# Falk CT-Series — Type CTA

# Type CTA Right Angle

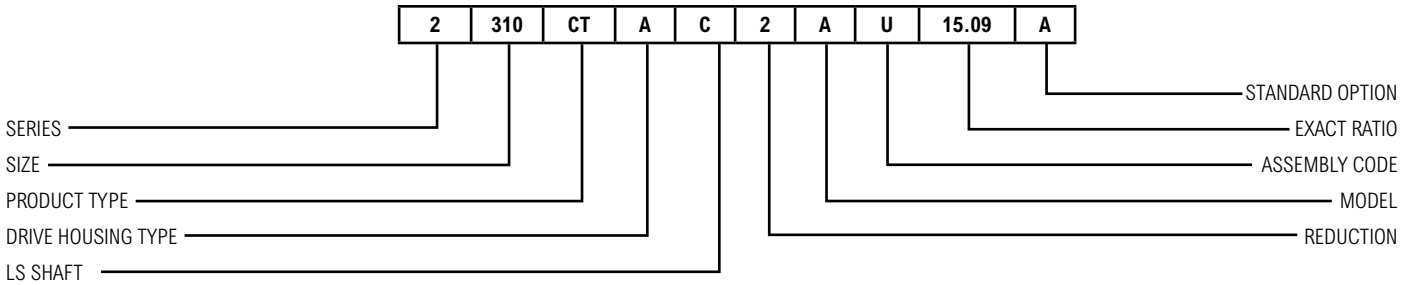
The Falk® type CTA gear drives, brought to you by the makers of Addax® Composite Couplings, are specifically designed to directly replace Amarillo® and Marley® M Series gearboxes* for cooling tower and vertical drive applications. The critical mounting dimensions of the type CTA matches comparable Amarillo and Marley models, allowing for quick and easy replacement of existing gearboxes.

* Amarillo and Marley are registered trademarks of their respective owners, and are in no way associated with Rexnord Corporation or any of its brands.

## Features and Benefits:

- Manufactured to **American Gear Manufacturers Association (AGMA)** and **Cooling Technology Institute (CTI)** standards.
- **Double reduction spiral bevel** gear units are designed for cooling tower installations and feature a tub and cover housing and **pump-less lubrication**. Oil is delivered to all requisite locations using an oil slinger in conjunction with an elaborate oil management system.
- Castings are designed and **built to absorb internal and external loads** with minimum deflection. Gear case and covers are designed to assure permanent alignment of bearings and gears under load. All casting materials are gray cast iron for effective damping of noise and vibration.
- **Tub and cover housing design** utilizes dowel pins to ensure proper alignment and is **sealed using a formed-in-place gasket material** that eliminates weeping.
- Spiral bevel gears are finished using a **state-of-the-art hard cut process**, with special software monitoring to match the profile of the mating gears.
- The housing utilizes **vertical fins to maximize thermal performance in high ambient temperatures** such as those found in cooling tower applications with no additional cooling devices required.
- **All bearings are roller-type**, and sized to meet or exceed a **minimum $L_{10}$ life** as specified by AGMA and CTI standards.
- **Standard marine grade paint** conforms to ISO 12944-5 C5-M to ensure long service life in the harsh cooling tower environment.
- **Standard accessories are available**, including:
  - Backstop
  - Oil level switch
  - Vibration sensor
  - RTD temperature sensors
  - Oil heater

## Nomenclature Guide




**Series**
2000 Series

**Size**
310

**Product Type**
CT — Falk CT-Series

**Drive Housing Type/Output Shaft Configuration**
A — Right angle drive, matches Amarillo footprint

**LS Shaft**
C — Solid shaft

**Reduction**
2 — Number of reductions/stages in gear drive

**Model**
A — Model A

**Assembly Code**
U — L.S. shaft up

**Ratio**
Exact ratio expressed as (5) characters including decimal point

**Standard Options**
A — Oil level switch
B — Oil heater
C — Oil sump and HS bearing RTDs
D — Vibration sensor (HS bearing)
E — Mechanical oil pump

# Type CTA Right Angle

## Maximum Allowable Low Speed Shaft Thrust Load‡

| Drive Size | Maximum Thrust Load | |
|---|---|---|
| | kg | lbs |
| **2310** | *4,037* | 8,768 |

‡ The listed thrust ratings are the maximum allowable axial load at the low speed shaft to maintain $L_{10}$ of 100,000 hours. Contact the factory if higher thrust load ratings are required.

## Weight and Oil Quantity

| Size | Weight kg (lbs) | Oil Quantity L (gal)• |
|---|---|---|
| **2310** | *1,134* | *45* |
| | (2,499) | (11.88) |

• The volume of oil indicated in the table is only a rough guideline, depending on the ratio the actual oil volume can vary. The exact level of oil is to be maintained as per the dipstick marking or the level indicator as applicable.

