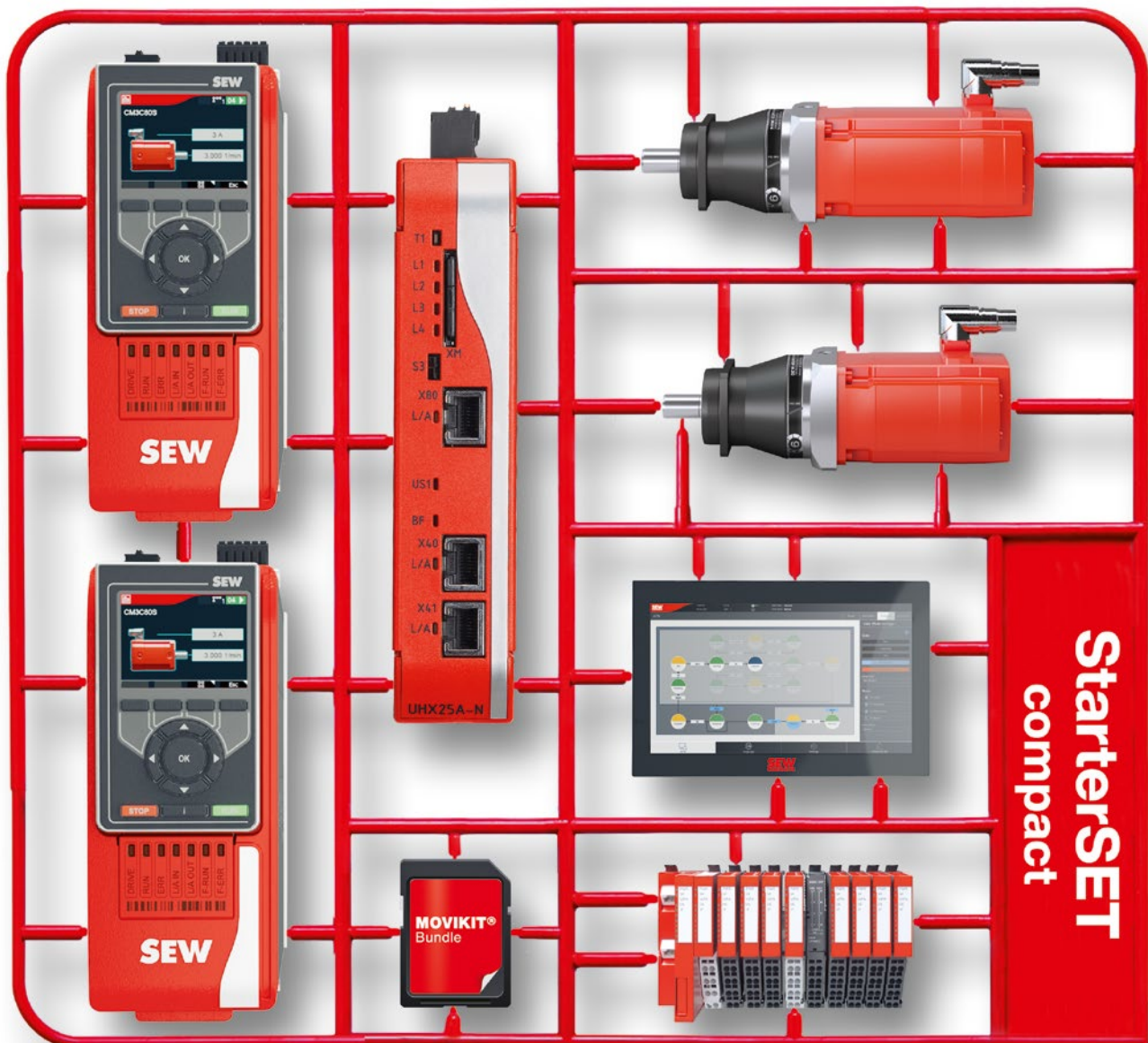


StarterSET compact

Machine automation
from start to end of line



Flexible, modular, and independent.

The StarterSET is the basic package and can be expanded to suit specific basic machine requirements. It’s flexible, modular, and independent – anything is possible and nothing is a must. Regardless of which SEW-EURODRIVE option you choose, it’s good to know that drive and automation technology can be fully realized with SEW-EURODRIVE products without sacrificing independence.



CM3C63S series synchronous servomotor with PxG® planetary servo gear unit



MOVIDYN® performance – decentralized drive unit



MOVI-C® CONTROLLER UHX65A progressive



MOVIKIT® bundle on a memory card

The StarterSET is the faster route to your finished machine

True to our philosophy of being **faster, more customized, and more flexible**, our StarterSET offers you complete, perfectly coordinated automation packages from our MOVI-C® modular automation system for all kinds of machines and is as straightforward as a model kit.

The StarterSET not only makes implementation easier, but also cuts the time required for configuration, the project duration, and, ultimately, the overall costs (overall equipment effectiveness – OEE).

The StarterSET is available in two different variants:

The StarterSET compact for applications involving up to six axes and the **StarterSET performance** for complex applications involving up to 32 axes. Both variants offer you perfectly coordinated software and hardware components “Made by SEW-EURODRIVE” that you can configure with ease for use in processes that run continuously or in cycles.



MOVI-PLC® I/O system C



Web operator panel (WOP)



MOVITRAC® advanced – compact inverter for single-axis applications



MOVIDRIVE® modular – inverter for multi-axis applications

Compact machine automation solutions

From start to end of line



→ **Horizontal FFS machine**
fully automated thanks to the Horizontal Form Fill and Seal StarterSET compact and customized add-ons

Every day, billions of goods, food items, and commodities are packaged, transported, unloaded, repackaged, mixed, stored, recycled, sorted, and distributed – whether we’re talking about primary, secondary, or other types of packaging, the variety is virtually endless. That makes compact, modular packaging machinery indispensable.

The packaging size, pack weight, product properties, and product volume are the decisive factors when it comes to automating these machines and their functions.

SEW-EURODRIVE developed the **StarterSET compact** for this very purpose. It consists of preselected basic hardware and software components for specific machine types. The StarterSet compact can be used as is, as a basic package, but there are also flexible adaptation options and countless customized add-ons. What’s more, it offers a cost-effective, efficient solution for automating compact machines.

1 Horizontal form, fill, and seal machines
→ Page 8

2 Vertical form, fill, and seal machines
→ Page 10

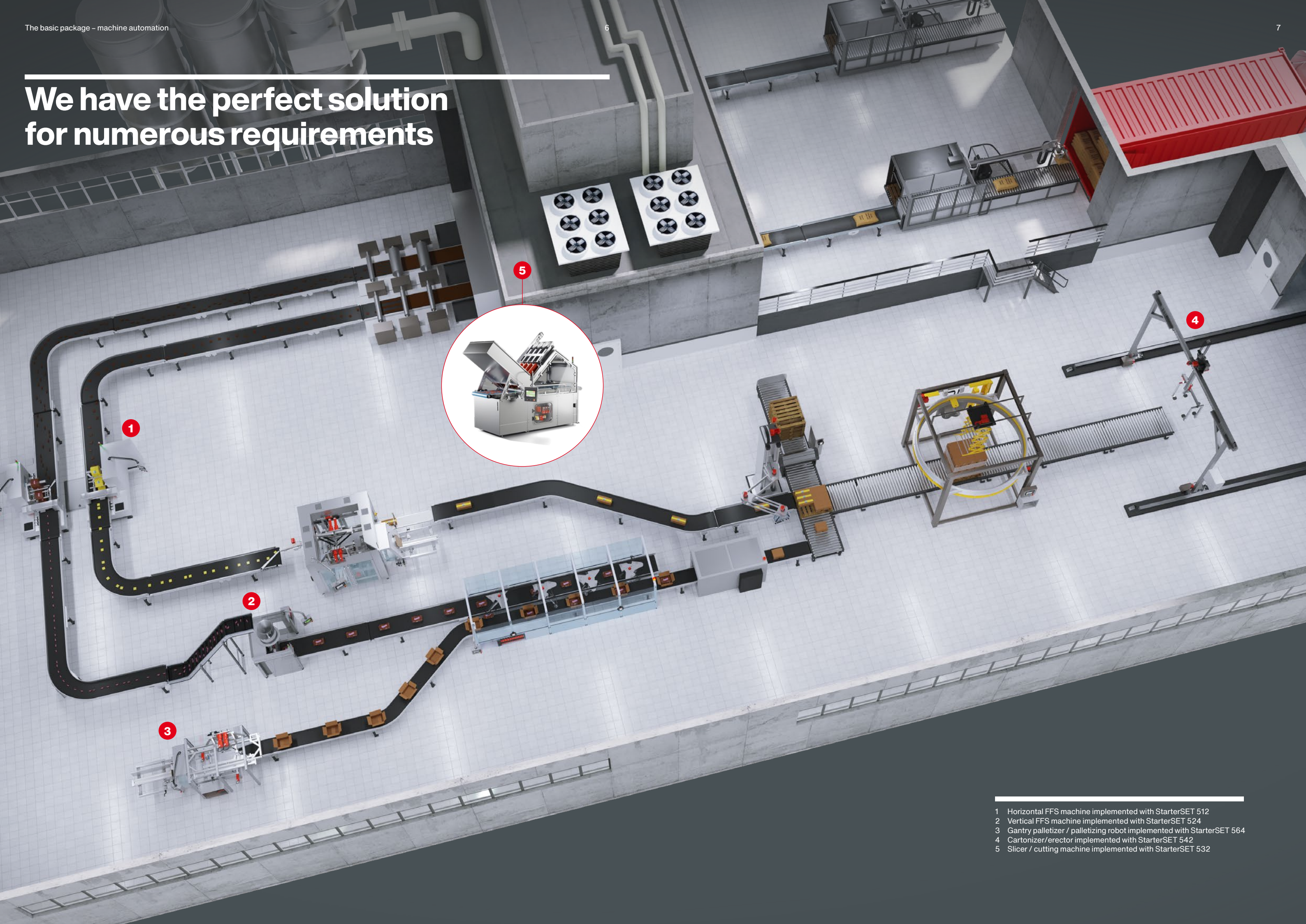
3 Cartonizers/erectors
→ Page 12

4 Gantry palletizers / palletizing robots
→ Page 14

5 Slicers / cutting machines
→ Page 16



We have the perfect solution for numerous requirements



- 1 Horizontal FFS machine implemented with StarterSET 512
- 2 Vertical FFS machine implemented with StarterSET 524
- 3 Gantry palletizer / palletizing robot implemented with StarterSET 564
- 4 Cartonizer/erector implemented with StarterSET 542
- 5 Slicer / cutting machine implemented with StarterSET 532

