



Cone Drive  
BY TIMKEN

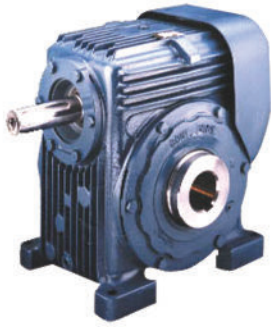
# DUODRIVE

POWER TRANSMISSION SOLUTIONS

Precision. Motion Control. Technology.

## PRODUCTS IN THE RANGE

Serving an entire spectrum of mechanical drive applications from food, energy, mining and metal; to automotive, aerospace and marine propulsion, we are here to make a positive difference to the supply of drive solutions.



**Model HP**

Worm gear units with double-enveloping worm gearing. Available in single, double and triple reductions



**Model HP-A**

Universal metric housing featuring double-enveloping gearing & drywell feature



**Series B**

Industrial duty worm gear unit featuring Conex gearing



**DuoDrive**

Dual gears on parallel output shafts



**Extruder Drive**

Rugged duty reducer takes high screw pressure



**Series G**

Helical parallel shaft & bevel helical right angle drive gear units



**Series W**

Precision right angle servo gearboxes



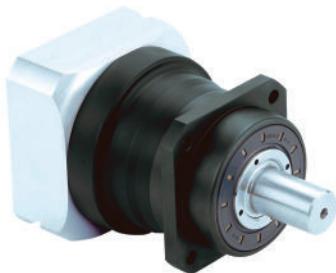
**Model RG**

Moderate precision right angle servo gearboxes



**Series S**

Value engineered right angle servo gearboxes



**Series P**

Precision planetary servo gearboxes



**Series E**

Economical planetary servo gearboxes



**Series LE**

In-line helical geared motors & reducers

**We can create custom engineered transmission solutions of any size and configuration.**

# Duodrive Options

## Standard Unit

- Standard sizes ranging from 2.00" up to 12.00"
- Standard ratios from 5:1 to 70:1
- Solid or hollow output shafts
- Fan or internal water cooling



## Steel Weldment

- Steel fabricated housing
- Sizes ranging from 2.00" up to 28.00"
- Solid ratios from 5:1 up to 70:1
- Solid or hollow output shafts
- Fan or internal water cooling



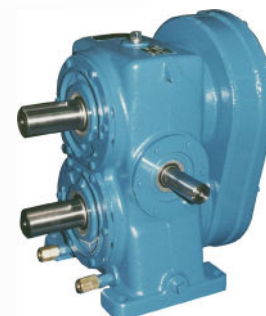
## Double Reduction Assembly

- Single reduction worm mounted primary for higher ratio
- Sizes ranging from 2.00" up to 12.00"
- Solid ratios from 25:1 up to 4900:1
- Solid or hollow output shafts



## Unequal Ratio

- Unequal ratio configuration
- Sizes ranging from 2.00" up to 12.00"
- Solid ratios from 1:1 up to 4:1
- Solid or hollow output shafts
- Fan or internal water cooling

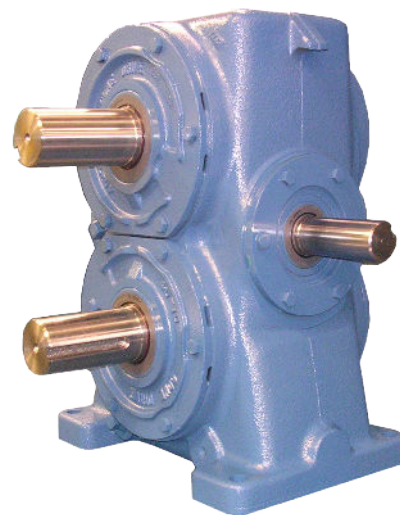


## Vertical Output

- Vertical output shaft configuration
- Sizes ranging from 2.00" up to 12.00"
- Solid ratios from 5:1 up to 70:1
- Solid or hollow output shafts
- Fan or internal water cooling



- Solid or Hollow Output Shafts
- Double Extended Input or Output Shafts
- Ratios up to 4,900:1
- Water and Fan Cooling
- Motor Bell and Coupling NEMA 56 to 256



Worm gear units are comprised of one worm input shaft driving two gears on parallel output shafts, one shaft turns clockwise while the other turns counter clockwise providing synchronous drive operation.

Output Torque capacity up to 2,600,000 lb.in.

Base Mount with hollow or solid output shaft in single and double reduction type. Double reduction DuoDrive can be furnished by using the same worm gear primary.

Water cooling with finned O.D tubing is available for sizes D40 through D240. Fan cooling is available for limited sizes, please contact Cone Drive Operation. An oil circulation pump may mounted and driven directly from the blind end of a single extended input shaft for size D40 through D240.

**Notes:**

Hollow shaft bore sizes, motorizing options, hand of assembly and mounting position numbers follow in this catalog. For ratings above size D-120, or the availability of vertical shaft units, or motorizing options, please contact Cone Drive Operation.

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## DuoDrive Size 20 (expanded rating table)

Reducer Size 20

4.00 Inch (Center Distance at Output Shafts)

|            |              | Worm RPM |       |       |       |       |     |     |      |      |
|------------|--------------|----------|-------|-------|-------|-------|-----|-----|------|------|
| Ratio to 1 |              | 100      | 200   | 300   | 500   | 580   | 720 | 870 | 1150 | 1750 |
| 5          | Me.HP        | 0.7      | 1.3   | 1.8   | 2.8   | 3.2   | 3.8 | 4.4 | 5.3  | 6.6  |
|            | Th.HP Std    | 0.4      | 0.7   | 1.0   | 1.5   | 1.7   | 2.0 | 2.3 | 2.8  | 3.5  |
|            | Efficiency   | 89       | 90    | 91    | 91    | 91    | 91  | 92  | 92   | 92   |
|            | O.T. / Shaft | 969      | 908   | 873   | 814   | 793   | 759 | 732 | 666  | 550  |
| 10         | Me.HP        | 0.4      | 0.8   | 1.2   | 1.8   | 2.1   | 2.5 | 2.8 | 3.5  | 4.4  |
|            | Th.HP Std    | 0.2      | 0.4   | 0.6   | 1.0   | 1.1   | 1.3 | 1.5 | 1.8  | 2.3  |
|            | Efficiency   | 83       | 85    | 86    | 87    | 87    | 89  | 89  | 90   | 90   |
|            | O.T. / Shaft | 1,140    | 1,090 | 1,050 | 995   | 972   | 955 | 916 | 852  | 715  |
| 15         | Me.HP        | 0.3      | 0.6   | 0.8   | 1.3   | 1.5   | 1.7 | 2.0 | 2.5  | 3.1  |
|            | Th.HP Std    | 0.2      | 0.3   | 0.4   | 0.7   | 0.8   | 0.9 | 1.1 | 1.3  | 1.7  |
|            | Efficiency   | 79       | 81    | 82    | 84    | 85    | 86  | 87  | 88   | 88   |
|            | O.T. / Shaft | 1,150    | 1,100 | 1,050 | 1,020 | 1,000 | 975 | 948 | 887  | 746  |
| 20         | Me.HP        | 0.2      | 0.4   | 0.6   | 1.0   | 1.1   | 1.3 | 1.5 | 1.9  | 2.4  |
|            | Th.HP Std    | 0.1      | 0.2   | 0.3   | 0.5   | 0.6   | 0.7 | 0.8 | 1.0  | 1.3  |
|            | Efficiency   | 75       | 77    | 78    | 81    | 83    | 83  | 83  | 84   | 85   |
|            | O.T. / Shaft | 1,110    | 1,070 | 1,020 | 1,000 | 1,000 | 961 | 923 | 864  | 738  |
| 25         | Me.HP        | 0.2      | 0.4   | 0.5   | 0.8   | 0.9   | 1.1 | 1.2 | 1.5  | 1.9  |
|            | Th.HP Std    | 0.1      | 0.2   | 0.3   | 0.4   | 0.5   | 0.6 | 0.7 | 0.8  | 1.0  |
|            | Efficiency   | 71       | 75    | 77    | 81    | 81    | 81  | 83  | 84   | 84   |
|            | O.T. / Shaft | 1,060    | 1,050 | 1,020 | 1,010 | 983   | 946 | 932 | 872  | 735  |
| 30         | Me.HP        | 0.2      | 0.3   | 0.4   | 0.7   | 0.8   | 0.9 | 1.0 | 1.3  | 1.6  |
|            | Th.HP Std    | 0.1      | 0.2   | 0.2   | 0.3   | 0.4   | 0.5 | 0.6 | 0.7  | 0.9  |
|            | Efficiency   | 68       | 70    | 72    | 74    | 75    | 78  | 79  | 80   | 80   |
|            | O.T. / Shaft | 1,020    | 980   | 956   | 924   | 913   | 914 | 890 | 833  | 703  |
| 40         | Me.HP        | 0.1      | 0.2   | 0.3   | 0.5   | 0.6   | 0.7 | 0.8 | 1.0  | 1.2  |
|            | Th.HP Std    | 0.1      | 0.1   | 0.2   | 0.3   | 0.3   | 0.4 | 0.4 | 0.5  | 0.6  |
|            | Efficiency   | 61       | 63    | 67    | 70    | 72    | 75  | 75  | 76   | 76   |
|            | O.T. / Shaft | 915      | 888   | 894   | 880   | 882   | 883 | 850 | 797  | 673  |
| 50         | Me.HP        | 0.1      | 0.2   | 0.3   | 0.4   | 0.5   | 0.5 | 0.6 | 0.8  | 1.0  |
|            | Th.HP Std    | 0.1      | 0.1   | 0.1   | 0.2   | 0.2   | 0.3 | 0.3 | 0.4  | 0.5  |
|            | Efficiency   | 54       | 60    | 64    | 68    | 70    | 72  | 72  | 73   | 73   |
|            | O.T. / Shaft | 812      | 848   | 856   | 857   | 860   | 850 | 818 | 767  | 648  |
| 60         | Me.HP        | 0.1      | 0.2   | 0.2   | 0.3   | 0.4   | 0.5 | 0.5 | 0.6  | 0.8  |
|            | Th.HP Std    | 0.1      | 0.1   | 0.1   | 0.2   | 0.2   | 0.2 | 0.3 | 0.3  | 0.4  |
|            | Efficiency   | 53       | 59    | 61    | 64    | 66    | 68  | 69  | 70   | 70   |
|            | O.T. / Shaft | 798      | 836   | 817   | 809   | 812   | 805 | 786 | 739  | 623  |

Key:

Me.HP = Mech. Input Power (HP)

Th.HP Std = Ther. Input Power - No Fan

O.T. / Shaft = Output Torque (Lb.-in) per shaft Th.HP Fan = Ther. Input Power - Fan

## DuoDrive Size 25 (expanded rating table)

Reducer Size 25

5.00 Inch (Center Distance at Output Shafts)

|            |              | Worm RPM |       |       |       |       |       |       |       |       |
|------------|--------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| Ratio to 1 |              | 100      | 200   | 300   | 500   | 580   | 720   | 870   | 1150  | 1750  |
| 5          | Me.HP        | 1.4      | 2.5   | 3.6   | 5.5   | 6.2   | 7.2   | 8.2   | 9.6   | 12.0  |
|            | Th.HP Std    | 0.7      | 1.4   | 1.9   | 2.9   | 3.3   | 3.6   | 3.9   | 4.3   | 4.7   |
|            | Efficiency   | 89       | 90    | 91    | 91    | 91    | 91    | 92    | 92    | 92    |
|            | O.T. / Shaft | 1,920    | 1,780 | 1,710 | 1,570 | 1,520 | 1,440 | 1,360 | 1,210 | 996   |
| 10         | Me.HP        | 0.9      | 1.6   | 2.3   | 3.5   | 4.0   | 4.7   | 5.3   | 6.3   | 7.9   |
|            | Th.HP Std    | 0.5      | 0.9   | 1.2   | 1.9   | 2.2   | 2.5   | 2.9   | 3.3   | 3.5   |
|            | Efficiency   | 83       | 85    | 86    | 87    | 87    | 89    | 89    | 90    | 90    |
|            | O.T. / Shaft | 2,270    | 2,130 | 2,050 | 1,930 | 1,870 | 1,820 | 1,720 | 1,560 | 1,290 |
| 15         | Me.HP        | 0.6      | 1.1   | 1.6   | 2.5   | 2.8   | 3.3   | 3.8   | 4.5   | 5.6   |
|            | Th.HP Std    | 0.3      | 0.6   | 0.9   | 1.3   | 1.5   | 1.8   | 2.1   | 2.4   | 2.8   |
|            | Efficiency   | 79       | 81    | 82    | 84    | 85    | 86    | 87    | 88    | 88    |
|            | O.T. / Shaft | 2,270    | 2,140 | 2,060 | 1,970 | 1,930 | 1,860 | 1,790 | 1,630 | 1,340 |
| 20         | Me.HP        | 0.5      | 0.9   | 1.2   | 1.9   | 2.1   | 2.5   | 2.9   | 3.5   | 4.3   |
|            | Th.HP Std    | 0.3      | 0.5   | 0.7   | 1.0   | 1.2   | 1.4   | 1.6   | 1.9   | 2.4   |
|            | Efficiency   | 75       | 77    | 78    | 81    | 83    | 83    | 83    | 84    | 85    |
|            | O.T. / Shaft | 2,200    | 2,080 | 2,000 | 1,940 | 1,930 | 1,840 | 1,740 | 1,590 | 1,320 |
| 25         | Me.HP        | 0.4      | 0.7   | 1.0   | 1.5   | 1.7   | 2.0   | 2.3   | 2.8   | 3.5   |
|            | Th.HP Std    | 0.2      | 0.4   | 0.5   | 0.8   | 0.9   | 1.1   | 1.3   | 1.5   | 1.9   |
|            | Efficiency   | 71       | 75    | 77    | 81    | 81    | 81    | 83    | 84    | 84    |
|            | O.T. / Shaft | 2,090    | 2,040 | 1,990 | 1,950 | 1,890 | 1,810 | 1,750 | 1,600 | 1,320 |
| 30         | Me.HP        | 0.3      | 0.6   | 0.8   | 1.3   | 1.4   | 1.7   | 2.0   | 2.3   | 2.9   |
|            | Th.HP Std    | 0.2      | 0.3   | 0.5   | 0.7   | 0.8   | 0.9   | 1.1   | 1.3   | 1.6   |
|            | Efficiency   | 68       | 70    | 72    | 74    | 75    | 78    | 79    | 80    | 80    |
|            | O.T. / Shaft | 2,010    | 1,910 | 1,870 | 1,790 | 1,760 | 1,750 | 1,680 | 1,530 | 1,260 |
| 40         | Me.HP        | 0.2      | 0.4   | 0.6   | 1.0   | 1.1   | 1.3   | 1.5   | 1.8   | 2.2   |
|            | Th.HP Std    | 0.1      | 0.2   | 0.3   | 0.5   | 0.6   | 0.7   | 0.8   | 1.0   | 1.2   |
|            | Efficiency   | 61       | 63    | 67    | 70    | 72    | 75    | 75    | 76    | 76    |
|            | O.T. / Shaft | 1,810    | 1,730 | 1,750 | 1,710 | 1,700 | 1,690 | 1,600 | 1,470 | 1,210 |
| 50         | Me.HP        | 0.2      | 0.4   | 0.5   | 0.8   | 0.9   | 1.0   | 1.2   | 1.4   | 1.8   |
|            | Th.HP Std    | 0.1      | 0.2   | 0.3   | 0.4   | 0.5   | 0.6   | 0.7   | 0.8   | 1.0   |
|            | Efficiency   | 54       | 60    | 64    | 68    | 70    | 72    | 72    | 73    | 73    |
|            | O.T. / Shaft | 1,610    | 1,650 | 1,670 | 1,660 | 1,660 | 1,630 | 1,540 | 1,410 | 1,170 |
| 60         | Me.HP        | 0.2      | 0.3   | 0.4   | 0.7   | 0.7   | 0.9   | 1.0   | 1.2   | 1.5   |
|            | Th.HP Std    | 0.1      | 0.2   | 0.2   | 0.4   | 0.4   | 0.5   | 0.6   | 0.6   | 0.8   |
|            | Efficiency   | 53       | 59    | 61    | 64    | 66    | 68    | 69    | 70    | 70    |
|            | O.T. / Shaft | 1,580    | 1,630 | 1,600 | 1,570 | 1,560 | 1,540 | 1,480 | 1,360 | 1,120 |

