FLEXIBLE AND EASY TO ENGINEER SERVO-HYDRAULIC ACTUATORS USING 3D PRINTING MANUFACTURING PROCESS

Stefan Thienen*, Thomas Gellner

Bosch Rexroth AG, Zum Eisengießer 1, 97816 Lohr am Main, Germany,

* Corresponding author: E-mail address: stefan.thienen@boschrexroth.de

Already since some time, Bosch Rexroth offers solutions as compact servo hydraulic actuators (SHA). Because there are lot of requests from the market, we thought about reducing the inquiry processing time and delivery time by designing a kit system for the SHA solutions. This system should be flexible enough to cover different technical solutions (e.g. cylinder), functionalities and design styles.

After some investigation, we decided to use an innovative casting block, made with a 3D printed sand core. By using this technology, we got a compact and lean design for our block and the entire hydraulic system. This shows the usage of modern production methods in series production in relatively new hydraulic systems, like the

SHA.

Further, we created an online configuration tool, which will help our sales team to choose and validate a solution that fulfills our customer requirement within very short time. To be ready to place an order the tool includes the pricing process. All is build in a user-friendly way with all necessary calculations in the background.

The benefits for the customer are the fast configuration, evaluation with all available options and the required installation space. Because of optimizations of the product, we are able to deliver such axis within short time, even if it is only one single axis.

The product with the described features will be available for customers in 2020.