1 Horizontal form, fill, and seal machines



Equipment



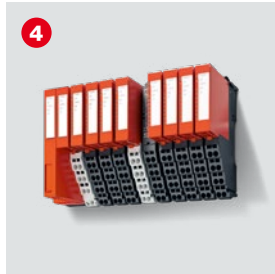
MOVIE-C® CONTROLLER
UHX25A standard



MOVITRAC® advanced –
compact inverter



CMP50S series synchronous
servomotor with PxG® plane-
tary servo gear unit



MOVIE-PLC® I/O system C



Web operator panel (WOP)


Horizontal FFS (HFFS) machines are the ideal solution for the automated packaging of individual goods. Thanks to the compact, cost-effective automation solution from SEW-EURODRIVE, manufacturers can handle different products and bag sizes efficiently and precisely.

Stable temperature control is crucial to the quality of the seal on the bags, while the material and the speed of the packaging machine have a direct impact on control. The software

modules in the MOVIEKIT® AutomationFramework provide a high-precision means of adjusting and monitoring such control processes, even when there are major disturbance variables. In combination with the MOVIEKIT® MultiMotion Camming software module, the film print image can be perfectly synchronized with sealing. What's more, the software modules contained in the StarterSET support quick and easy automation of these processes.

Package contents

Basic configuration

StarterSET compact	512	514
Type	Horizontal Form Fill and Seal	Horizontal Form Fill and Seal
Performance	standard , recommended for 2 interpolating axes	advanced , recommended for 5 interpolating axes
MOVIE-C® CONTROLLER	1 × UHX25A standard with MOVIRUN® flexible, runtime on SD card, EtherCAT® master, and PROFINET	UHX45A advanced with MOVIRUN® flexible, runtime on SD card, EtherCAT® master, and PROFINET
HMI WOP visualization	1 × 7" HMI web operator panel, capacitive touchscreen, web visualization	
MOVIEKIT® bundle software	1 ×  FormFillSeal – license bundle for form, fill, and seal (FFS) machines, consisting of software licenses for application-specific implementation of typical horizontal or vertical FFS machines. The main components of the MOVIEKIT® bundle are licenses for the AutomationFramework programming template, web visualization, OPC UA data server, electronic cam functionality, support of fieldbus master, and other machine-typical functions (winding, cutting, and sealing)	
MOVITRAC® advanced standard inverters	2 × MOVITRAC® advanced with 2 A nominal current, 0.55 kW motor power, braking resistance with 100 ohms, 0.1 kW power	
Servomotor CMP50S	2 × 1.3 Nm standstill torque, single-cable technology, and DDI encoder	
PxG® planetary servo gear unit	2 × Single-stage with i = 10, including adapter and mounting	
MOVIE-C® DDI motor cable	2 × 5 m, highly flexible hybrid cable, single-cable technology	
MOVIE-PLC® I/O bus coupler	1 × EtherCAT® coupler, including end terminal, preconfigured with: <ul style="list-style-type: none">– DC 24 V power supply module– 32 × digital inputs / 24 × digital outputs, DC 24 V– 8 × analog inputs, DC ± 10 V, Pt1000– Terminal modules with terminal block	

For a compact horizontal FFS machine with two interpolating servo axes, look no further than StarterSET 512 as a basic package. For up to five interpolating servo drives, StarterSET 514 is the appropriate basic package. Regardless of the controller performance required, both variants include the FormFillSeal MOVIEKIT® bundle with an extensive library of machine-typical functions.

Perfectly coordinated, with a great deal of scope for customized programming and high degrees of freedom, the StarterSET is the ideal introduction to SEW-EURODRIVE's world of automation.

2 Vertical FFS machines



Equipment



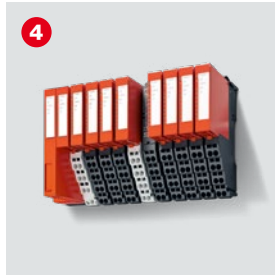
MOVIE-C® CONTROLLER
UHX45A advanced



MOVITRAC® advanced –
compact inverter



CMP50M series synchronous
servomotor with PxG® plane-
tary servo gear unit



MOVIE-PLC® I/O system C




Web operator panel (WOP)

Vertical form, fill, and seal (VFFS) machines are ideal for bulk materials. Bag size, pack weight, and product properties are decisive factors for the automation of machine functions and motions. The function libraries contained in our StarterSET offer specially developed print mark correction functions for precisely monitoring the print image of the film to be processed.

The MOVIEKIT® MultiMotion Camming software module contained in the StarterSET ensures real-time synchronization of curve-based movements such as volumetric filling using a worm. This enables simple parameterization of the filling variants and simultaneous clock-synchronous control of the relevant actuators.

