Perfectly documented finished cylinders
Simply assemble the hydraulic cylinder, import and document

The everyday life of engineers is made easier if planning and product selection are carried out faster, all required data are available immediately and can be imported and the documentation is complete – and all that for finished cylinders, in other words with all additional options. At the hydraulic cylinder specialist AHP Merkle in Southwest of Germany, with its thousands of product variations this is possible. The trick is that in the end all required data, the complete dimensioned drawing and a 3D model of the individually assembled hydraulic cylinder including a 3D rotation function are available in a standard PDF file.

The engineering and design tool of the hydraulic cylinder specialist AHP Merkle is available on CD, as a program to be installed on a computer and as an online version – in 14 languages. The integrated Cylinder Assistant supports designers in choosing the right cylinder, assembling it and later exporting the required data into their own CAD system. What makes the program particularly easy to use is that once users have chosen the product group and decided on the dimensions, they only need to navigate in one window. But now a crucial new feature has been added. In addition to the CAD data, a multi-language PDF data sheet can be created that simplifies documentation even more.

PDF-Documentation for quick and clear product evaluation

The advantage is that this standardised data format can be used on any system, because all that is required is the Acrobat Reader. This comes in handy when the main task is to quickly check whether all design details such as piston end, projection, total cylinder lengths, mounting dimensions etc. have been taken into account before the cylinder is actually ordered by machine and plant manufacturers.

A second important aspect is that the PDF files represent a complete documentation of the hydraulic cylinders used. This means: If at some point later follow-up or spare parts orders are placed – also as part of service requests – all the necessary data are available and readable.

The 3D model can be freely rotated in all three dimensions

When generating the PDF file, three pages are created. Page 1 contains all the required information about the type, dimensions and features of the hydraulic cylinder. To the right, the complete hydraulic cylinder with all attachments such as bearings etc. and additional features such as limit switches etc. is shown in the form of a 3D model. This can be seen from the version 9.0 of Acrobat Reader. Using the mouse, the
hydraulic cylinder can be freely rotated in all three dimensions. This gives designers a realistic idea of the shape and dimensions and enables them to immediately see whether all design details have been taken into account. On the second page of the generated PDF, additional important information about the cylinder, for example, accessories such as limit switches or the amount of oil required to move the cylinder up and down and the weight is shown. This kind of information is very important for designers because it enables them to immediately plan additional steps concerning statics, commercial operation and parts logistics. This prevents delays in the future or even unpleasant surprises during shipping or commercial operation.

Complete 2D dimensioned drawing including accessories and attachments

The third page of the PDF file of a selected AHP hydraulic cylinder contains a complete 2D dimensioned drawing. It also includes the measurements of any selected accessories, which again provides for maximum transparency. Especially with long-stroke hydraulic cylinders, the "component size reduction" feature is extremely helpful. To ensure that the entire product fits on one page without having to use a ridiculously small scale, a standard dividing line is used as designers commonly use in their drawings.

Clear communication between supplier and customer

With these three pages, which contain an abundance of information, illustrations and notes, designers are able to quickly ascertain all the important information and evaluate the products before ordering them. An additional advantage of this compact summary generated in the engineering and design tool is that AHP Merkle is provided with unambiguous information for the order. The desired product is clearly defined, thus enabling the quotations to be prepared considerably faster – a significant advantage for designers.

As an additional feature in connection with the generation of the PDF from within the engineering and design tool for hydraulic cylinders, AHP Merkle offers yet another option: Users who want to use the 2D dimensioned drawing for a very detailed review or as a design template can generate only the third page of the PDF file. In this case, the 2D dimensioned drawing generated by the program using the 3D data is saved as a vector graphic. This means the graphic can be scaled to any size without loss of quality and can be enlarged as required; for as we all know, PDF files can be saved and printed. With the new PDF generation feature, AHP Merkle has once again shown that even sophisticated and easy-to-use design tools can be further perfected.

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3 | The graphic can be scaled to any size without loss of quality and can be enlarged as required; for as we all know, PDF files can be saved and printed
(Pictures: AHP Merkle, Göttingen, Germany)