DRILLING PROTOCOL FOR ROOTT IMPLANTS

CAVITY PREPARATION

Every person has a unique bone structure and the clinician has to adapt the drilling protocol to the individual bone quality and anatomical situation. Our drilling protocol is an optimal scheme for different types of bones - D1, D2-D3, D4.

IMPORTANT
When preparing the cavity for the implant, always ensure cooling.
Use only sharp instruments.

Recommended drilling speed:
initial drilling - 1200-1500 rpm;
pilot drilling - 900-1200 rpm;
form drilling - 200-800 rpm.

Implantologist is responsible for drilling speed choice, taking into consideration his experience, preferences and special necessities of the patient.

Important notice: this protocol was prepared with a max speed of 700 rpm, with insertion torque for implants from 35 to 50 Ncm.

IMPLANT POSITION

We recommend the implant to place 1-2 mm deeper to help the bone grow over implant - subcrestal implant position. Drilling should go 1-2 mm deeper than implant length.

Note. R3518/20 and R3818/20 implants have different shape and different drilling protocols.

ROOTT R IMPLANT INSTALLATION USING TAPERED DRILLS

DRILLS

Lance drill DB2020 can be used for initial drilling by setting the drilling axis before using tapered drills.

Drill with tapered drills to the appropriate depth, required for a specific case.
For the best result, it is recommended to use a smaller diameter drill and try inserting the implant.
If after using the previous drill the torque is still more than 50 Ncm while inserting the implant, the cavity has to be widened.

All drills have laser marking, which indicates the drill's depth in the bone. Markings are lasered every 2 millimetres, lance drill from 6 to 20 mm, tapered drills from 4 to 16 mm.

Tapered drills have V-shaped tips, for better correlation with the implant, 3 cutting edges offer good stability. The tapered shape reduces frictional heating. Variable helix for enhanced drilling control and twisted flute for bone extraction. Angled back cutting edge allows compressing of bone when drilling in counter-clock wise (reverse).

NOTE: We recommend to use drills in a row, without skipping any of them, to avoid incorrect size of hole.

The **drill stop** restricts drilling deeper than the predefined depth, to be used in sensitive indications to avoid the mandibular nerve or sinus floor. All drill stops can be mounted and dismounted manually. Color-coding allows easy identification of diameter size.

