

AMX AGITATORS IN PULP & PAPER

pulp & paper

The design of agitators in the pulp and paper processing industry is critical, and AFX has the required expertise. AFX guarantees that the desired process performance parameters are achieved. Paper stock slurries behave in a manner that is very different to that of other fluid slurries and as such AFX takes into account that there are specific minimum requirements for the mentioned slurries and ensures that these requirements are met with the designed and supplied agitator. The requirements, namely motion and blend time, in correlation with the effect of mixer and paper stock variables, are factors which influence the power requirements of the agitator.

Given the mission embarked upon by business to go green, energy conservation has been a focal point when designing suitable agitators. Our agitators are guaranteed to deliver the on process performance, as well as aid companies with their energy saving requirements. AFX designs well-engineered solutions that deliver the correct mechanical sizing coupled with the best power draw for the application. AFX's applications engineers have an in-depth understanding of the variations and various process requirements which are encountered within the pulp and paper industry, namely oversized storage tanks, controlled zone agitation, split feed forward control, bleaching, stock pulping as well as consistency control.



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AFX works in close correlation with the mill's engineers and staff, thereby ensuring that final consideration is given to all the process variables. AFX has built its expertise over many years in understanding the factors and parameters for the agitators to be designed correctly:

- **System:** AFX has the in-depth knowledge of the processes involved in this industry which include the feeds and pumps and the particle process in a chest.
- **Consistency:** The fluid consistency plays a large role in power selection. A consistency change from 3.5% to 4% could result in a 50% increase in motor power to achieve the desired process performance. AFX's knowledge of this is included in its design process for the agitator.
- **Stock Type:** The type of stock, as well as its behaviour, assist the applications engineer in knowing what the slurry's tendencies are while being agitated. AFX has the design tools to ensure that the specific parameters are met according to the stock type.
- **Temperature Effects:** General theory states that the higher the stock temperature, the easier it is to agitate. However, the temperature does not always play a major role in the power selection, as most stocks are at a high temperature with no large variation is expected.
- **Time:** The retention time is critical in the design of the agitator and if incorrectly designed may result in compromised consistency. If short retention times are required then the agitator would have to perform its duty in a shorter period, this ultimately results in increased power and sometimes larger impeller selections. AFX has knowledge of the standard process variables in this industry and using "standard" retention times, the applications engineer designs a more cost-effective agitator for the blending process.
- **Chest Configuration:** AFX's knowledge in this industry allows us to assist and advise on optimal sizes for chests to be built that achieve optimal agitator performance. Using the above variables, the AFX applications engineer calculates the process factors and accordingly the design and size of the agitator, which will meet the required process requirements. Our mechanical knowledge and understanding of this industry provide our client with peace of mind while taking into account the importance of minimising downtime during routine maintenance. AFX processes data on the client's application requirement along with the operating environment. The applications engineer then has an indication of the type of agitator which would be suitable for the area and will then include the mechanical variations such seals and coatings.

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AFX understands that the process is a continuous operation through the pulp and paper manufacturing process, which include the blending of chemicals into stock lines. Some plants may consider the installation of static mixers, also known as in-line mixers. AFX can provide designs as well as technical advice regarding these specialised agitators. AFX will provide you with the technical information, services and support for all your pulp and paper applications. AFX has numerous successful installations within this industry, and we pride ourselves in evolving with the changes in the processes related to this industry.