

# DURST PUMP DRIVE APPLICATION DATA SHEET 1 of 2

**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 Page 2.**

## Service Factor Chart (S.F.)

Prime Mover	Duration of Service	Driven Machine Load Classification Multiplier		
		Uniform	Moderate Shock	Heavy Shock
Electric Motor, Steam Turbine, or Hydraulic Motor	Occasional ½ hr. per day	0.50	0.80	1.25
	Intermittent 3 hr. per day	0.80	1.00	1.50
	Over 3 hr. per day and incl. 10 hr. per day	1.00	1.25	1.75
	Over 10 hr. per day	1.25	1.50	2.00
Multi-Cylinder Internal Combustion Engine	Occasional ½ hr. per day	0.80	1.00	1.50
	Intermittent 3 hr. per day	1.00	1.25	1.75
	Over 3 hr. per day and incl. 10 hr. per day	1.25	1.50	2.00
	Over 10 hr. per day	1.50	1.75	2.25
Single Cylinder Internal Combustion Engine	Occasional ½ hr. per day	1.00	1.25	1.75
	Intermittent 3 hr. per day	1.25	1.50	2.00
	Over 3 hr. per day and incl. 10 hr. per day	1.50	1.75	2.25
	Over 10 hr. per day	1.75	2.00	2.50

## Input Torque Calculations

$$\text{Torque} = (\text{H.P.} / \text{RPM}) \times 5252$$

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

## Durst Pump Drive Maximum Input Torque Rating

<u>1 Pad</u>	<u>2 Pad</u>	<u>3 Pad</u>	<u>4 Pad</u>
1PD06 - 1040 lb.ft.	2PD06 - 1040 lb.ft.	3PD06 - 1040 lb.ft.	4PD08 - 1524 lb.ft.
	2PD08 - 1524 lb.ft.	3PD08 - 1524 lb.ft.	4PD09 - 1710 lb.ft.
	2PD10 - 1996 lb.ft.	3PD10 - 1996 lb.ft.	4PD11 - 2153 lb.ft.

## Duty Service for Clutch Models

Clutch	Recommended Maximum Working Torque (lb.ft.)	Recommended Engine HP			Max. Scale Operating Speed
		LD	ND	HD	
8"	229	55	43	30	3050
10"	327	86	67	47	2650
11½"	386	111	87	61	2200
11½" D.P.	907	203	129	80	2200
14"	810	169	131	92	1950
14" D.P.	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 handle able temps.

### Normal Duty (ND)

The clutch should start the heaviest load within three (3) seconds with starting frequencies up to thirty (30) engagements per hr.

$$\text{Engagement slip (sec.)} \times \text{Engagements (per hr.)} < 90$$

### Heavy Duty (HD)

The clutch should start the heaviest load within four (4) seconds with starting frequencies up to sixty (60) engagements per hr.

$$\text{Engagement slip (sec.)} \times \text{Engagements (per hr.)} < 180 \text{ (Note: If } >180 \text{ must contact Engineering)}$$

# DURST PUMP DRIVE APPLICATION DATA SHEET 2 of 2

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

Type:  Electric Motor  Gasoline Engine  Diesel Engine  Other \_\_\_\_\_  
 Brand Name: \_\_\_\_\_ Model No. \_\_\_\_\_  
 H.P. \_\_\_\_\_ @ \_\_\_\_\_ RPM Max Torque \_\_\_\_\_ @ \_\_\_\_\_ RPM  
 Duty Cycle: \_\_\_\_\_ Hrs/Day \_\_\_\_\_ Days/Week \_\_\_\_\_ Weeks/Year

2. Select the model of pump drive per the Maximum Input Torque Rating chart from page 1:

- |                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>1 Pad</b>                   | <b>2 Pad</b>                   | <b>3 Pad</b>                   | <b>4 Pad</b>                   |
| <input type="checkbox"/> 1PD06 | <input type="checkbox"/> 2PD06 | <input type="checkbox"/> 3PD06 | <input type="checkbox"/> 4PD08 |
|                                | <input type="checkbox"/> 2PD08 | <input type="checkbox"/> 3PD08 | <input type="checkbox"/> 4PD09 |
|                                | <input type="checkbox"/> 2PD10 | <input type="checkbox"/> 3PD10 | <input type="checkbox"/> 4PD11 |

