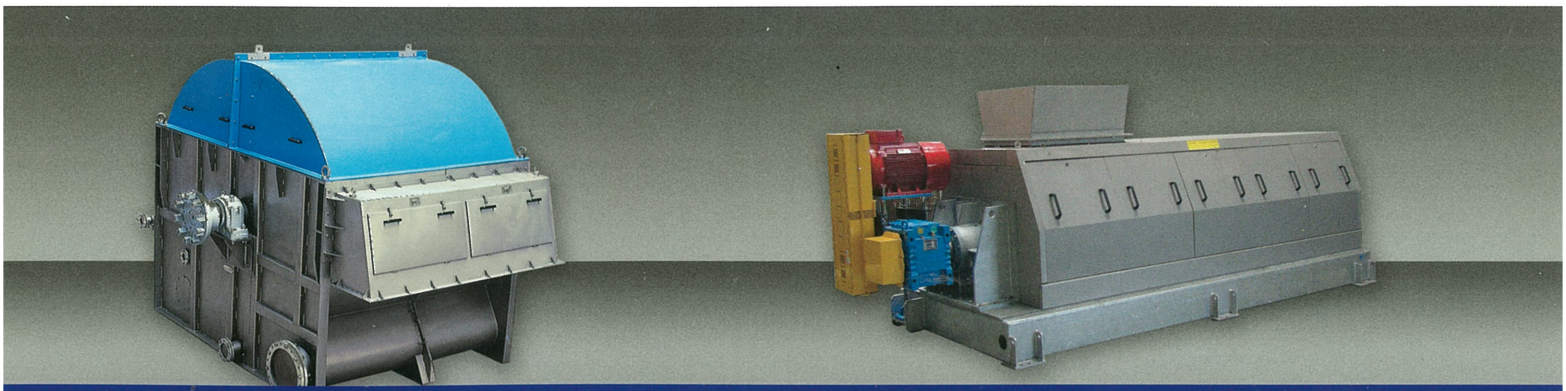
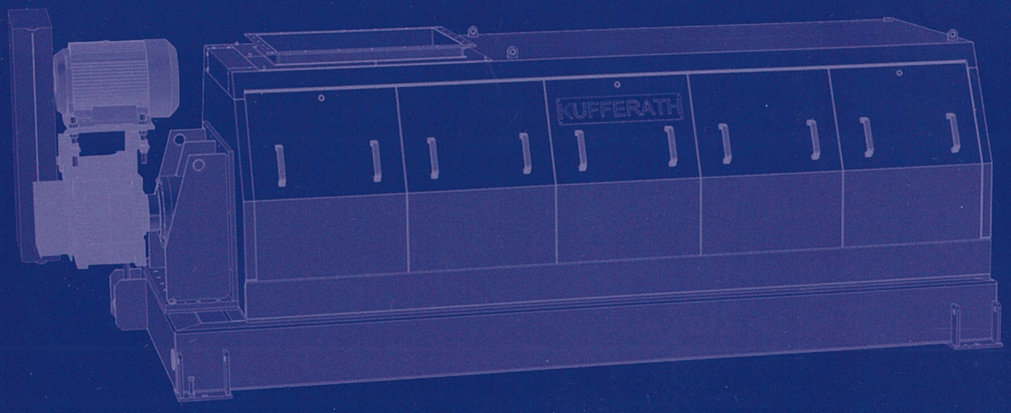
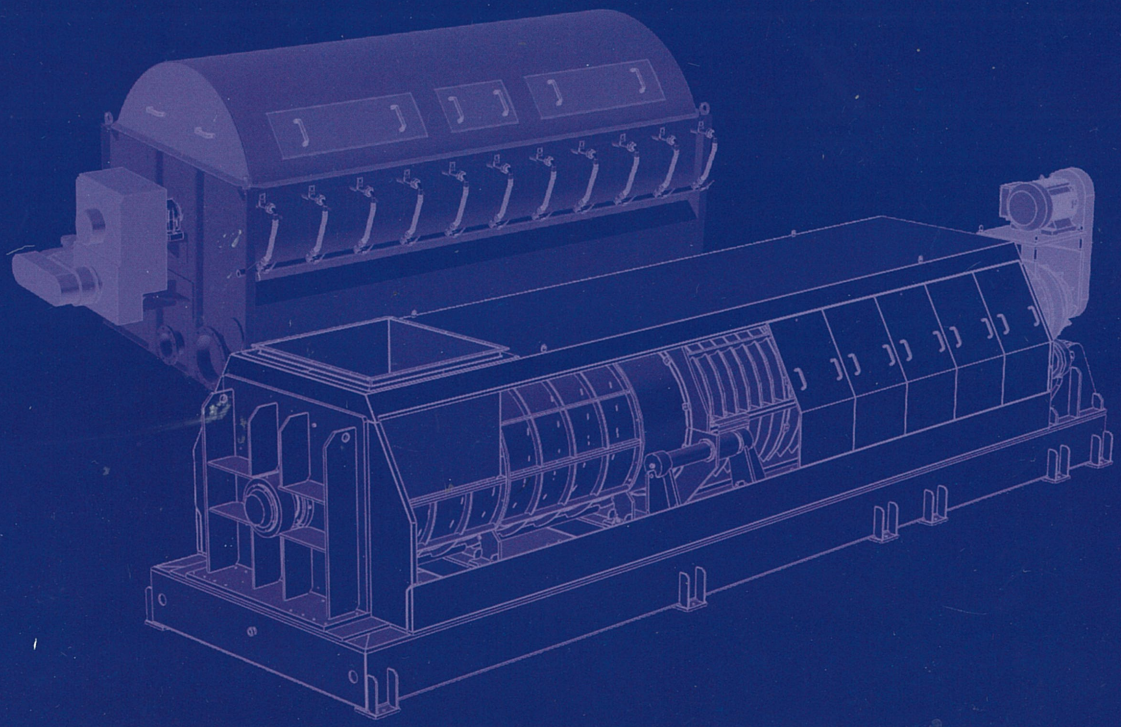
BELLMER KUFFERATH Machinery



