

# Dual Motion Parts Feeder

Smooth, low-noise conveyance

## Features

- Setting vertical amplitude at the lowest possible setting greatly reduces bouncing of workpieces. Thin, flat workpieces remain separate and are conveyed smoothly.
- Work is conveyed as though gliding, with minimal impact between workpieces and track, resulting in minimal noise.
- Compact size makes it possible to interchange them with EA/ER Series parts feeders or those of other manufacturers. (DMS Series)
- A single drive unit can be used for right or left bowl orientation.

## Applications

- Plastic, easily damaged workpieces for medical and electronic equipment
- Low-noise conveyance of auto and other metal parts
- Precision equipment and other electronic parts that require highly accurate sorting

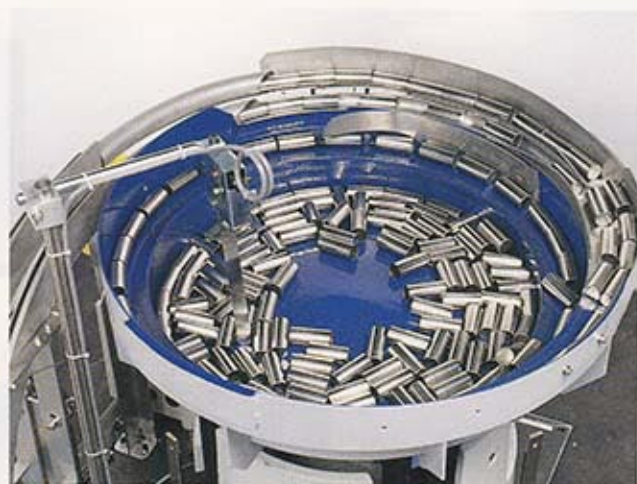


### DMS Series

interchangeable with EA/ER Series parts feeders or those of other manufacturers.

### DM Series

Accommodates high-speed delivery requirements.



