

Speed Increaser Catalog



Speed Increaser Overview

Cotta Speed Increasers are designed for use with the commercial offerings of major Industrial engine manufacturers. The increasers are furnished with bell housings to mount directly to the engine's SAE flywheel housing.

Speed increasers are available in sizes from nominally 100 HP to 2500 HP and with flywheel housing sizes from SAE 4 to 00. At approximately 2500 HP capacity the increasers become physically too heavy to direct engine mount at which point independent mount units are offered.

Depending upon the application requirements engine mounted speed increasers can be coupled to the engine by a variety of methods including clutches, drive plates, or torsional couplings.

Cotta Speed increasers have a standard location for the output shaft at 12 o'clock to the input. Alternate locations such as 3, 6, and 9 o'clock are available on many units.

In order to make an initial selection of a Speed Increaser you will need the following information:

- Engine HP
- Transmitted (load) HP
- Engine flywheel housing size
- Coupling option (clutch, torsional coupling, etc)
- Output rotation (same as engine, or opposite)
- Application details

An application worksheet to help you summarize and submit the required information is available

from the Cotta web site. Click here.

Speed Increaser Tabulation

The Speed Increasers tabulated below are designed for use with the commercial offerings of major industrial engine manufacturers. Use the table to make an initial selection. Navigate to the model specification sheet by clicking on the model number. Review and confirm your selection with Cotta, or contact Cotta directly for a model recommendation.

MAX INPUT		MAX	OUTPUT ROTATION		RATIO	SAE BELL HOUSING	INPUT	
MODEL	TORQUE (lb-ft)		INPUT SPEED (RPM)	SAME AS INPUT	ANTI INPUT	RANGE	SIZE #	COUPLING
AO2053A	650	4500	3000		Х	1.4 to 2.0	1, 2, 3, 4	To SAE 14 in.
AO2053E	450	4500	3000	Х		1.16 to 2.48	1, 2, 3, 4	To SAE 14 in.
SI2A	1450	4500	3000		Х	1.2 to 2.67	0, 1, 2	To SAE 18 in.
SI2E	1300	4500	3000	Х		1.21 to 3.0	0, 1, 2	To SAE 18 in.
SI3A	2000	5500	3000		Х	1.27 to 2.44	00, 0, 1, 2	To SAE 24 in.
SI3E	1900	5500	3000	Х		1.2 to 2.52	00, 0, 1, 2	To SAE 24 in.
GO1700A	5500	5500	2500		Х	1.5 to 3.0	00, 0, 1	To SAE 24 in.
GO1700E	5400	5500	2500	Х		1.21 to 2.95	00, 0, 1	To SAE 24 in.
GO1900A	7900	4800	2500		Х	2.09 to 3.0	00, 0	To SAE 24 in.
GO1900E	7900	4800	2500	Х		1.76 to 3.54	00. 0	To SAE 24 in.
GO2329	10000	4350	1200		Х	2.0 to 3.61	Indepen- dent mount	Customer specified

Independent mount units

The Cotta engine mounted units above can be independently mounted by eliminating the SAE bell housing and incorporating an input shaft suitable for industrial shaft couplings. Independent mount models have an R (remote) in the model number but conform to the same performance data as the engine mounted unit. Both anti-engine and engine rotation units are available. Remote units have features to accommodate customer (or Cotta) supplied mounting fixtures. Request current installation drawings from Cotta for remote mount units.



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Model AO2053A is a single-stage increasing gearbox designed for direct mounting to industrial engines via an SAE flange and driven in standard engine rotation (CW facing input shaft). Tabulated below are nominal power and speed capacity together with standard options. Contact Cotta to discuss other options or specialized requirements.

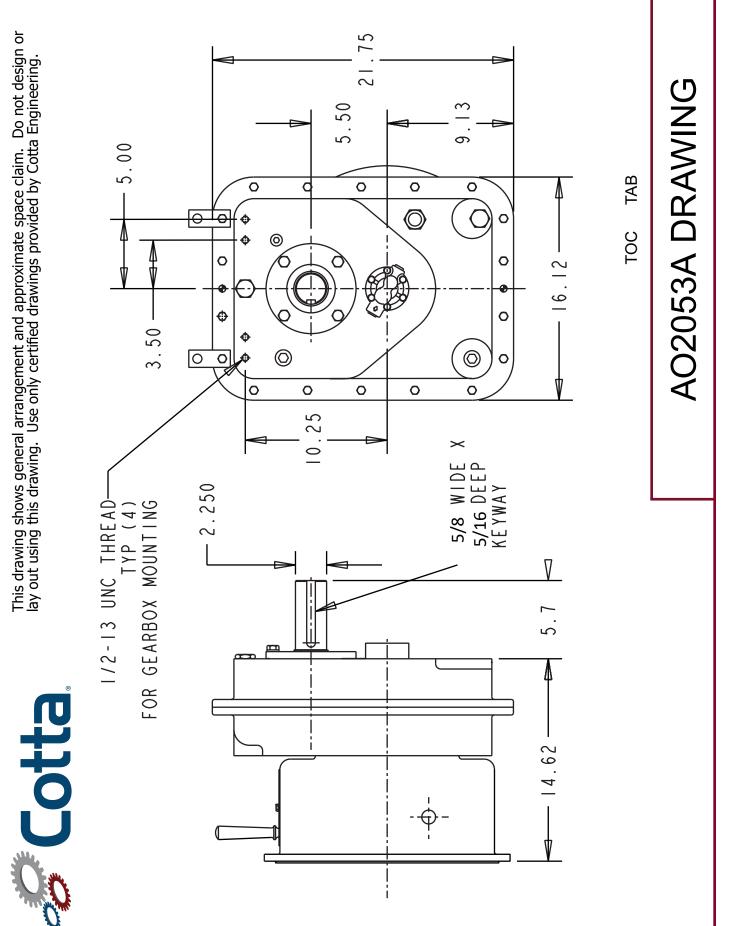
OUTPUT ROTATION:	Opposite to input.
MAX INPUT TORQUE:	650 lb-ft.
MAX INPUT SPEED:	3000 RPM or as otherwise limited by input clutch or coupling.
MAX OUTPUT SPEED:	4500 RPM
RATIO RANGE:	1.4 to 2.0
OUTPUT SHAFT SIZE:	2.250" diameter, 5" long 5/8" X 5/16" keyway.
OUTPUT SHAFT LOCATION:	12 o'clock std. 3, 6, and 9 o'clock optional.
SAE HOUSINGS:	#1, #2, #3, #4
*FLYWHEEL COUPLINGS:	Various clutches, couplings, and drive plates through SAE 14".
REAR SUPPORT:	Required. Customer supplied item. Mounting holes provided per drawing.
LUBRICATION:	Integral Lube pump supplied
COOLING:	Oil/water shell-and-tube cooler furnished if required. Various options.
**SIDE LOAD CAPABLE:	No. Contact Cotta for recommendations.
***APPROXIMATE WEIGHT:	400 lbs.

