N2 (UK) Ltd



UK manufactured



# **Implant** Catalogue for osteosynthesis



10 Years of Evolox®



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✓ sales@n2-uk.com



office@n2-uk.com for orders





#### Introduction

#### Welcome to the 4th Edition of our implant catalogue. As you would expect from us there are many new additions to our implant offering.

We are particularly excited about the Spinnaker TPLO plate range. Designed with engineer and surgeon input we feel it offers an excellent option for TPLO users and answers some of the questions previous plates in the market haven't quite managed to address.

We have recently signed an agreement to become a Synthes supply agent, carrying their core product range for immediate despatch in our UK warehouse.

By demand from our customers, we have also branched out into capital equipment and consumables in a separate brochure. This allows us to do the hard work through our supply network to offer you the best products for the best price.

Since our last copy we have acquired a new 2500 square foot offices, just outside Portsmouth to help increase our levels of customer support and smooth running of orders placed.

We have been designing, developing and manufacturing veterinary implants for 20 years, utilising the

latest technology and techniques while still maintaining our strict human quality controls. Our clientele includes buying groups, individual practices and large distributor networks worldwide. The obvious benefit for the customers is that everything is made 'in house' to ISO standards, with superb customer service and pricing that's hard to beat.

Our human industry is highly regulated and legally demands we offer the same quality whether the products are used in human or veterinary markets. The quality remains the same.

N2 are delighted to be able to offer our latest simplified Implant and Instrumentation catalogues and welcome any quotation, questions or ideas that you want to become a reality.

We have included many implant radiographs, shared some interesting facts and technical data. We are Nick and Neil (two 'N's, hence N2) the founders of the company. We have 60 years of Engineering experience between us and for the last twenty have been dedicated to medical devices both veterinary and human. Our broad range of skills and hands on approach have covered most projects from Formula 1, military and even the dizzy heights of aerospace. We have the physical experience and knowledge of being able to run every process, from concept to manufacturing to make ideas become a reality.

We take great pride in our work and if we really cannot make it, nobody can. Our facilities are fully self-sufficient in every operation and independently audited to human standards. This benefits our customers because we are able to produce bespoke implants and react quicker to market changes in technology.

**Andy Robinson** MCIPS Sales Director

#### Veterinary healthcare is, and always will be, our priority.

Neil has a rather boisterous Patterjack called 'Stam' named after his beloved Chelsea Football club's stadium Stamford Bridge.

Nick has three little female domestic short haired tabby cats who are sisters. They are named after the cartoon characters of 'The Powerpuff Girls' (Bubbles, Buttercup and Blossom) he also has several tropical fish.



Neil (CEO) and hectic 'Stam'.



Nick and the late 'Dumpling' selfie.



# Innovate not Replicate

#### The Future and Beyond

N2 have now introduced a fuss free demonstration to our products. We do not believe in high pressure sales tactics, tie in obligations and non-transparent pricing.

N2 teams will set up a demonstration with products at your location allowing you to peruse in your own time, as we appreciate your time is valuable and appointments do not always work as planned. The display will feature an array of common products, new additions and free catalogues without someone breathing over your shoulder. We will then collect it after a couple of days and answer any questions there and then or if you prefer we are happy to discuss it through e-mail, telephone, zoom or text. This service is available to all customers large or small and at a time of your choosing.

We have pioneered live shared CAD sessions with clients wanting modifications/designs while they watch and interact. Take control of your computer mouse and help us develop the future for our animals. This can save time, confusing requirements and manufacturing feasibility.

N2 also offer an open invitation for clients to visit the premises to see where the implants are actually made and for us to explain the full process and help you understand the complex manufacturing processes.

We were the first, and continue to freely volunteer our images to the renowned VPOP Planner and our plating templates are also free to download.

N2 and our diverse workforce continue to grow our business through reputation and recommendation. We are innovative and ground breaking and always raise the bar to make sure we are at the forefront of this amazing industry.

# We are pleased to announce for 2024 we have agreed to stock the Synthes Implant and Power range.

Synthes are known in the market for their product quality, and we are happy to distribute their range alongside our own. Both companies follow the same tight human market standards and tolerances in our implants so whichever range you choose you can be comfortable that the product you are receiving will be of the highest quality. Throw in there the N2 customer service and you have a perfect range of options to cover your orthopaedic needs.







Pictured: Jade Mclean, Business Development Manager J&J Animal Heath, Andy Robinson, Sales Director N2 UK



#### **Modern Slavery**

While the competition continues to fund unethical and morally questionable implant suppliers we would like to remind our customers:

"At N2, transparency is at the heart of what we do. We expect high standards of all our employees. As a result, we do not accept modern slavery in any form. We are committed to respecting human rights. We will not, under any circumstances fund unscrupulous industries"

#### **Modern Slavery includes:**







**Criminal Exploitation** 



**Forced Labour** 



**Domestic Servitude** 

#### What we can all do

- Question the quality standards of the implants you are buying.
- Question the authenticity of WHERE the implants are actually made.
- Ask for material test certificates and manufacturers cleanliness/ inspection documentation.
- Ask to see the manufacturing facilities or customs declarations.
- Buying questionable products promotes crime, human trafficking and suffering.

#### 'Not so' common knowledge.

The worldwide veterinary orthopaedic implant market is flooded with suppliers and unscrupulous distributors, but the sad reality is that the market for implants is unregulated. No rules, uo medical compliance or accountability.

It is illegal to 'CE' mark veterinary implants. The CE mark is only used on Human Certified products.

