

powerProfiler - Primus inter Pares

The company Heinrich Meyer-Werke in Breloh looks back on a long tradition which takes in the fields of building and construction. Stretching back over generations, HM has been concerned with the production of high-quality building products, and for the past over 50 years, these have included windows and doors – a product area which has evolved today to become one of the company’s core areas of competence.

For its most important customer target group, for instance – property developers of detached and semi-detached homes – HM has fitted more than 5,000 buildings with every conceivable type of door and window over the past five years, the vast majority of them in Northern Germany. Consequently the company enjoys a market position which brings with it a major commitment.

Managing Partner Volker Meyer cannot afford to leave anything to chance when it comes to securing the future production of wooden windows and front doors. As a kind of “pact between generations”, the company recently commissioned an ultra-modern ‘power**Profiler**’ processing centre from HOMAG in its window and door factory. This new acquisition represents a true investment in the future, as it is designed to comply not only with today’s or even tomorrow’s stringent directives, but also with stipulations due to come into force in the more distant future such as insulated glazing and energy saving requirements, U-value, K-value and dB stipulations. For the Chief Executive, this is one of the reasons for opting in favour of the totally new processing centre concept for window and door production from HOMAG. “There is certainly a major incentive in producing round arched windows and front door leaves together on one and the same

processing centre. For myself, the B722 represented the most universal machine option available compared to systems from other suppliers – it is a one-off, a real *Primus inter Pares*”, he explains.

The “power**Profiler** B722” offers outstanding flexibility for the fully automatic complete processing of all kinds of windows including non-standard shapes, profile systems for eco homes / sound proof versions and materials such as wood/aluminium, wood/composite materials and sandwich constructions. And the same applies to front door leaves and upright / transom constructions for conservatories.

The ability of the B722 to process the complete range of both windows and front doors made the purchase decision a foregone conclusion for those responsible at HM Fenster + Türen. For Production Manager Andreas Landgraf, the prospect of working in cooperation with HOMAG to optimize internal operational sequences, processing software and tooling represented a major selling point. “We knew from the large number of processing centres which have been delivered here over the past 12 years that Homag is able to call on a wide-ranging and impressive fund of experience in the field of individual part processing for window construction. This was our opportunity to make additions to some of the components to create the final configuration of our machine, and so contribute with the input of our many years of accumulated knowledge and also put into operation our ideas about some of the detail aspects”.

Given the highly complex nature of some of the requirement criteria faced by the development team configuring the processing centre’s functional features, HOMAG’s assumption of the project management role under the direction of Sales Manager Peter Chr. Nass and Project Manager Volker Schmieder, encompassing also the tooling (Leitz), software integration (Adulo, order entry/processing, cutting lists, material order lists, customer order confirmations etc.) proved a highly beneficial move. The HOMAG

software package with the **powerControl** system generates all the processing programs, ensures optimum table loading including collision monitoring, organizes parallelization of all production steps and coordinates all production sequences. The CNC programming system **woodWOP** allows the additional manual generation of different programs for all different types of doors and non-standard window components.

Another priority requirement for the **powerProfiler** was the ability to produce completely new window types and configurations such as the new HM window corner with a number of special features as tested by the ift Rosenheim. Following gratifying initial sales interest in the new window corner, the time has come to deliver. The catalogue of sales arguments in favour of the new window series under the heading “the seal tight window sash” made a convincing impact:

- Trimmed glazing bar for greater stability and an improved seal
- Double sash seal against wind and rain
- Window frame profile with smooth rebate
- Mechanical corner screw connection permits all-round surface protection on all six sides of the wood profile, as well as ensuring improved corner strength
- Glass panes permanently glued in the sash = increased break-in protection, torsional stability and static strength of the sash, improved insulation values.

Even considering purely economic factors, a feasibility analysis of the new processing centre throws up all the right answers. Installation of the **powerProfiler** made a total of over 40 machines belonging to the company's existing outfit redundant, allowing them to be sold. An automatic outside moulding and profiling machine, several moulding machines, drilling units, two angular plants, double end tenoners and a variety of special-purpose machines are now surplus to requirements, as the new plant is capable of performing all these processes in one. A major

role is played here by the two independently operating processing tables with 3-step clamping, the generously dimensioned tool storage system (up to a maximum of 432 tools), including 72-slot tool changer and automatic workpiece handling. Thanks to the unit equipment outfit – a 13-spindle drilling head, 15 kW working spindle, sawing unit, 4-spindle drilling / trimming unit, 2-spindle lock case trimming unit, FLEX5 sawing / trimming / drilling unit and label printer for part identification – the following operations are all performed, some of them entailing several combined work steps:

- Longitudinal and transverse profiling
- Construction hole drilling / trimming operations
- Hardware hole drilling / trimming operations
- Trimming operations for supplementary functions such as ventilation or alarm mounting
- Sash bar boreholes
- Also separate snipping saw in a version for precise customized cutting to length.

For the cost accounting specialists at HM, this high degree of automation means

- A good 25 per cent less manpower (employees have their hands full in other departments)
- Energy savings, for example through lower extraction output
- Lower space requirement due to compact integral design of the “B700”
- No buffer zones required
- Fewer handling processes due to concentrated sequences
- Economical both for one-off and batch production.

