Instructions for Use

External Fixator

Legends of the symbols used on packaging

REF	Catalogue Number		Keep away from sunlight
LOT	Batch Code		Keep Dry
	Consult instructions for use		Fragile, handle with care
	Date of Manufacture		Do not use if package is damaged
STERILE R	Sterilized Using Irradiation		Use-by date
	Do not resterilize		Do not re-use
		40°C	Upper limit of temperature (40°C)

Description

External Fixators are devices composed of connectors/couplers and stems produced in aluminum, which are fixed to the stainless steel rods through nuts and screws, form a structure that is fixed to the pins implanted on the bone during the period of fracture healing.

The connectors/couplers are gyratory allowing linear assembly and also biplane or triplane.

The connectors/couplers are fixed by screws and nuts that facilitate the setting of rod and fix the pins.

Composition of Materials

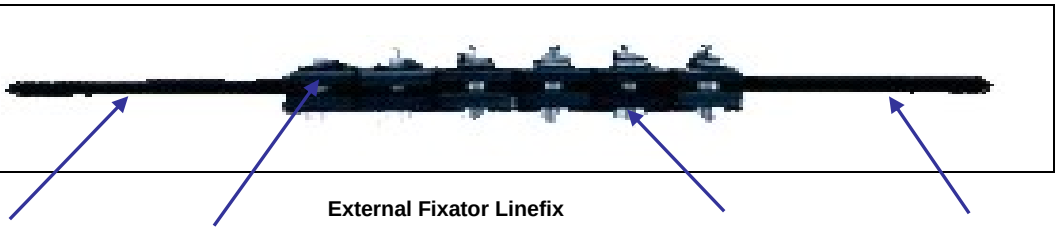
The components of the external fixator are manufactured in:

Nuts, Washers and Screws of the Fixator: Stainless Steel – 304 – AISI 304;

Connectors/Couplers and Stems: Aluminum Alloy 5052; or Aluminum Alloy 6262; or Aluminum Alloy 6351;

Rods: Stainless Steel 304 (AISI 304);

External Fixators are available in the following models:



External Fixator Linefix

Rod	Connector/Coupler	Nut and Screw	Stem
			

External Fixator type tubular (Tubofix)

Purpose:

External Fixator type linear (Linefix):

It is indicated for diaphyseal fractures of long bones, and can be extended to some metaphyseal fractures. It is a fixator which requires that the fracture is previously aligned before its application.

It is a monolateral fixator idealized for use at emergency sector, with predefined assembling, in line. It can also be assembled so biplane or triplane.

- Femoral Assembly.
- Tibial Assembly.
- Humeral Assembly.
- Radium Assembly.

External Fixator type tubular (Tubofix):

It is indicated for use at the emergency sector, for diaphyseal exposed fractures of long bones, pelvic ring fractures and some metaphyseal fractures too. It is a fixator very versatile, being possible the correction of accentuated deviations, even after assembled.

Forms of Presentation:

The fixators are placed in packaging together with the Use Instructions.

The External Fixator Linefix is composed of:

- 02 Stems;
- 02 Rods;
- 12 Connectors/Couplers;
- 12 Screws;
- 12 Nuts;
- 12 Washers;

The External Fixator Tubofix is composed of:

- 04 Rod-to-Rod Coupler;
- 04 Pin-to-Rod Coupler;

- 01 Opening Coupler;
- 01 Double Opening Coupler;
- 01 Rod;
- 10 Rubber Rings;

Descriptions and Codes of the External Fixators

Product code	Description
04.35.03.00000	Femoral Fixator LineFix
04.35.03.00300	Femoral Fixator LineFix Special w/ Rod of 300 mm
04.35.03.00400	Femoral Fixator LineFix Special w/ Rod of 400 mm
04.35.04.00000	Tibial Fixator LineFix
04.35.04.00250	Tibial Fixator LineFix Special w/ Rod of 250 mm
04.35.05.00000	Humeral Fixator LineFix
04.35.06.00000	Radio Fixator LineFix
04.35.11.00000	Tubofix Fixator – Pin-to-Rod Coupler F/T
04.35.11.00001	Tubofix Fixator – Pin-to-Rod Coupler U/R
04.35.12.00000	Tubofix Fixator – Rod-to-Rod Coupler F/T
04.35.12.00001	Tubofix Fixator – Rod-to-Rod Coupler U/R
04.35.13.00000	Tubofix Fixator – Opening Coupler
04.35.14.00000	Tubofix Fixator – Double Opening Coupler
04.35.15.00000	Rubber Ring
04.35.15.95100	Tubofix Fixator – Rod Ø 9,5x 100 mm
04.35.15.95150	Tubofix Fixator – Rod Ø 9,5x 150 mm
04.35.15.95200	Tubofix Fixator – Rod Ø 9,5x 200 mm
04.35.15.95250	Tubofix Fixator – Rod Ø 9,5x 250 mm
04.35.15.95300	Tubofix Fixator – Rod Ø 9,5x 300 mm
04.35.15.95350	Tubofix Fixator – Rod Ø 9,5x 350 mm
04.35.15.95400	Tubofix Fixator – Rod Ø 9,5x 400 mm
04.35.16.80250	Rod for LineFix Fixator 8,0x250 mm
04.35.16.80300	Rod for LineFix Fixator 8,0x300 mm
04.35.16.80350	Rod for LineFix Fixator 8,0x 350 mm
04.35.16.80400	Rod for LineFix Fixator 8,0x400 mm
04.35.17.00010	Bench vise for LineFix Fixator 10x10x16 mm
04.35.17.00013	Bench vise for LineFix Fixator 13x13x23 mm
04.35.17.00015	Bench vise for LineFix Fixator 15x25,4x18 mm
04.35.17.00019	Bench vise for LineFix Fixator 19x25,4x18 mm
04.35.18.00015	Complete bench vise for LineFix Fixator - Humerus/ Radio
04.35.18.00019	Complete bench vise for Fixator LineFix - Femur/ Tibia

