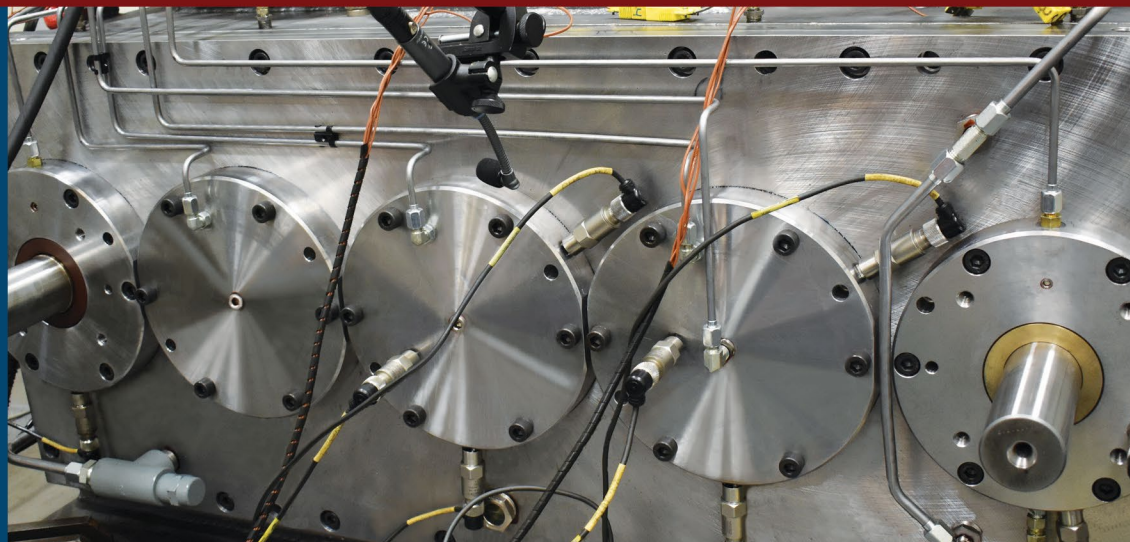




# High-Speed Gearboxes



## Cotta High Speed Gearbox Catalog

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Tabulated below are the gearboxes in this catalog sorted ascending by output speed / nominal power / type / number of outputs. This tabulation will assist users to browse by the most frequently used selection criteria.

When viewing this catalog consider that the models included are intended to broadly summarize Cotta's high speed capability and to foster Ideas - not to indicate the only or exact products offered. Any model can be substantially customized or modified. Similarly, the ratings listed are application derived not design limits. [Click here](#) to go to our High Speed gearbox quote request form.

MODEL	Output speed	Nominal HP	Type	Out-puts
SN2169	6000	1600	PS	1
RA2247	7500	260	RA	1
SN2297	8000	200	PS	1
SN1804	9000	5700	PS	1
SN2087	10000	300	PS	2
SN2291	15000	400	PS	2
SN1657	15000	450	PS	2
SN2105	20000	200	PS	2
SN1645	20000	300	PS	2
SN2219	20500	1450	PS	1
SN2265	1385	200	PS	1
SN2264	22000	200	PS	1
SN2153	30000	170	CON	1
SN2102	30000	300	PS	1
HS0305	30000	300	RA	1
SN1572	30000	400	Flex	1

MODEL	Output speed	Nominal HP	Type	Out-puts
SN1995	30000	450	PS	2
SN1903	30000	600	PS	1
SN2055	30000	600	PS	1
SN1678	30000	600	PS	2
SN1939	30000	600	PS	2
SN1659	30000	800	Flex	1
SN2272	30000	4000	PS	1
SN2068	35000	600	RA	1
SN1624	50000	300	PS	1
SN1649	50000	300	PS	1
SN2057	50000	500	PS	1
SN2294	54000	1200	PS	1
SN1708	60000	250	PS	1
SN2032	80000	100	PS	1
SN2285	85000	150	PS	1

PS = Parallel Shaft. Shafts offset laterally  
 CON = Concentric. Input and output on same axis  
 Flex = Mounts to host gearbox and multiplies host speed  
 RA = Right angle

### Product Description:

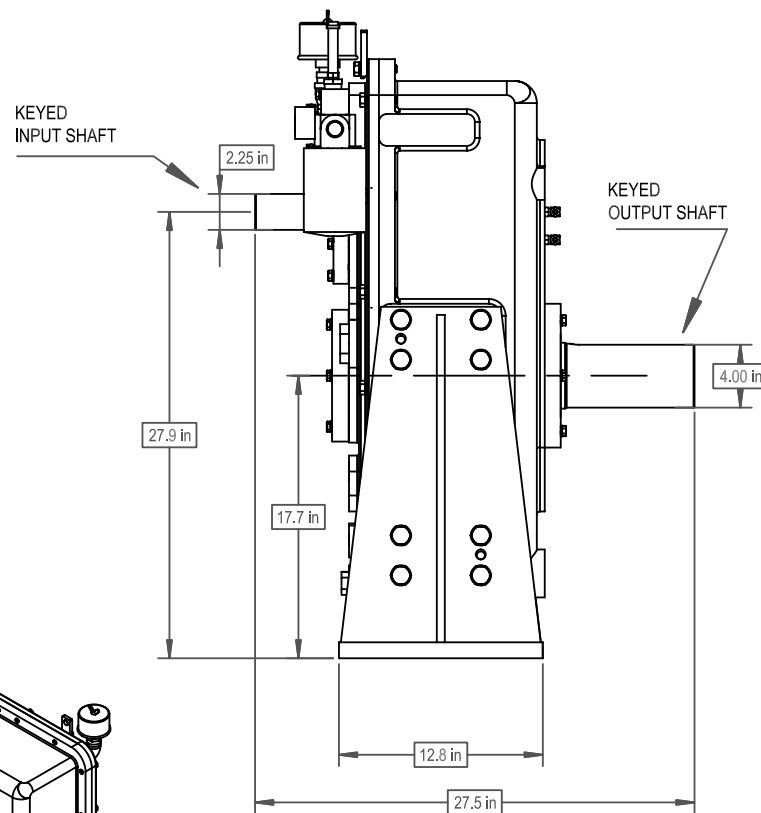
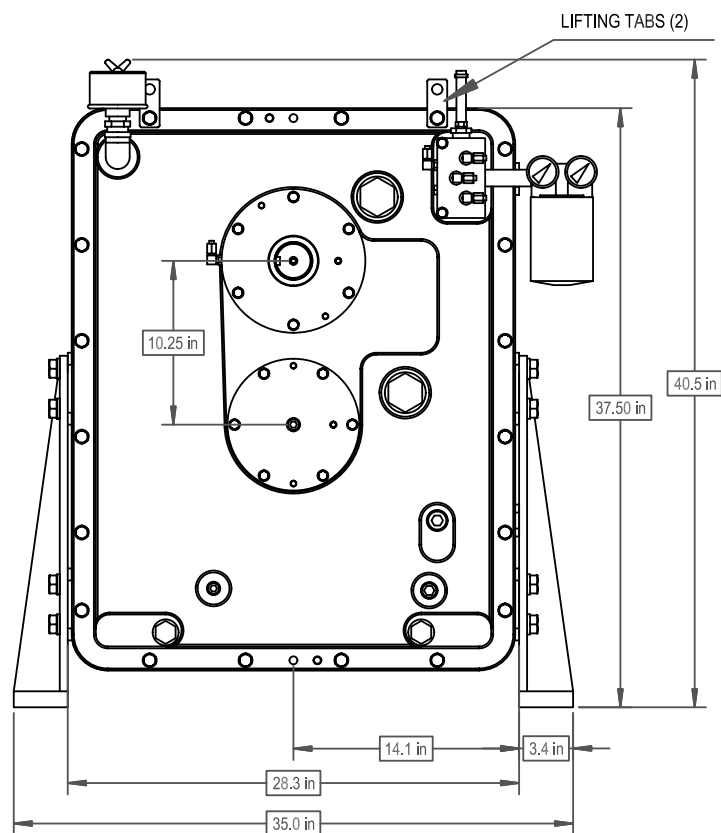
SN2169 is a single increasing stage, foot-mounted, multi-purpose speed increaser or reducer for use with medium speed turbine engines driving gas compressors, generators, etc. This heavy duty gearbox is designed for continuous operation at full load. This unit is designed to be driven clockwise facing the driven shaft.

<b>POWER:</b>	1600 HP nominal
<b>OUTPUT SPEED:</b>	6,000 RPM Max.
<b>RATIOS:</b>	Up to 3.24 overspeed
<b>MAX ACCEL / DECEL RATE:</b>	2000 RPM / sec at output
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Customer designed shaft is typical
<b>ROTATION:</b>	Input to be driven cw looking at input. Output rotates opposite to input.
<b>LUBRICATION:</b>	This gearbox can be configured with separate lube pump or with shaft driven lube pump.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	1500 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel

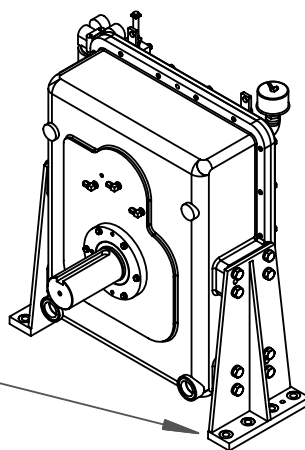




This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



TYPICAL MOUNTING  
FEET. COTTA OR  
CUSTOMER SUPPLIED



SN2169 DRW.



## MODEL RA2247

### HIGH SPEED RA GEARBOX

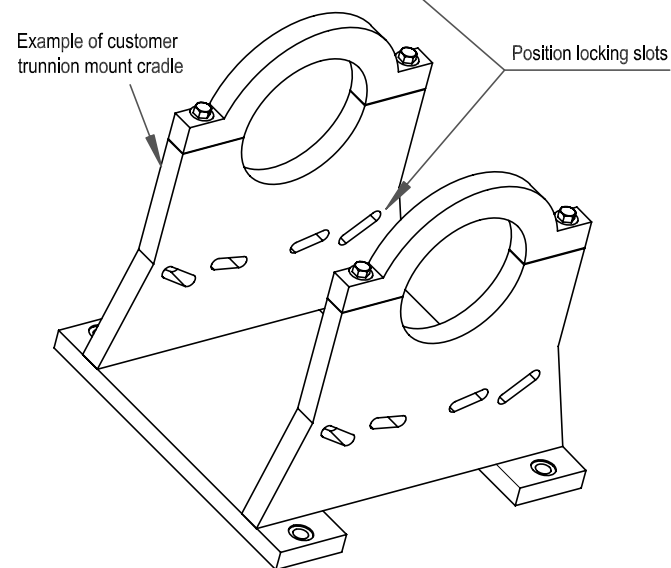
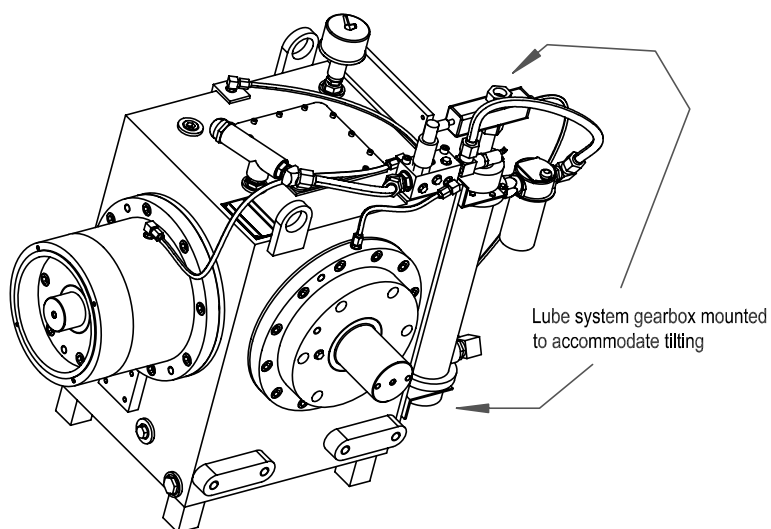
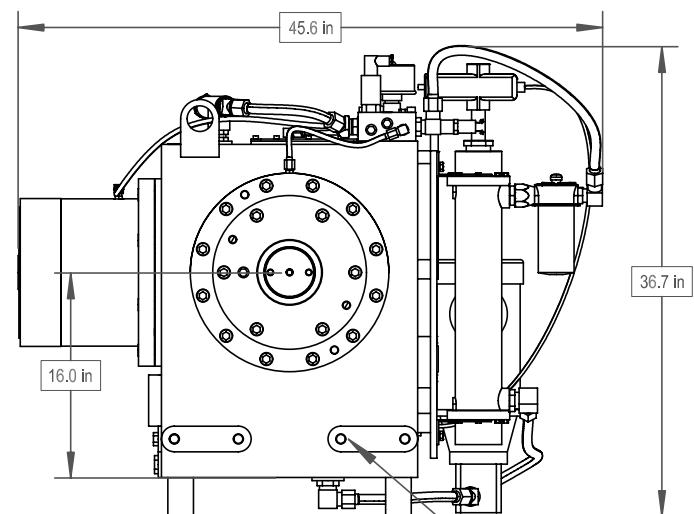
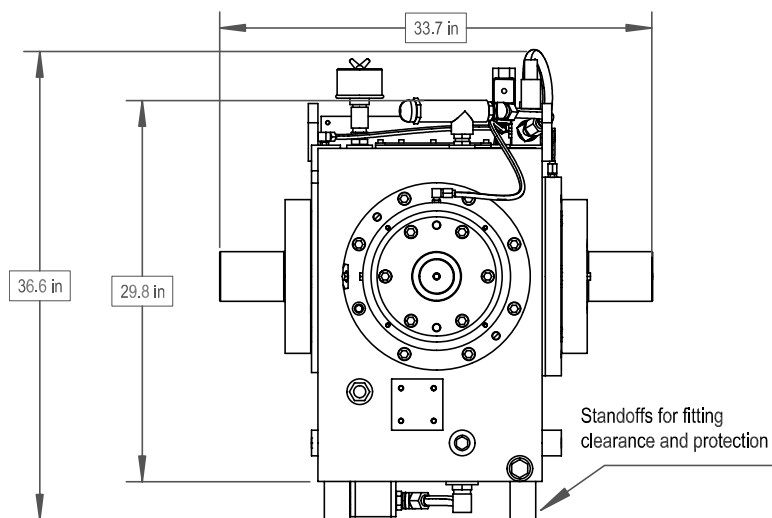
#### Product Description:

Model RA2247 is a trunnion mounted, single-stage reducing, dual output, right-angle gearbox designed for test stand use. The dual output feature reduces test setup length by placing absorbers at right angle(s) to the input drive-line. The trunnion mount feature allows the gearbox to pitch + 6 degrees from horizontal to accommodate various drive train test angles. Contact Cotta to discuss specific features and dimensions or for technical specifications and drawings of current units.

<b>POWER:</b>	268 HP max. 755 lb-ft torque at high speed shaft
<b>OUTPUT SPEED:</b>	7500 RPM max.
<b>RATIOS:</b>	Up to 3 overspeed. Contact Cotta for other ratio options.
<b>MAX ACCEL / DECEL RATE:</b>	2000 RPM / sec at high speed shaft. Contact Cotta for other rates.
<b>INPUT CONFIGURATION:</b>	Stub shaft typical. Many options.
<b>OUTPUT CONFIGURATION:</b>	Stub shaft typical. Many options.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates in the same direction as input.
<b>LUBRICATION:</b>	Custom on-board lube system furnished. Pressure and temperature controls included.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied. Trunnion cradle is not included with the gearbox.
<b>APPROXIMATE WEIGHT:</b>	1400 lbs. without mounting frame.



This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



RA2247 DRW.



## MODEL SN2297 HIGH SPEED GEARBOX

### Product Description:

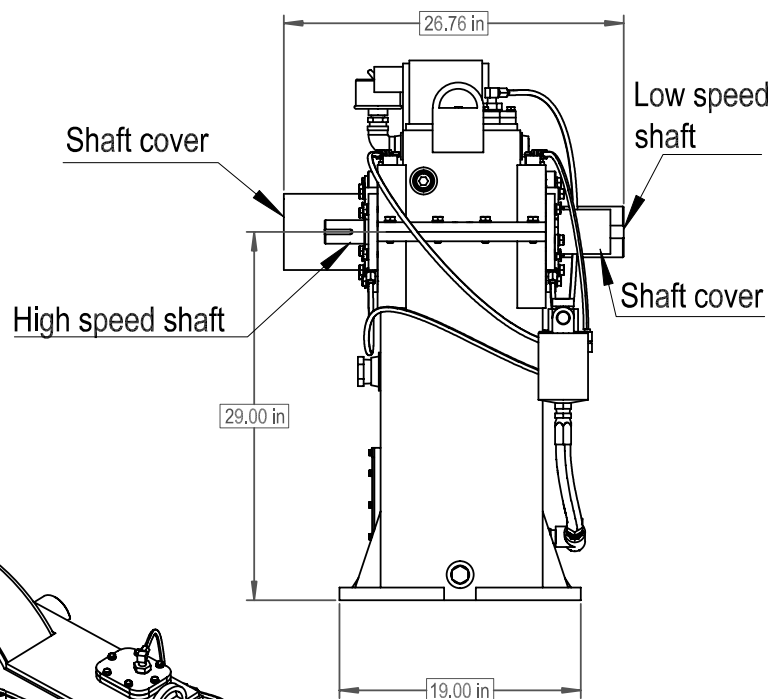
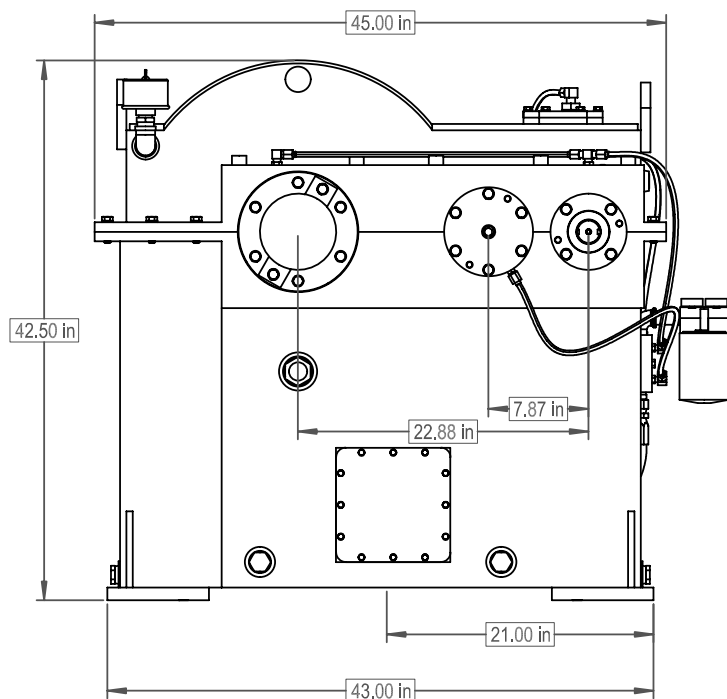
Model SN2297 is a foot mounted, two stage increasing, single output, high speed gearbox designed for test stand use where high input torque at low input speed is required. One such application is as a speed resolver between a test vehicle axle and load dynamometer. This gearbox has the input and output shaft extended through both sides to provide interface symmetry from either side of the gearbox.

<b>POWER:</b>	200 HP 8050 lb-ft at low speed shaft
<b>OUTPUT SPEED:</b>	8040 RPM max
<b>RATIOS:</b>	18.29 overspeed. Contact Cotta for other available ratios.
<b>MAX ACCEL / DECEL RATE:</b>	2000 RPM / sec at output
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Double-key stub shaft is typical. Various other shafting outputs available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates in the same direction as input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	1850 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel





This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



Oil level sight gage

Inspection access cover

Lifting tab (2)

SN2297 DRW.



## MODEL SN1804 HIGH SPEED GEARBOX

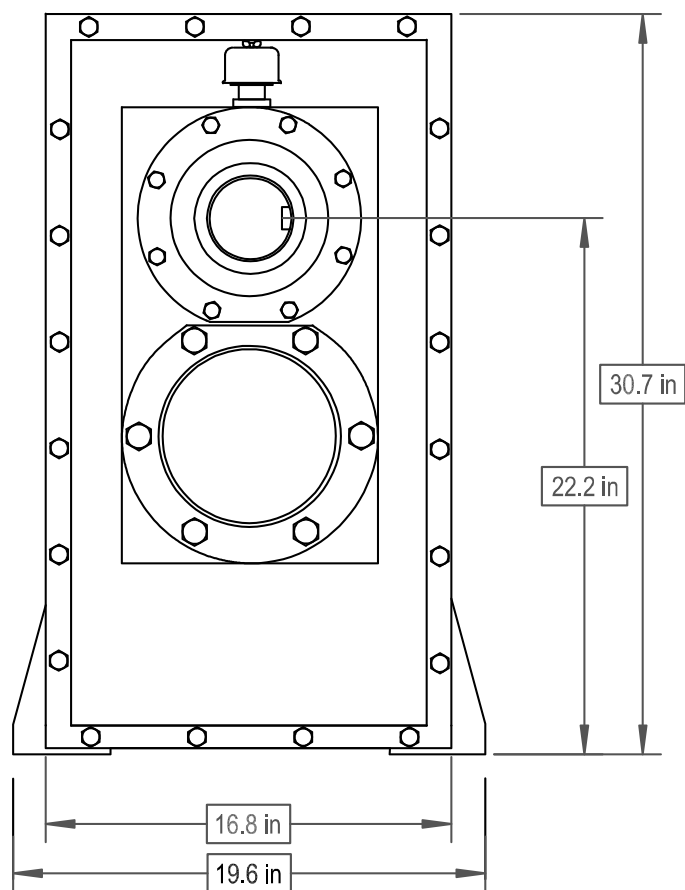
### Product Description:

Model SN1804 is a foot mounted, two stage increasing, high-speed gear box designed for test stand use or turbine reduction. There is a stub input shaft and a flanged output shaft that are in-line (concentric).

