

MAKING THE WORLD A HEALTHIER PLACE



Drilling Protocol  
SDS1.2 & SDS2.2

**SDS** SWISS DENTAL  
SOLUTIONS

designed by  
*Dr. Ulrich Vels*

# Bio-Logic drilling protocol

## Suitable for all bone classes

Most conventional implant systems will generate higher insertion torques in increasingly harder bone. Biologically, this is absolutely contraindicated and counterproductive. The more pressure on poorly perfused bone will lead to resorption (“MAMMOTO’S LAW”). The SDS Drilling Protocol takes into consideration both biology and MAMMOTO’S LAW as it generates decreasing insertion torques in increasingly harder bone. This is accomplished by using drills and drilling protocols adapted to different bone classes, thus protecting the bone and supporting its vascularization. This is crucial for long-term preservation of any tissue!

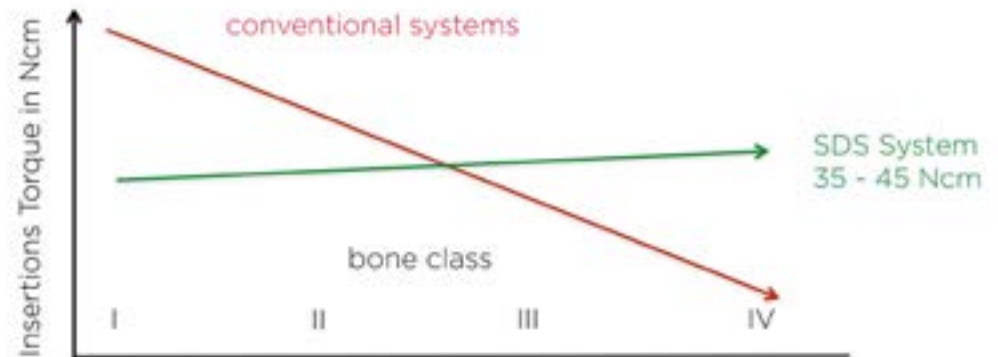
## Drilling protocols

It is recommended to keep these drilling sequences on hand during surgery; this will ensure that the protocol is adhered to flawlessly. Conversely, depending on the bone density, the implant bed can be optimally adapted to any non-standard situation. The images show each of the drilling sequences - from the round bur to the form drill - projected onto the implant, illustrating the remaining thread depth for stabilisation. The headline above the image indicates the implant type and its application with respect to different bone densities.

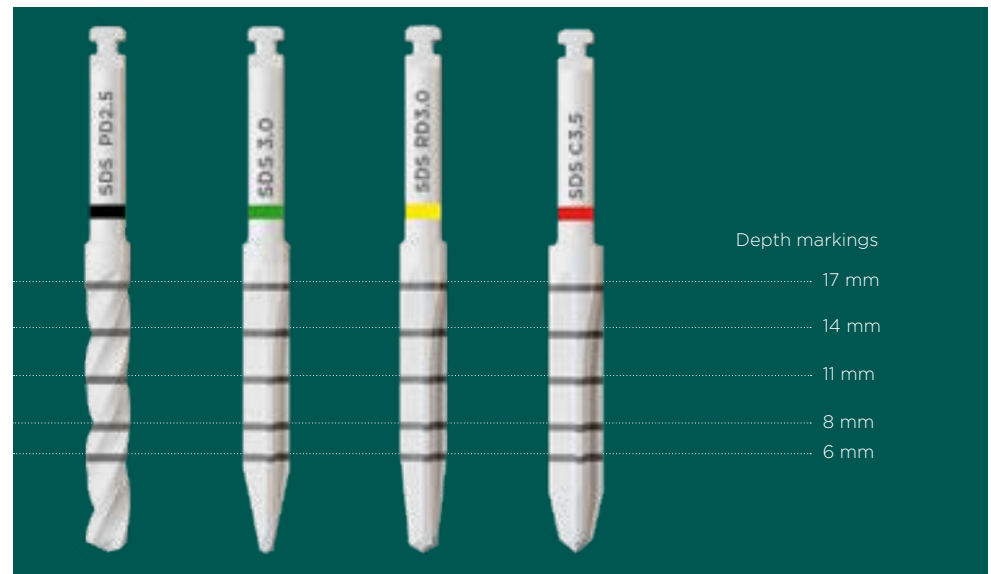
## Proper use

Drilling should be performed intermittently and under constant external cooling with pre-cooled (5°C / 41° F) sterile physiological saline solution. The external cooling prevents the bone tissue from heating up too much. In addition, bone chips can be removed or rinsed away. Ensure that the drill does not jam during use (increased risk of fracture).