Key:

Me.HP = Mech. Input Power (HP)

Th.HP Std = Ther. Input Power - No Fan

O.T. / Shaft = Output Torque (Lb.-in) per shaft Th.HP Fan = Ther. Input Power - Fan



## DuoDrive Size 30 (expanded rating table)

Reducer Size 30

6.00 Inch (Center Distance at Output Shafts)

|            |              | Worm RPM |       |       |       |       |       |       |       |       |
|------------|--------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| Ratio to 1 |              | 100      | 200   | 300   | 500   | 580   | 720   | 870   | 1150  | 1750  |
| 5          | Me.HP        | 2.4      | 4.4   | 6.3   | 9.5   | 10.6  | 12.2  | 13.6  | 15.8  | 19.8  |
|            | Th.HP Std    | 1.8      | 2.8   | 3.5   | 4.4   | 4.8   | 5.4   | 5.8   | 6.3   | 7.2   |
|            | Efficiency   | 89       | 90    | 91    | 91    | 91    | 91    | 92    | 92    | 92    |
|            | O.T. / Shaft | 3,380    | 3,130 | 3,010 | 2,720 | 2,620 | 2,430 | 2,270 | 1,990 | 1,640 |
| 10         | Me.HP        | 1.5      | 2.8   | 4.0   | 6.2   | 7.0   | 8.2   | 9.2   | 10.8  | 13.5  |
|            | Th.HP Std    | 1.2      | 2.2   | 3.1   | 3.9   | 4.2   | 4.5   | 4.9   | 5.2   | 5.8   |
|            | Efficiency   | 83       | 85    | 86    | 87    | 87    | 89    | 89    | 90    | 90    |
|            | O.T. / Shaft | 4,030    | 3,800 | 3,650 | 3,390 | 3,290 | 3,170 | 2,960 | 2,660 | 2,190 |
| 15         | Me.HP        | 1.1      | 2.0   | 2.8   | 4.4   | 4.9   | 5.8   | 6.5   | 7.7   | 9.6   |
|            | Th.HP Std    | 0.8      | 1.6   | 2.2   | 3.2   | 3.6   | 3.8   | 4.1   | 4.3   | 4.8   |
|            | Efficiency   | 79       | 81    | 82    | 84    | 85    | 86    | 87    | 88    | 88    |
|            | O.T. / Shaft | 4,050    | 3,810 | 3,670 | 3,470 | 3,400 | 3,260 | 3,090 | 2,780 | 2,280 |
| 20         | Me.HP        | 0.8      | 1.5   | 2.2   | 3.4   | 3.8   | 4.4   | 5.0   | 5.9   | 7.4   |
|            | Th.HP Std    | 0.6      | 1.2   | 1.7   | 2.5   | 2.8   | 3.4   | 3.7   | 3.9   | 4.2   |
|            | Efficiency   | 75       | 77    | 78    | 81    | 83    | 83    | 83    | 84    | 85    |
|            | O.T. / Shaft | 3,930    | 3,710 | 3,560 | 3,430 | 3,400 | 3,210 | 3,010 | 2,720 | 2,260 |
| 25         | Me.HP        | 0.7      | 1.2   | 1.8   | 2.7   | 3.0   | 3.6   | 4.0   | 4.8   | 6.0   |
|            | Th.HP Std    | 0.5      | 1.0   | 1.4   | 2.0   | 2.3   | 2.7   | 3.1   | 3.2   | 3.5   |
|            | Efficiency   | 71       | 75    | 77    | 81    | 81    | 81    | 83    | 84    | 84    |
|            | O.T. / Shaft | 3,740    | 3,640 | 3,540 | 3,450 | 3,340 | 3,160 | 3,040 | 2,740 | 2,260 |
| 30         | Me.HP        | 0.6      | 1.0   | 1.5   | 2.3   | 2.5   | 3.0   | 3.4   | 4.0   | 5.0   |
|            | Th.HP Std    | 0.4      | 0.8   | 1.1   | 1.7   | 1.9   | 2.3   | 2.6   | 2.9   | 3.1   |
|            | Efficiency   | 68       | 70    | 72    | 74    | 75    | 78    | 79    | 80    | 80    |
|            | O.T. / Shaft | 3,600    | 3,410 | 3,320 | 3,170 | 3,110 | 3,050 | 2,910 | 2,630 | 2,160 |
| 40         | Me.HP        | 0.4      | 0.8   | 1.1   | 1.7   | 1.9   | 2.3   | 2.6   | 3.0   | 3.8   |
|            | Th.HP Std    | 0.3      | 0.6   | 0.9   | 1.3   | 1.4   | 1.7   | 2.0   | 2.4   | 2.8   |
|            | Efficiency   | 61       | 63    | 67    | 70    | 72    | 75    | 75    | 76    | 76    |
|            | O.T. / Shaft | 3,240    | 3,080 | 3,110 | 3,020 | 3,000 | 2,950 | 2,770 | 2,510 | 2,060 |
| 50         | Me.HP        | 0.3      | 0.6   | 0.9   | 1.4   | 1.5   | 1.8   | 2.1   | 2.4   | 3.0   |
|            | Th.HP Std    | 0.3      | 0.5   | 0.7   | 1.0   | 1.2   | 1.4   | 1.6   | 1.9   | 2.5   |
|            | Efficiency   | 54       | 60    | 64    | 68    | 70    | 72    | 72    | 73    | 73    |
|            | O.T. / Shaft | 2,880    | 2,940 | 2,980 | 2,940 | 2,930 | 2,840 | 2,670 | 2,420 | 1,990 |
| 60         | Me.HP        | 0.3      | 0.5   | 0.7   | 1.1   | 1.3   | 1.5   | 1.7   | 2.0   | 2.5   |
|            | Th.HP Std    | 0.2      | 0.4   | 0.6   | 0.9   | 1.0   | 1.1   | 1.3   | 1.6   | 2.1   |
|            | Efficiency   | 53       | 59    | 61    | 64    | 66    | 68    | 69    | 70    | 70    |
|            | O.T. / Shaft | 2,830    | 2,900 | 2,840 | 2,770 | 2,760 | 2,690 | 2,560 | 2,320 | 1,910 |

Key:

Me.HP = Mech. Input Power (HP)

Th.HP Std = Ther. Input Power - No Fan

O.T. / Shaft = Output Torque (Lb.-in) per shaft Th.HP Fan = Ther. Input Power - Fan

## DuoDrive Size 35 (expanded rating table)

Reducer Size 35

7.00 Inch (Center Distance at Output Shafts)

|            |              | Worm RPM |       |       |       |       |       |       |       |       |
|------------|--------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| Ratio to 1 |              | 100      | 200   | 300   | 500   | 580   | 720   | 870   | 1150  | 1750  |
| 5          | Me.HP        | 4.5      | 8.1   | 11.5  | 17.1  | 18.9  | 21.5  | 23.8  | 27.7  | 34.3  |
|            | Th.HP Std    | 1.9      | 3.4   | 4.3   | 5.7   | 6.2   | 6.9   | 7.5   | 8.1   | 8.9   |
|            | Th.HP Fan    | 1.9      | 3.4   | 4.3   | 5.7   | 6.2   | 7.8   | 9.4   | 11.8  | 14.7  |
|            | Efficiency   | 89       | 90    | 91    | 91    | 91    | 91    | 92    | 92    | 92    |
|            | O.T. / Shaft | 6,250    | 5,770 | 5,500 | 4,890 | 4,660 | 4,280 | 3,960 | 3,490 | 2,840 |
| 10         | Me.HP        | 2.8      | 5.2   | 7.4   | 11.2  | 12.5  | 14.4  | 16.1  | 18.7  | 23.4  |
|            | Th.HP Std    | 1.2      | 2.3   | 3.2   | 4.5   | 5.0   | 5.5   | 5.9   | 6.3   | 6.8   |
|            | Th.HP Fan    | 1.2      | 2.3   | 3.2   | 4.5   | 5.0   | 6.2   | 7.4   | 9.2   | 11.3  |
|            | Efficiency   | 83       | 85    | 86    | 87    | 87    | 89    | 89    | 90    | 90    |
|            | O.T. / Shaft | 7,440    | 6,980 | 6,690 | 6,140 | 5,900 | 5,600 | 5,190 | 4,600 | 3,800 |
| 15         | Me.HP        | 2.0      | 3.7   | 5.2   | 7.9   | 8.8   | 10.2  | 11.4  | 13.3  | 16.7  |
|            | Th.HP Std    | 0.9      | 1.6   | 2.3   | 3.4   | 3.8   | 4.5   | 4.7   | 5.0   | 5.4   |
|            | Th.HP Fan    | 0.9      | 1.6   | 2.3   | 3.4   | 3.8   | 5.0   | 6.0   | 7.3   | 8.9   |
|            | Efficiency   | 79       | 81    | 82    | 84    | 85    | 86    | 87    | 88    | 88    |
|            | O.T. / Shaft | 7,460    | 7,010 | 6,740 | 6,290 | 6,110 | 5,760 | 5,410 | 4,810 | 3,960 |
| 20         | Me.HP        | 1.5      | 2.8   | 4.0   | 6.1   | 6.8   | 7.8   | 8.8   | 10.2  | 12.8  |
|            | Th.HP Std    | 0.7      | 1.2   | 1.7   | 2.6   | 2.9   | 3.4   | 3.8   | 4.3   | 4.5   |
|            | Th.HP Fan    | 0.7      | 1.2   | 1.7   | 2.6   | 2.9   | 3.9   | 4.8   | 6.2   | 7.4   |
|            | Efficiency   | 75       | 77    | 78    | 81    | 83    | 83    | 83    | 84    | 85    |
|            | O.T. / Shaft | 7,230    | 6,800 | 6,540 | 6,210 | 6,090 | 5,690 | 5,290 | 4,700 | 3,920 |
| 25         | Me.HP        | 1.2      | 2.3   | 3.2   | 4.9   | 5.5   | 6.3   | 7.1   | 8.2   | 10.3  |
|            | Th.HP Std    | 0.5      | 1.0   | 1.4   | 2.1   | 2.4   | 2.8   | 3.1   | 3.6   | 3.7   |
|            | Th.HP Fan    | 0.5      | 1.0   | 1.4   | 2.1   | 2.4   | 3.1   | 3.9   | 5.3   | 6.2   |
|            | Efficiency   | 71       | 75    | 77    | 81    | 81    | 81    | 83    | 84    | 84    |
|            | O.T. / Shaft | 6,890    | 6,670 | 6,510 | 6,240 | 6,000 | 5,600 | 5,340 | 4,740 | 3,910 |
| 30         | Me.HP        | 1.0      | 1.9   | 2.7   | 4.1   | 4.6   | 5.3   | 5.9   | 6.9   | 8.7   |
|            | Th.HP Std    | 0.5      | 0.8   | 1.2   | 1.8   | 2.0   | 2.3   | 2.6   | 3.0   | 3.2   |
|            | Th.HP Fan    | 0.5      | 0.8   | 1.2   | 1.8   | 2.0   | 2.6   | 3.3   | 4.4   | 5.2   |
|            | Efficiency   | 68       | 70    | 72    | 74    | 75    | 78    | 79    | 80    | 80    |
|            | O.T. / Shaft | 6,620    | 6,250 | 6,110 | 5,740 | 5,590 | 5,420 | 5,100 | 4,530 | 3,740 |
| 40         | Me.HP        | 0.8      | 1.4   | 2.0   | 3.1   | 3.4   | 4.0   | 4.5   | 5.2   | 6.5   |
|            | Th.HP Std    | 0.3      | 0.6   | 0.9   | 1.3   | 1.5   | 1.7   | 2.0   | 2.3   | 2.8   |
|            | Th.HP Fan    | 0.3      | 0.6   | 0.9   | 1.3   | 1.5   | 2.0   | 2.5   | 3.3   | 4.6   |
|            | Efficiency   | 61       | 63    | 67    | 70    | 72    | 75    | 75    | 76    | 76    |
|            | O.T. / Shaft | 5,970    | 5,650 | 5,710 | 5,460 | 5,390 | 5,240 | 4,870 | 4,340 | 3,580 |
| 50         | Me.HP        | 0.6      | 1.1   | 1.6   | 2.5   | 2.8   | 3.2   | 3.6   | 4.2   | 5.3   |
|            | Th.HP Std    | 0.3      | 0.5   | 0.7   | 1.1   | 1.2   | 1.4   | 1.6   | 1.8   | 2.3   |
|            | Th.HP Fan    | 0.3      | 0.5   | 0.7   | 1.1   | 1.2   | 1.6   | 2.0   | 2.7   | 3.8   |
|            | Efficiency   | 54       | 60    | 64    | 68    | 70    | 72    | 72    | 73    | 73    |
|            | O.T. / Shaft | 5,300    | 5,390 | 5,470 | 5,320 | 5,250 | 5,050 | 4,690 | 4,180 | 3,450 |
| 60         | Me.HP        | 0.5      | 1.0   | 1.4   | 2.1   | 2.3   | 2.7   | 3.0   | 3.5   | 4.4   |
|            | Th.HP Std    | 0.2      | 0.4   | 0.6   | 0.9   | 1.0   | 1.2   | 1.3   | 1.5   | 1.9   |
|            | Th.HP Fan    | 0.2      | 0.4   | 0.6   | 0.9   | 1.0   | 1.3   | 1.7   | 2.2   | 3.2   |
|            | Efficiency   | 53       | 59    | 61    | 64    | 66    | 68    | 69    | 70    | 70    |
|            | O.T. / Shaft | 5,210    | 5,320 | 5,230 | 5,020 | 4,960 | 4,770 | 4,500 | 4,020 | 3,310 |

Key: Me.HP = Mech. Input Power (HP) Th.HP Std = Ther. Input Power - No Fan  
 O.T. / Shaft = Output Torque (Lb.-in) per shaft Th.HP Fan = Ther. Input Power - Fan



