

## LB-T90 Bronze Wrapped Bearings with Through Holes

RoHS



### Structure

The bearings are wrapped from a cold formed homogenous bronze (CuSn8) with exceptional material properties. The standard sizes incorporate holes, which are dispersed in a special way over the whole bearing surface. These holes serve as lubricant reservoirs to rapidly build up a lubrication film at the start of movement and thereafter reduce the running friction. The material is suitable for construction and agricultural machinery etc. where high load and slow movement occur.

### Chemical Compositions

| Material type | Cu%  | Sn% | P%  | Pb% | Zn% |
|---------------|------|-----|-----|-----|-----|
| LB-T90        | 91.3 | 8.5 | 0.2 | /   | /   |

### Tech. Data

|                          |         |                           |                            |  |
|--------------------------|---------|---------------------------|----------------------------|--|
| Max. load                | Static  | 120N/mm <sup>2</sup>      | Elongation                 | 40%                                    |
|                          | Dynamic | 40N/mm <sup>2</sup>       |                            | Temp.                                  |
| Max. speed (Lubrication) |         | 2.5m/s                    | Friction coefficient       | 0.08~0.25                              |
| Max. PV                  |         | 2.8N/mm <sup>2</sup> *m/s | Thermal conductivity       | 58W(m*k) <sup>-1</sup>                 |
| Tensile strength         |         | 450N/mm <sup>2</sup>      | Coef. of thermal expansion | 18.5*10 <sup>-6</sup> *K <sup>-1</sup> |
| Hardness                 |         | HB 110-150                |                            |  |

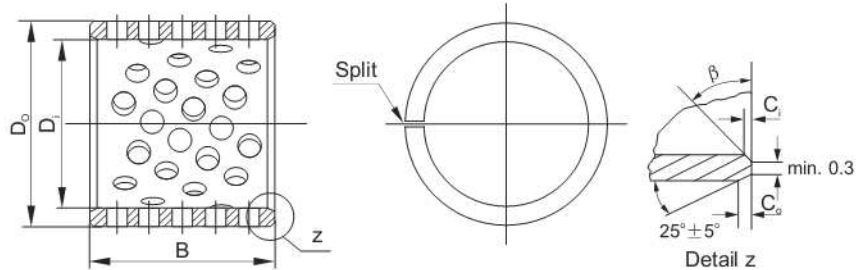
### Features

1. Easy of fitting and lubricate
  2. High load capacity
  3. Excellent wear resistance with lower friction
  4. High level thermal conductivity
  5. Minimum overall dimensions
  6. Chemical resistance
  7. Extended service life and lubrication intervals than normal LB-090 type bearings
  8. Free selection of lubricants
  9. Collection of dust and rub off particles in the holes
- Initial pre-lubrication at assembly is required...

### Typical Applications

This type of bushing is widely applied in hoisting machines and other construction machines, automobiles, tractors, trucks, machines tools and some mineral engines. It can be fabricated into bushes, half bearings, flanged bushes, thrust washers, spherical bearing and so on.

# LB-T90 Metric Cylindrical Bushes



ID and OD chamfers

| S <sub>3</sub> | C <sub>0</sub> | C <sub>1</sub> | β        | S <sub>3</sub> | C <sub>0</sub> | C <sub>1</sub> | β        |
|----------------|----------------|----------------|----------|----------------|----------------|----------------|----------|
| 0.75           | 0.5 ± 0.3      | 0.25 ± 0.2     | 35° ± 5° | 2.00           | 1.2 ± 0.4      | 0.50 ± 0.3     | 35° ± 5° |
| 1.00           | 0.6 ± 0.3      | 0.30 ± 0.2     | 35° ± 5° | 2.50           | 1.8 ± 0.6      | 0.60 ± 0.3     | 45° ± 5° |
| 1.50           | 0.7 ± 0.3      | 0.50 ± 0.3     | 35° ± 5° |                |                |                |          |

