

CASE STUDY VAN HOOL OF BELGIUM

MIG WIRE SUPPLIED ON TRACK WITHOUT FEEDING PROBLEMS

In installations with the welding robot moving along a traversing axis, or when a gantry construction is used, it is often desirable to place the drum of welding wire in an easily accessible location outside the work area. However, weld wire delivery issues can arise when feeding the wire over a longer distance. For this specific application Wire Wizard's European Distributor, Valk Welding, has integrated wire delivery equipment including Extra Flexible Conduit, Wire Guide Modules, and Wire Pilot® Pneumatic Feed Assists. Wire Wizard® wire delivery systems have been used successfully in robotic welding applications for more than thirty years around the globe.

FLEX GUIDE MODULES

One of the latest developments in wire delivery equipment are the Wire Wizard® FLEX Guide Modules. These modules are especially designed for welding applications with automated systems on tracks, gantries, and XYZ axis constructions where the cable package must be able to move along with the robot. The FLEX Module is built from segments with ball bearing rollers which guide the wire. These rollers eliminate friction and resistance on the wire, providing a flexible, consistent wire delivery system. The standard FLEX Modules are suitable for wires from 0.8 mm to 1.6 mm \varnothing . Larger FLEX Modules are available for wire up to 4 mm \varnothing , ideal for submerged arc welding applications. The Modules may be mounted to select igus® cable carrier systems, or installed using a mounting channel.



SPOTLIGHT

VAN HOOL Koningshooikt, Belgium

Van Hool manufactures approximately 1,400 buses and coaches, and as many as 3,000 commercial vehicles annually of which 80 % are exported worldwide. With a workforce of over 4,500, Van Hool is a major bus manufacturer in Europe, offering a complete range of buses for public transport in international markets, ranging from a 9 m mini bus to a 25 m double-articulated low floor bus.

WHAT MAKES THE FLEX MODULES UNIQUE?

FLEX Modules differentiate themselves from systems utilizing a Pneumatic Feed Assist (PFA). The FLEX Modules are built with heavy duty steel ball bearings instead of plastic rollers. Therefore, the wear and tear of the rollers is so low that the FLEX Modules can last longer (several years depending on the application). Another big advantage is that there is no compressed air needed, which results in reduced operation costs. In some installations requiring a long distance wire delivery, it may still be ideal to use a FLEX Module system in combination with a PFA.

A SIMPLE & FLEXIBLE SOLUTION

Van Hool is a leading manufacturer of industrial vehicles, buses and coaches in Europe, and utilizes 24 robotic welding systems from Valk Welding. Many are equipped with the Wire Pilot® Pneumatic Feed Assist System (PFA), combined with Wire Wizard® Low-Friction Conduit. Pieter Ceulemans, responsible for welding robots in the industrial vehicles department, experienced in practice that if the PFA units are not adjusted properly, or the settings are changed. “It will result in an overpowered PFA, with slipping drive rolls and a chance of damaged wire, or dust and dirt in the wire cable. This can lead to an inconsistent wire feed, resulting in problems during welding due to improper adjustment of feeding equipment.” With robots traversing back and forth with cable carrier systems over long distances, another wire delivery solution was necessary.



VAN HOOL SEES SUCCESSFUL RESULTS AFTER IMPLEMENTING FLEX MODULES

For testing purposes, Van Hool was equipped with the new FLEX Module, combined with the standard Wire Guide Modules. The Guide Module System reduced wire friction enough to where additional wire delivery equipment was no longer required. “Besides the fact that there are no adjustments to be made in this system, it also has more advantages. Feeding in new wire (end of drum cycle) is simple and can be done by hand, which gives you the opportunity to check if the wire runs through the whole length correctly. This makes changing the drums of wire much easier, because there is more accessibility for placing the new drum into position. Also, the wire supply can be disconnected in several places and be cleaned,” Pieter Ceulemans says.

FLEX MODULES CREATE A CONTINUOUS PROCESS

In the new modular system, the wire supply consists of straight lines of conduit, and 90° Guide Modules with FLEX Modules installed along the cable carrier. This limits friction and wear to a minimum. Only the conduit on the robot arm is installed with bends, but since this a short distance, friction and wear are minimal. During the upcoming summer break, Van Hool plans to convert more of their current installations to this modular system utilizing FLEX Guide Modules.

ABOUT ELCO ENTERPRISES

ELCo Enterprises, manufacturer of the Wire Wizard® product line, is recognized as the industry leader in weld wire delivery products, high performance torch products, weld cell support equipment and weld cell optimization. Since we began in 1985, we’ve prided ourselves in providing quality, innovation and top-notch customer service.

Our extensive global distribution network ensures that end users have quick access to individuals trained to support the Wire Wizard® product lines. With over 30 years of experience working with manufacturers around the world, the Wizards are ready to tackle any welding challenge!

For more information, visit
wire-wizard.com or call 517.782.8040