DEWATERING AND WATER PURIFICATION IN PLASTIC RECYCLING PLANTS





BELLMER KUFFERATH Machinery



BELLMER KUFFERATH Machinery develops and sells plant and equipment for the dewatering, thickening and sorting of solids. The different AKUPRESS® product lines, part of which are patented, have made BELLMER KUFFERATH Machinery a leading manufacturer of screw presses suitable for dewatering structured residues, fibrous materials and sludges. A number of plants and equipment for separation, thickening and water purification build up our range of products proving for ideal dewatering results.

DEWATERING/WATER PURIFICATION/SEPARATION

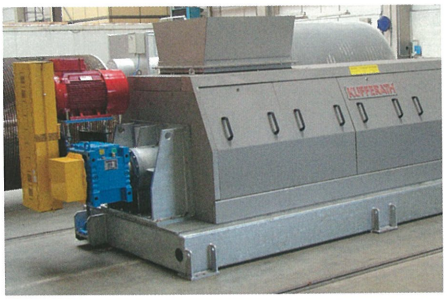
The recycling of plastic waste represents a fundamental process both in terms of protecting resources and minimising waste.

BELLMER KUFFERATH Machinery plant and equipment are used in all wet recycling processes.

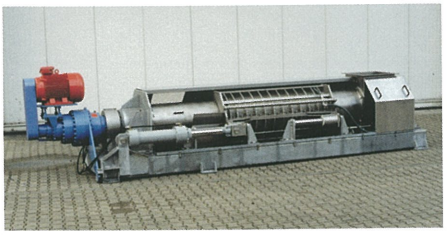
Apart from downstream dewatering of the washed plastic flakes, the purification of circulation and washing water as well as the dewatering of residues are most essential processing steps that mainly determine the economy but also the acceptance of the recycling process.

With the AKUPRESS® screw press lines, the AKSE® disc thickener and the AKUSAND® sand separator BELLMER KUFFERATH Machinery offers a range of products able to reach the objective targets.

All these systems may depending on the case be combined with other accessory components such as dosing stations or conveyors.



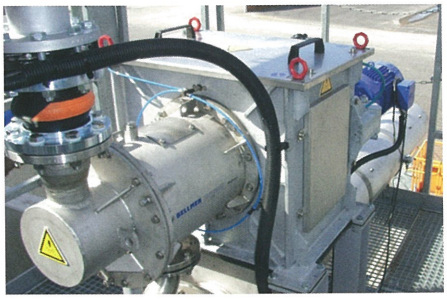
AKUPRESS® AS/A SCREW PRESSES
AKUPRESS® AS/A screw presses are used to dewater coarse matters, such as plastic flakes or rejects.