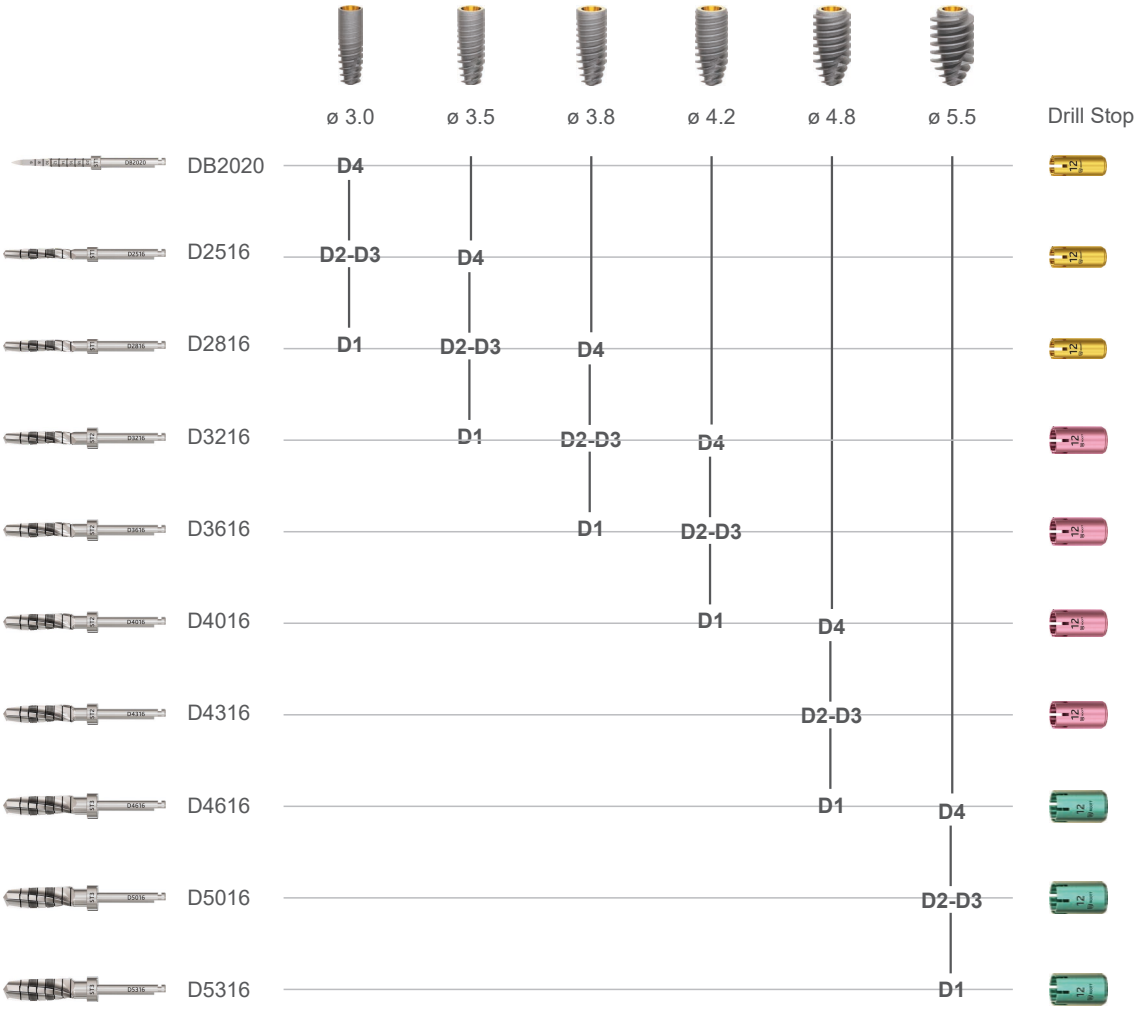
S1L02 S1L04 S1L06 S1L08 S1L10 S1L12 S1L14 S1L16

S2L02 S2L04 S2L06 S2L08 S2L10 S2L12 S2L14 S2L16

S3L02 S3L04 S3L06 S3L08 S3L10 S3L12 S3L14 S3L16

DRILLING PROTOCOL

First drill for all implants should be pilot drill - ø2.0 mm, drilling to full implant length. In the diagram below only the final drill is marked, for different bone types. The clinician can decide whether or not a sequence of drills with increasing diameters is used. To control depth of drilling, use appropriate drill stops.



