Valid on 14 Aug 2024

MEDACTA DM CONVERTER

Surgical Technique

Joint | Spine | Sports Med

Medacta International

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1. INTRODUCTION

The Medacta DM Converter is designed to be coupled with Mpact, Versafit CC Trio Family and Iliac Screw Mpact 3D Metal shells allowing the option of a double mobility articulation both for primary and revision surgeries.

1.

This document describes the surgical technique for the Medacta DM Converter

The Medacta DM Converter is designed to convert a modular cup into a double mobility cup to offer more articular stability and to increase the range of motion when the use of a monobloc double mobility cup is not the most suitable solution.

Two different versions of the DM Converter are available, one made up of CoCrMo alloy and another one made up of High Nitrogen Stainless Steel with a TiN coating on the interface between shell and converter.

For more details about other Medacta Acetabular Systems please see the dedicated surgical techniques.

Carefully read the instructions for use and if you have any questions concerning product compatibility please contact your local Medacta representative.

1.1 INDICATIONS

The Medacta DM Converter is designed to be used in combination with Mpact, Versafit CC Trio Family and Iliac Screw Mpact 3D Metal cementless cups in total hip arthroplasty in primary or revision surgery.

Total hip Arthroplasty is indicated in the following cases:

- Severely painful and/or disabled joint as a result of arthrosis, traumatic arthritis, rheumatoid polyarthritis or congenital hip dysplasia
- Avascular necrosis of the femoral head
- Acute traumatic fracture of the femoral head or neck
- Failure of previous hip surgery: joint reconstruction, internal fixation, arthrodesis, partial hip arthroplasty, hip resurfacing replacement or total hip arthroplasty

1.2 CONTRAINDICATIONS

Total hip arthroplasty is contraindicated in the following cases:

- Acute, systemic or chronic infection
- Skeletal immaturity
- Severe muscular, neurological, vascular deficiency or other pathologies of the affected limb that may compromise the function of the implant
- Bone condition that may compromise the stability of the implant

Mental or neuromuscular disorders may create an unacceptable risk to the patient and can be a source of postoperative complications.

It is the surgeon's responsibility to ensure that the patient has no known allergy to the materials used.

1.3 PRE-OPERATIVE PLANNING

The preoperative planning must be done following the surgical technique for the selected shell. Specific templates (scale of 1.15:1) with the Double Mobility Converter are available to further check with X-Rays of the same magnification:

- The position and the coverage of the 5° raise
- The centre of rotation of the final double mobility articulation

WARNING
The final implant will be selected intra-operatively, because of possible discrepancies between actual conditions and templating.

1.4 SURGICAL APPROACH

The choice of surgical approach is up to the surgeon. The instrumentation has been developed for a conventional approach. Specific instrumentation for the anterior approach is available upon request (for further information see the AMIS dedicated surgical technique).

2. TRIALS AND STABILITY TESTS

The shell is implanted following the dedicated surgical technique.

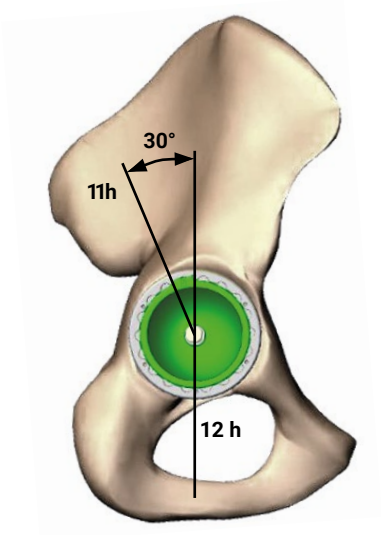
CAUTION
If the acetabular shell is positioned too vertical, joint stability may be compromised. On the other hand, if the acetabular shell is positioned too horizontal the Range of Motion (ROM) may be impacted.

Clean the interior surface of the acetabular shell and check that the screws are fully seated (if any).

CAUTION
Ensure by digital palpation that the screw heads do not protrude from the inner surface of the acetabular shell.

