

#### Features:

- No Elastomers in the tool to deteriorate and plug the "Oscillator" or tools below
- Power section is patented with metal to metal seal system
- No parts within tool that can dislodge from the internal power system into the fluid flow
- Fully capable to adjust hertz frequency and hydraulic output

#### Surface Testing:

Rig up at pre-determined location in the tool string and pump optimum fluid and pressure rates required for the Motor.

Oscillation will be felt on the pipe above the tool Hertz Frequency increases as the string length in the hole increases.

### CTT Oscillator (Patented)

### **Description**

Operational Methods of Creating Vibrational Frequency

- The "CTI Oscillator" generates imbalanced rotational frequency known as hertz (Hz) generated and controlled by an Internal Eccentric Drive Sub placed on the patented
- "CTIJet Motor "connected to a Flex Joint Ported Sub Housing.
- The tool's internal frequency is then transmitted to the other housing creating a motion that pushes or pulls the string. The more free string available also contributes to the magnitude of Oscillation affects.

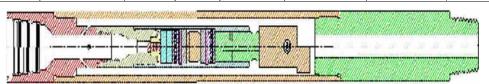
"CTI Oscillator" Component & Operational Data

- The Top Ported Sub (Item 1) distributes fluid and pressure up to volume required by the customer's hydraulic specifications.
  Up to 40 GPM is distributed to the Power Section (Item 2) through to Oscillators Eccentric Sub (Item 3) which rotationally energizes and generates a controlled Hertz frequency per rotation.
- All Fluid not required to operate the (Item 2) Power Section is circulated by and through to the Lower Sub (Item 4) along with fluid from the Eccentric Sub Nozzle (Item 5). (GPM and Pressures setup are standard 3 barrels and 500 1500 PSI pressure drop. Other Hydraulic requirements and frequency can be adjusted to customers' requests).



# CTT Standard Oscillator (Patented)

ODSIZE	STANDARD CONNECTION	LENGTH Ft.	Weight Lbs.	FLOW RATE GPM/LITRE	TEMPERATURE 'F	OPERATION PRESSURE DROP	MAX PULL
2.125	1-1/2" MT	22"	14 LBS	40·120 GPM	500°	300 - 1000 PSI	55,000
2.875	2·3/8" PAC	33 "	35 LBS	40-120 GPM	500°	300 - 1000 PSI	75,000



2.125" moscillator PSI	2.875" CTI Oscillator PSI	2.125" moscillator GPMLLITRE	2.875" CTI Oscillator GPMLLITRE	2.125" FREQUENCY HZ	2.875" FREQUENCY HZ
100 PSI	100 PSI	40 GPM / 151 LITRE	40 GPM / 151 LITRE	6.75 HZ	9HZ
200 PSI	200 PSI	60 GPM / 227 LITRE	60 GPM <b>/</b> 227 LITRE	9HZ	12 HZ
300 PSI	300 PSI	80 GPM /303 LITRE	80 GPM <b>/</b> 303 LITRE	11.25 HZ	15 HZ
400 PSI	400 PSI	100 GPM <b>/</b> 379 LITRE	100 GPM <b>/</b> 379 LITRE	15 HZ	20 HZ
500 PSI	500 PSI	100 GPM / 379 LITRE	100 GPM / 379 LITRE	18 HZ	24 HZ
600 PSI	600 PSI	120 GPM <b>/</b> 454 LITRE	120 GPM / 454 LITRE	25.50 HZ	34 HZ

# CTT Extreme Oscillator (Patented)

OD SIZE	STANDARD CONNECTION	LENGTH Ft.	Weight Lbs.	FLOW RATE GPM/LITRE	TEMPERATURE 'F	OPERATION PRESSURE DROP	MAX PULL
2.875	2·3/8" PAC	66"	70 LBS	40-120 GPM	500°	300-1000 PSI	75,000

PSI	<u> </u>	FREQUENCY HZ	
100 PSI	40 GPM / 151 LITRE	13.5 HZ	
200 PSI	60 GPM /227 LITRE	18 HZ	
300 PSI	80 GPM / 303 LITRE	22.5 HZ	
400 PSI	100 GPM <b>/</b> 379 LITRE	30 HZ	
500 PSI	100 GPM <b>/</b> 379 LITRE	34 HZ	
600 PSI	120 GPM <b>/</b> 454 LITRE	51 HZ	