D1 – dense bone
D2-D3 – regular bone
D4 – soft bone

IMPLANTS **R30XX**

D4 BONE

DB2020 **R30XX**

D2-D3 BONE

DB2020 D2516 **R30XX**

D1 BONE

DB2020 D2516 D2816 **R30XX**

Here xx is the length of the implant, mm

IMPLANTS **R35XX**

D4 BONE

DB2020 D2516 **R35XX**

D2-D3 BONE

DB2020 D2516 D2816 **R35XX**

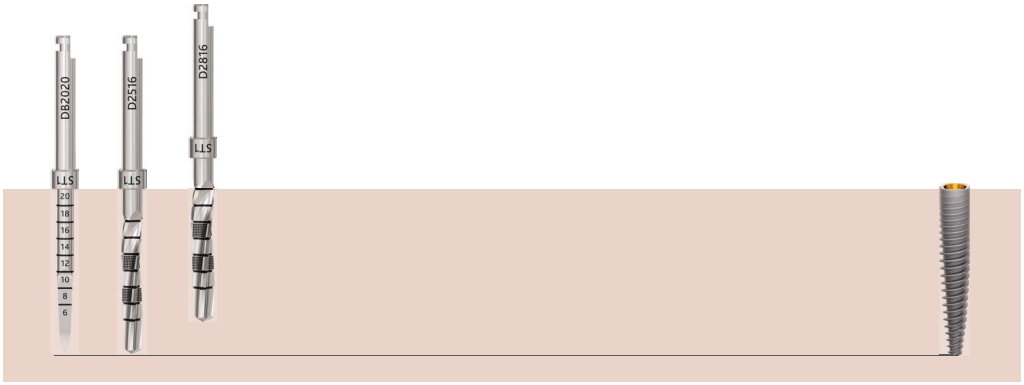
D1 BONE

DB2020 D2516 D2816 D3216 **R35XX**

Here xx is the length of the implant, mm