UK mills in Sheffield, Cardiff or British steel locations do not make implantable stainless steel for our products in the UK. The specific material for implants is only available from a limited few manufacturers worldwide including the US and Germany.

Common terms like quality 316 Japanese Steel, German Metal, Best quality 316L are a fallacy because only compatible Implantable Steel must conform to ISO (International Standards Organization) 5832-1/3.

Buying the wrong material can result in surgical complications like rust, early implant failure, infection, amputation and in some cases death.

N2's implant do not attract EU tariffs or duty because they are made in the UK.

N2 actively donates to Worldwide Charites like Street Vet.

#### **Additional N2 customer benefits**

We are happy to discuss that 'extra' service for our customers

- Fixed Term Pricing
- Cross Referencing for competitors codes
- Bespoke Plate Design
- Generous Discount Structures

- Loan Kits
- Payment Plans to Suit All Budgets
- Training Videos on our YouTube Channel.

#### **N2** at Trade Shows



















#### **High Quality**

- ✓ Products are manufactured from certified medical grade materials
- Products are manufactured under an ISO quality management system
- Products are finished and laser identified
- ✓ Products are inspected to ISO:2859-1
- ✓ Products are cleaned and passivated ready for sterilisation
- ✓ Bioburden tests are carried out to ensure a low CFU (colony forming unit) count is maintained

#### Value for money

- ✓ Having control of both facilities enables us to produce costeffective batch runs and keep stock levels to an economic level
- ✓ Manufacturing under ISO9001 quality management system ensures that continual process improvements are achieved
- ✓ Latest technology, machining strategies and tooling advancements have enabled us to maintain an extremely competitive pricing structure through improved manufacturing times
- ✓ More importantly we believe in charging fair prices and not just replicating competitors prices, which would often result in overcharging

#### **Green Partnership**

- Made in the UK reducing our Carbon Footprint
- ✓ Documentation can be paper free and electronic is the preferred choice.
- ✓ We use no animal by-products.
- Machining strategies and tool coatings help reduce the power requirements of machine tools.
- ✓ Automation and night time running reduces energy and labour costs of around 50%
- ✓ LED lighting and timers.
- Bio degradable cleaning products.
- Wooden transport boxes and pallets are recycled.
- ✓ Oil, metal and carbide recycling

#### **New Dedicated Advisory Service**

We now offer an advice service with a dedicated email address manned by working certificate holders who are using our products on a regular basis. Simply email over any information you have on the case, ideally with xrays, and they will advise you on how they would treat the case.

Use n2.technical.advice@gmail.com and we will respond to you within the day.



#### **Unique Custom Plates**

Not all orthopaedic cases can be solved by utilising our extensive range of products. Sometimes it calls for something totally unique. We offer, exclusively to our partner network, a bespoke service for custom plates at preferable prices and quick delivery (usually within 2 weeks).

Below are some of our case studies that we were proud to have been involved with.

















Contents	Page
Company Information	2-7
Screws	9-34
Drill and Taps	35-44
Wires and Pins	45-52
Bone Plates	53-114
Locking Plates (Mono-Axial)	115-128
Evolox® Locking System	130-176
Tibial Tuberosity Advancement (TTA)	177-181
Choices and Preferential Options	182-183
Index	184-191

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# Screws









# N2 (UK) Ltd L2 Veterinary Supplies

	Page
Torx Drive Locking Screws	14
Hex Drive Locking Screws	15
Plate Spacer Set	16
Locking Plugs	17
Hybrid Locking Kit	18
Cannulated Locking Plugs	19
1.5mm Cortical Screws	21
2.0mm Cortical Screws	21
2.4mm Cortical Screws	22
2.7mm Cortical Screws	23
3.5mm Cortical Screws	24
4.5mm Cortical Screws	25
Cancellous Screws	26
Suture Anchor Screws	27
Suture Anchor Pins	28
Titanium Screws	30-31
ЮНС	32-33
Headless Lag Screws	34

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			2.4	Locking Head	■ Compatible with 2.4mm Locking Plates ■ Compatible with 3.5mm Locking Plates				æ.	HC 2.4	1.5mm Hex 1.5n									
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			3.0	O										Drill bit and Tap Diameter (mm)	3.0	<b>€</b> ±±±±±±±±±±±±±±±±±±±±±±±±±±±±±±±±±±±±	2.0		2.5mm Hex	
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			3.5											3.5		2.5	HA 3.5	nm xx iate ess 115		
2	Lock		2.7	Cortical			2.7	<b>Dannunn</b>	2.0	HA 2.7	2.5mm Hex Cruciate Recess T8/T15									
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#### **Orthopaedic Bone Screws**

Our raw material is made in either the US or Germany because, contrary to popular belief, no medical steel for our implants are made in Sheffield, Cardiff or any British Steel locations.

Our manufacturing facilities are capable of not only producing standard tight tolerance medical thread forms but tapered threads, elongated threads and a mixture of thread geometries. We have full CNC (Computer Numerical Control) on each part produced. N2 also produce our own Bone Taps using harder implantable materials ensuring full compatibility with our screws and the reputable competitors.

Our most common Self Tapping Cortical Screws have a choice of Hex Drive, Star Torx Drive or Cruciform. All of our screws are made using latest CNC Swiss Turning technology and equal in standards as the human market. Our Self Tapping Screws always have the cutting flutes brushed with diamond impregnated wheels keeping them sharp and burr free. The flutes are angled away rather than scalloped which is proven to evacuate debris guicker, reduced clogging and more intact.

We only use raw materials from Europe or America which are fully certified to the latest ISO specifications and fully tested for strength, hardness and chemically analyzed prior to manufacturing. A test certificate for every batch is always available on request.