The preparation is carried out under low pressure to the desired depth at a speed of 300 - 600 rpm. The speed should be maintained to avoid instrument fractures.

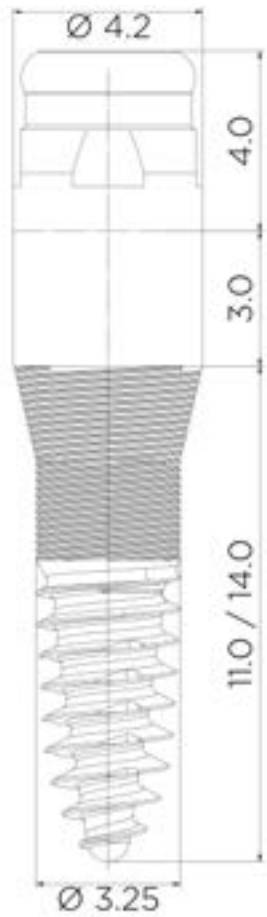


Uniform insertion torques are enabled for all four bone classes with the SDS drilling protocol.



# SDS1.2\_3.3 bone class III and II

**SDS1.2\_3.3**



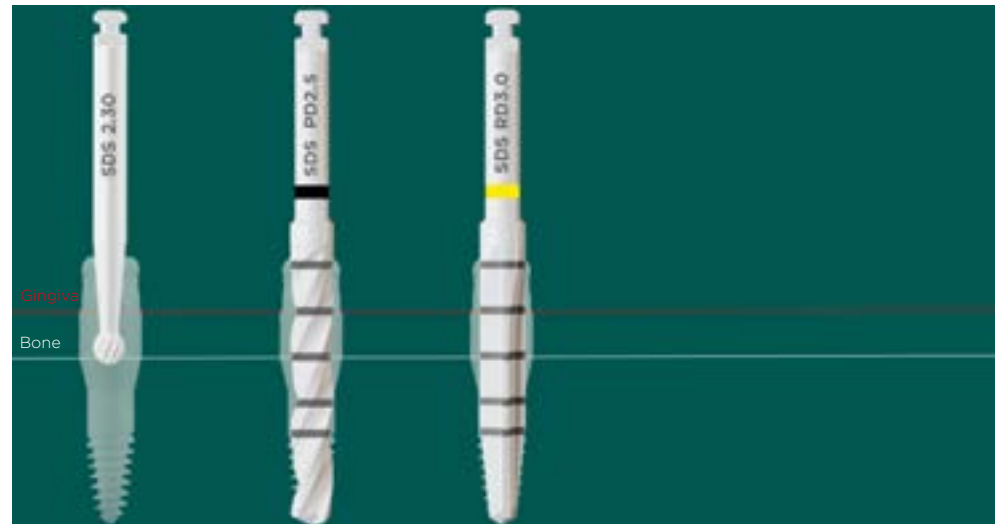
**Recommended speed**

|            |             |
|------------|-------------|
| SDSrb230   | 6.000 rpm   |
| SDSpd250   | 1.200 rpm   |
| SDSsd300dt | 300-600 rpm |
| SDSsd300rd | 300-600 rpm |

**SDS1.2 (Dynamic Thread®)  $\varnothing 3.3$  mm: Bone Class III**

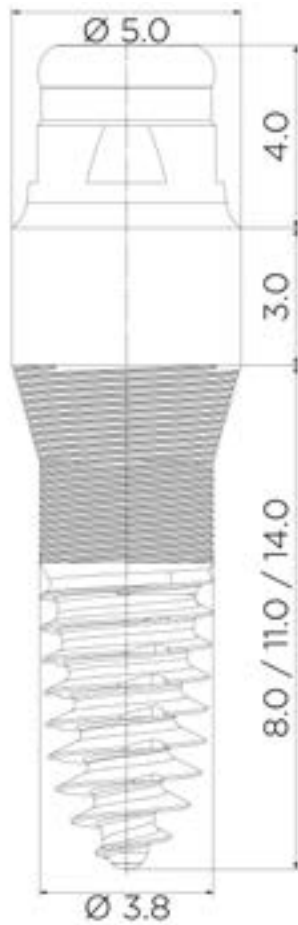


**SDS1.2 (Dynamic Thread®)  $\varnothing 3.3$  mm: Bone Class II**



# SDS1.2\_3.8 bone class IV and III

**SDS1.2\_3.8**



**Recommended speed**

|               |             |
|---------------|-------------|
| SDSrb230      | 6.000 rpm   |
| SDSpd250      | 1.200 rpm   |
| SDSsd300dt    | 300-600 rpm |
| SDScs500      | 300-600 rpm |
| SDS2.2_CS-500 | 300-600 rpm |