## DuoDrive Size 40 (expanded rating table)

Reducer Size 40

8.00 Inch (Center Distance at Output Shafts)

|            |              | Worm RPM |        |        |       |       |       |       |       |       |
|------------|--------------|----------|--------|--------|-------|-------|-------|-------|-------|-------|
| Ratio to 1 |              | 100      | 200    | 300    | 500   | 580   | 720   | 870   | 1150  | 1750  |
| 5          | Me.HP        | 6.4      | 11.7   | 16.4   | 23.9  | 26.2  | 29.6  | 32.7  | 38.1  | 46.6  |
|            | Th.HP Std    | 3.4      | 5.0    | 6.5    | 8.5   | 9.3   | 10.4  | 11.2  | 12.1  | 13.4  |
|            | Th.HP Fan    | 3.4      | 5.0    | 6.5    | 8.5   | 10.8  | 12.8  | 14.6  | 17.5  | 20.7  |
|            | Efficiency   | 92       | 93     | 94     | 94    | 94    | 94    | 95    | 95    | 95    |
|            | O.T. / Shaft | 9,270    | 8,600  | 8,110  | 7,090 | 6,700 | 6,090 | 5,620 | 4,950 | 3,990 |
| 10         | Me.HP        | 4.1      | 7.5    | 10.7   | 15.9  | 17.6  | 20.1  | 22.3  | 25.9  | 32.2  |
|            | Th.HP Std    | 2.3      | 4.2    | 5.4    | 7.0   | 7.6   | 8.2   | 8.8   | 9.5   | 10.2  |
|            | Th.HP Fan    | 2.3      | 4.2    | 5.4    | 7.0   | 8.7   | 10.2  | 11.6  | 13.7  | 15.8  |
|            | Efficiency   | 86       | 88     | 89     | 90    | 90    | 92    | 92    | 93    | 93    |
|            | O.T. / Shaft | 11,100   | 10,400 | 9,970  | 9,010 | 8,590 | 8,100 | 7,420 | 6,610 | 5,400 |
| 15         | Me.HP        | 2.9      | 5.3    | 7.5    | 11.2  | 12.4  | 14.3  | 15.8  | 18.4  | 22.9  |
|            | Th.HP Std    | 1.6      | 2.9    | 4.2    | 5.6   | 6.2   | 6.7   | 7.1   | 7.5   | 8.1   |
|            | Th.HP Fan    | 1.6      | 2.9    | 4.2    | 5.6   | 7.2   | 8.3   | 9.3   | 10.8  | 12.5  |
|            | Efficiency   | 82       | 84     | 85     | 87    | 88    | 89    | 90    | 91    | 91    |
|            | O.T. / Shaft | 11,200   | 10,500 | 10,100 | 9,260 | 8,920 | 8,350 | 7,740 | 6,880 | 5,640 |
| 20         | Me.HP        | 2.2      | 4.0    | 5.7    | 8.6   | 9.6   | 11.0  | 12.2  | 14.1  | 17.6  |
|            | Th.HP Std    | 1.2      | 2.2    | 3.2    | 4.7   | 5.3   | 6.1   | 6.1   | 6.4   | 6.7   |
|            | Th.HP Fan    | 1.2      | 2.2    | 3.2    | 4.7   | 6.1   | 7.5   | 8.0   | 9.2   | 10.4  |
|            | Efficiency   | 78       | 80     | 81     | 84    | 86    | 86    | 86    | 87    | 88    |
|            | O.T. / Shaft | 10,900   | 10,200 | 9,760  | 9,150 | 8,940 | 8,250 | 7,590 | 6,740 | 5,590 |
| 25         | Me.HP        | 1.8      | 3.3    | 4.6    | 7.0   | 7.7   | 8.9   | 9.8   | 11.4  | 14.2  |
|            | Th.HP Std    | 1.0      | 1.8    | 2.6    | 3.8   | 4.3   | 4.9   | 5.1   | 5.3   | 5.6   |
|            | Th.HP Fan    | 1.0      | 1.8    | 2.6    | 3.8   | 4.9   | 6.1   | 6.7   | 7.7   | 8.7   |
|            | Efficiency   | 74       | 78     | 80     | 84    | 84    | 84    | 86    | 87    | 87    |
|            | O.T. / Shaft | 10,400   | 10,000 | 9,730  | 9,190 | 8,810 | 8,130 | 7,670 | 6,810 | 5,570 |
| 30         | Me.HP        | 1.5      | 2.7    | 3.9    | 5.8   | 6.5   | 7.4   | 8.2   | 9.6   | 11.9  |
|            | Th.HP Std    | 0.8      | 1.5    | 2.2    | 3.2   | 3.6   | 4.1   | 4.6   | 4.7   | 4.8   |
|            | Th.HP Fan    | 0.8      | 1.5    | 2.2    | 3.2   | 4.1   | 5.1   | 6.0   | 6.7   | 7.4   |
|            | Efficiency   | 71       | 73     | 75     | 77    | 78    | 81    | 82    | 83    | 83    |
|            | O.T. / Shaft | 10,000   | 9,400  | 9,150  | 8,480 | 8,210 | 7,890 | 7,340 | 6,530 | 5,340 |
| 40         | Me.HP        | 1.1      | 2.1    | 2.9    | 4.4   | 4.9   | 5.6   | 6.2   | 7.2   | 9.0   |
|            | Th.HP Std    | 0.6      | 1.1    | 1.6    | 2.4   | 2.7   | 3.1   | 3.4   | 4.0   | 4.2   |
|            | Th.HP Fan    | 0.6      | 1.1    | 1.6    | 2.4   | 3.1   | 3.8   | 4.5   | 5.8   | 6.5   |
|            | Efficiency   | 64       | 66     | 70     | 73    | 75    | 78    | 78    | 79    | 79    |
|            | O.T. / Shaft | 9,080    | 8,540  | 8,590  | 8,090 | 7,930 | 7,630 | 7,020 | 6,260 | 5,110 |
| 50         | Me.HP        | 0.9      | 1.7    | 2.3    | 3.5   | 3.9   | 4.5   | 5.0   | 5.8   | 7.2   |
|            | Th.HP Std    | 0.5      | 0.9    | 1.3    | 1.9   | 2.2   | 2.5   | 2.8   | 3.2   | 3.7   |
|            | Th.HP Fan    | 0.5      | 0.9    | 1.3    | 1.9   | 2.5   | 3.1   | 3.6   | 4.6   | 5.8   |
|            | Efficiency   | 57       | 63     | 67     | 71    | 73    | 75    | 75    | 76    | 76    |
|            | O.T. / Shaft | 8,110    | 8,170  | 8,250  | 7,910 | 7,740 | 7,360 | 6,780 | 6,040 | 4,930 |
| 60         | Me.HP        | 0.8      | 1.4    | 2.0    | 2.9   | 3.3   | 3.8   | 4.2   | 4.8   | 6.0   |
|            | Th.HP Std    | 0.4      | 0.8    | 1.1    | 1.6   | 1.8   | 2.1   | 2.3   | 2.7   | 3.3   |
|            | Th.HP Fan    | 0.4      | 0.8    | 1.1    | 1.6   | 2.1   | 2.6   | 3.0   | 3.9   | 5.1   |
|            | Efficiency   | 56       | 62     | 64     | 67    | 69    | 71    | 72    | 73    | 73    |
|            | O.T. / Shaft | 7,980    | 8,070  | 7,890  | 7,480 | 7,330 | 6,990 | 6,520 | 5,810 | 4,740 |

Key: Me.HP = Mech. Input Power (HP) Th.HP Std = Ther. Input Power - No Fan  
O.T. / Shaft = Output Torque (Lb.-in) per shaft Th.HP Fan = Ther. Input Power - Fan

## DuoDrive Size 50 (expanded rating table)

Reducer Size 50

10.00 Inch (Center Distance at Output Shafts)

|            |              | Worm RPM |        |        |        |        |        |        |        |        |
|------------|--------------|----------|--------|--------|--------|--------|--------|--------|--------|--------|
| Ratio to 1 |              | 100      | 200    | 300    | 500    | 580    | 720    | 870    | 1150   | 1750   |
| 5          | Me. HP       | 12.5     | 22.9   | 31.6   | 44.3   | 48.0   | 53.7   | 59.5   | 68.9   | 82.7   |
|            | Th. HP Std   | 4.2      | 6.2    | 7.2    | 10.2   | 11.4   | 12.8   | 13.7   | 14.9   | 16.3   |
|            | Th. HP Fan   | 4.2      | 6.2    | 7.2    | 10.6   | 15.0   | 17.4   | 19.4   | 22.6   | 25.7   |
|            | Efficiency   | 92       | 93     | 94     | 94     | 94     | 94     | 95     | 95     | 95     |
|            | O.T. / Shaft | 18,200   | 16,700 | 15,600 | 13,100 | 12,300 | 11,100 | 10,200 | 8,970  | 7,070  |
| 10         | Me. HP       | 8.1      | 14.7   | 20.6   | 29.9   | 32.7   | 36.8   | 40.7   | 47.4   | 58.0   |
|            | Th. HP Std   | 3.7      | 5.2    | 6.7    | 8.5    | 9.3    | 10.1   | 10.8   | 11.6   | 12.4   |
|            | Th. HP Fan   | 3.7      | 5.2    | 6.7    | 8.6    | 12.2   | 13.8   | 15.2   | 17.7   | 19.5   |
|            | Efficiency   | 86       | 88     | 89     | 90     | 90     | 92     | 92     | 93     | 93     |
|            | O.T. / Shaft | 21,800   | 20,400 | 19,300 | 16,900 | 16,000 | 14,800 | 13,600 | 12,100 | 9,720  |
| 15         | Me. HP       | 5.7      | 10.4   | 14.5   | 21.2   | 23.2   | 26.2   | 28.9   | 33.7   | 41.2   |
|            | Th. HP Std   | 3.1      | 4.6    | 5.7    | 7.1    | 7.6    | 8.2    | 8.6    | 9.1    | 9.8    |
|            | Th. HP Fan   | 3.1      | 4.6    | 5.7    | 7.1    | 10.0   | 11.2   | 12.2   | 13.9   | 15.4   |
|            | Efficiency   | 82       | 84     | 85     | 87     | 88     | 89     | 90     | 91     | 91     |
|            | O.T. / Shaft | 21,900   | 20,600 | 19,500 | 17,400 | 16,700 | 15,300 | 14,100 | 12,600 | 10,100 |
| 20         | Me. HP       | 4.3      | 7.9    | 11.1   | 16.2   | 17.8   | 20.1   | 22.2   | 25.8   | 31.8   |
|            | Th. HP Std   | 2.4      | 4.0    | 5.0    | 6.2    | 6.7    | 7.2    | 7.5    | 7.8    | 8.2    |
|            | Th. HP Fan   | 2.4      | 4.0    | 5.0    | 6.2    | 8.8    | 9.8    | 10.6   | 11.9   | 12.8   |
|            | Efficiency   | 78       | 80     | 81     | 84     | 86     | 86     | 86     | 87     | 88     |
|            | O.T. / Shaft | 21,300   | 20,000 | 19,000 | 17,300 | 16,700 | 15,100 | 13,800 | 12,300 | 10,100 |
| 25         | Me. HP       | 3.5      | 6.4    | 9.0    | 13.1   | 14.4   | 16.3   | 17.9   | 20.8   | 25.7   |
|            | Th. HP Std   | 1.9      | 3.5    | 4.3    | 5.4    | 5.9    | 6.1    | 6.3    | 6.5    | 6.9    |
|            | Th. HP Fan   | 1.9      | 3.5    | 4.3    | 5.5    | 7.7    | 8.4    | 9.0    | 9.9    | 10.8   |
|            | Efficiency   | 74       | 78     | 80     | 84     | 84     | 84     | 86     | 87     | 87     |
|            | O.T. / Shaft | 20,300   | 19,700 | 18,900 | 17,300 | 16,400 | 14,900 | 14,000 | 12,400 | 10,100 |
| 30         | Me. HP       | 2.9      | 5.4    | 7.5    | 11.0   | 12.1   | 13.6   | 15.0   | 17.5   | 21.5   |
|            | Th. HP Std   | 1.6      | 3.0    | 3.7    | 4.7    | 5.1    | 5.4    | 5.5    | 5.7    | 5.9    |
|            | Th. HP Fan   | 1.6      | 3.0    | 3.7    | 4.7    | 6.7    | 7.3    | 7.9    | 8.6    | 9.3    |
|            | Efficiency   | 71       | 73     | 75     | 77     | 78     | 81     | 82     | 83     | 83     |
|            | O.T. / Shaft | 19,600   | 18,500 | 17,700 | 16,000 | 15,300 | 14,500 | 13,400 | 11,900 | 9,630  |
| 40         | Me. HP       | 2.2      | 4.0    | 5.7    | 8.3    | 9.1    | 10.3   | 11.3   | 13.2   | 16.2   |
|            | Th. HP Std   | 1.2      | 2.2    | 3.1    | 4.0    | 4.3    | 4.6    | 4.8    | 5.0    | 5.2    |
|            | Th. HP Fan   | 1.2      | 2.2    | 3.1    | 4.0    | 5.6    | 6.2    | 6.7    | 7.5    | 8.1    |
|            | Efficiency   | 64       | 66     | 70     | 73     | 75     | 78     | 78     | 79     | 79     |
|            | O.T. / Shaft | 17,700   | 16,800 | 16,700 | 15,300 | 14,800 | 14,000 | 12,800 | 11,400 | 9,220  |
| 50         | Me. HP       | 1.8      | 3.2    | 4.6    | 6.6    | 7.3    | 8.2    | 9.1    | 10.6   | 13.0   |
|            | Th. HP Std   | 1.0      | 1.8    | 2.5    | 3.3    | 3.6    | 3.8    | 4.0    | 4.2    | 4.6    |
|            | Th. HP Fan   | 1.0      | 1.8    | 2.5    | 3.3    | 4.7    | 5.2    | 5.6    | 6.5    | 7.2    |
|            | Efficiency   | 57       | 63     | 67     | 71     | 73     | 75     | 75     | 76     | 76     |
|            | O.T. / Shaft | 15,800   | 16,100 | 16,000 | 14,900 | 14,500 | 13,500 | 12,300 | 11,000 | 8,900  |
| 60         | Me. HP       | 1.5      | 2.7    | 3.8    | 5.5    | 6.1    | 6.9    | 7.6    | 8.8    | 10.9   |
|            | Th. HP Std   | 0.8      | 1.5    | 2.1    | 2.8    | 3.1    | 3.3    | 3.5    | 3.9    | 4.1    |
|            | Th. HP Fan   | 0.8      | 1.5    | 2.1    | 2.9    | 4.1    | 4.5    | 5.0    | 5.9    | 6.5    |
|            | Efficiency   | 56       | 62     | 64     | 67     | 69     | 71     | 72     | 73     | 73     |
|            | O.T. / Shaft | 15,600   | 15,800 | 15,300 | 14,100 | 13,700 | 12,800 | 11,900 | 10,600 | 8,560  |
| 70         | Me. HP       | 1.3      | 2.3    | 3.3    | 4.8    | 5.2    | 5.9    | 6.5    | 7.6    | 9.3    |
|            | Th. HP Std   | 0.7      | 1.3    | 1.8    | 2.6    | 2.9    | 3.1    | 3.3    | 3.5    | 3.7    |
|            | Th. HP Fan   | 0.7      | 1.3    | 1.8    | 2.7    | 3.8    | 4.3    | 4.6    | 5.4    | 5.7    |
|            | Efficiency   | 55       | 61     | 63     | 66     | 68     | 70     | 71     | 72     | 72     |
|            | O.T. / Shaft | 15,400   | 15,600 | 15,100 | 13,900 | 13,500 | 12,700 | 11,700 | 10,500 | 8,460  |

Key:

Me. HP = Mech. Input Power (HP)

Th. HP Std = Ther. Input Power - No Fan

O.T. / Shaft = Output Torque (Lb.-in) per shaft Th. HP Fan = Ther. Input Power - Fan

