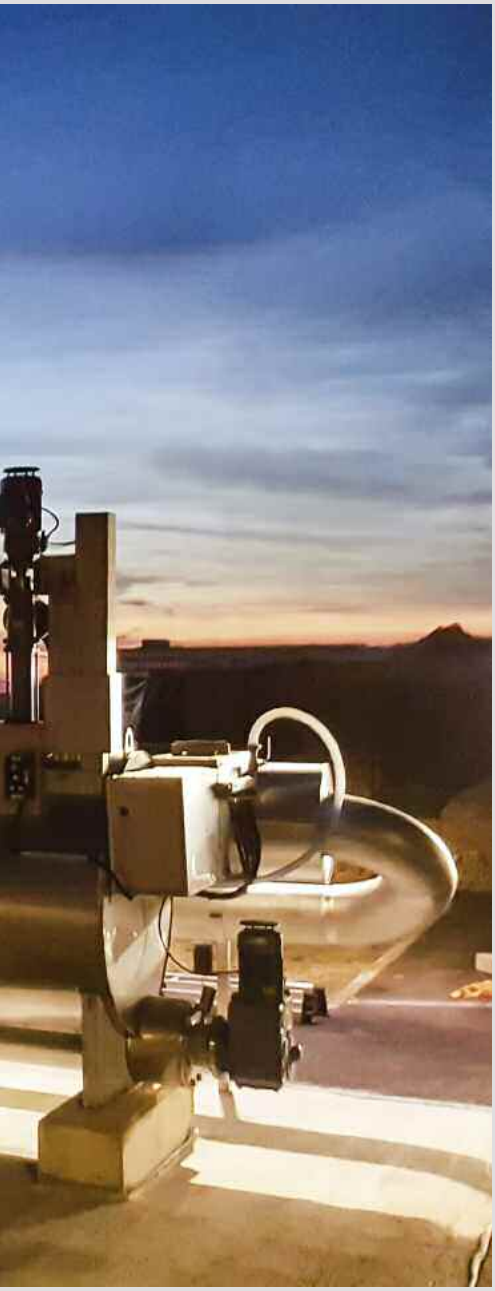
The technology used for the W + F Grit Washers allows washing of incoming grit out of the the sewage as well as from sewer flushing in order to achieve organic concentrations of less than 5% glowing loss to comply with the legal requirements. Under the effect of the wash water and flushing air added to the grit volume accumulated in the Grit Washer, the lighter organic substances are washed out and flushed out. The process is additionally supported by a slowly moving, robust mixing device. The washed grit is removed and dewatered by means of a discharge screw. This grit can then be re-used at low cost. Such Grit Washers are offered by W + F in two designs. For pre-dewatered grit/organic material, e.g. originating directly from a compact system or a grit classifier, the Grit Washer type SWA-T is available. Grit Washers of the type SWA-N are designed for wet feed by means of a centrifugal pump or mammoth pump directly from the grit separator.

CYLINDRICAL GRIT SEPARATOR/ COMPACT UNIT WS

The W + F Cylindrical Grit Separator/ Compact Unit WS offers the complete range of mechanical pre-cleaning, screenings removal and treatment as well as grit and fat removal in one unit, saving up to 50% of the space required by conventional compact units and with the same grit separation performance as well as a significantly enhanced operational accessibility. The separation efficiency of up to 95% has been demonstrated for a grit size down to 0.2 mm. On account of the Flat Fine Screen with integrated Screenings Wash Press and the efficient fat and scum separation used in this unit it is an extremely low-maintenance and low-wear system. The separator does not require a separate belt scraper for fat and floating matter. The Cylindrical Grit Separator/Compact Unit WS distinguishes itself from other designs by its reduced power consumption resulting from the lower inflow height when using feed pumps and the lower air injection depth of the grit



