

SMART MECHATRONIX

SMART PRESSES

FROM KIT TO SYSTEM SOLUTIONS

PLUG & PRODUCE

ZERO PROGRAMMING

FAST COMMISSIONING



rexroth
A Bosch Company

SMART PRESSES

PRODUCTVISION



SMART PRESSES

HIGHLIGHTS



Easy product selection

- Preselected mechanical, electrical and software components are combined in various kits for forces up to 60 kN
- All components from a single supplier – with proven Rexroth quality



Plug & Produce

- Delivered in a single package, including preinstalled operating software
- Auto parameterization of the servo drive
- Function blocks to realize a quick connection to higher-level controls



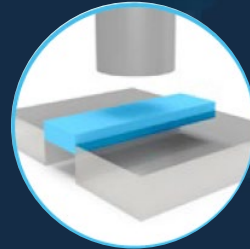
Zero Programming

- Modern and intuitive design
- No programming knowledge required
- Simple and logical configuration of the process and the evaluation elements
- Browser-based web HMI, device independent

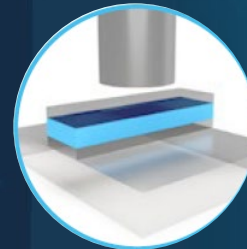
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APPLICATIONS

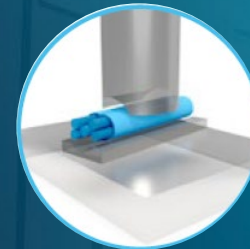
- **Assembly and joining** processes in many different industrial sectors
- **Forming processes** in the metal and plastics industries as well as packaging technology
- **Testing** tasks in development, quality assurance and test laboratories



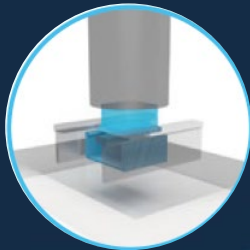
PRESS-FITTING



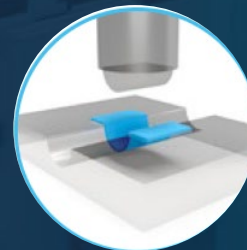
PRESSING



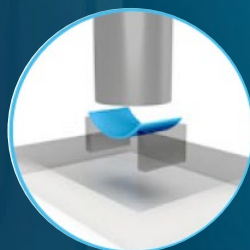
CRIMPING



CLIPPING



FORMING



TESTING

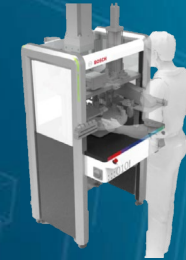
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INTEGRATION LEVELS



Smart Function Kit

- ✓ Simple compilation of the components using the configurator
- ✓ Plug & Produce through pre-installed operating software and automotive drive controller parameterization
- ✓ NO programming knowledge necessary
- ✓ Visualisation and evaluation of the process data



System solution

- ✓ Turnkey solution
- ✓ Acceptance with CE declaration according to 2006/42/EG



Press-Fit System

- ✓ Pre-assembled and wired system box
- ✓ Support of customer specific data protocols
- ✓ Prepared interfaced for safety features



