表1车削时的切削力计算公式

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| --- | --- | --- |
| 计 算 公 式 | | |
| 切削力(或) | N | 式中的单位为m/s |
| 背向力(或) | N |
| 进给力(或) | N |

ap=0.5、1、1.5

f=0.1、0.2、0.4

Fz：270、1、0.75、-0.15、1

Fy：199、0.9、0.6、-0.3、1

Fx：294、1、0.5、-0.4、1







把上式中0.1分别换成0.2、0.4再计算

Fz=9.81×270×a ×b0.75×100-0.15

Fy=9.81×199×a0.9×b0.6 ×100-0.3

Fx=9.81×294×a ×b0.5 ×100-0.4

|  |  |  |  |
| --- | --- | --- | --- |
|  | a=1, b=0.1 | a=1, b=0.2 | a=1, b=0.4 |
| Fz | **236.065636** | **397.0134941** | **667.694448** |
| Fy | **123.1748618** | **186.6981787** | **282.9815223** |
| Fx | **144.5494148** | **204.4237428** | **289.0988296** |

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| |  |  |  |  | | --- | --- | --- | --- | |  | a=0.5, b=0.1 | a=0.5, b=0.2 | a=0.5, b=0.4 | | Fz | **118.032818** | **198.5067471** | **333.847224** | | Fy | **61.58743092** | **93.34908933** | **141.4907612** | | Fx | **72.2747074** | **102.2118714** | **144.5494148** | |  |  |
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|  |  |  |
| |  |  |  |  | | --- | --- | --- | --- | |  | a=1.5, b=0.1 | a=1.5, b=0.2 | a=1.5, b=0.4 | | Fz | **354.098454** | **595.5202412** | **1001.541672** | | Fy | **184.7622927** | **280.047268** | **424.4722835** | | Fx | **216.8241222** | **306.6356143** | **433.6482444** | |  |  |