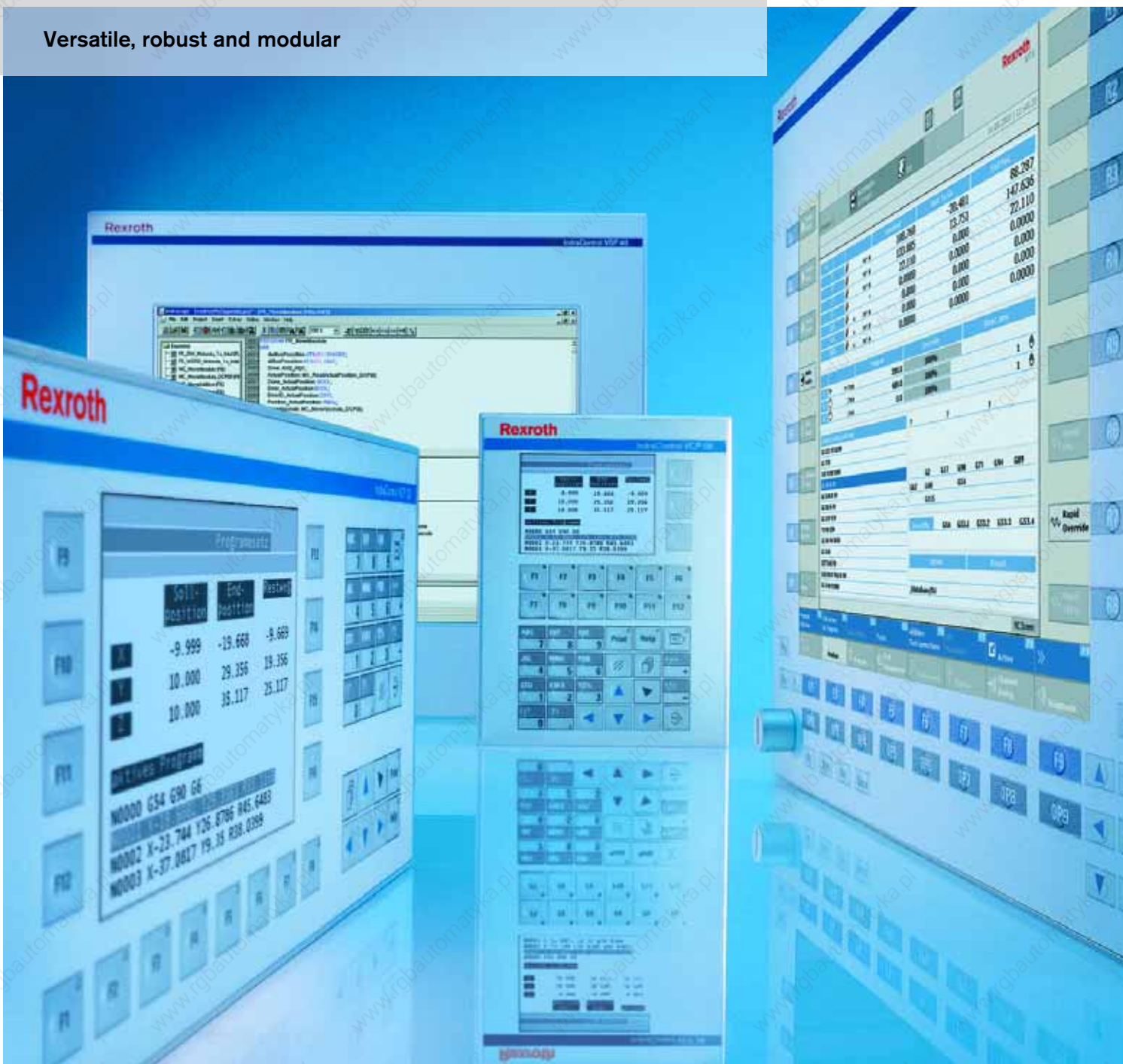**Rexroth**
Bosch Group

Rexroth IndraControl V
The full-featured platform for
controlling, operating and monitoring

Versatile, robust and modular

Rexroth IndraControl V –
individual control, operation and monitoring

Rexroth IndraControl V is the HMI platform that gives you the tools you need to control, operate and monitor your machines and systems.
IndraControl V offers scalable performance and functionality, ranging from controller-based devices and compact embedded PCs to powerful industrial PCs. Standardized hardware and software interfaces make it easy to add Indra-Motion control solutions and the IndraLogic PLC system.

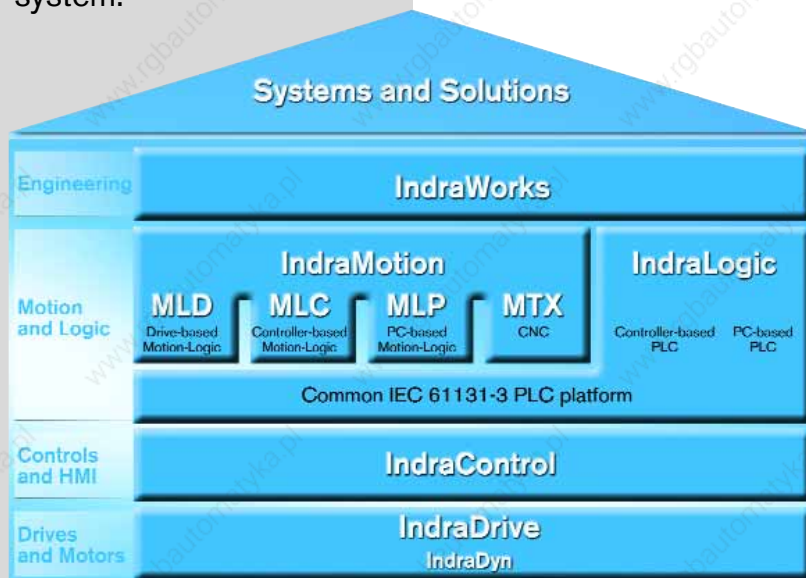**The right solution for your application**

IndraControl V integrates the functions you need for cost-effective automation: ease of operation, easy-to-understand visualization, integrated control and diagnostics. When you use IndraControl V in conjunction with Rexroth's proven system solutions, you have a complete automation solution for:

• machine tools
• transfer machines
• printing and converting machines
• food and packaging machines
• forming machines
• woodworking machines
• textile machines
• handling and assembly systems

Scalable to meet your specific needs

The comprehensive product portfolio, consisting of the following items, opens up a world of possibilities:

• controller-based HMIs
• embedded PC-based HMIs
• PC-based HMIs
• ergonomic machine control panels and industrial grade keyboards
• innovative visualization software

Systems and Solutions

Engineering	IndraWorks					
Motion and Logic	IndraMotion				IndraLogic	
	MLD Drive-based Motion-Logic	MLC Controller-based Motion-Logic	MLP PC-based Motion-Logic	MTX CNC	Controller-based PLC	PC-based PLC
	Common IEC 61131-3 PLC platform					
Controls and HMI	IndraControl					
Drives and Motors	IndraDrive IndraDyn					

IndraControl V is a scalable control, operation and visualization platform from Rexroth's Automation House. Our unique Automation House has everything you need to implement your automation designs: From drive and control systems right through to the high-performance framework for standardized engineering and user-friendly operation.
This innovation is the result of our many years of applications-related experience and provides you with all the freedom you expect of modern automation technology – well engineered, intelligent and future-proof

Dependable PC technology

Our PCs deliver high reliability. We have versions with special hard disk designs which can withstand vibration up to 1 g and shock up to 15 g to ensure dependable operation in harsh industrial environments. An uninterruptable power supply (UPS) provides maximum data protection – even during power failures.

Tapping into the open PC world

Our embedded and industrial PCs exploit all of the advantages of the open PC world. Open architecture makes it easy to incorporate IndraControl V devices into our proven industry solutions and facilitates integration into your automation architecture.

Ready for the future

Processors continue to develop at a rapid pace. Flexibility has been designed into the IndraControl V to ensure that future innovation can quickly be deployed. We also guarantee long-term availability of the components we use.

IndraControl V – the comprehensive product portfolio for control, operation and visualization in all segments of industry.

Rexroth IndraControl V –
the ideal way to control and operate
your machines and systems

The broad IndraControl V product portfolio, consisting of controller-based, embedded PC-based and PC-based HMIs always offers you the ideal solution regardless of how simple or complex your application is. Our complete range of compatible accessories, such as machine control panels and visualization software packages, give you all of the freedom you need to design tomorrow's plant automation solutions.

IndraControl VCP and VCH – controller-based terminals

These cost-effective, compact operator terminals are ideal for applications which have low to medium visualization requirements. Ethernet, Fieldbus or serial ports are used to communicate with the controllers and drives.
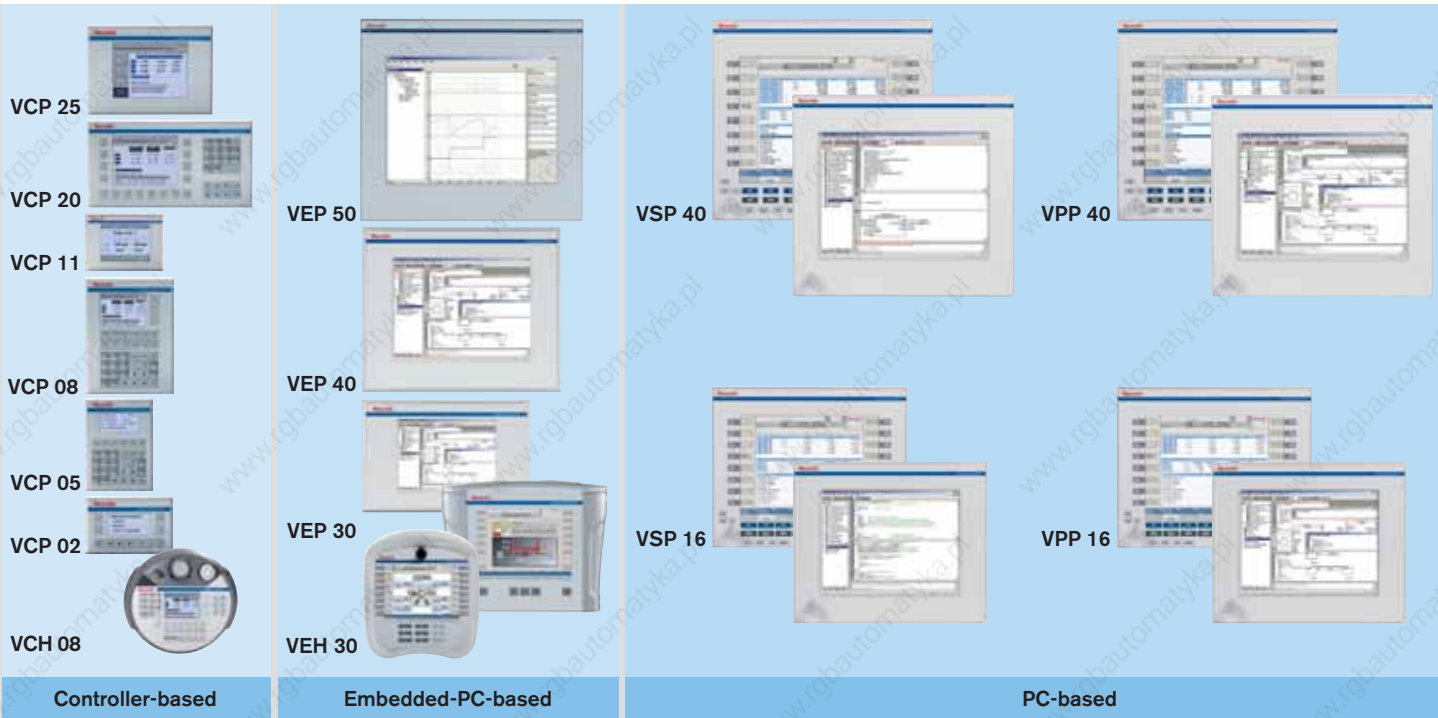Our powerful VI-Composer visualization software simplifies your work during the design phase.

IndraControl VEP and VEH – embedded PC-based terminals

These compact, Windows CE-based terminals offer excellent mid-range performance. In combination with WinStudio visualization software, you can adapt them to your particular machine. When equipped with the IndraLogic PLC system, these terminals become full-fledged autmation controllers.

