ferag...

Ferag Intelligent Vehicles

Free humans from manual handling

The state-of-the-art AGV and AMR vehicles with a complete range of products for intelligent intralogistics solutions are based on proven Quicktron technology. These mobile robots include automated solutions for the handling of shelves, mobile devices, pallets and basket of work without an operator. In suitable projects, this new product range will be combined with Ferag products (Denisort, Deniway, Easychain and Skyfall) into fully integrated solutions.

Rack Handling Solutions

FIV M10A FIV M15A FIV M50A FIV M60A

FIV M60C FIV M100A FIV M100B FIV M150A

Mobile Handling Solutions

FIV YZ11 FIV ZT11 FIV SF11 FIV GN11 FIV DY21 FIV DY11

Workbin Handling Solutions

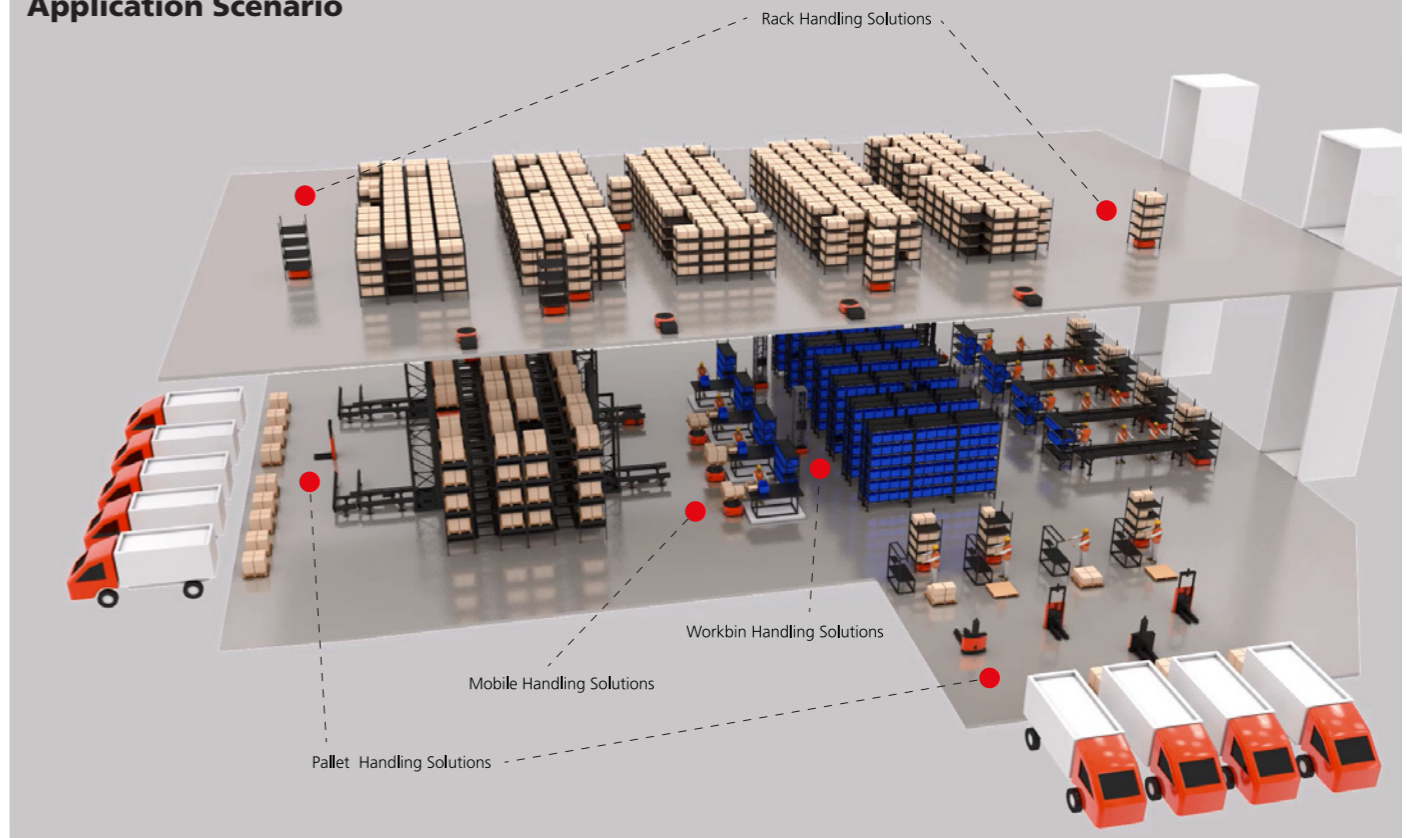FIV C41A FIV C36A

Pallet Handling Solutions

FIV F100B

Applications

Goods-to-person order picking for e-commerce, retail, B2B and 3PL

Sorting and sequencing for dispatch, incoming goods and returns

In-house material delivery

Flexible production

Clean-room production

Benefits

Safer environment for the operators compared with forklift and tugged trains

Increased productivity and efficiency thanks to automation leads to rapid ROI

Flexible solution for different seasons (for example Black Friday and regular season)

Fully automatic loading and unloading possibilities

Best use of warehouse space thanks to the high precision of the robots (improves storage rate by 60%)

Excellent path planning ability, various combination of equipment

Modular and extensible design

Application Scenario

Rack Handling Solutions

Workbin Handling Solutions

Mobile Handling Solutions

Pallet Handling Solutions

References

E-commerce / Retail

Postal Services

3PL

Pharmaceutical and chemical industry

Automotive industry

Manufacturing industry

Parameter

Rack Handling Solutions

		FIV M10A	FIV M15A	FIV M50A	FIV M60B	FIV M60C	FIV M100A	FIV M100B	FIV M150A
Product Name		FIV M10A	FIV M15A	FIV M50A	FIV M60B	FIV M60C	FIV M100A	FIV M100B	FIV M150A
Product Model		M10A–SBDQR256N–51	M15A–LBDQR0N–31	M50A–SBDQR23456N–61	M60B–SBDQR0G–12	M60C–HTDQR0N–13	M100A–SBDQR0N–21	M100B–HTDQR0N–22	M150A–HBDQR0N–41
