



# Data Sheet

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| Form No. | Issue Date | Rev. Date |
| DS-2006  | 08/12/09   | 2/3/22    |

## WATEROUS C20 SERIES CHAIN DRIVE TRANSMISSION

**DESCRIPTION: SPLIT SHAFT CHAIN DRIVE FIRE PUMP TRANSMISSIONS**

**C20 SERIES TRANSMISSIONS ARE AVAILABLE AS FOLLOWS:**

*Table 1. C20 Series Transmissions*

| Model                                    | Drop Dimension | Driveline        |          |                   |             | For Pumps Rated                   | Used on Pump Models  | Dim. Drawing |
|--|----------------|------------------|----------|-------------------|-------------|-----------------------------------|--|--------------|
|  |                | Type             | Size     | Spline            | Chain Width |                                   |  |              |
| C20B,<br>C20C,<br>C20D,<br>C20E,<br>C20F | See Table 2    | Extra Heavy Duty | 2.35 in. | 2.35-46T Involute | 2-1/2 in.   | 500 - 2250 GPM<br>1893-8517 L/min | CM, CMU, CS, CSU, CGV, CGVG, CXS, CXV, CXN, S100, S101, CM/CGV | DPL82994     |

*Table 2. Drop Dimensions (Distance from impeller shaft to driveline) by transmission model*

| Transmission Model | Drop Dimension   |                     |
|--------------------|------------------|---------------------|
| C20B               | 11.840 to 12.327 | 300.74 to 313.11 mm |
| C20C               | 13.680 to 14.303 | 347.47 to 363.30 mm |
| C20D               | 14.722 to 15.174 | 373.94 to 385.42 mm |
| C20E               | 16.763 to 17.155 | 425.78 to 435.73 mm |
| C20F               | 18.812 to 19.205 | 477.82 to 487.81 mm |

**NOTE:** Drop values vary by ratio. Refer to pump dimensional drawings for exact dimensions.

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***SPECIFY A COMPLETE C20 SERIES TRANSMISSION AS FOLLOWS:***

### **TRANSMISSION MODEL**

Determine model based on drop dimension; add to basic pump model. Ex: CSUC**20C**

### **RATIO**

Specify one of the following: 1.27, 1.41, 1.48, 1.58, 1.69, 1.79, 1.88, 1.97, 2.03, 2.27, 2.46, 2.68

### **MOUNTING ON PUMP** (*CM, CMU, CS and CSU Models Only*)

Rear (Rear Drive)

Front (Front Drive)

### **HYDRAULIC PUMP MOUNTING ON BACK OF TRANSMISSION** (*Choice Optional*)

SAE Class B 2-Bolt with 7/8-13T, 16-32 Internal Spline

Available only on S100, S101, CM, CMU, CS and CSU Models

Note that transmission must be mounted on the rear of CM, CMU, CS and CSU models for this option

### **TACHOMETER**

#### **Connection:**

Standard: Without Connection

Optional: With Electronic Connection

#### **Optional Cable if Electronic Connection ordered:**

Yes or No

### **PUMP SHIFT**

See data sheet, DS-4005

### **DRIVELINE**

Size: 2.35-46T, 20/40 DP, 37-1/2 degree involute spline  
16,000 ft-lb (21,760 N·m) maximum torque  
Compatible with 2-25/64-46T (2.35-46T) internal involute spline

Type: Standard: Input and output shaft  
Optional: Input shaft only

Maximum Input Shaft Speed: 3300 RPM

Optional End Yokes and Companion Flanges: See table on next page.

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### WATEROUS C20 SERIES CHAIN DRIVE TRANSMISSION

#### Optional Driveline End Yokes and Companion Flanges

| Type  | U-Joint Series                | Pilot Diameter | Waterous Part No. | Optional End Yoke Cross and Bearing Kit<br><i>(See Note 1)</i> | Mates with Spicer Flanged Yokes<br><i>(Not available from Waterous)</i> |                 | Qty Required for Driveline Type |                  |
|---|-------------------------------|----------------|-------------------|--|---|-----------------|---------------------------------|------------------|
|   |                               |                |                   |  | Series  | Spicer Part No. | Input and Output Shaft          | Input Shaft Only |
| End Yoke, BP<br><i>(Bearing Plate Type)</i> | 1710                          | -              | V 2837            | V 2839   | -   | -               | 2                               | 1                |
|   | 1810                          | -              | V 2838            | V 2840   |   |                 |                                 |                  |
|   | SPL 140                       | -              | V 3388            | V 3389   |   |                 |                                 |                  |
| End Yoke, HR<br><i>(Half Round Type)</i>    | 1810                          | -              | V 4102            | Uses Spicer 5-675X<br><i>(Not available from Waterous)</i>     | -   | -               |                                 |                  |
| Companion flange                            | ISO 8667<br><i>(Serrated)</i> | -              | 63714             | -  | -   | -               |                                 |                  |
|   | 1710/1810                     | 7.750          | V 3619            | -  | SPL 90  | 90-2-69-1       | 2                               | 1                |
|   |                               |                |                   |  | SPL 140   | 140-2-29        |                                 |                  |
|   |                               |                |                   |  | SPL 170   | 170-2-19        |                                 |                  |
|   |                               |                |                   |  | SPL 250   | 250-2-19        |                                 |                  |
|   |                               |                |                   |  | 1610  | 5-2-619         |                                 |                  |
|   |                               |                |                   |  | 1710 BP   | 6-2-749         |                                 |                  |
|   |                               |                |                   |  | 1710 HR   | 6-4-4771-1      |                                 |                  |
|   |                               |                |                   |  | 1810 BP   | 6.5-2.239       |                                 |                  |
|   | 1810 HR                       | 6.5-4-2541-1   |                   |  |   |                 |                                 |                  |
|   | 1480/1610                     | 6.625          | V 3719            | -  | SPL 90  | 90-2-19         |                                 |                  |
|   |                               |                |                   |  | 1480  | 3-2-499         |                                 |                  |
|   |                               |                |                   |  | 1550  | 4-2-689         |                                 |                  |
|   |                               |                |                   |  | 1610  | 5-2-629         |                                 |                  |

**Note:**

- 1) Cross and Bearing Kits are shipped loose.