MANUAL
SURGICAL
DYNA HELIX IMPLANTS

Your comfort is our goal!
Dyna Dental Engineering BV, Halsteren (Bergen op Zoom) the Netherlands has implemented and maintains a quality management system for the following field of activities: development, manufacturer and sale of dental implants and medical devices for dental restorations. Dyna Dental Engineering B.V. is ISO 13485 certified.

Warning The descriptions given in this enclosure are insufficient to allow immediate use of all Dyna Implant Systems. Guidance in the handling of the Dyna Helix® ART Octalock® Implant System and Dyna (Octalock®) Implant System by an experienced operator is strongly recommended. Dyna Helix® ART Octalock® and Dyna (Octalock®) Implant Systems must only be used by properly trained dentists/doctors and in combination with original components. In case of multiple use the following dangers could occur: cross infections, damaging products and as a result their function, wrong identification of products. For more detailed information please refer to the Dyna Implant Manuals as well as Dyna Terms of Guarantee – available on request.

With the publication of this instructions for use all previous instructions for use regarding Dyna Helix® Implant system are no longer valid.

Content package
See label on packaging.

Precautions
Proper planning is essential for successful implant treatment.
Beware during implant planning that the marks on the drills for the Helix® implants are 0,25 mm higher and for the Dyna (Octalock®) push-in implants 0,75mm higher as the indicated implant length.
Improper technique can contribute to implant failure and/or bone loss; hard tissues must be treated with care.
Avoid thermal trauma to the bone; use the largest possible diameter of implants.
Use only in combination with original instruments.
Implant mobility, bone loss, infection may be the symptoms of implant failure.
Helix® Implant should be inserted with the optimum torque ranging between 25-55Ncm. Mechanical damage of the Helix® Implant can occur above a torque of 70Ncm and of latch-head instruments above a torque of 50Ncm (Then use a T.W. instrument/driver in combination with a hand-used torque wrench).
Avoid overheating during insertion of the implant.
Dyna implants must not be altered in any way.
Rotary instruments must not be used more than 20 times, or when they become damaged or dull.
In spite of special treatments for wear resistance instruments can wear after time. Change the instruments for new when there any doubt regarding the fit to prevent damaging implants, abutments, screws, etc.
In case of any doubts concerning the use of Dyna products contact Dyna Dental Engineering BV or your local dealer.

Sterilization
All Dyna implants are sterile, supplied in a double peel-pouch packaging, and intended for single use only. Other Dyna products are supplied non-sterile and must be sterilized or disinfected before clinical use, in an appropriate manner. Under no circumstances sterilize or re-sterilize implants. Do not use implants when the packaging is damaged.

Complications
Apart from the general complications associated with any oral surgery the following, related to dental implants, are the most frequent: inflammation, infection, bone loss, swelling, (chronic) pain, paresthesia, patient discomfort, tissue degeneration, bone/implant/restoration fracture, implant mobility, exfoliation, injury to adjacent anatomic structures. In case of complications follow the appropriate course of actions generally applied in oral surgery. For more details see the Dyna Implant Manuals.
Please note:
It is the user of Dyna products who is obliged to determine whether or not any products are suitable for a particular clinical situation. It is the user of Dyna products who is obliged to document in appropriate manner the products used for each patient. Dyna Dental Engineering BV disclaims any liability, express or implied and shall not be responsible for any damages arising from or in connection with any errors in professional judgment or practice in the use or installation of Dyna products. It is the users duty to study the latest developments in dental implantology as well as Dyna Implant Systems and its applications. When using our product intra-orally take proper care to prevent them from being inhaled or ingested.

Handling and Storage
Store in clean, dry, dust-free, dark room at room temperature. Do not use after expiry date indicated on the packaging.

Delivery
Federal law restricts these devices to sale by or on the order of a dentist or a physician.

Traceability of serial/lot numbers
It is the end users responsibility by law to record the serial and/or lot numbers of all products for traceability purposes. The Health Industry Bar Code (HIBC) on the label does not contain information for traceability purposes, but only the Labeler Identification Code (LIC) “EDYN” followed by the Dyna reference number. Read the human-readable interpretation of the bar code symbol printed below for verification.

Training
Dyna Dental Engineering BV arranges regular training courses for the beginning and advanced implantologists. The courses are obligatory and are meant to provide the Dyna user with practical and theoretical expertise concerning the use of Dyna Implant System.

Copyright and trademarks
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Explanation Symbols

Catalogue number, article code
Serial number
Batch code
Manufacturer
Attention, read instructions for use
Single use only – do not reuse
Sterilized in the process of gamma irradiation
Date of manufacture
Use by
Implantology today is scientifically proven to be an excellent addition to the range of dental treatment options. We rely on data and the fact is that implant systems respecting biological and physiological considerations of the oral cavity and state-of-the-art technology guarantee longterm success rate. Patients expect to be presented with the solution that represents the best quality and value. In the last years time has become an important factor influencing patients’ decision. Overall the equation is simple:

Reward Comes with a Smile!

The new Dyna Helix® implant is a milestone in developing a versatile implant system fulfilling demands of contemporary implantology. More than 20 years of experience in implant dentistry gave us the confidence to re-define our philosophy and bring into the market this unique implant system. Prosthetic components of the Octalock® implant system are compatible with Dyna HELIX® implants.
Dyna Dental Engineering b.v. has always been on the spearhead of innovative solutions in dentistry. More than 24 years ago we developed a magnetic attachment system and were able to promote it with huge success. Great ideas often come unexpectedly. Having seen the response to our product we asked ourselves if we could translate the formula to implantology. And so we entered the world of implants in 1985 with the narrowest implant at the time.

Our success is the success of our clients. We introduced unique individual adjustable abutments by means of memory metal properties, extended our implant system and recently proposed completely new prosthetic options, the press fit OCTALOCK® connection and the Instant Adjusting Bar system. This was only possible with active support from dentists and dental technicians using our products all over the world. We want to mean more to our client than be just a supplier.
Today we know: Dyna’s concept of simplified implantation technique leads to excellent and predictable results. The Dyna push-in Ha coated Implant Design did not change for 22 years and because of reliability we will probably never change it. Our systems combine flexibility, simplicity and reliability. We grew to understand biologic principles of implantology and learned to combine theoretical and practical knowledge in one. We waited a long time to introduce a screw type implant to prevent regular changes as many implant systems had to do the last ten years. Now our experience makes it possible to propose an implant system expanding the range of indications to improve single tooth prosthetics and allow, when indicated, early loading of implants. Cooperation with universities and private practitioners give us the confidence to verify our system in series of clinical tests that proved our concept to be an excellent alternative to nowadays implantology.
Osseointegration of implants depends on time and the local bone conditions: quality and quantity. Load transfer in dentulous situation stimulates support of the surrounding alveolar bone. The situation changes dramatically with the loss of teeth. Gradual and progressing bone involution results not only in bone quantity changes but it influences bone quality and general anatomical configuration of the jaws as well.