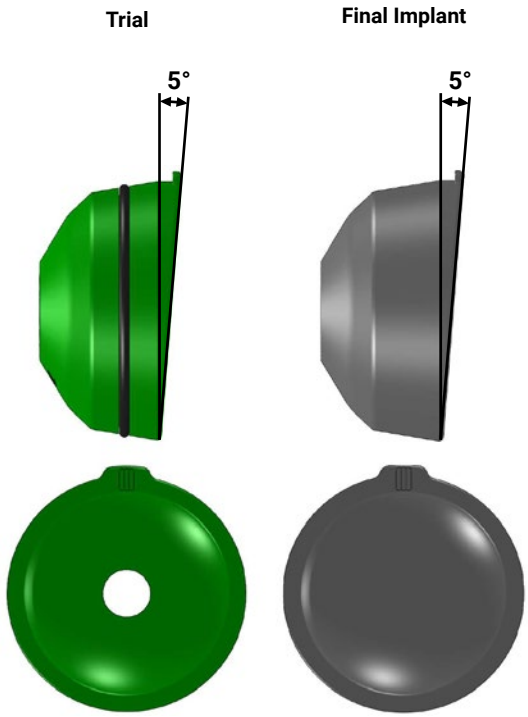
WARNING
In case of revision surgery, where the shell is supposed to remain in place and the liner to be changed with a Double Mobility Converter, visually inspect the internal surface of the shell to find any damage.
If damaged the Double Mobility Converter cannot be used and it will be the surgeon's responsibility to evaluate whether a fixed PE liner should be used (thus renouncing to the additional stability offered by a Double Mobility solution) or to replace the shell.

Assemble the multifunction handle with the trial Double Mobility Converter corresponding to the acetabular shell size. Without damaging the inside of the acetabular shell; position the Double Mobility Converter gently within the acetabular shell at the desired rotational position.



2.

Both implant and Double Mobility Converter trial have a 5° raise and a tooth with three grooves that identify the centre of the raise during implantation. To benefit from the extra coverage given by this feature, the Double Mobility Converter should be positioned in the posterior-superior quadrant of the acetabulum, with the tooth pointing approximately 30° posteriorly (the picture represents an example case of a right hip).



3.

Unscrew the multifunction handle and reduce the hip in order to test the joint stability and limb length.

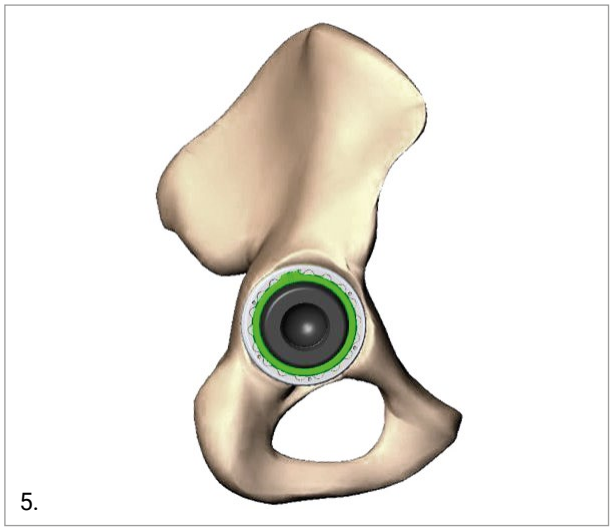
2.1 STABILITY TEST WITH TRIAL DOUBLE MOBILITY LINER

With the Double Mobility Converter trial in place, stability tests can be performed using the trial Double Mobility Liner.

4.

Clean the interior surface of the trial Double Mobility converter. Position the trial Double Mobility Liner to the corresponding diameter.

Stability tests are performed after having positioned the trial (broach and trial neck) or final stem and the trial head.



5.

After checking and testing mobility, joint stability and lower limb length, remove all trial components. Use the multifunction handle to remove the Double Mobility Converter trial.

