GENERATOR TYPE ECP 3-2L/4

Document : **DS151A/1**
issue 000 date 18/01/2010

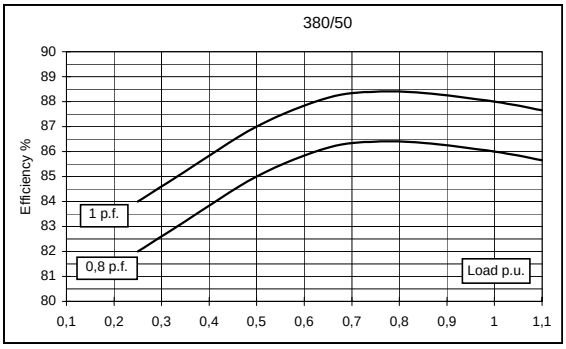
Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (series star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	13,5	13,5	13,5	11	14	16,2	16,2	16,2
		kW	10,8	10,8	10,8	8,8	11,2	13	13	13
Rated power class F		kVA	12,5	12,5	12,5	10	11,5	13,5	15	15
		kW	10	10	10	8	9,2	10,8	12	12
Regulation with		SR7/2	±1,5 % with any power factor and speed variations between -5% +30%							
Insulation class			H							
Execution			Brushless							
Stator winding			12 ends							
Rotor			without damping cage							
Efficiencies class H	4/4	%	86	86,1	85,8	85,6	87,2	87,7	87,8	87,9
(see graph. for details)	3/4	%	86,4	86,7	86,6	86,3	87,4	87,6	87,8	88
	2/4	%	85	85,1	85,1	84,8	85,8	85,9	86	86,1
	1/4	%	82	82	81,8	81,3	82,8	82,6	82,7	83
Reactances (f. l.cl. F)	Xd	%	153,8	138,8	128,9	93,5	160,5	165,2	151,1	138,8
	Xd'	%	15,40	13,9	12,91	9,36	16,07	16,54	15,13	13,9
	Xd"	%	10,86	9,8	9,10	6,60	11,33	11,66	10,67	9,8
	Xq	%	76,8	69,3	64,4	46,7	80,1	82,5	75,5	69,3
	Xq'	%	76,8	69,3	64,4	46,7	80,1	82,5	75,5	69,3
	Xq"	%	57,2	51,6	47,9	34,7	59,7	61,4	56,2	51,6
	X_2	%	18,39	16,6	15,42	11,18	19,19	19,76	18,07	16,6
	X_0	%	6,09	5,5	5,11	3,70	6,36	6,55	5,99	5,5
Short Circuit Ratio	Kcc		0,80	0,98	1,13	1,50	0,67	0,75	0,80	0,98
Time Constants	Td'	sec.	0,044							
	Td"	sec.	0,009							
	Tdo'	sec.	0,84							
	$T\alpha$	sec.	0,011							
Short Circuit Current Capacity		%	>300				>320			
Excitation at no load		Amp.	0,3	0,35	0,4	0,47	0,22	0,25	0,3	0,32
Excitation at full load		Amp.	1,1	1,2	1,3	1,4	0,95	1	1,1	1,15
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0,732							
Rotor Winding Resistance (20°C)		Ω	9,743							
Exciter Resistance (20 °C)		Ω	Rotor : 1,453				Stator : 15,71			
Heat dissipation at f.l.cl.H		W	1758	1744	1787	1480	1644	1818	1801	1784
Telephone Interference			THF < 2%				TIF < 45			
Radio interference			EN61000-6-3, EN61000-6-1, VDE 0875 K.							
Waveform Distors.(THD) at f. load		LL/LN %	2,2 / 2,0							
Waveform Distors.(THD) at no load		LL/LN %	2,8 / 2,7							
Mechanical characteristics										
Protection			IP 23 (other protection on request)							
DE bearing			6308-2RS							
NDE bearing			6305-2RS							
Weight of wound stator assembly		kg	25,4							
Weight of wound rotor assembly		kg	22,8							
Weight of complete generator		kg	87							
Maximun overspeed		rpm	2250							
Unbalanced magnetic pull at f.l.cl.F		kN/mm	3							
Cooling air requirement		m^3/min	3				3,5			
Inertia Constant (H)		sec.	0,077				0,093			
Noise level at 1m/7m		dB(A)	72 / 58				78 / 60			

