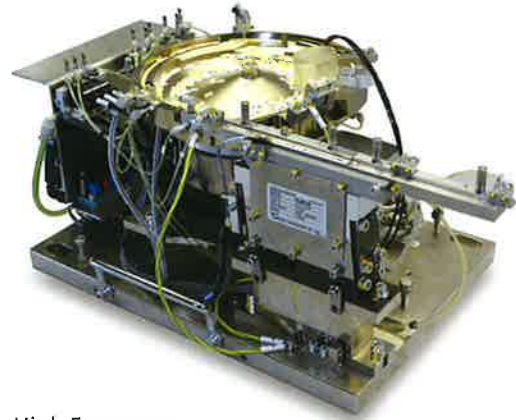


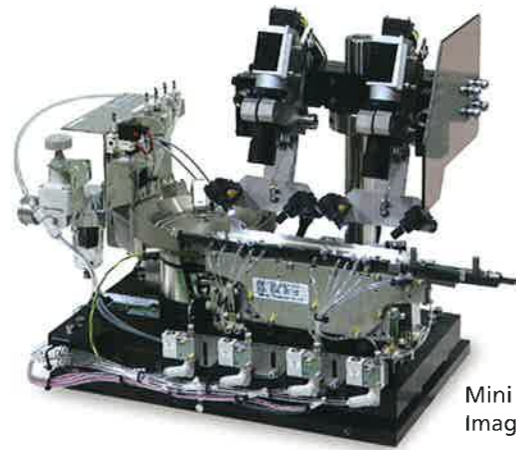
Example of equipment layouts for different types of workpiece



High Frequency
Mini Parts Feeder unit for chip LED



Mini Parts Feeder unit for
Ultra Thin Material



Mini Parts Feeder unit with
Image Processing System

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PARTS FEEDER



SINFONIA

SINFONIA TECHNOLOGY CO., LTD.
Formerly SHINKO ELECTRIC CO., LTD.



DUAL MOTION PARTS FEEDERS

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DUAL MOTION PARTS FEEDERS

DM/DMS Series



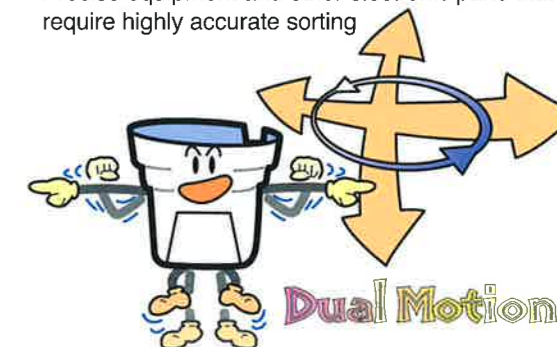
Realizing Fast, Quiet, and Smooth volumetric feeding

Features

- Handling components are transported without bouncing while it is operating by adjusting as lowest vertical amplitude as possible.
- Very quiet operation noise because of smooth transportation without bouncing on bowl surface.
- Capable to replace with EA/ER series driving part.

Applications

- Plastic, easily damaged workpieces for medical and electronic equipment
- For low-noise handling of auto automobile parts or other metal parts
- Precise 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. |

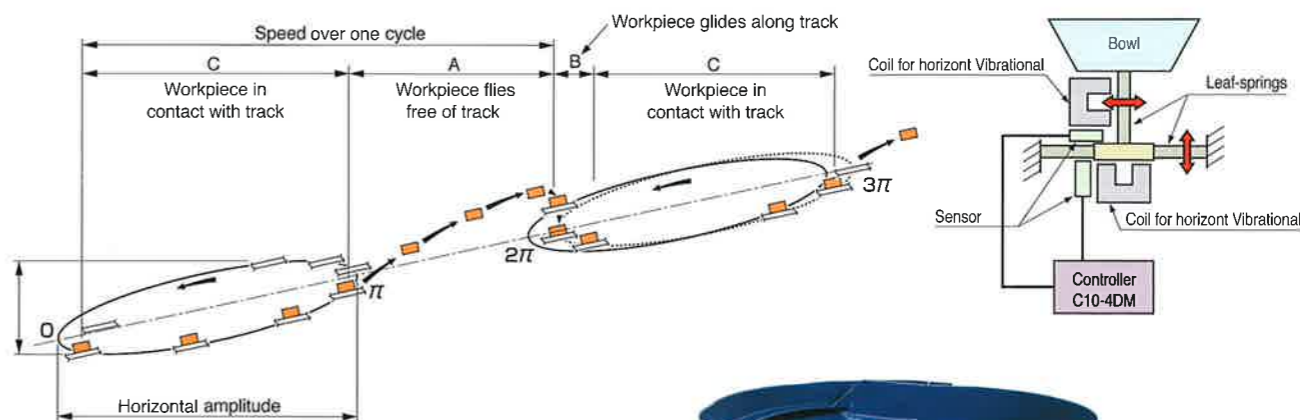
Dual Motion Principle

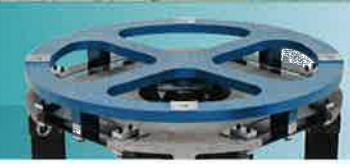
Friction (transport) controlled through elliptical vibration

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.

Applied Dual Motion Structure

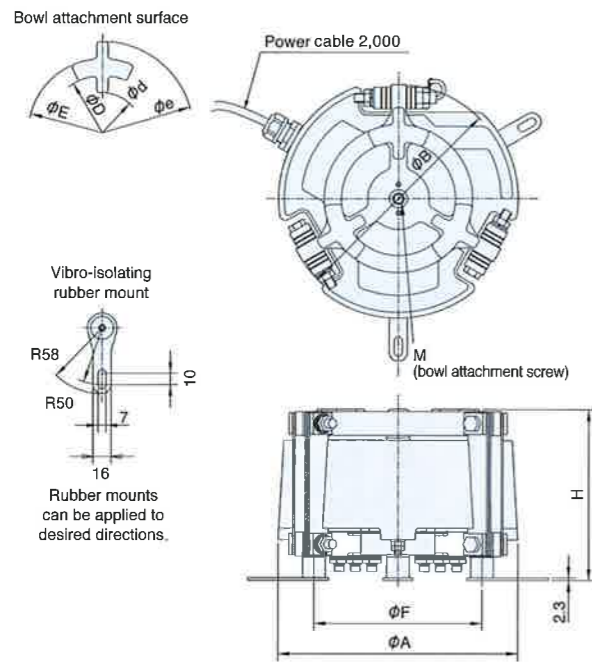
Dual motion is generated in these parts feeders through feedback of vibration in the horizontal and vertical directions, as shown in the diagram. Sensors detect horizontal and vertical amplitude, thereby allowing separate control.



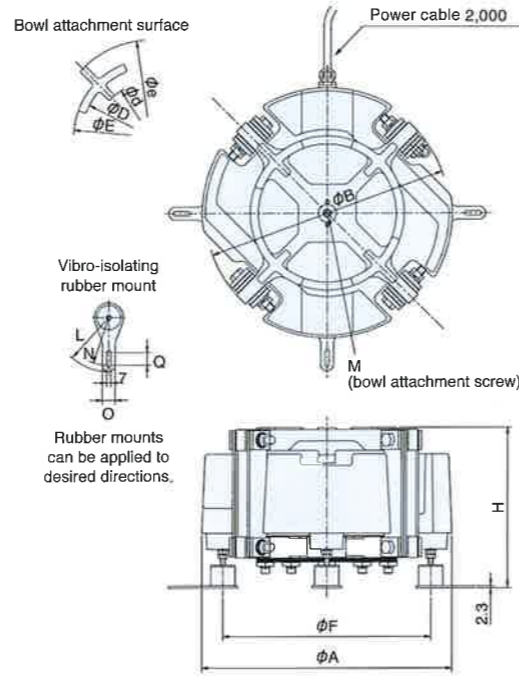


Dimensions Accommodates bowls designed for EA and ER and DMS series (see P.11-12) Unit: mm

DMS-15C/20C



DMS-25C ~ 45C



Drive Unit Specifications

| Model | DMS-15C | DMS-20C | DMS-25C | DMS-30C | DMS-38C | DMS-45C | |
|---|-----------------|----------------|------------|------------|------------|------------|------------|
| 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 | 0.18 | 0.3 | 0.6 | 2.0 | 2.0 |
| | | Vertical | 0.18 | 0.3 | 0.3 | 0.8 | 0.8 |
| 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 |
| Cross section area of power cable | mm ² | 0.75 x 5 cores | | | | | |
| Applicable controller | | C10-4DM | | | | | |

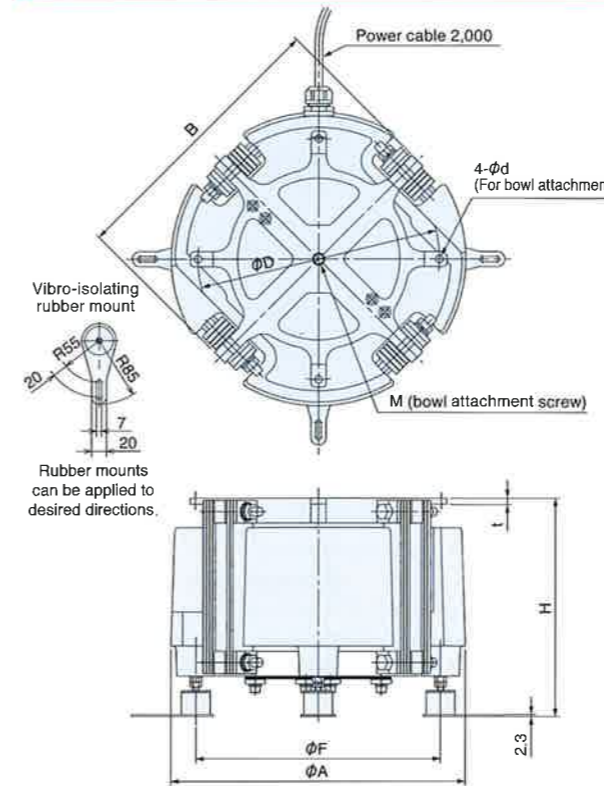
Dimensions Chart

| Model | H | ϕA | ϕB | M | ϕD | ϕE | ϕF | ϕd | ϕe |
|---------|-------------|----------|----------|-----|----------|----------|----------|----------|----------|
| DMS-15C | 127~130~133 | 160 | 150 | M8 | 72 | 94 | 130 | 50 | 120 |
| DMS-20C | 147~150~153 | 210 | 200 | M10 | 100 | 130 | 170 | 70 | 160 |

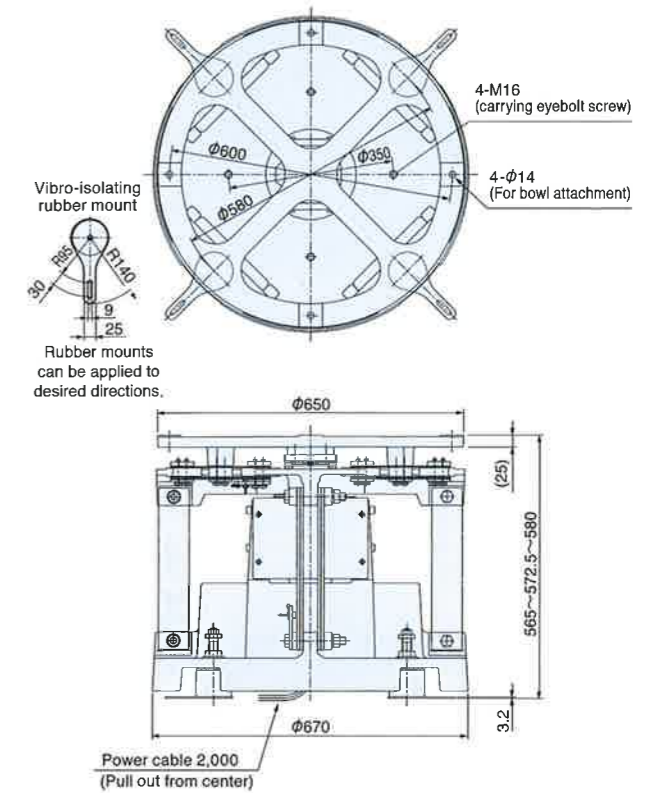
| Model | H | ϕA | ϕB | M | ϕF | L | N | O | Q | ϕD | ϕE | ϕd | ϕe |
|---------|-------------|----------|----------|-----|----------|----|----|----|----|----------|----------|----------|----------|
| DMS-25C | 182~185~188 | 260 | 250 | M12 | 216 | 58 | 50 | 16 | 10 | 140 | 160 | 100 | 200 |
| DMS-30C | 215~220~225 | 310 | 300 | M12 | 252 | 85 | 75 | 20 | 20 | 172 | 192 | 140 | 240 |
| DMS-38C | 245~250~255 | 390 | 380 | M16 | 324 | 85 | 75 | 20 | 20 | 215 | 240 | 170 | 300 |
| DMS-45C | 260~265~270 | 460 | 450 | M16 | 390 | 85 | 75 | 20 | 20 | 270 | 300 | 210 | 350 |

Dimensions Can be used with DM series bowls only (see P.5) Unit: mm

DM-30C ~ 45C



DM-65C



Drive Unit Specifications

| Model | DM-30C | DM-38C | DM-45C | DM-65C | | |
|---|-----------------|----------------|------------|------------|-------------|-----|
| Drive unit outer diameter | mm $\phi 310$ | $\phi 390$ | $\phi 460$ | $\phi 670$ | | |
| Drive unit height | mm 290 | 295 | 365 | 572.5 | | |
| Drive unit weight | kg 55 | 80 | 140 | 320 | | |
| Rated voltage | V 200 | | | | | |
| Rated current | A | Horizontal | 2.0 | 2.0 | 4.0 | 4.0 |
| | | Vertical | 0.8 | 0.8 | 2.0 | 2.0 |
| Vibration frequency | Hz | 70~110 | | 30~40 | | |
| Unprocessed bowl diameter (cylindrical) | mm | $\phi 300$ | $\phi 375$ | $\phi 450$ | $\phi 650$ | |
| Max. bowl diameter (cylindrical) | mm | $\phi 500$ | $\phi 600$ | $\phi 700$ | $\phi 1000$ | |
| Max. amplitude (Unprocessed cylindrical bowl periphery) | mm | Horizontal | 1.8 | | 2.0 | 4.0 |
| | | Vertical | 0.3 | | 0.3 | 1.0 |
| Max. loaded weight | kg | 9.2 | 17.0 | 27.5 | 70.0 | |
| Cross section area of power cable | mm ² | 0.75 x 5 cores | | | | |
| Applicable controller | | C10-4DM | | | | |

Dimensions Chart

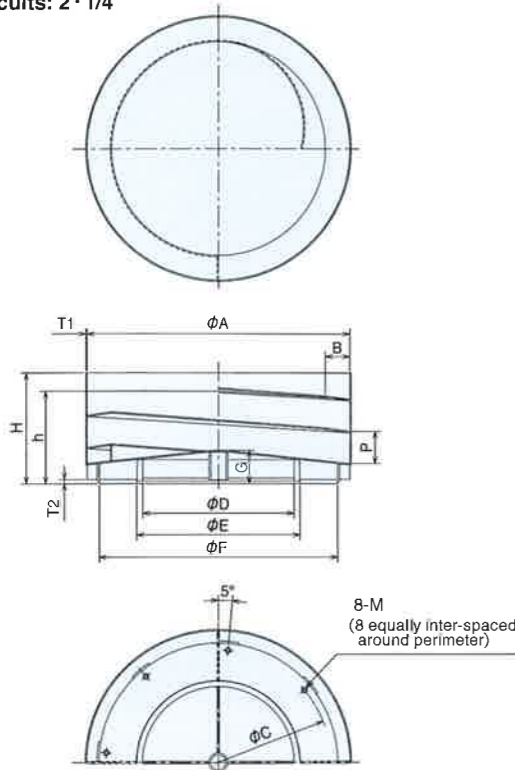
| Model | H | ϕA | B | M | ϕD | ϕd | t | ϕF |
|--------|-------------|----------|-----|-----|----------|----------|----|----------|
| DM-30C | 285~290~295 | 310 | 290 | M12 | 270 | 10 | 8 | 252 |
| DM-38C | 290~295~300 | 390 | 370 | M16 | 320 | 10 | 8 | 324 |
| DM-45C | 360~365~370 | 460 | 440 | M16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

Diagrams show counter-clockwise orientation

Dimensions

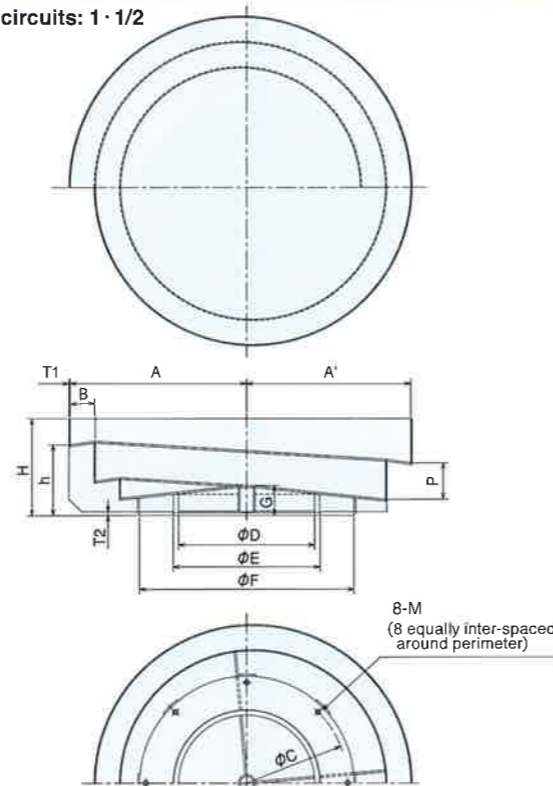
Straight wall Bowl

Track circuits: 2 · 1/4



Cascade Bowl

Track circuits: 1 · 1/2



Dimensions Chart

Unit: mm

Straight wall Bowl

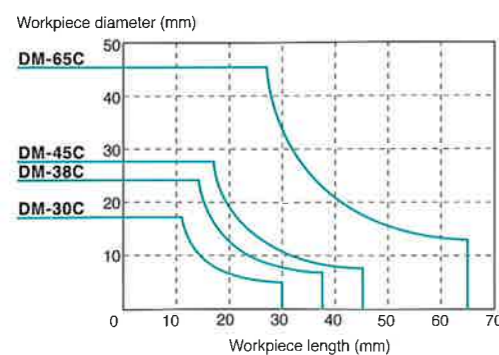
| Model | φA | B | φC | φD | φE | φF | G | H | h | M | P | T1 | T2 | Approx. weight (kg) | Capacity (ℓ) |
|--------|-----|----|-----|-------|-------|-----|----|-----|-------|-----|----|----|----|---------------------|--------------|
| DM-30C | 300 | 25 | 270 | 174.7 | 190.7 | 290 | 40 | 129 | 105 | M8 | 36 | 2 | 6 | 6.5 | 0.8 |
| DM-38C | 375 | 35 | 320 | 216 | 232 | 340 | 48 | 159 | 133 | M8 | 46 | 2 | 6 | 10.0 | 1.7 |
| DM-45C | 450 | 40 | 365 | 282.5 | 298.5 | 390 | 60 | 197 | 163 | M10 | 56 | 3 | 9 | 18.0 | 3.0 |
| DM-65C | 650 | 65 | 600 | 363.6 | 406.4 | 630 | — | 302 | 249.5 | M12 | 90 | 3 | 12 | 54.0 | 10.0 |

Cascade Bowl

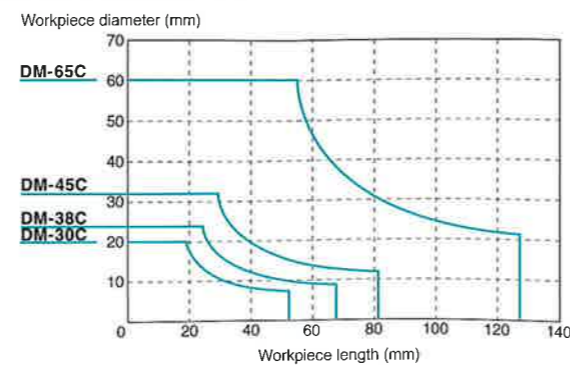
| Model | A | A' | B | φC | φD | φE | φF | G | H | h | M | P | T1 | T2 | Approx. weight (kg) | Capacity (ℓ) |
|--------|-----|-------|----|-----|-------|-------|-----|----|-----|-----|-----|-----|----|----|---------------------|--------------|
| DM-30C | 180 | 167.5 | 25 | 270 | 143 | 159 | 290 | 32 | 99 | 74 | M8 | 38 | 2 | 6 | 5.5 | 1.6 |
| DM-38C | 230 | 215 | 30 | 320 | 174.7 | 190.7 | 340 | 40 | 124 | 92 | M8 | 48 | 2 | 6 | 8.5 | 3.5 |
| DM-45C | 280 | 260 | 40 | 365 | 216 | 232 | 390 | 51 | 157 | 116 | M10 | 58 | 2 | 9 | 13.5 | 6.0 |
| DM-65C | 445 | 405 | 80 | 600 | 363.6 | 406.4 | 630 | — | 267 | 197 | M12 | 100 | 3 | 12 | 52.0 | 18.0 |

Notes *1 Standard bowl material is 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

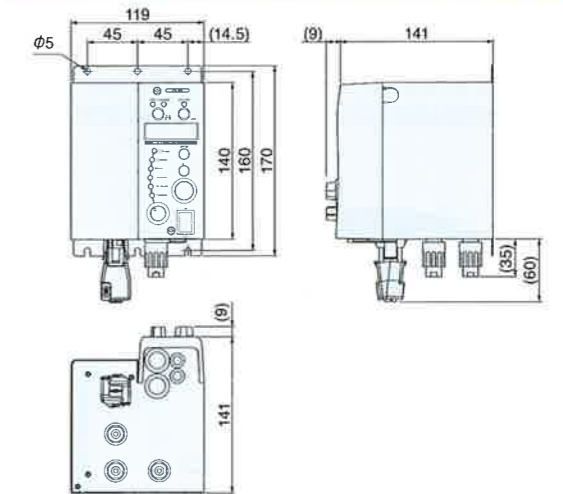


Cascade Bowl Selection Guide



Dimensions

Unit: mm



Easy operation !



Features

- Simple and easy start up**
Stroke sensor gain adjustment is not required. Just by selecting a drive unit model at the initial setting stage, necessary parameters are set automatically.
- Easy operation**
'Selection Dial' and 'Setting Encoder' allow anyone to operate easily.
- Save more space**
This controller has the same dimensions as C10-5VF/5VFEF and the footprint is reduced by 36% from the previous model.

- Easy wiring**
Between a driving unit and a controller are connected by connectors.
- Energy-saving auto-tuning**
Auto tuning function reduces power consumption by tracking the resonance point and keeping vibration frequency on it continuously.
- Electronic control gives optimal vibration**
Electronic control of horizontal/vertical amplitudes and phase difference provides ideal vibration characteristics for any type of workpiece.

Specifications

| Model | C10-4DM | |
|----------------------|---|--|
| Input power | AC200-230V ±10%, 50/60Hz | |
| Control system | PWM system | |
| Output | Voltage | 0~190V |
| | Vibration frequency | 28~45Hz 65~120Hz 90~180Hz |
| | Max. current | horizontal: 4A vertical: 2A |
| Operating mode | Standard mode | With automatic resonant frequency tuning function on horizontal amplitude, the controller controls constant amplitude without frequency setting. |
| | Additional features | Gap of horizontal and vertical amplitude adjusted to constant amplitude. |
| Additional features | Constant phase control | Choice of 4 pre-set speeds by external signal |
| | Speed selection | Stops and starts by external signal |
| | Start/Stop control | Outputs signal synchronized with parts feeder |
| | Output signal | Start-up time 0.2~4.0 seconds |
| | Soft start | Delay time 0.2~60 seconds |
| | On/Off delay timer | 3P power plug gives DC12V, max. 80mA |
| | On/Off delay timer | Power source synchronized to parts feeder operation (RUN) |
| | Synchronized power source | Function |
| Other | Control system | Same as power source input to controller |
| | Output voltage | 2A |
| | Max. current | Over 1000V |
| | Noise resistant voltage | 0~40°C |
| | Ambient temperature range | 10~90% (No condensation) |
| | Ambient humidity range | Indoor (Place where no corrosive gas, and dust.) |
| | Applicable Space | Japan Paint Industry Association U75-70D |
| Color of case | 2.0kg | |
| Weight | | |
| Compatible equipment | DM-30C, 38C, 45C, 65C DMS-15C, 20C, 25C, 30C, 38C, 45C | |

PARTS FEEDERS

EA Series 100~180Hz



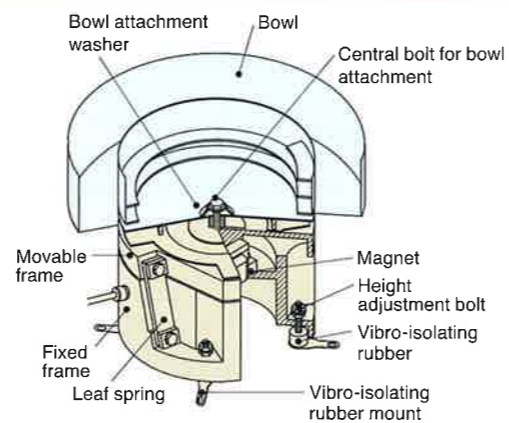
Pictures show counter-clockwise orientation

For handling a wide range of very small, precision workpieces

With high vibration frequencies of 100 to 180 Hz and small amplitude of 0.6 mm, this series is ideal for very small (10 mm or less), high precision or ultra thin workpieces. Can accommodate bowls ranging from 150 to 700 mm in diameter for highly reliable conveyance.



EA/ER Series Structural Diagram



Specifications

| Model | EA-15B | EA-20B | EA-25 | EA-30 | EA-38 | EA-45 | |
|---|-----------------|----------------------|-------|----------------------|----------------|-------|-----|
| Drive unit outer diameter | mm | φ165 | φ210 | φ260 | φ310 | φ460 | |
| Drive unit height | mm | 133 | 155 | 190 | 220 | 280 | |
| Drive unit weight | kg | 8 | 16 | 30 | 48 | 115 | |
| Leaf-spring attachment angle | degree | 15 | | | | | |
| Rated voltage | V | 200 (*1) | | | | | |
| Rated current | A | 0.35 | 0.8 | 1.5 | 2.0 | 2.5 | 3.0 |
| Vibration frequency | Hz | 100~180 | | | | | |
| Unprocessed bowl diameter (cylindrical) | mm | 150 | 200 | 250 | 300 | 375 | 450 |
| Max. bowl diameter (cylindrical) | mm | 250 | 330 | 420 | 500 | 600 | 700 |
| Max. amplitude (periphery of standard cylindrical bowl) | mm | 0.6 | | | 0.8 | | |
| Max. loaded weight (workpieces + bowl weight) | kg | 2.3 | 4 | 8 | 12.5 | 17 | 26 |
| Cross section area of power cable | mm ² | 0.75 x 3 cores | | | 1.25 x 3 cores | | |
| Compatible controllers | AC200V | C10-1VF/1VFEF | | C10-3VF/3VFEF | | | |
| | AC100V | C10-1VF/1VFEF+C10-TR | | C10-3VF/3VFEF+C10-TR | | | |

Note *1 With an AC100V power source, use optional C10-TR transformer.

PARTS FEEDERS

ER Series 50~90Hz



Pictures show counter-clockwise orientation

Steady feeding of various sizes of workpieces

With low vibration frequencies of 50 to 90Hz and a large amplitude of 1.2 mm, this series is suited to workpieces from 10 mm up in size. Bowl diameters from 250 to 1100 mm can be accommodated, to give powerful feeder performance.



Specifications

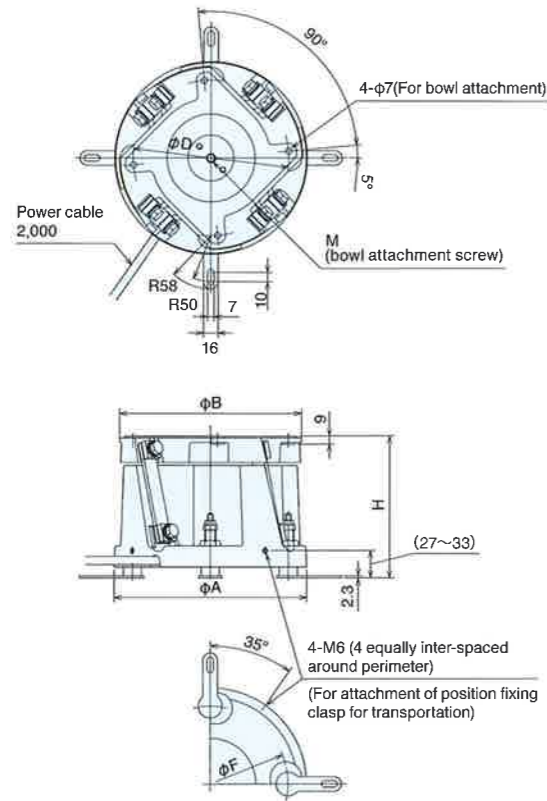
| Model | ER-25B | ER-30B | ER-38B | ER-45B | ER-55B | ER-65B | ER-75B |
|---|-----------------|---------------|----------------------|---------------|--------|---------------|--------|
| Drive unit outer diameter | mm | φ260 | φ310 | φ390 | φ460 | φ560 | φ760 |
| Drive unit height | mm | 198 | 225 | 264 | 286 | 321 | 321 |
| Drive unit weight | kg | 30 | 48 | 81 | 115 | 160 | 260 |
| Leaf-spring attachment angle | degree | 20 | | | | | |
| Rated voltage | V | 200 (*1) | | | | | |
| Rated current | A | 1.0 | 1.5 | 2.0 | 2.5 | 5.0 | 5.0 |
| Vibration frequency | Hz | 50~90 | | | | | |
| Unprocessed bowl diameter (cylindrical) | mm | 250 | 300 | 375 | 450 | 550 | 650 |
| Max. bowl diameter (cylindrical) | mm | 420 | 500 | 600 | 700 | 830 | 980 |
| Max. amplitude (periphery of standard cylindrical bowl) | mm | 1.2 | | | 1.4 | | |
| Max. loaded weight (workpieces + bowl weight) | kg | 8 | 12.5 | 17 | 26 | 70 | 85 |
| Cross section area of power cable | mm ² | 0.75 x 3cores | | 1.25 x 3cores | | 2.0 x 3cores | |
| Compatible controllers | AC200V | C10-1VF/1VFEF | C10-3VF/3VFEF | | | C10-5VF/5VFEF | |
| | AC100V | *2 | C10-3VF/3VFEF+C10-TR | | | — | |

Notes *1 With an AC100V power source, use optional C10-TR transformer.
*2 C10-1VF/1VFEF+C10-TR

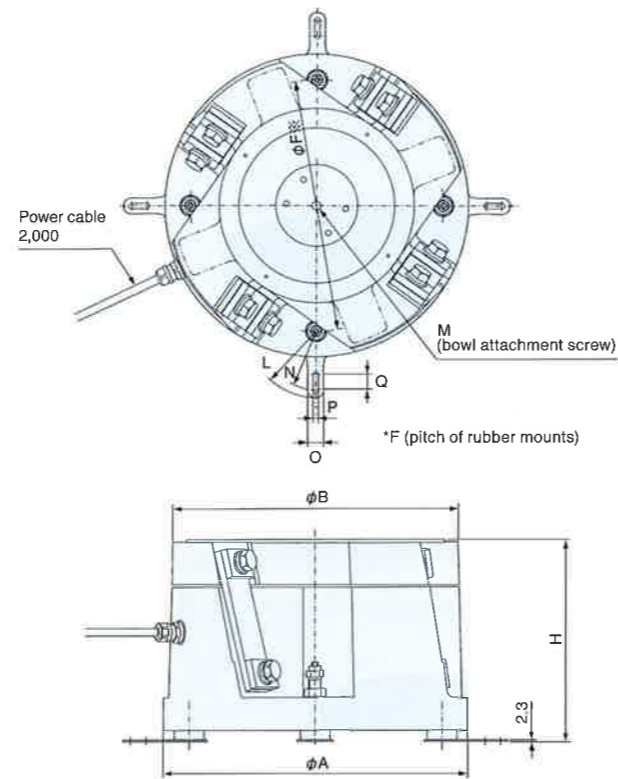
Dimensions

Unit: mm

EA-15B/20B



EA-25/30/38/45



Dimensions Chart

Unit: mm

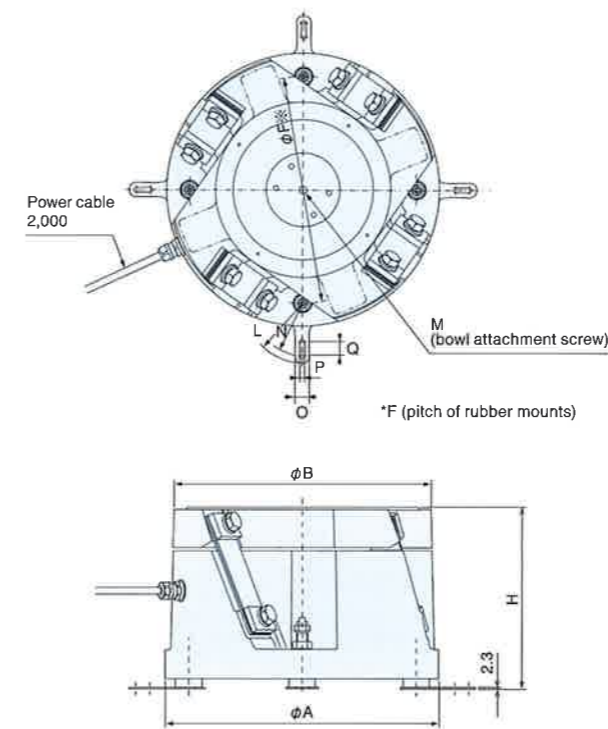
| Model | H | ϕA | ϕB | M | ϕF |
|--------|-------------|----------|----------|-----|----------|
| EA-15B | 130-133-136 | 165 | 150 | M8 | 130 |
| EA-20B | 152-155-158 | 210 | 200 | M10 | 170 |

| Model | H | ϕA | ϕB | M | ϕF | L | N | O | P | Q |
|-------|-------------|----------|----------|-----|----------|----|----|----|---|----|
| EA-25 | 187-190-193 | 260 | 250 | M12 | 216 | 58 | 50 | 16 | 7 | 10 |
| EA-30 | 215-220-225 | 310 | 300 | M12 | 252 | 85 | 75 | 20 | 7 | 20 |
| EA-38 | 255-260-265 | 390 | 375 | M16 | 324 | 85 | 75 | 20 | 7 | 20 |
| EA-45 | 275-280-285 | 460 | 450 | M16 | 390 | 85 | 75 | 20 | 7 | 20 |

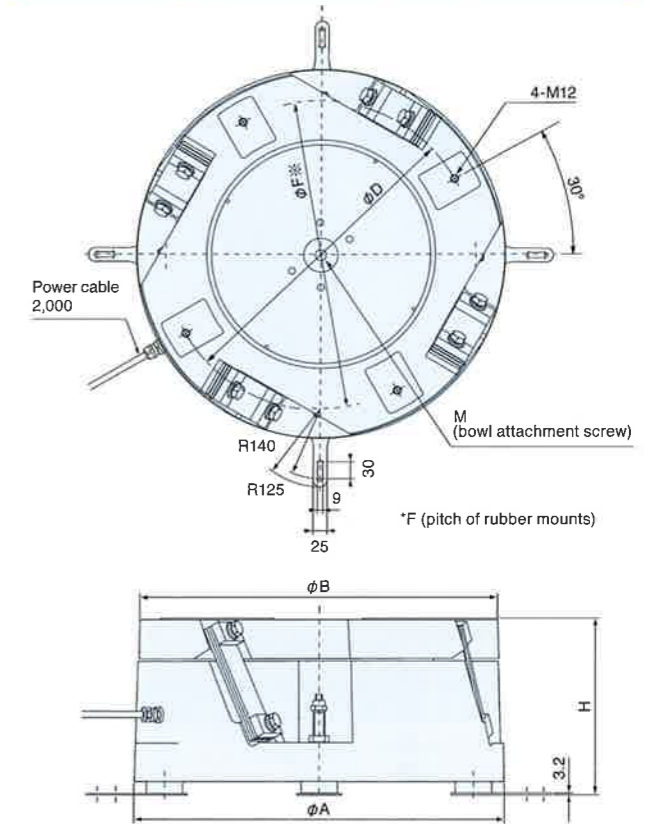
Dimensions

Unit: mm

ER-25B/30B/38B/45B

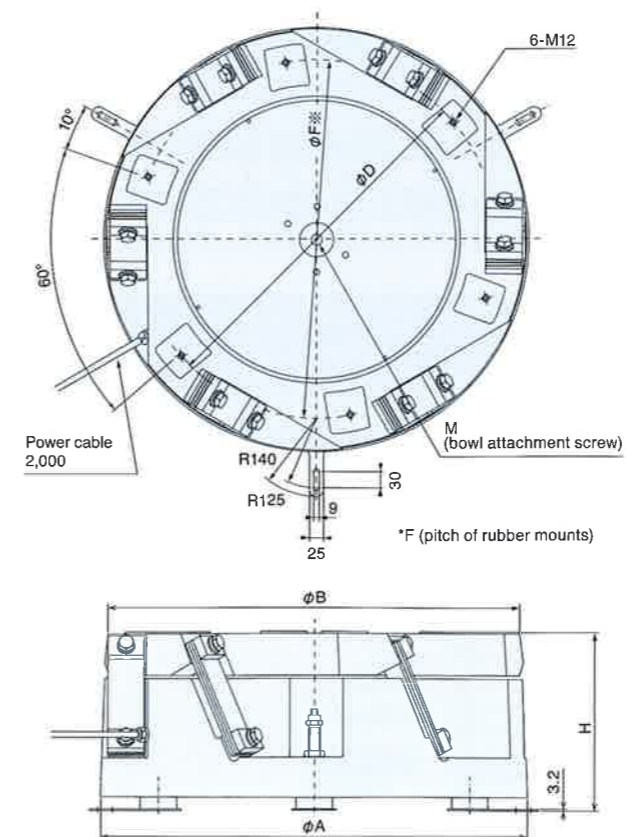


ER-55B/65B



Rubber mounts can be adjusted for any desired direction.

ER-75B



Dimensions Chart

Unit: mm

| Model | H | ϕA | ϕB | M | ϕF | L | N | O | P | Q |
|--------|-------------|----------|----------|-----|----------|----|----|----|---|----|
| ER-25B | 194-198-202 | 260 | 250 | M12 | 216 | 58 | 50 | 16 | 7 | 10 |
| ER-30B | 218-225-232 | 310 | 300 | M12 | 252 | 85 | 75 | 20 | 7 | 20 |
| ER-38B | 257-264-271 | 390 | 375 | M16 | 324 | 85 | 75 | 20 | 7 | 20 |
| ER-45B | 280-286-292 | 460 | 450 | M16 | 390 | 85 | 75 | 20 | 7 | 20 |

| Model | H | ϕA | ϕB | ϕD | M | ϕF |
|--------|-------------|----------|----------|----------|-----|----------|
| ER-55B | 312-321-330 | 560 | 550 | 460 | M20 | 450 |
| ER-65B | 312-321-330 | 660 | 650 | 580 | M20 | 550 |
| ER-75B | 312-321-330 | 760 | 750 | 640 | M20 | 640 |

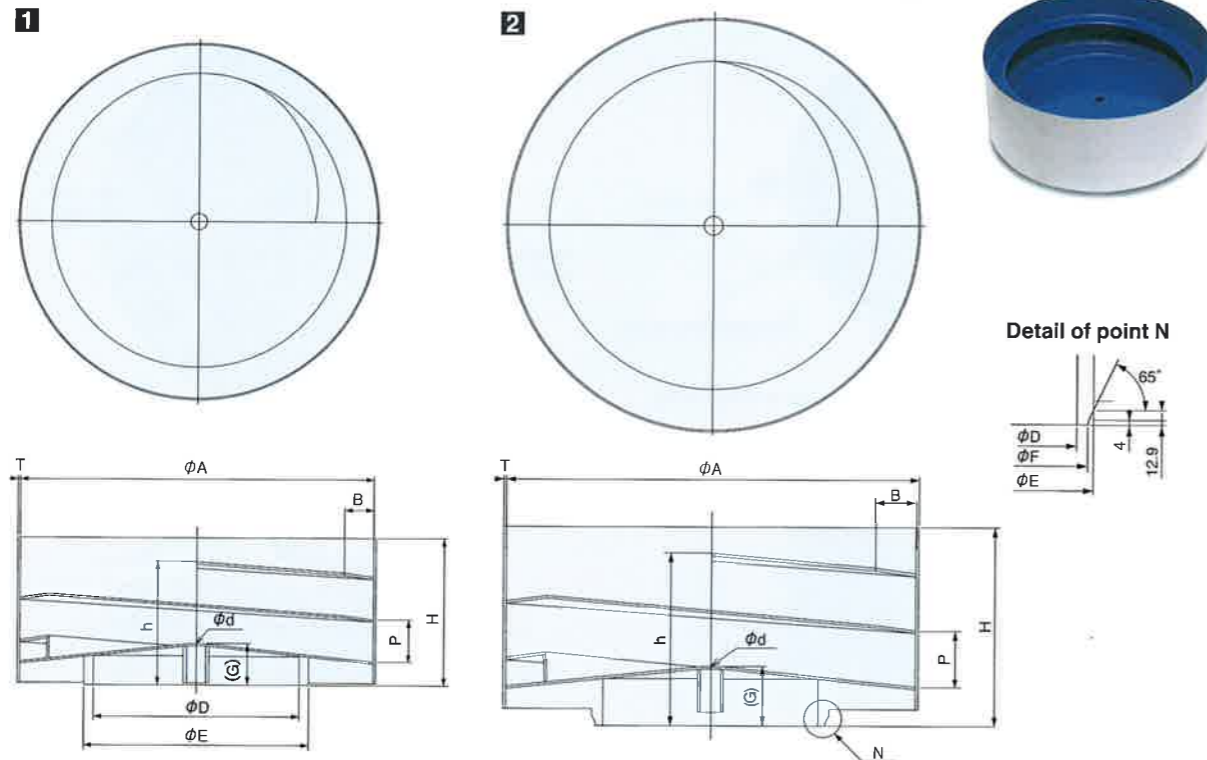
Diagrams show counter-clockwise orientation

Dimensions

Unit: mm

Straight Wall Bowls

Track circuits: 2 · 1/4



Dimensions Chart

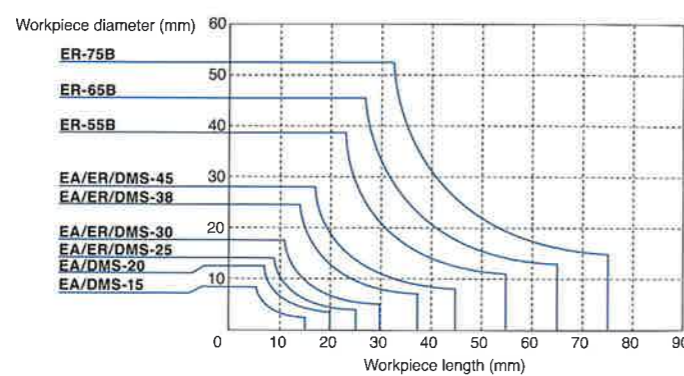
Unit: mm

| Model | ϕA | B | ϕD | ϕE | G | H | P | h | ϕd | T | Approx. Weight (kg) | Capacity (ℓ) |
|--------------|-----|----|-------|-------|----|-----|----|-----|------|-----|---------------------|--------------|
| EA/DMS-15 | 150 | 12 | 73.1 | 89.1 | 22 | 70 | 18 | 56 | 8.2 | 1.5 | 1.1 | 0.1 |
| EA/DMS-20 | 200 | 18 | 104 | 120 | 25 | 85 | 24 | 69 | 10.2 | 1.5 | 1.8 | 0.2 |
| EA/ER/DMS-25 | 250 | 20 | 143 | 159 | 27 | 100 | 30 | 83 | 12.2 | 2 | 3.2 | 0.5 |
| EA/ER/DMS-30 | 300 | 25 | 174.7 | 190.7 | 35 | 125 | 36 | 101 | 12.2 | 2 | 5.0 | 0.8 |
| EA/ER/DMS-38 | 375 | 35 | 216 | 232 | 43 | 155 | 46 | 129 | 16.2 | 2 | 8.0 | 1.7 |
| EA/ER/DMS-45 | 450 | 40 | 282.5 | 298.5 | 52 | 190 | 56 | 156 | 16.2 | 3 | 15.0 | 3.0 |

| Model | ϕA | B | ϕD | ϕE | ϕF | G | H | P | h | ϕd | T | Approx. Weight (kg) | Capacity (ℓ) |
|--------|-----|----|-------|-------|-------|----|-----|-----|-----|----|---|---------------------|--------------|
| ER-55B | 550 | 55 | 288.5 | 318.5 | 309.2 | 78 | 266 | 76 | 221 | 25 | 3 | 28 | 5 |
| ER-65B | 650 | 65 | 373 | 406.4 | 397.2 | 88 | 311 | 90 | 258 | 25 | 3 | 39 | 10 |
| ER-75B | 750 | 75 | 477.8 | 508 | 498.7 | 99 | 366 | 108 | 303 | 25 | 3 | 54 | 15 |

Notes 1) Bowls are made of stainless steel, and standard color is differ from color of pictures above. 2) Bowls available with clockwise or counter-clockwise orientation. 3) Capacity varies according to the type of workpiece. *When supplied unprocessed, neither inside nor outside has been surface-treated.

Straight wall Bowl Selection Guide



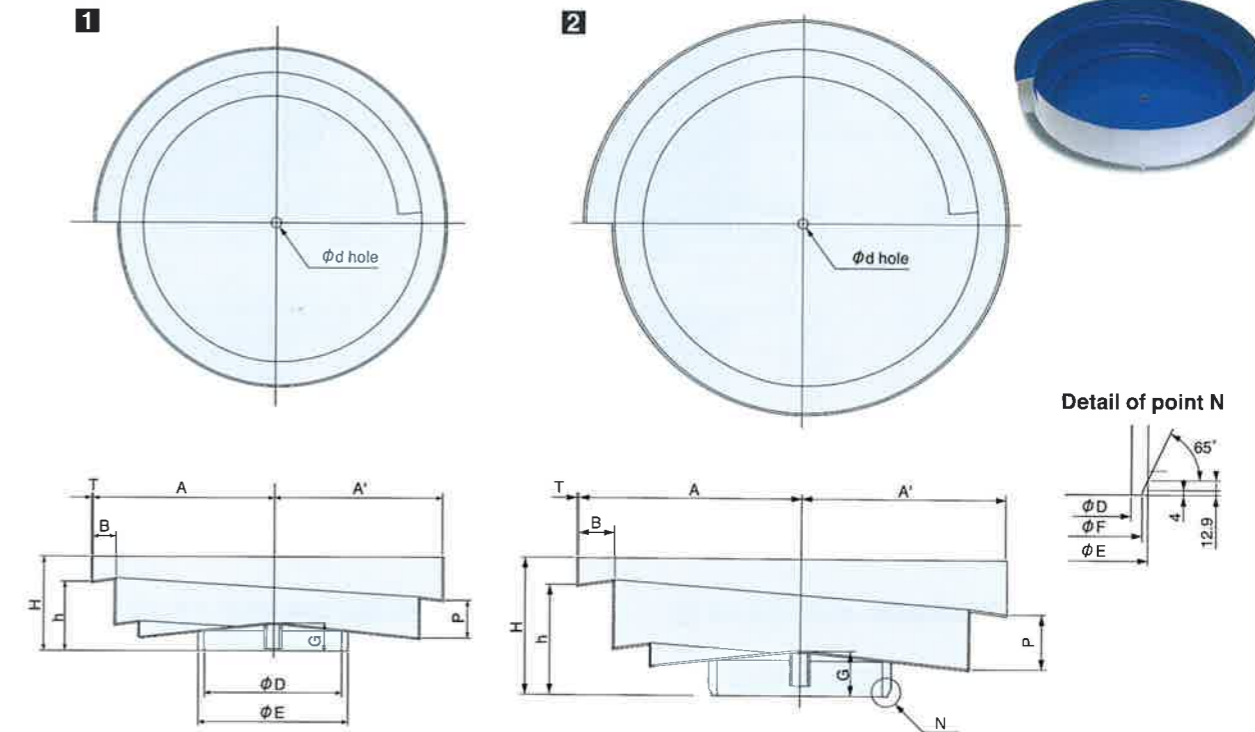
Diagrams show counter-clockwise orientation

Dimensions

Unit: mm

Cascade Bowl

Track circuits: 1 · 1/2



Dimensions Chart

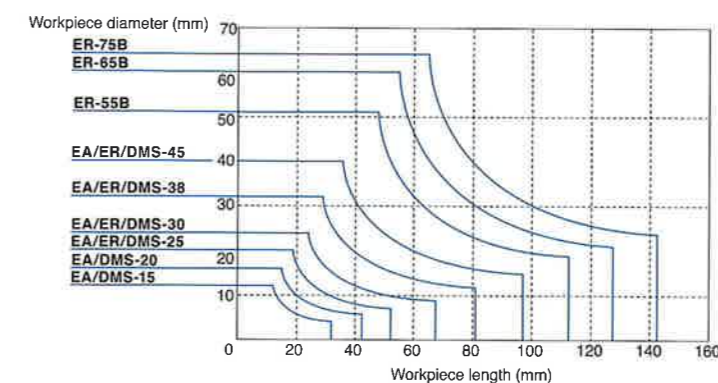
Unit: mm

| Model | Approx. diameter | A | A' | B | H | h | P | ϕd | ϕD | ϕE | G | T | Approx. Weight (kg) | Capacity (ℓ) |
|--------------|------------------|-----|-------|----|-----|-----|----|------|-------|-------|----|---|---------------------|--------------|
| EA/DMS-15 | 215 | 110 | 102.5 | 15 | 65 | 50 | 24 | 8.2 | 73.1 | 89.1 | 23 | 2 | 1.3 | 0.4 |
| EA/DMS-20 | 280 | 145 | 135 | 20 | 80 | 59 | 30 | 10.2 | 104 | 120 | 26 | 2 | 2.2 | 0.8 |
| EA/ER/DMS-25 | 350 | 180 | 167.5 | 25 | 95 | 70 | 38 | 12.2 | 143 | 159 | 28 | 2 | 3.3 | 1.6 |
| EA/ER/DMS-30 | 450 | 230 | 215 | 30 | 120 | 88 | 48 | 12.2 | 174.7 | 190.7 | 36 | 2 | 5.4 | 3.5 |
| EA/ER/DMS-38 | 540 | 280 | 260 | 40 | 150 | 109 | 58 | 16.2 | 216 | 232 | 45 | 2 | 8 | 6 |
| EA/ER/DMS-45 | 650 | 335 | 310 | 50 | 185 | 135 | 72 | 16.2 | 282.5 | 298.5 | 54 | 3 | 16 | 10 |

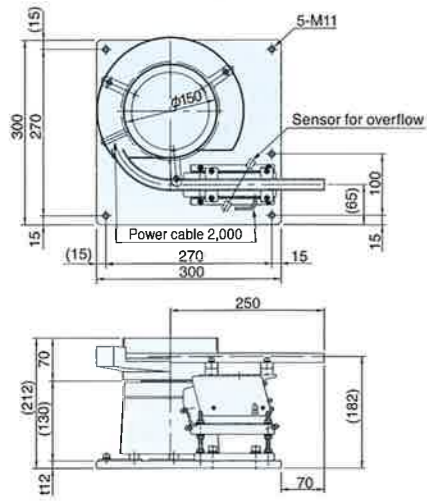
| Model | Approx. diameter | A | A' | B | H | h | P | ϕd | ϕD | ϕE | ϕF | G | T | Approx. Weight (kg) | Capacity (ℓ) |
|--------|------------------|-----|-----|----|-----|-----|-----|----|-------|-------|-------|----|---|---------------------|--------------|
| ER-55B | 750 | 390 | 358 | 64 | 240 | 193 | 96 | 25 | 288.5 | 318.5 | 309.2 | 78 | 3 | 26 | 17 |
| ER-65B | 850 | 445 | 405 | 80 | 306 | 236 | 120 | 25 | 373 | 406.4 | 397.2 | 88 | 3 | 37 | 20 |
| ER-75B | 950 | 495 | 455 | 80 | 346 | 256 | 130 | 25 | 477.8 | 508 | 498.7 | 99 | 3 | 47 | 25 |

Notes 1) Bowls are made of stainless steel, and standard color is differ from color of pictures above. 2) Bowls available with clockwise or counter-clockwise orientation. 3) Capacity varies according to the type of workpiece. *When supplied unprocessed, neither inside nor outside has been surface-treated.

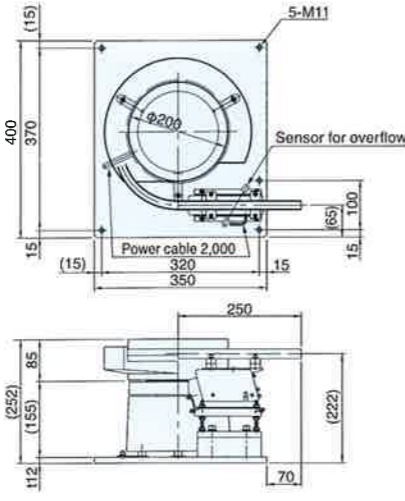
Cascade Bowl Selection Guide



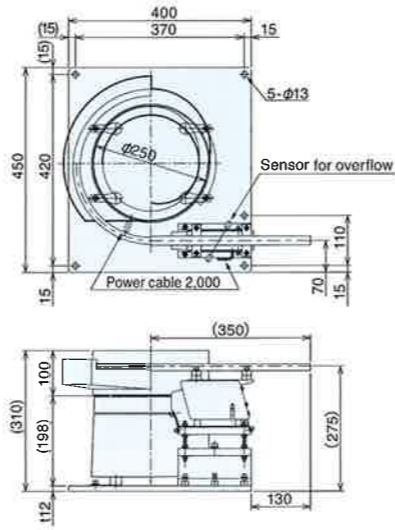
1 EA/DMS-15+LFB-300



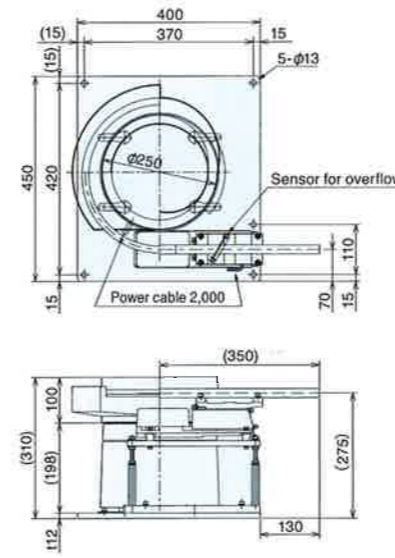
2 EA/DMS-20+LFB-300



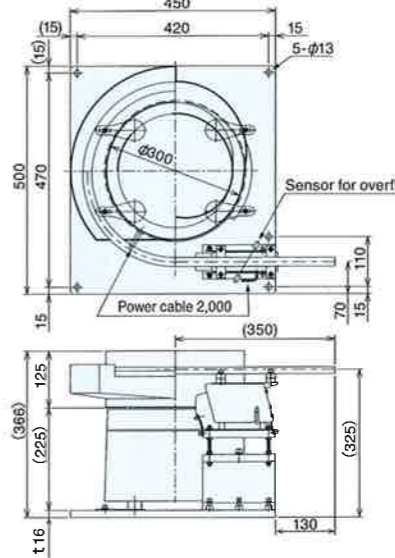
3 EA/ER/DMS-25+LFB-400



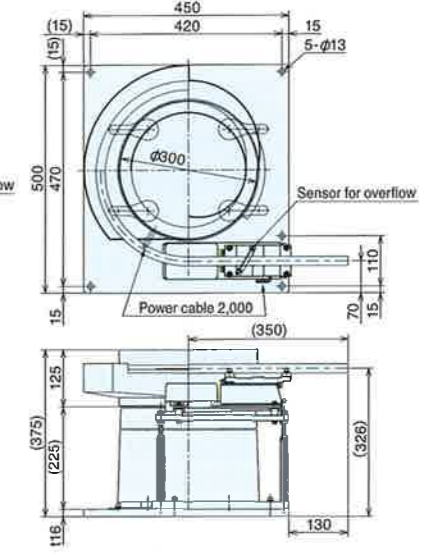
4 EA/ER/DMS-25+LFG-600



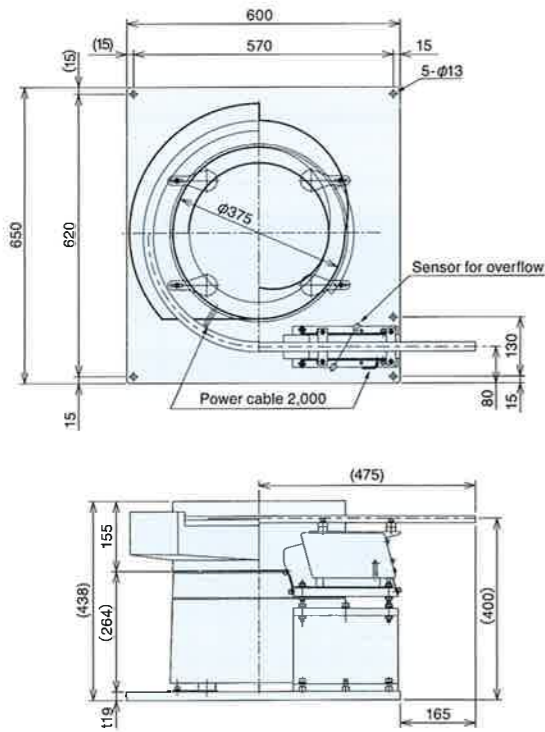
5 EA/ER/DMS-30+LFB-400



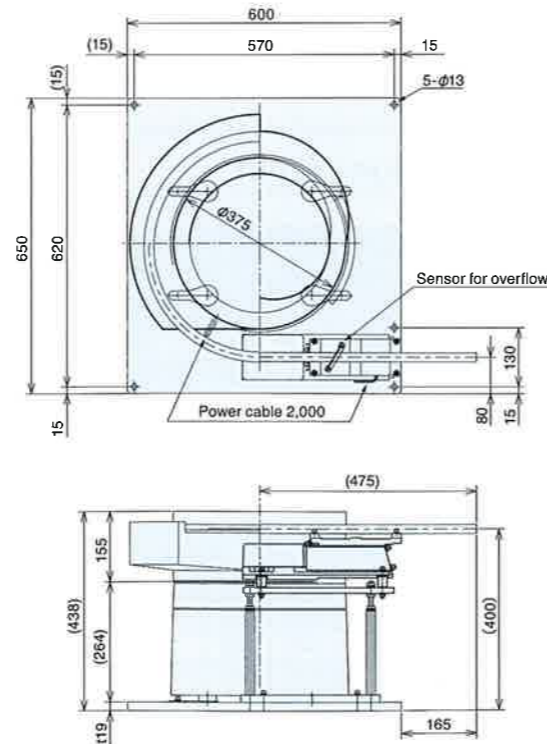
6 EA/ER/DMS-30+LFG-600



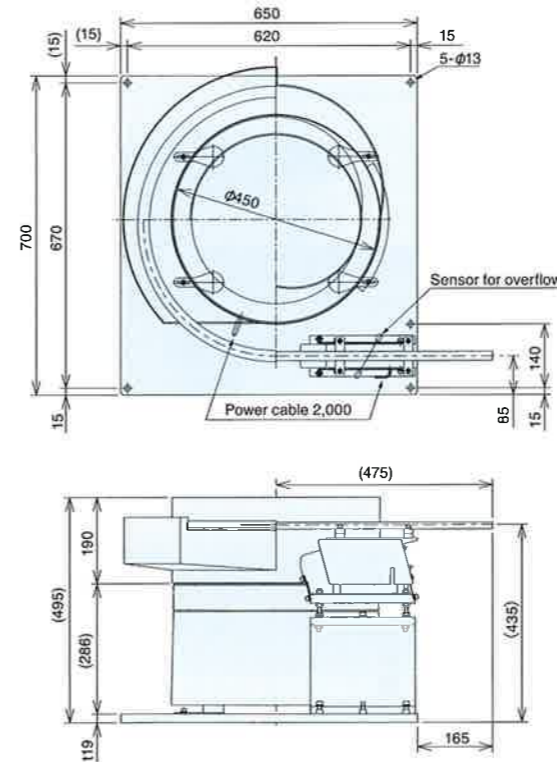
7 EA/ER/DMS-38+LFB-550



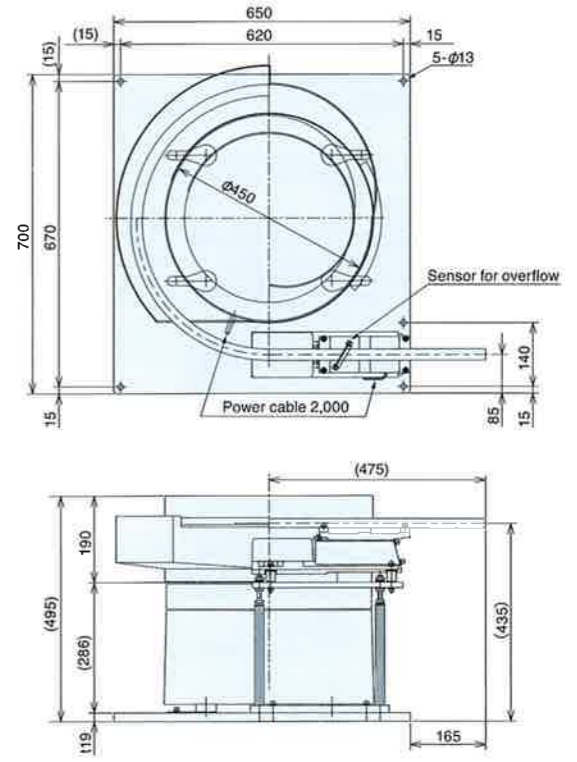
8 EA/ER/DMS-38+LFG-750



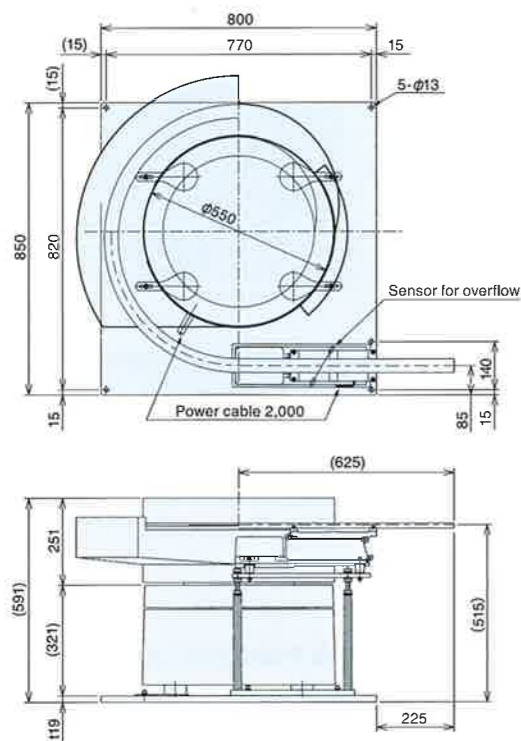
9 EA/ER/DMS-45+LFB-550



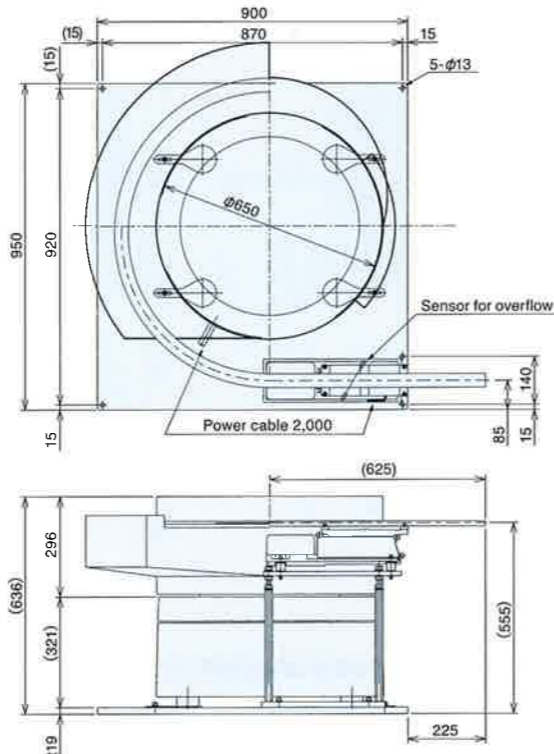
10 EA/ER/DMS-45+LFG-750



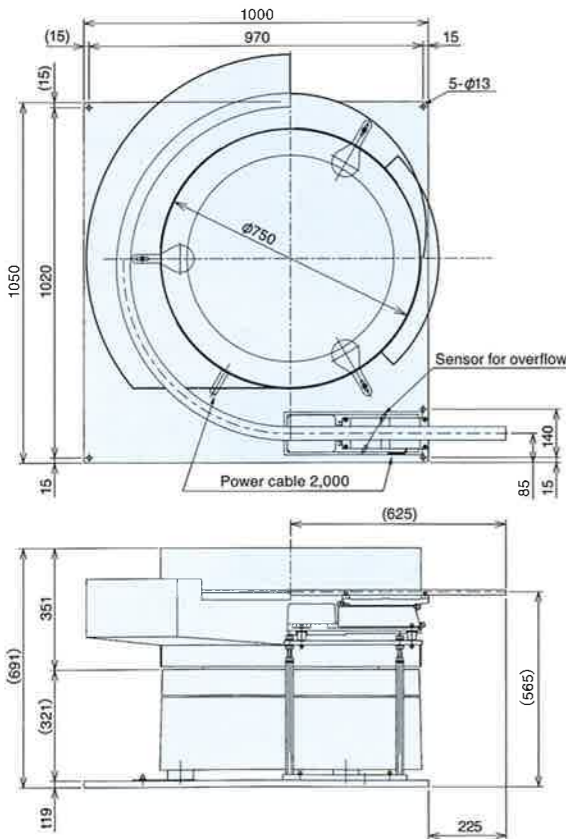
11 ER-55B+LFG-900



12 ER-65B+LFG-900



13 ER-75B+LFG-900



| Parts Feeder Model | Linear Feeder Model | | | | | |
|--------------------|-----------------------------|---------|---------|------------------------------|---------|---------|
| | Leaf-spring vibro-isolating | | | Rubber-mount vibro-isolating | | |
| | LFB-300 | LFB-400 | LFB-550 | LFG-600 | LFG-750 | LFG-900 |
| EA/DMS-15 | 1 | | | | | |
| EA/DMS-20 | 2 | | | | | |
| EA/ER/DMS-25 | | 3 | | 4 | | |
| EA/ER/DMS-30 | | 5 | | 6 | | |
| EA/ER/DMS-38 | | | 7 | | 8 | |
| EA/ER/DMS-45 | | | 9 | | 10 | |
| ER-55B | | | | | | 11 |
| ER-65B | | | | | | 12 |
| ER-75B | | | | | | 13 |

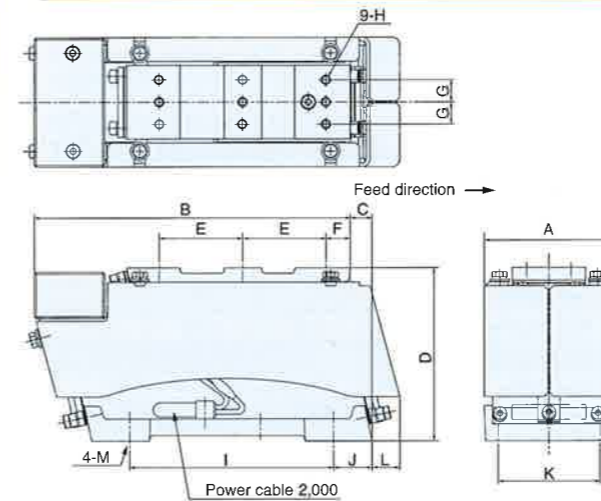
Notes:
All diagrams above show straight wall bowls, however combinations are also possible with track-stepped bowls. (Only bowl diameter and chute exit height vary; all other dimensions are the same for both types of bowl)
Variety of combinations are possible, depending on the type of workpiece. Please contact us for more details.

Low-reaction force linear feeder with less floor reaction

A leaf-spring vibro-isolating type linear feeder with reduced floor reaction. We enabled low-reaction force, high accuracy and smooth parts conveyance through our review of the drive unit mechanism in detail.



Dimensions LFBR-350B/450B/600B Unit: mm



Dimensions Chart

| Model | A | B | C | D | E | F | G | H | I | J | K | L | M |
|-----------|----|-------|------|-------|----|------|----|----|-----|----|----|----|-----|
| LFBR-350B | 70 | 170.5 | 12 | 93.5 | 45 | 13 | 12 | M5 | 110 | 21 | 55 | 14 | M8 |
| LFBR-450B | 80 | 205 | 20 | 107.5 | 55 | 13 | 14 | M6 | 130 | 38 | 60 | 13 | M8 |
| LFBR-600B | 95 | 274.5 | 25.5 | 133 | 75 | 16.5 | 19 | M6 | 190 | 46 | 75 | 13 | M10 |

Chute Specifications, Including Basic Position

| Model | Max. length | Max. width | Min. thickness | Weight range (kg) |
|-----------|-------------|------------|----------------|-------------------|
| LFBR-350B | 350 | 40 | 9 | 0.4~1.2 |
| LFBR-450B | 450 | 45 | 12 | 1.2~2.3 |
| LFBR-600B | 600 | 55 | 14 | 2.3~4.0 |

| Model | Basic position (at max. chute length) | | | | |
|-----------|---------------------------------------|---------|------|-----|----|
| | L1 | L2 | L3 | L4 | L5 |
| LFBR-350B | 30~110 | 110~150 | 67.5 | 90 | 39 |
| LFBR-450B | 70~150 | 150~190 | 82 | 110 | 46 |
| LFBR-600B | 90~200 | 200~250 | 108 | 150 | 55 |

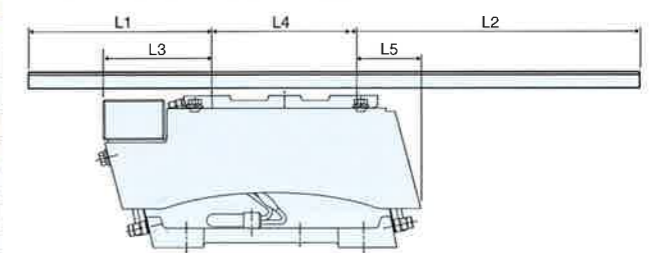
Features

- Low floor reaction**
By reviewing the drive unit mechanism, floor reaction force has been drastically reduced, compared with the existing leaf-spring vibro-isolating type.
- Leaf spring and Core gap adjustment are unnecessary**
No troublesome leaf-spring adjustment or even core gap adjustment is necessary, by using the available C9, C10 series variable frequency digital controllers.
- No vibrational interference**
Because of the middle frequency vibration range (between Full and Half wave), vibrational interference will not occur, when used in combination with other parts feeders.
- Uniform chute vibration angle**
The entire chute vibration angle become uniformly, and has improved the parts conveyance become much more smoothly.
- Low power consumption**
Driven near the resonance range enable to gain sufficient stroke in low current.

Specifications

| Model | LFBR-350B | LFBR-450B | LFBR-600B | |
|-----------------------------------|-----------------|------------------------|-----------|-------|
| Rated voltage | V | 200 | | |
| Rated current | A | 0.12 | 0.14 | 0.28 |
| Vibration frequency | Hz | 95~120 | 75~100 | 75~90 |
| Drive unit weight | kg | 3.5 | 5.5 | 10.5 |
| Leaf-spring angle | degree | 12 | 15 | 15 |
| Max. amplitude | mm | 0.60 | 0.65 | 0.75 |
| Cross section area of power cable | mm ² | 0.75 x 3 cores | | |
| Compatible controller | AC200V | C10-1VF / 1VFEF | | |
| | AC100V | C10-1VF / 1VFEF+C10-TR | | |

LFBR Series chute dimensions



Generate uniform vibration without adjustment

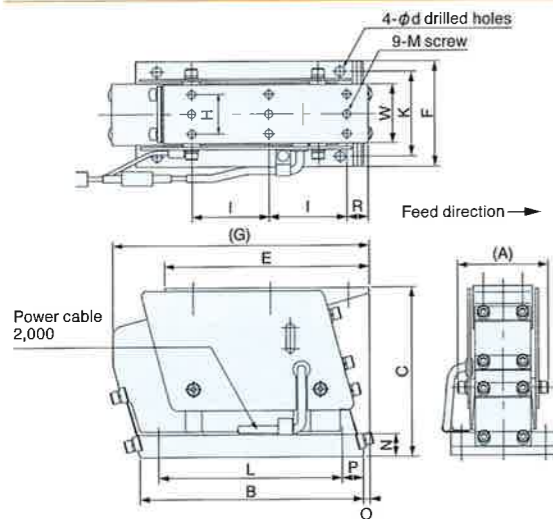
Use of a variable frequency controller eliminates the need for leaf-spring and core-gap adjustments. Provides uniform vibration with no adjustments necessary, and is easily installed to link up with other equipment, greatly improving ease of use. Can accommodate heavier chute weights and longer overhangs, to widen scope for applications. The drive unit is slim, and with virtually no vibration interference it can easily be combined with parts feeders, to suit wide-ranging combinations. The three models in this series can be used selectively to handle all sizes and shapes of workpiece.

Features

- Simple, uniform vibration**
Use with heavier chutes and longer overhangs opens a wider range of applications. Consistent, uniform vibration is supplied without the need for adjustment.
- Energy saving type**
Energy consumption cut by half, compared with our earlier models.



Dimensions LFB-300/400/550 Unit: mm



Specifications

| Model | LFB-300 | LFB-400 | LFB-550 |
|-----------------------------------|--------------------------------|-----------------------------------|-----------|
| Rated voltage | V 200 | | |
| Rated current | A 0.04 | A 0.08 | A 0.15 |
| Vibration frequency | Hz 90~120 | Hz 80~110 | Hz 75~100 |
| Drive unit weight | kg 3.0 | kg 5.0 | kg 10.0 |
| Leaf-spring angle | degree 15 | | |
| Max. amplitude | mm 0.6 | mm 0.65 | mm 0.75 |
| Cross section area of power cable | mm ² 0.75 x 3 cores | | |
| Compatible controller | AC200V | C10-1VF / C10-1VFEF | |
| | AC100V | C10-1VF+C10-TR / C10-1VFEF+C10-TR | |

Dimensions Chart

Unit: mm

| Model | A | B | C | E | F | G | H | I | K | L | M | N | O | P | R | W | d |
|---------|----|-----|-----|-----|----|-----|----|----|----|-----|---|----|---|----|----|----|---|
| LFB-300 | 57 | 135 | 97 | 124 | 65 | 150 | 24 | 45 | 55 | 110 | 5 | 16 | 3 | 10 | 15 | 38 | 6 |
| LFB-400 | 65 | 160 | 120 | 145 | 75 | 180 | 28 | 55 | 60 | 130 | 6 | 16 | 5 | 15 | 15 | 42 | 7 |
| LFB-550 | 79 | 230 | 143 | 200 | 90 | 255 | 38 | 75 | 75 | 190 | 6 | 19 | 5 | 20 | 20 | 52 | 9 |

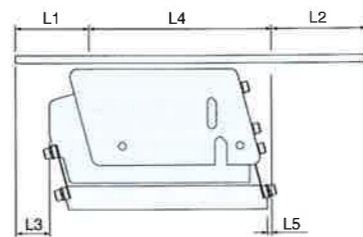
Chute Specifications, Including Basic Position

Unit: mm

| Model | Max. length | Max. width | Min. thickness | Weight range (kg) |
|---------|-------------|------------|----------------|-------------------|
| LFB-300 | 300 | 50 | 6 | 0.4~1.0 |
| LFB-400 | 400 | 50 | 10 | 0.8~2.0 |
| LFB-550 | 550 | 65 | 14 | 1.4~3.5 |

| Model | Basic position (at max. chute length) | | | | |
|---------|---------------------------------------|-----|----|-----|----|
| | L1 | L2 | L3 | L4 | L5 |
| LFB-300 | 66 | 110 | 40 | 124 | 3 |
| LFB-400 | 105 | 150 | 70 | 145 | 5 |
| LFB-550 | 140 | 210 | 85 | 200 | 5 |

LFB Series chute dimensions



Accommodate with variety of chutes for ideal conveyance

The variable frequency controller installed as standard eliminates need for leaf-spring and core-gap adjustments. Easy installation and coordination make it much easier to use, and by adjusting position of the rear-end weight, conveyance irregularities can be quickly and easily eliminated. With minimal lateral movement, there is virtually no vibration interference, making it easy to combine with parts feeders for stabilized delivery. The three models in this series allow a full range of equipment combinations, and cover all shapes and sizes of workpiece. A leaf-spring vibro-isolating type linear feeder with reduced floor reaction. We enabled low-reaction force, high accuracy and smooth parts conveyance through our review of the drive unit mechanism in detail.



Features

- Applicable longer and wider linear chutes.**
Because new LFG series have longer body from conventional models, more long and wide chutes can be applicable.
- Stable vibrating conveyance**
It prevents move of body caused by vibration with using original vibration isolation rubber.
- Withstand load improved**
Withstand load improved by applying a long chute
- Almost same size of drive unit compared with conventional size.** *Except chute installation tap positions
Ability improved with same size from conventional size.

Specifications

| Model | LFG-600 | LFG-750 | LFG-900 |
|-----------------------------------|--------------------------------|-----------------------------------|-----------|
| Rated voltage | V 200 | | |
| Rated current | A 0.2 | A 0.37 | A 0.41 |
| Vibration frequency | Hz 80~110 | Hz 80~110 | Hz 80~110 |
| Drive unit weight | kg 7.4 | kg 13.2 | kg 19.6 |
| Leaf-spring angle | degree 15 | | |
| Max. amplitude | mm 0.65 | mm 0.75 | mm 0.9 |
| Cross section area of power cable | mm ² 0.75 x 3 cores | | |
| Compatible controller | AC200V | C10-1VF / C10-1VFEF | |
| | AC100V | C10-1VF+C10-TR / C10-1VFEF+C10-TR | |

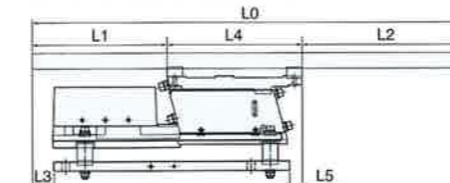
Chute Specifications, Including Basic Position

Unit: mm

| Model | Max. length | Max. width | Min. thickness | Weight range (kg) |
|---------|-------------|------------|----------------|-------------------|
| LFG-600 | 600 | 50 | 10 | 1.4~3.6 |
| LFG-750 | 750 | 65 | 14 | 2.2~5.6 |
| LFG-900 | 900 | 75 | 18 | 4.0~9.8 |

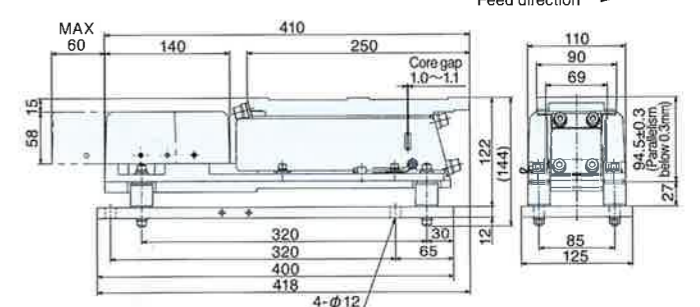
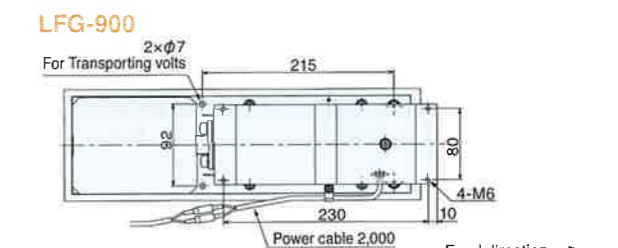
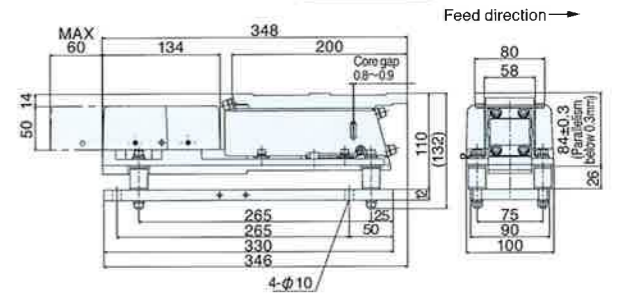
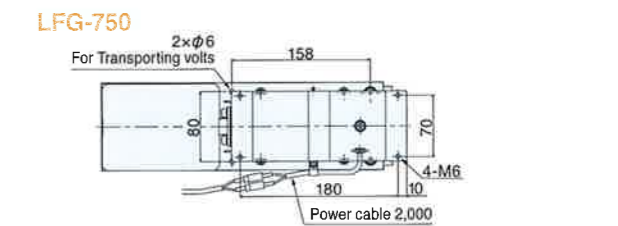
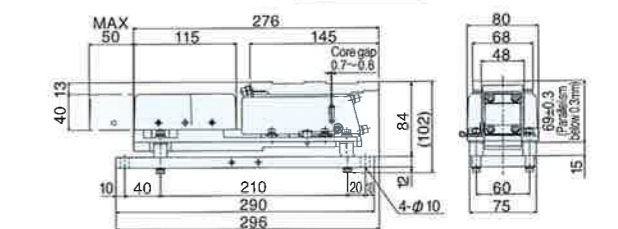
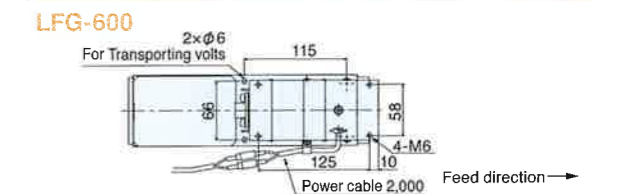
| Model | Basic position (at max. chute length) | | | | | |
|---------|---------------------------------------|-----|----|-----|----|----|
| | L0 | L1 | L2 | L3 | L4 | L5 |
| LFG-600 | 180 | 275 | 29 | 145 | 6 | 6 |
| LFG-750 | 220 | 330 | 74 | 200 | 16 | 16 |
| LFG-900 | 260 | 390 | 92 | 250 | 18 | 18 |

LFG Series chute dimensions



Dimensions

Unit: mm



Simple and compact. Handles a wide range of micro-sized precision parts

Developed for stabilized delivery of non-specialized micro-sized and precision parts, this series uses a small, electromagnetic drive unit that is simple and compact. Unmounted, with full wave operation to give excellent conveyance capacity for small volumes of non-specialized micro-sized workpieces. Maintenance is very straightforward and minimizes costs.

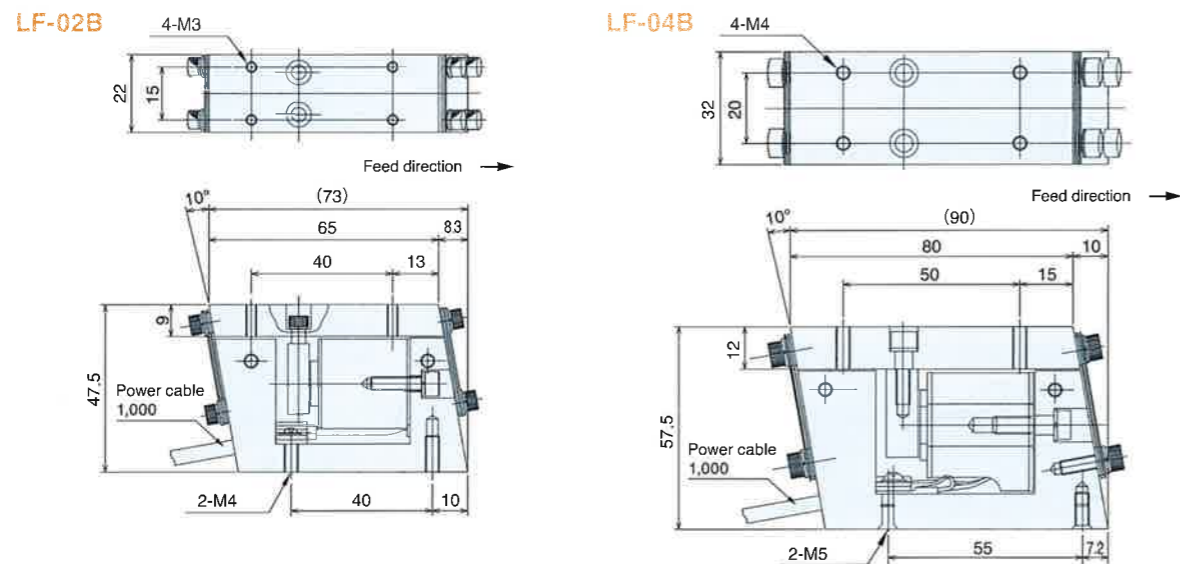


Features

- **Handles a wide range of small parts**
Handles a wide range of non-specialized micro-sized, precision parts
- **Simple and low cost**
Provides a simple, low-cost solution for small-volume applications.
- **Easy, convenient installation**
Compact design allows easy, convenient installation.

Dimensions LF-02B/04B

Unit: mm



Specifications

| Model | Rated Voltage (V) | Rated Current (A) | Vibration frequency (Hz) | Weight (kg) | Standard compatible controllers |
|--------|-------------------|-------------------|--------------------------|-------------|---------------------------------|
| LF-02B | 100/110 | 0.12 | 100~180 | 0.45 | C10-1VF/1VFEF |
| LF-04B | 100/110 | 0.16 | 100~180 | 1.0 | |

Chute Specifications

Unit: mm

| Compatible linear feeder | Max. length | Max. width | Max. weight (kg) |
|--------------------------|-------------|------------|------------------|
| LF-02B | 180 | 20 | 0.2 |
| LF-04B | 240 | 30 | 0.4 |

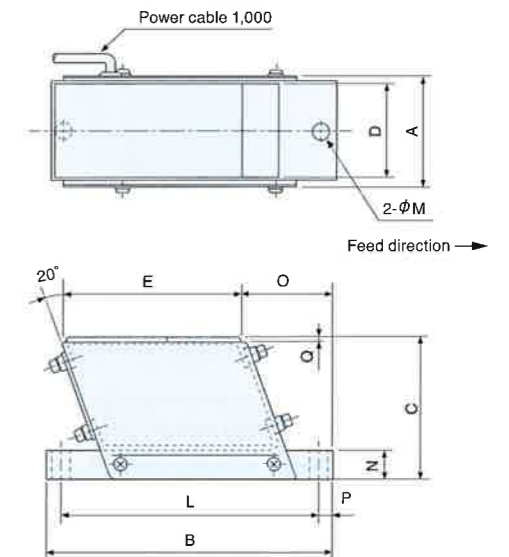
Compact yet powerful, for speedy delivery and versatile, longer distance conveyance

A new type of electromagnetic drive unit ideal for use with chutes handling very small, flat, and precision parts. Takes full advantage of merits of half wave operation for smooth conveyance of fragile and easily damaged workpieces.



Dimensions MF-04C/15C

Unit: mm



*Users are asked to drill holes as required for chute attachment.

Features

- **Compact yet powerful**
Small unit size with half wave operation capable of longer distance conveyance.
- **Speedy delivery, and versatile, longer distance conveyance**
High vibration frequency and amplitude give speedy delivery, and can meet a range of longer distance conveyance requirements
- **Easy, convenient installation**
Compact design takes up little space and allows easy, convenient installation.

Specifications

| Model | Voltage (V) | Current (A) | Vibration (Hz) | Weight (kg) | Standard compatible controllers |
|--------|--------------------|---------------|----------------|-------------|---------------------------------|
| MF-04C | 100/110 200/220 | 0.13 0.065 | 50~90 | 0.6 | C10-1VF/1VFEF |
| MF-15C | 100/110 200/220 | 0.2 0.1 | 50~90 | 1.8 | |

Dimensions Chart

Unit: mm

| Model | A | B | C | D | E | L | M | N | O | P | Q |
|--------|----|-----|----|----|-----|-----|---|----|----|---|-----|
| MF-04C | 46 | 106 | 56 | 38 | 62 | 88 | 7 | 9 | 38 | 9 | 3.2 |
| MF-15C | 56 | 160 | 78 | 52 | 100 | 144 | 9 | 16 | 52 | 8 | 3.2 |

Chute Specifications

Unit: mm

| Compatible linear feeder | Max. length | Max. width | Max. weight (kg) |
|--------------------------|-------------|------------|------------------|
| MF-04C | 300 | 35 | 0.4 |
| MF-15C | 450 | 45 | 1.5 |

Note: Chute must straddle drive unit to distribute weight.

For stable feeding of large volumes of large workpieces

Large-capacity electromagnetic drive unit has strong coil springs positioned at front and rear, and drive controlled by amplitude angle adjustment, to give speedy, steady, straight-line delivery of large-sized workpieces. The low-floored half-wave drive provides uniform amplitude and vibration frequency to eliminate irregularities during high-volume conveyance of large workpieces.

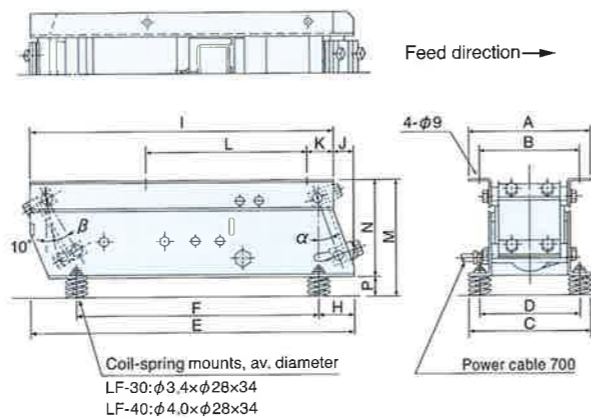


Features

- **Large size feeder provides smooth workpiece delivery**
Large, vibro-isolating feeder that keeps the flow of workpieces smooth through adjustment of leaf-spring angle.
- **Fast, stable delivery of high volumes of large workpieces**
Extremely high conveyance efficiency allows high-volume delivery of large workpieces.
- **Dial control for free adjustment of conveyance speed**
By changing the vibration frequency and amplitude with the dial control, delivery speed can be freely adjusted.

Dimensions LF-30/40

Unit: mm



Specifications

| Model | Leaf-spring adjustment angle | | Rated voltage (V) | Rated current (A) | Vibration frequency (Hz) | Weight (kg) | Cross section area of power cable (mm ²) | Standard compatible controller |
|-------|------------------------------|---------|-------------------|-------------------|--------------------------|-------------|--|--------------------------------|
| | α | β | | | | | | |
| LF-30 | 0°~20° | 10°~30° | 200/220 | 1.5 | 50~90 | 25 | 1.25 x 3 core | C10-3VF/3VFEF |
| LF-40 | 0°~20° | 10°~30° | 200/220 | 1.6 | 50~90 | 33 | | |

Dimensions Chart

Unit: mm

| Model | A | B | C | D | E | F | H | I | J | K | L | M | N | P |
|-------|-------|-------|-------|-------|-----|-----|----|-----|----|----|-----|-----|-----|----|
| LF-30 | 182.4 | 156.4 | 180.4 | 150.4 | 410 | 295 | 55 | 380 | 30 | 40 | 190 | 162 | 132 | 30 |
| LF-40 | 196.4 | 166.4 | 186.4 | 154.4 | 500 | 375 | 55 | 470 | 30 | 40 | 250 | 177 | 147 | 30 |

Chute Specifications

Unit: mm

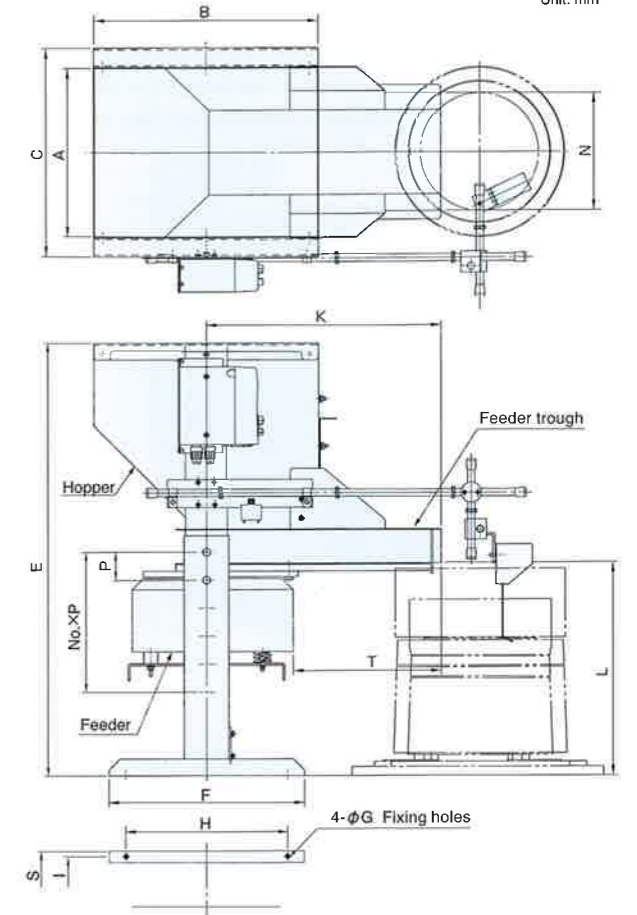
| Applicable linear feeder | Max. length | Max. width | Max. weight (kg) |
|--------------------------|-------------|------------|------------------|
| LF-30 | 650 | 120 | 3.5 |
| LF-40 | 750 | 150 | 5.5 |

Note: Chute must straddle drive unit to distribute weight.



Dimensions 15/30/60/100-liter Hopper

Unit: mm



Features

- By attaching a feeder to a hopper, smooth components feeding is accomplished. Moreover, running noise is extremely low.

Dimensions Chart, including Feeders

Unit: mm

| Hopper capacity (ℓ) | Model | Compatible Parts feeders | Permissible weight of work | A | B | C | E | F | G | H | I | K | L | N | Sliding base No.xP | S | T | Weight (kg) | Electromagnetic feeder | |
|---------------------|----------------|--------------------------|----------------------------|-----|-----|-----|-----------|-----|---|-----|-----|-----|---------|-----|--------------------|-----|-------|-------------|------------------------|------------------|
| | | | | | | | | | | | | | | | | | | | Feeder model | Rated current(A) |
| 15 | HPF-15-3815B | EA-25 | 24 | 250 | 350 | 322 | 675~875 | 320 | 7 | 270 | 275 | 380 | 381~580 | 150 | 5 x 50 | 310 | 225 | 46 | CF-2 | 0.5 |
| | | ER-25B | | | | | | | | | | | | | | | | | | |
| | | EA-30 | | | | | | | | | | | | | | | | | | |
| | | ER-30B | | | | | | | | | | | | | | | | | | |
| 30 | HPF-30-4215B | EA-25 | 24 | 300 | 400 | 372 | 775~975 | 350 | 7 | 290 | 325 | 420 | 380~580 | 150 | 5 x 50 | 360 | 265 | 50 | CF-2 | 0.5 |
| | | ER-25B | | | | | | | | | | | | | | | | | | |
| | | EA-30 | | | | | | | | | | | | | | | | | | |
| | | ER-30B | | | | | | | | | | | | | | | | | | |
| | | EA-38 | | | | | | | | | | | | | | | | | | |
| | | ER-38B | | | | | | | | | | | | | | | | | | |
| EA-45 | | | | | | | | | | | | | | | | | | | | |
| 60 | HPF-60-6030B* | ER-55B | 56 | 450 | 600 | 553 | 865~1215 | 500 | 9 | 400 | 480 | 600 | 430~780 | 300 | 8 x 50 | 536 | (358) | 140 | CF-3 | 1.0 |
| | | ER-65B | | | | | | | | | | | | | | | | | | |
| 100 | HPF-100-6030B* | ER-55B | 56 | 450 | 600 | 553 | 1015~1365 | 500 | 9 | 400 | 480 | 600 | 430~780 | 300 | 8 x 50 | 536 | (358) | 147 | CF-3 | 1.0 |
| | | ER-65B | | | | | | | | | | | | | | | | | | |

- Notes
- *1 Hopper material is stainless steel only.
 - *2 Vibration frequency: 50~70Hz; rated voltage: 200/220V; compatible controller: C10-1VFEF. (100/110V model is not standard type.)
 - *3 Paint color: Munsell N7.5
 - *4 For 15- and 30-liter hoppers, hopper heights becomes 5 levels with 50mm intervals: for 60- and 100-liter hoppers, hopper heights becomes 8 levels with 50mm intervals.
 - *5 Heavy-duty 60- and 100-liter hoppers (permissible total work weight 112kg) are available as non-standard models.
 - * Manufactured to order.

Digital control operated in 'Analog' way

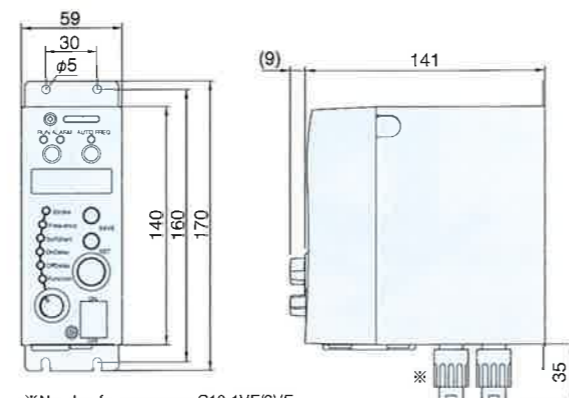
A completely new type of digital controller that can be used with the full line-up of feeders, from high frequency mini parts feeders to small electromagnetic feeders and large size models. With 'analog-style' operation it can be adjusted very swiftly. With an auto-tuning function that eliminates the need for frequency adjustment, and convenient digital settings and display, drive units can be operated to their full potential.



CE RoHS

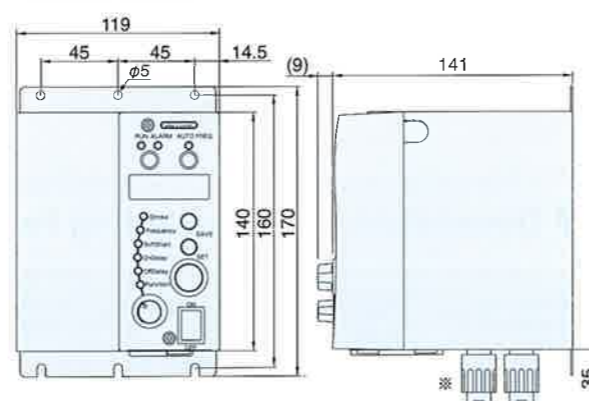
Dimensions

C10-1VF/1VFEF/3VF/3VFEF



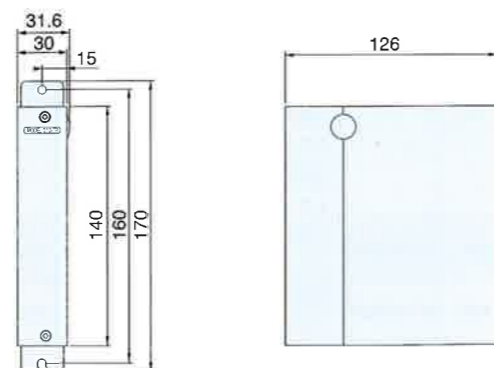
※No plug for sensor on C10-1VF/3VF

C10-5VF/5VFEF



※No plug for sensor on C10-5VF

C10-TR

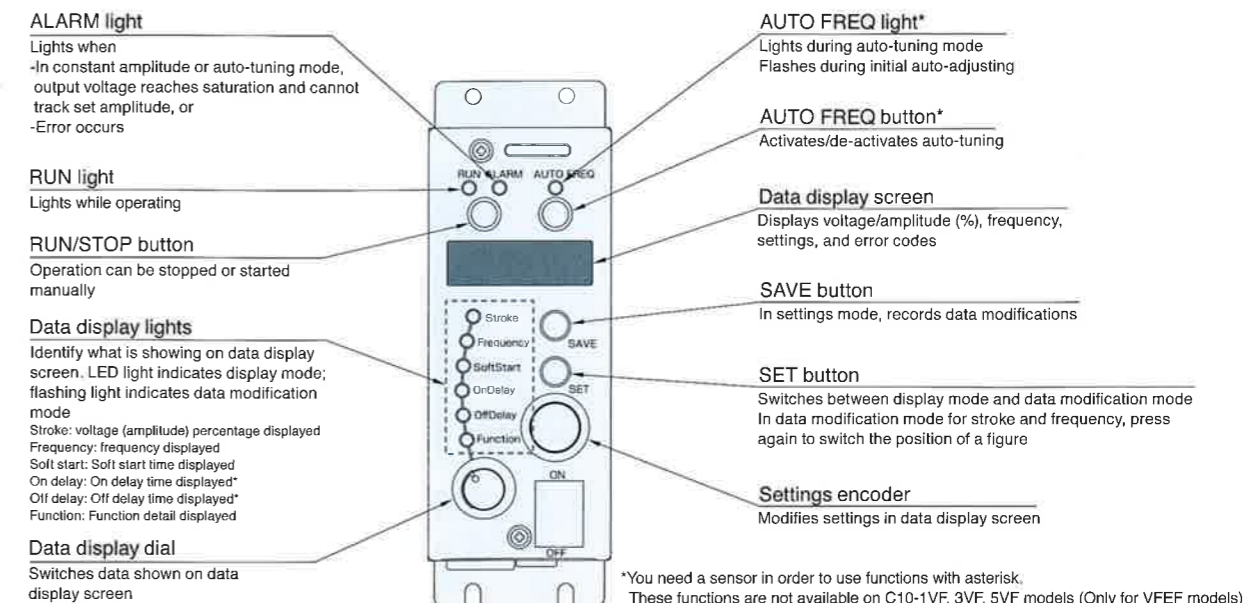


By using a C10-TR power transformer unit with a standard controller, output voltage can be boosted to run an AC 200 V parts feeder from an AC 100 V power source. This is not applicable for C10-5VF(EF).

Features

- Auto-tuning function eliminates leaf-spring adjustment** (C10-1VFEF, 3VFEF, 5VFEF)
 This digital equipment has a special advanced vibration frequency auto-tuning function. It automatically tracks resonance point changes not only from changes to input volume of workpieces, but also from mechanical changes over time, to deliver optimal vibration at all times. No leaf-spring adjustment or even frequency adjustment is necessary, thereby boosting operation efficiency and saving energy.
- Digital setting and display makes settings easy to manage.**
 Amplitude, drive frequency, output voltage notches are all set and displayed digitally, for easy management.
- Constant amplitude control matched to workpieces or materials** (C10-1VFEF, 3VFEF, 5VFEF)
 Amplitude can be set digitally, and an amplitude sensor allows drive at constant amplitude suited to the workpieces under conveyance.
- Easy-to-use panel design**
 The frequency, voltage, soft start, on delay and off delay settings needed for parts feeder adjustment are located on a control panel. A rotary encoder allows 'analog-style' setting input to be changed to digital values.
- Many external control functions**
 Choice of four speeds can be made by external signal. Two-step control through external regulating resistance. External volume adjustment via a DC4-20mA signal is also possible.
- CE Marking conformed product**
 Required to be installed inside the control box treated with Noise filter and IP4X to make product comply to CE Marking.
- Key lock function**
 To avoid arbitrary setting change by many workers, key lock function is available.
- Capable to switching NPN and PNP**
 No problem with usage in abroad with easy switching.

C10 Series Parts & Functions



Specifications

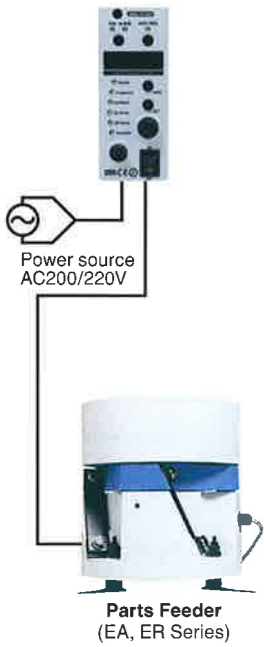
| Model | C10-5VF | C10-3VF | C10-1VF | C10-5VFEF | C10-3VFEF | C10-1VFEF | |
|----------------------------------|---|--|--|----------------|--|--|-------|
| Input power source | AC100~120V±10%, AC200~230V±10%, 50/60Hz | | | | | | |
| Output | Control system | PWM system | | | | | |
| | Voltage | 0~190V (for AC 200V input) 0~95V (for AC 100V input) Optional unit C10-TR allows output voltage in 0~190V range (Except C10-5VF(EF)) even with AC100V input | | | | | |
| | Vibration frequency | Half wave: 45~90Hz, Full wave: 90~180Hz Intermediate wave: 65~120Hz, High frequency: 180~360Hz | | | | | |
| | Max. current | 5A | 3A | 1A | 5A | 3A | 1A |
| Operating modes | Constant voltage mode | Frequency, output voltage set manually | | | | | |
| | Constant amplitude mode | Constant amplitude control at set frequency | | | | | |
| | Auto-tuning mode | With frequency auto-tuning, constant amplitude control requires no amplitude setting | | | | | |
| Additional features | Speed selector | Selection of up to 4 amplitude settings by means of external signal | | | | | |
| | Start/stop control | Start/Stop control by external signal Changeable NPN and PNP by switching | | | | | |
| | Output signal | Output signal synchronized to parts feeder operation | | | | | |
| | Soft start | Start-up time 0.2~4.0 secs | | | | | |
| | On/Off delay | — | | | Delay 0.2~60secs | | |
| | Sensor power source | — | | | For DC 12V, max. 80mA 3P power plug | | |
| Synchronized power output | Function | Power output synchronized to parts feeder operation (RUN) | | | | | |
| | Control system | On/Off control | | | | | |
| | Output voltage | As power source input to controller | | | | | |
| | Max. current | 2A | | | | | |
| Others | Noise tolerant voltage | Above 1000V | | | | | |
| | Ambient temperature | 0~40°C | | | | | |
| | Ambient humidity | 10~90% (no condensation) | | | | | |
| | Weight | 1.5kg | 0.9kg | 0.8kg | 1.6kg | 1.0kg | 0.9kg |
| | Case color | U75-70D (Japan Paint Industry Association) | | | | | |
| Compatible equipment | ER-55B,65B,75B | ER-30B,38B,45B EA-25,30,38,45 LF-30,40 | ER-25B EA-15B,20B LFBR-350B,450B,600B LFB-300,400,550 LFG-600,750,900 ME-08C,14C HME-08C,14C LFB-02,04 HLFB-02,04C LF-02B,04B MF-04C,15C HSE-14 | ER-55B,65B,75B | ER-30B,38B,45B EA-25,30,38,45 LF-30,40 | ER-25B EA-15B,20B LFBR-350B,450B,600B LFB-300,400,550 LFG-600,750,900 ME-08C,14C HME-08C,14C LFB-02,04 HLFB-02,04C LF-02B,04B MF-04C,15C HSE-14 | |

Note: Specifications above are applied for later than ver.4.

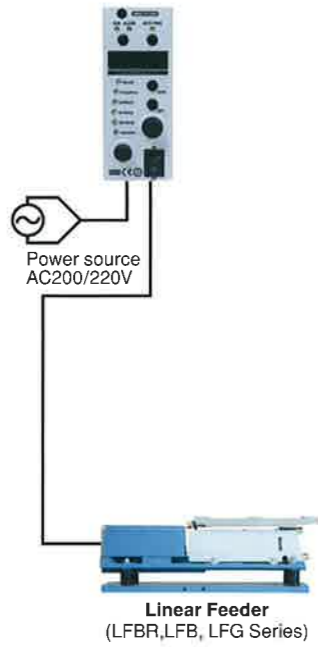
For source voltage AC200/220V

Single Drive

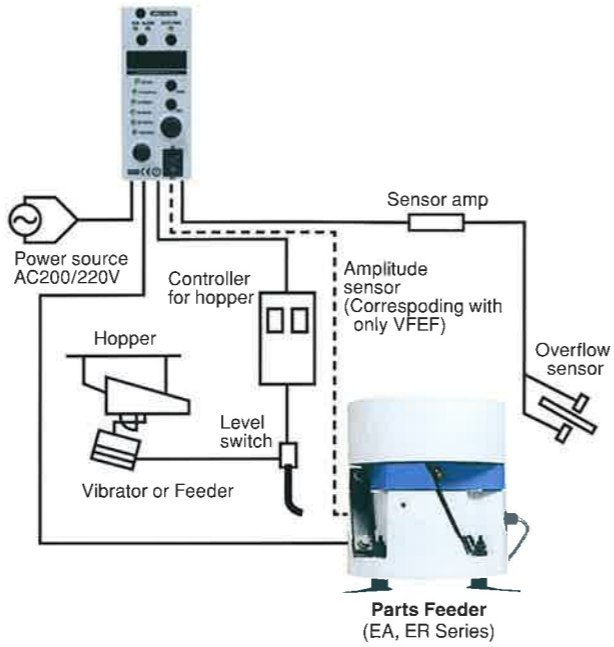
Parts Feeder Controller
C10-5VF/3VF/1VF



Linear Feeder Controller
C10-1VF



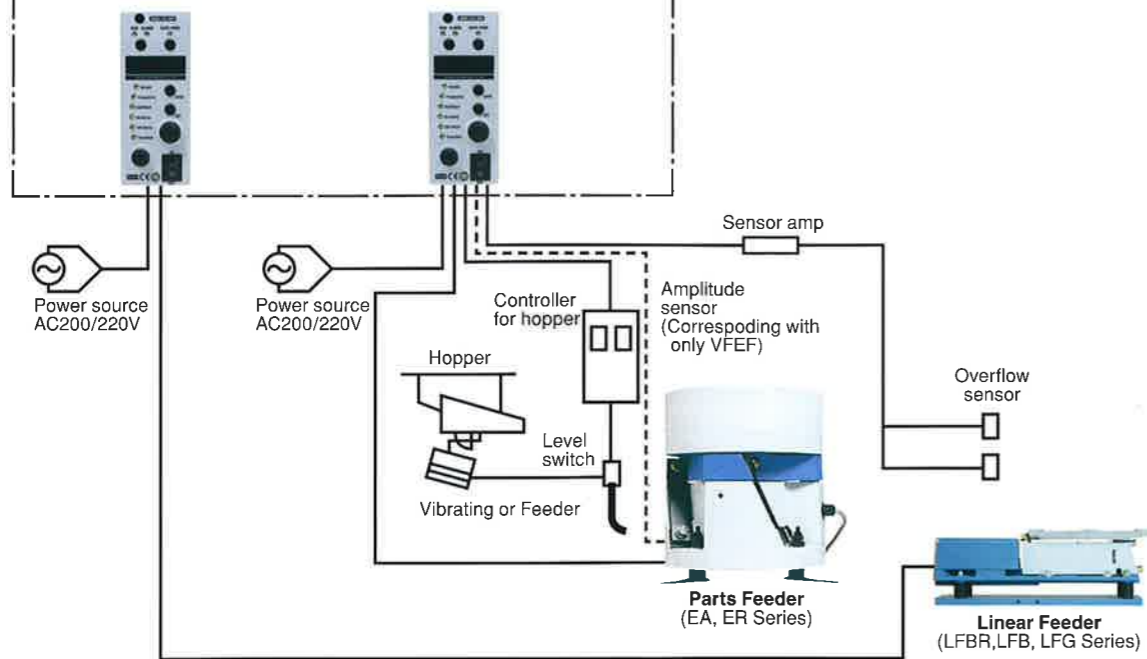
Parts Feeder Controller
C10-5VFEF/3VFEF/1VFEF



Twin Drive

Linear Feeder Controller
C10-1VF

Parts Feeder Controller
C10-5VFEF/3VFEF/1VFEF

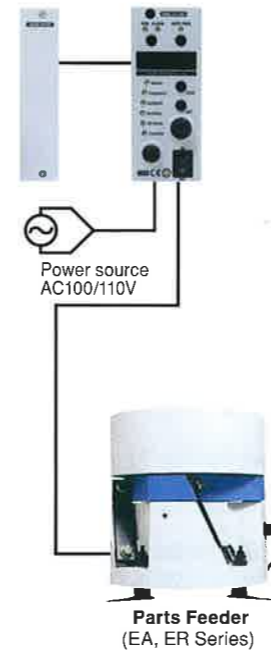


For source voltage AC100/110V

Single Drive

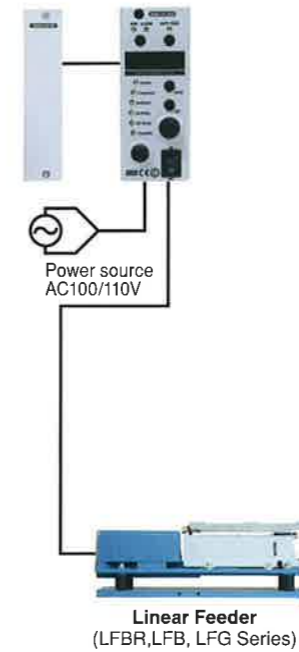
Optional Unit
C10-TR

Parts Feeder Controller
C10-3VF/1VF



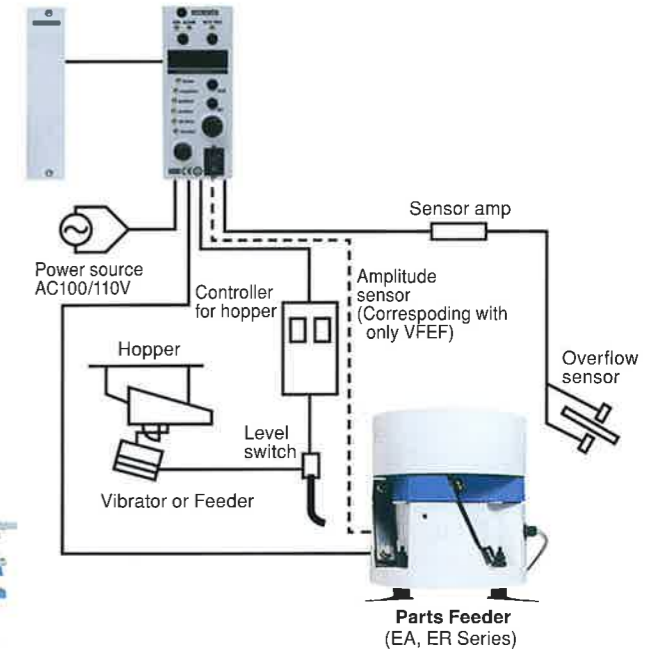
Optional Unit
C10-TR

Linear Feeder Controller
C10-1VF



Optional Unit
C10-TR

Parts Feeder Controller
C10-3VFEF/1VFEF

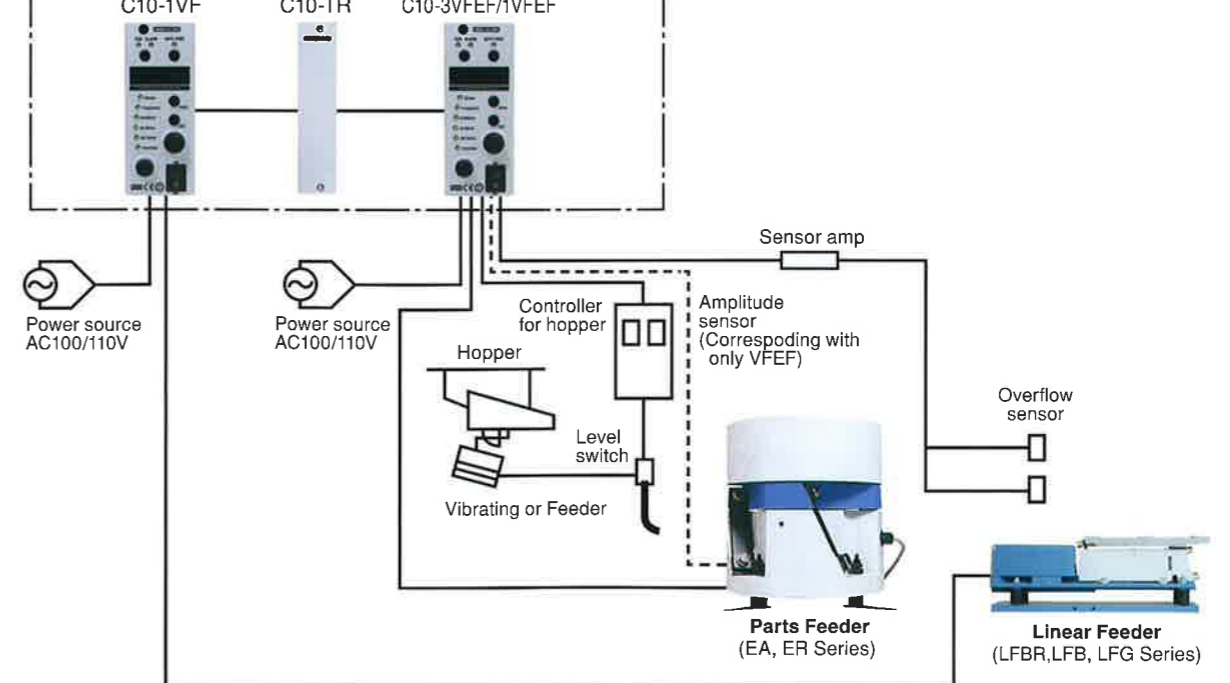


Twin Drive

Linear Feeder Controller
C10-1VF

Optional Unit
C10-TR

Parts Feeder Controller
C10-3VFEF/1VFEF



MINI PARTS FEEDERS

ME/HME/HSE Series

High-speed, high-precision handling of micro-sized parts and electronic chips. Compact design and versatility to handle a wide range of small parts.

Designed for the automatic conveyance and stable delivery of delicate components that are easily scratched or damaged, these feeders provide high-speed, high-precision parts handling. With the fine vibration of full wave drive and a soft start function, all types of tiny parts for cameras, watches etc. can be handled. Compact design takes up minimal space.



Features

- Smooth, reliable, orderly presentation of tiny, thin parts**
 High vibration frequency and small amplitude allow for the orderly delivery of micro-sized, thin and complex-shaped parts, which is hard to achieve with conventional feeder vibration characteristics.
- Highly accurate sorting and conveyance**
 Bouncing of workpieces during conveyance is reduced, and even slight variations in shape and weight distribution of small parts can be detected for accurate sorting.
- No problems at connecting points**
 With little vibration displacement, there is no damage to workpieces caused by gaps between bowl and chute or chute and non-vibrating parts.
- High vibration frequency gives high speed delivery**
 High vibration frequency conveys workpieces smoothly, speedily and with no resistance, to supply a stable quantity with little variation, for a significant improvement in efficiency.
- No readjustment of leaf-spring necessary**
 Once set, leaf-spring requires no further adjustment. With feedback control for amplitude, changes over time in voltage or load do not cause fluctuations in vibration.
- Compact design, with a height adjustment function**
 Down-sized design for maximum space-saving, with a vibro-isolating base. Bowl height can be adjusted within 3 mm range to simplify positioning.

Specifications

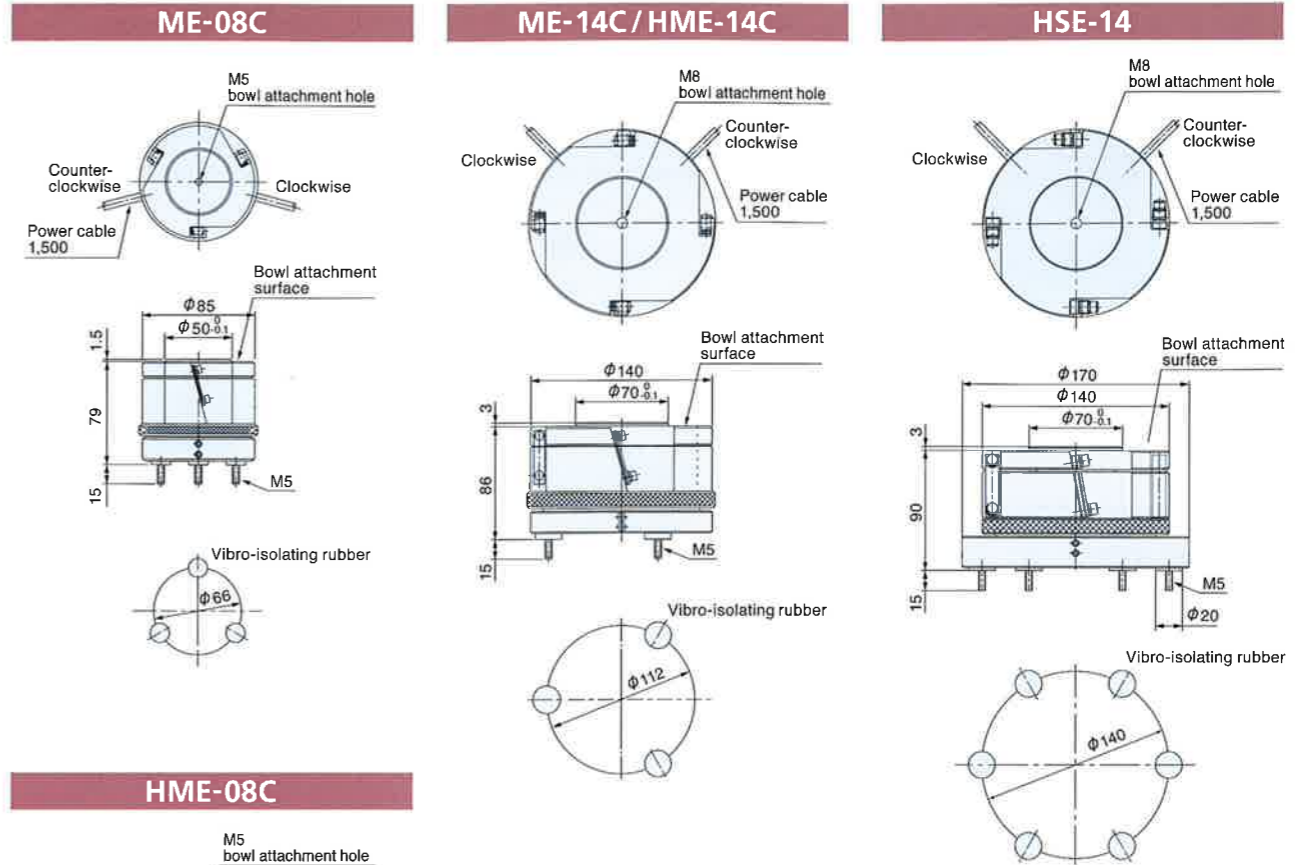
| Model | Rated Voltage (V) | Rated Current (A) | Vibration frequency (Hz) | Weight (kg) | Loaded weight (kg) | Max. bowl diameter (mm) | Compatible standard controller |
|---------|-------------------|-------------------|--------------------------|-------------|--------------------|-------------------------|-----------------------------------|
| ME-08C | 100/110 | 0.30 | 100~180 | 2.5 | 0.6 | φ140 | C10-1VF C10-1VFEF C9-03VFTC |
| ME-14C | | 0.55 | | 7.8 | 2.0 | φ230 | |
| HME-08C | | 0.15 | 220~360 | 2.5 | 0.6 | φ140 | |
| HME-14C | | 0.30 | | 7.8 | 2.0 | φ230 | |
| HSE-14 | | 0.30 | | 9.3 | 2.0 | φ230 | |

Note: Loaded weight is permissible weight of bowl and work.

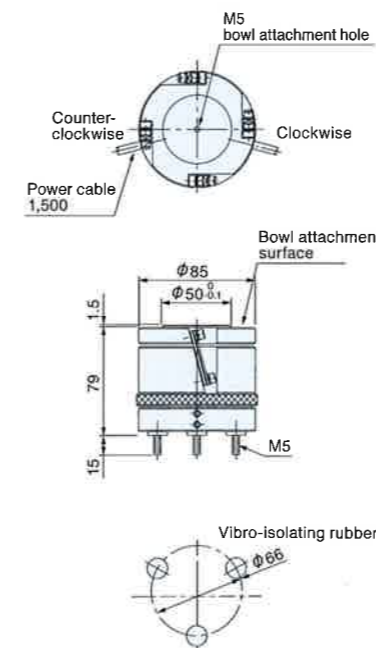


Dimensions

Unit: mm

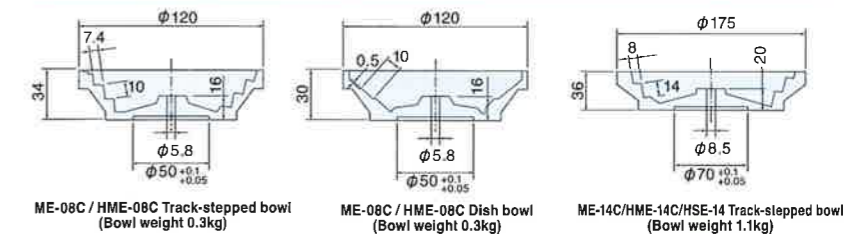


HME-08C



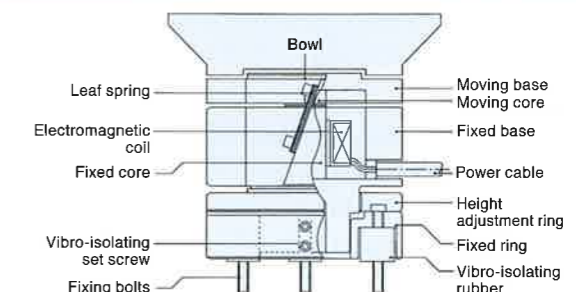
ME/HME/HSE Bowl

Unit: mm



Notes: Bowls are made of aluminum.
HSE Series bowls without surface treatment are not available.
Clockwise and counter-clockwise orientations are available.

Structural Diagram



Ideal vibration characteristics to reduce bouncing

A high-precision electromagnetic drive unit ideal for use with chutes for precision parts, to meet present-day requirements for rapid processing of micro-sized workpieces. Vibro-isolating leaf-springs are installed front and rear to absorb rebound, and vibration characteristics can be adjusted to match the workpiece. Giving uniform vibration the whole length of the trough, this series provides smooth delivery of the most delicate, easily damaged parts with minimal bouncing.

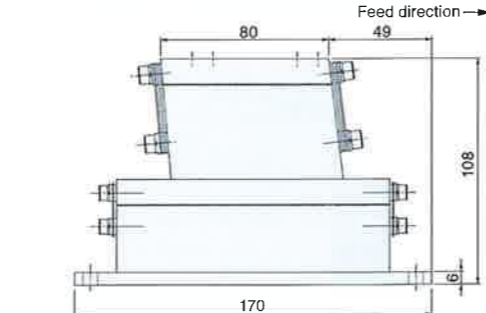
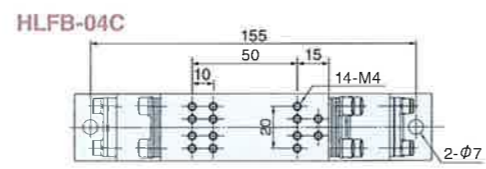
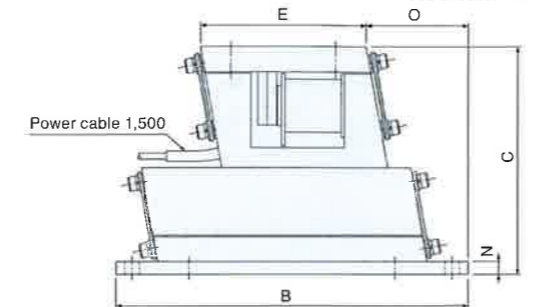
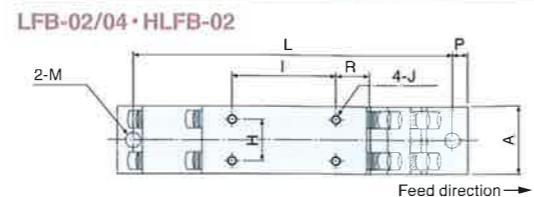


Features

- Leaf-spring vibro-isolating type ideal for precision parts**
 This leaf-spring vibro-isolating series is ideal for micro-sized, flat and precision parts.
- Minimizes bouncing**
 Adjustable vibration characteristics give increased delivery efficiency while minimizing workpiece bouncing.
- Compact and high precision**
 Compact unit accommodates demands for rapid processing, providing high precision conveyance of micro-sized and precision parts.
- Reduce Vibration Reaction Force to 1/3 (HLFB-04C)**
 By revising weight balances of movable base and fixed base, it reduced vibration reaction force to 1/3 compared from conventional model.
- Realized consistent handling speed of works (HLFB-04C)**
 It is able to realize stable supply of work piece with equalize handling speed from chute to outlet by improving degree of leaf springs.
- 14 tapped holes for chute installation (HLFB-04C)**
 By gaining number of tapped hole for chute installation on movable base from 4 to 14, it is suitable for many working conditions.

Dimensions

Unit: mm



Specifications

| Model | Rated Voltage (V) | Rated Current (A) | Vibration frequency (Hz) | Weight (kg) | Standard compatible controllers |
|----------|--------------------|-------------------|--------------------------|-------------|-----------------------------------|
| LFB-02 | 100/110 | 0.12 | 100~180 | 1.2 | C10-1VF C10-1VFEF C9-03VFTC |
| LFB-04 | 100/110 200/220 | 0.16 0.08 | 100~180 | 2.7 | |
| HLFB-02 | 100/110 | 0.25 | 220~360 | 1.2 | |
| HLFB-04C | 100/110 | 0.30 | 220~360 | 2.7 | |

Dimensions Chart

Unit: mm

| Model | A | B | C | E | H | I | J | L | M | N | O | P | R |
|-------------|----|-----|-----|----|----|----|----|-----|----|-----|----|-----|----|
| LFB/HLFB-02 | 22 | 130 | 86 | 65 | 15 | 40 | M3 | 120 | φ6 | 4.5 | 45 | 5 | 13 |
| LFB-04 | 32 | 170 | 108 | 80 | 20 | 50 | M4 | 155 | φ7 | 6 | 49 | 7.5 | 15 |

Chute Specifications

Unit: mm

| Compatible linear feeder | Max.length | Max.width | Max.weight(kg) |
|--------------------------|------------|-----------|----------------|
| LFB/HLFB-02 | 180 | 20 | 0.2 |
| LFB-04 | 240 | 30 | 0.4 |
| HLFB-04C | 240 | 30 | 0.4 |

Note: Chute must straddle drive unit to distribute weight.

Digital Control for Revolutionary Delivery of Micro-sized Parts

This new digital controller represents a major advance in the control of high frequency mini parts feeders for delivery of electronic chips and other micro-sized parts. Auto-tuning makes frequency adjustment unnecessary, and with its convenient digital settings and display it enables high frequency mini parts feeders to be operated to their full potential.

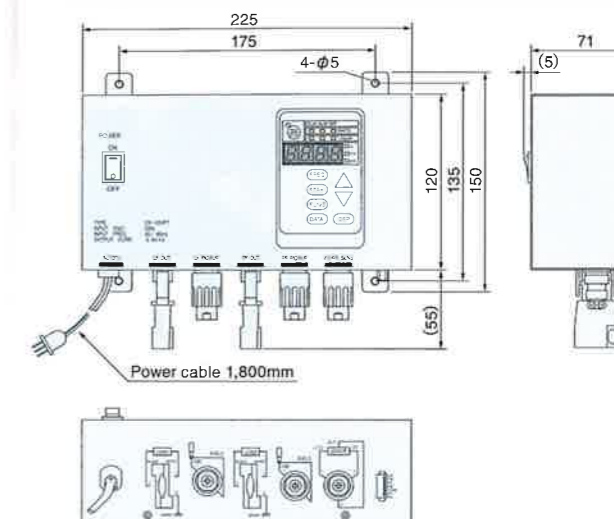


Features

- Auto-tuning function eliminates frequency adjustments**
 This digital equipment has an advanced vibration frequency auto-tuning function. It automatically tracks resonance point changes not only from variations in workpiece input volume, but also from mechanical changes over time, to deliver optimal vibration at all times. No leaf-spring adjustment or even frequency adjustment is necessary, thereby boosting operating efficiency and saving energy.
- Digital setting and display makes settings easy to manage**
 Amplitude, drive frequency, output voltage notches are all set and displayed digitally, for easy management.
- Constant amplitude control matched to workpieces**
 Amplitude can be set digitally, and an amplitude sensor keeps drive at a uniform amplitude suited to the workpieces under conveyance.
- One controller for all**
 One controller can control both parts feeders or linear feeders.
- Computerized control delivers optimal drive**

Dimensions

Unit: mm



Specifications

| Model | | C9-03VFTC |
|-------------------------------|-------------------------|---|
| Input Power source | | AC100~230±10%, 50/60Hz |
| Control system | | PWM system |
| Output | Voltage | 0~95V |
| | Vibration frequency | Full wave: 100~180Hz High frequency: 220~360Hz |
| | Max. current | 0.6A |
| Operating modes | Auto-tuning mode | Automatically senses particular vibration frequencies of parts feeder or linear feeder and controls drive at that frequency |
| | Constant amplitude mode | Constant frequency control based on frequency setting |
| Additional features | Speed adjustment | Amplitude adjustable with outer signal (Max. 4 settings) |
| | Start/Stop control | Start/stop control by external signal |
| | Overflow control | Sensor allows parts feeder overflow control On/off delay: Variable, 0.2~60 secs |
| | Sensor power source | DC12V, Max. 80mA for 3 phase socket plug. |
| | Output signal | Output signal synchronized to operation of parts feeder |
| | Soft start | Variable, 0.2~0.4 secs |
| Others | Noise tolerant voltage | Above 1,000V |
| | Ambient temperature | 0~40°C |
| | Ambient humidity | 10~90% (no condensation) |
| | Case color | Gray(Japan Paint Manufacturer association S-2-1006) |
| | Weight | 1.6kg |
| Our compatible Parts feeders | | ME-08C, ME-14C, HME-08C, HME-14C, HSE14 |
| Our compatible Linear feeders | | LFB-02,04, HLFB-02,04C |