



**FALK**



# FALK CT-SERIES GEAR DRIVES

TYPE CTA

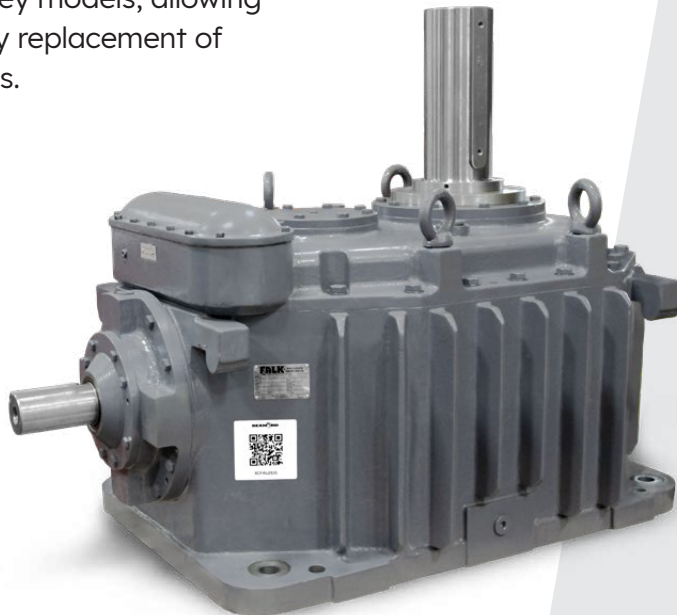


**RegalRexnord**

# A Trusted Name for Cooling Towers



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.



## Key Industries:

Power Generation  
Refineries  
Petrochemical  
Pulp & Paper

## Applications:

Cooling Towers  
Vertical Mixers

## Sizes:

- Four drive sizes with nineteen standard ratios from 7.5–20
- Custom ratios available upon request
- Power range of 100 HP to 390 HP at a 2.0 Service Factor

*\* Amarillo and Marley are registered trademarks of their respective owners, and are in no way associated with Regal 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<sub>10</sub> life** as specified by AGMA and CTI standards.
- **Standard marine grade paint** conforms to ISO 12944-5 guidelines for very high atmospheric corrosivity (C5 Category) to ensure long service life in the harsh cooling tower environment.
- **Optional accessories are available**, including:
  - Backstop
  - Oil level switch
  - Vibration sensor
  - RTD temperature sensors
  - Oil heater



