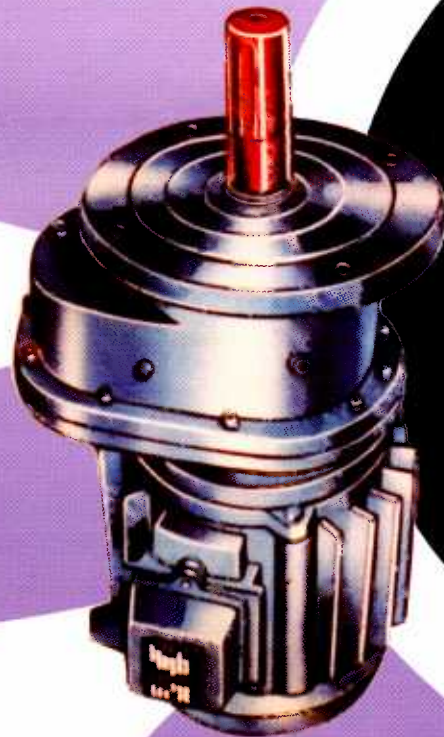
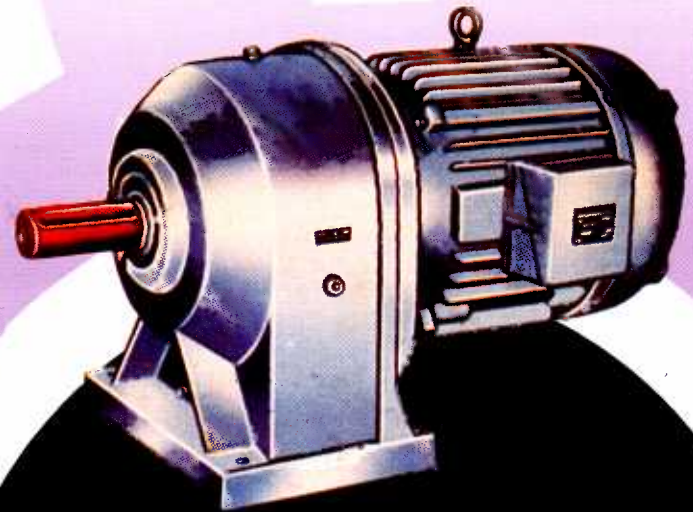
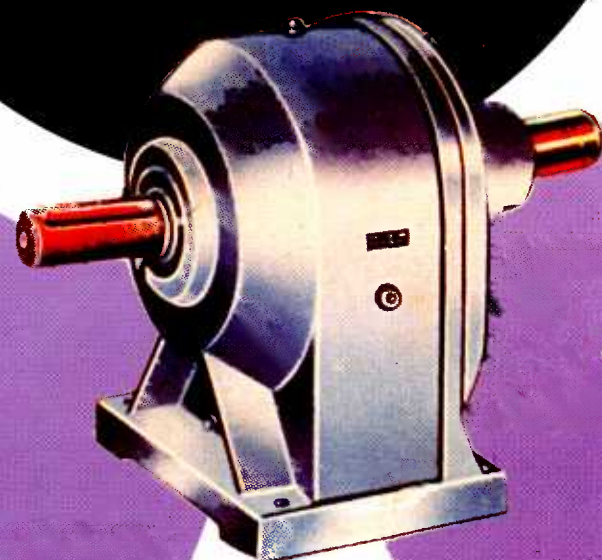




# SUDARSHAN GEARS



HELICAL  
GEARED  
MOTORS



**Sudarshan Gears** has been manufacturing Geared Motors since the last 15 Years. Over the years we have developed a very compact but robust design for the entire range of geared Motors. All the components of the geared motors are made from the best quality raw materials available suitable for the application. The geared motors are available in both foot and flange mountings. The stand alone helical inline gear boxes are available either to run with a coupling i.e. with a solid input shaft or with a hollow input to suit a B-5, Flange Mounted Motor.

#### **GEAR CASE :**

Our gear case is made of high quality grey cast iron. Thick walls and ribbed construction provide rigid casings and good resistance to distortion while cutting down vibrations.

#### **FINISH :**

The casting surfaces are finished Meticulously by removing all dirt and casting sand Metal Primers for rust protection and quick Drying High Lustre synthetic Enamel paint is used for finishing giving a superior look to the products.