Unit:mm

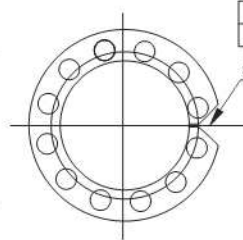
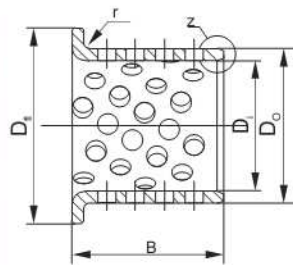
| D <sub>i</sub> | D <sub>o</sub> | B <sup>0</sup> <sub>-0.40</sub> |             |             |             |             |             |             |             |             |             |             |             |              |
|----------------|----------------|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
|                |                | 10                              | 15          | 20          | 25          | 30          | 35          | 40          | 50          | 60          | 70          | 80          | 90          | 100          |
| 10             | 12             | LB-T90 1010                     | LB-T90 1015 | LB-T90 1020 |             |             |             |             |             |             |             |             |             |              |
| 12             | 14             | LB-T90 1210                     | LB-T90 1215 | LB-T90 1220 |             |             |             |             |             |             |             |             |             |              |
| 14             | 16             | LB-T90 1410                     | LB-T90 1415 | LB-T90 1420 | LB-T90 1425 |             |             |             |             |             |             |             |             |              |
| 15             | 17             | LB-T90 1510                     | LB-T90 1515 | LB-T90 1520 | LB-T90 1525 |             |             |             |             |             |             |             |             |              |
| 16             | 18             | LB-T90 1610                     | LB-T90 1615 | LB-T90 1620 | LB-T90 1625 |             |             |             |             |             |             |             |             |              |
| 18             | 20             | LB-T90 1810                     | LB-T90 1815 | LB-T90 1820 | LB-T90 1825 |             |             |             |             |             |             |             |             |              |
| 20             | 23             | LB-T90 2010                     | LB-T90 2015 | LB-T90 2020 | LB-T90 2025 |             |             |             |             |             |             |             |             |              |
| 22             | 25             | LB-T90 2210                     | LB-T90 2215 | LB-T90 2220 | LB-T90 2225 | LB-T90 2230 |             |             |             |             |             |             |             |              |
| 24             | 27             |                                 | LB-T90 2415 | LB-T90 2420 | LB-T90 2425 | LB-T90 2430 |             |             |             |             |             |             |             |              |
| 25             | 28             |                                 | LB-T90 2515 | LB-T90 2520 | LB-T90 2525 | LB-T90 2530 |             |             |             |             |             |             |             |              |
| 28             | 31             |                                 | LB-T90 2815 | LB-T90 2820 | LB-T90 2825 | LB-T90 2830 |             |             |             |             |             |             |             |              |
| 30             | 34             |                                 | LB-T90 3015 | LB-T90 3020 | LB-T90 3025 | LB-T90 3030 | LB-T90 3035 | LB-T90 3040 |             |             |             |             |             |              |
| 32             | 36             |                                 | LB-T90 3215 | LB-T90 3220 | LB-T90 3225 | LB-T90 3230 | LB-T90 3235 | LB-T90 3240 |             |             |             |             |             |              |
| 35             | 39             |                                 | LB-T90 3515 | LB-T90 3520 | LB-T90 3525 | LB-T90 3530 | LB-T90 3535 | LB-T90 3540 |             |             |             |             |             |              |
| 40             | 44             |                                 | LB-T90 4020 | LB-T90 4025 | LB-T90 4030 | LB-T90 4035 | LB-T90 4040 | LB-T90 4050 |             |             |             |             |             |              |
| 45             | 50             |                                 | LB-T90 4520 | LB-T90 4525 | LB-T90 4530 | LB-T90 4535 | LB-T90 4540 | LB-T90 4550 |             |             |             |             |             |              |
| 50             | 55             |                                 | LB-T90 5020 | LB-T90 5025 | LB-T90 5030 | LB-T90 5035 | LB-T90 5040 | LB-T90 5050 | LB-T90 5060 |             |             |             |             |              |
| 55             | 60             |                                 | LB-T90 5520 | LB-T90 5525 | LB-T90 5530 | LB-T90 5535 | LB-T90 5540 | LB-T90 5550 | LB-T90 5560 |             |             |             |             |              |
| 60             | 65             |                                 |             | LB-T90 6025 | LB-T90 6030 | LB-T90 6035 | LB-T90 6040 | LB-T90 6050 | LB-T90 6060 | LB-T90 6070 |             |             |             |              |
| 65             | 70             |                                 |             |             | LB-T90 6530 | LB-T90 6535 | LB-T90 6540 | LB-T90 6550 | LB-T90 6560 | LB-T90 6570 |             |             |             |              |
| 70             | 75             |                                 |             |             |             | LB-T90 7030 | LB-T90 7035 | LB-T90 7040 | LB-T90 7050 | LB-T90 7060 | LB-T90 7070 | LB-T90 7080 |             |              |
| 75             | 80             |                                 |             |             |             | LB-T90 7530 | LB-T90 7535 | LB-T90 7540 | LB-T90 7550 | LB-T90 7560 | LB-T90 7570 | LB-T90 7580 |             |              |
| 80             | 85             |                                 |             |             |             | LB-T90 8030 | LB-T90 8035 | LB-T90 8040 | LB-T90 8050 | LB-T90 8060 | LB-T90 8070 | LB-T90 8080 |             |              |
| 85             | 90             |                                 |             |             |             | LB-T90 8530 | LB-T90 8535 | LB-T90 8540 | LB-T90 8550 | LB-T90 8560 | LB-T90 8570 | LB-T90 8580 | LB-T90 8590 |              |
| 90             | 95             |                                 |             |             |             | LB-T90 9030 | LB-T90 9035 | LB-T90 9040 | LB-T90 9050 | LB-T90 9060 | LB-T90 9070 | LB-T90 9080 | LB-T90 9090 |              |
| 95             | 100            |                                 |             |             |             |             |             | LB-T90 9540 | LB-T90 9550 | LB-T90 9560 | LB-T90 9570 | LB-T90 9580 | LB-T90 9590 | LB-T90 95100 |

