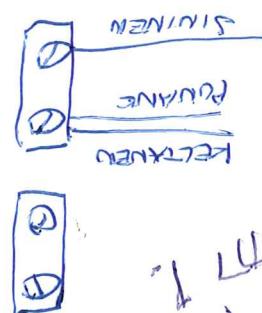
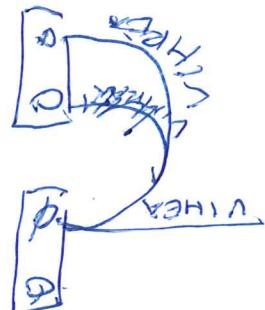
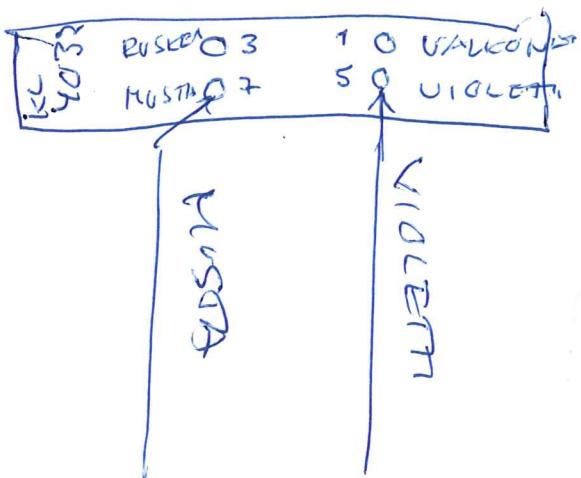
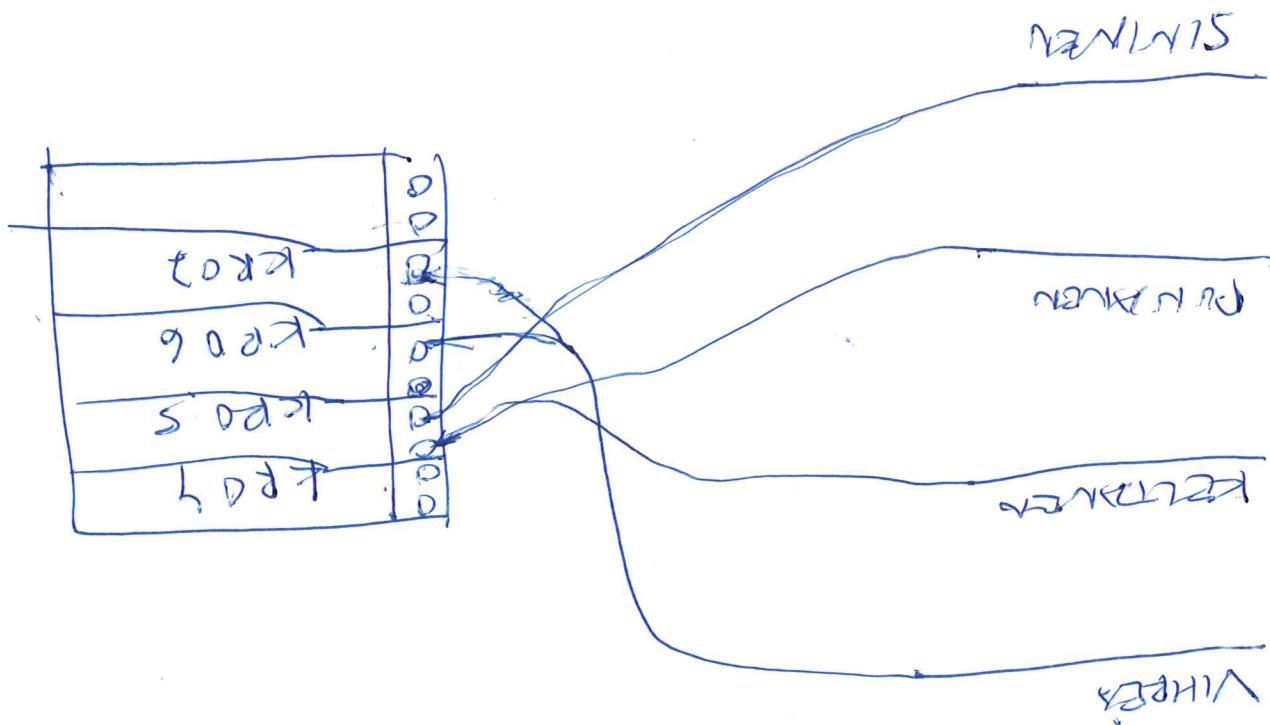


MATA KISKON
PURATTU & MO -



SIVINEN
PULUANE
KELTUAU
LAURH. ROPOTTI
DODD 2.52.01



SAFETY
CONTROLLER
RUCKWÄRTS

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SAFETY
CONTROLLER
FRONTSITE

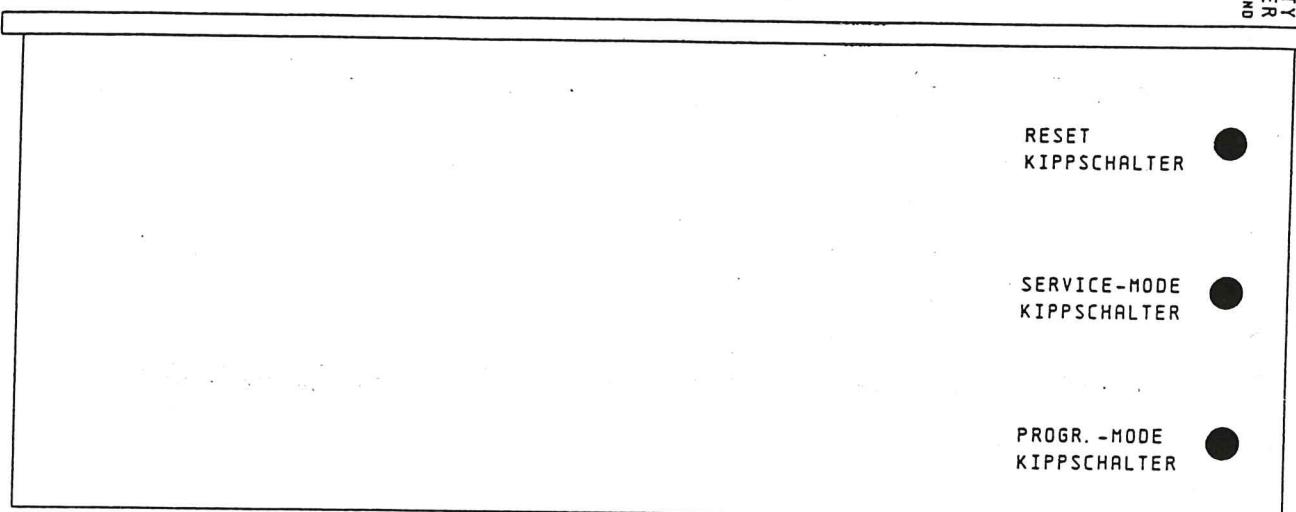
RESET
KIPPSCHALTER

SERVICE-MODE
KIPPSCHALTER

PROGR.-MODE
KIPPSCHALTER

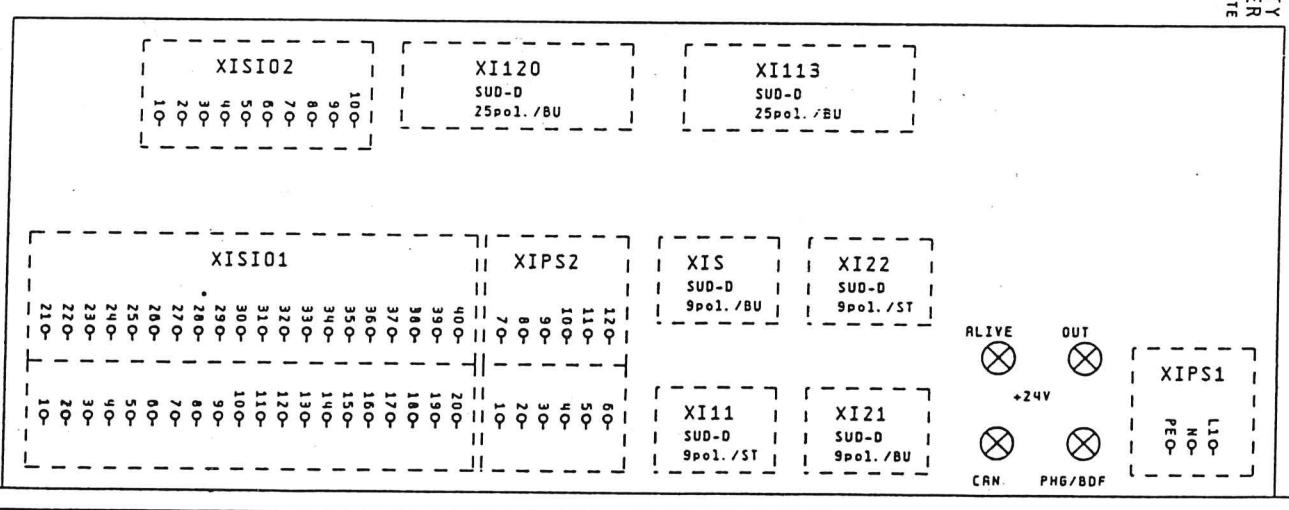
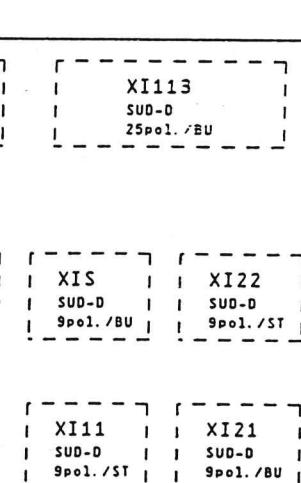
ANBAUSEITE

ANSICHT VON
HINTEN |



ANBAUSEITE

ANSICHT VON
VORNE |



	Datum : 16. Aug. 1999	Urtyp : SRVG ROBOT-STAR V	Titel : SAFETY-CONTROLLER LAYOUT	R. - ROBOTICS	Katnumm.: 013326	Urtyp. : PLASMA MODULS OY	Urtyp. d. : Ers.
A-Dat. :	26. Mai. 1999						
Bearb. :	B. JRCOBI						
Anderung :	Name	Urspr. :	Ers.				

