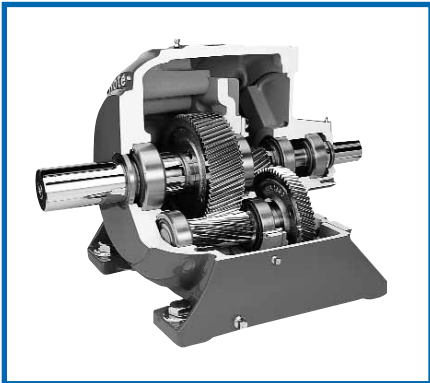


# FOOTE-JONES



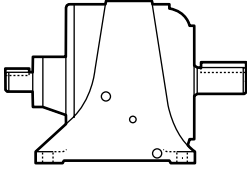
## LINE-O-POWER™ Concentric Shaft Reducers



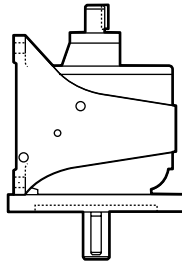
- HELICAL GEAR UNITS .....A2
- ACCESSORIES .....A3
- REDUCER APPLICATION DATA .....A4-A6
- CONCENTRIC SHAFT
- REDUCERS HP & TORQUE RATINGS
  - 1750 RPM .....A7
  - 1450 RPM .....A8
  - 1170 RPM .....A9
  - 870 RPM .....A10
  - 580 RPM .....A11
- TABLES OF ACTUAL RATIOS .....A12
- OVERHUNG LOAD CAPACITIES IN POUNDS-OUTPUT SHAFT ....A13
- OVERHUNG LOAD CAPACITIES IN POUNDS-INPUT SHAFT ..A14-A15
- GEAR REDUCER DIMS. ....A16-A21
  - DOUBLE REDUCTION .....A16-A17
  - TRIPLE REDUCTION .....A18-A19
  - QUADRUPLE REDUCTION .....A20-A21
- BASEMOUNT HORZ. GEAR REDUCER DIMENSIONS
  - DOUBLE REDUCTION .....A22
  - TRIPLE REDUCTION .....A23
  - QUADRUPLE REDUCTION .....A24
- REDUCERS W/COOLING FAN DIMS. ....A25
- LINE-O-MOUNT HORZ. GEAR REDUCER DIMS.
  - DOUBLE REDUCTION .....A26-A27
  - TRIPLE REDUCTION .....A28-A29
- WK<sup>2</sup> VALUES .....A30

# A2 Helical Gear Units

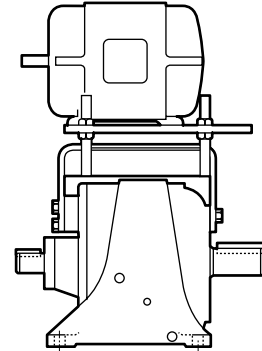
SELECT THE TYPE OF HELICAL GEAR UNIT YOU NEED



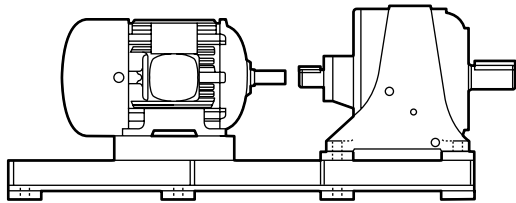
**Type SL**  
Multiple Reduction Helical  
Horizontal Foot Mount



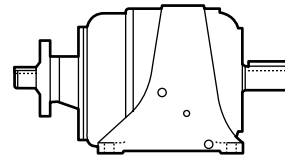
**Type VSL**  
Multiple Reduction Helical  
Vertical Flange Mount



**Type PSL**  
Multiple Reduction  
Helical with Motor Mount

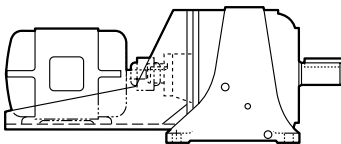


**Type BSL**  
Multiple Reduction  
Helical with Baseplate



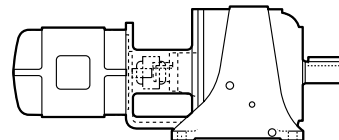
**Type KSL**  
Multiple Reduction  
Helical with Backstop

**Line-O-Motor Coupled Gearmotor**



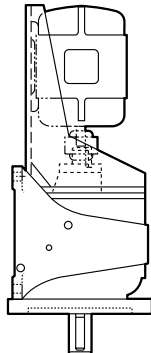
**Type L**  
Multiple Reduction Helical  
Horizontal Foot Mount with Motor Scoop

**Line-O-Motor NEMA  
"C"-Face Coupled Gearmotor**

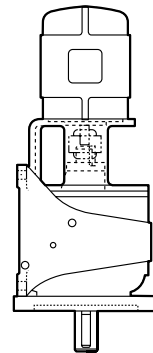


**Type C**  
Multiple Reduction Helical  
Horizontal Foot Mount with  
"C" Face Motor Mount

**Type VL**  
Multiple Reduction Helical  
Vertical Flange Mount with  
Motor Scoop



**Type VC**  
Multiple Reduction Helical  
Vertical Flange Mount with  
"C" Face Motor Mount



The 800 Series line of Concentric Shaft Speed Reducers has the latest state-of-the art engineering improvements, using higher capacity bearings, selectively ground or skived gearing, and larger diameter shafts.

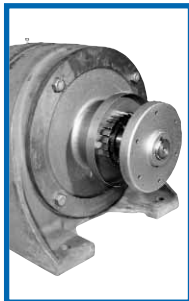
There are ten sizes up to 429,300 inch pounds output torque. Double, triple, and quadruple reduction units are available in modular design. The surface hardened helical gearing is rated in accordance with applicable AGMA standards.

Tapered roller bearings on all shafts provide anticipated bearing life in excess of AGMA standards and normal industry requirements.

Housings are made of Cast Iron in the eight smaller sizes. The two larger sizes have fabricated steel housings. Dual lip oil seals on input and output shafts, with option for grease purging available.

Available adaptations are: Vertical ring mount adapter – low speed shaft down, scoop motor mount, C face motor mount, motor mount for V belt drive, and common baseplate. Available accessories also include backstop, slide base, standard or OSHA guards, cooling fan, heat exchanger and special assemblies.

### BACKSTOP



The ratchet and pawl type backstop is available for in line reducers as a standard accessory to prevent reversal of shaft rotation, and may be used as frequently as needed; it is mounted on the high speed shaft extension. The pawls pivot on oilite bearings eliminating the need for relubricating. The entire backstop is enclosed in a dust-tight case suitable for use in dirty atmosphere.

When ordering a reducer with backstop, it is important to clearly state the required direction of free rotation of the output shaft when viewing reducer at the low speed end. Backstop not available when cooling fan is used.

**⚠️WARNING** Our Backstops Do Not run in oil.

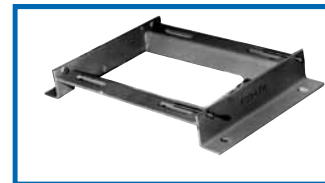
### COOLING FAN

For applications where mechanical horsepower requirements exceed reducer thermal capacities, the cooling fan provides an inexpensive way to dissipate excessive heat. The cooling fan adds approximately 25% to catalog thermal ratings. Where additional cooling is needed, a forced feed oil system with heat exchanger can be furnished.



### SLIDE BASES

Standard slide bases are available for reducers where chain drives are used. Heavy slotted angle iron weldment with two adjusting screws provide a convenient positioning device for correct chain tensioning. Reducer mounting bolts are included.

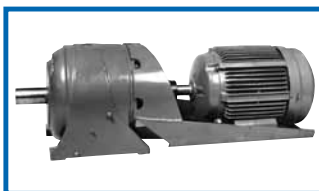


### TYPE P MOTOR MOUNT

Designed for use with V belt drive, this accessory allows mounting of motor above or on either side of foot mounted reducer. It is a solution to the problem of limited floor space. When standard gear ratios are combined with cataloged V belt ratios, output shaft speeds can be attained to suit virtually any intermediate design requirement. Standard mounts are available for 1 HP frame 143T through 75 HP frame 365T.



### LINE-O-MOTOR ASSEMBLY



This adds a substantial motor end shelf and high speed coupling to the basic Line-O-Power unit. Standard end shelves are designed to accept NEMA T-frame motors and standard couplings. These are available for motor frames ranging from size 145T to 445T. Special shelves can be furnished for special motors or when couplings with large gaps between shafts are used i.e. dry fluid or hydro fluid types.

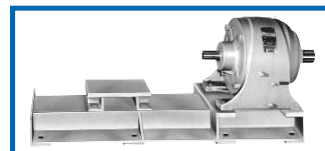
### COUPLING GUARDS

Sheet metal or expanded metal coupling guards, designed to suit various environments, protect manpower and equipment. Standard guards protect couplings from objects falling on them; OSHA guards enclose coupling so personnel cannot accidentally come in contact.



### TYPE B BASEPLATES

Standard fabricated steel motor plates are machined on top and bottom for easy installation. Large plates on the motor side allow mounting of a wide range of motor frames and can accommodate many combinations of special couplings and/or standard or special motors.



## A4 Reducer Application Data

### RATING TABLES

FOOTE-JONES gear reducers are designed in accordance with reliable gear practices. Durability ratings are published using applicable AGMA standards. Over 100 years of experience and tens of thousands of units successfully operating in the field attest to the high industrial quality of FOOTE-JONES gear drives. When properly selected, installed, and operated, FOOTE-JONES reducers will provide dependable service at rated capacity. Horsepower values listed are at input torque values at output, and allow for efficiency losses. When the required speed falls between two catalogued speeds of a certain ratio, interpolate to determine unit rating.

### SERVICE FACTORS

Published ratings allow 100% overload for infrequent starting, and for very intermittent overloads. Over 4 starts per day requires service factoring more than 1.0.

Where the starting torque of the motor exceeds 200%, use formula below to select the minimum service factor.

$$\frac{SF}{\text{min.}} = \frac{\text{Maximum HP (or torque)}}{2 \times \text{Full load running HP (or torque)}}$$

Where the service factor in the AGMA application table exceeds this value, the larger factor is to be used. The AGMA application service factors as listed on Page 8 are for normal starting torque motors (NEMA Design B).

**Note:** The service factors are based on field experience by the gear industry with average installations, and may not be applicable in all instances. They are recommended minimums. The purchaser is to evaluate the service factors against his experience, and to specify different service factors where there is sufficient experience, and all load factors as known.

Vibratory and impact loads are not covered in the service factor table and are not covered in the warranty.

When brakes are used with prime movers, the brake torque may govern the reducer selection as it usually exceeds normal motor torque.

**⚠ WARNING** Any brakes that are used in conjunction with a reducer must be sized or positioned in such a way so as to not subject the reducer to loads beyond the catalog rating.

**⚠ WARNING** Reducers are not to be considered fail safe or self-locking devices. If these features are required, a properly sized, independent holding device should be utilized.

### THERMAL RATINGS

The thermal horsepower rating is the reducer's ability to transmit an actual load continuously without overheating. If the actual load exceeds the thermal rating, external

cooling is required. A cooling fan, heat exchanger, or a larger unit may solve the thermal problem.

Normal operating temperature for a gear drive may be considered to be 100°F rise over ambient, to a maximum of 200°F oil sump temperature. In many cases the operating temperature may be lower, because gear ratio and loading affect the amount of friction and heat. A suitable temperature gauge should be used to determine overheating as normal operating temperature feels hot to the touch.

**⚠ CAUTION** If the speed reducer cannot be located in a clear and dry area with access to adequate cooling air supply, then precautions must be taken to avoid the ingestion of contaminant's such as water and the reduction in cooling ability due to exterior contaminant's.

**⚠ WARNING** Adequate thermal horsepower capacity is important. Destructive damage may occur if a gear drive builds heat faster than it is dissipated while operating.

### OVERHUNG LOADS

The overhung load capacity listed in this manual is based on the least favorable combined conditions of gear load and direction of external radial load. If combined overhung and thrust loads are applied simultaneously, consult factory giving complete application details. Effective overhung load varies with the type of overhung member. Service factors must be applied to the actual load values using K factors and load location factors (LLF) for correct application.

Formula for Calculating Overhung Load

$$OHL = \frac{HP \times 63000 \times K \times LLF}{RPM \times \text{Pitch Radius}}$$

Overhung Member	K Factor
Sprocket	1.00
Spur Pinion	1.25
V-Belt Sheave	1.50
Flat Belt Pulley	2.50

LLF-Load location factors are listed on Page A9. Catalogued overhung load capacities are calculated at one shaft diameter distance from the shaft seal. The center of the overhung load should be located as close to the shaft seal as possible to get the maximum bearing life.

Careful analysis of the application is important in selecting the reducer size.

FOOTE-JONES Line-O-Power™ Reducers are designed for 5000 hours minimum L10 bearing life (25000 average hours). Overhung load capacities are calculated at the least favorable combination of rating, speed, rotation, and direction of applied load. If one or more of the above conditions is favorable, the L10 life and overhung load rating will increase.

## Reducer Application Data A5

Additional bearing life may be expected if the full catalogued reducer rating is not used. In this case, to determine the absolute minimum L10 bearing life, divide the reducer rating by the transmitted horsepower to find the service factor and read the L10 life from the chart below.

Service Factor	L10 Bearing Life	Service Factor	L10 Bearing Life
1.0	5000	1.75	32232
1.1	6868	2.0	50281
1.25	10512	2.25	74428
1.4	15331	2.5	105709
1.5	19291		

### MOUNTING POSITION

All gear reducers are designed to operate with the base mounted horizontally unless specified otherwise. Refer all other special mountings to your FOOTE-JONES Sales Representative. Modifications to the lubrication system and seals may be required.

**⚠️ WARNING** Failure to refer mounting positions other than Horizontal to the FOOTE-JONES representative, may result in premature product failure.

**⚠️ WARNING** Make certain that the power supply is disconnected before attempting to service or remove any components. Lock out the power supply and tag it to prevent unexpected application of power.

### EFFICIENCIES

The approximate full load efficiencies for normal operating conditions are listed below. Where efficiency is critical, consult your FOOTE-JONES Sales Representative with complete application data for a more precise figure.

Double Reduction	97%
Triple Reducer	95%
Quadruple Reduction	94%

For units with built-in pumps, allow an additional 0.5%.  
For units with a fan, allow an additional 0.2%.

### OPERATIONAL CONSIDERATIONS

FOOTE-JONES reducers will perform satisfactorily for the rating specified on the FOOTE-JONES certified print and nameplate providing each is properly installed and operated within the speed and torque limits and other load and environmental conditions for which it was sold, and maintained in accordance with the FOOTE-JONES Maintenance Manuals.

Many applications require a speed reducer to have splash lubrication. Mounting positions other than floor horizontal, abnormal ambient temperatures, and variable or

multi-speed input may require special lubrication consideration. Consult the factory giving full application details to insure correct lubrication.

**⚠️ WARNING** Hot oil can on reducers cause severe burns. Use extreme care when removing lubrication plugs and vents.

It is imperative that the drive SYSTEM be free from critical speeds, torsional and lateral vibratory loads within the operating speed range, no matter how induced. Responsibility for the system analysis rests with the Purchaser.

**⚠️ CAUTION** FOOTE-JONES terms and conditions of sale shall supersede any catalog or sales bulletin data and will prevail in any dispute.

### ENVIRONMENT

The standard reducer is designed to operate in a protected location with reasonable ventilation, free from temperature extremes (below -10°F or above 100°F for significant periods) or severe dust, toxic, explosive, or other unusual environments. Modifications such as special seals, heaters, heat exchangers, etc., could be required for these unusual conditions. Consult your FOOTE-JONES Sales Representative.

### PEOPLE-MOVER APPLICATIONS

**⚠️ WARNING** Applications requiring speed reducers for people-mover equipment should not be selected from the catalog without consulting the factory. Examples: Passenger or freight elevators, man lifts, escalators, ski lifts or ski tows. These applications must be referred to the factory with full application data.

### SAFETY

**⚠️ WARNING** For safety, purchaser or user should provide protective guards over all shaft extensions and any moving apparatus mounted thereon. The user is responsible for checking all applicable safety codes in his area and providing suitable guards. Failure to do so may result in bodily injury and/or damage to equipment.

### STORAGE

All units are coated with a rust-inhibiting oil during the shop test, and shaft extensions are coated with a dry-film preservative. This treatment will provide adequate protection for normal periods during installation. It is recommended the units be protected during storage, and periodic inspection is recommended and re-treatment applied, if necessary.

Long Term Storage – For more positive storage instructions, refer to the Maintenance Manual.

# A6 Reducer Application Data

## SELECTION EXAMPLE:

### APPLICATION:

Skip Hoist 8 hrs./day using a 7-1/2 HP AC electric motor, high torque 5-8% slip (275% starting torque) 1690 RPM, at 68 RPM output; input shaft is coupling connected, output shaft has chain drive using 8.0 inch PD sprocket with center of load at midpoint of standard catalog shaft keyway.

Selection Procedure	Selection Example
A. Determine service factor from AGMA load classification table on Section K. Determine minimum service factor from formula on Page A4 $SF_{min}$ .	A. $1.25$ $SF_{min} = \frac{2.75 \times 71/2}{2 \times 71/2} = \frac{2.75}{2} = 1.375$
B. Calculate equivalent horsepower. (Transmitted HP x service factor)	B. $7-1/2 \times 1.375 = 10.31$ HP
C. Determine Ratio Input RPM Output RPM	C. $\frac{1690}{.68} = 24.8:1$ Use closest AGMA ratio 25.6:1
D. Determine reducer size. Interpolate rating for 1690 RPM. Select reducer from 1750 RPM table on Page A7 for 10.31 HP.	D. $1750 \times 10.31 = 10.68$ HP required in 1750 RPM table 1690 Select size 822 SL, ratio 25.6:1 HP rating is $\frac{1690}{1750} \times 12.4 = 11.97$ at 1690 RPM input
E. Check rating table for possible thermal problem, shaded area will indicate. Thermal capacity considers transmitted HP only, (not equivalent HP). Check for 7-1/2 HP.	E. No thermal problem.
F. Check overhung load $OHL = \frac{HP \times 63000 \times K \times LLF}{RPM \times R}$	F. $\frac{7-1/2 \times 63000 \times 1.00 \times 1.0}{66 \times 4} = 1790$ lbs. OHL capacity is 4051 lbs. from the Table on A13.