**SDS1.2 (Dynamic Thread®) Ø 3.8 mm: Bone Class VI**

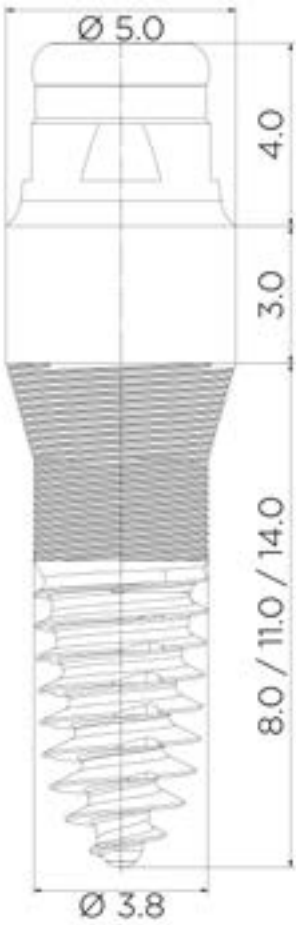


**SDS1.2 (Dynamic Thread®) Ø 3.8 mm: Bone Class III**



# SDS1.2\_3.8 bone class II and I

**SDS1.2\_3.8**



| Recommended speed |             |
|-------------------|-------------|
| SDSrb230          | 6.000 rpm   |
| SDSpd250          | 1.200 rpm   |
| SDSsd300dt        | 300-600 rpm |
| SDScs500          | 300-600 rpm |
| SDSsd300rd        | 300-600 rpm |
| SDSsd350C         | 300-600 rpm |

**SDS1.2 (Dynamic Thread®)  $\varnothing 3.8$  mm: Bone Class II**

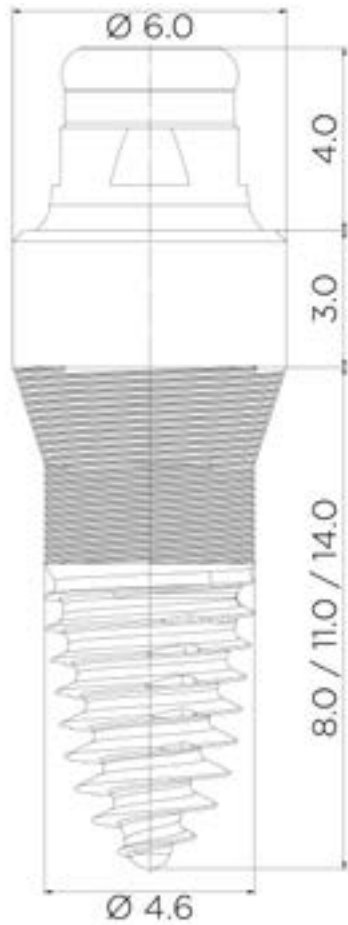


**SDS1.2 (Dynamic Thread®)  $\varnothing 3.8$  mm: Bone Class I**

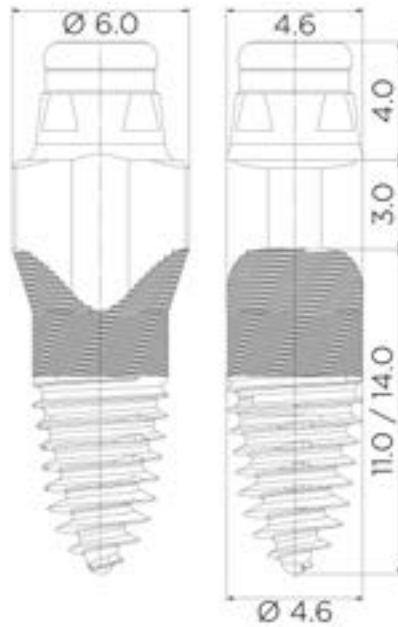


# SDS1.2\_4.6 bone class IV and III

SDS1.2\_4.6



SDS1.2\_4.6-ov



**Recommended speed**

|              |             |
|--------------|-------------|
| SDSrb230     | 6.000 rpm   |
| SDSpd250     | 1.200 rpm   |
| SDScs600     | 300-600 rpm |
| SDSsd300dt   | 300-600 rpm |
| SDSsd380dt   | 300-600 rpm |
| SDS2.2_CS600 | 300-600 rpm |