## LB-T90 Metric Cylindrical Bushes

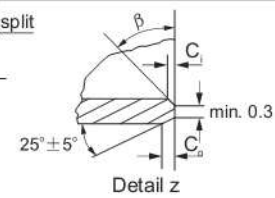
Unit:mm

| D <sub>i</sub> | D <sub>o</sub> | B <sup>0</sup> <sub>-0.40</sub> |    |    |    |                 |                 |                 |                 |                 |                  |
|----------------|----------------|---------------------------------|----|----|----|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|
|                |                | 25                              | 30 | 35 | 40 | 50              | 60              | 70              | 80              | 90              | 100              |
| 100            | 105            |                                 |    |    |    | LB-T90<br>10050 | LB-T90<br>10060 | LB-T90<br>10070 | LB-T90<br>10080 | LB-T90<br>10090 | LB-T90<br>100100 |
| 105            | 110            |                                 |    |    |    | LB-T90<br>10550 | LB-T90<br>10560 | LB-T90<br>10570 | LB-T90<br>10580 | LB-T90<br>10590 | LB-T90<br>105100 |
| 110            | 115            |                                 |    |    |    | LB-T90<br>11050 | LB-T90<br>11060 | LB-T90<br>11070 | LB-T90<br>11080 | LB-T90<br>11090 | LB-T90<br>110100 |
| 115            | 120            |                                 |    |    |    | LB-T90<br>11550 | LB-T90<br>11560 | LB-T90<br>11570 | LB-T90<br>11580 | LB-T90<br>11590 | LB-T90<br>115100 |
| 120            | 125            |                                 |    |    |    |                 | LB-T90<br>12060 | LB-T90<br>12070 | LB-T90<br>12080 | LB-T90<br>12090 | LB-T90<br>120100 |
| 125            | 130            |                                 |    |    |    |                 | LB-T90<br>12560 | LB-T90<br>12570 | LB-T90<br>12580 | LB-T90<br>12590 | LB-T90<br>125100 |
| 130            | 135            |                                 |    |    |    |                 | LB-T90<br>13060 | LB-T90<br>13070 | LB-T90<br>13080 | LB-T90<br>13090 | LB-T90<br>130100 |
| 135            | 140            |                                 |    |    |    |                 | LB-T90<br>13560 | LB-T90<br>13570 | LB-T90<br>13580 | LB-T90<br>13590 | LB-T90<br>135100 |
| 140            | 145            |                                 |    |    |    |                 | LB-T90<br>14060 | LB-T90<br>14070 | LB-T90<br>14080 | LB-T90<br>14090 | LB-T90<br>140100 |
| 145            | 150            |                                 |    |    |    |                 | LB-T90<br>14560 | LB-T90<br>14570 | LB-T90<br>14580 | LB-T90<br>14590 | LB-T90<br>145100 |
| 150            | 155            |                                 |    |    |    |                 | LB-T90<br>15060 | LB-T90<br>15070 | LB-T90<br>15080 | LB-T90<br>15090 | LB-T90<br>150100 |
| 155            | 160            |                                 |    |    |    |                 | LB-T90<br>15560 | LB-T90<br>15570 | LB-T90<br>15580 | LB-T90<br>15590 | LB-T90<br>155100 |
| 160            | 165            |                                 |    |    |    |                 | LB-T90<br>16060 | LB-T90<br>16070 | LB-T90<br>16080 | LB-T90<br>16090 | LB-T90<br>160100 |
| 165            | 170            |                                 |    |    |    |                 | LB-T90<br>16560 | LB-T90<br>16570 | LB-T90<br>16580 | LB-T90<br>16590 | LB-T90<br>165100 |