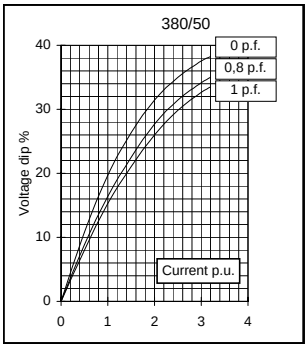
GENERATOR TYPE ECP 3-2L/4

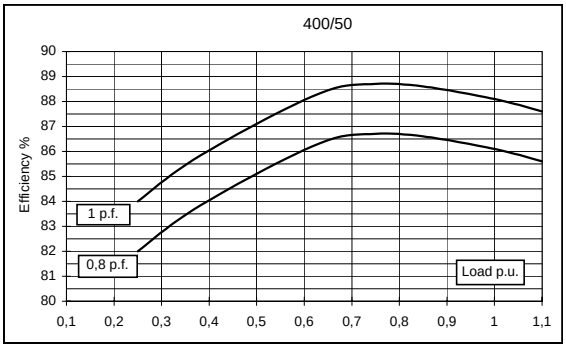
Document : **DS151A/2**

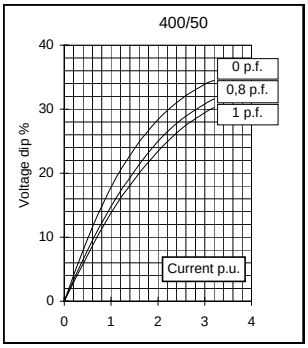
issue 000 date : 18/01/10

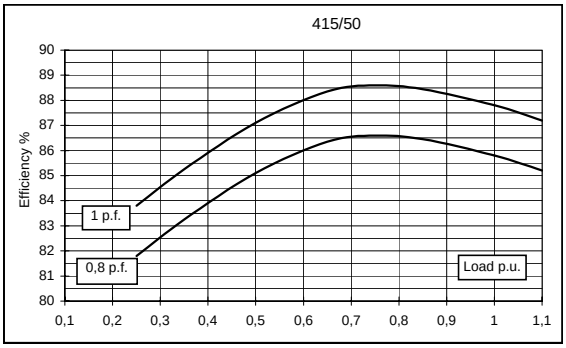
50 Hz

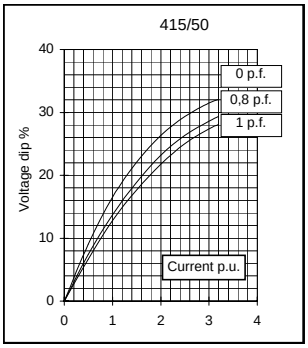


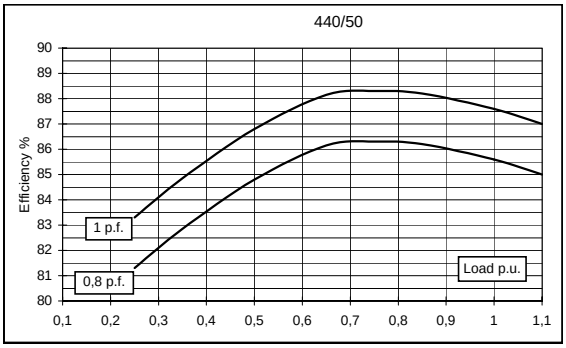