TIP

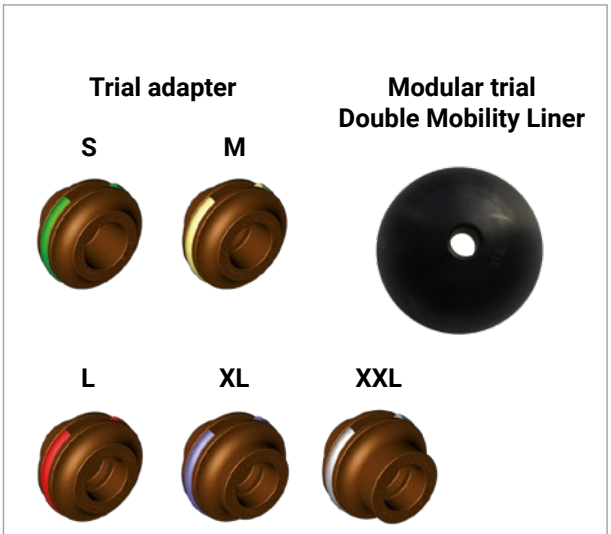
In order to ensure the correct positioning of the definitive Double Mobility Converter, use electrocautery to mark the centre of the raise.

CAUTION

At this time tests of stability must be performed with trial heads and not with final heads.

2.2 STABILITY TEST WITH MODULAR TRIAL DOUBLE MOBILITY LINER

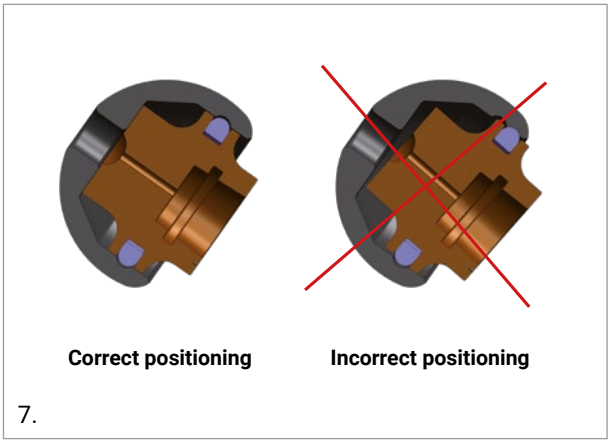
Step 1: Choose the trial adapter corresponding to the head size (S, M, L, XL, XXL) selected during preoperative planning.



6.

Step 2: Assemble the trial adapter with the modular Double Mobility trial liner of compatible size as the implanted Double Mobility Converter. The trial adapter must be inserted straight along the axis of the modular Double Mobility Trial Liner.

For a complete list of compatible sizes please refer to the tables in the paragraph “IMPLANT NOMENCLATURE”.

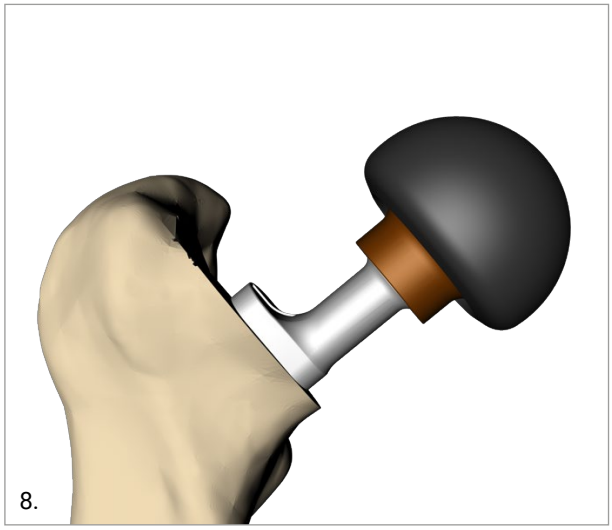


7.

NOTE: The side marked with references of the trial adapter must stay on the external part of the trial Double Mobility Liner.

If the trial adapter is free to rotate inside the trial Double Mobility Liner the assembly is correctly coupled. If not, reposition the trial adapter until the correct position is reached.

Step 3: Place the assembly on the taper of the femoral stem or the trial neck already in place.

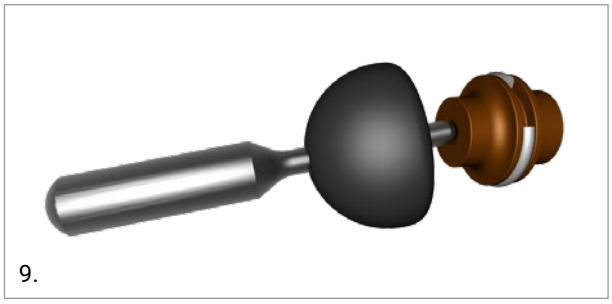


8.