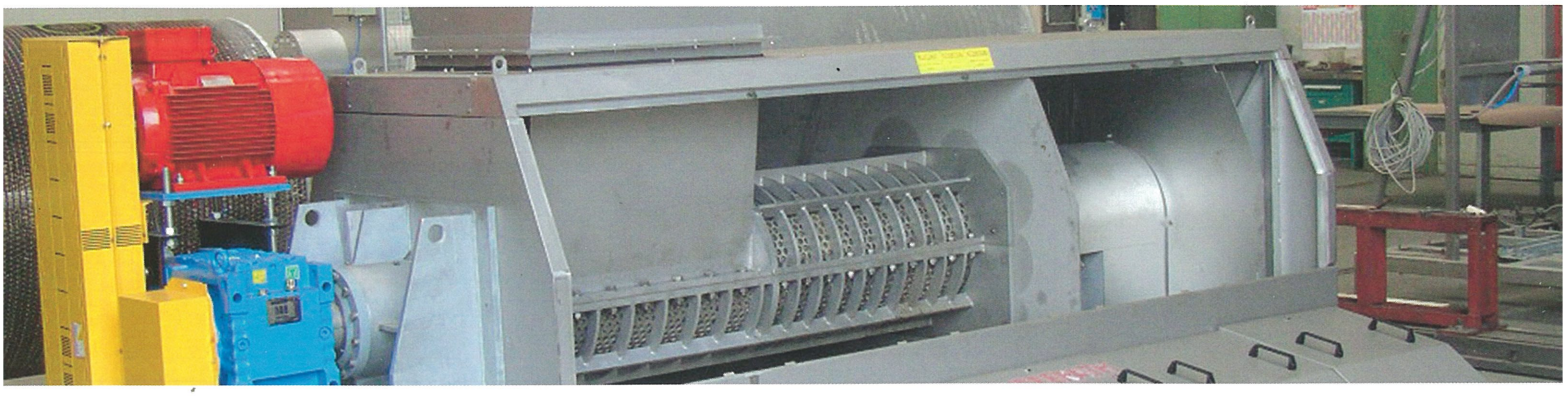
AKUPRESS® BX SCREW PRESSES
AKUPRESS® BX screw presses are used to dewater structured sludges, generally adding flocculants.