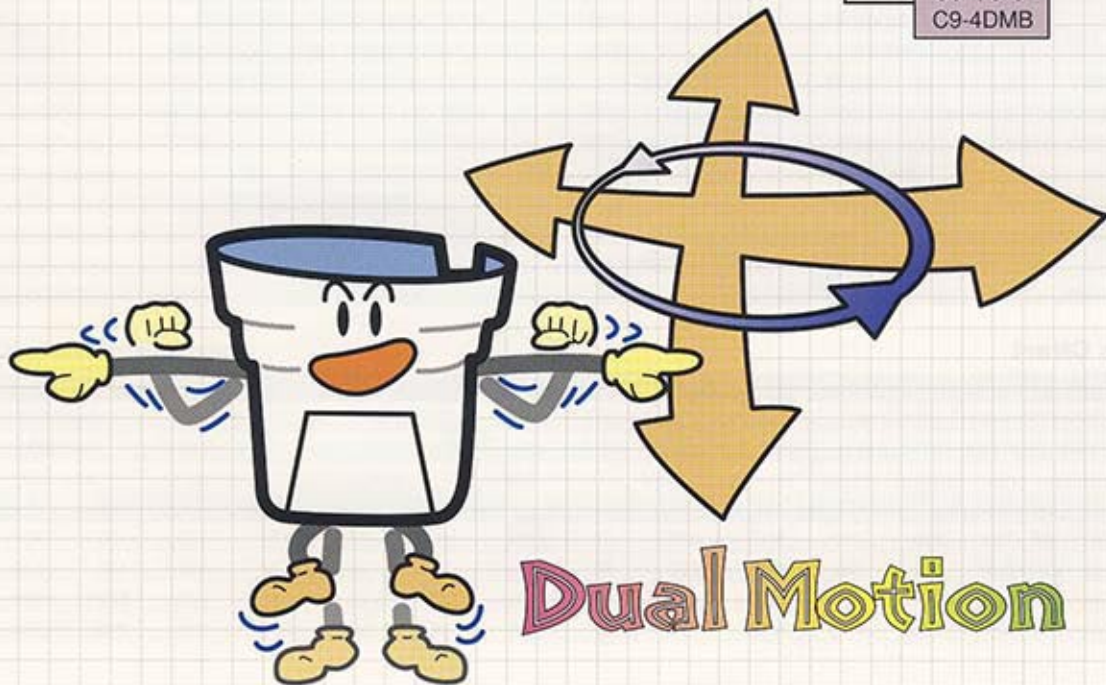
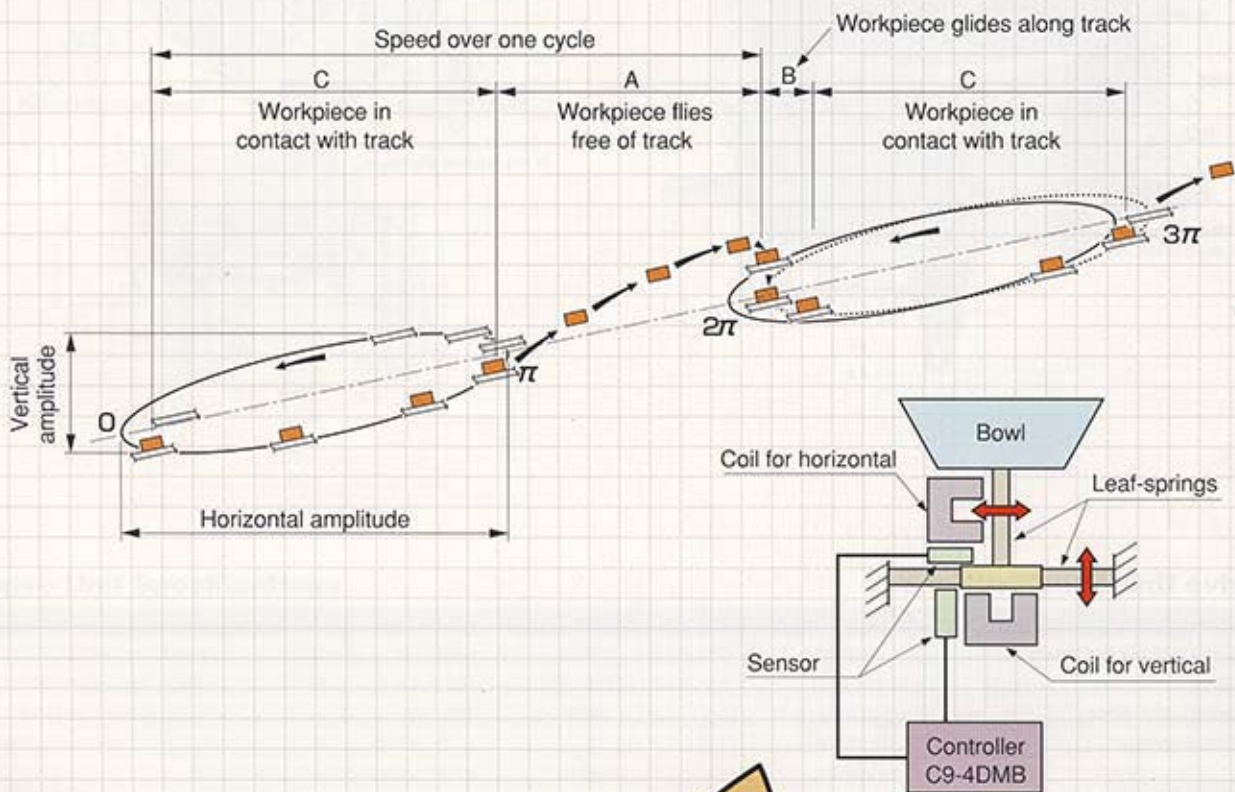
**Dual Motion Principle**

**Friction (conveyance) controlled through elliptical vibration**

Elliptical vibration is achieved by controlling optimal phase difference to the horizontal and vertical amplitudes of bowl vibration. Conveyance using elliptical vibration results from controlling friction, and workpieces thus travel as though gliding along the track.