| 170            | 175            |                                 |    |    |    |                 | LB-T90<br>17060 | LB-T90<br>17070 | LB-T90<br>17080 | LB-T90<br>17090 | LB-T90<br>170100 |
| 175            | 180            |                                 |    |    |    |                 | LB-T90<br>17560 | LB-T90<br>17570 | LB-T90<br>17580 | LB-T90<br>17590 | LB-T90<br>175100 |
| 180            | 185            |                                 |    |    |    |                 | LB-T90<br>18060 | LB-T90<br>18070 | LB-T90<br>18080 | LB-T90<br>18090 | LB-T90<br>180100 |
| 185            | 190            |                                 |    |    |    |                 | LB-T90<br>18560 | LB-T90<br>18570 | LB-T90<br>18580 | LB-T90<br>18590 | LB-T90<br>185100 |
| 190            | 195            |                                 |    |    |    |                 | LB-T90<br>19060 | LB-T90<br>19070 | LB-T90<br>19080 | LB-T90<br>19090 | LB-T90<br>190100 |
| 195            | 200            |                                 |    |    |    |                 | LB-T90<br>19560 | LB-T90<br>19570 | LB-T90<br>19580 | LB-T90<br>19590 | LB-T90<br>195100 |
| 200            | 205            |                                 |    |    |    |                 | LB-T90<br>20060 | LB-T90<br>20070 | LB-T90<br>20080 | LB-T90<br>20090 | LB-T90<br>200100 |
| 205            | 210            |                                 |    |    |    |                 | LB-T90<br>20560 | LB-T90<br>20570 | LB-T90<br>20580 | LB-T90<br>20590 | LB-T90<br>205100 |
| 215            | 220            |                                 |    |    |    |                 | LB-T90<br>21560 | LB-T90<br>21570 | LB-T90<br>21580 | LB-T90<br>21590 | LB-T90<br>215100 |
| 225            | 230            |                                 |    |    |    |                 | LB-T90<br>22560 | LB-T90<br>22570 | LB-T90<br>22580 | LB-T90<br>22590 | LB-T90<br>225100 |
| 230            | 235            |                                 |    |    |    |                 | LB-T90<br>23060 | LB-T90<br>23070 | LB-T90<br>23080 | LB-T90<br>23090 | LB-T90<br>230100 |
| 240            | 245            |                                 |    |    |    |                 | LB-T90<br>24060 | LB-T90<br>24070 | LB-T90<br>24080 | LB-T90<br>24090 | LB-T90<br>240100 |
| 250            | 255            |                                 |    |    |    |                 | LB-T90<br>25060 | LB-T90<br>25070 | LB-T90<br>25080 | LB-T90<br>25090 | LB-T90<br>250100 |
| 260            | 265            |                                 |    |    |    |                 | LB-T90<br>26060 | LB-T90<br>26070 | LB-T90<br>26080 | LB-T90<br>26090 | LB-T90<br>260100 |
| 270            | 275            |                                 |    |    |    |                 | LB-T90<br>27060 | LB-T90<br>27070 | LB-T90<br>27080 | LB-T90<br>27090 | LB-T90<br>270100 |
| 280            | 285            |                                 |    |    |    |                 | LB-T90<br>28060 | LB-T90<br>28070 | LB-T90<br>28080 | LB-T90<br>28090 | LB-T90<br>280100 |
| 290            | 295            |                                 |    |    |    |                 | LB-T90<br>29060 | LB-T90<br>29070 | LB-T90<br>29080 | LB-T90<br>29090 | LB-T90<br>290100 |
| 300            | 305            |                                 |    |    |    |                 | LB-T90<br>30060 | LB-T90<br>30070 | LB-T90<br>30080 | LB-T90<br>30090 | LB-T90<br>300100 |