Indicate Mounting Orientation:  Normal / Horizontal  Vertical / Inverted

3. Specify the gear ratio of the pump drive:

1:1 Ratio  Increaser Ratio: \_\_\_\_\_  Decreaser Ratio: \_\_\_\_\_

4. Specify the 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 #1  SAE #2  SAE #3  SAE #4  Other \_\_\_\_\_

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

SAE 14  SAE 11 1/2  SAE 10  SAE 8  Other \_\_\_\_\_

6. Specify the Clutch Size and Type:

- |   |   |
|---|---|
| <input type="checkbox"/> SAE 14 - double plate – 1.00" offset     | <input type="checkbox"/> SAE 11 1/2 - double plate – 1.56" offset |
| <input type="checkbox"/> SAE 11 1/2 - single plate – 1.56" offset | <input type="checkbox"/> SAE 10 - single plate – 2.12" offset     |
| <input type="checkbox"/> Other _____                              |   |

7. Specify the type of shaft needed to drive the pump drive

**(For NON-drive plate and NON-clutch driven pump drives only):**

- |  |  |  |  |
|--|--|--|--|
| <input type="checkbox"/> Companion Flange<br>Spicer 1810 | <input type="checkbox"/> Companion Flange<br>Spicer 1610 | <input type="checkbox"/> Keyed Shaft<br>2 1/2 dia. W/ .63 keyway | <input type="checkbox"/> Keyed Shaft<br>2 1/4 dia. W/ .50 keyway |
| <input type="checkbox"/> Splined Shaft<br>29T-12/24      | <input type="checkbox"/> Splined Shaft<br>20T-10/20      | <input type="checkbox"/> Splined Shaft<br>15T-8/16               | <input type="checkbox"/> Other _____                             |

8. Specify the pump pad arrangement and orientation (Horizontal / Vertical); number according to the drawings below:

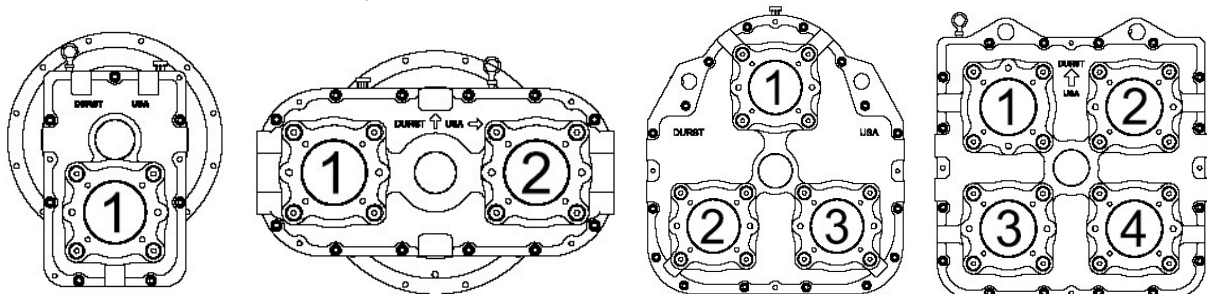
\_\_\_\_ SAE A    \_\_\_\_ SAE B    \_\_\_\_ SAE C    \_\_\_\_ SAE D    \_\_\_\_ SAE D2 (2-bolt)  
 \_\_\_\_ SAE E    \_\_\_\_ SAE F

9. Specify the pump spline arrangement; number according to the drawings below:

\_\_\_\_ SAE A    \_\_\_\_ SAE B    \_\_\_\_ SAE BB    \_\_\_\_ SAE C    \_\_\_\_ SAE CC  
 \_\_\_\_ SAE D    \_\_\_\_ SAE F    \_\_\_\_ 21T    \_\_\_\_ 23T    \_\_\_\_ 27T    \_\_\_\_ Other

10. Identify dipstick (required on all normal/horizontal mountings) location, as viewed from output side of gearbox:

Left  Right  None



Requested By: \_\_\_\_\_ Company: \_\_\_\_\_ Date: \_\_\_\_\_