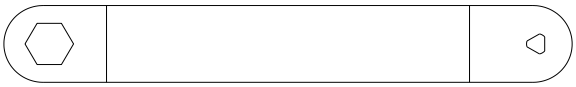
Information and characteristics of instrumentals and ancillary components:

For the placing of External Fixators is necessary the use of the implantable Wires or Schanz Pin, which must acquired separately of the fixator.

Consult your representative MDT for further information about wires and pins.

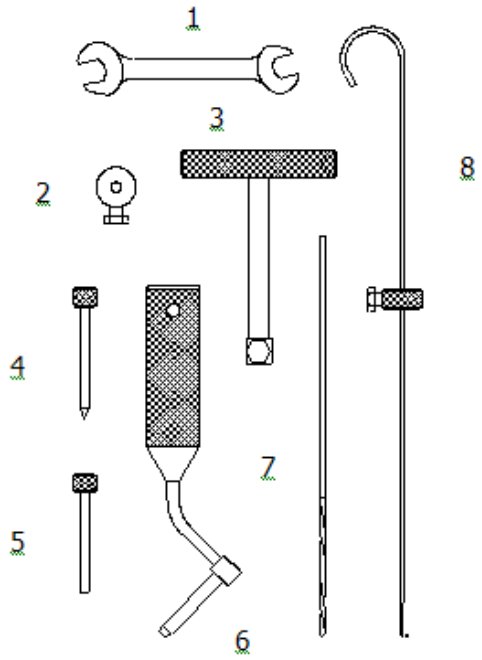
The instruments that will be used for assembly of fixator must be acquired separately, always of same manufacturer of implant. The instrumentals are provided decontaminated, but not sterilized.

List of Instruments for use with External Fixators



Wrench for Linefix Fixator

The triangular side of wrench is used for to thread the Schanz pin to the bone.
Another side is to tighten the nut of the fixator, locking the Schanz pin.



Nº	Description
1	Fix Wrench
2	Limiter for Schanz Pin
3	Wrench in "T" for Pin
4	Trocar
5	Reducer Guide
6	Guide for Pin
7	Drill (Long/Short)
8	Depth Gauge

Instrumental for Tubofix Fixator

The surgical instruments are subject to wear and tear during the use, and it can break. The surgical instruments must only be used for its purpose. All instruments must be inspected regularly to check possible wear and damage.

The surgical instruments must be purchased separately, always of same manufacturer of the implant.

The instrumentals are provided decontaminated, but not sterilized. Receive engraving of:

- Product Code;
- Batch Number;
- Company Logo;

It is necessary to use the Schanz Pin and wires, which must be acquired separately.

Schanz Pin

The incorrect selection, placing, positioning and fixation of the implants can cause undesirable results. The surgeon must be familiarized with the material, method of application and preoperative surgical procedures.

The consolidation success is linked to correct selection, positioning and fixation of the implants. The doctor in charge evaluates the patient and decides which materials to use. It is also bound to strict compliance with postoperative care recommended by the doctor in charge.

There is a table attached with the information about the ancillary components.

Contra indication

To what medical treatment of general manner may concern, all surgical technique, even when properly applied can present problems, complications and situations in which the final objective is not totally or partially achieved, and being their contra-indications always dependent upon the assistant-surgeon evaluation of the case and criteria, starting from the anatomy, local biology and systemic, the care of planning and preoperative prepare, the execution and application of perfect technique at intra operative and even the socioeconomic and cultural profile and so that there is respect and the patient cooperation the after surgery recommendations and follow-up. However, there are rules to be followed to avoid problems.