**DuoDrive Size 60 (expanded rating table)**

Reducer Size 60

12.00 Inch (Center Distance at Output Shafts)

|            |              | Worm RPM |        |        |        |        |        |        |        |        |
|------------|--------------|----------|--------|--------|--------|--------|--------|--------|--------|--------|
| Ratio to 1 |              | 100      | 200    | 300    | 500    | 580    | 720    | 870    | 1150   | 1750   |
| 5          | Me.HP        | 19.4     | 35.1   | 47.8   | 65.1   | 70.4   | 79.1   | 87.7   | 100.0  | 116.0  |
|            | Th.HP Std    | 6.2      | 9.3    | 12.0   | 15.7   | 17.2   | 19.1   | 20.6   | 22.3   | 24.5   |
|            | Th.HP Fan    | 6.2      | 9.3    | 12.0   | 15.9   | 22.4   | 25.9   | 29.0   | 33.7   | 38.2   |
|            | Efficiency   | 92       | 93     | 94     | 94     | 94     | 94     | 95     | 95     | 95     |
|            | O.T. / Shaft | 28,100   | 25,700 | 23,600 | 19,300 | 18,000 | 16,300 | 15,100 | 13,100 | 9,960  |
| 10         | Me.HP        | 12.4     | 22.6   | 31.2   | 43.8   | 47.5   | 53.2   | 58.9   | 68.2   | 81.8   |
|            | Th.HP Std    | 5.5      | 7.8    | 10.0   | 12.8   | 13.9   | 15.2   | 16.2   | 17.4   | 18.6   |
|            | Th.HP Fan    | 5.5      | 7.8    | 10.0   | 12.9   | 18.2   | 20.6   | 22.8   | 26.3   | 29.1   |
|            | Efficiency   | 86       | 88     | 89     | 90     | 90     | 92     | 92     | 93     | 93     |
|            | O.T. / Shaft | 33,600   | 31,400 | 29,200 | 24,800 | 23,200 | 21,400 | 19,600 | 17,400 | 13,700 |
| 15         | Me.HP        | 8.7      | 15.9   | 22.1   | 31.1   | 33.7   | 37.7   | 41.8   | 48.3   | 58.4   |
|            | Th.HP Std    | 4.9      | 6.9    | 8.5    | 10.6   | 11.5   | 12.3   | 12.9   | 13.7   | 14.7   |
|            | Th.HP Fan    | 4.9      | 6.9    | 8.5    | 10.6   | 15.0   | 16.8   | 18.2   | 20.7   | 23.0   |
|            | Efficiency   | 82       | 84     | 85     | 87     | 88     | 89     | 90     | 91     | 91     |
|            | O.T. / Shaft | 33,800   | 31,600 | 29,500 | 25,600 | 24,200 | 22,000 | 20,400 | 18,100 | 14,300 |
| 20         | Me.HP        | 6.7      | 12.2   | 16.9   | 23.9   | 25.9   | 28.9   | 32.2   | 37.1   | 45.0   |
|            | Th.HP Std    | 3.7      | 6.1    | 7.6    | 9.4    | 10.1   | 10.8   | 11.3   | 11.8   | 12.2   |
|            | Th.HP Fan    | 3.7      | 6.1    | 7.6    | 9.4    | 13.2   | 14.6   | 15.9   | 17.8   | 19.1   |
|            | Efficiency   | 78       | 80     | 81     | 84     | 86     | 86     | 86     | 87     | 88     |
|            | O.T. / Shaft | 32,900   | 30,700 | 28,700 | 25,400 | 24,200 | 21,800 | 20,100 | 17,700 | 14,300 |
| 25         | Me.HP        | 5.4      | 9.8    | 13.6   | 19.3   | 20.9   | 23.4   | 26.0   | 30.0   | 36.4   |
|            | Th.HP Std    | 3.0      | 5.2    | 6.5    | 8.2    | 8.8    | 9.2    | 9.5    | 9.8    | 10.3   |
|            | Th.HP Fan    | 3.0      | 5.2    | 6.5    | 8.2    | 11.5   | 12.5   | 13.4   | 14.8   | 16.1   |
|            | Efficiency   | 74       | 78     | 80     | 84     | 84     | 84     | 86     | 87     | 87     |
|            | O.T. / Shaft | 31,400   | 30,200 | 28,600 | 25,500 | 23,900 | 21,500 | 20,300 | 17,900 | 14,200 |
| 30         | Me.HP        | 4.5      | 8.2    | 11.4   | 16.1   | 17.5   | 19.6   | 21.8   | 25.1   | 30.4   |
|            | Th.HP Std    | 2.5      | 4.3    | 5.6    | 7.1    | 7.6    | 8.0    | 8.3    | 8.5    | 8.8    |
|            | Th.HP Fan    | 2.5      | 4.3    | 5.6    | 7.1    | 10.0   | 10.9   | 11.7   | 12.9   | 13.8   |
|            | Efficiency   | 71       | 73     | 75     | 77     | 78     | 81     | 82     | 83     | 83     |
|            | O.T. / Shaft | 30,200   | 28,400 | 26,900 | 23,500 | 22,300 | 20,800 | 19,400 | 17,100 | 13,600 |
| 40         | Me.HP        | 3.4      | 6.2    | 8.6    | 12.2   | 13.2   | 14.8   | 16.4   | 18.9   | 23.0   |
|            | Th.HP Std    | 1.9      | 3.5    | 4.8    | 6.0    | 6.5    | 6.9    | 7.2    | 7.5    | 7.7    |
|            | Th.HP Fan    | 1.9      | 3.5    | 4.8    | 6.0    | 8.5    | 9.3    | 10.1   | 11.2   | 12.1   |
|            | Efficiency   | 64       | 66     | 70     | 73     | 75     | 78     | 78     | 79     | 79     |
|            | O.T. / Shaft | 27,400   | 25,800 | 25,300 | 22,500 | 21,500 | 20,200 | 18,500 | 16,400 | 13,100 |
| 50         | Me.HP        | 2.7      | 5.0    | 6.9    | 9.8    | 10.6   | 11.9   | 13.2   | 15.2   | 18.4   |
|            | Th.HP Std    | 1.5      | 2.8    | 3.9    | 5.0    | 5.4    | 5.7    | 6.0    | 6.4    | 6.9    |
|            | Th.HP Fan    | 1.5      | 2.8    | 3.9    | 5.0    | 7.0    | 7.7    | 8.4    | 9.6    | 10.7   |
|            | Efficiency   | 57       | 63     | 67     | 71     | 73     | 75     | 75     | 76     | 76     |
|            | O.T. / Shaft | 24,500   | 24,700 | 24,300 | 21,900 | 21,000 | 19,500 | 17,900 | 15,800 | 12,600 |
| 60         | Me.HP        | 2.3      | 4.2    | 5.8    | 8.2    | 8.9    | 9.9    | 11.0   | 12.7   | 15.4   |
|            | Th.HP Std    | 1.3      | 2.3    | 3.2    | 4.3    | 4.7    | 5.0    | 5.3    | 5.8    | 6.2    |
|            | Th.HP Fan    | 1.3      | 2.3    | 3.2    | 4.4    | 6.1    | 6.8    | 7.5    | 8.7    | 9.6    |
|            | Efficiency   | 56       | 62     | 64     | 67     | 69     | 71     | 72     | 73     | 73     |
|            | O.T. / Shaft | 24,100   | 24,300 | 23,200 | 20,800 | 19,900 | 18,500 | 17,200 | 15,200 | 12,100 |
| 70         | Me.HP        | 2.0      | 3.6    | 4.9    | 7.0    | 7.6    | 8.5    | 9.5    | 10.9   | 13.2   |
|            | Th.HP Std    | 1.1      | 2.0    | 2.8    | 3.8    | 4.3    | 4.8    | 4.9    | 5.3    | 5.5    |
|            | Th.HP Fan    | 1.1      | 2.0    | 2.8    | 4.0    | 5.6    | 6.5    | 6.9    | 8.0    | 8.6    |
|            | Efficiency   | 55       | 61     | 63     | 66     | 68     | 70     | 71     | 72     | 72     |
|            | O.T. / Shaft | 23,700   | 24,000 | 22,900 | 20,500 | 19,700 | 18,200 | 17,000 | 15,000 | 12,000 |

Key:

Me.HP = Mech. Input Power (HP)

Th.HP Std = Ther. Input Power - No Fan

O.T. / Shaft = Output Torque (Lb.-in) per shaft

Th.HP Fan = Ther. Input Power - Fan

## DuoDrive Size 70 (expanded rating table)

Reducer Size 70

14.00 Inch (Center Distance at Output Shafts)

|            |              | Worm RPM |        |        |        |        |        |        |        |        |
|------------|--------------|----------|--------|--------|--------|--------|--------|--------|--------|--------|
| Ratio to 1 |              | 100      | 200    | 300    | 500    | 580    | 720    | 870    | 1150   | 1750   |
| 5          | Me.HP        | 30.5     | 54.5   | 72.5   | 96.3   | 105.0  | 118.0  | 129.0  | 146.0  | 168.0  |
|            | Th.HP Std    | 8.6      | 12.9   | 16.7   | 21.8   | 23.8   | 26.6   | 28.7   | 31.1   | 34.1   |
|            | Th.HP Fan    | 8.6      | 12.9   | 16.7   | 23.3   | 32.6   | 37.6   | 42.0   | 49.0   | 55.4   |
|            | Efficiency   | 92       | 93     | 94     | 94     | 94     | 94     | 95     | 95     | 95     |
|            | O.T. / Shaft | 44,200   | 39,900 | 35,800 | 28,500 | 26,800 | 24,200 | 22,200 | 19,000 | 14,400 |
| 10         | Me.HP        | 19.6     | 35.6   | 48.6   | 66.5   | 72.0   | 81.1   | 89.7   | 103.0  | 120.0  |
|            | Th.HP Std    | 7.6      | 10.9   | 13.9   | 17.8   | 19.3   | 21.1   | 22.6   | 24.2   | 26.0   |
|            | Th.HP Fan    | 7.6      | 10.9   | 13.9   | 18.9   | 26.4   | 29.9   | 33.2   | 38.2   | 42.1   |
|            | Efficiency   | 86       | 88     | 89     | 90     | 90     | 92     | 92     | 93     | 93     |
|            | O.T. / Shaft | 53,200   | 49,300 | 45,500 | 37,700 | 35,200 | 32,600 | 29,900 | 26,200 | 20,100 |
| 15         | Me.HP        | 13.8     | 25.1   | 34.4   | 47.5   | 51.4   | 57.9   | 64.0   | 73.4   | 86.6   |
|            | Th.HP Std    | 6.7      | 9.5    | 11.8   | 14.8   | 16.0   | 17.2   | 18.0   | 19.1   | 20.4   |
|            | Th.HP Fan    | 6.7      | 9.5    | 11.8   | 15.6   | 21.8   | 24.3   | 26.3   | 30.0   | 33.1   |
|            | Efficiency   | 82       | 84     | 85     | 87     | 88     | 89     | 90     | 91     | 91     |
|            | O.T. / Shaft | 53,500   | 49,800 | 46,100 | 39,200 | 36,900 | 33,800 | 31,300 | 27,500 | 21,300 |
| 20         | Me.HP        | 10.6     | 19.2   | 26.4   | 36.4   | 39.5   | 44.4   | 49.1   | 56.5   | 66.7   |
|            | Th.HP Std    | 6.1      | 8.5    | 10.5   | 13.0   | 14.0   | 15.0   | 15.7   | 16.4   | 17.1   |
|            | Th.HP Fan    | 6.1      | 8.5    | 10.5   | 13.7   | 19.2   | 21.3   | 22.9   | 25.8   | 27.7   |
|            | Efficiency   | 78       | 80     | 81     | 84     | 86     | 86     | 86     | 87     | 88     |
|            | O.T. / Shaft | 52,000   | 48,400 | 44,900 | 38,700 | 36,900 | 33,400 | 30,600 | 26,900 | 21,100 |
| 25         | Me.HP        | 8.5      | 15.5   | 21.3   | 29.5   | 31.9   | 35.9   | 39.7   | 45.6   | 54.0   |
|            | Th.HP Std    | 4.9      | 7.2    | 9.0    | 11.4   | 12.3   | 12.8   | 13.2   | 13.6   | 14.3   |
|            | Th.HP Fan    | 4.9      | 7.2    | 9.0    | 12.0   | 16.8   | 18.2   | 19.4   | 21.5   | 23.3   |
|            | Efficiency   | 74       | 78     | 80     | 84     | 84     | 84     | 86     | 87     | 87     |
|            | O.T. / Shaft | 49,600   | 47,600 | 44,700 | 39,000 | 36,400 | 33,000 | 30,900 | 27,200 | 21,100 |
| 30         | Me.HP        | 7.1      | 13.0   | 17.8   | 24.7   | 26.7   | 30.0   | 33.2   | 38.2   | 45.3   |
|            | Th.HP Std    | 4.1      | 6.0    | 7.8    | 9.4    | 10.1   | 10.2   | 10.6   | 11.8   | 12.3   |
|            | Th.HP Fan    | 4.1      | 6.0    | 7.8    | 9.9    | 13.8   | 14.4   | 15.5   | 18.6   | 20.0   |
|            | Efficiency   | 71       | 73     | 75     | 77     | 78     | 81     | 82     | 83     | 83     |
|            | O.T. / Shaft | 47,800   | 44,700 | 42,100 | 36,000 | 34,000 | 31,900 | 29,600 | 26,100 | 20,300 |
| 40         | Me.HP        | 5.4      | 9.8    | 13.4   | 18.6   | 20.1   | 22.6   | 25.1   | 28.8   | 34.1   |
|            | Th.HP Std    | 3.1      | 5.1    | 6.5    | 8.3    | 9.0    | 9.5    | 10.0   | 10.4   | 10.8   |
|            | Th.HP Fan    | 3.1      | 5.1    | 6.5    | 8.8    | 12.3   | 13.5   | 14.6   | 16.4   | 17.5   |
|            | Efficiency   | 64       | 66     | 70     | 73     | 75     | 78     | 78     | 79     | 79     |
|            | O.T. / Shaft | 43,300   | 40,700 | 39,500 | 34,400 | 32,800 | 30,900 | 28,300 | 25,000 | 19,400 |
| 50         | Me.HP        | 4.3      | 7.9    | 10.8   | 14.9   | 16.2   | 18.2   | 20.1   | 23.1   | 27.4   |
|            | Th.HP Std    | 2.5      | 4.4    | 5.6    | 7.0    | 7.5    | 7.9    | 8.3    | 8.9    | 9.5    |
|            | Th.HP Fan    | 2.5      | 4.4    | 5.6    | 7.3    | 10.3   | 11.2   | 12.2   | 13.9   | 15.5   |
|            | Efficiency   | 57       | 63     | 67     | 71     | 73     | 75     | 75     | 76     | 76     |
|            | O.T. / Shaft | 38,600   | 39,000 | 37,900 | 33,600 | 32,100 | 29,800 | 27,300 | 24,100 | 18,800 |
| 60         | Me.HP        | 3.6      | 6.6    | 9.0    | 12.5   | 13.5   | 15.2   | 16.8   | 19.3   | 22.9   |
|            | Th.HP Std    | 2.1      | 3.8    | 4.8    | 6.0    | 6.5    | 7.0    | 7.4    | 8.0    | 8.6    |
|            | Th.HP Fan    | 2.1      | 3.8    | 4.8    | 6.4    | 8.9    | 9.9    | 10.8   | 12.6   | 13.9   |
|            | Efficiency   | 56       | 62     | 64     | 67     | 69     | 71     | 72     | 73     | 73     |
|            | O.T. / Shaft | 38,000   | 38,400 | 36,300 | 31,800 | 30,400 | 28,300 | 26,300 | 23,200 | 18,100 |
| 70         | Me.HP        | 3.1      | 5.6    | 7.7    | 10.7   | 11.6   | 13.0   | 14.4   | 16.6   | 19.7   |
|            | Th.HP Std    | 1.8      | 3.2    | 4.5    | 5.7    | 6.1    | 6.5    | 6.8    | 7.4    | 7.8    |
|            | Th.HP Fan    | 1.8      | 3.2    | 4.5    | 6.0    | 8.4    | 9.3    | 10.0   | 11.6   | 12.6   |
|            | Efficiency   | 55       | 61     | 63     | 66     | 68     | 70     | 71     | 72     | 72     |
|            | O.T. / Shaft | 37,500   | 37,800 | 35,800 | 31,400 | 30,000 | 27,900 | 26,000 | 22,900 | 17,900 |

Key:

Me.HP = Mech. Input Power (HP)

Th.HP Std = Ther. Input Power - No Fan

O.T. / Shaft = Output Torque (Lb-in) per shaft Th.HP Fan = Ther. Input Power - Fan