All of our implants are periodically tested for bio burden contaminates to ensure our manufacturing processes meet stringent quality standards.

#### A visual image of the thread forms

**HC Thread Form** 

HA Thread Form

**HB Thread Form** Cancellous

Look for the following symbols for your choice of driver.

**Hexagonal Drive** 

Star Torx Drive (TD)



Cruciform (SD)

Single Slot



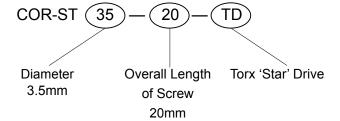
#### A simple guide to screw identification and Order Code explained ordering

COR = Cortical Screw

CAN = Cancellous

LOC = Locking

ST Self Tapping

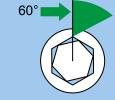


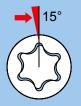


# We offer a range of locking screws with Torx and Hex Head options

The drive angle is the primary driving force behind why a Torx screw is able to handle more torque before cam out (head rounding off). A Hex screw relies on a 60 degree angle while the Torx bit relies on a 15 degree angle.

The significantly smaller drive angle forms a much tighter tolerance, which better distributes the concentration of force to all points and therefore allows for much higher torque values before rounding out.





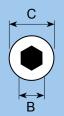
#### **Locking Screw Data**

#### Torx

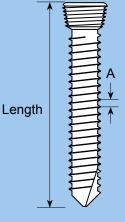
Screw Size	1520mm	2.0mm	2024mm	2.4mm	2.7mm	3.5mm
Thread Diameter	2.0mm	2.0mm	2.0mm	2.4mm	2.7mm	3.5mm
Thread Form	HC	HC	HC	HC	HC	HC
Thread Pitch (A)	0.6mm	0.6mm	0.6mm	0.6mm	0.6mm	0.8mm
Torx Drive Socket (B)	T6	T6	Т8	T8	T8	T15
Head Diameter ( C )	2.8mm	2.8mm	3.5mm	3.5mm	2.8mm	5.0mm
Core Diameter	1.1mm	1.4mm	1.4mm	1.8mm	2.0mm	2.7mm
Head Pitch	0.6mm	0.6mm	0.6mm	0.6mm	0.6mm	0.8mm
Drill Bit for Pilot Hole	1.1mm	1.5mm	1.5mm	1.8mm	2.0mm	2.7mm
Drill Bit for Threaded Hole	1.5mm	2.0mm	2.0mm	2.4mm	2.7mm	3.5mm
Compatible Plate Sizes	2.0mm	2.0mm	2.4/2.7mm	2.4/2.7mm	2.4/2.7mm	3.5mm

#### Hex

Screw Size	2.4mm	2.7mm	3.5mm
Thread Diameter	2.4mm	2.7mm	3.5mm
Thread Form	HC	HC	HC
Thread Pitch (A)	0.6mm	0.6mm	0.8mm
Hex Drive Socket (B)	1.5mm	1.5mm	2.5mm
Head Diameter ( C )	3.5mm	2.8mm	5.0mm
Core Diameter	1.8mm	2.0mm	2.7mm
Head Pitch	0.6mm	0.6mm	0.8mm
Drill Bit for Pilot Hole	1.8mm	2.0mm	2.7mm
Drill Bit for Threaded Hole	2.4mm	2.7mm	3.5mm
Compatible Plate Sizes	2.4/2.7mm	2.4/2.7mm	3.5mm







# N2 (UK) Ltd L2 Veterinary Supplies

# Torx Drive Locking Screws

Length	2.0mm Locking Drive T6 Torx 1.5mm Pilot Drill	2.4mm Locking Drive T8 Torx 1.8mm Pilot Drill	2.7mm Locking Drive T8 Torx 2.0mm Pilot Drill	3.5mm Locking Drive T15 Torx 2.7mm Pilot Drill
Ler	Code	Code	Code	Code
6	LOC-20-06-TD	LOC-24-06-TD	LOC-27-06-TD	-
7	LOC-20-07-TD	-	-	-
8	LOC-20-08-TD	LOC-24-08-TD	LOC-27-08-TD	-
9	LOC-20-09-TD	-	-	-
10	LOC-20-10-TD	LOC-24-10-TD	LOC-27-10-TD	LOC-35-10-TD
11	LOC-20-11-TD	-	-	-
12	LOC-20-12-TD	LOC-24-12-TD	LOC-27-12-TD	LOC-35-12-TD
14	LOC-20-14-TD	LOC-24-14-TD	LOC-27-14-TD	LOC-35-14-TD
16	LOC-20-16-TD	LOC-24-16-TD	LOC-27-16-TD	LOC-35-16-TD
18	LOC-20-18-TD	LOC-24-18-TD	LOC-27-18-TD	LOC-35-18-TD
20	LOC-20-20-TD	LOC-24-20-TD	LOC-27-20-TD	LOC-35-20-TD
22	LOC-20-22-TD	LOC-24-22-TD	LOC-27-22-TD	LOC-35-22-TD
24	LOC-20-24-TD	LOC-24-24-TD	LOC-27-24-TD	LOC-35-24-TD
26	LOC-20-26-TD	LOC-24-26-TD	LOC-27-26-TD	LOC-35-26-TD
28	LOC-20-28-TD	LOC-24-28-TD	LOC-27-28-TD	LOC-35-28-TD
30	LOC-20-30-TD	LOC-24-30-TD	LOC-27-30-TD	LOC-35-30-TD
32	-	LOC-24-32-TD	LOC-27-32-TD	LOC-35-32-TD
34	-	LOC-24-34-TD	LOC-27-34-TD	LOC-35-34-TD
36	-	LOC-24-36-TD	LOC-27-36-TD	LOC-35-36-TD
38	-	LOC-24-38-TD	LOC-27-38-TD	LOC-35-38-TD
40	-	LOC-24-40-TD	LOC-27-40-TD	LOC-35-40-TD
42	-	-	-	LOC-35-42-TD
44	-	-	-	LOC-35-44-TD
45	-	-	LOC-27-45-TD	LOC-35-45-TD
46	-	-	-	LOC-35-46-TD
48	-	-	-	LOC-35-48-TD
50	-	-	LOC-27-50-TD	LOC-35-50-TD
52	-	-	-	LOC-35-52-TD
54	-	-	-	LOC-35-54-TD
55	-	-	-	LOC-35-55-TD
56	-	-	-	LOC-35-56-TD
58	-	-	-	LOC-35-58-TD
60	-	-	-	LOC-35-60-TD