**SDS1.2 (Dynamic Thread®) Ø 4.6 mm: Bone Class VI**



**SDS1.2 (Dynamic Thread®) Ø 4.6 mm: Bone Class III**

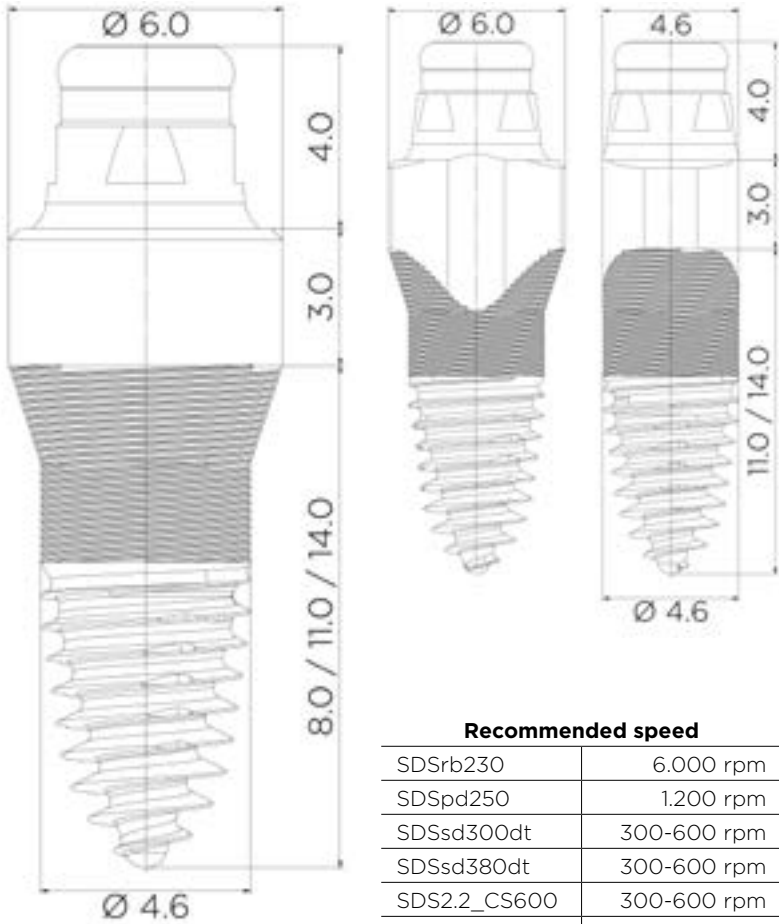




# SDS1.2\_4.6 bone class II and I

SDS1.2\_4.6

SDS1.2\_4.6-ov



| Recommended speed |             |
|-------------------|-------------|
| SDSrb230          | 6.000 rpm   |
| SDSpd250          | 1.200 rpm   |
| SDSsd300dt        | 300-600 rpm |
| SDSsd380dt        | 300-600 rpm |
| SDS2.2_CS600      | 300-600 rpm |
| SDSsd370rd        | 300-600 rpm |
| SDSsd430C         | 300-600 rpm |