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STAND ALONE Solution



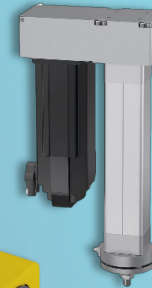
Press-Fit System

example PS2

Emergency stop



Press spindle



Switch-on button

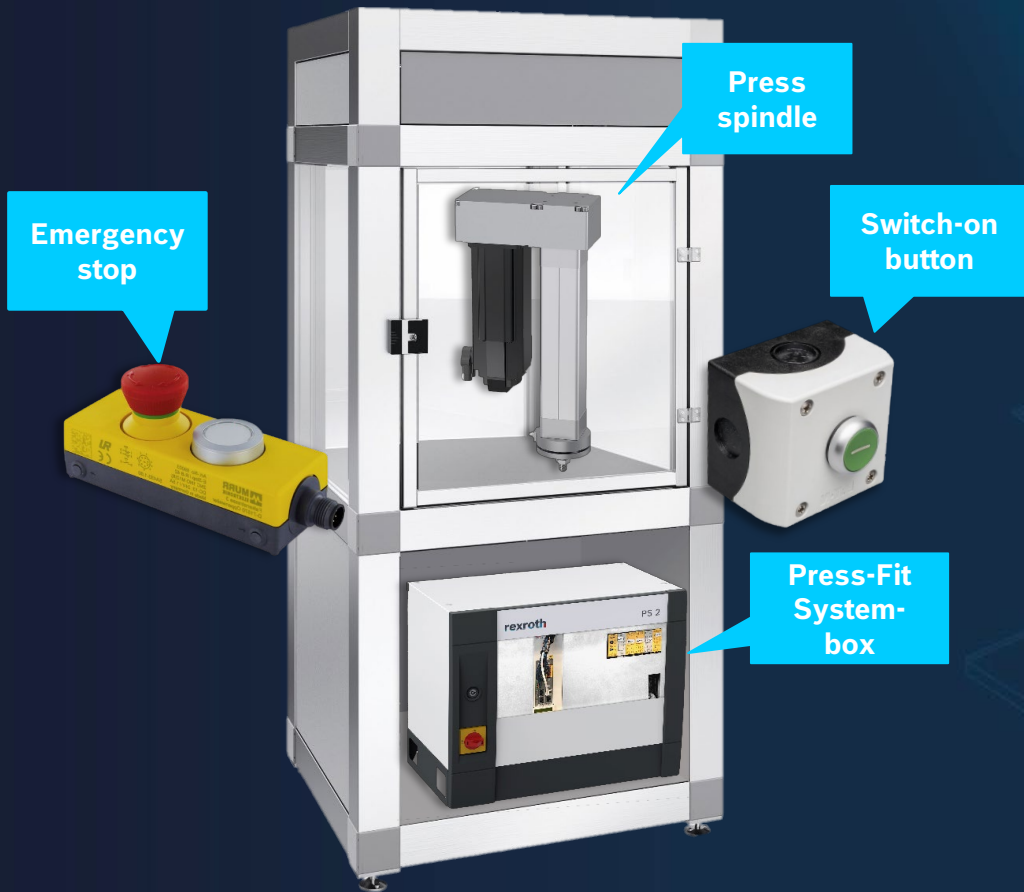


Press-Fit System-box



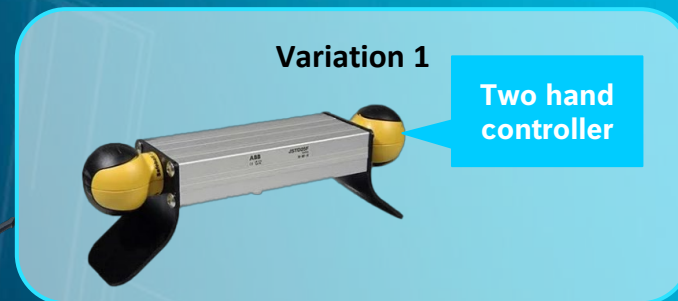
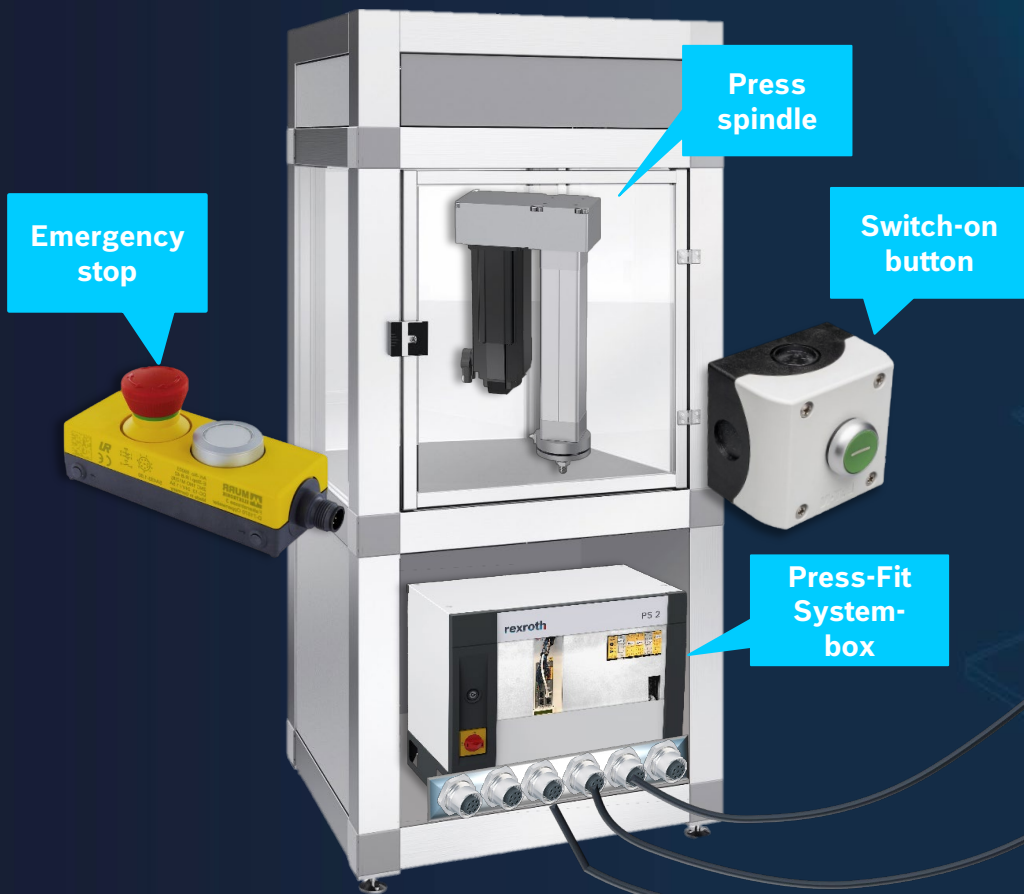
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STAND ALONE Solution