KR0.4

KR0.5

KR0.6

KR0.7

KRO 1

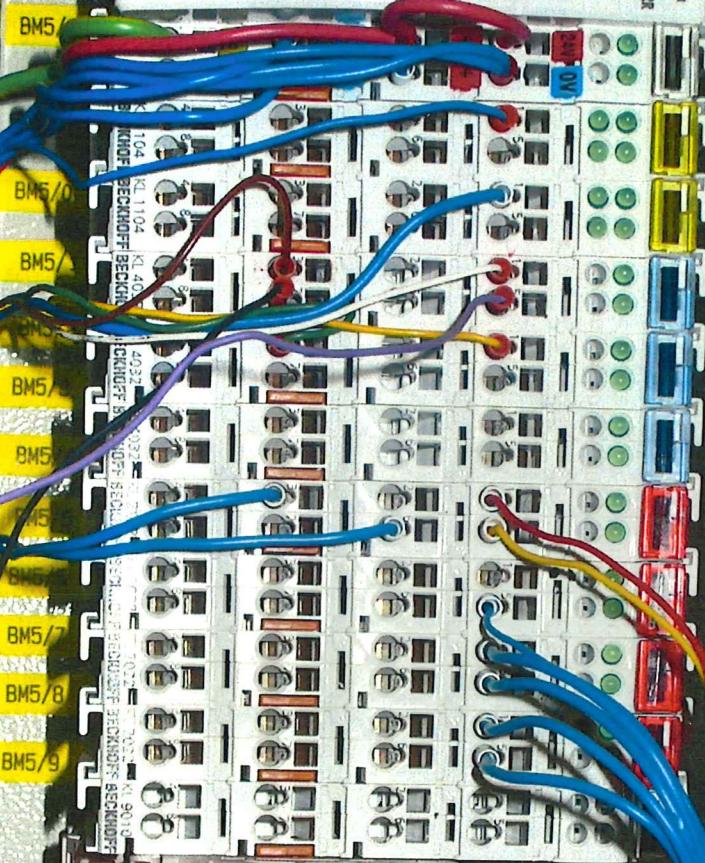
BM5 CAN

BECKHOFF

BK5120

CANopen
IO RUN
Tx
Rx
overflow

CANopen
RUN
Tx
Rx



KR0.4

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KR0.1

KR0.3

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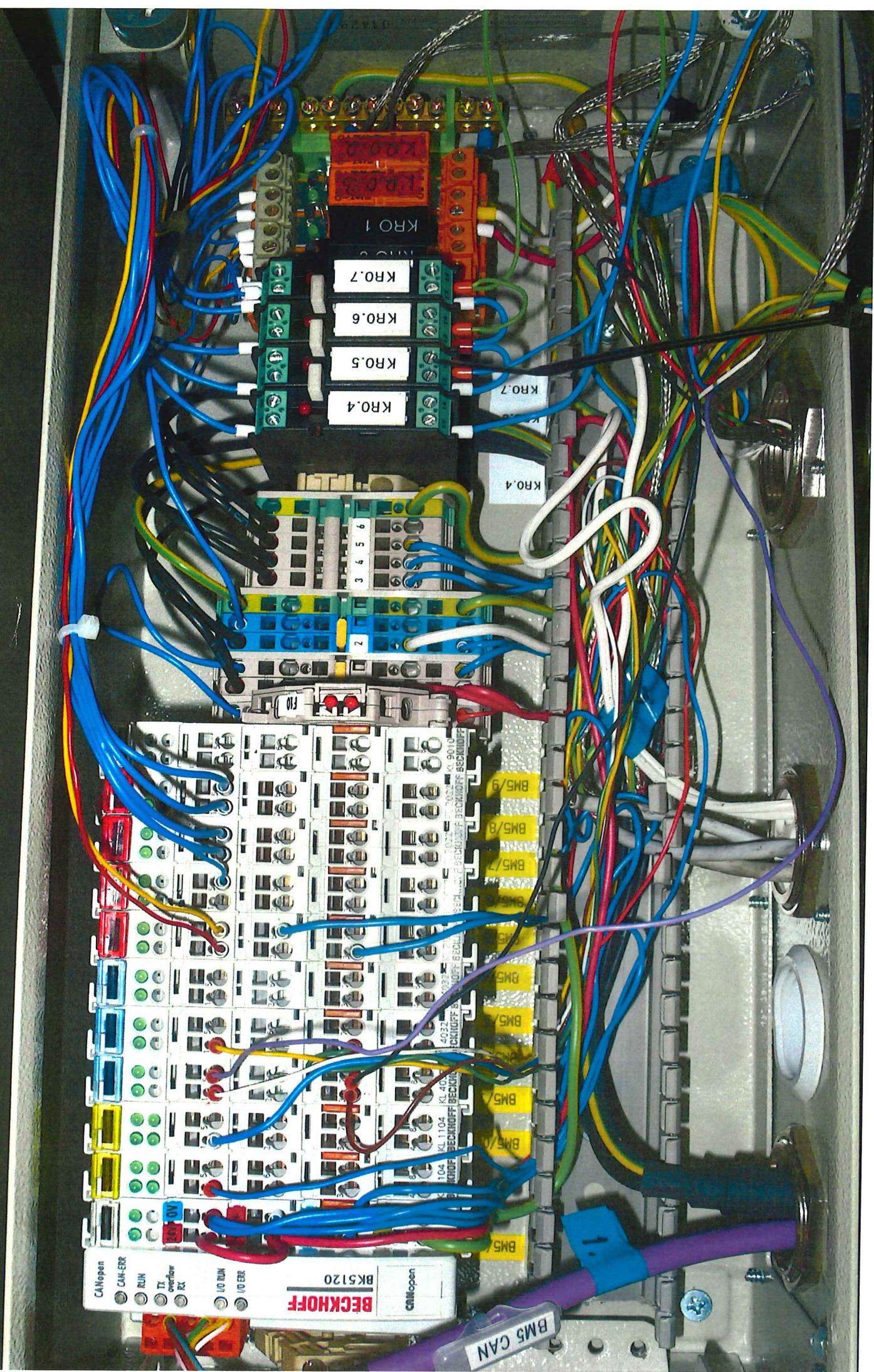
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L100-2
L100-3

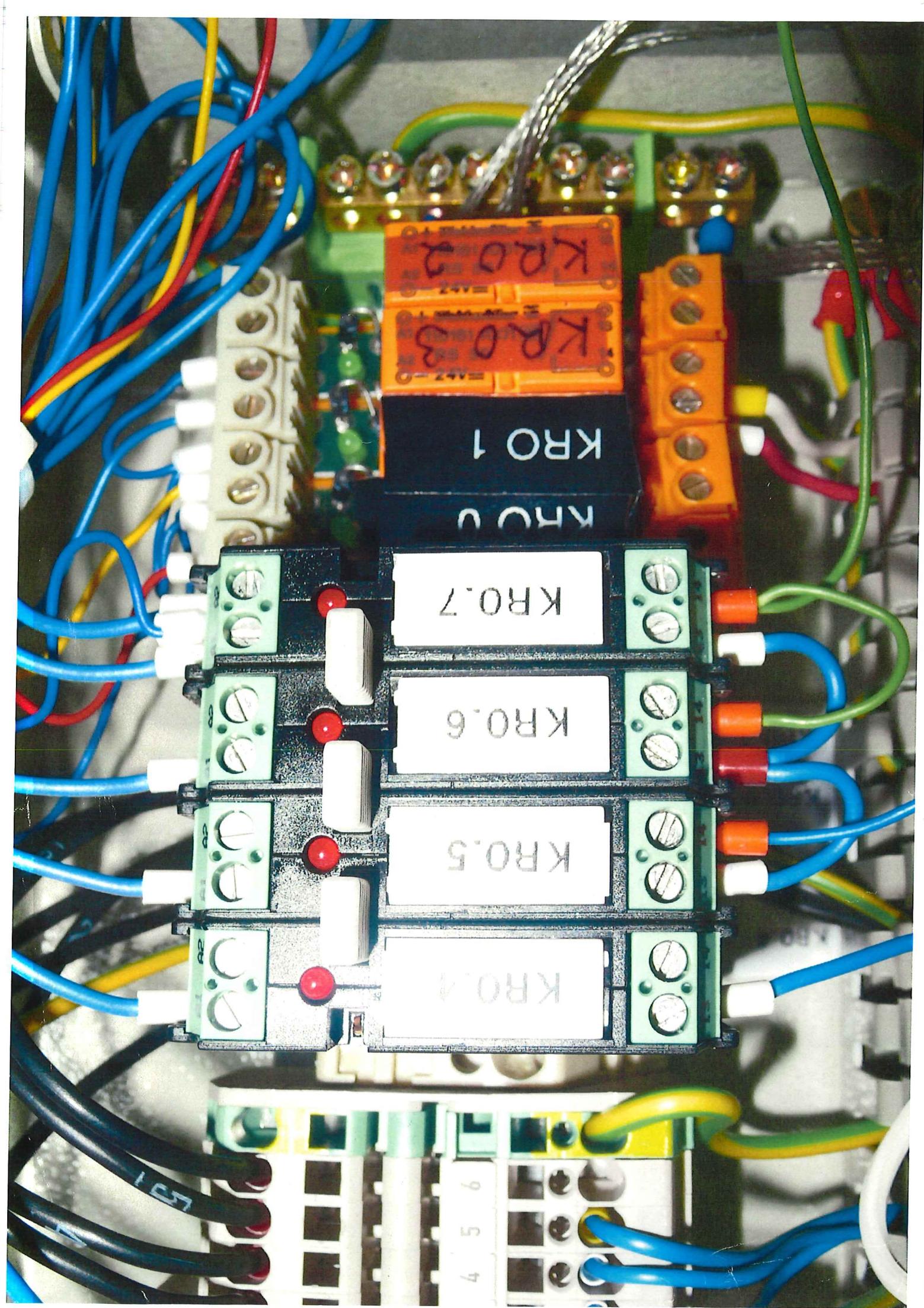
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KRO.7

KRO.6

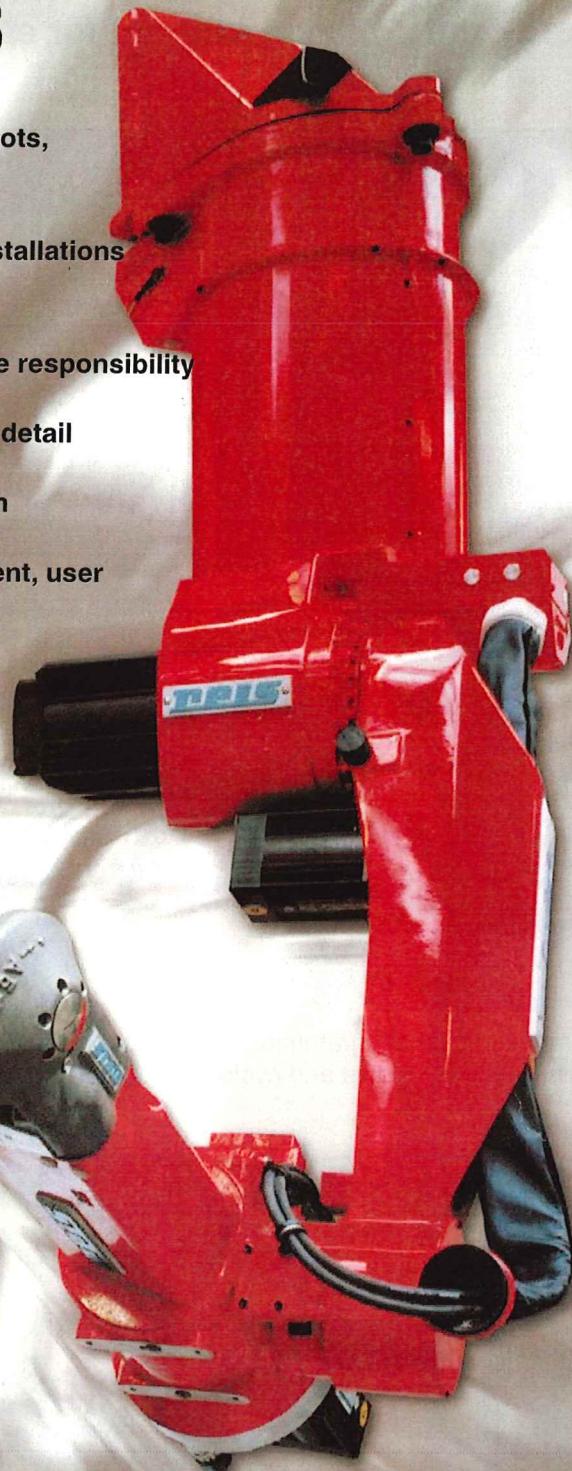
KRO.5

KRO.4



Advantages and benefits of REIS automation systems

- In house development and production of robots, controls and peripheral equipment
- Far-reaching experience, more than 7,000 installations worldwide
- Turnkey systems with process and procedure responsibility
- Customer-specific solutions fine tuned in all detail
- Extensive product range with modular design
- Professional training and process development, user orientated and effective
- Worldwide renown, competent service
- First class references in all fields



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REIS ROBOTICS

Reis GmbH & Co.

Maschinenfabrik

Industriegebiet an der B426

D-63765 Obernburg

Phone: ++49 (0) 60 22-5 03-0

Fax: ++49 (0) 60 22-5 03-110

Reis Robotics USA Inc.

1320, Holmes Road

USA-Elgin, IL 60123

Phone: ++1-847-741-95 00

Fax: ++1-847-888-27 62

Reis Robotics Italia S.r.l.

Via del Lavoro 42

I-20040 Bellusco

Phone: ++39-039-6 06 70 20

Fax: ++39-039-6 06 70 12

Reis France E.u.r.l.

44 Rue du Pré des Aulnes

Parc d'Activités des Arpentts

F-77340 Pontault-Combault

Phone: ++33-1-60 28 22 22

Fax: ++33-1-60 28 35 47

Reis Robotics España S.L.