IMPLANTS **R3518/R3520**

D4 BONE

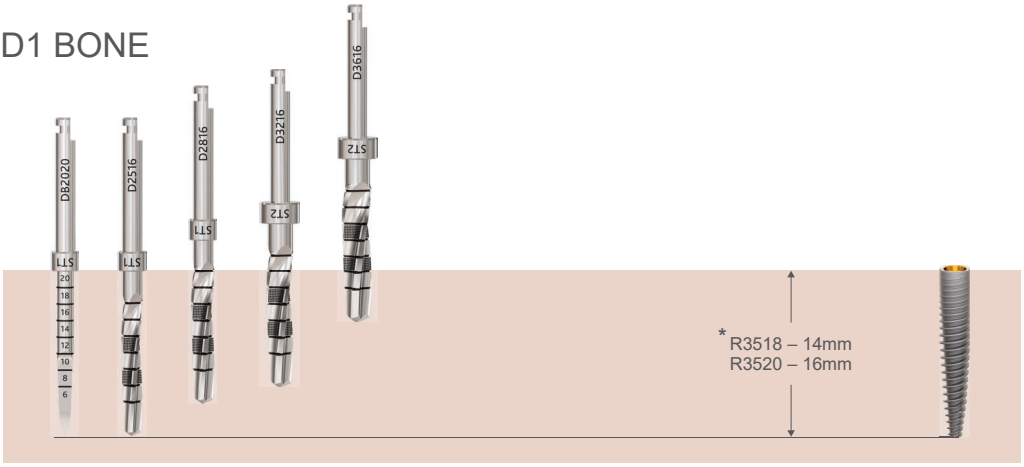


DB2020 D2516 D2816 **R35XX**

D2-D3 BONE

DB2020 D2516 D2816 D3216* **R35XX**

D1 BONE



DB2020 D2516 D2816 D3216* D3616 **R35XX**

Here xx is the length of the implant, mm

IMPLANTS **R38XX**

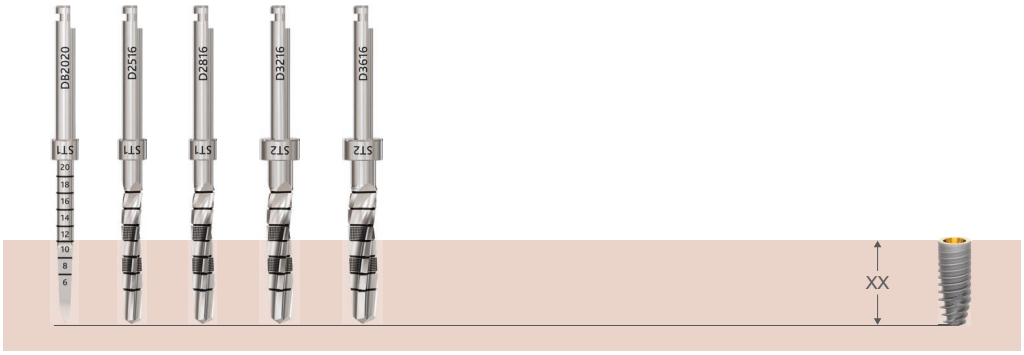
D4 BONE

DB2020 D2516 D2816 **R38XX**

D2-D3 BONE

DB2020 D2516 D2816 D3216 **R38XX**

D1 BONE

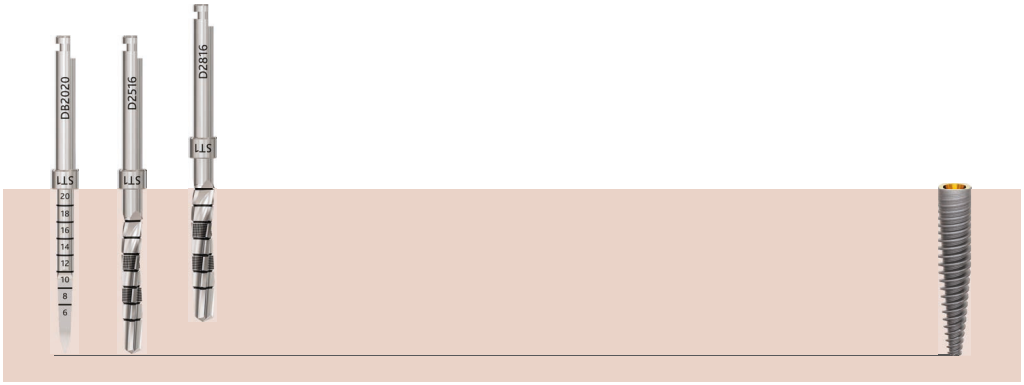