Applicable Scenarios		PCB	Storage / Handling	Manufacturing / Transportation	Manufacturing /Transportation	E–commerce / Manufacturing	Storage /Handling	E–commerce / Manufacturing	Storage / Handling
Basic Parameters	size	600 * 500 * 580mm	620 * 538 * 221mm	914 * 664 * 300mm	915 * 716 * 313mm	956 * 730 * 240mm	1110 * 889 * 323mm	1184 * 834 * 250mm	1530 * 1230 * 320mm
	Rotation diameter	716mm	620mm	1038mm	980mm	956mm	1165mm	1250mm	1820mm
	Self–respect	100kg	78kg	200kg	215kg	145kg	290kg	210kg	550kg
	specified load	100kg	150kg	500kg	600kg	600kg	1000kg	1000kg	1500kg
	Top elevation	55mm	55mm	55mm	55mm	55mm	55mm	60mm	110mm
Moving Speed	No–load rated speed	0.8m / s	2.2m / s	1.5m / s	1.5m / s	2m / s	1.2m / s	1.5m / s	1.5m / s
	Full load rated speed	0.6m / s	2.2m / s	1.2m / s	1.5m / s	1.5m / s	1.2m / s	1.2m / s	1.0m / s
Navigation And Positioning	Navigation method	QR code	QR code	QR code	QR code	SLAM / Texture / QR Code	QR code	SLAM / Texture / QR Code	QR code
	Positioning accuracy	± 10mm	± 10mm	± 10mm	± 10mm	± 10mm	± 10mm	± 10mm	± 10mm
	Stop accuracy	± 5mm	± 5mm	± 5mm	± 5mm	± 5mm	± 5mm	± 5mm	± 5mm
	Stop angle accuracy	± 1 °	± 1 °	± 1 °	± 1 °	± 1 °	± 1 °	± 1 °	± 1 °
Battery Parameters	Type of battery	LiFePO4	NCA	LiFePO4	NCA	NCA	NCA	LiFePO4	NCA
	Battery capacity	48V / 17.5ah	48V / 18ah	48V / 24.5ah	48V / 26ah	48V / 36ah	48V / 40ah	48V / 38.5ah	48V / 60ah
	Rated battery life	8h	8h	8h	8h	9h	8h	8h	8h
	Charging time	≤1.5h	≤1.5h	≤1.5h	≤2h	≤1.2h	≤2h	≤1.5h	≤2h
	Cycle life	1500 full times	500 full times	1500 times full	500 full times	500 full times	500 full times	1500 full times	500 full times
Safety	Emergency stop	●	●	●	●	●	●	●	●
	Audible alarm	●	●	●	●	●	●	●	●
	Lidar	●	○	●	●	●	●	●	●
	Safety touch	●	/	●	/	○	/	○	○
	Laser / ultrasonic	●	/	●	/	○	/	○	○
	3D obstacle avoidance	/	/	●	/	○	/	○	/
	The width light	●	/	●	/	○	/	○	○
Through Performance	Crossing ability	≤4mm	≤4mm	≤20mm	≤5mm	≤30mm	≤5mm	≤30mm	≤30mm
	Ability	≤2mm	≤2mm	≤5mm	≤5mm	≤5mm	≤5mm	≤5mm	≤5mm
	Ability to cross the slope	≤0.5% (0.3 °)	≤0.5% (0.3 °)	≤8.5% (5 °)	≤3% (1.8 °)	≤5% (2.8 °)	≤3% (1.8 °)	≤5% (2.8 °)	≤3% (1.8 °)
Environmental Parameters	Operating temperature	−10 ~ 45 ℃	−10 ~ 45 ℃	−10 ~ 45 ℃	−10 ~ 45 ℃	−10 ~ 45 ℃	−10 ~ 45 ℃	−10 ~ 45 ℃	−10 ~ 45 ℃
	Noise	<75dB	<75dB	<75dB	<75dB	<75dB	<75dB	<75dB	<75dB