# TYPE CTA RIGHT ANGLE

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

| Input Speed<br>RPM | Nominal<br>Ratio | Approx LS<br>Shaft rpm | Drive Size |     |      |     |      |     |      |     |
|--------------------|------------------|------------------------|------------|-----|------|-----|------|-----|------|-----|
|                    |                  |                        | 2255       |     | 2275 |     | 2310 |     | 2350 |     |
|                    |                  |                        | HP         | kW  | HP   | kW  | HP   | kW  | HP   | kW  |
| 1750               | 7.5              | 233                    | 142        | 106 | —    | —   | —    | —   | —    | —   |
|                    | 8                | 219                    | 142        | 106 | 210  | 157 | —    | —   | —    | —   |
|                    | 8.5              | 206                    | 141        | 105 | 208  | 155 | —    | —   | —    | —   |
|                    | 9                | 194                    | 140        | 104 | 206  | 154 | 312  | 233 | —    | —   |
|                    | 9.5              | 184                    | 135        | 101 | 198  | 148 | —    | —   | —    | —   |
|                    | 10               | 175                    | 130        | 97  | 190  | 142 | 290  | 216 | —    | —   |
|                    | 10.5             | 167                    | 130        | 97  | 183  | 136 | 281  | 210 | —    | —   |
|                    | 11               | 159                    | 130        | 97  | 176  | 131 | 279  | 208 | 390  | 291 |
|                    | 12               | 146                    | 125        | 93  | 165  | 123 | 253  | 189 | 343  | 256 |
|                    | 12.5             | 140                    | —          | —   | —    | —   | 252  | 188 | 333  | 248 |
|                    | 13               | 135                    | 125        | 93  | 160  | 119 | 240  | 179 | 323  | 241 |
|                    | 14               | 125                    | 120        | 89  | 155  | 116 | 231  | 172 | 310  | 231 |
|                    | 15               | 117                    | —          | —   | 150  | 112 | 214  | 160 | 300  | 224 |
|                    | 15.5             | 113                    | —          | —   | —    | —   | 208  | 155 | 294  | 219 |
|                    | 16               | 109                    | —          | —   | —    | —   | 200  | 149 | 285  | 213 |
|                    | 17               | 103                    | —          | —   | 137  | 102 | —    | —   | 272  | 203 |
| 18                 | 97               | —                      | —          | —   | —    | —   | —    | 262 | 195  |     |
| 19                 | 92               | —                      | —          | —   | —    | —   | —    | 250 | 186  |     |
| 20                 | 88               | —                      | —          | —   | —    | —   | —    | 241 | 180  |     |
| 1450               | 7.5              | 233                    | 118        | 88  | —    | —   | —    | —   | —    | —   |
|                    | 8                | 219                    | 118        | 88  | 174  | 130 | —    | —   | —    | —   |
|                    | 8.5              | 206                    | 117        | 87  | 172  | 128 | —    | —   | —    | —   |
|                    | 9                | 194                    | 116        | 87  | 171  | 128 | 259  | 193 | —    | —   |
|                    | 9.5              | 184                    | 112        | 84  | 164  | 122 | —    | —   | —    | —   |
|                    | 10               | 175                    | 108        | 81  | 157  | 117 | 240  | 179 | —    | —   |
|                    | 10.5             | 167                    | 108        | 81  | 151  | 113 | 230  | 172 | —    | —   |
|                    | 11               | 159                    | 108        | 81  | 146  | 109 | 226  | 169 | 323  | 241 |
|                    | 12               | 146                    | 104        | 78  | 137  | 102 | 212  | 158 | 284  | 212 |
|                    | 12.5             | 140                    | —          | —   | —    | —   | 213  | 159 | 276  | 206 |
|                    | 13               | 135                    | 104        | 78  | 133  | 99  | 201  | 150 | 268  | 200 |
|                    | 14               | 125                    | 99         | 74  | 128  | 95  | 188  | 140 | 257  | 192 |
|                    | 15               | 117                    | —          | —   | 124  | 92  | 177  | 132 | 249  | 186 |
|                    | 15.5             | 113                    | —          | —   | —    | —   | 171  | 128 | 244  | 182 |
|                    | 16               | 109                    | —          | —   | —    | —   | 167  | 125 | 236  | 176 |
|                    | 17               | 103                    | —          | —   | 114  | 85  | —    | —   | 225  | 168 |
| 18                 | 97               | —                      | —          | —   | —    | —   | —    | 217 | 162  |     |
| 19                 | 92               | —                      | —          | —   | —    | —   | —    | 207 | 154  |     |
| 20                 | 88               | —                      | —          | —   | —    | —   | —    | 200 | 149  |     |
| 1170               | 7.5              | 233                    | 94         | 70  | —    | —   | —    | —   | —    | —   |
|                    | 8                | 219                    | 94         | 70  | 139  | 104 | —    | —   | —    | —   |
|                    | 8.5              | 206                    | 93         | 69  | 138  | 103 | —    | —   | —    | —   |
|                    | 9                | 194                    | 93         | 69  | 137  | 102 | 207  | 154 | —    | —   |
|                    | 9.5              | 184                    | 89         | 66  | 131  | 98  | —    | —   | —    | —   |
|                    | 10               | 175                    | 86         | 64  | 126  | 94  | 190  | 142 | —    | —   |
|                    | 10.5             | 167                    | 86         | 64  | 121  | 90  | 185  | 138 | —    | —   |
|                    | 11               | 159                    | 86         | 64  | 117  | 87  | 179  | 133 | 259  | 193 |
|                    | 12               | 146                    | 83         | 62  | 109  | 81  | 170  | 127 | 227  | 169 |
|                    | 12.5             | 140                    | —          | —   | —    | —   | 169  | 126 | 220  | 164 |
|                    | 13               | 135                    | 83         | 62  | 106  | 79  | 159  | 119 | 214  | 160 |
|                    | 14               | 125                    | 80         | 60  | 103  | 77  | 150  | 112 | 205  | 153 |
|                    | 15               | 117                    | —          | —   | 99   | 74  | 142  | 106 | 199  | 148 |
|                    | 15.5             | 113                    | —          | —   | —    | —   | 137  | 102 | 195  | 145 |
|                    | 16               | 109                    | —          | —   | —    | —   | 133  | 99  | 189  | 141 |
|                    | 17               | 103                    | —          | —   | 91   | 68  | —    | —   | 180  | 134 |
| 18                 | 97               | —                      | —          | —   | —    | —   | —    | 174 | 130  |     |
| 19                 | 92               | —                      | —          | —   | —    | —   | —    | 166 | 124  |     |
| 20                 | 88               | —                      | —          | —   | —    | —   | —    | 160 | 119  |     |