Package contents

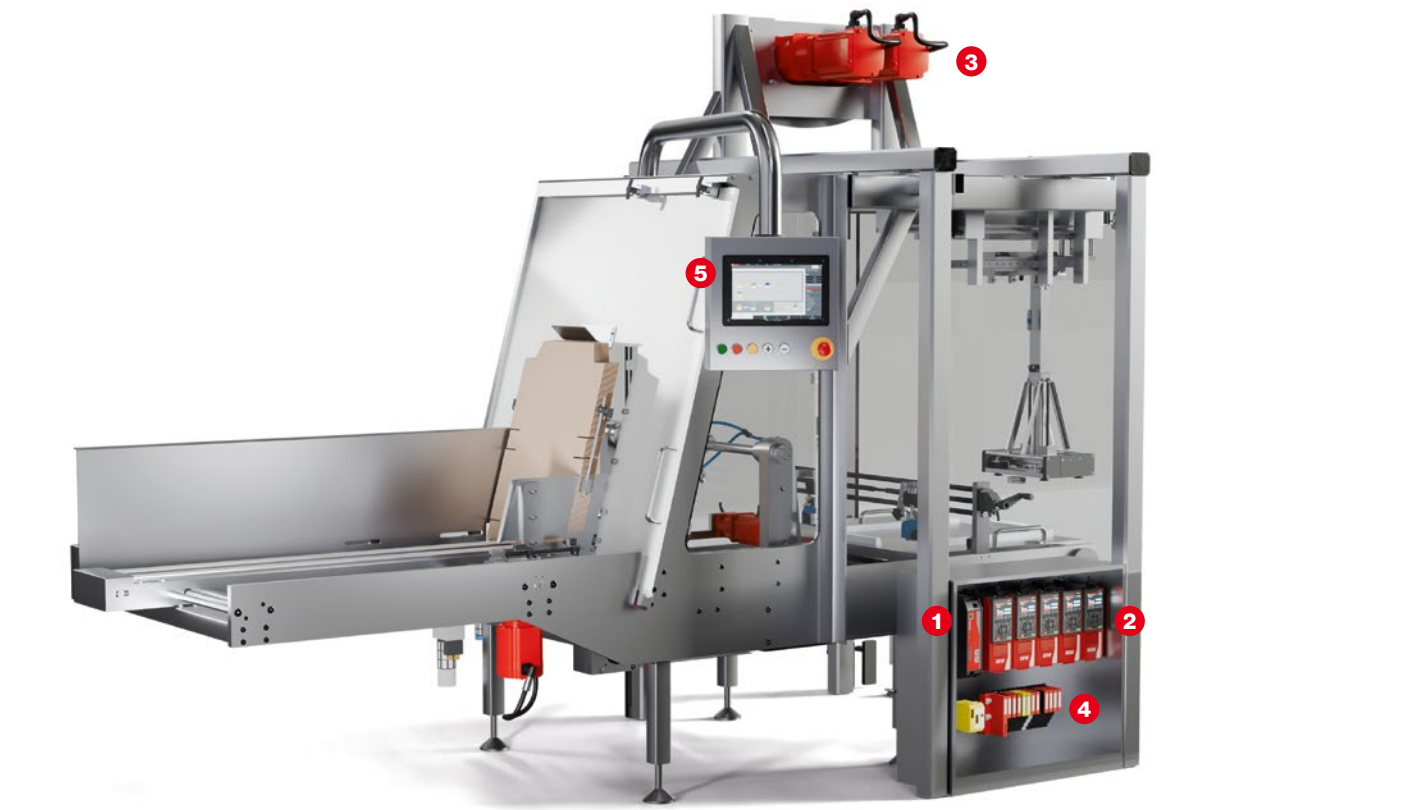
Basic configuration

StarterSET compact		524
Type		Vertical Form Fill and Seal
Performance		advanced , recommended for 5 interpolating axes
MOVIE-C® CONTROLLER	1 ×	UHX45A advanced (1-core CPU) with MOVIRUN® flexible, runtime on SD card, EtherCAT® master, and PROFINET
HMI WOP visualization	1 ×	10" HMI web operator panel, capacitive touchscreen, web visualization
MOVIEKIT® bundle software	1 ×	<div></div> FormFillSeal – license bundle for form, fill, and seal (FFS) machines, consisting of software licenses for application-specific implementation of typical horizontal or vertical FFS machines. The main components of the MOVIEKIT® bundle are licenses for the AutomationFramework programming template, web visualization, OPC UA data server, electronic cam functionality, support of fieldbus master, and other machine-typical functions (winding, cutting, and sealing)
MOVITRAC® advanced standard inverters	2 ×	MOVITRAC® advanced with 4 A nominal current, 1.5 kW motor power, braking resistance with 100 ohms, 0.1 kW power
Servomotor CMP50M	2 ×	2.4 Nm standstill torque, single-cable technology, and DDI encoder
PxG® planetary servo gear unit	2 ×	Single-stage with i = 10, including adapter and mounting
MOVIE-C® DDI motor cable	2 ×	7 m, highly flexible hybrid cable, single-cable technology
MOVIE-PLC® I/O bus coupler	1 ×	EtherCAT® coupler, including end terminal, preconfigured with: <ul style="list-style-type: none">– DC 24 V power supply module– 32 × digital inputs / 24 × digital outputs, DC 24 V– 8 × analog inputs, DC ± 10 V, Pt1000– Terminal modules with terminal block

For a compact vertical FFS machine with up to five interpolating servo axes, StarterSET 524 is an ideal basic package.

Regardless of how many axes are to be driven and the machine's ultimate level of performance, our modular StarterSET always offers the appropriate basic configuration for the complete solution.

3 Cartonizers/erectors



Equipment



1

MVIC-C® CONTROLLER
UHX45A advanced



2

MOVITRAC® advanced –
compact inverter



3

CMP50M series synchronous
servomotor with PxG® plane-
tary servo gear unit



4

MOVI-PLC® I/O system C



5


Web operator panel (WOP)

An erector automatically picks up the flat cardboard, folds it into the correct shape, glues it, and then erects it so that it is ready to be filled and sealed. Erectors typically use suction cups or gripping arms to handle and position the cardboard. Once they have been erected, the cartons are generally transported to the next station, where they are filled and sealed.

Our software modules are perfectly coordinated with the carton erector machine module. With MOVIKIT® MultiMotion Camming, these software modules offer ideal functions. In particular, the integrated cams and associated engagement and disengagement functions ensure the cardboard blank can be quickly and precisely extracted by suction and moved in synchronicity with the erector punch.

Package contents

Basic configuration

StarterSET compact	542	544
Type	Case Packer (Side Load)	Case Packer (Side Load)
Performance	standard , recommended for 2 interpolating axes	advanced , recommended for 5 interpolating axes
MOVI-C® CONTROLLER	1 × UHX25A standard with MOVIRUN® flexible, runtime on SD card, EtherCAT® master, and PROFINET	UHX45A advanced with MOVIRUN® flexible, runtime on SD card, EtherCAT® master, and PROFINET
HMI WOP visualization	1 × 10" HMI web operator panel, capacitive touchscreen, web visualization	
MOVIKIT® bundle software	1 × 	CasePacker – license bundle for curve-based erectors and multipackers (CP-SL) for the application-specific implementation of typical carton erectors and multipackers in sideloader design. AutomationFramework programming template, web visualization, OPC UA data server, electronic cams, machine-typical functions (cutting, gluing, and cam control)
MOVITRAC® advanced standard inverters	2 × MOVITRAC® advanced with 4 A nominal current, 1.5 kW motor power, braking resistance with 100 ohms, 0.1 kW power	
Servomotor CMP50M	2 × 2.4 Nm standstill torque, single-cable technology, and DDI encoder	
PxG® planetary servo gear unit	2 × Single-stage with i = 10, including adapter and mounting	
MOVI-C® DDI motor cable	2 × 7 m, highly flexible hybrid cable, single-cable technology	
MOVI-PLC® I/O bus coupler	1 × EtherCAT® coupler, including end terminal, preconfigured with: <ul style="list-style-type: none">– DC 24 V power supply module– 24 × digital inputs / 16 × digital outputs, DC 24 V– Terminal modules with terminal block	

For a compact erector with two interpolating servo axes, look no further than StarterSET 542 as a basic package. For up to five interpolating servo drives, StarterSET 544 is the appropriate basic package.

Regardless of how many axes are to be driven and the machine's ultimate level of performance, our modular StarterSET always offers the appropriate basic configuration for the complete solution.

4 Gantry palletizers / palletizing robots



Equipment



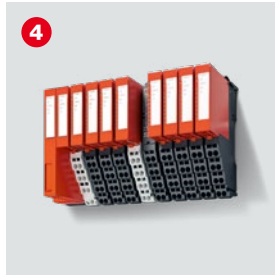
MOVI-C® CONTROLLER UHX45A advanced



MOVITRAC® advanced – compact inverter



CM3C63M series synchronous servomotor with PxG® planetary servo gear unit



MOVI-PLC® I/O system C



Web operator panel (WOP)

A gantry robot typically handles and moves loads very precisely. Its primary function is to shift, sort, and stack materials or objects inside a defined working envelope.

Gantry robots are often used in industrial environments, where their strength and precision make them ideal for performing complex tasks – such as palletizing, order picking,

and shifting goods – efficiently. In these environments, our MOVIKIT® Robotics software modules offer the perfect solution for every kinematic model imaginable, including front end for direct use.

Package contents

Basic configuration

StarterSET compact		564
Type	End-of-Line	
Performance	advanced, recommended for 6 interpolating axes	
MOVI-C® CONTROLLER	1 ×	UHX45A advanced with MOVIRUN® flexible, runtime on SD card, EtherCAT® master, and PROFINET
HMI WOP visualization	1 ×	15.6" HMI web operator panel, capacitive touchscreen, web visualization
MOVIKIT® bundle software	1 ×	EndOfLine – license bundle for palletizers and XY gantry robots (EoL) for application-specific implementation of typical palletizers and gantries with 2D kinematic model. AutomationFramework programming template, web visualization, OPC UA data server, electronic cams, 2D robot kinematic model, machine-typical functions (gantry and winding)
MOVITRAC® advanced standard inverters	2 ×	MOVITRAC® advanced with 7 A nominal current, 3 kW motor power, braking resistance with 47 ohms, 0.1 kW power
Servomotor CM3C63M	2 ×	4.9 Nm standstill torque, single-cable technology, DDI encoder
PxG® planetary servo gear unit	2 ×	Single-stage with i = 10, including adapter and mounting
MOVI-C® DDI motor cable	2 ×	10 m, highly flexible hybrid cable, single-cable technology
MOVI-PLC® I/O bus coupler	1 ×	EtherCAT® coupler, including end terminal, preconfigured with: <ul style="list-style-type: none">– DC 24 V power supply module– 24 × digital inputs / 16 × digital outputs, DC 24 V– 8 × analog inputs, DC ± 10 V, Pt1000– Terminal modules with terminal block

Together, MOVIKIT® AutomationFramework and MOVIKIT® Visualization offer optional simulation possibilities for process optimization and layer control purposes. This enables you to thoroughly test all functions and the grouping capacity as early as during the planning phase. Later on, this ensures layers are precisely positioned and ideally grouped in the actual machine ready for removal.

Our End-of-Line StarterSET always offers the perfect solution for this application. StarterSET 564 is the perfect choice for gantry robots with a kinematic model of up to six axes.

5 Slicers / cutting machines



Equipment



MOVI-C® CONTROLLER
UHX25A standard



MOVITRAC® advanced –
compact inverter



CMP50M series synchronous
servomotor with PxG® plane-
tary servo gear unit



MOVI-PLC® I/O system C




Web operator panel (WOP)

Slicers are used for efficient portioning processes with precise and consistent cutting quality. These machines ensure high levels of portioning efficiency and always deliver exact cutting results. The products are fed into the machine and processed automatically, while precise drives and special cutters ensure a perfect slicing and portioning result.

The MOVIKIT® RotaryKnife software module makes it possible to implement electronic cam applications with a rotary knife function and a clearly defined fieldbus interface. In addition to the “Automatic” operating mode, the module offers all the basic operating modes that are familiar from the MOVIKIT® Positioning software module (jog mode, velocity control, positioning mode, referencing mode).

