



## 1.00 SERVICE FACTOR • DOUBLE REDUCTION • WORM / WORM

| Overall Ratio | Nominal Output RPM | INPUT HORSEPOWER @ 1750 RPM |     |     |     |     |     |     |       |     |     |     |       |
|---------------|--------------------|-----------------------------|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-------|
|               |                    | 1/8                         | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1   | 1-1/2 | 2   | 3   | 5   | 7-1/2 |
| 75            | 23.3               |                             | 813 | 815 | 818 | 821 | 824 | 826 | 830   | 842 | 852 | 860 | 860   |
| 100           | 17.5               |                             | 815 | 815 | 821 | 824 | 826 | 830 | 832   | 842 | 852 | 860 | 860   |
| 150           | 11.7               |                             | 815 | 821 | 824 | 826 | 830 | 832 | 842   | 842 | 852 | 860 |       |
| 200           | 8.75               |                             | 821 | 821 | 824 | 826 | 830 | 832 | 842   | 842 | 852 |     |       |
| 250           | 7.00               |                             | 821 | 824 | 826 | 830 | 832 | 842 | 842   | 852 | 852 |     |       |
| 300           | 5.83               |                             | 821 | 824 | 826 | 830 | 832 | 842 | 852   | 852 | 860 |     |       |
| 400           | 4.38               |                             | 824 | 826 | 830 | 832 | 842 | 842 | 852   | 852 |     |     |       |
| 600           | 2.92               |                             | 824 | 830 | 830 | 832 | 842 | 852 | 852   | 860 |     |     |       |
| 900           | 1.94               |                             | 830 | 830 | 832 | 842 | 852 | 852 | 860   |     |     |     |       |
| 1200          | 1.46               |                             | 830 | 832 | 832 | 842 | 852 | 852 |       |     |     |     |       |
| 1500          | 1.17               |                             | 830 | 832 | 842 | 852 | 852 | 860 |       |     |     |     |       |
| 1800          | 0.972              |                             | 830 | 832 | 842 | 852 | 852 | 860 |       |     |     |     |       |
| 2400          | 0.729              |                             | 832 | 842 | 842 | 852 | 860 |     |       |     |     |     |       |
| 3000          | 0.583              |                             | 832 | 842 | 852 | 852 |     |     |       |     |     |     |       |
| 3600          | 0.486              |                             | 842 | 852 | 852 | 852 |     |     |       |     |     |     |       |

### How to Use

Based on required output RPM and input motor horsepower, read across chart for the appropriate 800 Series model. As a rule of thumb, use 1.00 service factor chart for applications having uniform loads with up to 10 hours service duration per day. Use 1.25 service factor chart for longer service or shock loading. These charts are to be considered as guides only. Typically double reduction reducers are selected based on application torque, not necessarily HP. Refer to page 173 or your LEESON representative with specific application information.

Series numbers correspond to center distances of secondary stage reducer, as shown in the chart below.

Double Reduction Worm/Worm Gear Reducers

## 1.25 SERVICE FACTOR • DOUBLE REDUCTION • WORM / WORM

| Overall Ratio | Nominal Output RPM | INPUT HORSEPOWER @ 1750 RPM |     |     |     |     |     |     |       |     |     |     |
|---------------|--------------------|-----------------------------|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|
|               |                    | 1/8                         | 1/6 | 1/4 | 1/3 | 1/2 | 3/4 | 1   | 1-1/2 | 2   | 3   | 5   |
| 75            | 23.3               | 813                         | 815 | 818 | 821 | 824 | 826 | 830 | 842   | 842 | 852 | 860 |
| 100           | 17.5               | 815                         | 815 | 821 | 821 | 824 | 830 | 830 | 842   | 842 | 852 | 860 |
| 150           | 11.7               | 815                         | 821 | 821 | 824 | 826 | 830 | 832 | 842   | 852 | 852 |     |
| 200           | 8.75               | 818                         | 821 | 824 | 826 | 830 | 832 | 842 | 842   | 852 | 860 |     |
| 250           | 7.00               | 821                         | 824 | 824 | 830 | 830 | 842 | 842 | 852   | 852 | 860 |     |
| 300           | 5.83               | 821                         | 824 | 826 | 830 | 832 | 842 | 842 | 852   | 852 |     |     |
| 400           | 4.38               | 824                         | 824 | 830 | 830 | 832 | 842 | 852 | 852   | 860 |     |     |
| 600           | 2.92               | 824                         | 826 | 830 | 832 | 842 | 852 | 852 | 860   |     |     |     |
| 900           | 1.94               | 826                         | 830 | 832 | 842 | 842 | 852 | 852 |       |     |     |     |
| 1200          | 1.46               | 830                         | 830 | 832 | 842 | 852 | 852 | 860 |       |     |     |     |
| 1500          | 1.17               | 830                         | 830 | 842 | 842 | 852 | 860 |     |       |     |     |     |
| 1800          | 0.972              | 830                         | 832 | 842 | 842 | 852 | 860 |     |       |     |     |     |
| 2400          | 0.729              | 830                         | 832 | 842 | 852 | 852 |     |     |       |     |     |     |
| 3000          | 0.583              | 832                         | 842 | 852 | 852 | 860 |     |     |       |     |     |     |
| 3600          | 0.486              | 842                         | 842 | 852 | 852 | 860 |     |     |       |     |     |     |