Dr. Manuel Riera, 90

E-08950 Esplugas

Phone: ++34-93-473 72 25

Fax: ++34-93-473 72 59

Reis Robotics do Brasil Ltda

Rua Dr. Ribeiro de Almeida, 286

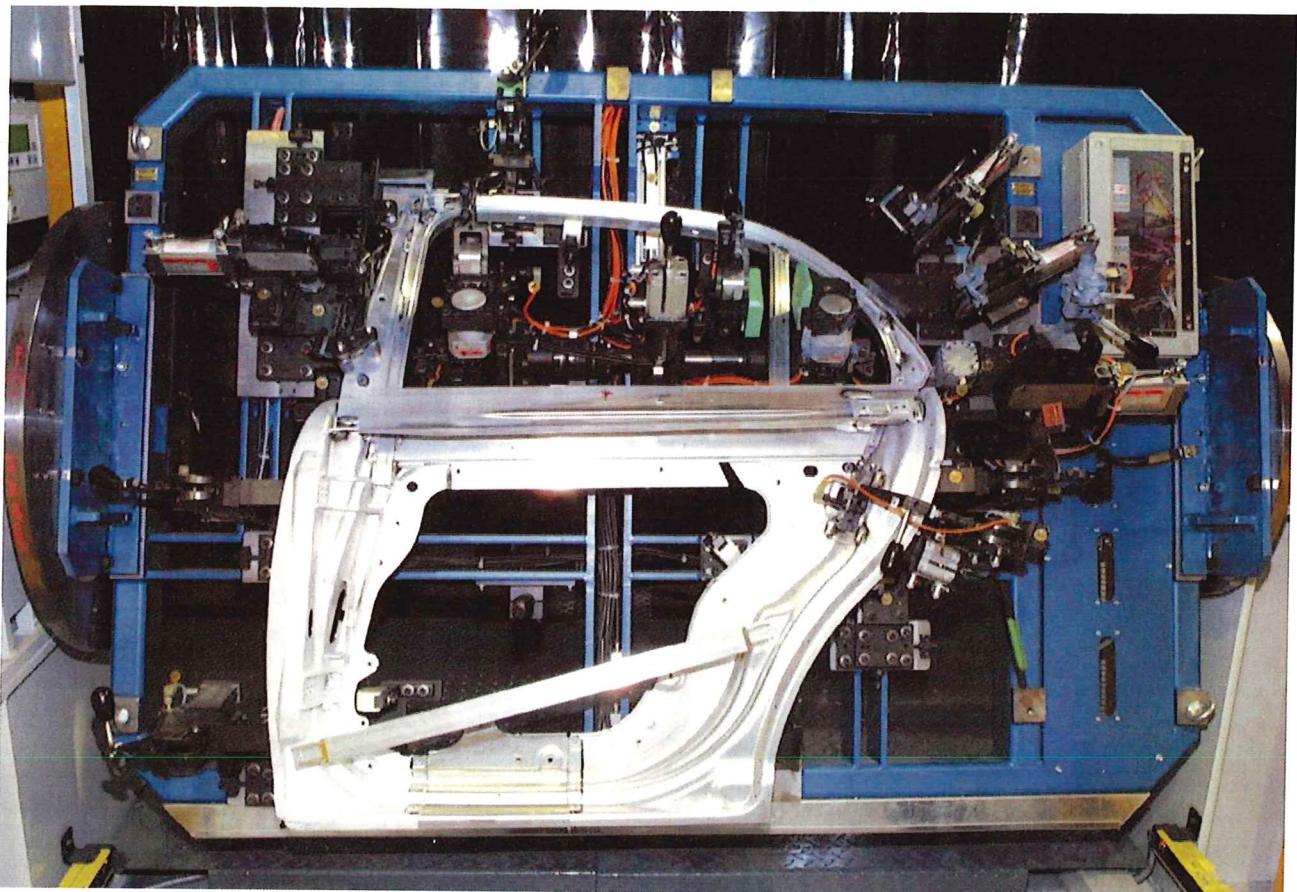
BR-01137-020 - São Paulo - SP

Phone: +55 (0 xx 11)-3612-2154

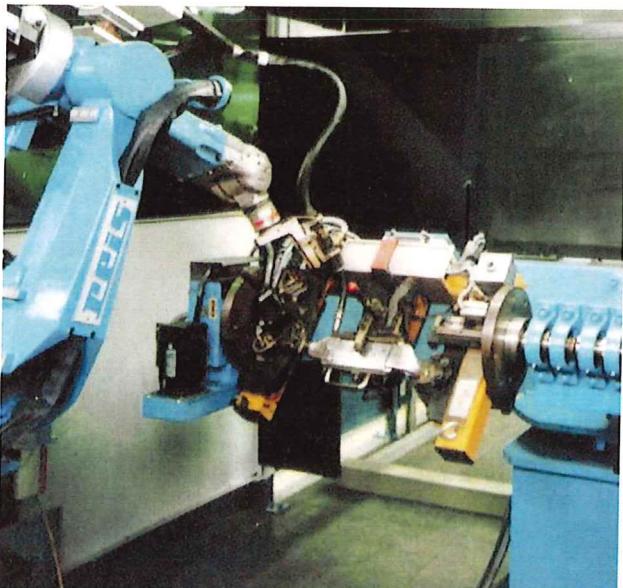
Fax: +55 (0 xx 11)-3612-2047

Fixtures

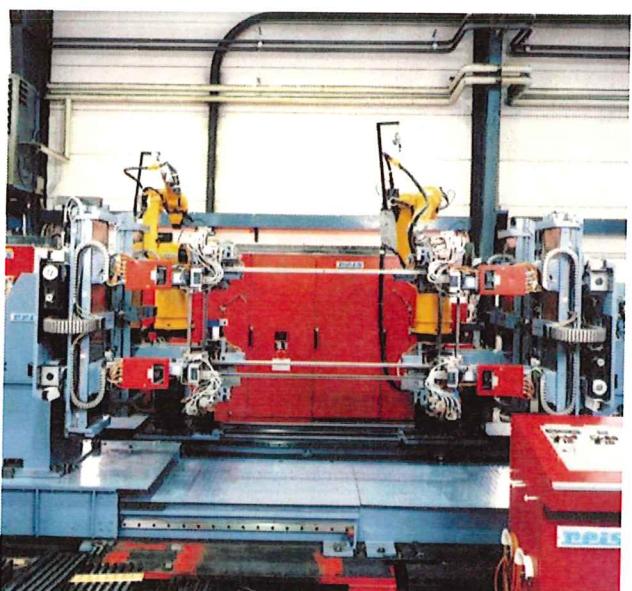
Automation specific and user friendly adjusted in all details



Robot and operator friendly positioning or clamping device for reception of car door frames. Monitoring and controlling of all-important functions through BUS technology.



Pneumatic welding device for exhaust recirculation systems from stainless steel, in customer specific design.



Freely programmable device with 7 axes integrated into robot control, for automated production of control cabinets.

Movable welding cabins

Turnkey, immediately ready for operation, in various designs



Movable welding cabin with manual rotary table (2-station operation) for component feeding and 6 axes welding robots. Mounting of robot control and welding hardware on rear side of same transportation frame.



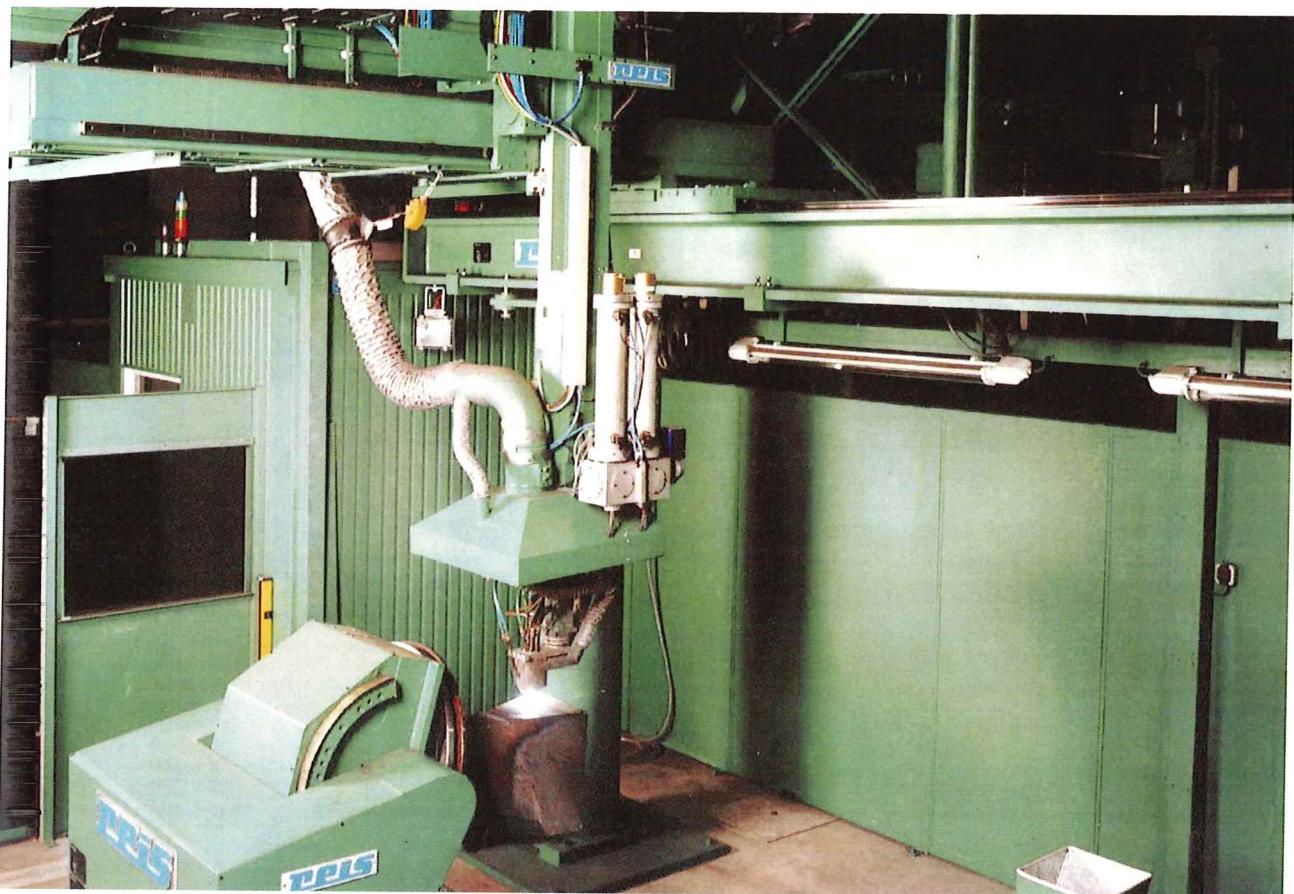
2-station welding cabin with integrated freely programmable head and tailstock turning devices and centrally located welding robot.



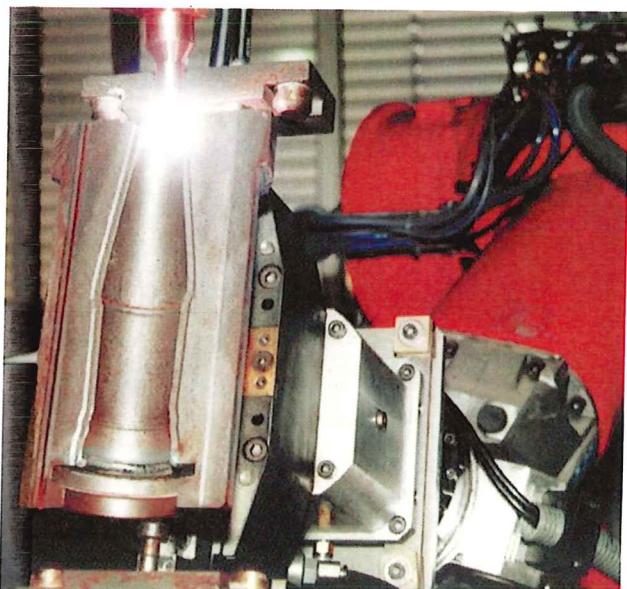
Robot welding cabin with electrical 2 to 4- station rotary table and safeguarded insert lock.

TA welding systems

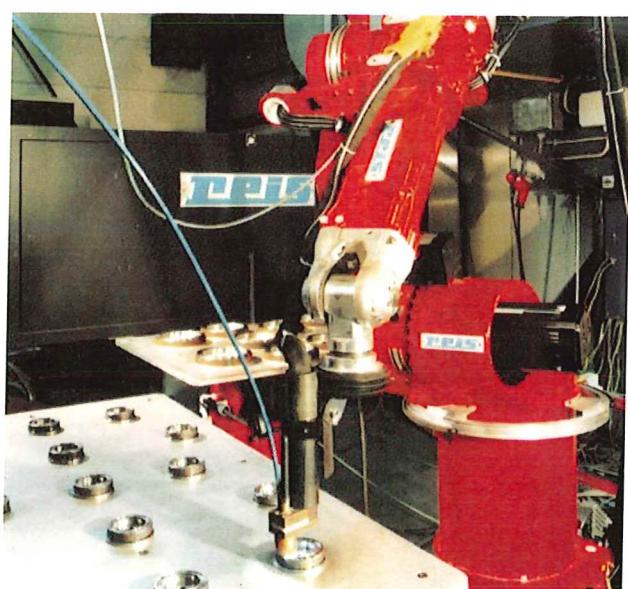
High quality coating installations for highest economic efficiency



High capacity plasma surfacing welding system for the production of wear components or sheet metals with surfacing capacities of up to 20 kg/h.