<b>POWER:</b>	5,700 nominal
<b>OUTPUT SPEED:</b>	5700 HP @ 9000 RPM
<b>RATIOS:</b>	1.0 to 3.75 speed increaser
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output. For higher rates contact Cotta.
<b>INPUT CONFIGURATION:</b>	Stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Stub shaft or customer designed flange
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates in the same direction as input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	2000 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel

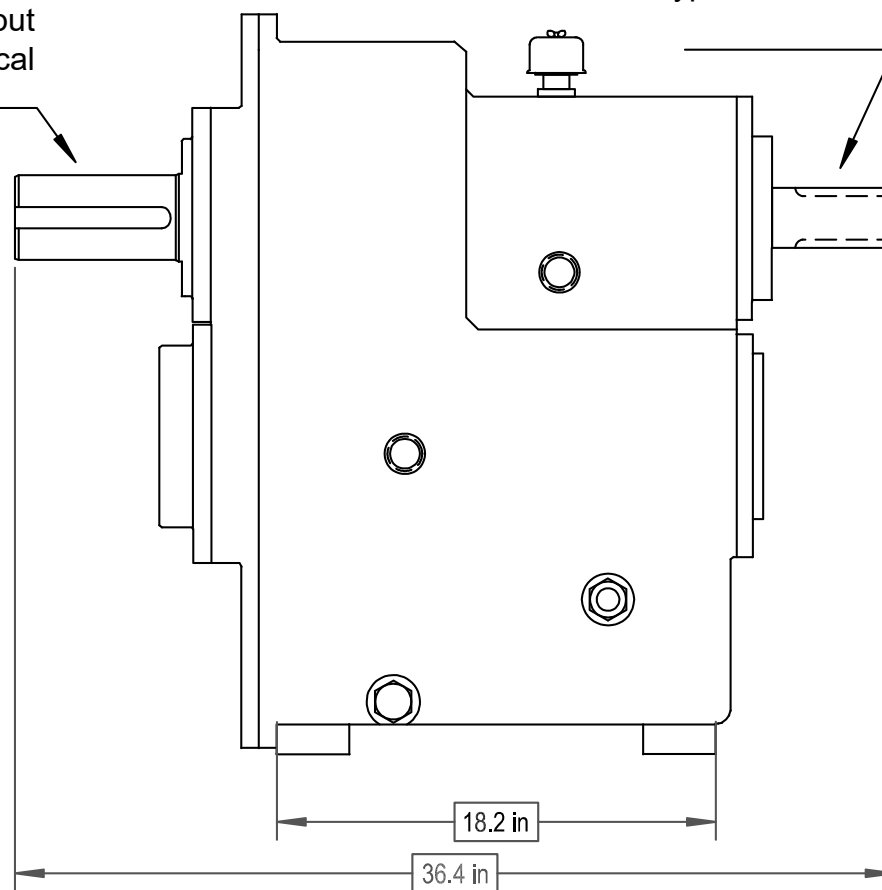


This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



Keyed input  
shaft typical

Double Key output  
shaft typical



SN1804 DRW.



## MODEL SN2087 HIGH SPEED GEARBOX

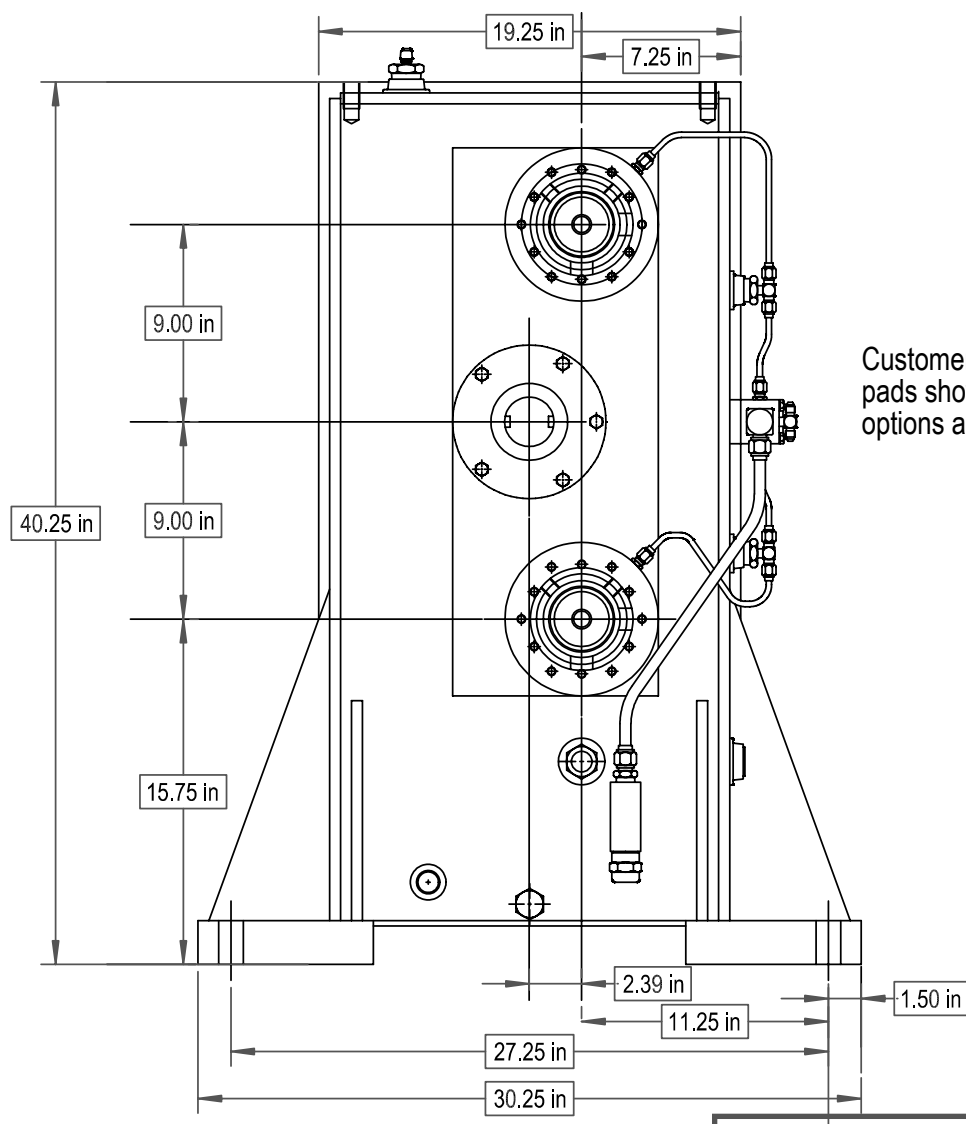
### Product Description:

Model SN2087 is a foot mounted, single-stage, dual output, high-speed gearbox that is designed for test stand use. Both output pads rotate in the same direction and have the same ratio. The outputs are oriented vertically versus horizontally.

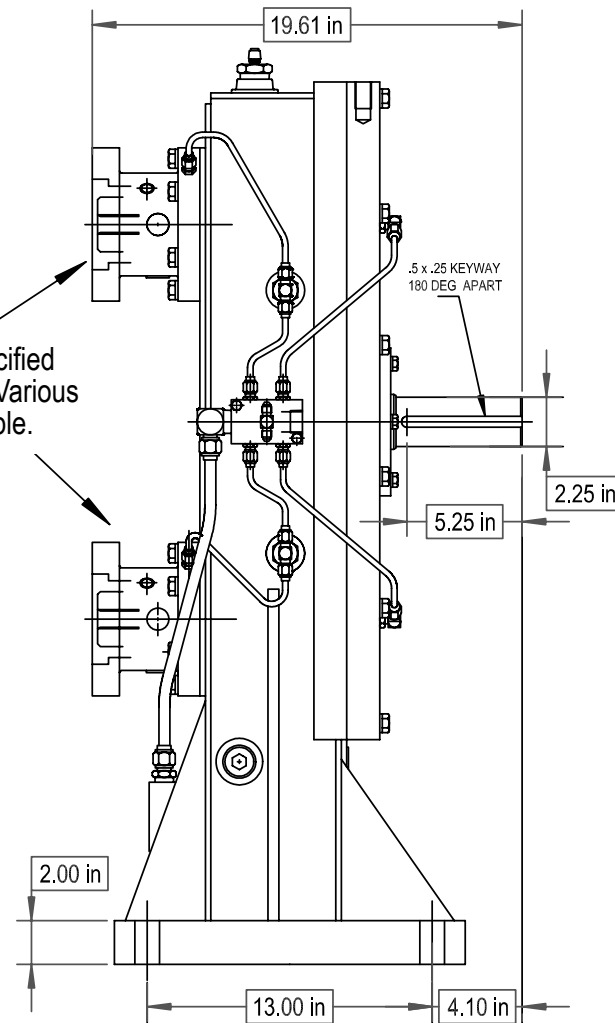
<b>POWER:</b>	300 HP nominal
<b>OUTPUT SPEED:</b>	10,000 RPM
<b>RATIOS:</b>	1 : 2.59 Contact Cotta for others
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft. Contact cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Customer specified mounting pads. Shafts and various other pads available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Outputs rotate the same direction and opposite to input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	900 lbs. approximate
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



Customer specified pads shown. Various options available.



SN2087 DRW.



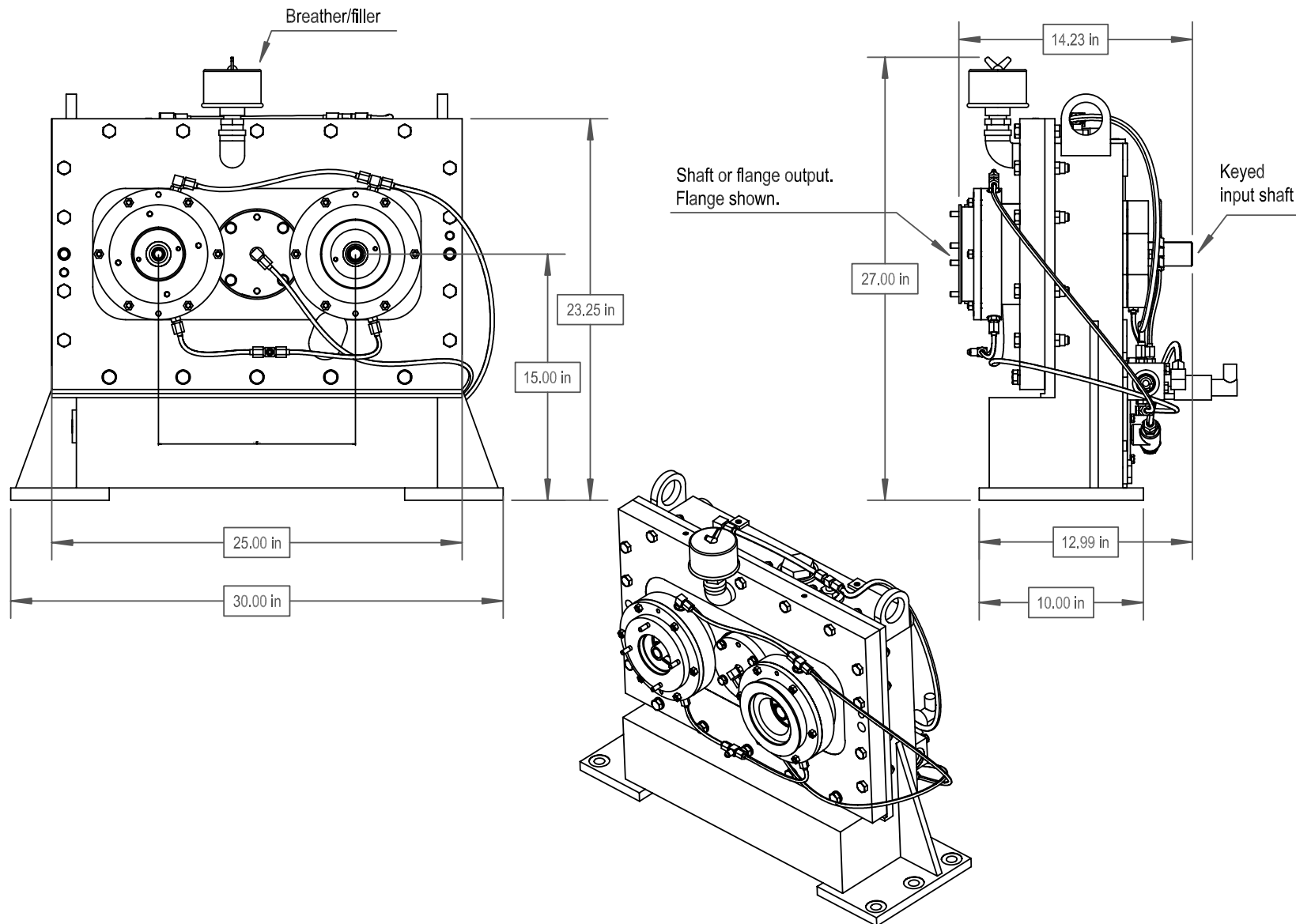
### Product Description:

Model SN2291 is a single increasing stage, two output, foot mounted high-speed gearbox designed for test stand use. This model has a stub input shaft and two outputs located horizontally with the option of a third output. The outputs can have the same ratio, or different ratios at each output if required.

<b>POWER:</b>	400 HP nominal
<b>OUTPUT SPEED:</b>	Up to 15,000 RPM
<b>RATIOS:</b>	Up to 5 overspeed Contact Cotta for specific ratios within range
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output. For higher rates contact Cotta.
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Custom aerospace accessory mounting pad is typical. Shafts and various other pads available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Outputs rotate opposite to input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	700 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



SN2291 DRW.



## MODEL SN1657 HIGH SPEED GEARBOX

### Product Description:

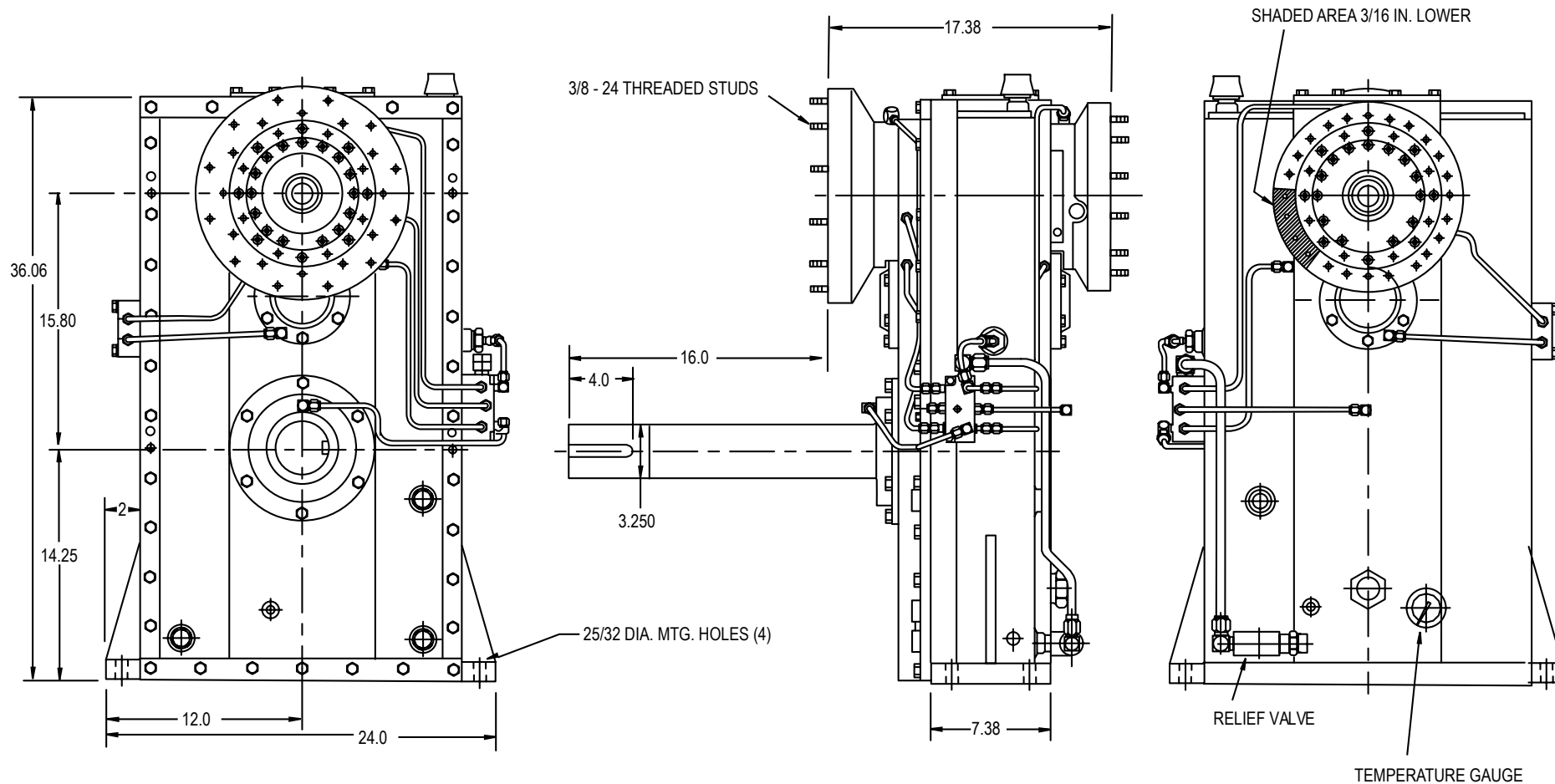
Model SN1657 is a foot mounted, two increasing stage, high-speed coaxial gearbox designed to simultaneously test aircraft constant speed drives and generators. Pads for the CSD and associated generator are located on opposite sides of the gearbox output shaft. Generators and CSD's for the 747, L1011 and the DC10 can be tested. All generators can be tested without the CSD by use of lock up adapters.

<b>POWER:</b>	450 HP at 5000 RPM output
<b>OUTPUT SPEED:</b>	15,000 RPM max.
<b>RATIOS:</b>	5.208, 5.655, 5.909, 6.084, 6.416, 7.768, 7.82 Contact Cotta for other available ratios.
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output. For higher rates contact Cotta.
<b>INPUT CONFIGURATION:</b>	Extended keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Mounting pads for CSD' s and Generators noted in description.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates in the same direction as input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	1100 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.

FLANGE ADAPTERS AND SPLINED ADAPTERS  
AVAILABLE TO FIT VARIOUS GENERATORS AND CSD'S.



SN1657 DRW.



## MODEL SN2105 HIGH SPEED GEARBOX

### Product Description:

Model SN2105 is a single increasing stage, single output, foot mounted high-speed gearbox designed for test stand use. The gearbox is very compact and is suitable for table mount or enclosure into unitized test stands.

<b>POWER:</b>	200 HP nominal
<b>OUTPUT SPEED:</b>	18,000 rpm standard, 20,000 rpm by special design
<b>RATIOS:</b>	Up to 4.68 overspeed. For higher ratios contact Cotta.
<b>MAX ACCEL / DECEL RATE:</b>	2000 RPM / sec at output
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Aerospace accessory mounting pad AND20002 typical. Various other shafting and mounting pads available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates opposite to input.
<b>LUBRICATION:</b>	Gearbox requires lube support system similar to Cotta T-5.
<b>OIL RESERVOIR:</b>	Separate oil reservoir required.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	150 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel

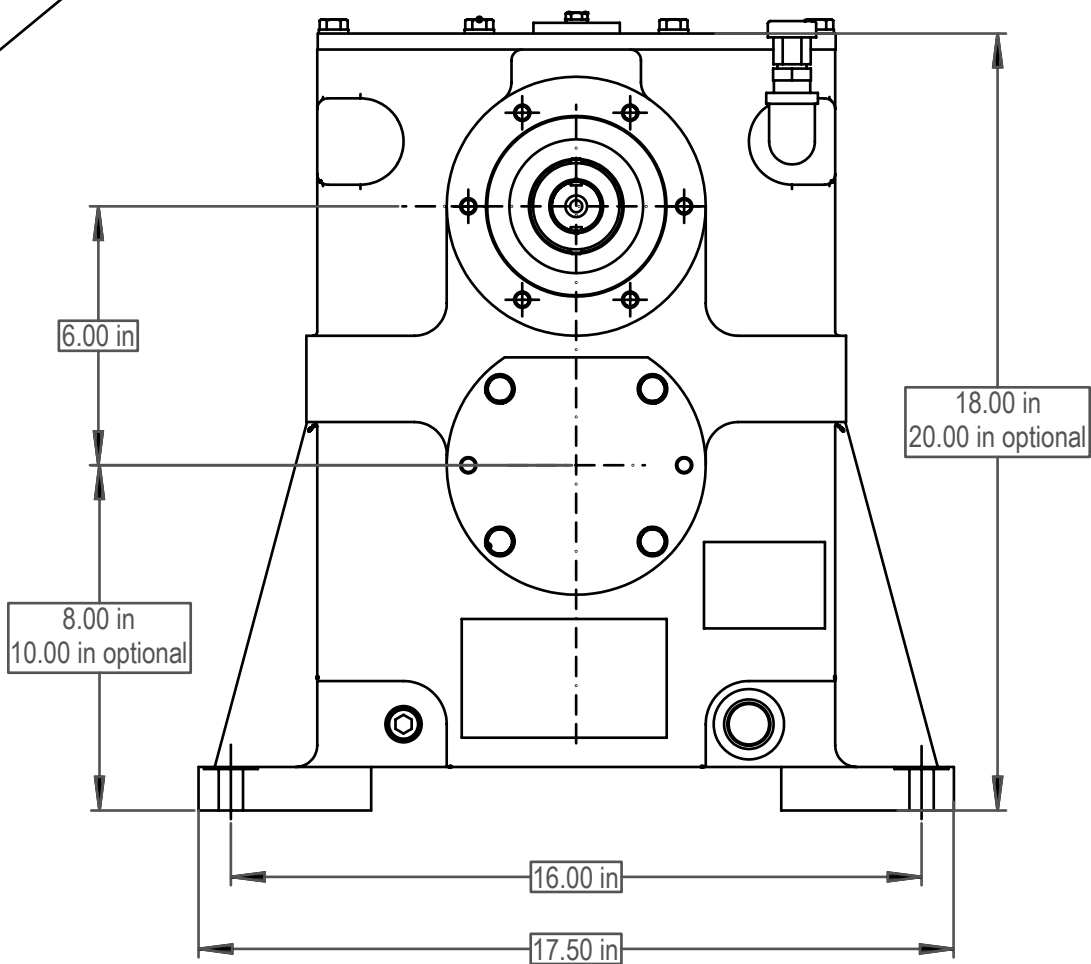
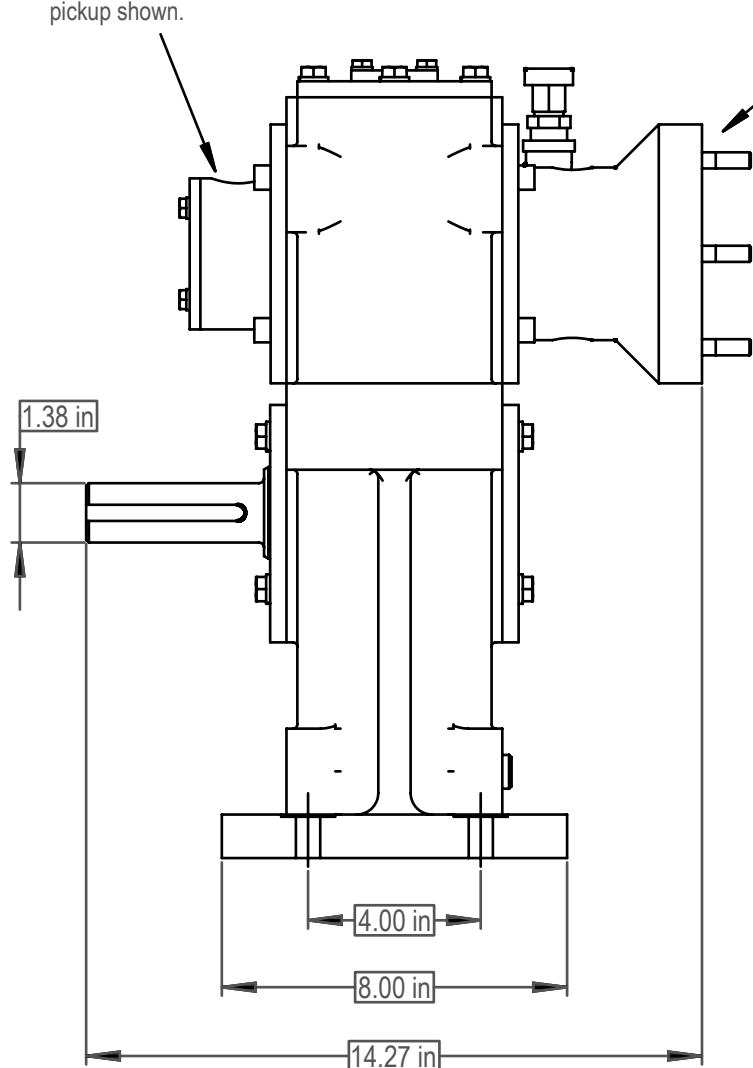




This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.