SMART PRESSES

STAND ALONE Solution

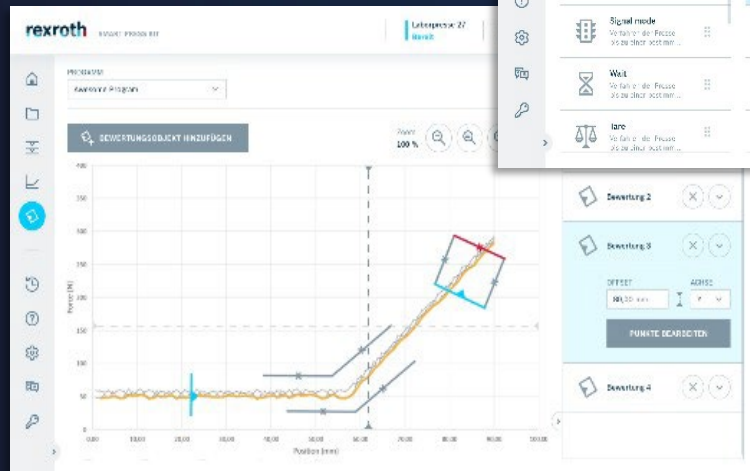


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INTUITIVE HMI



Easy commissioning via installation wizard



Easy integration in higher level control and IT infrastructure

- Drag & Drop process configuration
- Program creation within seconds
- No programming know-how required