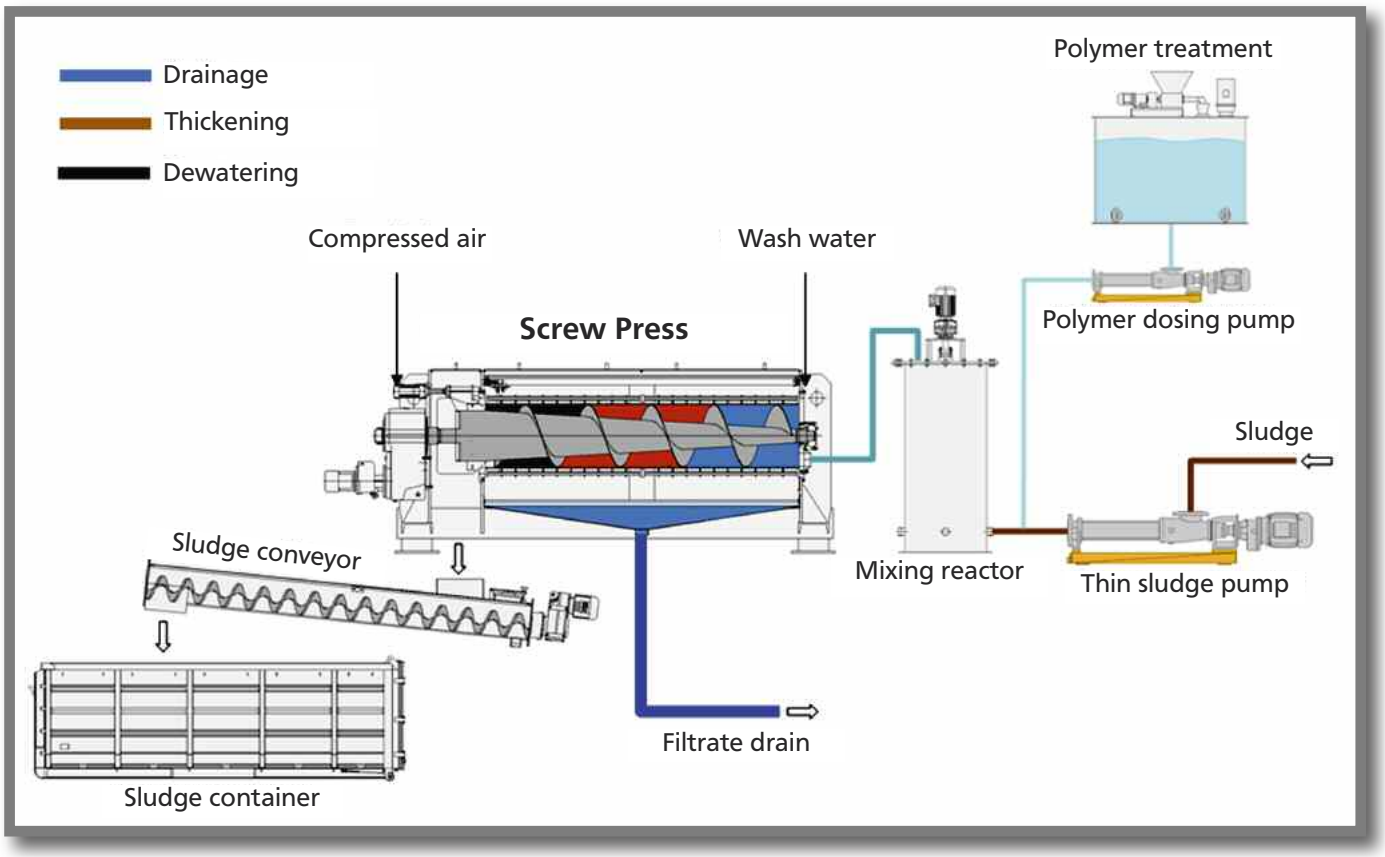




separator aeration, among other features. Another advantage compared to conventional units are the reduced construction costs. The Cylindrical Grit Separator/Compact Unit WS normally represents the most economical solution for mechanical pre-cleaning.
The waste water feed entering the grit separator tangentially from the screen grid starts the desired spiral flow which additionally is supported by a bubble aeration along the whole cylindrical tank. This optimized spiral flow significantly improves the separation efficiency and leads to shorter grit separators. This was already proven decades ago, both scientifically and operationally.

The Cylindrical Grit Separator/Compact Unit WS can be delivered with an integrated, automatically responding emergency bypass.

SLUDGE TREATMENT



In addition to the portfolio of equipment for mechanical pretreatment tried and tested for decades, W + F also offers a Screw Press for continuous sludge dewatering to meet the technical requirements in terms of sludge dewatering. This technology convinces with the typical features that characterize all W + F machines: simple design, serviceability, good accessibility, lowest maintenance and power consumption. Given the very slow relative movement between the press screw and the filter basket and the easy re-start after downtimes, the Screw Press can be effectively operated on 24 hours/day. With this system, complex procedures for daily start-up and shut-down or time-consuming, recurring inspections of the equipment installed are a thing of the past.

The piping and conveying systems required for the complete

Sludge from municipal and industrial waste water treatment plants or production processes are dewatered for both economical and ecological reasons. This task can be successfully achieved with the W + F Screw Press.

dewatering unit are tailored to the individual customer needs. For the required sludge conditioning, the system can also be complemented with polymer treatment and dosing units. Operator-friendly control by means of a convenient control panel as well as the necessary wiring to the machine and the peripherals are offered as a complete service from a single source.

Several mobile test presses, also very small units, are available in order to enable binding statements about the dewatering results towards the customer.

HISTORIC IMPRESSIONS

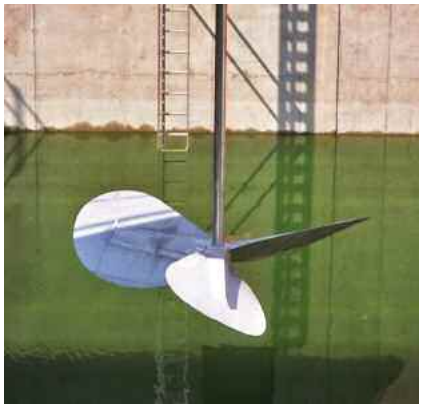
Since its founding in 1993, WERK-STOFF + FUNKTION Grimmel Abwassertechnik as the successor of IBO Grimmel Abwassertechnik has viewed itself as a specialist in the field of waste water treatment. Given its activities covering the full range of process machinery throughout the decades, the company can boast a wealth of expertise in the fields of aeration, agitator/circulation technology, scraper construction and also piping engineering. With the successful launch of machines developed and patented by W + F, like for example the Flat Fine Screen or the Cylindrical Grit Separator/Compact Unit WS, the focus has meanwhile shifted to mechanical waste water and sludge treatment. Given their experience, the more than 30 employees working for the company are also competent in other fields of waste water treatment technology.

Double Circular Scraper in tubular design

Mixing Reactor

Circulating Rake Screen

Round Fine Screen



Agitator

Cylindrical Grit Separator / Compact Unit WS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ideen die klären

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