† Service Power Ratings are in accordance with CTI Std. 111 considering minimum 2.0 service factor (mechanical) and ambient temperature of 25°C at sea level per AGMA ISO 14179-1. For other vertical applications or ambient conditions, contact the factory.

## Maximum Allowable Low Speed Shaft Thrust Load<sup>‡</sup>

| Drive Size | Maximum Thrust Load |       |
|------------|---------------------|-------|
|            | lbs                 | kg    |
| 2255       | 5,400               | 2,450 |
| 2275       | 5,950               | 2,700 |
| 2310       | 8,900               | 4,037 |
| 2350       | 10,900              | 4,945 |

<sup>‡</sup> The listed thrust ratings are the maximum allowable axial load at the low speed shaft to maintain L<sub>10</sub> of 100,000 hours. Contact the factory if higher thrust load ratings are required.

## Weight and Oil Quantity

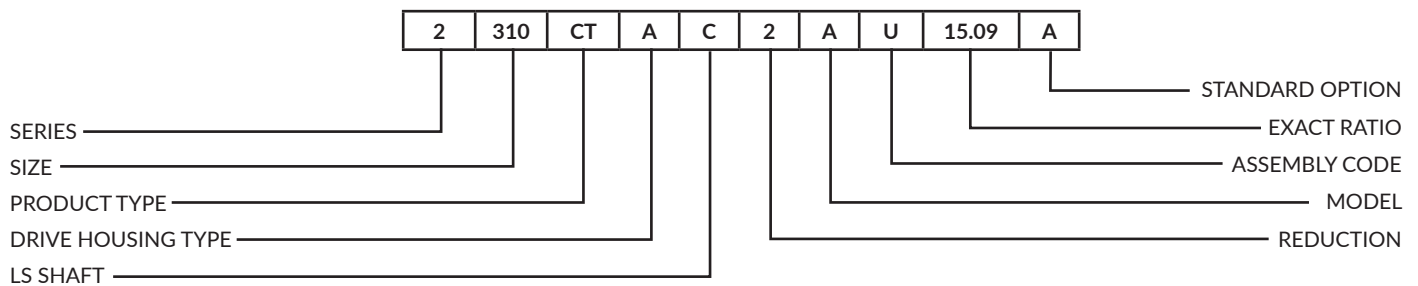
| Drive Size | Weight |       | Oil Quantity |    |
|------------|--------|-------|--------------|----|
|            | lbs    | kg    | gal*         | L  |
| 2255       | 1,653  | 750   | 7.40         | 28 |
| 2275       | 1,940  | 880   | 9.25         | 35 |
| 2310       | 2,499  | 1,134 | 13.21        | 50 |
| 2350       | 3,064  | 1,390 | 16.38        | 62 |

