

Simple & friendly

The Kawasaki F Series

FS02/03 with C70 Controller



All Electric AC Servo-Drive
Heavy Duty Industrial Robot

KEY FEATURES

Axes: 6 standard (7 optional)

Robot Arm Type: Articulated

Payload: 2-3 Kg (4.4-6.6 lbs)

Applications: Material Handling, Palletizing, Assembly, Small Part Inspection, and Educational and Research Applications

Basic Description: The Kawasaki FS02 and FS03 are at the small end of Kawasaki's compact F-Series all-purpose robots. They feature a highly functional 6-axes arm and the highest speed specifications in their class. They weigh a mere 20 kg. and can even be table mounted. The FS02/03 robot utilizes a sealed construction allowing it to work in the most difficult and undesirable conditions. All wiring and piping for motors, encoders and tooling is built into the arm and hidden inside the robot structure to eliminate application interference. FS Series robots are highly adaptable, can be floor, wall or ceiling mounted and offer an almost human operating range.

Special Features:

C70 Controller

Ability to Bend Over Backwards

Flexible Working Envelope

Light Payload

- Fast
- Accurate

Space Saving Design

- Workspace saving footprint: 17 x 21.5 cm
- Slim, modular arm construction
- No dead zone

Production Advantages

- High speed capabilities: up to 3.8 m/sec
- Increased acceleration and deceleration rate
- High speed servo loop and all digital servo control
- Maintains position when power is turned off

Reduced Maintenance Costs

- 5000 hour maintenance intervals
- Modular design for quick repairs
- Brushless AC servo motor
- Common spare parts
- Fittings for simple lubrication

User Benefits:

Proven Reliability

- Over 30 years of experience

User Friendly Programming

- Simplified teaching method using multi-function panel
- High level "AS" language for advanced programming
- On line error logging
- Menu driven software
- On screen diagnostics
- Automatic speed limitation in teach mode

Safety

- E-stop button on multi-function panel and controller
- Overtravel limits

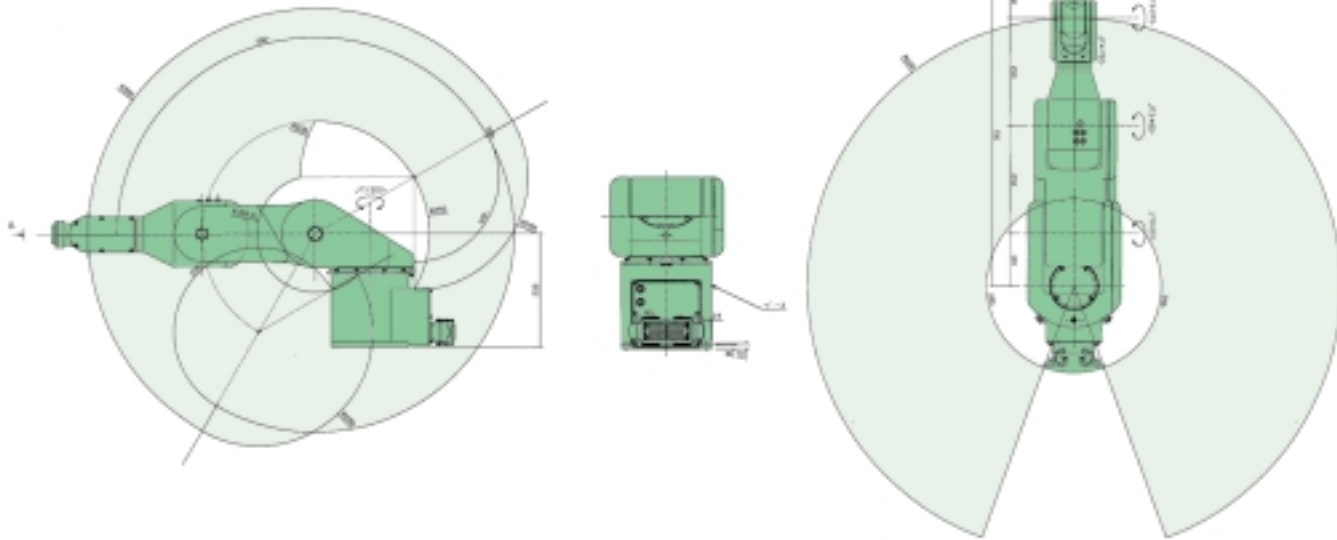
Controller Features:

