

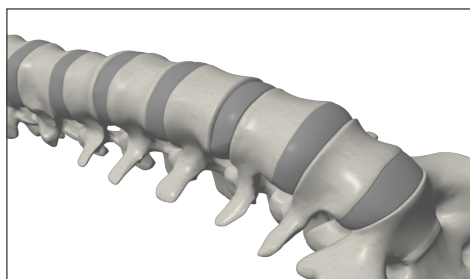
# Redmond® Lumbar Cage



## + Characteristics

- Bioactive
- Stand alone design
- Porous Surface Treatment

## Contents

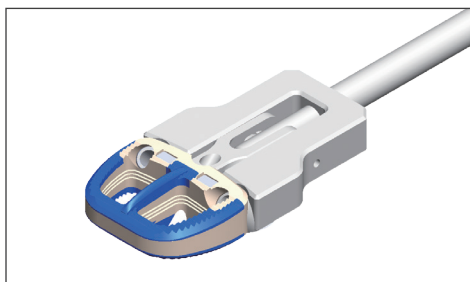


Introduction 2



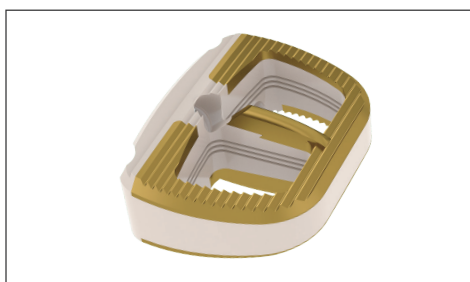
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## Introduction

Redmond® is a kind of none profile ALIF cage which composed of Titanium alloy and Polyether ether ketone (PEEK) for the anterior surgical stabilization of the lumbar spine.

The excellent results of Redmond® treatment of Titanium alloy (Ti-6Al-4V) surface render optimal porosity environment of microporosity.

According on researches, porosity as a contributing factor of bioactive treatment and enhance bone ingrowth.

The elastic modulus of Polyether ether ketone (PEEK) matches cortical bone closely, which characteristic significantly reduce the phenomenon of stress shielding, and thus promotes better bone fusion and prevent implant subsidence.

The material is biocompatible, corrosion-resistant, non-toxic under biological conditions and does not interfere with imaging procedures such as X-ray imaging, computerized tomography.

Please refer to the instructions for use and the instrument processing instructions.

## Indications & Contraindications

### Indications

- Degenerative disc disease
- Spondylolisthesis and/or retrolisthesis
- Revision surgery for failed decompression syndrome or post-operation instability
- Foraminal Stenosis
- Pseudarthrosis

### Contraindications

- Patients with fever or leukocytosis
- Patients with infections associated with the spine (e.g. spondylodiscitis)
- Patients with a history of material allergy or who tend to react to foreign bodies
- Patients with inadequate bone quality or quantity (e.g. severe osteoporosis, osteopenia, osteomyelitis)
- Spinal fracture
- Spinal tumor