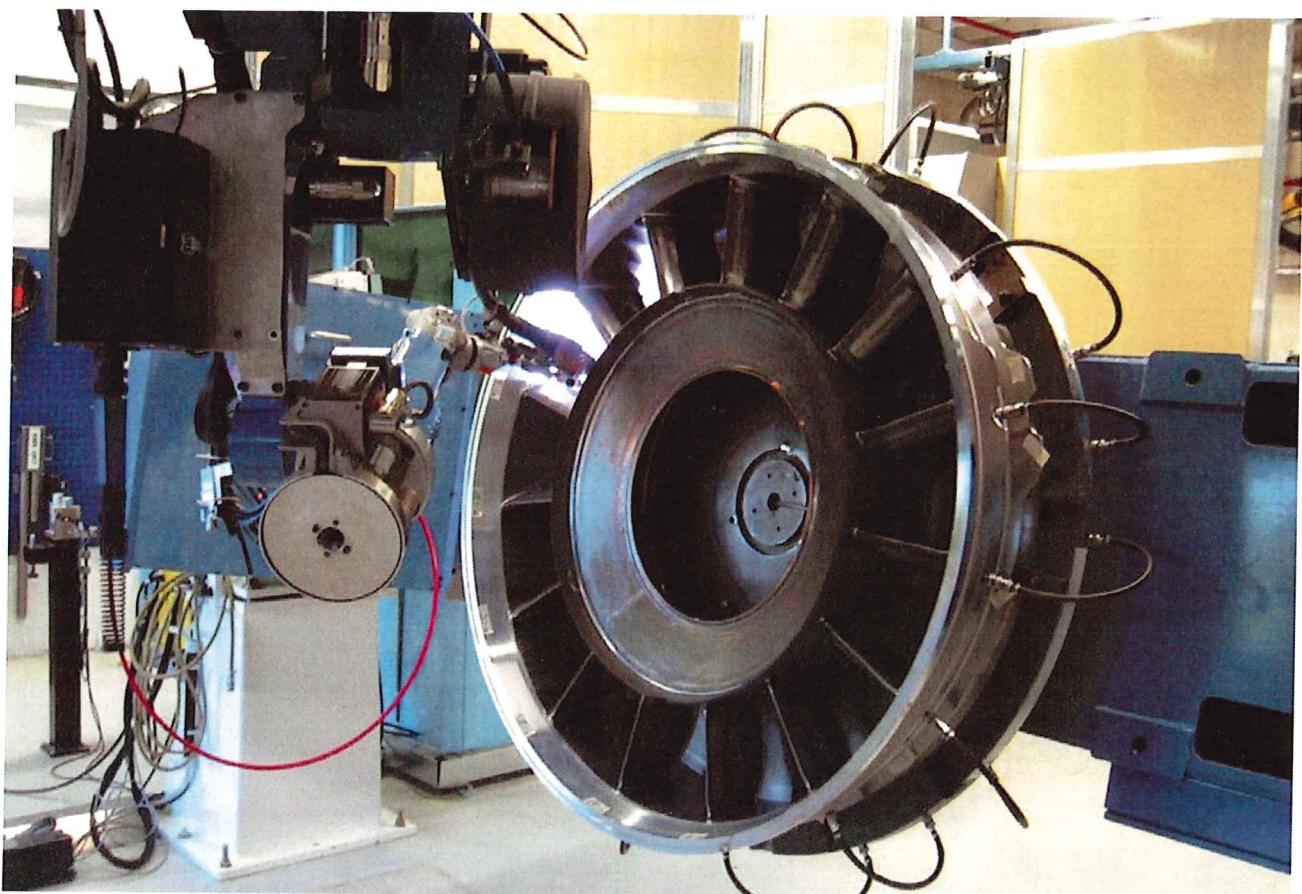
Surfacing of specific wear protection by means of wire or powder to preheated molds by handling parts under stationary welding torch.



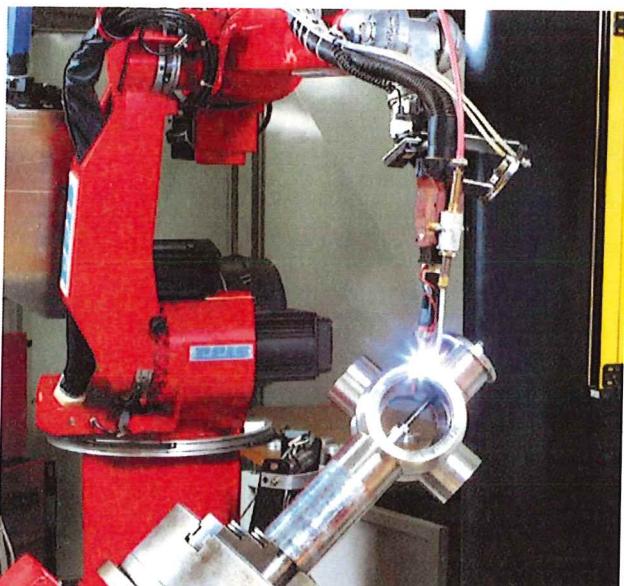
PTA welding of valve seats in connection with manual rotary table and upright robot in 4-station operation.

TIG welding systems

Highly precise robot and peripheral modules for demanding applications



Robotic production of high end components for aircraft turbines with a total of 10 freely programmable axes. Use of sensors for compensation of tolerance.



Handling and welding of stainless steel fixtures with automated feeding and unfeeding of components by means of combined weld torch/gripper.



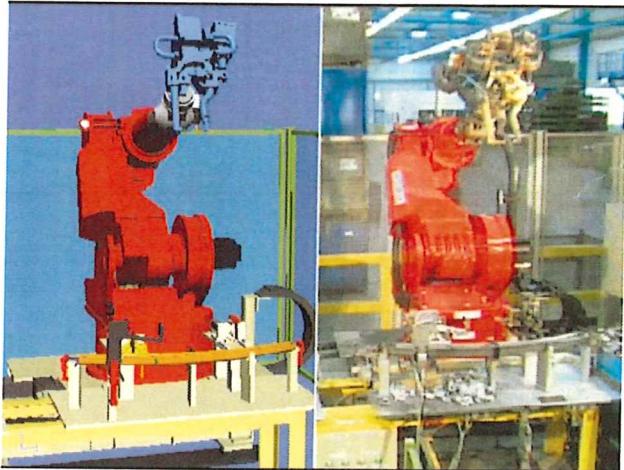
Precision welding of thin-walled pressure gauge casings from stainless steel with or without cold wire feed.

REIS ProSim - Simulation software

ProSim allows visualization and simulation of new or modified robot processes and installation concepts offline at the PC. The realistic representation of all installation components and sequences already in the planning phase ensures a reliable process analysis. This reduces the program-related machine downtimes up to 80%.

Advantages:

- Robot programming and program test run with integrated anti-collision check on Windows-PC
- Graphical programming
- Reduction of the program-related machine downtimes
- Realistic planning and reliable feasibility studies of the robot processes
- Examination of the cycle time
- Direct data exchange via the robot
- Signal simulation
- Import of 3D CAD geometry via various interfaces possible
- 3D CAD module for modeling of robot and work cell
- Layout generation functions: Loading, deletion, placing, duplication and measuring of objects



All control functions run in RobOffice under the same conditions like in the real control ROBOTstarV. Thus, you will receive reliable information about program operation, cycle times and accessibility of positions.



In cooperation with:



eMPower™

With ProSim you can plan and analyze process sequences and cell concepts true to reality. ProSim explains all traversing movements of the robot, anti-collision examinations and the cycle time.

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REIS ROBOTICS

Reis Robotics Inc. · 1320, Holmes Road · USA-Elgin, IL 60123 · Phone: ++1-847-741-95 00 · Fax: ++1-847-888-27 62

Reis GmbH & Co. Maschinenfabrik · P.O.Box 110161 · D-63777 Obernburg
Tel: ++ 49 (0) 60 22-5 03-0 · Fax: ++ 49 (0) 60 22-5 03-110 · Internet: www.reisrobotics.de

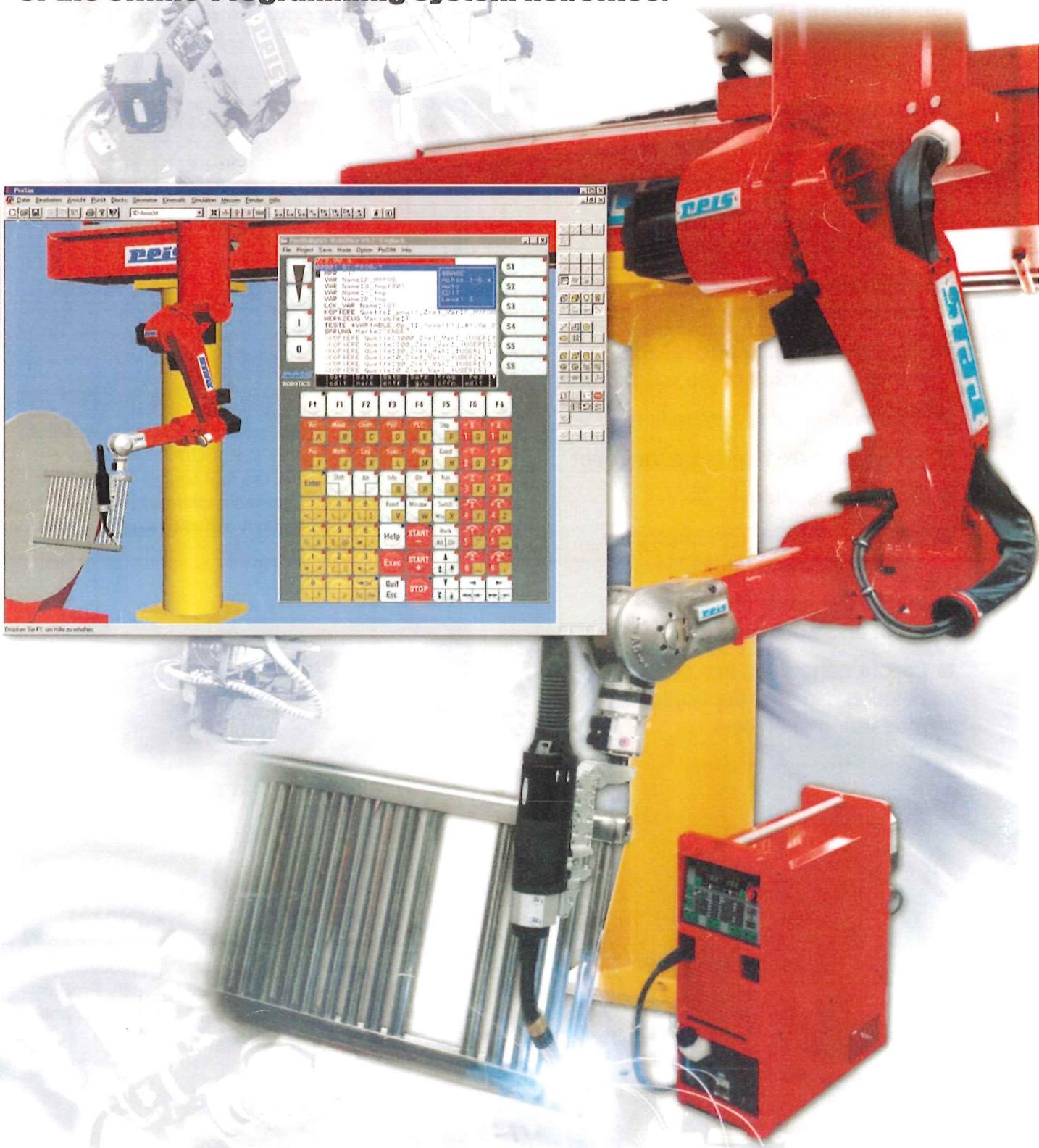
Reis Subsidiaries in Italy, France, Spain, Czech Republic and Brazil. Sales and service in many countries.

REIS ProSim

The simulation software for optimal extension and visualization of the Offline-Programming system RobOffice.

RobOffice - offline tool

RobAssist - application related programming and operating tool



REIS ROBOTICS - leading in systems integration

Complete systems from one source.
Competent, custom and economical.

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REIS ROBOTS and PERIPHERAL MODULES