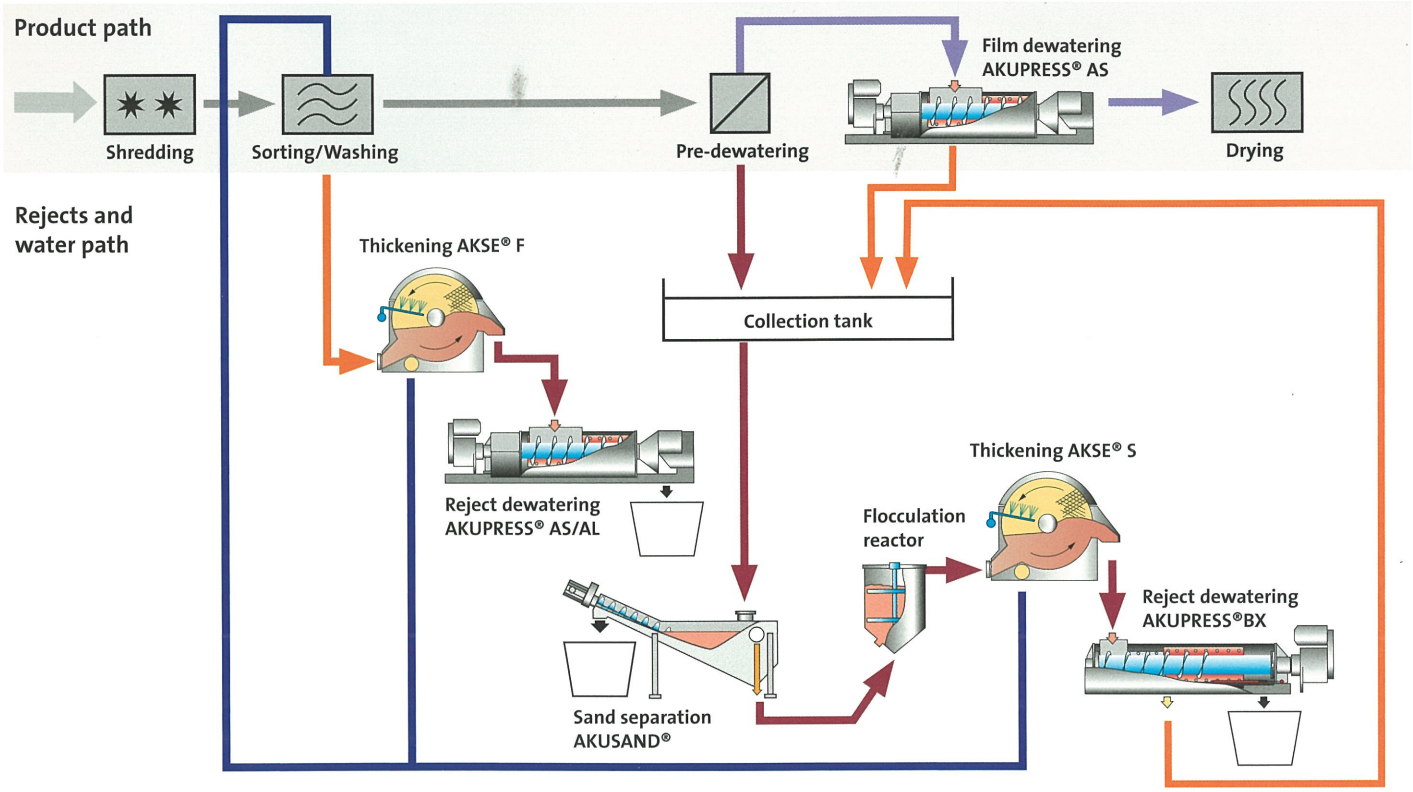


AKSE® F/S DISC THICKENER
AKSE® F/S disc thickeners dewater rejects or sludges with or without flocculant. Both AKSE® F/S can be used as individual units or particularly as pre-thickener, e.g. upstream of screw presses.



AKUPRESS® AL SCREW PRESSES
Screw presses AKUPRESS® AL are used to dewater fine plastic flakes or rejects e.g. from water circuits.





APPLICATIONS

PRODUCT LINE
Dewatering of the crushed and washed plastic flakes by means of AKUPRESS® AS to a minimum residual moisture of 5-15%, depending on their cleanliness, type and thickness of the films.
- Substantial reduction of the investment and operating cost of the dryers

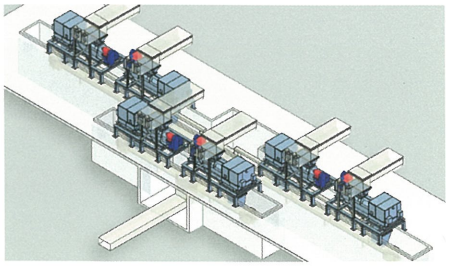
REJECTS DEWATERING AND WATER PURIFICATION
Thickening and dewatering of the rejects produced in the sorting and washing process by means of AKSE® F and AKUPRESS® AS/AL to dry contents of 50-70%.
- Substantial reduction of the disposal charges

Thickening and dewatering of the structured sludges produced in the washing process by means of AKSE® S and AKUPRESS® BX to dry contents of 50-70%. Dewatering of the unstructured slugdes resulting from water purification by means of AKUPRESS® LX to dry contents of 30-50%.
- Substantial reduction of the disposal charges

Separation of sand from circulation waters by means of AKUSAND®
- Reduction in the wear and tear in downstream machines

SCOPE OF SUPPLY

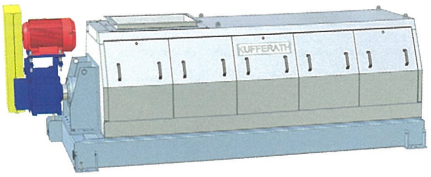
In addition to optimised individual components, e.g. for turnkey contractors, we are able to supply a comprehensive range of machinery and equipment including turnkey systems together with all necessary accessory components, such as dosing stations, conveyors, supports and catwalks, and all relevant process control technology.



AKUPRESS® A/AS – SCREW PRESSES FOR COARSE MATTERS

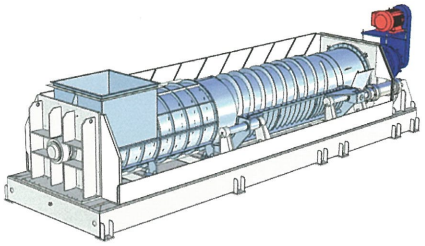
AKUPRESS® A/AS screw presses have specially been designed to dewater coarse matters (short version, large flight height, adapted screw design).

Throttling at the outlet of the pressed material takes place by a combination of pressing zone length and pneumatically adjusted cone.



AKUPRESS® AS

Screw supported at both ends for highest stability, completely closed design, optimized maintenance. AKUPRESS® AS can be supplied in four sizes with screw diameters ranging from 315 to 800 mm.