The sums also add up for Managing Partner Volker Meyer from a different point of view: “We can now actually offer our higher-quality windows at the same price as before, as the economical production costs mean that additional important material components can be supplied even in the

standard version. This also means that customers are now getting more window and higher quality for the same money. We consider ourselves ideally equipped to meet the challenges of the next ten years – and if need be, we can retrofit additional units or newer unit versions at any time in the future”.

A real “pact between generations” in which HM Fenster + Türen has invested around one million EURO in the company’s overall infrastructure. And should there ever be a change of direction for the company, then other business divisions of the company group can also benefit from the advantages of the new “power**Profiler**”, which can be used for the production of a completely different range of components such as terrace roofs or car ports.

Specific characteristics

of the HOMAG B700 Power Profiler gantry processing centre

- **Control system**
 - **powerControl** PC 85 with PLC, TFT flat screen with PC keyboard, mouse
Operating system Windows XP
- **For workpiece dimensions**
 - Processing length from 150 to max. 6,000 mm
 - Width from 45 to max. 1,300 mm
 - Thickness from 10 to max. 150 mm
- **Processing tables**
 - Split clamping table with 2 processing stations for simultaneous and independent processing, with 3-step functioning clamping elements
 - Table 1: Clamping height 15 – 120 mm, for window parts
 - Table 2: Equipment as for table 1, supplementary package for arched components, vacuum suction cups for door leaf processing, 1 clamping element for use as short-component clamp with anti-rotation safeguard
 - Integrated chip and waste piece disposal
- **Processing units**
 - 12-spindle drilling head, for vertical and horizontal boreholes in the X and Y direction as well as clockwise/anticlockwise rotation
 - Heavy-duty working spindle 15 KW with tool holder HSK F63
speed range steplessly programmable from 1000 – 24000 rpm
 - C axis with unit interface, drive with swivel axis
 - 72-slot chain changer with HSK F63
 - Sawing unit for exchanging into the working spindle for separating cuts from above at any angle
 - Drilling / trimming unit with 4 spindles for tool changer, for horizontal drilling operations and trimming (grooves, edges, oblong holes, notches)
 - Lock case trimming unit for exchanging into the working spindle, unlimited swivel action over the C axis
 - Flex-5 sawing/trimming/drilling unit for tool changer, automatic swivel action
 - Laser projector for clamp positioning, function together with woodWOP programming
 - Label printer for controlled part identification
 - Workpiece transport
 - a) Belt transport table
 - b) Support table / feeding table, discharge with support table, air jet for part cleaning

**HM Fenster + Türen Heinrich Meyer-Werke Breloh GmbH & Co. KG,
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Founded	Originally in 1836
Management	Volker Meyer, Managing Partner
Production	
Management	Andreas Markgraf
Products	Windows and front doors, porches, car ports sun ports, wall materials, loose bulk goods
Workforce	around 330 in the entire company, of which 110 in the Windows and Doors Division
Size of premises	Site: 25,000 sq.m. Production surface: 11,000 sq.m.
Turnover	25 million Euro
Sales	To property developers (70 %), timber frame house producers, structural element and timber trade, joiners, direct to house builders
Quality certificate	ift Rosenheim, RAL
Services	Logistics for delivery to building sites, assembly, after-sales service Special expertise for property developers with full service
Fleet, shipping	Total of 50 vehicles



Fig. 1:
Service Center

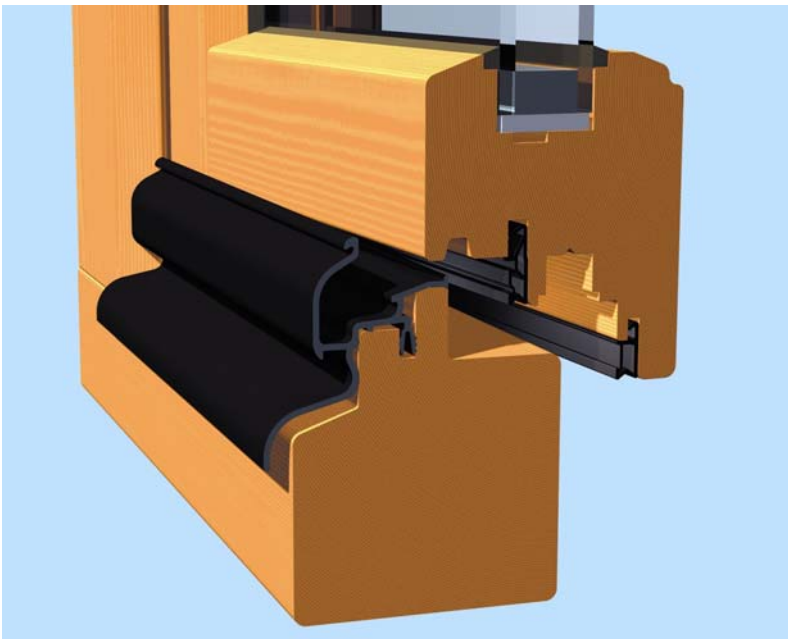


Fig. 2:
With trimmed glazing bar and glued glass pane: The new HM window



Fig. 3:

The window friezes are mechanically joined using these screws



Fig. 4:

This type of corner connection permits all-round surface protection of staves



Fig. 5:

HOMAG power**Profiler** processing centre for the complete processing of window / door components and front door leaves



Fig. 6:

Machine outfeed with completely processed individual window components

For more information, contact

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