• 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 |       |       |       |
|---------------|------------|-------|-------|-------|
|               | 2255       | 2275  | 2310  | 2350  |
| 7.5           | 7.579      | —     | —     | —     |
| 8             | 8.030      | 8.026 | —     | —     |
| 8.5           | 8.526      | 8.528 | —     | —     |
| 9             | 9.000      | 9.191 | 9.043 | —     |
| 9.5           | 9.536      | 9.529 | —     | —     |
| 10            | 10.13      | 10.13 | 10.17 | —     |
| 10.5          | 10.50      | 10.42 | 10.67 | —     |
| 11            | 11.13      | 11.12 | 11.16 | 11.20 |
| 12            | 12.25      | 11.81 | 12.00 | 11.93 |
| 12.5          | —          | —     | 12.55 | 12.61 |
| 13            | 12.98      | 13.20 | 13.05 | 13.07 |
| 14            | 13.78      | 14.03 | 14.22 | 13.92 |
| 15            | —          | 15.12 | 15.09 | 14.74 |
| 15.5          | —          | —     | 15.50 | 15.39 |
| 16            | —          | —     | 16.00 | 16.22 |
| 17            | —          | 17.15 | —     | 17.19 |
| 18            | —          | —     | —     | 17.93 |
| 19            | —          | —     | —     | 18.93 |
| 20            | —          | —     | —     | 20.03 |

# NOMENCLATURE GUIDE



### Series

2000 Series

### Size

255  
275  
310  
350

### 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

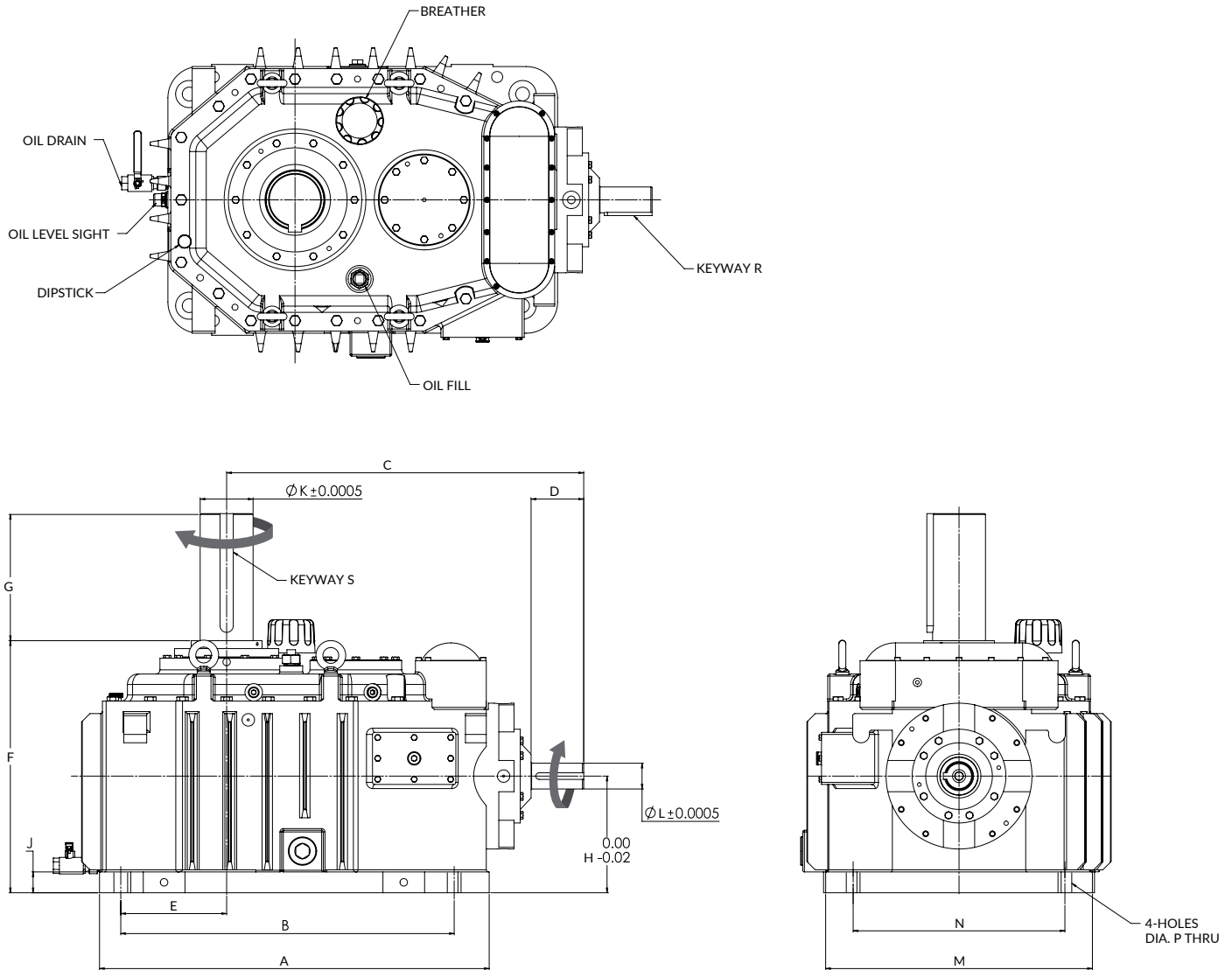
Exact ratio expressed as (5) characters including decimal point