DB2020 D2516 D2816 D3216 D3616 **R38XX**

Here xx is the length of the implant, mm

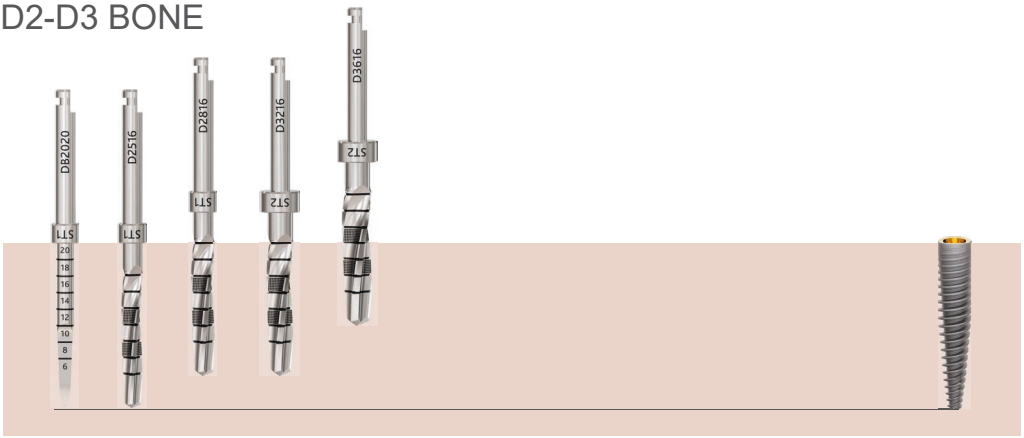
IMPLANTS **R3818/R3820**

D4 BONE



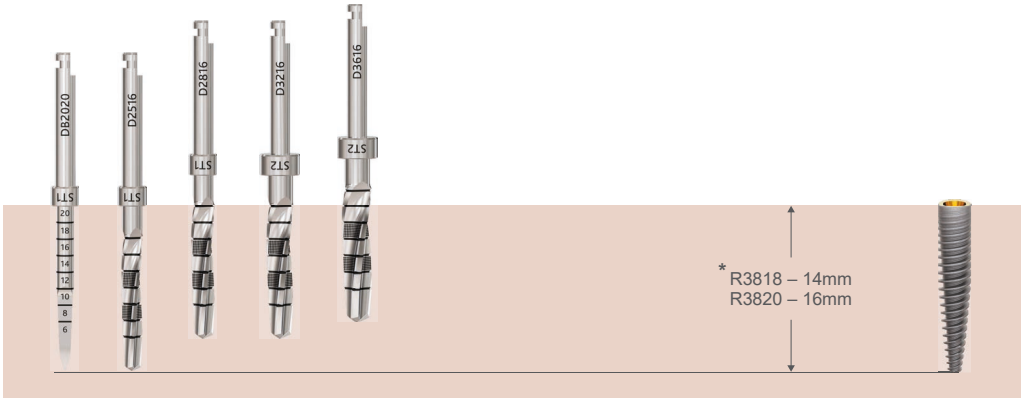
DB2020 D2516 D2816 **R38XX**

D2-D3 BONE



DB2020 D2516 D2816 D3216 D3616 **R38XX**

D1 BONE



DB2020 D2516 D2816 D3216 D3616* **R38XX**

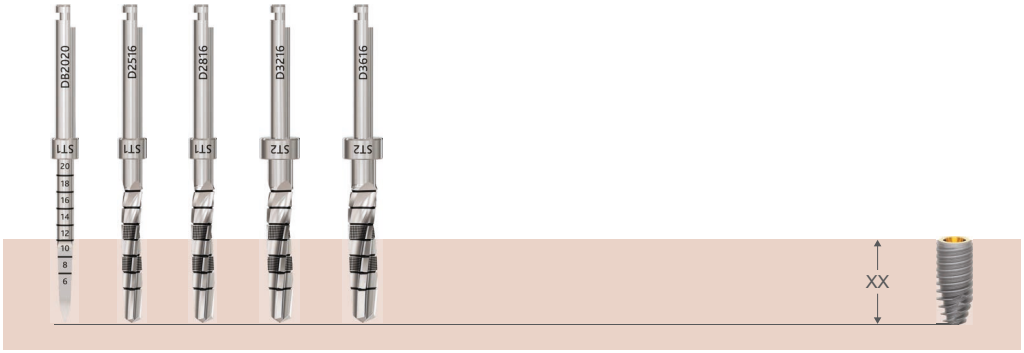
Here xx is the length of the implant, mm