IndraControl VSP, VPP, VDP, VSB and VPB – PC-based terminals

Our industrial PCs provide high-end performance for your applications. Included in this series are complete PC-based HMI solutions with PC and display integrated or rack-mount PCs with detached displays. With a wide range of expansion options and a powerful visualization software, WinStudio, these PC-based terminals are pre-destined for use in CNC, motion control and PLC applications.

VCP 25

VCP 20

VCP 11

VCP 08

VCP 05

VCP 02

VCH 08

VEP 50

VEP 40

VEP 30

VEH 30

VSP 40

VSP 16

VPP 40

VPP 16

Controller-based   **Embedded-PC-based**   **PC-based**

VI-Composer software   **WinStudio software**

**VAK and VAM –
additional hardware components**
You can choose from a variety of standard and membrane keyboards, machine control panels and uninterruptable power supplies to expand your system and adapt it to your specific machine.

**VI-Composer –
visualization software**
VI-Composer gives you an easy way of visualizing your system data. Pre-designed templates and extensive libraries are provided in the development environment to facilitate the implementation of your particular application.
In addition, you can reuse your design work on all IndraControl VCP devices.

**WinStudio –
visualization software**
WinStudio is the powerful visualization software for embedded PC-based and PC-based HMIs. Integration into Rexroth systems speeds up and simplifies your design work. Various WinStudio performance levels enable you to implement your operating philosophy exactly the way you want it on your machine.

VDP 40

VDP 16

VPB 40

VSB 40

VPP 21

VPP 21

VAK 11
VAK 41

VAK 10
VAK 40

VAM 40

VAM 10

VAM 41

VAM 11

PC-based

Additional components

WinStudio software

Rexroth IndraControl VCP – the controller-based solution

Rexroth's IndraControl VCPs are extremely compact control terminals. They give you maximum hardware flexibility, simple operation and design as well as complete freedom to choose your interfaces.
This package combines powerful hardware and software to create a very cost-effective visualization solution.

You can use the keyed or touch screen version of these controller-based terminals to modify your production data. There are a number of variations to choose from ranging from text-based monochrome displays to full-graphic color touch screens – our portfolio also includes devices for mobile and stationary use.

The huge freedom of choice in interfaces leaves nothing more to be desired, regardless of whether communication is via Ethernet, Fieldbus or serial ports. VI-Composer development software is designed specifically for these devices. Graphic-based drag-and-drop functionality gives you all of the freedom you need to develop your applications.

Advantages
• cost-effective investment in terms of maintenance and monitoring
• hot plugging increases the flexibility of the handheld device
• simple development of machine or system visualization
• standardized analysis of controller data
• a wide range of functions using VI-Composer visualization software
• supports Asian characters

Type	VCP 02	VCP 05	VCP 08	VCP 11	VCP 20	VCP 25	VCH 08
Display	FSTN			FSTN touch	FSTN	STN color touch	FSTN
	grafic					full-grafic	grafic
	5 grey levels					125 colors	5 grey levels
Resolution	160 x 80	160 x 80	320 x 240	320 x 240	320 x 240	320 x 240, 1/4 VGA	320 x 240
Keyboard/ Touch screen	membrane keyboard			touch screen	membrane keyboard	touch screen	membrane keyboard
Function keys/ System keys	4/ 7 (2 with LED)	6/ 24 (3 with LED)	15 (12 with LED)/ 22 (3 with LED)	–	16 (8 with LED)/ 8	–	18/22
Stop button	–						yes
Accept button	–						2 pushbuttons, 2-circuit, 3-step
Override potentiometer	–						Optional
Hand wheel	–						Optional
RAM	3 MB						64 MB
Memory Flash	16 MB						64 MB
Slots for expansions	1						–
Supply Voltage	24 V DC						
Interfaces	1 x Ethernet, 2 x USB-Host, Option: 1 Modul RS232/RS485						1 x Ethernet, 2 x USB host
Fieldbus	PROFIBUS DP-Slave, DeviceNet						–
Approvals	CE/UL/CSA						UL508, UL1740, SIBE
Protection on front	IP65 (front side)						IP65 (on all sides)
Temperature	5° C – 45° C						
(W x H x D in mm)	144 x 96 x 58	120 x 168 x 55	155 x 205 x 55	130 x 96 x 55	300 x 160 x 55	203 x 147 x 66	Ø 250 x 55 + handle 37
Weight	–						1,1 kg
max. fall height	–						1,5 m
Cable length	–						8 m
Junction box							VAC 30 RJ45, Ethernet, terminal block for stop and accept button
Wall bracket							VAS 01.1-002

IndraControl VCP and VCH – small controller-based terminals for cost-effective operating and visualization.

Rexroth VI-Composer –
easy-to-use development software
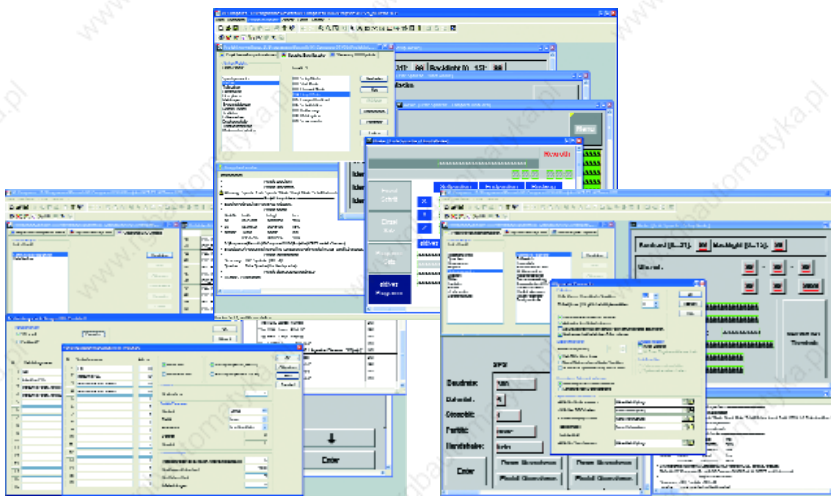# for simple visualization and parameterization

VI-Composer is a simple yet powerful tool used to develop visualization and parameterization of machine and system data for IndraControl VCP and VCH terminals. The user-friendly development environment with the look-and-feel of Windows applications is a very efficient tool for creating your specific application. You can transfer your programming to other IndraControl VCP and VCH terminals for maximum reusability.

