



## TECHNICAL DATA SHEET



KVA RATINGS	<b>5 - 40 kVA ( 3 phase Brushless Alternators )</b>									
FRAME	<b>BCI16 &amp; BCI18 ( 4 pole / 1500 rpm)</b>									
WINDING No.	311									
CONTROL SYSTEM	SELF EXCITED (NO PMG)									
AVR	SX460									
VOLTAGE REGULATION	1%									
	Above Regulation is with 4 % Engine Govering, SX 460 is the standard AVR									
INSUALTION SYSTETM	CLASS H									
PROTECTION	IP23									
RATED POWER FACTOR	0.8 Lag									
STATOR WINDING	DOUBLE LAYER CONCENTRIC									
WINDING PITCH	TWO THIRD									
WINDING LEADS	12									
OVER LOAD	10% OVER LOAD FOR 1 HOUR ONCE EVERY 12 HOURS									
WAVE FORM DISTORTION	NO LOAD <1.8 % NON DISTORTING BALANCED LINEAR LOAD < 5 %									
TELEPHONE INTERFERENCE,%	THF< 2									
MAXIMUM OVER SPEED	2250 r.p.m.									
BEARING DRIVE END	BALL 6309 -2RS ( ISO)					BALL 6312 -2RS ( ISO)				
BEARING NON-DRIVE END	BALL 6306 -2RS ( ISO)									
VOLTAGE SERIES STAR(Y), L-L / L-N	415/240		415/240		415/240		415/240		415/240	
<b>BASE RATING, kVA</b>	<b>20</b>		<b>25</b>		<b>30</b>		<b>32.5</b>		<b>35</b>	
<b>FRAME #</b>	<b>BCI184E</b>		<b>BCI184F</b>		<b>BCI184G</b>		<b>BCI184H</b>		<b>BCI184H</b>	
FREQUENCY, Hz	50		50		50		50		50	
NO. OF BEARINGS	1 BRG	2 BRG	1 BRG	2 BRG	1 BRG	2 BRG	1 BRG	2 BRG	1 BRG	2 BRG
WEIGHT COMP.GENERATOR, kg	128	131	151	154	167	170	216	203	216	203
WEIGHT WOUND ROTOR, kg	40.69	41.47	50.29	52.5	55.98	56.76	72.33	69.12	72.33	69.12
WEIGHT WOUND STATOR , kg	43.6		55		64.3		73		73	
WR <sup>2</sup> INERTIA, Kgm <sup>2</sup>	0.1568		0.1909		0.22		0.2763	0.2706	0.2763	0.2706
EFFICIENCY % @ 0.8 PF AND 100 % LOAD	85.9		86.9		86.8		87.8		87.4	
COOLING AIR m <sup>3</sup> /sec	0.095		0.095		0.095		0.15		0.15	
STATOR WINDING RESIS (L-L) @ 22 °C, Ω	0.786		0.5		0.428		0.3426		0.3426	
ROTOR WINDING RESIS AT 22 °C, Ω	0.64		0.74		0.83		0.89		0.89	
X <sub>d</sub> DIR AXIS SYNCHRONOUS	1.40		1.39		1.39		1.61		1.73	
X' <sub>d</sub> DIR AXIS TRANSIENT	0.14		0.15		0.13		0.12		0.13	
X'' <sub>d</sub> DIR AXIS SUB TRANSIENT	0.09		0.09		0.10		0.07		0.07	
X <sub>q</sub> QUAD AXIS REACTANCE	0.69		0.70		0.69		0.78		0.84	
X'' <sub>q</sub> QUAD AXIS SUBTRANSIENT	0.16		0.16		0.15		0.14		0.15	
X <sub>L</sub> LEAKAGE REACTANCE	0.05		0.05		0.06		0.05		0.05	
X <sub>2</sub> NEGATIVE SEQUENCE	0.13		0.13		0.12		0.10		0.11	
X <sub>0</sub> ZERO SEQUENCE	0.06		0.06		0.06		0.02		0.03	
REACTANCES ARE SATURATED VALUES & ARE PER UNIT AT RATINGS & VOLTAGE INDICATED.										
T' <sub>d</sub> TRANSIENT TIME CONSTANT, sec	0.020		0.022		0.024		0.024		0.024	
T'' <sub>d</sub> SUBTRANSIENT TIME CONSTANT, sec	0.005		0.006		0.006		0.015		0.015	
T'' <sub>do</sub> O.C FIELD TIME COONSTANT, sec	0.40		0.45		0.55		0.57		0.57	
T <sub>a</sub> ARMATURE TIME CONSTANT, sec	0.006		0.007		0.007		0.010		0.010	
SHORT CIRCUIT RATIO	0.716		0.719		0.719		0.621		0.578	
# For detail frame designation refer document 'TDS-General'										
Note : All ratings are industrial , 3 phase based on 40 deg c ambient temperature and 1000 m altitude. Continuous development of our products entitles us to change specification details without notice.										
Ref : TDS-BCI-4P			ISSUE: B			PAGE NO : 2 OF 3			DATE: 12/11/2005	