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Press Release

From propane to hexane: EDL's innovative pilot plant opens up new opportunities to process refinery residues

SDA PLUS EDL Anlagenbau Gesellschaft mbH (EDL), the **EDL•TECHNOLOGY** technology provider and engineering company located in Leipzig, Germany, offers an innovative pilot plant in connection with its extraction technology **SDA PLUS**. At this pilot plant all heavy refinery residues can be tested using the complete range of solvents.

EDL has gained extensive experience in the construction of new and the revamp of existing Solvent Deasphalting (SDA) Plants and has been operating its own pilot plant for solvent deasphalting since 2012. This pilot plant has now been crucially enhanced so that the complete range of solvents can be used – from propane to hexane – as basis for **EDL's extraction technology SDA PLUS**.

With the SDA PLUS technology high-value products can be generated from heavy refinery residues (vacuum, visbreaker, hydrocracker residues, heavy used oils, FCC residues (heavy recycle oil), bunker oils) by means of solvent extraction.

Due to more stringent environmental regulations, such as the IMO regulations to limit emissions for ships, and the trend towards processing of heavy residues, refiners are permanently looking for new opportunities to process their heavy residues as fully as possible. Therefore, increasingly new solutions for deeper residue processing based on solvent extraction enter the limelight.

Compared to conventional SDA processes SDA PLUS offers crucial advantages: optimal product qualities are achieved with high process efficiency based on most advanced column internals. With SDA PLUS existing SDA plants can be optimized and yields can be increased up to 10 %. Moreover, with SDA PLUS the operating costs can be reduced by up to 25 % compared to conventional technologies.



Fig.: EDL's expanded SDA pilot plant in Leipzig / Germany

Safe basis for that certain PLUS

In order to be able to respond more flexibly to market requirements and develop economically and ecologically sound solutions for residue processing for refinery customers, the existing test facility has now been expanded and optimized. As a result, EDL's customers have access to a state-of-the-art SDA PLUS pilot plant which can test all heavy refinery residues with the complete range of solvents (from propane to hexane) as well as solvent mixtures. In addition, special process applications can be designed with the new pilot plant, such as a two-stage

SDA PLUS process that can be used to make deasphalted oil (DAO) and asphaltenes as well as resins.

In combination with specific analytical methods, such as SARA and the proprietary process simulation software for SDA PLUS developed by EDL the pilot plant lays the foundation for the thermodynamic and hydraulic design of the SDA PLUS extraction column and the entire process plant.

The innovative concept of the pilot plant allows to define all required SDA PLUS process parameters quickly, reliably and, above all, tailor-made to the customer's product requirements with even small quantities (about one litre). This creates a safe basis for a highly productive plant 'with that certain PLUS' in a short time and very economically.

SDA PLUS Technology

SDA PLUS is one of the most interesting bottom-of-the-barrel technologies for heavy residue processing in refineries. SDA PLUS offers extremely low investment costs compared to other residue technologies such as hydrocracker, coker, visbreaker or gasification.

With SDA PLUS, asphaltenes are removed as so-called pitch from refinery residues in a special extraction column. The resulting DAO is processed in further process stages to base oils, special oils and waxes, e.g. with the extraction, dewaxing and deoiling technologies of EDL, or used for fuel production. Due to the high flexibility of the SDA PLUS process, a wide range of pitch qualities can be generated, ranging from solid fuel to bitumen production by blending or the Pörner Biturox® technology. The two-stage SDA PLUS process additionally allows to produce resins. SDA PLUS is available with both subcritical and supercritical solvent recovery, optimized for the particular application.

In addition to SDA PLUS, EDL also licenses other processes for the production of base oils, tender oils, waxes and other high-quality specialty products such as EXTRACTION, DEWAXING / DEOILING, MICRONIZATION or AROMEX.

EDL Anlagenbau Gesellschaft mbH based in Leipzig / Germany was established as subsidiary of Edeleanu GmbH in 1991 and may refer to tradition and experience in plant engineering of more than one hundred years. As partner of the refinery and chemical industry EDL offers the full range of services for process plant engineering and assists its customers with advanced and new climate-friendly technologies in sustainably operating their productions. With more than 50 major modernization projects EDL is deemed a revamp specialist. Since 2003 EDL has been part of the Pörner Group based in Austria.

The Pörner Group is the independent European company for process plant engineering. As complete plant engineering provider the Pörner Group offers the full range of engineering services: from project studies and authority engineering to process engineering, basic and detail engineering as well as procurement to construction management and commissioning of the plant.

The Pörner Group offers advanced technologies in the world market and supplies complete process plants, amongst others for: [bitumen](#), [residue technologies](#) with [solvent deasphalting](#) (SDA PLUS), extraction (EXTRACTION) [dewaxing & deoiling](#) (DEWAXING / DEOILING), spray micronization (MICRONIZATION) as well as [BTX aromatics extraction](#) (AROMEX) and [formaldehyde and derivatives](#). With the [Biturox® process](#), the Pörner Group is a global leader in bitumen production in refineries and offers the [Pörner Bitumen Packing System](#), an innovative solution for the economical transportation of bitumen in cold state.

Since its founding more than 45 years ago the Pörner Group has implemented over 2,000 projects in the field of refinery, petrochemical, chemical and pharmaceutical as well as energy and environmental technology. Headquartered in Vienna, Austria the company is represented at seven other locations in Germany, Romania, Ukraine and Russia.

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