

Press release

IndraDrive Mi: Entirely cabinet free and modular

Complete reallocation of all electrical drive components to the machine saves production space

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IndraDrive Mi enables machine manufacturers to integrate all electrical drive components directly into the machine. The result: Entirely cabinet free, modular machines with a minimized required space.

Rexroth is entirely reallocating the complete drive technology from the cabinet to the machine with decentralized supply and mains modules. The company Gerhard Schubert GmbH is consequently implementing this decentralized approach and is presenting the first cabinet free packaging machine in the world at the fair interpack 2014.

Plant space is valuable. For this reason, end users demand more and more compact machines, in order to increase their production capacities on existing space. Considerable space savings will become possible by giving up separate cabinets. Rexroth is now developing the technology necessary to transfer this theoretical approach into reality. In addition to the motor integrated and near motor drives IndraDrive Mi, the company has developed decentralized supply and mains modules. This is how machine manufacturers can integrate all drive components directly into the machine without needing a cabinet. The company Gerhard Schubert GmbH is the first machine manufacturer to have utilized the new possibilities and is presenting a cabinet

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free packaging machine at the interpack as a world premiere. This machine uses the new decentralized drive components of Rexroth.

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Rexroth designed the cabinet free supply and mains modules, first presented at the interpack, like the motor integrated and near motor drive modules in IP65. This way, they are designed with dust and water stream protection for the robust use directly in the machine. The mains module includes a mains filter, mains regulator, and even the mains protection in one device. The energy recovering power supply, control electronics, brake resistor, and brake transistors are located in the supply module. The connection of the machines or modules to the power supply is carried out directly and without deviation via the cabinet. This reduces wiring in assembly by 90 percent.

With the decentralized modules, machine manufacturers can also connect up to 20 IndraDrive Mi in series in a cable harness up to 200 meters long. Significantly more drives can be switched in series, depending on power consumption, cable length, and selected options. In adjacent near motor drives, a newly developed hybrid plug further reduces assembly work. These protected connector pieces for communication and power supply are simply plugged into adjacent IndraDrive Mi by assembly technicians.

The cabinet free drive technology extends the possibilities to modularize machine concepts. Machine manufacturers pre-assemble machine modules and then connect them to one another at the cabinet without any further work. In addition, Rexroth increases the modularity with standardized interfaces for communication. IndraDrive Mi also supports all of the common Ethernet-based protocols, such as ProfiNet, EtherNet/IP and EtherCAT, all on one piece of hardware with the Multi-Ethernet interface via the automation bus Sercos. The hardware remains identical and selection occurs purely via software. Additionally, a connection to Profibus via Gateway can be created.

In the process of consistent modularization, machine manufacturers are increasingly reallocating control functions to the individual machine modules. With the drive-integrated control unit from Rexroth, drive functions, motion control and flow logic merge into an open automation platform. This motion logic system pursuant to IEC 61131-3 also controls complex motion tasks. The drive-based control by Rexroth coordinates up to nine IndraDrive Mi as slaves in real time.

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Economical, precise, safe, and energy efficient: drive and control technology from Bosch Rexroth moves machines and systems of any size. The company bundles global application experience in the market segments of Mobile Applications, Machinery Applications and Engineering, Factory Automation, and Renewable Energies to develop innovative components as well as tailored system solutions and services. Bosch Rexroth offers its customers hydraulics, electric drives and controls, gear technology, and linear motion and assembly technology all from one source. With locations in over 80 countries, roughly 36,700 associates generated sales revenue of approximately 5.7 billion euros in 2013.

To learn more, please visit www.boschrexroth.com

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