#### **GEARS :**

The gears are made from case Hardened steel. The gear blanks are made on precision CNC Machines to give perfect squariness. The gear teeth are cut on Hobbing Machines and are designed for long Life operations.

#### **SHAFTS :**

The shafts are made from High Carbon steel for toughness and are ground to high precision for perfect fits as per requirements.

#### **BEARINGS :**

Only Tata / SKF Bearings are used for the Geared Motors. These bearings are procured directly from the factory to avoid any duplicate bearings.

#### **LUBRICATION :**

Our gear boxes and geared motors are filled at the factory with precisely the quantity of oil required for splash Lubrication. This oil filling ensures maintenance free running for the gear boxes for three years minimum. Synthetic lubricant of Grade 320 eg. Servo 320 , Enklo 320, Renolin (CLP 320) to be used for the first change.

#### **KEYS :**

Precise ground tight fit Keys made out of EN 8 are used.

#### **ELECTRIC MOTORS :**

Attached Motors are of class 'F' winding and protection class of IP55 is standard. The standard voltage is 3 ph 415 V 50 Hz. Non standard voltages are available as per requirement.

### Available Specialities as per Customer Requirements

- 1) Special Shafts as per customer requirements.
- 2) Special Mountings.
- 3) Reinforced output Bearings for high axial loads.
- 4) AC/DC Brakes
- 5) Epoxy Paint
- 6) Special Supply Voltages
- 7) Clutch Brake Combinations.

### DRIVE SELECTION :

In order to simplify drive selection, the RPM ranges are given for each HP/KW Rating of the Motor. Please select the appropriate geared Motor according to motor power, output speed, but always after determining the essential service factor. Comparison of acceptable output speeds combined with the required service factor will enable you to select the optimum geared Motor for your needs.

### FOR SERVICE FACTOR CONSULT THE FOLLOWING TABLE.

| Load classification | Type of load   | Average operating hours per day |      |      |      |      |
|---------------------|--|---------------------------------|------|------|------|------|
|                     |  | 5 h                             | 8 h  | 12 h | 16 h | 24 h |
| I                   | Easy starting, smooth operation, small masses to be accelerated.<br>e.g. samll conveyor belts, ventilators, assembly lines, centrifugal pumps, small elevators, filling machines, stirrers and mixers for materials with little viscosity.   | Service factors $f_B$           |      |      |      |      |
|                     |  | 0.8                             | 1.0  | 1.15 | 1.3  | 1.6  |
| II                  | Starting with moderate loads, uneven operating conditions, medium size masses to be accelerated.<br><br>e. g. gear pumps and rotary pumps, medium size stirrers and mixers, heavy conveyor belts, winches, mechanical gates crane slewing gears crane travelling gears, printing machines. | 1.0                             | 1.15 | 1.3  | 1.6  | 1.8  |
| III                 | Uneven operation, heavy loads, larger masses to be accelerated.<br><br>e. g. press-brakes, punching plateshears presses, heavy mixers, rollers, crushing mills, centrifuges heavy wiches, elevators and large size crane travelling gears and slewing gears. concrete mixers.              | 1.15                            | 1.3  | 1.6  | 1.4  | 2.0  |

Please note that the above table is only an indication and point of reference. The actual service factors and conditions can be determined practically only by trial and error.