SDS1.2 (Dynamic Thread®) Ø 4.6 mm: Bone Class II

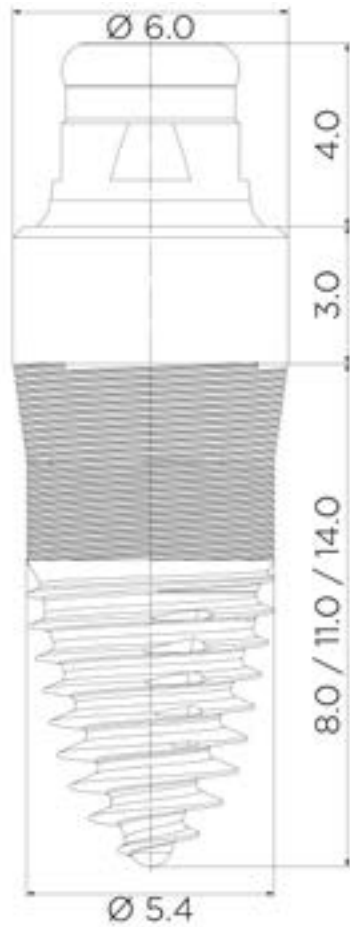


SDS1.2 (Dynamic Thread®) Ø 4.6 mm: Bone Class I

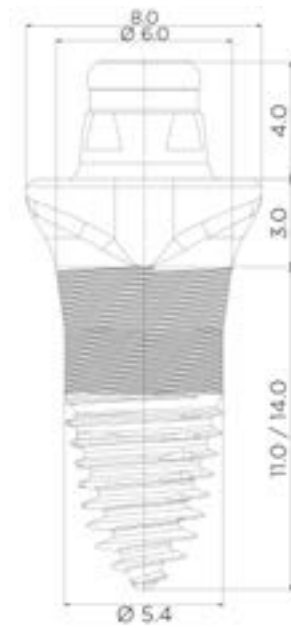


# SDS1.2\_5.4 bone class IV and III

**SDS1.2\_5.4**



**SDS1.2\_5.4-ov**



**Recommended speed**

|               |             |
|---------------|-------------|
| SDSrb230      | 6.000 rpm   |
| SDSpd250      | 1.200 rpm   |
| SDScs600      | 300-600 rpm |
| SDSsd300dt    | 300-600 rpm |
| SDSsd380dt    | 300-600 rpm |
| SDSsd460dt    | 300-600 rpm |
| SDS2.2_CS600+ | 300-600 rpm |

**SDS1.2 (Dynamic Thread®) Ø 5.4 mm: Bone Class VI**



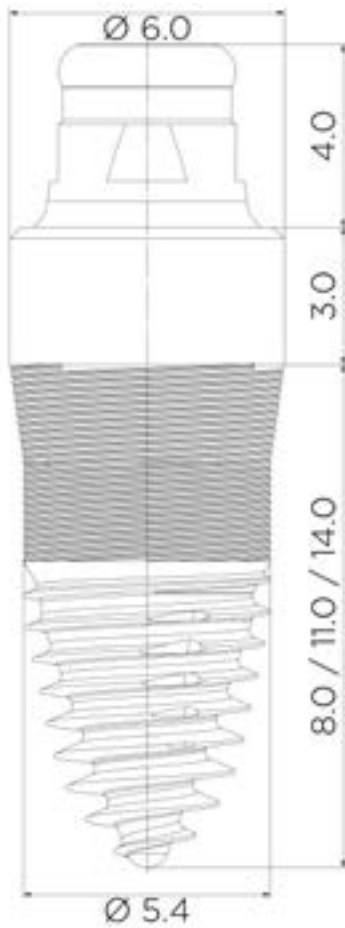
**SDS1.2 (Dynamic Thread®) Ø 5.4 mm: Bone Class III**



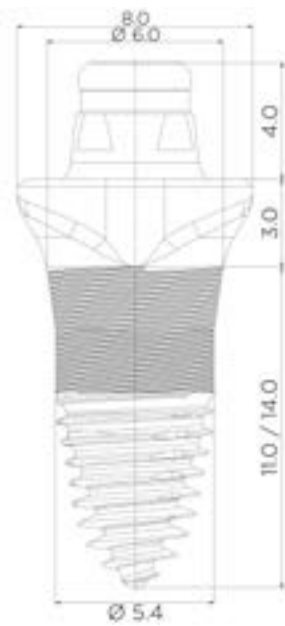


# SDS1.2\_5.4 bone class II and I

**SDS1.2\_5.4**



**SDS1.2\_5.4-ov**



**Recommended speed**

|               |             |
|---------------|-------------|
| SDSrb230      | 6.000 rpm   |
| SDSpd250      | 1.200 rpm   |
| SDSsd300dt    | 300-600 rpm |
| SDSsd380dt    | 300-600 rpm |
| SDSsd460dt    | 300-600 rpm |
| SDS2.2_CS600+ | 300-600 rpm |
| SDSsd470rd    | 300-600 rpm |
| SDSsd510C     | 300-600 rpm |