# Concentric Shaft Reducers HP & Torque Ratings A7

## TYPE SL & VSL REDUCERS - 1750 RPM INPUT

TOTAL RATIO	OUTPUT RPM	821	822	823	824	8245	825	8255	826	8265	827
5.06	350	24.8 4.47	55.1 9.94	90.0 16.24	141.7 25.56	257.8 46.52	331.7 59.85	478.9 86.21	695.8 125.6	1123.1 202.6	1550.0 282.5
6.20	280	20.8 4.57	46.0 10.17	75.3 16.64	118.6 26.22	216.2 47.80	278.3 61.53	402.1 88.90	585.4 129.4	949.5 209.9	1325.0 295.9
7.59	230	17.2 4.67	38.3 10.37	62.8 16.99	99.1 26.82	180.1 48.96	233.0 63.06	372.7 100.9	528.6 143.1	740.8 200.5	1016.0 277.7
9.30	190	14.3 4.74	31.9 10.57	52.3 17.34	82.6 27.40	151.1 50.10	208.2 69.04	312.1 103.5	443.3 147.0	622.0 206.3	886.0 296.8
11.4	155	11.9 4.82	26.5 10.76	43.5 17.68	84.0 34.15	126.0 51.20	173.2 70.61	260.8 106.0	371.1 150.9	521.1 211.8	786.9 319.9
14.0	125	9.83 4.91	22.0 10.96	36.1 18.03	69.9 34.89	104.9 52.34	144.7 72.24	217.6 108.6	310.1 154.8	435.9 217.6	659.3 329.1
17.1	100	8.13 4.96	18.2 11.09	29.9 18.25	58.1 35.39	87.1 53.13	120.3 73.37	181.2 110.5	258.6 157.7	363.9 221.9	551.2 336.1
20.9	84	6.73 5.01	15.0 10.95	24.8 18.48	48.2 35.89	72.3 53.90	100.0 74.78	150.7 112.3	215.4 160.5	303.3 226.1	460.1 342.9
25.6	68	5.56 5.07	12.4 10.09	20.5 17.66	39.9 36.42	60.0 54.72	82.8 75.66	125.1 107.5	179.1 163.5	252.4 230.4	383.4 349.9
TOTAL RATIO	OUTPUT RPM	831	832	833	834	8345	835	8355	836	8365	837
31.4	56	4.84 5.42	10.7 11.69	17.9 20.03	28.5 31.79	52.5 58.76	72.7 81.35	109.9 123.0	157.5 176.3	222.2 248.7	338.0 378.4
38.4	45	4.00 5.46	8.73 11.69	14.8 20.21	23.5 32.21	43.4 59.38	60.1 82.27	90.9 124.5	130.5 178.7	184.2 252.3	280.6 384.3
47.1	37	3.28 5.51	7.16 11.81	12.2 20.44	19.4 32.60	35.8 60.15	49.6 83.37	75.2 126.3	108.0 181.4	152.6 256.4	232.8 390.9
57.7	30	2.71 5.57	5.88 11.78	10.0 20.64	19.6 40.29	29.6 60.70	41.0 84.16	68.1 127.6	89.3 183.5	126.3 259.5	192.8 396.0
70.6	25	2.22 5.60	4.82 11.87	8.32 20.77	16.2 40.68	24.4 61.33	33.8 85.08	51.3 129.1	73.8 185.8	104.4 262.9	159.5 401.6
86.5	20	1.83 5.64	3.95 11.96	6.83 20.93	13.3 41.06	20.1 61.90	27.9 85.89	42.3 130.4	60.9 187.9	86.2 266.0	131.9 406.7
105.9	16.5	1.51 5.68	3.23 11.94	5.65 21.09	11.0 41.38	16.5 62.42	22.9 86.66	34.9 131.7	50.2 189.9	71.1 268.8	108.9 411.1
129.7	13.5	1.23 5.70	2.64 12.01	4.85 21.21	9.00 41.76	13.6 62.97	18.9 87.41	28.7 133.0	41.4 191.8	58.6 271.7	91.8 411.5
158.9	11.0	1.01 5.72	2.16 12.08	3.77 21.35	7.40 41.97	11.2 63.28	15.5 87.90	23.5 133.8	34.1 193.2	48.3 273.7	75.6 415.4
TOTAL RATIO	OUTPUT RPM			843	844	8445	845	8455	846	8465	847
194.6	9.0			3.09 21.45	6.08 42.28	9.14 63.77	12.7 88.56	19.4 134.9	28.0 194.8	39.7 276.2	61.7 415.1
238.3	7.5			2.54 21.54	5.00 42.34	7.52 63.87	10.5 88.80	15.9 135.3	23.0 195.5	32.7 277.2	50.8 418.2
291.9	6.0			2.08 21.66	4.09 42.59	6.18 64.36	8.58 89.39	13.1 136.3	18.9 197.1	26.9 279.5	41.4 417.4
357.5	5.0			1.70 21.76	3.36 42.81	5.07 64.72	7.03 89.87	10.7 137.1	15.5 198.3	22.1 281.5	34.0 420.0
437.9	4.0			1.39 21.76	2.75 42.91	4.15 64.83	5.77 90.23	8.82 137.6	12.8 199.1	18.1 282.7	27.9 422.5
536.3	3.2			1.14 21.83	2.25 43.05	3.40 65.05	4.73 90.53	7.24 138.0	10.5 199.8	14.9 283.8	22.7 420.7
656.8	2.7			.94 22.00	1.85 43.30	2.89 65.31	3.87 90.86	5.87 138.7	8.58 200.9	12.2 285.4	18.6 421.3
804.5	2.2			.78 22.02	1.51 43.49	2.22 65.52	3.18 91.32	4.88 139.2	7.03 201.8	10.0 286.4	15.3 424.8
985.3	1.8			.63 22.00	1.24 43.63	1.87 65.63	2.60 91.52	3.97 139.4	5.85 202.2	8.8 287.3	12.5 426.5

**BOLD TYPE + INPUT HORSEPOWER**  
 LIGHT TYPE = OUTPUT TORQUE (000'S In.-lbs.)

Mechanical Horsepower Exceeds Thermal Horsepower in Shaded Areas.

**CAUTION** For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets, and chains, etc mounted thereon.

## THERMAL HORSEPOWER RATINGS WITHOUT COOLING

INPUT RPM	UNIT SIZE									
	822	823	824	8245	825	8255	826	8265	827	
1750	48.0	52.0	60.0	75.0	110.0	130.0	166.0	200.0	220.0	

## THERMAL HORSEPOWER RATINGS WITH FAN

1750	66.0	81.0	106.0	163.0	200.0	265.0	332.0	378.0
------	------	------	-------	-------	-------	-------	-------	-------



# A8 Concentric Shaft Reducers HP & Torque Ratings

## TYPE SL & VSL REDUCERS - 1450 RPM INPUT

TOTAL RATIO	OUTPUT RPM	821	822	823	824	8245	825	8255	826	8265	827
5.06	280	21.0 4.56	46.6 10.15	76.2 16.60	120.1 26.16	218.9 47.68	281.9 61.38	407.3 88.69	592.8 129.1	1065.9 210.7	1567.3 272.9
6.20	230	17.4 4.65	38.8 10.36	63.6 16.98	100.4 26.79	183.3 48.90	236.0 62.98	341.4 91.08	497.8 132.8	896.4 217.9	1320.2 290.7
7.59	190	14.5 4.73	32.3 10.55	53.0 17.31	83.8 27.36	153.1 50.00	197.3 64.43	316.1 103.3	449.1 146.7	630.0 205.8	949.5 310.1
9.30	155	12.0 4.81	26.8 10.74	44.1 17.64	69.7 27.91	127.6 51.09	176.0 70.45	264.2 105.7	376.0 150.5	527.9 211.3	797.1 319.0
11.4	125	9.97 4.89	22.3 10.92	36.6 17.95	70.8 34.75	106.2 52.12	146.6 71.93	220.4 108.1	314.2 154.1	441.6 216.6	667.7 327.6
14.0	100	8.25 4.97	18.4 11.11	30.4 18.29	58.8 35.45	88.3 53.22	121.5 73.49	183.6 110.6	262.1 157.9	368.7 222.2	558.4 336.5
17.1	84	6.82 5.02	15.3 11.22	25.1 18.50	48.8 35.92	73.3 53.94	101.3 74.53	152.7 112.4	218.3 160.6	307.3 226.2	446.1 343.0
20.9	68	5.64 5.07	12.6 11.34	20.8 18.71	40.5 36.38	60.8 54.66	84.0 75.56	126.8 114.1	181.5 163.3	255.8 230.1	388.5 349.4
25.6	56	4.65 5.12	10.4 11.46	17.2 18.93	33.5 36.88	50.3 55.43	69.6 76.67	105.2 115.8	150.7 166.0	212.5 234.2	323.2 356.1
TOTAL RATIO	OUTPUT RPM	831	832	833	834	8345	835	8355	836	8365	837
31.4	45	4.05 5.47	8.87 11.70	15.0 20.23	23.8 32.22	44.0 59.45	60.9 82.35	92.2 124.6	132.3 178.8	186.8 252.5	284.6 384.5
38.4	37	3.33 5.51	7.26 11.77	12.3 20.40	19.7 32.53	36.3 60.02	50.3 83.19	76.3 126.0	109.5 181.0	154.8 255.7	236.0 389.9
47.1	30	2.74 5.55	5.96 11.79	10.2 20.62	16.2 32.90	30.0 60.74	41.6 84.22	63.0 127.7	90.6 183.6	128.1 259.6	195.5 396.2
57.7	25	2.25 5.59	4.88 11.89	8.37 20.79	16.4 40.70	24.7 60.84	34.3 85.10	52.0 129.1	74.8 185.8	105.9 262.9	161.8 401.7
70.6	20	1.86 5.65	4.00 11.97	6.89 20.93	13.5 41.03	20.4 61.83	28.2 85.80	42.9 130.3	61.8 187.7	87.4 265.6	133.7 395.0
86.5	16.5	1.53 5.68	3.28 11.92	5.67 21.10	11.1 41.36	16.7 62.34	23.2 86.55	35.3 131.6	50.9 189.6	72.1 268.5	110.4 410.9
105.9	13.5	1.25 5.71	2.68 11.97	4.66 21.22	9.13 41.61	13.8 62.79	19.1 87.18	29.1 132.6	42.0 191.3	59.5 270.9	91.1 411.2
129.7	11.0	1.03 5.75	2.19 12.06	3.82 21.31	7.50 41.89	11.3 63.20	15.7 87.78	23.9 133.6	34.6 192.9	49.0 273.3	75.0 415.1
158.9	9.0	.84 5.73	1.80 12.09	3.13 21.41	6.16 42.13	9.30 63.61	12.9 88.34	19.7 134.5	28.4 194.4	39.3 268.6	61.8 414.9
TOTAL RATIO	OUTPUT RPM			843	844	8445	845	8455	846	8465	847
194.6	7.5			2.58 21.57	5.06 42.38	7.64 63.95	10.6 88.90	16.2 135.4	23.4 195.6	33.1 277.5	50.8 418.1
238.3	6.0			2.11 21.65	4.15 42.57	6.26 64.22	8.71 89.29	13.3 136.1	19.2 196.8	27.2 279.2	41.6 417.0
291.9	5.0			1.73 21.70	3.40 42.76	5.14 64.58	7.14 89.70	10.9 136.9	15.7 197.9	22.4 280.9	34.0 419.8
357.5	4.0			1.41 21.76	2.79 42.89	4.21 64.80	5.86 90.13	8.93 137.5	12.9 199.1	18.4 282.5	27.9 422.3
437.9	3.2			1.61 21.89	2.28 43.02	3.45 65.10	4.80 90.41	7.33 138.2	10.6 199.9	15.1 283.8	22.9 420.6
536.3	2.7			.95 21.91	1.87 43.13	2.83 65.27	3.94 90.91	6.00 138.6	8.70 200.7	12.4 285.1	18.7 482.6
656.8	2.2			.78 21.98	1.54 43.39	2.31 65.38	3.22 91.07	4.92 139.0	7.13 201.6	10.1 286.3	15.3 424.5
804.5	1.8			.64 22.03	1.25 43.36	1.90 65.74	2.64 91.27	4.03 139.5	5.84 202.1	8.30 286.7	12.5 426.3
985.3	1.5			.53 22.27	1.03 43.68	1.56 65.95	2.16 91.65	3.30 140.0	4.79 203.0	6.80 288.2	10.2 423.6

Mechanical Horsepower Exceeds Thermal Horsepower in Shaded Areas.

**BOLD TYPE + INPUT HORSEPOWER**  
LIGHT TYPE = OUTPUT TORQUE (000'S In.-lbs.)

**CAUTION** For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets, and chains, etc mounted thereon.

### THERMAL HORSEPOWER RATINGS WITHOUT COOLING

INPUT RPM	UNIT SIZE									
			823	824	8245	825	8255	826	8265	827
1450			63.0	73.0	88.0	133.0	161.0	210.0	262.0	292.0

### THERMAL HORSEPOWER RATINGS WITH FAN

1450			79.0	95.0	116.0	183.0	232.0	316.0	406.0	471.0
------	--	--	------	------	-------	-------	-------	-------	-------	-------



# Concentric Shaft Reducers HP & Torque Ratings A9

## TYPE SL & VSL REDUCERS - 1170 RPM INPUT

TOTAL RATIO	OUTPUT RPM	821	822	823	824	8245	825	8255	826	8265	827
5.06	230	17.2 4.65	38.4 10.37	62.9 16.98	99.3 26.81	181.3 48.93	233.6 63.04	337.9 91.18	492.7 133.0	814.0 219.7	1035.5 279.5
6.20	190	14.3 4.74	32.0 10.57	52.4 17.33	82.9 27.40	151.5 50.09	195.2 64.55	282.6 93.45	412.9 136.5	686.1 226.9	899.2 297.3
7.59	155	11.9 4.82	26.5 10.75	43.6 17.65	69.0 27.93	126.3 51.12	162.8 65.92	261.5 105.8	372.1 150.6	522.5 211.5	789.0 319.4
9.30	125	9.85 4.89	22.0 10.92	36.2 17.96	57.4 28.45	105.1 52.14	145.1 71.96	218.1 108.2	310.9 154.2	437.0 216.8	660.9 327.8
11.4	100	8.16 4.96	18.2 11.08	30.0 18.25	58.2 35.38	87.4 53.12	120.7 73.35	181.6 110.4	259.3 157.7	364.8 221.8	552.6 336.0
14.0	84	6.75 5.04	15.1 11.26	24.9 18.57	48.3 36.06	72.5 54.14	100.2 74.81	151.1 112.8	215.9 161.2	304.1 227.5	461.2 344.4
17.1	68	5.56 5.08	12.5 11.37	20.6 18.75	40.0 36.48	60.1 54.81	83.1 75.77	125.4 114.4	179.5 163.7	253.0 230.7	384.3 350.5
20.9	56	4.60 5.12	10.3 11.47	17.0 18.95	33.1 36.89	49.8 55.46	68.8 76.71	104.0 116.0	149.1 166.2	210.3 234.4	319.8 356.4
25.6	45	3.79 5.17	8.48 11.58	14.0 19.15	27.4 37.36	41.1 56.17	56.9 77.74	86.1 117.6	123.6 168.8	174.4 238.2	260.5 366.4
TOTAL RATIO	OUTPUT RPM	831	832	833	834	8345	835	8355	836	8365	837
31.4	37	3.29 5.51	7.19 11.81	12.2 20.45	19.5 32.59	35.9 60.18	49.8 83.41	75.4 126.3	108.4 181.5	153.1 256.4	233.5 391.0
38.4	30	2.71 5.54	5.86 11.77	10.1 20.58	16.1 32.87	29.6 60.69	41.1 84.17	62.3 127.6	89.6 183.5	126.7 259.4	193.3 396.0
47.1	25	2.22 5.61	4.82 11.87	8.27 20.78	13.2 33.21	24.4 61.37	33.9 85.12	51.4 129.2	74.0 185.9	104.7 263.0	160.0 401.8
57.7	20	1.83 5.63	3.97 11.97	6.81 20.95	13.3 41.06	20.1 61.92	27.9 85.91	42.4 130.5	61.1 188.0	86.5 266.1	132.2 406.9
70.6	16.5	1.51 5.67	3.23 11.94	5.60 21.07	11.0 41.34	16.6 62.37	23.0 86.56	34.9 131.6	50.4 189.7	71.3 268.5	109.2 411.0
86.5	13.5	1.23 5.69	2.66 12.02	4.60 21.20	9.03 41.66	13.6 62.86	18.9 87.23	28.8 132.7	41.5 191.4	58.8 271.2	91.1 411.6
105.9	11.0	1.01 5.71	2.17 12.04	3.77 21.34	7.41 41.93	11.2 63.21	15.5 87.79	23.7 133.7	34.2 192.9	48.4 273.4	75.0 415.2
129.7	9.0	.83 5.73	1.78 12.09	3.10 21.45	6.09 42.13	9.19 63.58	12.8 88.38	19.5 134.6	28.1 194.4	39.8 275.6	61.2 414.9
158.9	7.5	.68 5.74	1.45 12.16	2.55 21.57	5.00 42.37	7.55 63.94	10.5 88.93	16.0 135.4	23.1 195.8	32.8 277.6	50.4 418.3
TOTAL RATIO	OUTPUT RPM			843	844	8445	845	8455	846	8465	847
194.6	6.0			2.08 21.59	4.10 42.56	6.19 64.26	8.61 89.31	13.1 136.2	19.0 197.0	30.0 310.8	41.5 417.2
238.3	5.0			1.70 21.69	3.39 42.75	5.08 64.57	7.06 89.73	10.8 136.8	15.6 198.1	22.1 281.0	34.1 419.9
291.9	4.0			1.40 21.87	2.75 42.93	4.16 64.78	5.79 90.10	8.84 137.6	12.8 199.1	18.2 282.6	28.0 422.5
357.5	3.3			1.15 21.95	2.26 43.14	3.41 65.09	4.75 90.51	7.24 138.1	10.5 200.0	14.9 283.9	22.8 420.8
437.9	2.7			.94 21.94	1.85 43.17	2.80 65.34	3.89 90.82	5.94 138.7	8.60 200.7	12.2 285.2	18.7 422.7
536.3	2.2			.77 21.96	1.51 43.33	2.29 65.58	3.18 91.00	4.87 139.3	7.05 201.7	10.0 286.3	15.3 424.7
656.8	1.8			.63 21.94	1.24 43.52	1.87 65.81	2.61 91.28	3.98 139.4	5.78 202.4	8.20 287.3	12.6 426.3
804.5	1.5			.52 22.09	1.01 43.77	1.53 65.87	2.13 91.44	3.26 140.0	4.73 202.8	6.72 288.2	10.3 427.7
985.3	1.2			.42 22.29	.83 43.52	1.30 68.47	1.75 91.82	2.73 139.1	3.87 203.3	5.51 289.3	8.4 429.4

**BOLD TYPE + INPUT HORSEPOWER**  
 LIGHT TYPE = OUTPUT TORQUE (000'S In.-lbs.)

Mechanical Horsepower Exceeds Thermal Horsepower in Shaded Areas.

