

IF IN DOUBT-ASK  
DO NOT SCALE

NOTES:-

SHAFT STIFFNESS:-

THE STIFFNESS OF THE SHAFT BETWEEN THE MAIN ROTOR CORE  $\phi$  AND THE SHAFT EXTENSION  $\phi$  IS  $1.8920 \times 10^6$  kgcm/radian (STIFFENING EFFECT OF MAIN ROTOR CORE IS NOT INCLUDED IN THIS FIGURE)

SHAFT MATERIAL:-

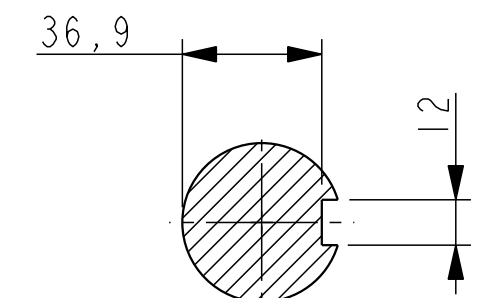
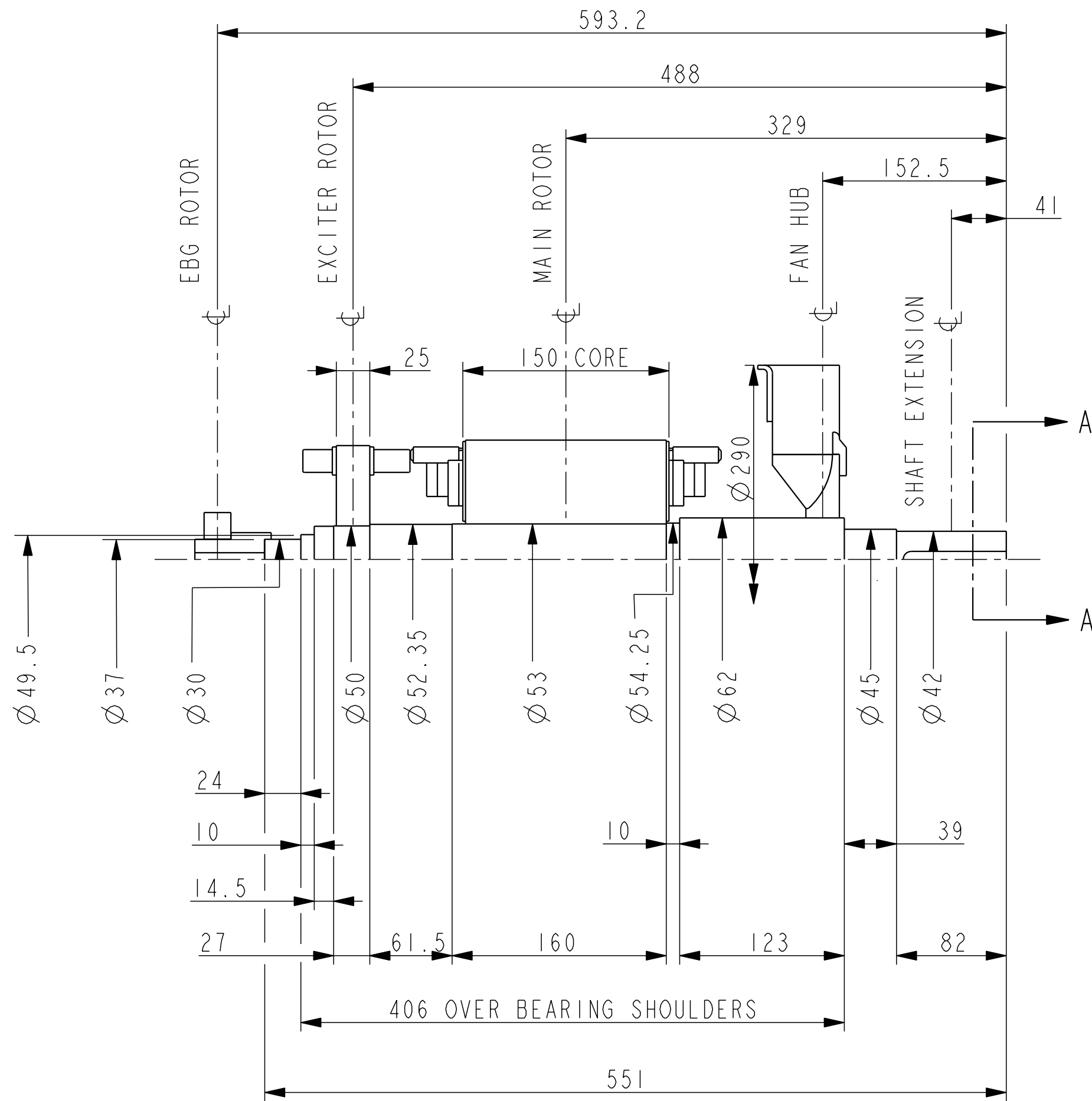
STEEL - C40E TO BSEN 10083-2 2006 (APPROVED BY MARINE AUTHORITIES WHEN APPROPRIATE)  
MAXIMUM RECOMMENDED VIBRATORY STRESS LEVEL IN THE SHAFT IS  $34.47 \times 10^6$  N/m<sup>2</sup> FOR SPEED RANGE OF 0.95 TO 1.1 x NOMINAL SPEED AND  $68.94 \times 10^6$  N/m<sup>2</sup> FOR RUN THROUGH CONDITIONS, FOR INDUSTRIAL MACHINES.