* Flywheel coupling selection requires Cotta technical review and approval.

** Cotta Speed Increaser output shafts are not designed for belt or chain side pull drives. If your application requires side loads provide complete application details to Cotta for recommendations and approval. *** Weight listed is an average. Actual weight can vary significantly with options such as SAE housing size and flywheel coupling choices.

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Model AO2053E is a single-stage increasing gearbox designed for direct mounting to industrial engines via an SAE flange and driven in standard engine rotation (CW facing input shaft). This unit incorporates an idler shaft to provide output rotation same as input. Tabulated below are nominal power and speed capacity together with standard options. Contact Cotta to discuss other options or specialized requirements.

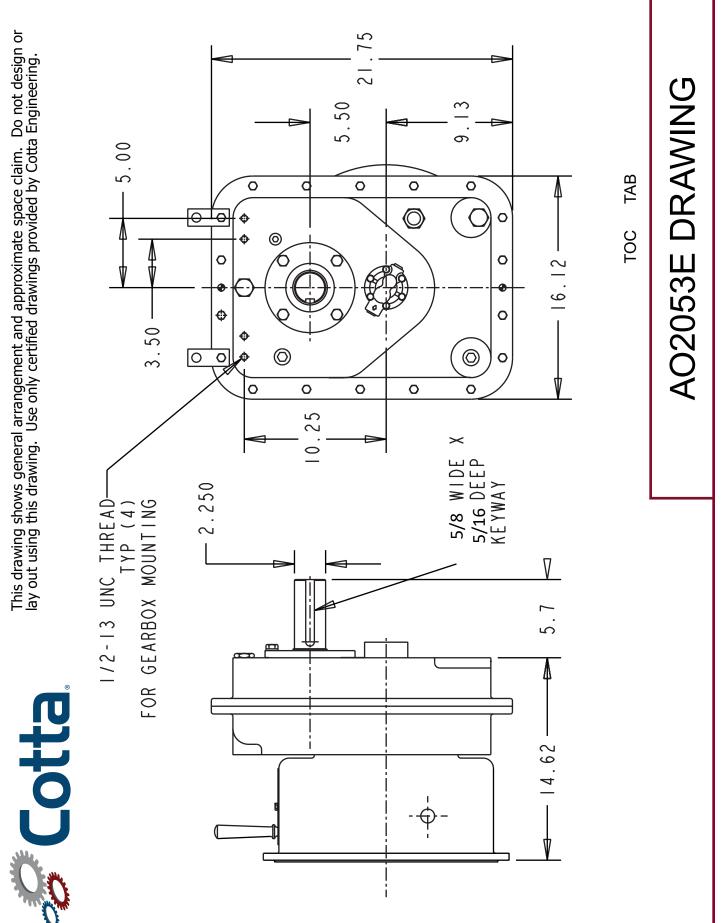
OUTPUT ROTATION:	Same as input.
MAX INPUT TORQUE:	450 lb-ft.
MAX INPUT SPEED:	3000 RPM or as otherwise limited by input clutch or coupling.
MAX OUTPUT SPEED:	4500 RPM
RATIO RANGE:	1.16 to 2.48
OUTPUT SHAFT SIZE:	2.250" diameter, 5" long 5/8" X 5/16" keyway.
OUTPUT SHAFT LOCATION:	12 o'clock std. 3, 6, and 9 o'clock optional.
SAE FLANGE OPTIONS:	#1, #2, #3, #4
*FLYWHEEL COUPLINGS:	Various clutches, couplings, and drive plates through SAE 14".
REAR SUPPORT:	Required. Customer supplied item. Mounting holes provided per drawing.
LUBRICATION:	Integral Lube pump supplied
COOLING:	Oil/water shell-and-tube cooler furnished if required. Various options.
**SIDE LOAD CAPABLE:	No. Contact Cotta for recommendations.
***APPROXIMATE WEIGHT:	425 lbs.

* Flywheel coupling selection requires Cotta technical review and approval.

** Cotta Speed Increaser output shafts are not designed for belt or chain side pull drives. If your application requires side loads provide complete application details to Cotta for recommendations and approval. *** Weight listed is an average. Actual weight can vary significantly with options such as SAE housing size and flywheel coupling choices.

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Model SI2A is a single-stage increasing gearbox designed for direct mounting to industrial engines via an SAE flange and driven in standard engine rotation (CW facing input shaft). Tabulated below are nominal power and speed capacity together with standard options. Contact Cotta to discuss other options or specialized requirements.