**CAUTION** For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets, and chains, etc mounted thereon.

## THERMAL HORSEPOWER RATINGS WITHOUT COOLING

INPUT RPM	UNIT SIZE									
				824	8245	825	8255	826	8265	827
1170				80.0	102.0	157.0	193.0	257.0	322.0	365.0

## THERMAL HORSEPOWER RATINGS WITH FAN

1170				106.0	125.0	203.0	260.0	357.0	467.0	547.0
------	--	--	--	-------	-------	-------	-------	-------	-------	-------



# A10 Concentric Shaft Reducers HP & Torque Ratings

## TYPE SL & VSL REDUCERS - 870 RPM INPUT

TOTAL RATIO	OUTPUT RPM	821		822		823		824		8245		825		8255		826		8265		827	
5.06	172	13.2	4.77	29.3	10.65	48.2	17.47	76.2	27.64	139.3	50.55	179.6	65.17	260.1	94.40	380.3	138.0	626.8	227.5	789.4	286.5
6.20	138	10.9	4.85	24.4	10.83	40.0	17.80	63.4	28.18	116.1	51.61	149.7	66.57	217.0	96.50	317.8	141.3	536.9	238.8	684.7	304.5
7.59	115	9.03	4.92	20.2	11.00	33.2	18.08	52.7	28.67	96.6	52.56	124.6	67.82	200.5	109.2	286.0	155.7	402.2	219.0	608.7	331.4
9.30	94	7.47	4.99	16.7	11.14	27.5	18.36	43.7	29.14	80.2	53.49	110.8	73.89	166.9	111.3	238.4	159.0	335.5	223.8	508.5	339.2
11.4	77	6.17	5.05	13.8	11.30	22.8	18.62	44.3	36.20	66.5	54.37	91.9	75.15	138.7	113.4	198.3	162.2	279.4	228.5	424.1	346.7
14.0	62	5.10	5.12	11.4	11.46	18.8	18.92	36.7	36.82	55.1	55.31	76.2	76.50	115.1	115.6	164.8	165.5	232.3	233.3	353.1	345.6
17.1	51	4.20	5.15	9.41	11.55	15.6	19.08	30.3	37.18	45.6	55.89	63.1	77.34	95.3	116.9	136.7	167.7	192.9	236.6	293.5	360.0
20.9	42	3.46	5.19	7.77	11.64	12.8	19.24	25.1	37.55	37.7	56.47	52.2	78.17	78.9	118.3	113.3	169.9	160.0	239.8	243.7	365.3
25.6	34	2.85	5.23	6.39	11.74	10.6	19.42	20.7	37.94	31.1	57.10	43.1	79.08	65.3	119.8	93.8	172.2	132.5	243.2	202.0	370.9
TOTAL RATIO	OUTPUT RPM	831		832		833		834		8345		835		8355		836		8365		837	
31.4	28	2.48	5.57	5.38	11.83	9.20	20.72	14.7	33.05	27.1	61.10	37.6	84.71	57.1	128.5	82.1	184.9	116.1	261.4	177.3	399.2
38.4	23	2.04	5.62	4.40	11.91	7.57	20.84	12.1	33.30	22.3	61.53	31.0	85.37	47.1	129.6	67.8	186.6	95.9	264.1	146.5	403.6
47.1	18.5	1.68	5.66	3.61	11.89	6.22	21.02	10.0	33.61	18.4	62.15	25.5	86.22	38.8	131.0	55.9	188.8	79.1	267.3	121.0	408.9
57.7	15.0	1.37	5.69	2.95	12.00	5.11	21.15	10.0	41.51	15.1	62.62	21.0	86.94	32.0	132.2	46.1	190.7	65.3	270.0	101.3	409.6
70.6	12.3	1.13	5.73	2.42	12.02	4.20	21.28	8.25	41.79	12.4	63.01	17.3	87.51	26.3	133.1	37.9	192.1	53.8	272.8	83.1	413.3
86.5	10.0	.93	5.77	1.98	12.09	3.44	21.37	6.78	42.05	10.2	63.42	14.2	88.10	21.6	134.1	31.2	193.7	44.3	274.5	68.2	413.3
105.9	8.2	.76	5.75	1.62	12.05	2.83	21.48	5.57	42.27	8.39	63.75	11.7	88.61	17.8	135.0	25.7	195.0	36.4	276.5	56.9	416.5
129.7	6.7	.63	5.83	1.32	12.03	2.32	21.61	4.57	42.47	6.89	64.08	9.58	89.07	14.6	135.8	21.1	196.3	29.9	278.4	45.8	415.7
158.9	5.5	.51	5.76	1.09	12.07	1.90	21.64	3.75	42.71	5.66	64.46	7.86	89.56	12.0	136.5	17.3	197.5	24.6	280.2	37.5	418.5
TOTAL RATIO	OUTPUT RPM					843		844		8445		845		8455		846		8465		847	
194.6	4.5					1.56	21.71	3.07	42.86	4.64	64.71	6.44	89.94	9.83	137.2	14.2	198.5	20.2	281.2	31.1	421.1
238.3	3.7					1.27	21.75	2.52	43.00	3.80	64.91	5.28	90.29	8.06	137.8	11.7	199.4	16.6	283.1	25.4	423.3
291.9	3.0					1.06	21.99	2.06	43.14	3.11	65.13	4.33	90.72	6.61	138.3	9.58	200.5	13.6	284.4	20.8	421.7
357.5	2.4					.86	22.01	1.69	43.25	2.56	65.52	3.55	90.90	5.07	138.8	7.85	201.2	11.1	285.7	17.0	423.4
437.9	2.0					.70	21.89	1.38	43.46	2.09	65.67	2.91	91.36	4.15	139.3	6.43	202.1	9.13	286.8	13.9	425.1
536.3	1.6					.58	22.15	1.13	43.51	1.71	65.66	2.37	91.30	3.40	139.9	5.26	202.4	7.48	287.9	11.4	427.0
656.8	1.3					.47	21.89	.93	43.77	1.40	66.14	1.95	91.83	2.79	138.9	4.30	203.2	6.13	288.9	9.33	424.0
804.5	1.1					.38	22.15	.76	43.71	1.14	65.86	1.60	92.08	2.49	139.3	3.54	204.0	5.02	289.7	7.62	425.5
985.3	.88					.31	22.13	.62	43.54	.94	66.38	1.30	92.08	2.03	139.2	2.89	204.1	4.11	290.5	6.23	427.6

Mechanical Horsepower Exceeds Thermal Horsepower in Shaded Areas.

**BOLD TYPE + INPUT HORSEPOWER**  
LIGHT TYPE = OUTPUT TORQUE (000'S In.-lbs.)

**CAUTION** For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets, and chains, etc mounted thereon.

## THERMAL HORSEPOWER RATINGS WITHOUT COOLING

INPUT RPM	UNIT SIZE										
						8245	825	8255	826	8265	827
870						115.0	181.0	226.0	303.0	382.0	440.0

## THERMAL HORSEPOWER RATINGS WITH FAN

870						140.0	217.0	280.0	392.0	515.0	611.0
-----	--	--	--	--	--	-------	-------	-------	-------	-------	-------

# Concentric Shaft Reducers HP & Torque Ratings A11

## TYPE SL & VSL REDUCERS - 580 RPM INPUT

TOTAL RATIO	OUTPUT RPM	821	822	823	824	8245	825	8255	826	8265	827
5.06	115	9.03 4.92	20.2 10.99	33.2 18.08	43.7 23.79	96.5 52.55	124.6 67.82	180.8 98.4	265.1 144.3	433.6 236.0	575.1 313.1
6.20	94	7.47 4.99	16.7 11.14	27.5 18.36	36.2 24.15	80.2 53.49	103.5 69.06	150.3 100.3	220.7 147.2	380.9 254.1	472.5 315.2
7.59	77	6.17 5.04	13.8 11.28	22.8 18.61	30.0 24.46	66.5 54.31	85.9 70.15	138.7 113.2	198.4 162.0	279.4 228.1	424.1 345.9
9.30	63	5.10 5.10	11.4 11.42	18.8 18.85	25.1 24.78	55.1 55.12	76.2 76.23	115.1 115.1	164.8 164.9	232.3 232.5	353.1 353.3
11.4	51	4.20 5.15	9.41 11.55	15.6 19.08	30.3 37.18	45.6 55.89	63.1 77.34	95.3 116.9	136.7 167.7	192.9 236.6	293.5 360.0
14.0	41	3.46 5.22	7.76 11.68	12.8 19.34	25.1 37.73	37.7 56.73	52.1 78.53	78.9 118.9	113.3 170.7	160.0 240.9	243.7 367.0
17.1	34	2.85 5.24	6.39 11.76	10.6 19.46	20.7 38.02	31.1 57.19	43.1 79.21	65.2 120.9	93.8 172.5	132.4 243.7	202.0 371.6
20.9	28	2.34 5.27	5.26 11.83	8.72 19.60	17.0 38.31	25.6 57.66	35.5 79.90	53.9 121.2	77.5 174.3	109.6 246.4	167.3 376.1
25.6	23	1.93 5.31	4.33 11.93	7.17 19.75	14.0 38.67	21.1 58.20	29.3 80.67	44.5 122.5	63.9 176.0	90.5 249.3	138.3 381.0
TOTAL RATIO	OUTPUT RPM	831	832	833	834	8345	835	8355	836	8365	837
31.4	18.5	1.68 5.66	3.61 11.87	6.22 21.02	10.0 33.61	18.4 62.17	25.5 86.29	38.8 131.1	55.9 188.9	79.2 267.4	123.2 409.1
38.4	15.0	1.37 5.68	2.95 11.98	5.11 21.11	8.18 33.80	15.1 62.51	21.0 86.79	32.0 132.0	46.1 190.3	65.3 265.6	101.3 408.9
47.1	12.3	1.13 5.73	2.42 12.03	4.20 21.29	6.72 34.04	12.4 63.06	17.3 87.57	26.3 133.3	37.9 192.2	53.8 272.4	83.1 413.5
57.7	10.0	.93 5.77	1.98 12.10	3.44 21.38	6.77 42.07	10.2 63.45	14.2 88.16	21.6 134.2	31.2 193.8	44.3 274.7	68.2 413.5
70.6	8.2	.76 5.75	1.62 11.89	2.83 21.50	5.57 42.27	8.39 63.75	11.7 88.61	17.8 135.0	25.7 195.0	36.4 276.5	55.9 416.5
86.5	6.7	.63 5.83	1.32 11.94	2.32 21.62	4.57 42.49	6.89 64.10	9.58 89.11	15.0 140.0	21.1 196.4	29.9 278.5	45.8 416.4
105.9	5.5	.51 5.75	1.09 11.97	1.90 21.63	3.75 42.69	5.66 64.44	7.86 89.53	12.0 136.5	17.3 197.5	24.6 280.1	37.5 422.2
129.7	4.5	.41 5.78	.89 12.12	1.56 21.70	3.07 42.85	4.65 64.69	6.44 89.92	9.83 137.1	14.2 198.4	20.2 281.7	30.7 421.0
158.9	3.7	.31 5.87	.72 12.09	1.27 21.76	2.52 42.99	3.80 64.92	5.28 90.31	8.06 137.8	11.7 199.4	16.6 283.2	25.2 423.4
TOTAL RATIO	OUTPUT RPM			843	844	8445	845	8455	846	8465	847
194.6	3.0			1.05 21.99	2.06 43.14	3.11 65.13	4.33 90.72	6.61 138.3	9.58 200.5	13.6 284.6	20.8 421.7
238.3	2.4			.86 22.01	1.69 43.24	2.56 65.51	3.55 90.89	5.41 138.8	7.85 201.2	11.1 285.6	17.0 423.4
291.9	2.0			.70 21.89	1.38 43.40	2.09 65.66	2.91 91.35	4.43 139.3	6.43 202.1	9.13 286.7	13.9 425.0
357.5	1.6			.58 22.14	1.13 43.51	1.71 65.65	2.38 91.68	3.73 139.9	5.26 202.4	7.48 287.9	11.4 426.9
437.9	1.3			.47 21.89	.93 43.78	1.40 66.14	1.95 91.84	3.05 139.0	4.31 203.2	6.13 288.8	9.32 424.5
536.3	1.1			.38 22.11	.76 43.71	1.14 65.85	1.60 92.08	2.50 139.3	3.54 204.0	5.02 289.6	7.62 425.4
656.8	.89			.31 22.13	.62 43.54	.94 66.38	1.30 92.07	2.03 139.2	2.89 204.2	4.11 290.5	6.23 427.5
804.5	.72			.25 21.86	.51 43.71	.77 66.44	1.07 92.67	1.67 139.9	2.36 204.6	3.36 291.1	5.09 428.4
985.3	.59			.21 22.48	.41 43.90	.63 66.38	.87 92.08	1.36 140.3	1.94 205.6	2.79 289.1	4.17 429.3

**BOLD TYPE + INPUT HORSEPOWER**  
 LIGHT TYPE = OUTPUT TORQUE (000'S In.-lbs.)

Mechanical Horsepower Exceeds Thermal Horsepower in Shaded Areas.

**CAUTION** For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets, and chains, etc mounted thereon.

# A12 Tables of Actual Ratios

## TYPES SL & REDUCERS AND GEARMOTORS

NOMINAL RATIO	UNIT SIZE									
	821	822	823	824	8245	825	8255	826	8265	827
5.06	5.06	5.14	5.08	5.25	5.16	5.16	5.23	5.24	4.92	5.08
6.20	6.24	6.28	6.39	6.42	6.40	6.20	6.33	6.31	5.98	6.26
7.59	7.59	7.74	7.75	7.94	7.65	7.53	7.74	7.75	7.70	7.79
9.30	9.36	9.53	9.51	9.43	9.39	9.46	9.37	9.33	9.35	9.60
11.4	11.4	11.6	11.4	10.9	11.5	11.8	11.5	11.5	11.5	11.5
14.0	13.8	14.3	13.6	13.4	14.4	14.5	14.0	13.9	14.5	14.0
17.1	17.0	17.3	17.6	16.5	17.3	17.4	16.9	17.2	17.7	17.5
20.9	20.8	21.4	21.2	20.6	21.1	22.2	20.9	21.0	21.0	21.1
25.6	25.5	26.2	26.3	24.9	25.9	26.0	25.7	25.2	25.7	26.1

NOMINAL RATIO	UNIT SIZE									
	831	832	833	834	8345	835	8355	836	8365	837
31.4	31.1	31.6	32.8	32.1	32.4	32.5	31.3	31.5	31.1	31.9
38.4	37.5	38.1	40.4	38.9	39.7	39.8	38.2	37.8	38.5	39.5
47.1	46.5	47.3	49.0	48.2	47.6	47.7	47.0	46.2	46.1	47.5
57.7	56.3	57.3	59.7	55.9	56.8	57.0	58.2	57.2	56.5	57.6
70.6	69.6	70.8	73.5	67.6	73.2	71.5	69.2	68.0	69.1	71.8
86.5	84.2	85.6	89.7	83.4	88.5	85.4	84.7	83.2	86.4	88.1
105.9	103.2	104.9	110.0	102.5	109.9	110.1	104.1	102.4	104.1	105.7
129.7	126.0	129.8	134.6	125.9	132.5	133.1	130.1	127.9	126.8	135.2
158.9	154.3	159.1	165.0	154.6	164.6	165.3	157.1	154.5	155.8	158.4

NOMINAL RATIO	UNIT SIZE									
			843	844	8445	845	8455	846	8465	847
194.6			201	185	205	205	190	193	195	198
238.3			243	224	249	250	234	234	234	243
291.9			301	277	307	308	284	289	279	291
357.5			364	334	374	376	351	350	360	347
437.9			446	410	461	460	425	432	435	448
536.3			546	505	562	563	524	530	540	541
656.3			669	619	690	690	643	651	651	672
804.5			817	765	841	845	795	800	808	811
985.3			1001	937	1031	1036	977	960	990	1009

## LLF-LOAD LOCATION FACTORS-OUTPUT SHAFT-TYPE SL, VSL, L, VL, GM, AND VGM

DISTANCE IN INCHES	REDUCER SIZE									
	821	822	823	824	8245	825	8255	826	8265	827
	831	832	833 843	834 844	8345 8445	835 845	8355 8455	836 846	8365 8465	837 847
1.00	.91	.82	.80	.82						
1.50	.98	.90	.86	.87						
2.00	1.05	.98	.92	.91	.85	.82	.80			
2.50	1.12	1.06	.98	.97	.90	.87	—			
3.00	1.19	1.14	1.05	1.00	.95	.91	.88	.80		
3.50	1.27	1.22	1.11	1.05	1.00	.96	—	—		
4.00		1.30	1.17	1.11	1.05	1.00	.96	.89	.86	.83
5.00		1.47	1.29	1.22	1.15	1.09	1.04	.98	.93	.89
6.00			1.41	1.34	1.24	1.17	1.12	1.07	1.01	.95
7.00					1.34	1.26	1.20	1.15	1.11	1.01
8.00						1.35	1.27	1.24	1.16	1.08
9.00							1.35	1.33	1.21	1.14
10.00								1.42	1.32	1.20

# Overhung Load Capacities ♦ In Pounds – Output Shaft A13

## OUTPUT SHAFT OVERHUNG LOAD CAPACITY AT NOMINAL OUTPUT SPEEDS

Nominal Output Speed	REDUCER SIZE									
	821 831	822 832	823 833 843	824 834 844	8245 8345 8445	825 835 845	8255 8355 8455	826 836 846	8265 8365 8465	827 837 847
350	2093	2728	4058	5632	7108	6915	12573	11384	9888	13703
280	2249	2932	4433	6035	7687	7412	13447	12190	10738	14390
230	2405	3160	4773	6497	8204	7977	14336	13170	12607	16363
190	2582	3404	5161	6894	8835	8368	15336	14102	13596	17780
155	2757	3648	5527	7035	9507	9114	16496	15245	14752	19106
125	2757	3934	5912	7557	10305	9864	17679	16349	16147	20669
100	2757	4051	6323	8126	11079	10579	18871	17673	17421	22570
84	2757	4051	6323	8370	11692	11697	20353	19016	18635	24318
68	2757	4051	6323	8370	11692	12345	21924	20327	20145	26475
56	2757	4051	6323	8370	11692	13168	21924	21681	21179	27898
45	2757	4051	6323	8370	11692	14235	21924	23182	23032	30393
37	2757	4051	6323	8370	11692	15237	21924	24947	24682	32681
30	2757	4051	6323	8370	11692	16287	21924	26957	26689	35264
25	2757	4051	6323	8370	11692	16534	21924	28686	28819	38414
20	2757	4051	6323	8370	11692	16534	21924	29157	31340	41566
16.5	2757	4051	6323	8370	11692	16534	21924	29157	33597	44550
13.5	2757	4051	6323	8370	11692	16534	21924	29157	36144	48886
11 & Lower	2757	4051	6323	8370	11692	16534	21924	29157	36756	51514

♦ Capacities are for radial loads only, with load location at one shaft diameter distance from shaft seal. If radial and thrust loads are applied simultaneously, consult factory.

