



# ...from **Corrugators** & **Plastic Pipes**

Corma Inc. is a worldwide leader in production equipment for corrugated plastic pipe manufacturing. Beginning in 1973, Corma literally re-thought every step of the pipe manufacturing process. The machines offered by Corma today are the product of thirty years of development, improvement and refinement.

## Corrugators from Corma

Corma maintains sales and production facilities in Canada and the United States, along with sales and service locations in Europe and Asia. Corma's corporate headquarters are located in Toronto, Canada, just fifteen minutes by car from

Toronto's Pearson International Airport – where B&R' Canada headquarters are also located.

## Plastic Pipes of all Sizes

Corma offers standard systems capable of producing pipes of virtually all sizes, from extremely small pipes whose inside diameter measures as little as 1mm to enormous pipes whose outside diameter measures as much as 3m (120 in). Corma's versatile corrugators are designed to work with any make of extruder and can use a wide range of plastic materials in the production of single-wall, double-wall, triple wall and single or multi-layered rib pipe. At the



New user friendly B&R Operator Control Panel

customer's request, Corma can supply pipe production systems either as complete turnkey installations or as individual components.



## Automation Requirements

All the corrugators are built to the applicable electrical code of the country where they are to be used. Basic design requirements include:

- components according to international standards
- easy to use operator interface
- modular control systems according to requirements of all the various kinds of Corma machines
- availability & high quality
- price versus performance

Additional objectives for the new generation of automation systems are as follows:

- Implementation of communication standards (to extruders and downstream equipment, factory LAN)
- Built in diagnosis functions (online I/O diagnosis, alarm monitoring/recording, remote maintenance...)

## EUROMAP 27 – a new Dimension in Connectivity

The CANopen profiles for extruder downstream devices include several parts, as for puller devices, corrugators, saw devices as well as for co-extruders. All these specifications have been developed jointly with the European Committee of Machinery Manufactures for the Plastics and Rubber industries (Euromap) and are documented there as Euromap 27.


By implementing this feature, the control system reduced the number of I/Os necessary for communication.

## Modular Software – a new Dimension in Flexibility

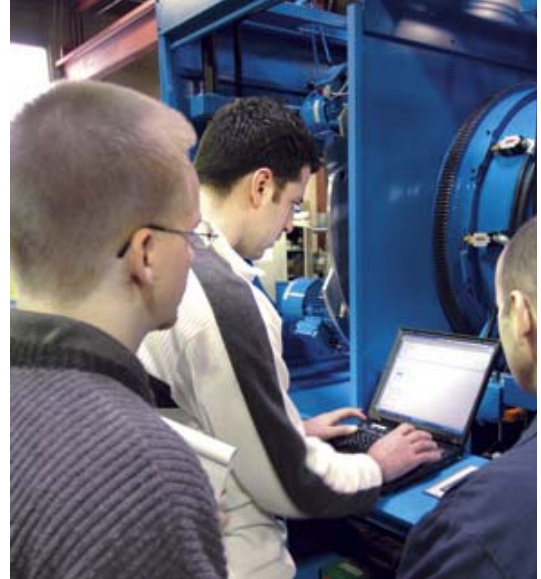
As requested by Corma, the programming was developed in AutomationBasic. Corma programmers found Automation Studio and Automation Basic to be a very user friendly environment in which to program their visualization and control codes. The functionality of the machine was separated into different tasks so that troubleshooting and reading the code would be much easier. Automation Studio also allows Corma the freedom to use other programming languages to program, as some of the programmers at Corma are more familiar with Ladder Logic.

## Operator Interface – a new Dimension of Performance

The new features of the HMI interface include:

- Alarm Status Page
- Alarm History Page
- I/O Status Page
- Language switching
- Remote Data Communication-Password Protection
- Improved scan time
- System Calibration
- Temperature Control (Substitution of former 4pcs external devices)
- Calibration Page
- Export of recipes to USB memory stick (for easy viewing of settings i.E. with MS Excel) 

[www.corma.com](http://www.corma.com)



**Manfred Lupke**  
Chairman and CEO  
Corma

*“We were looking for a reliable Partner for all our automation controller systems. B&R was available right in time to support us with a modular controller platform suitable for all our products, from the smallest to the biggest corrugators.*

*B&R’s engineering service was a substantial, positive factor in order to have the first prototype successfully running in a very short time, including all the new features which are of high importance for our products on the future market - open connectivity on the basis of Euromap27, as well as built in diagnosis, is no longer an open question.*

*Last but not least we see B&R’s worldwide support network as a perfect basis in relation to our target market requirements.“*