In order to overcome problems associated with bone changes one has to use different procedures to place an implant. Dyna Helix® Implant system was designed to combine versatility of only one implant type with requirements posed by various clinical situations.

Dyna Helix® implant system enables successful implant treatment even in difficult clinical situations, enabling optimal exploitation of the available bone. It can be used in combination with different surgical techniques e.g. bone splitting or osteotomy.

Bone qualities as defined by Lekholm and Zarb. Type I consist of primarily cortical bone; type II is characterized by thick cortical bone and differently sized cancellous region; type III as thin cortical part and dense cancellous portion; type IV is primarily cancellous bone of reduced density.
A longterm stable implant/bone interface is a significant clinical issue. It can be maintained only through dynamic modelling and remodelling processes of bone. These processes allow withstanding the errors inherent in clinical procedures while creating a biological interface capable of supporting clinical loads over long periods of time. High implant survival rates are observed for various anatomic regions of the oral cavity, provided that immediate stability can be ensured. In the posterior maxilla, in contrast, there is often a very thin cortex and sparse cancellous bone characterized by Lekholm and Zarb (1985) as “type IV bone”. In such bone dental implants tend to have a lower survival rate especially in the posterior Maxilla.

To ensure sufficient primary stability Dyna Helix® implants are placed using different preparation technique depending on bone quality. The Dyna Helix system is also ideal to compact the spongy bone during the implant placement, changing unfavourable conditions. The effect of our work is a versatile implant system that can be used in a very predictable way in majority of clinical situations.
The Dyna Helix® DC implant is a tripartite, modified Acid-etched Roughened Titanium (ART), cylinder screw designed to give secure mechanical fixation and load distribution in all clinical situations. It is a two-stage, screw type implant that can be used in one-stage surgery under special conditions. It allows achieving exceptional primary stability in class IV bone whereas in class I, dense cortical bone it guarantees safe and a-traumatic insertion. Dyna Helix® DC implant is based on root form titanium Dual Core with self tapping thread. The core of the implant allows for bone condensation during insertion. This adds to primary stability of implants and stimulates healing process. The rounded end of the implant makes the surgical procedures of closed sinus lift easy and atraumatic. The thread of the implant has been designed so that outer diameter of the implant remains the same whereas provides optimal cutting action. The use of the cortical reamer and pre tapping is necessary when, especially in the cortical bone, there exists the risk of overheating or creating too much stress in the surrounding bone. The lower part of the treads are designed more horizontally. Because of this design the axial forces are transferred more vertically to the alveolar bone.

Based on the new principles to prevent bone resorption the implants are totally treated with the ART surface. The biological width principle is respected by means of the V-shape connection to the abutment coined as platform switching. To increase soft tissue connection this part is acid etched. Only a two tenth of a millimetre machined polished collar gives a smooth transition to the abutment. The use of several implant diameters and all-fit abutments gives an interesting combination of simplicity and reliability.

Every implant is supplied together with the cover screw in a sterile, double peel-pouch type packaging that assures a five year shelf life.

Whenever using Dyna Helix® implants in one stage protocol, use specially designed Healing Calyx abutment octa. We advise to apply the lowest possible abutment to prevent leverage and burdening of the implant during the healing period.
The appropriate implant length and diameter are essential for successful outcome of the treatment. Each patient is individual. Dyna Helix® DC implants have been designed to accommodate different clinical situations. Narrow implants are ideal in replacing incisors or when the space between teeth has been restricted. Wide diameter implants offer possibility of achieving proper emergency profile and marginal aesthetics for molars and premolars. The array of sizes allows choosing the best suitable implant for particular clinical situation.

Dyna Helix® DC implants are available in diameters D3.2mm - D3.6mm – D4.2mm - D5.0mm and lengths L8mm– L10mm- L11.5mm - L13mm - L15mm. The choice of lengths and diameters is intended to cover the majority of clinical situations, but most of all to be reliable and user-friendly in removable and fixed prosthodontics.
Investigations carried out by numerous scientific centers all over the world, backed by histological findings have proved that in certain indications single stage implant placement is a reliable treatment option. It is clear now that osseointegration does not always depend on submerging the implant. Open transmucosal systems have, in aspect of time, microgap and certain prosthetic treatment advantages over closed mucosal systems.

The Dyna Helix® TM (Trans Mucosal) implant is based on a root form core with self-tapping thread up to the bone level area of the modified Acid-etched Roughened Titanium (ART) implant. Rough subtractive ART surface creates an optimal micromorphological formation favouring direct bone apposition, whereas, smooth transmucosal part allows using one stage protocol. Because of the sharp self cutting lower edge of the implant, the positioning in height during insertion is easier to manipulate.

Current concept of Dyna Helix® TM implant is based on solid, straight screw cylinder with a 2µm polished collar (2.8mm) extending through the soft tissue. The basic design of the Dyna Helix® TM implant corresponds with the Dyna Helix® ST implant. However without the compression zone at the upper part of the implant. This facilitates surgery for type 1 or 2 bone (as defined by Lekholm and Zarb).

The Dyna Helix® TM implants are used in combination with all existing instruments of the Dyna Helix® implant system. So during operation it is possible to choose the type of implant without opening other instrument cassettes. Because of the Dyna Octalock® design all abutments used in combination with push-in Dyna Octalock®, and Dyna Helix® implants also fit the Dyna Helix® TM implants.
Every implant is supplied together with a 1mm cover screw (84TM1) in a sterile, double peel-pouch type packaging that assures a five year shelf life. Other cover screws for the Dyna Helix® TM implants are available in three different heights 0, 2 and 3mm.

The significant difference between subgingival Dyna Helix® (ST) and Dyna Helix® TM implants is the limited application possibility of the latter, in cases where aesthetics is the primary goal. Therefore the range of the implant lengths and diameters has been optimized to meet its potential indication.