## Design Features

Locking Screw



Oversized Screw



Locking Cap

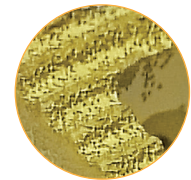


12° and 18° Lodotic angle

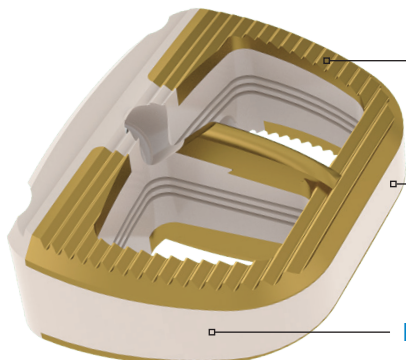


Locking Cap for secure locking screws  
Prevent back-out mechanism

Titanium serrated for interface contact



Cage size: 12~18mm  
None-profile fixation

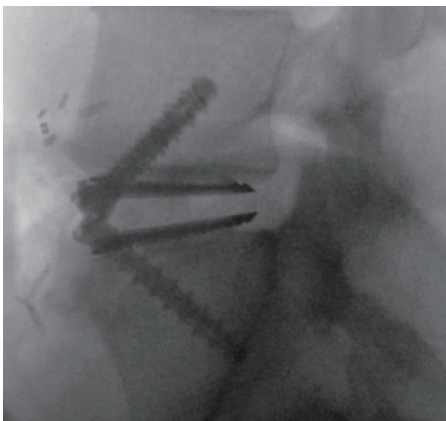
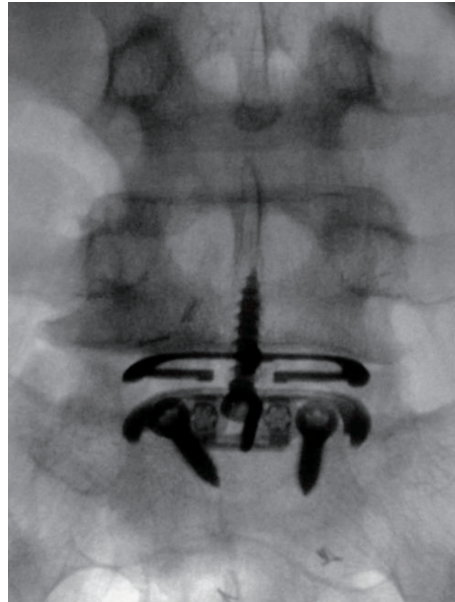
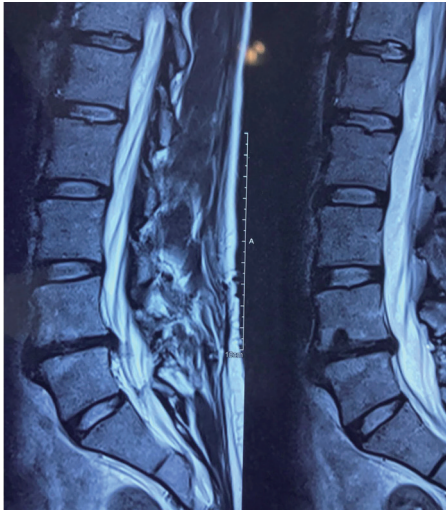


Utilized the advantages of titaiium and PEEK material in one

Radiolucency allows for reliable healing site monitoring.

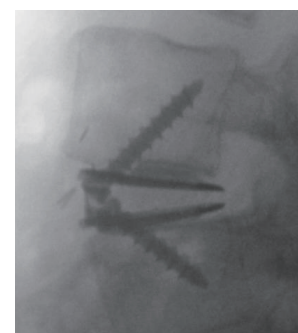
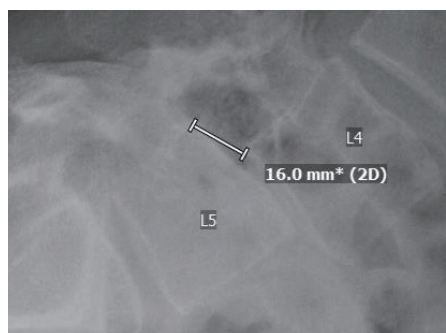
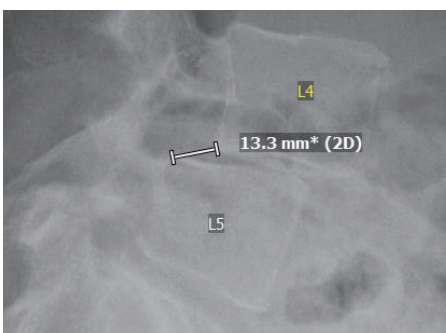
## Clinical Outcome:

### # Case 1



\*DDD L4/5 & Prior Op' s L4/5  
\*Failure of prolonged conservative treatment.

### # Case 2



\*Spondy L4/5

## Surgical Technique

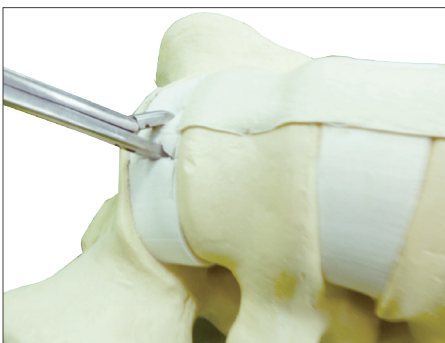
### Positioning



The patient is placed in the supine position on a radiolucent, operation table and general anesthesia is administered.

The Redmond Lumbar Cage must be inserted directly from the anterior and fixed with three screws so that the patient must expose enough disc space on both sides of the midline of the vertebrae to allow the implant to be inserted without interference from adjacent soft tissue structures.

### Discectomy



Prepare intervertebral disc space, and retain the anterolateral, lateral and posterior annulus outside the anterior side to provide the necessary segment stability.

