

Highly flexible pick & place with digitised pneumatics

Festo Motion Terminal enables positioning using pneumatics

The Festo Motion Terminal VTEM combines digitalisation and pneumatics. Quickly activated Motion Apps are revolutionising pneumatics by increasing flexibility and energy efficiency, and accelerating production processes. This also has benefits for handling technology, because the automation platform VTEM opens the door for positioning using pneumatics.

The Festo Motion Terminal VTEM is moving pneumatics into the age of Industry 4.0. With apps that can replace over 50 individual components. Just as the smartphone turned the mobile communication market on its head over a decade ago, so too is the Festo Motion Terminal set to revolutionise automation technology. This new type of function integration – combined with software – simplifies the entire value chain, since only one piece of hardware is now required.

This means that users can execute different tasks with just one valve and operate 16 pressure regulation channels with eight valves. This significantly reduces the amount of work required, from engineering to format change-overs. This is why experts are calling the Festo Motion Terminal VTEM a revolution in automation technology.

Simplifying pick & place applications

With the Motion Terminal VTEM, users can realise all the functions in their pick & place application in just one system. There is no longer a need for components like shock absorbers or flow control valves. Since Motion Apps now take over many tasks and replace complicated mechanical structures, the design process is much easier. The process data can be read out at any time so users can respond quickly to deviations and thus ensure consistent quality.

Positioning using pneumatics

The app “Positioning” gives handling experts flexibility when positioning workpieces of different sizes. They can optimise the end-to-end motions for every possible workpiece size, for example by precisely defining the variables such as the motion speed and impact energy in the end position.

With the Motion App “Positioning”, pneumatic actuators can be freely positioned along the entire working stroke and the cylinder movement can be controlled using limit values for the speed, acceleration and jerk parameters. Gentle positioning is possible for selected series with strokes of up to 300 mm by specifying the limit values.

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Pressure and vacuum control

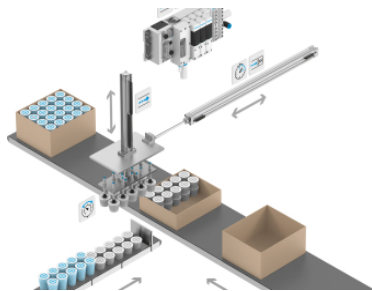
By using the app “Proportional pressure regulation” safe transport with vacuum is ensured. The vacuum level is simply adapted to the weight to be moved. This enables plant manufacturers to also increase the energy efficiency of their application. Changeover times or manual format changes are a thing of the past as users simply switch over to the parameters they need. The virtually vibration-free travel into the end position with the app “Soft Stop” minimises wear – and shortens the cycle times.

Software instead of hardware

Thanks to the fast activation of new functions via Motion Apps, machine developers can create a basic machine type using the Festo Motion Terminal and then select the relevant Motion Apps to equip it with different functions and features as per the customer requirements. The ability to copy and transfer parameter sets makes planning easier and saves time. Assigning functions via software has the added benefit of preventing tampering and protecting know-how, since it's not possible to tell from the outside which functions the valves are executing.

Maintenance is also simplified, as leaks are automatically monitored and long lists of spare and wearing parts are a thing of the past. With the Motion App “Leakage diagnostics”, malfunctions can be detected and pinpointed to a specific actuator via diagnostic cycles and defined threshold values. This enables predictive maintenance.

Press Images



Application Festo Motion Terminal VTEM pick & place

Highly flexible pick & place: the Festo Motion Terminal positions using pneumatics.



Festo Motion Terminal VTEM 1

Game changer in automation: the Festo Motion Terminal. Thanks to fast activation of new functions via apps, machine developers can create a basic machine type and then, depending on which apps are selected, equip it with different functions ...

About Festo

Festo is a global player and an independent family-owned company with headquarters in Esslingen am Neckar, Germany. Festo has set standards in industrial automation technology and technical education ever since its establishment, thereby making a contribution to sustainable development of the environment, the economy and society. The company supplies pneumatic and electrical automation technology to 300,000 customers of factory and process automation in over 35 industries. Digitalization, AI and the LifeTech sector with medical technology and laboratory automation are becoming increasingly important. The products and services are available in 176 countries. With about 20,600 employees in over 250 branch offices in around 60 countries worldwide, Festo achieved a turnover of around €3.45 billion in 2024. More than 8% of this turnover is invested in research and development. In this learning company, 1.5 % of turnover is invested in basic and further training. Festo Didactic SE is a leading provider of technical education and training and offers its customers worldwide comprehensive digital and physical learning solutions in the industrial environment.