**Dual Motion in action**

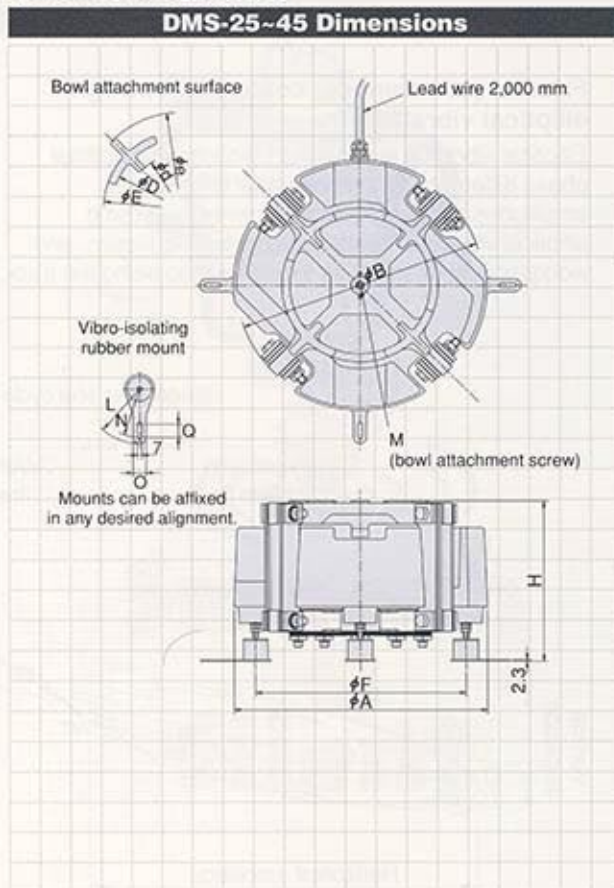
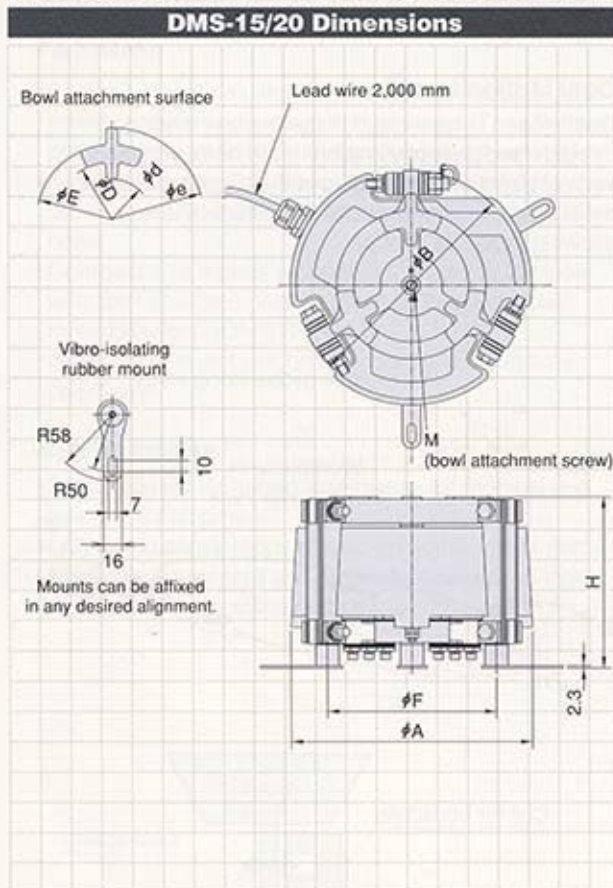
Dual motion is generated in these parts feeders through feedback of vibration in the horizontal and vertical directions, as shown in the diagram. Sensors detect horizontal and vertical amplitude, thereby allowing separate control.



# DMS series Drive Units

Smooth, overflow conveyance

Accommodates bowls designed for EA and ER series (see p13-14)



## Drive Unit Specifications

Model		DMS-15	DMS-20	DMS-25	DMS-30	DMS-38	DMS-45
Drive unit outer diameter	mm	$\phi 160$	$\phi 210$	$\phi 260$	$\phi 310$	$\phi 390$	$\phi 460$
Drive unit height	mm	130	150	185	220	250	265
Drive unit weight	kg	7	14	25	40	70	110
Rated voltage	V	200					
Rated current	A	Horizontal		0.15	0.25	0.6	2.0
		Vertical		0.15	0.25	0.3	0.8
		0.8	0.8	2.0	2.0	2.0	2.0
Vibration frequency	Hz	100~180			70~110		
Unprocessed bowl diameter (cylindrical)	mm	$\phi 150$	$\phi 200$	$\phi 250$	$\phi 300$	$\phi 375$	$\phi 450$
Max. bowl diameter (cylindrical)	mm	$\phi 250$	$\phi 320$	$\phi 400$	$\phi 500$	$\phi 600$	$\phi 700$
Max. amplitude (Unprocessed cylindrical bowl periphery)	mm	Horizontal		0.6		1.0	
		Vertical		0.13		0.3	
Max. loaded weight (workpieces + bowl weight)	kg	2.3	4	8	12.5	17	26
Lead wire		5 x 0.5 mm <sup>2</sup> wire				5 x 0.75 mm <sup>2</sup> wire	
Applicable controller		C9-4DMB					

## Dimensions Chart

Model	H	$\phi A$	$\phi B$	M	$\phi D$	$\phi E$	$\phi d$	$\phi e$
DMS-15	127~130~133	160	150	M8	72	94	50	120
DMS-20	147~150~153	210	200	M10	100	130	70	160