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SOFTWARE FEATURES

Intuitive program creation



Library



Drag & Drop process configuration



No programming knowledge needed



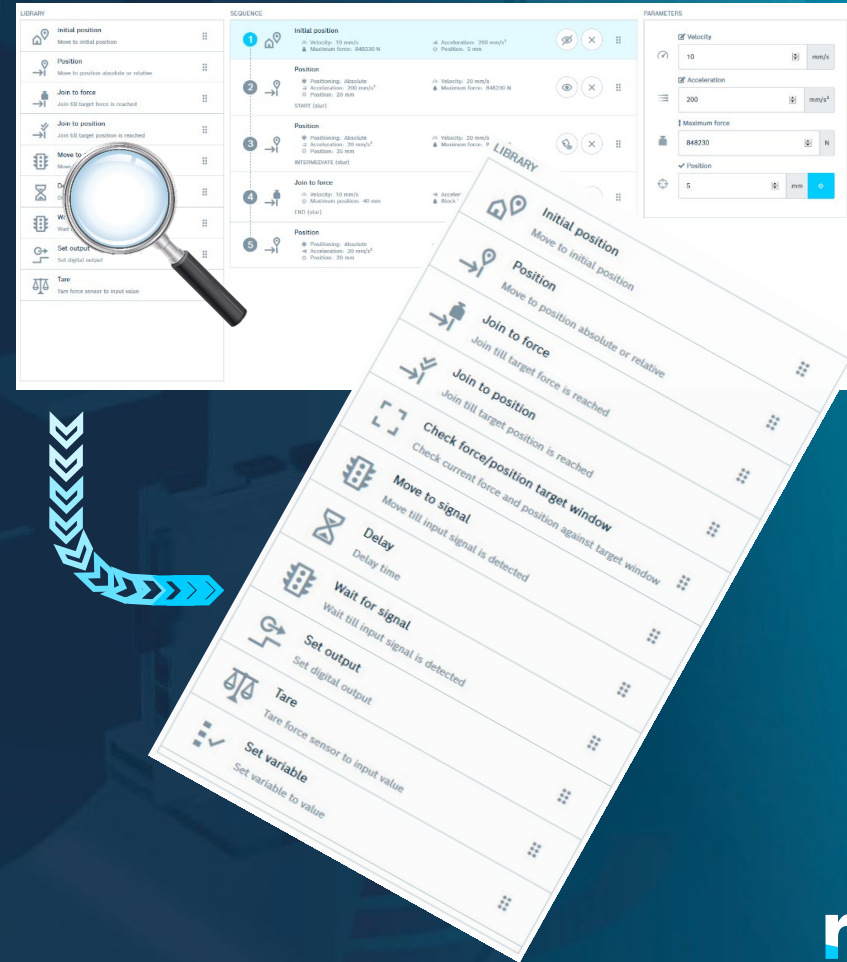
High adaptability & flexibility



Easiest integration in control system with
fieldbus ID



Monitored system, no damage because of
incorrect parameters possible





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SOFTWARE FEATURES


Analysis and diagnosis via dashboard

 Analysis of the force displacement curves

 Visualization of the process result
(OK/NOK)

 Storage of process data for quality issues
in an internal data base

 Pressing history with filter and export function

 Integrated logbook with
text error messages

Data access via ReST
programming interface



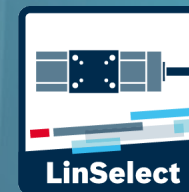
SMART PRESSES

PRODUCT CONFIGURATION SMART FUNCTION KIT



SIZING TOOLS

LinSelect



Online-
Configurator

Nominal force SIZE STROKE MOTOR MOUNT FORCE SENSOR CABLE LENGTH

2 kN	SPK-002	35 – 400 mm	Axial	without	5 m
4 kN	SPK-004	40 – 400 mm		Parallel	with
7 kN	SPK-007	65 – 400 mm			
12 kN	SPK-012	80 – 400 mm			
19 kN	SPK-019	70 – 400 mm			
30 kN	SPK-030	90 – 400 mm			
45 kN	SPK-045	110 – 400 mm			
70 kN	SPK-070	130 – 400 mm			

Get your individual Smart Function Kit with just five clicks.

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PRODUCT SELECTION PRESS-FIT SYSTEM