IMPLANTS **R42XX**

D4 BONE

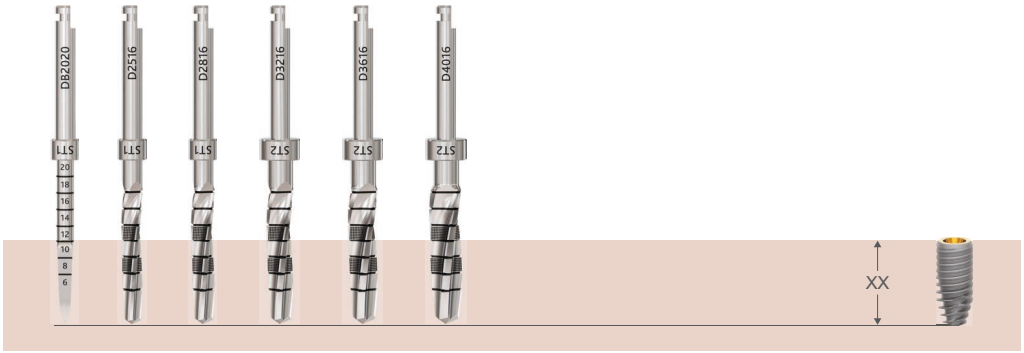
DB2020 D2516 D2816 D3216 **R42XX**

D2-D3 BONE



DB2020 D2516 D2816 D3216 D3616 **R42XX**

D1 BONE

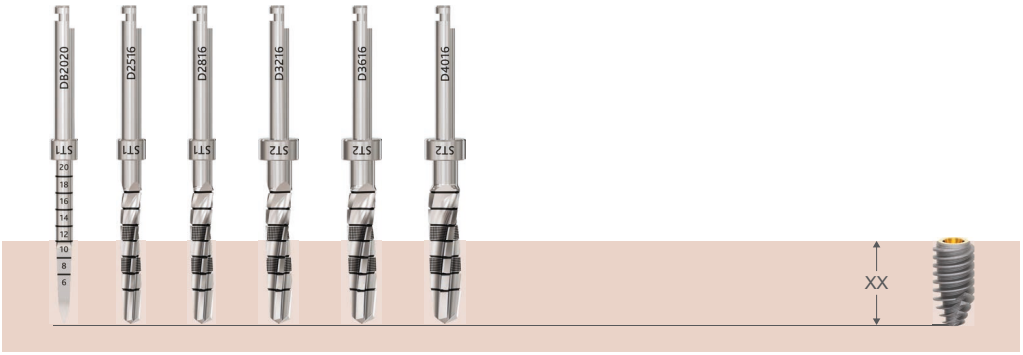


DB2020 D2516 D2816 D3216 D3616 D4016 **R42XX**

Here xx is the length of the implant, mm

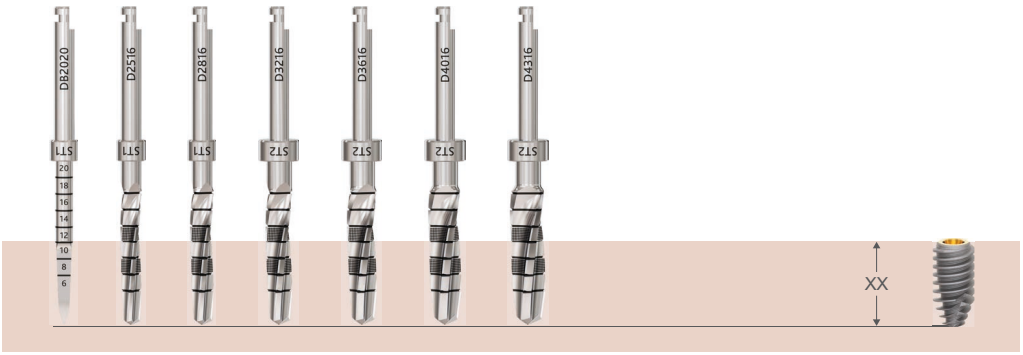
IMPLANTS **R48XX**

D4 BONE



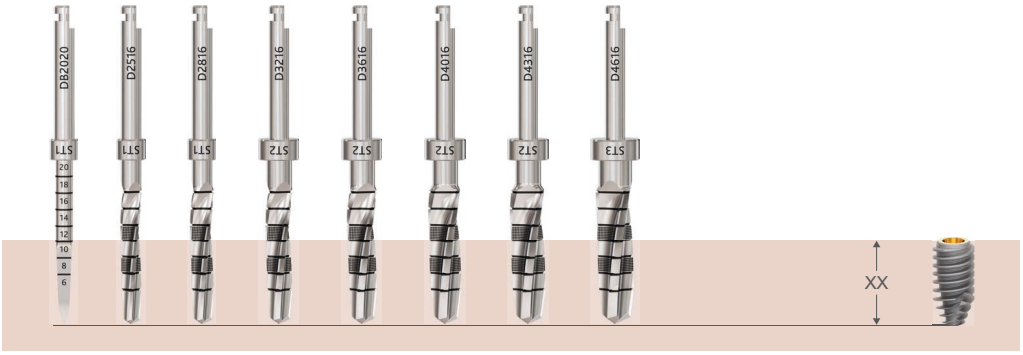
DB2020 D2516 D2816 D3216 D3616 D4016 **R48XX**

