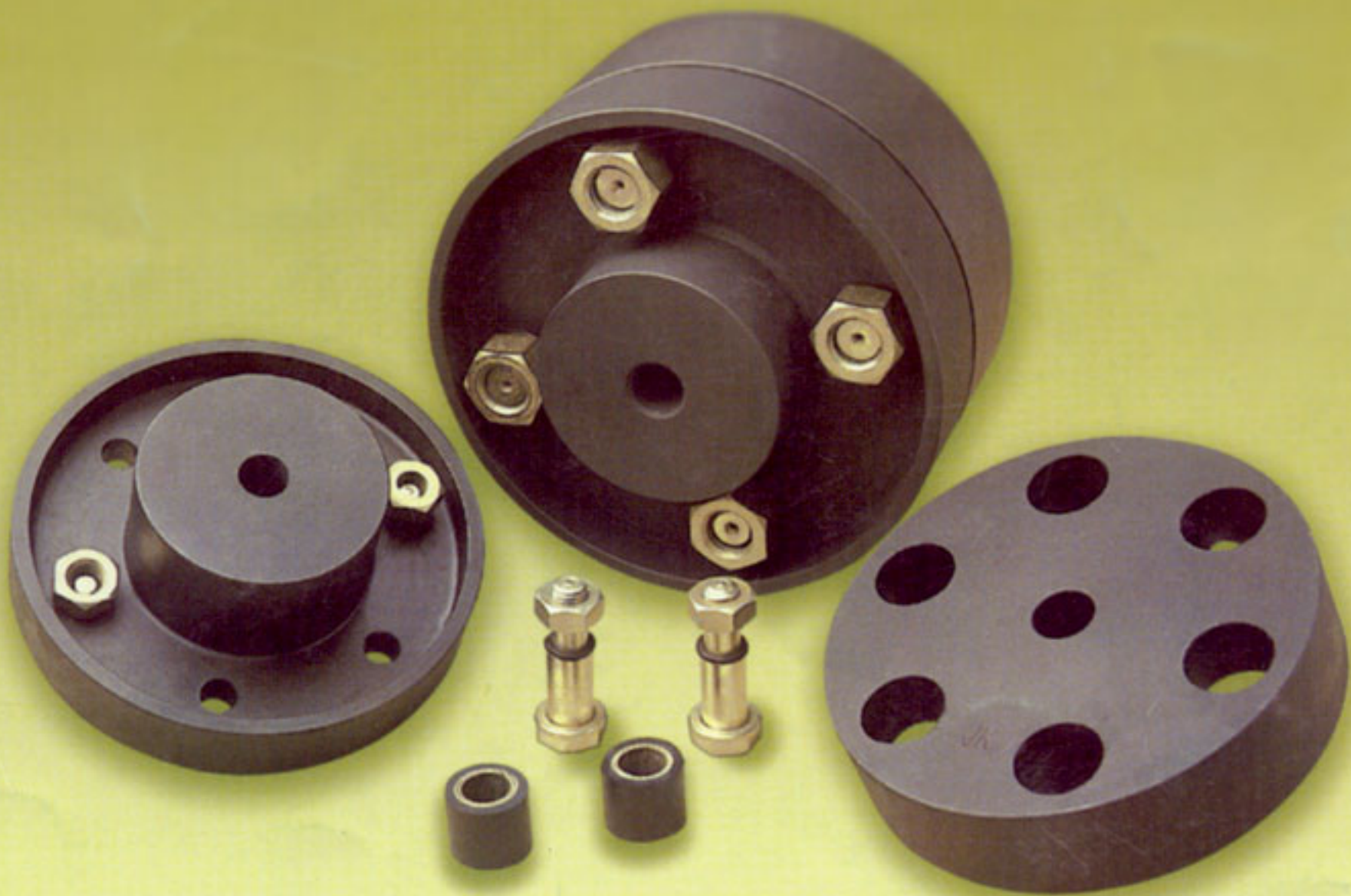


Fenner Bush Type Flexible Couplings



Fenner

POWERTRAN

BUSH TYPE FLEXIBLE COUPLING SELECTION

The function of a flexible coupling is to transmit torque from one shaft to another in cases where limited misalignment may occur and also to absorb shock loads.

