

450 Blisters per Minute

PLC, motion control, drive as one unit: A complete solution for PG Express



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Unparalleled innovations and passion to shape up the future of India is what best describes Kollmorgen. Not resting on its past laurels, Kollmorgen exhibits relentless performance, ensuring reliability and quality by way of products and solutions it offers. Bringing in latest technological innovations, Kollmorgen is participating in strengthening the packaging & metal forming market segment in a big way.

It is in this pursuit of excellence, Kollmorgen has supplied the complete [automation solution](#) to IMA PG for their PG Express machine. IMA-PG India Private Limited is a pioneer in the field of Thermoforming machines in India having introduced its first machine in 1978. It is today well respected for its ability to innovate and engineer solutions to meet constantly changing demands. It offers a complete range of packaging solutions that includes machines for applications such as cartoning, rotary vacuum forming, rotary sealing, flat sealing and tube-filling besides of end-of-line packaging. Kollmorgen has been associated with IMA PG for the last two years where they have supplied Automation Solution products like Motion Controller, HMI, [Servo drives](#), [Servo Motors](#), I/Os, etc. Through world-class knowledge in motion, industry-leading quality, and deep expertise in linking and integrating standard and custom products, Kollmorgen provides OEMs with the competitive advantage they need to succeed.



Photo: Kollmorgen

To make the machine user friendly for the OEM, easy software development was done using the Pipe Network™ which is one of the key differentiators by Kollmorgen.

per minute thus making production much faster. However, the OEM started developing obstacles in controlling the temperature which is a critical aspect of this machine because sealing is dependent on the effective temperature control. If the temperature is not controlled properly then the quality of final blister would be bad & it won't be sellable in market.

Reliability right from the start

When the OEM approached Kollmorgen with this problem, we were quick to respond. An inbuilt function for temperature control was installed which is around 15 times faster than the external controllers. This saves additional PID controller costs and more importantly it results in better quality and less wastage. The program is controlled using [AKD PDMM controller](#). This is a drive based motion controller with integrated PLC functionality, which is specially designed for small and compact machines typically used in packaging machines. AKD PDMM brings high performance PLC and Motion Control into

PG Express - a backgrounder

PG Express machine is a blister packaging machine which is used for forming blisters. Blister is a pack of some tablets (e.g. 10, 4, 5, 1 etc.) made as per design which is used to hold the tablet. This machine is manufactured by IMA PG from the last three to four years but this was the first machine where Kollmorgen supplied the entire automation solution. It is a 3 axis machine used for Indexing, feeding and punching the blister. Major flow of machine operation is formation of blister, dropping of the actual tablet, sealing of the blister and finally cutting of the blister. Kollmorgen has improved the machine speed through excellent system performance. The machine can now produce up to 450 blisters



Photo: Kollmorgen

AKD PDMM brings high performance PLC and Motion Control into technologically advanced machines.

technologically advanced machines. The integrated Motion Controller can synchronize up to 8 axes with 250 μ s cycle time. It supports various motion control functions from simple point to point positioning to linear and circular interpolation. PDMM can take care of PLC logic, temperature control, motion control, HMI control & drive control for entire packaging machine.



The machine can now produce upto 450 blisters per minute thus making production much faster. Currently the P G Express machine is installed at a leading pharmaceutical manufacture in India and is running successfully from last eight months.

To allow the highest flexibility and freedom of programming, [Kollmorgen Automation Suite™](#) software has been used where PLC logic, HMI programming, Motion control & drive control are all integrated at one place. It complies with IEC 61131-3 standard for programming languages. To make the machine user friendly for the OEM, easy software development was done using the [Pipe Network™](#) which is one of the key differentiators by Kollmorgen. The software development was done in just 10 days as compared to 45 days by competitors thus saving valuable time and money for the client. With the Pipe Network™ it is possible to get rid of mechanical components (e.g. gear, cam) in the machine by defining equivalent motion blocks in the software. This is extremely user friendly, easy to implement & easy to troubleshoot. The user simply needs to draw the scheme & ultimately connect to the machine axes as per requirements. All necessary interconnections are done automatically in the program. The biggest benefit for programmer & end user is the ease of programming & troubleshooting with clear visual understanding of the scheme.

After-Sales Service & Support

At Kollmorgen, the “after sales service and support” to the customer is of prime importance. In this case the first commissioning of the machine was



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done with the help of global expertise in this kind of application. Senior application development engineers from Germany did the entire conceptualization & programming. It was because of the hard work and dedication of the Kollmorgen team that the actual time for conducting trials & finalizing the performance took just 10 days (against 45 days taken by competitor). Currently the PG Express machine is installed at a leading pharmaceutical manufacturer in India and is running successfully from last eight months. From the beginning, Kollmorgen has kept a dedicated application & sales engineer for IMA PG. After the successful implementation of this machine, Kollmorgen subsequently got two new prototypes- PG Super & C350 and successfully executed the same. It was a moment of pride when Kollmorgen recently got the serial production orders for PG Express.



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About Kollmorgen

Kollmorgen is a leading provider of integrated automation and drive systems along with corresponding components for machine builders all over the world. With more than 70 years of Motion Control Design and application experience and profound knowledge of constructing standard and special solutions, Kollmorgen supplies solutions time and again that stand out in terms of performance, quality, reliability, and ease of use. As a result customers can achieve a market advantage which is beyond question.

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