**Caution:**

Special attention has to be given to the ascending lumbar vein. Damage to it can result in profuse bleeding. Please use it with caution.

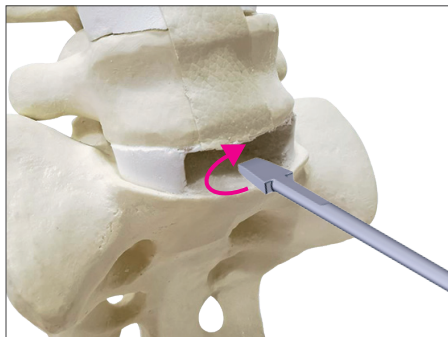


Remove unnecessary disc tissue and osteophyte, and prepare the vertebral body endplate to make it slightly bleeding to provide nutrients for bone graft.

**Caution:**

Excessive wear of the vertebral endplate may cause the implant to subside into the vertebral body.

## Distraction

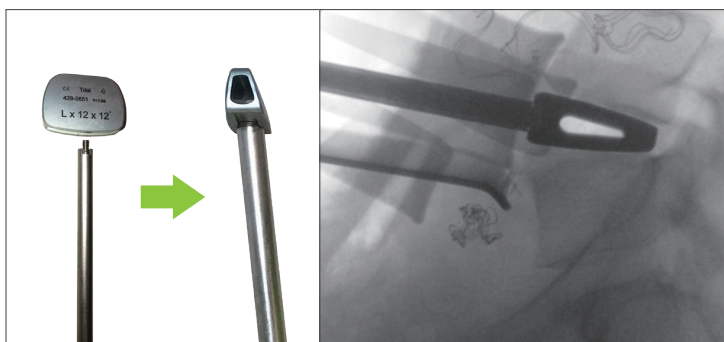


Insert the ALIF Dilator (429-7201~429-7206) into intervertebral disc area and rotate 90° to distract the discectomy site to restore the lordosis and neural foramen.

| Cat.No.  | Description       |                                                                                     |
|----------|-------------------|-------------------------------------------------------------------------------------|
| 429-7201 | 7mm ALIF Dilator  |    |
| 429-7202 | 9mm ALIF Dilator  |    |
| 429-7203 | 11mm ALIF Dilator |  |

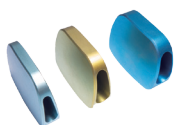
| Cat.No.  | Description       |                                                                                       |
|----------|-------------------|---------------------------------------------------------------------------------------|
| 429-7204 | 13mm ALIF Dilator |    |
| 429-7205 | 15mm ALIF Dilator |    |
| 429-7206 | 17mm ALIF Dilator |  |

## Trialing



Pick the Trials (429-0631~429-0659) on the Trial Insertor (429-1702) and tighten it with the Driver of Trial Insertor (429-1703). Insert it into the disc space for checking size of implant. Select the implant depending on the final trial size.

Under fluoroscopy confirm the midline placement and endplate coverage.