The Fenner Bush Type Flexible Coupling of the cushioned drive type, transmits the torque through high tensile steel bolts to the machine input shaft. Highly developed rubber compounds are used in bushes to absorb shock loads, torsional vibrations and slight misalignments.

Simple and compact in construction, the Fenner Coupling is capable of transmitting high torques at maximum speeds. The flanges are manufactured with cast iron, grade 20 of IS. 210. This type of coupling permits drive in either direction and requires neither lubrication nor adjustment after fitting. The flexible bushes remain unaffected by water, dust and atmospheric conditions.

Machines which are to be coupled by flexible couplings should first be aligned with all possible accuracy. The capacity of the coupling will then deal with misalignments which occur by reason of temperature variations or heavy shaft loading. Setting of machine foundations or bearing wear will also cause extra loading to be imposed on the coupling. Any, or all of these conditions can occur once the machines have been coupled.

Flanges are bored to suit requirements and are keywayed to British Standard Specification, unless otherwise stated. They can also be supplied with the listed minimum bore to permit machining on site.

Power requirements for the standard couplings range from 0.81 Kw to 249 Kw at 100 r.p.m. and sizes from BC1 to NBC11

Details required for coupling selection are :

1. Type of driven machine and operating hours per day.
2. Speed and power absorbed by driven machine (If absorbed power is not known, it is calculated based on power rating of the prime mover).
3. Diameter of shafts to be connected.

PROCEDURE :

- a) **Service Factor** : Determine the required service factor from Table 1.
- b) **Design Power** : Multiply the normal running power by the service factor. This gives the Design Power which is used as a basis for selecting the coupling.
- c) **Coupling Size** : Refer to Table 3 and from the appropriate speed, read across until a power greater than that required in step (b) is found. The size of coupling required is given at the head of that column.
- d) **Bore Size** : Check from dimension in Table 2, whether the chosen flanges can accommodate the required bores.

| TABLE 1 : SERVICE FACTORS | PRIME MOVER | | | | |
|---|--|-------------------------------------|------------------------------------|---|--|
| | Electric Motor Steam Trubine Shafting | Steam Engine Water Turbine | IC Engine Multi- Cylinder | IC Engine Single Cylinder Diesel Multi- Cylinder | Diesel Engine Single Cylinder |
| Even Torque Machines; Smooth Loads, Generators; Centrifugal Pumps; Blowers; Small Fans; Line Shafting. | 1.00 | 1.25 | 1.50 | 2.00 | 2.50 |
| Machine Tools (light); Beaters; Exhausters; Wood-working Machines (light); Alternators; Welding Generators; Textile Machines. | 1.25 | 1.50 | 1.75 | 2.25 | 2.75 |
| Multi-Crank Compressors and Pumps; Generators (fluctuating loads); Rotary Dryers & Screens; Rotary Compressors; Planers; Wood-Working Machines (heavy); Pulp Grinders; Shakers; Mine Fans | 1.50 | 1.75 | 2.00 | 2.75 | 3.00 |
| Wire Mills; Cement Mills; Small Printing Presses. | 1.75 | 2.00 | 2.25 | 3.00 | 3.25 |
| Single Crank Compressors & Pumps; Hammers; Ball & Tube Mills; Rolling Mills (light); Shearing Machines; Punches; Rock& Stone Crushers; Brick Making and similar Machines; Printing Presses (large); Grinders; Pulverisors; Cranes & Winches; Mechanical Shovels & Dredges; Winding Gears and Drums. | 2.00 | 2.25 | 2.50 | 3.25 | 3.50 |
| Heavy Rolling Mill Drives; Continuous, Prolonged & Reversing Drives; Severe Traction and Haulage Loads. | 2.25 | 2.50 | 2.75 | 3.50 | 3.75 |