# **Hex Drive Locking Screws**

Length	2.4mm Locking 1.5mm Hex 1.8mm Pilot Drill	2.7mm Locking 2.5mm Hex 2.0mm Pilot Drill	3.5mm Locking 2.5mm Hex 2.7mm Pilot Drill
Le	Code	Code	Code
6	LOC-24-06	LOC-27-06	-
8	LOC-24-08	LOC-27-08	-
10	LOC-24-10	LOC-27-10	LOC-35-10
12	LOC-24-12	LOC-27-12	LOC-35-12
14	LOC-24-14	LOC-27-14	LOC-35-14
16	LOC-24-16	LOC-27-16	LOC-35-16
18	LOC-24-18	LOC-27-18	LOC-35-18
20	LOC-24-20	LOC-27-20	LOC-35-20
22	LOC-24-22	LOC-27-22	LOC-35-22
24	LOC-24-24	LOC-27-24	LOC-35-24
26	LOC-24-26	LOC-27-26	LOC-35-26
28	LOC-24-28	LOC-27-28	LOC-35-28
30	LOC-24-30	LOC-27-30	LOC-35-30
32	LOC-24-32	LOC-27-32	LOC-35-32
34	LOC-24-34	LOC-27-34	LOC-35-34
36	LOC-24-36	LOC-27-36	LOC-35-36
38	LOC-24-38	LOC-27-38	LOC-35-38
40	LOC-24-40	LOC-27-40	LOC-35-40
42	-	-	LOC-35-42
44	-	-	LOC-35-44
45	-	LOC-27-45	LOC-35-45
46	-	-	LOC-35-46
48	-	-	LOC-35-48
50	-	LOC-27-50	LOC-35-50
52	-	-	LOC-35-52
54	-	-	LOC-35-54
55	-	-	LOC-35-55
56	-	-	LOC-35-56
58	-	-	LOC-35-58
60	-	-	LOC-35-60



# **Plate Spacer Sets**

Ux manufactured

#### **Veterinary Supplies**







Order Code	Description
2724-SP-SET	Plate Spacer Set for 2.7/2.4mm Plate - Pack 10 (1mm - 2mm)
35-SP-SET	Plate Spacer Set for 3.5mm Plate - Pack 10 (1mm - 3mm)

For those awkward bone flares and shapes it's sometimes difficult to fully contour the plate to the bone. Our Evolox® OS plate system helps reduce this problem with its plate flexibility and screw angulation but sometimes a large straight plate is needed where plate flexibility is reduced such as a TPLO plate.

Leaving a large gap between plate and bone when under tension can result in extra pressure being placed on the screw head.

#### We have released a simple solution to this.

Made from the same material (ISO-5842-1) as our implants to remove the chance of Galvanic Corrosion. We offer two sets of washers in 3.5mm and 2.4/2.7mm. Each set comprises 10 washers of varying thicknesses which allows you to slip the washer under the plate to give a more stable foundation and remove some of the stress from the screw. The variations in washer sizes allows lots of choice dependent on gap size, with the added flexibility to stack washers on top of each other to create further height options

Mark Bush MA VetMB CertSAS DSAS(O) MRCVS, RCVS Diplomate in Small Animal Orthopaedic Surgery, RCVS Recognised Specialist in Small Animal Orthopaedic Surgery had the following to say on the use of washers.

"I have used washers in the past in this situation, perhaps not a huge number of times, but nowadays I tend to burr bone of the proximal fragment until I can get the plate to fit without

having this tilt, as this also risks placing the screw into the joint. I do use washers in all my PCAs however, as I place them at the radiocarpal screw hole under the plate to stop the RCB from being pulled too dorsally when the screw is tightened. If I don't do this, I have found that as the RCB moves dorsally, the contact with the distal radius can be significantly reduced resulting in a smaller surface area for arthrodesis which risks failing if the plate ever must be removed. I have attached two images, one with and one without washers, to show the effect on the radiocarpal bone/distal radial arthrodesis site."



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do office@n2-uk.com for orders



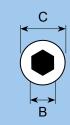
We are proud to also offer two hybrid screw options. The 1520 and the 2024. We believe this gives our customers more choice than others in screw selection and planning options.

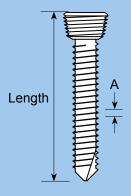
The 1520 has a 2.0mm screw head with a 1.5mm screw shaft, ideal for very small bones or bone fragments. These will fit in all our 2.0mm Locking plates.

The 2024 range follows a similar idea but has a 2.0mm shaft and fits in all our 2.4mm and 2.7mm polyaxial and monoaxial locking plates.