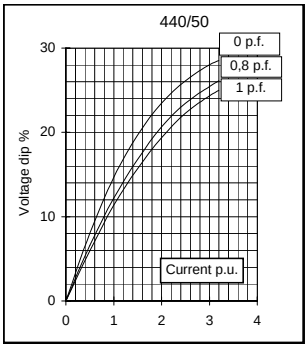


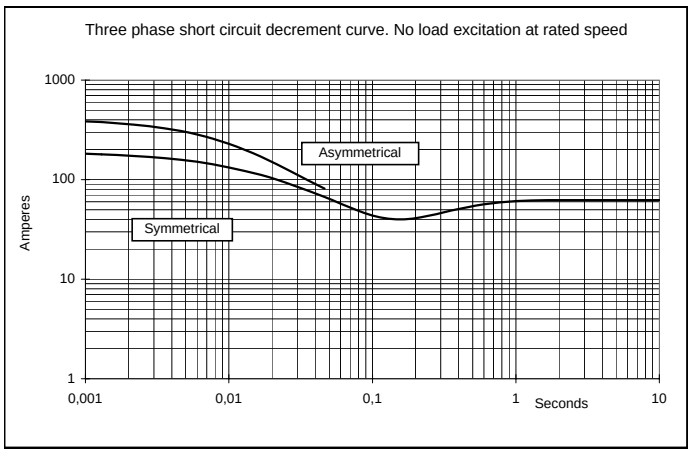










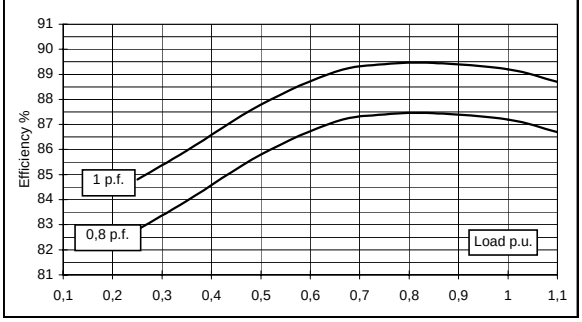


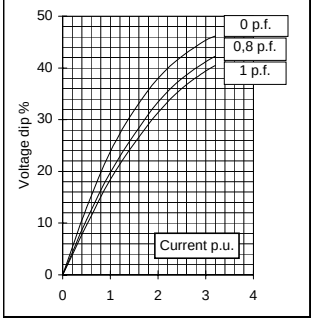
GENERATOR TYPE ECP 3-2L/4

Document : **DS151A/3**
issue 000 date : 19/01/10

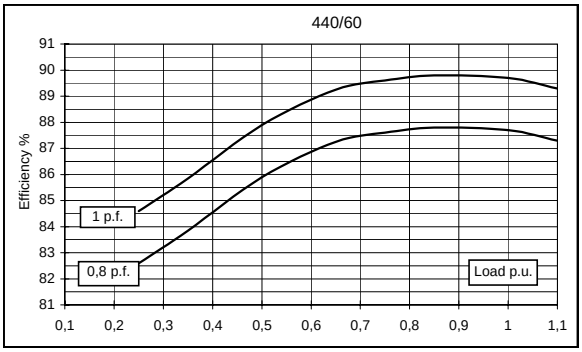
60 Hz

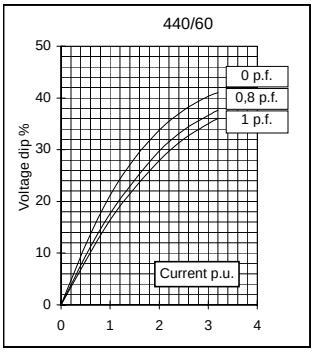
