

Rule-base PFD/P&ID converting library for Smart FEED system

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In the engineering design field, a lot of manpower is required to maintain a consistent work flow handling enormous engineering documents and minimizing user errors. Smart FEED implies that it can automatically design and create a framework for basic design and FEED work. Therefore, its needs are increasing in engineering design fields because the Smart FEED can contribute to improving the competitiveness in engineering design capability by reducing manpower and human error in process design.

In this study, we have built a database to convert intelligent PFD/P&ID from PFD/P&ID. The Rule-base unit converting, a key element of this study, is to create rules by comparing PFD with P&ID. A symbol library from PFD and P&ID has been constructed by following the developed Rule-base. The Rule-base database was also developed for creating equipment size database. Furthermore, a Hydraulic Calculation database for the Smart FEED was built for an engineering calculation database for sizing. The validity of the developed Hydraulic Calculation database was confirmed in the comparison with the result of Single Phase Hydraulic Calculation using HYSYS.