**DuoDrive Size 80 (expanded rating table)**

Reducer Size 80

16.00 Inch (Center Distance at Output Shafts)

|            |              | Worm RPM |        |        |        |        |        |        |        |        |
|------------|--------------|----------|--------|--------|--------|--------|--------|--------|--------|--------|
| Ratio to 1 |              | 100      | 200    | 300    | 500    | 580    | 720    | 870    | 1150   | 1750   |
| 5          | Me.HP        | 44.8     | 79.0   | 103.0  | 137.0  | 147.0  | 165.0  | 181.0  | 202.0  | 233.0  |
|            | Th.HP Std    | 9.3      | 14.2   | 18.2   | 23.9   | 26.2   | 29.2   | 30.7   | 34.1   | 37.4   |
|            | Th.HP Fan    | 9.3      | 14.2   | 18.2   | 27.8   | 41.6   | 48.8   | 53.5   | 64.5   | 73.9   |
|            | Efficiency   | 92       | 93     | 94     | 94     | 94     | 94     | 95     | 95     | 95     |
|            | O.T. / Shaft | 65,000   | 57,800 | 51,000 | 40,500 | 37,600 | 33,900 | 31,100 | 26,300 | 20,000 |
| 10         | Me.HP        | 29.0     | 52.2   | 70.8   | 96.2   | 104.0  | 117.0  | 129.0  | 147.0  | 171.0  |
|            | Th.HP Std    | 8.3      | 12.0   | 15.3   | 19.5   | 21.2   | 23.2   | 24.3   | 26.6   | 28.5   |
|            | Th.HP Fan    | 8.3      | 12.0   | 15.3   | 22.5   | 33.8   | 38.8   | 42.3   | 50.2   | 56.2   |
|            | Efficiency   | 86       | 88     | 89     | 90     | 90     | 92     | 92     | 93     | 93     |
|            | O.T. / Shaft | 78,500   | 72,400 | 66,200 | 54,500 | 50,800 | 47,000 | 43,100 | 37,600 | 28,700 |
| 15         | Me.HP        | 20.4     | 37.0   | 50.4   | 68.7   | 74.4   | 83.5   | 92.5   | 106.0  | 123.0  |
|            | Th.HP Std    | 7.4      | 10.4   | 13.0   | 16.2   | 17.5   | 18.8   | 19.3   | 20.8   | 23.1   |
|            | Th.HP Fan    | 7.4      | 10.4   | 13.0   | 18.5   | 27.8   | 31.5   | 33.7   | 39.3   | 45.5   |
|            | Efficiency   | 82       | 84     | 85     | 87     | 88     | 89     | 90     | 91     | 91     |
|            | O.T. / Shaft | 79,200   | 73,400 | 67,400 | 56,600 | 53,400 | 48,800 | 45,200 | 39,600 | 30,200 |
| 20         | Me.HP        | 15.6     | 28.3   | 38.6   | 52.7   | 57.1   | 64.2   | 71.1   | 81.5   | 94.7   |
|            | Th.HP Std    | 6.6      | 9.3    | 11.5   | 14.3   | 15.4   | 16.4   | 16.9   | 18.1   | 20.7   |
|            | Th.HP Fan    | 6.6      | 9.3    | 11.5   | 16.3   | 24.5   | 27.3   | 29.3   | 34.2   | 40.9   |
|            | Efficiency   | 78       | 80     | 81     | 84     | 86     | 86     | 86     | 87     | 88     |
|            | O.T. / Shaft | 76,800   | 71,400 | 65,700 | 56,000 | 53,300 | 48,300 | 44,300 | 38,800 | 30,000 |
| 25         | Me.HP        | 12.6     | 22.8   | 31.2   | 42.6   | 46.2   | 52.0   | 57.5   | 65.8   | 76.7   |
|            | Th.HP Std    | 5.3      | 8.0    | 9.9    | 12.4   | 13.4   | 14.0   | 14.2   | 15.3   | 15.7   |
|            | Th.HP Fan    | 5.3      | 8.0    | 9.9    | 14.2   | 21.3   | 23.4   | 24.6   | 29.0   | 31.0   |
|            | Efficiency   | 74       | 78     | 80     | 84     | 84     | 84     | 86     | 87     | 87     |
|            | O.T. / Shaft | 73,400   | 70,100 | 65,500 | 56,400 | 52,700 | 47,800 | 44,800 | 39,200 | 30,100 |
| 30         | Me.HP        | 10.5     | 19.1   | 26.1   | 35.7   | 38.7   | 43.5   | 48.2   | 55.2   | 64.4   |
|            | Th.HP Std    | 4.4      | 6.6    | 8.5    | 10.8   | 11.7   | 12.3   | 12.5   | 13.0   | 13.5   |
|            | Th.HP Fan    | 4.4      | 6.6    | 8.5    | 12.4   | 18.6   | 20.5   | 21.7   | 24.6   | 26.6   |
|            | Efficiency   | 71       | 73     | 75     | 77     | 78     | 81     | 82     | 83     | 83     |
|            | O.T. / Shaft | 70,700   | 65,900 | 61,700 | 52,100 | 49,200 | 46,300 | 42,900 | 37,600 | 28,900 |
| 40         | Me.HP        | 7.9      | 14.4   | 19.7   | 26.9   | 29.2   | 32.9   | 36.3   | 41.6   | 48.6   |
|            | Th.HP Std    | 3.3      | 5.6    | 7.2    | 9.1    | 9.9    | 10.5   | 10.7   | 11.5   | 11.8   |
|            | Th.HP Fan    | 3.3      | 5.6    | 7.2    | 10.4   | 15.7   | 17.6   | 18.7   | 21.7   | 23.3   |
|            | Efficiency   | 64       | 66     | 70     | 73     | 75     | 78     | 78     | 79     | 79     |
|            | O.T. / Shaft | 64,000   | 59,900 | 57,900 | 49,800 | 47,600 | 44,900 | 41,100 | 36,100 | 27,600 |
| 50         | Me.HP        | 6.4      | 11.5   | 15.8   | 21.6   | 23.4   | 26.4   | 29.2   | 33.5   | 39.1   |
|            | Th.HP Std    | 2.7      | 4.9    | 6.1    | 7.6    | 8.3    | 8.7    | 8.9    | 9.7    | 10.5   |
|            | Th.HP Fan    | 2.7      | 4.9    | 6.1    | 8.7    | 13.1   | 14.5   | 15.5   | 18.4   | 20.7   |
|            | Efficiency   | 57       | 63     | 67     | 71     | 73     | 75     | 75     | 76     | 76     |
|            | O.T. / Shaft | 57,200   | 57,300 | 55,500 | 48,700 | 46,500 | 43,400 | 39,600 | 34,800 | 26,700 |
| 60         | Me.HP        | 5.3      | 9.6    | 13.2   | 18.1   | 19.6   | 22.1   | 24.4   | 27.9   | 32.6   |
|            | Th.HP Std    | 2.2      | 4.1    | 5.3    | 6.6    | 7.2    | 7.7    | 8.0    | 8.9    | 9.4    |
|            | Th.HP Fan    | 2.2      | 4.1    | 5.3    | 7.6    | 11.4   | 12.8   | 13.8   | 16.8   | 18.6   |
|            | Efficiency   | 56       | 62     | 64     | 67     | 69     | 71     | 72     | 73     | 73     |
|            | O.T. / Shaft | 56,300   | 56,500 | 53,200 | 46,000 | 44,000 | 41,100 | 38,100 | 33,500 | 25,700 |
| 70         | Me.HP        | 4.6      | 8.3    | 11.3   | 15.5   | 16.8   | 18.9   | 20.9   | 24.0   | 28.0   |
|            | Th.HP Std    | 1.9      | 3.5    | 4.8    | 6.4    | 7.1    | 7.2    | 7.4    | 8.1    | 8.4    |
|            | Th.HP Fan    | 1.9      | 3.5    | 4.8    | 7.5    | 11.2   | 12.0   | 12.8   | 15.3   | 16.6   |
|            | Efficiency   | 55       | 61     | 63     | 66     | 68     | 70     | 71     | 72     | 72     |
|            | O.T. / Shaft | 55,400   | 55,600 | 52,500 | 45,400 | 43,400 | 40,600 | 37,600 | 33,100 | 25,400 |

Key:

Me.HP = Mech. Input Power (HP)

Th.HP Std = Ther. Input Power - No Fan

O.T. / Shaft = Output Torque (Lb.-in) per shaft

Th.HP Fan = Ther. Input Power - Fan

## DuoDrive Size 100 (expanded rating table)

Reducer Size 100

20.00 Inch (Center Distance at Output Shafts)

|            |              | Worm RPM |         |         |         |        |        |        |        |        |
|------------|--------------|----------|---------|---------|---------|--------|--------|--------|--------|--------|
| Ratio to 1 |              | 100      | 200     | 300     | 500     | 580    | 720    | 870    | 1150   | 1750   |
| 5          | Me.HP        | 84.0     | 143.0   | 181.0   | 239.0   | 257.0  | 284.0  | 308.0  | 335.0  | 392.0  |
|            | Th.HP Std    | 14.4     | 21.7    | 27.8    | 36.5    | 40.0   | 44.5   | 47.9   | 52.1   | 76.2   |
|            | Th.HP Fan    | 14.4     | 21.7    | 27.8    | 46.9    | 72.7   | 85.4   | 96.6   | 115.0  | 175.0  |
|            | Efficiency   | 94       | 95      | 96      | 96      | 96     | 96     | 97     | 97     | 97     |
|            | O.T. / Shaft | 124,000  | 107,000 | 91,300  | 72,200  | 66,900 | 59,800 | 54,200 | 44,500 | 34,300 |
| 10         | Me.HP        | 54.6     | 96.4    | 127.0   | 168.0   | 182.0  | 203.0  | 223.0  | 251.0  | 289.0  |
|            | Th.HP Std    | 12.8     | 18.3    | 17.2    | 28.1    | 32.4   | 35.4   | 37.4   | 40.6   | 43.3   |
|            | Th.HP Fan    | 12.8     | 18.3    | 17.2    | 39.0    | 58.9   | 67.9   | 75.4   | 89.9   | 99.4   |
|            | Efficiency   | 88       | 90      | 91      | 92      | 92     | 94     | 94     | 95     | 95     |
|            | O.T. / Shaft | 151,000  | 137,000 | 121,000 | 97,400  | 90,900 | 83,600 | 76,000 | 65,300 | 49,400 |
| 15         | Me.HP        | 38.4     | 68.2    | 90.4    | 120.0   | 130.0  | 146.0  | 160.0  | 180.0  | 207.0  |
|            | Th.HP Std    | 11.2     | 16.0    | 19.8    | 24.7    | 26.7   | 28.8   | 30.2   | 32.0   | 34.2   |
|            | Th.HP Fan    | 11.2     | 16.0    | 19.8    | 31.1    | 48.6   | 55.2   | 60.9   | 70.7   | 78.5   |
|            | Efficiency   | 84       | 86      | 87      | 89      | 90     | 91     | 92     | 93     | 93     |
|            | O.T. / Shaft | 152,000  | 139,000 | 124,000 | 101,000 | 95,200 | 87,000 | 79,900 | 68,900 | 52,100 |
| 20         | Me.HP        | 29.4     | 52.2    | 69.5    | 91.9    | 99.9   | 112.0  | 123.0  | 139.0  | 160.0  |
|            | Th.HP Std    | 10.1     | 14.2    | 17.6    | 21.8    | 23.5   | 25.1   | 26.2   | 27.4   | 28.5   |
|            | Th.HP Fan    | 10.1     | 14.2    | 17.6    | 27.4    | 42.8   | 48.2   | 52.9   | 60.8   | 65.5   |
|            | Efficiency   | 80       | 82      | 83      | 86      | 88     | 88     | 88     | 89     | 90     |
|            | O.T. / Shaft | 148,000  | 135,000 | 121,000 | 100,000 | 95,600 | 86,300 | 78,400 | 67,800 | 51,800 |
| 25         | Me.HP        | 23.7     | 42.2    | 56.0    | 74.3    | 80.7   | 90.6   | 99.4   | 113.0  | 129.0  |
|            | Th.HP Std    | 8.3      | 12.1    | 15.1    | 19.0    | 20.6   | 21.5   | 22.1   | 22.8   | 24.0   |
|            | Th.HP Fan    | 8.3      | 12.1    | 15.1    | 24.0    | 37.4   | 41.2   | 44.7   | 50.5   | 55.0   |
|            | Efficiency   | 76       | 80      | 82      | 86      | 86     | 86     | 88     | 89     | 89     |
|            | O.T. / Shaft | 142,000  | 133,000 | 121,000 | 101,000 | 94,300 | 85,300 | 79,200 | 68,700 | 51,800 |
| 30         | Me.HP        | 19.8     | 35.3    | 46.9    | 62.3    | 67.7   | 75.9   | 83.2   | 94.4   | 108.0  |
|            | Th.HP Std    | 7.0      | 10.0    | 13.0    | 16.4    | 17.8   | 18.7   | 19.4   | 19.8   | 20.5   |
|            | Th.HP Fan    | 7.0      | 10.0    | 13.0    | 20.8    | 32.4   | 35.8   | 39.1   | 43.9   | 47.0   |
|            | Efficiency   | 73       | 75      | 77      | 79      | 80     | 83     | 84     | 85     | 85     |
|            | O.T. / Shaft | 137,000  | 125,000 | 114,000 | 93,200  | 88,300 | 82,800 | 75,900 | 65,900 | 49,800 |
| 40         | Me.HP        | 14.9     | 26.6    | 35.4    | 46.9    | 51.1   | 57.3   | 62.8   | 71.2   | 81.9   |
|            | Th.HP Std    | 5.3      | 8.4     | 10.9    | 13.9    | 15.1   | 16.0   | 22.8   | 23.4   | 18.0   |
|            | Th.HP Fan    | 5.3      | 8.4     | 10.9    | 17.6    | 27.4   | 30.7   | 39.3   | 46.0   | 41.3   |
|            | Efficiency   | 66       | 68      | 72      | 75      | 77     | 80     | 80     | 81     | 81     |
|            | O.T. / Shaft | 124,000  | 114,000 | 107,000 | 89,100  | 85,500 | 80,200 | 72,800 | 63,200 | 47,800 |
| 50         | Me.HP        | 12.0     | 21.4    | 28.4    | 37.7    | 41.0   | 46.0   | 50.4   | 57.2   | 65.7   |
|            | Th.HP Std    | 4.2      | 7.3     | 9.4     | 11.7    | 12.6   | 13.2   | 13.9   | 14.8   | 16.0   |
|            | Th.HP Fan    | 4.2      | 7.3     | 9.4     | 14.6    | 22.9   | 25.4   | 28.0   | 32.8   | 36.7   |
|            | Efficiency   | 59       | 65      | 69      | 73      | 75     | 77     | 77     | 78     | 78     |
|            | O.T. / Shaft | 111,000  | 109,000 | 103,000 | 87,100  | 83,600 | 77,500 | 70,300 | 61,100 | 46,100 |
| 60         | Me.HP        | 10.0     | 17.8    | 23.7    | 31.5    | 34.3   | 38.4   | 42.1   | 47.7   | 54.8   |
|            | Th.HP Std    | 3.5      | 6.3     | 8.0     | 10.1    | 11.0   | 11.7   | 12.3   | 13.5   | 14.4   |
|            | Th.HP Fan    | 3.5      | 6.3     | 8.0     | 12.8    | 20.0   | 22.4   | 24.8   | 29.8   | 33.0   |
|            | Efficiency   | 58       | 64      | 66      | 69      | 71     | 73     | 74     | 75     | 75     |
|            | O.T. / Shaft | 110,000  | 108,000 | 98,700  | 82,500  | 79,300 | 73,600 | 67,700 | 58,900 | 44,400 |
| 70         | Me.HP        | 8.6      | 15.3    | 20.4    | 27.0    | 29.4   | 33.0   | 36.1   | 41.0   | 47.1   |
|            | Th.HP Std    | 3.0      | 5.4     | 7.1     | 9.4     | 10.3   | 11.0   | 11.4   | 12.3   | 13.0   |
|            | Th.HP Fan    | 3.0      | 5.4     | 7.1     | 12.0    | 18.6   | 21.1   | 23.0   | 27.2   | 29.8   |
|            | Efficiency   | 57       | 63      | 65      | 68      | 70     | 72     | 73     | 74     | 74     |
|            | O.T. / Shaft | 108,000  | 106,000 | 97,300  | 81,500  | 78,400 | 72,800 | 66,900 | 58,200 | 43,900 |