# LB-T90 Metric Flange Bushes



|                |                   |       |         |       |
|----------------|-------------------|-------|---------|-------|
| S <sub>2</sub> | 1.0               | 1.5   | 2.0     | 2.5   |
| r              | 1 <sup>±0.5</sup> | 1±0.5 | 1.5±0.5 | 2±0.5 |



Unit:mm

| D <sub>i</sub> | D <sub>o</sub> | D <sub>1</sub> | B <sup>0</sup> <sub>-0.40</sub> |                  |                  |                  |                  |                  |                   |                   |                   |                   |                   |  |  |  |  |
|----------------|----------------|----------------|---------------------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|--|--|--|
|                |                |                | 15                              | 20               | 25               | 30               | 35               | 40               | 50                | 60                | 70                | 80                | 90                |  |  |  |  |
| 25             | 28             | 35             | LB-TB90<br>25150                | LB-TB90<br>25200 | LB-TB90<br>25250 |                  |                  |                  |                   |                   |                   |                   |                   |  |  |  |  |
| 30             | 34             | 45             |                                 | LB-TB90<br>30200 | LB-TB90<br>30250 | LB-TB90<br>30300 |                  |                  |                   |                   |                   |                   |                   |  |  |  |  |
| 35             | 39             | 50             |                                 | LB-TB90<br>35200 | LB-TB90<br>35250 | LB-TB90<br>35300 | LB-TB90<br>35350 |                  |                   |                   |                   |                   |                   |  |  |  |  |
| 40             | 44             | 55             |                                 |                  | LB-TB90<br>40250 | LB-TB90<br>40300 | LB-TB90<br>40350 | LB-TB90<br>40400 |                   |                   |                   |                   |                   |  |  |  |  |
| 45             | 50             | 60             |                                 |                  |                  | LB-TB90<br>45300 | LB-TB90<br>45350 | LB-TB90<br>45400 | LB-TB90<br>45500  |                   |                   |                   |                   |  |  |  |  |
| 50             | 55             | 65             |                                 |                  |                  | LB-TB90<br>50300 | LB-TB90<br>50350 | LB-TB90<br>50400 | LB-TB90<br>50500  |                   |                   |                   |                   |  |  |  |  |
| 55             | 60             | 70             |                                 |                  |                  | LB-TB90<br>55300 | LB-TB90<br>55350 | LB-TB90<br>55400 | LB-TB90<br>55500  |                   |                   |                   |                   |  |  |  |  |
| 60             | 65             | 75             |                                 |                  |                  | LB-TB90<br>60300 | LB-TB90<br>60350 | LB-TB90<br>60400 | LB-TB90<br>60500  | LB-TB90<br>60600  |                   |                   |                   |  |  |  |  |
| 65             | 70             | 80             |                                 |                  |                  | LB-TB90<br>65300 | LB-TB90<br>65350 | LB-TB90<br>65400 | LB-TB90<br>65500  | LB-TB90<br>65600  |                   |                   |                   |  |  |  |  |
| 70             | 75             | 85             |                                 |                  |                  |                  | LB-TB90<br>70350 | LB-TB90<br>70400 | LB-TB90<br>70500  | LB-TB90<br>70600  | LB-TB90<br>70700  |                   |                   |  |  |  |  |
| 75             | 80             | 90             |                                 |                  |                  |                  | LB-TB90<br>75350 | LB-TB90<br>75400 | LB-TB90<br>75500  | LB-TB90<br>75600  | LB-TB90<br>75700  |                   |                   |  |  |  |  |
| 80             | 85             | 100            |                                 |                  |                  |                  | LB-TB90<br>80350 | LB-TB90<br>80400 | LB-TB90<br>80500  | LB-TB90<br>80600  | LB-TB90<br>80700  | LB-TB90<br>80800  |                   |  |  |  |  |
| 90             | 95             | 110            |                                 |                  |                  |                  |                  |                  | LB-TB90<br>90500  | LB-TB90<br>90600  | LB-TB90<br>90700  | LB-TB90<br>90800  | LB-TB90<br>90900  |  |  |  |  |
