G. Hybrid Fixator System and Sheffield Ring Fixator

1 Hybrid Fixator Assembly
Consisting of: 1 2/3 Ring, 2 Two-Hole X-Wire Securing Pins (80025), 2 Three-Hole Wire Clamp Slider Units (80031), 1 ProCallus Central Body (Short 90029 or Standard 90002), 1 ProCallus Straight Clamp (90006), 1 Hybrid Coupling with Ball-Joint (80050), 2 Posts (80042 or 80044 or 80046), 2 Supplementary Screw Holder Bars (80043 or 10041), 4 Supplementary Screw Holder Clamps (90038).

2 Sheffield Ring Fixator Assembly for Trauma
Consisting of: 2 2/3 Rings, 2 Two-Hole Securing Pins (80025), 2 Three-Hole Wire Clamp Slider Units (80031), 1 Sheffield Clamp (80035), 3 Reduction Units (80047).

3 Sheffield Ring Fixator Assembly for Reconstruction
Consisting of: 2 2/3 Rings, 2 1/3 Rings, 4 Locking Screws (81008), 1 Sheffield Clamp (80035), 2 Hinge Clamps (81015), 4 Threaded Bars and 8 Nuts and Washers, 1 Compression-Distraction Clicker Unit (50008), 2 Extension Plates (81020) and 2 Single Screw Clamps (80074).

See Manual PM 12 “The Ring Fixation System - Part A: The Hybrid Fixator; Part B: The Sheffield Ring Fixator - Standard Trauma Applications; and Part C: The Sheffield Ring Fixator - Limb Reconstruction and Complex Trauma” and Quick Reference Guide PG 120 “The Orthofix Hybrid Fixation System” for application instructions.
1. Components/Replacements

1 2/3 Rings
81050A Inner Ø 125 mm
81000A Inner Ø 150 mm
81002A Inner Ø 175 mm
81004A Inner Ø 190 mm
81006A Inner Ø 220 mm

2 1/3 Rings
81051 Inner Ø 125 mm
81001 Inner Ø 150 mm
81003 Inner Ø 175 mm
81005 Inner Ø 190 mm
81007 Inner Ø 220 mm

3 81008 Ring Locking Screw
To join 1/3 and 2/3 rings together (two locking screws are necessary).

4 81500 Foot Ring
Inner Ø 150 mm.
For wire fixation of the foot.

5 80031 Three-Hole Wire Clamp
Slider Unit
Should be used with 1 or 2 wires only.

6 80025 Two-Hole X-Wire Securing Pin

7 80041 Independent Wire Clamp

8 W2200 F.F.S. Large Washers
(pack of 4)
To be used to supplement cortical fixation of wires with a central olive.

9 80050 Hybrid Coupling with Ball-Joint
For fixator bodies 90000 and 90028.

10 X-Wires with lateral olive Ø 2 mm
80101 Length 310 mm
80111 Length 350 mm
80112 Length 400 mm

11 X-Wires with central olive Ø 2 mm
80121 Length 400 mm
80123 Length 450 mm

12 X-Wires Ø 1.8 mm (not illustrated)
80131 with central olive, length 400 mm
80132 without olive, length 400 mm

13 X-Wire Ø 1.8 mm* (not illustrated)
98-80131 with central olive sterile, length 400 mm
98-80132 without central olive sterile, length 400 mm

*for Japanese markets only
**Components/Replacements**

16  
X-Wires without olive  
Ø 2 mm  
80122 Length 400 mm  
80124 Length 450 mm

17  
Supplementary Screw Holder Bars  
Ø 6 mm  
10039 Length 150 mm  
80043 Length 300 mm  
10041 Length 400 mm

18  
Supplementary Screw Holder Bar  
Radiolucent  
91039 Length 150 mm  
81043 Length 300 mm

19  
Posts  
80042 Length 50 mm  
80044 Length 100 mm  
80046 Length 150 mm

20  
90038 Supplementary Screw Holder Clamp

21  
99-91038 Supplementary Screw Holder (Bar and Clamps, sterile)

22  
Sheffield Clamp  
80035 Adult  
85035 Paediatric (to be used with 150 mm or smaller diameter rings)

23  
80074 Single Screw Clamp

24  
80076 Half Pin Fixation Bolt

25  
81015 Hinge Clamp  
Allows angulation of the frame for deformity correction. It can also be used as a clamp to secure a screw or wire.

26  
81020 Extension Plate  
Allows variable attachment of components (e.g. hinge clamp, angulated wire) to the ring.

27  
81010 Translation Rotation Hinge  
Enables translation or rotation between two rings for the treatment of deformity. Radiolucent centre allows X-ray targeting of axis.

28  
Threaded Bars with nuts and washers  
(set of 3)  
80036 Length 80 mm  
80037 Length 120 mm  
80038 Length 160 mm  
80039 Length 200 mm

29  
Threaded Bars (set of 3)  
81036 Length 80 mm  
81037 Length 120 mm  
81038 Length 160 mm  
81039 Length 200 mm  
81048 Length 300 mm  
81049 Length 400 mm
Components/Replacements

30 81025 Counter Nut
Used for better control of lengthening or as part of a motor for angular deformity correction.

31 Compression-Distraction Clicker Units
50008 Standard
Extends to 4 cm.
50009 Long
Extends to 8 cm.

32 80034 Bolts with nuts and washers
(set of 3)
Length 60 mm.

33 Bolts (set of 10)
81024 Length 25 mm
81021 Length 35 mm

34 81023 Slotted Washers (pack of 10)
Provide a single level of wire fixation.

35 74405 Revision Locking Screw Washers
(pack of 4)
Used with slotted washers.

36 80047 Reduction Unit
3 units are required to connect 2 rings.