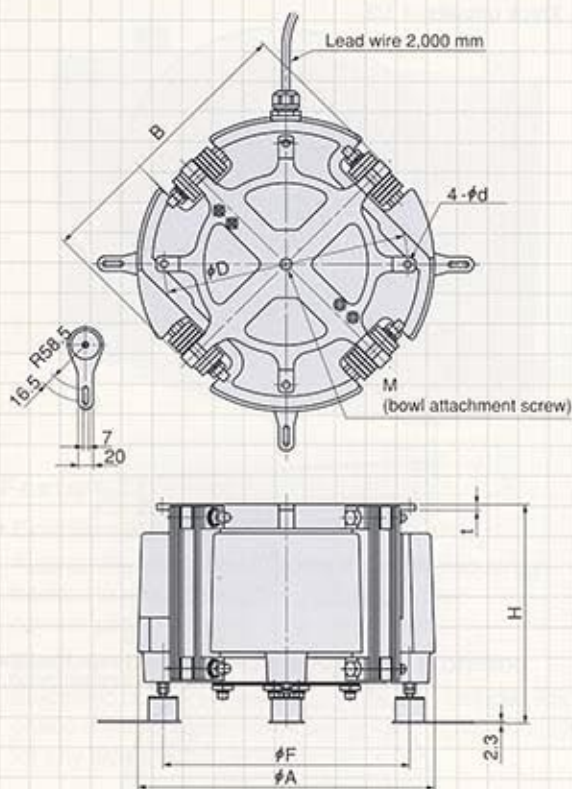
Model	H	$\phi A$	$\phi B$	M	$\phi F$	L	N	O	Q	$\phi D$	$\phi E$	$\phi d$	$\phi e$
DMS-25	182~185~188	260	250	M12	216	58	50	16	10	140	160	100	200
DMS-30	215~220~225	310	300	M12	252	85	75	20	20	172	192	140	240
DMS-38	245~250~255	390	380	M16	324	85	75	20	20	215	240	170	300
DMS-45	260~265~270	460	450	M16	390	85	75	20	20	270	300	210	350

Unit: mm

# DM series Drive Units

Can be used with DM series bowls only (see p7)

## DM-30B~45B Dimensions



## Drive Unit Specifications

Model		DM-30B	DM-38B	DM-45B
Drive unit outer diameter	mm	φ310	φ390	φ460
Drive unit height	mm	285~295	290~300	360~370
Drive unit weight	kg	55	80	140
Rated voltage	V		200	
Rated current	A			
	Horizontal	2.0	2.0	4.0
	Vertical	0.8	0.8	2.0
Vibration frequency	Hz		70~110	
Unprocessed bowl diameter (cylindrical)	mm	φ300	φ375	φ450
Max. bowl diameter (cylindrical)	mm	φ500	φ600	φ700
Max. amplitude (Unprocessed cylindrical bowl periphery)	mm			
	Horizontal	1.8		2.0
	Vertical		0.3	
Max. loaded weight	kg	9.2	17.0	27.5
Lead wire			5 x 1.25 mm <sup>2</sup> wire	
Applicable controller			C9-4DMB	