### Standard Options

A – Oil level switch  
B – Oil heater with thermostat  
C – Oil sump and HS bearing RTDs  
D – Vibration sensor (HS bearing)

# DIMENSIONS

## Double Reduction Solid Low Speed Shaft, Base Drive — Sizes 2255-2350



### Dimensions — Inch

| Drive Size | A     | B     | C     | D    | E     | F     | G     | H     | J    | K     | L     | M     | N     | P    | R<br>W x H    | S<br>W x H    |
|------------|-------|-------|-------|------|-------|-------|-------|-------|------|-------|-------|-------|-------|------|---------------|---------------|
| 2255       | 31.89 | 25.98 | 29.75 | 3.75 | 8.88  | 20.63 | 12.01 | 9.51  | 1.97 | 3.999 | 1.874 | 22.05 | 17.99 | 1.06 | 0.375 x 0.188 | 1.000 x 0.500 |
| 2275       | 34.65 | 29.25 | 30.43 | 4.92 | 10.37 | 22.40 | 12.01 | 10.26 | 1.97 | 4.499 | 2.436 | 23.50 | 19.49 | 1.30 | 0.625 x 0.313 | 1.000 x 0.500 |
| 2310       | 36.81 | 31.50 | 33.74 | 4.92 | 10.00 | 23.82 | 12.01 | 11.02 | 1.97 | 4.999 | 2.436 | 25.20 | 20.00 | 1.30 | 0.625 x 0.313 | 1.250 x 0.625 |
| 2350       | 42.52 | 34.88 | 37.24 | 5.83 | 11.61 | 26.10 | 12.01 | 12.01 | 1.57 | 5.499 | 2.936 | 29.25 | 23.23 | 1.30 | 0.750 x 0.375 | 1.250 x 0.625 |