Proceed with the trial reduction. The mobility, joint stability, range of motion and leg length are tested to confirm the final implant size.

Step 4: After the stability test, remove the assembly from the taper of the femoral stem or the trial neck.

To release the trial adapter from the trial liner socket you can use the dedicated trial extractor, pushing the adapter through the central hole of the trial Double Mobility Liner.



9.

After checking and testing mobility, joint stability and lower limb length, remove all trial components. Use the multifunction handle to remove the Double Mobility Converter trials.

TIP

In order to ensure the correct positioning of the definitive Double Mobility Converter, use electrocautery to mark the centre of the raise on the patient's bone.

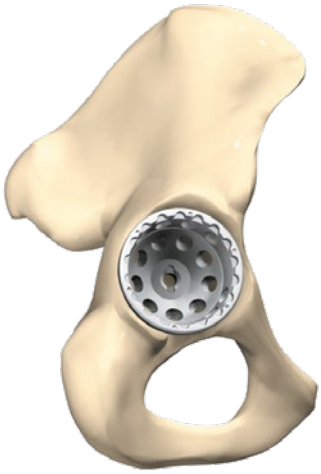
3. POSITIONING THE FINAL DOUBLE MOBILITY CONVERTER

The internal diameter of the Double Mobility Converter will be the same as the external diameter of the Double Mobility Liner. Check the tables on paragraph 6 "IMPLANT NOMENCLATURE" for implant combinations.

TIP

The colour of the trial insert corresponds to the colour on the packaging labels of both the Acetabular shell and the Double Mobility Liner. Hence, the colour code can help identify the correct final implants.

Before inserting the Double Mobility Converter thoroughly clean and dry the interior surface of the acetabular shell. Also, carefully remove any bone debris and tissue residue to avoid damaging the mechanical coupling.

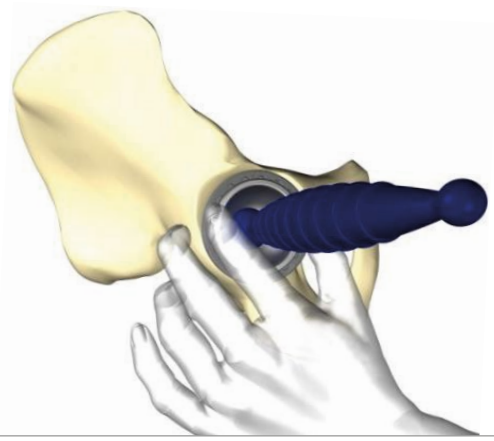


10.

WARNING

In case of revision surgery, where the shell is supposed to remain in place and the liner to be changed with a Double Mobility Converter, visually inspect the internal surface of the shell to find any damage. If damaged the Double Mobility Converter cannot be used and it will be the surgeon's responsibility to evaluate whether a fixed PE liner should be used (thus renouncing to the additional stability offered by a Double Mobility solution) or to replace the shell.

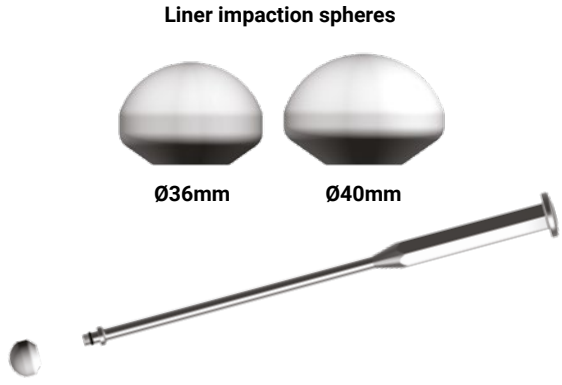
The Double Mobility Converter is placed in the cup by hand or using the suction cup, taking care to orientate the raise as previously determined during trials.
Release the suction cup with care to avoid disengaging the Double Mobility Converter from the shell.
It is recommended that the Double Mobility Converter is held in place while the suction cup is disengaged.