429-0631~429-0659

Trial



429-1702

Trial Insertor



429-1703

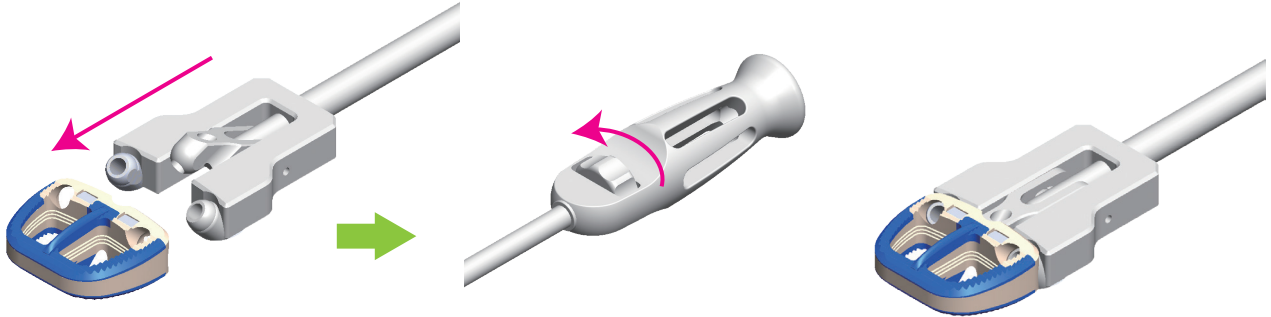
Driver of Trial Insertor



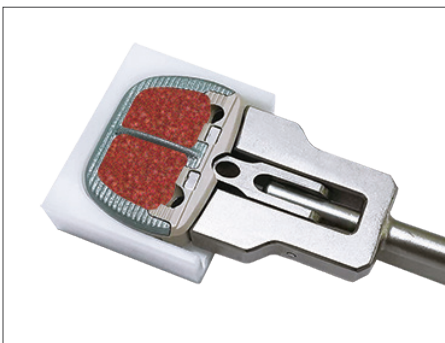
429-0101

Handle

## Implant the Cage



Attach the cage to the Redmond Lumbar Cage Insertor (429-1701) by screwing the handle then cage is inserted to disc space.



Fix the implant in the Bone Graft Template (429-2901), and then fill in the bone graft into cage with the Bone Graft Impactor (218-3301).



Redmond Lumbar Cage is symmetrical implant, and the strength is the same whether two screws are inserted up or down. It is only necessary to align the midline of the vertebral body when implanting the cage.



429-1701

Redmond  
Lumbar Cage Insertor



429-2901

Bone Graft Template



218-3301

Bone Graft Impactor

## Insert the screw



Use the Angle Awl (429-0201) to pierce cortical bone through the guide of Redmond Lumbar Cage Insertor for ensuring the angle.



When removing the insertor, the Angle Guide (429-1101) can be used to assist surgery.

### Caution:

If the surgeon wants to ensure the angle, use the Redmond Lumbar Cage Insertor.



429-0201

Angle Awl



429-1101

Angle Guide

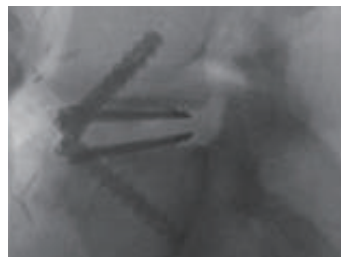


The Screw Holder (429-1302) is used to carry the required screws to site and then use T25 Flexible Screwdriver (429-3304) or T25 Screwdriver (429-3302) to tighten the screws firmly.

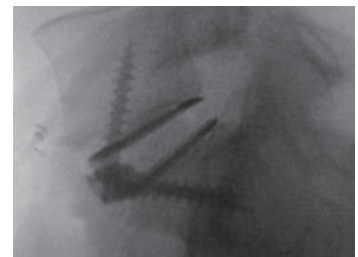
**Caution:**

Tightening the screws firmly with the Screw Holder may cause it deformation and damage.

According to operation situation, usually insert 2 screws down (into S1) and 1 screw up (into L5) at L5/S1, and insert 2 screws up (superior) and 1 screw down (inferior) at higher levels.



L4/5



L5/S1

**Caution:**

If multiple Redmond Lumbar Cages are used, the screws should be arranged up or down in the same way to avoid insufficient space.



429-1302

Screw Holder



429-3302

T25 Screwdriver

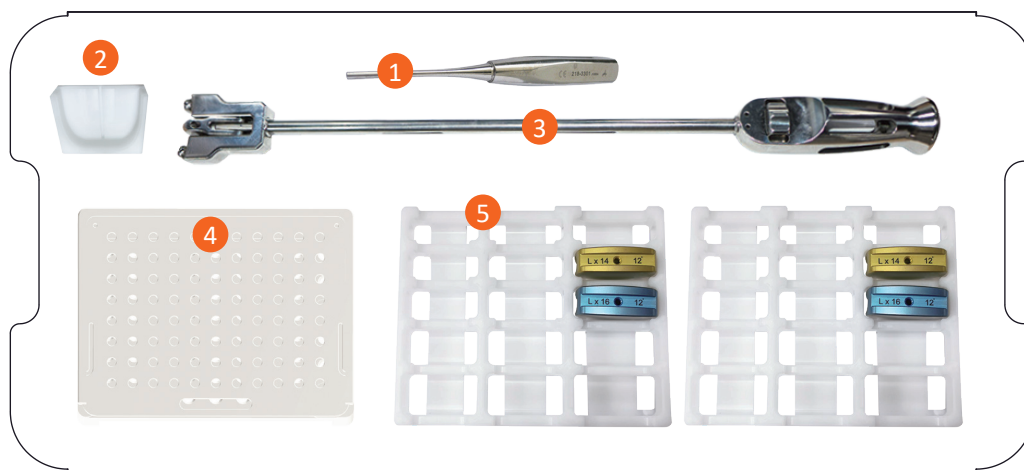
## Tightening Locking Cap



After three screws are being placed, the locking cap will be the prevent back-out mechanism for securing the screws.

