

# *i*ntelligent SOLUTION Force Sensor

INTELLIGENT ROBOTS WITH INTEGRATED FORCE SENSORS PROVIDE UNIQUE CAPABILITIES FOR PRECISION ASSEMBLY, MATERIAL REMOVAL AND LIFE CYCLE TESTING APPLICATIONS. FANUC FORCE SENSORS ARE RUGGED, HIGHLY RELIABLE AND PROVIDE HIGH RESOLUTION FOR ROBOTIC APPLICATIONS.



## FEATURES AND BENEFITS

- Semiconductor technology provides high reliability
- High sensitivity and overload protection makes the sensors suitable for precision assembly and material removal applications
- Sensor mounting options (either on the robot wrist or on a remote fixture) provide process flexibility
- Gravity compensation feature allows the robot to apply accurate force in a specified direction regardless of gravity
- Unique process tools are included to support assembly and or material removal applications
- Auto tuning function reduces setup time for assembly applications
- Sensor diagnosis function verifies that the sensor is working properly during production
- Sensor data collection function provides the force data for each product to ensure quality
- Force chart display on the *i*Pendant provides a quick verification of the force control process



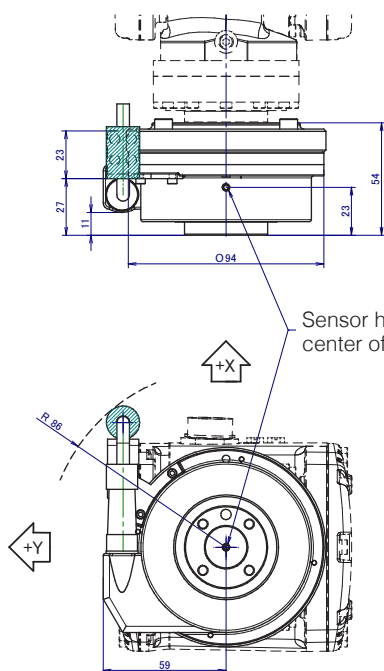
FANUC R-2000iB/165R equipped with the FANUC FS-250iA force sensor in a deburring process



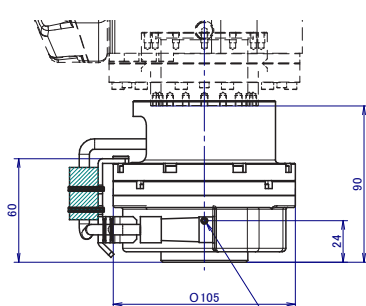
LR Mate 200iC/5L equipped with the FANUC FS-15iA force sensor performing small part assembly

# Force Sensor

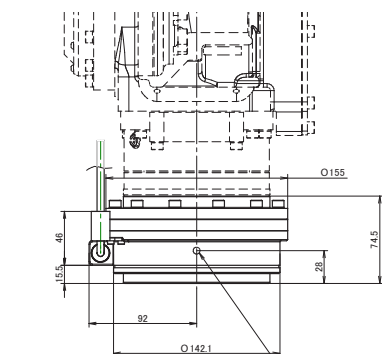
## FORCE SENSOR SERIES SPECIFICATIONS:



Sensor head  
center of gravity



Sensor head  
center of gravity

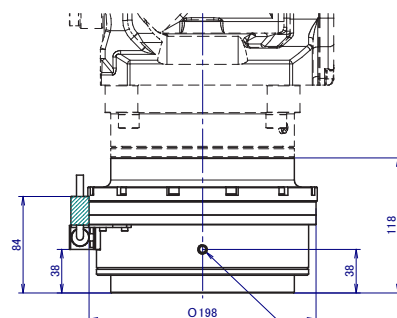
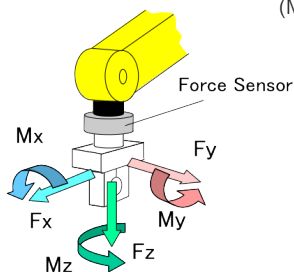


Sensor head  
center of gravity

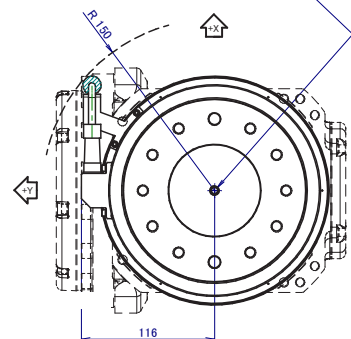
Outside Dimensions of the Force Sensor Head  
(LR Mate 200iC + FS-15iA)

Outside Dimensions of the Force Sensor Head  
(M-20iA + FS-40iA)

Outside Dimensions of the Force Sensor Head  
(M-710iC + FS-100iA)



Sensor head  
center of gravity



Outside Dimensions of the Force Sensor Head  
(R-2000iB + FS-250iA standard adapter)

Items		Specifications			
		FS-15iA	FS-40iA	FS-100iA	FS-250iA
Weight		0.57 kg	0.87 kg	3.2 kg	6.9 kg
Rated load	FX, Fy, Fz	147 N	392 N	980 N	2500 N
	Mx, My, Mz	11.8 Nm	39.2 Nm	156 Nm	500 Nm
Static overload	FX, Fy, Fz	1570 N	3920 N	9800 N	25000 N
	Mx, My, Mz	125 Nm	392 Nm	1560 Nm	5000 Nm
Resolution	FX, Fy, Fz	0.39 N	1.0 N	2.0 N	4.9 N
	Mx, My, Mz	0.016 Nm	0.029 Nm	0.08 Nm	0.25 Nm
Accuracy		Less than 2% of rated load			
Applied robot model		M-1iA*, M-3iA LR Mate 200iC M-10iA	M-20iA	M-710iC, R-1000iA, R-2000iB/125L	R-2000iB

\* Fixed Mount Only

**FANUC**  
Robotics

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FANUC ROBOTICS LITHO IN U.S.A. FRA - 04/11