11.

Before final impaction apply finger pressure around the periphery of the Double Mobility Converter and check that there is no residual movement between it and the shell.

In order to perform the final impaction, assemble the final impaction sphere with the multifunction straight impactor. It is recommended, to facilitate proper assembly of the converter, to choose the largest fitting impaction sphere.



12.

Insert the sphere into the Double Mobility Converter and fix it with hammer blows on the multifunction handle anvil.

WARNING

Impaction should follow the "axis" of the cup, i.e. should be in a direction perpendicular to the plane of equator. In order to do so, the offset AMIS impactor may facilitate negotiating soft tissues when an AMIS approach is performing.

If needed, run another stability test with the trial Double Mobility Liners and trial femoral heads following the instructions in paragraph 2.1 or 2.2.

4. POSITIONING THE FINAL DOUBLE MOBILITY LINER

4.1 POSITIONING WITH DOUBLE MOBILITY LINER INSERTER

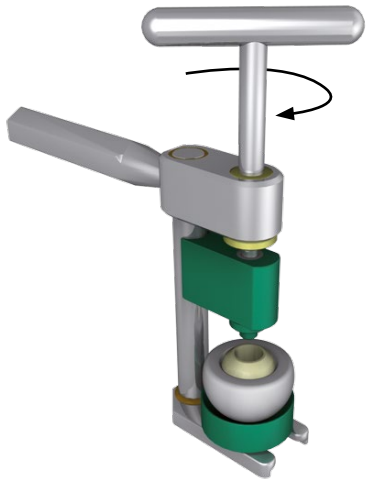
The external diameter of the Double Mobility Liner will be the same as the internal diameter of the Double Mobility Converter implanted following the letter code; the internal diameter of the liner will be the same as the chosen heads.

TIP

The colour of the trial insert corresponds to the colour on the packaging labels of both the Acetabular shell and the Double Mobility Liner. Hence, the colour code can help identify the correct final implants.

Before inserting the Double Mobility Liner thoroughly clean and dry the interior surface of the Double Mobility Converter. Also, carefully remove any bone debris and tissue residue to avoid damaging the mechanical coupling.

Perform the reduction of the prosthetic femoral head into the final Double Mobility Liner using the mobile liner terminal and the femoral head terminal. Verify the correct head mobility in the Double Mobility Liner. Proceed to install the assembled head on the taper of the femoral stem in place.



13.

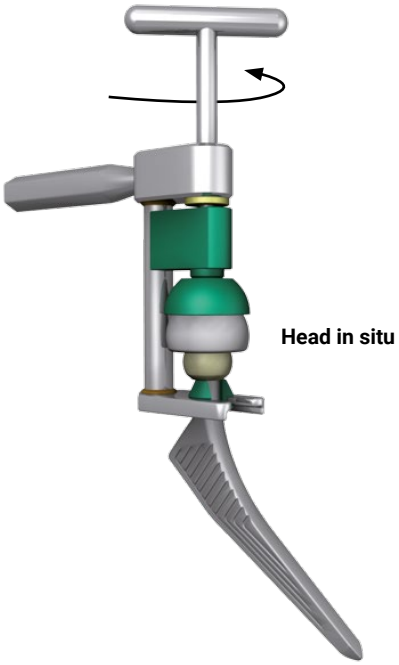
CAUTION

The internal sleeves of the Biolox Option heads may not completely cover the femoral stem threaded taper. This may cause a premature wear of the Double Mobility Liner.

Lightly impact the Double Mobility Liner and the femoral head assembly using the multifunction handle assembled to the acetabular shell correction impactor.

14.

When using a stem with head in situ or monobloc stem: use the specific mobile liner terminal and stem neck terminal with the Double Mobility Liner Inserter.



15.

Reduce the hip and verify the Double Mobility Liner's mobility in the Double Mobility Converter.

CAUTION

During the final reduction with the final Double Mobility Liner, take care not to damage its external spherical surface.

4.2 POSITIONING WITH GUN FOR HEAD/LINER INSERTION

The external diameter of the Double Mobility Liner will be the same as the internal diameter of the Double Mobility Converter implanted following the letter code; the internal diameter of the liner will be the same as the head chosen.