## **Hybrid Locking Screws**

Length	Hybrid 15 20 Drive T6 Torx 1.1mm Pilot Drill	Hybrid 20 24 Drive T8 Torx 1.5mm Pilot Drill
Le	Code	Code
6	LOC-1520-06-TD	LOC-2024-06-TD
7	-	LOC-2024-07-TD
8	LOC-1520-08-TD	LOC-2024-08-TD
9	-	LOC-2024-09-TD
10	LOC-1520-10-TD	LOC-2024-10-TD
11	-	LOC-2024-11-TD
12	LOC-1520-12-TD	LOC-2024-12-TD
14	LOC-1520-14-TD	LOC-2024-14-TD
16	LOC-1520-16-TD	LOC-2024-16-TD
18	LOC-1520-18-TD	LOC-2024-18-TD
20	LOC-1520-20-TD	LOC-2024-20-TD
22	-	LOC-2024-22-TD
24	-	LOC-2024-24-TD
26	-	LOC-2024-26-TD
28	-	LOC-2024-28-TD
30	-	LOC-2024-30-TD





For off the shelf Hybrid Screw kit please see our instrument catalogue

## **Locking Plugs**

Code	Description	Fits Plate	Drive
LOC-2724-P	2.7/2.4mm Locking Plug	2.4/2.7	Hex 1.5
LOC-35-P	3.5mm Locking Plug	3.5	Hex 2.5
LOC-20-PTD	2.0mm Locking Plug	2.0	Torx T6
LOC-2724-PTD	2.7/2.4mm Locking Plug	2.4/2.7	Torx T8
LOC-35-PTD	3.5mm Locking Plug	3.5	Torx T15
LOC-PLUG-BOX	Storage Box for Locking Plugs	-	-





# **Hybrid Locking Kit**

UK Manufactured

**Veterinary Supplies** 

Our Hybrid Locking screws are getting more and more popular with our customers due to there usefulness in many situations and are a great product to have sterilised in your practice for those unexpected cases.

On top of this we now have the new locking adapter. This screws into a 3.5mm Locking/Evolox plate and allows you to use a 2.4mm or 2.7mm screw in any 3.5mm plates polyaxially.

It also has a slot on the washer to allow you to remove it for any reason.

The Complete kit is available preloaded with a full set of the hybrid screws in a premium screw rack along with 2 of the Locking adapters and one of each required Locking drill Guides.











Order Code	Description
PM-RACK- HYBRID-LOCK	Empty Hybrid Premium Screw Rack
KIT-RACK- HYBRID-LOCK	Full Hybrid Screw Washer kit in Premium Screw Rack
LOC-AD-35-2427	Locking Adapter -3.5mm down to 2.4/2.7mm

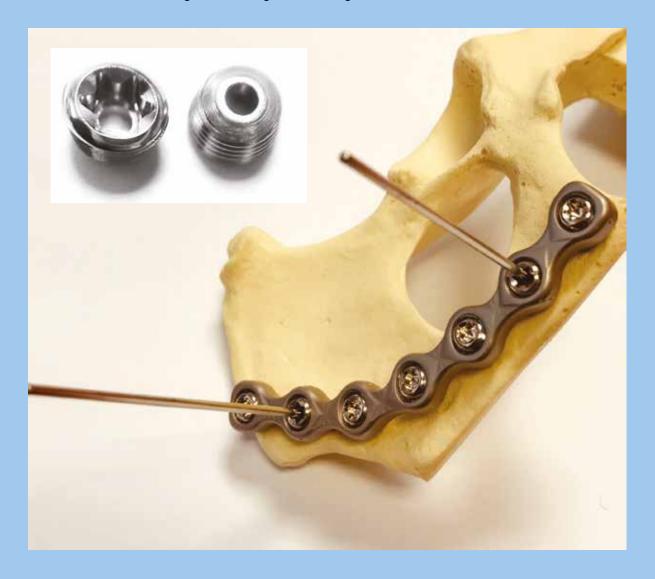


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## **Cannulated Locking Plugs**

The cannulated plugs are particularly useful as a way of holding the plates in situ whilst the other holes are drilled and filled. Reduces the need for bone holding forceps which can sometimes be hard to locate without interfering with the surgeon's working area.



Code	Description	Fits Plate	Drive
LOC-20-P-TDC	2.0mm Locking Plug. Cannulated 1.1mm (use 1.0mm guide wire)	2.0	Torx T6
LOC-2724-P-TDC	2.7/2.4mm Locking Plug. Cannulated 1.6mm (use 1.4mm guide wire)	2.4/2.7	Torx T8
LOC-35-P-TDC	3.5mm Locking Plug. Cannulated 1.6mm (use 1.4mm guide wire)	3.5	Torx T15

#### **Cortical Screws**

Cortical screws are still used widely in the veterinary market, particularly where compression is needed. We offer a large selection of head types with some sizes having Torx Drive, Hex and Cruciform as available options. We also stock self tapping and non-self tapping variants ready for immediate despatch. The quality of our screws hasn't changed over the years and it's an area often overlooked by others as being as important as the plate used to ensure a solid construct.

