

Durst Pump Drive Application Data Sheet

To determine the proper Pump Drive for your application, please use the following steps to calculate your Maximum Rated Input Torque. Then fill in the questions on sheet 2.

Company _____ Date _____

Contact _____ Phone _____ Ext. _____

E-mail _____

Application _____

Estimated Yearly Production _____ Quote in Quantities of _____

Additional Remarks _____

- ! CAUTION -** Always ensure that your powertrain is free of torsional vibration. Neither DURST nor TORSION CONTROL PRODUCTS is responsible for damage or failure due to unaddressed torsional vibration!
- ! CAUTION -** When using a Pump Drive gearbox with a non-conventional input or output application (i.e., different than an engine adapter/drive plate input or pump mount output), an application review is required to determine if an overhung load adapter is required to accommodate the side loading and/or axial loading that can be induced.
- ! CAUTION -** When lifting or mounting a Pump Drive, the units that have lifting ears are only to be used to lift the Pump Drive and no other weight.
- ! CAUTION -** Side-mount holes should only be used to support the Pump Drive; they should not be used to support other components' weight other than pumps. Weight and cantilever distance review is recommended to understand load applied to Pump Drive.

[Check Here to Decline Torsional Vibration Analysis \(TVA\) Quotation](#)

[Check Here to Accept Torsional Vibration Analysis \(TVA\) Quotation](#) • Please provide additional information.

Torsional Analysis of System to be Provided by 3rd Party

Driven Machine Load Classification Multiplier

Prime Mover	Electric Motor, Steam Turbine, or Hydraulic Motor			Multi-Cylinder Internal Combustion Engine			Single Cylinder Internal Combustion Engine		
	Uniform	M. Shock	H. Shock	Uniform	M. Shock	H. Shock	Uniform	M. Shock	H. Shock
Occasional ½ hr. per day	0.50	0.80	1.25	0.80	1.00	1.50	1.00	1.25	1.75
Intermittent 3 hr. per day	0.80	1.00	1.50	1.00	1.25	1.75	1.25	1.50	2.00
Over 3 hr. per day and incl. 10 hr. per day	1.0	1.25	1.75	1.25	1.50	2.00	1.50	1.75	2.25
Over 10 hr. per day	1.25	1.50	2.00	1.50	1.75	2.25	1.75	2.00	2.50

Input Torque Calculations

$$\text{Torque} = (\text{HP/RPM}) \times 5252$$

$$\text{Maximum Rated Input Torque} = \text{Maximum Torque} \times \text{Service Factor}$$

Durst Pump Drive Maximum Input Torque Rating

1 Pad	2 Pad	3 Pad	4 Pad	Other
1PD06 - 1040 lb-ft	2PD05 - 700 lb-ft	3PD06 - 1040 lb-ft	4PD08 - 1525 lb-ft	5PD11 - 2150 lb-ft
1PD09 - 1710 lb-ft	2PD06 - 1040 lb-ft	3PD08 - 1525 lb-ft	4PD09 - 1710 lb-ft	6PD08 - 1470 lb-ft
	2PD08 - 1525 lb-ft	3PD10 - 1995 lb-ft	4PD11 - 2150 lb-ft	8PD11 - 2150 lb-ft
	2PD10 - 1995 lb-ft	3PD10L - 1995 lb-ft	4PD10L - 1995 lb-ft	

Durst Pump Drive Application Data Sheet

1. What is the prime mover of the pump drive?

Type: Electric Motor Gasoline Engine Diesel Engine Other

Brand Name Model No. Emissions Tier Level

Engine/Motor Power: hp @ rpm Total Torque thru Pump Drive lb-ft @ rpm

Duty Cycle: Hrs/Day Days/Week Weeks/Year Starts/Stops/Day

2. Select model of pump drive per Maximum Input Torque Rating chart on sheet 1:

1 Pad	2 Pad	3 Pad	4 Pad	Other
1PD06	2PD05	3PD06	4PD08	5PD11
1PD09	2PD06	3PD08	4PD09	6PD08
	2PD08	3PD10	4PD11	8PD11
	2PD10	3PD10L	4PD10L	