Parameter

Mobile Handling Solutions

		FIV YZ11	FIV ZT11	FIV SF11	FIV GN11	FIV DY21	FIV DY11
Product Name		FIV YZ11	FIV ZT11	FIV SF11	FIV GN11	FIV DY21	FIV DY11
Product Model		YZ11–CBQB11NN–10	ZT11–ABQR11NN–50	SF11–ALSR12NN–60	GN11–ATQR22NN–60	DY21–BTSR12NN–1000	DY11–BTSC11NN–1000
Applicable Scenarios		Small parcel sorting	• Container handling • Equipment docking	• Conveying line feeder • Box handling	• Production line docking • Material handling	Device docking	T–shaped pallet handling
Basic Parameters	Size	620 * 538 * 1083mm	940 * 760 * 566mm	968 * 820 * 807mm	959 * 940 *1296mm	1674 * 933 * 889mm	1184 * 834 * 475mm
	Rotation diameter	758mm	1200mm	1242mm	1200mm	1912mm	1250mm
	Self–respect	60kg	220kg	190kg	300kg	450kg	280kg
	Specified load	10kg	50kg	60kg	60kg	1000kg	1000kg
	Docking height	1043mm	500mm	750mm	400mm & 1220mm	800mm	475mm
Moving Speed	No–load rated speed	≤2.2m／s	≤2m／s	≤2m／s	≤2m／s	≤1.5m／s	≤1.5m／s
	Full load rated speed	≤2.2m／s	≤1.5m／s	≤1.5m／s	≤1.5m／s	≤1.2m／s	≤1.2m／s
Navigation And Positioning	Navigation method	QR code	SLAM／Texture／QR Code	SLAM／Texture／QR Code	SLAM／Texture／QR Code	SLAM／Texture／QR Code	SLAM／Texture／QR Code
	Positioning accuracy	± 10mm	± 10mm	± 10mm	± 10mm	± 10mm	± 10mm
	Stop accuracy	± 5mm	± 5mm	± 5mm	± 5mm	± 5mm	± 5mm
	Stop angle accuracy	± 1°	± 1°	± 1°	± 1°	± 1°	± 1°
Battery Parameters	Type of battery	NCA	NCA	NCA	NCA	LiFePO4	LiFePO4
	Battery capacity	48V／18ah	48V／36ah	48V／36ah	48V／36ah	48V／40ah	48V／38ah
	Rated battery life	8h	9h	9h	9h	9h	8h
	Charging time	≤1.5h	≤1.2h	≤1.2h	≤1.2h	≤1.5h	≤1.5h
	Cycle Life	500 full times	500 full times	500 full times	500 full times	1500 full times	1500 full times
Safety	Emergency stop	●	●	●	●	●	●
	Audible alarm	●	●	●	●	●	●
	Lidar	○	●	●	●	●	●
	Safety touch	/	○	○	○	○	○
	Laser／ultrasonic	/	○	○	○	○	○
	3D obstacle avoidance	/	○	○	○	○	○
	The width light	/	○	○	○	○	○
Through Performance	Crossing ability	≤4mm	≤30mm	≤30mm	≤30mm	≤30mm	≤30mm
	Ability	≤2mm	≤5mm	≤5mm	≤5mm	≤5mm	≤5mm
	Ability to cross the Slope	≤0.5%(0.3°)	≤5%(2.8°)	≤5%(2.8°)	≤5%(2.8°)	≤5%(2.8°)	≤5%(2.8°)
Environmental Parameters	Operating temperature	−10～45℃	−10～45℃	−10～45℃	−10～45℃	−10～45℃	−10～45℃
	noise	<75dB	<75dB	<75dB	<75dB	<75dB	<75dB