Following, are listed some contra indications although concerning (medical criteria), most often related to the implant:

- The monoplane external fixators are not designed to support axial load, mainly in comminuted instable fractures or in cases where be submitted to deforming forces constants.
- The partial charge can be admitted in situations in that the fixator can be used as tension band, for this is need that the fracture, if comminuted, is anatomically reconstructed, although this is not always possible. It is necessary to have the awareness that the implant will be requested beyond its normal capacity and if the fracture not consolidates in an average term of 3 to 4 months, can lead to failure with breaks and loosening of the material.
- The Kirschner wires or Steinmann pins are materials that naturally resist little when they are mechanically requested, and they must not be used in situations that have to support forces of flexion, because in these conditions, they can twist or even though break.
- In cases where there is instability by bone failure by comminution or bone loss, it is recommended the use of appropriate implants in serious cases or autologous grafting for mild and moderate cases.
- Osteoporosis leading to the loosening of the material (Schanz pins).
- Deep and superficial infections in the pins, maintaining or aggravating the infection process of soft tissues or osteomyelitis.
- Certain allergies to steel stainless. In this case the doctor must apply exams and pertinent tests and evaluate, if relevant, the achievement of surgery.
- Local circulatory disease, arterial and venous insufficiencies that predisposing to the appearance of dehiscence and skin necrosis, to the appearance or maintenance of infections, problems and thromboembolic phenomena.
- Systemic diseases, which by diminution of local or general defenses or of circulatory conditions can predispose to complications as dehiscence and infections.
- Neurological disorders that can bring change in bone strength, or neuro-muscular activity that can overload the implant.
- Bone diseases quickly destructive (for example: Charcot arthroplasty, bone tumors, etc.).
- Osteonecrosis, especially post-irradiation can bring infection troubles and dehiscence.

- The know presence of particular conditions of the patients, which can bring some bio-incompatibility with the metallic alloy used in the manufacturing implant.

This system is also contra indicated for patients:

- Young and active;
- That play sportive activities;
- With weight above 102 kilograms;
- With previous or actual infectious pathology;
- With dementia problems or neurological changes of lower limbs;
- Particular conditions of the patient: senility, alcoholism and infections. These conditions must be carefully investigated by the surgeon, which should alert the patient about risks from these particularities;

The use in the above cases can cause wear or premature loosening of the Fixator, by excessive mechanical stress, infection and prosthetic luxation.

Adverse Effects

In addition to the fact that obvious risks can happen at presence of orthopedic implants, as the failure, loosening and fracture, the following risks of adverse tissue answers and complications possible should be presented and discussed with the patient:

- Though no scientifically proven association between the use of orthopedic implants with the material features as the ones used in the Fixators and the occurrence of cancer, any risks and uncertainty about the long term articular substitution effects, must be discussed with the patient prior to the surgery. The patient must also be informed that any circumstances that may drive to chronic tissue damage can be oncogene.
- Cancerous tissues found in the implant vicinity may be related factors not linked directly to the implant such as: metastases from primary lung tumors, breast, digestive system and others, or yet due to the implantation of cancerous cells that may occur during operatory procedures or diagnoses such as biopsy or yet resulting from progression of the Paget illness.
- The implantation of foreign materials in organic tissues can elicit inflammatory responses that can happen, for example, at presence of debris from implants (as metallic debris or of polyethylene), which can cause response histiocytic type strange body granuloma of causing bone destruction, associated or not at implant loosening.
- Sensibility or atopic to metal can be found after the implantation of orthopedic devices, as for example, which happen with the nickel, cobalt and chrome that are presents in the steel stainless alloy of orthopedic use. The titanium and its alloys of orthopedic use, are less antigenic accentually and have their use recommended in patients with historic of allergies or sensibility to metal.

Precautions:

The use of prophylactic antibioticterapy in cases where there is local predisposition or systemic to occurrence of infections is recommended.

The prophylaxis of thromboembolic complications occurrence is also recommended in lower limbs surgeries and patients who are predisposed to these phenomena already described in specific literature, like risk factors.

The use together (in contact direct) with implants of other origin (manufacturers), even with similar

specifications, can bring problems in its application, due to the incompatibility dimensional.

The improper selection and choice of implants to be used, as well as, wrongs in the indication, handling and application technique can cause excessive tensions and tractions over the implant and can bring failure by fatigue, fracture, or loosening.

The products here described were developed for use in the circumstances above described, so that, any other uses are considered contra indicated or without scientific substrate that supports its use.

Do not use the product if present any type of irregularities or damaged. It is necessary to perform a thorough evaluation of the patient to choose the appropriate components and ensure the success of the implant.

It is recommended the radiologic monitoring during the postoperative, in order to compare the initial postoperative and to detect possible evidences to long term, related to change in the position, loosening or fissures of components.

Must be observed the Indication, Contra Indication, Adverse Effects, Warnings, and further information referring to implantation of the Schanz Pin and Wires.

- **SINGLE USE PRODUCT – DO NOT REUSE;**
- The fixator is supplied sterile;
- Use immediately after open the seal of sterilization.