Nominal force

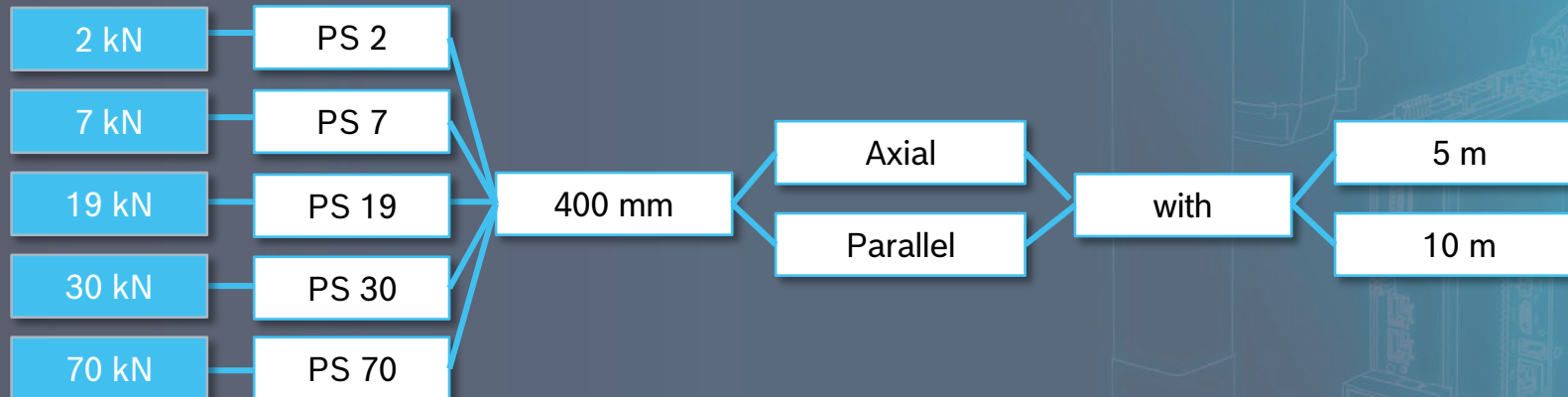
SIZE

STROKE

MOTOR MOUNT

FORCE SENSOR

CABLE LENGTH



Online Catalog



More configurations on request

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TECHNICAL DATA – SMART FUNCTION KIT

SIZE	002	004	007	012	019	030	045	070
Stroke [mm]	35...400	40...400	65...400	80...400	70...400	90...400	110...400	130...400
Nominal force [kN]	2	4	7	12	19	30	45	70
Maximum force [kN]	3	6	10	15	20	40	47	72
Max. velocity [m/s]	0,38	0,32	0,55	0,5	0,37	0,5	0,32	0,26



Force measurement	Measuring technology: Strain gauge							
Measuring range [kN]	-0,3...+3	-0,6...+6	-1...+10	-1...+15	-1...+20	-1...+40	-1...+55	-1...+75
Sampling rate [Hz]	1000							
Resolution [bit]	14							
Accuracy (linearity) [% FS]	+/- 0,3							

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TECHNICAL DATA – PRESS-FIT SYSTEM



SIZE	2	7	19	30	70
Stroke (fix) [mm]	400	400	400	400	400
Nominal force [kN]	2	7	19	30	70
Maximum force [kN]	3	10	20	40	110
Max. velocity [m/s]	0,38	0,55	0,37	0,5	0,25
Measuring range [kN]	0,3...3	-1...10	-1...20	-1...40	-1...100
Accuracy (Linearity) [% MB]	+/- 0,3				



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TECHNICAL DATA – SMART FUNCTION KIT

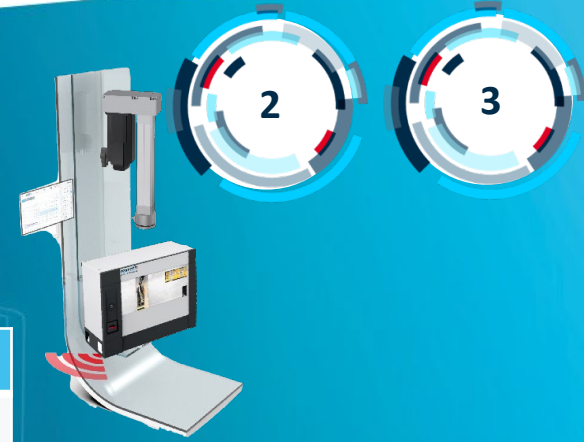
Servo drive (with MLD)	002	004	007	012	019	030	045	070
Power supply [V]	1 x AC 110...230 0 3 x AC 110...230 0	1 x AC 110...230 3 x AC 110...230	3 x AC 200...50 0	3 x AC 200...50 0	3 x AC 200...50 0	3 x AC 200...50 0	3 x AC 200...50 0	3 x AC 200...50 0
Mains input continuous current [A] (single-phase)	8,30	8,30	x	x	x	x	x	x
Mains input continuous current [A] (three-phase)	4,50	4,50	8,00	8,00	8/25	25,00	25,00	25,00
Safety function in acc. with EN 61800-5-2	Save torque off (STO) or Safe Motion							
Fieldbus interface	Profinet, Ethernet/IP, EtherCAT, Sercos III							