**SDS1.2 (Dynamic Thread®) Ø 5.4 mm: Bone Class II**

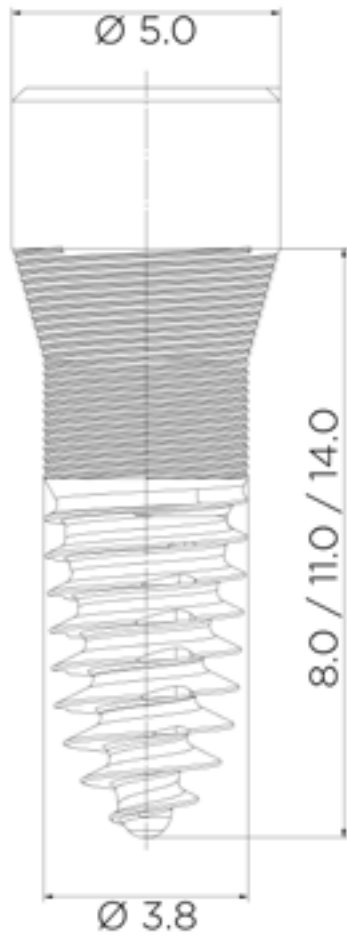


**SDS1.2 (Dynamic Thread®) Ø 5.4 mm: Bone Class I**



# SDS2.2\_3.8 bone class IV and III

SDS2.2\_3.8



### Recommended speed

|               |             |
|---------------|-------------|
| SDSrb230      | 6.000 rpm   |
| SDSpd250      | 1.200 rpm   |
| SDScs500      | 300-600 rpm |
| SDSsd300dt    | 300-600 rpm |
| SDS2.2_CS-500 | 300-600 rpm |

## SDS2.2 (Dynamic Thread®) Ø 3.8 mm: Bone Class VI

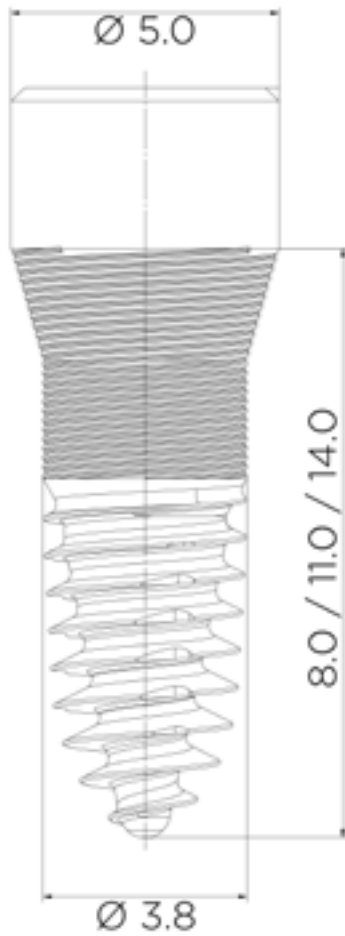


## SDS2.2 (Dynamic Thread®) Ø 3.8 mm: Bone Class III



# SDS2.2\_3.8 bone class II and I

**SDS2.2\_3.8**



**Recommended speed**

| Model      | Recommended speed |
|------------|-------------------|
| SDSrb230   | 6.000 rpm         |
| SDSpd250   | 1.200 rpm         |
| SDSsd300dt | 300-600 rpm       |
| SDScs500   | 300-600 rpm       |
| SDSsd300rd | 300-600 rpm       |
| SDSsd350C  | 300-600 rpm       |