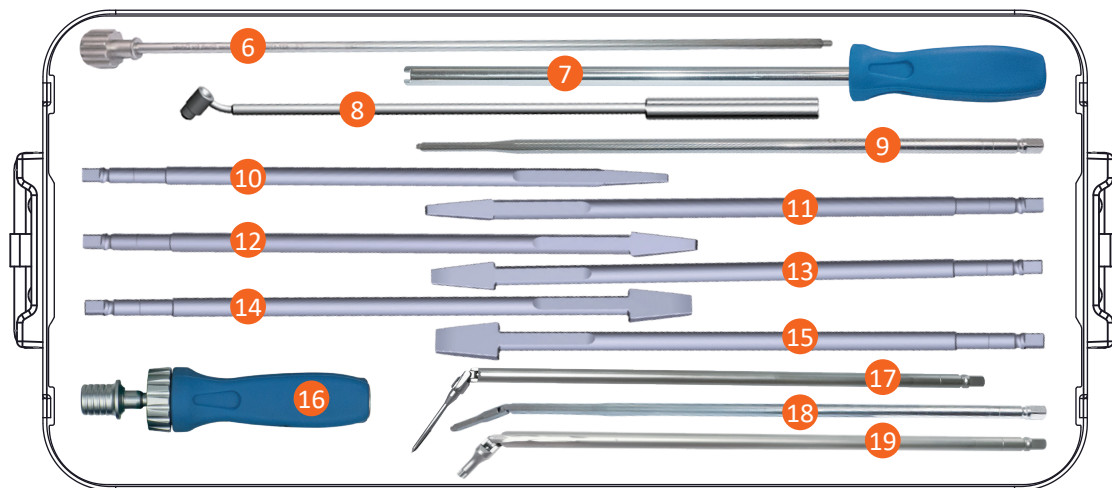


## Instrument Set



Instrument Tray 1

| Cat.No.     | Description                  | Q'nty |
|-------------|------------------------------|-------|
| ① 218-3301  | Bone Graft Impactor          | 1     |
| ② 429-2901  | Bone Graft Template          | 1     |
| ③ 429-1701  | Redmond Lumbar cage Insertor | 1     |
| ④ 20141-043 | Screw Container              | 1     |
| ⑤ 20142-043 | Trial Container              | 2     |

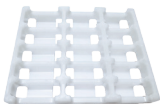


Instrument Tray 2

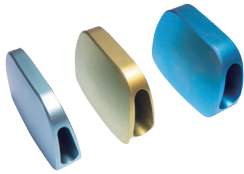
| Cat.No.     | Description              | Q'nty |
|-------------|--------------------------|-------|
| 6 429-1703  | Trial Insertor, Shaft    | 1     |
| 7 429-1702  | Trial Insertor           | 1     |
| 8 429-1101  | Angled Guide             | 1     |
| 9 429-3302  | T25 Screwdriver          | 1     |
| 10 429-7201 | 7mm ALIF Dilator         | 1     |
| 11 429-7202 | 9mm ALIF Dilator         | 1     |
| 12 429-7203 | 11mm ALIF Dilator        | 1     |
| 13 429-7204 | 13mm ALIF Dilator        | 1     |
| 14 429-7205 | 15mm ALIF Dilator        | 1     |
| 15 429-7206 | 17mm ALIF Dilator        | 1     |
| 16 429-0101 | Handle                   | 1     |
| 17 429-0201 | Angled Awl               | 1     |
| 18 429-1302 | Screw Holder             | 1     |
| 19 429-3304 | T25 Flexible Screwdriver | 1     |