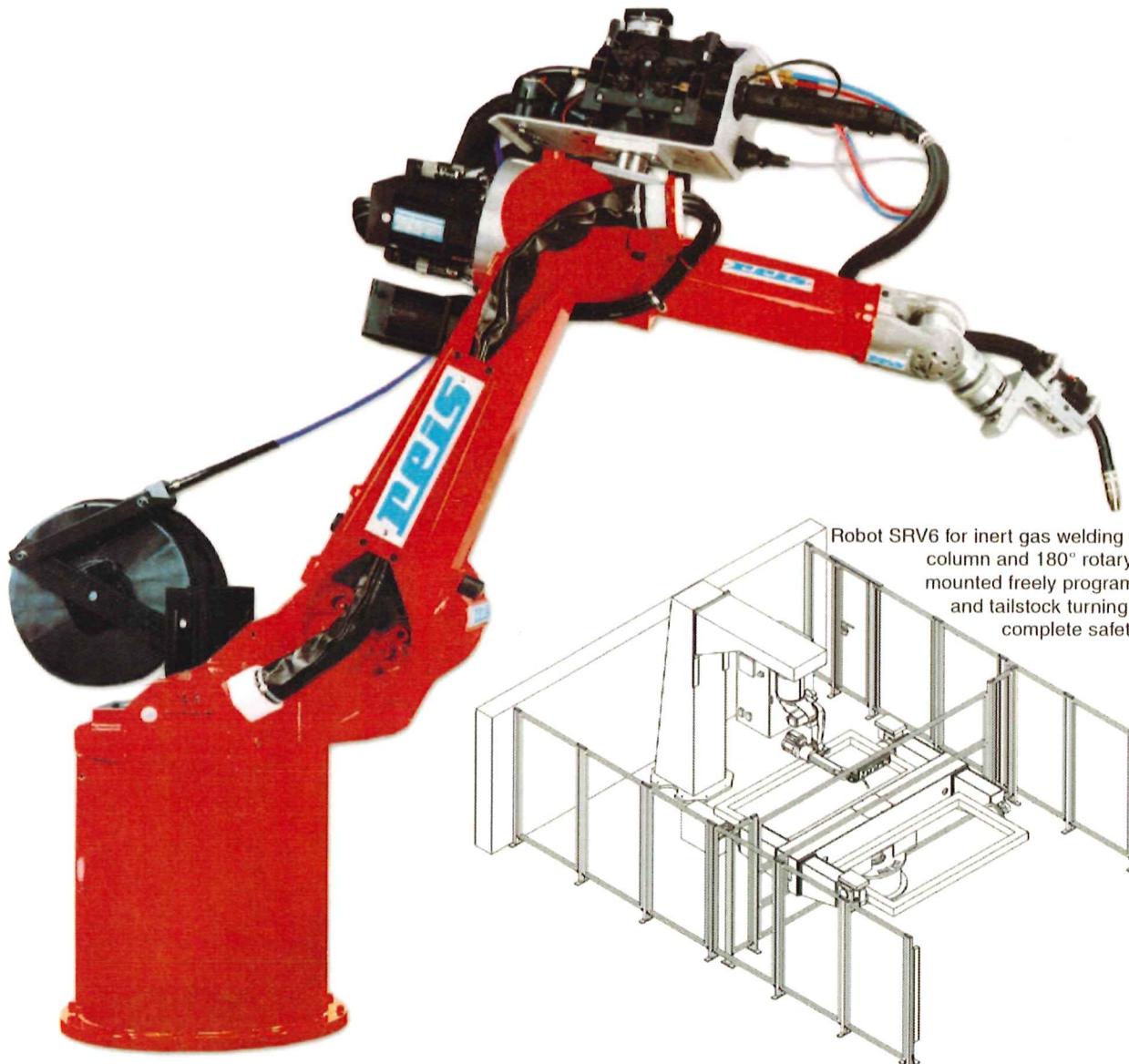


**WELDING
& CUTTING**

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REIS ROBOTS

Robot series	Max. load	Add. load	Work envelope
SRV4	4 kg	6 kg	Ø 2,160 mm
SRV6	6 kg	10 kg	Ø 3,050 mm
SRV6L	6 kg	10 kg	Ø 3,450 mm
SRV16	16 kg	10 kg	Ø 3,070 mm
SRV16L	16 kg	20 kg	Ø 4,800 mm

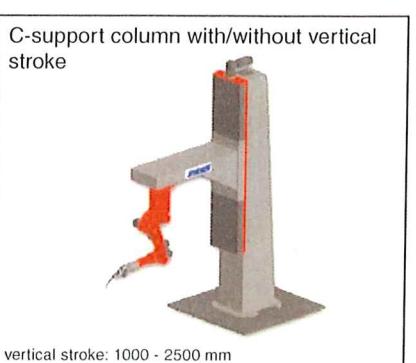
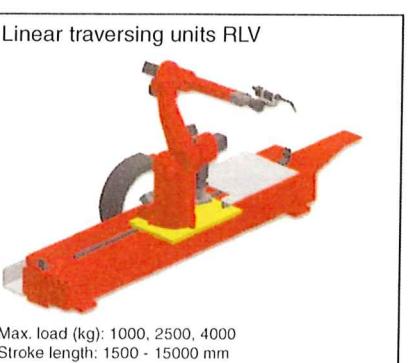
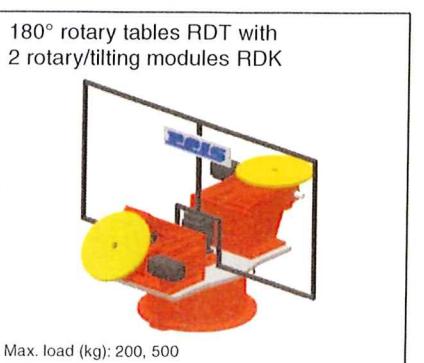
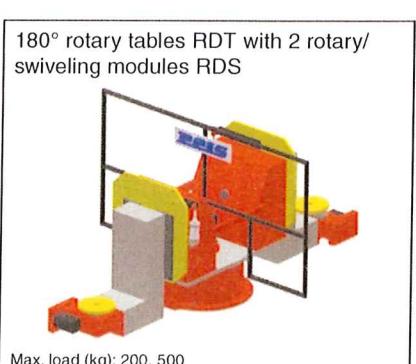
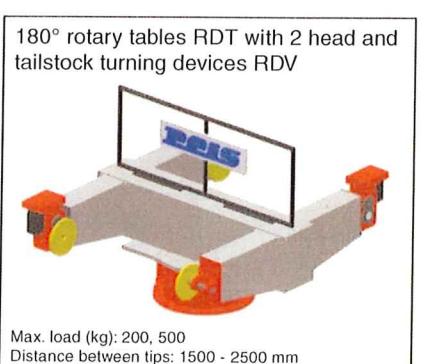
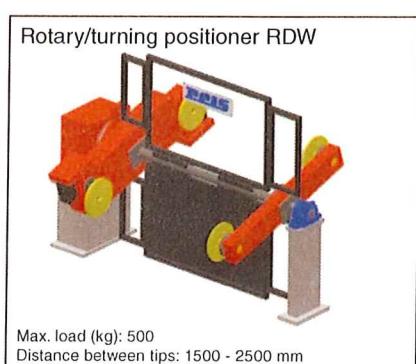
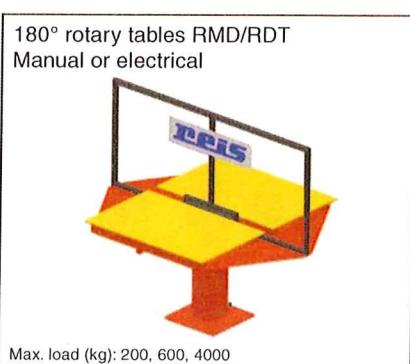
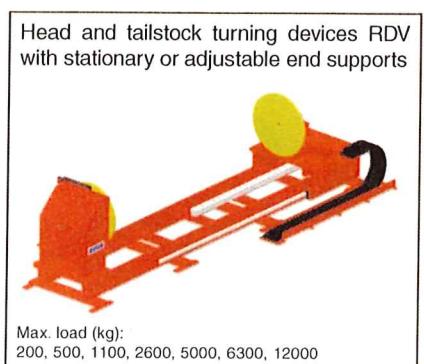
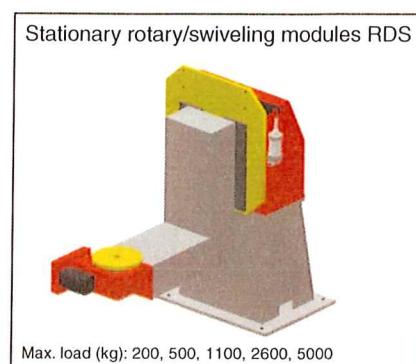
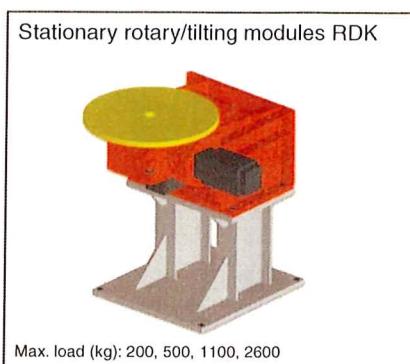
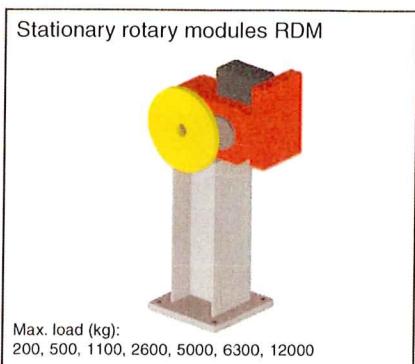


Advantages:

- Usable for all welding and cutting tasks
- Repeatability ± 0.05 mm or ± 0.1 mm depending on robot series
- Shortest cycle times due to high dynamic AC servo motors
- Transformation of multiple axes of all additional peripheral axes
- Reduced programming efforts due to e.g. automatic program adjustment

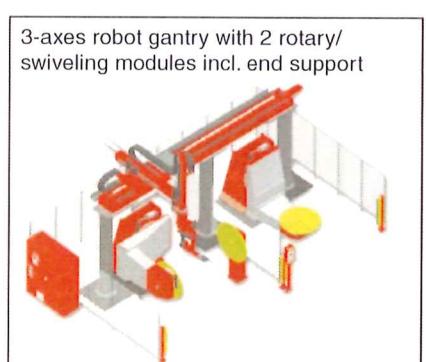
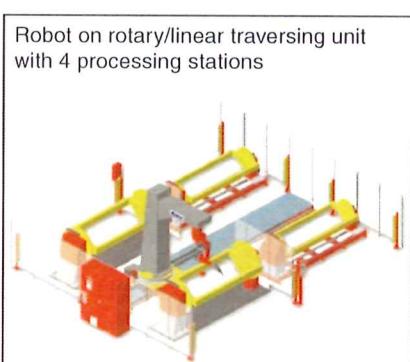
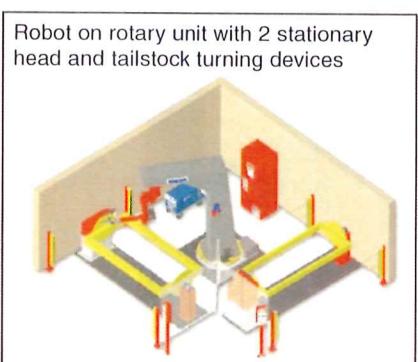
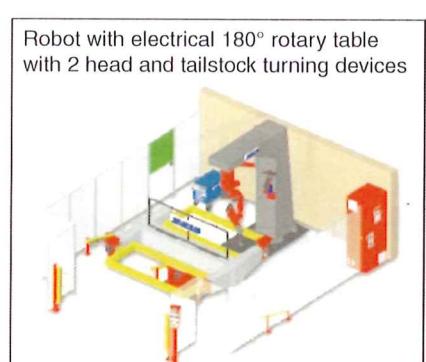
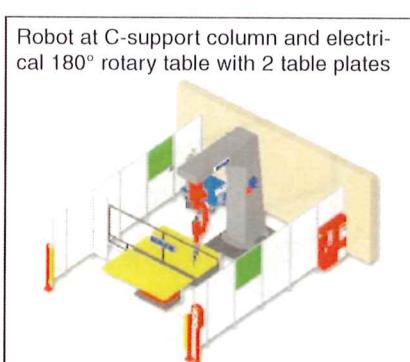
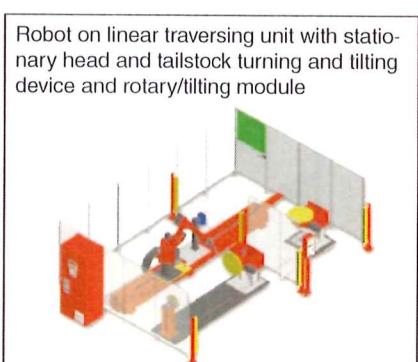
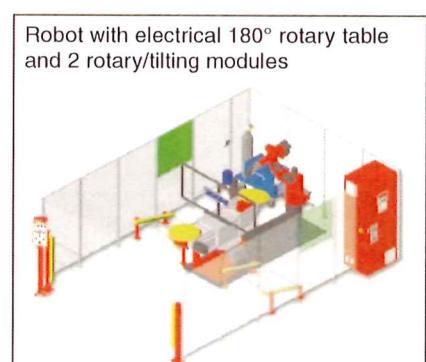
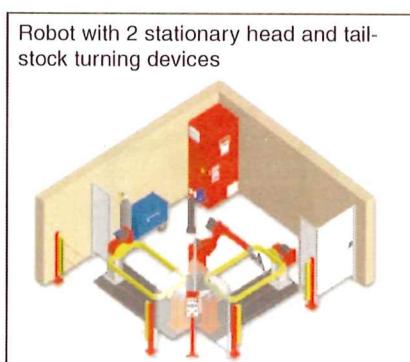
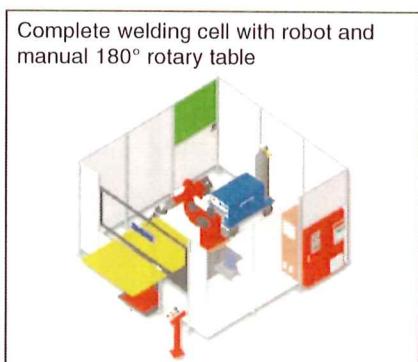
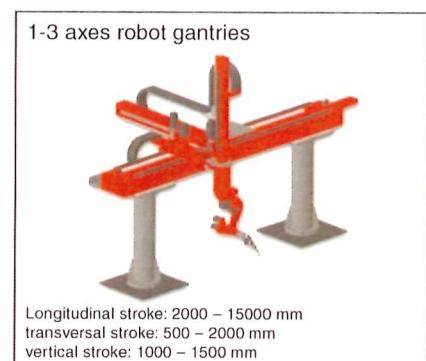
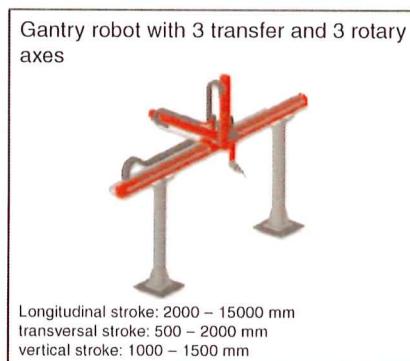
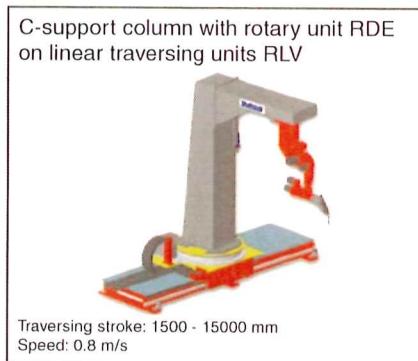
REIS STANDARD PERIPHERAL MODULES

The standard peripheral modules are freely programmable and fully integrated into the robot control. Thus workpieces are provided to the robot in an optimum way. This ensures highest quality at shortest cycle time.