Before inserting the Double Mobility Liner thoroughly clean and dry the interior surface of the Double Mobility Converter. Also, carefully remove any bone debris and tissue residue to avoid damaging the mechanical coupling.

To assemble the final Double Mobility Liner to the desired femoral head, utilize the compression tool with the Double Mobility Liner terminal and the femoral head terminal. Once all components are properly placed, verify the correct head mobility in the liner. The implants are now ready to be impacted onto the femoral component.

16.

TIP

In order to facilitate this procedure, place the compression tool vertical on the Back Table and assemble the final Double Mobility Liner to the desired femoral head.

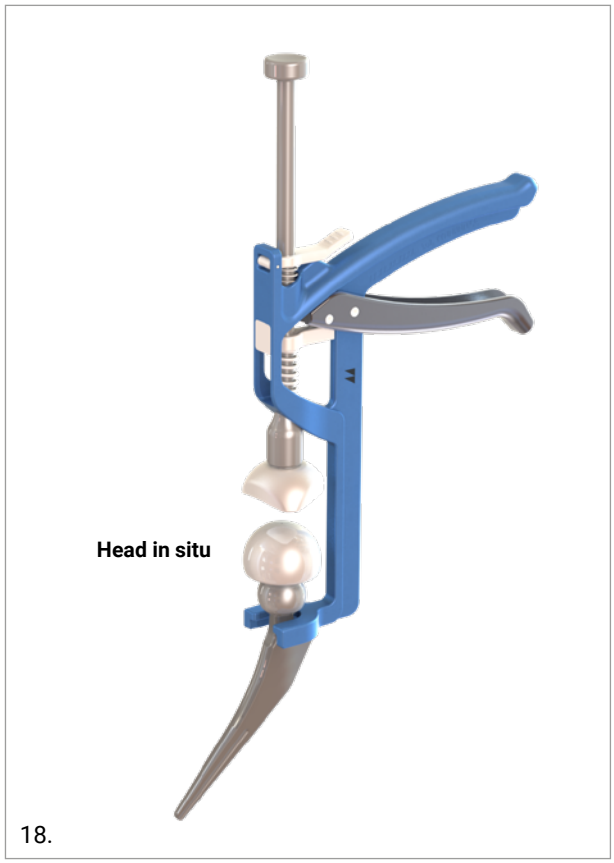
CAUTION

The internal sleeves of the Biolox Option heads may not completely cover the femoral stem threaded taper. This may cause a premature wear of the Double Mobility Liner.

Lightly impact the Double Mobility Liner and the femoral head assembly using the multifunction handle assembled to the acetabular shell correction impactor.

17.

When using a stem with the head in situ or a monobloc stem: use the specific mobile liner terminal and stem neck terminal with the double mobility compression tool to insert the liner.



18.

Reduce the hip and verify the Double Mobility Liner's mobility in the Double Mobility Converter.

CAUTION

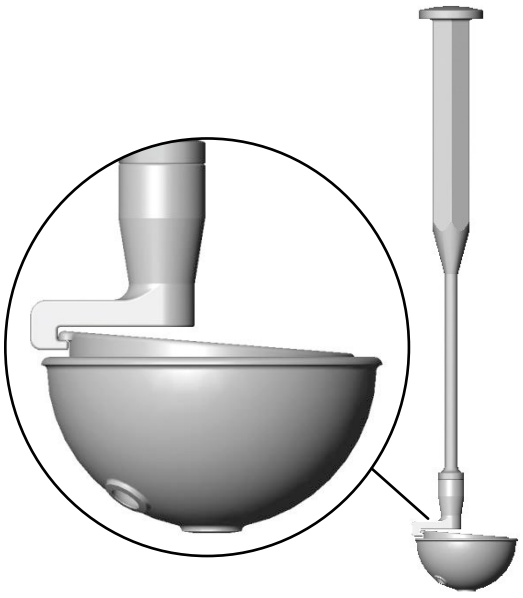
During the final reduction with the final Double Mobility Liner, take care not to damage its external spherical surface.