Package contents

Basic configuration

StarterSET compact	532	534
Type	Horizontal Fill and Seal	Horizontal Fill and Seal
Performance	standard , recommended for 2 interpolating axes	advanced , recommended for 5 interpolating axes
MOVI-C® CONTROLLER	1 × UHX25A standard with MOVIRUN® flexible, runtime on SD card, EtherCAT® master, and PROFINET	UHX45A advanced with MOVIRUN® flexible, runtime on SD card, EtherCAT® master, and PROFINET
HMI WOP visualization	1 × 7" HMI web operator panel, capacitive touchscreen, web visualization	10" HMI web operator panel, capacitive touchscreen, web visualization
MOVIKIT® bundle software	1 ×  FormFillSeal – license bundle for form, fill, and seal (FFS) machines, consisting of software licenses for application-specific implementation of typical horizontal or vertical FFS machines. The main components of the MOVIKIT® bundle are licenses for the AutomationFramework programming template, web visualization, OPC UA data server, electronic cam functionality, support of fieldbus master, and other machine-typical functions (winding, cutting, and sealing)	
MOVITRAC® advanced standard inverters	2 × MOVITRAC® advanced with 2 A nominal current, 0.55 kW motor power, braking resistance with 100 ohms, 0.1 kW power	MOVITRAC® advanced with 4 A nominal current, 1.5 kW motor power, braking resistance with 100 ohms, 0.1 kW power
Servomotor	2 × CMP50S: 1.3 Nm standstill torque, single-cable technology, and DDI encoder	CMP50M: 2.4 Nm standstill torque, single-cable technology, and DDI encoder
PxG® planetary servo gear unit	2 × Single-stage with i = 10, including adapter and mounting	
MOVI-C® DDI motor cable	2 × 5 m, highly flexible hybrid cable, single-cable technology	5 m, highly flexible hybrid cable, double-cable technology
Bus coupler MOVI-PLC® I/O	1 × EtherCAT® coupler, including end terminal, preconfigured with: – DC 24 V power supply module – 24 × digital inputs / 16 × digital outputs, DC 24 V – Terminal modules with terminal block	

With the MOVIKIT® RotaryKnife software module, the inverter is operated interpolated in all modes.

For compact slicers with two interpolating servo axes, look no further than StarterSET 532 as a basic package. For up to five interpolating servo drives, StarterSET 534 is the appropriate basic package.

MOVIKIT® software modules

Functional description

MOVIKIT® offers ready-to-use software modules for everything from simple drive functions to complex motion control functions.



Web Visualization
Browser-enabled visualization for Windows-based visualization devices with ready-made templates for machine functions.



AutomationFramework
Programming template for machine automation based on PackML-compliant state manager and mode manager, including linear positioning, module positioning, conveyor, rotary knife, flying saw, pick & place, and torque winder machine modules and much more besides.



PowerAndEnergySolution – PowerMode
Function library for MDP92A power supply module or MDE90A energy converter and energy storage units for creating highly efficient power supply solutions.



PowerAndEnergySolution – EnergyMode
Function library for highly efficient energy supply solutions with the energy storage unit decoupled from the DC link and simple supply via an MDE90A energy converter.



CamSwitch
Software module for position-dependent switching of digital outputs with dead-time compensation to support several software tracks and cams per track.



MultiMotion Camming
Software modules used to implement universal motion control functions for interpolating axes, including position-based synchronous operation and electronic cam functionalities. An IEC interface can be used to activate and, for example, overlay the motion profiles.



PositionController add-on
Additional controller-based closed-loop control modules for an external drive controller, for centralized position control and conventional encoder evaluation.



Interpolation add-on
Add-on function for generating electronic cams on the target system without a development environment, based on the interpolation of curve point tables within the target system.



AntiSlosh add-on
Add-on function for generating travel profiles to reduce vibration, for slosh-free positioning of liquids, including parameterization and analysis functions.



CombinedEncoderEvaluation add-on
Add-on function for optimized encoder evaluation by combining distance and motor encoder for enhanced dynamics.



Robotics
Basic software for controlling a robot with two joint axes and support from 2D kinematic models. Includes SRL programming language as a programming interface and interpreter for creating robot user programs.



MediumModels add-on
Add-on robotics function to control robots with three or four joint axes and support the relevant kinematic models.



TouchProbe add-on
Add-on robotics function for precise measurement of path points and sensor-based positioning.



ConveyorTracking add-on
Add-on robotics function for synchronizing kinematic (pick & place) motions with a conveyor belt application. Can be used directly without programming thanks to easy parameterization for typical pick & place applications with product tracking.




Circle add-on
Add-on robotics function for circular kinematic interpolation in three dimensions.




PreControl add-on
Add-on robotics function for drive precontrol to reduce path deviations, vibrations, and thus also cycle time.




CollisionDetection add-on
Add-on robotics function for kinematic collision detection to ensure mechanical and material protection.




Gearing
Software module for electric gear unit mode, for applications with synchronous operation using a predefined fieldbus interface and parameterization.




Winder
Function library with function blocks for implementing winding applications with tension control or controlled via the speed.




FilmFeeder
Software module for implementing synchronized film feed with optional print mark recognition / positioning advance and retard via a predefined fieldbus interface and parameterization.




FlyingSaw
Software module for implementing a synchronized flying saw using a predefined fieldbus interface, with parameterizable and automatic electronic cam generation.




RotaryKnife
Software module for implementing a rotary knife using a predefined fieldbus interface, with parameterizable and automatic electronic cam generation.




Torque
Software module to control two drives acting on a common mass and their loading.



OPC UA
Provision of an OPC UA data server on the MOVI-C® CONTROLLER, as a standardized communication interface for the connection of field units and for general data access.



PROFINET IO controller
Provision of a PROFINET IO controller on SEW-EURODRIVE controllers with integrated multi-master option and possibility of connecting decentralized field units by means of PROFINET IO.



EtherNet/IP scanner
Provision of an EtherNet/IP scanner on SEW-EURODRIVE controllers with integrated multi-master option and possibility of connecting decentralized field units using EtherNet/IP™.



Web operator panel (WOP) with web visualization



Mobile operator panel (DOP) with robot monitor

MOVIKIT® bundles of software modules

All-in-one solution

The software makes the difference

As part of the MOVI-C® modular automation system from SEW-EURODRIVE, the MOVIKIT® software modules offer application-specific software functionalities for parameterizing and operating your drive technology. The MOVIKIT® software modules provide application-specific functionalities.

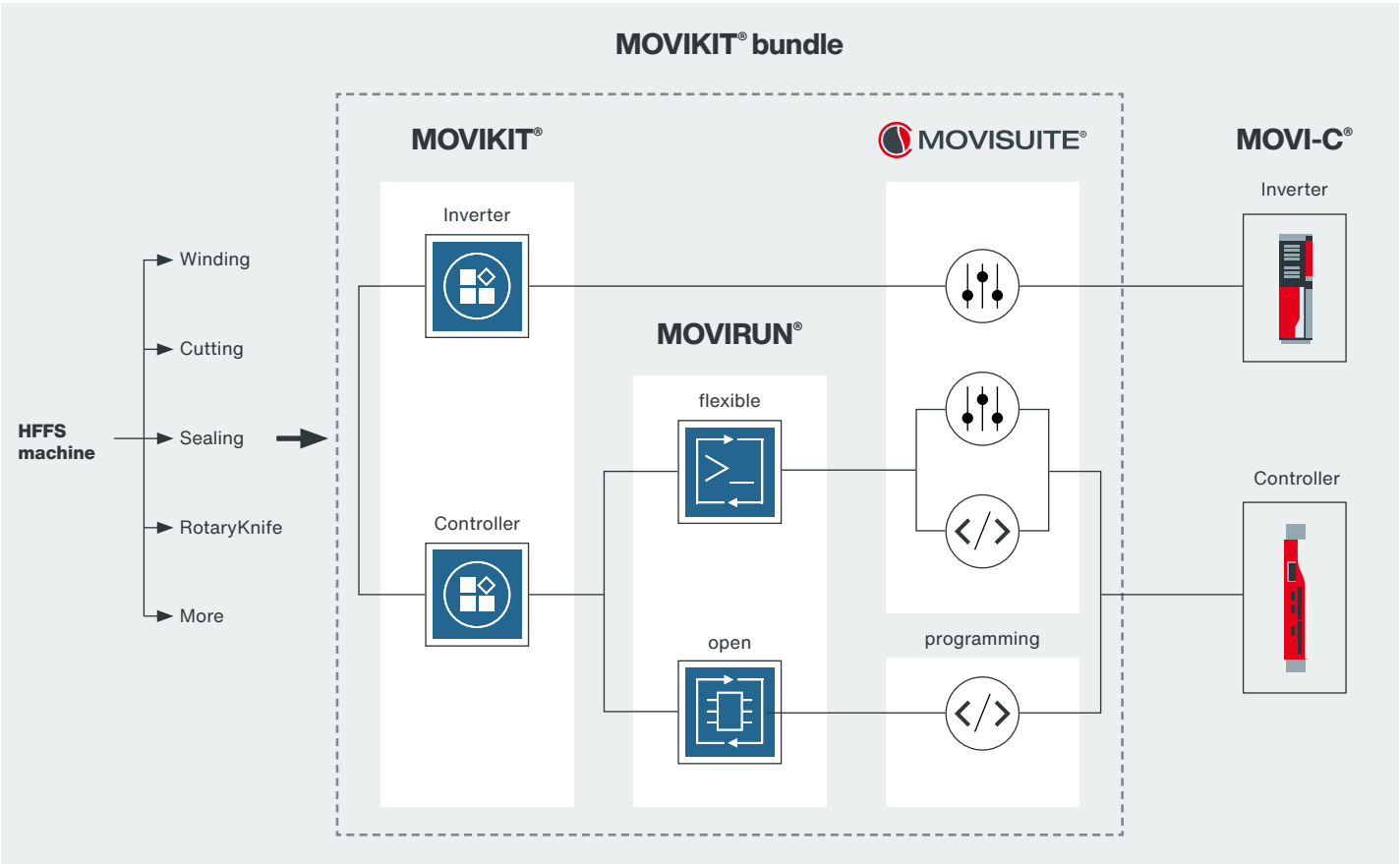
Besides motion profiles, standardized communication solutions and visualization of machine-relevant data can also be provided.