Dyna Helix® TM implants are available in diameters D3.6mm – D4.2mm and lengths L8mm– L10mm- L11.5mm- L13mm and L15mm. The implant length mentioned (also on the packaging) is the part until the polished collar, so the ART treated part. The collar is 2.8mm.
The Dyna Helix® ST implant is a modified Acid-etched Roughened Titanium (ART) dual cylinder screw type designed to give secure mechanical fixation and load distribution in most clinical situations. It is a two-stage, screw type implant that can be used in one-stage surgery under special conditions. It allows achieving sufficient primary stability and guarantees safe and atraumatic insertion. The Dyna Helix® ST implant is based on root form titanium core with self tapping thread up to the neck of the implant. Because of the sharp end of the implant the positioning in height during insertion is easier to manipulate. The thread of the implant has been designed so that outer diameter of the implant remains the same whereas provides optimal cutting action. Pre tapping is necessary when, especially in the cortical bone, there exists the risk of overheating or creating too much stress in the surrounding bone. The lower part of the treads are designed more horizontally. Because of this design the axial forces are transferred more vertically to the alveolar bone.

The absence of the compression zone at the upper part of the implant facilitates surgery for type 1 or 2 bone (as defined by Lekholm and Zarb). Based on the new principles to prevent bone resorption the implants are totally treated with the ART surface. The biological width principle is respected by means of the V-shape connection to the abutment coined as platform switching. To increase soft tissue connection this part is acid etched. Only a two tenth of a millimetre machined polished collar gives a smooth transition to the abutment.

The use of several implant diameters and all-fit abutments gives an interesting combination of simplicity and reliability.

Every implant is supplied together with the cover screw in a sterile, double peel-pouch type packaging that assures a five year shelf life.

Whenever using Dyna Helix® ST implants in one stage protocol, use specially designed Healing Calyx abutment octa. We advise to apply the lowest possible abutment to prevent leverage and burdening of the implant during the healing period.
The appropriate implant length and diameter are essential for successful outcome of the treatment. Each patient is individual. Dyna Helix® implants have been designed to accommodate different clinical situations. Narrow implants are ideal in replacing incisors or when the space between teeth has been restricted. Wide diameter implants offer possibility of achieving proper emergency profile and marginal aesthetics for molars and premolars. The array of sizes allows choosing the best suitable implant for particular clinical situation.

Dyna Helix® ST implants are available in diameters D3.6mm – D4.2mm - D5.0mm and lengths L8mm– L10mm- L11.5mm - L13mm - L15mm. The choice of lengths and diameters is intended to cover the majority of clinical situations, but most of all to be reliable and user-friendly in removable and fixed prosthodontics.
Although very good clinical results have been reported with the use of osseointegrated implants the long term success of implants may be influenced by many factors. The insertion of an implant is always associated with an inflammatory response produced by surgical trauma. Whether this reaction will decrease or persist depends on different features such as the material selected, implant site, the loads put on it. The prerequisite for a solid implant-bone interface and developing an equilibrium between biological tissues and a fixture, after its insertion, is the surface of the implant. Surface properties influence biological responses at different level of resolution and sophistication. Titanium surface alone can be regarded merely as a permissive surface for gradual bone mineralization, but not as a bone-inducing surface. It has been well established that surface properties such as topography and roughness, oxide thickness and microstructure, oxide composition, impurity levels may influence the biologic response to the inserted fixture.
Porous and rough surfaces proved to be superior to smooth surfaces. They enhance secretion of specific bone growth factors and provide synthesis of a more bone-specific matrix. Biomechanical measurements of the interfacial strength of an implant following healing are dependent on surface roughness. Pull-out strength is correlated with two-dimensional measurements (Ra) of surface roughness. Surface roughness must be, therefore, optimized and the implant architectural design incorporate biomechanically defined macroscopic and microscopic features.

Research shows that best results are realized with a micro/macro roughness varying between 4 and 16 microns. Dyna Helix® ART implants comply to the above mentioned characteristics by having a Ra value between 1.2 and 1.5 and a micro/macro roughness between 4 and 14 micron. These characteristics are realized by means of a blasting process with different sizes HA particles. An acid etched washing process ensures a clean surface with an optimal morphology.
Octalock® connection has been designed to achieve 0 degree rotation in the clinical use, as well as to enable easy transfer of the situation in the patients mouth to the lab model. The use of the octagon and conical connection has been carefully chosen. Any antirotation is of no use when there exists a significant freedom of movement between an abutment and an implant. Most of the systems present on the market, nowadays, have a rotational freedom of 4 to 12 degrees. This may influence clinical performance of any prosthetic construction and prevents an accurate transfer of the implant position intra orally to the model. Only a 0 degree rotational freedom can guarantee the best results, as only then the implant analogue position in the model will be the same as in the mouth. Dyna Octalock® connection has been designed to make the transfer procedure as accurate as possible.

The Dyna Octalock® press-fit connection has a 0 degree rotation. This is realized by slightly tapered walls of the external abutment octagon. Due to this modification by means of micro deformation, abutments are prevented from any rotation once seated and screwed in the implant with a torque of 30Ncm (Note: Extension abutments must be placed with 35 Ncm). This 0 degree rotational freedom results in a perfect, trouble-free transfer from mouth to the model and vice versa. This means in terms of practical usage, no more problems with taking impressions. The fixed prosthesis is made in the lab by using a titanium analogue on the same abutment as the one placed later in the mouth of the patient, and therefore, it will always have a perfect fit.
The conical octagon in combination with the conical upperpart realizes a press-fit connection with a perfect seal to the outside environment. Choosing two different angulations always results in an almost 100% closed connection between the implant and the abutment. At the same time this conical connection provides a stable fit in the implant, which makes the whole construction very solid and generates the ideal distribution of the applied forces. Fatigue tests proved that this design, even after more than 50 million cycles (10 x ISO norm) no fracture accrued. The conical shape of the universal fixation screw prevents it from loosening and fracturing if tightened with 30 Ncm. This provides high stability and makes the whole system self centring. Due to friction forces, only a small amount of the applied torque will be transferred to the thread of the screw resulting in a considerable tension relaxation. This, in combination with the conical connection, makes it almost impossible to overload, and break the screw during normal physiological use.
The internal octagon has been introduced for several reasons:

- Increase of the implant wall strength (comparing with the hexagon design) – allowing for the same diameter of the fixating screw and the hexagon/octagon wall, the minimal thickness of the implant wall for hexagon design is about 20-25% thinner than for analogue situation with octagon design.

- Simplicity - each abutment fits all implant diameters using just one universal fixation screw.