Discard and **DO NOT USE** opened or damaged devices. Use only devices that are packaged in sealed packages and not damaged.

The patient should be informed about:

All the postoperative restrictions, especially those related to sports and occupational activities.

- The patient must be properly oriented about the care in the postoperative. The capacity and willingness of patient to follow these guidelines are one of the most important aspects in an orthopedic surgical procedure.
- In children, elderly, patients with mental disturbs or chemical dependents, may represent a higher risk to the failure device, because they can ignore the instructions and restrictions.
- Must instruct the patient, the medical criterion to use external supports, aid to ambulate and orthopedic appliances, designed to limit the load.
- The fact that complications or failures in osteosynthesis are more likely to occur in:
  - Patients with functional expectative beyond what can be promoted by the surgery;
  - Patients with overweight, above 102 kilograms;
  - Patients with systemic or local diseases that cause bone disorders such as osteoporosis.
- When components loosen and osteolysis occurs and not is performed review surgery, can result in progressive loss of periprosthetic bone stock.
- Must alert the patient and make him understand that the product does not substitute and does not have the same performance of the normal bone and therefore can break, deform or loosen, due to excessive effort or activities of early load, etc.
  - The patient must be oriented to inform that is implant user when submitted to Magnetic Resonance examinations;
  - The need for periodic monitoring and medical evaluation to check the possible alterations of implant and adjacent bone. Only the accompanying can detect possible loosening of component or osteolysis occurrence;

- It is recommended the radiologic monitoring during the postoperative, in order to compare the initial postoperative and to detect possible evidences to long term, related to change in the position, loosening or fissures of components.
- The metallic materials, as well as, the stainless steel can interfere in the radiographies reading.
- The information listed in topics: Indications, Contra Indications, Warnings, and Precautions.
- Must instruct the patient, the medical criteria that use external supports, aid to ambulate and orthopedic appliances, designed to immobilize the fracture area and to limit the load.
- The patient must be instructed about the limitations of its implant and the dangers of excessive pressure of body over him, until there is a complete bone healing.

WARNINGS

1. Discard and do not use opened or damaged devices. Use only devices that are packaged in sealed packages and not damaged.
2. Consult the use instructions of the products used together with the fixators (ex: instrumental and wires/Schanz pins).
3. The care with this material is responsibility of qualified personal.
4. Improper sterilization of the surgical instrumental can cause prosthetic infection.
5. **Single use medical-hospital product – destroy after use.**
6. The identification of the product must be strictly observed. It is not permitted mixtures in the box provided by the manufacturer with implants and/or instrumentals of other origin or purpose.
7. The opening of packages previously sterilized must be done by medical team or nursing, qualified for this procedure.
8. The handling of the medical material must always be done with care.
9. Verify if the product is coupled and adjusted correctly.
10. Never reuse, because even without external appearance of damage, previous efforts may reduce its useful life.
11. Manufacturing date, validity term and batch number: see label.
12. Do not re-sterilize.
13. Must be respected the limit of implant resistance, which varies by type, at risk of its weakening and possible fracture of the material;
14. Never reuse an implant, even without external appearance of damage, previous efforts may reduce its useful life.
15. Single use medical-hospital product – discard after explantation. We recommend that the parts may be cut, twist of filing for its destruction, however for discard of this product, observe the local legislation.

RESTRICTIONS:

To what medical treatment of general manner may concern, all surgical technique, even when properly applied can present problems, complications and situations in which the final objective is not totally or partially achieved, and being their contra-indications always dependent upon the assistant-surgeon evaluation of the case and criteria, starting from the anatomy, local biology and systemic, the care of planning and preoperative prepare, the execution and application of perfect technique at intra operative and even the socioeconomic and cultural profile and so that there is respect and the patient cooperation the after surgery recommendations and follow-up. However, there are rules to be followed to avoid problems. Following, are listed some contra

indications although concerning (medical criteria), most often related to the implant:

- The monoplanes external fixators are not designed to support axial load, particularly in unstable or comminuted fractures, or in situations what it is subjected to constant deforming forces.
- The partial load can be admitted in situations where the fixator can be used as tension band, for this is need that the fracture, if comminuted is reconstructed anatomically, although this is not always possible. It is necessary to have the conscience that the implant will be solicited beyond from its normal capacity and if the fracture consolidation not occurs in a medium term of 3 to 4 months, can lead to failure of material, with the occurrence of break and loosening.
- In cases when there is instability for bone failure by comminution or bone loss it is recommended the use of adequate implants in the serious cases or use of autologous grafting for mild and moderate cases;
- Osteoporosis leading to loosening of the material (Schanz pins).
- Deep and superficial infections of the pins, maintaining or aggravating the infection process of soft tissues or osteomyelitis.
- The patients disproportionately large or heavy can lead to failure or breakage of the material.
- Local circulatory disease, arterial and venous insufficiencies that predisposing to the appearance of dehiscence and skin necrosis, to the appearance or maintenance of infections, problems and thromboembolic phenomena.
- Neurological disease that brings changes in the bone resistance, or neuromuscular activity that can overload the implant.
- Bone diseases quickly destructive (for example: Charcot arthroplasty, bone tumors, etc.);

Use Instructions

The fixators must be used together with parts and proper instrumental of the same manufacturer.