AKUPRESS® BX – SCREW PRESSES FOR HIGHEST DRY CONTENTS

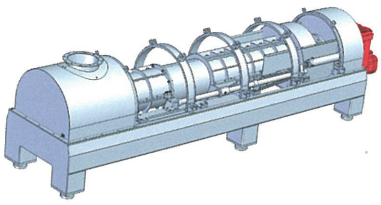
AKUPRESS® BX is a screw press designed to dewater sludges to highest dry contents of 50-70%. Both its function and setup are based on the patented and well proven AKUPRESS® X design.

The essential distinguishing characteristic about this press type is the fact that the length of the pressing zone can be adapted to the properties of the material to be dewatered. The throttling action takes place at the press outlet between the spiral-free area of the screw and the screen basket. The screw torque is controlled and adapted by changing the length of the pressing zone during operation.

On the one hand, this conceptual design allows for extremely high torques and thus also for high dry contents. On the other hand, the torque can be controlled, with the dry content being set in a narrow defined range.

AKUPRESS® BX can be supplied each in five sizes with screw diameters ranging between 250 and 1,400 mm.

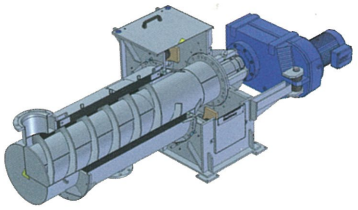
AKUPRESS® BX stand out due to their simple maintenance requirements, e.g. thanks to its proven and tested interchangeable screen basket system or the flange journals, the screw shaft can easily be changed without opening the bearings.



AKUPRESS® LX – SCREW PRESS FOR DEWATERING DIFFICULT, LOW-STRUCTURE MATERIALS

The movable screen basket system allows to adapt the length of pressing zone for fine adjustment of the individual dewatering pressure.

AKUPRESS® LX can be supplied in three sizes with screw diameters ranging between 400 and 1.000 mm.



AKUPRESS® AL – SCREW PRESS WITH LOW TORQUE

For cases where a low torque leads to good results the AKUPRESS® L is applied. The cake outlet is throttled by pneumatic lamellas. The wear resistant design provides long service intervals.

AKUPRESS® AL can be supplied in three sizes with screw diameters ranging between 250 and 500 mm.



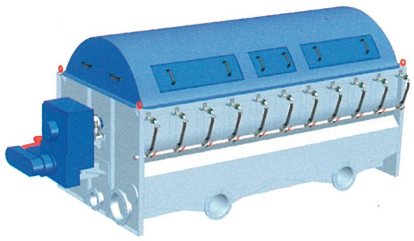
FR FLOCCULATION REACTOR

The flocculation reactor is a recipient with flow direction from bottom to top that is equipped with a specially designed agitator.

Its essential features are:

- High turbulence at the point where the flocculant is added, then decreasing turbulence and formation of flocks
- Open top to examine and optimize the flocks
- Homogeneous distribution to several outlets

The flocculation reactor can be supplied in five sizes ranging from 10 to 400 m^3/h.

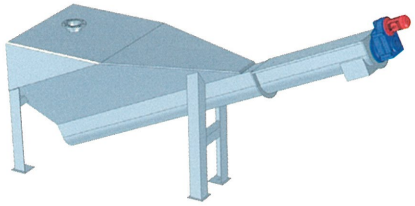


AKSE® F/S

The stock to be thickened flows between two mesh-covered discs which are fixed on a central shaft rotating concentrically in a vat. The stock drains through the mesh and the thickened material is conveyed by the rotation of the discs conveys the thickened material to the side opposite the inlet, here the thickened stock is thrown out and removed via a discharge chute.

AKSE® F is available with disc diameters ranging between 1.75 and 3.0 m, and can take 1 - 10 pairs of discs per unit. Small units having a filter surface of 4 m^2 and also large-scale thickeners of 220 m^2 filter surface are based upon the same operating principle.

The benefits of AKSE® include: low maintenance, easiest handling and control.