OUTPUT ROTATION:	Opposite to input.
MAX INPUT TORQUE:	1450 lb-ft.
MAX INPUT SPEED:	3000 RPM or as otherwise limited by input clutch or coupling.
MAX OUTPUT SPEED:	4500 RPM
RATIO RANGE:	1.2 to 2.67
OUTPUT SHAFT SIZE:	2.500" diameter with 5/8" X 5/16" keyway
OUTPUT SHAFT LOCATION:	12 o'clock std. 3, 6, and 9 o'clock optional.
SAE FLANGE OPTIONS:	#0, #1, #2
*FLYWHEEL COUPLINGS:	Various clutches, couplings, and drive plates through SAE 18".
REAR SUPPORT:	Required. Customer supplied item. Mounting holes provided per drawing.
LUBRICATION:	Integral Lube pump supplied
COOLING:	Oil/water shell-and-tube cooler furnished if required. Various options.
**SIDE LOAD CAPABLE:	No. Contact Cotta for recommendations.
***APPROXIMATE WEIGHT:	750 lbs.

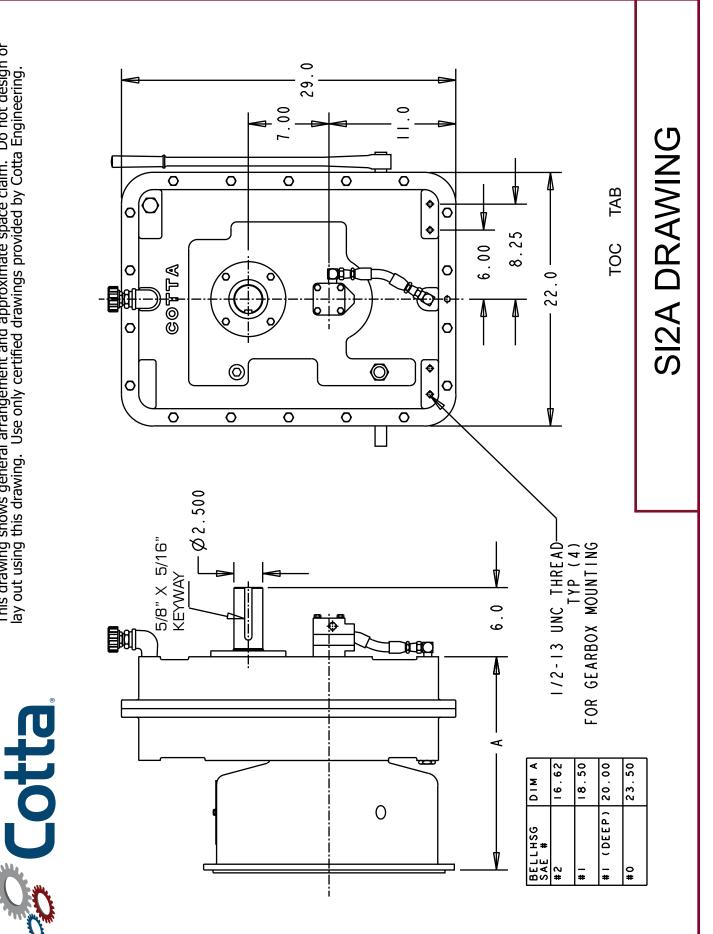
* Flywheel coupling selection requires Cotta technical review and approval.

** Cotta Speed Increaser output shafts are not designed for belt or chain side pull drives. If your application requires side loads provide complete application details to Cotta for recommendations and approval. *** Weight listed is an average. Actual weight can vary significantly with options such as SAE housing size and flywheel coupling choices.

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



Dec20



Model SI2E is a single-stage increasing gearbox designed for direct mounting to industrial engines via an SAE flange and driven in standard engine rotation (CW facing input shaft). This unit incorporates an idler shaft to provide output rotation same as input. Tabulated below are nominal power and speed capacity together with standard options. Contact Cotta to discuss other options or specialized requirements.

OUTPUT ROTATION:	Same as input.
MAX INPUT TORQUE:	1300 lb-ft.
MAX INPUT SPEED:	3000 RPM or as otherwise limited by input clutch or coupling.
MAX OUTPUT SPEED:	4500 RPM
RATIO RANGE:	1.21 to 3.0
OUTPUT SHAFT SIZE:	2.500" diameter with 5/8" X 5/16" keyway
OUTPUT SHAFT LOCATION:	12 o'clock std. 3, 6, and 9 o'clock optional.
SAE FLANGE OPTIONS:	#0, #1, #2
*FLYWHEEL COUPLINGS:	Various clutches, couplings, and drive plates through SAE 18".
REAR SUPPORT:	Required. Customer supplied item. Mounting holes provided per drawing.
LUBRICATION:	Integral Lube pump supplied
COOLING:	Oil/water shell-and-tube cooler furnished if required. Various options.
**SIDE LOAD CAPABLE:	No. Contact Cotta for recommendations.
***APPROXIMATE WEIGHT:	800 lbs.