415/60



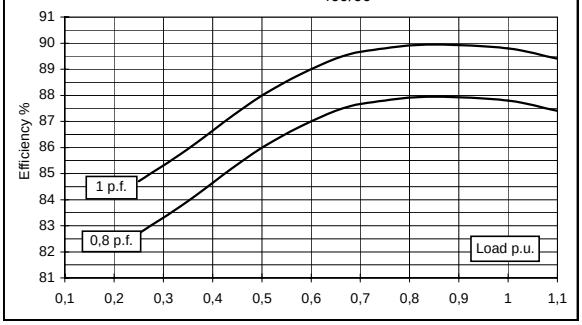


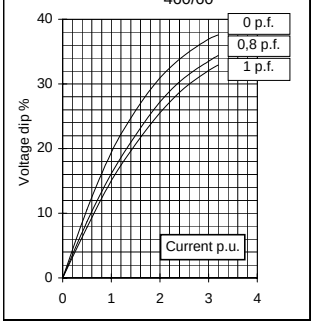
440/60



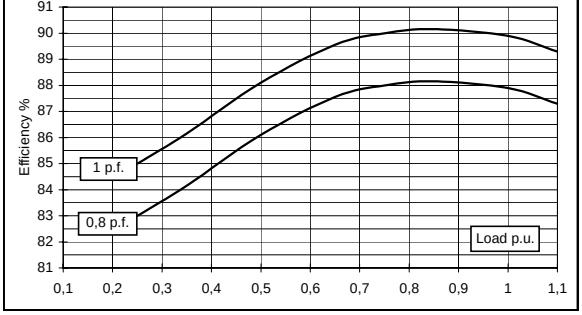


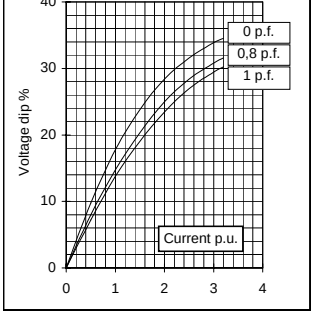
460/60



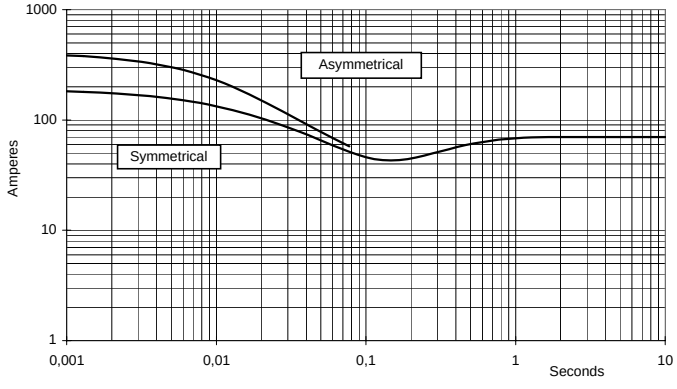


480/60

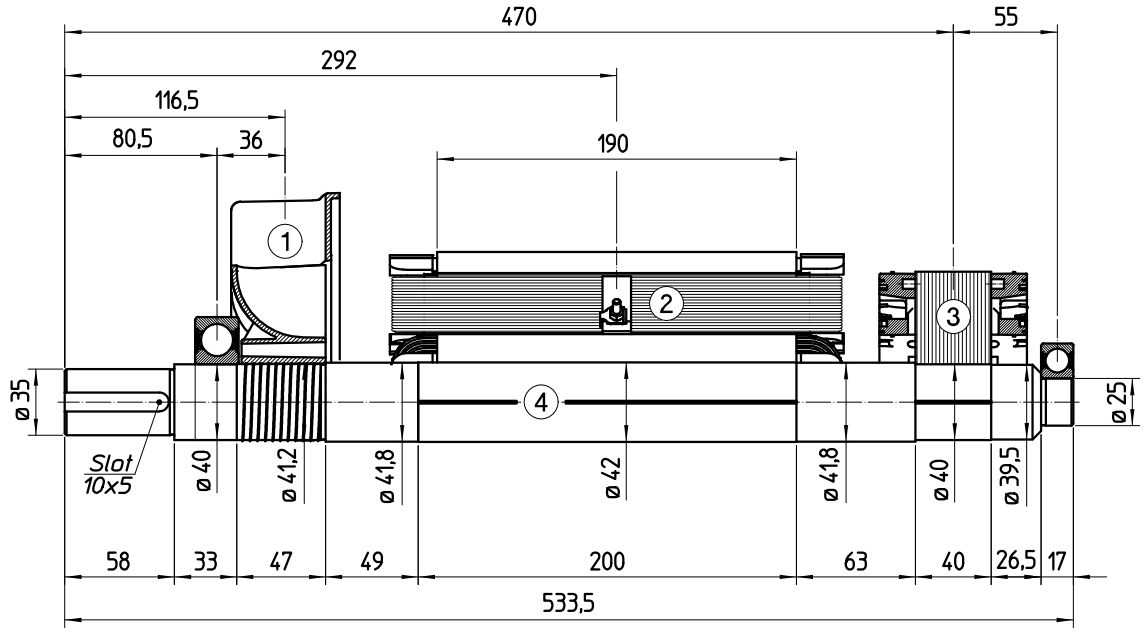