BUSH TYPE FLEXIBLE COUPLING SELECTION

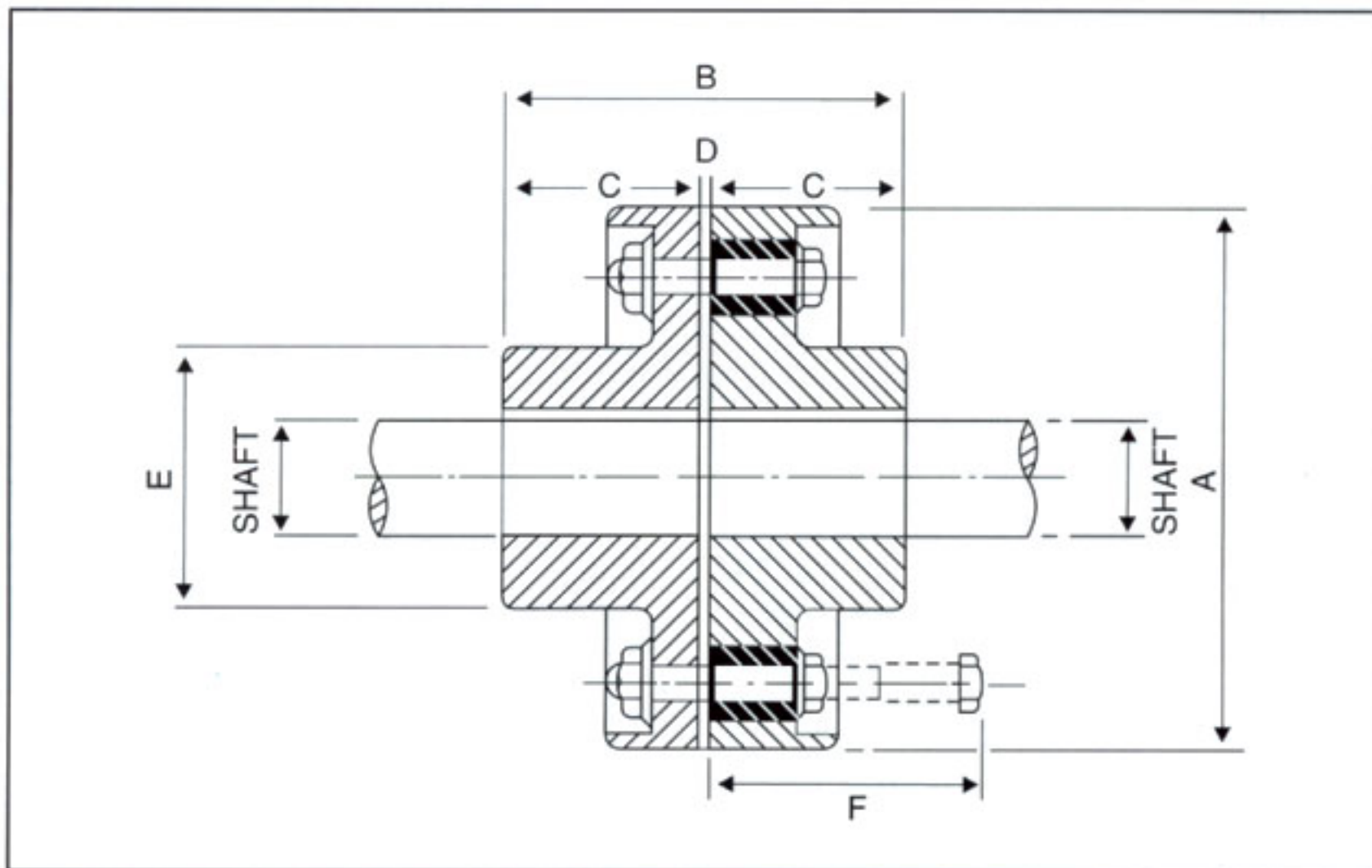


TABLE 2 : DIMENSIONS

| Size | No. of Pins | Torque Nm | Min. Bore (mm) | Max. Bore (mm) | Max. Speed rev/min | A | B | C | D | E | F |
|--------|-------------|-----------|----------------|----------------|--------------------|-----|-----|-----|---|-----|-----|
| BC1 | 3 | 77 | 12.7 | 28 | 6100 | 95 | 79 | 38 | 3 | 40 | 58 |
| BC2 | 4 | 310 | 12.7 | 30 | 5100 | 114 | 99 | 48 | 3 | 42 | 70 |
| BC2A | 6 | 516 | 16 | 42 | 4400 | 130 | 105 | 51 | 3 | 60 | 70 |
| BC3 | 4 | 621 | 16 | 48 | 3600 | 160 | 107 | 51 | 5 | 68 | 114 |
| BC4 | 4 | 831 | 20 | 65 | 3000 | 191 | 125 | 60 | 5 | 90 | 114 |
| BC4A | 6 | 1241 | | | | | | | | | |
| BC5 | 6 | 1662 | 25 | 75 | 2600 | 225 | 157 | 76 | 5 | 105 | 114 |
| BC6 | 8 | 2359 | 45 | 95 | 2300 | 254 | 183 | 89 | 5 | 135 | 114 |
| BC6A | 10 | 2932 | | | | | | | | | |