# A14 Overhung Load Capacities ♦ In Pounds – Input Shaft

## TYPES SL & VSL - 870 RPM

TOTAL RATIO	REDUCER SIZE									
	821	822	823	824	8245	825	8255	826	8265	827
5.06	590	1153	1840	2592	3637	4754	6033	7376	8204	9124
6.20	667	1240	1861	2700	3965	4754	6125	7376	8733	8916
7.59	708	1240	1861	2700	4091	4754	6125	7376	9990	13319
9.30	728	1240	1861	2700	4091	4754	6125	7376	9990	13502
11.4	744	1240	1861	2700	4091	4754	6125	7376	9990	13502
14.0	756	1240	1861	2700	4091	4754	6125	7376	9990	13502
17.1	766	1240	1861	2700	4091	4754	6125	7376	9990	13502
20.9	775	1240	1861	2700	4091	4754	6125	7376	9990	13502
25.6	781	1240	1861	2700	4091	4754	6125	7376	9990	13502

## TYPES SL & VSL - 1170 RPM

TOTAL RATIO	REDUCER SIZE									
	821	822	823	824	8245	825	8255	826	8265	827
5.06	479	950	1443	2099	2902	4053	5002	7376	6697	6715
6.20	552	1062	1756	2403	3375	4524	5377	7376	7390	6658
7.59	612	1158	1861	2584	3585	4754	6125	7376	9990	11516
9.30	650	1228	1861	2627	3817	4754	6125	7376	9990	12040
11.4	665	1240	1861	2617	3892	4754	6125	7376	9990	12405
14.0	677	1240	1861	2663	3950	4754	6125	7376	9990	12575
17.1	686	1240	1861	2697	3988	4754	6125	7376	9990	12699
20.9	694	1240	1861	2700	4018	4754	6125	7376	9990	12783
25.6	700	1240	1861	2700	4074	4754	6125	7376	9990	12860

TOTAL RATIO	REDUCER SIZE									
	831	832	833	834	8345	835	8355	836	8365	837
31.4	744	744	714	1240	1861	1861	2700	2281	4091	4754
38.4	744	744	734	1240	1861	1861	2700	2700	4091	4754
47.1	744	744	751	1240	1861	1861	2700	2700	4091	4754
57.7	744	744	763	1240	1861	1861	2700	2700	4091	4754
70.6	744	744	772	1240	1861	1861	2700	2700	4091	4754
86.5	744	744	782	1240	1861	1861	2700	2700	4091	4754
105.9	744	744	788	1240	1861	1861	2700	2700	4091	4754
129.7	744	744	844	1240	1861	1861	2700	2700	4091	4754
158.9	744	744	848	1240	1861	1861	2700	2700	4091	4754

TOTAL RATIO	REDUCER SIZE									
	831	832	833	834	8345	835	8355	836	8365	837
31.4	744	744	615	1240	1861	1462	2654	1735	3719	4038
38.4	744	744	654	1240	1861	1707	2700	2533	3831	4754
47.1	744	744	671	1240	1861	1861	2700	2603	3908	4751
57.7	744	744	683	1240	1861	1861	2700	2664	3994	4754
70.6	744	744	691	1240	1861	1861	2700	2700	4050	4754
86.5	744	744	701	1240	1861	1861	2700	2700	4091	4754
105.9	744	744	706	1240	1861	1861	2700	2700	4091	4754
129.7	744	744	762	1240	1861	1861	2700	2700	4091	4754
158.9	744	744	766	1240	1861	1861	2700	2700	4091	4754

TOTAL RATIO	REDUCER SIZE									
			843	844	8445	845	8455	846	8465	847
194.6			744	744	805	741	1240	1240	1861	1861
238.3			744	744	814	754	1240	1240	1861	1861
291.9			744	744	821	764	1240	1240	1861	1861
357.5			744	744	829	774	1240	1240	1861	1861
437.9			744	744	871	780	1240	1240	1861	1861
536.3			744	744	876	839	1240	1240	1861	1861
656.3			744	744	904	843	1240	1240	1861	1861
804.5			744	744	908	883	1240	1240	1861	1861
985.3			744	744	910	886	1240	1240	1861	1861

TOTAL RATIO	REDUCER SIZE									
			843	844	8445	845	8455	846	8465	847
194.6			744	744	723	660	1240	1240	1861	1861
238.3			744	744	732	673	1240	1240	1861	1861
291.9			744	744	739	682	1240	1240	1861	1861
357.5			744	744	747	692	1240	1240	1861	1861
437.9			744	744	789	699	1240	1240	1861	1861
536.3			744	744	794	757	1240	1240	1861	1861
656.3			744	744	822	761	1240	1240	1861	1861
804.5			744	744	825	801	1240	1240	1861	1861
985.3			744	744	827	803	1240	1240	1861	1861

♦ Capacities are for radial loads only. For unit with backstop, include 1.10 load location factor in equation to determine the effective OHL.

# Overhung Load Capacities ♦ In Pounds – Input Shaft A15

TYPES SL & VSL - 1450 RPM

TOTAL RATIO	REDUCER SIZE									
	821	822	823	824	8245	825	8255	826	8265	827
5.06	407	819	1191	1785	2435	3497	4345	6773	5837	5068
6.20	478	926	1503	2073	2994	3941	4693	7183	6558	4985
7.59	535	1018	1665	2323	3192	4331	6125	7376	9990	10356
9.30	585	1084	1764	2436	3412	4663	6125	7376	9990	10838
11.4	613	1141	1800	2426	3561	4752	6125	7376	9990	11172
14.0	624	1192	1823	2470	3668	4754	6125	7376	9990	11465
17.1	633	1236	1847	2503	3710	4754	6125	7376	9990	11717
20.9	641	1240	1861	2528	3737	4754	6125	7376	9990	11878
25.6	647	1240	1861	2589	3795	4754	6125	7376	9990	11989

TYPES SL & VSL - 1750 RPM

TOTAL RATIO	REDUCER SIZE									
	821	822	823	824	8245	825	8255	826	8265	827
5.06	350	715	992	1538	2070	3059	3828	6067	4622	3153
6.20	350	818	1291	1811	2601	3479	4151	6446	5916	2940
7.59	350	905	1495	2049	2878	3848	5895	7376	9990	9433
9.30	418	968	1591	2206	3087	4366	6125	7376	9990	9878
11.4	473	1023	1675	2141	3227	4452	6125	7376	9990	10185
14.0	521	1071	1704	2312	3350	4515	6125	7376	9990	10451
17.1	559	1113	1727	2344	3485	4565	6125	7376	9990	10677
20.9	581	1175	1742	2369	3511	4623	6125	7376	9990	10819
25.6	590	1159	1755	2432	3567	4637	6125	7376	9990	10937

TOTAL RATIO	REDUCER SIZE									
	831	832	833	834	8345	835	8355	836	8365	837
31.4	744	693	533	1240	1824	1168	2460	1381	3439	3401
38.4	744	703	587	1240	1859	1406	2517	2174	3548	4585
47.1	744	714	617	1240	1861	1598	2611	2409	3623	4689
57.7	744	722	629	1240	1861	1738	2652	2468	3708	4754
70.6	744	729	637	1240	1861	1807	2679	2507	3762	4754
86.5	744	735	646	1240	1861	1833	2700	2553	3810	4754
105.9	744	740	652	1240	1861	1826	2700	2583	3842	4754
129.7	744	744	707	1240	1861	1861	2700	2603	3864	4754
158.9	744	744	711	1240	1861	1861	2700	2624	3890	4754

TOTAL RATIO	REDUCER SIZE									
	831	832	833	834	8345	835	8355	836	8365	837
31.4	597	647	466	1162	1704	932	2300	1097	3006	2891
38.4	603	657	518	1215	1738	1163	2356	1875	3317	4283
47.1	736	668	562	1240	1767	1349	2449	2168	3390	4384
57.7	740	676	585	1240	1786	1486	2489	2307	3472	4474
70.6	744	683	593	1240	1805	1692	2515	2345	3525	4561
86.5	744	689	602	1240	1819	1717	2547	2390	3572	4621
105.9	744	693	607	1240	1831	1694	2567	2419	3604	4678
129.7	744	728	662	1240	1861	1842	2580	2439	3624	4712
158.9	744	731	666	1240	1861	1853	2595	2460	3650	4745

TOTAL RATIO	REDUCER SIZE									
			843	844	8445	845	8455	846	8465	847
194.6			744	735	668	590	1240	1240	1861	1759
238.3			744	742	678	618	1240	1240	1861	1802
291.9			744	744	685	628	1240	1240	1861	1838
357.5			744	744	692	638	1240	1240	1861	1861
437.9			744	744	734	644	1240	1240	1861	1861
536.3			744	744	739	702	1240	1240	1861	1861
656.3			744	744	766	706	1240	1240	1861	1861
804.5			744	744	770	745	1240	1240	1861	1861
985.3			744	744	772	748	1240	1240	1861	1861

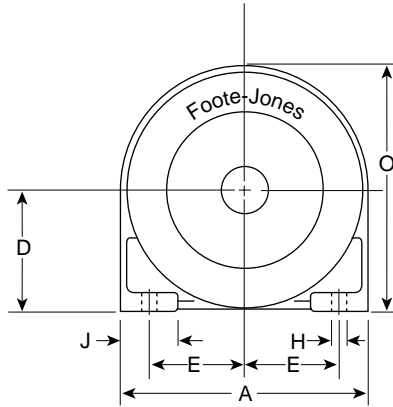
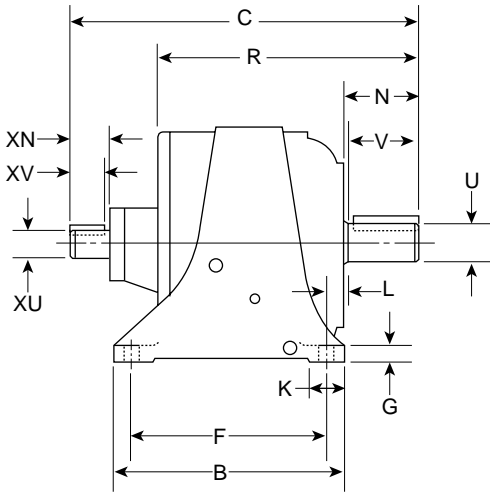
TOTAL RATIO	REDUCER SIZE									
			843	844	8445	845	8455	846	8465	847
194.6			744	689	623	519	1240	1191	1765	1586
238.3			744	695	633	556	1240	1240	1794	1678
291.9			744	701	640	583	1240	1240	1813	1714
357.5			744	706	647	593	1240	1240	1832	1739
437.9			744	710	688	599	1240	1240	1847	1763
536.3			744	739	693	657	1240	1240	1858	1782
656.3			744	741	721	661	1240	1240	1861	1797
804.5			744	744	724	700	1240	1240	1861	1861
985.3			744	744	726	703	1240	1240	1861	1861

♦ Capacities are for radial loads only. For unit with backstop, include 1.10 load location factor in equation to determine the effective OHL.

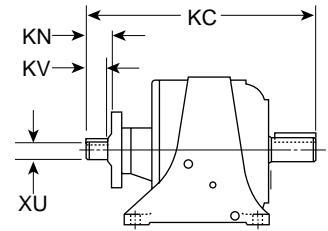
# A16 Gear Reducer Dimensions

## DOUBLE REDUCTION

**TYPE SL**

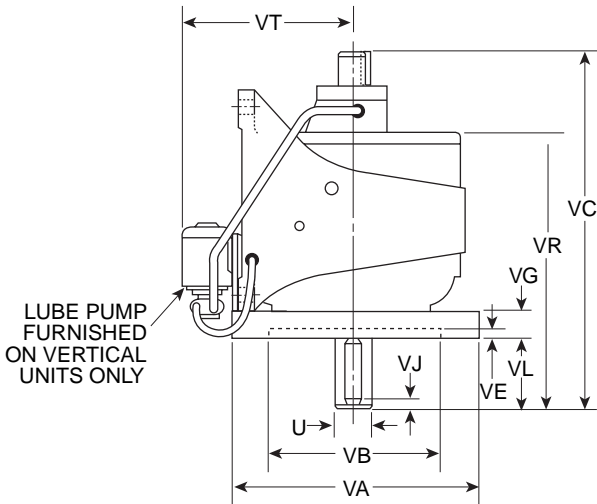


**TYPE KSL**

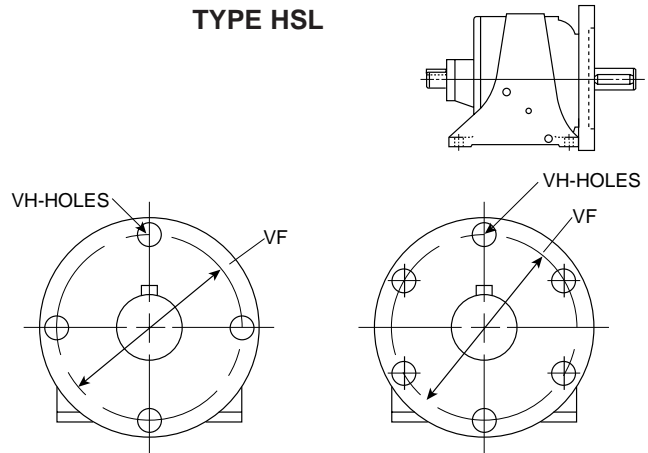


**Reducer with Backstop**

**TYPE VSL**



**TYPE HSL**



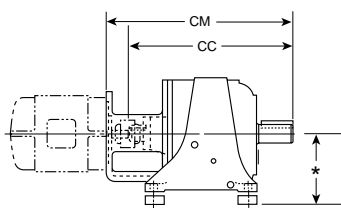
**Fig. I  
4 Mounting Holes  
Equally Spaced**

**Fig. II  
6 Mounting Holes  
Equally Spaced**

## TYPE C

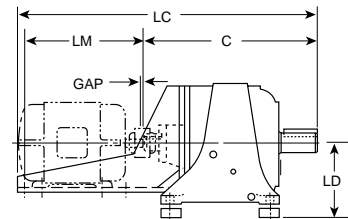
\*The 821-256TC requires Riser Blocks to equal 7.25" dimensions

Available in the same Motor Frame sizes as Type L Units.