**SDS2.2 (Dynamic Thread®) Ø 3.8 mm: Bone Class II**

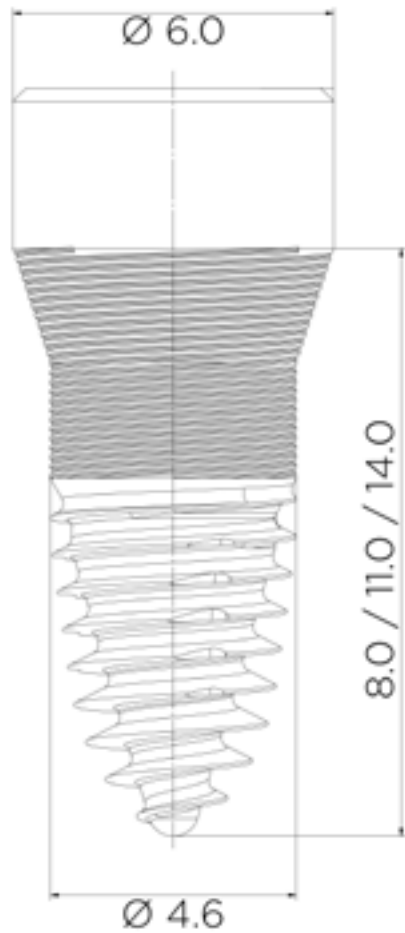


**SDS2.2 (Dynamic Thread®) Ø 3.8 mm: Bone Class I**

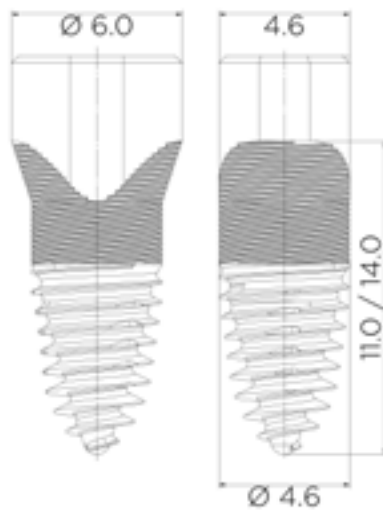


# SDS2.2\_4.6 bone class IV and III

**SDS2.2\_4.6**



**SDS2.2\_4.6-ov**



| Recommended speed |             |
|-------------------|-------------|
| SDSrb230          | 6.000 rpm   |
| SDSpd250          | 1.200 rpm   |
| SDScs600          | 300-600 rpm |
| SDSsd300dt        | 300-600 rpm |
| SDSsd380dt        | 300-600 rpm |
| SDS2.2_CS600      | 300-600 rpm |

**SDS2.2 (Dynamic Thread®) Ø 4.6 mm: Bone Class VI**

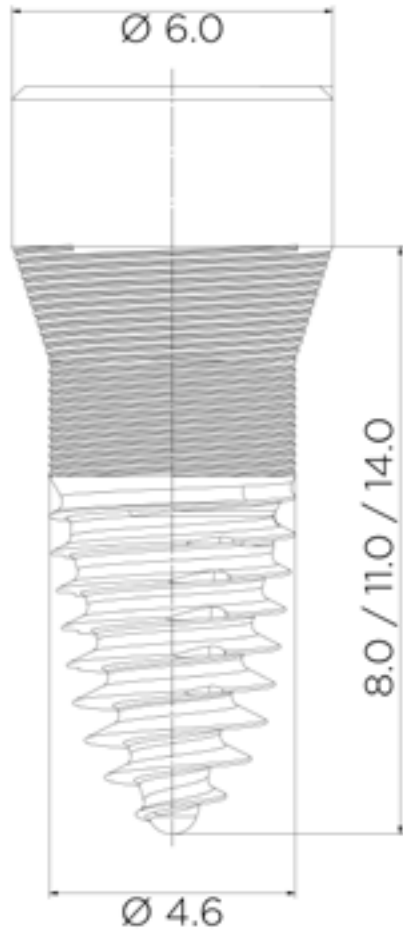


**SDS2.2 (Dynamic Thread®) Ø 4.6 mm: Bone Class III**

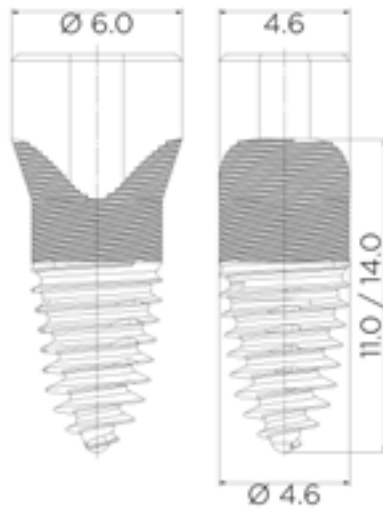


# SDS2.2\_4.6 bone class II and I

SDS2.2\_4.6



SDS2.2\_4.6-ov



| Recommended speed |             |
|-------------------|-------------|
| SDSrb230          | 6.000 rpm   |
| SDSpd250          | 1.200 rpm   |
| SDSsd300dt        | 300-600 rpm |
| SDSsd380dt        | 300-600 rpm |
| SDS2.2_CS600      | 300-600 rpm |
| SDSsd370rd        | 300-600 rpm |
| SDSsd430C         | 300-600 rpm |

SDS2.2 (Dynamic Thread®) Ø 4.6 mm: Bone Class II



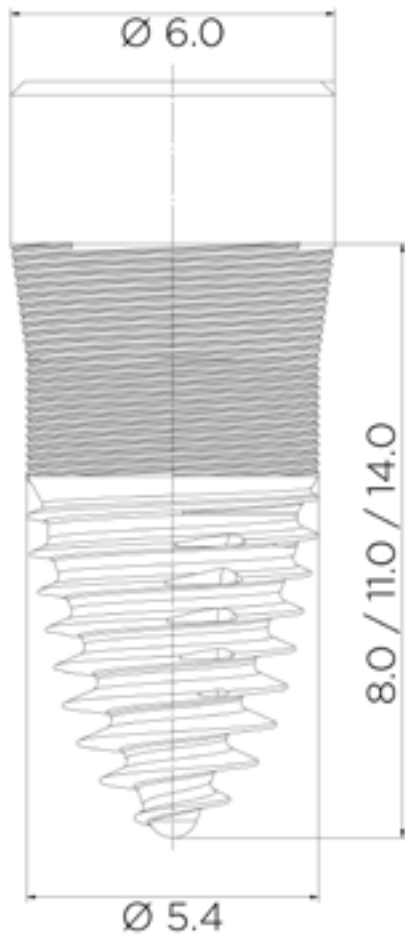
SDS2.2 (Dynamic Thread®) Ø 4.6 mm: Bone Class I