FOR MARINE AUTHORITIES, THEIR APPROPRIATE RULES WILL APPLY.

CUMMINS GENERATOR TECHNOLOGIES LTD SHOULD BE NOTIFIED OF ANY ROTORS NOT COMPLYING WITH THESE RULES. CUMMINS GENERATOR TECHNOLOGIES LTD BALANCE ROTORS TO COMPLY WITH INTERNATIONAL STD ISO 1940 PARTS 1 AND 2 . BALANCE GRADE 2.5.

FOR UNBALANCED MAGNETIC PULL (U.M.P.) REFER TO THE FACTORY.

APPROVED DOCUMENT



SECTION A-A

COMPONENT	MASS (kg)	WR <sup>2</sup> (kgm <sup>2</sup> )
SHAFT	9.145	0.0033
FAN	0.976	0.0067
MAIN ROTOR	26.750	0.1274
EXCITER ROTOR	4.300	0.0170
TOTAL WITHOUT EBG ROTOR	41.171	0.1544
EBG ROTOR	1.701	0.0017
TOTAL WITH EBG ROTOR	42.872	0.1561

CONVERSION FACTORS		
TO CONVERT	TO	DIVIDE BY
kg	lb	0.453592
kgm <sup>2</sup>	lbft <sup>2</sup>	0.04214
kgcm/rad	lbin/rad	1.1521246
N/m <sup>2</sup>	lbf/in <sup>2</sup>	6894.76

CONFIDENTIAL PROPERTY OF CUMMINS GENERATOR TECHNOLOGIES LTD.						PI4D TWO BEARING MOMENTS OF INERTIA AND SHAFT DETAILS		
MATERIAL PROPS	-	DIMENSIONS IN MILLIMETRES (MM) AT 20°C	PROJECTION			SCALE	MATERIAL	
FINISH SPEC	-					3:10	--	
GEOMETRY SPEC	-	SURFACE FINISH VALUES IN MICRO METRES	WEIGHT =			DRG. SIZE	CASTING No	
ASSEMBLY SPEC	-		DRAWN BSR 07/05/07			C	-	
PERFORMANCE SPEC	-	UNLIMITED DIMS ± 0.25	CHECKED DSG 25/6/07			REL. PHASE	PART No	
QUALITY SPEC	-		APPROVED DPC 25/6/07			P	L15-13193	
						Pro/ENGINEER	ISSUE A	
						SHEET 1 OF 1 SHEETS		

MOD.	ISSUE	DRAWN	DATE	MODIFICATION
4-8440-77	A	BSR	07/05/07	ORIGINAL ISSUE