

TITLE H.D. FIRE SEPTEMEBR - 2012

				FIRST STAGE		SECOND STAGE		THIRD STAGE	
		UNIT		PINION	GEAR	PINION	GEAR	PINION	GEAR
1	No. of Teeth		Z	10	78	10	75	15	68
2	Ratio		i	7.80		7.50		4.53	
TOTAL RATIO				265.2					
3	Module	mm	m	0.529	0.529	0.705	0.705	0.9	0.9
4	Helix Angle	Degree	β	15	15	0	0	0	0
5	Helix Angle	Radian		0.2618	0.2618	0	0	0	0
6	P.C.D.	mm	d	5.47661	42.7176	7.05	52.875	13.5	61.2
7	O.D.	mm	Do	6.53461	43.7756	8.46	54.285	15.3	63
8	Root Dia.	mm	Di	4.15411	41.3951	5.2875	51.1125	11.25	58.95
9	C.D.	mm	CD	24.10		29.96		37.35	
10	Virtual No. Of Teeth			11.0961	86.5492	10	75	15	68
11	Face Width	watts	Fw	7.406	7.406	8.46	8.46	10.8	10.8
12	RPM		N	1440	184.615	184.615	24.6154	24.6154	5.42986
13	Speed	Mt/Sec	v	0.41293	0.41293	0.06815	0.06815	0.0174	0.0174
14	Kt			1.13764	1.13764	1.02272	1.02272	1.0058	1.0058
15	Material Strength	N/mm2		330	330	330	330	250	250
16	Lewis Factor			0.22559	0.4507	0.19729	0.4456	0.2928	0.44167
17	Beam Strength	watts	Fs.	291.662	582.696	388.314	877.045	711.495	1073.26
18	Dynamic Const.	see come	k	2.051	2.051	2.051	2.051	2.051	2.051
19	Power Output	watts	Po.	105.864	211.499	25.8752	58.4417	12.3083	18.5666
20	Torque Output	N-Mt.		0.70203	10.9399	1.3384	22.6719	4.7749	32.6524
21			Q	1.77273	0	1.76471	1.76471	1.63855	1.63855
22	Wear Strength		Fw	158.058	0	215.873	1619.04	489.986	2221.27
22	Minimum Shaft Dia.	mm		4.15067	10.3674	5.1467	13.2179	7.8642	14.927
Bearing Design									
23			Pt	256.374	512.196	379.689	857.565	707.393	1067.07
24			Pr	96.5845	192.961	138.167	312.064	257.417	388.303
25			Pa	68.6952	137.243	0	0	0	0
26			Fa	68.6952	137.243	0	0	0	0
27			Fr	273.964	547.338	404.047	912.579	752.773	1135.53
28			Fresult	282.445	564.282	404.047	912.579	752.773	1135.53
29			Fa/Fr	0.25075	0.25075	0	0	0	0
30	Expected Life	mhr	L	1036.8	132.923	132.923	17.7231	17.7231	3.9095
	Bearing			22208	22208		22210		22218

ACT. CD

24.25	30.18	37.54
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