| 100            | 105            | 120            |                                 |                  |                  |                  |                  |                  | LB-TB90<br>100500 | LB-TB90<br>100600 | LB-TB90<br>100700 | LB-TB90<br>100800 | LB-TB90<br>100900 |  |  |  |  |
| 110            | 115            | 130            |                                 |                  |                  |                  |                  |                  | LB-TB90<br>110500 | LB-TB90<br>110600 | LB-TB90<br>110700 | LB-TB90<br>110800 | LB-TB90<br>110900 |  |  |  |  |
| 120            | 125            | 140            |                                 |                  |                  |                  |                  |                  | LB-TB90<br>120500 | LB-TB90<br>120600 | LB-TB90<br>120700 | LB-TB90<br>120800 | LB-TB90<br>120900 |  |  |  |  |
| 130            | 135            | 155            |                                 |                  |                  |                  |                  |                  |                   | LB-TB90<br>130600 | LB-TB90<br>130700 | LB-TB90<br>130800 | LB-TB90<br>130900 |  |  |  |  |
| 140            | 145            | 165            |                                 |                  |                  |                  |                  |                  |                   | LB-TB90<br>140600 | LB-TB90<br>140700 | LB-TB90<br>140800 | LB-TB90<br>140900 |  |  |  |  |
| 150            | 155            | 180            |                                 |                  |                  |                  |                  |                  |                   | LB-TB90<br>150600 | LB-TB90<br>150700 | LB-TB90<br>150800 | LB-TB90<br>150900 |  |  |  |  |
| 160            | 165            | 190            |                                 |                  |                  |                  |                  |                  |                   | LB-TB90<br>160600 | LB-TB90<br>160700 | LB-TB90<br>160800 | LB-TB90<br>160900 |  |  |  |  |
| 170            | 175            | 200            |                                 |                  |                  |                  |                  |                  |                   | LB-TB90<br>170600 | LB-TB90<br>170700 | LB-TB90<br>170800 | LB-TB90<br>170900 |  |  |  |  |
| 180            | 185            | 215            |                                 |                  |                  |                  |                  |                  |                   | LB-TB90<br>180600 | LB-TB90<br>180700 | LB-TB90<br>180800 | LB-TB90<br>180900 |  |  |  |  |
| 190            | 195            | 225            |                                 |                  |                  |                  |                  |                  |                   | LB-TB90<br>190600 | LB-TB90<br>190700 | LB-TB90<br>190800 | LB-TB90<br>190900 |  |  |  |  |
| 200            | 205            | 235            |                                 |                  |                  |                  |                  |                  |                   | LB-TB90<br>200600 | LB-TB90<br>200700 | LB-TB90<br>200800 | LB-TB90<br>200900 |  |  |  |  |
| 225            | 230            | 260            |                                 |                  |                  |                  |                  |                  |                   | LB-TB90<br>225600 | LB-TB90<br>225700 | LB-TB90<br>225800 | LB-TB90<br>225900 |  |  |  |  |
| 250            | 255            | 290            |                                 |                  |                  |                  |                  |                  |                   | LB-TB90<br>250600 | LB-TB90<br>250700 | LB-TB90<br>250800 | LB-TB90<br>250900 |  |  |  |  |
| 265            | 270            | 305            |                                 |                  |                  |                  |                  |                  |                   | LB-TB90<br>265600 | LB-TB90<br>265700 | LB-TB90<br>265800 | LB-TB90<br>265900 |  |  |  |  |
| 285            | 290            | 325            |                                 |                  |                  |                  |                  |                  |                   | LB-TB90<br>285600 | LB-TB90<br>285700 | LB-TB90<br>285800 | LB-TB90<br>285900 |  |  |  |  |
| 300            | 305            | 340            |                                 |                  |                  |                  |                  |                  |                   | LB-TB90<br>300600 | LB-TB90<br>300700 | LB-TB90<br>300800 | LB-TB90<br>300900 |  |  |  |  |