# GEARED MOTORS RATING CHART

|   | HP   | RPM     | MODEL   | S. F.     |   | HP   | RPM     | MODEL    | S. F. |
|---|------|---------|---------|-----------|---|------|---------|----------|-------|
| A | 0.25 | 5-10    | 6-2-63  | 1.4       | A | 1.00 | 5-10    | 7A-5-80  | 1.2   |
| B |      | 10-20   | 5-2-63  | 1.4       | B |      | 10-20   | 7-5-80   | 1.2   |
| C |      | 20-30   | 5-71    | 1.6       | C |      | 20-30   | 6-100 L  | 1.2   |
| D |      | 30-60   | 3-71    | 1.4       | D |      | 30-40   | 6-90 S   | 1.4   |
| E |      | 60-500  | 2-63    | 1.3       | E |      | 30-40   | 5-90S    | 1.1   |
|   |      |         |         |           | F |      | 40-60   | 6-80     | 1.6   |
| A | 0.33 | 5-10    | 7-3-71  | 1.4       | G |      | 40-60   | 5-80     | 1.2   |
| B |      | 10.20   | 6-3-71  | 1.2 / 1.6 | H |      | 60-90   | 5.80     | 1.4   |
| C |      | 20-30   | 5.80    | 1.4       | I |      | 100-200 | 5-80     | 1.4   |
| D |      | 30-60   | S1-71   | 1.4       | J |      | 100-200 | S1-80    | 1.2   |
| E |      | 60-100  | S1-71   | 1.6       | K |      | 200-500 | S1-80    |       |
| F |      | 60-500  | 3.71    | 1.4       |   |      |         |          |       |
|   |      |         |         |           | A | 1.50 | 5-10    | 9-6-90 S | 1.4   |
| A | 0.50 | 5-10    | 7-3-71  | 1.2       | B |      | 5-10    | 8-6-90 S | 1.2   |
| B |      | 10-20   | 6-3-71  | 1.2       | C |      | 10-16   | 8-6-90 S | 1.6   |
| C |      | 20-30   | 6-90 S  | 1.4       | D |      | 16-20   | 7A-90 L  | 1.3   |
| D |      | 30-60   | S1-71   | 1.3       | E |      | 20-30   | 7A-90 S  | 1.4   |
| R |      | 60-100  | S1-71   | 1.6       | F |      | 30-40   | 7A-90 S  | 1.6   |
| F |      | 100-220 | S1-71   | 1.8       | G |      | 30-40   | 7-90 L   | 1.2   |
| G |      | 60-500  | 3.71    | 1.4       | H |      | 40-60   | 7-90 S   | 1.4   |
|   |      |         |         |           | I |      | 60-90   | 7-90 S   | 1.6   |
| A | 0.75 | 5-10    | 7A-5-80 | 1.3       | J |      | 60-90   | 6-90 S   | 1.2   |
| B |      | 10-20   | 7-5-80  | 1.4       | K |      | 100-200 | 6-90 S   | 1.4   |
| C |      | 20-30   | 6-90 L  | 1.2       | L |      | 100-200 | 5-90 S   | 1.2   |
| D |      | 30-40   | 6-90 S  | 1.4       | M |      | 200-500 | 5-90 S   | 1.4   |
| E |      | 30-40   | 5-90 S  | 1.2       |   |      |         |          |       |
| F |      | 40-60   | 6-80    | 1.6       | A | 2.00 | 5-10    | 9-6-90   | 1.3   |
| G |      | 40-60   | 5-80    | 1.4       | B |      | 10-16   | 8-6-90   | 1.4   |
| I |      | 60-90   | 5-80    | 1.4       | C |      | 10-16   | 7A-6-90  | 1.2   |
| J |      | 100-500 | S1-80   | 1.4       | D |      | 16-30   | 7A-100   | 1.4   |
|   |      |         |         |           | E |      | 30-40   | 7.100    | 1.2   |
|   |      |         |         |           | F |      | 30-40   | 7A-90 L  | 1.6   |

## NOTES :

- 1) Service factors mentioned to be considered for lowest RPM in range, Service factor increases as RPM increases in a given range.
- 2) RPM in given ranges available in steps of 3 rpm upto 80 rpm in steps of 5 rpm above 80 rpm and in step of 8 rpm above 200 rpm.
- 3) For service factors and RPM other than mentioned in the chart please refer to our factory for details.

