

Table-3: Electrical Connections between Shaker (Vibrator, Slip Table and Auxiliaries) and existing Power Amplifier [Distance between the shaker and power amplifier ~15 meters]					
Si No :	Electrical Connection (as per the schematic)	Description	Voltage Rating	Current Rating	Specs from Shaker Manual
1	A1+	Supply to Shaker Armature Coil from Power Amplifier	110 V (rms)	560 A(rms), 1680A (100ms)	Rated Output Voltage is 100 Vrms (Sine), Maximum No Load Voltage is 110 V (Sine). Continuous Output Current is 80 A (rms) per power module ; implies 560 A for 7 power modules. However the power supply is limited to 500 A. Transient output current is 240 A (rms) per power module for 100 ms; implies 1680 A.
2	A1+	Supply to Shaker Armature Coil from Power Amplifier	110 V (rms)	560 A(rms), 1680A (100ms)	
3	A2-	Supply to Shaker Armature Coil from Power Amplifier	110 V (rms)	560 A(rms), 1680A (100ms)	
4	A2-	Supply to Shaker Armature Coil from Power Amplifier	110 V (rms)	560 A(rms), 1680A (100ms)	
5	F1+	Supply to Shaker Field Coil from Power Amplifier	175 V (DC)	95 A (DC)	The field Power Supply Voltage is 175V (Nominal); Filed Power Requirements (dc) for field and degauss coils: Max Current (Cold) :95A ;
6	F2-	Supply to Shaker Field Coil from Power Amplifier	175 V (DC)	95 A (DC)	
7	Protective Earth	--	NA	NA	–

8	Position Control	From Power Amplifier to Shaker	0-5V DC; Analogue	--	The IR Sensor of Centre Positioning Assembly; the feedback sensor on the Shaker is connected to an IR amplifier. The output of IR amplifiers analogue, 0-5V DC. This is passed to the SPA-K Power Amplifier which calculates the current position of armature.
9	Tilt Switch	Vibrator Vertical / Horizontal Tilt Switch wired from Shaker to Power Amplifier	--	--	Closed when vibrator is positioned vertically. Open when it is positioned horizontally. Connection for Mercury Switch.
10	ST Oil	Slip Table Oil Pressure Interlock wired from Shaker to Power Amplifier	--	--	Sees whether Oil supply to the slip table bearings and granite block has fallen below operating pressure. Potential Free Contact from Slip Table Oil Pressure Switch. Available Switch Details: Make: Bringingham England, Type 815, Operating Pressure 20 to 250 Bar, SI no: 14C6152021
11	VIB OT	Vibrator over travel interlock wired from the shaker to the Power Amplifier	--	--	Vibrator Over travel - Connection of "Electronic Over travel" and Potential Free "Mechanical Over travel" from shaker to Amplifier. Contacts closed in

					NOT over travelled State.
12	ST OT (EXT-2)	Slip Table Over travel Interlock wired from Shaker Slip Table to The amplifier	--	--	Slip Table Over travel Interlock wired onto EXT-2 interlock on the Power amplifier Interface PCB. Potential Free contact. The micro switch assembly is adjusted such that during normal operation its contacts (NC) are not activated, but any over travel of the ST causes micro switch to be activated by one of the striker plates.
13	VIB Cooling	Vibrator Cooling Interlock wired from Shaker to Power amplifier	--	--	Potential Free Contact from the vibrator air switch. Contacts closed when the vibrator cooling is correct.
14	ESTOP	Emergency Stop on the Shaker and Pneumatic Control Panel	--	--	Connection for a dual circuit Emergency Stop by means of Potential Free contacts. Contacts to be normally closed. Opening of the contacts initiates an Emergency Stop Sequence
15	Blower Supply R	Cooling Fan R phase from Power Amplifier to Shaker	415VAC	50 A	Cooling Fan Motor Rating: 11 kW, 50 Hz, 15 HP
16	Blower Supply Y	Cooling Fan Y phase from Power Amplifier to Shaker	415VAC	50 A	

17	Blower Supply B	Cooling Fan B phase from Power Amplifier to Shaker	415VAC	50 A	
18	Degauss Coil Supply -1	Degaussing Coil supply from Amplifier to Shaker	--	--	To Reduce Stray Magnetic Field above the armature table.
19	Degauss Coil Supply -2	Degaussing Coil supply from Amplifier to Shaker	--	--	Degauss coil is connected to degauss control within SPAK Amplifier (Adjusts the current flowing through it; factory setting)