D2-D3 BONE



DB2020 D2516 D2816 D3216 D3616 D4016 D4316 **R48XX**

D1 BONE

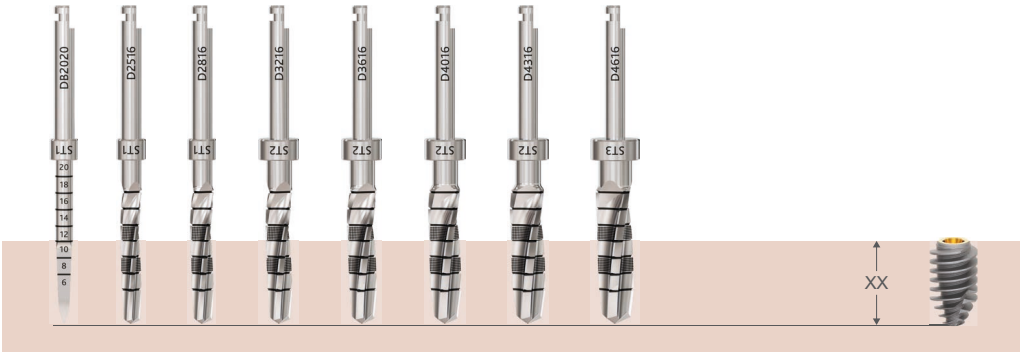


DB2020 D2516 D2816 D3216 D3616 D4016 D4316 D4616 **R48XX**

Here xx is the length of the implant, mm

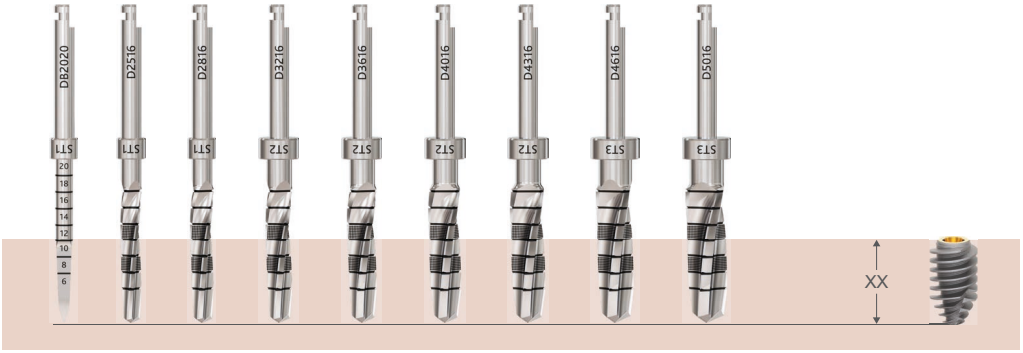
IMPLANTS **R55XX**

D4 BONE



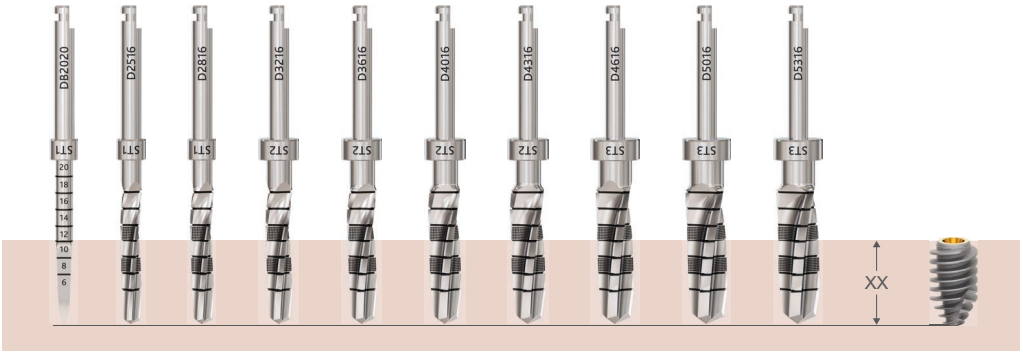
DB2020 D2516 D2816 D3216 D3616 D4016 D4316 D4616 R55XX

D2-D3 BONE



DB2020 D2516 D2816 D3216 D3616 D4016 D4316 D4616 D5016 R55XX

D1 BONE



DB2020 D2516 D2816 D3216 D3616 D4016 D4316 D4616 D5016 D5316 R55XX

Here xx is the length of the implant, mm

ROOT R IMPLANTS INSTALLATION USING TAPERED DRILLS

Implant	D4 BONE	D2-D3 BONE	D1 BONE
Ø 3.0 mm	DB2020	DB2020 D2516	DB2020 D2516 D2816
Ø 3.5 mm	DB2020 D2516	DB2020 D2516 D2816	DB2020 D2516 D2816 D3216
Ø 3.5 mm 18/20mm	DB2020 20mm D2516 20mm D2816 16mm	DB2020 20mm D2516 20mm D2816 16mm D3216 14/16mm	DB2020 20mm D2516 20mm D2816 16mm D3216 14/16mm D3616 6mm
Ø 3.8 mm	DB2020 D2516 D2816	DB2020 D2516 D2816 D3216	DB2020 D2516 D2816 D3216 D3616
Ø 3.8 mm 18/20mm	DB2020 20mm D2516 20mm D2816 16mm	DB2020 20mm D2516 20mm D2816 16mm D3216 16mm D3616 10mm	DB2020 20mm D2516 20mm D2816 16mm D3216 16mm D3616 14/16mm
Ø 4.2 mm	DB2020 D2516 D2816 D3216	DB2020 D2516 D2816 D3216 D3616	DB2020 D2516 D2816 D3216 D3616 D4016
Ø 4.8 mm	DB2020 D2516 D2816 D3216 D3616 D4016	DB2020 D2516 D2816 D3216 D3616 D4016 D4316	DB2020 D2516 D2816 D3216 D3616 D4016 D4316 D4616
Ø 5.5 mm	DB2020 D2516 D2816 D3216 D3616 D4016 D4316 D4616	DB2020 D2516 D2816 D3216 D3616 D4016 D4316 D4616 D5016	DB2020 D2516 D2816 D3216 D3616 D4016 D4316 D4616 D5016 D5316