- Improved aesthetics – the octa has been chosen to be internal instead of external so that no space is lost from the connection upwards. In this way it is possible to use a very low abutment in all those situations where the gingiva thickness is insufficient, so that no compromise in aesthetics has to be made.

- Security – the connection joins the best features of the other renowned implants systems in one, giving the security of equal force distribution, break protection and the best aesthetics.

- Function - in case an angled abutment is indicated, the position of the implant can be adjusted per 45°. Using a hexagon this is 60° and with a triangle just 120°. This can affect the esthetics concerning the height of the position of the implant (CEG).
Dyna packaging has been specially designed to simplify the system use. Internal vial covered by double peel pouch packaging forms a very secure and sterile barrier (5 years). The titanium implant holder has been especially designed to allow visual control of all implants. Dyna delivery system has been designed to provide secure, easy and safe removal of the implant from the packaging and delivery to the preparation site. By means of the Dyna “Octa tools”, but without a “mounting device”, the implants can easily be placed into the implant site either with contra angle or manually with the Dyna torq wrench. Dyna packaging meets all applicable international regulations concerning medical devices. Our products carry CE mark approved by a Dutch notified body. The implant packaging is Gamma sterilized, has a clear marking of length and diameter on the label, a transparent vial for direct content identification and 2 removable stickers with article and serial number for documentation.

The packaging is foreseen with a colour coding:
- white → 3.2mm
- red → 3.6mm
- blue → 4.2mm
- yellow → 5.0mm

Implant packaging advantages:
- Gamma sterilized, double peel-pouch/vial packaging.
- Clear marking of length and diameter on the label.
- Transparent vial for direct content identification.
- Two removable stickers with article and serial number for documentation.
- Sterile for 5 years
- No mounting device
- Placing the implant by contra angle or manually
Dentists who plan to restore their patients with dental implants should always take into consideration all factors that influence the final result. Successful implant treatment requires the coordinated efforts of several dental professionals:

- the restorative dentist
- the surgeon/periodontist
- the denturist
- the dental technician
- the dental hygienist

By cooperating with one another, these individuals are able to develop an appropriate treatment plan, most suitable for the particular patient. This provides equilibrium between different aspects of implant rehabilitation. In addition, the team approach ensures that treatment is complete, guarding against omission any important technical/clinical considerations.
Planning is one of the most important factors in successful rehabilitation of edentulous or partially edentulous patients with dental implants. Full success depends on a balanced judgement of patient’s expectations on the one hand, and surgical and prosthetic possibilities on the other.

The evaluation of a patient as a suitable candidate for implants should follow the same basic format as the standard patient evaluation, although some areas require additional emphasis and attention. In particular, the patient’s medical history, which may reveal a number of conditions that complicate or even contra-indicate implant therapy. The following aspects are relevant when examining a patient as a prospective recipient of dental implants:

1. Initial consultation
2. Medical examination
3. Local conditions evaluation
4. General aspects
5. Psychic status

Before selecting the most suitable type of implant restoration, the practitioner should review and be guided by the patient’s previous dental history. It is also vital to evaluate the patient’s chief complaint, as it may have an equal bearing on treatment outcome. The following should be looked upon:

3D imaging is one of the most advanced planning techniques. NewTom software enables simple visualisation of the implant sites.
1 surgical criteria
   Intraoral inspection
   X-ray examination

2 prosthetic criteria
   Models analysing
   Diagnostic set-up in wax.

The result of the pre-operative planning, for each case, should be clear treatment concept including number and type of implant to be used, type of prosthetic construction, schedule of treatment visits and costs draft.

Long-term success of an implant treatment can be directly related to oral hygiene. Potential implant candidates should establish an adequate oral hygiene regimen prior to any implant surgery. Patient should be instructed on effective tools and techniques used to ensure long-term maintenance of the implants. The patient must also be advised about the necessity of periodical visits for professional cleansings and evaluation.

PLEASE NOTE:
For more detailed description of contra/indications and planning of the implant treatment see the latest Dyna General Implant Manual (quality nr. 1601-01), which can be downloaded from our website www.dynadental.com.

Improper planning, faults in professional judgement, infection can contribute to implant failure and/or bone loss; hard tissues must be treated with care.

Drilling guides are in most cases a necessity.
Instruments manufactured by Dyna Dental Engineering b.v. are designed to be simple and universal. Only a limited number of instruments are sufficient to perform surgery and prosthetics. The surgical instruments for all Dyna Helix® implant systems are logically organized in a sequence oriented tray. Several instruments have indicative depth markings (Parallel / depth gauges, drills, octa drivers, tapers, reamers and the cassette). Selection of drills corresponding with the diameters and lengths of implants enables smooth and precise preparation of the implant bed in a time-saving and possibly atraumatic manner.

The positions of the diameter dependent drills and instruments are colour coded.

- **White** Ø 3.2mm
- **Red** Ø 3.6mm
- **Blue** Ø 4.2mm
- **Yellow** Ø 5.0mm

Remaining positions are coloured grey. Open positions can be used for your own preference. Diameter dependent drills and instruments are marked. For verification of the length on the drills there is also a lasermarking on the inside of the cover. Also the positions and article numbers of the products are shown there for comfort of the assistants.

Dyna’s surgical tray has a small size with length 18cm, width 14.5cm and height of 4.5cm which makes it extremely storage-effective. The tray is made out of surgical stainless steel and fits in almost all autoclaves.

The cover of the cassette can easily be removed (push aside) so more space on the operation table can be created.

All instruments are held securely in place providing user-friendly unit during manipulation, transport and sterilization.

All instruments must be regularly checked by the user to see that they are working properly. In case of doubt replace instruments immediately.

Please note: use only original Dyna Instruments and drills
All instruments, drills, abutments, supra-structures and construction parts are packaged under non-sterile conditions and must be cleaned and sterilised before use. All metal materials can be sterilised with damp heat in the autoclave (e.g. at 134°C with a minimum holding time of 3 minutes, or 121°C/15 minutes minimum holding time). Always follow the instructions of your autoclave.

**General**

Only properly sterilized or single-use instruments may be used in patient treatment. Adequate asepsis, infection and hazard control shall be provided according to the infection control guidelines for preventing transmission of infectious diseases, issued by the designated Authorities. Protection cloths and gloves must be worn in performing and/or assisting in all cleaning, disinfection and sterilization procedures.