UNIT SIZE	CM				CC	ADAPTER & COUPLING WEIGHT
	143TC 145TC	182TC 256TC	284TC 286TC	324TC 326TC		
821	21.00	21.00	-	-	16.64	55
822	23.43	24.83	-	-	20.60	65
823	26.63	28.03	28.88	29.08	23.37	85
824	-	32.60	33.45	33.65	27.25	90

## TYPE L



UNIT SIZE	MOTOR FRAME	LD @
821	213-5T	6.50
822	254-6T	7.25
823	324-6T	9.25
824	364-5T	10.50
8245	404-5T	11.75



# Gear Reducer Dimensions A17

## DOUBLE REDUCTION TYPES SL DIMENSIONS

UNIT SIZE	A	B	C	KC	D	E	F	G	H	J	K	L	N	O	R	UNIT WEIGHT
821	11.38	11.50	16.65	18.06	5.75	4.25	10.00	0.62	0.69	2.50	1.38	1.25	2.88	11.44	12.31	100
822	12.50	12.50	20.62	22.38	6.25	4.50	11.00	0.75	0.69	3.25	1.50	1.25	3.88	11.94	14.75	140
823	15.25	15.00	23.38	24.93	8.00	5.50	12.50	1.00	0.94	4.00	2.12	1.88	4.50	15.25	16.00	280
824	18.50	18.00	27.25	28.63	9.25	7.00	15.50	1.25	1.06	4.25	2.25	1.75	5.88	18.50	20.56	520
8245	20.50	20.00	31.38	32.88	10.50	7.75	17.00	1.50	1.19	5.00	3.50	2.00	6.38	20.25	23.00	600
825	22.75	21.75	33.62	35.12	11.50	8.62	18.75	1.50	1.31	5.50	3.50	2.00	6.88	22.88	24.62	850
8255	26.00	26.00	41.00	42.80	13.25	10.00	22.00	1.75	1.56	6.00	3.50	2.50	7.88	25.25	29.50	1150
826	31.00	25.50	42.12	43.87	15.75	12.50	22.00	2.00	1.56	6.00	5.75	3.00	8.62	29.75	29.25	1700
8265	35.50	27.00	47.00	49.25	18.75	16.25	24.00	1.50	1.56	6.00	6.00	1.70	9.68	34.75	33.88	2300
827	40.00	31.50	54.00	56.25	21.75	17.50	28.00	1.75	1.81	6.00	7.00	2.00	10.38	40.00	38.25	3100

UNIT SIZE	OUTPUT SHAFT						INPUT SHAFT						BACKSTOP WEIGHT
	WITHOUT BACKSTOP			WITH BACKSTOP			WITHOUT BACKSTOP			WITH BACKSTOP			
	U <sup>①</sup>	V	KEY SIZE	XU <sup>①</sup>	XN	XV	KEY SIZE	KN	KV	KEY SIZE			
821	1.625	2.38	0.38 x 0.38 x 2.12	1.250	2.00	2.00	0.25 x 0.25 x 1.75	1.75	1.50	0.25 x 0.25 x 1.50	10		
822	2.125	3.38	0.50 x 0.50 x 3.00	1.375	2.12	2.00	0.31 x 0.31 x 1.72	2.00	2.00	0.31 x 0.31 x 1.72	10		
823	2.625	4.00	0.62 x 0.62 x 3.50	1.625	3.00	2.88	0.38 x 0.38 x 2.50	2.63	2.63	0.38 x 0.38 x 2.19	20		
824	3.000	5.38	0.75 x 0.75 x 4.88	1.875	3.00	3.00	0.50 x 0.50 x 2.50	2.63	2.63	0.50 x 0.50 x 2.13	20		
8245	3.500	5.88	0.88 x 0.88 x 5.38	2.250	3.62	3.50	0.50 x 0.50 x 3.00	3.06	3.06	0.50 x 0.50 x 2.50	20		
825	4.000	6.38	1.00 x 1.00 x 5.75	2.500	4.00	3.88	0.62 x 0.62 x 3.25	3.13	3.13	0.62 x 0.62 x 2.63	30		
8255	4.500	7.38	1.00 x 1.00 x 6.75	2.750	4.38	4.38	0.62 x 0.62 x 3.88	3.75	3.75	0.62 x 0.62 x 3.13	30		
826	5.250	8.12	1.25 x 1.25 x 7.38	3.000	5.00	4.88	0.75 x 0.75 x 4.12	4.00	4.00	0.75 x 0.75 x 3.25	30		
8265	5.750	9.68	1.50 x 1.50 x 8.00	3.500	5.25	5.13	0.88 x 0.88 x 4.50	5.00	5.00	0.88 x 0.88 x 4.38	80		
827	6.750	10.25	1.75 x 1.50 x 8.75	4.000	6.88	6.75	1.00 x 1.00 x 5.50	6.75	6.50	1.00 x 1.00 x 5.00	80		

## TYPES VSL & HSL DIMENSIONS

**TOLERANCES**  
 ① +.0000 to -.0005 for Diameters up to 1.625  
 +.0000 to -.0010 for Diameters 1.625 and larger  
 ② 821 and 822  
 +.003 to -.000  
 823 to 826  
 +.005 to -.000

UNIT SIZE	FIG.	VA	VB <sup>②</sup>	VC	KVC	VE	VF	VG	VH	OUTPUT SHAFT						UNIT WEIGHT
										U <sup>①</sup>	VJ	KEY SIZE	VL	VR	VT	
821	I	14.00	7.00	17.41	18.81	.25	12.75	1.50	.68	1.625	.44	.38 x .38 x 1.75	2.38	13.06	12.1	135
822	I	14.75	8.50	21.38	23.18	.25	13.50	1.50	.68	2.125	.50	.50 x .50 x 2.62	3.38	15.50	12.6	180
823	I	18.75	10.00	24.38	25.93	.25	17.25	1.75	.81	2.625	.69	.62 x .62 x 3.00	4.00	17.00	14.3	360
824	II	24.81	12.00	28.25	29.63	.25	23.31	1.75	.81	3.000	.75	.75 x .75 x 4.25	5.38	21.56	15.6	660
8245	II	27.06	14.00	32.38	33.38	.25	25.63	1.75	.81	3.500	.94	.88 x .88 x 4.50	5.88	24.00	16.8	770
825	II	30.19	16.00	34.88	36.38	.25	28.50	2.00	.94	4.000	1.00	1.00 x 1.00 x 4.88	6.38	25.88	17.8	1020
8255	II	34.19	18.00	42.25	44.06	.25	32.50	2.00	.94	4.500	1.00	1.00 x 1.00 x 5.88	7.38	30.75	19.6	1390
826	II	39.94	20.00	43.38	45.12	.25	38.31	2.00	.94	5.250	1.25	1.25 x 1.25 x 6.25	8.12	30.50	22.1	2100

## TYPES L DIMENSIONS

UNIT SIZE	MOTOR FRAME																	
	143-5T		182-4T		213-5T		254-6T		284-6T		324-6T		364-5T		404-5T		444-5T	
	LC	LM	LC	LM	LC	LM	LC	LM	LC	LM	LC	LM	LC	LM	LC	LM	LC	LM
821	34.8	16.0	35.3	17.3	38.3	20.1												
822	37.3	14.4	37.8	15.7	40.8	18.5	44.3	21.3										
823	38.5	12.9	39.0	14.2	42.0	17.0	48.0	22.1	50.0	24.1	51.5	25.6						
824			43.6	14.9	46.6	17.7	52.6	22.8	59.6	30.1	61.6	32.3	63.6	34.8				
8245					50.5	17.5	56.5	22.6	63.5	29.9	65.5	32.1	67.5	34.6	69.0	35.7		
825							58.1	22.0	63.6	27.8	65.6	30.0	67.6	32.5	70.6	35.1	76.1	40.6
8255							63.0	19.5	68.5	25.3	70.5	27.5	72.5	30.0	77.0	34.1	81.0	38.1
826									68.3	23.9	70.3	26.1	72.3	28.6	75.3	31.2	80.8	36.7
8265													76.9	28.4	79.9	31.0	85.4	36.5
Scoop & Coupling Weight	20		35		50		100		140		150		190		290		370	

**CAUTION** For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc. mounted thereon.  
 All dimensions are in inches. Weights are in pounds. Motor scoops will accommodate T, TS, U, and US frame motors. Gap: The minimum required shaft gap is .25. The Maximum available shaft gap using slots provided is LM minus the following motor dimensions, 2F + BA + (N-W); if the

unit is equipped with a backstop, deduct the difference between KC and C. The pump is a standard industrial rotary positive displacement self-priming type, close coupled to a .33 HP, 3-phase, 60/50 hertz, 208-230/460 volt, 1725/1425 rpm TEFC motor, and operates in either direction of rotation.

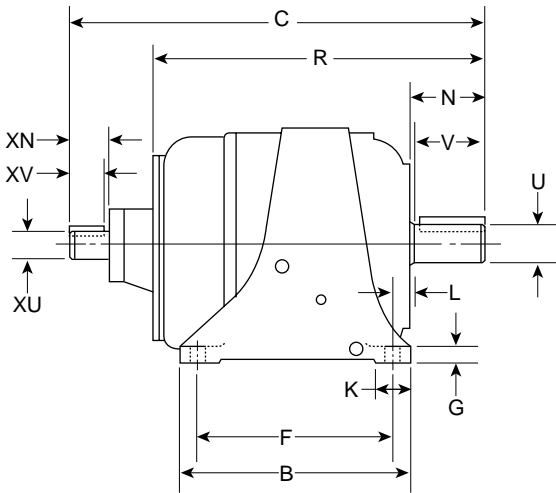
**CAUTION** For reference only; use certified prints for construction purposes.



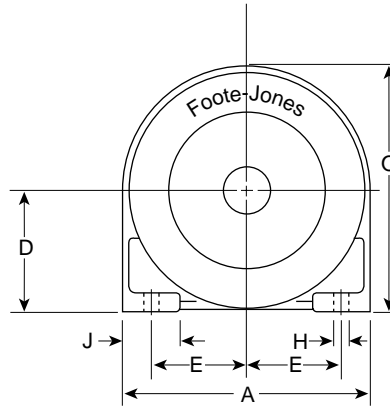
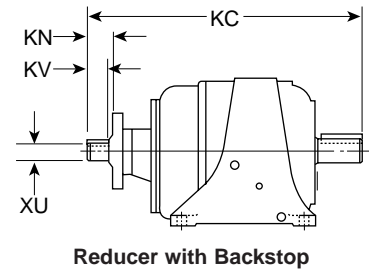
# A18 Gear Reducer Dimensions

## TRIPLE REDUCTION

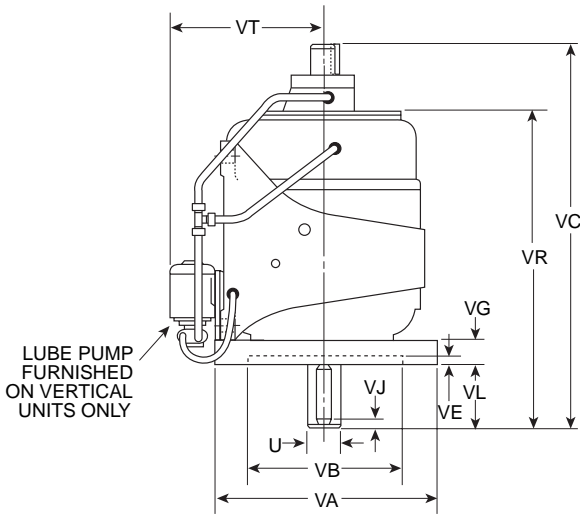
**TYPE SL**



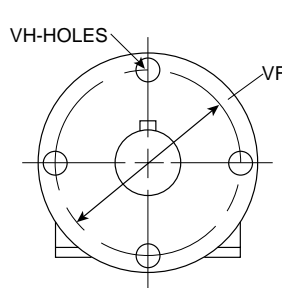
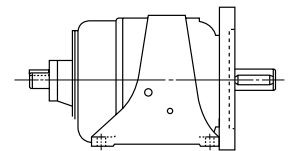
**TYPE KSL**



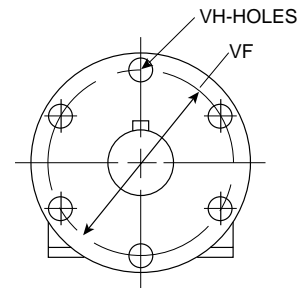
**TYPE VSL**



**TYPE HSL**



**Fig. I**  
4 Mounting Holes  
Equally Spaced

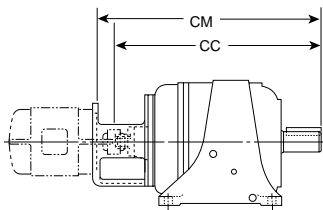


**Fig. II**  
6 Mounting Holes  
Equally Spaced

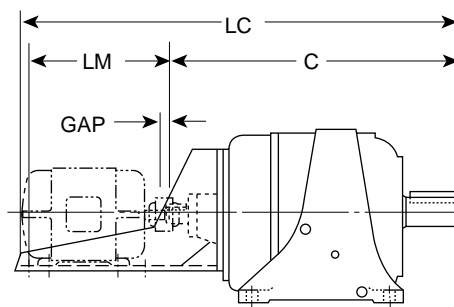
## TYPE C

Available in the same Motor Frame sizes as Type L Units.

\*The C-Face for 250TC motor frame is not available in the 831-832 unit.



## TYPE L



UNIT SIZE	CM				CC	ADAPTER & COUPLING WEIGHT
	143TC-145TC	182TC-256TC*	284TC-286TC	324TC-326TC		
831	24.45	24.45	-	-	21.18	40
832	27.66	27.66	-	-	24.39	40
833	28.84	28.84	-	-	24.47	50
834	33.42	34.82	-	-	30.59	65
8345	39.52	40.92	41.77	41.97	36.26	90
835	40.88	42.28	43.13	43.33	37.62	90
8355	-	46.69	47.54	47.74	41.35	90
836	-	48.83	49.68	49.88	43.49	90

# Gear Reducer Dimensions A19

## TRIPLE REDUCTION

### TYPE SL DIMENSIONS

UNIT SIZE	A	B	C	KC	D	E	F	G	H	J	K	L	N	O	R	UNIT WEIGHT
831	11.38	11.50	19.68	21.18	5.75	4.25	10.00	0.62	0.69	2.50	1.38	1.25	2.88	11.44	14.96	130
832	12.50	12.50	22.90	24.40	6.25	4.50	11.00	0.75	0.69	3.25	1.50	1.25	3.88	11.94	18.18	160
833	15.25	15.00	24.48	25.89	8.00	5.50	12.50	1.00	0.94	4.00	2.12	1.88	4.50	15.25	20.14	300
834	18.50	18.00	30.58	32.32	9.25	7.00	15.50	1.25	1.06	4.25	2.25	1.75	5.88	18.50	24.71	540
8345	20.50	20.00	36.26	37.81	10.50	7.75	17.00	1.50	1.19	5.00	3.50	2.00	6.38	20.25	28.88	680
835	22.75	21.75	37.63	39.18	11.50	8.62	18.75	1.50	1.31	5.50	3.50	2.00	6.88	22.88	30.25	900
8355	26.00	26.00	41.35	42.73	13.25	10.00	22.00	1.75	1.56	6.00	3.50	2.50	7.88	25.25	34.66	1240
836	31.00	25.50	43.48	44.86	15.75	12.50	22.00	2.00	1.56	6.00	5.75	3.00	8.62	29.75	36.79	1830
8365	35.50	27.00	49.13	50.63	18.75	16.25	24.00	1.50	1.56	6.00	6.00	1.70	9.68	34.75	40.75	2500
837	40.00	31.50	56.13	57.63	21.75	17.50	28.00	1.75	1.81	6.00	7.00	2.00	10.38	40.00	47.13	3400

UNIT SIZE	OUTPUT SHAFT			INPUT SHAFT								BACKSTOP WEIGHT
	U ①	V	KEY SIZE	WITHOUT BACKSTOP				WITH BACKSTOP				
				XU①	XN	XV	KEY SIZE	KN	KV	KEY SIZE		
831	1.625	2.38	0.38 x 0.38 x 2.12	1.125	1.62	1.50	0.25 x 0.25 x 1.25	1.50	1.50	0.25 x 0.25 x 1.25	10	
832	2.125	3.38	0.50 x 0.50 x 3.00	1.125	1.62	1.50	0.25 x 0.25 x 1.25	1.50	1.50	0.25 x 0.25 x 1.25	10	
833	2.625	4.00	0.62 x 0.62 x 3.50	1.250	2.00	2.00	0.25 x 0.25 x 1.75	1.75	1.75	0.25 x 0.25 x 1.50	10	
834	3.000	5.38	0.75 x 0.75 x 4.88	1.375	2.12	2.00	0.31 x 0.31 x 1.72	2.00	2.00	0.31 x 0.31 x 1.72	10	
8345	3.500	5.88	0.88 x 0.88 x 5.38	1.625	3.00	2.88	0.38 x 0.38 x 2.50	2.63	2.63	0.38 x 0.38 x 2.19	20	
835	4.000	6.38	1.00 x 1.00 x 5.75	1.625	3.00	2.88	0.38 x 0.38 x 2.50	2.63	2.63	0.38 x 0.38 x 2.19	20	
8355	4.500	7.38	1.00 x 1.00 x 6.75	1.875	3.00	3.00	0.50 x 0.50 x 2.50	2.63	2.63	0.50 x 0.50 x 2.13	20	
836	5.250	8.12	1.25 x 1.25 x 7.38	1.875	3.00	3.00	0.50 x 0.50 x 2.50	2.63	2.63	0.50 x 0.50 x 2.13	20	
8365	5.750	9.68	1.50 x 1.50 x 8.00	2.250	3.62	3.50	0.50 x 0.50 x 3.00	3.06	3.06	0.50 x 0.50 x 2.50	30	
837	6.750	10.25	1.75 x 1.50 x 8.75	2.500	4.00	3.88	0.62 x 0.62 x 3.25	3.13	3.13	0.62 x 0.62 x 2.63	30	

### TYPE VSL & HSL DIMENSIONS

UNIT SIZE	FIG.	VA	VB②	VC	KVC	VE	VF	VG	VH	OUTPUT SHAFT						UNIT WEIGHT
										U①	VJ	KEY SIZE	VL	VR	VT	
831	I	14.00	7.00	20.43	21.93	.25	12.75	1.50	.68	1.625	.44	.38 x .38 x 1.75	2.38	15.81	12.1	165
832	I	14.75	8.50	23.38	24.88	.25	13.50	1.50	.68	2.125	.50	.50 x .50 x 2.62	3.38	18.75	12.6	200
833	I	18.75	10.00	25.48	26.88	.25	17.25	1.75	.81	2.625	.69	.62 x .62 x 3.00	4.00	21.14	14.3	380
834	II	24.81	12.00	31.58	33.32	.25	23.31	1.75	.81	3.000	.75	.75 x .75 x 4.25	5.38	25.71	15.6	680
8345	II	27.06	14.00	37.26	38.81	.25	25.63	1.75	.81	3.500	.94	.88 x .88 x 4.50	5.88	29.88	16.8	850
835	II	30.19	16.00	38.88	40.43	.25	28.50	2.00	.94	4.000	1.00	1.00 x 1.00 x 4.88	6.38	31.50	17.8	1070
8355	II	34.19	18.00	42.60	43.98	.25	32.50	2.00	.94	4.500	1.00	1.00 x 1.00 x 5.88	7.38	35.91	19.6	1480
836	II	39.94	20.00	44.73	46.11	.25	38.31	2.00	.94	5.250	1.25	1.25 x 1.25 x 6.25	8.12	38.04	22.1	2230

### TYPE L DIMENSIONS

UNIT SIZE	MOTOR FRAME																	
	143-5T		182-4T		213-5T		254-6T		284-6T		324-6T		364-5T		404-5T		444-5T	
	LC	LM	LC	LM	LC	LM	LC	LM	LC	LM	LC	LM	LC	LM	LC	LM	LC	LM
831	38.4	16.6	36.1	13.9														
832	41.4	16.6	39.0	13.9														
833	42.6	16.0	43.1	17.3	46.1	20.1												
834	47.2	14.4	47.7	15.7	50.7	18.5	54.2	21.3										
8345	51.4	12.9	51.9	14.2	54.9	17.0	60.9	22.1	62.9	24.1	64.4	25.6						
835			53.3	14.2	56.3	17.0	62.3	22.1	64.3	24.1	65.8	25.6						
8355			57.7	14.9	60.7	17.7	66.7	22.8	73.1	30.1	75.7	32.3	77.7	34.8				
836			59.8	14.9	62.8	17.7	68.8	22.8	75.8	30.1	77.8	32.3	79.8	34.8				
8365					68.3	17.5	74.3	22.6	81.3	29.9	83.3	32.1	85.3	34.6	86.8	35.7		
837									86.1	27.8	88.1	30.0	90.1	32.5	93.1	35.1	98.6	40.6
Scoop & Coupling Weight	20		35		50		100		140		150		190		290		370	

**CAUTION** For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc. mounted thereon.

All dimensions are in inches. Weights are in pounds. Motor scoops will accommodate T, TS, U, and US frame motors. Gap: The minimum required shaft gap is .25. The Maximum available shaft gap using slots provided is LM minus the following motor dimensions, 2F + BA + (N-W); if the

unit is equipped with a backstop, deduct the difference between KC and C. The pump is a standard industrial rotary positive displacement self-priming type, close coupled to a .33 HP, 3-phase, 60/50 hertz, 208-230/460 volt, 1725/1425 rpm TEFC motor, and operates in either direction of rotation.

