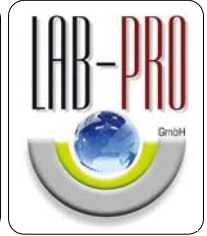


HYDROC

Hydro-Extracting Technology for Superior Quality



Product comparison for the hydro-extraction of yarn packages

1. Methods

Basically there are 2 techniques to mechanically dehydrate (centrifuge) yarn packages.

- A. The classic method is to either pack a larger number of yarn packages into a perforated basket (basket centrifuge) or to vertically creel the packages on holders (Dettin). Another possibility is to centrifuge the whole dyeing column in a special basket (High Speed Krantz).

For hydro-extraction the basket is spun around the central axis. The yarn packages are pressed against the outside wall. The extracted liquor is drained off through the perforated outside wall (see drawing no. 88-10690-4-0).

- B. In the Hydroc hydro-extractor the yarn package is spun around its own axis at a speed of 5'500 - 6'500 rpm.

Spindle bearings retaining the centrifugal heads are installed on a continually rotating round table. In the loading area of the casing the centrifugal heads stand still for the insertion of the packages. As soon as the loaded centrifugal head has disappeared under the casing, it is accelerated by the central motor to the nominal speed and the package is centrifuged. At the end of the cycle the spindle is decelerated by a non-contact eddy current brake so that the package can be taken out of the hydro-extractor. This technique allows non-stop loading and unloading respectively continuous work.

2. Main differences between method A and B

- | | |
|---|--|
| - Deformation of the yarn package and damages of the dye tubes. | A Considerable, e.g. Dettin centrifuge (see enclosure).
B None. Rewinding is therefore not necessary. |
| - Rewinding after centrifuging. | A Problematic due to the displacement of the yarn layers.
B Very good. |
| - Residual moisture from package to package. | A Very uneven. Uneven residual moistures prolong the drying process.
B Absolutely even. |
| - Distribution of residual moisture within the packages. | A Very uneven.
B Absolutely even. |

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- Manual operation.
 - A The packages are on different levels. The operator must bend down and stretch.
 - B Optimum operating height of 1 meter. Only one package per centrifugal head.

- Continuous manual operation of hydro-extractor and HF dryer.
 - A Continuous operation is not possible.
 - B One person can operate the hydro-extractor and the HF dryer.

3. Residual moisture after centrifuging

The residual moistures after hydro-extraction depend to some degree on the yarn number/density and on the chemicals used during dyeing and especially on the type of after-treatment ($\pm 10\%$).

Texturized Polyester HE	approx.	6 %
Texturized Polyester	approx.	8 %
Acrylic HB and Polyamid	approx.	10 %
Acrylic	approx.	15 %
Wool	approx.	30 %
Cotton	approx.	50 %
Jute	approx.	50 %
Viscose	approx.	65 %
Polyester endless sewing thread	approx.	10 %

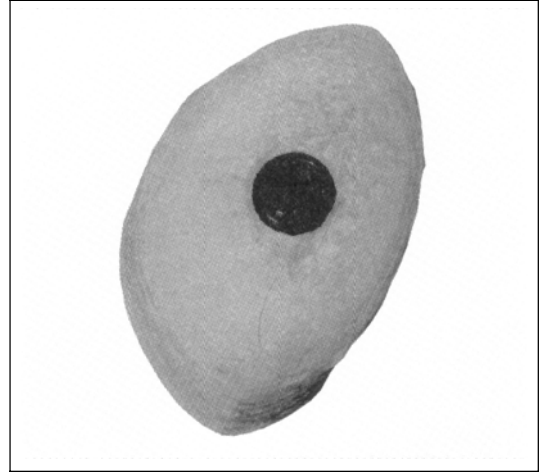
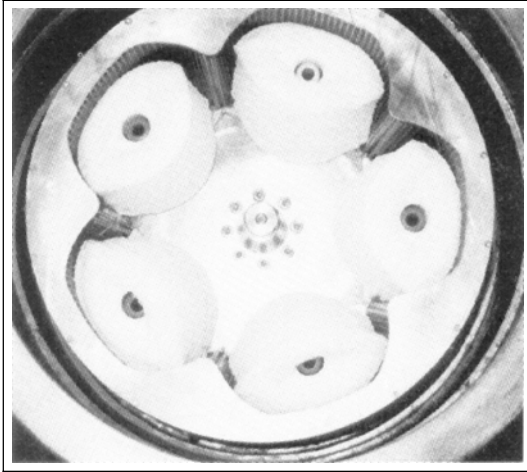
Blended yarns yield better or worse results depending on the proportion of the fibres.