Application techniques vary according to the surgeon choice, which is responsible by the final choice of method, type and dimension of products to be used, as well as, the evaluation criterion of the surgery results.

The selection criterion of the type and pin size and external fixator to be used, depends on of type and local of the fracture, bone conditions and treatment to be done. These conditions are responsibility of the doctor that evaluates the patient and decides which materials must be used.

The surgeons that supervise the use of MDT products needs know perfectly the implant process and pins and placement of external fixators, as well as the handling of the instruments and components for orthopedic implants.

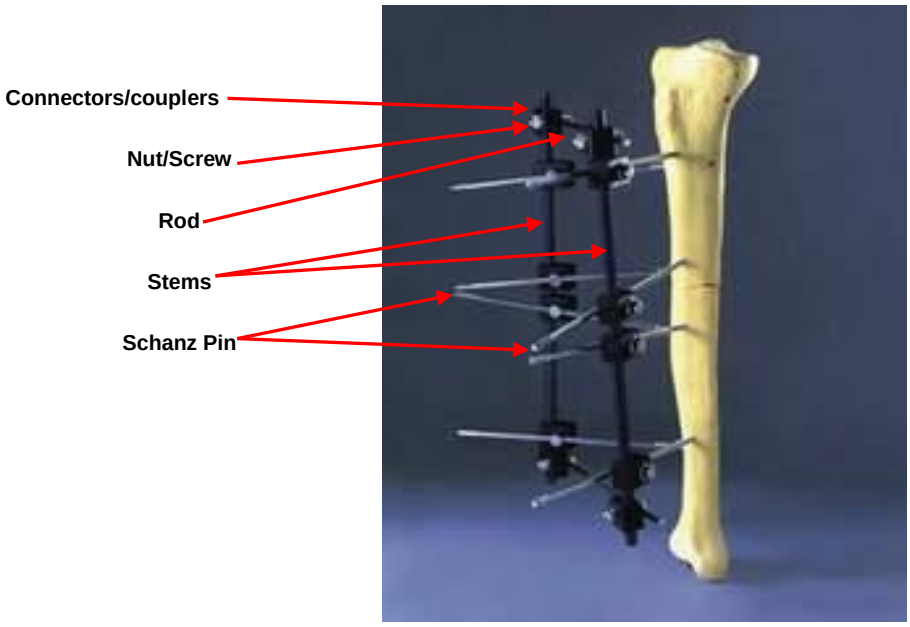
The clinical results and the durability of the implants are extremely dependents on a tridimensional align of the components, therefore being indispensable an accurate surgical technique;

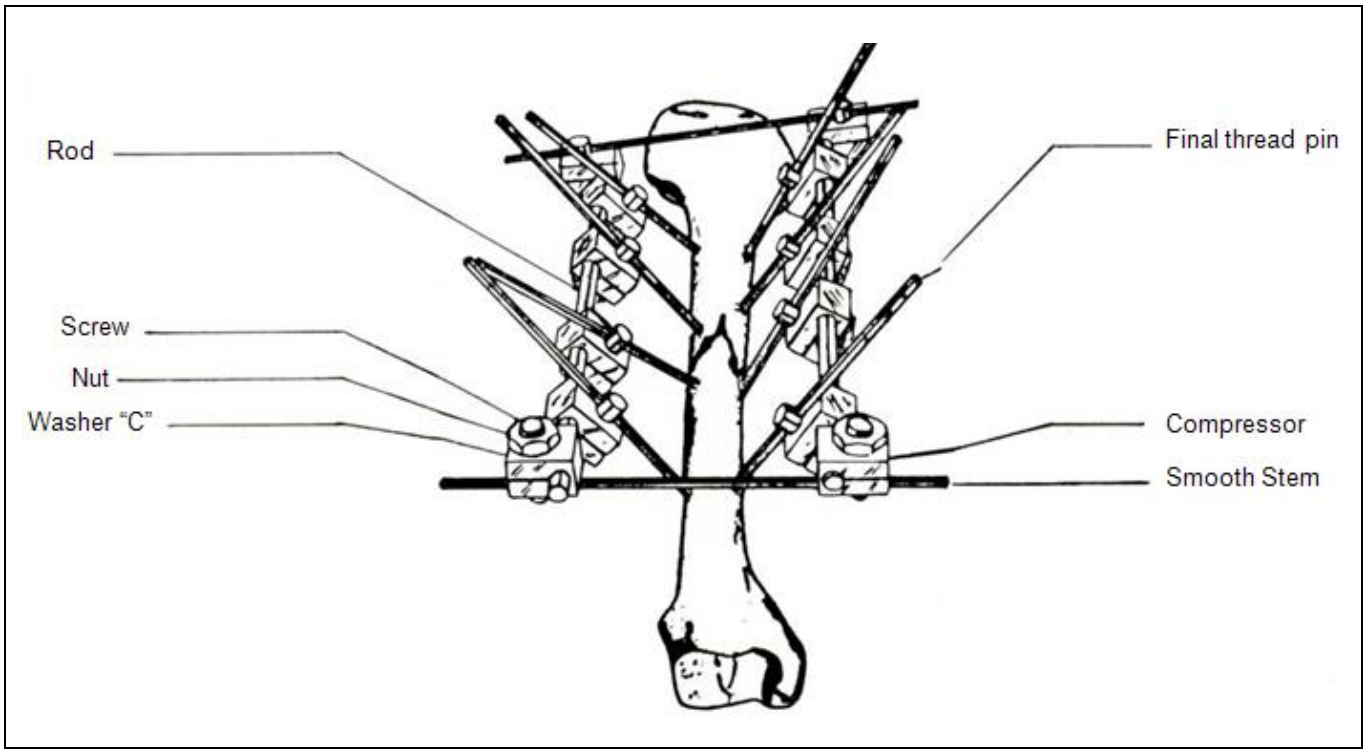
For application of the External Fixators:

Generally for application of the External fixators needs:

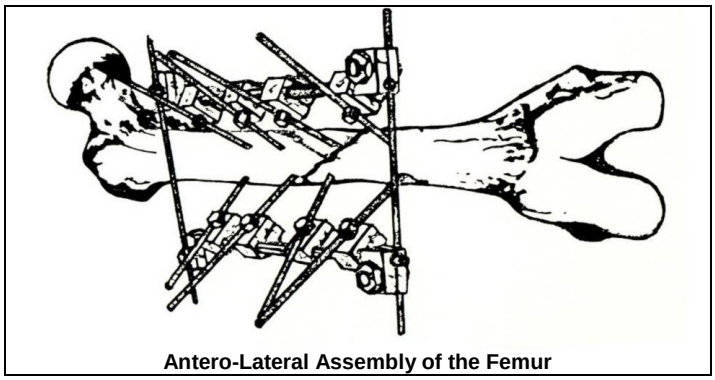
1. Fracture reduction;
2. Introduce the pins with final thread more proximal and distal (verify the bicortical anchorage);
3. Make the assembly in the bar with 4 connector's sets. Start the fracture alignment and tighten the nuts of the connectors proximal and distal;
4. Introduce the third pin using the screw hole as guide;

5. Introduce the fourth pin and tighten the system, after the final reduction of the fracture;
6. In cases that require great solicitations and stabilizations, we recommend the assembly below:

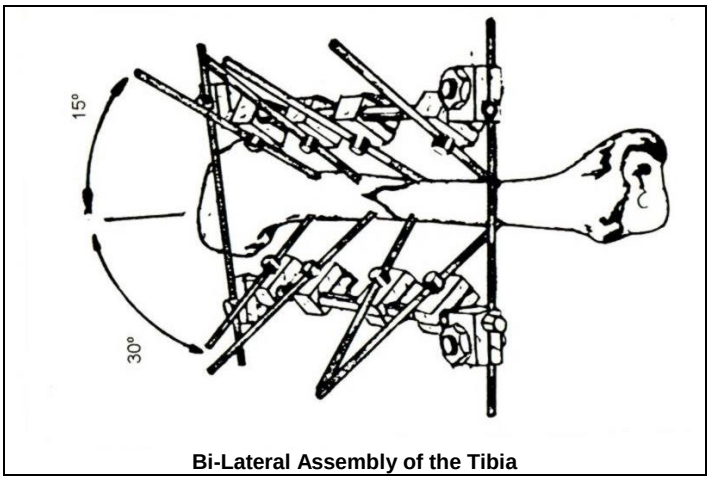




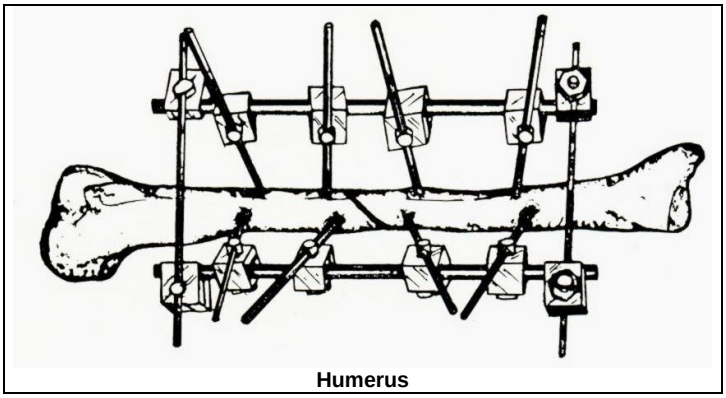
Demonstration of some possible assembly:



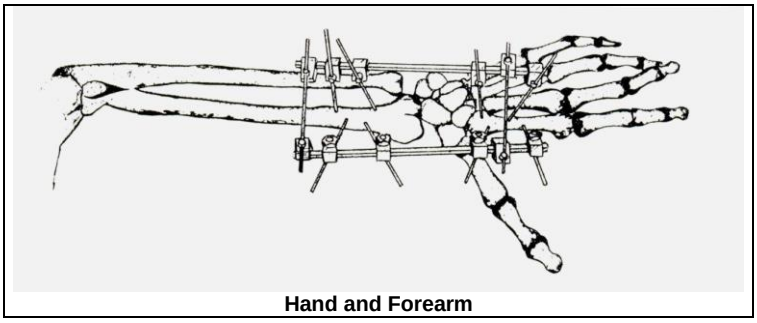
Antero-Lateral Assembly of the Femur



Bi-Lateral Assembly of the Tibia



Humerus



Hand and Forearm

Sterilization

Note: Product provided sterile, therefore, must be observed the integrity of the packaging. Do not use the product if the packaging is violated.

PRODUCT SUPPLIED STERILE – Gamma Radiation

Cleaning and Sterilization of the instrumentals

Important

Detergents with free chlorine or sodium hydroxide **must not** be used.

When the products are used for the first time, they must be removed of their package and cleaning with alcohol for medical ends at 70% + distilled water 30%.

After the cleaning, the products must be rinse with sterile distillate water and dried with cleaning cloth that does not release fibers.

Sterilization

Before the surgical use, the instrumentals must be cleaned as above described and sterilized by autoclave. The sterilization does not substitute the cleaning, and never will be achieved with dirty material.

Autoclaving is a secure sterilization process, however, if there are not controls for the operational parameters, can cause damage at the instrumental:

Humidity + High temperature + Oxygen = Corrosion = Microfissure = Crack = Break

The selected sterilization process must meet, in any case, the standard EN556, which establishes the theoretical probability of presence of microorganism vital to a maximum of 1 $x10^6$ (S.A.L. [Sterility Assurance Level] = 10^{-6}).

For cleaning and sterilization, observe the appropriate procedures. As a suggestion, use the standard ASTM F1744:1996.

The recommended sterilization cycle is:

Method	Cycle	Temperature	Exposition Time
Steam	Pre-Vacuum	132º - 135º C [270º - 275º F]	Minimum 10 minutes

Inspection

1. Inspect if the instrument presents signs of wear and damage in all handling stages;
2. If any damage is detected, consult the representative of the MDT Indústria Comércio Importação e Exportação de Implantes Ltda., for guidelines.

Risk of Contamination

The external fixators do not come in contact with the patient, but considering that the pin or implantable wire is invasive and come in contact with tissues and corporal fluids, there is a biological contamination risk and viral disease transmission, such as hepatitis, HIV and etc. Therefore, the explanted pins or wires must be treated as contaminant potentially materials.

Product Discard

Fall or crushing on hard surfaces can cause damage to the product. In the opening the package, inspect the product integrity. Do not use, if some abnormality is observed;

After removal of patient, all components of the fixator must be discarded, because these parts **must not be reused**.

The explanted implants or that are damaged by accident must be unusable for use before discard. It is recommended that the parts be cut, twist or filing for its destruction.

To discard the explanted pins, following the country legal local procedures, for dispose of contaminants potentially products.

The integrity of the packaging must be observed. The product must not be used if the packaging is violated.

Traceability

To ensure the traceability of the implanted product, and comply with the requirements of the sanitary surveillance, it is recommended that the surgeon responsible by implantation notifies the distributor with the following data regarding to the implanted product, the patient and surgery:

- Surgeon's name;
- Surgery date;
- Name of patient who received the implant;
- Code of product;
- Number of batch;

The Fixator has engraved, the following information:

- Company logo (MDT)
- Manufacturing batch

Storage:

It is recommended dry and airy place, far away of the sunbeam direct incidence.

It is cannot be stored directly on the floor (minimum height = 20 cm). They cannot stay in high shelves proximate the lamps (for not dry out or delete the package label), cannot be stored in areas where contaminant substances such as insecticides, pesticides or cleaning materials are used.

Transport:

Transport with care, avoiding falls and friction for not to cause defects at surface finish or produce internal tension concentration.

Always observe the packaging integrity.

Manufacturing date, validity term and batch number: see label.