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TECHNICAL DATA – PRESS-FIT SYSTEM

DRIVE CONTROLLER (with MLD)	2	7	12	19	30	70
Power supply [V]	3 x AC 200...400	3 x AC 200...400	3 x AC 200...400	3 x AC 200...400	3 x AC 200...400	3 x AC 200...400
Mains input continuous current [A] (three-phase)	4,50	8	8	25	25	32
Safety function in acc. with EN 61800-5-2	Save torque off (STO)					
Fieldbus interface	Profinet, Ethernet/IP, EtherCAT, Sercos III					



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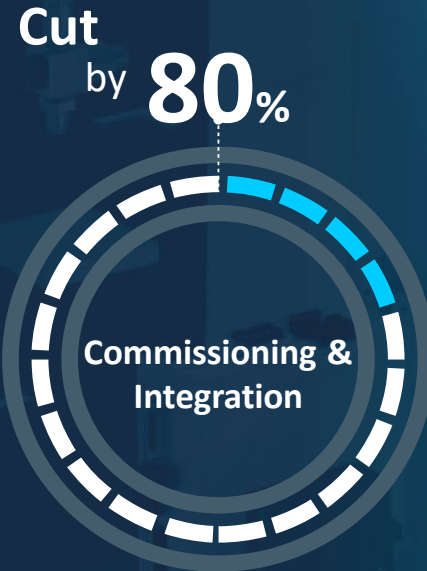
CUTTING ENGINEERING TIME

Easy
and
intuitive
SIZING
thanks to
LINselect

Perfectly
aligned
components
at the push
of a button



Calculation base:
Reduction from 20 to 2 men hours



Calculation base:
Reduction from 3 to 0,5 men days

Fast
commissioning
through
automatic
drive
parametrization

Easier
integration
through
ready-made
functions blocks
(Sercos & Profinet)






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CUSTOMER SUCCESS STORY

SENSATA TECHNOLOGIES

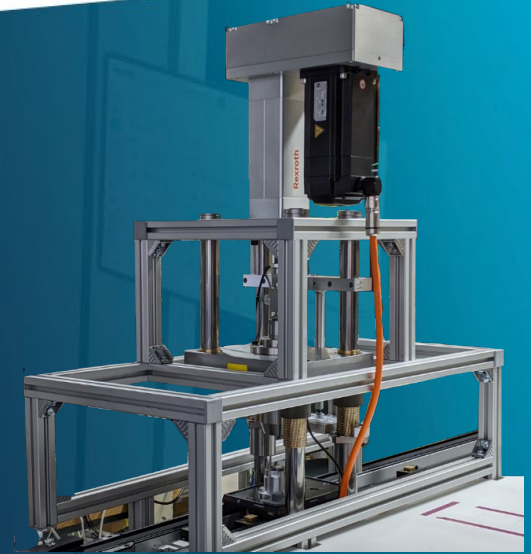
Sensata is a worldwide leading supplier for sensor solutions, controls and energy management.

Decisive factors for Sensata:

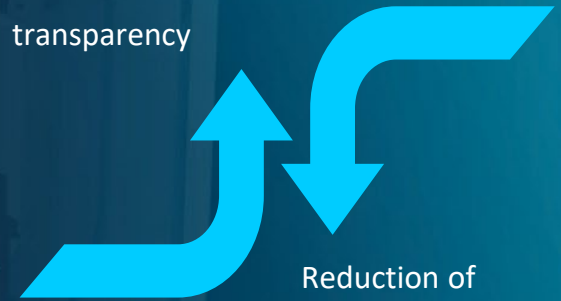
-  Individual solution based on a modular mechatronic system
-  Intuitive software for easy commissioning and process configuration
-  Documentation of process data for quality assurance
-  Flexibility in terms of small batch sizes
-  All necessary components from one supplier

„The Smart Function Kit is a sustainable solution for the Factory of the Future. System set up and commissioning are quickly and easily with no programming knowledge required.“

Jean-Marc Hubsch, Engineering Manager Sensata



High process
transparency



Reduction of
engineering time

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MORE INFORMATION



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Or scan here!

Our experts are happy to help you!

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