# ADDAX® COOLING TOWER BACKSTOP

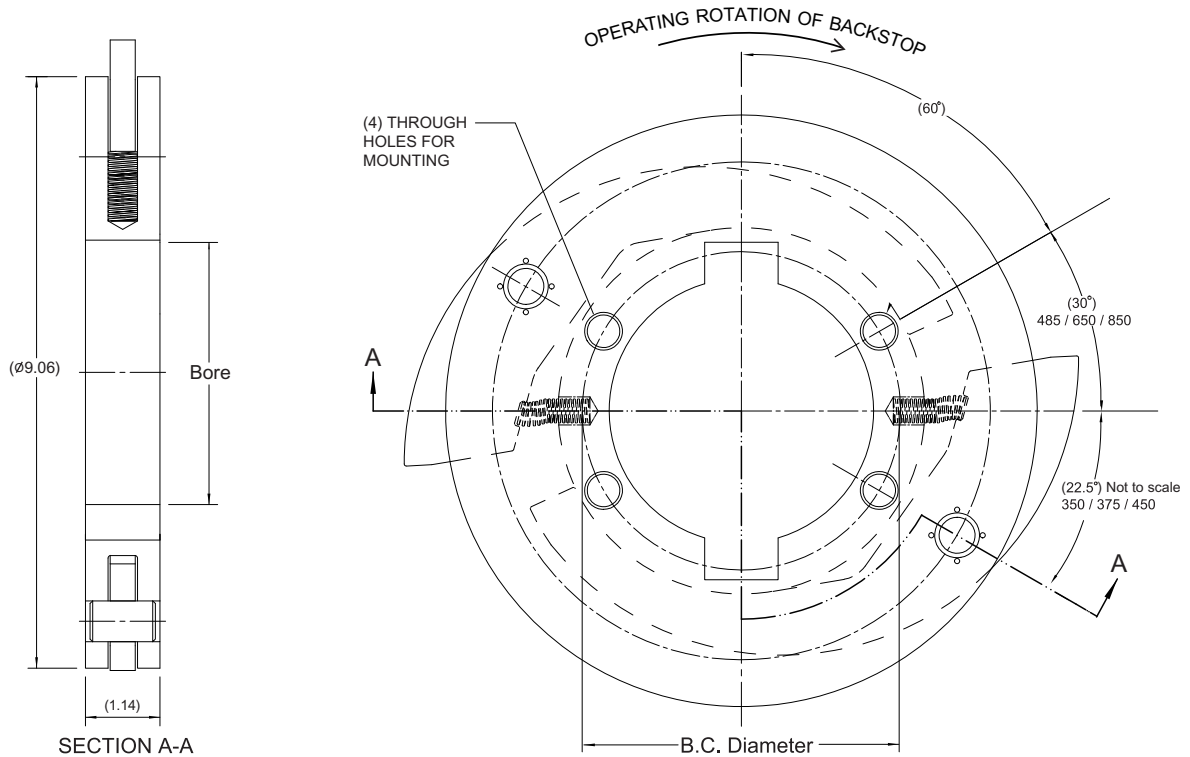
The Addax Cooling Tower Backstop is an anti-reverse device that mounts directly to coupling hub at either motor or gear drive end. The spring-loaded pawl design allows free rotation in the motor-driven direction, while preventing “reverse windmilling” which could result in costly damage to nearby connected equipment.

- All 316 Stainless Steel construction for superior durability in highly corrosive atmospheres
- Easily mounts directly to Addax Coupling hubs or can be retrofitted to non-Addax hubs.
- Available with Stop Post Assemblies that mount to base plate of type CTA gear drives to enable hassle-free installation