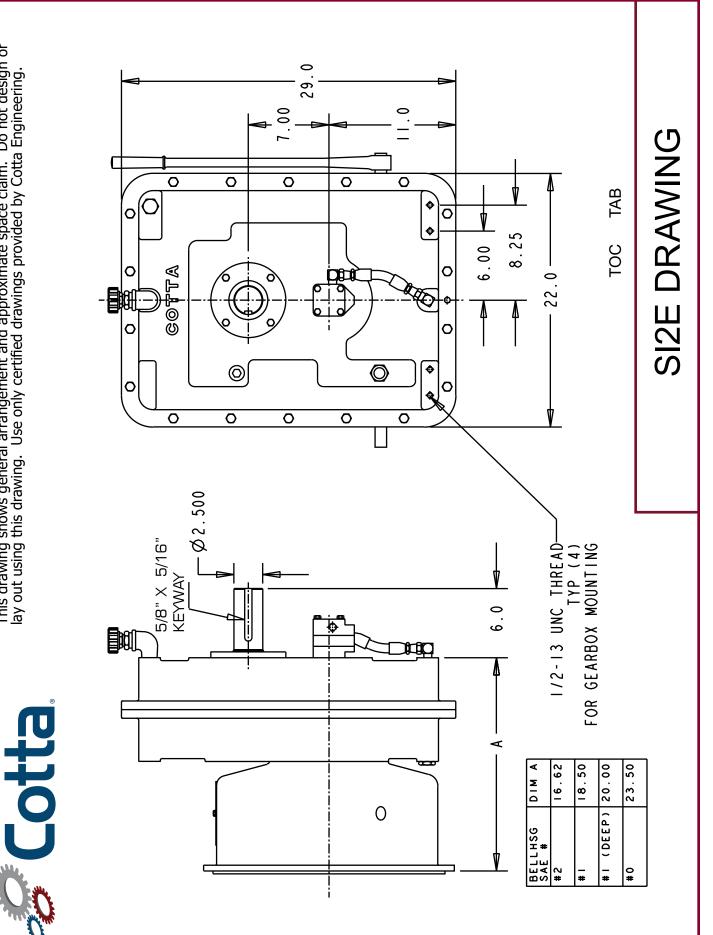
* Flywheel coupling selection requires Cotta technical review and approval.

** Cotta Speed Increaser output shafts are not designed for belt or chain side pull drives. If your application requires side loads provide complete application details to Cotta for recommendations and approval. *** Weight listed is an average. Actual weight can vary significantly with options such as SAE housing size and flywheel coupling choices.

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Model SI3A is a single-stage increasing gearbox designed for direct mounting to industrial engines via an SAE flange and driven in standard engine rotation (CW facing input shaft). Tabulated below are nominal power and speed capacity together with standard options. Contact Cotta to discuss other options or specialized requirements.

OUTPUT ROTATION:	Opposite to input.
MAX INPUT TORQUE:	2000 lb-ft.
MAX INPUT SPEED:	3000 RPM or as otherwise limited by input clutch or coupling.
MAX OUTPUT SPEED:	5500 RPM
RATIO RANGE:	1.27 to 2.44
OUTPUT SHAFT SIZE:	2.750" diameter with 5/8" X 5/16" keyway.
OUTPUT SHAFT LOCATION:	12 o'clock std. 3, 6, and 9 o'clock optional.
SAE FLANGE OPTIONS:	#0, #1
*FLYWHEEL COUPLINGS:	Various clutches, couplings, and drive plates through SAE 18".
REAR SUPPORT:	Required. Customer supplied item. Mounting holes provided per drawing.
LUBRICATION:	Integral Lube pump supplied
COOLING:	Oil/water shell-and-tube cooler furnished if required. Various options.
**SIDE LOAD CAPABLE:	No. Contact Cotta for recommendations.
***APPROXIMATE WEIGHT:	1000 lbs.

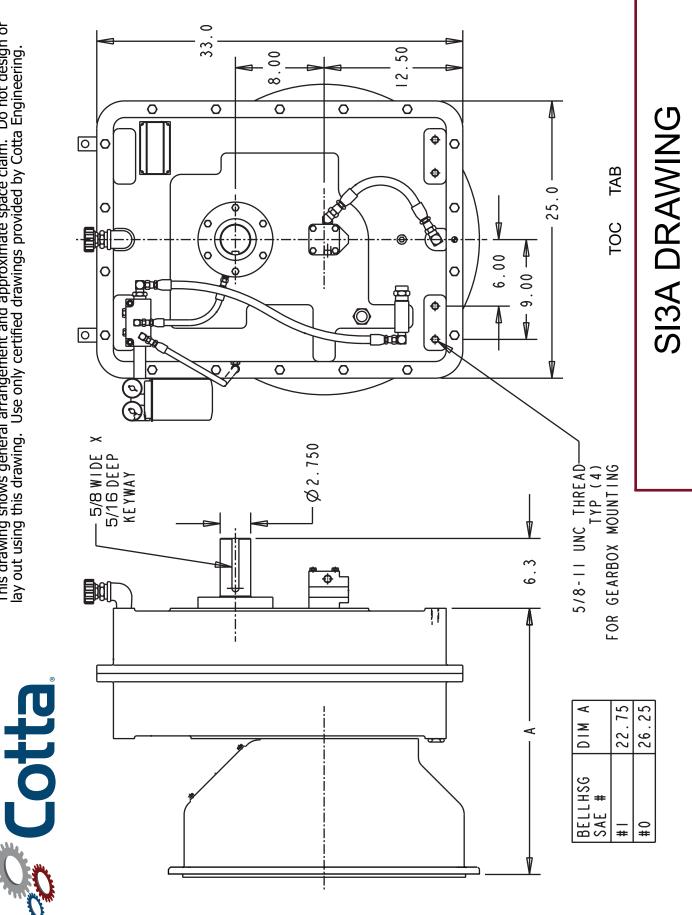
* Flywheel coupling selection requires Cotta technical review and approval.

** Cotta Speed Increaser output shafts are not designed for belt or chain side pull drives. If your application requires side loads provide complete application details to Cotta for recommendations and approval. *** Weight listed is an average. Actual weight can vary significantly with options such as SAE housing size and flywheel coupling choices.

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



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Model SI3E is a single-stage increasing gearbox designed for direct mounting to industrial engines via an SAE flange and driven in standard engine rotation (CW facing input shaft). This unit incorporates an idler shaft to provide output rotation same as input. Tabulated below are nominal power and speed capacity together with standard options. Contact Cotta to discuss other options or specialized requirements.