All Dyna surgical instruments, cassettes and silicone holders may be disinfected and/or sterilized in any approved disinfection/sterilization systems present on the market. Instruments should be handled as though contaminated until processed through the sterilization cycle.
Please note
• instruments consisting of two or more parts must be disassembled before cleaning
• regarding the Dyna Torque wrench we refer to the enclosure
• storage of Dyna instruments and drills in physiologic saline solution is not allowed
• do not place dissimilar metals (stainless steel, copper, chrome plated, etc.) in the same cleaning cycle
• before sterilization cycle be sure to perform proper instruments’ maintenance, including e.g. lubrication (with surgical lubricants)
• exchange dull or defective drills/instruments
• do not overload the autoclave chamber
• never lock an instrument during sterilization processing
• always follow manufacturer’s instructions on cleaning devices

Sterilisation procedure of Dyna cassettes, drills and instruments
1. All instruments should be submitted for sterilization before the first, or promptly following, use in patient care.
2. Prior to being sterilized, all instruments must be cleaned and/or disinfected. If possible, to remove any (organic and inorganic) debris, instruments should be rinsed under running water, immediately after the surgery. Otherwise they should be submerged either in a solution of water and neutral pH (7) detergent or disinfection/ enzymatic cleaner solution (please follow the manufacturer’s indications for use) until they can be cleaned.
3. Dyna internally irrigated drills must be cleaned with the cleaning wire (art. nr. 5474) in combination with a solution of water and neutral pH (7) detergent or disinfection/ enzymatic cleaner solution (please follow the manufacturer’s indications for use). Debris can be removed from an instrument either by scrubbing (plastic brush) the instrument manually with a surfactant or detergent and water or by using automated equipment (e.g., ultrasonic cleaner, washer-disinfector) and chemical agents. All products used must be approved by the designated Authorities.
4. Ultrasonic or mechanical cleaning should be used whenever feasible instead of cleaning by hand. Instruments, parts and drills must not come into contact with each other, to prevent damage.
5. After ultrasonic cleaning, rinse instruments with distilled water (minimal 3x) to remove (ultrasonic) cleaning solutions and dry immediately. Internally irrigated drills must be purged with dry air (oil and water free).
6. Place all dry instruments and drills in the Dyna cassette (see inside of the lid).
7. All surgical instruments, parts and drills must be sterilised after cleaning. Vapour sterilization (autoclave) is recommended according to the norm EN 554 (Specified sterilization conditions shall be based on an established time/temperature relationship for the specific process e.g. 121°C for a minimum holding time of 15 min. as recommended by the European Pharmacopoeia or 134°C with a minimum holding time of 3 minutes. Chemical sterilization can (chemoclave) affect the quality of the product.
8. After sterilization, dry instruments may be stored in their sealed packages in a clean and dry environment, until they are used in treatment. The packaging of all sterilized instruments, parts and drills should be labelled with the date of sterilization and expiry date of the sterilization process. In any doubt, the instruments should be submitted for re-sterilization prior to use in patient care.

Dyna Dental Engineering BV recommends reading additional information on infection control and management of hazardous materials in dental practice available on the market.
Bone preparation is one of the most important factors determining successful implantation. It must be done precisely and atraumatically. Implant site determines implant position and its angulation, therefore, defines the final, prosthetic outcome of the treatment. Successful rehabilitation of edentulous or partially edentulous patients relies on the ability to place implants both in the prosthodontically and surgically favourable position.

The implant site must be prepared beginning with the pilot drill to the final spiral drill, following standardized sequence of drillings and sufficient cooling. Depending on the situation longer (anterior) or shorter (posterior) drills may be used. All drills are marked by laser for easier identification of the preparation depth. The markings correspond with the following lengths of implants: L: 8, 10, 11.5, 13, and 15mm. The top marking of the long spiral drills represents a length of 17mm. Additionally all spiral drills, on their shafts, have numeric markings of the drill diameter. The Dyna drills are externally irrigated, manufactured from surgical stainless steel. They are tapered and have two cutting edges for effective preparation of the implant site.

Dyna rotary instruments have been designed to achieve optimal cutting efficiency and ensure atraumatic and exact preparation.

Please note:
Replace dull drills immediately. In general drills may not be used more than 20 times.
After reflecting mucosal flaps and periosteum the shape of the bone can be properly judged, eventual sharp ridges are removed.

Bone preparation begins with marking the implant site with the round bone cutter. Using the drilling guide (recommended), initial preparation is made with the pilot drill. The initial preparation establishes the axial alignment of the implant. The depth of the preparation should be determined before operation but it is possible and advisable to change it if the existing situation allows for, or demands using a longer or shorter implant. To facilitate insertion and guiding of the next larger drill the Lindeman fraise can be used to widen the cortical bone and if required slightly change the alignment of the preparation.

Enlarging of the site depends on the diameter of the implant to be inserted. Drills are used in the standardized sequence until desired diameter is reached. The markings on drills allow to prepare the site to the exact depth corresponding with the implants’ length (markings must be fully covered beneath the bone). All preparations should be done under excessive cooling (preventing possible thermal trauma) with sterile saline solution that additionally may be cooled before operation. To facilitate bone chip removal preparations should be done in a pump-up-and-down movement with moderate pressure force.
The recommended speed for the implant site preparation with Dyna drills and cortical reamers is 800 rpm as, otherwise, there is a risk of overheating the bone. It is however recommended to decrease the preparation speed by 150/200 rpm each time the drill is changed to a wider one.

We recommend using bone collector in case autogenous bone was needed to augment or fill any bone deficiencies.

The minimum buccal-lingual thickness of osseous tissue, required to successfully place an implant, is 5.0 mm. Often in order to achieve demanded 5.0 mm “flat” base, either the anterior ridge crest peak must be removed (which effectively lowers the level at which the implants are placed), or a bone graft must be considered.

Prior to selecting implant sites, the osseous tissues should be evaluated with appropriate radiographic studies such as panoramic x-rays, or CT scans.