Key: Me.HP = Mech. Input Power (HP) Th.HP Std = Ther. Input Power - No Fan  
 O.T. / Shaft = Output Torque (Lb.-in) per shaft Th.HP Fan = Ther. Input Power - Fan



**DuoDrive Size 120 (expanded rating table)**

Reducer Size 120

24.00 Inch (Center Distance at Output Shafts)

|            |              | Worm RPM |         |         |         |         |         |         |         |
|------------|--------------|----------|---------|---------|---------|---------|---------|---------|---------|
| Ratio to 1 |              | 100      | 200     | 300     | 500     | 580     | 720     | 870     | 1150    |
| 5          | Me.HP        | 142.0    | 233.0   | 289.0   | 380.0   | 407.0   | 447.0   | 470.0   | 522.0   |
|            | Th.HP Std    | 19.8     | 29.9    | 38.4    | 50.4    | 55.2    | 63.0    | 66.0    | 72.0    |
|            | Th.HP Fan    | 19.8     | 29.9    | 38.4    | 65.0    | 101.0   | 122.0   | 134.0   | 161.0   |
|            | Efficiency   | 94       | 95      | 96      | 96      | 96      | 96      | 97      | 97      |
|            | O.T. / Shaft | 210,000  | 174,000 | 146,000 | 115,000 | 106,000 | 93,800  | 82,600  | 69,400  |
| 10         | Me.HP        | 92.9     | 160.0   | 205.0   | 269.0   | 292.0   | 325.0   | 354.0   | 386.0   |
|            | Th.HP Std    | 17.6     | 25.3    | 32.2    | 41.1    | 44.7    | 50.1    | 52.2    | 56.0    |
|            | Th.HP Fan    | 17.6     | 25.3    | 32.2    | 52.6    | 82.2    | 96.6    | 106.0   | 126.0   |
|            | Efficiency   | 88       | 90      | 91      | 92      | 92      | 94      | 94      | 95      |
|            | O.T. / Shaft | 258,000  | 227,000 | 196,000 | 156,000 | 146,000 | 134,000 | 120,000 | 100,000 |
| 15         | Me.HP        | 65.4     | 113.0   | 147.0   | 193.0   | 209.0   | 232.0   | 254.0   | 277.0   |
|            | Th.HP Std    | 15.4     | 22.0    | 27.6    | 34.2    | 36.9    | 40.7    | 41.7    | 43.8    |
|            | Th.HP Fan    | 15.4     | 22.0    | 27.6    | 43.1    | 67.7    | 78.8    | 85.2    | 97.8    |
|            | Efficiency   | 84       | 86      | 87      | 89      | 90      | 91      | 92      | 93      |
|            | O.T. / Shaft | 260,000  | 230,000 | 201,000 | 162,000 | 153,000 | 139,000 | 127,000 | 106,000 |
| 20         | Me.HP        | 50.2     | 87.0    | 113.0   | 148.0   | 161.0   | 178.0   | 195.0   | 215.0   |
|            | Th.HP Std    | 13.9     | 19.6    | 24.2    | 30.2    | 32.6    | 35.3    | 36.2    | 38.0    |
|            | Th.HP Fan    | 13.9     | 19.6    | 24.2    | 38.1    | 59.8    | 68.2    | 73.6    | 84.7    |
|            | Efficiency   | 80       | 82      | 83      | 86      | 88      | 88      | 88      | 89      |
|            | O.T. / Shaft | 253,000  | 225,000 | 196,000 | 161,000 | 153,000 | 137,000 | 125,000 | 105,000 |
| 25         | Me.HP        | 40.4     | 70.3    | 91.0    | 120.0   | 130.0   | 144.0   | 158.0   | 174.0   |
|            | Th.HP Std    | 11.6     | 16.7    | 20.8    | 26.2    | 28.4    | 30.3    | 30.4    | 31.5    |
|            | Th.HP Fan    | 11.6     | 16.7    | 20.8    | 33.3    | 52.1    | 58.6    | 61.8    | 70.4    |
|            | Efficiency   | 76       | 80      | 82      | 86      | 86      | 86      | 88      | 89      |
|            | O.T. / Shaft | 242,000  | 222,000 | 196,000 | 162,000 | 152,000 | 136,000 | 126,000 | 106,000 |
| 30         | Me.HP        | 33.8     | 58.8    | 76.3    | 100.0   | 109.0   | 121.0   | 132.0   | 146.0   |
|            | Th.HP Std    | 8.8      | 13.9    | 17.9    | 22.7    | 24.6    | 26.5    | 26.8    | 27.4    |
|            | Th.HP Fan    | 8.8      | 13.9    | 17.9    | 28.8    | 45.1    | 51.2    | 54.5    | 61.1    |
|            | Efficiency   | 73       | 75      | 77      | 79      | 80      | 83      | 84      | 85      |
|            | O.T. / Shaft | 233,000  | 209,000 | 185,000 | 150,000 | 142,000 | 132,000 | 121,000 | 102,000 |
| 40         | Me.HP        | 25.5     | 44.3    | 57.5    | 75.7    | 82.0    | 91.3    | 99.8    | 110.0   |
|            | Th.HP Std    | 7.2      | 11.6    | 15.1    | 19.3    | 21.0    | 22.7    | 23.0    | 24.0    |
|            | Th.HP Fan    | 7.2      | 11.6    | 15.1    | 24.6    | 38.5    | 43.9    | 46.7    | 53.6    |
|            | Efficiency   | 66       | 68      | 72      | 75      | 77      | 80      | 80      | 81      |
|            | O.T. / Shaft | 212,000  | 190,000 | 174,000 | 144,000 | 137,000 | 128,000 | 116,000 | 97,600  |
| 50         | Me.HP        | 20.5     | 35.6    | 46.2    | 60.8    | 65.9    | 73.3    | 80.1    | 88.4    |
|            | Th.HP Std    | 6.3      | 10.1    | 13.0    | 16.1    | 17.4    | 18.7    | 19.1    | 20.5    |
|            | Th.HP Fan    | 6.3      | 10.1    | 13.0    | 20.3    | 31.9    | 36.2    | 38.9    | 45.7    |
|            | Efficiency   | 59       | 65      | 69      | 73      | 75      | 77      | 77      | 78      |
|            | O.T. / Shaft | 190,000  | 182,000 | 167,000 | 141,000 | 134,000 | 123,000 | 112,000 | 94,400  |
| 60         | Me.HP        | 17.1     | 29.7    | 38.6    | 50.8    | 55.0    | 61.2    | 66.9    | 73.8    |
|            | Th.HP Std    | 5.0      | 8.8     | 11.0    | 14.0    | 15.2    | 16.4    | 17.0    | 18.7    |
|            | Th.HP Fan    | 5.0      | 8.8     | 11.0    | 17.8    | 27.9    | 31.7    | 34.6    | 41.7    |
|            | Efficiency   | 58       | 64      | 66      | 69      | 71      | 73      | 74      | 75      |
|            | O.T. / Shaft | 187,000  | 180,000 | 160,000 | 133,000 | 127,000 | 117,000 | 108,000 | 91,000  |
| 70         | Me.HP        | 14.7     | 25.5    | 33.1    | 43.6    | 47.2    | 52.5    | 57.4    | 63.4    |
|            | Th.HP Std    | 4.4      | 7.9     | 10.1    | 13.1    | 14.3    | 15.5    | 15.7    | 17.2    |
|            | Th.HP Fan    | 4.4      | 7.9     | 10.1    | 16.9    | 26.3    | 29.9    | 31.9    | 38.4    |
|            | Efficiency   | 57       | 63      | 65      | 68      | 70      | 72      | 73      | 74      |
|            | O.T. / Shaft | 184,000  | 177,000 | 158,000 | 131,000 | 126,000 | 116,000 | 106,000 | 90,000  |

Key: Me.HP = Mech. Input Power (HP) Th.HP Std = Ther. Input Power - No Fan  
 O.T. / Shaft = Output Torque (Lb.-in) per shaft Th.HP Fan = Ther. Input Power - Fan

Contact Cone Drive Operation for ratings above Size D120.

For Motorizing options, please contact Cone Drive Operation.

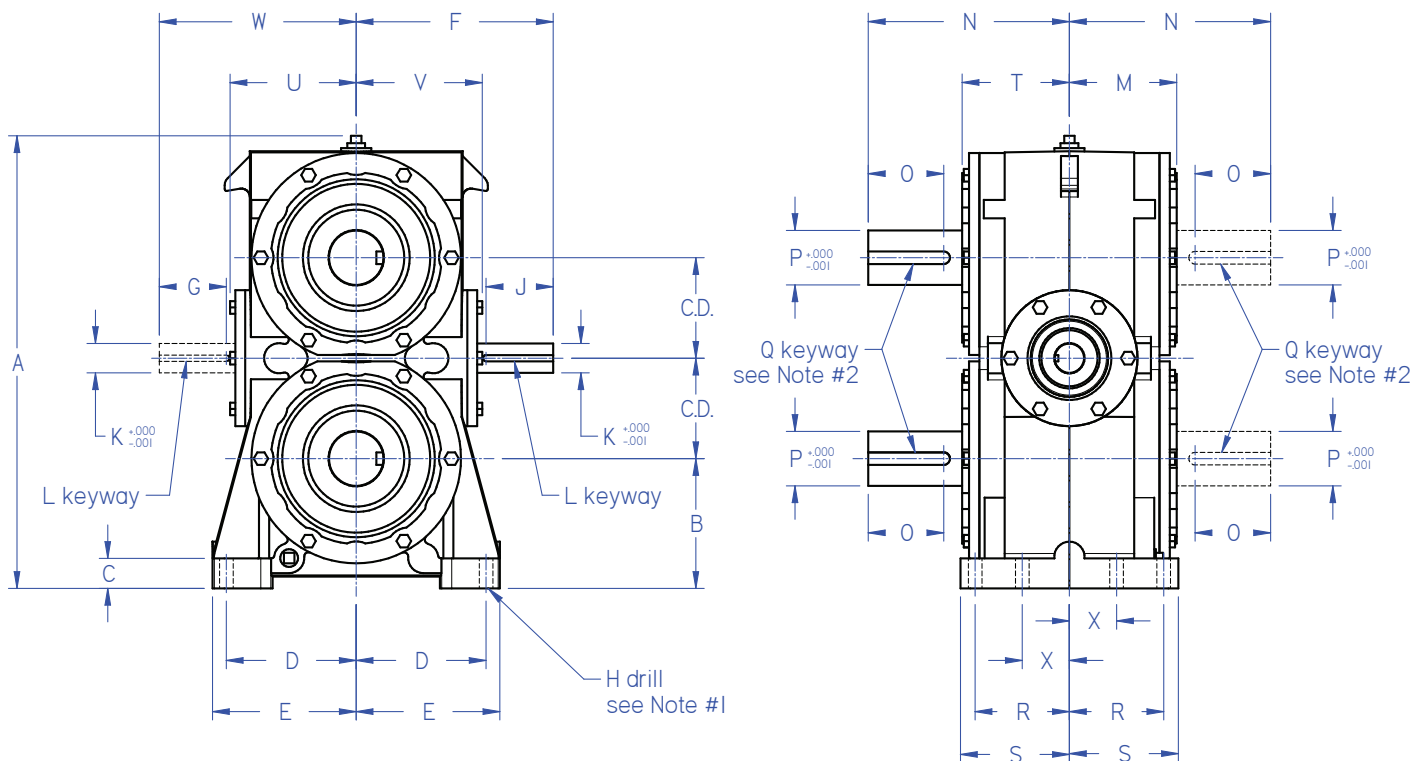
## Dimensions

### DuoDrive Size 20 to 240

#### #1 Assembly Shown

Dimensions shown are for cast iron housing sizes D20 through D80. Welded steel housing sizes D100 through D240.

Input and output shaft may extend on either side or may be double extended.



#### Notes:

1. Sizes D20 through D100, 4 mounting holes. Sizes D120, 6 mounting holes. Sizes D150 through D240, 8 mounting holes.
2. Sizes D150 through D240 have 2 keyways 180° apart, on each output shaft extension.
3. Unless otherwise specified housing will be furnished in cast iron or welded steel at our option.
4. Sizes D180 through D240 all dimensions subject to change at final design.
5. Dimension "X" applies only to sizes D150 to D240.

#### DuoDrive Motorizing Options

For motorizing options, please contact *Cone Drive Operation*.

## Dimensions - DuoDrive Size 20 to 240

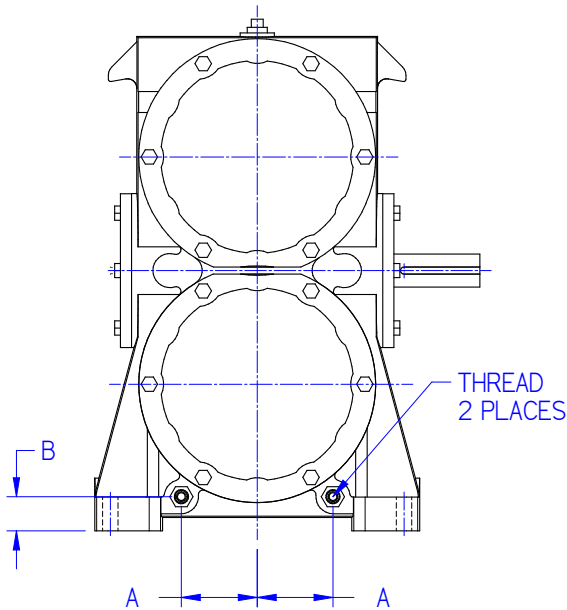
| Size | C.D                                                                            | A    | B     | C    | D     | E    | F     | G    |
|------|--------------------------------------------------------------------------------|------|-------|------|-------|------|-------|------|
| D20  | 2.000                                                                          | 10.5 | 3.625 | 0.75 | 2.75  | 3.2  | 4.59  | 1.06 |
| D25  | 2.500                                                                          | 12.8 | 4.250 | 0.88 | 3.25  | 3.9  | 5.25  | 1.00 |
| D30  | 3.000                                                                          | 16.0 | 4.750 | 1.12 | 4.19  | 4.8  | 6.69  | 1.75 |
| D35  | 3.500                                                                          | 17.5 | 5.375 | 1.25 | 4.88  | 5.7  | 7.75  | 2.62 |
| D40  | 4.000                                                                          | 20.0 | 6.000 | 1.25 | 6.00  | 6.8  | 9.31  | 3.00 |
| D50  | 5.000                                                                          | 23.7 | 6.875 | 1.25 | 7.50  | 8.4  | 10.50 | 3.25 |
| D60  | 6.000                                                                          | 27.5 | 7.750 | 1.75 | 7.75  | 8.6  | 11.75 | 4.00 |
| D70  | 7.000                                                                          | 31.3 | 9.000 | 2.12 | 8.50  | 9.5  | 14.50 | 4.50 |
| D80  | 8.000                                                                          | 36.3 | 10.00 | 2.25 | 9.88  | 10.9 | 15.50 | 4.75 |
| D100 | 10.000                                                                         | 44.7 | 12.00 | 1.75 | 12.63 | 13.7 | 19.25 | 4.25 |
| D120 | 12.000                                                                         | 53.3 | 14.50 | 1.75 | 16.00 | 17.4 | 22.50 | 4.50 |
| D150 | Duodrive sizes D150 through D240 dimensions are based on customer requirements |      |       |      |       |      |       |      |
| D180 |                                                                                |      |       |      |       |      |       |      |
| D220 |                                                                                |      |       |      |       |      |       |      |
| D240 |                                                                                |      |       |      |       |      |       |      |