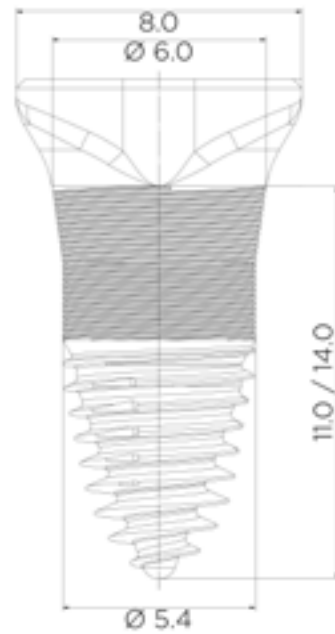


# SDS2.2\_5.4 bone class IV and III

**SDS2.2\_5.4**



**SDS2.2\_5.4-ov**



| Recommended speed |             |
|-------------------|-------------|
| SDSrb230          | 6.000 rpm   |
| SDSpd250          | 1.200 rpm   |
| SDSscs600         | 300-600 rpm |
| SDSsd300dt        | 300-600 rpm |
| SDSsd380dt        | 300-600 rpm |
| SDSsd460dt        | 300-600 rpm |
| SDS2.2_CS600+     | 300-600 rpm |

**SDS2.2 (Dynamic Thread®) Ø 5.4 mm: Bone Class VI**



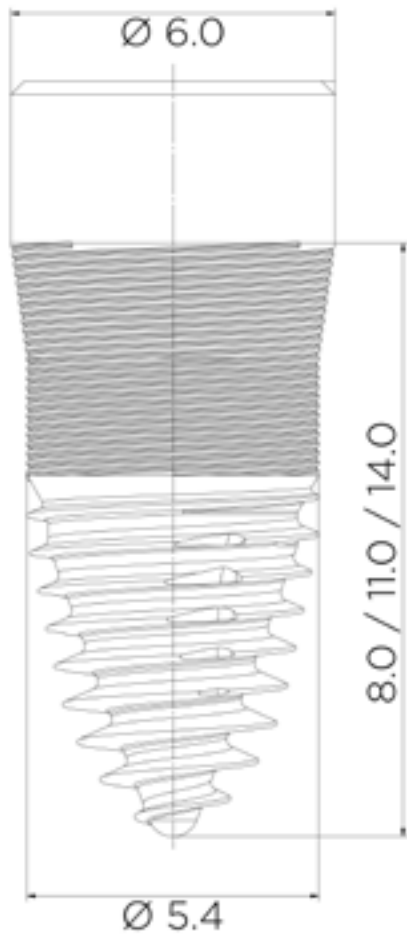
**SDS2.2 (Dynamic Thread®) Ø 5.4 mm: Bone Class III**



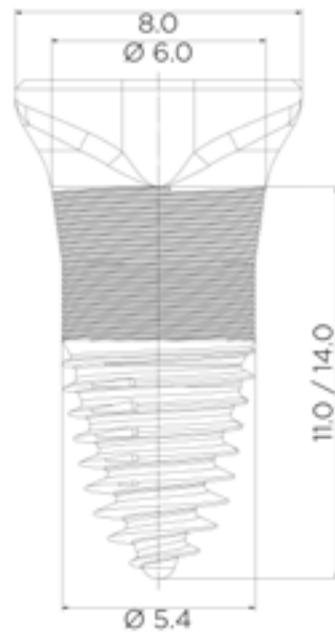


# SDS2.2\_5.4 bone class II and I

SDS2.2\_5.4



SDS2.2\_5.4-ov



| Recommended speed |             |
|-------------------|-------------|
| SDSrb230          | 6.000 rpm   |
| SDSpd250          | 1.200 rpm   |
| SDSsd300dt        | 300-600 rpm |
| SDSsd380dt        | 300-600 rpm |
| SDSsd460dt        | 300-600 rpm |
| SDS2.2_CS600+     | 300-600 rpm |
| SDSsd470rd        | 300-600 rpm |
| SDSsd510C         | 300-600 rpm |

SDS2.2 (Dynamic Thread®) Ø 5.4 mm: Bone Class II



SDS2.2 (Dynamic Thread®) Ø 5.4 mm: Bone Class I





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