

iPF Series

# Flexible Part Feeder

High-performance, flexible part feeding solution providing plug-and-play integration with OMRON Industrial Robots, Vision Systems, and ACE software.

- Pick and place applications, assembly line material feeding, and primary packaging.
- Modular design with many flexible options.
- Suited for automotive, electronics, pharmaceutical, agricultural, or medical component manufacturing applications.
- Feeds parts and components from 5 mm to 150 mm in size.
- Patented 3-axis vibration technology can move parts in all directions and ensures parts do not accumulate in a corner or on an edge.
- Gently handles delicate parts through precise tuning of frequency and amplitude.
- Fully integrated and supported by the powerful & easy-to-use ACE software tool for fast deployment of pick and place solutions.



## Ordering Information

**Note:** To order a complete part feeding system, select a Part Feeder with Backlight from the table below and then select a Hopper, Platform Frame, Platform Plate, and Cabling from *Required Additional Items* below. Refer to the *System Configuration* diagram on page 2.

### Part Feeder with Backlight\*

Model	Backlight Color	Ordering Code
iPF-240	Red	30240-001
	White	30240-002
	Infrared	30240-003
	None	30240-004
iPF-380	Red	30380-001
	White	30380-002
	Infrared	30380-003
	None	30380-004
iPF-530	Red	30530-001
	White	30530-002
	Infrared	30530-003
	None	30530-004

\* A 5 m power cable is included with all models.

## Required Additional Items

### Hopper\*

Model	Components	Detail	Ordering Code
3L Hopper	Medium Base	Base for 3 liter or 7 liter Container	30240-109
	3L Container	Container for holding and adding parts to the Part Feeder	30600-001
7L Hopper	Medium Base	Base for 3 liter or 7 liter Container	30240-109
	7L Container	Container for holding and adding parts to the Part Feeder	30600-002
14L Hopper	Large Base	Base for 14 liter Container	30600-004
	14L Container	Container for holding and adding parts to the Part Feeder	30600-003

\* A 5 m power cable and 2 m I/O cable are included with the hopper base.

## iPF Series

### Platform Frame and Platform Plate\*

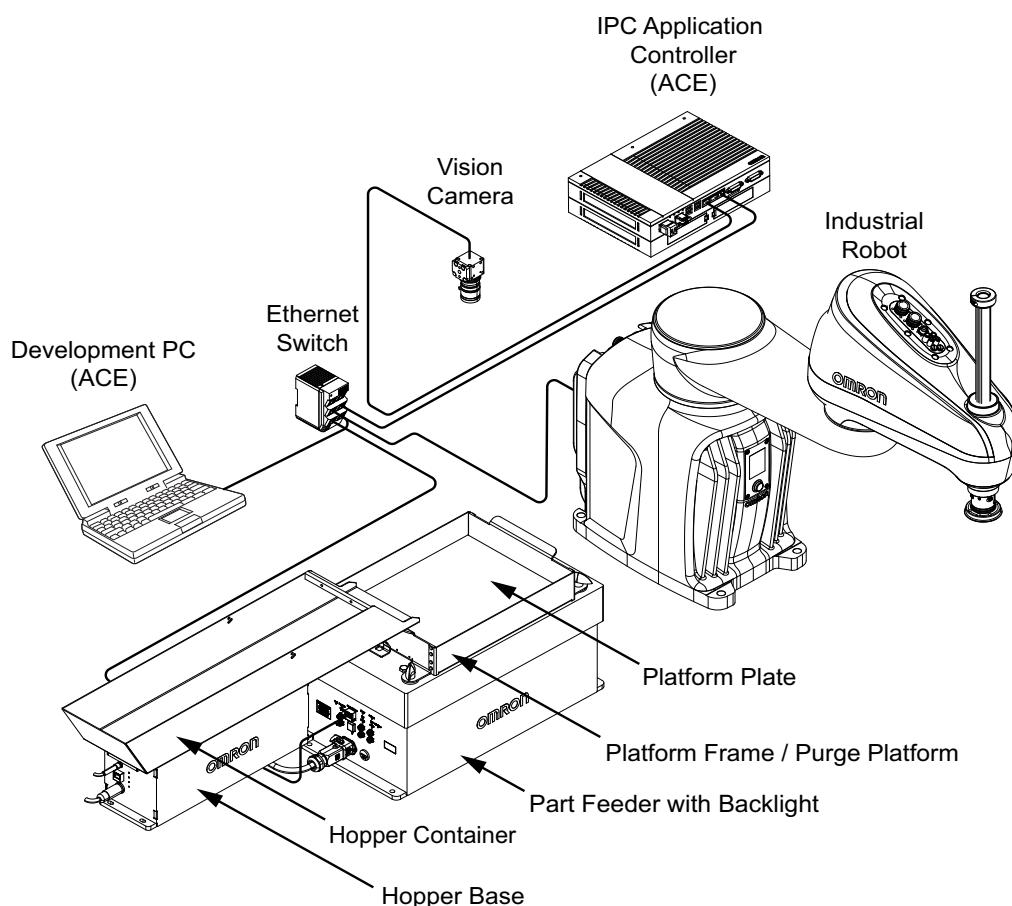
Compatible With	Type	Detail	Ordering Code
iPF-240	Integrated Frame and Plate	Standard frame with Acetal Copolymer (POM-C) flat plate	30240-103
		Left purge frame with Acetal Copolymer (POM-C) flat plate	30240-101
		Right purge frame with Acetal Copolymer (POM-C) flat plate	30240-102
		Standard frame with Electrostatic Discharge (ESD) flat plate	30240-106
		Left purge frame with Electrostatic Discharge (ESD) flat plate	30240-104
		Right purge frame with Electrostatic Discharge (ESD) flat plate	30240-105
		Acetal Copolymer (POM-C) anti-roll plate for parts with 3.5-7.0 mm dia.	30240-107
		Acetal Copolymer (POM-C) anti-roll plate for parts with 7.0-14 mm dia.	30240-108
iPF-380	Frame	Standard (85 mm frame height)	30380-103
		Left purge (60 mm frame height)	30380-101
		Right purge (60 mm frame height)	30380-102
	Plate	Acetal Copolymer (POM-C) Flat plate	30380-201
		Polymethyl methacrylate (PMMA) anti-roll plate for parts with 5-10 mm dia.	30380-202
		Polymethyl methacrylate (PMMA) anti-roll plate for parts with 10-24 mm dia.	30380-203
iPF-530	Frame	Standard (100 mm frame height)	30530-103
		Left purge (100 mm frame height)	30530-101
		Right purge (100 mm frame height)	30530-102
	Plate	Acetal Copolymer (POM-C) Flat plate	30530-201
		Polymethyl methacrylate (PMMA) anti-roll plate for parts with 6-12 mm dia.	30530-202
		Polymethyl methacrylate (PMMA) anti-roll plate for parts with 12-28 mm dia.	30530-203