| BC6B | 12 | 3533 | | | | | | | | | |
| NBC7 | 12 | 4154 | 60 | 115 | 1950 | 290 | 235 | 115 | 5 | 170 | 114 |
| NBC7A | 14 | 5195 | 60 | 120 | 1900 | 300 | 235 | 115 | 5 | 180 | 130 |
| NBC8 | 16 | 5816 | 65 | 130 | 1850 | 310 | 255 | 125 | 5 | 195 | 130 |
| NBC8A | 18 | 7268 | 65 | 135 | 1650 | 340 | 265 | 130 | 5 | 200 | 130 |
| NBC8B | 12 | 8729 | 70 | 140 | 1590 | 360 | 276 | 135 | 6 | 210 | 200 |
| NBC9 | 13 | 9932 | 80 | 150 | 1470 | 390 | 316 | 155 | 6 | 225 | 200 |
| NBC9A | 15 | 13274 | 90 | 160 | 1400 | 410 | 336 | 165 | 6 | 240 | 200 |
| NBC10 | 16 | 14420 | 100 | 170 | 1300 | 440 | 366 | 180 | 6 | 255 | 200 |
| NBC10A | 17 | 18050 | 110 | 180 | 1200 | 480 | 386 | 190 | 6 | 270 | 212 |
| NBC11 | 20 | 23780 | 120 | 190 | 1080 | 530 | 406 | 200 | 6 | 285 | 212 |

All dimensions are subject to alteration without notice

BUSH TYPE FLEXIBLE COUPLING SELECTION

TABLE 3 : POWER RATINGS (Kw)