## Actual Ratio

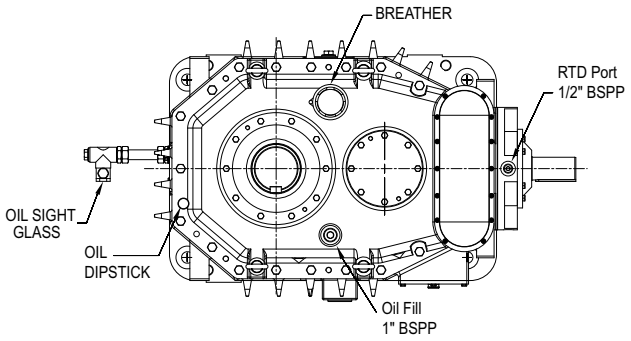
| Nominal Ratio | Drive Size |
|---|---|
| | 2310 |
| **9.0** | 9.043 |
| **10.0** | 10.17 |
| **10.5** | 10.67 |
| **11.0** | 11.16 |
| **12.0** | 12.00 |
| **12.5** | 12.55 |
| **13.0** | 13.05 |
| **14.0** | 14.22 |
| **15.0** | 15.09 |
| **15.5** | 15.50 |
| **16.0** | 16.00 |

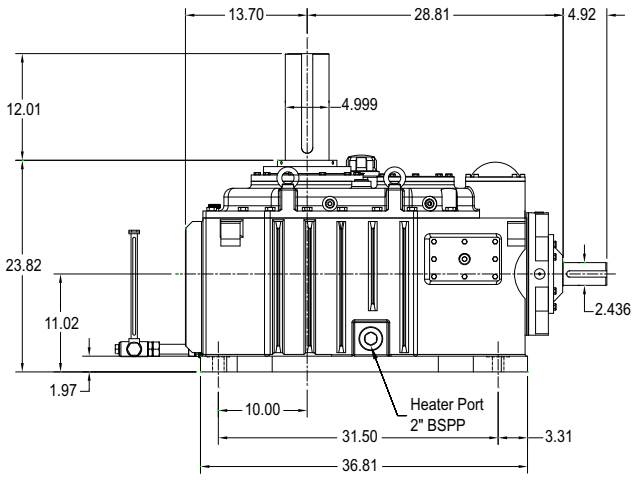
## Service Power Ratings†
### (Minimum Service Factor 2.0)

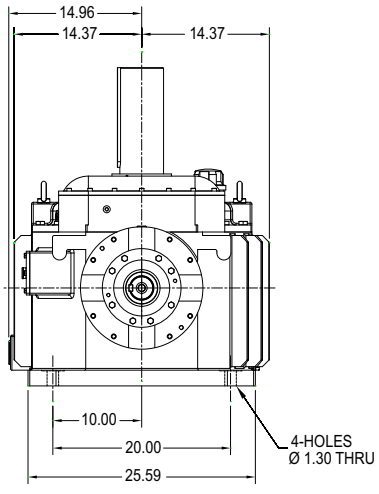
| High Speed Shaft rpm | Nominal Ratio | Approx LS Shaft rpm | Drive Size 2310 | |
|---|---|---|---|---|
| | | | HP | kW |
| **1750** | 9.0 | 194 | 312 | 233 |
| | 10.0 | 175 | 290 | 216 |
| | 10.5 | 167 | 281 | 210 |
| | 11.0 | 159 | 270 | 201 |
| | 12.0 | 146 | 253 | 189 |
| | 12.5 | 140 | 252 | 188 |
| | 13.0 | 135 | 240 | 179 |
| | 14.0 | 125 | 231 | 172 |
| | 15.0 | 117 | 214 | 160 |
| | 15.5 | 113 | 208 | 155 |
| | 16.0 | 109 | 200 | 149 |
| **1430** | 9.0 | 159 | 259 | 193 |
| | 10.0 | 143 | 240 | 179 |
| | 10.5 | 136 | 230 | 172 |
| | 11.0 | 130 | 226 | 169 |
| | 12.0 | 119 | 212 | 158 |
| | 12.5 | 114 | 213 | 159 |
| | 13.0 | 110 | 201 | 150 |
| | 14.0 | 102 | 188 | 140 |
| | 15.0 | 95 | 177 | 132 |
| | 15.5 | 92 | 171 | 128 |
| | 16.0 | 89 | 167 | 125 |
| **1170** | 9.0 | 130 | 207 | 154 |
| | 10.0 | 117 | 190 | 142 |
| | 10.5 | 111 | 185 | 138 |
| | 11.0 | 106 | 179 | 133 |
| | 12.0 | 98 | 170 | 127 |
| | 12.5 | 94 | 169 | 126 |
| | 13.0 | 90 | 159 | 119 |
| | 14.0 | 84 | 150 | 112 |
| | 15.0 | 78 | 142 | 106 |
| | 15.5 | 75 | 137 | 102 |
| | 16.0 | 73 | 133 | 99 |

† Service ratings are based upon an ambient temperature of 100°F (38°C) at sea level and a CTI standard minimum service factor of 2.0. For other vertical applications or ambient conditions, contact the factory.

## Double Reduction Solid Low Speed Shaft, Base Drive — Size 2310




Shaft diameters are held to limits of +/- 0.001". Shaft keyseat depth is one-half of key height.

Low speed shaft key: 1.250" x 1.250" x 11.22"

High speed shaft key: 0.625" x 0.625" x 4.53"

866-REXNORD/866-739-6673 (Within the U.S.)
414-643-2366 (Outside the U.S.)
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