| Size | H                                                                              | J    | K      | L           | M    | N     | O    | P     |
|------|--------------------------------------------------------------------------------|------|--------|-------------|------|-------|------|-------|
| D20  | 13/32                                                                          | 1.06 | 0.6875 | 3/16 x 3/32 | 2.2  | 4.06  | 1.19 | 1.125 |
| D25  | 15/32                                                                          | 1.00 | 0.750  | 3/16 x 3/32 | 2.6  | 4.50  | 1.38 | 1.250 |
| D30  | 9/16                                                                           | 1.75 | 1.000  | 1/4 x 1/8   | 3.4  | 5.94  | 2.00 | 1.500 |
| D35  | 9/16                                                                           | 2.62 | 1.1875 | 1/4 x 1/8   | 4.2  | 7.88  | 2.68 | 1.875 |
| D40  | 11/16                                                                          | 3.00 | 1.500  | 3/8 x 3/16  | 4.9  | 9.25  | 3.31 | 2.250 |
| D50  | 13/16                                                                          | 3.25 | 1.500  | 3/8 x 3/16  | 5.7  | 10.31 | 3.62 | 2.750 |
| D60  | 13/16                                                                          | 4.00 | 1.750  | 3/8 x 3/16  | 6.4  | 12.00 | 4.50 | 3.250 |
| D70  | 15/16                                                                          | 4.50 | 1.875  | 1/2 x 1/4   | 7.4  | 13.00 | 4.87 | 3.375 |
| D80  | 15/16                                                                          | 4.75 | 2.000  | 1/2 x 1/4   | 7.8  | 14.00 | 4.87 | 3.500 |
| D100 | 1 1/16                                                                         | 5.00 | 2.375  | 5/8 x 5/16  | 9.4  | 15.72 | 5.12 | 4.000 |
| D120 | 1 5/16                                                                         | 5.87 | 3.000  | 3/4 x 3/8   | 12.6 | 24.00 | 7.62 | 5.497 |
| D150 | Duodrive sizes D150 through D240 dimensions are based on customer requirements |      |        |             |      |       |      |       |
| D180 |                                                                                |      |        |             |      |       |      |       |
| D220 |                                                                                |      |        |             |      |       |      |       |
| D240 |                                                                                |      |        |             |      |       |      |       |

| Size | Q                                                                              | R     | S    | T    | U    | V    | W     | X   |
|------|--------------------------------------------------------------------------------|-------|------|------|------|------|-------|-----|
| D20  | 1/4 x 1/8                                                                      | 2.19  | 2.7  | 2.4  | 3.0  | 3.0  | 4.59  | N/A |
| D25  | 1/4 x 1/8                                                                      | 2.56  | 3.1  | 2.6  | 3.8  | 3.8  | 5.25  | N/A |
| D30  | 3/8 x 3/16                                                                     | 2.81  | 3.5  | 3.4  | 4.7  | 4.7  | 6.69  | N/A |
| D35  | 1/2 x 1/4                                                                      | 3.75  | 4.4  | 4.2  | 5.2  | 5.2  | 7.75  | N/A |
| D40  | 1/2 x 1/4                                                                      | 4.25  | 5.0  | 4.9  | 6.0  | 6.0  | 9.31  | N/A |
| D50  | 5/8 x 5/16                                                                     | 4.75  | 5.6  | 5.7  | 7.0  | 7.0  | 10.50 | N/A |
| D60  | 3/4 x 3/8                                                                      | 5.63  | 6.5  | 6.4  | 7.7  | 7.7  | 11.75 | N/A |
| D70  | 7/8 x 7/16                                                                     | 6.63  | 7.6  | 7.4  | 9.4  | 9.4  | 14.50 | N/A |
| D80  | 7/8 x 7/16                                                                     | 7.38  | 8.4  | 7.8  | 10.8 | 10.8 | 15.50 | N/A |
| D100 | 1 x 1/2                                                                        | 8.38  | 9.5  | 9.4  | 14.5 | 13.4 | 19.25 | N/A |
| D120 | 1 1/4 x 5/8                                                                    | 10.88 | 12.3 | 12.6 | 17.2 | 15.7 | 23.25 | N/A |
| D150 | Duodrive sizes D150 through D240 dimensions are based on customer requirements |       |      |      |      |      |       |     |
| D180 |                                                                                |       |      |      |      |      |       |     |
| D220 |                                                                                |       |      |      |      |      |       |     |
| D240 |                                                                                |       |      |      |      |      |       |     |

## Water Cooling

### DuoDrive Water Cooling Connection Location



| Reducer Size | A (inch) | B (inch) | Thread     |
|--------------|----------|----------|------------|
| D40          | 3.0      | 1.44     | 3/8 -NPT   |
| D50          | 3.8      | 1.49     | 3/8 -NPT   |
| D60          | 4.0      | 1.82     | 3/8 -NPT   |
| D70          | 4.7      | 1.95     | 3/8 -NPT   |
| D80          | 5.6      | 2.10     | 3/8 -NPT   |
| D100         | 7.5      | 2.50     | 3/8 -NPT   |
| D120         | 6.5      | 3.50     | 1.00-NPT   |
| D150         | 12.5     | 4.25     | 1.00 - NPT |

**Note:** Connections for water cooling are located at the opposite side of the output shafts for single extended output reducers.

### DuoDrive Water Cooling Ratings (Values shown are in horsepower)

| D40        | Worm RPM |      |      |      |      |      |      |      |      |
|------------|----------|------|------|------|------|------|------|------|------|
| Ratio to 1 | 100      | 200  | 300  | 500  | 580  | 720  | 870  | 1150 | 1750 |
| 5          | 6.4      | 11.7 | 14.4 | 16.4 | 17.2 | 18.3 | 20.6 | 21.6 | 22.8 |
| 10         | 4.1      | 7.5  | 9.7  | 11.7 | 12.3 | 14.2 | 14.7 | 16.3 | 16.9 |
| 15         | 2.9      | 5.3  | 7.3  | 9.3  | 10.2 | 11.0 | 11.8 | 12.7 | 13.3 |
| 20         | 2.2      | 4.0  | 5.7  | 7.7  | 8.7  | 9.5  | 9.5  | 10.0 | 10.6 |
| 25         | 1.8      | 3.3  | 4.6  | 6.7  | 7.2  | 7.9  | 8.5  | 9.0  | 9.3  |
| 30         | 1.5      | 2.7  | 3.9  | 5.2  | 5.7  | 6.6  | 7.2  | 7.4  | 7.5  |
| 40         | 1.1      | 2.1  | 2.9  | 4.2  | 4.6  | 5.2  | 5.6  | 6.2  | 6.4  |
| 50         | 0.9      | 1.6  | 2.3  | 3.5  | 3.9  | 4.4  | 4.7  | 5.2  | 5.7  |
| 60         | 0.8      | 1.4  | 2.0  | 2.9  | 3.3  | 3.7  | 4.0  | 4.4  | 5.1  |

## Water Cooling

### DuoDrive Water Cooling Ratings (cont.)

(Values shown are in horsepower)

| <b>D50</b> | Worm RPM |      |      |      |      |      |      |      |      |
|------------|----------|------|------|------|------|------|------|------|------|
| Ratio to 1 | 100      | 200  | 300  | 500  | 580  | 720  | 870  | 1150 | 1750 |
| 5          | 12.5     | 18.0 | 21.0 | 24.0 | 25.2 | 26.6 | 30.3 | 31.4 | 32.9 |
| 10         | 8.0      | 12.1 | 14.2 | 16.8 | 17.5 | 20.4 | 21.1 | 23.4 | 24.2 |
| 15         | 5.7      | 9.7  | 11.2 | 13.5 | 14.5 | 15.7 | 16.9 | 18.3 | 19.0 |
| 20         | 4.3      | 7.9  | 9.4  | 11.5 | 12.6 | 13.1 | 13.4 | 14.2 | 15.1 |
| 25         | 3.5      | 6.4  | 8.5  | 10.6 | 11.1 | 11.3 | 12.3 | 12.9 | 13.2 |
| 30         | 2.9      | 5.3  | 7.0  | 8.3  | 8.9  | 9.7  | 10.1 | 10.6 | 10.7 |
| 40         | 2.2      | 4.0  | 5.7  | 7.1  | 7.6  | 8.3  | 8.5  | 8.9  | 9.1  |
| 50         | 1.8      | 3.2  | 4.5  | 6.2  | 6.7  | 7.1  | 7.3  | 7.7  | 8.0  |
| 60         | 1.5      | 2.7  | 3.8  | 5.4  | 5.8  | 6.2  | 6.5  | 6.9  | 7.2  |
| 70         | 1.3      | 2.3  | 3.3  | 4.8  | 5.2  | 5.9  | 6.1  | 6.5  | 6.6  |

| <b>D60</b> | Worm RPM |      |      |      |      |      |      |      |      |
|------------|----------|------|------|------|------|------|------|------|------|
| Ratio to 1 | 100      | 200  | 300  | 500  | 580  | 720  | 870  | 1150 | 1750 |
| 5          | 19.4     | 27.9 | 33.6 | 37.4 | 38.8 | 40.8 | 46.6 | 48.4 | 50.5 |
| 10         | 12.4     | 18.7 | 21.8 | 25.8 | 26.9 | 31.5 | 32.4 | 36.0 | 37.2 |
| 15         | 8.7      | 15.0 | 17.2 | 20.8 | 22.3 | 24.2 | 25.9 | 28.2 | 29.2 |
| 20         | 6.7      | 12.2 | 14.4 | 17.7 | 19.4 | 20.1 | 20.6 | 21.8 | 23.1 |
| 25         | 5.4      | 9.8  | 13.0 | 16.3 | 17.0 | 17.3 | 18.8 | 19.8 | 20.3 |
| 30         | 4.5      | 8.2  | 10.8 | 12.8 | 13.6 | 14.9 | 15.6 | 16.2 | 16.5 |
| 40         | 3.4      | 6.2  | 8.6  | 10.9 | 11.7 | 12.8 | 13.1 | 13.6 | 13.9 |
| 50         | 2.7      | 5.0  | 6.9  | 9.5  | 10.2 | 10.9 | 11.2 | 11.8 | 12.3 |
| 60         | 2.3      | 4.2  | 5.8  | 8.2  | 8.9  | 9.5  | 9.9  | 10.6 | 11.0 |
| 70         | 2.0      | 3.6  | 4.9  | 7.0  | 7.6  | 8.5  | 9.4  | 9.9  | 10.1 |

| <b>D70</b> | Worm RPM |      |      |      |      |      |      |      |      |
|------------|----------|------|------|------|------|------|------|------|------|
| Ratio to 1 | 100      | 200  | 300  | 500  | 580  | 720  | 870  | 1150 | 1750 |
| 5          | 30.5     | 46.7 | 56.1 | 61.2 | 63.3 | 66.0 | 76.0 | 78.4 | 81.5 |
| 10         | 19.6     | 30.6 | 35.4 | 41.4 | 43.0 | 50.7 | 52.2 | 58.0 | 59.8 |
| 15         | 13.8     | 24.3 | 27.6 | 33.2 | 35.7 | 38.7 | 41.6 | 45.4 | 46.7 |
| 20         | 10.6     | 19.2 | 23.0 | 28.1 | 30.9 | 31.9 | 32.6 | 34.6 | 36.8 |
| 25         | 8.5      | 15.5 | 20.8 | 26.2 | 27.1 | 27.6 | 30.1 | 31.8 | 32.5 |
| 30         | 7.1      | 13.0 | 17.2 | 19.8 | 20.9 | 22.7 | 23.7 | 25.7 | 26.2 |
| 40         | 5.4      | 9.8  | 13.4 | 17.2 | 18.5 | 20.3 | 20.7 | 21.7 | 22.1 |
| 50         | 4.3      | 7.8  | 10.8 | 14.9 | 16.2 | 17.4 | 17.8 | 18.7 | 19.4 |
| 60         | 3.6      | 6.6  | 9.0  | 12.5 | 13.5 | 15.1 | 15.8 | 16.8 | 17.3 |
| 70         | 3.1      | 5.6  | 7.7  | 10.7 | 11.6 | 13.0 | 14.4 | 15.8 | 16.2 |

## Water Cooling

### DuoDrive Water Cooling Ratings (cont.)

(Values shown are in horsepower)

| <b>D80</b> | Worm RPM |      |      |      |      |      |      |      |       |
|------------|----------|------|------|------|------|------|------|------|-------|
| Ratio to 1 | 100      | 200  | 300  | 500  | 580  | 720  | 870  | 1150 | 1750  |
| 5          | 44.8     | 59.9 | 71.5 | 77.2 | 79.4 | 82.4 | 94.6 | 98.0 | 101.3 |
| 10         | 29.0     | 38.6 | 44.3 | 51.5 | 53.2 | 63.1 | 64.2 | 72.2 | 74.1  |
| 15         | 20.4     | 30.4 | 34.3 | 41.1 | 44.1 | 47.9 | 51.3 | 56.3 | 58.6  |
| 20         | 15.6     | 25.2 | 28.3 | 34.7 | 38.2 | 39.2 | 39.7 | 42.7 | 47.3  |
| 25         | 12.6     | 22.5 | 25.8 | 32.4 | 33.4 | 34.0 | 37.0 | 39.9 | 40.3  |
| 30         | 10.5     | 18.4 | 21.3 | 24.8 | 26.2 | 29.1 | 30.2 | 31.8 | 32.3  |
| 40         | 7.9      | 14.4 | 17.8 | 21.1 | 22.6 | 25.0 | 25.2 | 26.7 | 27.0  |
| 50         | 6.4      | 11.5 | 15.8 | 18.8 | 20.1 | 21.5 | 21.7 | 23.0 | 23.8  |
| 60         | 5.3      | 9.6  | 13.2 | 16.4 | 17.5 | 18.7 | 19.4 | 20.7 | 21.2  |
| 70         | 4.6      | 8.3  | 11.3 | 15.5 | 16.8 | 17.8 | 18.4 | 19.5 | 19.8  |

| <b>D100</b> | Worm RPM |       |       |       |       |       |       |       |       |
|-------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| Ratio to 1  | 100      | 200   | 300   | 500   | 580   | 720   | 870   | 1150  | 1750  |
| 5           | 83.4     | 104.5 | 131.3 | 140.0 | 143.5 | 148.0 | 185.9 | 190.1 | 214.3 |
| 10          | 47.3     | 59.7  | 63.2  | 79.8  | 84.1  | 104.4 | 106.4 | 123.4 | 126.1 |
| 15          | 37.0     | 45.6  | 51.7  | 63.0  | 68.1  | 74.8  | 82.0  | 91.1  | 93.4  |
| 20          | 29.4     | 37.2  | 41.9  | 52.2  | 58.0  | 59.6  | 60.7  | 65.1  | 70.0  |
| 25          | 23.7     | 32.8  | 38.1  | 48.6  | 50.1  | 51.0  | 56.6  | 60.5  | 61.6  |
| 30          | 19.8     | 26.6  | 31.0  | 36.3  | 38.5  | 43.0  | 45.3  | 47.4  | 48.1  |
| 40          | 14.9     | 21.4  | 25.7  | 30.7  | 33.1  | 36.7  | 43.5  | 45.2  | 39.8  |
| 50          | 12.0     | 19.1  | 22.8  | 27.2  | 29.1  | 31.2  | 31.9  | 33.6  | 34.8  |
| 60          | 10.0     | 17.8  | 20.2  | 23.6  | 25.3  | 27.0  | 28.2  | 30.0  | 31.0  |
| 70          | 8.6      | 15.3  | 19.0  | 22.5  | 24.1  | 25.8  | 26.7  | 28.2  | 28.9  |

| <b>D120</b> | Worm RPM |       |       |       |       |       |       |       |
|-------------|----------|-------|-------|-------|-------|-------|-------|-------|
| Ratio to 1  | 100      | 200   | 300   | 500   | 580   | 720   | 870   | 1150  |
| 5           | 84.9     | 108.0 | 136.0 | 148.0 | 152.8 | 160.6 | 196.1 | 202.1 |
| 10          | 50.2     | 64.4  | 75.5  | 89.9  | 93.5  | 115.2 | 117.3 | 134.1 |
| 15          | 39.8     | 49.9  | 57.6  | 70.3  | 75.9  | 84.1  | 90.5  | 99.6  |
| 20          | 33.4     | 41.2  | 47.2  | 58.8  | 65.1  | 67.8  | 68.8  | 73.5  |
| 25          | 27.9     | 36.3  | 42.4  | 54.1  | 56.3  | 58.2  | 62.9  | 67.0  |
| 30          | 23.3     | 29.5  | 34.9  | 41.4  | 44.1  | 49.4  | 51.2  | 53.4  |
| 40          | 18.7     | 23.8  | 29.1  | 35.2  | 38.0  | 42.2  | 42.5  | 44.5  |
| 50          | 15.8     | 21.2  | 25.6  | 30.8  | 33.0  | 35.7  | 36.1  | 38.2  |
| 60          | 14.3     | 19.7  | 22.5  | 26.7  | 28.6  | 30.8  | 32.1  | 34.3  |
| 70          | 13.5     | 18.4  | 21.2  | 25.5  | 27.4  | 29.4  | 30.2  | 32.2  |