Pump Drive Mounting Orientation: Normal Inverted Vertical Horizontal - 1 pad with output @ 3:00 9:00

3. Specify gear ratio of the pump drive:

1:1 Ratio Increasing Ratio Decreasing Ratio

4. Specify size of the engine housing the pump drive will be attached to (if the pump drive is NOT mounted to an engine, skip to question 7):

SAE 0 SAE 1 SAE 2 SAE 3 SAE 4 Other

5. Specify size of drive plate that is required (if a clutch is needed, skip to question 6):

SAE 18 SAE 14 SAE 11-1/2 SAE 10 SAE 8 Other

6. Specify Clutch Size, Type, and Pilot Bearing Diameter:

SAE 14 - double plate - 1.00" offset SAE 11-1/2 - double plate - 1.56" offset

SAE 11-1/2 - single plate - 1.56" offset SAE 10 - single plate - 2.12" offset Other

6a. Pilot Bearing: Ø3.94" (for SP214) Ø3.15" (for SP214) Ø2.83" (all others)

7. Specify type of shaft needed to drive the pump drive (for NON-drive plate and NON-clutch driven pump drives only):

Companion Flange: Spicer 1810 Spicer 1610 Spicer 1550

Keyed Shaft: Ø2-1/2" w/.63" keyway Ø2-1/4" w/.50" keyway

Splined Shaft: 29T-12/24 20T-10/20 15T-8/16 13T-8/16 (2PD05 only)

Note: If Driveline is used, provide Driveline: Weight lbs. Length in. Speed rpm

8. Specify pump pad size (SAE **A**, **B**, **C**, **D**, **D2**, **E**, or **F**) and pump pad orientation (**H**-horizontal, **V**-verticle, or **45°**)

Pump pads are numbered according to the drawings on sheet 3:

Pad 1	Pad 2	Pad 3	Pad 4
Pad 5	Pad 6	Pad 7	Pad 8

9. Specify pump spline location according to the drawings on sheet 3:

SAE **A** (9T-16/32), SAE **B** (13T-16/32), SAE **BB** (15T-16/32), SAE **C** (14T-12/24), SAE **CC** (17-12/24T), SAE **D** or **E** (13T-8/16), SAE **F** (15T-8/16), **21T**-16/32, **23T**-16/32, **27T**-16/32, Ø1.50" keyed bushing, Ø2.25" keyed shaft, Ø2.50" keyed shaft, or **other**

Pad 1	Pad 2	Pad 3	Pad 4	Pad 5	Pad 6	Pad 7	Pad 8
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10. Identify dipstick (required on all normal/horizontal mountings) location, as viewed from output side of gearbox:

Left Right (N/A on 1PD06) None for Vertical/Inverted units

Durst Pump Drive Application Data Sheet

Duty Service for Clutch Models

Clutch	Recommended Maximum Working Torque (lb-ft)	Recommended Engine HP			Maximum Scale Operating Speed
		LD	ND	HD	
8	229	55	43	30	3050
10	327	86	67	47	2650
11.5	386	111	87	61	2200
11.5 W Dbl Plate	907	203	129	80	2200
14	810	169	131	92	1950
14 Dbl Plate	1620	308	196	122	1950

Light Duty (LD)

- The clutch should engage within two (2) seconds and start the load less than six (6) times per hour.
- The pressure plate should not exceed handleable temperatures.

Normal Duty (ND)

- The clutch should start the heaviest load within three (3) seconds with starting frequencies up to thirty (30) engagements per hour.
- Engagement slip (sec.) x Engagements (per hr.) < 90

Heavy Duty (HD)

- The clutch should start the heaviest load within four (4) seconds with starting frequencies up to sixty (60) engagements per hour.
- Engagement slip (sec.) X Engagements (per hr.) < 180 (Note: If > 180, must contact Engineering)

