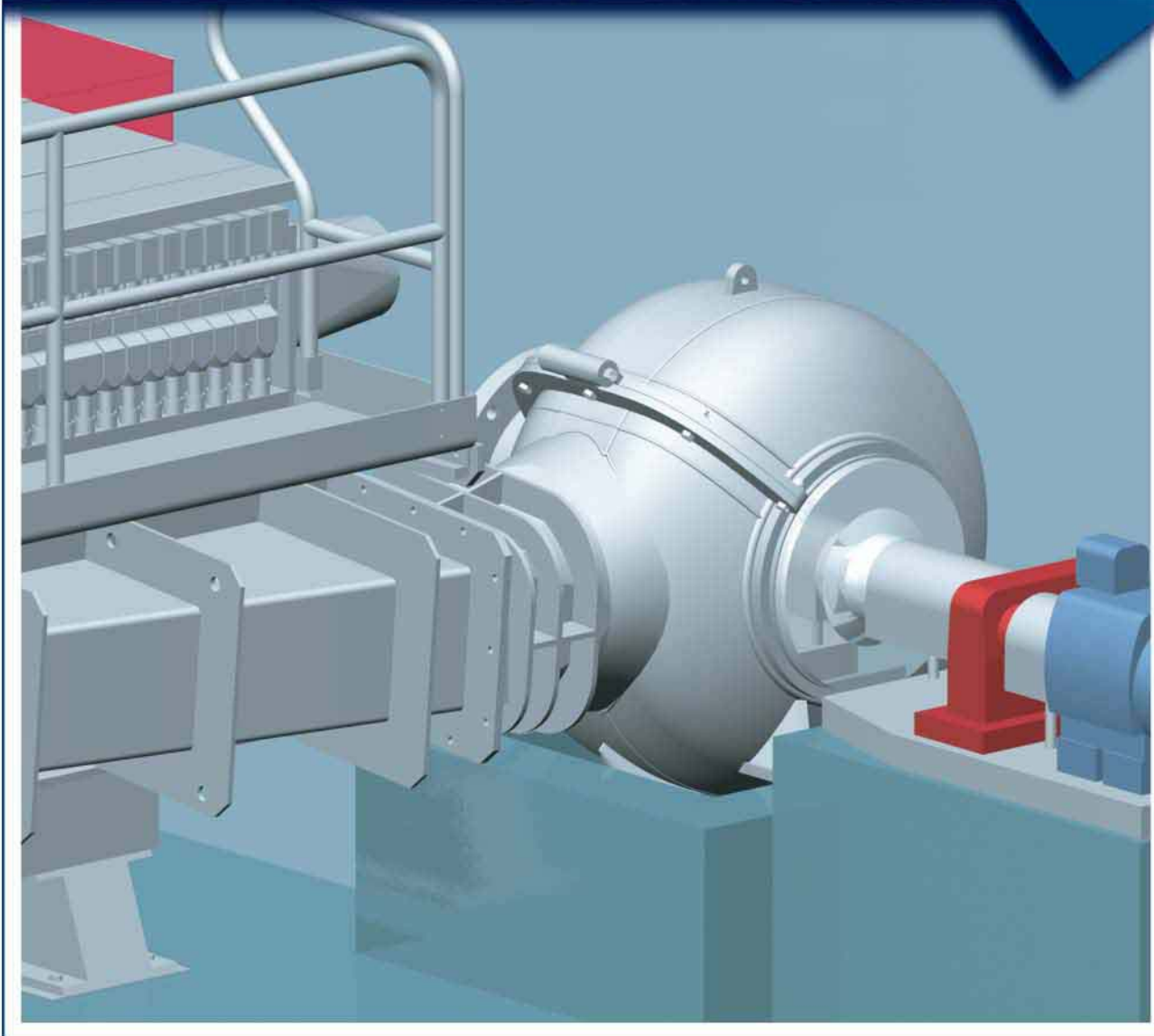


# RADISCREEN-M

DIRECTLY COUPLED TO HEADBOX



- **IMPROVED FORMATION**
- **HIGH CAPACITY**
- **LOW INSTALLATION COST**

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# NOSS MACHINE SCREENING CONCEPT

## MACHINE SCREEN DIRECTLY COUPLED TO THE HEADBOX

The RADISCREEN-M System has been developed during many years through scientific studies and practical experience in order to meet the demand of paper production today and in the future.

The RADISCREEN-M itself has been developed with a unique design.

It was obvious that if the screen could be installed close to the paper machine headbox it would lead to several advantages. The NOSS CONCEPT FOR MACHINE SCREENING does not only include the machine screen itself but the entire system design.

