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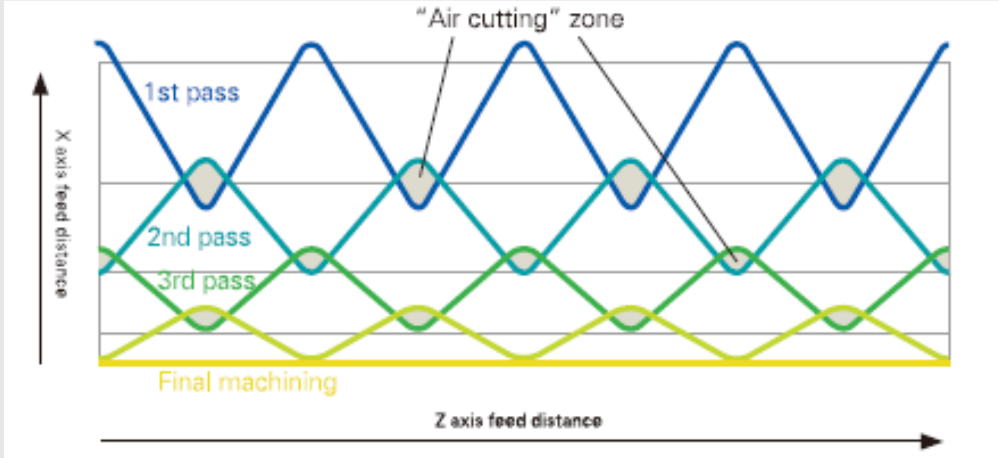
LFV Mode 3



What is LFB Mode 3?

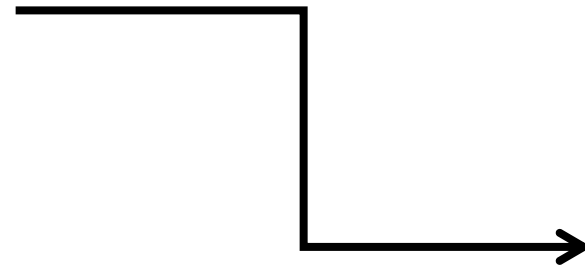
| | LFV mode 1 | LFV mode 2 |
|---------------|--|--|
| Operation | Multiple vibrations per spindle revolution | Multiple spindle revolutions per vibration |
| Specification | The axes execute multiple vibrations during one spindle revolution, reliably breaking chips up into small pieces | Machining is carried out while rotating the spindle multiple revolutions per vibration |
| Application | Ideal for outer/inner diameter machining and groove machining | Ideal for micro-drilling, where peripheral speed is required |
| Waveform | | |

What is LFV Mode 3?

| | LFV mode 3 |
|---------------|--|
| Operation | Vibration threading |
| Specification | A vibrating behaviour is applied in the direction of the cutting (notching) during threading with the timing of this vibration changing with each pass in relation to the rotary phase of the spindle to provide “air-cutting” during the machining and break up chips |
| Application | Optimal for threading of internal and external diameters |
| Waveform |  |

What is LFV Mode 3?

G0 Z-3. T08
G0 X18.0
G165 P3 D2.5 Q1.5 U0.08 K11 X19.0
G92 X19.2 Z13.0 F1.814
x19.4
X19.6
X19.8
X20.0
X20.2
X20.4
X20.6
X20.8
X20.9
X20.955
X20.955
G165P0