Optional enclosed speed pickup shown.

Aerospace accessory drive pad shown. Various other shaft and pad outputs are available.



SN2105 DRW.



## MODEL SN1645 HIGH SPEED RA GEARBOX

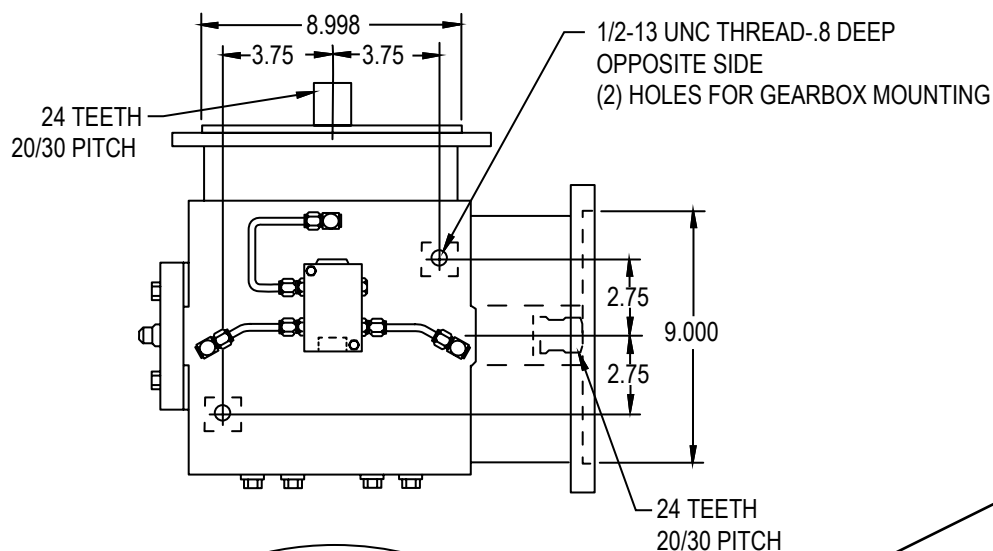
### Product Description:

Model SN1645 is a right-angle add-on high speed gearbox designed to permit attitude testing of constant speed drives and generators. This model can be installed on existing test stands. The output shaft can be positioned in 7-1/2 degree increments from 112 degrees above, to 135 degrees below the horizontal. This angular range is from 11 o'clock through 7:30 o'clock when looking at the output of the test stand.

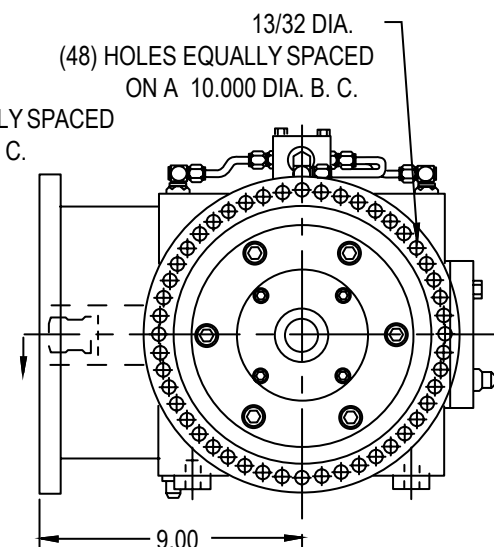
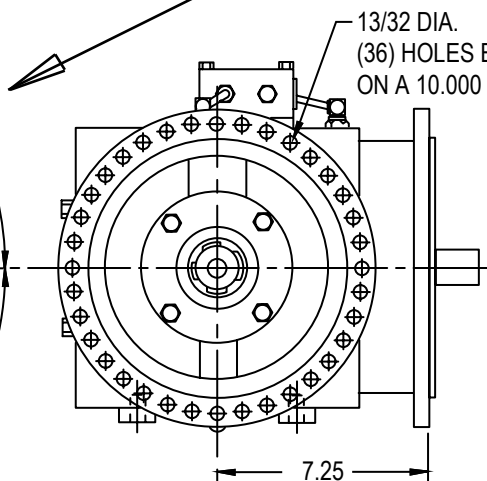
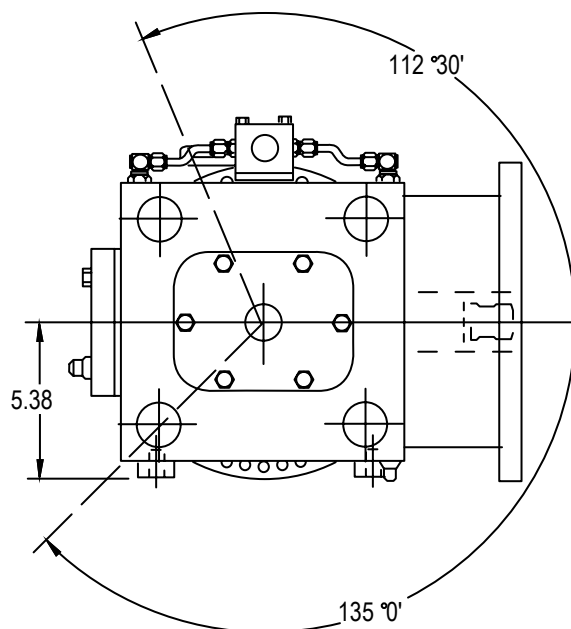
<b>POWER:</b>	300 HP max power
<b>OUTPUT SPEED:</b>	20,000 RPM
<b>RATIOS:</b>	2.0 overspeed. Contact Cotta for others
<b>MAX ACCEL / DECEL RATE:</b>	1000 rpm/sec at output
<b>INPUT CONFIGURATION:</b>	AND 10267 compatible except with 48 mounting holes versus 12 holes
<b>OUTPUT CONFIGURATION:</b>	AND 20007 compatible except with 36 holes versus 12 holes
<b>ROTATION:</b>	Input can be driven cw or ccw. Output rotates opposite to input.
<b>LUBRICATION:</b>	Separate lube system required and is supplied by Cotta.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	750 lbs. approximate including lube components.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



GEARBOX TO OPERATE WITH  
OUTPUT CENTER LINE AT  
ANGLE RANGE SHOWN  
AT 7 °30' INCREMENTS



SN1645 DRW.



## MODEL SN2219 HIGH SPEED GEARBOX

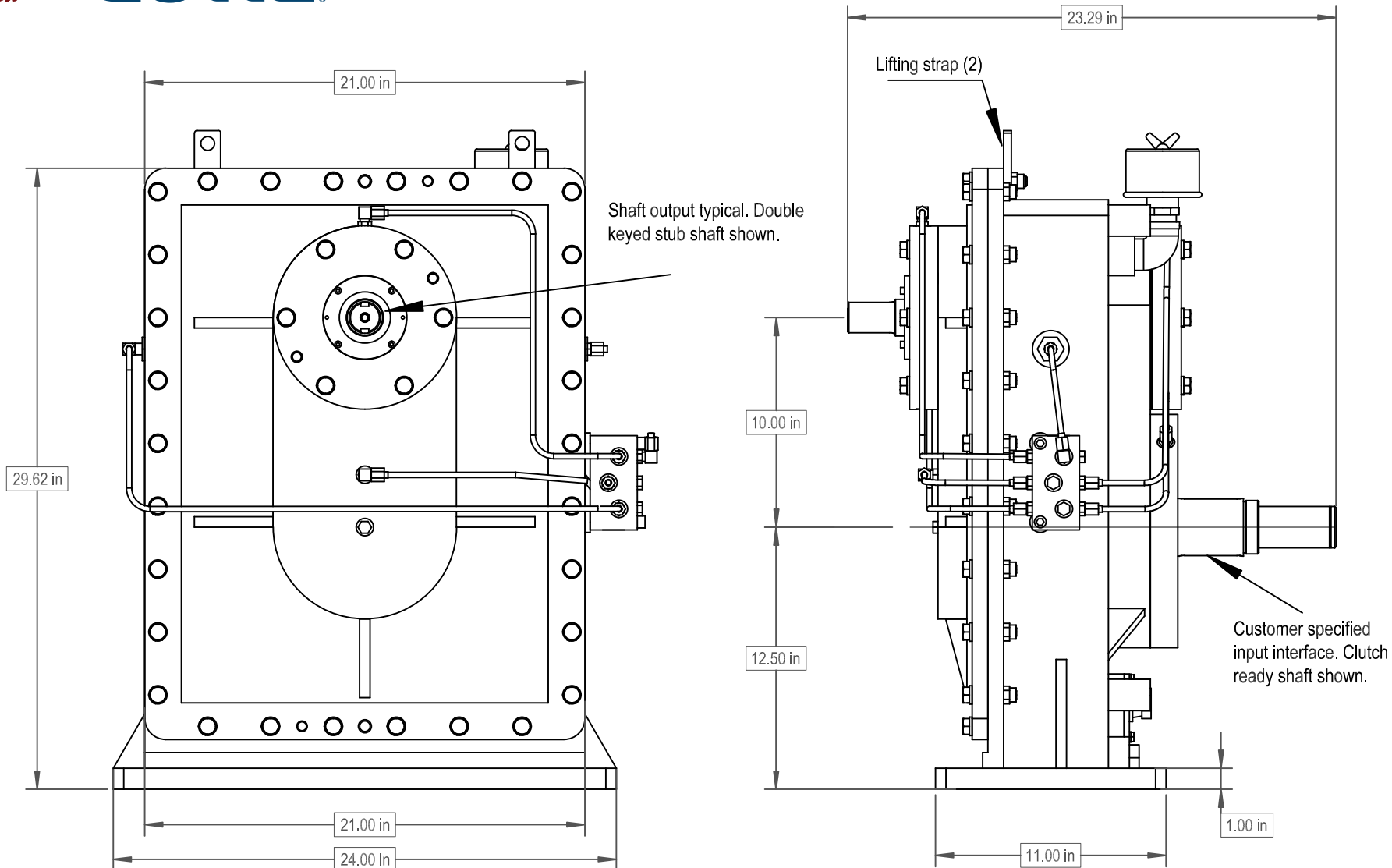
### Product Description:

Model SN2219 is a single increasing stage, single output, foot mounted high-speed gearbox designed for test stand use

<b>POWER:</b>	Up to 1450 HP.
<b>OUTPUT SPEED:</b>	Up to 20,500 RPM
<b>RATIOS:</b>	Up to 5.04 overspeed. Contact Cotta specific ratios within range
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output. For higher rates contact Cotta.
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Stub shaft is typical. Aerospace accessory mounting pads and various other shafts are available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Outputs rotate opposite to input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	800 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



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SN2219 DRW.





# MODEL SN2265

## 4 SQUARE HEADSTOCK GEARBOX

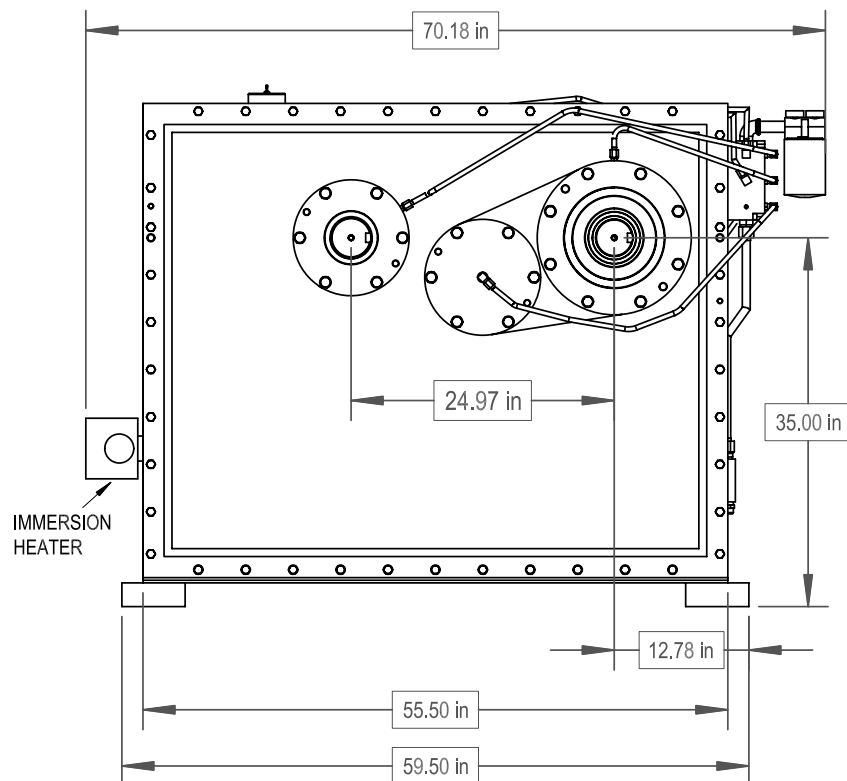
### Product Description:

Model SN2265 is a foot mounted headstock gearbox used with model SN2264 to comprise a 4-square test system. This gearbox interfaces with the drive motor and hosts the torque actuator.

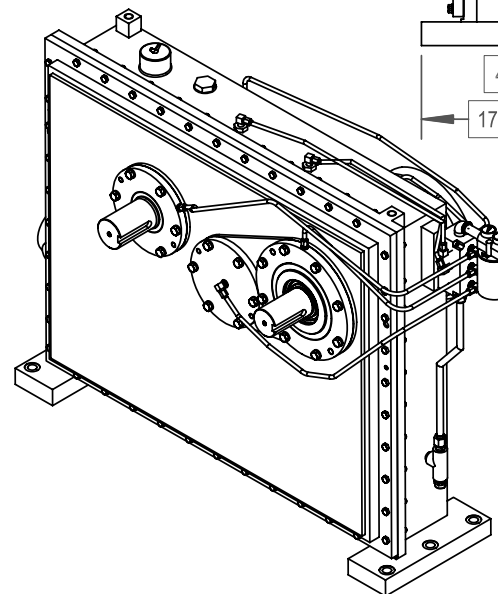
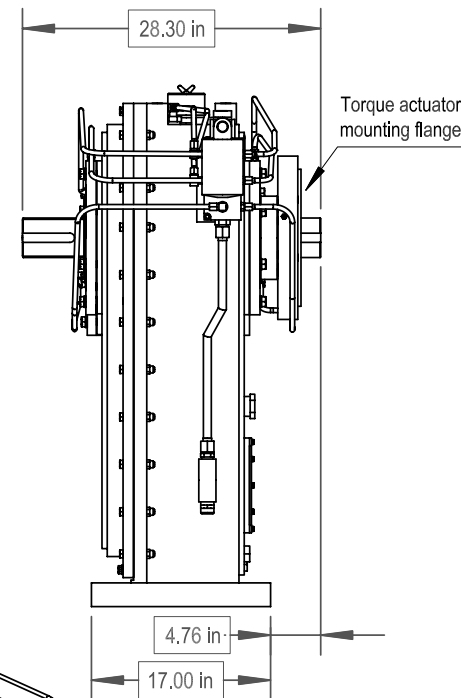
<b>POWER:</b>	7500 lb-ft max torque at either shaft 200 HP max in torque loop
<b>OUTPUT SPEED:</b>	1385 RPM at either shaft
<b>RATIOS:</b>	1:1
<b>MAX ACCEL / DECEL RATE:</b>	2000 RPM / sec at output
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for options.
<b>OUTPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for options.
<b>ROTATION:</b>	Input can be driven ccw or cw. Both shafts rotate in the same direction.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	3100 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



Note: this gearbox is used with SN2264 Tailstock Gearbox to comprise a 4-square system. Contact Cotta to discuss specific application details.



**SN2265 DRW.**



# MODEL SN2264

## 4 SQUARE TAILSTOCK GEARBOX

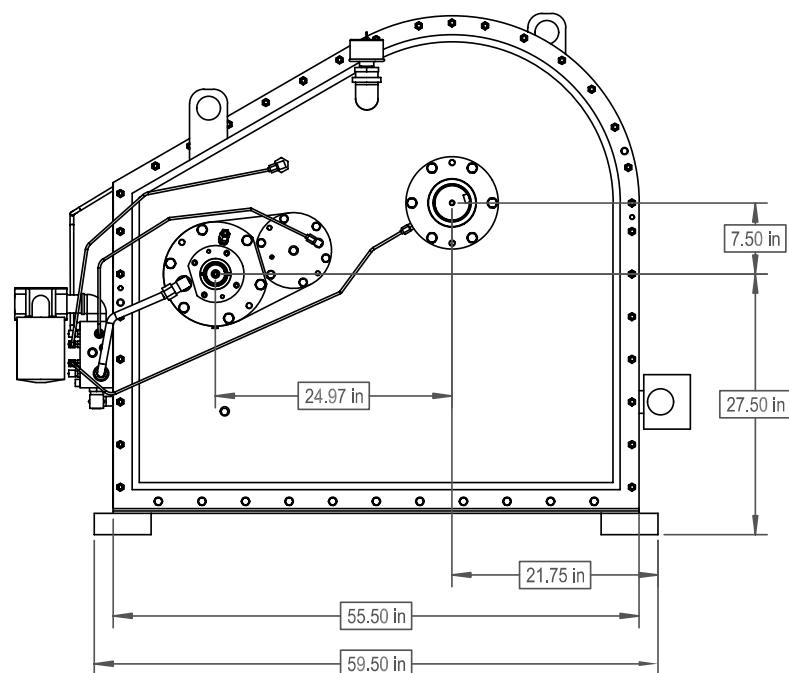
### Product Description:

Model SN2264 is a foot mounted, two stage increasing, single output, high speed gearbox for use with companion gearbox SN2265 to comprise a 4-square test system. This gearbox completes the torque loop and also provides a speed increase to the test article. The high-speed shaft is offset vertically from the input to accommodate a similar offset in the test article. Journal bearings are used on the high speed shaft.

<b>POWER:</b>	7500 lb-ft max torque at low speed shaft 200 HP max
<b>OUTPUT SPEED:</b>	22,000 RPM at high speed shaft
<b>RATIOS:</b>	15.89 overspeed. Contact Cotta for other available ratios
<b>MAX ACCEL / DECEL RATE:</b>	2000 RPM / sec at output
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Customer specified shaft is typical. Various other shafting and mounting pads available.
<b>ROTATION:</b>	Low speed shaft can be driven ccw or cw. High speed shaft rotates in the same direction.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	2000 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel

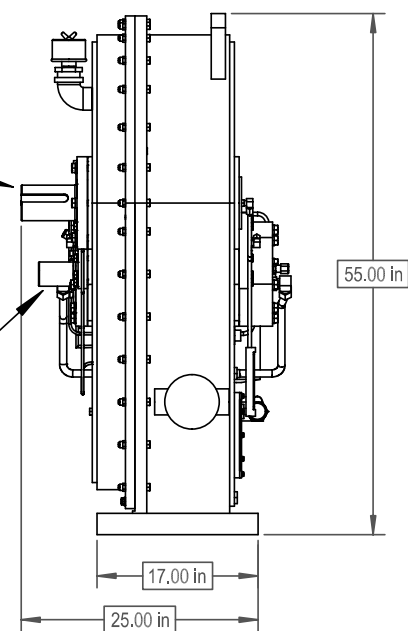


This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.

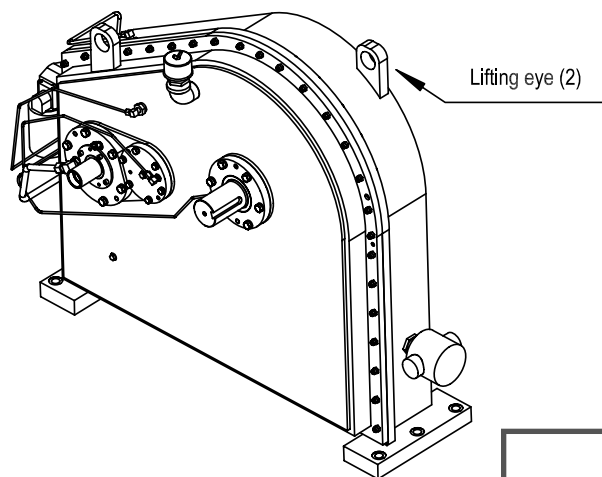


Low speed shaft Keyed  
stub-shaft typical

Customer specified  
high speed shaft



Note: this gearbox is designed  
for use with SN2265 headstock  
gearbox.



Lifting eye (2)

SN2264 DRW.