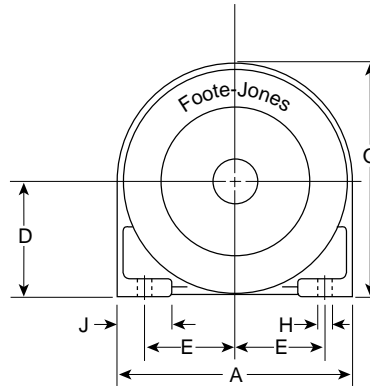
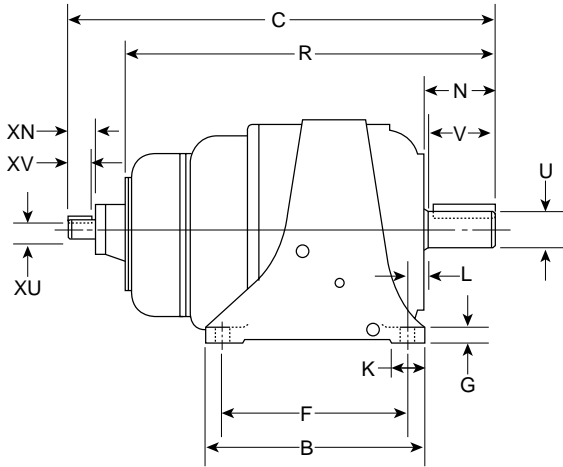
**CAUTION** For reference only; use certified prints for construction purposes.

A

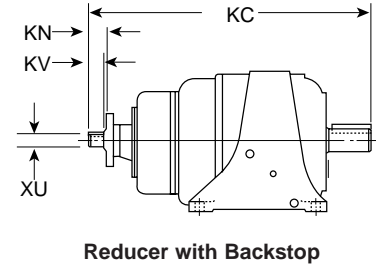
# A20 Gear Reducer Dimensions

## QUADRUPLE REDUCTION

### TYPE SL

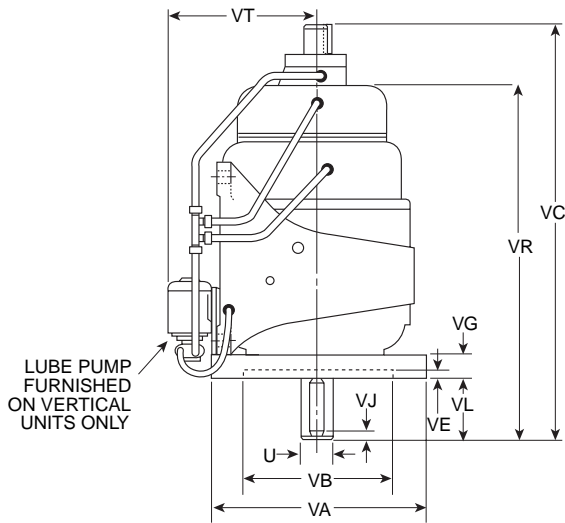


### TYPE KSL

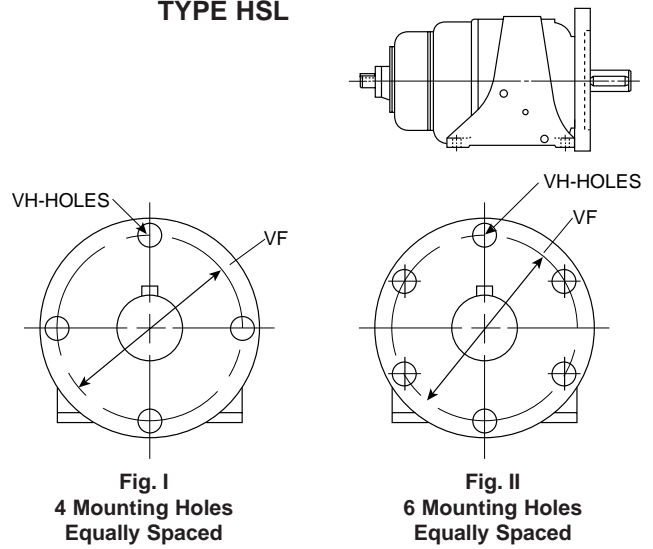


Reducer with Backstop

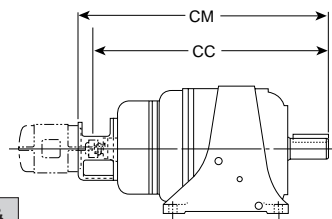
### TYPE VSL



### TYPE HSL

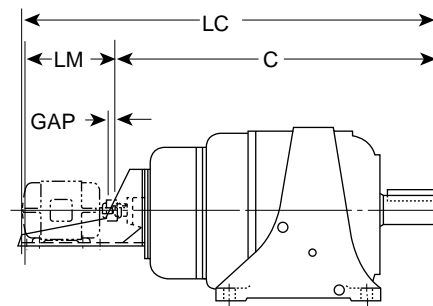


### TYPE C



UNIT SIZE	CM	CC	WEIGHT & COUPLING WEIGHT
	143TC-256TC		
843	32.28	29.01	40
844	37.64	34.37	40
8445	41.73	37.36	50
845	43.09	38.72	50
8455	48.91	44.68	65
846	51.06	46.83	65

### TYPE L



# Gear Reducer Dimensions A21

## QUADRUPLE REDUCTION

### TYPE SL

UNIT SIZE	A	B	C	KC	D	E	F	G	H	J	K	L	N	O	R	UNIT WEIGHT
843	15.25	15.00	27.50	29.00	8.00	5.50	12.50	1.00	0.94	4.00	2.12	1.88	4.50	15.25	22.78	320
844	18.50	18.00	32.86	34.36	9.25	7.00	15.50	1.25	1.06	4.25	2.25	1.75	5.88	18.50	28.14	570
8445	20.50	20.00	37.36	38.77	10.50	7.75	17.00	1.50	1.19	5.00	3.50	2.00	6.38	20.25	33.00	700
845	22.75	21.75	38.73	40.14	11.50	8.62	18.75	1.50	1.31	5.50	3.50	2.00	6.88	22.88	34.39	920
8455	26.00	26.00	44.69	46.42	13.25	10.00	22.00	1.75	1.56	6.00	3.50	2.50	7.88	25.25	38.82	1260
846	31.00	25.50	46.81	48.55	15.75	12.50	22.00	2.00	1.56	6.00	5.75	3.00	8.62	29.75	40.94	1870
8465	35.50	27.00	54.00	55.55	18.75	16.25	24.00	1.50	1.56	6.00	6.00	1.70	9.68	34.75	46.62	2600
847	40.00	31.50	60.13	61.68	21.75	17.50	28.00	1.75	1.81	6.00	7.00	2.00	10.38	40.00	52.75	3500

UNIT SIZE	OUTPUT SHAFT			INPUT SHAFT								BACKSTOP WEIGHT
	U ①	V	KEY SIZE	WITHOUT BACKSTOP				WITH BACKSTOP				
				XU①	XN	XV	KEY SIZE	KN	KV	KEY SIZE		
843	2.625	4.00	0.62 x 0.62 x 3.50	1.125	1.62	1.50	0.25 x 0.25 x 1.25	1.50	1.50	0.25 x 0.25 x 1.25	10	
844	3.000	5.38	0.75 x 0.75 x 4.88	1.125	1.62	1.50	0.25 x 0.25 x 1.25	1.50	1.50	0.25 x 0.25 x 1.25	10	
8445	3.500	5.88	0.88 x 0.88 x 5.38	1.250	2.00	2.00	0.25 x 0.25 x 1.75	1.75	1.75	0.25 x 0.25 x 1.50	10	
845	4.000	6.38	1.00 x 1.00 x 5.75	1.250	2.00	2.00	0.25 x 0.25 x 1.75	1.75	1.75	0.25 x 0.25 x 1.50	10	
8455	4.500	7.38	1.00 x 1.00 x 6.75	1.375	2.12	2.00	0.31 x 0.31 x 1.72	2.00	2.00	0.31 x 0.31 x 1.72	10	
846	5.250	8.12	1.25 x 1.25 x 7.38	1.375	2.12	2.00	0.31 x 0.31 x 1.72	2.00	2.00	0.31 x 0.31 x 1.72	10	
8465	5.750	9.68	1.50 x 1.50 x 8.00	1.625	3.00	2.88	0.38 x 0.38 x 2.50	2.63	2.63	0.38 x 0.38 x 2.19	20	
847	6.750	10.25	1.75 x 1.50 x 8.75	1.625	3.00	2.88	0.38 x 0.38 x 2.50	2.63	2.63	0.38 x 0.38 x 2.19	20	

### TYPE VSL & HSL DIMENSIONS

UNIT SIZE	FIG.	VA	VB②	VC	KVC	VE	VF	VG	VH	OUTPUT SHAFT				VR	VT	UNIT WEIGHT
										U①	VJ	KEY SIZE	VL			
844	II	24.81	12.00	33.60	35.10	.25	23.31	1.75	.81	3.000	.75	.75 x .75 x 4.25	5.38	28.98	15.6	710
8445	II	27.06	14.00	38.36	39.77	.25	25.63	1.75	.81	3.500	.94	.88 x .88 x 4.50	5.88	34.02	16.8	870
845	II	30.19	16.00	39.98	41.39	.25	28.50	2.00	.94	4.000	1.00	1.00 x 1.00 x 4.88	6.38	35.64	17.8	1090
8455	II	34.19	18.00	45.94	47.67	.25	32.50	2.00	.94	4.500	1.00	1.00 x 1.00 x 5.88	7.38	40.06	19.6	1500
846	II	39.94	20.00	48.06	49.80	.25	38.31	2.00	.94	5.250	1.25	1.25 x 1.25 x 6.25	8.12	42.18	22.1	2270

### TYPE L DIMENSIONS

UNIT SIZE	MOTOR FRAME									
	143-5T		182-4T		213-5T		254-6T		284-5T	
	LC	LM	LC	LM	LC	LM	LC	LM	LC	LM
843	46.3	16.6								
844	51.4	16.6	49.0	13.9						
8445	55.5	16.0	56.0	17.3	59.0	20.1				
845	56.9	16.0	57.4	17.3	60.4	20.1				
8455	61.3	14.4	61.9	15.7	64.9	18.5	68.4	21.3		
846	63.4	14.4	63.9	15.7	66.9	18.5	70.4	21.3		
8465			69.6	14.2	72.6	17.0	78.6	22.1	80.6	24.1
847			75.8	14.2	78.8	17.0	84.8	22.1	86.8	24.1
Scoop & Coupling Weight	20		35		50		100		140	

**TOLERANCES**

① +.0000 to -.0005 for Diameters up to 1.625  
+.0000 to -.0010 for Diameters 1.625 and larger

② + .005 to -.000

**CAUTION** For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc. mounted thereon.

All dimensions are in inches. Weights are in pounds. Motor scoops will accommodate T, TS, U, and US frame motors. Gap: The minimum required shaft gap is .25. The Maximum available shaft gap using slots provided is LM minus the following motor dimensions, 2F + BA + (N-W); if the

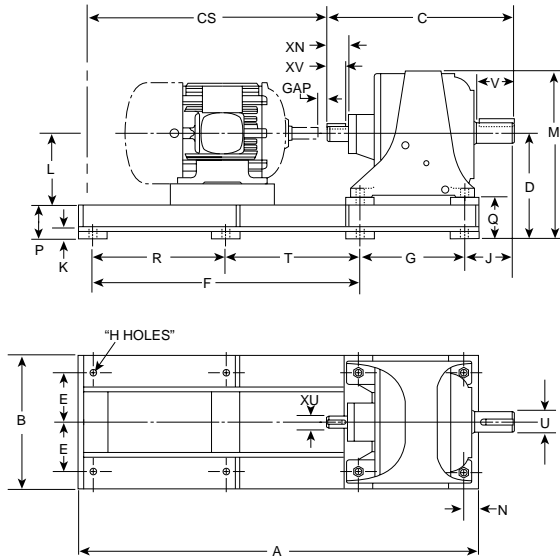
unit is equipped with a backstop, deduct the difference between KC and C. The pump is a standard industrial rotary positive displacement self-priming type, close coupled to a .33 HP, 3-phase, 60/50 hertz, 208-230/460 volt, 1725/1425 rpm TEFC motor, and operates in either direction of rotation.

**CAUTION** For reference only; use certified prints for construction purposes.

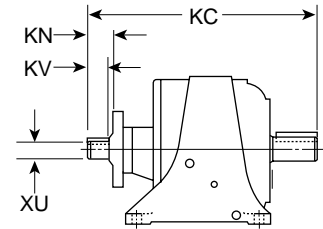
# A22 Basemount Horizontal Gear Reducer Dimensions

## DOUBLE REDUCTION

TYPE BSL



TYPE KSL



Reducer with Backstop

REDUCER SIZE	A	B	C	KC	CS	D <sub>i</sub>	E	F	G	H	NO. OF H HOLES	J	K	L	M	N	P	Q	R	T	UNIT WEIGHT W/BASE
821	38	12.5	16.65	18.06	21.92	9.8	4.25	25.0	10.0	.69	6	3.63	.75	6.4	18.56	1.50	3.4	4.0	-	-	190
822	45	14.0	20.62	22.38	26.0	10.3	4.50	31.0	11.0	.69	6	4.63	.75	6.9	19.1	1.50	3.4	4.0	-	-	250
823	48	16.0	23.38	24.93	26.0	14.0	5.50	31.0	12.5	.94	6	5.88	.88	8.6	24.4	2.25	5.4	6.0	-	-	460
824	55	19.4	27.25	28.63	30.38	15.3	7.00	35.0	15.5	1.06	6	7.13	.88	9.9	28.5	2.25	5.4	6.0	-	-	780
8245	60	21.0	31.38	32.88	32.0	16.5	7.75	38.0	17.0	1.19	6	7.88	.88	11.1	30.3	2.50	5.4	6.0	-	-	900
825	67	23.2	33.62	35.12	36.76	19.5	8.62	-	18.75	1.31	8	8.38	1.25	12.7	34.9	2.50	6.8	8.0	21.6	21.6	1250
8255	74	26.4	41.00	42.80	36.88	21.3	10.00	-	22.0	1.56	8	9.88	1.25	14.5	39.0	3.0	6.8	8.0	23.0	23.0	1680
826	76	31.4	42.12	43.87	36.50	23.8	12.50	-	22.0	1.56	8	11.12	1.25	17.0	42.3	3.0	6.8	8.0	24.0	24.0	2420
8265	80	36.0	47.00	49.25	38.38	26.8	16.25	-	24.0	1.56	8	11.38	1.25	20.0	47.5	3.0	6.8	8.0	25.0	25.0	3150
827	86	41.0	54.00	56.25	38.25	29.8	17.50	-	28.0	1.81	8	12.25	1.25	23.0	53.0	3.0	6.8	8.0	26.0	26.0	3950

UNIT SIZE	OUTPUT SHAFT			INPUT SHAFT							BACKSTOP WEIGHT
	U <sup>①</sup>	V	KEY SIZE	WITHOUT BACKSTOP			WITH BACKSTOP				
				XU <sup>①</sup>	XN	XV	KEY SIZE	KN	KV	KEY SIZE	
821	1.625	2.30	0.38 x 0.38 x 2.12	1.250	2.00	2.00	0.25 x 0.25 x 1.75	1.75	1.50	0.25 x 0.25 x 1.50	10
822	2.125	3.38	0.50 x 0.50 x 3.00	1.375	2.12	2.00	0.31 x 0.31 x 1.72	2.00	2.00	0.31 x 0.31 x 1.72	10
823	2.625	4.00	0.62 x 0.62 x 3.50	1.625	3.00	2.88	0.36 x 0.36 x 2.50	2.63	2.63	0.38 x 0.38 x 2.19	20
824	3.000	5.38	0.75 x 0.75 x 4.88	1.875	3.00	3.00	0.50 x 0.50 x 2.50	2.63	2.63	0.50 x 0.50 x 2.13	20
8245	3.500	5.88	0.88 x 0.88 x 5.38	2.250	3.62	3.50	0.50 x 0.50 x 3.00	3.06	3.06	0.50 x 0.50 x 2.50	20
825	4.000	6.38	1.00 x 1.00 x 5.75	2.500	4.00	3.88	0.62 x 0.62 x 3.25	3.13	3.13	0.62 x 0.62 x 2.63	30
8255	4.500	7.38	1.00 x 1.00 x 6.75	2.750	4.38	4.38	0.62 x 0.62 x 3.88	3.75	3.75	0.62 x 0.62 x 3.13	30
826	5.250	8.12	1.25 x 1.25 x 7.38	3.000	5.00	4.88	0.75 x 0.75 x 4.12	4.00	4.00	0.75 x 0.75 x 3.25	30
8265	5.750	9.68	1.50 x 1.50 x 8.00	3.500	5.25	5.13	0.88 x 0.88 x 4.50	5.00	5.00	0.88 x 0.88 x 4.38	80
827	6.750	10.25	1.75 x 1.50 x 8.75	4.000	6.88	6.75	1.00 x 1.00 x 5.50	6.75	6.50	1.00 x 1.00 x 5.00	80

**TOLERANCES**

① +.0000 to -.0005 for Diameters up to 1.625  
 +.0000 to -.0010 for Diameters 1.625 and larger



**CAUTION** For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc. mounted thereon.

All dimensions are in inches. Weights are in pounds.

For reference only; use certified prints for construction purposes.

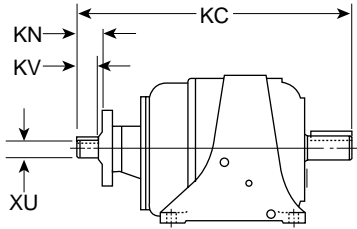
CS is the greatest distance between the reduced input shaft and the center of the front motor mounting hole.