\*All purge frames include an actuator and connection cable.

## Optional Additional Items

Item	Detail	Ordering Code
<b>Modular Fixation Kit</b>	Allows medium and large Hopper bases to be mounted at the ideal height for IPF-380 and IPF- 530 models. Allows tandem assembly for dual feeding. Supplied with fastening screws.	30600-005
<b>Network Cable</b>	Minimum Cat5 with RJ45 connectors. Refer to the OMRON <i>Industrial Ethernet Cables Catalog</i> (Cat. No. G019) for ordering information.	

## System Configuration



## Specifications

### Part Feeder

Item		iPF-240	iPF-380	iPF-530
Weight		7.8 kg	20 kg	31 kg
Power	Voltage	24 VDC $\pm$ 5%		
	24 VDC Current Consumption	5 A	4 A	6 A
	24 VDC S-Current Consumption	3 A	16 A	14 A
Operation	Control	Full 2D motion in XY plane and vertical vibration for flipping or dispersing parts		
	Actuators	4 voice coil motors		
	Communication	Ethernet (TCP/IP)		
	Vibration Actions	Standard vibrations: flip, forward, backward, left, right, long axis and cross axis centering		
	Suitable Part Sizes	5 - 40 mm	15 - 60 mm	30 - 150 mm
	Weight Capacity	400 g	1500 g	2000 g
Environmental	Configurable Vibration Frequency	40 - 70 Hz	20 - 30 Hz	20 - 28 Hz
	Operating Temperature	5 to 40° C		
	Storage Temperature	5 to 40° C		
	Humidity	During operation: 30 to 80% (non-condensing) During storage and transportation: 75% or less (non-condensing)		
Vibration Displacement	Ingress Protection	IP20		
	X (max.)	$\pm$ 1.5 mm	$\pm$ 8 mm	$\pm$ 8 mm
	Y (max.)	$\pm$ 2 mm	$\pm$ 10 mm	$\pm$ 10 mm
	Z (max.)	$\pm$ 1.5 mm	$\pm$ 6 mm	$\pm$ 8 mm