G165 P3- Mode 3 enable

D- Number of Oscillations / rev

(E)- Number of rev/ Oscillation

Q- Amplitude ratio

U- Amplitude + DOC

K- Number of passes with LFV

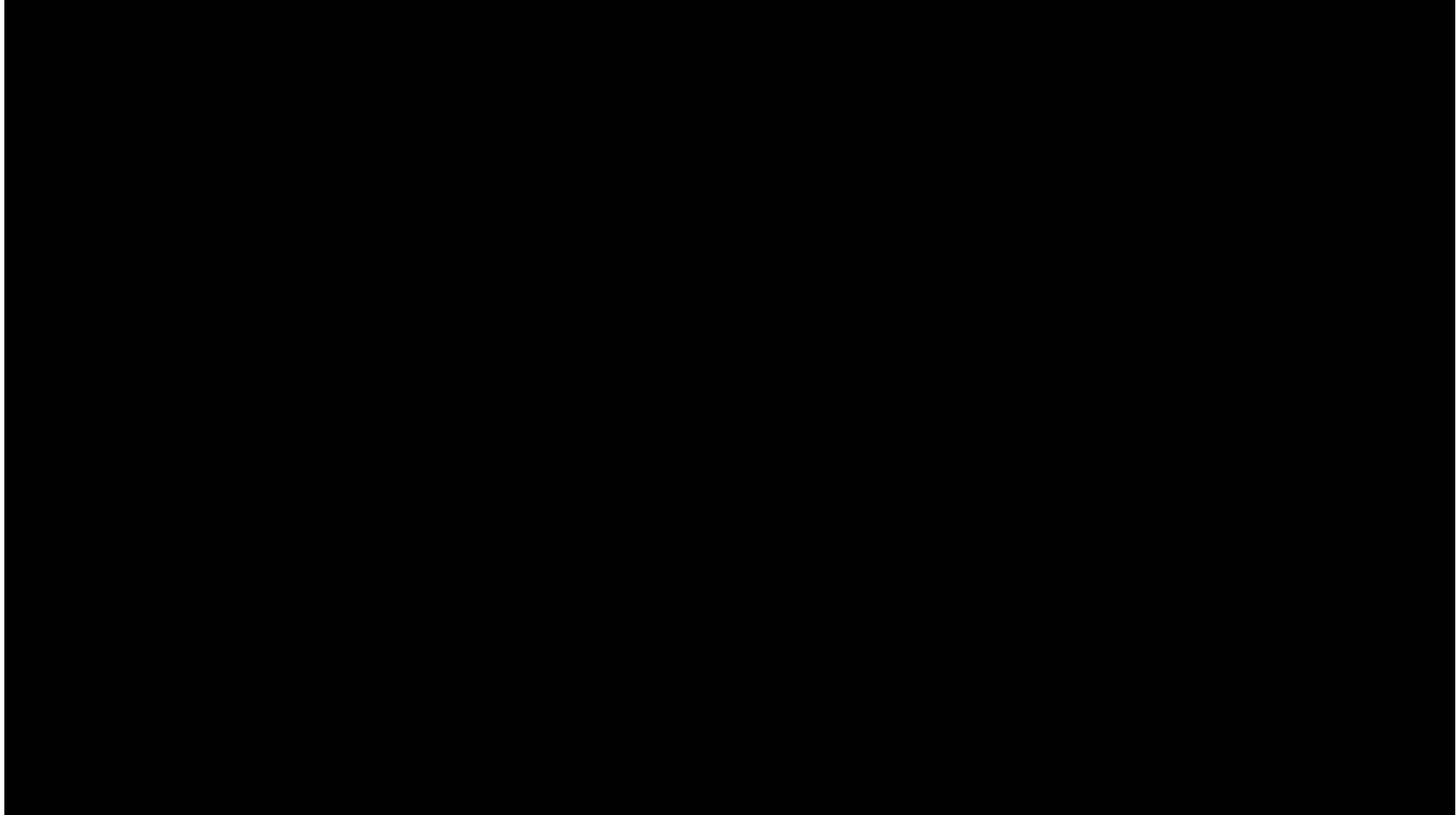
X- Start diameter

(G92 & G32 Threading Cycles only)



What is LFV Mode 3?

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LFV Mode 3 components

Thread:- G1/2 BSP

Material: AISI 304



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Machines available on

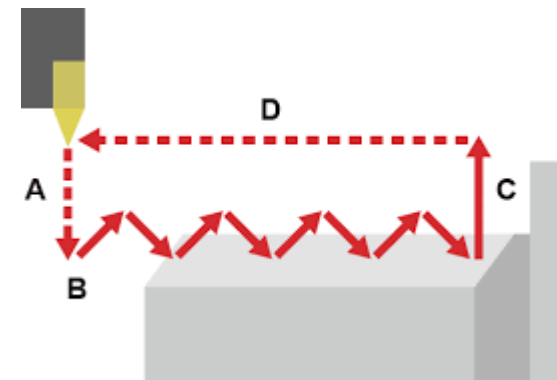
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| | LFV mode 1 | LFV mode 2 | LFV mode 3 |
|----------|------------|------------|------------|
| A20-VII | ✓ | | |
| D25-VIII | ✓ | ✓ | ✓ |
| L12-VII | ✓ | ✓ | ✓ |
| L12-X | ✓ | ✓ | ✓ |
| L20-VIII | ✓ | ✓ | ✓ |
| L20-X | ✓ | ✓ | ✓ |
| L20-XII | ✓ | ✓ | ✓ |
| L32-VIII | ✓ | ✓ | ✓ |
| L32-X | ✓ | ✓ | ✓ |
| L32-XII | ✓ | ✓ | ✓ |
| BNA-42GT | ✓ | ✓ | ✓ |



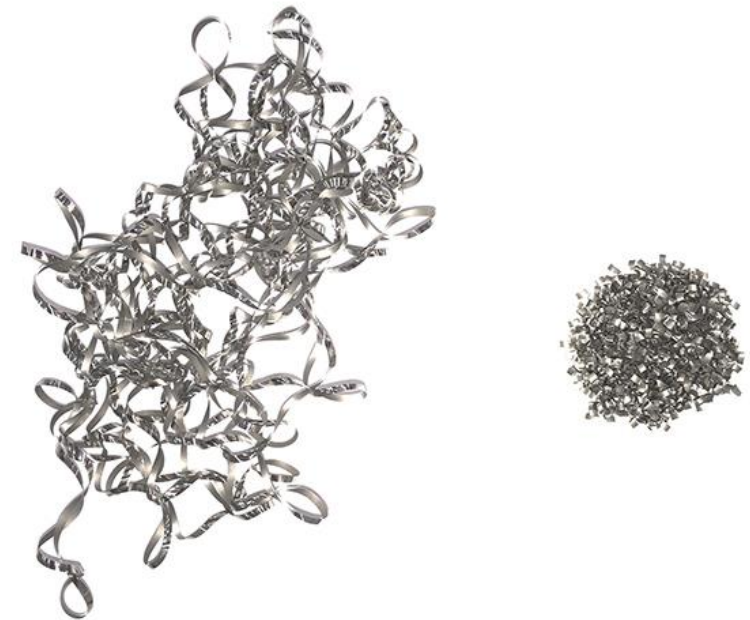
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- Thousands of thread forms are used today in various applications
- Not possible to test every thread available
- Therefore at this time no guarantee exists
- Over time we will gain knowledge and data to enable us to say “100% YES”
- We haven't been unsuccessful yet!



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Available now on new machines!



Cost to the customer

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In additional to mode 1 & 2 = circa 1,000€



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LFV Technology remains unique and a Citizen patent
- nothing is like it!



Thank you for listening.

Any questions?

