

# ASAHI

## PLASTIC SERIES

### BEARING UNITS



JP-1973

ISO 9002  
JQA-1973

**STAINLESS STEEL BEARING MOUNTED IN  
THERMOPLASTIC HOUSINGS!**

**NEW**



- *Anti-corrosive, Water / Chemical resistant*
- *Light-weight housings*
- *Interchangeable with normal type*
- *For Food-processing / Packaging / Textile machineries, Chemical apparatus, etc*



# PLASTIC SERIES BEARING UNITS

## 1. INTRODUCTION

Plastic housings are made of high-grade glass-filled thermoplastic polyester and mounted with stainless steel ball bearing inserts.

Hygienic construction: Solid housing base prevents from breeding of various germs. Plastic covers are also available to cover the shaft and bearing for the better protection against contaminants and safety.

## 2. MATERIAL

Table 1

| Parts        |                        | Materials       |               |
|--------------|------------------------|-----------------|---------------|
| Bearing      | Inner & outer rings    | Stainless steel | SUS440C (EQ.) |
|              | Balls                  |                 | SUS440C       |
|              | Retainers              |                 | SUS304        |
|              | Slingers               |                 |               |
|              | Set-screws             |                 |               |
| Rubber seals | Nitril rubber          | —               |               |
| Housing      |                        | Thermoplastic   | —             |
|              | Bolt hole bushings     | Stainless steel | SUS304        |
|              | Grease nipple receiver |                 | SUS303        |
|              | Grease nipple          |                 | COPPER ALLOY  |

## 3. ANTI-CORROSION FEATURES

Table 2

| Environment       | Materials                        |                           |                    |                       |                         |
|-------------------|----------------------------------|---------------------------|--------------------|-----------------------|-------------------------|
|                   | Stainless Steel<br>SUS440C (EQ.) | Stainless Steel<br>SUS304 | Thermoplastic<br>— | Bearing Steel<br>SUJ2 | Grey cast iron<br>FC200 |
| Dry               | ○                                | ◎                         | ◎                  | —                     | ×                       |
| Mist              | —                                | ◎                         | ◎                  | ×                     | ××                      |
| Fresh water       | —                                | ◎                         | ◎                  | ×                     | ××                      |
| Salt water        | ×                                | ◎                         | ◎                  | ××                    | ××                      |
| Nitric acid       | ×                                | ◎                         | ×                  | ××                    | ××                      |
| Sulfuric acid     | ××                               | ○                         | ○                  | ××                    | ××                      |
| Hydrochloric acid | ××                               | —                         | ○                  | ××                    | ××                      |

◎ : pretty good ○ : good — : not good × : bad ×× : very bad

## 4. ACCURACY

Table 3

| No.<br>MUC | Bearing inner ring           |                 |                           | Housing                 |            |              |
|------------|------------------------------|-----------------|---------------------------|-------------------------|------------|--------------|
|            | $\Delta d_{mp}$<br>max. min. | V <sub>dp</sub> | $\Delta B_s$<br>max. min. | K <sub>ia</sub><br>max. | No.<br>PPL | $\Delta H_s$ |
| 204~206    | +18 0                        | 12              | 0 -120                    | 18                      | 204~208    | ±300         |
| 207~208    | +21 0                        | 14              | 0 -120                    | 20                      |            |              |

$\Delta d_{mp}$  : Deviation of single-plane mean bore diameter

V<sub>dp</sub> : Bore diameter variation in a single radial plane

$\Delta B_s$  : Deviation of a single inner ring width

K<sub>ia</sub> : Radial runout (of assembled bearing inner ring)

$\Delta H_s$  : Deviation of distance between mounting base and spherical-seat center for pillow block

## 5. TIGHTENING TORQUE

Table 4

| Bearing    |                                   |                              | Housing              |             |                              |
|------------|-----------------------------------|------------------------------|----------------------|-------------|------------------------------|
| No.<br>MUC | Hexagonal socket<br>screw key No. | Tightening torque<br>(N · m) | No.<br>PPL, FPL, NFL | Fixing bolt | Tightening torque<br>(N · m) |
| 204        | 3                                 | 3.9                          | 204                  | M10         | 17.7                         |
| 205        | 3                                 | 3.9                          | 205                  | M10         | 24.5                         |
| 206        | 3                                 | 3.9                          | 206                  | M10 / M12   | 29.4                         |
| 207        | 4                                 | 8.3                          | 207                  | M12         | 35.3                         |
| 208        | 4                                 | 8.3                          | 208                  | M12         | 45.1                         |