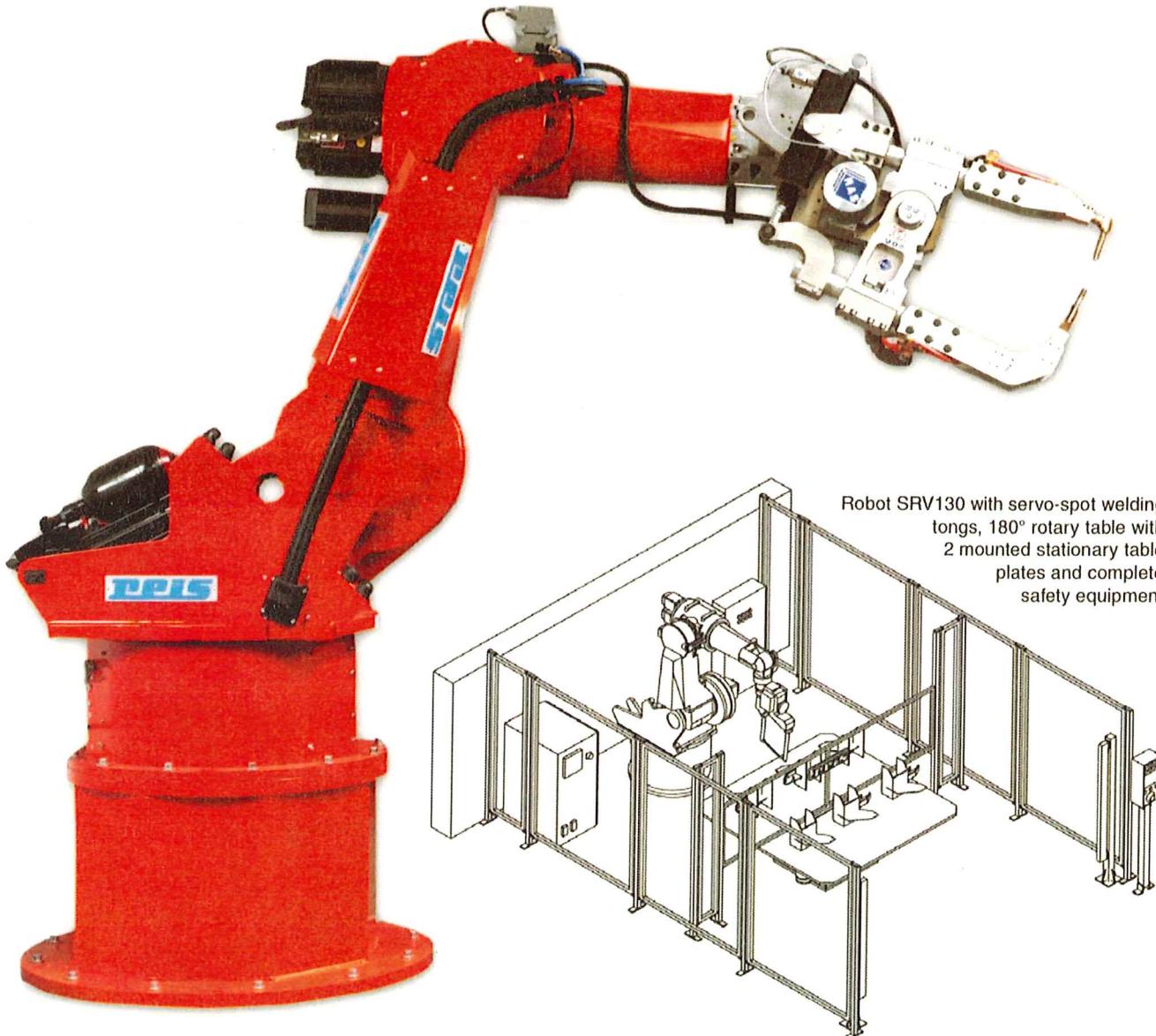
REIS STANDARD PERIPHERAL MODULES

The standard peripheral modules are freely to combine among each other. With it, standard systems can be arranged individually with up to 24 freely programmable axes at low cost.



REIS ROBOTS

Robot series	Max. load	Add. load	Work envelope
SRV40	40 kg	20 kg	Ø 5.300 mm
SRV40S	40 kg	20 kg	Ø 5.900 mm
SRV60	60 kg	20 kg	Ø 4.500 mm
SRV60L	60 kg	20 kg	Ø 5.960 mm
SRV60LS	60 kg	20 kg	Ø 6.600 mm
SRV130	130 kg	80 kg	Ø 5.194 mm



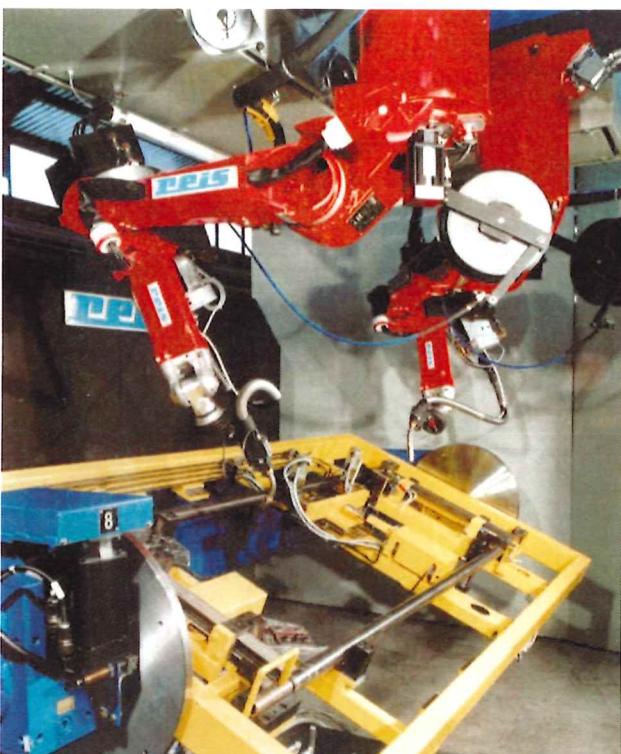
Advantages:

- Usable for all joining tasks e.g. spot welding, punch riveting, pressure joining etc.
- Handling of components beneath a stationary welding or cutting torch or joining tool
- Repeatability ± 0.1 mm or ± 0.4 mm depending on robot series
- Error-tolerant position measuring system towards external interference
- Graphical offline programming system to increase the system utilization

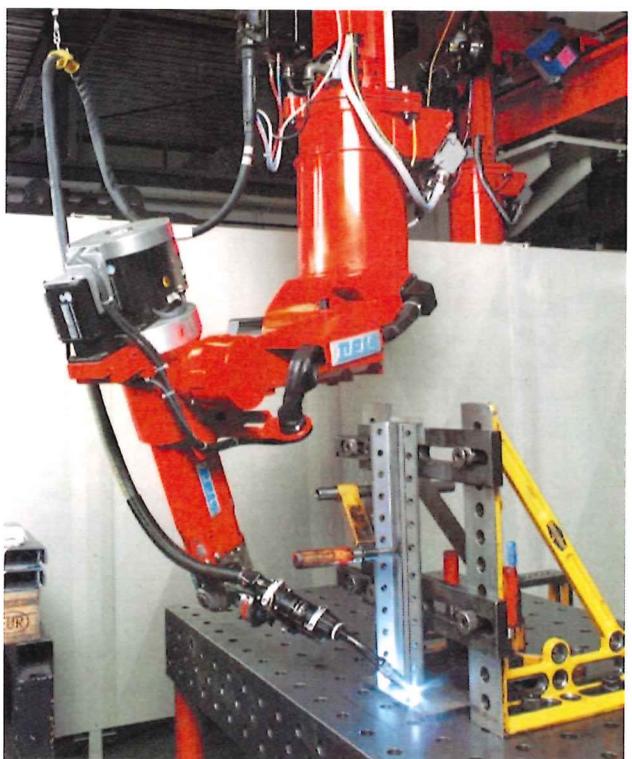
REIS APPLICATIONS



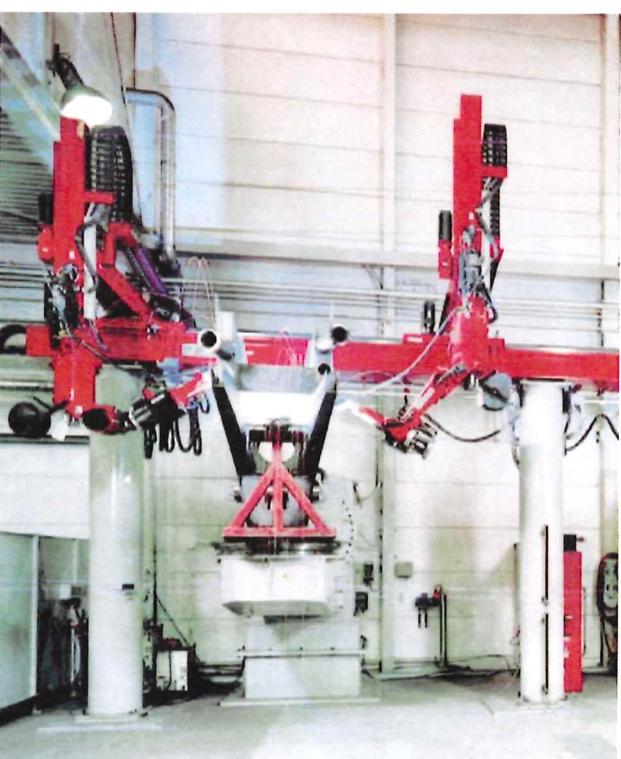
MAG welding of fuel tanks



Master-slave system for scaffold components



Small series production with modular fixtures construction



Gantry welding system for large components

schweißen_peri_04_03

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REIS ROBOTICS

Reis GmbH & Co.
Maschinenfabrik
Industriegebiet an der B426
D-63785 Obernburg
Phone: ++49 (0) 60 22-5 03-00
Fax: ++49 (0) 60 22-5 03-110

Reis Robotics USA Inc.
1320, Holmes Road
USA-Elgin, IL 60123
Phone: ++1-847-741-95 00
Fax: ++1-847-888-27 62

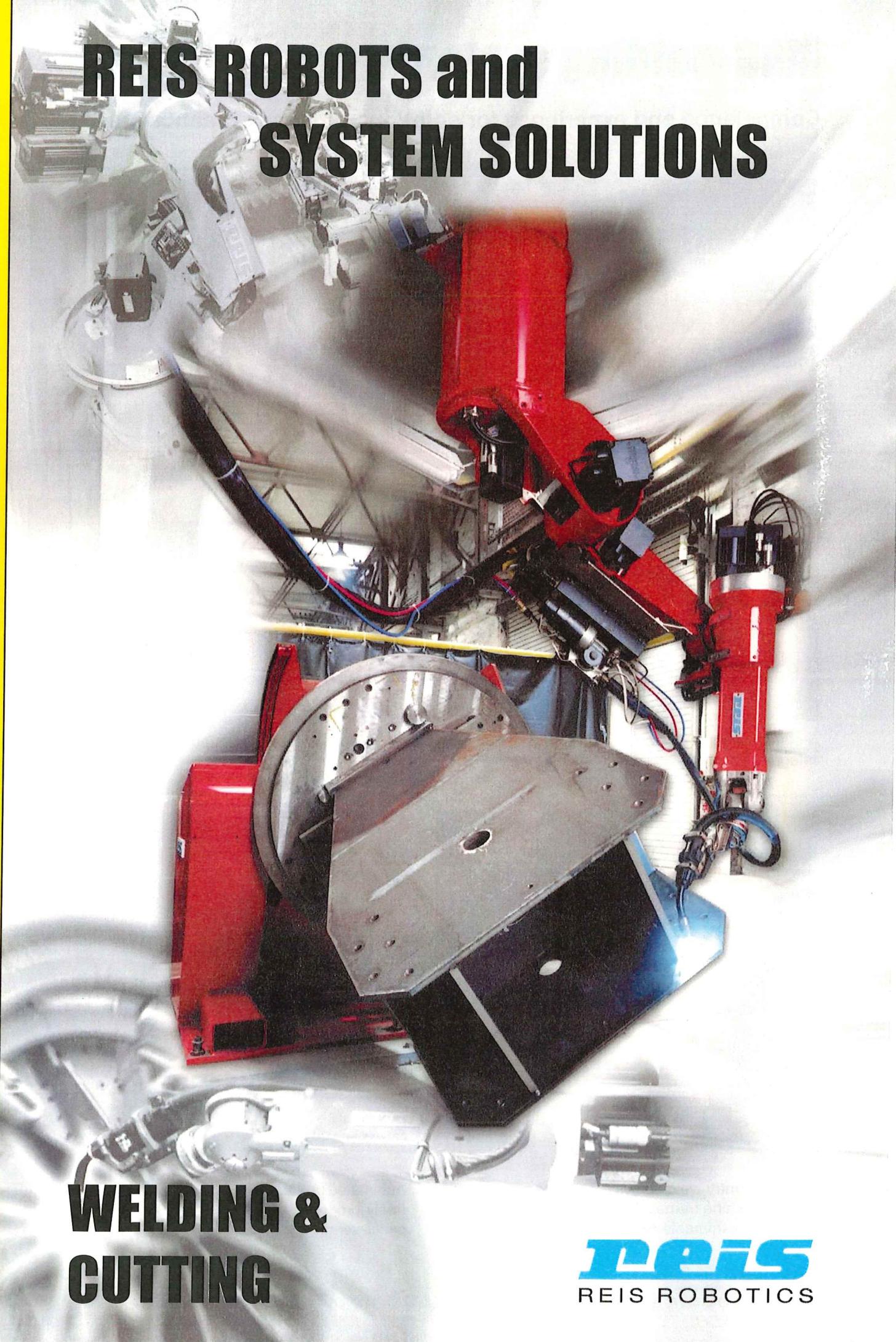
Reis Robotics Italia S.r.l.
Via del Lavoro 42
I-20040 Bellusco
Phone: ++39-039-6 06 70 20
Fax: ++39-039-6 06 70 12