Workbin Handling Solutions

		FIV C36A	FIV C41A
Product Name		FIV C36A	FIV C41A
Product Model		C36A–SBDQC37NN–31	C41A–SBDQS27NN–11
Applicable Scenarios		Material container (600*400mm)	Material box (600*400mm) fork picking
Basic Parameters	Size	1500 *810 *4030mm	906 *722 *3200mm
	Rotation diameter	1655mm	1020 mm
	Self–respect	480kg	320kg
	Fork arm rated load	30kg	40kg
	Adapt to the largest bin size	600*400mm (l*W)	600 * 400mm (l*W)
	Min aisle width	1100mm	860mm
	Single pick and place time	9s	8s
	Minimum pick–up bin height	240mm	400mm
	Height of pick–and–place box	3700mm	2700mm
	Carrying shelves	6	–
Moving Speed	No–load speed	<2m/s	<1.2m/s
	Full load speed	<1.0m/s	<1.0m/s
Navigation And Positioning	Positioning accuracy	±10mm	±10mm
	Stop accuracy	±5mm	±5mm
	Stop angle accuracy	±1°	±1°
	Navigation method	QR code	QR code
Battery Parameters	Type of battery	NCA	NCA
	Battery capacity	48V／50ah	48V／26ah
	Rated battery life	10h	8h
	Charging time	1.5h	1.5h
	Cycle life	500 full times	500 full times
Through Performance	Crossing ability	<5mm	<5mm
	Ability	<3mm	<2mm
	Ability to cross the slope	<3%	<1.5%
Environmental Parameters	Operating temperature	0–45°C	0–45°C
	Noise	<70dB	<70dB

Parameter

Pallet Handling Solutions

Product Name	FIV F100B	Navigation accuracy	Positioning accuracy	± 10mm
Product Model	F100B-TLAQ1107B10NN-32		Stop accuracy	± 10mm
Basic parameters	Dimension	1518 × 900 × 1939mm		Stop angle accuracy	± 1 °
	Aisle requirements	1705 (with tray)mm	Battery parameters	Type of battery	LiFePO4
	Rotation diameter	＞1.8m		Battery capacity	48V/60Ah
	Weight without load	350kg		Rated battery life	8h
	Rated capacity	1000kg		Charging time	Fast charge 1.5h
	Lifting height	1000mm		Life cycle	1500 full times
	Adapted tray size	1150mm × 770mm	Through performance	Crossing ability	<15mm
	Adapted tray type	font tray		Ability	<10mm
	Pick and place time	20s		Ability to cross the slope	<2.5%
Moving speed	No-load speed	<1.5m/s	Environmental parameters	Ambiant temperature	0-45℃
	Full load speed	<1.0m/s		Noise	<65dB

Family-owned company

For over 60 years, Ferag AG of Hinwil (Switzerland) has been the leading provider of intralogistic solutions in the print media industry: Ferag systems are at work every day, processing newspapers and magazines with print runs in the millions. Its recognised competence as an innovative supplier of integrated conveyor systems has opened doors to all industries, with material flow systems having unlimited applications in processing industries as well as in fashion and clothing, automotive, food and beverage logistics and e-commerce.