Cone Drive
BY TIMKEN

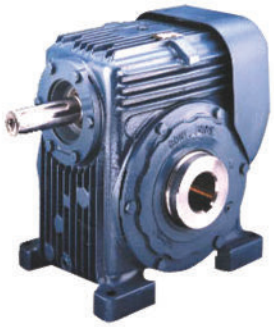
DUODRIVE

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

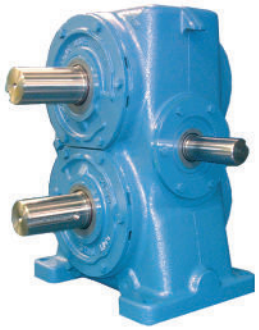
Worm gear units with double-enveloping worm gearing. Available in single, double and triple reductions

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

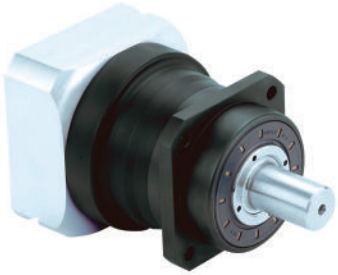
Precision right angle servo gearboxes

Model RG

Moderate precision right angle servo gearboxes

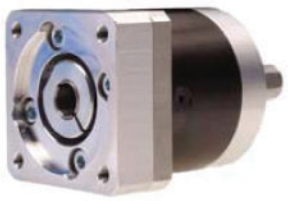
Series S

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.

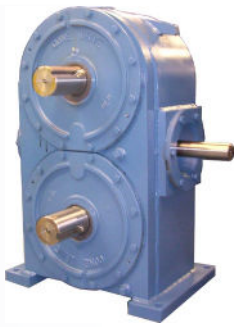
Duodrive Options

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

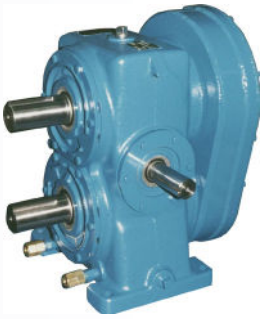


Double Reduction Assembly

- 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

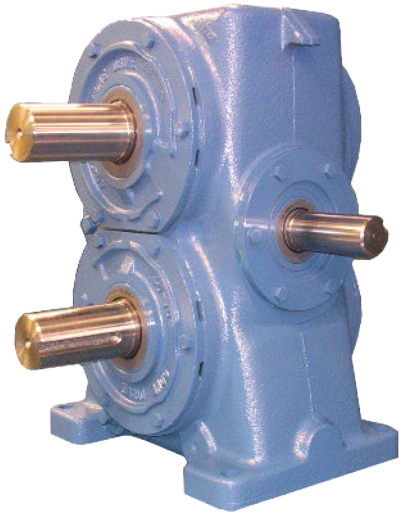
- Unequal ratio configuration
- Sizes ranging from 2.00" up to 12.00"
- Solid ratios from 1:1 up to 4:1
- Solid or hollow output shafts
- Fan or internal water cooling



Vertical Output

- Vertical output shaft configuration
- Sizes 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.