Reis France E. u. r.l.
44 Rue du Pré des Aulnes
Parc d'Activités des Arpentis
F-77340 Pontault-Combault
Phone: ++33-1-60 28 22 22
Fax: ++33-1-60 28 35 47

Reis Robotics Espana S.L.
Dr. Manuel Riera, 90
E-08950 Esplugas
Phone: ++34-93-473 72 25
Fax: ++34-93-473 72 59

Reis Robotics do Brasil Ltda
Rua Dr. Ribeiro de Almeida, 286
BR-01137-020 - Sao Paulo - SP
Phone: ++55-(0 xx 11)-3392-2154
Fax: ++55-(0 xx 11)-3612-2047

REIS ROBOTS and SYSTEM SOLUTIONS



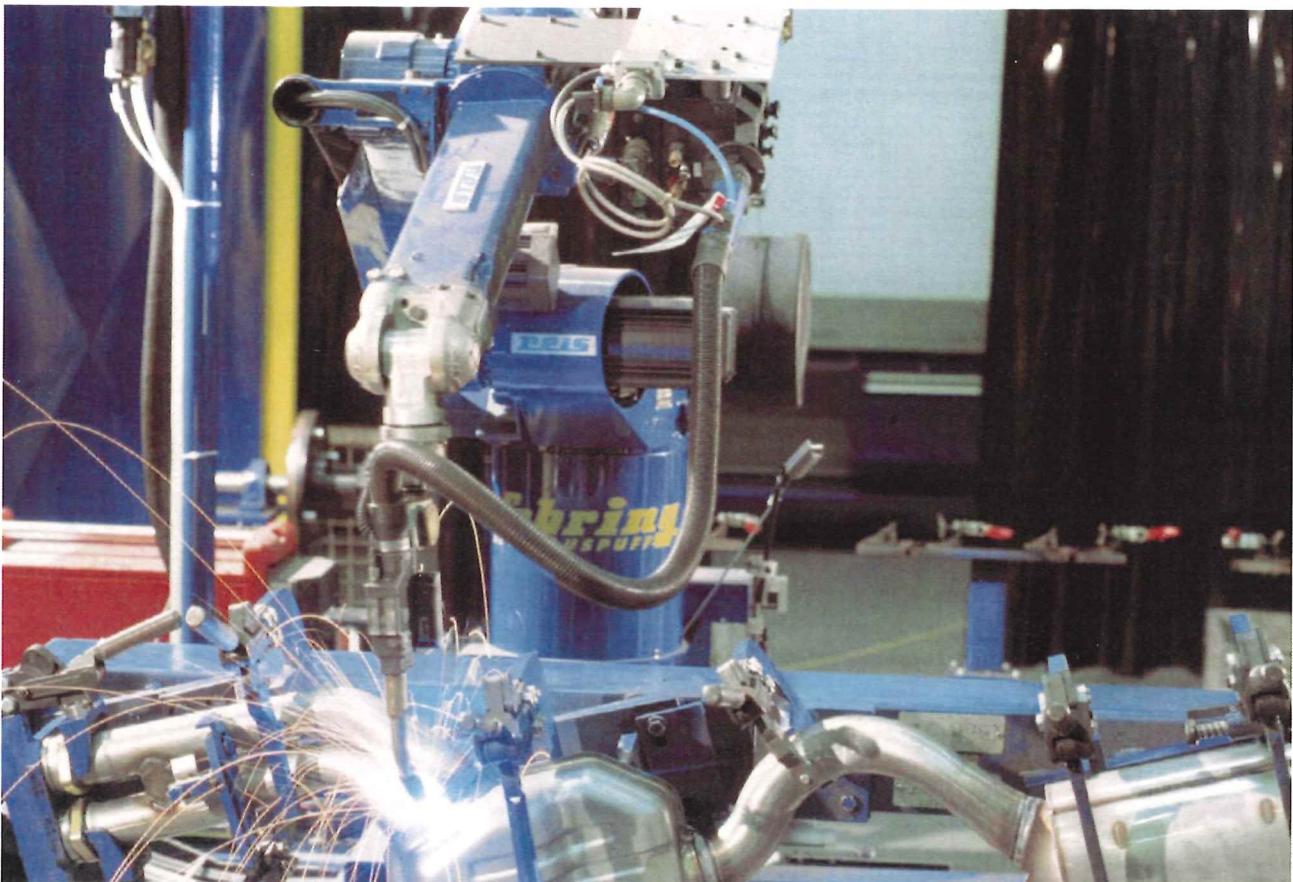
**WELDING &
CUTTING**

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Leading in systems integration

MAG welding systems

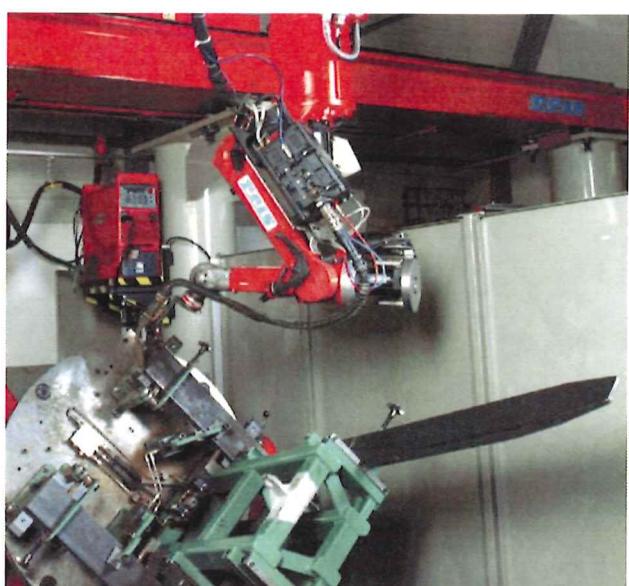
Competence and experience for solutions proven in practical use



6-station welding system with 3 robots for automated production of exhaust systems in thin sheet metal. Integrated process and quality monitoring.

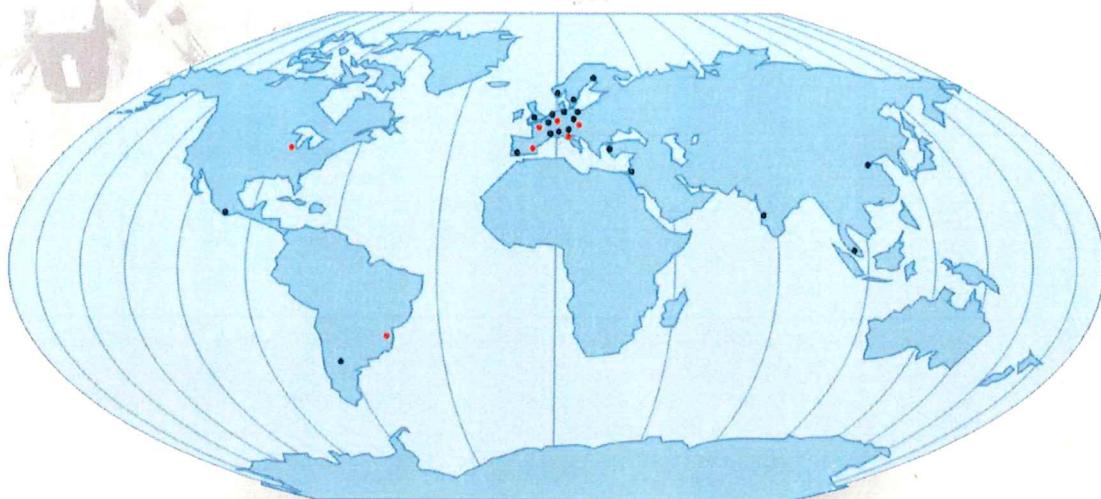


12 axes gantry welding system for the production of heavy machine frames. Components positioning via freely programmable rotary/lifting axis.



Automated production of forks for lifting trucks through freely programmable rotary/tilting modules and robot cantilever gantry.

REIS ROBOTICS – All over the world



Reis Robotics USA, Inc.
1320, Holmes Road
USA-Elgin, IL 60123
Phone: ++1-847-741-95 00
Fax: ++1-847-888-27 62



Reis GmbH & Co. Maschinenfabrik
Industriegebiet an der B 426
D-63785 Obernburg
Tel: ++ 49 (0) 60 22-5 03-0
Fax: ++ 49 (0) 60 22-5 03-110

Internet: www.reisrobotics.de



Reis Robotics CR spol. s r.o.
Cernovice 173
CZ-430 01 Chomutov
Phone: ++42 (0) 396-6385-0
Fax: ++42 (0) 396-6385-20



Reis Robotics España S.L.
Dr. Manuel Riera, 90
E-08950 Esplugas
Phone: ++ 34-93-473 72 25
Fax: ++ 34-93-473 72 59



Reis France S.a.r.l.
44 Rue du Pré des Aulnes
Parc d'Activités des Arpents
F-77340 Pontault-Combault
Phone: ++ 33-1-60 28 22 22
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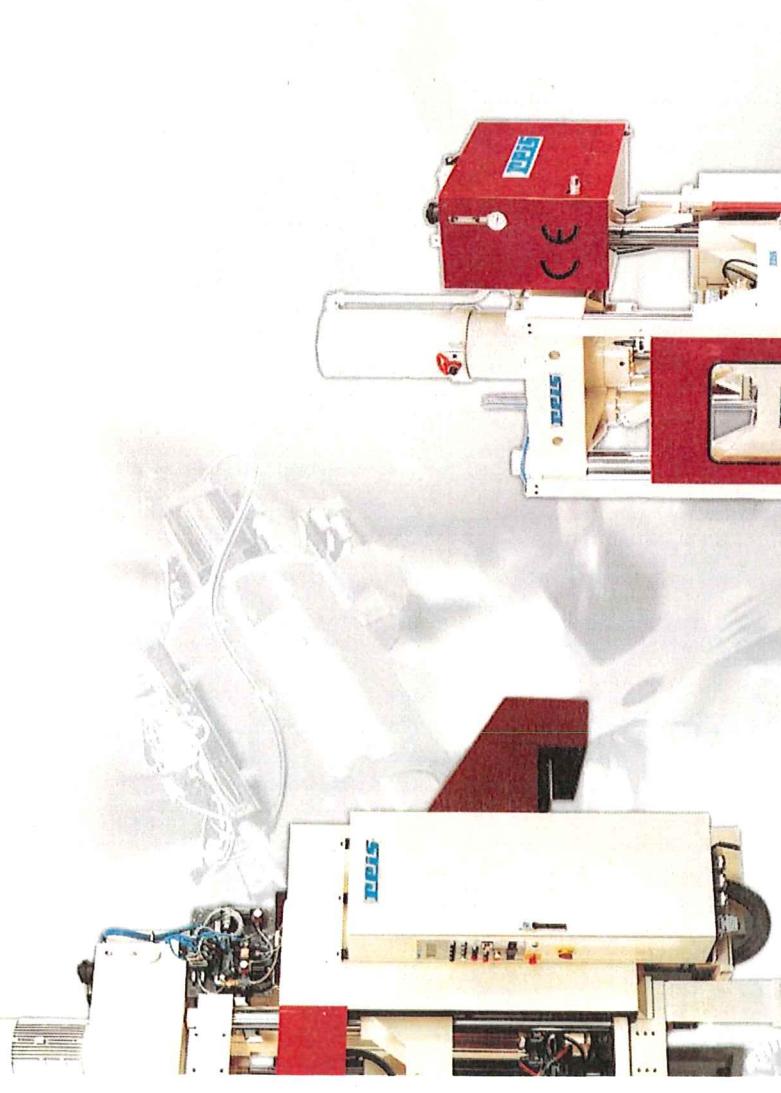
Reis Robotics Italia S.r.l.
Via del Lavoro 42
I-20040 Bellusco
Phone: ++ 39-039-6 06 70 20
Fax: ++ 39-039-6 06 70 12



Reis Robotics do Brasil Ltda.
Rua Dr. Ribeiro de Almeida 286
01137-020 - Sao Paulo - SP
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Fax: ++55 (0 xx 11) 3612-2047

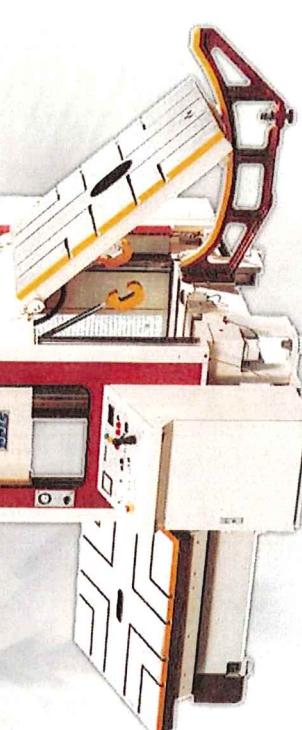
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The performance is based on state-of-the-art machinery &
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precision and

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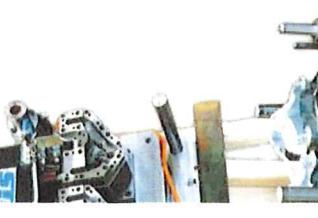
Hydraulic try-out and spotting presses make dies and
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Final assembly of a group of robots.