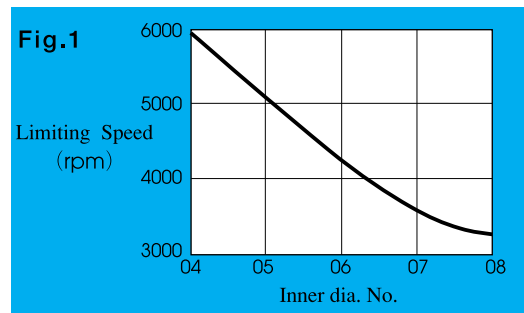
## 6. STATIC BREAKING STRENGTH OF HOUSING

Table 5

Unit : kN

| No.<br>PPL,<br>FPL,NFL |                |                |                |                |                |                |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                        | W <sub>u</sub> | W <sub>s</sub> | W <sub>t</sub> | W <sub>d</sub> | W <sub>t</sub> | W <sub>d</sub> |
| 204                    | 7.7            | 8.8            | 5              | 15.9           | 3.6            | 8.5            |
| 205                    | 10             | 13.7           | 8.1            | 13             | 3.3            | 11.1           |
| 206                    | 10.6           | 12.6           | 5.7            | 18             | 3.3            | 14.2           |
| 207                    | 10.8           | 12.7           | 7.5            | 18.5           | 3.5            | 14.9           |
| 208                    | 11.1           | 13.1           | 8.5            | 19.1           | 3.8            | 15.1           |

## 7. LIMITING SPEED



## 8. RANGE OF OPERATING

TEMPERATURE : -20 ~ +80°C

## PILLOW BLOCKS MUCA200SB

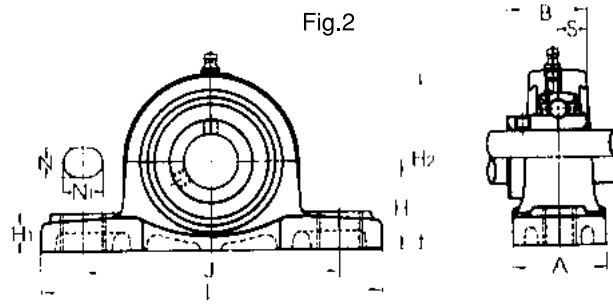


Table 7

| Shaft dia. (mm) | Unit No.   | Dimensions (mm) |     |    |     |    |                |                |                |      |      | Bolt Size | Bearing     |                                  | Housing No. | Weight (kg) |      |
|-----------------|------------|-----------------|-----|----|-----|----|----------------|----------------|----------------|------|------|-----------|-------------|----------------------------------|-------------|-------------|------|
|                 |            | H               | L   | A  | J   | N  | N <sub>1</sub> | H <sub>1</sub> | H <sub>2</sub> | B    | S    |           | Bearing No. | Basic load rating (kN)<br>Cr Cor |             |             |      |
| 20              | MUCA 204SB | 33.3            | 127 | 38 | 95  | 11 | 14             | 14.2           | 65             | 31   | 12.7 | M10       | MUC204      | 10.9                             | 5.3         | PPL204SB    | 0.28 |
| 25              | MUCA 205SB | 36.5            | 140 | 38 | 105 | 11 | 14             | 14.5           | 71             | 34.1 | 14.3 | M10       | MUC205      | 11.9                             | 6.3         | PPL205SB    | 0.33 |
| 30              | MUCA 206SB | 42.9            | 162 | 46 | 119 | 14 | 18             | 17.8           | 83             | 38.1 | 15.9 | M12       | MUC206      | 16.7                             | 9           | PPL206SB    | 0.52 |
| 35              | MUCA 207SB | 47.6            | 167 | 48 | 127 | 14 | 18             | 18             | 94             | 42.9 | 17.5 | M12       | MUC207      | 22                               | 12.3        | PPL207SB    | 1.73 |
| 40              | MUCA 208SB | 49.2            | 184 | 54 | 137 | 14 | 18             | 19.5           | 98             | 49.2 | 19   | M12       | MUC208      | 24.9                             | 14.3        | PPL208SB    | 1.95 |