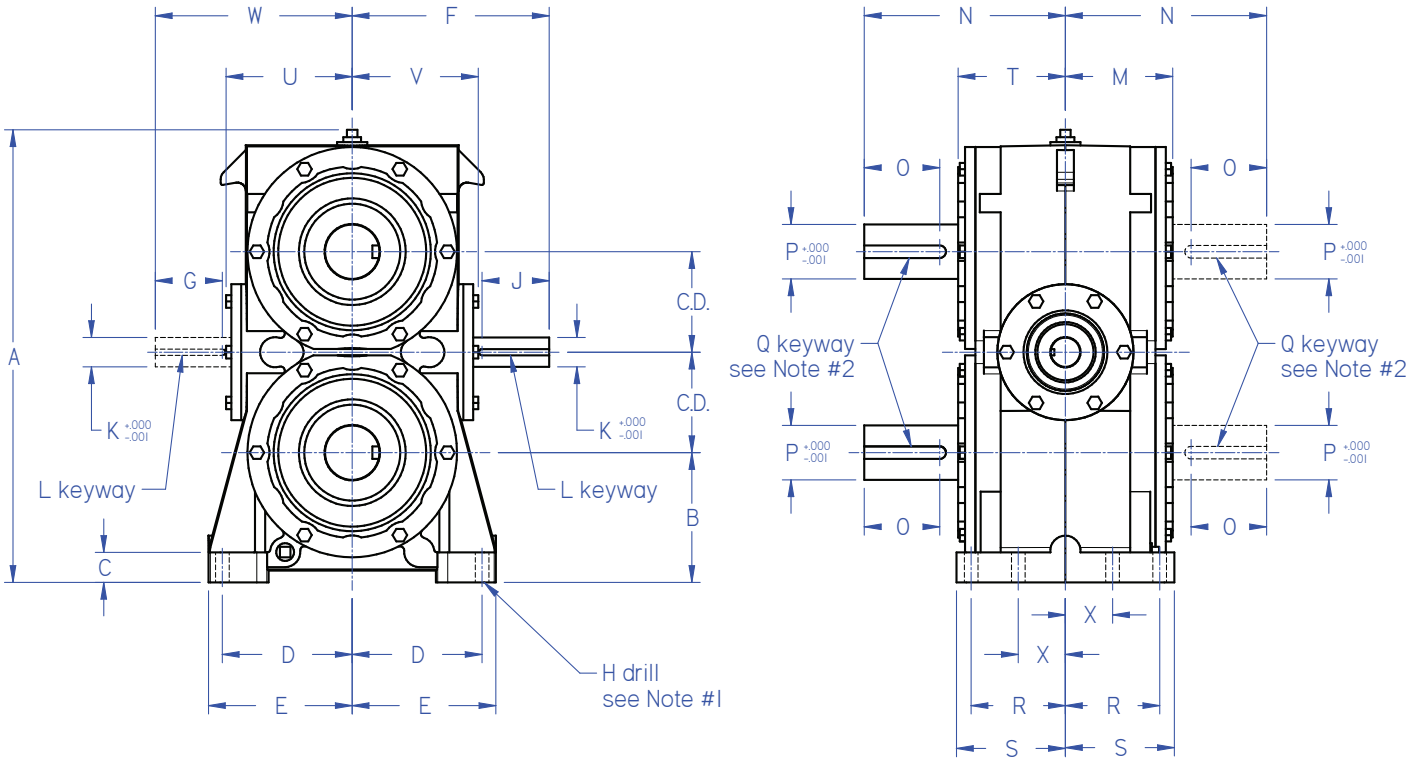
For Motorizing options, please contact Cone Drive Operation.

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

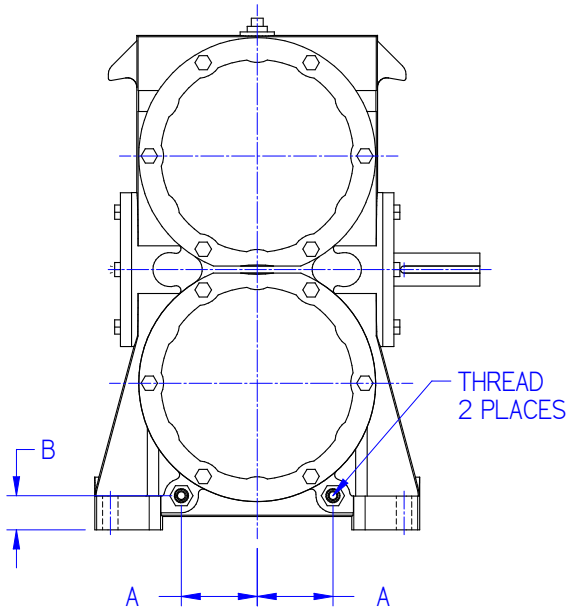
Size	C.D	A	B	C	D	E	F	G
D20	2.000	10.5	3.625	0.75	2.75	3.2	4.59	1.06
D25	2.500	12.8	4.250	0.88	3.25	3.9	5.25	1.00
D30	3.000	16.0	4.750	1.12	4.19	4.8	6.69	1.75
D35	3.500	17.5	5.375	1.25	4.88	5.7	7.75	2.62
D40	4.000	20.0	6.000	1.25	6.00	6.8	9.31	3.00
D50	5.000	23.7	6.875	1.25	7.50	8.4	10.50	3.25
D60	6.000	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)

D50	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

D60	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

D70	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)

D80	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

D100	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

D120	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

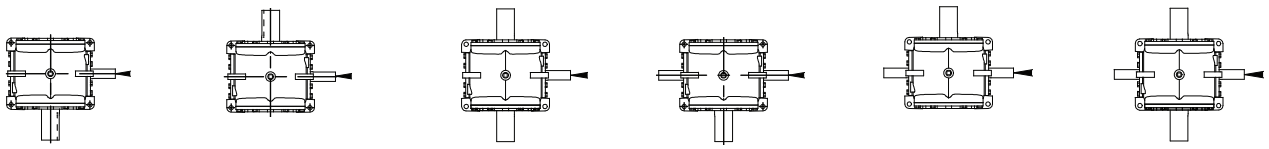
DuoDrive Standard Hollow Gearshaft Bores, Sizes D20 through D120