The graphical, WYSIWYG VI-Composer software lets you create text, variables and graphics which will appear exactly the same on your IndraControl VCP and VCH terminals. Rexroth provides pre-designed templates and extensive libraries which include a large selection of graphic objects for industrial applications to help you develop your applications quickly and easily.

Using Windows look-and-feel software, you define all of your variables for the particular controller, but you can create templates, graphics and recipes that are not controller specific. Using VI-Composer, you have direct access to the IndraWorks database which contains all variables for a wide range of Rexroth controllers and drives. Extensive auxiliary functions round off the performance spectrum.

Advantages
- application language management with up to 16 languages
- message and log system
- font editor for creation of user-defined character sets
- simple graphic integration using OLE
- direct access to all controller and drive variables
- project and firmware download for reusable functions
- integrated documentation generation and online help
- predesigned templates as well as line and bar graphs
- user defined menu structures
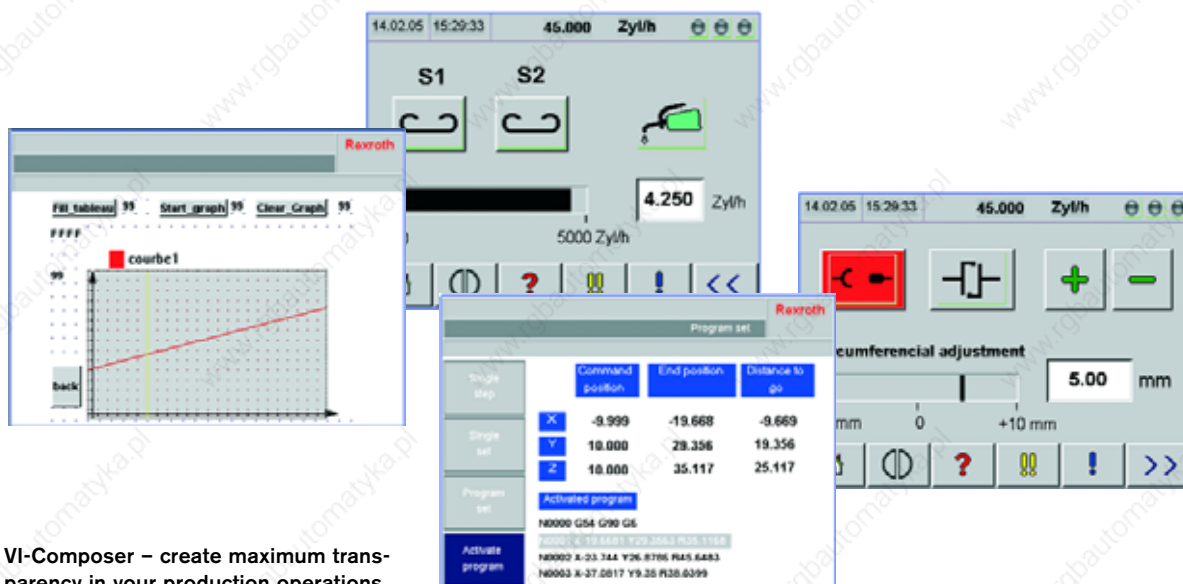- graphic objects: text, variables, graphics, switches, buttons, drop-down fields, tables, etc.

VI-Composer – efficient application programs in a user-friendly development environment

Type	VI-Composer
Developer's license for the operationg system	Windows XP/2000/NT
Firmware	integrated into all VCP and VCH devices
Variables	65.535
Connections	download: Ethernet
Communications	serial, PROFIBUS DP, DeviceNet
Messages	9.999
Message buffer	3.000
Protocol driver	3S seriell, Rexroth BUEP19E, BRC-Symbolism DeviceNet, IndraLogic, PROFIBUS DP
Supports Asian characters	●
Print protocol	●
Firmware download	●
Application upload	●
Recipe management	●
Message and log system	●
Online help	●
Integrated document generation	●
Line and bar graph for variables	●
Translation support for multilingual projects	●
Graphics links using OLE	on graphics terminals
Developer's license	German/English

● Basic equipment

Technical features

- full-graphics development software
- representation of text, variables and graphics
- drag-and-drop support
- controller-independent definition of variables
- simple graphic integration using OLE
- controller-independent definition of templates, graphics and recipes
- parallel processing of variables, graphics and messages
- integrated document generation and online help
- font editor for creation of user-defined character sets
- automatic application download
- support for multiple controllers in a project

VI-Composer – create maximum transparency in your production operations

Rexroth IndraControl VEP – the embedded PC solution for stationary applications

IndraControl VEP terminals are an excellent choice for mid-range performance. They offer ease of use, large storage capacity and a number of interfaces. They do not have a hard disk and are designed for maximum reliability. In conjunction with our software packages, they give you a powerful solution for your control and visualization applications.
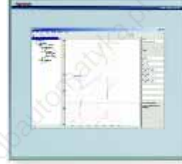
You can use the touch screen or virtual keyboard to easily operate the embedded PC terminals. The brilliant 8.4" and 12.1" color displays offer the same screen resolution, giving you a choice of display sizes to suit your application. A 15" display is also available. The rugged design of these PC-like terminals is based exclusively on embedded components.

Various interfaces and expansion slots allow you to tailor the Indra-Control VEP terminals to your specific machine and system requirements. An uninterruptable power supply (UPS) protects controller and visualization data for a short period of time. These terminals can be used purely for visualization or the functionality can be enhanced by the addition of our soft PLC solution IndraLogic.

Advantages
- compact design
- no hard drive, no rotating media
- controller and visualization in a single unit
- integrated UPS provides protection against power surges and outages
- WinStudio gives you the power to configure, manage and monitor the flow of information in and out of your HMI environment.