A MOVIKIT® bundle comprises extensive predefined software elements containing multiple MOVIKIT® software modules. The bundles are specifically and perfectly coordinated for the programming implementation of functions that are typical of the target machine.

These preselected software modules provide you with all the functions you need, thus making the selection and implementation processes much easier. The cost-optimized license package is provided already activated on a memory card together with the relevant UHX controller and can be flexibly extended by additional software modules if required.



Schematic representation of a MOVIKIT® bundle, based on the example of a horizontal FFS (HFFS) machine



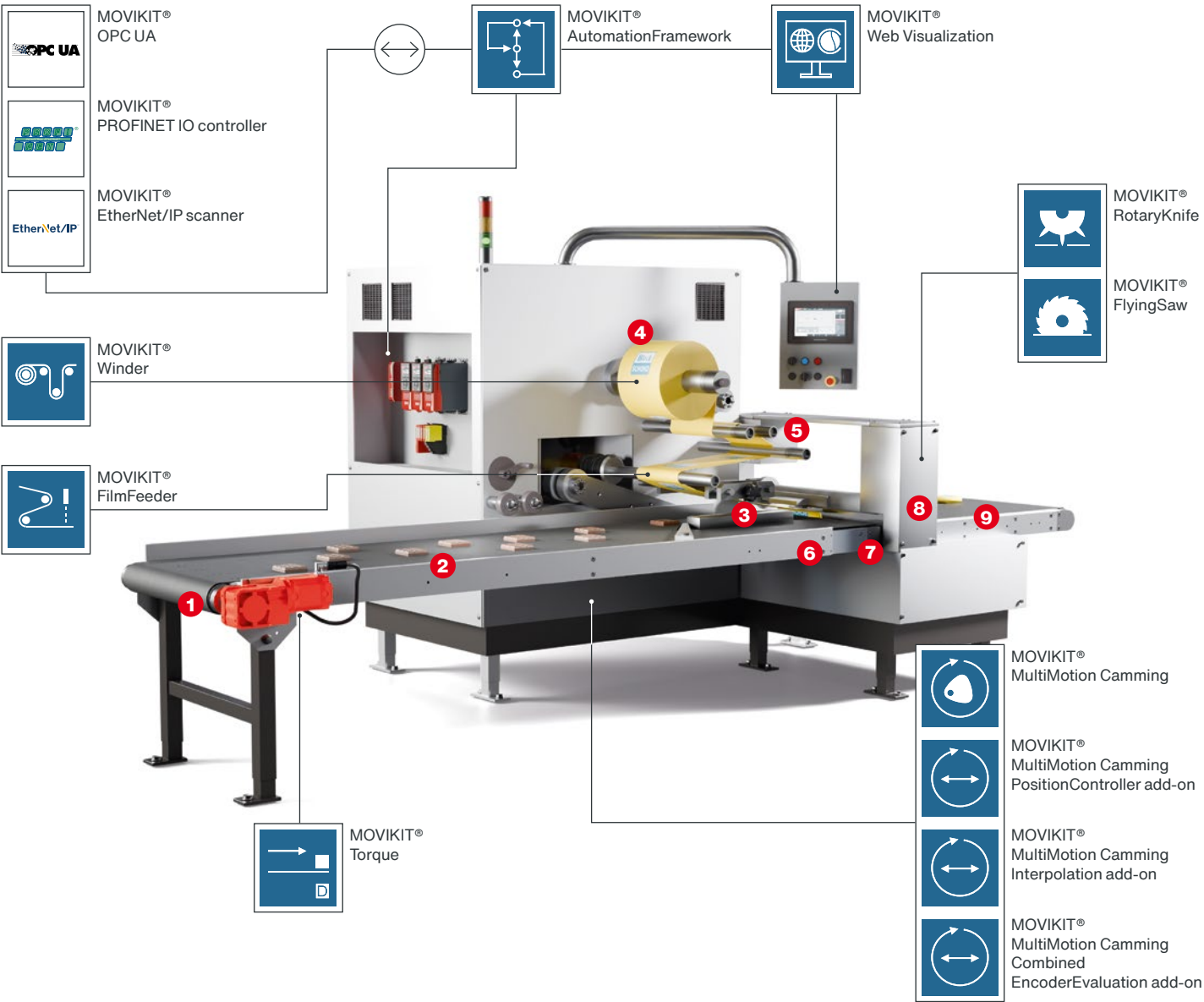
FormFillSeal (FFS) MOVIKIT® bundle



The license bundle for form, fill, and seal (FFS) machines consists of software licenses for the application-specific implementation of typical horizontal or vertical FFS machines.

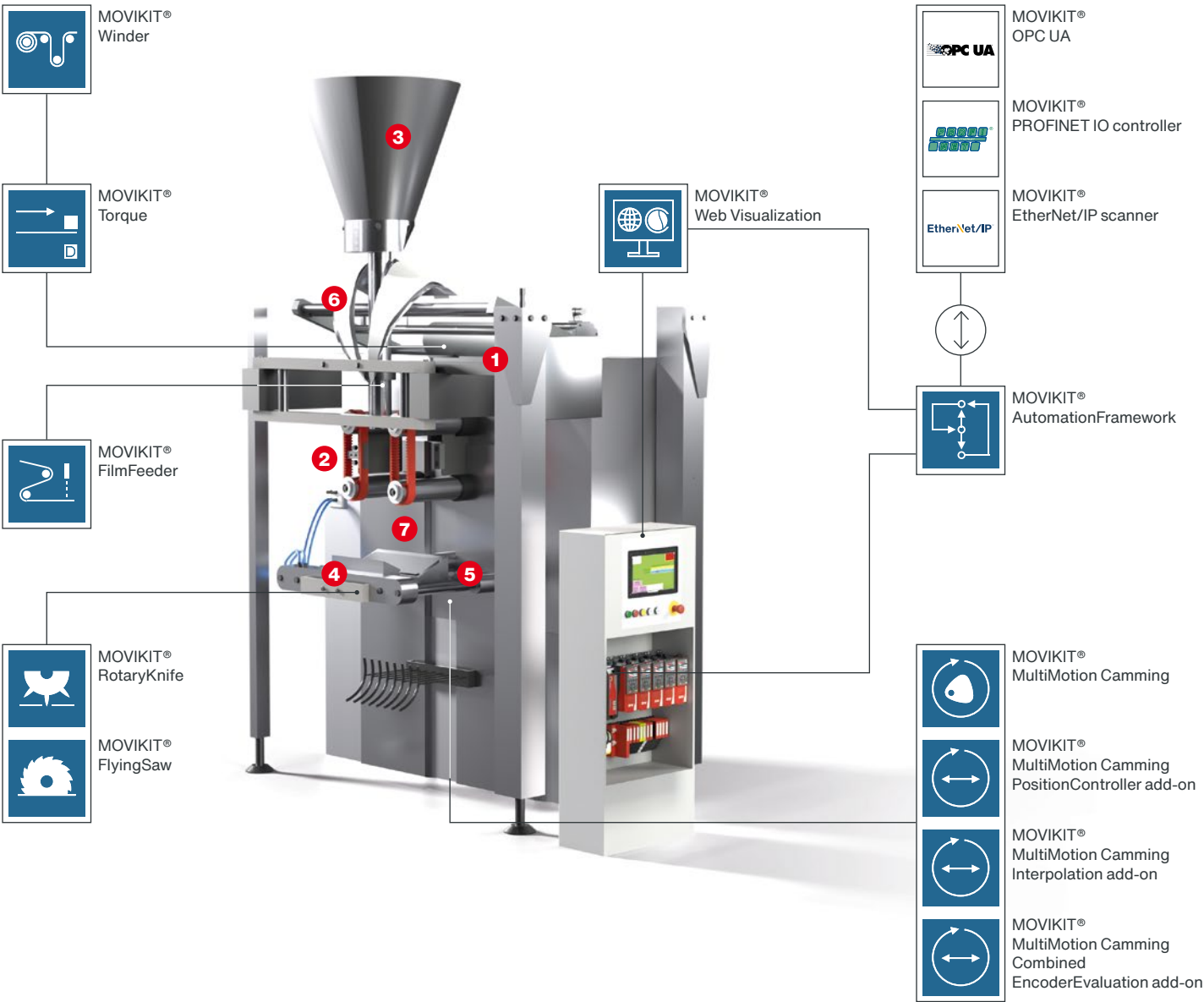
It contains the AutomationFramework programming template, web visualization, OPC UA data server, electronic cams, support of fieldbus master, and other machine-typical functions (winding, cutting, and sealing).