5. DOUBLE MOBILITY CONVERTER REMOVAL OPTION

To remove a Double Mobility Converter impacted into a shell use the specific removal tool.

Assemble the removal tool to the straight multifunction handle. Insert the removal tool hook between the shell and the tooth on the raise of the Double Mobility Converter. Lever the handle towards the tooth to disengage the Double Mobility Converter from the shell.

The Double Mobility Converter can then be removed by hand or with the help of the suction cup.



19.

6. IMPLANTS NOMENCLATURE

DOUBLE MOBILITY CONVERTER

REF.	SIZES
01.32.3641MC	D
01.32.3844MC	E
01.32.4248MC	F
01.32.4452MC	G
01.32.4856MC	J
01.32.5260MC'	K'

TiN STAINLESS STEEL DOUBLE MOBILITY CONVERTER

REF.	SIZES
01.32.3641CF	D
01.32.3844CF	E
01.32.4248CF	F
01.32.4452CF	G
01.32.4856CF	J
01.32.5260CF'	K'

DOUBLE MOBILITY LINERS - STANDARD UHMWPE

SIZES	HEAD Ø22.2	HEAD Ø28
DMB	01.26.2244M	-
DMC	01.26.2246M	-
DME	01.26.2250M	01.26.2850M
DMF	01.26.2252M	01.26.2852M
DMH	01.26.2256M	01.26.2856M
DML'	01.26.2260M'	01.26.2860M'

DOUBLE MOBILITY LINERS - HIGHCROSS UHMWPE

SIZES	HEAD Ø22.2	HEAD Ø28
DMB	01.26.2244MHC	-
DMC	01.26.2246MHC	-
DME	01.26.2250MHC	01.26.2850MHC
DMF	01.26.2252MHC	01.26.2852MHC
DMH	01.26.2256MHC	01.26.2856MHC
DML'	01.26.2260MHC'	01.26.2860MHC'

DOUBLE MOBILITY CONVERTER AND DOUBLE MOBILITY LINER COMBINATIONS

DM CONVERTER SIZES	DM LINER SIZES
D	DMB
E	DMC
F	DME
G	DMF
J	DMH
K'	DML'

'On demand

MPACT ACETABULAR SHELL NO-HOLE

DIAMETER	REF.	CONVERTER SIZES	LINER SIZES
50	01.32.150SH	D	DMB
52	01.32.152SH	E	DMC
54	01.32.154SH	E	DMC
56	01.32.156SH	F	DME
58	01.32.158SH	F	DME
60	01.32.160SH	G	DMF
62	01.32.162SH	G	DMF
64	01.32.164SH	G	DMF
66	01.32.166SH	G	DMF

MPACT ACETABULAR SHELL TWO-HOLE

DIAMETER	REF.	CONVERTER SIZES	LINER SIZES
50	01.32.150DH	D	DMB
52	01.32.152DH	E	DMC
54	01.32.154DH	E	DMC
56	01.32.156DH	F	DME
58	01.32.158DH	F	DME
60	01.32.160DH	G	DMF
62	01.32.162DH	G	DMF
64	01.32.164DH	G	DMF
66	01.32.166DH	G	DMF

MPACT ACETABULAR SHELL MULTI-HOLE

DIAMETER	REF.	CONVERTER SIZES	LINER SIZES
50	01.32.150MH	D	DMB
52	01.32.152MH	E	DMC
54	01.32.154MH	E	DMC
56	01.32.156MH	F	DME
58	01.32.158MH	F	DME
60	01.32.160MH	G	DMF
62	01.32.162MH	G	DMF
64	01.32.164MH	G	DMF
66	01.32.166MH	G	DMF
68	01.32.168MH	J	DMH
70	01.32.170MH	J	DMH
72	01.32.172MH'	K'	DML'
74	01.32.174MH'	K'	DML'
76	01.32.176MH'	K'	DML'

MPACT ACETABULAR SHELL RIM-HOLE

DIAMETER	REF.	CONVERTER SIZES	LINER SIZES
56	01.32.156RH	D	DMB
58	01.32.158RH	D	DMB
60	01.32.160RH	E	DMC
62	01.32.162RH	E	DMC
64	01.32.164RH	F	DME
66	01.32.166RH	F	DME
68	01.32.168RH	G	DMF
70	01.32.170RH	G	DMF
72	01.32.172RH'	J	DMH
74	01.32.174RH'	J	DMH
76	01.32.176RH'	J	DMH