#### **Cortical Screws Hex Head**

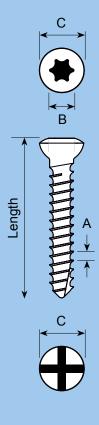
	1.5mm	2.0mm	2.4mm	2.7mm	3.5mm	4.5mm	5.5mm
Thread Diameter	1.5mm	2.0mm	2.4mm	2.7mm	3.5mm	4.5mm	5.5mm
Thread Pitch (A)	0.5mm	0.6mm	1.0mm	1.0mm	1.25mm	1.75mm	2.0mm
Hex Head Size (B)	1.5mm	1.5mm	1.5mm and 2.0mm	2.5mm	2.5mm	3.5mm	3.5mm
Head Diameter (C)	3.0mm	4.0mm	4.0mm	5.0mm	6.0mm	8.0mm	8.0mm
Drill Bit for Pilot Hole	1.1mm	1.5mm	1.8mm	2.0mm	2.5mm	3.2mm	4.0mm
Drill Bit for Gliding Hole	1.5mm	2.0mm	2.4mm	2.7mm	3.5mm	4.5mm	5.5mm
Core Diameter	1.1mm	1.3mm	1.6mm	1.9mm	2.4mm	3.0mm	4.0mm

## **Cortical Screw Torx (Star) Head**

	2.0mm	2.4mm	2.7mm	3.5mm
Thread Diameter	2.0mm	2.4mm	2.7mm	3.5mm
Thread Pitch (A)	0.6mm	1.0mm	1.0mm	1.25mm
Torx Head Size (B)	T6	T8	Т8	T15
Head Diameter (C)	4.0mm	4.0mm	5.0mm	6.0mm
Drill Bit for Pilot Hole	1.5mm	1.8mm	2.0mm	2.5mm
Drill Bit for Gliding Hole	2.0mm	2.4mm	2.7mm	3.5mm
Core Diameter	1.3mm	1.6mm	1.9mm	2.4mm

## **Cortical Screw Cruciform Head**

	2.0mm	2.4mm
Thread Diameter	2.0mm	2.4mm
Thread Pitch (A)	0.6mm	1.0mm
Head Diameter (C)	4.0mm	5.0mm
Drill Bit for Pilot Hole	1.5mm	1.8mm
Drill Bit for Gliding Hole	2.0mm	2.4mm
Drill Bit for Gliding Hole	2.0mm	3.5mm
Core Diameter	1.3mm	1.6mm
·		0.0





## 1.5mm Cortical Screws (1.5 Hex)

Length	Non-Self tapping	Self tapping
6	COR-1506	COR-ST-1506
7	COR-1507	COR-ST-1507
8	COR-1508	COR-ST-1508
9	COR-1509	COR-ST-1509
10	COR-1510	COR-ST-1510
11	COR-1511	COR-ST-1511
12	COR-1512	COR-ST-1512
14	COR-1514	COR-ST-1514
16	COR-1516	COR-ST-1516
18	COR-1518	COR-ST-1518
20	COR-1520	COR-ST-1520

## 2.0mm Cortical Screws (Various Drives)

Г	2.0mm Self Tapping Cortical Screws (Various Drives)			2.0mm Cortical (1.5 Hex)
gth	Drive 1.5mm Hex	Drive T6 Torx		Non-Self tapping
Length	Code	Code		Code
6	COR-ST-2006	COR-ST-2006-TD		COR-2006
7	COR-ST-2007	COR-ST-2007-TD		-
8	COR-ST-2008	COR-ST-2008-TD		COR-2008
9	COR-ST-2009	COR-ST-2009-TD		-
10	COR-ST-2010	COR-ST-2010-TD		COR-2010
11	COR-ST-2011	COR-ST-2011-TD		-
12	COR-ST-2012	COR-ST-2012-TD		COR-2012
14	COR-ST-2014	COR-ST-2014-TD		COR-2014
16	COR-ST-2016	COR-ST-2016-TD		COR-2016
18	COR-ST-2018	COR-ST-2018-TD		COR-2018
20	COR-ST-2020	COR-ST-2020-TD		COR-2020
22	COR-ST-2022	COR-ST-2022-TD		-
24	COR-ST-2024	COR-ST-2024-TD		-
26	COR-ST-2026 COR-ST-2026-TD			-
28	COR-ST-2028 COR-ST-2028-TD			-
30	COR-ST-2030	COR-ST-2030-TD		-



# 2.4mm Self Tapping Cortical Screws (Various Drives)

Length	Drive 1.5mm Hex	Drive 2.0mm Hex	Drive T8 Torx
Le	Code	Code	
6	COR-ST-2406	COR-ST-2406-H2	COR-ST-2406-TD
8	COR-ST-2408	COR-ST-2408-H2	COR-ST-2408-TD
10	COR-ST-2410	COR-ST-2410-H2	COR-ST-2410-TD
12	COR-ST-2412	COR-ST-2412-H2	COR-ST-2412-TD
14	COR-ST-2414	COR-ST-2414-H2	COR-ST-2414-TD
16	COR-ST-2416	COR-ST-2416-H2	COR-ST-2416-TD
18	COR-ST-2418	COR-ST-2418-H2	COR-ST-2418-TD
20	COR-ST-2420	COR-ST-2420-H2	COR-ST-2420-TD
22	COR-ST-2422	COR-ST-2422-H2	COR-ST-2422-TD
24	COR-ST-2424	COR-ST-2424-H2	COR-ST-2424-TD
26	COR-ST-2426	COR-ST-2426-H2	COR-ST-2426-TD
28	COR-ST-2428	COR-ST-2428-H2	COR-ST-2428-TD
30	COR-ST-2430	COR-ST-2430-H2	COR-ST-2430-TD
32	COR-ST-2432	COR-ST-2432-H2	COR-ST-2432-TD
34	COR-ST-2434	COR-ST-2434-H2	COR-ST-2434-TD
36	COR-ST-2436	COR-ST-2436-H2	COR-ST-2436-TD
38	COR-ST-2438	COR-ST-2438-H2	COR-ST-2438-TD
40	COR-ST-2440	COR-ST-2440-H2	COR-ST-2440-TD