4. Detailed description of the Hydroc hydro-extractor

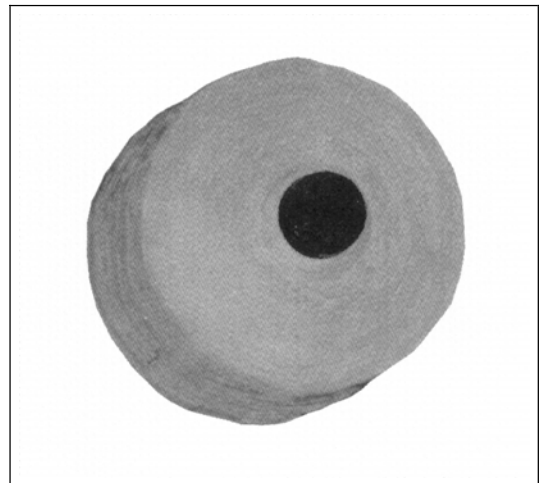
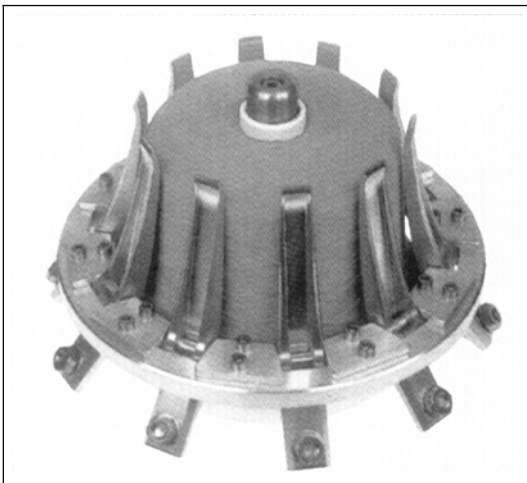
The name HYDROC stands for 50 years of experience in the area of yarn package hydro-extraction. The solid long-life machine has proven its efficiency in the past years.

- The centrifugal heads are made of high-tensile aluminium or stainless steel, designed for 6'500 - 7000 rpm, according to the package diameter. The increased rotation speed of the centrifugal heads automatically renders better residual moistures.
- The drain system from the protective baskets into the sewage system is closed. The flat and very solid covering of the machine totally covers the protective baskets. The machine therefore always remains dry and emits only little noise.
- The new machine is equipped with a non-contact and wear-free eddy current magnetic brake. The permanent magnets do not require connection to the electric supply. This kind of brake has the enormous advantage that no indefinable forces affect the pulleys, the rubber bearings and ball bearings. Due to the non-contact braking the noise level is considerably reduced. The brake does not need maintenance.
- The operating height of one meter is ideal. One person can load and unload the hydro-extractor as well as the HF dryer.

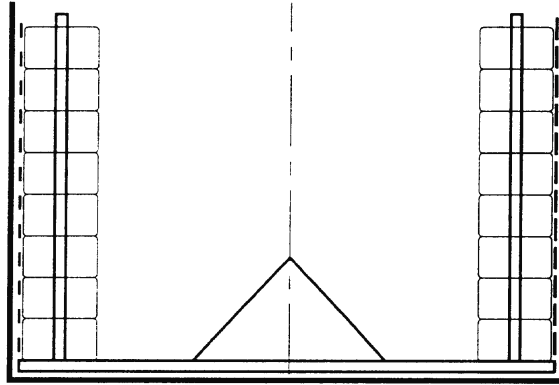
What do you think about such packages?



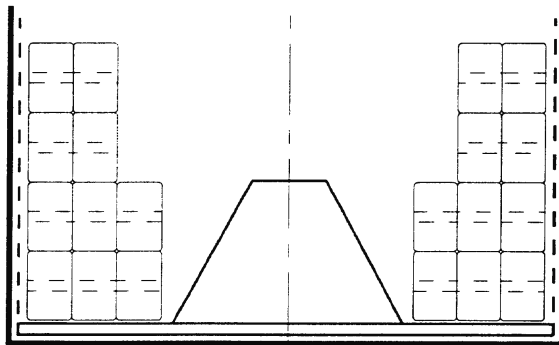
When do you change to a HYDROC?



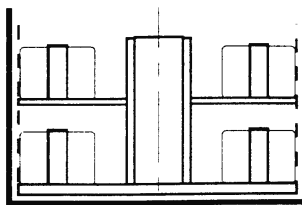
Centrifuge Types



High Speed
KRANTZ



Basket Centrifuge



Dettin Centrifuge