Type	VEP 30	VEP 40	VEP 50	VEP 30
Display	8,4"-TFT	12,1"-TFT	15"-TFT	8,4"-TFT
Resolution	800 x 600, SVGA	800 x 600, SVGA	1024 x 768, XGA	800 x 600, SVGA
Touch screen	●			
Keyboard	virtual keyboard			
	–			5 additional keys
Processor	Celeron 400 MHz			
RAM	128 MB			
CompactFlash	128 MB			
Slots	2			1
Supply voltage	24 V DC			
Interfaces	RS232, VGA, PS/2, 2 x USB, Ethernet			
Fieldbus	fieldbus module (PROFIBUS DP master) uses one slot			
UPS	brief UPS protection for saving data (512 kB) to CompactFlash™			
Operating system	Windows CE			
Approvals	CE/UL/CSA			
Protection on front	IP65			Front IP64/overall IP40
Temperature	5° C - 45° C			
Dimensions (1 slot version) (W x H x D in mm)	296 x 200 x 72	350 x 290 x 78	407 x 370 x 82	306 x 241 x 90
Dimensions (2 slots version) (W x H x D in mm)	296 x 200 x 92	350 x 290 x 98	407 x 370 x 103	–
Keyboard enhancement option	–			VAS 02.1 (start button, stop button, emergency off)

● Basic equipment

IndraControl VEP – small control terminals without hard disks for applications requiring mid-range performance

Rexroth IndraControl VEH 30 – the embedded PC solution for mobile applications

IndraControl VEH 30, Rexroth's universal handheld HMI, is setting new standards for mobile communications, visualization, operation and monitoring. The unit gives you flexible communications from different locations as well as an ergonomic, touch screen design.

The IndraControl VEH 30 lets you operate, setup, parameterize and run diagnostics via Ethernet TCP/IP from any location. We have designed in the capability to handle individual machines, stations or complex production lines. The Hot Plug principle permits disruption-free connection and disconnection during working operations, as well as automatic by-passing of the stop function.

Maximum ease of use and ergonomics were major design goals. The compact, lightweight design reduces fatigue. A three-step accept button, which is integrated into the handle, and redundant-circuit stop button ensure maximum safety. The stop and accept buttons are connected to the safety circuit of the machine via the VAC 30 terminal.

Advantages
- hot plugging gives you maximum handling flexibility
- safety functions protect humans and machines
- rugged design for industrial use
- excellent ergonomics ensure safe, non-fatigue handling
- 8.4" touch screen for brilliant visualization and ease of operation

Type	VEH 30
Display	8,4"-TFT
Resolution	800 x 600, SVGA
Touch screen	●
Keyboard	virtual keyboard
Function keys	34 membrane keys: 2 x 6 jog keys, 2 x 8 user definable, 4 navigation keys, 1 x OK key, 1 x ESC key
Stop button	2 cicuit
Accept buttons	2 buttons, 2 circuit, 3 step (optional)
Override potentiometer	○
Handwheel	○
Processor	300 MHz, Intel based
RAM	128 MB
CompactFlash™	128 MB
Supply voltage	24 V DC
Operating system	Windows CE
Approvals	CE/UL/CSA/BG approval
Protection	IP65
Temperature	5° C - 45° C
Dimensions (W x H x D in mm)	240 x 250 x 80 + handle 55
Weight	1,6 kg
Max. drop height	1 m
Cable lenght	8 m

Accessories

Terminal	VAC 30		Wall bracket	VAS 01
Interfaces	RJ45, Ethernet, series terminal blocks for stop and accept buttons			

● Basic equipment
○ Optional

IndraControl VEH 30 – the robust, embedded PC-based, handheld HMI for mobile communications

14

Rexroth IndraControl VSP and VPP – always the right PC technology for the job

The outstanding performance of the latest PC generation enables us to provide all of the functions you need in a single unit. You can use it for visualization or in conjunction with our CNC, MC and PLC for soft control solutions. We offer a wide range of PC products so that you can select exactly the right product to develop your system solutions for standard and high-end applications.

We have two product families which are designed to meet varying requirements for industrial suitability, investment protection, technology and long-term availability:
- standard industrial PCs offer top of the line performance
- high-end industrial PCs for extreme industrial environments

Standard industrial PC IndraControl VSP and VSB
This series is an economical solution designed to meet normal industrial requirements. You always get the latest PC technology and top of the line performance.

High-end industrial PC IndraControl VPP and VPB
This series meets the most demanding shock and vibration requirements for harsh industrial environments. Long-term component availability means that you can support these products for maximum investment protection.

Standard or High-End – a summary of our innovative PC technology

Standard industrial PC VSP and VSB series	High-end industrial PC VPP and VPB series
suitable for normal industrial environments • vibration during operation 0.25 g • shock 5 g	suitable for harsh industrial environments • vibration during operation 1 g • shock 15 g • compact design • low heat dissipation
standard investment protection high rate of component innovation	high investment protection high component continuity
latest PC technology current processors, motherboards, etc. lower price segment	long-term availability of components including processors, motherboards, etc
guaranteed serviceability min. 3 years	guaranteed serviceability min. 5 years

Whether you choose standard or high-end, you can count on Rexroth PC solutions.

Rexroth IndraControl VSP, VDP and VPP – a wide range of mounting options

No single design is suitable for all system configurations. The Rexroth industrial PC range offers you three mounting options. You can decide for yourself whether the panel PC, the rack-mount PC with remote display or a complete PC control unit is the best choice for your application.

**Panel PC
IndraControl VSP and VPP**
This standard version combines a control and visualization panel with an industrial PC into one unit. It is ideal for mounting on a machine or in a control cabinet. The high-end IndraControl VPP industrial PC gives you the choice of 3 or 4 expansion slots. With the IndraControl VSP standard industrial PC, you even have six slots available.

**Rack-mount PC and Displays
IndraControl VSB and VPB with VDP**
The industrial PC is safely mounted in the control cabinet, and the display is mounted remotely at the machine. This version is available as a standard or high-end industrial PC. Advantages compared to the panel PC include:
• display has lower mounting depth
• less heat dissipation allows more compact design
• significant weight reduction on support arm
• simple cabling, because the control unit is mounted in the control cabinet

**PC control terminals
IndraControl VPP 21**
On this version, the industrial PC, control, visualization and housing form a complete control terminal. This compact design offers perfectly matched components and passive heat management.
Advantages:
• compact overall solution
• proven heat management concept
• ready for mounting on a support arm

Rexroth IndraControl VSP – economical PC technology for industrial use

Rexroth IndraControl VSP is a very economical solution for PC-based control, operation and monitoring. These PC-based control terminals offer high-performance while leaving plenty of scope for individual solutions. They are designed for a wide variety of industries and applications that require top of the line PC performance combined with suitability for use in industrial environments under standard ambient conditions.