OUTPUT ROTATION:	Same as input.
MAX INPUT TORQUE:	1900 lb-ft.
MAX INPUT SPEED:	3000 RPM or as otherwise limited by input clutch or coupling.
MAX OUTPUT SPEED:	5500 RPM
RATIO RANGE:	1.2 to 2.52
OUTPUT SHAFT SIZE:	2.750" diameter with 5/8" X 5/16" keyway.
OUTPUT SHAFT LOCATION:	12 o'clock std. 3, 6, and 9 o'clock optional.
SAE FLANGE OPTIONS:	#0, #1
*FLYWHEEL COUPLINGS:	Various clutches, couplings, and drive plates through SAE 18".
REAR SUPPORT:	Required. Customer supplied item. Mounting holes provided per drawing.
LUBRICATION:	Integral Lube pump supplied
COOLING:	Oil/water shell-and-tube cooler furnished if required. Various options.
**SIDE LOAD CAPABLE:	No. Contact Cotta for recommendations.
***APPROXIMATE WEIGHT:	1150 lbs.

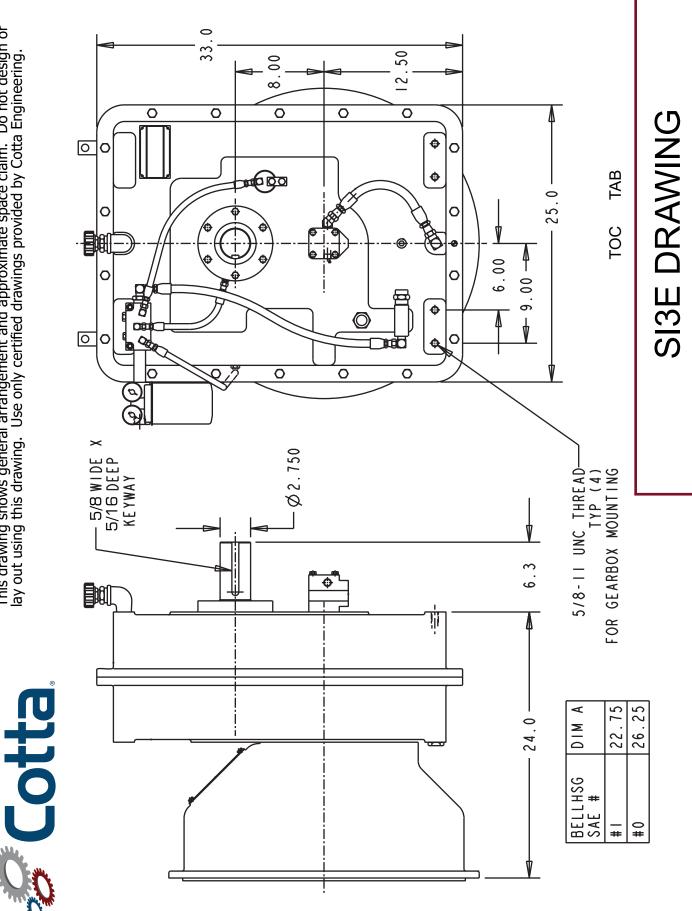
* Flywheel coupling selection requires Cotta technical review and approval.

** Cotta Speed Increaser output shafts are not designed for belt or chain side pull drives. If your application requires side loads provide complete application details to Cotta for recommendations and approval. *** Weight listed is an average. Actual weight can vary significantly with options such as SAE housing size and flywheel coupling choices.

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Model GO1700A is a single-stage increasing gearbox designed for direct mounting to industrial engines via an SAE flange and driven in standard engine rotation (CW facing input shaft). Tabulated below are nominal power and speed capacity together with standard options. Contact Cotta to discuss other options or specialized requirements.

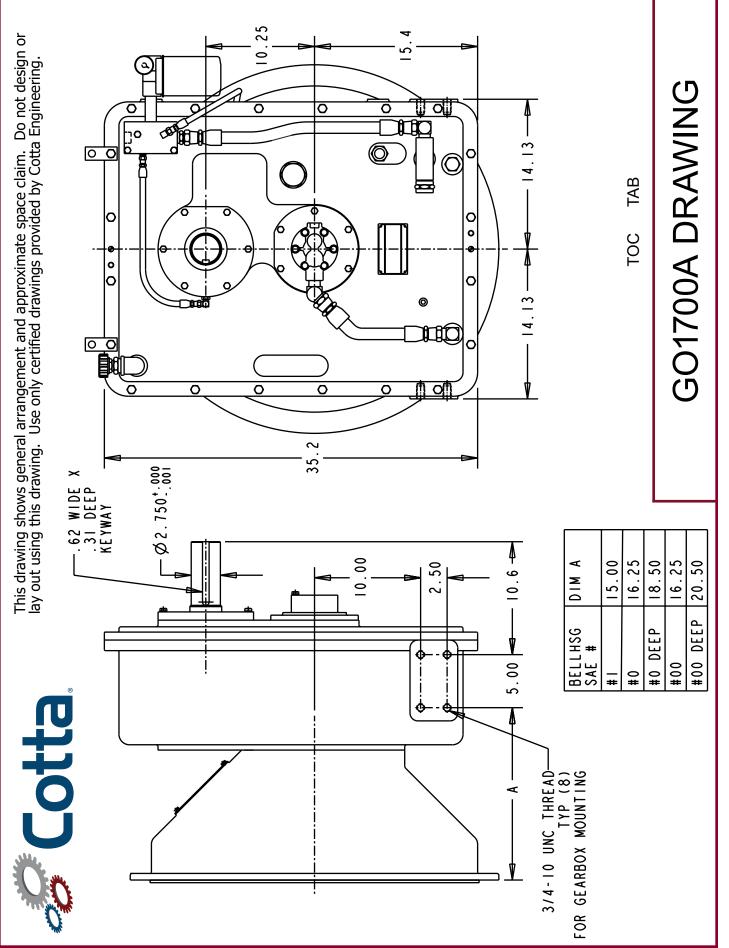
OUTPUT ROTATION:	Opposite to input.
MAX INPUT TORQUE:	5500 lb-ft.
MAX INPUT SPEED:	2500 RPM or as otherwise limited by input clutch or coupling.
MAX OUTPUT SPEED:	5500
RATIO RANGE:	1.5 to 3.0
OUTPUT SHAFT SIZE:	2.750" diameter X 6.0" long with 5/8" X 5/16" keyway.
OUTPUT SHAFT LOCATION:	12 o'clock to input std. 3, 6, and 9 o'clock optional.
SAE FLANGE OPTIONS:	#00, #0, #1
*FLYWHEEL COUPLINGS:	Various clutches, couplings, and drive plates through SAE 24".
REAR SUPPORT:	Required. Customer supplied item. Mounting holes provided per drawing.
LUBRICATION:	Integral Lube pump supplied.
COOLING:	Oil/water shell-and-tube cooler furnished if required. Various options.
**SIDE LOAD CAPABLE:	No. Contact Cotta for recommendations.
***APPROXIMATE WEIGHT:	1900 lbs.