## SQUARE FLANGE UNITS MUCB200SB

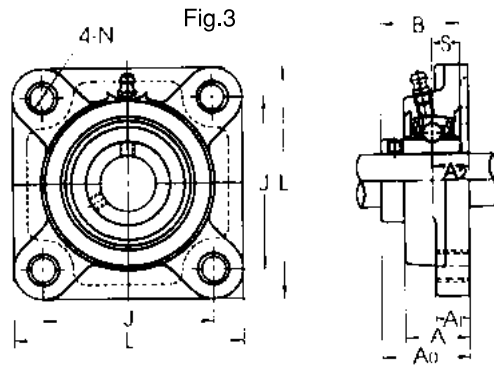


Table 9

| Shaft dia. (mm) | Unit No.   | Dimensions (mm) |      |      |    |                |                |                |      |      |             | Bolt Size | Bearing                          |      | Housing No. | Weight (kg) |
|-----------------|------------|-----------------|------|------|----|----------------|----------------|----------------|------|------|-------------|-----------|----------------------------------|------|-------------|-------------|
|                 |            | L               | A    | J    | N  | A <sub>1</sub> | A <sub>2</sub> | A <sub>0</sub> | B    | S    | Bearing No. |           | Basic load rating (kN)<br>Cr Cor |      |             |             |
| 20              | MUCB 204SB | 86              | 27.8 | 63.5 | 11 | 13.4           | 18             | 36.3           | 31   | 12.7 | M10         | MUC204    | 10.9                             | 5.3  | FPL204SB    | 0.28        |
| 25              | MUCB 205SB | 94.5            | 27.9 | 70   | 11 | 14.3           | 17             | 36.8           | 34.1 | 14.3 | M10         | MUC205    | 11.9                             | 6.3  | FPL205SB    | 0.33        |
| 30              | MUCB 206SB | 107             | 31.5 | 83   | 11 | 14.3           | 19.2           | 41.4           | 38.1 | 15.9 | M10         | MUC206    | 16.7                             | 9    | FPL206SB    | 0.52        |
| 35              | MUCB 207SB | 118             | 34.8 | 92   | 13 | 15.5           | 21.5           | 46.9           | 42.9 | 17.5 | M12         | MUC207    | 22                               | 12.3 | FPL207SB    | 1.73        |
| 40              | MUCB 208SB | 130             | 37.5 | 102  | 14 | 17             | 23             | 53.2           | 49.2 | 19   | M12         | MUC208    | 24.9                             | 14.3 | FPL208SB    | 1.95        |

## TWO-BOLT FLANGE UNITS MUCD200SB

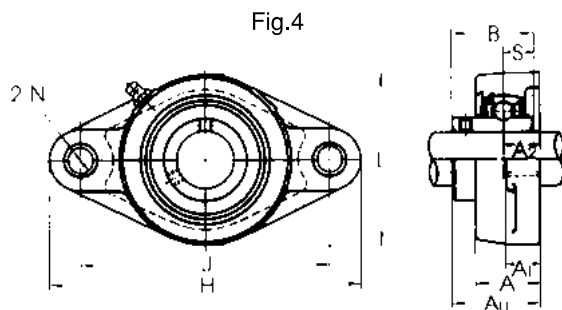


Table 11

| Shaft dia. (mm) | Unit No.   | Dimensions (mm) |      |      |     |    |                |                |                |      |      | Bolt Size | Bearing     |                                  | Housing No. | Weight (kg) |      |
|-----------------|------------|-----------------|------|------|-----|----|----------------|----------------|----------------|------|------|-----------|-------------|----------------------------------|-------------|-------------|------|
|                 |            | H               | L    | A    | J   | N  | A <sub>1</sub> | A <sub>2</sub> | A <sub>0</sub> | B    | S    |           | Bearing No. | Basic load rating (kN)<br>Cr Cor |             |             |      |
| 20              | MUCD 204SB | 113             | 64   | 26.5 | 90  | 11 | 11.4           | 15.4           | 33.7           | 31   | 12.7 | M10       | MUC204      | 10.9                             | 5.3         | NFL204SB    | 0.23 |
| 25              | MUCD 205SB | 130             | 69.5 | 29.1 | 99  | 11 | 13.5           | 17             | 36.8           | 34.1 | 14.3 | M10       | MUC205      | 11.9                             | 6.3         | NFL205SB    | 0.3  |
| 30              | MUCD 206SB | 148             | 80   | 30.5 | 117 | 11 | 13.3           | 19             | 41.2           | 38.1 | 15.9 | M10       | MUC206      | 16.7                             | 9           | NFL206SB    | 0.44 |
| 35              | MUCD 207SB | 163             | 90   | 32.8 | 130 | 13 | 16.1           | 18             | 43.4           | 42.9 | 17.5 | M12       | MUC207      | 22                               | 12.3        | NFL207SB    | 0.65 |
| 40              | MUCD 208SB | 175             | 100  | 37.5 | 144 | 14 | 20             | 21.5           | 51.7           | 49.2 | 19   | M12       | MUC208      | 24.9                             | 14.3        | NFL208SB    | 0.87 |