### Hoppers

Item	3L Hopper	7L Hopper	14L Hopper
Max. Capacity (Usable volume / weight)	3 L / 12 kg	7 L / 12 kg	14 L / 19.5 kg
Weight (Base + Container)	12 kg	12 kg	20 kg

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Item		3L Hopper	7L Hopper	14L Hopper
Vibration Displacement	X (max.)	Does not exceed $\pm 1 \text{ mm}^{*1}$		
	Y (max.)			
	Z (max.)			
Power	Voltage	24 VDC $\pm 5\%$		
	RMS current at 100% amplitude and max. load	4 A		
	Peak current (10 ms) at start of vibration at 100% amplitude	9 A		
Dual/Single Feeding Compatibility	iPF-240	Single	Single <sup>*2</sup>	Not Compatible
	iPF-380	Single/Dual	Single/Dual <sup>*3</sup>	Single <sup>*2</sup>
	iPF-530	Single/Dual	Single/Dual	Single/Dual <sup>*3</sup>
Standards		EN/IEC 60204-1, EN/IEC 61000-6-2, EN/IEC 61000-6-4, EN/IEC 63000, EN ISO 14118, EN ISO 12100, ISO 14644-1		

\*1 Provide a minimum space of 10 mm around the Hopper in all directions.

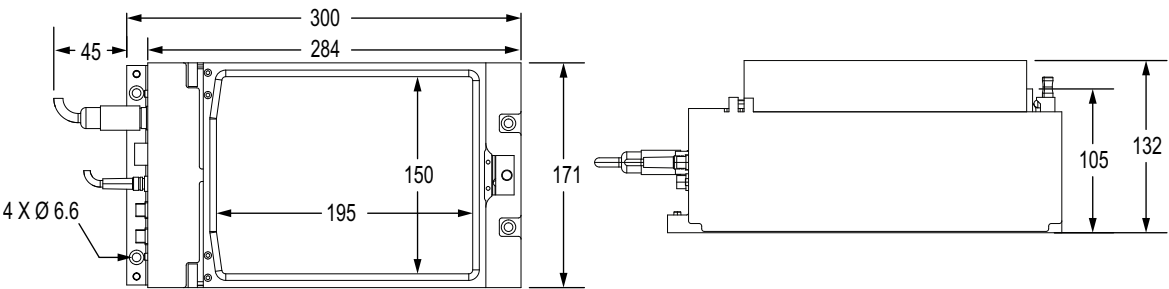
\*2 The Hopper can be arranged for single feeding only on the long side of the Part Feeder.

\*3 The Hoppers can be arranged for dual feeding only on opposite sides of the Part Feeder.

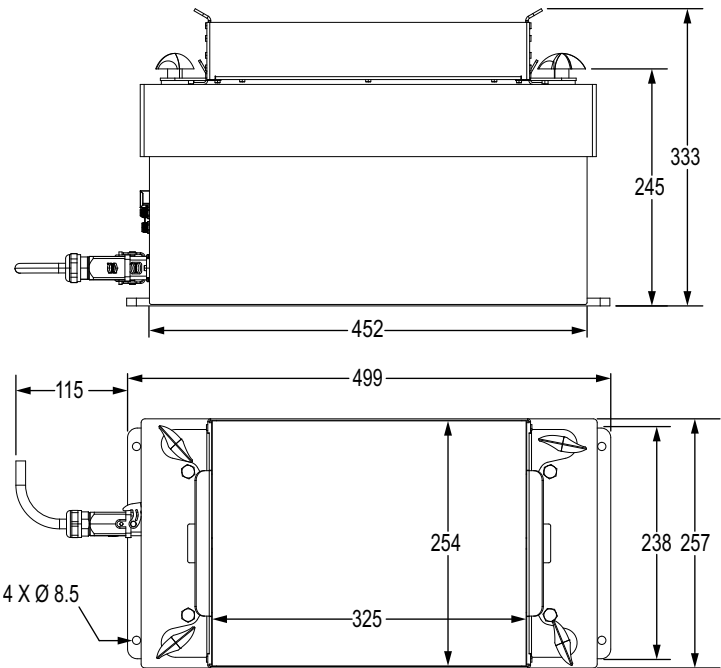
Dimensions

(Unit: mm)