When using particular implants the minimal transversal thickness of the bone after removing inappropriate structures should be as follows:

<table>
<thead>
<tr>
<th>Implant diameter</th>
<th>Transversal thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2 mm</td>
<td>&gt;5.2 mm</td>
</tr>
<tr>
<td>3.6 mm</td>
<td>&gt;5.6 mm</td>
</tr>
<tr>
<td>4.2 mm</td>
<td>&gt;6.2 mm</td>
</tr>
<tr>
<td>5.0 mm</td>
<td>&gt;7.0 mm</td>
</tr>
</tbody>
</table>

In cases were the bone is of very low density, instead of enlarging the initial preparation with drills, it is recommendable to compact with osteotomes. (please see Dyna courses plan to know more about this technique)

Drills are available in a short and long version
The presurgical evaluation of implant patients is the first step to avoid interferences between prospective positions of implants, optimize the ideal fixture position and distribute the implants so that they are optimally arranged. However, it is often seen intraoperatively that anatomical situation is different than expected. Dyna parallel/depth gauge instruments enable simple and quick verification of the prepared site. They should be used, similarly to surgical templates, to verify the position and angulation of osteotomies so that the coronal extension would fit within the chosen prosthetic window.

Dyna parallel/depth gauge instruments are made of titanium and are available in matching diameters (2.0, 3.2, 3.6, 4.2 and 5.0mm). They have been provided with depth markings complementing all implants lengths (8mm, 10mm, 11.5mm, 13mm, 15mm). The 17mm marking is made only for the event that it could be possible to introduce a 17mm implant in the future.
In order to be handled easily Dyna parallel/depth gauge instruments have been provided with 11mm handle. The osteotomy part has the same length for all instruments.

Dyna parallel/depth gauge instruments give excellent orientation during implant placement.

Additionally, they can also be used as try-in implants when assessing the extraction socket and/or soft tissues during immediate placement.

All instruments have been provided with laser markings for easy identification of length and diameter.
Once the implant site has been widened to the desired diameter its cortical part has to be modified by the cortical reamer to achieve correct insertion of the Dyna Helix® ART. DO NOT USE THE CORTICAL REAMER FOR DYNA HELIX® ST AND TM IMPLANTS!.

The cortical modification enables atraumatic insertion of the implant without exerting too high forces on the marginal tissues but allows achieving satisfactory primary stability in various bone types.

Please note:
DO NOT USE CORTICAL REAMERS FOR DYNA HELIX® TM AND ST IMPLANTS!
Replace dull cortical reamers immediately.
In general cortical reamers may not be used more than 20 times.

Use the markings on the cortical reamer depending on the implant length. There is a marking for 8mm implants, 10mm implants and implants ≥ 11.5mm.
Although Dyna Helix® implants are self-tapping implants in some situations of high density bone it is recommendable to tap the implant site before introducing the implant. In cases with low density bone, it is not required. In order to tap the implant site select the tapping instrument corresponding with the final diameter of the implant. Mount it onto the surgical handpiece or the shank adaptor torq wrench (5084S) and prepare, under cooling, the thread for Helix implants. The recommended speed for the implant site preparation is maximum 30 rpm. The instrument should reach the bottom of the implant site*. All preparations should be done under excessive cooling (preventing possible thermal trauma) with sterile saline solution that additionally may be cooled before operation.

*This is not performed in case of a sinus floor elevation.

Please note:
Replace dull tapping instruments immediately.
In general tapping instruments may not be used more than 20 times.
Once the implant site has been prepared it is ready to receive implants. The Dyna parallel and depth instruments are used to control the preparation. To remove any debris the implant site must be carefully cleaned with sterile saline solution. The entrance of the preparation is controlled and adjusted if necessary.

The packaging clearly indicates the type of implant, diameter and length. The non-sterile assistant removes the first peel-pouch packaging. Secondly the assistant removes the vial from the peel-pouch packaging and slides it onto the surgical table. The 3 labels on the packaging should be kept for documentation. The closing cap is removed from the vial and the Octa driver is inserted into the implant with a slight pressure. The tapered octagon on the Octa driver assures the press-fit connection with the implant. This connection obsoletes the use of the special mounting device resulting in better visual control during implant insertion.

**Warning: Only use the Octa tools! (see page 38)**

The Dyna Hex driver also fits into the implant but will completely damage the internal thread.

The assembly can be securely removed and introduced into the receptor site. Care should be taken not to contaminate the implant. (The implant may only have contact with the bone and the blood of the patient.) Do not use cooling during implant insertion!

The implant is slowly threaded into its final position either with torque wrench or contra-angle handpiece at a maximum speed of 30 rpm. The machine polished implant collar should be positioned under the crest.

The minimal insertion torque for secure primary stabilisation should be greater than 25Ncm. If the torque is higher than 50Ncm the implant should be threaded into place manually using the torque wrench in combination with an OCTA driver T.W. (no latch-head!). If the torquing force exceeds 60Ncm, there is a risk of damaging the bone (including overheating).

**In case of using the angled abutment, a try-in angled abutment 0 or 1mm is available to determine the position of the octa in relation to the angulated abutment (see page 38).**

The seating instrument is disconnected from the implant and the cover screw threaded. The Dyna Helix® cover screw is delivered sterile, together with the implant, in the silicone stopper of the inner vial. The screw head is 0.35 mm high. The cover screw should be tightened with the Dyna Hex driver with minimum 15Ncm. Helix® cover screws provide an excellent seal and cover during healing.
Please note:

1. Never overforce the implant into the site, it may lead to destroying the implant itself and/or bone necrosis. The torquing force must not exceed 60Ncm.

2. Always stick to the standardized site preparation protocol:
   - sequence of drills,
   - intermittent drilling technique,
   - avoidance of excessive force during preparation,
   - use of sharp drills, reamers and tapping instruments (maximum 20 times per instrument depending on bone quality)
   - excessive cooling with chilled saline
   - adequate rational speed

3. Never touch the implant by hand. Avoid contaminating the implant with substances other than the blood and bone of the patient.

4. Never and in no way sterilize or re-sterilize the implant yourself neither with or without the packaging. An implant taken out only of its outer pouch can be stored, but not more than one month, in a clean and sterile place.

5. Prevent perforating or destroying vital anatomical structures.

6. Place the implants in the most favourable position (possibly parallel to one another and axial to bite forces). When placing more than two implants for fixed constructions do not position them in one straight line, and if this is not possible try to use different diameters. For the overdentures try placing the implants following the curvature of the alveolar ridge. Remember about the minimal distance from one another, type of prosthetic construction. The depth of placing should include consideration of biological width and possible initial bone resorption – which influences the papilla formation and the final aesthetic result.