* Flywheel coupling selection requires Cotta technical review and approval.

** Cotta Speed Increaser output shafts are not designed for belt or chain side pull drives. If your application requires side loads provide complete application details to Cotta for recommendations and approval. *** Weight listed is an average. Actual weight can vary significantly with options such as SAE housing size and flywheel coupling choices.

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Model GO1700E is a single-stage increasing gearbox designed for direct mounting to industrial engines via an SAE flange and driven in standard engine rotation (CW facing input shaft). This unit incorporates an idler shaft to provide output rotation same as input. Tabulated below are nominal power and speed capacity together with standard options. Contact Cotta to discuss other options or specialized requirements.

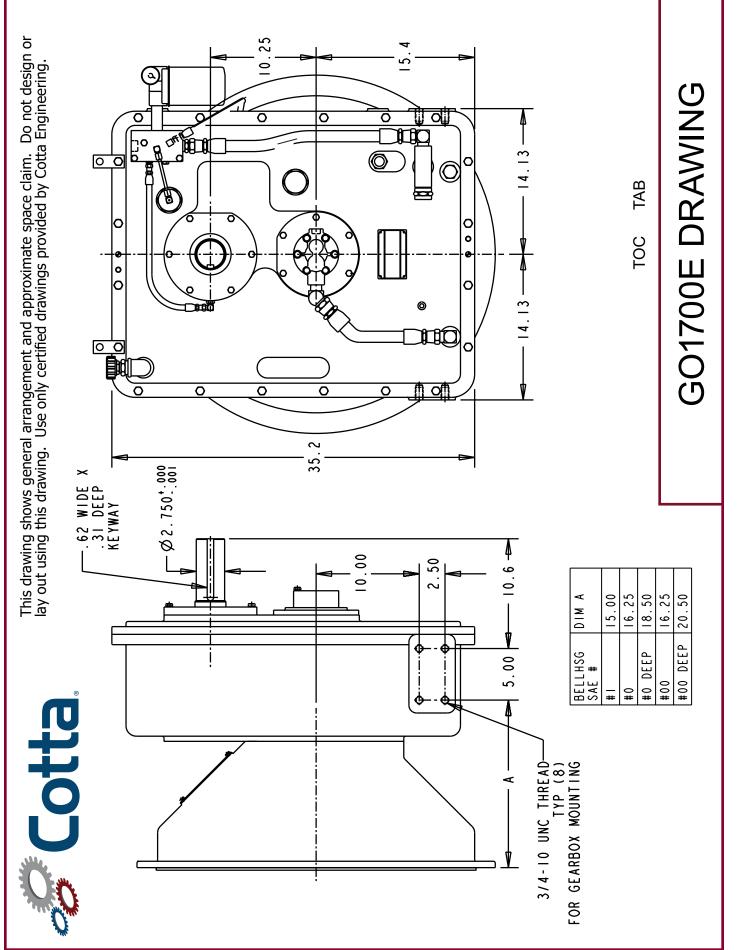
OUTPUT ROTATION:	Same as input.
MAX INPUT TORQUE:	5500 lb-ft.
MAX INPUT SPEED:	2500 RPM or as otherwise limited by input clutch or coupling.
MAX OUTPUT SPEED:	5400 rpm
RATIO RANGE:	1.21 to 2.95
OUTPUT SHAFT SIZE:	2.750" diameter X 6.0" long with 5/8" X 5/16" keyway.
OUTPUT SHAFT LOCATION:	12 o'clock to input std. 3, 6, and 9 o'clock optional.
SAE FLANGE OPTIONS:	#00, #0, #1
*FLYWHEEL COUPLINGS:	Various clutches, couplings, and drive plates through SAE 24".
REAR SUPPORT:	Required. Customer supplied item. Mounting holes provided per drawing.
LUBRICATION:	Integral Lube pump supplied
COOLING:	Oil/water shell-and-tube cooler furnished if required. Various options.
**SIDE LOAD CAPABLE:	No. Contact Cotta for recommendations.
***APPROXIMATE WEIGHT:	2000 lbs.

* Flywheel coupling selection requires Cotta technical review and approval.

** Cotta Speed Increaser output shafts are not designed for belt or chain side pull drives. If your application requires side loads provide complete application details to Cotta for recommendations and approval. *** Weight listed is an average. Actual weight can vary significantly with options such as SAE housing size and flywheel coupling choices.