### 800 SERIES REDUCER CENTER DISTANCES

| Series | Center Distance (Inch) |
|--------|------------------------|
| 813    | 1.33                   |
| 815    | 1.50                   |
| 818    | 1.75                   |
| 821    | 2.06                   |
| 824    | 2.38                   |
| 826    | 2.62                   |
| 830    | 3.00                   |
| 832    | 3.25                   |
| 842    | 4.25                   |
| 852    | 5.25                   |
| 860    | 6.00                   |

## DOUBLE REDUCTION • WORM / WORM EXACT RATIO COMBINATIONS

| Total Ratio | GEAR REDUCER SIZE |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |     |      |     |  |  |
|-------------|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|-----|--|--|
|             | 813               |     | 815 |     | 818 |     | 821 |     | 824 |     | 826 |     | 830 |     | 832 |     | 842 |     | 852  |     | 860  |     |  |  |
|             | P                 | S   | P   | S   | P   | S   | P   | S   | P   | S   | P   | S   | P   | S   | P   | S   | P   | S   | P    | S   | P    | S   |  |  |
| 75          | 813               | 813 | 813 | 815 | 813 | 818 | 813 | 821 | 813 | 824 | 813 | 826 | 815 | 830 | 815 | 832 | 821 | 842 | 826  | 852 | 832  | 860 |  |  |
| 100         | 5                 | 15  | 5   | 15  | 5   | 15  | 5   | 15  | 5   | 15  | 5   | 15  | 5   | 15  | 5   | 15  | 5   | 15  | 5.17 | 15  | 5.17 | 15  |  |  |
| 150         | 5                 | 20  | 5   | 20  | 5   | 20  | 5   | 20  | 5   | 20  | 5   | 20  | 5   | 20  | 5   | 20  | 5   | 20  | 5.17 | 20  | 5.17 | 20  |  |  |
| 200         | 10                | 15  | 7.5 | 20  | 10  | 15  | 10  | 15  | 10  | 15  | 10  | 15  | 7.5 | 20  | 10  | 15  | 5   | 30  | 7.5  | 20  | 10   | 15  |  |  |
| 250         | 10                | 20  | 10  | 20  | 10  | 20  | 10  | 20  | 10  | 20  | 10  | 20  | 10  | 20  | 10  | 20  | 10  | 20  | 10   | 20  | 10   | 20  |  |  |
| 300         | 10                | 25  | 10  | 25  | 10  | 25  | 10  | 25  | 10  | 25  | 10  | 25  | 10  | 25  | 10  | 25  | 10  | 25  | 10   | 25  | 10   | 25  |  |  |
| 400         | 10                | 30  | 15  | 20  | 10  | 30  | 15  | 20  | 15  | 20  | 15  | 20  | 20  | 15  | 10  | 30  | 15  | 20  | 15   | 20  | 20   | 15  |  |  |
| 600         | 20                | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20  | 20   | 20  | 20   | 20  |  |  |
| 900         | 20                | 30  | 30  | 20  | 20  | 30  | 30  | 20  | 20  | 30  | 30  | 20  | 20  | 30  | 30  | 20  | 30  | 20  | 30   | 20  | 30   | 20  |  |  |
| 1200        | 30                | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30  | 30   | 30  | 30   | 15  |  |  |
| 1500        | 40                | 30  | 60  | 20  | 40  | 30  | 40  | 30  | 40  | 30  | 60  | 20  | 40  | 30  | 40  | 30  | 40  | 30  | 40   | 30  | 60   | 20  |  |  |
| 1800        | 60                | 25  | 60  | 25  | 50  | 30  | 50  | 30  | 50  | 30  | 60  | 25  | 60  | 25  | 50  | 30  | 50  | 30  | 60   | 25  | 60   | 25  |  |  |
| 2400        | 60                | 30  | 60  | 30  | 60  | 30  | 60  | 30  | 60  | 30  | 60  | 30  | 60  | 30  | 60  | 30  | 60  | 30  | 60   | 30  | 60   | 30  |  |  |
| 3000        | 60                | 40  | 60  | 40  | 60  | 40  | 60  | 40  | 60  | 40  | 60  | 40  | 60  | 40  | 60  | 40  | 60  | 40  | 60   | 40  | 60   | 40  |  |  |
| 3600        | 60                | 50  | 60  | 50  | 60  | 50  | 60  | 50  | 60  | 50  | 60  | 50  | 60  | 50  | 60  | 50  | 60  | 50  | 60   | 50  | 60   | 50  |  |  |

Note: Exact ratios are listed. P = Primary stage reducer ratio S = Secondary stage reducer ratio