7. Always thread and tighten the covering screw with the hex screwdriver before suturing the flap.

Manufacturer notice

Described technique may be modified according to the particular situation and treatment plan. It is the user of Dyna products who is obliged to determine whether or not any product or technique are suitable for a particular clinical situation. Dyna Dental Engineering b.v. disclaims any liability, express or implied and shall not be responsible for any damages arising from or in connection with any errors in professional judgement or practice in the use of installation of Dyna products. It is the users duty to study the latest developments in dental implantology as well as Dyna (Octalock® Helix®) Implant System and its applications. When using our product intraorally take proper care to prevent them to be inhaled or ingested.
PLEASE NOTE
When using Dyna Helix® TM implants in one-stage procedure, supracrestal incision with or without relieving incisions is the most recommended for preparing the mucoperiosteal flap. Dyna Helix® TM implants are placed with the same set of instruments used for Dyna Helix implants.
The surgical placement of Dyna Helix® TM implants is carried out under local anesthesia. Long acting agent is recommended.

Once the implant site has been prepared it is ready to receive implants. The Dyna parallel and depth instruments are used to control the preparation. To remove any debris the implant site must be carefully cleaned with sterile saline solution. The entrance of the preparation is controlled and adjusted if necessary.

The packaging clearly indicates the type of implant, diameter and length. The non-sterile assistant removes the first peel-pouch packaging. Secondly the assistant removes the vial from the peel-pouch packaging and slides it onto the surgical table. The 3 labels on the packaging should be kept for documentation. The closing cap is removed from the vial and the Octa driver is inserted into the implant with a slight pressure. The tapered octagon on the Octa driver assures the press-fit connection with the implant. This connection obsoletes the use of the special mounting device resulting in better visual control during implant insertion.

**Warning: Only use the Octa tools! (see page 38)**
The Dyna Hex driver also fits into the implant but will completely damage the internal thread.

The assembly can be securely removed and introduced into the receptor site. Care should be taken not to contaminate the implant. (The implant may only have contact with the bone and the blood of the patient.) Do not use cooling during implant insertion!

The implant is slowly threaded into its final position either with torque wrench or contra-angle handpiece at a maximum speed of 30 rpm. The implant should be placed so that the machine polished collar will be positioned above the crest. However in some situations (e.g. to minimize the height above gingiva) the polished part of the Dyna Helix® TM implant may be placed slightly under the crest.
The minimal insertion torque for secure primary stabilisation should be greater than 35Ncm. If the torque is higher than 50Ncm the implant should be threaded into place manually using the torque wrench in combination with an OCTA driver T.W. (no latch-head!). If torquing force exceeds 60Ncm, there is a risk of damaging the bone (including overheating).

**In case of using the angled abutment, a try-in angled abutment 0 or 1mm is available to determine the position of the octa in relation to the angulated abutment.**

The seating instrument is disconnected from the implant and the standard 1mm or the 0, 2 or 3mm cover screw threaded with a minimum of 15Ncm.

The Dyna Helix® TM cover screw is delivered sterile, together with the implant, in the silicone stopper of the inner vial. The 0, 2 and 3mm cover screws are not delivered sterile!

**PLEASE NOTE:**
Trans mucosal implants may unwillingly be (over)loaded when providing the patient with immediate restorations. This must be avoided when biomechanical criteria for immediate loading are not met. When using the Dyna Helix® TM implants prevent loading minimally 8 to 10 weeks depending on the patients situation. If possible restrain the denture from the patient the first 14 days after implantation. Always create sufficient space in the denture around and above the cover screws to prevent loading.

Dyna Helix® TM implants are available in diameters D3.6mm - D4.2mm and lengths L8mm - L10mm - L11.5mm - L13mm and L15mm. The implant length mentioned (also on the packaging) is the part until the polished collar, so the ART treated part. The collar is 2.8mm.

Including standard cover screw 84TM1
The DYNA Torque Wrench is a device for determining the torque applied to Dyna implants or prosthetic abutments, during seating. The wrench is supplied with a torque scale of max. 70Ncm and delivered together with 2 rotor bits. The rotor bit ISO1797/shank (art.no. C8381) is used for all drills and instruments with latch head connection. The rotor bit 4x4mm square (art.no. C8521) is used for all instruments with a T.W. connection.

The DYNA Torque Wrench is made of stainless steel. An arrow, and the words IN/OUT on the ratchet head indicate the rotation direction.

When using the Dyna Torque Wrenches keep your finger behind the part with the torq markings. See the Torque Wrench enclosure for further instructions.

Using the torque wrench to seat the implants gives the operator unique sense of feeling of the insertion resistance. It allows much sensitive primary stabilization assessment.

**Note:**
1. Mechanical damage of latch-head instruments can occur above a torque of 50Ncm. Then use a T.W. instrument/driver in combination with the torque wrench in combination with the rotor bit 4x4mm square.
2. The choice of the torque in particular case should include recommendations given by Dyna as well as the data from the literature and actual clinical situation.
3. Read enclosure carefully for intended use, cleaning and sterilisation process.
The Dyna hexagonal screwdrivers are instruments ready to be used with the Dyna torque wrench. Due to its shape, additionally it can be easily manipulated.

They have been designed for screwing in and out of the particular elements of the Dyna Implant System. The single slot driver is being used for screwing in and out all types of extension abutments.

To ensure problem free functioning, the hexdriver should be adequately disinfected, cleaned and checked before every use.

The hexagonal screwdriver can be ordered in different versions (short, standard, long). The rotor bit 4x4mm square (art.no. C8521) can be used in combination with the screwdriver to have more grip using it manually.

**NOTE: (Dyna instruments)**
- Clean directly after use to prevent drying of any debris on the instruments.
- Carefully remove any organic remains.
- Only use disinfectants intended for stainless steel.
- When using ultrasonic cleaners follow the instructions given by the producer.
- Try to prevent direct contact with other instruments (damage) if cleaned mechanically.
- Store only dry instruments.
- Check instruments visually for any damage or rust before and after sterilization. If necessary replace it.
- Always sterilize instruments after cleaning or disinfecting.
- Do not clean, disinfect or sterilize instruments connected with other elements. Always dismantle the parts before.
The DYNA Sulcus Reamer T.W. is a specially designed device for shaping supraimplant part of the bone crest, before abutment tightening. A special shape of the cutting part matches the shape of the transmucosal part of Dyna abutments. The device can only be applied manually. It guarantees secure connection between the implant and all Dyna Octalock abutments, therefore preventing them from loosening or breaking.

It is not uncommon, especially when placing the implants subcristally, that bone overgrows the upper part of the implant, reaching the closing screw. When unthreading the closing screw overhanging bone may prevent proper abutment connection. Using the Dyna Sulcus Reamer T.W. allows minimally invasive shaping the supraimplant part of the bone and proper abutment connection.
It is recommended to use the Dyna Sulcus Reamer T.W. always before connecting the abutment the first time. Especially during the second surgical stage but also when using the Dyna Helix® implant in one-stage procedure.