# 2.7mm Cortical Screws (Various Drives)

	2.7mm Self Tapping Cortical (Various Drives)			2.7mm Cortical (2.5 Hex)
Length	Drive 2.5mm Hex	Drive T8 Torx		Non-Self tapping
Le	Code	Code		Code
6	COR-ST-2706	COR-ST-2706-TD		COR-2706
8	COR-ST-2708	COR-ST-2708-TD		COR-2708
10	COR-ST-2710	COR-ST-2710-TD		COR-2710
12	COR-ST-2712	COR-ST-2712-TD		COR-2712
14	COR-ST-2714	COR-ST-2714-TD		COR-2714
16	COR-ST-2716	COR-ST-2716-TD		COR-2716
18	COR-ST-2718	COR-ST-2718-TD		COR-2718
20	COR-ST-2720	COR-ST-2720-TD		COR-2720
22	COR-ST-2722	COR-ST-2722-TD		COR-2722
24	COR-ST-2724	COR-ST-2724-TD		COR-2724
26	COR-ST-2726	COR-ST-2726-TD		COR-2726
28	COR-ST-2728	COR-ST-2728-TD		COR-2728
30	COR-ST-2730	COR-ST-2730-TD		COR-2730
32	COR-ST-2732	COR-ST-2732-TD		-
34	COR-ST-2734	COR-ST-2734-TD		-
35	COR-ST-2735	COR-ST-2735-TD		-
36	COR-ST-2736	COR-ST-2736-TD		-
38	COR-ST-2738	COR-ST-2738-TD		-
40	COR-ST-2740	COR-ST-2740-TD		-

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#### **Veterinary Supplies**

# 3.5mm Cortical Screws (Various Drives)

	3.5mm Self Tapping Cortical (Various Drives)			3.5mm Cortical (2.5 Hex)
£	Drive 2.5mm	Drive T15		Non-Self
Length	Hex	Torx		tapping
	Code	Code		Code
8	COR-ST-3508	COR-ST-3508-TD		-
10	COR-ST-3510	COR-ST-3510-TD		COR-3510
12	COR-ST-3512	COR-ST-3512-TD		COR-3512
14	COR-ST-3514	COR-ST-3514-TD		COR-3514
16	COR-ST-3516	COR-ST-3516-TD		COR-3516
18	COR-ST-3518	COR-ST-3518-TD		COR-3518
20	COR-ST-3520	COR-ST-3520-TD		COR-3520
22	COR-ST-3522	COR-ST-3522-TD		COR-3522
24	COR-ST-3524	COR-ST-3524-TD		COR-3524
26	COR-ST-3526	COR-ST-3526-TD		COR-3526
28	COR-ST-3528	COR-ST-3528-TD		COR-3528
30	COR-ST-3530	COR-ST-3530-TD		COR-3530
32	COR-ST-3532	COR-ST-3532-TD		COR-3532
34	COR-ST-3534	COR-ST-3534-TD		COR-3534
35	-	-		COR-3535
36	COR-ST-3536	COR-ST-3536-TD		COR-3536
38	COR-ST-3538	COR-ST-3538-TD		COR-3538
40	COR-ST-3540	COR-ST-3540-TD		COR-3540
42	COR-ST-3542	COR-ST-3542-TD		-
44	COR-ST-3544	COR-ST-3544-TD		-
45	-	-		COR-3545
46	COR-ST-3546	COR-ST-3546-TD		-
48	COR-ST-3548	COR-ST-3548-TD		-
50	COR-ST-3550	COR-ST-3550-TD		COR-3550
55	COR-ST-3555	COR-ST-3555-TD		-
60	COR-ST-3560	COR-ST-3560-TD		-



## **4.5mm Cortical Screws**

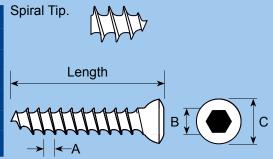
h	4.5mm Corti- cal (3.5 Hex)	4.5mm Cortical (3.5 Hex)
Length	Self Tapping	Non-Self tapping
	Code	Code
12	COR-ST-4512	-
14	COR-ST-4514	COR-4514
16	COR-ST-4516	COR-4516
18	COR-ST-4518	COR-4518
20	COR-ST-4520	COR-4520
22	COR-ST-4522	COR-4522
24	COR-ST-4524	COR-4524
26	COR-ST-4526	COR-4526
28	COR-ST-4528	COR-4528
30	COR-ST-4530	COR-4530
32	COR-ST-4532	COR-4532
34	COR-ST-4534	COR-4534
36	COR-ST-4536	COR-4536
38	COR-ST-4538	COR-4538
40	COR-ST-4540	COR-4540
42	COR-ST-4542	COR-4542
44	COR-ST-4544	COR-4544
46	COR-ST-4546	COR-4546
48	COR-ST-4548	COR-4548
50	COR-ST-4550	COR-4550
52	COR-ST-4552	COR-4552
54	COR-ST-4554	COR-4554
56	COR-ST-4556	COR-4556
58	COR-ST-4558	COR-4558
60	COR-ST-4560	-
62	COR-ST-4562	-
64	COR-ST-4564	-
65	COR-ST-4565	-
66	COR-ST-4566	-
68	COR-ST-4568	-
70	COR-ST-4570	-

# N2 (UK) Ltd L2 Veterinary Supplies

#### Cancellous Screws

These screws have a coarse thread designed to grip in cancellous bone. They are also useful as a rescue screw. i.e your 3.5mm cortical has sheared its head you can remove it and replace with a 4.0mm cancellous.