# Basemount Horizontal Gear Reducer Dimensions A23

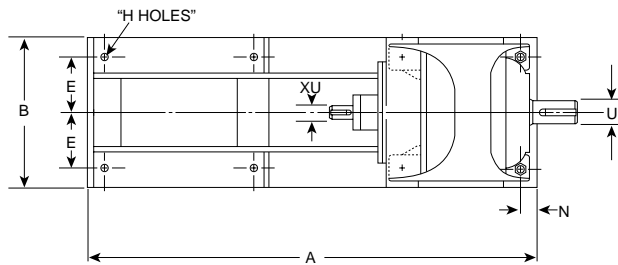
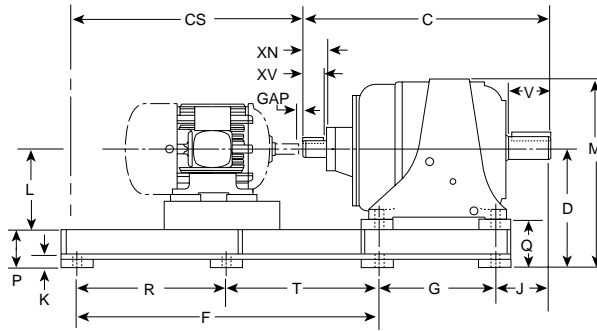
TRIPLE REDUCTION

TYPE BSL

TYPE KSL



Reducer with Backstop



REDUCER SIZE	A	B	C	KC	CS	D	E	F	G	H	NO. OF H HOLES	J	K	L	M	N	P	Q	R	T	UNIT WEIGHT W/BASE
831	38	12.5	19.68	21.18	18.88	9.8	4.25	25.0	10.0	.69	6	3.63	.75	6.4	18.56	1.50	3.4	4.0	-	-	220
832	45	14.0	22.90	24.40	24.0	10.3	4.50	31.0	11.0	.69	6	4.63	.75	6.9	19.1	1.50	3.4	4.0	-	-	270
833	48	16.0	24.48	25.89	24.9	14.0	5.50	31.0	12.5	.94	6	5.88	.88	8.6	24.4	2.25	5.4	6.0	-	-	480
834	55	19.4	30.58	32.32	27.0	15.3	7.00	35.0	15.5	1.06	6	7.13	.88	9.9	28.5	2.25	5.4	6.0	-	-	800
8345	60	21.0	36.26	37.81	27.1	16.5	7.75	38.0	17.0	1.19	6	7.88	.88	11.1	30.3	2.50	5.4	6.0	-	-	980
835	67	23.2	37.63	39.18	32.8	19.5	8.62	-	18.75	1.31	8	8.38	1.25	12.7	34.9	2.50	6.8	8.0	21.6	21.6	1300
8355	74	26.4	41.35	42.73	36.5	21.3	10.00	-	22.0	1.56	8	9.88	1.25	14.5	39.0	3.0	6.8	8.0	23.0	23.0	1770
836	76	31.4	43.48	44.86	35.1	23.8	12.50	-	22.0	1.56	8	11.12	1.25	17.0	42.3	3.0	6.8	8.0	24.0	24.0	2550
8365	80	36.0	49.13	50.63	36.25	26.8	16.25	-	24.0	1.56	8	11.38	1.25	20.0	47.5	3.0	6.8	8.0	25.0	25.0	3350
837	86	41.0	56.13	57.63	36.12	29.8	17.50	-	28.0	1.81	8	12.25	1.25	23.0	53.0	3.0	6.8	8.0	26.0	26.0	4350

UNIT SIZE	OUTPUT SHAFT			INPUT SHAFT								BACKSTOP WEIGHT
	U <sup>①</sup>	V	KEY SIZE	WITHOUT BACKSTOP				WITH BACKSTOP				
				XU <sup>①</sup>	XN	XV	KEY SIZE	KN	KV	KEY SIZE		
831	1.625	2.38	0.38 x 0.38 x 2.12	1.125	1.62	1.50	0.25 x 0.25 x 1.25	1.50	1.50	0.25 x 0.25 x 1.25	10	
832	2.125	3.38	0.50 x 0.50 x 3.00	1.125	1.62	1.50	0.25 x 0.25 x 1.25	1.50	1.50	0.25 x 0.25 x 1.50	10	
833	2.625	4.00	0.62 x 0.62 x 3.50	1.250	2.00	2.00	0.25 x 0.25 x 1.75	1.75	1.75	0.25 x 0.25 x 1.50	10	
834	3.000	5.38	0.75 x 0.75 x 4.88	1.375	2.12	2.00	0.31 x 0.31 x 1.72	2.00	2.00	0.31 x 0.31 x 1.72	10	
8345	3.500	5.88	0.88 x 0.88 x 5.38	1.625	3.00	2.88	0.36 x 0.38 x 2.50	2.63	2.63	0.38 x 0.38 x 2.19	20	
835	4.000	6.38	1.00 x 1.00 x 5.75	1.625	3.00	2.88	0.36 x 0.38 x 2.50	2.63	2.63	0.38 x 0.38 x 2.19	20	
8355	4.500	7.38	1.00 x 1.00 x 6.75	1.875	3.00	3.00	0.50 x 0.50 x 2.50	2.63	2.63	0.50 x 0.50 x 2.13	20	
836	5.250	8.12	1.25 x 1.25 x 7.38	1.875	3.00	3.00	0.50 x 0.50 x 2.50	2.63	2.63	0.50 x 0.50 x 2.13	20	
8365	5.750	9.68	1.50 x 1.50 x 8.00	2.250	3.62	3.50	0.50 x 0.50 x 3.00	3.06	3.06	0.50 x 0.50 x 2.50	30	
837	6.750	10.25	1.75 x 1.50 x 8.75	2.500	4.00	3.88	0.62 x 0.62 x 3.25	3.13	3.13	0.62 x 0.62 x 2.63	30	

**TOLERANCES**

① +.0000 to -.0005 for Diameters up to 1.625  
+.0000 to -.0010 for Diameters 1.625 and larger

CS is the greatest distance between the reduced input shaft and the center of the front motor mounting hole.



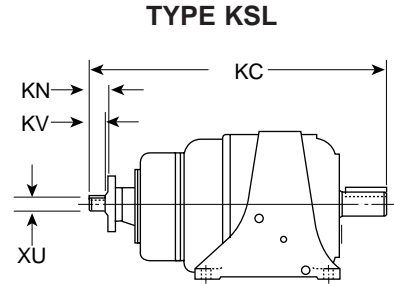
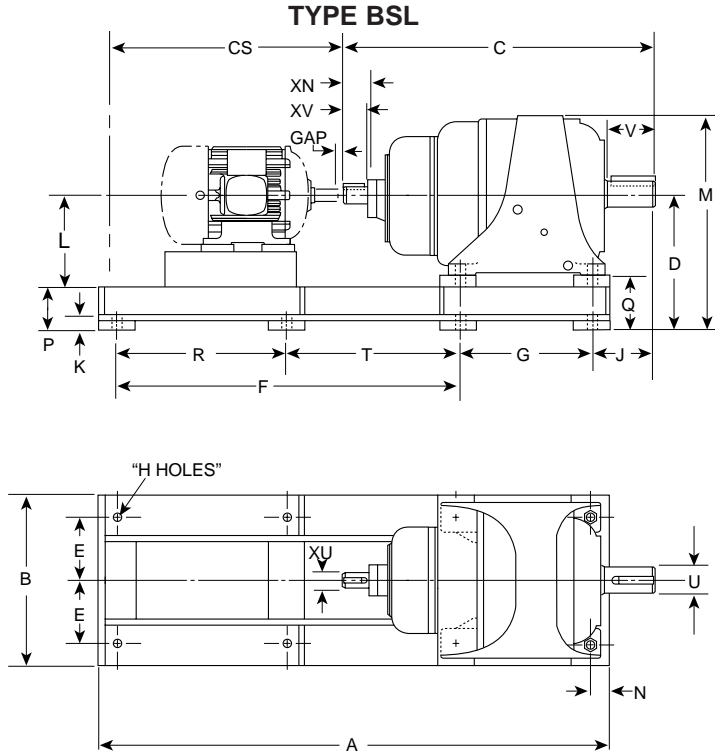
**CAUTION** For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc. mounted thereon. All dimensions are in inches. Weights are in pounds.

For reference only; use certified prints for construction purposes.



# A24 Basemount Horizontal Gear Reducer Dimensions

## QUADRUPLE REDUCTION



Reducer with Backstop

REDUCER SIZE	A	B	C	KC	CS	D	E	F	G	H	NO. OF H HOLES	J	K	L	M	N	P	Q	R	T	UNIT WEIGHT W/BASE
843	48	16.0	27.50	29.00	21.93	14.0	5.50	31.0	12.5	.94	6	5.88	.88	8.6	24.4	2.25	5.4	6.0	-	-	500
844	55	19.4	32.86	34.36	25.0	15.3	7.00	35.0	15.5	1.06	6	7.13	.88	9.9	28.5	2.25	5.4	6.0	-	-	830
8445	60	21.0	37.36	38.77	26.0	16.5	7.75	38.0	17.0	1.19	6	7.88	.88	11.1	30.3	2.50	5.4	6.0	-	-	1000
845	67	23.2	38.37	40.14	32.0	19.5	8.62	-	18.75	1.31	8	8.38	1.25	12.7	34.9	2.50	6.8	8.0	21.6	21.6	1320
8455	74	26.4	44.69	46.42	33.2	21.3	10.00	-	22.0	1.56	8	9.88	1.25	14.5	39.0	3.00	6.8	8.0	23	23	1790
846	76	31.4	46.81	48.55	31.8	23.8	12.5	-	22.0	1.56	8	11.12	1.25	17.0	42.3	3.00	6.8	8.0	24	24	2590
8465	80	36.0	54.00	55.55	31.38	26.8	16.25	-	24.0	1.56	8	11.38	1.25	20.0	47.5	3.00	6.8	8.0	25	25	3450
847	86	41.0	60.13	61.88	32.32	29.8	17.50	-	28.0	1.81	8	12.25	1.25	23.0	53.0	3.00	6.8	8.0	26	26	4450

UNIT SIZE	OUTPUT SHAFT			INPUT SHAFT								BACKSTOP WEIGHT
	U①	V	KEY SIZE	WITHOUT BACKSTOP				WITH BACKSTOP				
				XU①	XN	XV	KEY SIZE	KN	KV	KEY SIZE		
843	2.625	4.00	0.62 x 0.62 x 3.50	1.125	1.62	1.50	0.25 x 0.25 x 1.25	1.50	1.50	0.25 x 0.25 x 1.25	10	
844	3.000	5.38	0.75 x 0.75 x 4.88	1.125	1.62	1.50	0.25 x 0.25 x 1.25	1.50	1.50	0.25 x 0.25 x 1.25	10	
8445	3.500	5.88	0.88 x 0.88 x 5.38	1.250	2.00	2.00	0.25 x 0.25 x 1.75	1.75	1.75	0.25 x 0.25 x 1.50	10	
845	4.000	6.38	1.00 x 1.00 x 5.75	1.250	2.00	2.00	0.25 x 0.25 x 1.75	1.75	1.75	0.25 x 0.25 x 1.50	10	
8455	4.500	7.38	1.00 x 1.00 x 6.75	1.375	2.12	2.00	0.31 x 0.31 x 1.72	2.00	2.00	0.31 x 0.31 x 1.72	10	
846	5.250	8.12	1.25 x 1.25 x 7.38	1.375	2.12	2.00	0.31 x 0.31 x 1.72	2.00	2.00	0.31 x 0.31 x 1.72	10	
8465	5.750	9.68	1.50 x 1.50 x 8.00	1.625	3.00	2.88	0.36 x 0.38 x 2.50	2.63	2.63	0.38 x 0.38 x 2.19	20	
847	6.750	10.25	1.75 x 1.50 x 8.75	1.625	3.00	2.88	0.36 x 0.38 x 2.50	2.63	2.63	0.38 x 0.38 x 2.19	20	

**TOLERANCES**

① +.0000 to -.0005 for Diameters up to 1.625  
+.0000 to -.0010 for Diameters 1.625 and larger



**CAUTION** For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc. mounted thereon.

All dimensions are in inches. Weights are in pounds.

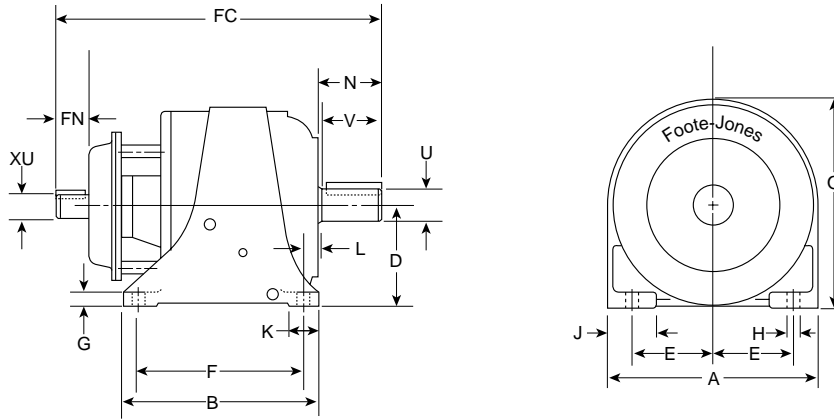
For reference only; use certified prints for construction purposes.

CS is the greatest distance between the reduced input shaft and the center of the front motor mounting hole.



# Reducers With Cooling Fan Dimensions A25

TYPE F



UNIT SIZE	A	B	FC	D	E	F	G	H	J	K	L	N	O
823	15.25	15.00	24.93	8.00	5.50	12.50	1.00	.94	4.00	2.12	1.88	4.50	15.25
824	18.50	18.00	28.63	9.25	7.00	15.50	1.25	1.06	4.25	2.25	1.75	5.88	18.50
8245	20.50	20.00	32.88	10.50	7.75	17.00	1.50	1.19	5.00	3.50	2.00	6.38	20.25
825	22.75	21.75	35.12	11.50	8.62	18.75	1.50	1.31	5.50	3.50	2.00	6.88	22.88
8255	26.00	26.00	42.80	13.25	10.00	22.00	1.75	1.56	6.00	3.50	2.50	7.88	25.25
826	31.00	25.50	43.87	15.75	12.50	22.00	2.00	1.56	6.00	5.75	3.00	8.62	29.75
8265	35.50	27.00	50.63	18.75	16.25	24.00	1.50	1.56	6.00	6.00	1.63	9.68	34.75
827	40.00	31.50	56.25	21.75	17.50	28.00	1.75	1.81	6.00	7.00	2.00	10.38	40.00

UNIT SIZE	OUTPUT SHAFT			INPUT SHAFT			UNIT WEIGHT
	U ①	V	KEY SIZE	XU ①	FN	KEY SIZE	
823	2.625	4.00	0.62 x 0.62 x 3.50	1.625	2.63	0.38 x 0.38 x 2.19	290
824	3.000	5.38	0.75 x 0.75 x 4.88	1.875	2.63	0.50 x 0.50 x 2.13	530
8245	3.500	5.88	0.88 x 0.88 x 5.38	2.250	2.75	0.50 x 0.50 x 2.50	610
825	4.000	6.38	1.00 x 1.00 x 5.75	2.500	3.13	0.62 x 0.62 x 2.63	860
8255	4.500	7.38	1.00 x 1.00 x 6.75	2.750	3.25	0.62 x 0.62 x 3.13	1160
826	5.250	8.12	1.25 x 1.25 x 7.38	3.000	4.00	0.75 x 0.75 x 3.25	1710
8265	5.750	9.68	1.50 x 1.50 x 8.00	3.500	5.50	0.88 x 0.88 x 5.25	2330
827	6.750	10.25	1.75 x 1.50 x 8.75	4.000	6.75	1.00 x 1.00 x 5.00	3130

**TOLERANCES**

① +.0000 to -.0005 for Diameters up to 1.625  
+.0000 to -.0010 for Diameters 1.625 and larger

All dimensions are in inches. Weights are in pounds.  
Reducers with cooling fans are not available with backstops.

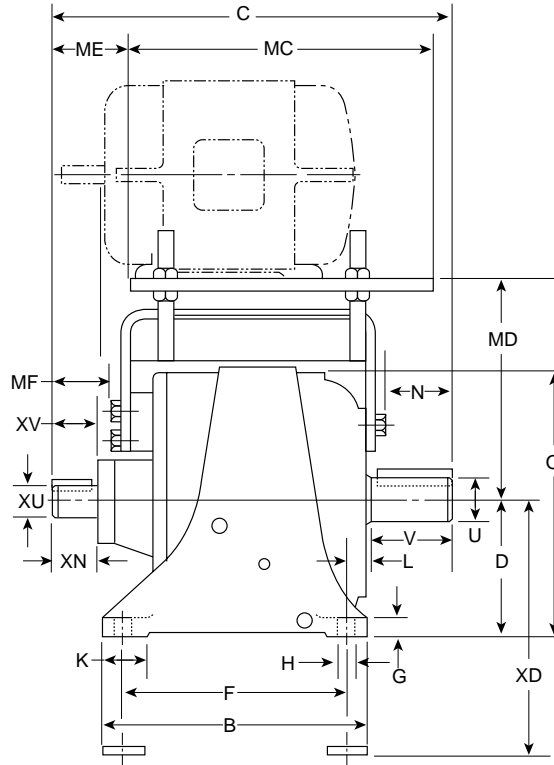
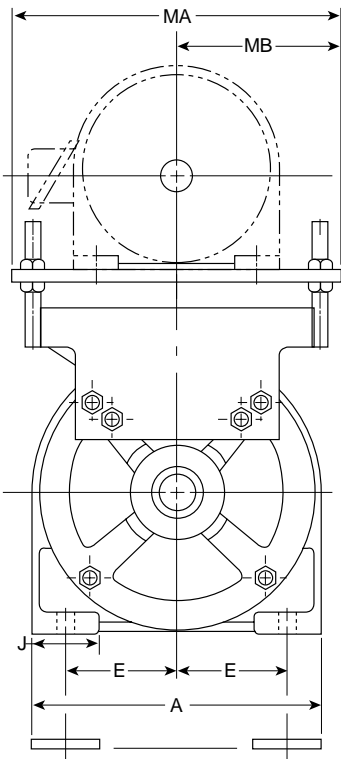
**CAUTION** For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc. mounted thereon.