## Instruments

| Cat.No.  | Description                  |                                                                                       |
|----------|------------------------------|---------------------------------------------------------------------------------------|
| 218-3301 | Bone Graft Impactor          |    |
| 429-0101 | Handle                       |    |
| 429-0201 | Angled Awl                   |    |
| 429-1101 | Angled Guide                 |    |
| 429-1302 | Screw Holder                 |    |
| 429-1701 | Redmond Lumbar cage Insertor |  |
| 429-1702 | Trial Insertor               |  |
| 429-1703 | Trial Insertor, Shaft        |  |
| 429-2901 | Bone Graft Template          |  |
| 429-3302 | T25 Screwdriver              |  |
| 429-3304 | T25 Flexible Screwdriver     |  |

| Cat.No.   | Description                                   |                                                                                       |
|-----------|-----------------------------------------------|---------------------------------------------------------------------------------------|
| 429-7201  | 7mm ALIF Dilator                              |    |
| 429-7202  | 9mm ALIF Dilator                              |    |
| 429-7203  | 11mm ALIF Dilator                             |    |
| 429-7204  | 13mm ALIF Dilator                             |    |
| 429-7205  | 15mm ALIF Dilator                             |    |
| 429-7206  | 17mm ALIF Dilator                             |  |
| 20141-043 | Screw Container                               |  |
| 20142-043 | Trial Container                               |  |
| 99900-043 | Redmond Lumbar Instruments Case, Plasty Lid * |  |
| 99901-043 | Redmond Lumbar Instruments Case, Metal Lid    |  |

\* Option



| Trials |        |           |           |           |
|--------|--------|-----------|-----------|-----------|
| Angle  | H / mm | W36xL28mm | W39xL30mm | W43xL32mm |
| 12°    | 12     | 429-0631  | 429-0641  | 429-0651  |
|        | 14     | 429-0632  | 429-0642  | 429-0652  |
|        | 16     | 429-0633  | 429-0643  | 429-0653  |
|        | 18     | 429-0634  | 429-0644  | 429-0654  |
| 18°    | 12     | 429-0636  | 429-0646  | 429-0656  |
|        | 14     | 429-0637  | 429-0647  | 429-0657  |
|        | 16     | 429-0638  | 429-0648  | 429-0658  |
|        | 18     | 429-0639  | 429-0649  | 429-0659  |

#### Sterilization :

The Redmond Lumbar instruments and screws are delivered non sterile. Before use needed cleaned and sterilized recommended to be steam sterilized by the hospital using the following process parameters:

Steam Wrapped Gravity Cycle at 121 °C/ 250 °F for 30 minutes, dry time for 30 minutes.

Steam Wrapped Dynamic-Air-Removal (Pre-vacuum) Cycle at 132 °C/ 270 °F for 4 minutes, dry time for 30 minutes.

The cage had been sterilized by gamma radiation at least 25 kGy dose.

It should avoid contaminating while operation process. It is necessary to exchange our product if the packaging has been broken without reason.

If need more function, please refer to "Reprocessing Manual" from A-SPINE's website (<http://www.aspine.com.tw/>).

## Implants

### Redmond® Lumbar Cage (A)

#### Specifications

| A   | H / mm | W36xL28mm   | W39xL30mm   | W43xL32mm   | Color                                                                                 |
|-----|--------|-------------|-------------|-------------|---------------------------------------------------------------------------------------|
| 12° | 12     | 5060-12128H | 5060-22128H | 5060-32128H |    |
|     | 14     | 5060-14128H | 5060-24128H | 5060-34128H |    |
|     | 16     | 5060-16128H | 5060-26128H | 5060-36128H |    |
|     | 18     | 5060-18128H | 5060-28128H | 5060-38128H |    |
| 18° | 12     | 5060-12188H | 5060-22188H | 5060-32188H |    |
|     | 14     | 5060-14188H | 5060-24188H | 5060-34188H |    |
|     | 16     | 5060-16188H | 5060-26188H | 5060-36188H |  |
|     | 18     | 5060-18188H | 5060-28188H | 5060-38188H |  |

#### Locking Screw

| Cat.No     | Dia(mm) | L(mm) | Color                                                                               |
|------------|---------|-------|-------------------------------------------------------------------------------------|
| 1139-55258 | 5.5     | 25    |  |
| 1139-55308 | 5.5     | 30    |  |
| 1139-55358 | 5.5     | 35    |  |



#### Locking Cap

| Cat.No     | Dia(mm) | L(mm) |
|------------|---------|-------|
| 1140-03048 | 8.6     | 6.5   |



#### Oversized Screw

| Cat.No     | Dia(mm) | L(mm) | Color                                                                               |
|------------|---------|-------|-------------------------------------------------------------------------------------|
| 1139-57258 | 5.75    | 25    |  |
| 1139-57308 | 5.75    | 30    |  |
| 1139-57358 | 5.75    | 35    |  |



## NOTE



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