Example application: horizontal FFS (HFFS) machine



1 Detecting products	2 Separating products	3 Synchronizing the conveyor belt
4 Unrolling film	5 Detecting the print mark	6 Longitudinal sealing
7 Transporting film	8 Cross-sealing and separating	9 Removal

Example application: vertical FFS (VFFS) machine



1 Unrolling film	2 Transporting film	3 Dosing
4 Sealing bar	5 Sealing tongs or jaws	6 Monitoring of print mark
7 Sealing		

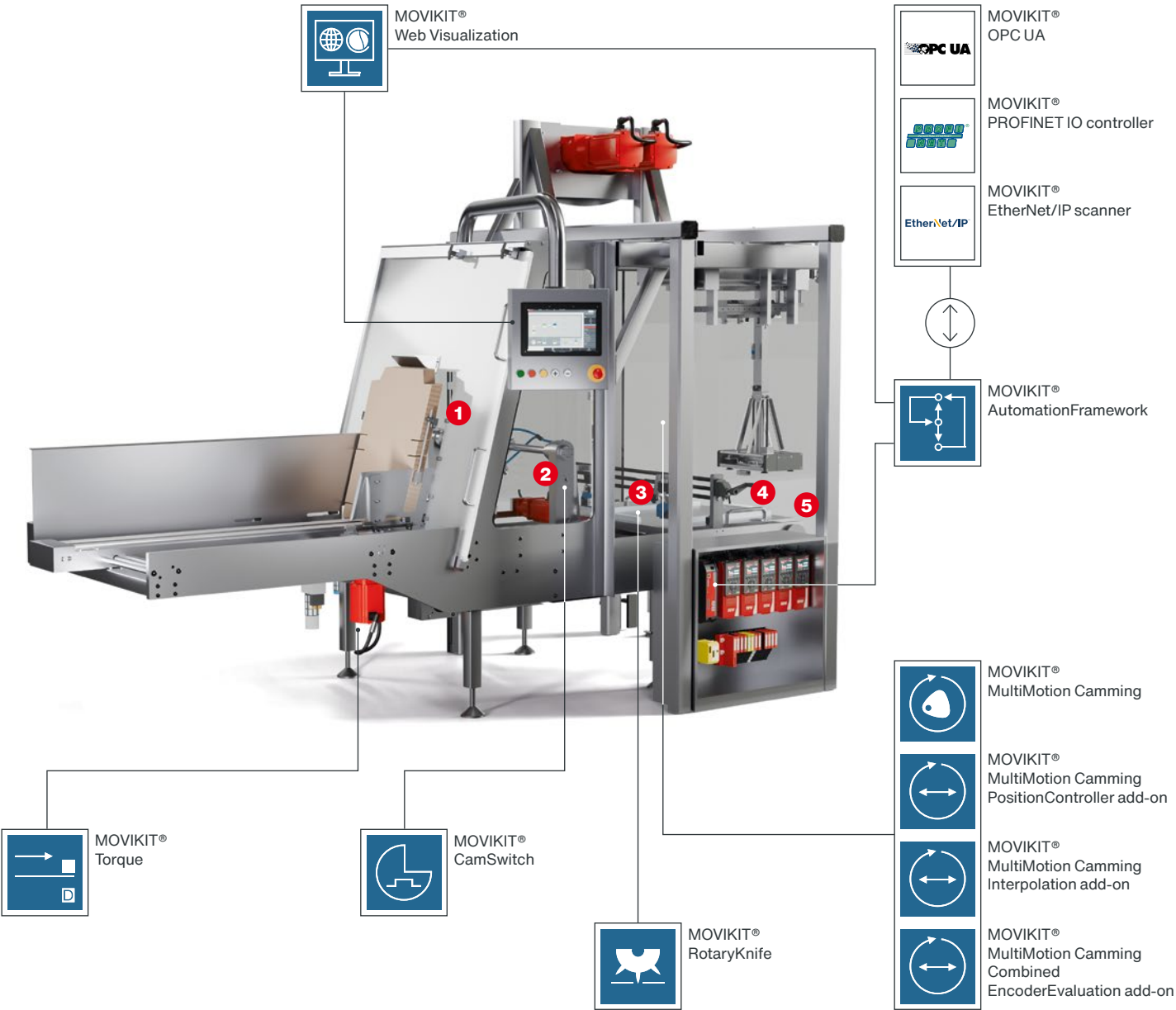
MOVIKIT® CasePacker bundle (CP-SL)



The license bundle for curve-based erectors and multipackers (CP-SL) for the application-specific implementation of typical carton erectors and multipackers in sideloader design. It comprises an

AutomationFramework programming template, web visualization, OPC UA data server, electronic cams, and machine-typical functions (cutting, gluing, and cam control).

Application example: carton erector



- 1 Infeed and identification
- 2 Gluing the carton
- 3 Erecting the carton
- 4 Print/punch
- 5 Removal

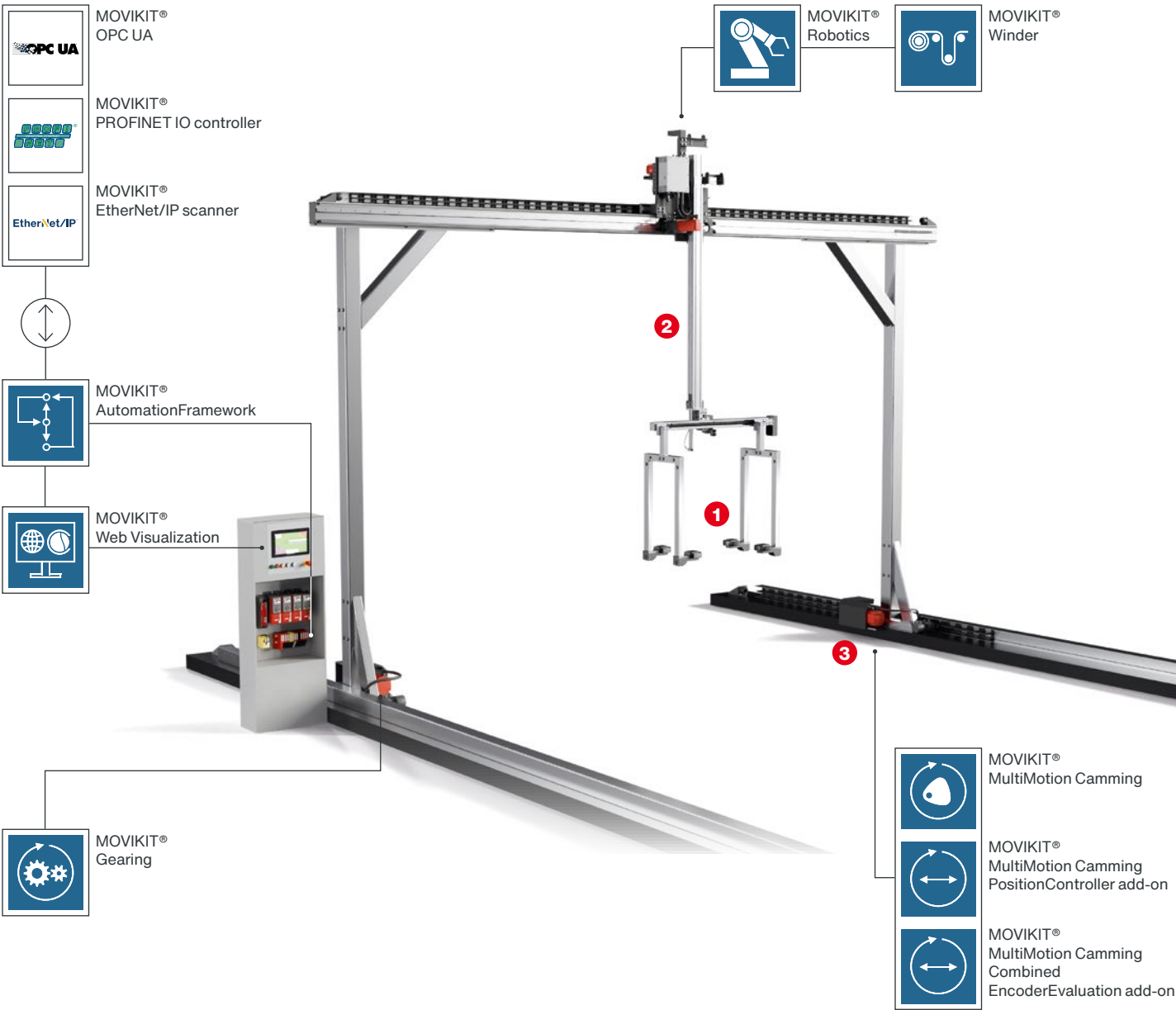
MOVIKIT® EndOfLine (EoL) bundle



Our license bundle for palletizers and XY gantry robots (EoL) for application-specific implementation of typical palletizers and gantries with 2D kinematic model. It contains the AutomationFramework pro-

gramming template, web visualization, OPC UA data server, electronic cams, 2D robot kinematic model, and machine-typical functions (gantry and winding).