37 81022 Nuts and Washers
(pack of 20 of each)

38 80077 Wire Fixation Bolt

39 Hybrid Fixator Assembly Kits
80051 Standard
Consisting of:
1x90002 ProCallus Standard Central Body
1x10008 Compression-Distraction Unit Standard, extends to 4 cm
1x90006 ProCallus Straight Clamp
1x80050 Hybrid Coupling with Ball-Joint.

80052 Short
Consisting of:
1x90029 ProCallus Short Central Body
1x10030 Compression-Distraction Unit Short, extends to 2.75 cm
1x90006 ProCallus Straight Clamp
1x80050 Hybrid Coupling with Ball-Joint.

40 81018 Magic Cube
To be used to secure fixation of a bone screw or a wire.
## 2. Sheffield Ring Fixator Kits

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<th>Code Number</th>
<th>Product Name</th>
<th>Quantity</th>
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<td>Wire Guide</td>
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<td>X-Wire with central olive, length 400 mm</td>
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<td>X-Wire without olive, length 400 mm</td>
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1

81570 Standard Trauma Kit
For all normal trauma indications.
Sheffield Ring Fixator Kits

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2 81580 Lengthening and Correction of Deformities Kit
Used with the Standard Trauma Kit for reconstruction indications.

3 81590 Cross Joint and Foot Fixation Kit
Used with the Standard Trauma Kit and Lengthening and Correction of Deformities Kit for extended reconstruction indications, including cross joint and foot fixation.
3. Instrumentation

1. 18002 Wire Guide
2. 91017 Universal Allen Wrench
3. Allen Wrenches
   - 10012 3 mm
   - 30017 5 mm
   - 10017 6 mm
4. 81031 Open End Wrench 10 mm
   Includes a ring end and an open end for bolt tightening.
5. 81030 Speed Wrench
   Includes a ring end and an open end for fast bolt tightening.
6. 18001 Wire Tensioner
7. W1003 Wire Cutter
   W1004 Wire Cutter Re-use Kit
   Consisting of 2 blades and 2 rubbers.
   (Not illustrated)
8. 80200 X-Wire Covers
   (pack of 20)

Note: See also instrumentation for bone screw insertion (section “Bone Screws”).
### 4. Sterilization Boxes

**1 81200 Hybrid Fixation System Sterilization Box, empty**

Can accommodate:

**Base**
- 2x81000A 2/3 Ring, inner Ø 150 mm
- 2x81001 1/3 Ring, inner Ø 150 mm
- 2x81004A 2/3 Ring, inner Ø 190 mm
- 2x81005 1/3 Ring, inner Ø 190 mm
- 8x81008 Ring Locking Screw
- 8x80025 Two-Hole X-Wire Securing Pin
- 8x80031 Three-Hole Wire Clamp Slider Unit

**Lower Tray**
- 1x18002 Wire Guide
- 1x18001 Wire Tensioner
- 1x80051 Hybrid Fixator Standard Assembly Kit
  - Consisting of: 1 ProCallus Standard Central Body,
  - 1 Compression-Distraction Unit Standard,
  - 1 ProCallus Straight Clamp; 1 Hybrid Coupling with Ball-Joint.

**Upper Tray**
- 1xW1003 Wire Cutter
- 8x90038 Supplementary Screw Holder Clamp
- 1x80200 X-Wire Covers (pack of 20)

- 2x10017 Allen Wrench 6 mm
- 2x30017 Allen Wrench 5 mm
- 2x10012 Allen Wrench 3 mm
- 2x80041 Independent Wire Clamp
- 3x80042 Post, length 50 mm
- 3x80044 Post, length 100 mm
- 3x80046 Post, length 150 mm
- 2xW200 F.F.S. Large Washers (pack of 4)
- 2x80043 Supplementary Screw
  - Holder Bar Ø 6 mm, length 300 mm
  - or
  - 2x10041 Supplementary Screw Holder Bar Ø 6 mm, length 400 mm
- 8x80112 X-Wire with lateral olive Ø 2 mm, length 400 mm
- 4x80121 X-Wire with central olive Ø 2 mm, length 400 mm
- 4x80123 X-Wire with central olive Ø 2 mm, length 450 mm
- 4x80122 X-Wire without olive Ø 2 mm, length 400 mm
- 4x80124 X-Wire without olive Ø 2 mm, length 450 mm

Free space is available for other accessories.
Sterilization Boxes

2

81201 Hybrid Fixation System
Sterilization Box, empty
Can accommodate:

Base
2x81006A  2/3 Ring, inner Ø 220 mm
2x81007  1/3 Ring, inner Ø 220 mm
2x81002A  2/3 Ring, inner Ø 175 mm
2x81003  1/3 Ring, inner Ø 175 mm

Lower Tray (Generic)
2x80035  Sheffield Clamp
2x80074  Single Screw Clamp
3x80047  Reduction Unit
3x11137  Screw Guide, length 80 mm
3x11103  Screw Guide, length 100 mm
1x11105  Drill Guide Ø 4.8 mm, length 80 mm
1x11138  Drill Guide Ø 4.8 mm, length 60 mm
1x80034  Bolts 60 mm (set of 3)
1x80036  Threaded Bars, length 80 mm (set of 3)
1x80037  Threaded Bars, length 120 mm (set of 3)

Upper Tray
1x18001  Wire Tensioner
8x81008  Ring Locking Screw
8x80025  Two-Hole X-Wire Securing Pin
1x80052  Hybrid Fixator Short Assembly Kit
Consisting of: 1 ProCallus Straight Clamp, 1 ProCallus Short Central Body, 1 Compression-Distraction Unit Short, 1 Hybrid Coupling with Ball-Joint.

3x80047  Reduction Unit
8x80031  Three-Hole Wire Clamp Slider Unit

Free space is available for other accessories.