For reference only; use certified prints for construction purposes.

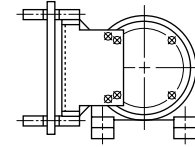
# A26 LINE-O-Mount Horizontal Gear Reducer Dimensions

## DOUBLE REDUCTION

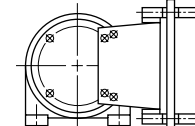
### TYPE PSL



### OPTIONAL MOUNTING POSITIONS

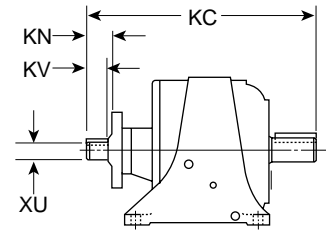


POSITION NO. 2



POSITION NO. 3

### TYPE KSL



REDUCER WITH BACKSTOP

Where shown, riser blocks producing XD dimension will be furnished to provide floor line clearance of motor bracket when side mounted.

UNIT SIZE	A	B	C	KC	D	E	F	G	H	J	K	L	N	O	UNIT WEIGHT
821	11.38	11.50	16.65	18.06	5.75	4.25	10.00	0.62	0.69	2.50	1.38	1.25	2.25	11.44	140
822	12.50	12.50	20.62	22.38	6.25	4.50	11.00	0.75	0.69	3.25	1.50	1.25	3.25	11.94	180
823	15.25	15.00	23.38	24.93	8.00	5.50	12.50	1.00	0.94	4.00	2.12	1.88	3.50	15.25	385
824	18.50	18.00	27.25	28.63	9.25	7.00	15.50	1.25	1.06	4.25	2.25	1.75	4.63	18.50	710
8245	20.50	20.00	31.38	32.88	10.50	7.75	17.00	1.50	1.19	5.00	3.50	2.00	5.13	20.25	800
825	22.75	21.75	33.62	35.12	11.50	8.62	18.75	1.50	1.31	5.50	3.50	2.00	5.63	22.88	1055
8255	26.00	26.00	41.00	42.80	13.25	10.00	22.00	1.75	1.56	6.00	3.50	2.50	6.63	25.25	1365
826	31.00	25.50	42.12	43.87	15.75	12.50	22.00	2.00	1.56	6.00	5.75	3.00	8.25	29.75	1930
8265	35.50	27.00	47.00	49.25	18.75	16.25	24.00	1.50	1.56	6.00	6.00	1.63	10.00	34.75	2600

#### TOLERANCES

① +.0000 to -.0005 for Diameters up to 1.625  
+.0000 to -.0010 for Diameters 1.625 and larger



For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc. mounted thereon.

All dimensions are in inches. Weights are in pounds.  
Unit weight includes reducer and motor mounts.

For reference only; use certified prints for construction purposes.

# LINE-O-Mount Horizontal Gear Reducer Dimensions A27

## DOUBLE REDUCTION TYPE PSL

UNIT SIZE	OUTPUT SHAFT			INPUT SHAFT							BACKSTOP WEIGHT
				WITHOUT BACKSTOP				WITH BACKSTOP			
	U <sup>①</sup>	V	KEY SIZE	XU <sup>①</sup>	XN	XV	KEY SIZE	KN	KV	KEY SIZE	
821	1.625	2.38	0.38 x 0.38 x 2.12	1.250	2.00	2.00	0.25 x 0.25 x 1.75	1.75	1.50	0.25 x 0.25 x 1.50	10
822	2.125	3.38	0.50 x 0.50 x 3.00	1.375	2.12	2.00	0.31 x 0.31 x 1.72	2.00	2.00	0.31 x 0.31 x 1.72	10
823	2.625	4.00	0.62 x 0.62 x 3.50	1.625	3.00	2.88	0.38 x 0.38 x 2.50	2.63	2.63	0.38 x 0.38 x 2.19	20
824	3.000	5.38	0.75 x 0.75 x 4.88	1.875	3.00	3.00	0.50 x 0.50 x 2.50	2.63	2.63	0.50 x 0.50 x 2.13	20
8245	3.500	5.88	0.88 x 0.88 x 5.38	2.250	3.62	3.50	0.50 x 0.50 x 3.00	3.06	3.06	0.50 x 0.50 x 2.50	20
825	4.000	6.38	1.00 x 1.00 x 5.75	2.500	4.00	3.88	0.62 x 0.62 x 3.25	3.13	3.13	0.62 x 0.62 x 2.63	30
8255	4.500	7.38	1.00 x 1.00 x 6.75	2.750	4.38	4.38	0.62 x 0.62 x 3.88	3.75	3.75	0.62 x 0.62 x 3.13	30
826	5.250	8.12	1.25 x 1.25 x 7.38	3.000	5.00	4.88	0.75 x 0.75 x 4.12	4.00	4.00	0.75 x 0.75 x 3.25	30
8265	5.750	9.68	1.50 x 1.50 x 8.00	3.500	5.25	5.13	0.88 x 0.88 x 4.50	5.00	5.00	0.88 x 0.88 x 4.38	80

UNIT SIZE	MA	MB	MC	MD		ME	MF
				MIN.	MAX.		
821	14.00	7.00	12.00	9.50	12.50	2.00	2.13
822	14.00	7.00	12.00	10.00	13.00	2.75	3.00
823	18.50	9.25	17.00	12.50	16.50	3.25	3.13
824	21.50	10.75	20.00	14.75	18.75	4.50	3.25
8245	21.50	10.75	20.00	15.50	19.50	4.75	3.75
825	21.50	10.75	21.00	17.00	21.00	5.38	5.25
8255	21.50	10.75	17.75	19.00	23.00	7.50	6.75
826	21.50	10.75	18.50	21.50	25.50	8.38	9.12
8265	26.00	13.00	21.00	22.00	26.00	8.38	10.88

UNIT SIZE	XD
821	7.25
822	7.25
823	9.50
824	11.00
8245	11.00

PSL SIZE	MOTOR FRAMES
821	143T - 215T
822	143T - 215T
823	143T - 286T
824	182T - 326T
8245	182T - 326T
825	182T - 326T
8255	254T - 326T
826	254T - 326T
8265	284T - 365T

Where shown, riser blocks producing XD dimension will be furnished to provide floor line clearance of motor bracket when side mounted.

**TOLERANCES**

① +.0000 to -.0005 for Diameters up to 1.625  
+.0000 to -.0010 for Diameters 1.625 and larger

All dimensions are in inches. Weights are in pounds.



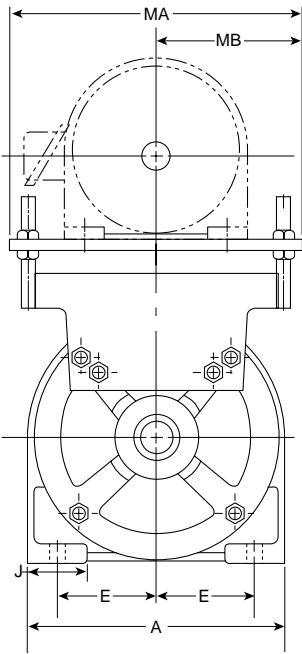
For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc. mounted thereon.

For reference only; use certified prints for construction purposes.

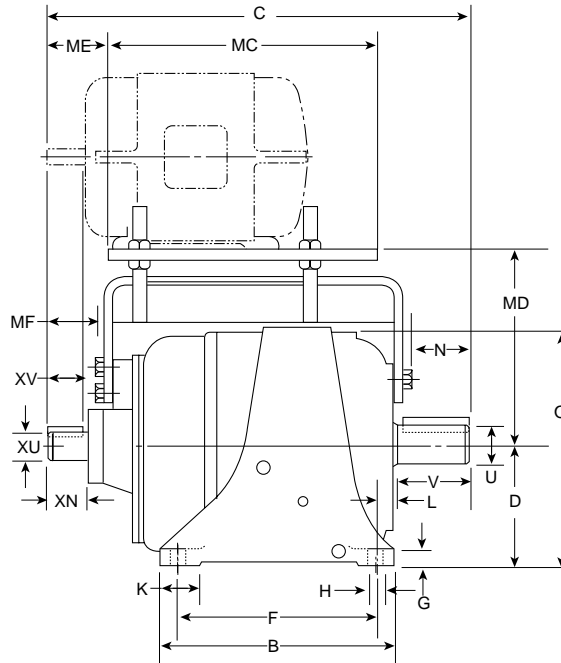


# A28 LINE-O-Mount Horizontal Gear Reducer Dimensions

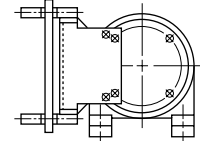
## TRIPLE REDUCTION



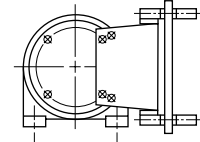
### TYPE PSL



### OPTIONAL MOUNTING POSITIONS

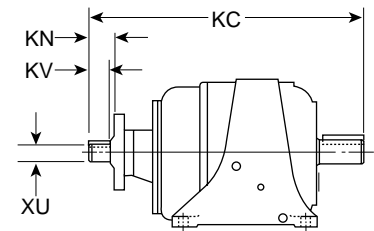


POSITION NO. 2



POSITION NO. 3

### TYPE KSL



REDUCER WITH BACKSTOP

UNIT SIZE	A	B	C	KC	D	E	F	G	H	J	K	L	N	O	UNIT WEIGHT
831	11.38	11.50	19.68	21.18	5.75	4.25	10.00	0.62	0.69	2.50	1.38	1.25	2.88	11.44	154
832	12.50	12.50	22.90	24.40	6.25	4.50	11.00	0.75	0.69	3.25	1.50	1.25	3.88	11.94	185
833	15.25	15.00	24.48	25.89	8.00	5.50	12.50	1.00	0.94	4.00	2.12	1.88	4.50	15.25	371
834	18.50	18.00	30.58	32.32	9.25	7.00	15.50	1.25	1.06	4.25	2.25	1.75	5.88	18.50	617
8345	20.50	20.00	36.26	37.81	10.50	7.75	17.00	1.50	1.19	5.00	3.50	2.00	6.38	20.25	845
835	22.75	21.75	37.63	39.18	11.50	8.62	18.75	1.50	1.31	5.50	3.50	2.00	6.88	22.88	1081
8355	26.00	26.00	41.35	42.73	13.25	10.00	20.00	1.75	1.56	6.00	3.50	2.50	7.88	25.25	1426
836	31.00	25.50	43.48	44.86	15.75	12.50	22.00	2.00	1.56	6.00	5.75	3.00	8.62	29.75	2077
8365	35.50	27.00	49.13	50.63	18.75	16.25	24.00	1.50	1.56	6.00	6.00	1.63	9.87	34.75	2863

### TOLERANCES

① +.0000 to -.0005 for Diameters up to 1.625  
+.0000 to -.0010 for Diameters 1.625 and larger

All dimensions are in inches. Weights are in pounds.  
Unit weight includes reducer and motor mounts.



**CAUTION** For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc. mounted thereon.

For reference only; use certified prints for construction purposes.

# LINE-O-Mount Horizontal Gear Reducer Dimensions A29

## TRIPLE REDUCTION TYPE PSL

UNIT SIZE	OUTPUT SHAFT			INPUT SHAFT								BACKSTOP WEIGHT
				WITHOUT BACKSTOP				WITH BACKSTOP				
	U <sup>①</sup>	V	KEY SIZE	XU <sup>①</sup>	XN	XV	KEY SIZE	KN	KV	KEY SIZE		
831	1.625	2.38	0.38 x 0.38 x 2.12	1.125	1.62	1.50	0.25 x 0.25 x 1.25	1.50	1.50	0.25 x 0.25 x 1.25	10	
832	2.125	3.38	0.50 x 0.50 x 3.00	1.125	1.62	1.50	0.25 x 0.25 x 1.25	1.50	1.50	0.25 x 0.25 x 1.25	10	
833	2.625	4.00	0.62 x 0.62 x 3.50	1.250	2.00	2.00	0.25 x 0.25 x 1.75	1.75	1.75	0.25 x 0.25 x 1.50	10	
834	3.000	5.38	0.75 x 0.75 x 4.88	1.375	2.12	2.00	0.31 x 0.31 x 1.72	2.00	2.00	0.31 x 0.31 x 1.72	10	
8345	3.500	5.88	0.88 x 0.88 x 5.38	1.625	3.00	2.88	0.38 x 0.38 x 2.50	2.63	2.63	0.38 x 0.38 x 2.19	20	
835	4.000	6.38	1.00 x 1.00 x 5.75	1.625	3.00	2.88	0.38 x 0.38 x 2.50	2.63	2.63	0.38 x 0.38 x 2.19	20	
8355	4.500	7.38	1.00 x 1.00 x 6.75	1.875	3.00	3.00	0.50 x 0.50 x 2.50	2.63	2.63	0.50 x 0.50 x 2.13	20	
836	5.250	8.12	1.25 x 1.25 x 7.38	1.875	3.00	3.00	0.50 x 0.50 x 2.50	2.63	2.63	0.50 x 0.50 x 2.13	20	
8365	5.750	9.68	1.50 x 1.50 x 8.00	2.250	3.62	3.50	0.50 x 0.50 x 3.00	3.06	3.06	0.50 x 0.50 x 2.50	30	

UNIT SIZE	MA	MB	MC	MD		ME	MF
				MIN.	MAX.		
831	9.5	4.75	7.75	9.25	12.25	3.62	3.13
832	9.5	4.75	7.75	9.25	12.50	3.62	3.13
833	14	7	13	12	15	3.62	3.47
834	14	7	13	13.5	16.5	3.62	3.5
8345	18.5	9.25	17	16	20	4.25	4.25
835	18.5	9.25	17	17	21	4.25	4.25
8355	21.5	10.75	18	19.5	23.5	5.25	5.44
836	21.5	10.75	18	22	26	5.25	5.44
8365	26	13	20.75	23.38	27.38	6.13	6.25

PSL SIZE	MOTOR FRAMES
831	143T - 145T
832	143T - 145T
833	143T - 215T
834	143T - 215T
8345	143T - 286T
835	143T - 286T
8355	182T - 326T
836	182T - 326T
8365	213T - 365T

**TOLERANCES**

① +.0000 to -.0005 for Diameters up to 1.625  
+.0000 to -.0010 for Diameters 1.625 and larger

All dimensions are in inches. Weights are in pounds.  
Unit weight includes reducer and motor mounts.



For Safety, Purchaser or User should provide protective guards over shaft extensions and any couplings, sheaves and belts, sprockets and chains, etc. mounted thereon.

For reference only; use certified prints for construction purposes.



# A30 WK<sup>2</sup> Values

## EQUIVALENT MASS MOMENT OF INERTIA APPROXIMATE WK<sup>2</sup> REFERRED TO INPUT SHAFT LB./FT.<sup>2</sup>

NOMINAL RATIO	UNIT SIZE									
<b>DOUBLE REDUCTION</b>	<b>821</b>	<b>822</b>	<b>823</b>	<b>824</b>	<b>8245</b>	<b>825</b>	<b>8255</b>	<b>826</b>	<b>8265</b>	<b>827</b>
5.06	.0367	.0617	.1915	.4563	1.062	1.527	2.238	5.025	11.039	18.931
6.20	.0302	.0503	.1394	.3100	.8288	1.190	1.685	3.922	8.200	14.227
7.59	.0234	.0359	.1137	.2450	.5691	.8164	1.935	4.291	9.549	15.796
9.30	.0195	.0275	.0865	.1829	.4597	.7672	1.482	3.433	7.110	12.158
11.4	.0165	.0221	.0707	.1727	.3896	.5845	1.205	2.411	5.536	9.805
14.0	.0143	.0175	.0582	.1348	.3169	.4709	.8847	1.963	4.336	7.637
17.1	.0127	.0153	.0480	.1082	.2551	.3938	.7240	1.599	3.358	6.354
20.9	.0116	.0132	.0430	.0802	.2112	.3142	.5626	1.170	2.663	5.173
25.6	.0108	.0112	.0386	.0667	.1639	.2708	.4738	.9694	2.243	4.373
<b>TRIPLE REDUCTION</b>	<b>831</b>	<b>832</b>	<b>833</b>	<b>834</b>	<b>8345</b>	<b>835</b>	<b>8355</b>	<b>836</b>	<b>8365</b>	<b>837</b>
31.4	.0160	.0187	.0287	.0433	.1537	.2005	.5324	.7302	1.613	2.454
38.4	.0134	.0152	.0229	.0427	.1125	.1436	.3618	.6501	1.175	1.990
47.1	.0123	.0135	.0190	.0244	.0903	.1120	.3349	.4417	.8312	1.604
57.6	.0111	.0114	.0161	.0241	.0736	.0887	.2576	.3270	.6390	1.112
70.6	.0105	.0107	.0138	.0196	.0577	.0669	.1996	.2485	.5158	.7981
86.5	.0098	.0100	.0123	.0161	.0483	.0548	.1540	.1867	.3884	.6110
106	.0095	.0098	.0113	.0143	.0420	.0461	.1203	.1420	.3087	.4998
130	.0098	.0099	.0117	.0144	.0448	.0499	.0862	.1001	.2486	.3713
159	.0095	.0096	.0109	.0131	.0397	.0430	.0715	.0811	.1879	.3188
<b>QUADRUPLE REDUCTION</b>	<b>-</b>	<b>-</b>	<b>843</b>	<b>844</b>	<b>8445</b>	<b>845</b>	<b>8455</b>	<b>846</b>	<b>8465</b>	<b>847</b>
195			.0126	.0135	.0201	.0213	.0499	.0510	.1251	.2291
238			.0112	.0118	.0167	.0175	.0363	.0381	.0991	.1626
292			.0106	.0110	.0143	.0148	.0285	.0279	.0797	.1252
358			.0099	.0102	.0127	.0130	.0214	.0224	.0614	.0980
438			.0095	.0098	.0133	.0119	.0180	.0178	.0508	.0725
536			.0099	.0101	.0119	.0127	.0149	.0154	.0436	.0584
657			.0095	.0097	.0132	.0115	.0135	.0153	.0458	.0486
805			.0099	.0099	.0119	.0120	.0146	.0137	.0403	.0515
985			.0095	.0096	.0111	.0111	.0133	.0136	.0401	.0441

WK<sup>2</sup> Referred to output shaft equals to WK<sup>2</sup> referred to Input shaft X (actual overall ratio)<sup>2</sup>