



Data Sheet

Form No.	Issue Date	Rev. Date
DS-3007	08/12/09	2/3/22

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		
				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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WATEROUS TC20 SERIES POWER TAKE-OFF

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>	1810	-	V 4102	Uses Spicer 5-675X <i>(Not available from Waterous)</i>	-	-	-	-
Companion flange	ISO 8667 <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	2	1
					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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WATEROUS TC20 SERIES POWER TAKE-OFF

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