**Note:**
- insert the guiding part of the sulcus reamer into the implant carefully in order not to damage the internal octagon
- never overforce the instrument into the implant
Titanium healing abutments are used for shaping the mucosa during the healing process and are for single use. Different types can be chosen depending on the type of construction to be made. By means of the markings, the height of the definitive abutment can easily be determined.

The standard healing abutment ø 4mm has a total height of 4 or 6mm. They both have height markings on 2mm and the largest one also has a height marking on 4mm.

Dyna Helix® implants are primarily designed for 2-phase surgery. However in certain situations, when all indications are met, 1-phase surgery can be performed. For these situations Dyna has specially designed cup-shaped healing abutments which makes suturing of the mucosa under the top of the abutment possible. These abutments are available in the heights 3.5mm, 4.5mm and 5.5mm. The lowest possible abutment can be chosen because suturing under the top of the abutment is possible. In this way leverage and burdening of the implant during the healing period is prevented.

The healing abutments for fixed constructions ø 5mm are available in the heights 2mm, 4mm and 6mm. Height markings are shown on 2, 3 and 4mm. The highest healing abutment is 6mm. The Healing abutment ø 6mm only has one marking at 3mm and is used for preparing the sulcus for the Dyna Angled and Straight XL abutments.


General Terms of Delivery and Payment
Dyna Dental Engineering B.V., KORENBEURSSTRAAT 26, 4851 TX Halden, the Netherlands

Article I - Definitions and Applicability
1. In these terms, the following definitions apply:
   a. Dyna Dental Engineering B.V. (hereinafter referred to as “Dyna”)
   b. Buyer: the customer, unless otherwise stated
   c. General Conditions: these General Terms of Delivery and Payment
   d. Offer: the terms, offers, catalogues and other documents (electronic or otherwise) that describe the product(s)
   e. Price list: the list of products and their corresponding prices
   f. Payment: the compensation for the delivery of products
   g. Delivery: the performance of the work
   h. Client: the person or entity to whom the services are performed
   i. Agreement: any arrangement, contract or other similar commitment

Article II - Applicable Law
1. All agreements are subject to the laws of the Netherlands, unless otherwise stated.

Article III - Delivery
1. The supplier guarantees the buyer that its own products or products which it has manufactured itself are fit for the application intended.
2. The delivery time shall commence on the agreed date.
3. The delivery time shall be extended by the duration of the delay which arises on the side of the supplier as a result of any event for which the supplier is not liable.
4. The delivery time shall commence on the last of the following times:
   a. The day that Dyna has received the purchase price or has accepted the offer
   b. The day that Dyna is in a position to accept the offer
   c. The day that the formalities which are necessary for the co-operation between Dyna and the buyer have been completed
   d. The day that the preconditions which are necessary for the delivery of the goods have been met
   e. The day that the goods have been shipped
   f. The day that the goods have been delivered to the address indicated by the buyer
   g. The day that the goods have been made available to the buyer
   h. The storage of the product for longer than usual, and it is plausible that as a result of this a loss will be sustained
   i. The day that the product is ready for delivery

Article IV - Price
1. All supplier’s offers, in whatever form they are made, are without prejudice: the supplier is only bound to the offer if it has been accepted by the buyer.
2. The supplier is entitled to demand payment in advance or on delivery or in the form of a guarantee or to make an advance payment demand.
3. The supplier is entitled to demand payment in advance or on delivery or in the form of a guarantee or to make an advance payment demand.
4. If the goods have not been paid for in full, the supplier is entitled to retain the goods until payment in full has been made.

Article V - Payment and Interest
1. If the buyer fails to pay any of the due payments, the buyer shall be liable for interest on the amount of the unpaid payment from the due date up to the date of payment.
2. If the buyer fails to pay any of the due payments, the buyer shall be liable for interest on the amount of the unpaid payment from the due date up to the date of payment.
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5. If the buyer fails to pay any of the due payments, the buyer shall be liable for interest on the amount of the unpaid payment from the due date up to the date of payment.

Article VI - Warranty and Claims
1. All disputes, including those disputes which are only considered to be such by one of the parties, which might arise between the supplier and customer raising out of or in connection with an agreement, further agreements and/or the (non-) performance of the agreement, shall be submitted to the jurisdiction of the Court of the location of Dyna.
2. The supplier guarantees the buyer that its own products or products which it has manufactured itself are fit for the application intended.
3. The supplier shall have the right, without any further notice and without court intervention, to suspend performance of its obligations which it may have.

Article VII - Disputes
1. All disputes, including those disputes which are only considered to be such by one of the parties, which might arise between the supplier and customer raising out of or in connection with an agreement, further agreements and/or the (non-) performance of the agreement, shall be submitted to the jurisdiction of the Court of the location of Dyna.
2. The supplier guarantees the buyer that its own products or products which it has manufactured itself are fit for the application intended.
3. The supplier shall have the right, without any further notice and without court intervention, to suspend performance of its obligations which it may have.

Article VIII - Further Agreements
1. All disputes, including those disputes which are only considered to be such by one of the parties, which might arise between the supplier and customer raising out of or in connection with an agreement, further agreements and/or the (non-) performance of the agreement, shall be submitted to the jurisdiction of the Court of the location of Dyna.
2. The supplier guarantees the buyer that its own products or products which it has manufactured itself are fit for the application intended.
3. The supplier shall have the right, without any further notice and without court intervention, to suspend performance of its obligations which it may have.

Article IX - Amendment, Interpretation and Costs
1. Unless otherwise agreed in writing, payment shall be made within 30 days after the invoice date.
2. Payment must be made in Euros, unless agreed otherwise in writing.
3. All disbursements for the delivery of products shall be charged to the buyer.
4. All claims against the supplier shall be submitted to the jurisdiction of the Court of the location of Dyna.

Article X - General Conditions
1. These General Terms of Delivery and Payment apply exclusively to all agreements concluded by Dyna with its clients.
2. The supplier reserves the right to demand payment in advance or on delivery or in the form of a guarantee or to make an advance payment demand.
3. The supplier reserves the right to demand payment in advance or on delivery or in the form of a guarantee or to make an advance payment demand.
4. The supplier reserves the right to demand payment in advance or on delivery or in the form of a guarantee or to make an advance payment demand.
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