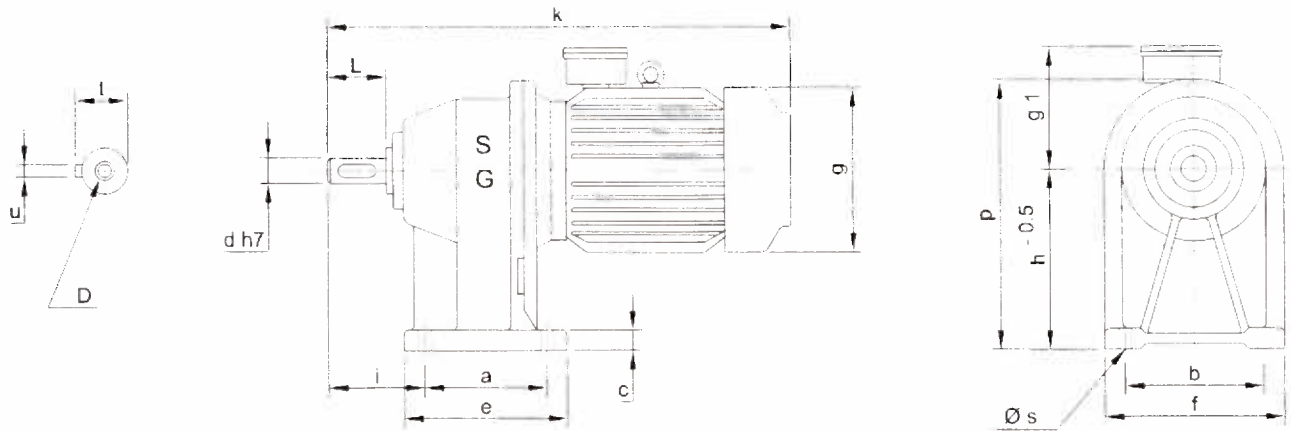
# GEARED MOTORS RATING CHART

| HP   | RPM     | MODEL     | S. F. | HP    | RPM     | MODEL    | S. F. |
|------|---------|-----------|-------|-------|---------|----------|-------|
| 2.00 | 40-60   | 7.90 S    | 1.4   |       | 20-30   | 9-160 M  | 1.3   |
|      | 60-80   | 7-90 S    | 1.4   |       | 30-40   | 9-132 M  | 1.4   |
|      | 60-80   | 6-90 S    | 1.2   |       | 40-60   | 8-132 S  | 1.2   |
|      | 80-100  | 6-90 S    | 1.4   |       | 60-90   | 8-132 S  | 1.4   |
|      | 80-100  | 5-90 S    | 1.1   |       | 100-200 | 8-132 S  | 1.4   |
|      | 100-200 | 6-90 S    | 1.6   |       | 100-200 | 7A-132 S | 1.2   |
|      | 100-200 | 5-90 S    | 1.2   |       | 200-500 | 7A-132 S | 1.4   |
|      | 200-500 | 5-90 S    | 1.4   |       |         |          |       |
| 3.00 | 5-10    | 9-6-100   | 1.2   | 10.00 | 20-30   | 10-160 L | 1.2   |
|      | 10-16   | 9-6-100   | 1.4   |       | 30-40   | 10-160 M | 1.4   |
|      | 10-16   | 8-6-100   | 1.2   |       | 30-40   | 9-160 M  | 1.2   |
|      | 16-20   | 8-132 S   | 1.3   |       | 40-60   | 9-132 M  | 1.4   |
|      | 20-30   | 8-132 S   | 1.4   |       | 60-90   | 9-132 M  | 1.6   |
|      | 20-30   | 7A-112    | 1.2   |       | 60-90   | 8-132 M  | 1.2   |
|      | 30-40   | 7A-100    | 1.4   |       | 100-200 | 9-132 M  | 1.8   |
|      | 40-60   | 7A-100    | 1.6   |       | 100-200 | 8-132 M  | 1.4   |
|      | 60-80   | 7-100     | 1.4   |       | 200-500 | 8-132 M  | 1.5   |
|      | 80-100  | 7-100     | 1.6   |       |         |          |       |
|      | 80-100  | 6-100 L   | 1.4   | 12.50 | 20-30   | 10-180 M | 1.2   |
|      | 100-500 | 6-100 L   | 1.4   |       | 30-40   | 10-160 L | 1.3   |
|      |         |           |       |       | 40-90   | 9-160 M  | 1.3   |
| 5.00 | 5-10    | 10-9-112  | 1.3   |       | 100-200 | 9-160 M  | 1.6   |
|      | 10-20   | 10-7-112  | 1.4   |       | 100-200 | 8-160 M  | 1.4   |
|      | 10-20   | 9-7-112   | 1.2   |       | 200-500 | 8-160 M  | 1.3   |
|      | 20-30   | 9-132 M   | 1.4   |       |         |          |       |
|      | 30-40   | 8-132 S   | 1.4   | 15.00 | 25-30   | 10-180 L | 1.2   |
|      | 30-40   | 7A-112    | 1.2   |       | 30-40   | 10-160 L | 1.3   |
|      | 40-60   | 8-112     | 1.4   |       | 40-90   | 9-160 M  | 1.3   |
|      | 40-60   | 7A-112    | 1.2   |       | 100-200 | 9-160 M  | 1.4   |
|      | 60-90   | 7A-112    | 1.6   |       | 100-200 | 8-160 M  | 1.2   |
|      | 100-500 | 7-112     | 1.4   |       | 200-500 | 8-160 M  | 1.5   |
|      |         |           |       |       |         |          |       |
| 7.50 | 10-20   | 10-7A-132 | 1.4   | 20.00 | 40-100  | 10-160 L | 1.3   |
|      | 20-30   | 10-160 M  | 1.6   |       | 100-500 | 9-160 L  | 1.4   |
|      |         |           |       |       | 200-500 | 8-160 L  | 1.4   |