Application example: gantry robot



- 1 Gripping products
- 2 Grouping products
- 3 Transporting products

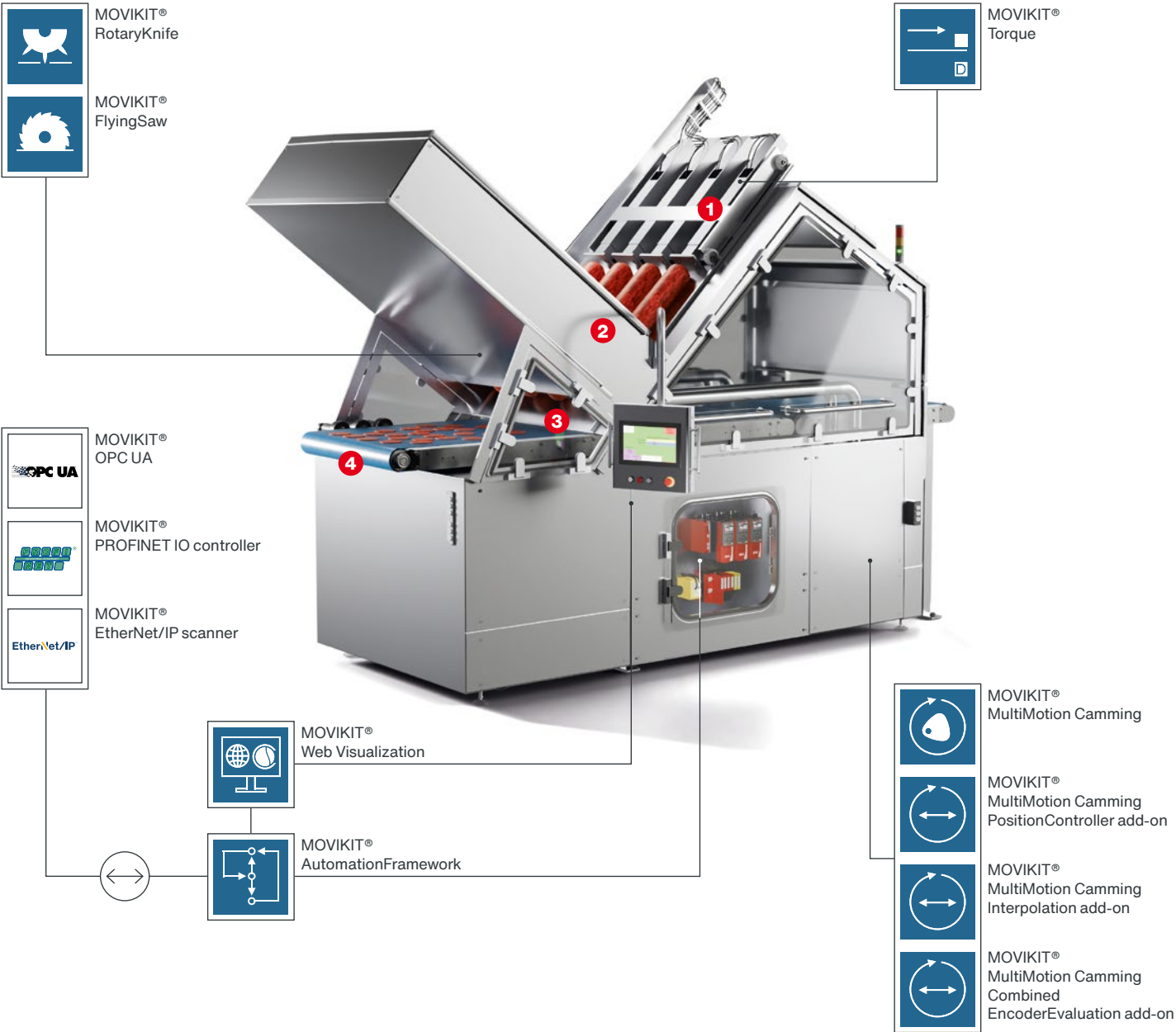
FormFillSeal (FFS) MOVIKIT® bundle



The license bundle for form, fill, and seal (FFS) machines consists of software licenses for the application-specific implementation of typical horizontal or vertical FFS machines.

It contains the AutomationFramework programming template, web visualization, OPC UA data server, electronic cams, support of fieldbus master, and other machine-typical functions (winding, cutting, and sealing).

Application example: cutting machine



- 1 Infeeding products
- 2 Cutting products
- 3 Grouping products
- 4 Removal



MOVIKIT®

bundle overview

	MOVIKIT® bundle type	FormFillSeal FFS	FillSeal FS
MOVIKIT® software	License ID	SMB0001*	SMB0002*
Web Visualization	SMK1504*	1	1
AutomationFramework	SMK2001*	1	1
PowerMode PowerAndEnergySolution	SMK1402*		
EnergyMode PowerAndEnergySolution	SMK1403*		
CamSwitch	SMK0014-000		
MultiMotion Camming	SMK0001*	1	1
PositionController add-on	SMK0006*	1	1
Interpolation add-on	SMK0012*	1	1
AntiSlosh add-on	SMK0013*		1
CombinedEncoderEvaluation add-on	SMK0007*	1	1
Robotics	SMK1101-000		
MediumModels add-on	SMK1102-000		
TouchProbe add-on	SMK1107-000		
ConveyorTracking add-on	SMK1110-000		
Circle add-on	SMK1105-000		
PreControl add-on	SMK1108-000		
CollisionDetection add-on	SMK1109-000		
Gearing	SMK1709*		
Winder	SMK1710*	1	1
FilmFeeder	SMK1720-000	1	1
FlyingSaw	SMK1730-000	1	1
RotaryKnife	SMK1740-000	1	1
Torque	SMK1201-000	1	1
OPC UA	SMK1501*	1	1
PROFINET IO controller	SMK1502-000	1	1
EtherNet/IP scanner	SMK1503-000	1	1

* For the relevant performance class, depending on the UHX controller (020, 040, 060, 080).



CasePacker CP-SL	CasePacker Robotics CP-TL	EndOfLine EoL	EndOfLine Robotics EoL ROB
SMB0003*	SMB0004*	SMB0005*	SMB0006*
1	1	1	1
1	1	1	1
			1
			1
1	1		
1	1	1	1
1	1		
		1	1
	2	1	2
	2		2
	2		2
	2		2
	2		2
	2		2
		1	1
		1	1
1	1		
1	1		1
1	1	1	1
1	1	1	1
1	1	1	1

MOVI-C® CONTROLLER

Control technology in the control cabinet

From simple to high-end

MOVI-C® CONTROLLERS are specially developed for motion control and machine automation. Whether you are creating a single-axis or multi-axis application based on

standards or implementing customized, particularly complex motion control applications, the SEW-EURODRIVE controllers in the control cabinet will do the job.

Special functionalities of the MOVI-C® CONTROLLER

- Various fieldbus variants available
 - Safety routing for integrating an external functional safety controller into the overall system
 - Fast, open, real-time EtherCAT® bus for controlling drive components and other sensors and actuators
 - Rapid replacement of hardware thanks to removable memory cards
- Windows and real-time operating system on a controller with hypervisor concept (available for UHX65A/UHX86A)
 - Additional peripheral connections for integrating external devices
 - Fast engineering via Ethernet, even over long distances
 - Can be combined with the MOVIKIT® MultiAxisController



You can find details of the different technical features of the individual types here:

www.sew-eurodrive.de/en/movi-c-controller



Performance class	UHX25A	UHX45A	UHX65A	UHX86A
Description	Controller for simple motion tasks such as positioning tasks or speed mode	Controller for challenging motion tasks such as synchronous axes with electronic gear unit or electronic cam	Higher-level controller and controller combined. Process and motion control for complex machines	Controller for high-end motion control, robotics, and automation tasks such as visualization
Recommended for motion control	●	●	●	●
Recommended for automation control	○	◐	●	●
Recommended for cyber-physical control			○	●
Recommended for edge control			◐	●

○ Can be used ◐ Well suited ● Perfectly suited

I/O modules

MOVI-PLC® I/O system C

All signals at a glance

The MOVI-PLC® I/O system C combines high performance levels and state-of-the-art functions with a sophisticated mechanical concept in one compact design. You can adapt each individual module to the exact requirements of your application.

The MOVI-PLC® I/O system C portfolio enables the integration of external field units, offering users a high degree of flexibility. The modules can be integrated into the controller's EtherCAT® bus using the bus coupler.

Consistent
Addition of safe I/O terminals and further non-safe function modules to the portfolio, which are operated via the same coupler.

Space-saving
Stepped wiring level with spring-clamp technology

Scalable
With additional power supply modules – up to 64 modules are possible on the backplane bus

Ease of maintenance
Extremely easy and fast installation thanks to secure sliding mechanism



In addition to reading binary and analog signals, function modules for reading SSI encoder signals, energy measurement modules, counter modules, and modules for connecting strain gauges are also available.

To meet requirements for machinery and applications in the field of functional safety, the SEW-EURODRIVE portfolio includes two Safety over EtherCAT® I/O modules, each with four secure inputs and outputs.

For analysis and logical connection, the modules can be connected to a safety controller – e.g. the SCU (which can be ordered from SEW-EURODRIVE) – via the bus coupler.

Overview of the technology

Presence monitoring / reference initiators (binary signals)	Height monitoring / distance measuring (analog signals)	Analysis of encoder signals (counter modules / SSI module)	Load cell / strain gauge	Serial interfaces
ODI..C ODO..C	OAI..C OAO..C	OSM12C OSM13C OSM14C	OSM11C	ORS11C
Optoelectronic sensors, ultrasound sensors, inductive/capacitive sensors, laser light sensors, print mark sensors, light columns, and fluid sensors	Optoelectronic distance measuring devices, ultrasound sensors, and inertial sensors	Encoders and rotary encoders	Strain gauges	Laser light sensors, optoelectronic distance measuring devices, optical identification sensors, and RFID
Temperature measurement	Energy measurement	Hazardous point protection with hand and presence detection / functional safety	Stepper motor Motion control	
OAI45C	OEM12C	OFI41C OFO41C	OSS21C	
Pt100, Pt1000, Ni100, and Ni1000 temperature sensors	Three-phase grids	Safety light grid, safety scanner, safety switch, safety locking device, and emergency stop	Control of stepper motors up to 5 A	



Find out more about the MOVI-PLC® I/O system
www.sew-eurodrive.de/en/movi-plc-io-module

Display and visualization

Visualization hardware

Everything under control

When it comes to machine automation, maintaining an overview is vital. The more extensive the functionality of systems and drive technology becomes, the more the requirements in terms of operation, visualization, and diagnostics increase.