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

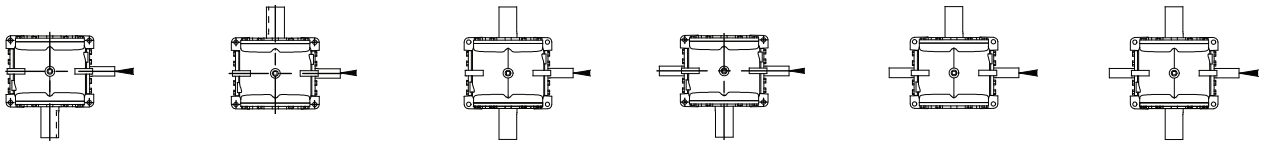
Assembly and Mounting Positions

Top View, Floor Mounted



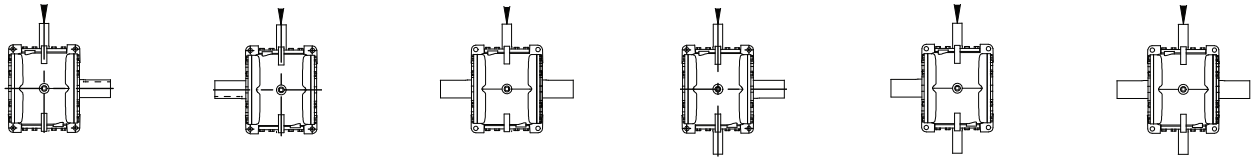
1.....2.....3.....4.....5.....6

Ceiling Mounted



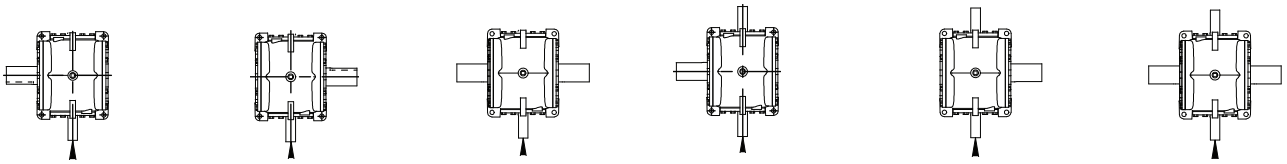
C1.....C2.....C3.....C4.....C5.....C6

Wall Mounted, Worm Vertical Up



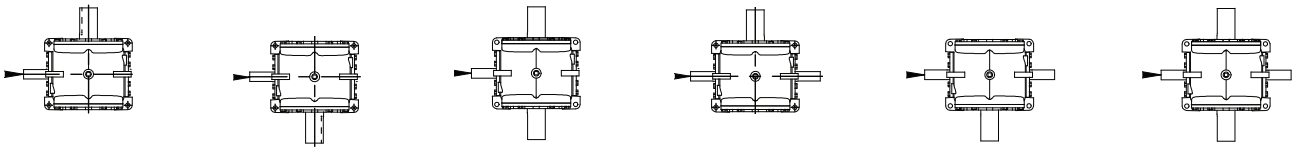
W1.....W2.....W3.....W4.....W5.....W6

Wall Mounted, Worm Vertical Down



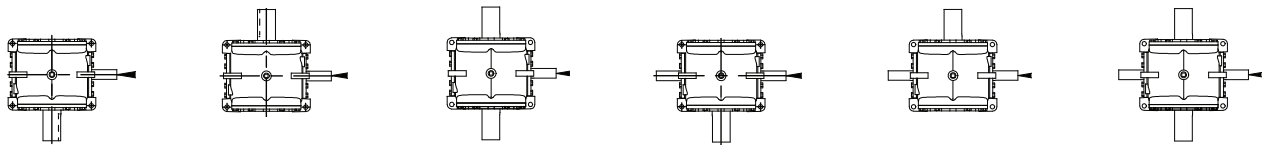
X1.....X2.....X3.....X4.....X5.....X6

Wall Mounted, Worm Horizontal to the Left



Y1.....Y2.....Y3.....Y4.....Y5.....Y6

Wall Mounted, Worm Horizontal to the Right



Z1.....Z2.....Z3.....Z4.....Z5.....Z6

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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