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Model GO1900A is a single-stage increasing gearbox designed for direct mounting to industrial engines via an SAE flange and driven in standard engine rotation (CW facing input shaft). Tabulated below are nominal power and speed capacity together with standard options. Contact Cotta to discuss other options or specialized requirements.

OUTPUT ROTATION:	Opposite to input.
MAX INPUT TORQUE:	7900 lb-ft.
MAX INPUT SPEED:	2500 RPM or as otherwise limited by input clutch or coupling.
MAX OUTPUT SPEED:	4800 RPM
RATIO RANGE:	2.09 to 3.0
OUTPUT SHAFT SIZE:	3.25" diameter X 6.0" long with .75" X .375" keyway.
OUTPUT SHAFT LOCATION:	12 o'clock std. 3, 6, and 9 o'clock optional.
SAE FLANGE OPTIONS:	#00, #0
*FLYWHEEL COUPLINGS:	Various clutches, couplings, and drive plates through SAE 24".
REAR SUPPORT:	Required. Customer supplied item. Mounting holes provided per drawing.
LUBRICATION:	Integral Lube pump supplied
COOLING:	Oil/water shell-and-tube cooler furnished if required. Various options.
**SIDE LOAD CAPABLE:	No. Contact Cotta for recommendations.
***APPROXIMATE WEIGHT:	2100 lbs.

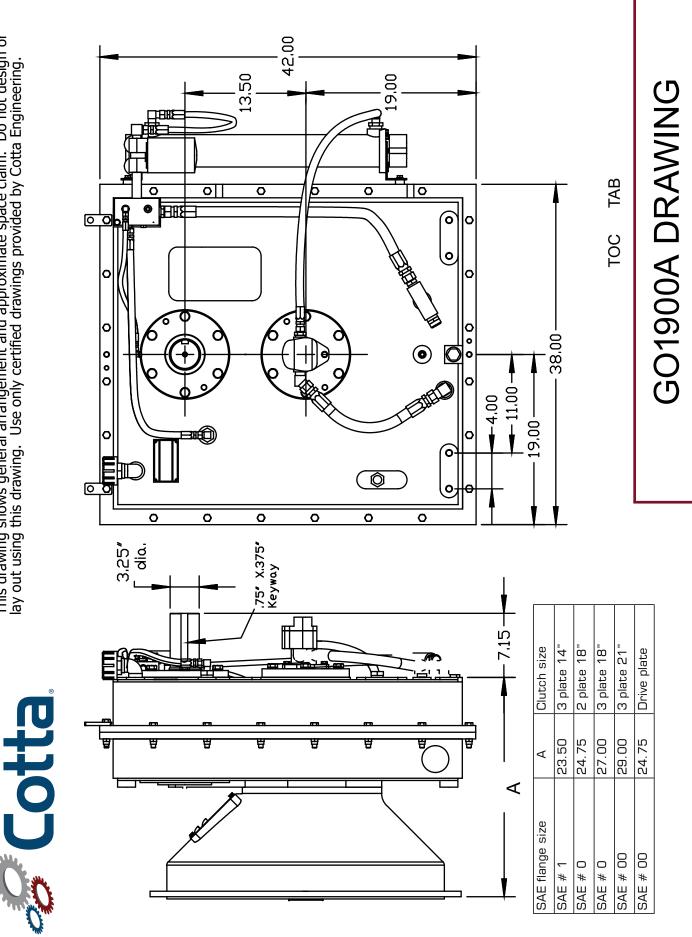
* Flywheel coupling selection requires Cotta technical review and approval.

** Cotta Speed Increaser output shafts are not designed for belt or chain side pull drives. If your application requires side loads provide complete application details to Cotta for recommendations and approval. *** Weight listed is an average. Actual weight can vary significantly with options such as SAE housing size and flywheel coupling choices.

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Model GO1900E is a single-stage increasing gearbox designed for direct mounting to industrial engines via an SAE flange and driven in standard engine rotation (CW facing input shaft). This unit incorporates an idler shaft to provide output rotation same as input. Tabulated below are nominal power and speed capacity together with standard options. Contact Cotta to discuss other options or specialized requirements.

OUTPUT ROTATION:	Same as input.
MAX INPUT TORQUE:	7900 lb-ft.
MAX INPUT SPEED:	2500 RPM or as otherwise limited by input clutch or coupling.
MAX OUTPUT SPEED:	4800 RPM
RATIO RANGE:	1.76 to 3.54
OUTPUT SHAFT SIZE:	3.25" diameter X 6.0" long with .75"X .375" keyway.
OUTPUT SHAFT LOCATION:	12 o'clock std. 3, 6, and 9 o'clock optional.
SAE FLANGE OPTIONS:	#00, #0
*FLYWHEEL COUPLINGS:	Various clutches, couplings, and drive plates through SAE 24".
REAR SUPPORT:	Required. Customer supplied item. Mounting holes provided per drawing.
LUBRICATION:	Integral Lube pump supplied
COOLING:	Oil/water shell-and-tube cooler furnished if required. Various options.
**SIDE LOAD CAPABLE:	No. Contact Cotta for recommendations.
***APPROXIMATE WEIGHT:	2100 lbs.