IndraControl VSP series control terminals contain the PC, control and visualization device in a single, low-cost, compact unit. You can use them to control, operate and monitor single machines, stations or complete production lines to achieve maximum transparency in your production operations. IndraControl VSP is the ideal platform for all PC-based automation tasks.

Advantages
- compact control, operation and visualization solution
- the use of standardized components keep costs down
- latest PC technology
- the use of standard hardware and software provides good investment protection
- open and flexible for customer-specific solutions

- optimum adaptability to your system:
  - keyed or touch screen versions
  - 12" or 15" TFT color displays
- EMC-certified design enhances the reliability of your production operations
- user- and service-friendly design
- complete traceability of all changes throughout the entire life cycle

Type	VSP 16	VSP 16	VSP 40	VSP 40
Display	12"-TFT		15"-TFT	
Resolution	800 x 600, SVGA		1024 x 768, XGA	
Touch screen	●	–	●	–
Machines/functions/extra keys	–	16/16/14	–	16/16/14
Alphanumeric keyboard	additional components VAK			
Front USB (IP65 protection)	1			
Processor/Main memory	Celeron 2 GHz/512 MB			
Slots (PCI/multi-function)	6/0			
Supply voltage	90 - 264 V AC, alternative 24 V DC			
Hard disk > 30 GB	●			
DVD-ROM/DVD-RW	○			
Interfaces	PS/2 mouse, PS/2 keyboard, VGA, LPT, COM, 2 x USB (2.0), 1 x Ethernet			
Status LEDs	voltage, hard disk			
UPS	external			
Operating system	Windows XP			
Approvals	CE/UL/CSA			
Protection on front	IP65			
Vibration/Schock	0,25 g/5 g			
Temperature	5° C - 45° C			
Dimensions (W x H x D in mm)	350 x 290 x 210	350 x 290 x 210	407 x 370 x 210	407 x 370 x 210

● Basic equipment
○ Optional

IndraControl VSP – PC-based HMIs incorporating the latest PC technology with plenty of scope for customer-specific solutions

Rexroth IndraControl VPP – the PC solution for high-end industrial requirements

Rexroth IndraControl VPP is a rugged, reliable solution for your control, operation and monitoring needs. Suitability for harsh industrial environments, standardized components and long-term availability of the PC control terminals provide the ideal basis for a wide range of industries and applications. They set new standards for PC technology in harsh industrial environments.

IndraControl VPP PC-based control terminals are designed for use in harsh industrial environments. They have an integrated UPS and a shock-mounted hard disk which absorbs shock and vibration. Optimal cooling and temperature monitoring also contribute to excellent system reliability. All components used in the IndraControl VPP control terminals are designed to withstand harsh industrial environments.

Long-term availability of the terminals and software packages gives you maximum investment protection when you design and duplicate your machines. IndraControl VPP is the ideal platform for all CNC, motion control and PLC visualization tasks in your PC-based automation solutions.

Advantages
- vibration and shock resistance and optimized cooling designed for harsh industrial environments
- long-term availability of software and functionally-compatible versions
- standardized components deliver excellent overall performance
- complete traceability of all changes throughout the entire life cycle of the product

Type	VPP 16	VPP 16	VPP 40	VPP 40
Display	12"-TFT		15"-TFT	
Resolution	800 x 600, SVGA		1024 x 768, XGA	
Touch screen	●	–	●	–
Machines/funktions/ extra keys	–	16/16/14	–	16/16/14
Alphanumeric keyboard	additonal components VAK			
Front USB (IP65 protection)	1			
Processor/main memory	Celeron M 1,3 GHz/mind. 512 MB			
Slots (PCI/multi-function)	2/1 or 3/1			
Supply voltage	85 - 264 V AC, alternative 24 V DC			
Hard disk	> 20 GB, vibration damping			
DVD-ROM/DVD-RW	❍			
Interfaces	PS/2 mouse, PS/2 keyboard, VGA, LPT, COM, 2 x USB , 1 x Ethernet			
UPS	integrated electronics, external rechargeable battery			
Monitoring software	voltage, UPS battery voltage, temperature and fan			
Status LEDs	voltage, hard disk, UPS and temperature			
Operating system	Windows XP			
Approvals	CE/UL/CSA			
Protection on front	IP65			
Vibration/Schock	1 g/15 g			
Temperatur	5° C - 45° C			
Dimensions (3 slots) (W x H x D in mm)	350 x 290 x 146	350 x 290 x 146	407 x 370 x 146	407 x 370 x 146
Dimensions (4 slots) (W x H x D in mm)	350 x 290 x 166	350 x 290 x 166	407 x 370 x 166	407 x 370 x 166

● Basic equipment
❍ Optional

**IndraControl VPP – rugged, PC-based
HMIs for harsh industrial environments**

Rexroth IndraControl VSB, VPB and VDP – the ideal PC solution for remote configurations

Do you need to separate the PC and the control unit for your application? If so, we recommend our solution featuring an industrial PC in the control cabinet and a remote display at the machine. Suitability for harsh industrial environments and perfect standardized component matching give you the ideal platform for a wide variety of applications.

IndraControl VSB

This standard rack-mount PC is our economical solution designed for all normal ambient conditions and industrial environments. The latest PC technology along with standardized hardware and software give you all of the advantages of today's highly-flexible PC world. You always keep up with the rapid pace of innovation.

IndraControl VPB

This high-end rack-mount PC has been specially designed for harsh industrial environments. A robust mechanical and electrical design gives you the reliability and durability on the production floor that you expect. We use high-end components to ensure long-term availability and protect your investment.

IndraControl VDP

These ultra-thin, flat panel displays are ideal for applications where there are space constraints. A single cable to the control cabinet PC supplies power and all digital video, touch, key and mouse signals. 4 USB ports and a PROFI-BUS DP slave for the machine function keys provide optimal connectivity.