Contact Cone Drive Operations for ratings above Size D120

## Standard Hollow Gearshaft Bores

### DuoDrive Standard Hollow Gearshaft Bores, Sizes D20 through D120

| Size | Bore Inches | Gearshaft Numbers | Keyway Size  | Bore Tolerance |
|------|-------------|-------------------|--------------|----------------|
| 20   | 1.375*      | 20-S60-106        | 1/4 x 1/8    | +.002, -.000   |
|      | 1.250*      | 20-S60-104        | 1/4 x 1/8    | +.002, -.000   |
|      | 1.1875*     | 20-S60-103        | 1/4 x 1/8    | +.002, -.000   |
|      | 1.125*      | 20-S60-102        | 1/4 x 1/8    | +.002, -.000   |
|      | 1.000*      | 20-S60-100        | 1/4 x 1/8    | +.002, -.000   |
| 25   | 2.000*      | 25-S60-200        | 1/4 x 1/8    | +.002, -.000   |
|      | 1.9375*     | 25-S60-115        | 1/4 x 1/8    | +.002, -.000   |
|      | 1.6875*     | 25-S60-111        | 3/8 x 3/16   | +.002, -.000   |
|      | 1.4375*     | 25-S60-107        | 3/8 x 3/16   | +.002, -.000   |
|      | 1.250*      | 25-S60-104        | 1/4 x 1/8    | +.002, -.000   |
|      | 1.1875*     | 25-S60-103        | 1/4 x 1/8    | +.002, -.000   |
| 30   | 2.500       | 30-S60-208        | 3/8 x 3/16   | +.002, -.000   |
|      | 2.4375*     | 30-S60-207        | 3/8 x 3/16   | +.002, -.000   |
|      | 2.1875*     | 30-S60-203        | 1/2 x 1/4    | +.002, -.000   |
|      | 1.9375*     | 30-S60-115        | 1/2 x 1/4    | +.002, -.000   |
|      | 1.6875*     | 30-S60-111        | 3/8 x 3/16   | +.002, -.000   |
|      | 1.500*      | 30-S60-108        | 3/8 x 3/16   | +.002, -.000   |
| 35   | 2.750       | 35-S60-212        | 3/8 x 3/16   | +.002, -.000   |
|      | 2.6875*     | 35-S60-211        | 3/8 x 3/16   | +.002, -.000   |
|      | 2.500       | 35-S60-208        | 3/8 x 3/16   | +.002, -.000   |
|      | 2.4375*     | 35-S60-207        | 5/8 x 3/16   | +.002, -.000   |
|      | 2.1875*     | 35-S60-203        | 1/2 x 1/4    | +.002, -.000   |
|      | 1.9375*     | 35-S60-115        | 1/2 x 1/4    | +.002, -.000   |
|      | 1.6875*     | 35-S60-111        | 3/8 x 3/16   | +.002, -.000   |
| 40   | 2.9375*     | 40-S60-215        | 5/8 x 3/16   | +.003, -.000   |
|      | 2.6875*     | 40-S60-211        | 5/8 x 3/16   | +.003, -.000   |
|      | 2.4375*     | 40-S60-207        | 5/8 x 3/16   | +.003, -.000   |
|      | 2.1875*     | 40-S60-203        | 5/8 x 3/16   | +.003, -.000   |
| 50   | 3.4375*     | 50-S60-307        | 5/8 x 3/16   | +.003, -.000   |
|      | 3.1875*     | 50-S60-303        | 5/8 x 3/16   | +.003, -.000   |
|      | 2.750       | 50-S60-212        | 5/8 x 3/16   | +.003, -.000   |
| 60   | 3.9375*     | 60-S60-315        | 3/4 x 3/8    | +.003, -.000   |
|      | 3.4375*     | 60-S60-307        | 3/4 x 3/8    | +.003, -.000   |
|      | 2.9375*     | 60-S60-215        | 3/4 x 3/8    | +.003, -.000   |
| 70   | 4.4375*     | 80-S60-407        | 1 x 1/2      | +.003, -.000   |
|      | 3.9375*     | 80-S60-315        | 1 x 1/2      | +.003, -.000   |
| 80   | 4.4375*     | 80-S60-407        | 1 x 1/2      | +.003, -.000   |
|      | 3.9375*     | 80-S60-315        | 1 x 1/2      | +.003, -.000   |
| 100  | 5.9375      | 100-S61-515       | 1 1/4 x 7/16 | +.004, -.000   |
| 120  | 7.9375      | 120-S61-715       | 1 1/2 x 1/2  | +.004, -.000   |

**Notes:**

Special hollow gearshaft bore sizes are available at additional cost.

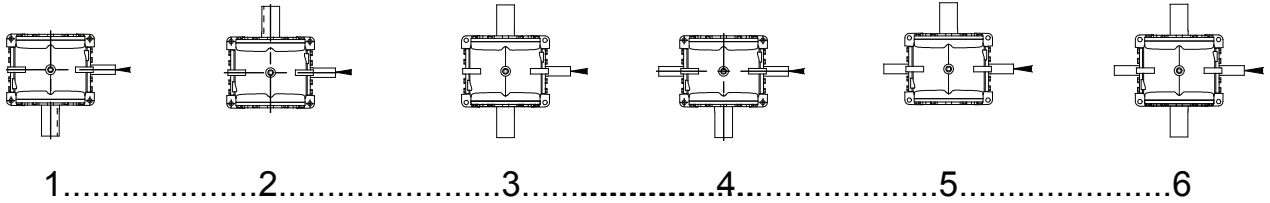
All sizes have 2 set screws at long end of shaft.

\* Bore inches AGMA Standard

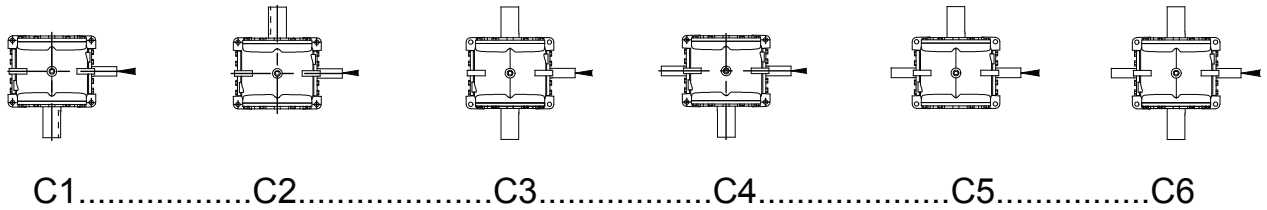


## Assembly and Mounting Positions

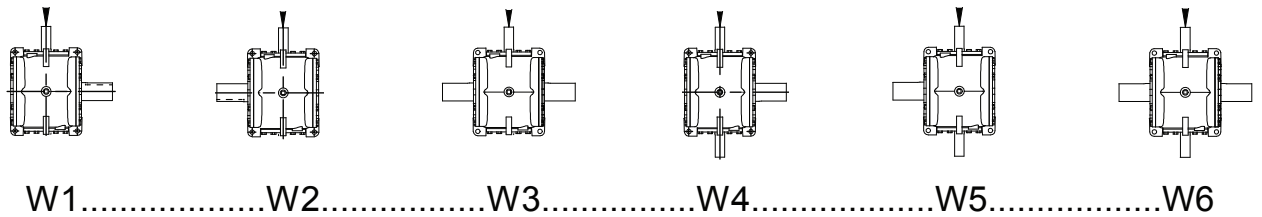
### Top View, Floor Mounted



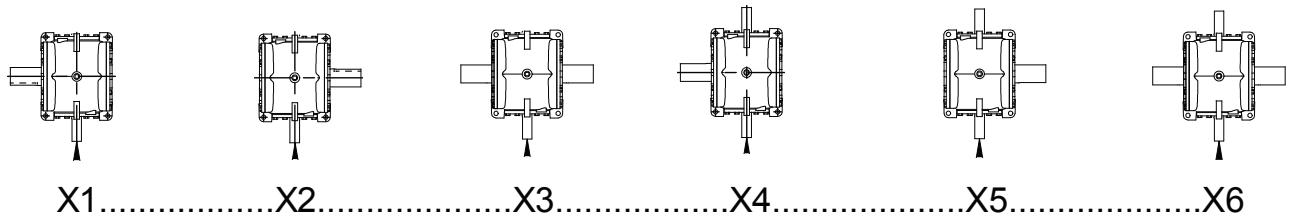
### Ceiling Mounted



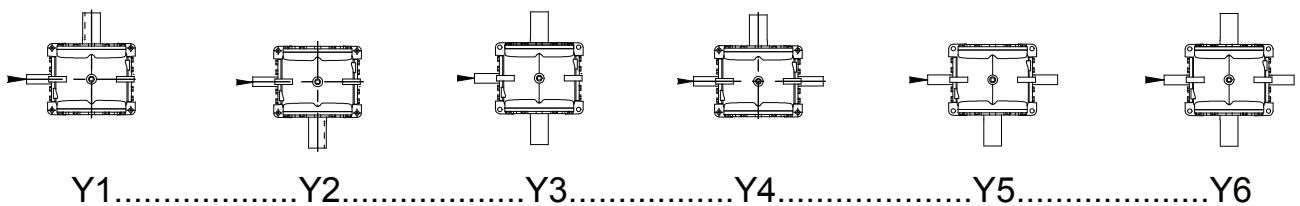
### Wall Mounted, Worm Vertical Up



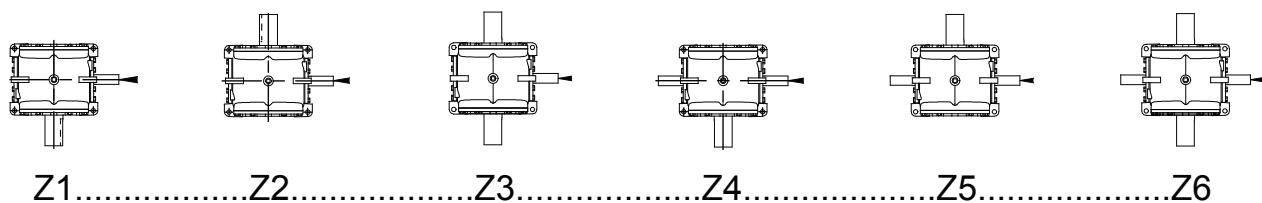
### Wall Mounted, Worm Vertical Down



### Wall Mounted, Worm Horizontal to the Left



### Wall Mounted, Worm Horizontal to the Right



## PRODUCT SAFETY PAGE

### SAFETY PRECAUTIONS

**IMPORTANT:** In any applications of Cone Drive Products where breakage, damage, disconnection, any other malfunction of any drive train component, or excessive wear could result in personal injury or property damage, a fail-safe device capable of stopping and holding the load in the event of such an occurrence must be incorporated after the drive train.

THE FOLLOWING INFORMATION IS FOR YOUR PROTECTION. DO NOT ATTEMPT TO INSTALL OR OPERATE THIS GEARBOX UNTIL ALL OF THESE INSTRUCTIONS ARE READ AND THOROUGHLY UNDERSTOOD.

#### SELF-LOCKING

It is a common misconception that all worm gears are self-locking or non-overhauling. Actually, worm gear ratios up to 15:1 will overhaul quite freely. Ratios from 20:1 to 40:1 can generally be considered as overhauling with difficulty (particularly from rest). Ratios above 40:1 may or may not overhaul depending on loading, lubrication, and the amount of vibration present. Cone Drive cannot guarantee any worm gear ratio to be self-locking. There have been instances where single reduction ratios as high as 100:1 have overhauled. Therefore, it is not acceptable to rely on a worm gear to prevent movement in a system. Whenever a load must be stopped or held in place, a positive mechanical device must be incorporated into the system to prevent rotation of the gear set.

#### BACKDRIVING OR OVERHAULING

Applications such as wheel drives that require a brake on the motor or input shaft to decelerate a high inertial load require special attention to brake selection. Whenever possible, these applications should utilize freely overhauling ratios (15:1 or less). If self-locking ratios are used with a brake, the gear set can, under certain conditions, lock-up during decelerations and impose severe shock loading on the gearbox and driven equipment. Each reduction should be limited to 15:1 or less to allow the gearbox to overhaul. Contact Cone Drive for specific information on backdriving efficiency and brake selection.

#### RATINGS & SERVICE FACTORS

The horsepower or output torque capacity of this gearbox and the service factor (maximum allowable operating cycle) are documented in the product catalog. These values are not to be exceeded as overloading can result in gearbox failure. Exceeding the rating and duty cycle will void the warranty. Please contact Cone Drive with any questions regarding rating and service factors.

#### ALTERATION

Do not alter the gearbox without approval from Cone Drive.

#### OPERATION & REPAIR

This gearbox has moving mechanical components and may have connected electrical devices operating under high voltage. Operation and repair should only be done by qualified personnel.

#### PROTECTIVE GUARDING

Cone Drive products are furnished without guard covers. It is the responsibility of the purchase or user to provide guards for all exposed shafting, couplings, sprockets, sheaves, belts, chains, clutches, and any other moving parts in accordance with current local, state, and federal requirements.

#### LOCK-OUT/TAG-OUT

Before servicing a gearbox, the main electrical disconnect or other input power sources must be moved to and locked in the off-position. The person performing the work should post on that disconnect a warning to others not to turn on the power. Loads on the input and output shafts should be disconnected prior to working on the gearbox.

#### GEARBOX SURFACE IS HOT

It is normal for the gearbox to operate at temperatures up to and exceeding 200°F. To prevent burns, proper personal protective equipment, guards, or shields should be provided by the purchaser or user to prevent personnel from touching the gearbox.

# Notes

NORTH AMERICA | CHINA | EUROPE

# GLOBAL LOCATIONS



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