Three phase short circuit decrement curve. No load excitation at rated speed

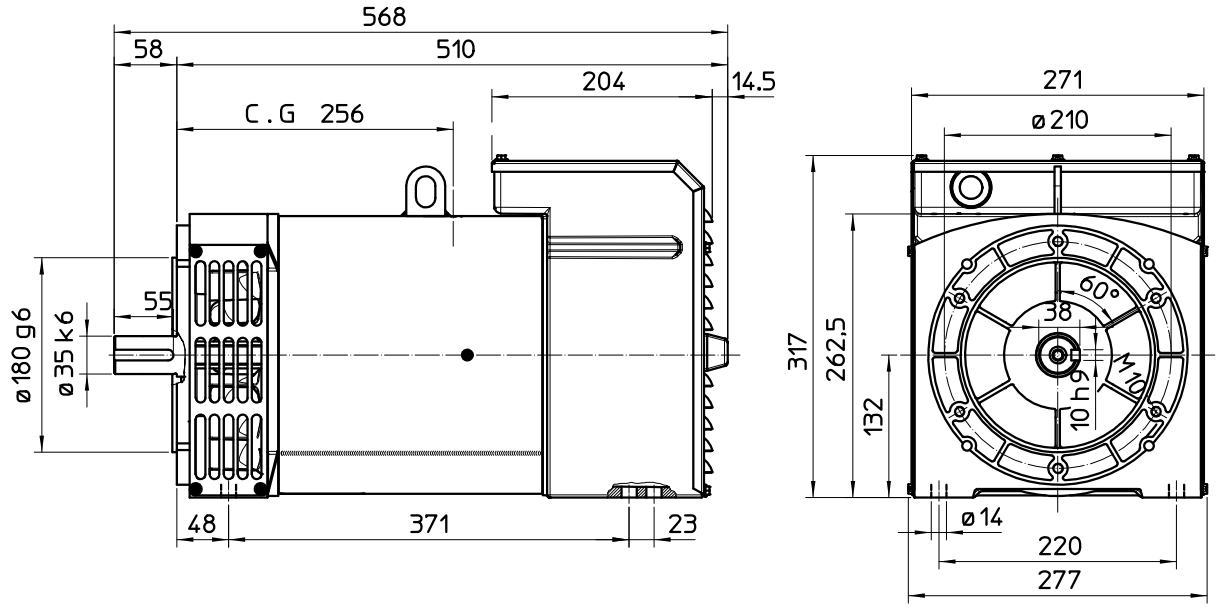


TWO BEARING MOMENTS OF INERTIA



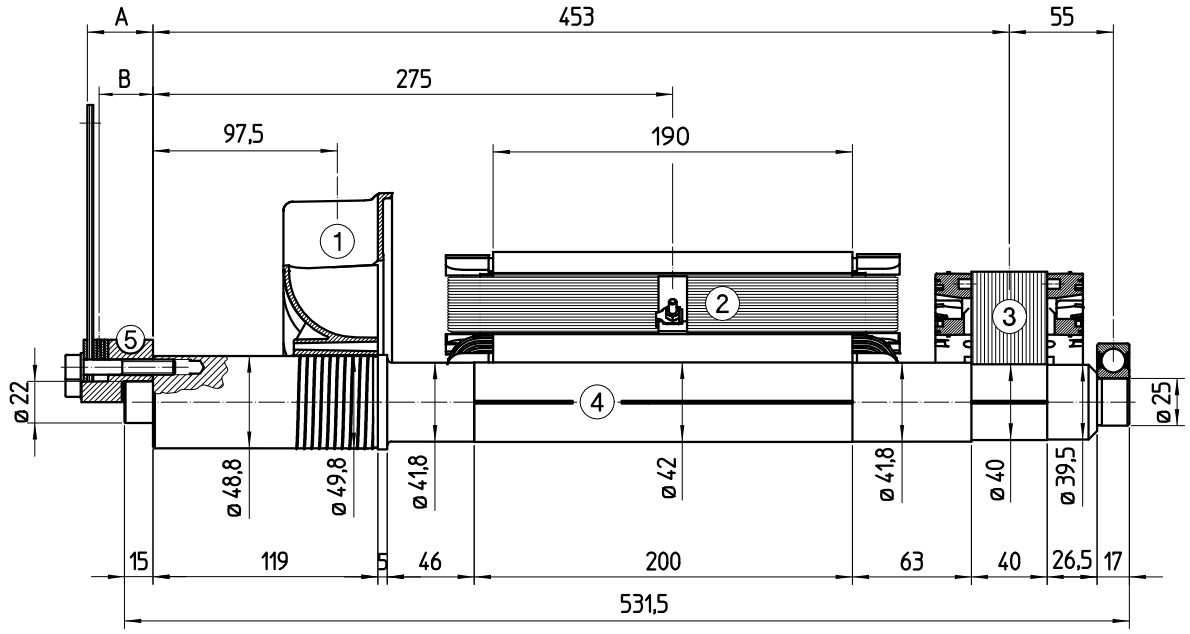
POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	0,4	0,00206
2	MAIN ROTOR	22,8	0,07016
3	EX. ROTOR	4,2	0,01086
4	SHAFT	5,2	0,00101
TOTAL		32,6	0,08409