Type	VSB 40	VPB 40	VDP 16	VDP 40
Display	–		12"-TFT	15"-TFT
Resolution	–		800 x 600, SVGA	1024 x 768, XGA
Touch screen	–		●	
Machines/functions-/ extra keys	–		alternative to touch 16/16/14	
Alphanumeric keyboard	–		additional components VAK	
Front-USB (IP65 protection)	–		1	
Processor/main memory	Celeron 2 GHz/ 512 MB	Celeron M 1,3 GHz/ 512 MB	–	
Slots (PCI/multi function)	6/0	2/1 or 3/1	–	
Supply voltage	90 – 264 V AC	85 – 264 V AC	via VPB/VSB	
Alternative supply voltage	–	24 V DC	–	
Hard disk > 30 GB, fixed	●	–	–	
Hard disk > 20 GB, vibration and oscillation absorbing mounting	○	●	–	
DVD-ROM/DVD-RW	○		–	
Interfaces	PS/2-mouse, PS/2-keyboard, VGA, LPT, COM, 2 x USB, 1 x Ethernet		PS/2-mouse, PS/2-keyboard 4 x USB, PROFIBUS DP-slave-machine keys (optional)	
Connection PC-VDP	G4	G1/G3/G4	G4	
UPS	external	electronics integrated, external rechargeable battery	–	
Status LEDs	–	voltage, HDD, UPS, temperature	LEDs same as VPP/VSP	
Operating system	Windows XP		–	
Approvals	CE/UL/CSA		CE/UL/CSA	
Protection	IP20		front IP65	
Vibration/schock	0,25 g/5 g	1 g/15 g	1 g/15 g	
Temperature	5° C – 45° C		5° C – 45° C	
Dimensions (W x H x D in mm)	see below	see below	350 x 290 x 65	407 x 370 x 69
Dimensions, 3 slots	–	364 x 130 x 214	–	
Dimensions, 4 slots	–	364 x 150 x 214	–	
Dimensions, 6 slots	360 x 260 x 190	–	–	

● Basic equipment
○ Optional

IndraControl VSP, VPB and VDP – professional solutions when you need to separate the industrial PC from the control panel

Rexroth IndraControl VPP 21 – a complete PC control terminal for mounting on a support arm

Rexroth IndraControl VPP 21 integrates the PC, visualization and associated controls in one enclosure. Passive cooling is used to achieve a very compact design. As a result, low size and weight make the device suitable for mounting on machines and system support arms.

Both the keyed and touch screen versions have a brilliant 14" display and are enclosed in an ergonomically-designed case. All ports are integrated including a PROFIBUS DP master for control functions and two Ethernet ports for programming and networking.

There is also an expansion slot for fieldbus cards, etc. Start, stop and emergency stop buttons are mounted on the front. They can be used directly in the controller or wired separately. An internal buffer saves non-volatile data for your control applications.

Advantages
- complete control, operation and visualization solution
- ready for mounting on a support arm
- optimized cooling design with no internal fan
- user- and service-friendly design
- software and functional compatibility ensures long-term availability

Type	VPP 21	VPP 21
Display	14,1"-TFT	
Resolution	1024 x 768, XGA	
Touch screen	●	–
Machines/functions/extra keys	3 push buttons (start, stop, emergency off) /-/ 6 navigation buttons	3 push buttons (start, stop, emergency off) /12 function buttons/6 navigation buttons, 16 control buttons, 8 special buttons, numeric keypad, cursor buttons with button mouse
Processor/main memory	Pentium III 700 MHz/512 MB	
Slots (PCI)	1	
Supply voltage	24 V DC	
Hard disk > 20GB	●	
External CompactFlash™	○	
Interfaces	PS/2 mouse, PS/2 keyboard, VGA, LPT, COM, 1 x USB, 2 x Ethernet	
Fieldbus master	PROFIBUS DP	
UPS	external	
Monitor functions	PC Box status LEDs: voltage, hard disk, SRAM battery and temperature	
Operating system	Windows XP	
Approvals	CE/UL/CSA	
Protection (front/overall)	IP64/40	
Vibration/schock	0,25 g/5 g	
Temperature	5° C - 45° C	
Dimensions (W x H x D in mm)	402 x 302 x 140	402 x 468 x 140

● Basic equipment
○ Optional

IndraControl VPP 21 – the rugged, full-featured control solution which is optimized for support arm mounting.

Rexroth WinStudio – visualization software which enables you to create greater transparency in your production process
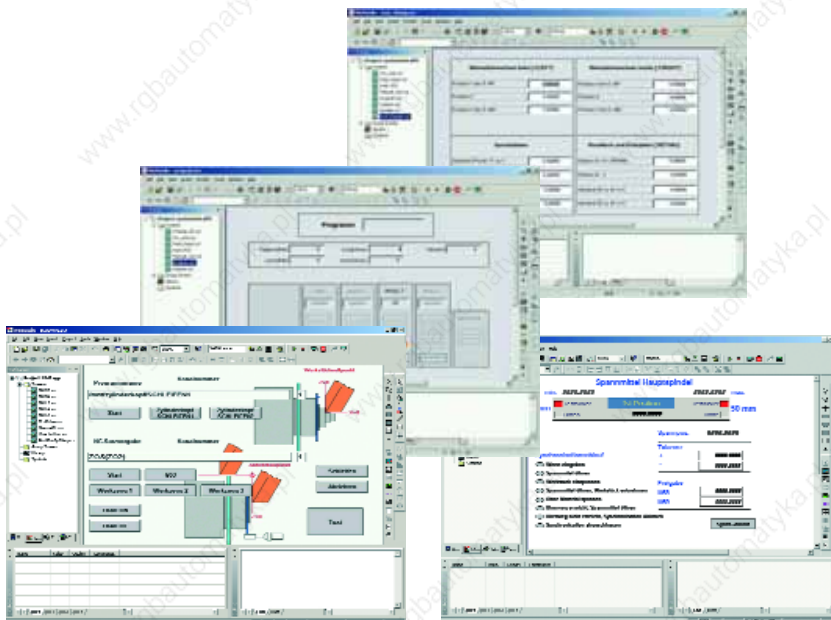
WinStudio is an innovative visualization module which is part of the powerful IndraWorks software framework. It combines standardized engineering with ease of use. You can use the WinStudio graphical environment to develop your individual applications. The Windows look-and-feel enables you to work quickly and efficiently. You need only one tool to create different applications for a variety of platforms.

WinStudio together with Rexroth's embedded PCs and PC-based solutions offers excellent functionality and performance. Our flexible licensing model gives you the choice of developers and runtime versions. You only need one developers version to modify your applications as often as you want and use them on various runtime versions.