VERSAFITCUP CC TRIO ACETABULAR SHELL

DIAMETER	REF.	CONVERTER SIZES	LINER SIZES
50	01.26.45.0050	E	DMC
52	01.26.45.0052	E	DMC
54	01.26.45.0054	E	DMC
56	01.26.45.0056	F	DME
58	01.26.45.0058	F	DME
60	01.26.45.0060	F	DME
62	01.26.45.0062	G	DMF
64	01.26.45.0064	G	DMF

VERSAFITCUP CC TRIO ACETABULAR SHELL NO-HOLE

DIAMETER	REF.	CONVERTER SIZES	LINER SIZES
50	01.26.45.1150	E	DMC
52	01.26.45.1152	E	DMC
54	01.26.45.1154	E	DMC
56	01.26.45.1156	F	DME
58	01.26.45.1158	F	DME
60	01.26.45.1160	F	DME
62	01.26.45.1162	G	DMF
64	01.26.45.1164	G	DMF

'On demand

ILIAC SCREW MPACT 3D METAL - 10°

DIAMETER	REF.	CONVERTER SIZES	LINER SIZES
50	01.44.050	D	DMB
54	01.44.054	E	DMC
58	01.44.058	F	DME
62	01.44.062	G	DMF
66	01.44.066	G	DMF
70	01.44.070	J	DMH
74	01.44.074'	K'	DML'

ILIAC SCREW MPACT 3D METAL - 25°

DIAMETER	REF.	CONVERTER SIZES	LINER SIZES
50	01.44.150	D	DMB
52	01.44.152	E	DMC
54	01.44.154	E	DMC
56	01.44.156	F	DME
58	01.44.158	F	DME

MPACT 3D METAL ACETABULAR SHELL TWO-HOLE

DIAMETER	REF.	CONVERTER SIZES	LINER SIZES
50	01.38.050DH	D	DMB
52	01.38.052DH	E	DMC
54	01.38.054DH	E	DMC
56	01.38.056DH	F	DME
58	01.38.058DH	F	DME
60	01.38.060DH	G	DMF
62	01.38.062DH	G	DMF
64	01.38.064DH	G	DMF
66	01.38.066DH	G	DMF

MPACT 3D METAL ACETABULAR SHELL MULTI-HOLE

DIAMETER	REF.	CONVERTER SIZES	LINER SIZES
54	01.38.054MH	D	DMB
56	01.38.056MH	E	DMC
58	01.38.058MH	E	DMC
60	01.38.060MH	F	DME
62	01.38.062MH	F	DME
64	01.38.064MH	G	DMF
66	01.38.066MH	G	DMF
68	01.38.068MH	J	DMH
70	01.38.070MH	J	DMH
72	01.38.072MH'	K'	DML'

MPACT 3D METAL ACETABULAR SHELL MULTI-HOLE THIN

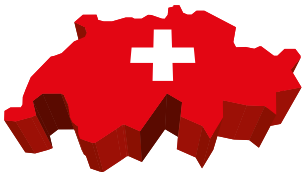
DIAMETER	REF.	CONVERTER SIZES	LINER SIZES
50	01.38.350MH	D	DMB
52	01.38.352MH	E	DMC
54	01.38.354MH	E	DMC
56	01.38.356MH	F	DME
58	01.38.358MH	F	DME
60	01.38.360MH	G	DMF

'On demand

Part numbers subject to change.

NOTE FOR STERILISATION

The instrumentation is not sterile upon delivery. It must be cleaned before use and sterilised in an autoclave in accordance with the regulations of the country, EU directives where applicable and following the instructions for use of the autoclave manufacturer. For detailed instructions please refer to the document “Recommendations for cleaning decontamination and sterilisation of Medacta International orthopaedic devices” available at www.medacta.com.



REDEFINING BETTER
IN ORTHOPAEDICS
AND SPINE SURGERY

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Medacta DM Converter
Surgical Technique

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rev. 04

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