## MODEL SN2153 HIGH SPEED GEARBOX

### Product Description:

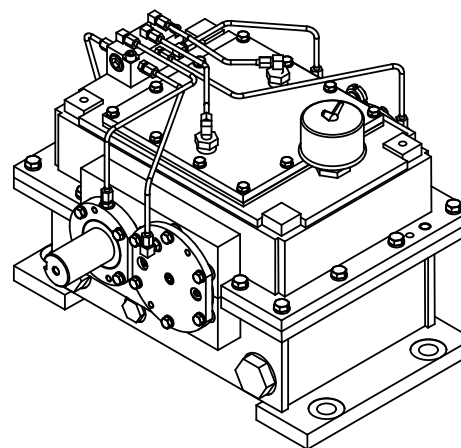
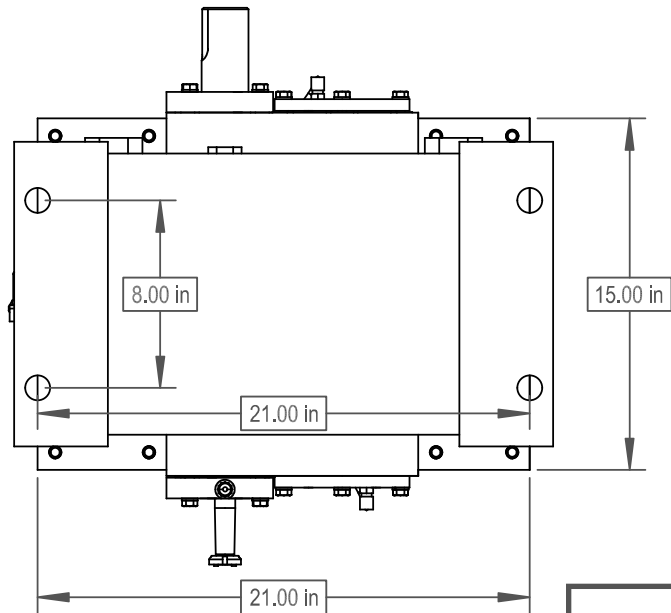
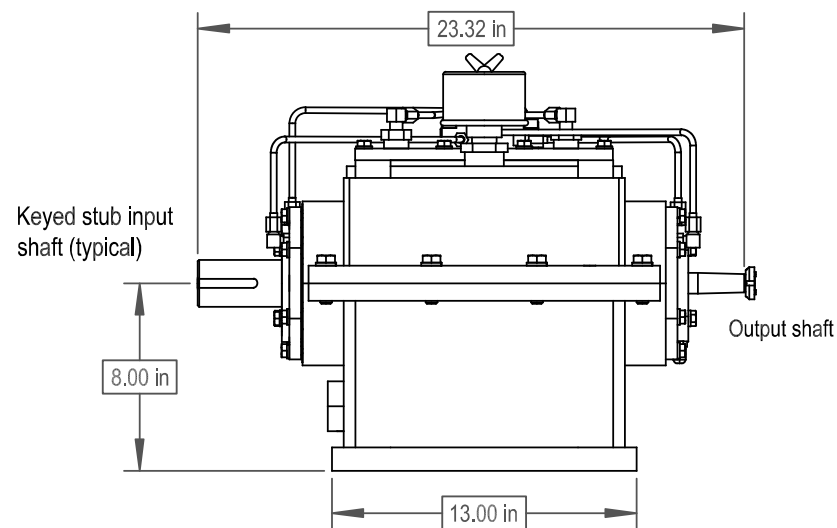
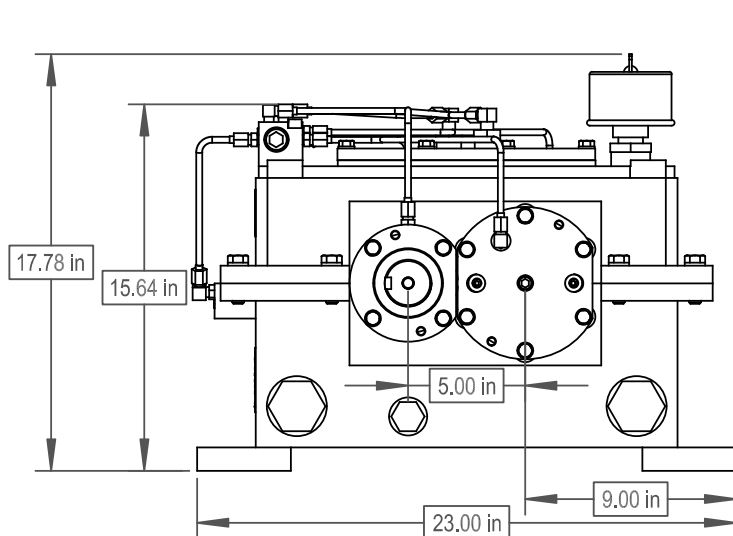
Model SN2153 is a two increasing stage, single output, foot mounted high speed gearbox designed for test stand use. This model has a stub input shaft and typically has a stub shaft output which is concentric (in-line) with the input.

<b>POWER:</b>	170 HP nominal
<b>OUTPUT SPEED:</b>	Up to 30,000 RPM
<b>RATIOS:</b>	Up to 8.46 overspeed. Contact Cotta for other ratios.
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output. For higher rates contact Cotta.
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Shaft output is typical. Aerospace accessory drive pads are available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotate in the same direction as the input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	450 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel





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SN2153 DRW.



## MODEL SN2102 HIGH SPEED GEARBOX

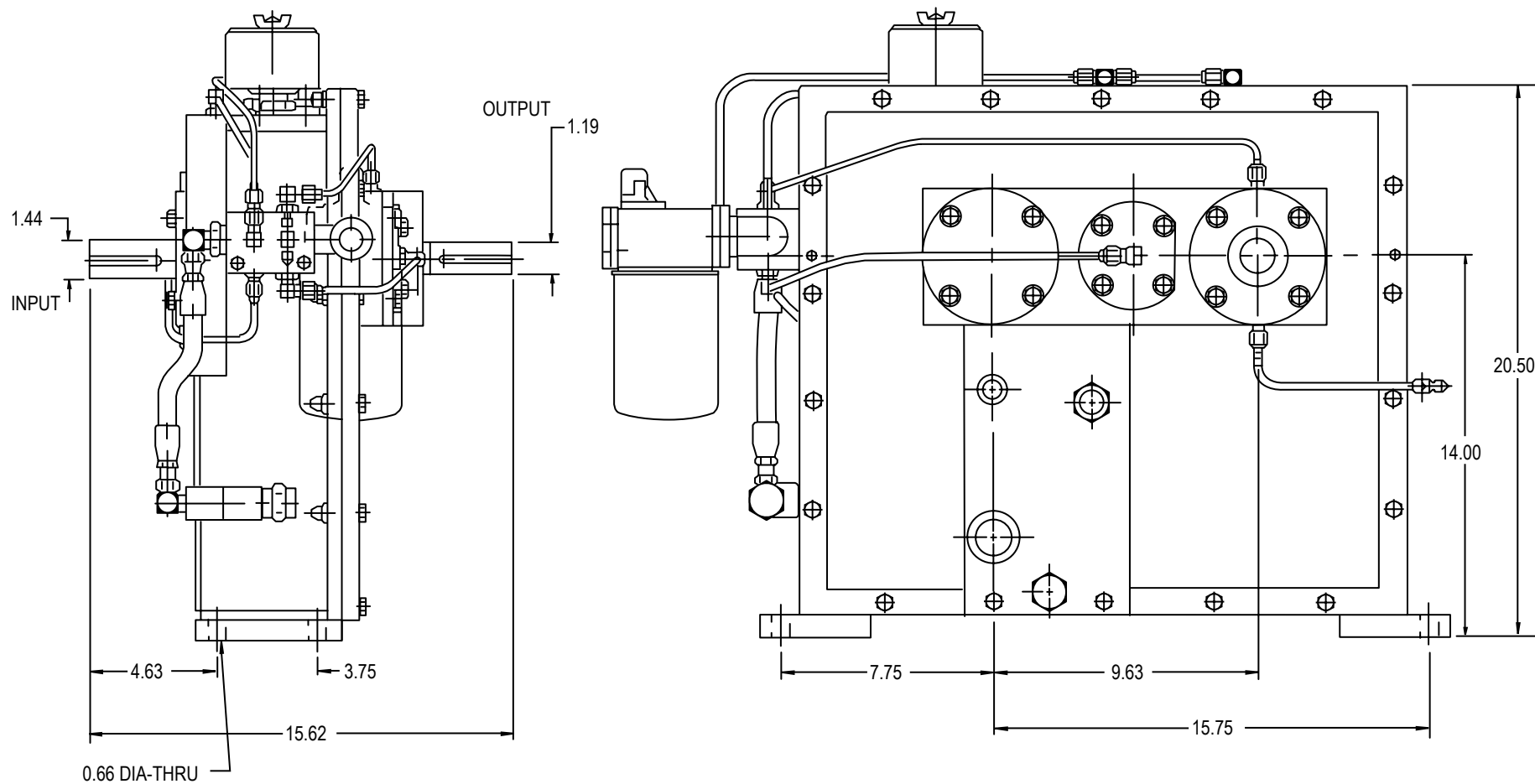
### Product Description:

Model SN2102 is a two stage increasing, single output, foot mounted high speed gearbox designed for test stand use.

<b>POWER:</b>	Up to 300 HP
<b>OUTPUT SPEED:</b>	30,000 RPM max
<b>RATIOS:</b>	Up to 16.67 overspeed. Contact Cotta for other available ratios.
<b>MAX ACCEL / DECEL RATE:</b>	2000 RPM / sec at output
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Customer designed shaft is typical. Various other shafting and mounting pads available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates in the same direction as input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	425 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



SN2102 DRW.



## MODEL HS0305

### HIGH SPEED RIGHT ANGLE

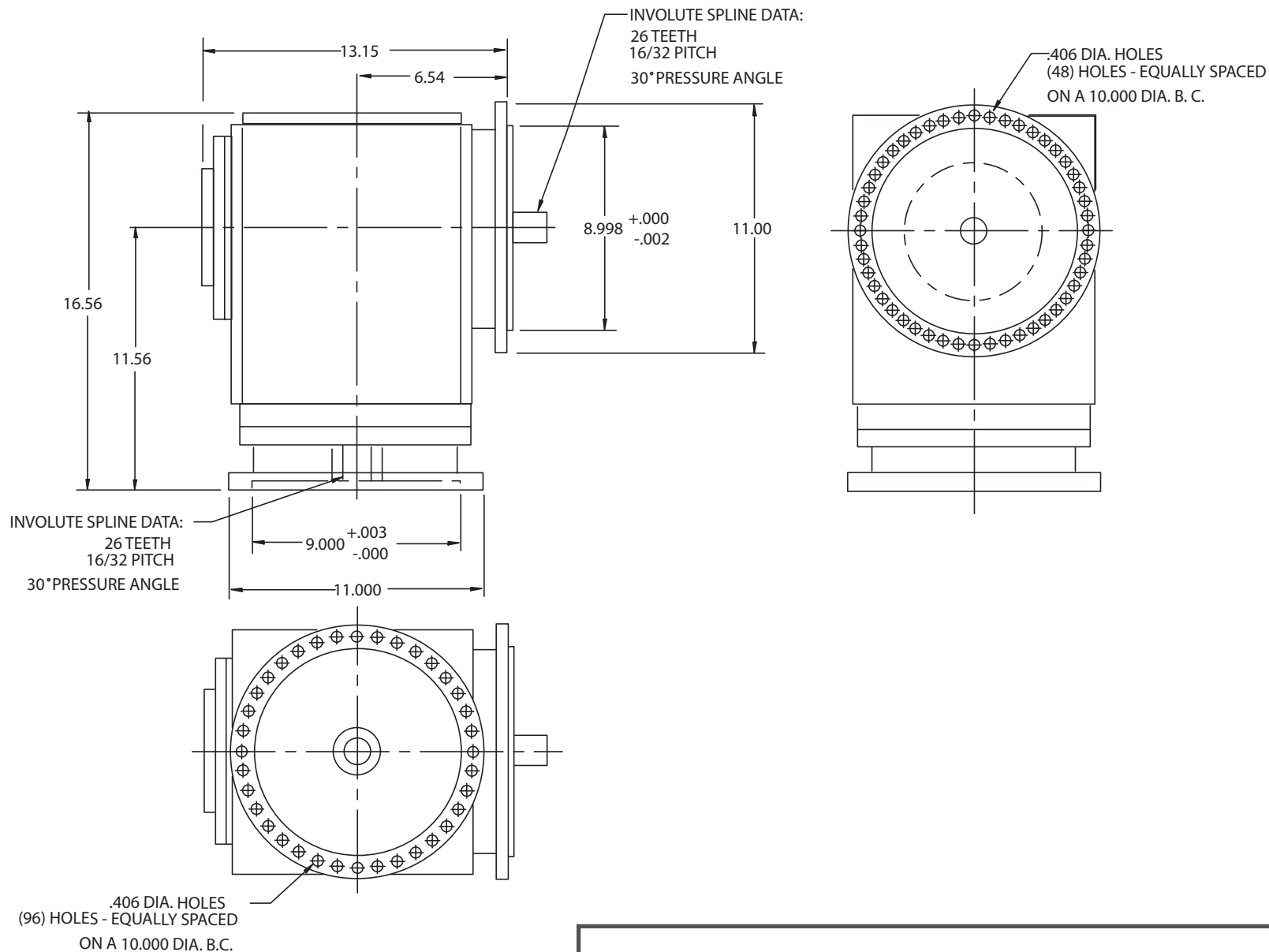
#### Product Description:

Model HS0305 is a high-speed right angle gearbox that is designed to flange mount to an existing test stand. The flange mounting hole pattern allows the output pad to be positioned in 7.5 degree increments about the input centerline. This gearbox is designed for high acceleration and deceleration speed. A separate lubrication system including reservoir is required.

<b>POWER:</b>	90 lb-ft torque max at input 300 HP max power
<b>OUTPUT SPEED:</b>	30,000 RPM
<b>RATIOS:</b>	2.0 overspeed. Contact Cotta for others
<b>MAX ACCEL / DECEL RATE:</b>	7500 rpm/sec at output
<b>INPUT CONFIGURATION:</b>	AND 10267 compatible except with 48 mounting holes versus 12 holes
<b>OUTPUT CONFIGURATION:</b>	AND 20007 compatible except with 48 holes versus 12 holes
<b>ROTATION:</b>	Input can be driven cw or ccw. Output rotates opposite to input.
<b>LUBRICATION:</b>	A separate lube system required and is supplied by Cotta.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROX. WEIGHT:</b>	750 lbs. including lube components.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



HS0305 DRW.



# MODEL SN1572

## HIGH SPEED FLEX DRIVE GEARBOX

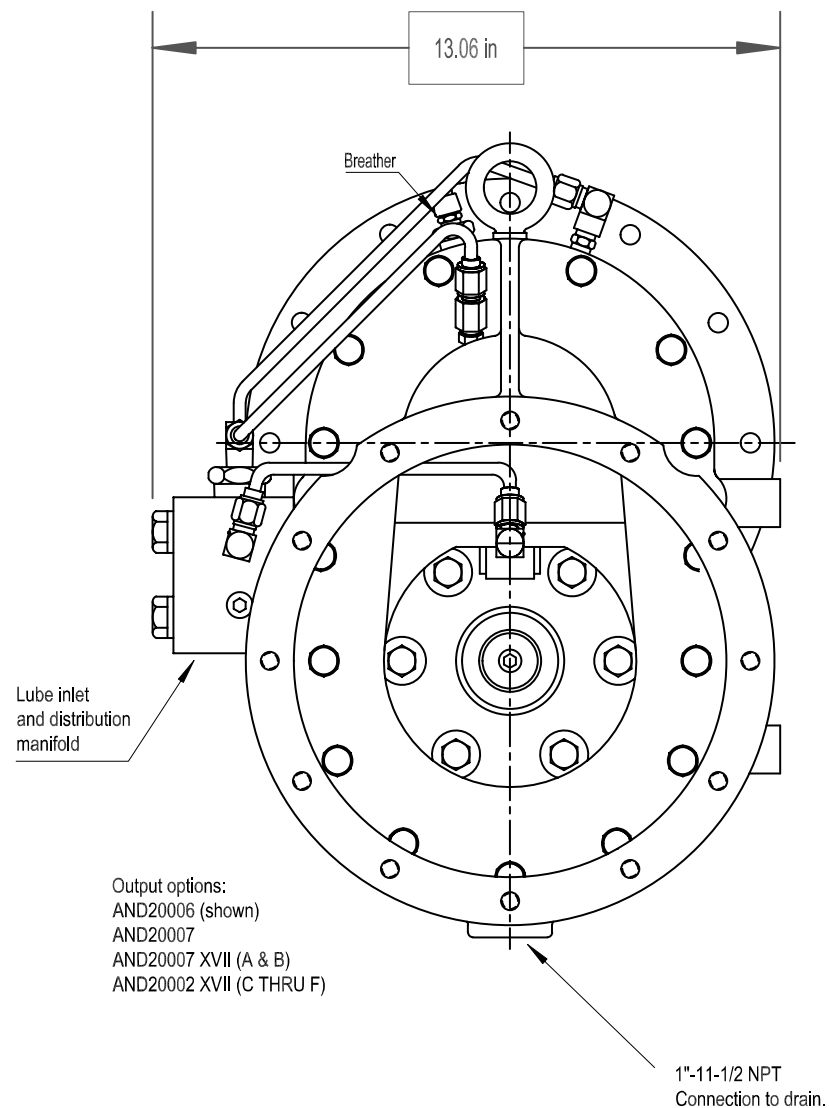
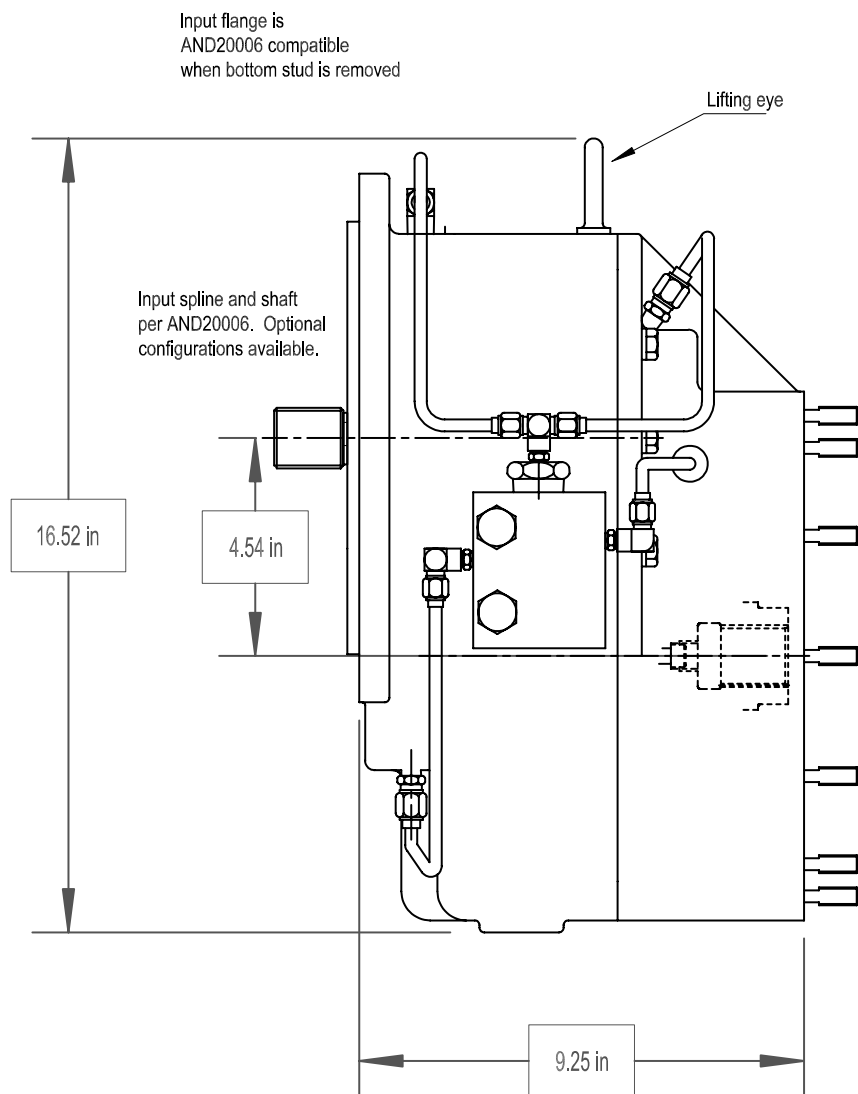
### Product Description:

Model SN1572 Flex Drive is a single stage add-on speed multiplier that mounts directly to an existing gearbox via aerospace accessory drive pad and provides an aerospace accessory drive pad output. The gearbox requires pressure lube, seal scavenge, and a gravity drain line. In some applications the host gearbox can support these lube requirements but if not see T-17 Lube System specification for an example of an acceptable independent supply.

<b>POWER:</b>	400 HP nominal
<b>OUTPUT SPEED:</b>	30,000 output
<b>RATIOS:</b>	1.267 to 2.0 overspeed
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output
<b>INPUT CONFIGURATION:</b>	Will fit AND20006 XVI (A thru D)
<b>OUTPUT CONFIGURATION:</b>	AND20006, AND20002, AND20007 (Except for O ring counter bore in spline shaft on AND20007)
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotation is opposite to input.
<b>LUBRICATION:</b>	Gearbox requires external lube support provided either by host gearbox or separate lube cart similar to T-17.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	150 lbs. approximate.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



**SN1572 DRW.**



## MODEL SN1995 HIGH SPEED GEARBOX

### Product Description:

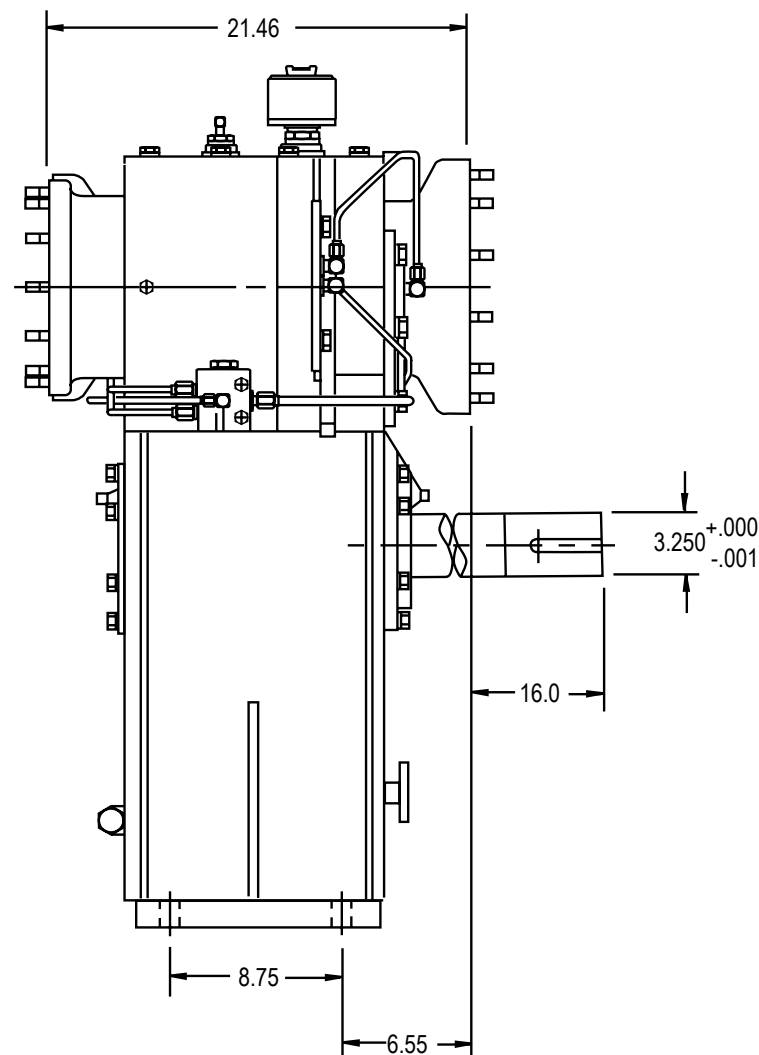
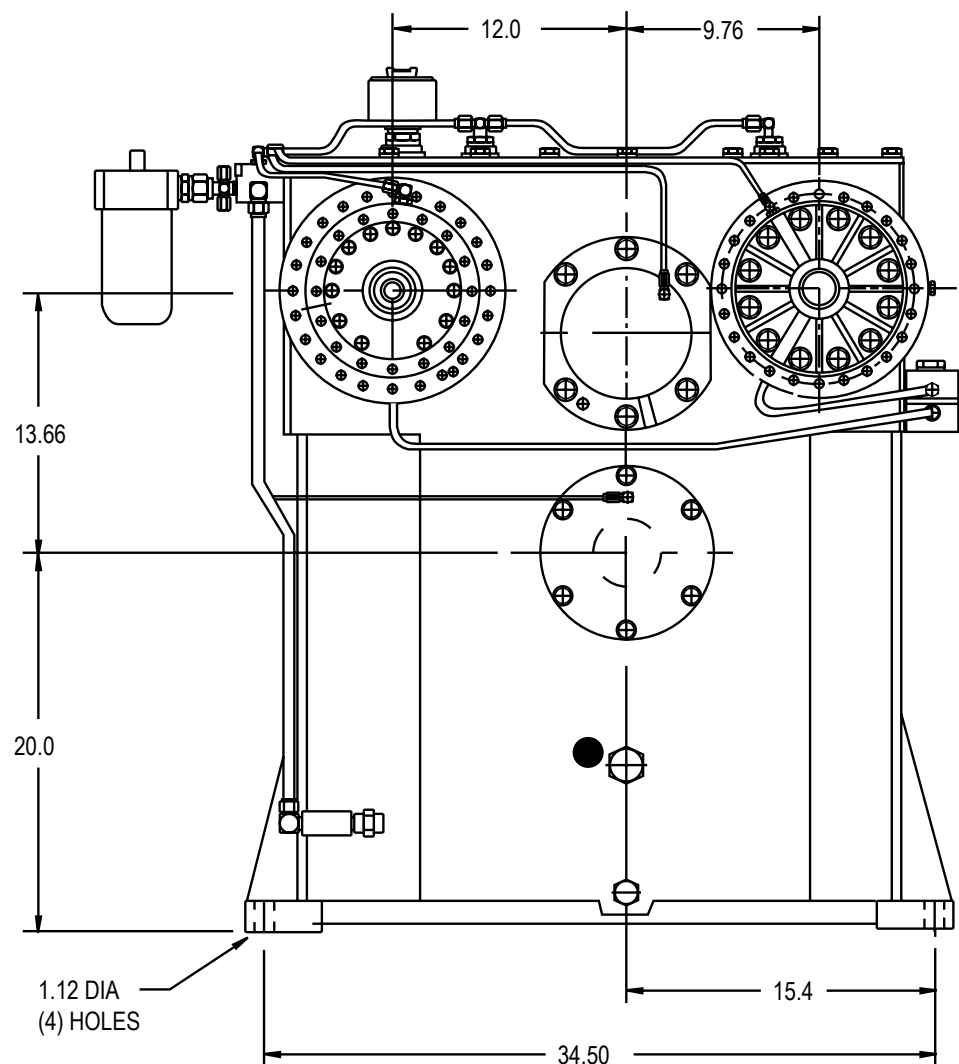
Model SN1995 is a two stage increasing, dual output, foot mounted high speed coaxial gearbox designed for test stand use for aircraft components. There is a high speed and a low speed output with an approximate 2:1 split. One of the output pads has a pad for a Constant Speed Drive located on it's opposite side (co-axial) to accommodate simultaneous testing of CSD's and generators. A lock up adapter is furnished for testing generators without CSD's.

<b>POWER:</b>	450 HP nominal
<b>OUTPUT SPEED:</b>	15,000 / 30,000 RPM
<b>RATIOS:</b>	Up to 14.685 overspeed high speed side. Up to 6.50 overspeed low speed side.
<b>MAX ACCEL / DECEL RATE:</b>	Varies with ratio. Contact Cotta for specific rates.
<b>INPUT CONFIGURATION:</b>	Extended keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Twin aerospace accessory mounting pads AND20007 is typical. One side co-axial.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates in the same direction as input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	1600 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel





This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



SN1995 DRW.



## MODEL SN1903 HIGH SPEED GEARBOX

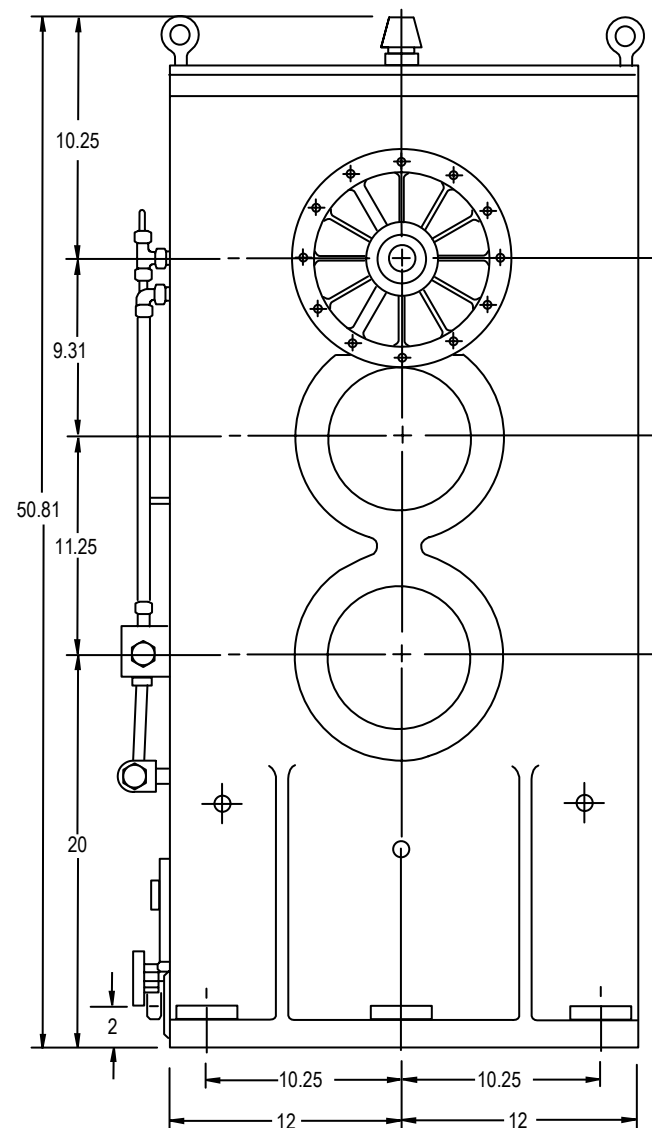
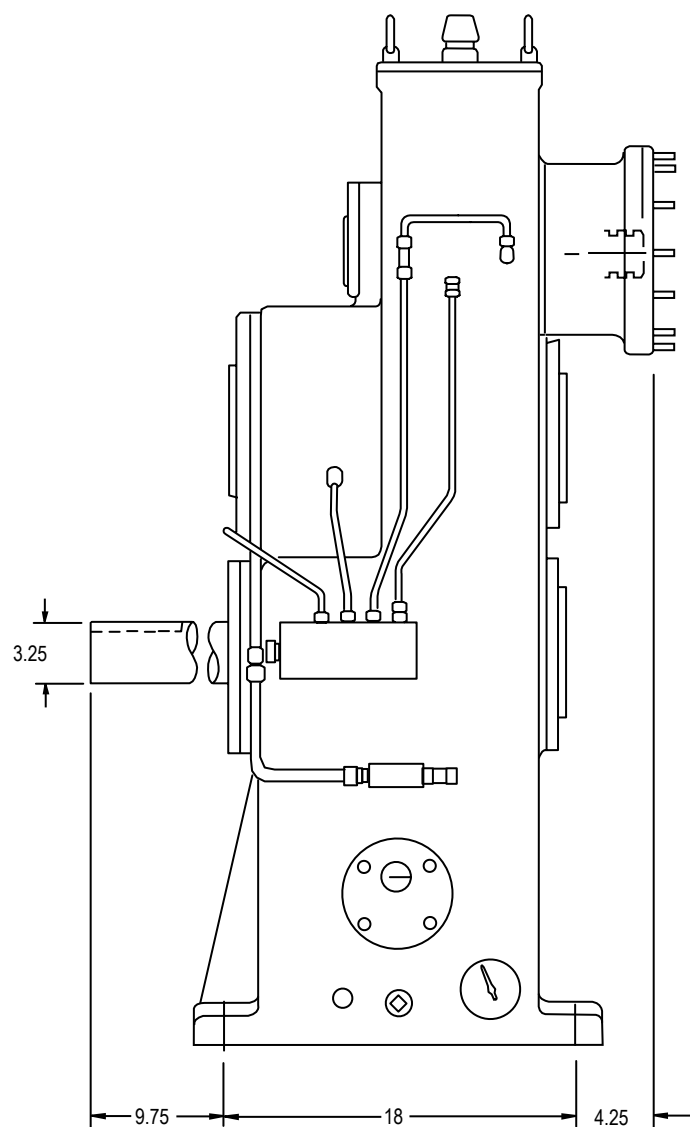
### Product Description:

Model SN1903 is a foot mounted, two stage increasing, single output, high speed gearbox designed for test stand use. The gearbox output is vertically offset at 12:00 o'clock to the input.

<b>POWER:</b>	600 HP nominal
<b>OUTPUT SPEED:</b>	30,000 RPM
<b>RATIOS:</b>	Up to 16.55 overspeed. Contact Cotta for common ratios.
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output. For higher rates contact Cotta.
<b>INPUT CONFIGURATION:</b>	Stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Aerospace accessory mounting pad AND20006 is typical. Various other pads and shafting options available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates in the same direction as input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	1600 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



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**SN1903 DRW.**



## MODEL SN2055 HIGH SPEED GEARBOX

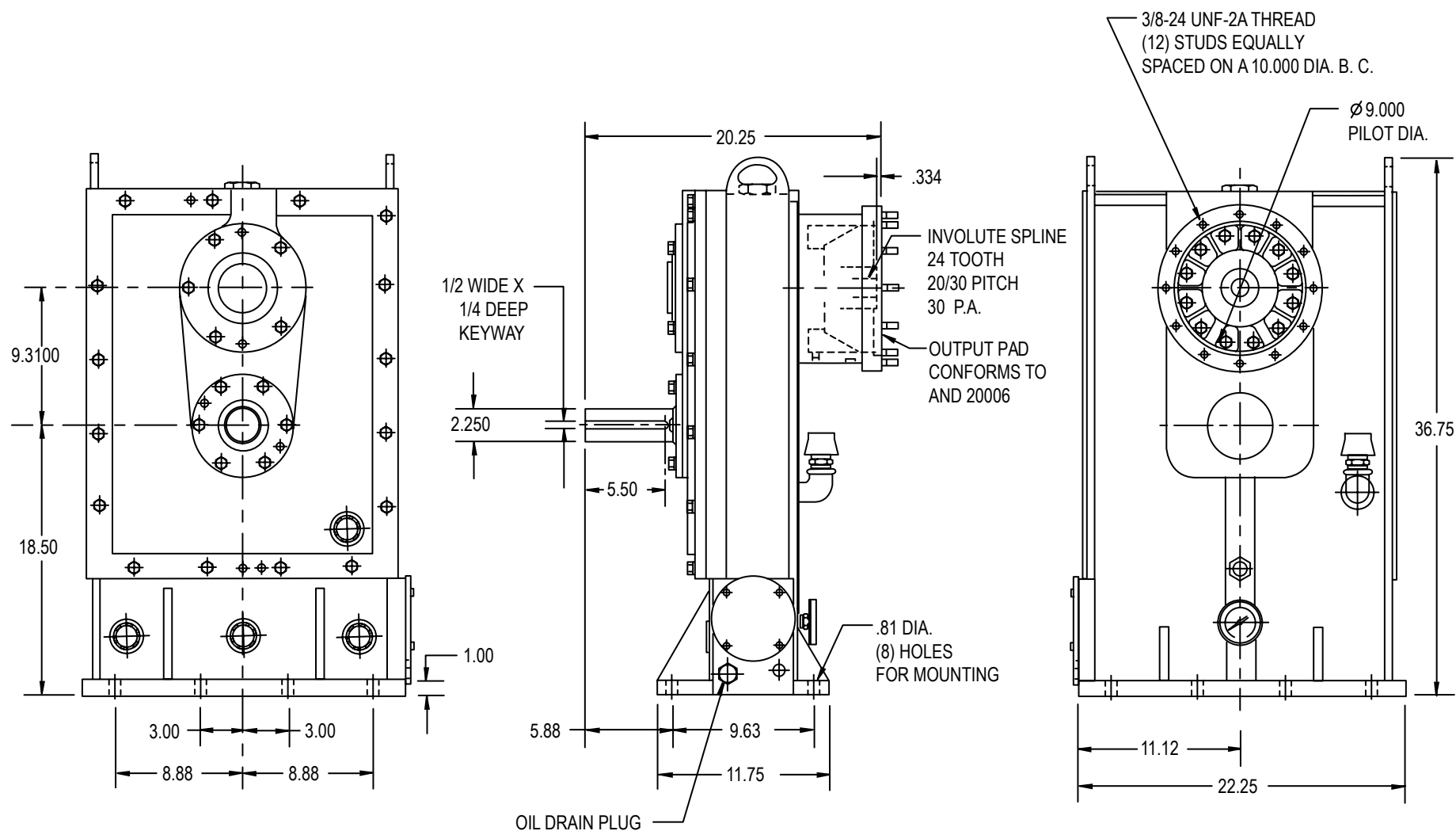
### Product Description:

Model SN2055 is a foot mounted, single increasing stage, single output high speed gearbox designed for test stand use.

<b>POWER:</b>	600 HP nominal
<b>OUTPUT SPEED:</b>	30,000 RPM max
<b>RATIOS:</b>	1.29, 2.94, 3.18, 4.26, 6.10 Contact Cotta for other available ratios
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm / sec at output
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Aerospace accessory mounting pad AND20007 typical. Various other pads and shafting options available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates in the same direction as input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	825 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



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SN2055 DRW.

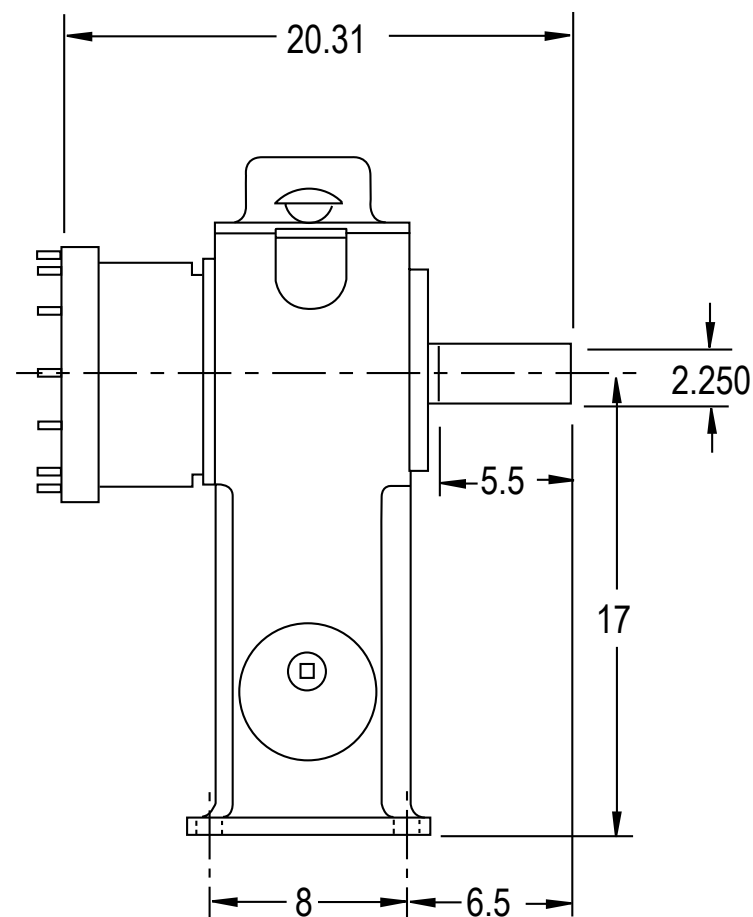
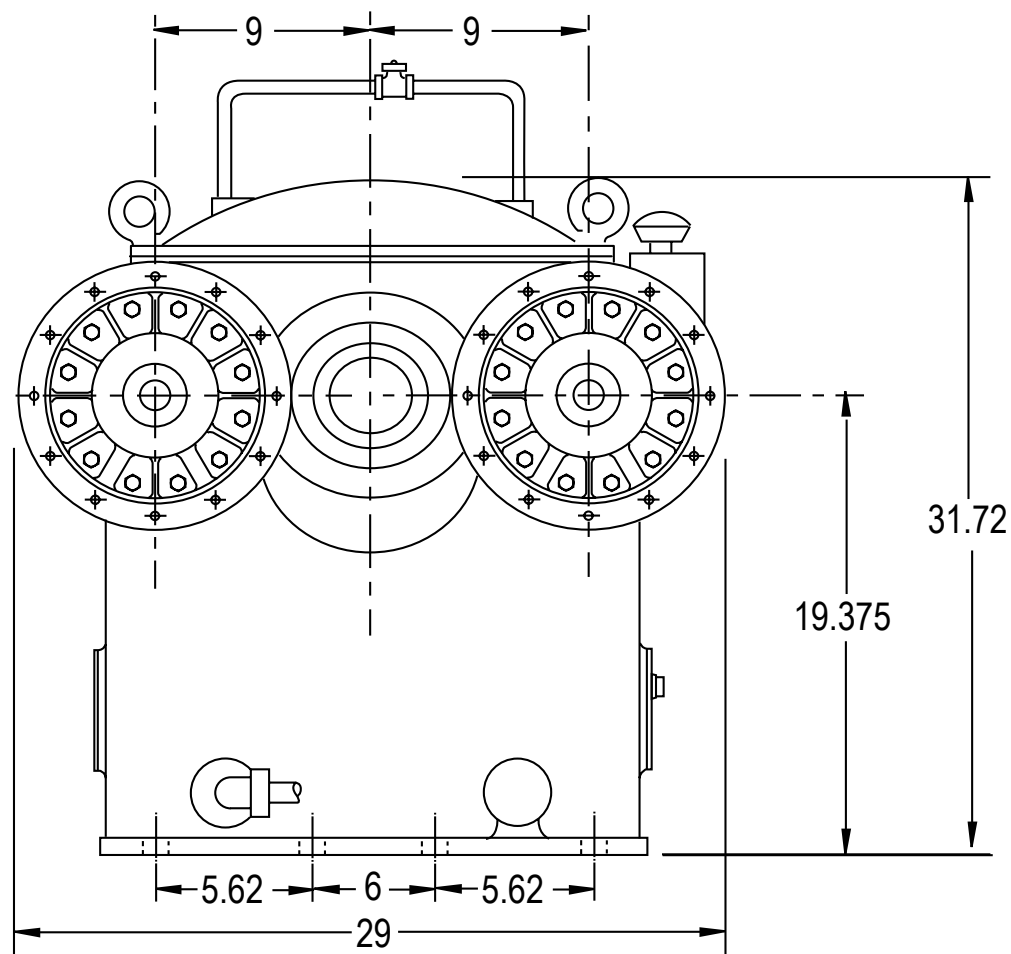


## MODEL SN1678 HIGH SPEED GEARBOX

### Product Description:

Model SN1678 is a single increasing stage, two output, foot mounted high speed gearbox that is designed for test stand use. This model has a stub input shaft and two output pads. Both output pads have the same direction of rotation and the same ratio. There is a special design option to have a different ratios on each output.

<b>POWER:</b>	600 HP nominal
<b>OUTPUT SPEED:</b>	Up to 30,000 RPM
<b>RATIOS:</b>	Up to 6.67 overspeed. Contact Cotta for specific ratios within range
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output. For higher rates contact Cotta.
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	AND20006 pad is typical. Shafts and various other pads available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Outputs rotate at the same speed and opposite to input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	850 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



**SN1678 DRW.**



## MODEL SN1939 HIGH SPEED GEARBOX

### Product Description:

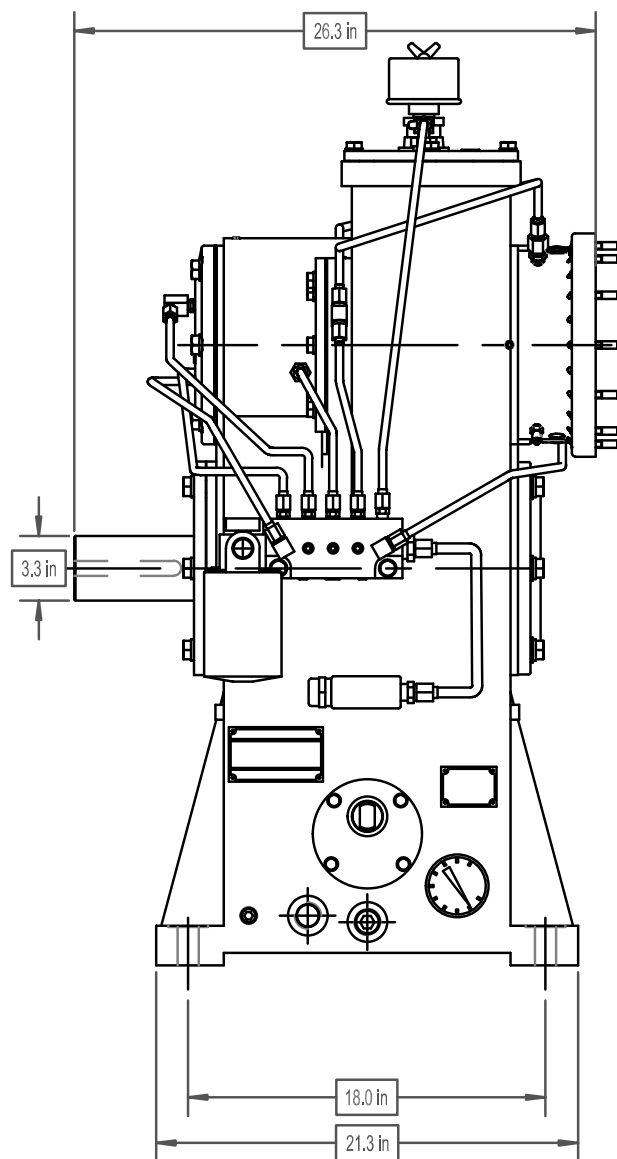
Model SN1939 is a foot mounted, two stage increasing, two output, high speed gear box that is designed for test stand use. This model has a stub input shaft and two aerospace output pads typically AND20006. Both output pads have the same direction of rotation and the same ratio. There is a special design option to have a different ratios on each output. Contact Cotta engineering for information on per head power capability.

<b>POWER:</b>	600 HP nominal
<b>OUTPUT SPEED:</b>	30,000 RPM
<b>RATIOS:</b>	Up to 14.40 overspeed. Contact Cotta for common ratios.
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output. For higher rates contact Cotta.
<b>INPUT CONFIGURATION:</b>	Stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Aerospace accessory mounting pads AND20006 is typical. Various other pads and shafting options available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates in the same direction as input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	1600 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel

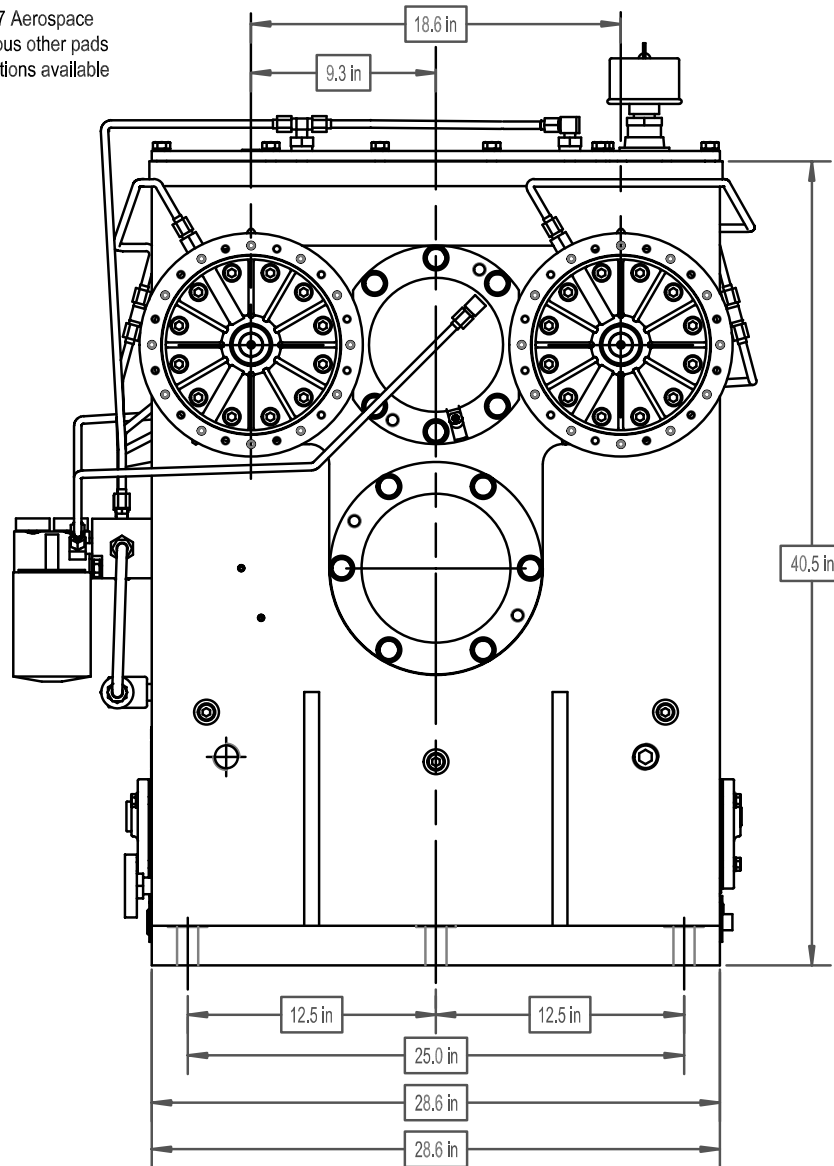




This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



Shown with AND20007 Aerospace accessory pads. Various other pads and shafting output options available



SN1939 DRW.



# MODEL SN1659

## HIGH SPEED FLEX DRIVE GEARBOX

### Product Description:

Model SN1659 Flex Drive is a single stage add-on speed multiplier that mounts directly to an existing gearbox via aerospace accessory drive pad and provides an aerospace accessory drive pad output. The gearbox requires pressure lube, seal scavenge, and a gravity drain line. In some applications the host gearbox can support these lube requirements but if not see T-17 Lube System specification for an example of an acceptable independent supply.

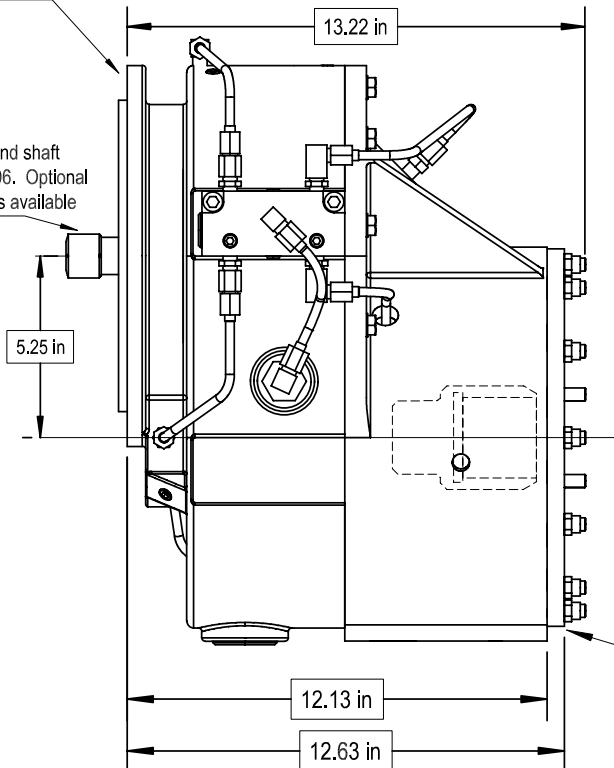
<b>POWER:</b>	800 HP nominal
<b>OUTPUT SPEED:</b>	30,000 output
<b>RATIOS:</b>	Up to 3.14 overspeed
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output
<b>INPUT CONFIGURATION:</b>	Will fit AND20006 XVI (A thru D)
<b>OUTPUT CONFIGURATION:</b>	AND20006, AND20002, AND20007 (Except for O ring counter bore in spline shaft on AND20007)
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotation is opposite to input.
<b>LUBRICATION:</b>	Gearbox requires external lube support provided either by host gearbox or separate lube cart similar to T-17.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	325 lbs. approximate.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



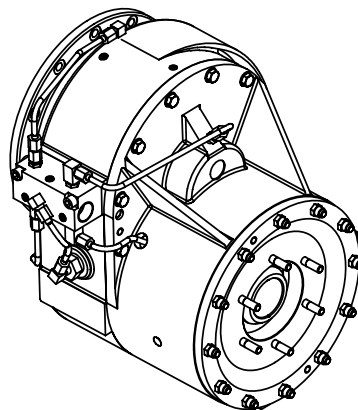
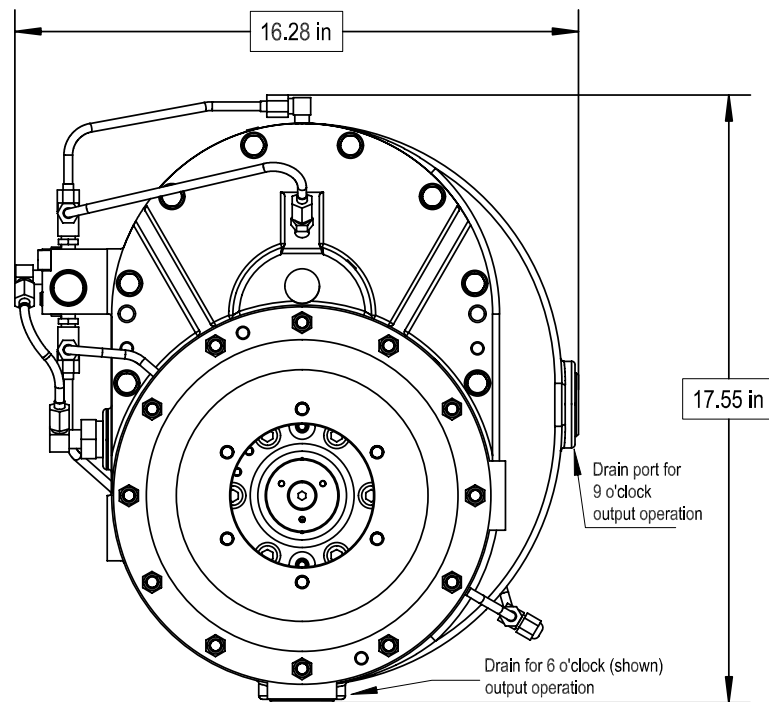
This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.

Input flange is AND20006 compatible when bottom stud is removed

Input spline and shaft per AND20006. Optional configurations available



AND20006 to AND20002 flange adapter.



Output options:  
AND20006  
AND20007  
AND20007 XVII (A & B)  
AND20002 XVII (C THRU F) (shown)

# SN1659 DRW.



## MODEL SN2272 HIGH SPEED GEARBOX

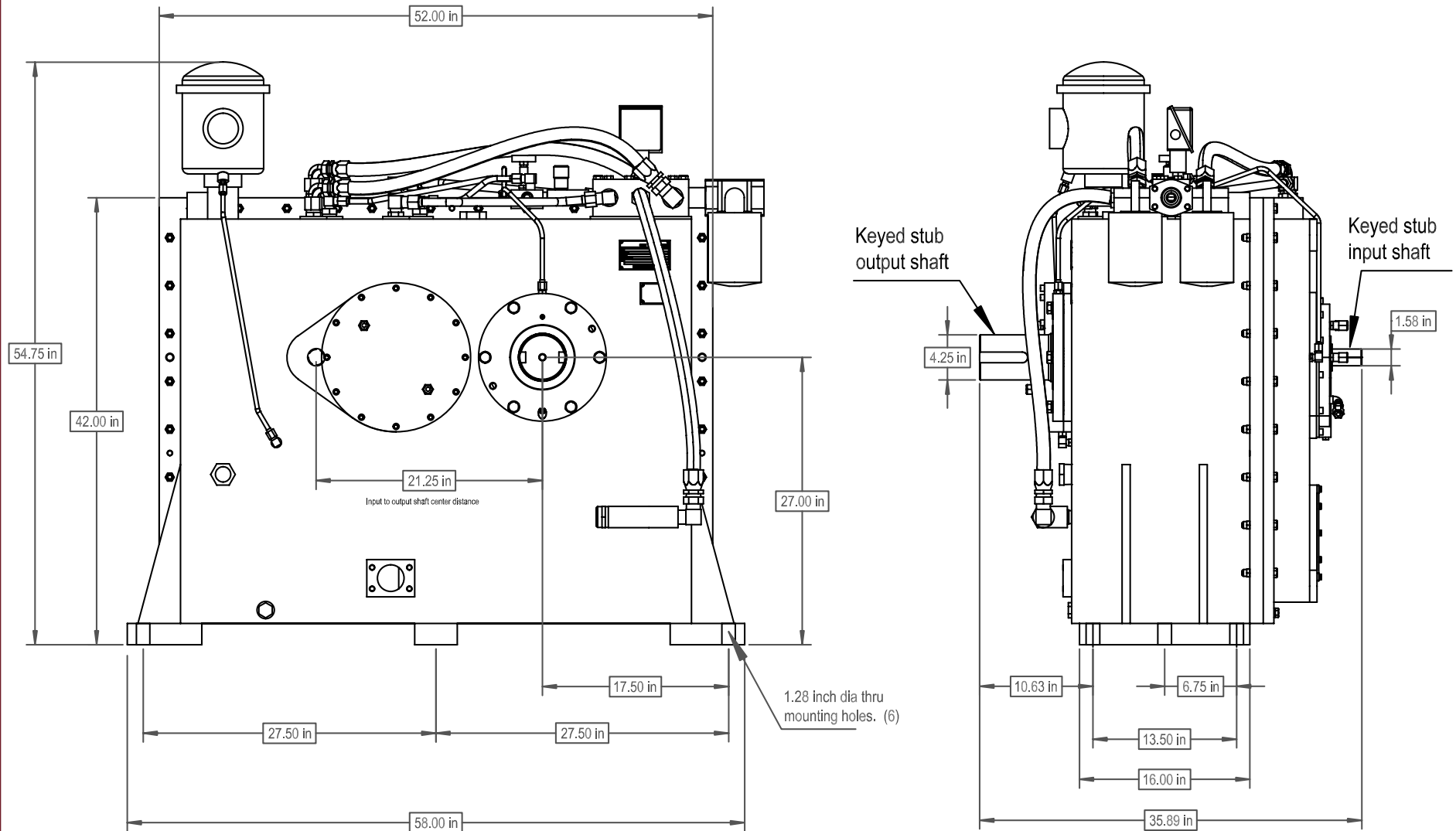
### Product Description:

Model SN2272 is a foot mounted, two-stage reducing, single output, high-speed gearbox designed for test stand use as a speed reducer. This gearbox utilizes journal bearings on the high speed and intermediate shafts. Journal bearings require high oil delivery. A suitable custom lube system is furnished.

<b>POWER:</b>	4000 HP max. 1050 lb-ft torque max at high speed shaft.
<b>OUTPUT SPEED:</b>	30,000 RPM max.
<b>RATIOS:</b>	10.07 reduction. Contact Cotta for other available ratios.
<b>MAX ACCEL / DECEL RATE:</b>	2000 RPM / sec at high speed shaft. Contact Cotta for other rates.
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Keyed stub shaft is typical. Contact Cotta for options.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates in the same direction as input.
<b>LUBRICATION:</b>	Custom lube system furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	4300 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel.



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SN2272 DRW.



## MODEL SN2068 HIGH SPEED RA GEARBOX

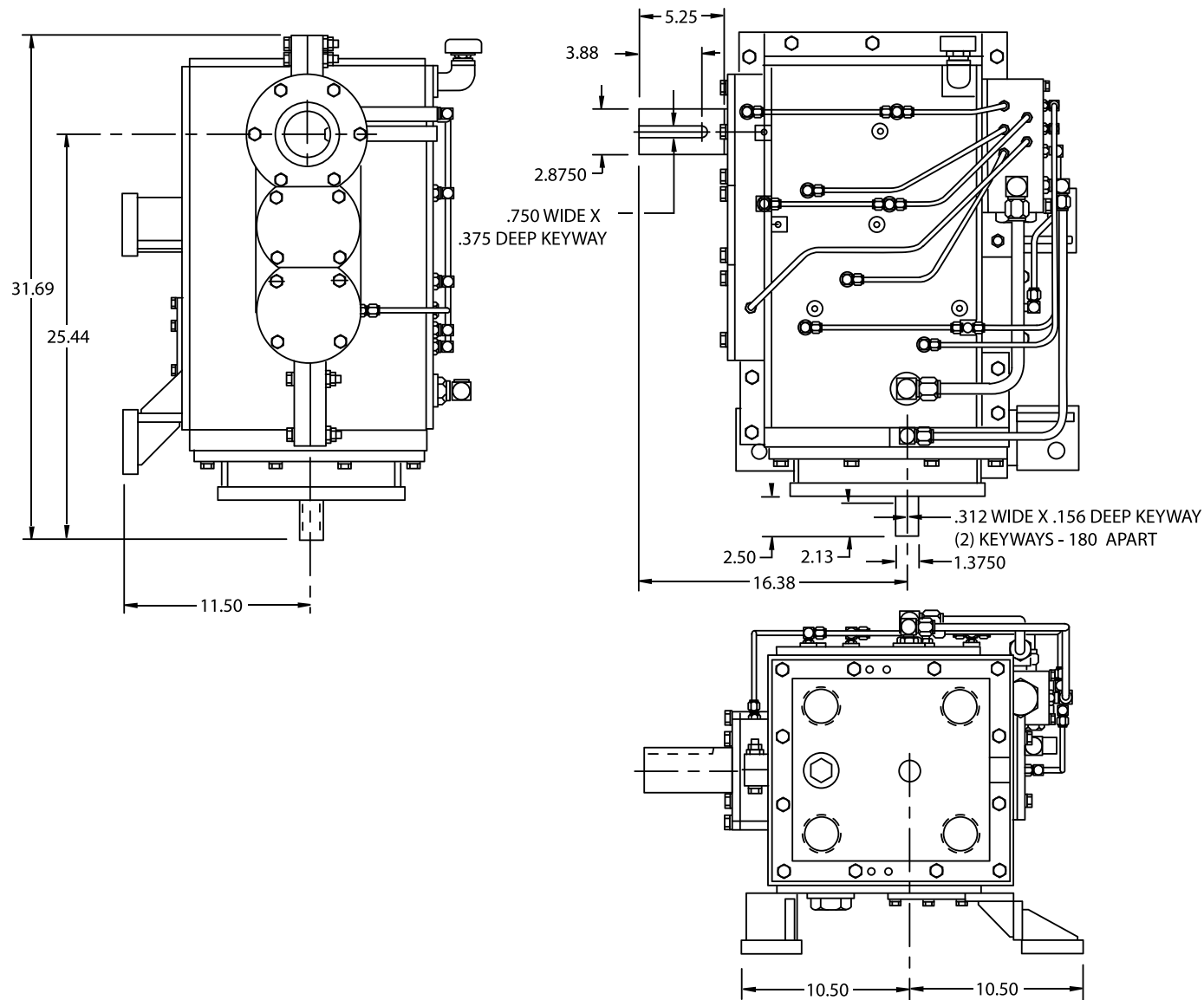
### Product Description:

Model SN2068 is a three stage increasing, single output, high speed, right angle drive designed for test stand use. It is vertical-wall mounted with the high speed output shaft down. This gearbox utilizes helical and bevel gearing to accomplish high ratio, high speed, and high power.

<b>POWER:</b>	600 HP max power
<b>OUTPUT SPEED:</b>	35,000 RPM
<b>RATIOS:</b>	Up to 6.667 overspeed. Contact Cotta for other ratios.
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft typical
<b>OUTPUT CONFIGURATION:</b>	Customer designed accessory mounting flange typical. Contact Cotta for optional outputs.
<b>ROTATION:</b>	Input can be driven cw or ccw. Output rotates opposite to input.
<b>LUBRICATION:</b>	Separate high delivery lube system required and is supplied by Cotta.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROX. WEIGHT:</b>	1100 lbs. approximate.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



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SN2068 DRW.



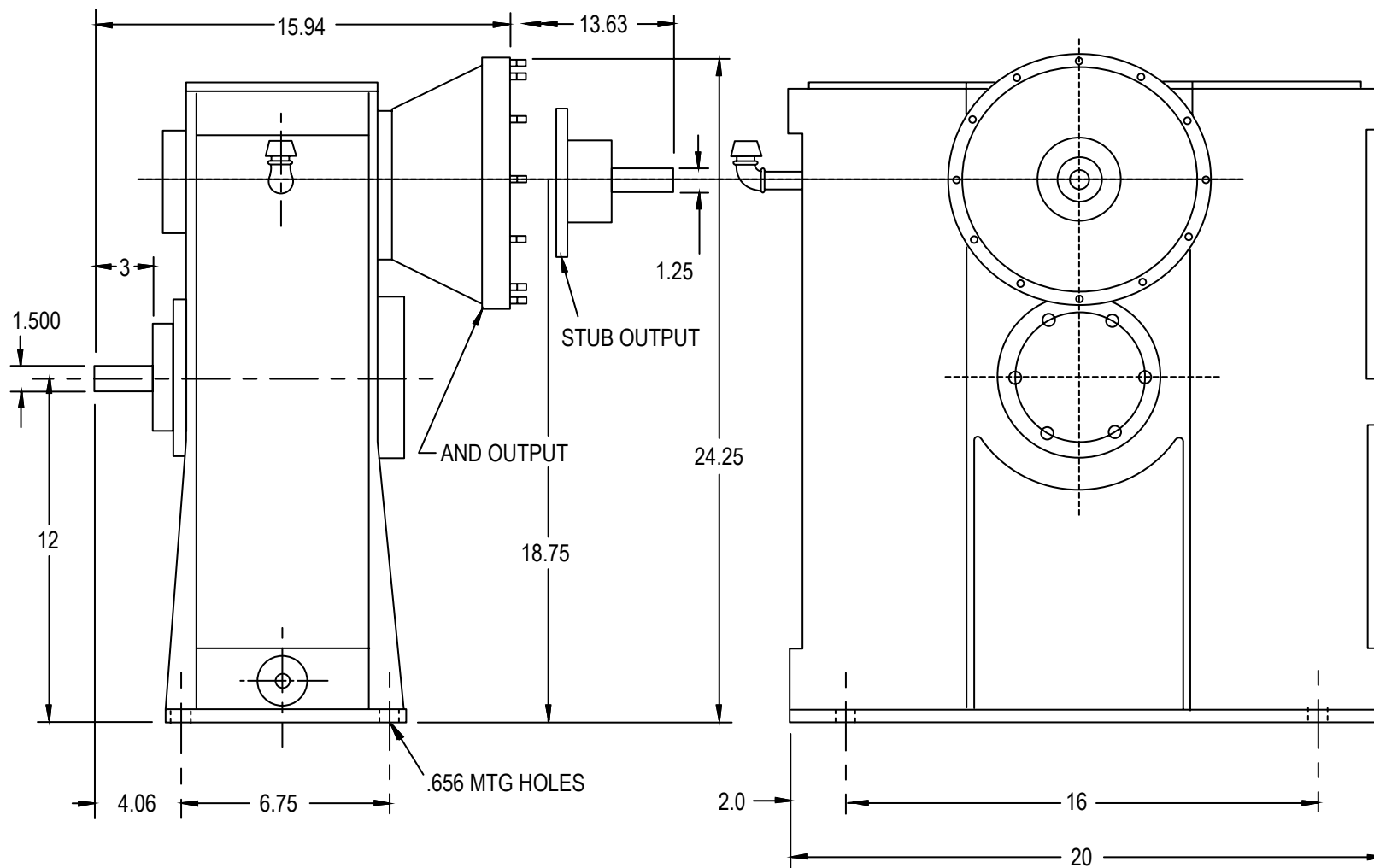
## MODEL SN1624 HIGH SPEED GEARBOX

### Product Description:

Model SN1624 is a foot mounted, single increasing stage, high-speed gearbox designed for test stand use. This model has a stub input shaft and typically has an aerospace accessory drive pad output. The gearbox can be modified to provide up to 50,000 rpm output speed.

<b>POWER:</b>	300 HP
<b>OUTPUT SPEED:</b>	30,000 RPM typical 50,000 RPM with modifications
<b>RATIOS:</b>	5.143, 5.40, 5.957, 7.00 Contact Cotta for other available ratios
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output. For higher rates contact Cotta.
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	AND20006 Type XVI pad is typical. Shafts and various other pads available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates opposite to input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>LUBE RESERVOIR:</b>	The gearbox case is the lube reservoir for output speeds up to 30,000 rpm. For higher speeds a separate reservoir is required.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	615 lbs
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



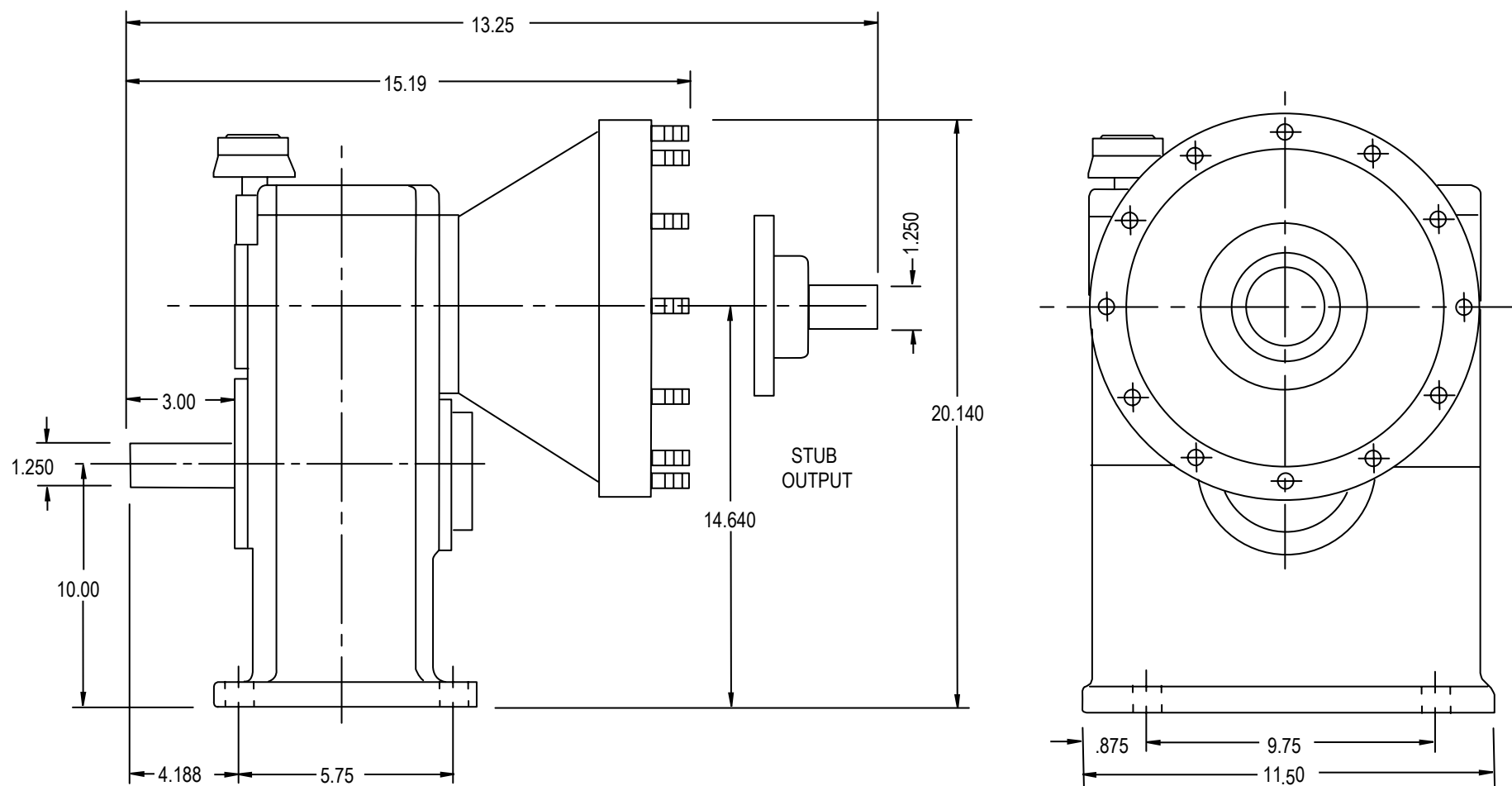


SN1624 DRW.

### Product Description:

Model SN1649 is a foot mounted, single increasing stage, high-speed gearbox designed for test stand use. The gearbox is compact making it suitable for enclosure into unitized test stands. This model has a stub input shaft and typically has an aerospace accessory drive pad output. The gearbox can be modified for operation up to 50,000 rpm output speed.

<b>POWER:</b>	300 HP
<b>OUTPUT SPEED:</b>	30,000 RPM typical 50,000 RPM with modifications
<b>RATIOS:</b>	2.00, 2.58, 3.00, 4.00, 5.44 Contact Cotta for other available ratios
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output. For higher rates contact Cotta.
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	AND20002 pad is typical. Shafts and various other pads available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates opposite to input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	200 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



**SN1649 DRW.**

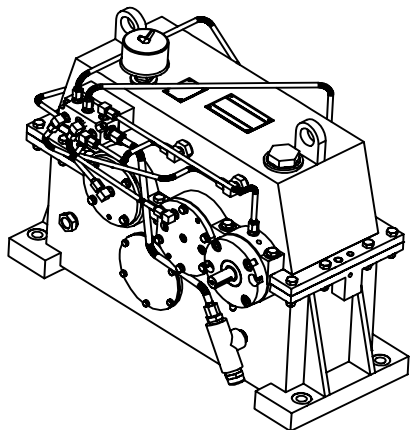
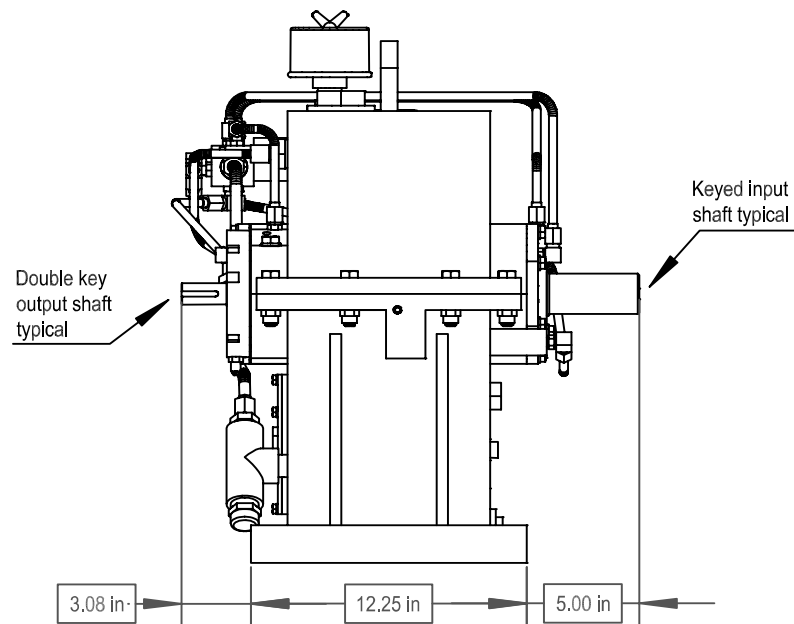
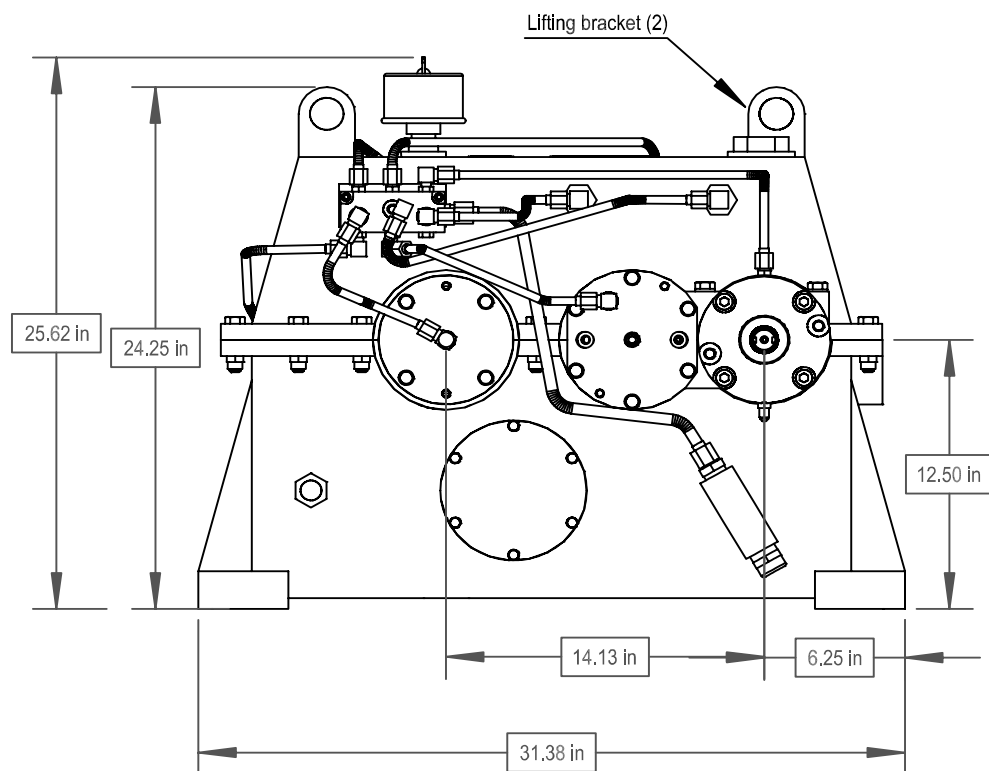
### Product Description:

Model SN2057 is a foot mounted, two stage increasing, single output, high speed gearbox designed for test stand use. This gearbox can be supplied with a cartridge output shaft assembly which can be exchanged with a reserve cartridge for quick changeover of overall ratio without having to remove and disassemble the gearbox, or re-build the output assembly. This preserves gearbox placement, alignment, and dynamic balance thereby preserving output settings and dynamic balance.

<b>POWER:</b>	Up to 500 HP
<b>OUTPUT SPEED:</b>	50,000 RPM max
<b>RATIOS:</b>	8.5 to 16.83 overspeed. Contact Cotta for other available ratios.
<b>MAX ACCEL / DECEL RATE:</b>	2000 RPM / sec at output
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Customer designed shaft is typical. Various other shafting and mounting pads available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates in the same direction as input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	1650 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



SN2057 DRW.

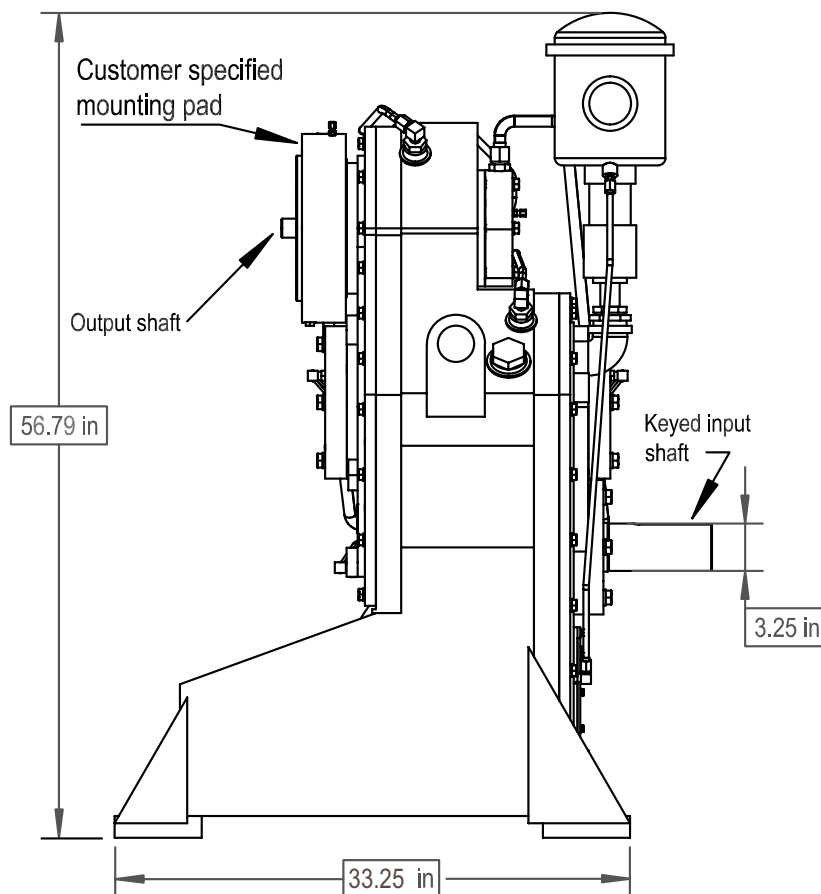
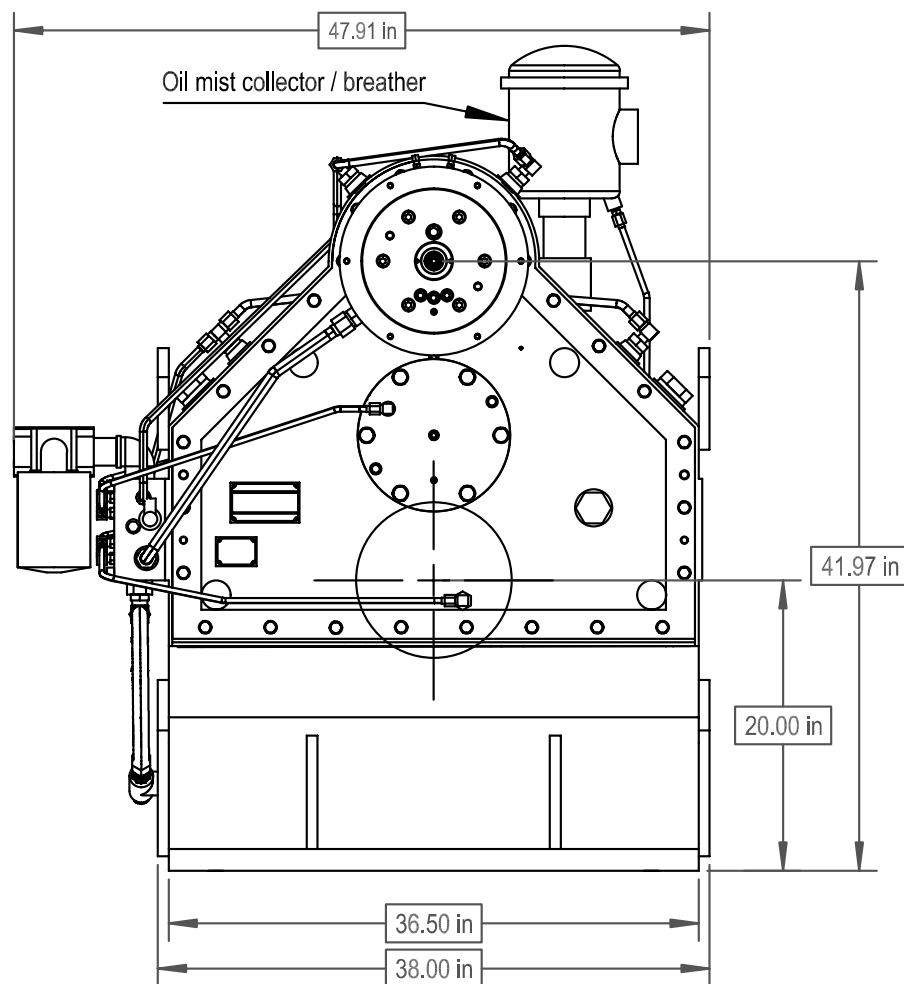


## MODEL SN2294 HIGH SPEED GEARBOX

### Product Description:

Model SN2294 is a foot mounted, two stage increasing, single output, high speed gearbox designed for test stand use. This gearbox utilizes journal bearings on the output shaft. The gearbox output is vertically offset at 12:00 o'clock to the input.

<b>POWER:</b>	1200 HP 4000 lb-ft max input torque
<b>OUTPUT SPEED:</b>	54,000 rpm
<b>RATIOS:</b>	Up to 30.46 overspeed. Contact Cotta for other ratios.
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output. For higher rates contact Cotta.
<b>INPUT CONFIGURATION:</b>	Stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Custom mounting pad typical.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates in the same direction as input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, thermocouples, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	2400 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



**SN2294 DRW.**



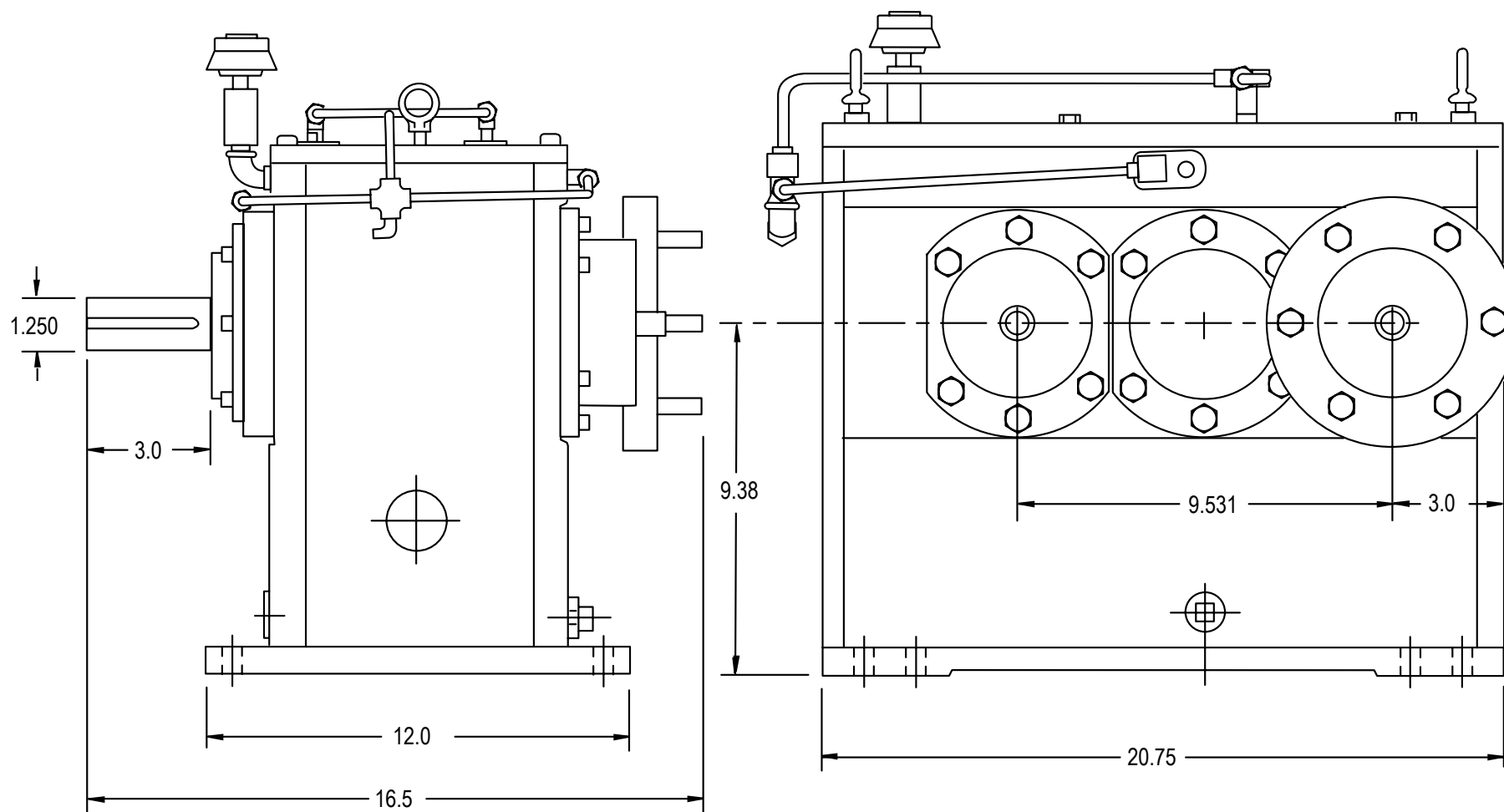
## MODEL SN1708 HIGH SPEED GEARBOX

### Product Description:

Model SN1708 is a two increasing stage, single output, foot mounted, high-speed gearbox. This gearbox is suitable for test stand use where speed requirements are 50,000 RPM or greater.

<b>POWER:</b>	250 HP nominal
<b>OUTPUT SPEED:</b>	60,000 RPM capable, 50,000 rpm typical
<b>RATIOS:</b>	8.43, 8.94, 9.18, 15.225 Max. Contact Cotta for other available ratios.
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output. For higher rates contact Cotta.
<b>INPUT CONFIGURATION:</b>	Stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Aerospace accessory mounting pad is typical. Various other pads and shafting options available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates in the same direction as input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	1100 LBS.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel





SN1708 DRW.



## MODEL SN2032 HIGH SPEED GEARBOX

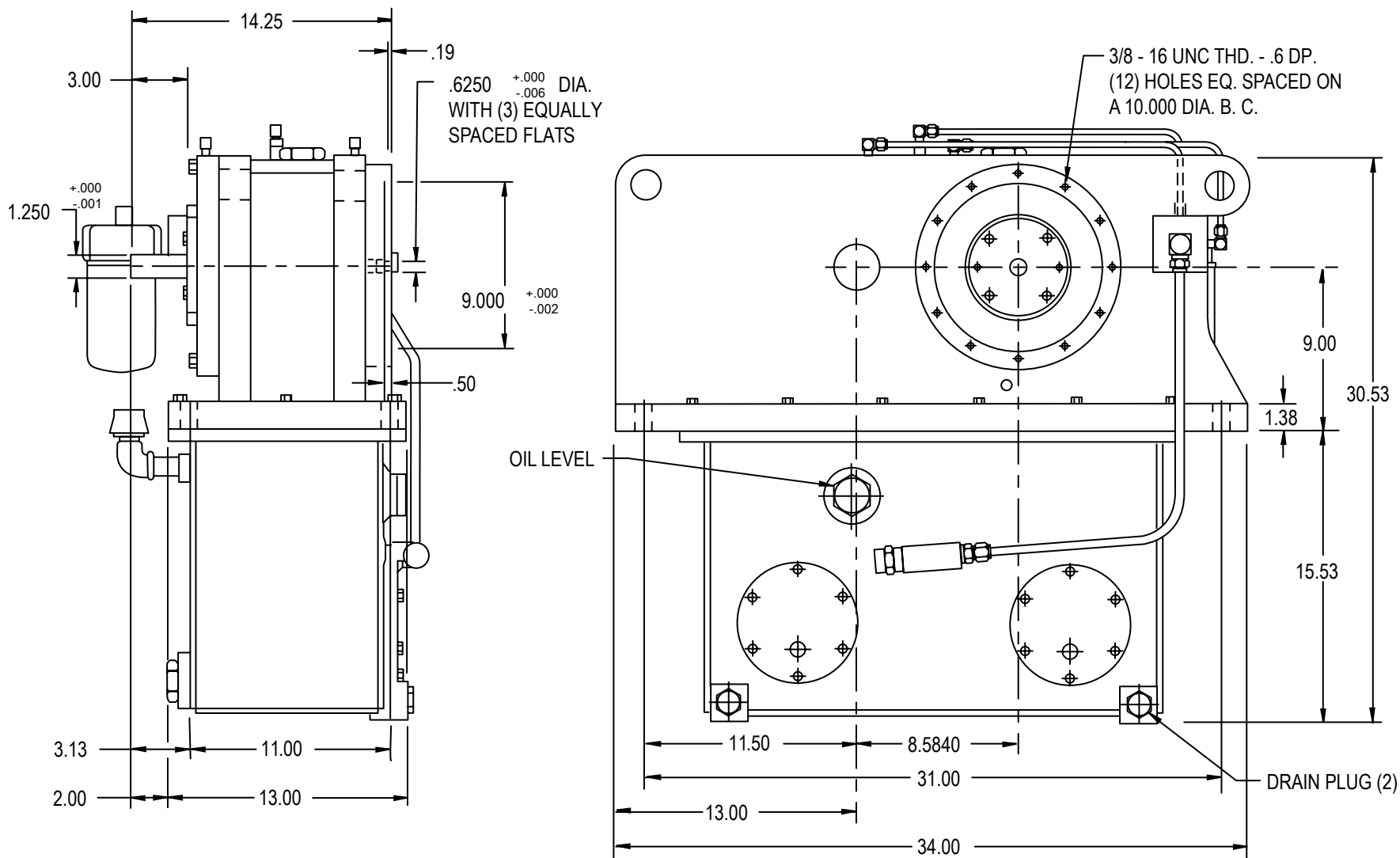
### Product Description:

Model SN2032 is a two stage increasing, single output, foot mounted, high speed gearbox designed for test stand use where speeds above 60,000 RPM are required.

<b>POWER:</b>	100 HP nominal
<b>OUTPUT SPEED:</b>	80,000 RPM
<b>RATIOS:</b>	9.21 overspeed. Contact Cotta for other ratios
<b>MAX ACCEL / DECEL RATE:</b>	4500 RPM / sec at output
<b>INPUT CONFIGURATION:</b>	Keyed stub shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Custom aerospace accessory mounting pad. Various other pads and shafting options available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates in the same direction as input.
<b>LUBRICATION:</b>	Positive delivery. Pump, heat exchanger, and necessary temp and pressure controls are furnished.
<b>OPTIONS:</b>	Accelerometers, speed pickup, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	1025 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



SN2032 DRW.



## MODEL SN2285 HIGH SPEED GEARBOX

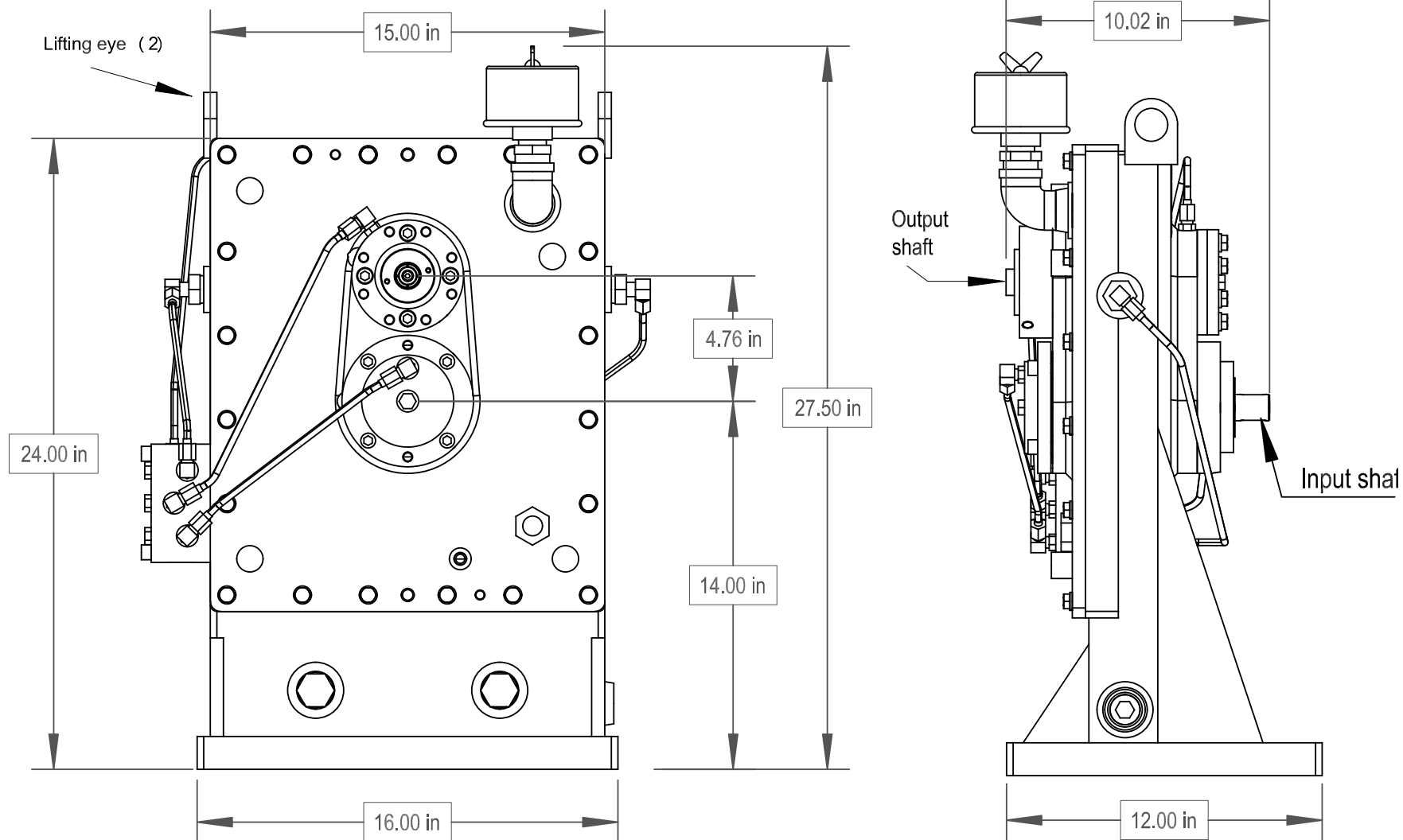
### Product Description:

Model SN2285 is a foot mounted, single increasing stage, high-speed gearbox designed for test stand use. This model has a stub input shaft and typically has an aerospace accessory drive pad output. Due to its compact size this gearbox is designed to operate with a remote lube supply.

<b>POWER:</b>	150 HP nominal @ 70,000 RPM
<b>OUTPUT SPEED:</b>	85,000 rpm maximum
<b>RATIOS:</b>	5 or 6 to 1 overspeed. Contact Cotta for other available ratios
<b>MAX ACCEL / DECEL RATE:</b>	2000 rpm/sec at output. For higher rates contact Cotta.
<b>INPUT CONFIGURATION:</b>	Double key stub-shaft is standard. Contact Cotta for optional inputs.
<b>OUTPUT CONFIGURATION:</b>	Aerospace accessory mounting pad is typical. Shafts and various other pads available.
<b>ROTATION:</b>	Input can be driven ccw or cw. Output rotates opposite to input.
<b>LUBRICATION:</b>	Separate positive delivery lube system required. See T17-7 for example.
<b>LUBE RESERVOIR:</b>	Separate lube reservoir required.
<b>OPTIONS:</b>	Accelerometers, speed pickup, thermocouples, and other application specific items can be accommodated or supplied.
<b>APPROXIMATE WEIGHT:</b>	300 lbs.
<b>STANDARD FINISH:</b>	2-part polyurethane enamel



This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



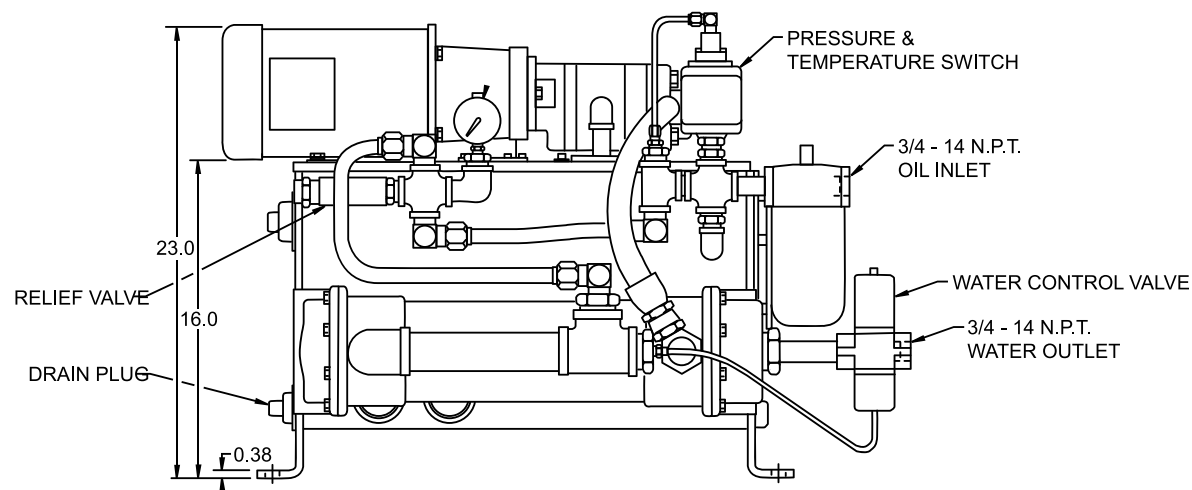
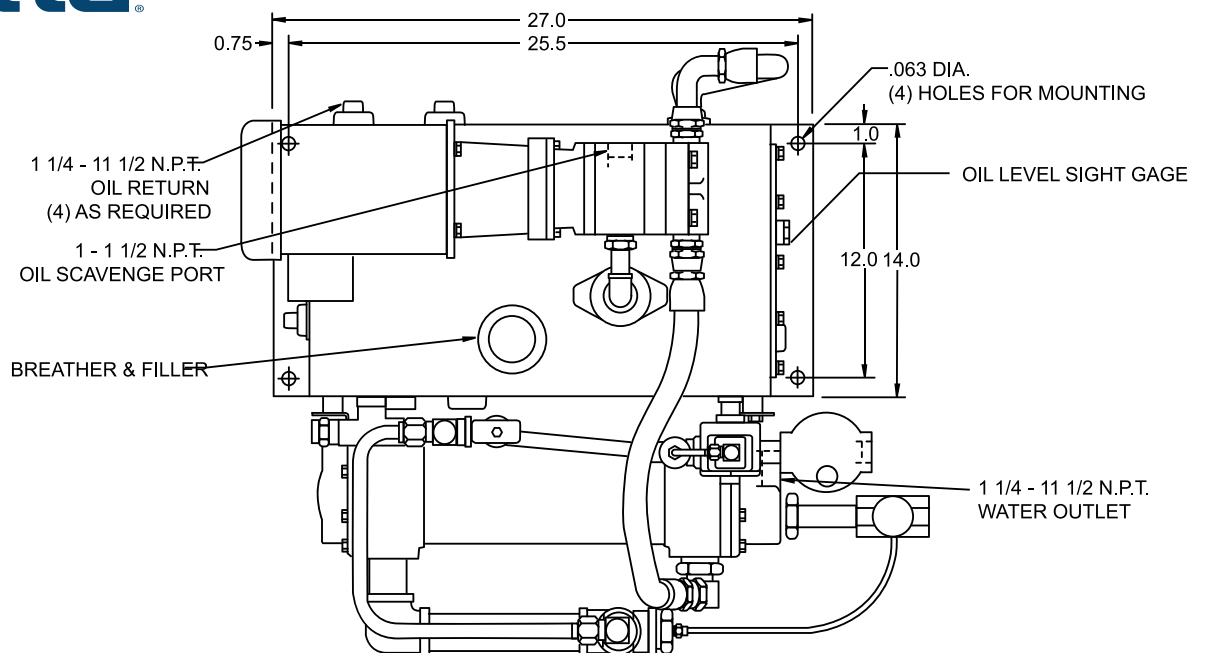
**SN2285 DRW.**

### Product Description:

The T17-7 is a remote pressure lubrication system for supplying filtered oil to high speed gearboxes which require a separate lube system. It is furnished with an oil pump with scavenge section for labyrinth type seals. This is a completely assembled system that includes safeguards to protect the transmission from low lubricant pressure and/or high lubricant temperature.

<b>TANK:</b>	17 gallon maximum capacity, Internally baffled, foot mounted. Access panel provided for cleaning.
<b>MOTOR:</b>	60 cycle, 230/460 volt 1 HP with 1725 RPM 50 cycle, 190/380 volt 3/4 HP with 1425 RPM
<b>CIRCULATION PUMP:</b>	10 GPM
<b>SCAVENGE PUMP:</b>	5 GPM
<b>HEAT EXCHANGER:</b>	Oil to water tube type, 2 pass.
<b>OIL FILTER:</b>	10 micron with by-pass and filter condition gauge.
<b>TEMPERATURE PRESSURE SWITCH:</b>	High temperature and low pressure switches.
<b>TEMPERATURE ACTUATED MODULATING WATER CONTROL VALVE:</b>	Lube temperature probe in reservoir with lead to water control valve to control flow of water through heat exchanger.
<b>OIL LEVEL GAUGE:</b>	Glass tube type
<b>INLET PORTS:</b>	(4) 1-1/4" pipe tap holes provided for ease of plumbing.
<b>DRAIN PLUGS:</b>	Magnetic
<b>OIL FILLER:</b>	Screened—strainer type.
<b>PRESSURE GAUGE:</b>	0 to 60 PSI
<b>PRESSURE RELIEF VALVE:</b>	20-25 PSI
<b>WEIGHT:</b>	385 lbs.

This drawing shows general arrangement and approximate space claim. Do not design, scale, or lay out using this drawing. Use only certified drawings provided by Cotta Engineering.



**T17 LUBE DRW.**

## Product Description:

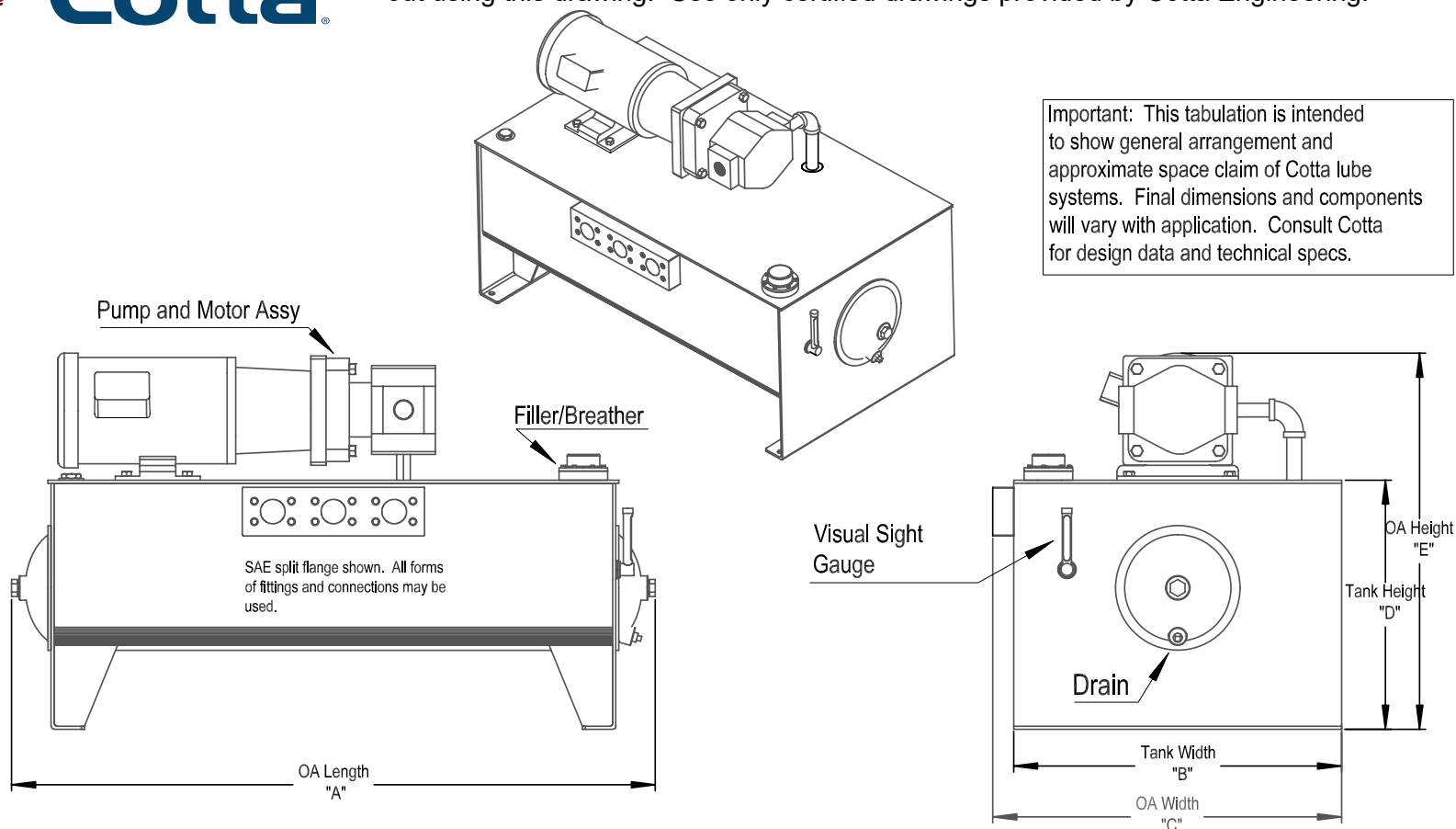
Cotta T series lube systems support the lube requirement of Cotta gearboxes that do not have sufficient internal reservoir capacity for standalone operation and are available in five sizes from 5 to 60 gallons tank capacity. These units are custom configured according to gearbox requirements for lubricant type, pressure, flow, and filtration. Some systems are unitized and shipped assembled. Non-unitized systems are shipped as sub-assemblies for customer completion.

<b>CAPACITY:</b>	T series lube stands are available as described by the number after the letter "T" indicating max tank capacity in gallons - not flow or working capacity. T5, T17, T20, T40, and T60.
<b>PUMP:</b>	Positive displacement single or multiple-section pumps are utilized. Multiple-sections pumps support ancillary functions such as labyrinth seal scavenge or charge pressure to additional test components.
<b>MOTOR:</b>	Standard industrial electric motors sized to meet pump power requirements. Discuss with Cotta your facility electrical requirements.
<b>HEAT EXCHANGER:</b>	Shell-and-tube oil/water heat exchangers are standard. Plate type oil/water heat exchangers and oil/air radiators are options for some T units.
<b>TEMPERATURE CONTROL:</b>	Liquid cooled units use a temperature sensing modulated valve to regulate temperature by controlling water flow to the heat exchanger. Radiators use calibrated temperature switches for fan actuation.
<b>TEMPERATURE/PRESSURE SWITCH:</b>	Lubricant over-temperature and under-pressure switches for integration into customer controls are optional.
<b>LEVEL INDICATOR:</b>	Glass plug sight gage or vertical glass tube are typical. Electronic level sensor is optional
<b>FILTER:</b>	Bypass type. Micron is application dependent.





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Lube system dimensions in inches. All dimensions approximate.

Model	Overall Length "A"	Tank Width "B"	Overall Width "C"	Tank Height "D"	Overall Height "E"
T5	16.8	10.5	10.5	8.5	15.7
T17	27	14	31.25	16	23
T20	24	14.5	23.5	16.5	28.55
T40	41	24	29.7	21	30
T60	53	27	28.75	20.5	30

## T-STYLE LUBE DRW.



# High-Speed Gearboxes

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