With this approach, you can make modifications as you need them, and it is a very cost-effective solution. We distribute upgrades to ensure that you benefit from our ongoing development work and are able to add innovative functions to your applications to meet future requirements.

Advantages
- UNICODE character set
- auto screen scaling
- standardized visualization reduces your development and maintenance costs
- user-friendly object selection using the project explorer
- simple graphics generation using extensive libraries
- dynamic web page generation
- numerous interfaces for connecting drive and control equipment
- develop applications without a knowledge of a higher-level language
- a range of software packages gives you the just the right level of performance you need
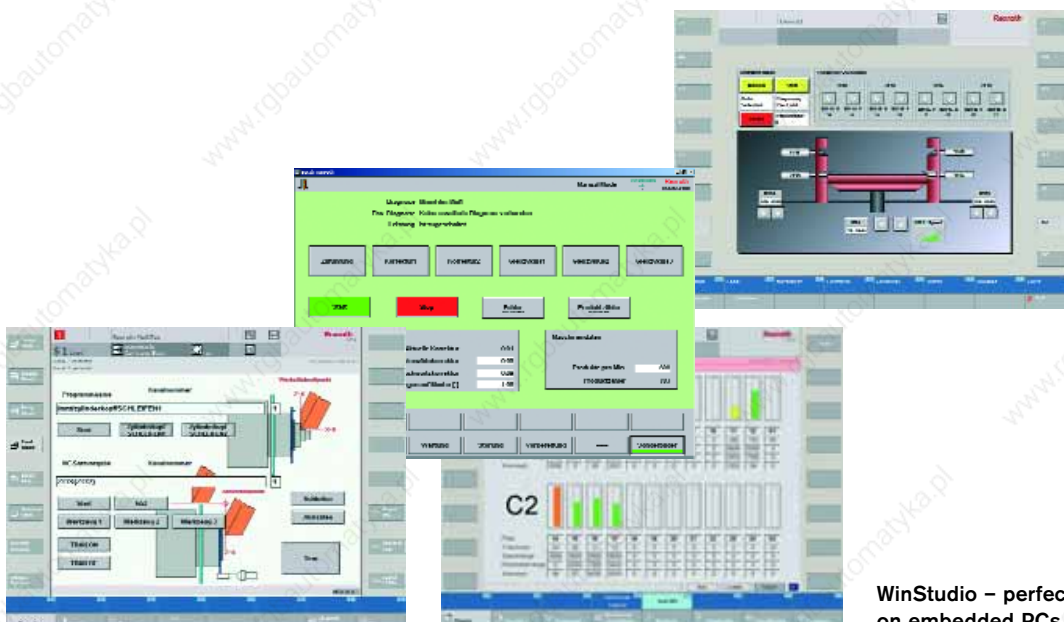- ongoing development protects your investment

WinStudio – simple, effective application design software using a drag-and-drop development environment

Type	WinStudio lite	WinStudio 1,5 k	WinStudio 4 k	WinStudio 64 k	WinStudio 512 k	WinStudio CE lite	WinStudio CE 1,5 k	WinStudio CE 4 k
System includes [1]	●	○				●	○	
Developer license	Windows XP/2000/NT					–		
Runtime license	Windows XP/2000/NT					Windows CE		
Variables	500	1.500	4.000	64.000	512.000	500	1.500	4.000
Size arrays	256		512	1.024	16.384	256		512
Classes	32			64	512	32		
Recipe management	–	●				–	●	
ODBC	●					–		
Mathematics	●					●		
Alarm/events	–	●				–	●	
History	–	●				–	●	
Drivers	1	3	5	8		1	3	
OPC server	–	●				–	●	
OPC client	●					●		
TCP/IP server	●					●		
TCP/IP client	–	●				–	●	
DDE server and client	–	●				–		
Tags database	●					●		
Web clients	–			1/4/8	–	–		

● Basic equipment
○ Optional
[1] included in the Rexroth IndraMotion and IndraLogic
system solutions or available as an option

**WinStudio – perfect visualization
on embedded PCs and PC-based platforms**

Rexroth VAK and VAM –
additional hardware for ergonomic operation

You can add the compact VAK industrial keyboards and easy-to-use VAM machine control panels to perfect the specific operation and visualization design of your machine. These optional components are designed specifically for our IndraControl V series. They are designed to give you reliable performance in an industrial environment.

VAK 10 and VAK 40
These compact, drawer-based keyboards with alphanumeric keys and an integrated mouse offer IP65 protection. Opened or closed, they provide increased splash and contamination protection.

VAK 11 and VAK 41
These rugged membrane keyboards contain a full set of keys, configurable keys, a separate numeric keypad and an integrated keyboard mouse. Their high protection rating and low mounting depth make them suitable for a wide range of industrial applications.

VAM 10/11 and VAM 40/41
These control panels are designed for use with standard machine tools and production automation equipment. When we designed them, we thought of everything: buttons and lights with customizable labels, key and override switches, emergency off button, digital I/Os and an optional port for an external handwheel.

Type	VAK 10/40	VAK 11/41	VAM 10/40	VAM 11/41
Version	drawer-based keyboard (full keyboard)	membrane keyboard (full keyboard)	control panel for standard machines	control panel for automated production
Keyboard	short-stroke keys		–	
Functions and extra keys	86 keys, alphanumeric block, integrated mouse pointer	106 keys, alphanumeric block, 4 variable keys, keyboard mouse	–	
Illuminated pushbuttons	–		2 x 15 short-stroke keys	3 x 5 short-stroke keys
Emergency off button	–		2 normally-closed	
Override	–		feed and spindle	
Configurable modules			VAM 40	VAM 41
Key switch	–		4-step switch with positive action, electrically-isolated contacts	
2.5 mm diameter knockouts	–		–	7 ea./8 ea.
Fieldbus	–		PROFIBUS DP slave	
Interfaces	PS/2		7 ea./8 ea.	
Supply voltage	5 V DC (via PS/2)		24 V DC	
Approvals	CE/UL/CSA			
Protection on front	IP65		IP54	
Temperature	5° C - 45° C			
Dimensions (W x H x D in mm)	350/407 x 88 x 200	350/407 x 140 x 40	350/407 x 169 x 80	350/407 x 210 x 80
Cable	1 m		–	

VAK and VAM – rugged design for every-day industrial environments and ease of operation

Rexroth
Bosch Group

Presented by: