JÄGER GROUP

CASE STUDY

UNIVERSAL IN USE

THE JÄGER GROUP BRINGS ALL CABLES UNDER ONE HOOD!

CHALLENGE

Highest precision and tightness required.

Clear cost specifications with regard to product and tool.

Various requirements regarding geometry and application.

SOLUTION

Construction of a component for various cable diameters.

Analysis and revision of the first design.

Longer cable guide for better handling in use.

RESULT

Cost savings due to lower tool costs.

Advantages in spare parts supply with only one product.

Successful and consistent cooperation.

CHALLENGE

HIGHEST PRECISION AND SMALLEST TOLERANCES!

This is what laboratory and measurement technology is all about. There is no room for inaccuracies in those areas where thousandths and ten thousandths are involved. Knick Elektronische Messgeräte GmbH Co. KG is well aware of this, as it has been producing and supplying high-quality electronic measuring instruments for interface and process analysis for over 75 years. This quality standard, which runs through the entire Knick product range, is also what keeps the company's designers restless and presents them with a challenge.

Immersion fittings, which for example determine the pH value, the oxygen content or also the conductivity of liquids, are to be sealed against the surrounding medium. Reliable protection of the internal sensor against the existing environmental influences is the goal of the considerations. However, this is more difficult than initially expected, because this is a completely new development that cannot be handled by Knick alone due to extensive specifications. For this reason, Jäger Gummi und Kunststoff GmbH has been entrusted with the constructive implementation of the project. As a long-standing supplier, Jäger has already proven to be a reliable and innovative partner for various other product inquiries. First of all, the customer's wishes and requirements must be clarified. Clear cost specifications regarding product and tools provide a clear project framework. But how can the specifications for the product ideally be realized for several measuring instruments at the same time?