**NOTES :**

- 1) Service factors mentioned to be considered for lowest RPM in range, Service factor increases as RPM increases in a given range.
- 2) RPM in given ranges available in steps of 3 rpm upto 80 rpm in steps of 5 rpm above 80 rpm and in step of 8 rpm above 200 rpm.
- 3) For service factors and RPM other than mentioned in the chart please refer to our factory for details.

## DIMENSIONS OF HORIZONTAL FOOT MOUNTED HELICAL GEARED MOTOR (B-3) 2 STAGE REDUCTION (SINGLE GEAR BOX)



| Model      | a   | b   | c  | e   | f   | Øs   | g   | g1  | h   | i   | k    | p   | dh7 | L   | t    | u  | D    |
|------------|-----|-----|----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|------|----|------|
| 2 - 63     | 75  | 98  | 12 | 95  | 118 | 8.5  | 124 | 100 | 100 | 68  | 320  | 157 | 17  | 45  | 19   | 5  | M 5  |
| 3 - 71     | 85  | 105 | 15 | 110 | 135 | 8.5  | 140 | 105 | 112 | 75  | 365  | 182 | 20  | 50  | 22.5 | 6  | M 6  |
| S1 - 71    | 90  | 132 | 12 | 130 | 165 | 9.5  | 140 | 105 | 112 | 83  | 385  | 190 | 24  | 50  | 27   | 8  | M 6  |
| S1 - 80    | 90  | 132 | 12 | 130 | 165 | 9.5  | 158 | 122 | 112 | 83  | 435  | 190 | 24  | 50  | 31   | 8  | M 6  |
| 5 - 71     | 100 | 150 | 16 | 140 | 190 | 10.5 | 140 | 105 | 132 | 92  | 405  | 216 | 25  | 59  | 28   | 8  | M 8  |
| 5 - 80     | 100 | 150 | 16 | 140 | 190 | 10.5 | 158 | 122 | 132 | 92  | 435  | 216 | 25  | 59  | 28   | 8  | M 8  |
| 5 - 90 S   | 100 | 150 | 16 | 140 | 190 | 10.5 | 180 | 129 | 132 | 92  | 452  | 216 | 25  | 59  | 28   | 8  | M 8  |
| 6 - 71     | 120 | 170 | 20 | 150 | 210 | 12   | 140 | 105 | 160 | 97  | 425  | 255 | 30  | 67  | 33   | 8  | M 8  |
| 6 - 80     | 120 | 170 | 20 | 150 | 210 | 12   | 158 | 122 | 160 | 97  | 458  | 255 | 30  | 67  | 33   | 8  | M 8  |
| 6 - 90 S   | 120 | 170 | 20 | 150 | 210 | 12   | 180 | 129 | 160 | 97  | 458  | 255 | 30  | 67  | 33   | 8  | M 8  |
| 6 - 90 L   | 120 | 170 | 20 | 150 | 210 | 12   | 180 | 129 | 160 | 97  | 550  | 255 | 30  | 67  | 33   | 8  | M 8  |
| 6 - 100 L  | 120 | 170 | 20 | 150 | 210 | 12   | 198 | 152 | 160 | 97  | 608  | 255 | 30  | 67  | 33   | 8  | M 8  |
| 7 - 90 S   | 134 | 175 | 25 | 165 | 215 | 13   | 180 | 129 | 180 | 122 | 508  | 285 | 40  | 83  | 43   | 12 | M 12 |
| 7 - 90 L   | 134 | 175 | 25 | 165 | 215 | 13   | 180 | 129 | 180 | 122 | 533  | 285 | 40  | 83  | 43   | 12 | M 12 |