## IMPROVED FORMATION AND REDUCED GRAMMAGE VARIATIONS

One very important task for the machine screening is deflocculation of fiber flocs in order to prevent negative effects on the paper characteristics. However, if the period of time between deflocculation and web forming on the paper machine is too long, reflocculation may occur. This can be avoided by installing the screen directly on the headbox. With the specially designed accept outlet optimal flow conditions can be achieved preventing the fibers from flocculating. Measurements clearly show that better formation is achieved preventing the fibers from flocculating. The uniformity of the fiber distribution reduces grammage variations substantially. Fig 1, Fig 2.

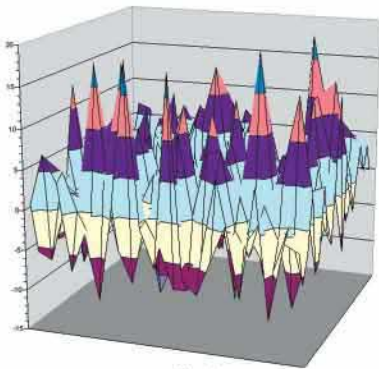


Fig. 1

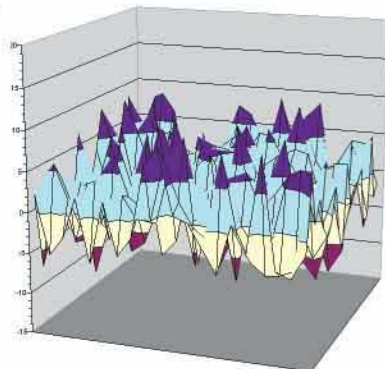


Fig. 2

Grammage variations in the paper are substantially reduced after installation of RADISCREEN-M directly coupled to the headbox.

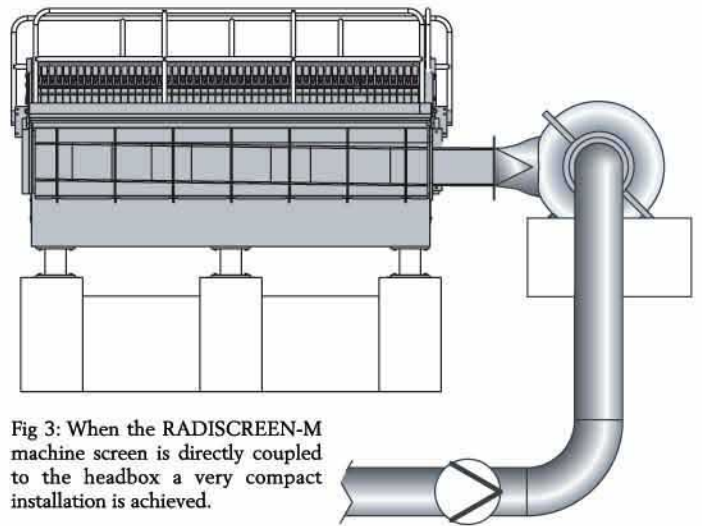


Fig 3: When the RADISCREEN-M machine screen is directly coupled to the headbox a very compact installation is achieved.

## REDUCTION OF PULSATIONS FOR ENHANCED PAPER QUALITY

All rotating machinery such as pumps and screens generate pulses in the piping system. These pulsations are of the same nature and behave as sound waves propagating in the liquid. When the waves interfere in such a way that a "standing wave" occurs this may cause problems with pulsations on the paper machine, which in turn may create problems with the paper quality. The occurrence of pulsations depends on many different factors such as construction of the piping system, the speed of sound in the liquid (which is dependent on the air content), the pulsation frequency and not least where the screen is installed in the system.

We have carefully studied these issues and found that when the screen is located close to the headbox it can be shown that problems with pulsations are substantially reduced and paper quality is enhanced. These are very important reasons why to install the screen directly coupled to the headbox.

## OTHER ADVANTAGES

When the RADISCREEN-M is installed directly on the headbox, the screen itself is redirecting the flow before it enters the headbox inlet. Therefore, the traditional, specially designed and expensive L-bow is eliminated. In addition, there is no need for a long, straight accept pipe to achieve good flow conditions.

Furthermore, as the RADISCREEN-M is capable of handling very high flows with just one machine, the installation costs for the piping can be reduced substantially. The possibility to achieve very compact and space saving installations leads to reduced building costs. Fig 3.

Sometimes it is preferred to add certain paper chemicals as retention aids close to the headbox. An excellent point for this could be in the outlet of the screen where the level of micro turbulences is high and the time before web forming is short.