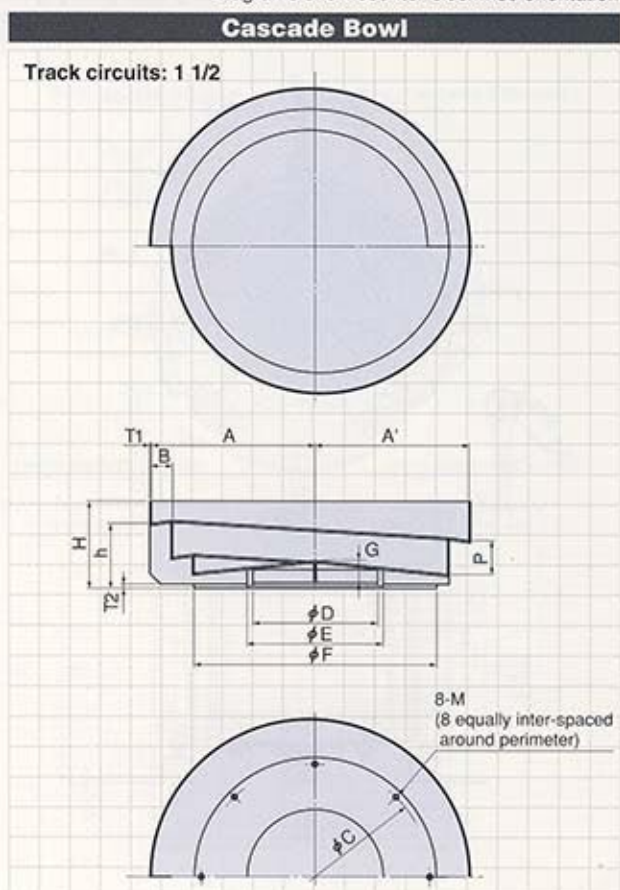
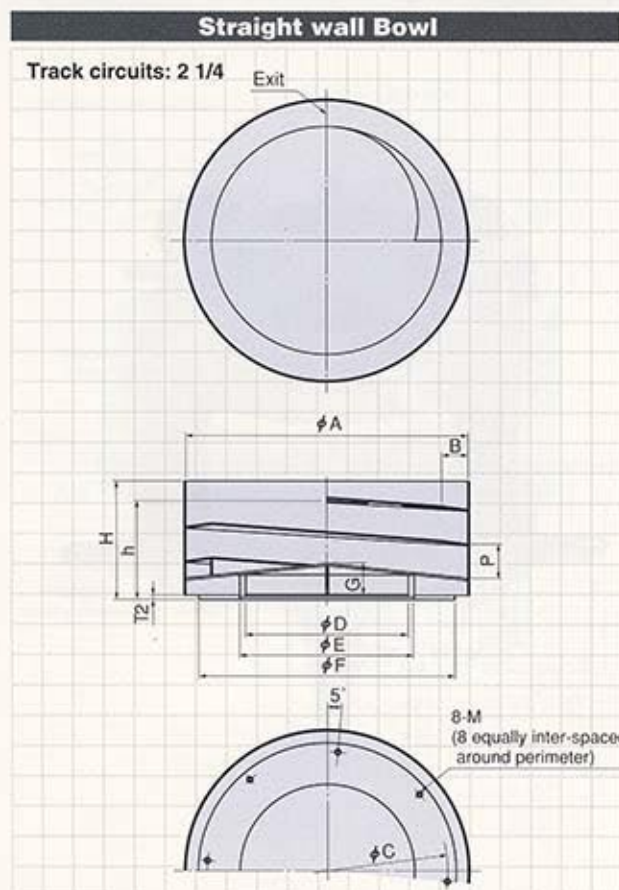
## Dimensions Chart

Model	H	φA	B	M	φD	φd	t	φF
DM-30B	285~295	310	290	M12	270	10	8	252
DM-38B	290~300	390	370	M16	320	10	8	324
DM-45B	360~370	460	440	M16	365	12	10	390

Unit: mm

# Bowl Dimensions

Diagrams show counter-clockwise orientation



## Straight wall Bowl Dimensions Chart

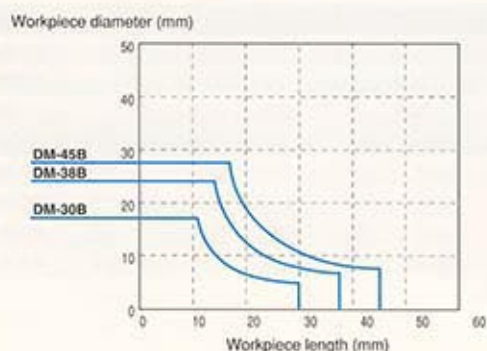
Model	$\phi A$	B	$\phi C$	$\phi D$	$\phi E$	$\phi F$	G	H	h	M	P	T2	Approx. weight (kg)	Charged capacity ( $\beta$ )
DM-30B	300	25	270	174.7	190.7	290	40	129	105	M8	36	6	6.5	0.8
DM-38B	375	35	320	216	232	340	48	159	133	M8	46	6	10.0	1.7
DM-45B	450	40	365	282.5	298.5	390	60	197	163	M10	56	9	18.0	3.0

## Cascade Bowl Dimensions Chart

Model	A	A'	B	$\phi C$	$\phi D$	$\phi E$	$\phi F$	G	H	h	M	P	T1	T2	Approx. weight (kg)	Charged capacity ( $\beta$ )
DM-30B	180	167.5	25	270	143	159	290	32	99	74	M8	38	2	6	5.5	1.6
DM-38B	230	215	30	320	174.7	190.7	340	40	124	92	M8	48	2	6	8.5	3.5
DM-45B	280	260	40	365	216	232	390	51	157	116	M10	58	2	9	13.5	6.0

- Notes
- \*1 Bowls are made of stainless steel.
  - \*2 Bowls available with clockwise or counter-clockwise orientation.
  - \*3 Charged capacity varies according to the type of workpiece.
  - \*4 When supplied unprocessed, neither inside nor outside has been surface-treated.
  - \*5 When supplying processed, specialized bowls other than standard bowls above can be manufactured.

## Straight wall Bowl Selection Guide



## Cascade Bowl Selection Guide