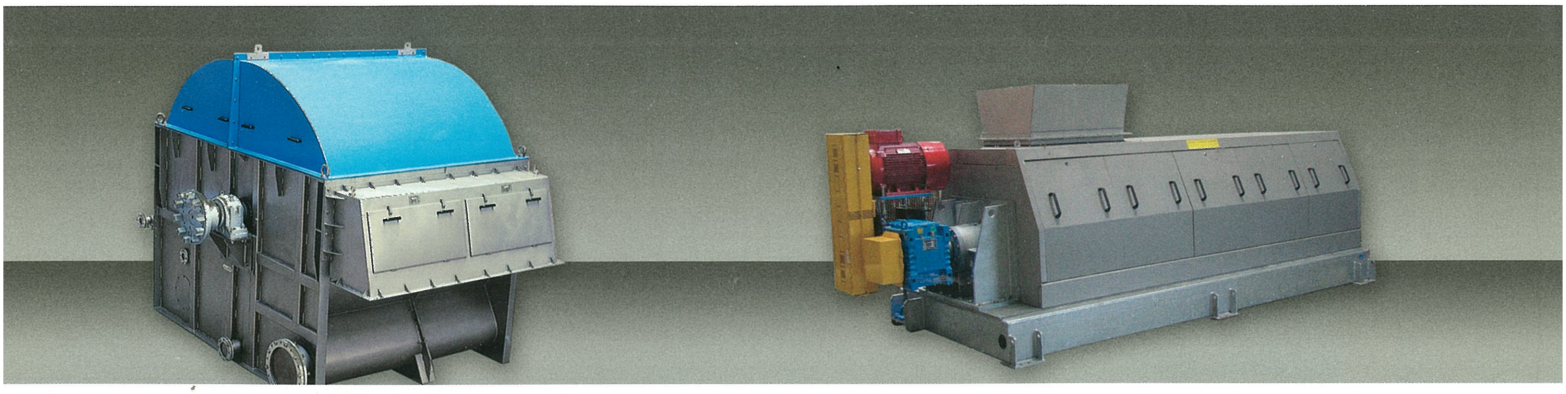


AKUSAND®/ACCESSORY PLANTS

Sturdy shaftless screw conveyor supported on rails made of special steel; optimized water flow for optimum separation of heavy parts.

AKUSAND® is supplied with screw diameters of 170-370 mm and tank surfaces of 1.3-5 m^2.

BELLMER KUFFERATH Machinery

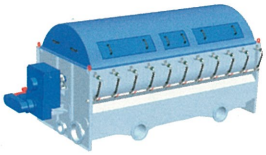


ABOUT BELLMER KUFFERATH MACHINERY

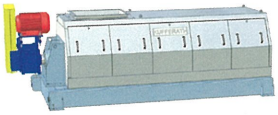
BELLMER KUFFERATH Machinery is a member of BELLMER Group and develops, produces and sells plant and equipment for dewatering, thickening and sorting from its Düren site, Germany.

PRODUCTS

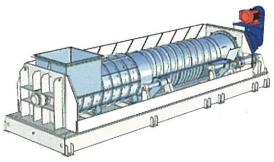
DEWATERING – FILTRATION



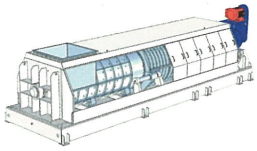
AKSE® F, S
Disc thickeners



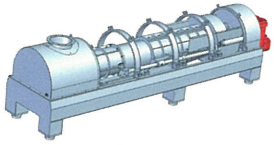
AKUPRESS® A, AS, AM, AX, AL
Screw presses for dewatering coarse matters



AKUPRESS® BX
Screw presses for dewatering structured sludges



AKUPRESS® CX
Screw presses for dewatering fibrous materials



AKUPRESS® LX
Screw press for dewatering difficult, low-structure materials

SERVICES

PROJECT ENGINEERING

Our project engineering services cover everything from flow and control schemes, installation plans, feasibility studies to the integration of plants into the existing facilities and systems.

SCOPE OF SUPPLY

In addition to optimised individual components, e.g. for turnkey contractors, we are able to supply a comprehensive range of machinery and equipment including turnkey systems together with all relevant process control technology.

AFTER-SALES-SERVICE

- Machine/plant commissioning and staff training performed by our own experienced Application Engineers
- Complete on-site assembly and installation with own staff or on-site supervision of assembly and installation
- Maintenance, upkeep and repair works by our own team of highly qualified professionals
- Stockkeeping and fast delivery of important spare and wear parts

www.Drei-K.de

BELLMER KUFFERATH Machinery GmbH · Andreas-Kufferath-Platz 5 · 52353 Düren-Mariaweiler/Germany · Phone +49/24 21/12 18 4-0 · Fax +49/24 21/12 18 4-99
info@bellmer-kufferath.de · www.bellmer-kufferath.de