

**WESTWIND<sup>®</sup>**

**A Guide to setting up a  
Sieb & Meyer 21-60 or 21-62  
converter  
For using as a spindle running  
rig**

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## **Setting the Sieb & Meyer converter**

### **a, Initial powering up**

Initially switch the test set followed by the converter; only green lights should be displayed on the drive, if a red fault light appears this possibly is caused by;

- 1, the test set is not switched on
- 2, the PTC thermistor is not linked out
- 3, the spindle electrical wiring has a short or link to ground

Switch off the drive unit and test set; carry out an examination to rectify the fault

Once the fault has been diagnosed and rectified then repeat the sequence of switching off all item and repeat the powering up operation as above, if the fault has been corrected then the fault light will not appear

**b, Pre-programmed characteristic curve**

Once after the powering up operation has successfully been completed the handset should display the following;

- 1 Operation
- 2 Programming

Select the operation function (1), the hand set will now display the characteristic curve option, type in the curve number which has been previously been defined, this will now bring up on the hand set the following options;

- 1 Frequency indication
- 2 Speed indication
- 3 Power indication
- 4 Load indication

Select frequency indication (1) and now you can type in the frequency you wish to run at (note this is the input frequency and not the actual rotational speed of the spindle)

Select the enter key (↵) and then press the start key, the spindle will now run up to the input frequency defined following the characteristics as pre-defined including the ramp up/down time, bending points limit settings.

## **C, programming the characteristic curve**

Once after the powering up operation has successfully been completed the handset should display the following;

- 1 Operation
- 2 Programming

Select the programming function (2) (↵), the hand set will now display the 4 digit password code option, type in the code number which has been previously been defined (default code set by manufacture = 0000), this will now bring up on the hand set the following options;

- 1 Characteristic curve
- 2 Bending point
- 3 Limit settings
- 4 Number of poles

Select Characteristic curve option (1) (↵) and now you can type a curve number which you wish to use that has previously not been used (note if you type in a previously defined curve number you will over-write the stored information) make a note of the curve numbers used and for what purpose it had been generated e.g. curve 01 = spindle type DXXXX-XX standard set-up press return

Now select option 2 (↵) the bending point option, this will allow you to input the knee points (also known as the dog legs), these values must be entered into the drive from the lowest speed knee point to the highest (max speed) this information is the frequency against the TRUE output voltage (not the displayed voltage on the hand set) see note 1 to see how to find the true output voltage, if there is no knee point required e.g. then only add the final frequency and voltage (a linear straight line).

Once after the final operating speed has been added input an additional point should be added at the same final Voltage but at a slightly higher frequency which produces a true maximum rotational speed in the spindle shaft, as defined on the spindle Outline drawing. But the frequency is higher, this value is higher by the operating slip value (to ensure that the shaft is the required operating speed).

A list of standard bending curves for spindles is listed within the appendix

Press enter (↵) and to store the change press run and the option of save data +/- will be displayed select + to store

### **Note 1.**

The true output voltage can be measured by using a Fluke III multimeter, connect the meter between two of the phase wires and set the multimeter to volts without any other equipment connected, start the drive and select operate, select the required spindle curve that has been pre-programmed and select frequency, type in the first knee point frequency and the start, confirm that the voltage reading is that quoted on the outline drawing, if not then adjust the voltage within the programming operation to give the required voltage.



If you require to change the limits settings e.g. the ramp time/current limit/voltage limit then select 3 (limits setting in the main menu) this will display a menu for the limit settings as follows;

- 1, Current limit
- 2, Acceleration / deceleration limits
- 3 Minimum frequency
- 4 Voltage limit

The options are very much self-explanatory and are customer dependant, for development trials the acceleration ramp up should be set initially for 30 seconds and the deceleration should be set for 20 seconds, this is to record the changes in temperatures during testing and ensures safety during the development of new designs, once the design has been proven then this should be set to a worse case scenario to ensure the spindle performs throughout its speed range within the spindle design specification.

Press enter (↵) and to store the change press run and the option of save data +/- will be displayed select + to store.

**Standard Westwind settings**

Character Curve

Character curve CC XX (Programmed – customer defined )

Bending Points BP XX (Defined on the outline drawing)

Current limit	I Max	=	5A
Acc / Decel	t-acc	=	120 sec
	t-dec	=	30 sec
Min frequ	f min	=	000Hz
No of Poles	Poles	=	2
Compensations	Slip	=	0%
	IxR	=	0%
Loading Sensitivity	S	=	04
Holding Current	I	=	0
	T	=	0
Reference Value Source		=	Set to remote control

**Standard Westwind Bending Curves –**  
**Ref only CHECK TO OUTLINE DWG**  
**(the output voltages require checking on a meter against the outline**  
**dwg)**

D1201-01	Voltage (V) =	130	152	152	
	Frequency (Hz) =	600	1897	1897	
D1633-02	Voltage (V) =	60	145	150	150
	Frequency (Hz) =	250	800	2000	2000
D1473-01/03/05	Voltage (V) =	92	203	203	
	Frequency (Hz) =	500	3150	3150	
D1600-01	Voltage (V) =	60	145	160	160
	Frequency (Hz) =	250	800	2195	2195
D1199-03	Voltage (V) =	130	160	166	166
	Frequency (Hz) =	600	1833	2195	2195
D1331-17/28/41 42/47/13/55/68/54	Voltage (V) =	130	166	166	166
	Frequency (Hz) =	600	2083	2150	2150
D1531-08/09/11	Voltage (V) =	55	170	170	
	Frequency (Hz) =	500	2565	2565	
D1686-03	Voltage (V) =	85	242	242	
	Frequency (Hz) =	500	3150	3150	
D1331-26/36/48	Voltage (V) =	140	220	220	
	Frequency (Hz) =	600	2195	2195	
D1633-02	Voltage (V) =	60	145	150	150
	Frequency (Hz) =	250	800	2000	2000
D1296-11	Voltage (V) =	145	194	194	
	Frequency (Hz) =	583	1667	1667	



D1331-24	Voltage (V) = Frequency (Hz) =	140 600	212 2195	212 2195	
D1524-05	Voltage (V) = Frequency (Hz) =	120 600	165 2195	165 2195	
D1251-03	Voltage (V) = Frequency (Hz) =	145 583	180 1333	180 1333	
D1473-01/07/09	Voltage (V) = Frequency (Hz) =	92 500	230 2833	230 2833	
D1686-10/11/12	Voltage (V) = Frequency (Hz) =	90 500	131 1000	200 3110	200 3110
D1566-04	Voltage (V) = Frequency (Hz) =	80 500	229 2790	229 2790	
M320-24	Voltage (V) = Frequency (Hz) =	45 250	130 1360	130 1360	
D1722-03	Voltage (V) = Frequency (Hz) =	90 500	131 1000	189 2760	189 2760
D1722-04	Voltage (V) = Frequency (Hz) =	90 500	131 1000	215 2800	215 2800
D1769-01	Voltage (V) = Frequency (Hz) =	80 500	131 1000	189 2760	189 2760