| Speed rev/min | COUPLING SIZES | | | | | | | | | | | | | | | | | | | |
|------------------|----------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|--------|-------|
| | BC1 | BC2 | BC2A | BC3 | BC4 | BC4A | BC5 | BC6 | BC6A | BC6B | NBC7 | NBC7A | NBC8 | NBC8A | NBC8B | NBC9 | NBC9A | NBC10 | NBC10A | NBC11 |
| 100 | 0.81 | 3.25 | 5.4 | 6.5 | 8.7 | 13 | 17.4 | 24.7 | 30.7 | 37 | 43.5 | 54.4 | 60.9 | 76.1 | 91.4 | 104 | 139 | 151 | 189 | 249 |
| 200 | 1.62 | 6.5 | 10.8 | 13 | 17.4 | 26 | 34.8 | 49.4 | 61.4 | 74 | 87 | 108.8 | 121.8 | 152.2 | 182.8 | 208 | 278 | 302 | 378 | 498 |
| 300 | 2.43 | 9.75 | 16.2 | 19.5 | 26.1 | 39 | 52.2 | 74.1 | 92.1 | 111 | 130.5 | 163.2 | 182.7 | 228.3 | 274.2 | 312 | 417 | 453 | 567 | 747 |
| 400 | 3.24 | 13 | 21.6 | 26 | 34.8 | 52 | 69.6 | 98.8 | 122.8 | 148 | 174 | 217.6 | 243.6 | 304.4 | 365.6 | 416 | 556 | 604 | 756 | 996 |
| 500 | 4.05 | 16.25 | 27 | 32.5 | 43.5 | 65 | 87 | 123.5 | 153.5 | 185 | 217.5 | 272 | 304.5 | 380.5 | 457 | 520 | 695 | 755 | 945 | 1245 |
| 600 | 4.86 | 19.5 | 32.4 | 39 | 52.2 | 78 | 104.2 | 148.2 | 184.2 | 222 | 261 | 326.4 | 365.4 | 456.6 | 548.4 | 624 | 834 | 906 | 1134 | 1494 |
| 700 | 5.67 | 22.75 | 37.8 | 45.5 | 60.9 | 91 | 121.8 | 172.9 | 214.9 | 259 | 304.5 | 380.8 | 426.3 | 532.7 | 639.8 | 728 | 973 | 1057 | 1323 | 1743 |
| 720 | 5.83 | 23.4 | 38.9 | 46.8 | 62.6 | 93.6 | 125.3 | 177.8 | 221 | 266.4 | 313.2 | 391.7 | 438.5 | 547.9 | 658 | 749 | 1001 | 1087 | 1361 | 1793 |
| 800 | 6.48 | 26 | 43.2 | 52 | 69.6 | 104 | 139.2 | 197.6 | 245.6 | 296 | 348 | 435.2 | 487.2 | 608.8 | 731.2 | 832 | 1112 | 1208 | 1512 | 1992 |
| 900 | 7.29 | 29.25 | 48.6 | 58.5 | 78.3 | 117 | 156.6 | 223.3 | 276 | 333 | 391.5 | 489.6 | 548.1 | 684.9 | 822.6 | 936 | 1251 | 1359 | 1701 | 2241 |
| 960 | 7.77 | 31.2 | 51.8 | 62.4 | 83.5 | 124.8 | 167 | 237.1 | 294.7 | 355.2 | 417.6 | 522.2 | 584.6 | 730.6 | 877.4 | 998 | 1334 | 1450 | 1814 | 2390 |
| 1000 | 8.1 | 32.5 | 54 | 65 | 87 | 130 | 174 | 247 | 307 | 370 | 435 | 544 | 609 | 761 | 914 | 1040 | 1390 | 1510 | 1890 | 2490 |
| 1200 | 9.72 | 39 | 64.8 | 78 | 104.4 | 156 | 208.8 | 296.4 | 368.4 | 444 | 522 | 652.8 | 730.8 | 913.2 | 1097 | 1248 | 1668 | 1812 | 2268 | |
| 1400 | 11.34 | 45.5 | 75.6 | 91 | 121.8 | 182 | 243.6 | 345.8 | 429.8 | 518 | 609 | 761.6 | 852.6 | 1065 | 1280 | | | | | |
| 1440 | 11.66 | 46.8 | 77.8 | 93.6 | 125.3 | 187.2 | 250.6 | 355.7 | 442 | 532.8 | 626.4 | 783.4 | 877 | 1096 | 1316 | | | | | |
| 1600 | 12.96 | 52 | 86.4 | 104 | 139.2 | 208 | 278.4 | 395.2 | 491 | 592 | 696 | 870.4 | 974.4 | 1218 | 1462 | | | | | |
| 1800 | 14.58 | 58.5 | 97.2 | 117 | 156.6 | 234 | 313.2 | 444.6 | 552.6 | 666 | 783 | 979.2 | | | | | | | | |
| 2000 | 16.2 | 65 | 108 | 130 | 174 | 260 | 348 | 494 | 614 | 740 | | | | | | | | | | |
| 2200 | 17.82 | 71.5 | 118.8 | 143 | 191.4 | 286 | 382.8 | 543.4 | 675.4 | 814 | | | | | | | | | | |
| 2400 | 19.44 | 78 | 129.6 | 156 | 208.8 | 312 | 417.6 | | | | | | | | | | | | | |
| 2600 | 21.06 | 84.5 | 140.4 | 169 | 226.2 | 338 | 452.4 | | | | | | | | | | | | | |
| 2800 | 22.68 | 91 | 151.2 | 182 | 243.6 | 364 | | | | | | | | | | | | | | |
| 2880 | 23.33 | 93.6 | 155.5 | 187.2 | 250.6 | 374.4 | | | | | | | | | | | | | | |
| 3000 | 24.3 | 97.5 | 162 | 195 | 261 | 390 | | | | | | | | | | | | | | |
| 3500 | 28.35 | 113.75 | 189 | 260 | | | | | | | | | | | | | | | | |
| 4000 | 32.4 | 130 | 216 | | | | | | | | | | | | | | | | | |
| 4500 | 36.45 | 146.25 | | | | | | | | | | | | | | | | | | |



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