Our own manufacture of precision components
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Employees for consultation, planning, project design and execution ensure competent attention during all phases of the project. The subsidiaries and partners ensure full support and fast service on site worldwide.



on and planning for correct customized



Highly qualified service technicians for assembly and installation, commissioning and programming guarantee continuous, fast and economic service for the life of the product.



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Commissioning an operation by the customer



Full training programme

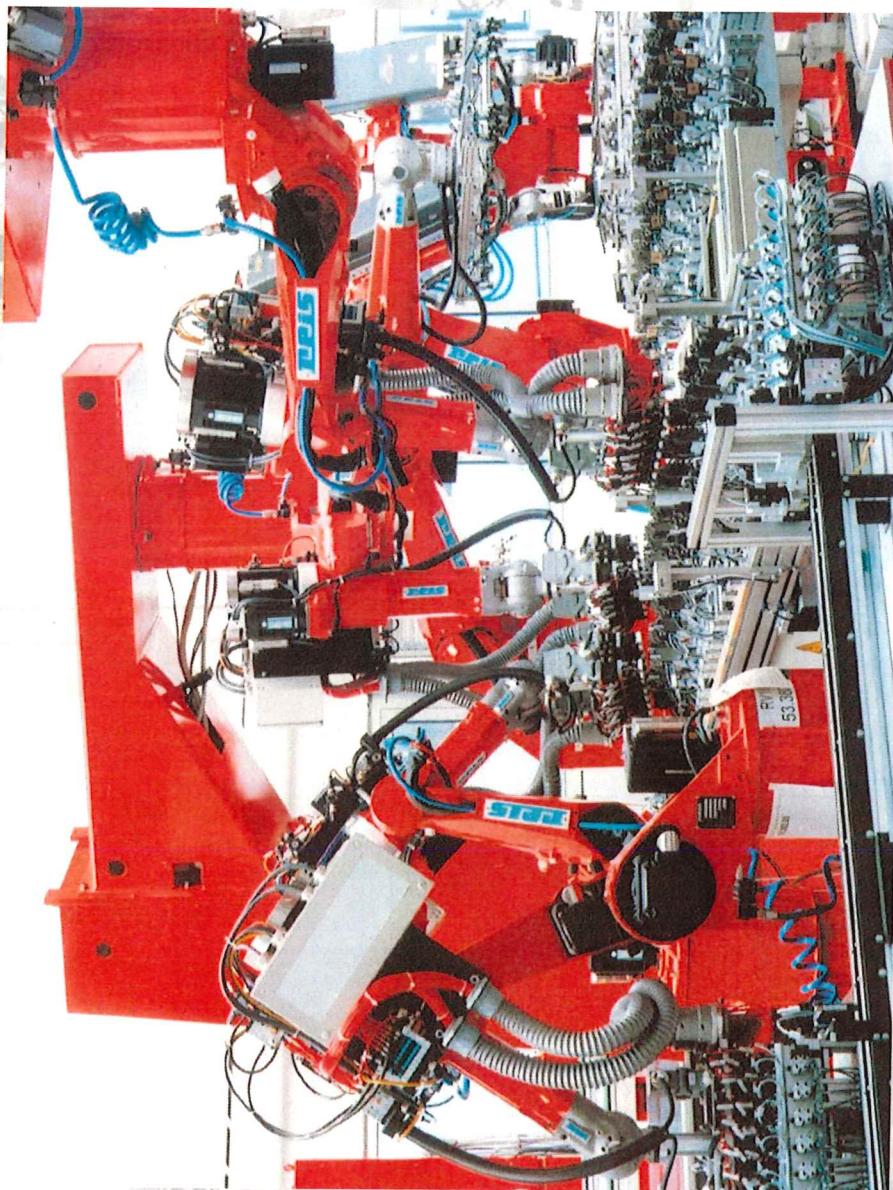


First-class references:
AEG Oldenburg Akzo Oberburg Wuppertal BASF Wilsbüttel BAT Berlin Baumüller Nürnberg BBP Münster Beckum Bergmann Braas Heusenstamm Braun Kronberg Marktcheidfeld BSI Remscheid Circon Paris Continental Gummiwerke Hanover Daimler-Benz Stuttgart Desag Grünenplan 2 Faun Laut a. d. Pegnitz Fahrer Brunschwieg Festo Neidlinger Fichtel & Sachs Kitzingen Fischer GF Metzmann Ford Berlin Düren, Köln Ford Motor Dagenham Swansea (England), Belfast (Ireland), Bordeaux (Frankreich), Detroit, Cleveland (USA) Fuji Kleve Grothe Schiltach Grundfos (Dänemark) Halberger Guß Saarbrücken Haring Espelkamp Hilli Lichtenstein Norsingen Hirschmann Esslingen Honeywell Emmer (Niederlande), Mosbach Hönsel-Werke Meschede Solingen Hülsbeck & Fürst Velbert Spanien Karmann Osnabrück Kaup Aschaffenburg KHD, Köln Kienzle Villingen Kloß Senking Hildesheim Kolbenschmidt Hamburg Neckarsulm Lever Sunricht Mannheim Linde Aschaffenburg Löhr & Bonenkamp Offenbach Löffer Lübeck LSG Frankfurt Martin Göppinger Mahle-Werke Stuttgart Manesmann-Demag Fördertechnik Usar Walter Mannesmann Rexroth Lohr Mann & Hummel Ludwigsburg MBB Donauwörth Metabo Nürtingen Michelin Halstedt Karlsruhe Bad Kreuznach Meile Gütersloh Mittelnahr Wülfrath Mössner München Werdohl Pälzer Seligenstadt Papst-Motoren Herbolzheim Perguform Göttingen Peri Aschaffenburg Brasilien Peugeot Automobiles Mulhouse (Frankreich) Philips Hamburg Pierburg Berlin Niedetal Pontiac Motor (GM) Pontiac Michigan (USA) Porsche Stuttgart Procter & Gamble Crailsheim Worms Mechelen (Belgien) Recticel Wetteren (Belgien) Cincinnati (USA) Recital Wetteren (Belgien) Rheinbeilbach Renault Automobiles Paris Flouvent Offenbach Erbach Solvay Brüssel (Belgien) Schenck Mauborg Siemens Würzburg Bad Neustadt SKF Schweinfurt Frankreich USA Stahlsmithd Maiworm Werdohl Sihl Wittenbergen Weinsheim Thyssen Bogen Wuppertal Vaillant Roden Geisenkirchen Remscheid VDO

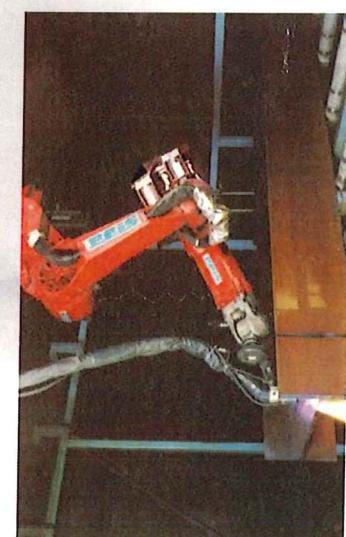
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Complete systems from one source



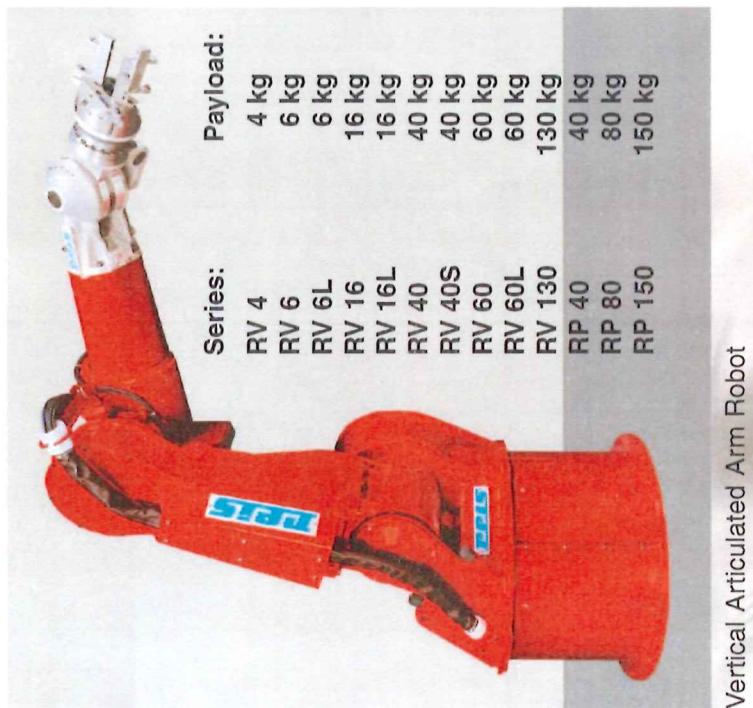
Flexible palletiz

Automation of r

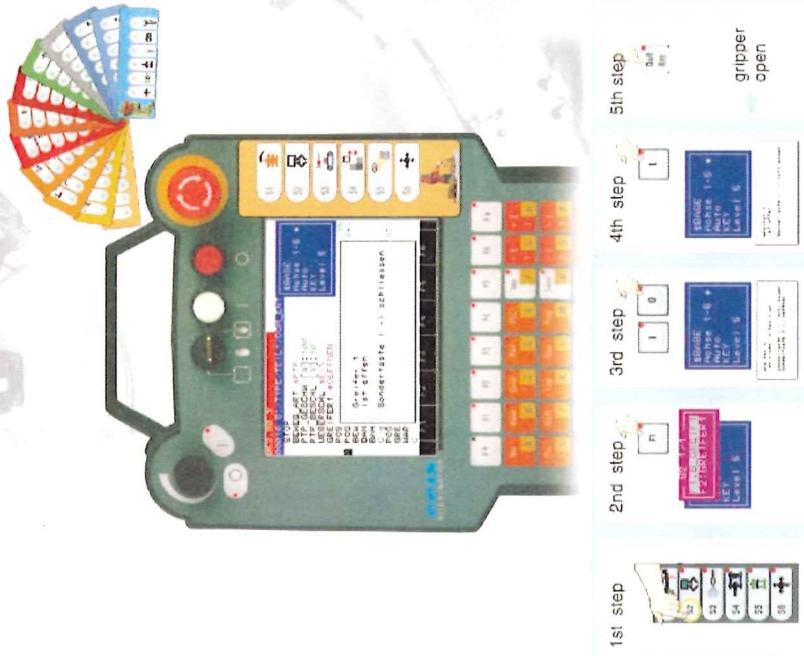


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; and peripheral equipment. No one else offers this range

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development from practical use for practical use.



Series:	Payload:
RH 16	16 kg
RH 40	40 kg
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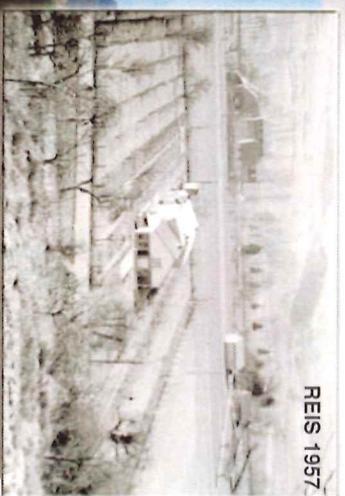


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