## THERMOPLASTIC COVER

Fig.5

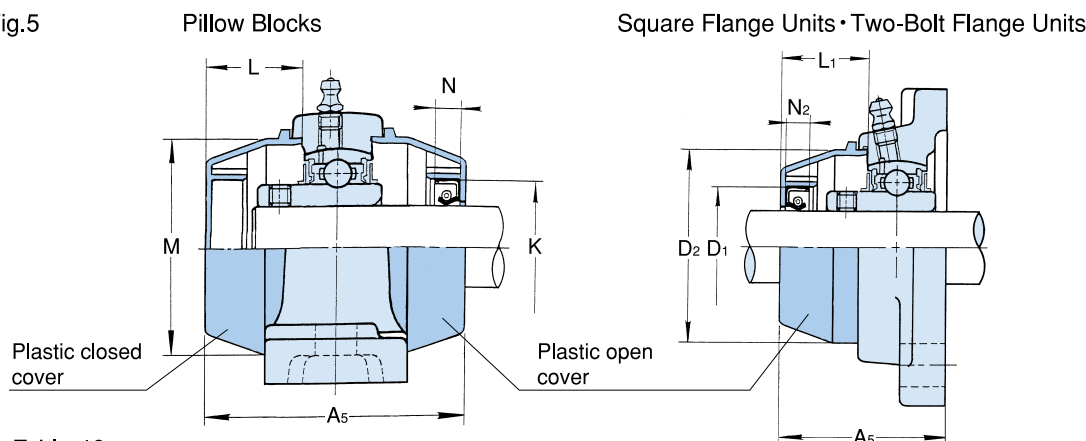


Table 12

| Shaft dia. (mm) | Open Cover No. | Closed Cover No. | Dimensions (mm) |   |    |    |          |             |      |
|-----------------|----------------|------------------|-----------------|---|----|----|----------|-------------|------|
|                 |                |                  | L               | N | K  | M  | Pillow P | Flange F FL |      |
| 20              | <b>RMO-204</b> | <b>RMC-204</b>   | 23              | 7 | 32 | 50 | 65       | 49.5        | 46.5 |
| 25              | <b>RMO-205</b> | <b>RMC-205</b>   | 25              | 7 | 37 | 55 | 71       | 50.5        | 50.5 |
| 30              | <b>RMO-206</b> | <b>RMC-206</b>   | 30              | 7 | 42 | 64 | 89       | 58.5        | 58.5 |
| 35              | <b>RMO-207</b> | <b>RMC-207</b>   | 32              | 7 | 47 | 74 | 91       | 63.5        | 60   |
| 40              | <b>RMO-208</b> | <b>RMC-208</b>   | 37              | 7 | 52 | 84 | 103      | 71          | 69   |

Remark : When ordering these covers, please consult us.

Back seal is available to flange type housings, FPL and NFL in combination with MB series bearing insert to be mounted. Please consult us if necessary.

### ○Remarks

- Bolt Size of thermoplastic housings may differ from those of JIS-type ball bearing units for some sizes.
- Thermoplastic housings may be damaged when heavy shock is applied.
- This unit should not be used where static electricity may be generated. When used, it shall be earthed properly.
- Breaking strength of the housings (Table 5) shows the average value under the normal operating temperature. Safety factor should be taken into account depending upon the operating temperature, carrying load and its direction and nature.
- In order to prevent from inner ring's crack due to over tightening set-screws or set-screws' loosening due to vibration while operating, the set-screws shall be properly and evenly tightened.
- Specifications are subject to change without prior notice.

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