Kawasaki C70 Controller with 32 Bit Microprocessor and Floating Point Coprocessor

- Surprisingly compact
- Multi Function Panel (8 inch Color LCD with Touch Panel Display)
- Small Teach Pendant (opt)
- 1 MB Memory (Include system memory)
- Up to 4 MB of additional memory (opt)
- FDD (opt)
- I/O: 32/32 channels, 24V DC
- I/O: expandable to 96/96 channels (opt)
- Optically coupled inputs; solid state outputs
- NAC R I/O (opt)
- Weld serial communication (opt)
- SLOGIC (internal PLC) (opt)
- Up to 3 parallel operating programs can be run simultaneously



The Kawasaki F Series FS02/03 with C70 Controller



Type		FS002N	FS003N	C70 Controller	STANDARD	OPTIONAL	
Specifications							
Payload (lbs)		2 kg	3 kg				
Axes		6 (7)*	6 (7)*				
Range of Motion	JT1	320°	320°	Servo Control and Drive System	Full Digital Servo System		
	JT2	210°	210°		Type of Control	Teach Mode	Joint, Base, Tool Mode
	JT3	480°	480°	Repeat Mode		Joint, Linear Interpolation	Circular Interpolation
	JT4	720°	720°	Teaching Method	Block Step programming or AS Language Programming		
	JT5	270°	270°		Teach Pendant (Choose One)	Multi Function Panel	Teach Pendant* <small>Small Type</small>
	JT6	720°	720°			8 inch Color LCD with Touch Panel Robot Stop Switch, Teach Lock Switch, Trigger Switch	LCD, Manual Operation Key, Emergency Stop Switch, Teach Lock Switch, Trigger Switch
	(optional)	JT7*	Custom Lengths	Custom Lengths			
Max Speed	JT1	250°/sec	240°/sec	Memory Capacity	1 MB (approx. 4,000 steps)		
	JT2	180°/sec	100°/sec		External Storage	FDD, PC Card	
	JT3	180°/sec	140°/sec	General Purpose Signals		External Operation Signals	External Motor Power Off, External Hold
	JT4	600°/sec	360°/sec		Input Signals	32 Channels (Include Dedicated Signals)	64, 96 Channels (Include Ded. Sig.)
	JT5	300°/sec	180°/sec	Output Signals	32 Channels (Include Dedicated Signals)	64, 96 Channels (Include Ded. Sig.)	
	JT6	600°/sec	360°/sec				
Wrist Rated Torque	JT4	0.4 kg-m	0.59 kg-m	Operation Panel	Basic Operation Switches (Motor Power On, Emergency Stop, Etc.)		
	JT5	0.4 kg-m	0.59 kg-m		Cable Length	Power/Signal Cable (Arm/Controller), Teach Pendant Cable	
	JT6	0.2 kg-m	0.29 kg-m			7m	10m, 15m
Wrist Rated Moment of Inertia	JT4	0.0078 kg-m-s ²	0.012 kg-m-s ²	Construction	Self-Standing main Enclosure with heat Exchanger		
	JT5	0.0078 kg-m-s ²	0.012 kg-m-s ²	Weight	45 kg includes transformer unit		
	JT6	0.0020 kg-m-s ²	0.003 kg-m-s ²	Ambient Temp.	0-45°C for Controller		
Vertical Reach		830 mm	830 mm	Relative Humidity	35%~85% (non-condensing)		
Horizontal Reach		700 mm	700 mm	Others		Vision LAN Internal Sequence Analog Input	
Repeatability		±0.03 mm	±0.05 mm				
Weight		20 kg	20 kg				
Positioning Feedback		Absolute Encoder					
Drive Motors		Brushless AC Servo Motor			Transformer	100/115 VAC	

*With Traversing Unit

For More Information Please call Kawasaki Robotics (USA) Inc.

1 mm = 0.0394 in.

1 kg-m = 7.23 ft-lb

1 kg = 2.20 lbs.

1 kg-m-s² = 7.23 ft-lb-s²

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