Further Information

Manufactured and distributed by:

MDT – Indústria Comércio Importação e Exportação de Implantes SA

Address: Av. Brasil, nº. 2983 – Distrito Industrial – Rio Claro/SP – Brasil

CEP: 13505-600

Phone/ Fax: (55-19) 2111-6500

CNPJ: 01.025.974/0001-92

Technician Responsible: Miguel Lopes Monte Júnior – CREA 0601150192

ANVISA Registration Nº: 10417940054

Review: 02

Issue: September 15th, 2014.

ALERT
INSTRUCTIONS FOR USE

These INSTRUCTIONS FOR USE are not available in printed form, they are available at the website of the manufacturer www.mdt.com.br.

The INSTRUCTIONS FOR USE on the website are indexed by REGISTRATION/ CADASTRE ANVISA´s NUMBER and its TRADE NAME of the product, informed at the label of the product purchased.

All the INSTRUCTIONS FOR USE provided on the website have the identification of the revision and date of emission of the document. The user must pay attention to the correct version (revision and date of emission) of the document regarding the MANUFACTURING DATE informed at the label of the product purchased.

If it is interest to the user, the INSTRUCTIONS FOR USE may be provided in printed form, with no extra cost and the request of the same shall be held by the SAC (Customer Service Department) manufacturer, as following:

Customer Service Department:

Telephone: +55 19 2111.6500

FAX: +55 19 2111.6500

http://www.mdt.com.br

Avenida Brasil, 2983 – Distrito Industrial CEP: 13505-600 | Rio Claro – São Paulo – Brasil

Opening Hours: 8 AM to 5 PM, from Monday to Friday, except holidays.

MDTImplantes

ATTACHED

INFORMATIONS ABOUT ANCILLARY COMPONENTS

Product Code	Description
04.25.12.25080	Schanz Type Pin Ø 2,5x080 mm - Sterile
04.25.12.25002	Schanz Type Pin Ø 2,5x080 mm - Sterile (Pack 02)
04.25.12.25004	Schanz Type Pin Ø 2,5x080 mm - Sterile (Pack 04)
04.25.12.25100	Schanz Type Pin Ø 2,5x100 mm - Sterile
04.25.12.30080	Schanz Type Pin Ø 3,0x080 mm - Sterile
04.25.12.30100	Schanz Type Pin Ø 3,0x100 mm - Sterile
04.25.12.30002	Schanz Type Pin Ø 3,0x100 mm - Sterile (Pack 02)
04.25.12.30004	Schanz Type Pin Ø 3,0x100 mm - Sterile (Pack 04)
04.25.12.30006	Schanz Type Pin Ø 3,0x100 mm - Sterile (Pack 06)
04.25.12.35080	Schanz Type Pin Ø 3,5x080 mm - Sterile
04.25.12.35100	Schanz Type Pin Ø 3,5x100 mm - Sterile
04.25.12.40090	Schanz Type Pin Ø 4,0x090 mm - Sterile
04.25.12.40130	Schanz Type Pin Ø 4,0x130 mm - Sterile
04.25.12.40150	Schanz Type Pin Ø 4,0x150 mm - Sterile
04.25.12.40170	Schanz Type Pin Ø 4,0x170 mm - Sterile
04.25.12.48150	Schanz Type Pin Ø 4,8x150 mm - Sterile
04.25.12.48160	Schanz Type Pin Ø 4,8x160 mm - Sterile
04.25.12.48170	Schanz Type Pin Ø 4,8x170 mm - Sterile
04.25.12.48200	Schanz Type Pin Ø 4,8x200 mm - Sterile
04.25.12.50160	Schanz Type Pin Ø 5,0x160 mm - Sterile
04.25.12.50200	Schanz Type Pin Ø 5,0x200 mm - Sterile
04.25.11.45160	Schanz Conical Type Pin Ø 4,5x160 mm - Sterile
04.25.11.45002	Schanz Conical Type Pin Ø 4,5x160 mm - Sterile (Pack 02)
04.25.11.45004	Schanz Conical Type Pin Ø 4,5x160 mm - Sterile (Pack 04)
04.25.11.45006	Schanz Conical Type Pin Ø 4,5x160 mm - Sterile (Pack 06)
04.25.11.45008	Schanz Conical Type Pin Ø 4,5x160 mm - Sterile (Pack 08)
04.25.11.45200	Schanz Conical Type Pin Ø 4,5x200 mm - Sterile
04.25.11.48200	Schanz Conical Type Pin Ø 4,8x200 mm - Sterile
04.25.11.50200	Schanz Conical Type Pin Ø 5,0x200 mm - Sterile
04.25.11.50002	Schanz Conical Type Pin Ø 5,0x200 mm - Sterile (Pack 02)
04.25.11.50004	Schanz Conical Type Pin Ø 5,0x200 mm - Sterile (Pack 04)
04.25.11.50006	Schanz Conical Type Pin Ø 5,0x200 mm - Sterile (Pack 06)
04.25.11.50008	Schanz Conical Type Pin Ø 5,0x200 mm - Sterile (Pack 08)