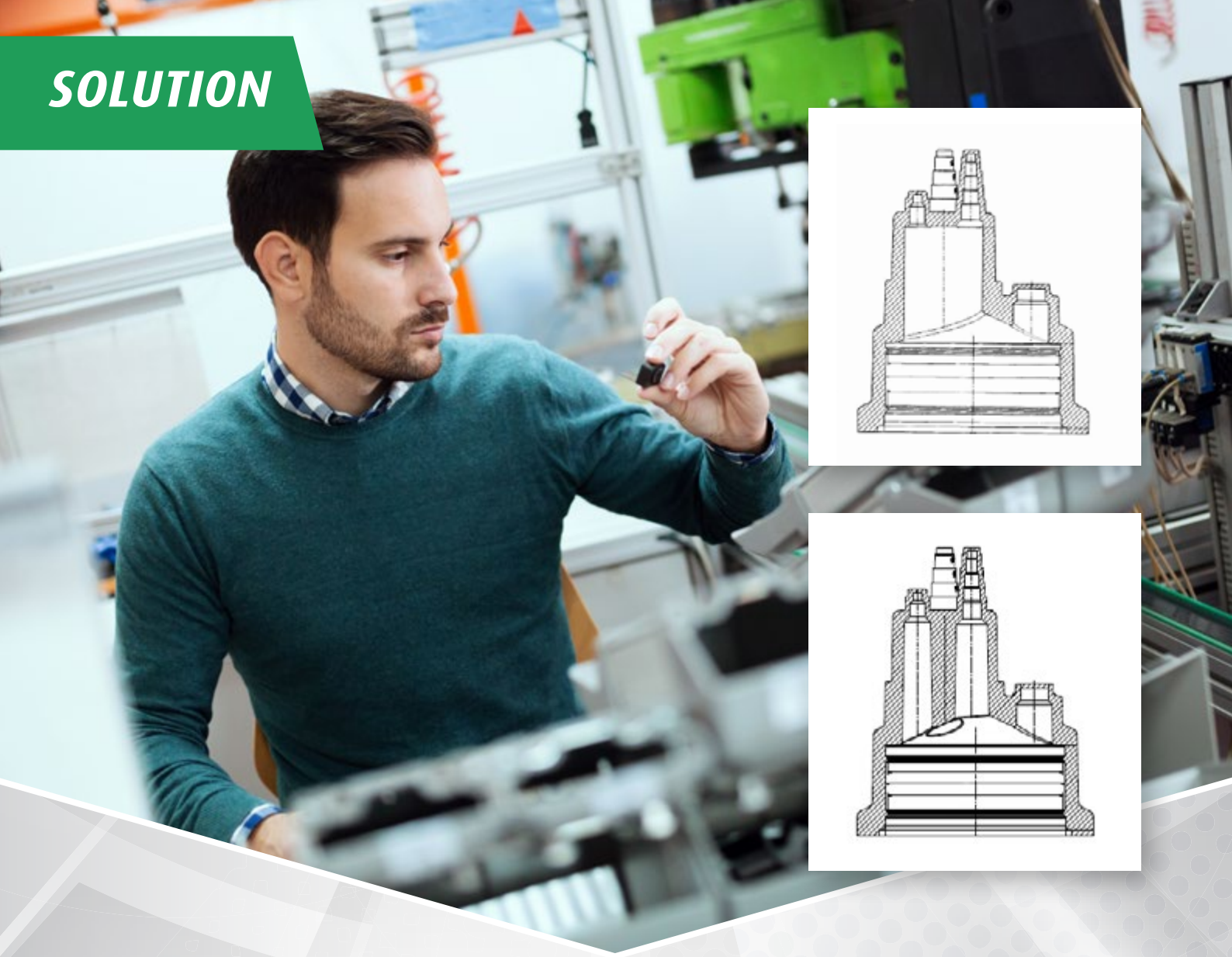
SOLUTION

UNIVERSAL APPLICATIONS REQUIRED

First, the experts from Jäger look at the application in detail. The immersion fittings of the measuring instrument are equipped with different sensors depending on the application. Accordingly, these could in theory also be equipped with a single rubber hood, but it is not that simple. Depending on the sensor used, there are different cable diameters, which is why the feedthroughs inside the rubber hood would be too small for some sensor cables and too large for others. However, several rubber hoods for different cable diameters are not desired due to the resulting tooling and handling costs.

Therefore Jäger und Knick are developing an alternative strategy: By adapting the geometry of the previous solution, a rubber hood should be usable for several cable diameters. For this purpose, the cable outlets are extended and graded according to different diameters. The whole thing is produced in compression molding (CM process) from an EPDM (ethylene-propylene-diene rubber) with 80 Shore, a material that is both long-term resistant and inexpensive, and which fits the requirement profile perfectly. To simplify things for the end user, the various cable versions are provided with a label indicating the different diameters. This saves additional time in case of application.

SOLUTION



THINKING AHEAD FOR MUTUAL SUCCESS

After some considerations a first and promising design of the product can be realized. At this point the project could already be completed and handed over to the customer, but all parties involved are not yet 100 % satisfied with the execution. After several tests, it becomes clear that the introduction of the cables is not optimal, because they get stuck inside the rubber hood. So the design is once again examined more closely. However, after intensive consideration and a corresponding adjustment of the inner geometry, this challenge can be mastered. An extension of the interior cable ducts brings the breakthrough, so that each cable dome gets its own cable duct. This allows the cables of the various sensors of the immersion assembly to be replaced quickly and effectively without a complex process. One solution for all sensor variants!

RESULT

ONE PRODUCT - MANY POSSIBILITIES

Due to the development of Jäger, all requirements of the Knick company can be mastered. A product, which is optimally designed for the application and can be adapted to different sensors, is the result of the cooperation. Due to the chosen concept with only one tool the costs can be kept low, which results in a mutual competitive advantage. A further advantage is that the supply of spare parts and the procurement of products at the customer's premises is also made considerably easier and more cost-effective by this concept. A result that is worth seeing and which underlines the successful co-operation between the two partners.

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