The SEW-EURODRIVE visualization hardware has been specifically developed for use in harsh industrial environments immediately next to the machine.

Capacitive touch displays mean it can be operated even when wearing gloves, and safety functions such as key switches, emergency stop systems, and immobility alarms are already integrated.

In addition to an extensive portfolio of visualization solutions, the corresponding accessories, such as prefabricated cables, assembly parts, and the voltage supply, are also available – all from a single source.



Web operator terminal WO-P11D-150-0, WOP11D-100-0, and WOP11D-70-0	Operator terminal OPT11D-150-0	Handheld terminal DOP21C-T70
<ul style="list-style-type: none">– Chromium-based HTML5 web browser– i.MX8 quad-core CPU– 7" variant with WSVGA resolution (1024 × 600)– 10.1" variant with WXGA resolution (1280 × 800)– 15.6" variant with FHD resolution (1920 × 1080)– Luminance: 450 cd/m²– Capacitive touchscreen (PCAP)	<ul style="list-style-type: none">– 15.6" monitor– Resolution: FHD (1920 × 1080)– Anti-reflective glass cover– Luminance: 450 cd/m²– Capacitive touchscreen (PCAP)– Interfaces: 1 × DVI, 1 × DP, 1 × USB 2.0	<ul style="list-style-type: none">– 7" TFT WSVGA display, WSVGA 600 × 1024 pixels– Analog resistive touch– Intel Celeron N2807 2 × 1.58 GHz– 32GB SSD Flash, 4GB DDR3 RAM– 21 buttons and 4 status LEDs– Key switch– Two-channel emergency stop or two-circuit stop button– Windows 10 IoT Enterprise operating system <p>Compatible software</p> <ul style="list-style-type: none">– SEW RobotMonitor– MOVIKIT® Visualization flexible– HMI-Builder.PRO with USB dongle

MOVITRAC® advanced

The compact all-rounder

Can be connected to all standard control systems

MOVITRAC® advanced has been designed and developed as a compact all-rounder. It controls and monitors both synchronous and asynchronous AC motors, with or without an encoder. Moreover, it can control asynchronous motors with LSPM technology, as well as synchronous and asynchronous linear motors. With a power range of 0.25 to 315 kW and an overload capacity of 150%, MOVITRAC® advanced offers a wide range of applications.

Thanks to its integrated communication interface, MOVITRAC® advanced is particularly flexible and can be connected to all standard control systems.

Connection is possible via PROFINET, EtherNet/IP™, EtherCAT®/SBus^{PLUS}, Modbus TCP, EtherCAT® CiA402, or POWERLINK CiA402.



Sizes	OS – OL	OS, OL, 3 – 6	OS, OL, 3 – 8
Nominal voltage V	1 × AC 200 – 240	3 × AC 200 – 240	3 × AC 380 – 500
Nominal power kW	0.25 – 315		
Overload capacity	150%		
Degree of protection	IP10, IP20 optional (only with power connectors plugged in for grid and motor)		
Interference emission	Limit value class C2 according to EN 61800-3. The interference suppression level can be improved using appropriate measures. See the “EMC-compliant installation according to EN 61800-3” section in the product manual for further information.		

Synchronous servomotors CMP.. series

Precision, dynamics, and power
Fast cycle times and precise movement of heavy loads

The compact CMP.. servomotor offers precision, dynamics, and power. Available in seven powerful sizes, it offers peak torque of up to 320 Nm and can be used in even the tightest of spaces.

These adaptable synchronous servomotors of the CMP.. series can be configured for maximum dynamics and heavy loads.

Regardless of whether they are used in the food and beverage industry, construction, the automotive sector, or the wood industry, the CMP.. servomotors offer fast cycle times and precise movement of heavy loads. Thanks to their compact design, they can be used even in confined spaces without any difficulty.

The highly dynamic CMP.. servomotors offer standstill torques from 0.5 Nm to 95 Nm in seven sizes, and 31 graduations in total.



Size	40*	50*	63*	71*	80*	100*	112*
M ₀ Nm	0.5 – 0.8	1.3 – 3.3	2.9 – 7.1	6.4 – 13.1	13.4 – 27.5	25.5 – 47	30 – 95
M _{pk} Nm	1.9 – 3.8	5.2 – 15.4	11.1 – 30.4	19.2 – 46.9	42.1 – 107	68.3 – 178.8	88 – 320
Edge dimension in mm	55	73	88	116	138	163	190
Speed in min ⁻¹	3 k / 4.5 k / 6 k	3 k / 4.5 k / 6 k	3 k / 4.5 k / 6 k	2 k / 3 k / 4.5 k / 6 k	2 k / 3 k / 4.5 k / 6 k	2 k / 3 k / 4.5 k	2 k / 3 k / 4.5 k

* Each size is available in various lengths.



**CMP.. series
synchronous servomotors**
[https://www.sew-eurodrive.de/
synchronous-servomotors-cmp](https://www.sew-eurodrive.de/synchronous-servomotors-cmp)

Synchronous servomotors CM3C.. series

Dynamic, powerful, and a space-saving design
Ideal for applications with high load moments of inertia

The CM3C.. synchronous servomotors combine high external loads with fast acceleration and precise positioning. They are particularly dynamic, precise, and powerful, and yet come in a compact, space-saving design.

The CM3C.. servomotors are ideal for applications with high load moments of inertia, such as automation, handling, and vehicle technology. With their four sizes (63, 71, 80, and 100), they can cover standstill torques from 2.7 to 40 Nm.

Direct motor mounting eliminates the need for adapters and couplings, so less space is needed. The robust surface protection concept and hygiene-friendly design make these servomotors particularly robust and dirt-repellent.

What's more, rotors equipped with permanent magnets ensure a high level of efficiency and energy-efficient operation.



Size	63*	71*	80*	100*
M ₀ Nm	2.7 – 6.4	6.5 – 14	10.5 – 22.8	19 – 40
M _{pk} Nm	8.1 – 19.2	19.5 – 42	31.5 – 68.4	57 – 120
Edge dimension in mm	88	116	138	163
Speed in min ⁻¹	3 k / 4.5 k / 6 k	2 k / 3 k / 4.5 k / 6 k	2 k / 3 k / 4.5 k / 6 k	2 k / 3 k / 4.5 k

* Each size is available in three lengths – S, M, and L.



**CM3C.. series
synchronous servomotors**
[https://www.sew-eurodrive.de/
synchronous-servomotors-cm3c](https://www.sew-eurodrive.de/synchronous-servomotors-cm3c)

Supported third-party encoders
EnDat 2.2  **DRIVE-CLiQ**
by Siemens AG

PxG[®] planetary servo gear units

The optimum solution for every requirement

Flexible configuration, high torque, compact design

Thanks to their scalable modular concept, which offers the optimum solution for every requirement, PxG[®] planetary servo gear units offer considerable added value. They can be custom configured in terms of service life, precision, and performance, thereby closing the gap between your servomotor and the application.

The modular concept comprises a number of sizes of one-, two-, and three-stage gear units in performance classes P5 to P7. What's more, there are numerous additional options that can be flexibly combined, such as various output bearings, rotational clearance classes, lubricants, and seals.

Thanks to a multitude of adapter designs and geometric compatibility with the market standard, the low-backlash planetary servo gear units can be combined with a broad range of servomotors without any difficulty.

The compact design of the gear unit offers high torque combined with minimum size, so it can be integrated into your application without taking up much space.



Planetary servo gear units		P5.G..	P6.G..	P7.G..
Sizes		21, 22, 31, 32, 33, 41, 42, 43, 51, 52, 53, 61, 62, 63, 71, 72, 73		
Gear ratio	1-stage	3 – 10		4 – 5.5
	2-stage	12 – 100		16 – 55
	3-stage	64 – 1000	On request	64 – 550
Acceleration torque		66 – 4200 Nm	40 – 2000 Nm	80 – 6150 Nm
Rotational clearance		3 – 4 arcmin		1 arcmin
Service life		20 000 hours (cdf 60%)	30 000 hours (cdf 100%)	20 000 hours (cdf 60%)
Output variants		Solid shaft (smooth, key, or splining), flange block shaft with or without index bore		Flange block shaft without index bore
Lubrication for life		GearOil Poly E1 by SEW-EURODRIVE or Grease HL 2 E1 by SEW-EURODRIVE, also in H1 (food grade)		
Seal		Premium Sine Seal or labyrinth seal (in the case of grease lubrication)		

StarterSET performance

Flexible, modular, independent, and high-performance

Perfectly coordinated basic package

Quick switchovers and frequent product changes call for a modular and flexible machine design. However, many application and motion sequences are the same. They may not be absolutely identical, but there is still an opportunity to simplify things with standardization. SEW-EURODRIVE developed the StarterSET for this very purpose.

The StarterSET performance is the ideal machine automation solution for complex applications with up to 32 axes. With the fully and perfectly coordinated software and hardware components “Made by SEW-EURODRIVE”, this StarterSet provides you with everything you need for applications with processes that run continuously or in cycles – and all from a single source.



Create your finished machine more quickly – get started straight away! Find out about our StarterSET here!

<https://www.sew-eurodrive.de/en/starterset>

Other aspects of the
MOVI-C® modular automation system
that might interest you

Software

Digital motor integration

Energy management



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