# LB-T90 Bronze Wrapped Bushes

## Chemical composition

| Material type | Cu%  | Sn% | P%  | Pb% | Zn% |
|---------------|------|-----|-----|-----|-----|
| LB-T09        | 91.3 | 8.5 | 0.2 | /   | /   |

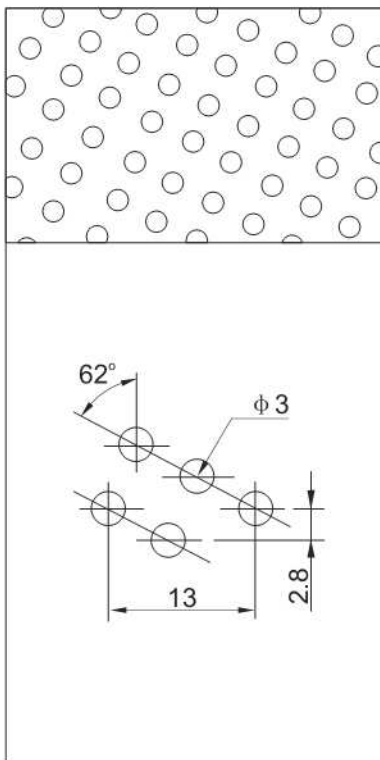
## Bushes tolerance

Unit:mm

| I.D.                   | 10<d≤18          | 18<d≤30          | 30<d≤50          | 50<d≤80          | 80<d≤120         | 120<d≤180        | 180<d≤250        | 250<d≤300        |
|------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| O.D. tolerance         | +0.065<br>+0.030 | +0.075<br>+0.035 | +0.085<br>+0.045 | +0.100<br>+0.055 | +0.120<br>+0.070 | +0.170<br>+0.100 | +0.210<br>+0.130 | +0.260<br>+0.170 |
| Installed I.D.H9       | +0.043<br>0      | +0.052<br>0      | +0.062<br>0      | +0.074<br>0      | +0.087<br>0      | +0.100<br>0      | +0.115<br>0      | +0.130<br>0      |
| Housing: H7, Shaft: d7 |                  |                  |                  |                  |                  |                  |                  |                  |

## Oil hole type

Inside Dia. ≤ φ 25



Inside Dia. ≥ φ 28

