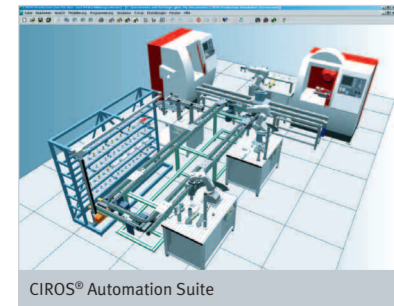
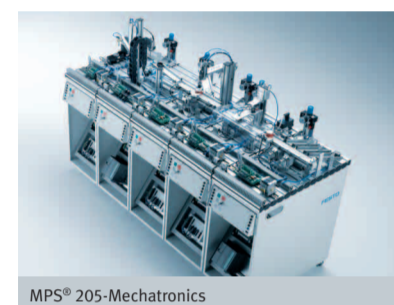


Training installations and factories in the learning system for automation and technology



Functions/processes/ training content	Installation components	Training factory/installation																				
		MPS® 202-Mechatronics	MPS® 203-Fieldbus	MPS® 203-IT	MPS® 205-Mechatronics	MPS® 202-Robotics	MPS® 210-Mechatronics	MPS® 501-FMS	MPS® 502-FMS	MPS® 503-FMS	MPS® 504-FMS	MPS® 505-FMS	MPS® 506-FMS	MPS® 507-FMS	MicroFMS-TR	MicroFMS-MR	MicroFMS-MTLR	MultiFMS	iCIM 3000	MPS® PA-204	AFB training factory	
Production engineering	MPS® stations																					
Allocating	Distributing	●	●	●	●	●	●	●	●	●	●	●	●	●					●		●	
Sorting	Sorting	●	●	●	●	●	●	●	●	●	●	●	●	●					●			
Inspecting/measuring	Inspecting		●	●	●	●	●	●	●	●	●	●	●	●					●			
Drilling	Processing					●	●	●	●	●	●	●	●	●					●			○
Inserting	Pick & place				●																	
Pressing in	FluidMuscle Press				●																	
Handling	Handling				●	●	●	●	●	●	●	●	●	●					●		●	
Handling/joining	Robot assembly				●	●	●	●	●	●	●	●	●	●					●			
Punching	Punching				●																	
Storing temporarily	Buffering				●																	●
Sorting	Separating																					○
	FMS/iCIM/AFB stations																					
Handling/joining	iCIM robot assembly																			●		
Inspecting	FMS quality assurance													●								
Measuring	iCIM quality assurance									○		○						○	●			
Bottling	AFB bottling									○												●
Compiling orders	AFB order compiling																					●
Issuing goods	AFB outgoing goods																					●
	CNC machines																					
Milling	Concept MILL									○	○		○	○		●	●	●	●			
Turning	Concept TURN														●	●	●	●				
	Loading robot																					
Machine feeding, single	Robot on MPS® trolley														●	●						
Machine feeding, multiple	Robot on linear axis																●	●	●			
Process engineering	MPS® PA stations																					
Filtering	Filtering																				●	●
Mixing	Mixing																				●	●
Tempering	Reactor																				●	●
Bottling	Bottling																				●	●
Dispensing/sorting	AFB bulk material																					●
Measuring, closed-loop control	Compact workstation																					○
Logistics	High-bay warehouse																					
Storing	FMS high-bay warehouse (small, finished goods)											●	●	●						●		
	iCIM high-bay warehouse (large, unmachined parts)																				●	
	AFB high-bay warehouse (small, finished goods)																					●
Information flow	Fieldbus systems																					
Actuator/sensor level	AS-interface, Profibus-DP		●					●	●	●	●	●	●	●					●	●	●	
Cell/management level	Profibus-DP	○	○	○	○	○	○	○	○	○	○	○	○	○					○		○	
	Ethernet/Profinet							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Production control																					
Management/planning level	SCADA/visualisation							○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	MES/ERP																			○		
	Order administration														○	○	○	○	○	○	○	○
	Stock administration																			●		○
Flow of material	Pallet transport system																					
	FMS pallet transport system							●	●	●	●	●	●	●					●			
	AFB pallet transport system																					●
	iCIM pallet transport system																				●	
Material/products	Variants																					
	MPS® cylinder, 3 variants (material quality)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Desk set, >300 variants (material and shape)																				●	
	Bottles, different mixtures																				●	●
	Bottles, different packing units																					●
	Fluids (water)																				●	●
	Granulates (corn)																					●
Virtual reality	CIROS® Automation Suite																					
Robot programming	CIROS® Robotics				●	●				●	●	●	●	●	●	●	●	●	●	●	●	●
PLC programming/fault finding	CIROS® Advanced Mechatronics	●	○	●	●	●	○	○	●	●	○	●	●						●			
Factory planning/virtual production	CIROS® Production																				●	

● Required/always applicable ○ Optional/sometimes applicable