CE3105 Mechanics of Fluids Laboratory
Department of Civil Engineering
Texas Tech University

Experiment: Two-Stage Centrifugal Pump Characteristics - Data Sheet

Date of Experiment: .... ,Name:......................

Experimental Data:

Temperature of water, $T = 21$ celsius

Water density, $\rho = $ (lb/ft^3)

Gravity, g= 32.2 (ft/s^2)

Single pump Test:

P_2 (bar)	P_3 (bar)	P_4 (bar)	ΔP (bar)	Torque (Nm)	Pump 1 Speed (N_1) (rpm)	W_1 (w)	H	Q	W_2	η
-0.31	0.19	0.17	0.18	1.15	3002	363				
-0.28	0.30	0.28	0.165	1.15	3005	361				
-0.26	0.40	0.39	0.15	1.10	3010	348				
-0.16	0.77	0.78	0.09	1.03	3014	304				
-0.11	0.94	0.95	0.07	0.92	3023	293				

Instructor's Signature

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Series pump Test:

P_2	P_3	P_4	ΔP	Torque (1)	Torque (2)	Pump 1 Speed (N_1)	Pump 2 Speed (N_2)	Pump1 W_1	Pump2 W_1	H	Q	W_2	η
-0.4	-0.14	0.21	0.24	1.18	1.14	3003	3000	375	358				
-0.39	-0.09	0.32	0.23	1.18	1.13	3002	3000	372	357				
-0.36	-0.01	0.44	0.22	1.16	1.12	3006	3001	365	354				
-0.32	0.17	0.76	0.19	1.16	1.12	3009	3000	366	353				
-0.29	0.27	0.91	0.18	1.14	1.10	3008	3000	361	349				

Parallel pump Test:

P_2	P_3	Avg. Inlet Pressure	P_4	ΔP	Torque (1)	Torque (2)	Pump1 Speed (N_1)	Pump2 Speed (N_2)	Pump1 W_1	Pump2 W_1	H	Q	W_2	η
-0.18	-0.20		0.52	0.44	1.0	1.0	3005	3006	314	316				
-0.15	-0.17		0.65	0.39	0.97	0.97	3009	3008	310	305				
-0.13	-0.14		0.77	0.32	0.98	0.94	3008	3011	304	292				
-0.09	-0.09		0.97	0.22	0.88	0.85	3018	3016	277	267				
-0.07	-0.06		1.07	0.17	0.87	0.80	3017	3019	247	255				

Instructor's Signature _____