



# Data Sheet

Form No.	Issue Date	Rev. Date
<b>DS-3007</b>	<b>08/12/09</b>	<b>3/7/19</b>

## WATEROUS TC20 SERIES POWER TAKE-OFF

### DESCRIPTION: SPLIT SHAFT CHAIN DRIVE POWER TAKE-OFF

#### TC20 SERIES PTOs ARE AVAILABLE AS FOLLOWS

Table 1. TC20 Series PTOs

Model	Driveline		CAFS	Output Shaft			CAFS Model	Dim. Dwg		
	Spline	Input		Type	Front Facing	Rear Facing				
TC20B TC20C TC20D TC20E TC20F	2.35-46T Involute	CW	Without	Single	1410 Series End Yoke	None	-	DPL83000		
					SAE Class B 2-Bolt Hydraulic Flange with 7/8-13T (SAE B) Internal Involute Spline	None				
					None	1410 Series End Yoke				
				None	SAE Class B 2-Bolt Hydraulic Flange with 7/8-13T (SAE B) Internal Involute Spline					
				Dual	1410 Series End Yoke	SAE Class B 2-Bolt Hydraulic Flange with 7/8-13T (SAE B) Internal Involute Spline				
					SAE Class B 2-Bolt Hydraulic Flange with 7/8-13T (SAE B) Internal Involute Spline	1410 Series End Yoke				
			With	Single	None, Air Compressor is Mounted on Front	1410 Series End Yoke			Eclipse ES	DPL83001
									150-ESD	DPL83606
				150-ESOS	DPL83607					
				150-ESECL						

Table 2. Drop Dimensions (Distance from Output Shaft to Driveline) by PTO Model

PTO Model	Drop Dimension (Distance from Output Shaft to Driveline)	
	TC20B	11.840 to 12.326 in.
TC20C	13.680 to 14.302 in.	347.47 to 363.27 mm
TC20D	14.722 to 15.173 in.	373.94 to 385.39 mm
TC20E	16.763 to 17.154 in.	425.78 to 435.71 mm
TC20F	18.814 to 19.205 in.	477.88 to 487.81 mm

**Note:** Drop values vary by ratio. Refer to Dimensional Drawings for exact dimensions.

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### ***SPECIFY A COMPLETE TC20 SERIES PTO AS FOLLOWS:***

#### **PTO MODEL**

Determine model needed based on drop dimension. Refer to Dimensional Drawings.

#### **DIMENSIONAL ASSEMBLY NUMBER**

Without CAFS: 83000  
With Eclipse ES CAFS: 83001  
With 150-ESD CAFS: 83606  
With 150-ESOS or 150-ESECL CAFS: 83607

#### **OUTPUT**

##### **Without CAFS**

**Type -** Single or Dual Output

**Location -** Front or Rear

**Connection -** **Single:** 1410 Series End Yoke with U-Bolts (Facing Front or Rear)

or

SAE Class B 2-Bolt Hydraulic Adapter with 7/8-13T (SAE B) Internal Involute Spline (Facing Front or Rear)

**Dual:** 1410 Series End Yoke with U-Bolts (Facing Front or Rear) and

SAE Class B 2-Bolt Hydraulic Adapter with 7/8-13T (SAE B) Internal Involute Spline (Facing Front or Rear)

##### **With CAFS**

**Type -** Single

**Location -** Rear (Air Compressor is Mounted on Front)

**Connection -** 1410 Series End Yoke with U-Bolts (Facing Rear)

#### **RATIO**

##### **Without CAFS**

1.14, 1.27, 1.41, 1.48, 1.58, 1.69, 1.79, 1.88, 1.97, 2.03, 2.27, 2.46, 2.68

##### **With CAFS**

1.58, 1.69, 1.79, 1.88, 1.97, 2.03, 2.27, 2.68

#### **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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### Optional Driveline End Yokes and Companion Flanges

Type	U-Joint Series	Pilot Diameter	Waterous Part No.	Optional End Yoke Cross and Bearing Kit <i>(See Note 1)</i>	Mates with Spicer Flanged Yokes <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 <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 <i>(Half Round Type)</i>	1710	-	V 4101	Uses Spicer 5-675X <i>(Not available from Waterous)</i>	-	-	2	1
	1810	-	V 4102					
Companion flange	ISO 8667 <i>(Serrated)</i>	-	63714	-	-	-	2	1
	1710/1810	7.750	V 3619	-	SPL 90	90-2-69-1		
					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.

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**Tachometer:**

Standard: With Optional:  
Without

**Tachometer Cable (Choice Optional):**

With or Without

**Note: Cable is 10 Feet Long**

**SHIFT TYPE**

**Pneumatic or No Shift**

**INDICATING LIGHTS (PER NFPA 1901)**

**Pneumatic:** With or Without (OEM to furnish)

**No Shift:** Not applicable

**SYSTEM VOLTAGE**

**12 volt or 24 volt**

**OPTIONAL AIR COMPRESSOR KIT (PNEUMATIC SHIFT ONLY)**

Consists of a 12 Volt compressor (6.00" L x 3.30" W x 4.90" H), .50 gallon air tank (6.00" L x 6.50" W x 7.00" H) and on-board air hook-up kit.

**PRIMING PUMP**

See data sheet, DS-4002

(Required only if PTO is used in a fire pump application, this option may be mounted on the PTO)

**FOAM PUMP**

If required, must be ordered with fire pump. See Data Sheet DS-4014.

**CAFS**

See DS-4017 for Eclipse ES and 150-ESD

See DS-4021 for 150-ESOS and 150-ESECL