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

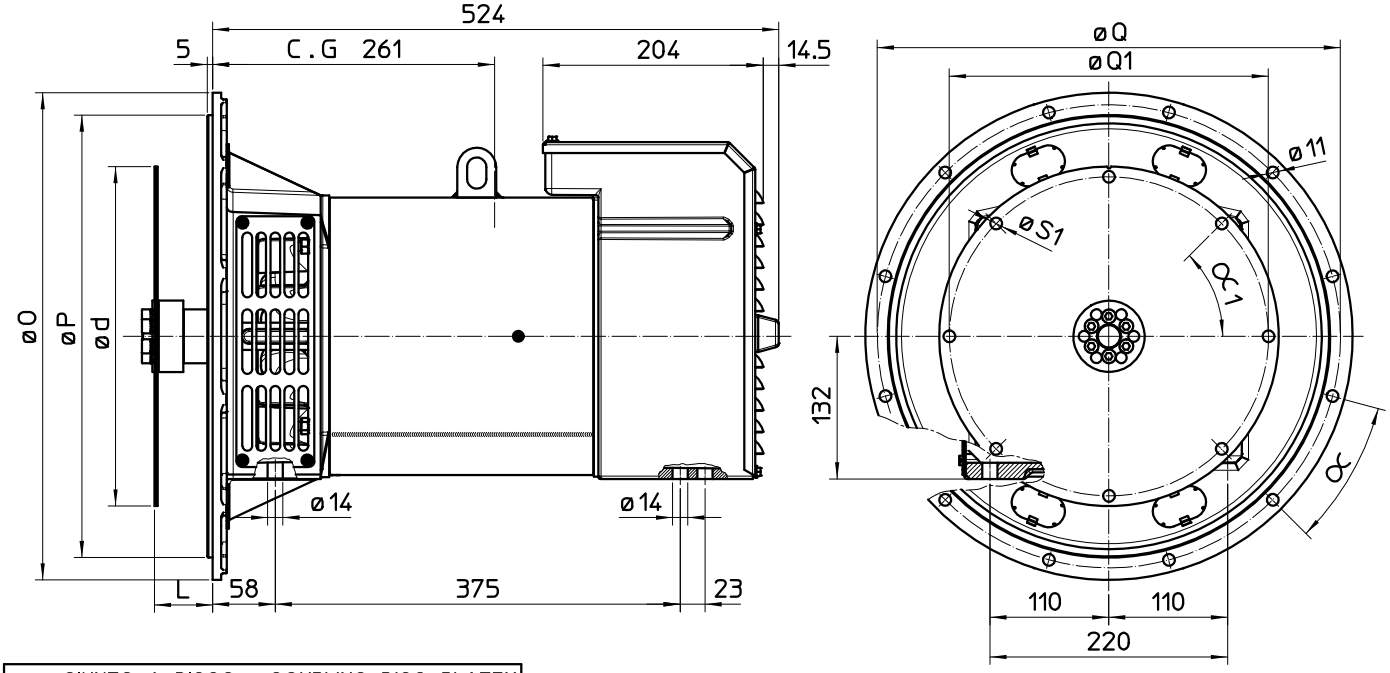
SINGLE BEARING MOMENTS OF INERTIA



POS.	COMPONENT	WEIGHT (kg)	J (kgm^2)
1	FAN	0,4	0,00206
2	MAIN ROTOR	22,8	0,07016
3	EX. ROTOR	4,2	0,01086
4	SHAFT	5,8	0,00140
TOTAL		33,2	0,08448

SAE	5	SHAFTS COUPLING FLEX PLATE		
N°	A	B	WEIGHT kg	J kgm^2
6 1/2	3	1,5	1,00	0,00495
7 1/2	3	1,5	1,20	0,00769
8	34,6	29,5	1,75	0,01114
10	26,6	23,5	2,14	0,02220
11 1/2	13	11	2,60	0,03524

SINGLE BEARING DIMENSIONS



GIUNTO A DISCO / *COUPLING DISC PLATEX*						
SAE	L	d	Q1	Fori N° *Holes N°*	S1	α_1
6 ½	30,2	215,9	200	6	9	60°
7 ½	30,2	241,3	222,25	8	9	45°
8	62	263,52	244,47	6	11	60°
10	53,8	314,52	295,27	8	11	45°
11 ½	39,6	352,42	333,37	8	11	45°

FLANGIE / *FLANGE*					
SAE	O	P	Q	Fori N° *Holes N°*	α
6	308	266,7	285,75	8	22°30'
5	356	314,3	333,4	8	22°30'
4	403	362	381	12	15°
3	451	409,6	428,6	12	15°

C.G.= GRAVITY CENTER