| 7 - 100    | 134 | 175 | 25 | 165 | 215 | 13   | 198 | 152 | 180 | 122 | 577  | 285 | 40  | 83  | 43   | 12 | M 12 |
| 7 - 112    | 134 | 175 | 25 | 165 | 215 | 13   | 222 | 165 | 180 | 120 | 600  | 285 | 40  | 83  | 43   | 12 | M 12 |
| 7A - 90 S  | 160 | 245 | 28 | 195 | 285 | 13   | 180 | 129 | 210 | 114 | 515  | 335 | 44  | 90  | 47   | 12 | M 12 |
| 7A - 90 L  | 160 | 245 | 28 | 195 | 285 | 13   | 180 | 129 | 210 | 114 | 540  | 335 | 44  | 90  | 47   | 12 | M 12 |
| 7A - 100   | 160 | 245 | 28 | 195 | 285 | 13   | 198 | 152 | 210 | 114 | 584  | 335 | 44  | 90  | 47   | 12 | M 12 |
| 7A - 112   | 160 | 245 | 28 | 195 | 285 | 13   | 222 | 165 | 210 | 114 | 607  | 335 | 44  | 90  | 47   | 12 | M 12 |
| 7A - 132 S | 160 | 245 | 28 | 195 | 285 | 13   | 262 | 185 | 210 | 114 | 665  | 335 | 44  | 90  | 47   | 12 | M 12 |
| 8 - 100    | 170 | 235 | 30 | 210 | 268 | 18   | 198 | 152 | 225 | 160 | 710  | 360 | 48  | 110 | 51.5 | 14 | M 12 |
| 8 - 112    | 170 | 235 | 30 | 210 | 268 | 18   | 222 | 165 | 225 | 160 | 676  | 360 | 48  | 110 | 51.5 | 14 | M 12 |
| 8 - 132 S  | 170 | 235 | 30 | 210 | 268 | 18   | 262 | 185 | 225 | 160 | 723  | 360 | 48  | 110 | 51.5 | 14 | M 12 |
| 8 - 132 M  | 170 | 235 | 30 | 210 | 268 | 18   | 262 | 185 | 225 | 160 | 761  | 360 | 48  | 110 | 51.5 | 14 | M 12 |
| 8 - 160 M  | 170 | 235 | 30 | 210 | 268 | 18   | 311 | 211 | 225 | 160 | 862  | 360 | 48  | 110 | 51.5 | 14 | M 12 |
| 8 - 160 L  | 170 | 235 | 30 | 210 | 268 | 18   | 311 | 211 | 225 | 160 | 906  | 360 | 48  | 110 | 51.5 | 14 | M 12 |
| 9 - 132 S  | 230 | 290 | 32 | 285 | 355 | 18   | 262 | 185 | 255 | 200 | 774  | 430 | 60  | 140 | 64   | 18 | M 12 |
| 9 - 132 M  | 230 | 290 | 32 | 285 | 355 | 18   | 262 | 185 | 255 | 200 | 812  | 430 | 60  | 140 | 64   | 18 | M 12 |
| 9 - 160 M  | 230 | 290 | 32 | 285 | 355 | 18   | 311 | 211 | 255 | 200 | 913  | 430 | 60  | 140 | 64   | 18 | M 12 |
| 9 - 160 L  | 230 | 290 | 32 | 285 | 355 | 18   | 311 | 211 | 255 | 200 | 957  | 430 | 60  | 140 | 64   | 18 | M 12 |
| 10 - 160 M | 320 | 340 | 55 | 383 | 415 | 20   | 311 | 211 | 370 | 230 | 1011 | 572 | 68  | 180 | 72.5 | 20 | M 12 |
| 10 - 160 L | 320 | 340 | 55 | 383 | 415 | 20   | 311 | 211 | 370 | 230 | 1055 | 572 | 68  | 180 | 72.5 | 20 | M 12 |
| 10 - 180 M | 320 | 340 | 55 | 383 | 415 | 20   | 336 | 233 | 370 | 230 | 1078 | 572 | 68  | 180 | 72.5 | 20 | M 12 |
| 10 - 180 L | 320 | 340 | 55 | 383 | 415 | 20   | 336 | 233 | 370 | 230 | 1116 | 572 | 68  | 180 | 72.5 | 20 | M 12 |