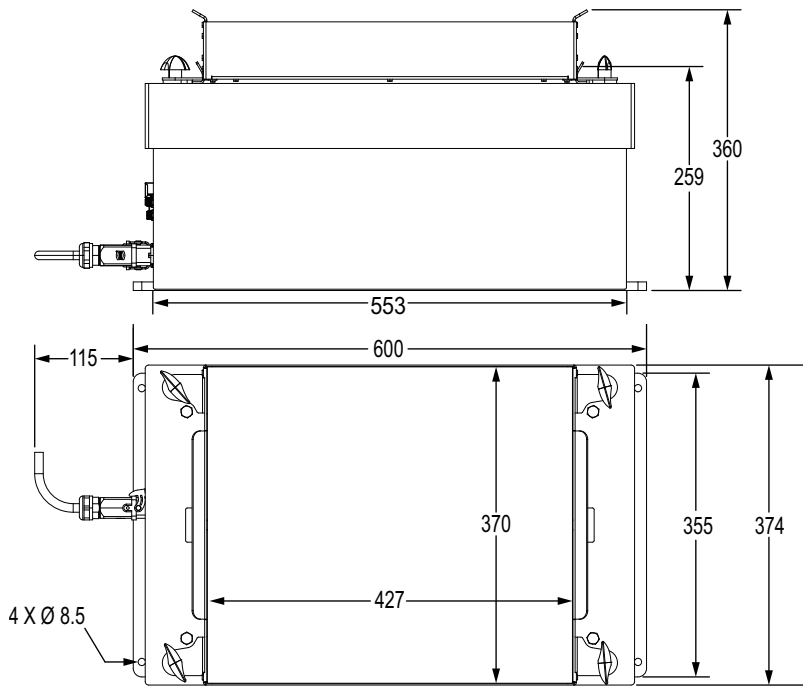
iPF-240



iPF-380

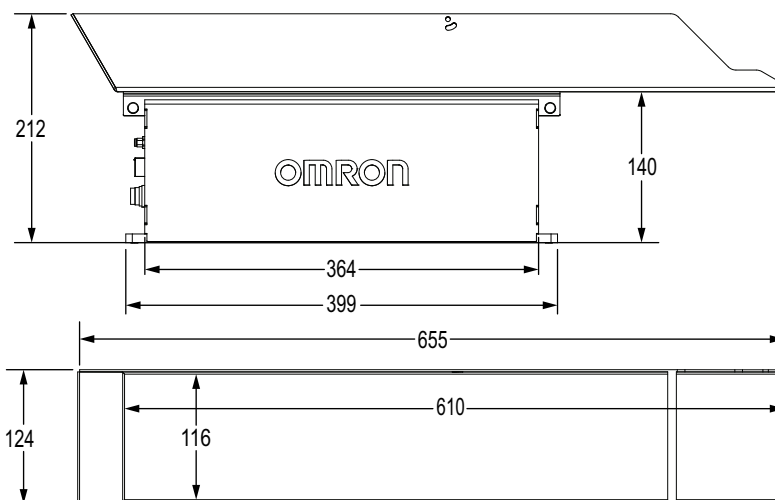


iPF-530

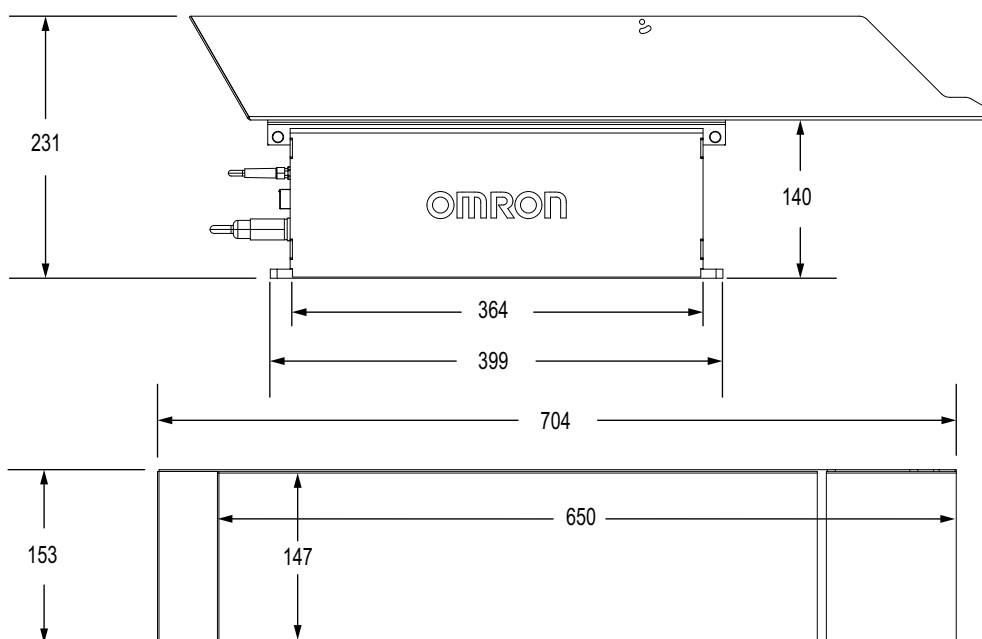


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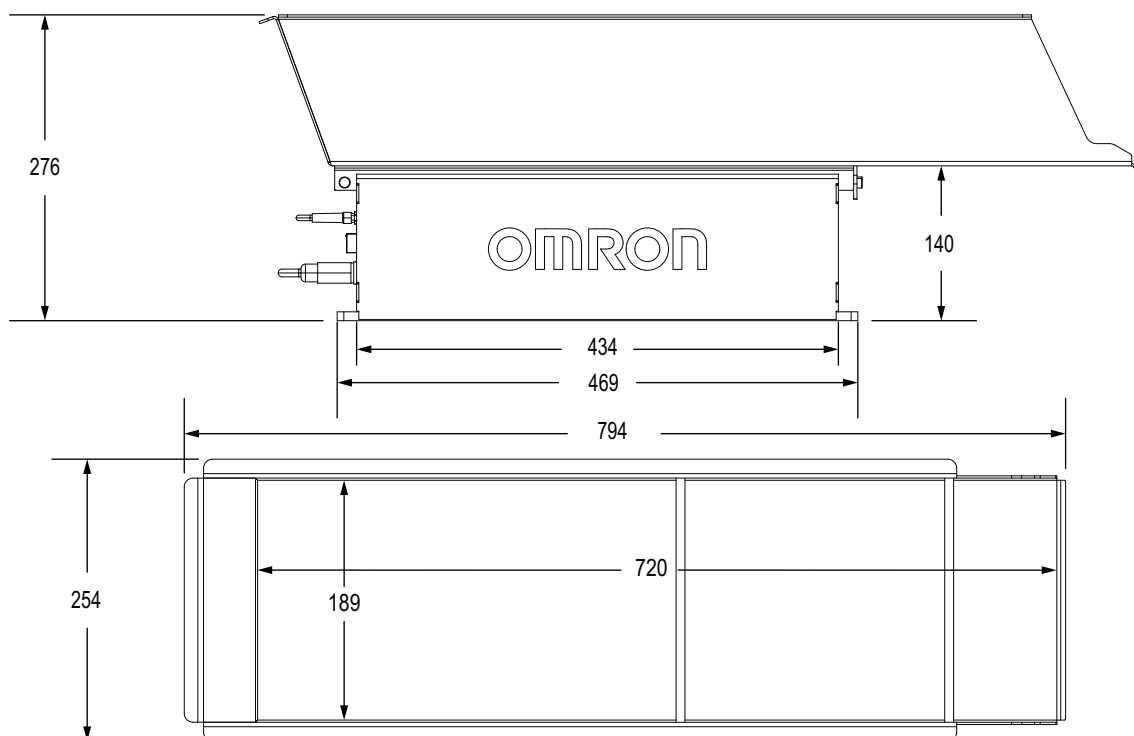
### Hoppers 3L



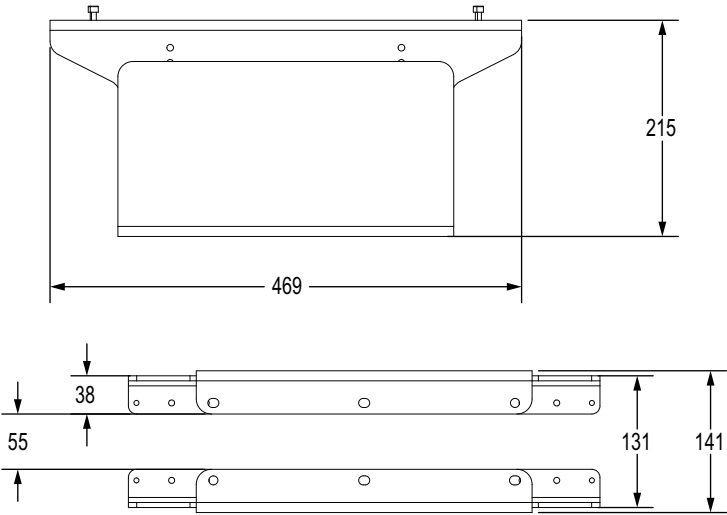
### 7L



### 14L



Fixation Kit



Related Manuals

Manual No.	English Title
I684	iPF-Series Flexible Part Feeder User's Manual
I633	Automation Control Environment (ACE) Version 4 User's Manual
G019	Industrial Ethernet Cables Catalog





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