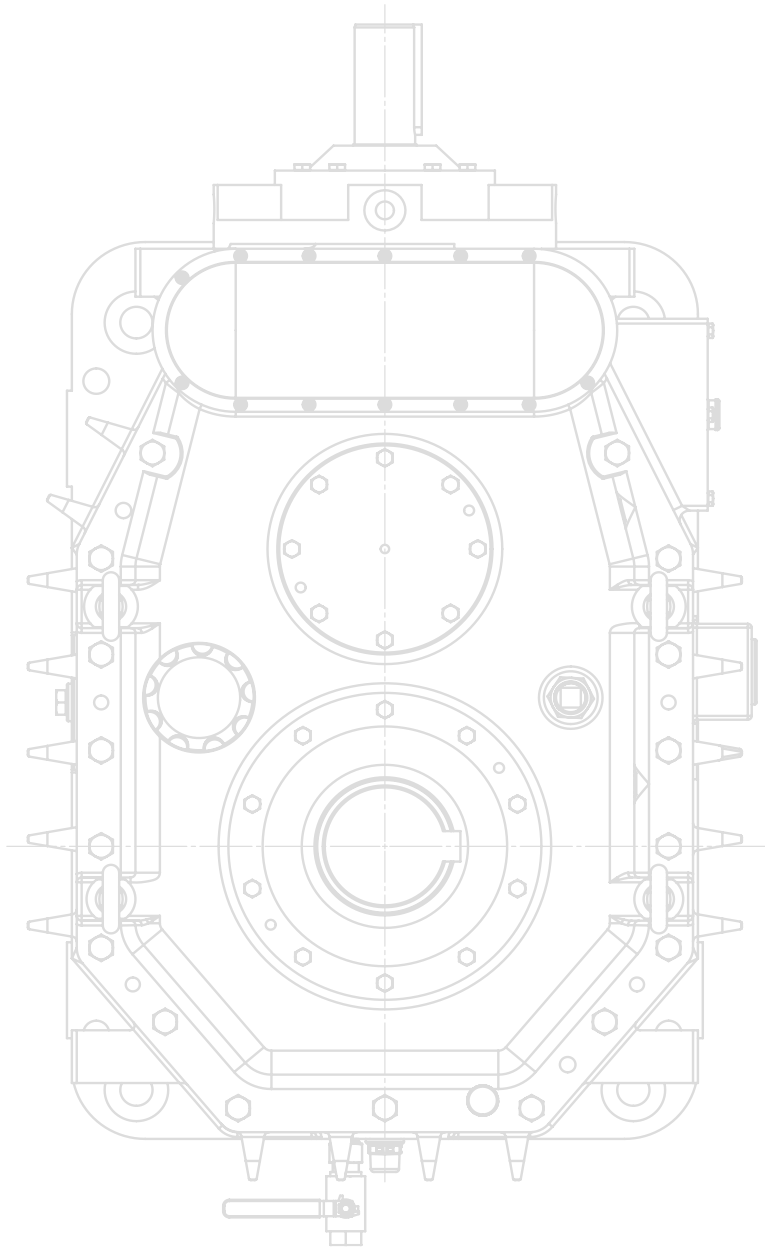


## CTA Stop Post Assemblies

| Gear Drive Size | Part Number |
|-----------------|-------------|
| 2255            | 10787845    |
| 2275            | 10788006    |
| 2310            | 10781127    |
| 2350            | 10788007    |



| Size        | Bore (in) | Mating Hub Backstop Bolting Information |                  |                   | Pawl Diameter |            | Required Speed for Compression | Part Number | Hub Style |
|-------------|-----------|---|------------------|-------------------|---------------|------------|--------------------------------|-------------|-----------|
|             |           | B.C Diameter (in)                       | Capscrew Size    | Tightening Torque | Compressed    | Sprung     |                                |             |           |
| 350/375/450 | 3.02      | 3-1/2                                   | 5/16-18NC X 1.75 | 195 lb-in         | 9-3/16 in     | 10-9/16 in | 400 RPM                        | 10299610    | Oversized |
| 485         | 3.44      | 4-1/16                                  | 5/16-18NC X 1.75 | 195 lb-in         |               |            |                                | 10299611    | Oversized |
| 650         | 4.05      | 4-5/8                                   | 3/8-16NC X 1.75  | 300 lb-in         |               |            |                                | 10299612    | Oversized |
| 850         | 4.05      | 4-7/8                                   | 1/2-13NC X 2.00  | 750 lb-in         |               |            |                                | 10299613    | Standard  |



# FALK®

## Motion Control Solutions Regal Rexnord

Contact us: [rexnord.com/contact](https://www.regalrexnord.com/contact)

[regalrexnord.com](https://www.regalrexnord.com)

The proper selection and application of products and components, including assuring that the product is safe for its intended use, are the responsibility of the customer. To view our Application Considerations, please visit <https://www.regalrexnord.com/Application-Considerations>.

To view our Standard Terms and Conditions of Sale, please visit <https://www.regalrexnord.com/Terms-and-Conditions-of-Sale> (which may redirect to other website locations based on product family).

"Regal Rexnord" is not indicative of legal entity.

Regal Rexnord, Falk, and Addax are trademarks of Regal Rexnord Corporation or one of its affiliated companies.

© 2019, 2022 Regal Rexnord Corporation, All Rights Reserved.  
MCB22008E • Form# GR1-010E

 **RegalRexnord**