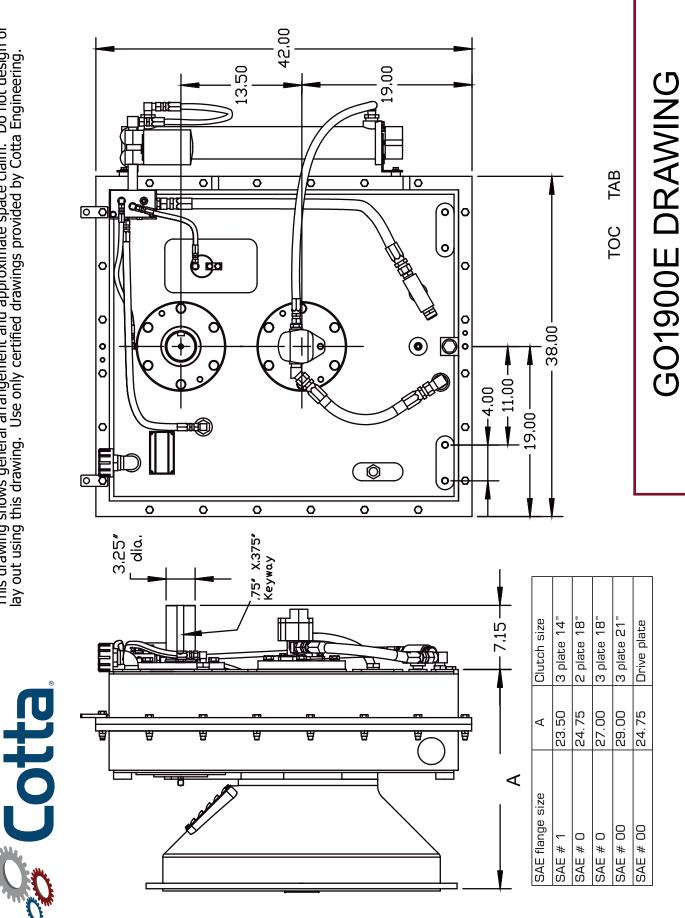
* Flywheel coupling selection requires Cotta technical review and approval.

** Cotta Speed Increaser output shafts are not designed for belt or chain side pull drives. If your application requires side loads provide complete application details to Cotta for recommendations and approval. *** Weight listed is an average. Actual weight can vary significantly with options such as SAE housing size and flywheel coupling choices.

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Model GO2329 is a single-stage increasing gearbox designed for independent mounting and driven by either an industrial engine or electric motor. Tabulated below are nominal power and speed capacity together with standard options. Contact Cotta to discuss other options or specialized requirements.

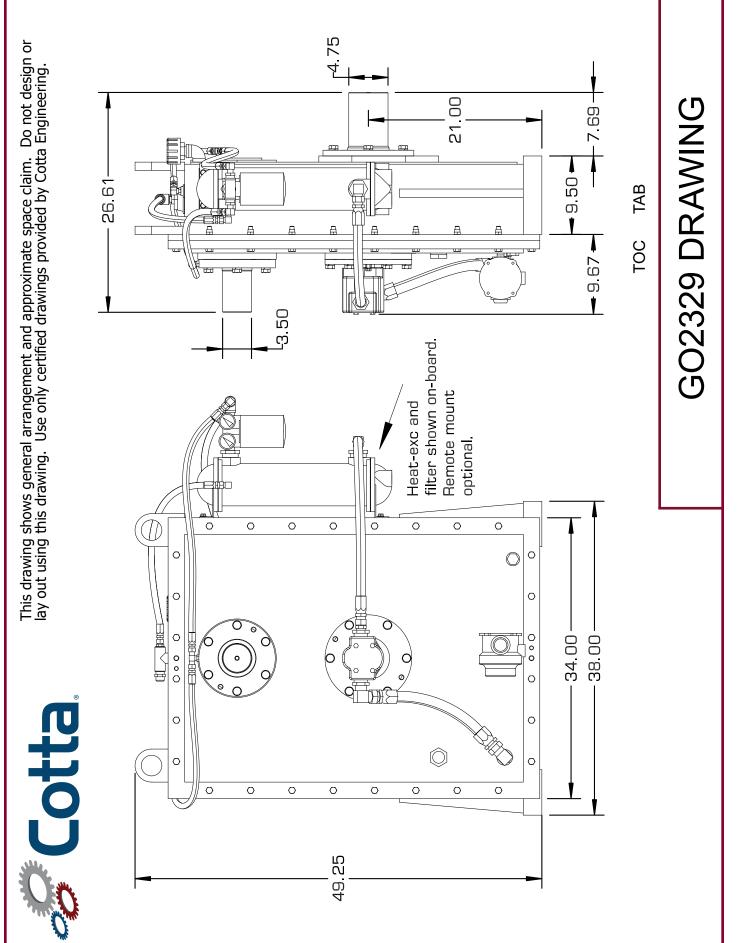
OUTPUT ROTATION:	Opposite to input.
MAX INPUT TORQUE:	10,000 lb-ft.
MAX INPUT SPEED:	1200 RPM or as otherwise approved by Cotta Engineering.
MAX OUTPUT SPEED:	4350 RPM
RATIO RANGE:	2.0 to 3.61. Others by special design.
OUTPUT SHAFT SIZE:	4.750" no-key typical.
OUTPUT SHAFT LOCATION:	12 O'clock std. 3, 6, and 9 o'clock optional.
SAE HOUSINGS:	None. Independent mount.
SHAFT COUPLINGS:	Commercial shaft couplings sized as required.
MOUNTING:	Independent foot mounted unit.
LUBRICATION:	Integral Lube pump supplied
COOLING:	Oil/water shell-and-tube cooler furnished as required by application
*SIDE LOAD CAPABLE:	No. Contact Cotta for recommendations.
**APPROXIMATE WEIGHT:	2100 lbs.

* Flywheel coupling selection requires Cotta technical review and approval.

** Cotta Speed Increaser output shafts are not designed for belt or chain side pull drives. If your application requires side loads provide complete application details to Cotta for recommendations and approval. *** Weight listed is an average. Actual weight can vary significantly with options such as SAE housing size and flywheel coupling choices.

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