Cancellous Bone Screw	Ø3.0mm	Ø4.0mm
Hexagonal Thread Diameter	3.0mm	4.0mm
Thread Pitch (A)	1.25mm	1.75mm
Hexagon Socket (B)	2.5mm	2.5mm
Head Diameter (C)	5.0mm	6.0mm
Drill Pilot	2.0mm	2.0mm
Core Diameter	1.9mm	1.9mm



Length	Diameter 3.0mm Full Thread 2.5 Hex Drive 2.0 Pilot Drill	Diameter 4.0mm Full Thread 2.5 Hex Drive 2.0 Pilot Drill		Diameter 4.0mm Part Thread 2.5 Hex Drive 2.0 Pilot Drill
۳	Code	Code		Code
12	CAN-FT-3012	CAN-FT-4012		
14	CAN-FT-3014	CAN-FT-4014		-
16	CAN-FT-3016	CAN-FT-4016		-
18	CAN-FT-3018	CAN-FT-4018		-
20	CAN-FT-3020	CAN-FT-4020		CAN-PT-4020
22	CAN-FT-3022	CAN-FT-4022		CAN-PT-4022
24	CAN-FT-3024	CAN-FT-4024		CAN-PT-4024
26	CAN-FT-3026	CAN-FT-4026		CAN-PT-4026
28	CAN-FT-3028	CAN-FT-4028		CAN-PT-4028
30	CAN-FT-3030	CAN-FT-4030		CAN-PT-4030
32	CAN-FT-3032	CAN-FT-4032		-
34	CAN-FT-3034	CAN-FT-4034		-
35	-	CAN-FT-4035		CAN-PT-4035
36	CAN-FT-3036	CAN-FT-4036		-
38	-	CAN-FT-4038		-
40	-	CAN-FT-4040		CAN-PT-4040
45	-	CAN-FT-4045		-
50	-	CAN-FT-4050		-

We also sell screw extraction trephines - see Instrument Catalogue.

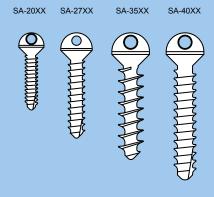


#### **Suture Anchor Screws**

Standard Self Tapping Screws with an eyed head.

Suture can be passed through the eye securely with the shaft in the bone.

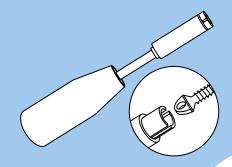
Length	Code	Description	Eyelet Ø	Diameter mm
6	SA-2006	Suture Anchor Screw Cortical 2mm x 6mm Long	1.5mm	2.0
10	SA-2010	Suture Anchor Screw Cortical 2mm x 10mm Long	1.5mm	2.0
8	SA-2708	Suture Anchor Screw Cortical 2.7mm x 8mm Long	1.5mm	2.7
14	SA-2714	Suture Anchor Screw Cortical 2.7mm x 14mm Long	1.5mm	2.7
12	SA-3512	Suture Anchor Screw Cortical 3.5mm x 12mm Long	2.0mm	3.5
20	SA-3520	Suture Anchor Screw Cortical 3.5mm x 20mm Long	2.0mm	3.5
16	SA-4016	Suture Anchor Screw Cancellous 4.0mm x 16mm Long	2.0mm	4.0
24	SA-4024	Suture Anchor Screw Cancellous 4.0mm x 24mm Long	2.0mm	4.0





Screwdriver to fit all Suture Head Screws.

Order Code	Description
SA-INSERT	Universal Suture Screw Insertion Driver





## **Suture Anchor Pins (Self tapping)**

An ingenious pin for use as a suture anchor.

The tip of the pin has a thread cut into it that can be driven into the bone. Once in position the pin can be bent and will snap at the designated point just above the head, leaving the hole in position to receive the suture line.

Order Code	Diameter	Overal Length	Screw Length	Hole Ø	Pilot Drill
SSP-27	2.7mm	125mm	14.5mm	1.5	2.0
SSP-35	3.5mm	125mm	18mm	1.5	2.5
SSP-40	4.0mm	135mm	24mm	2.1	2.7

SSP27	
SSP35	
SSP40	

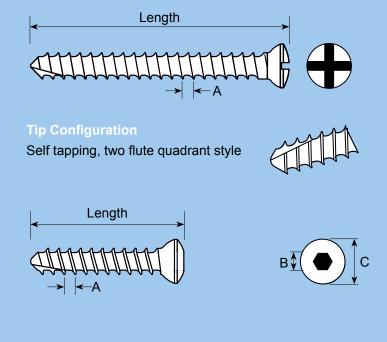


#### **Titanium Screws**

Very similar in design to Cortical Screws. Used primarily with TTA implants. Titanium implants are more osteo compatible than stainless steel implants and benefit from clearer imagery on MRI scans.

	2.4mm	2.4mm Cruciform	2.7mm	3.5mm	4.5mm
Thread Diameter	2.4mm	2.4mm	2.7mm	3.5mm	4.5mm
Thread Pitch (A)	1.0mm	1.0mm	1.0mm	1.25mm	1.75mm
Head Diameter (B)	1.5mm Hex	Crosshead	2.5mm Hex	2.5mm Hex	3.5mm Hex
Head Diameter (C)	4.0mm	4.0mm	5.0mm	6.0mm	8.0mm
Drill Bit for threaded hole	1.8mm	1.8mm	2.0mm	2.5mm	3.2mm
Drill Bit for gliding hole	2.4mm	2.4mm	2.7mm	3.5mm	4.5mm
Core Diameter	1.6mm	1.6mm	1.9mm	2.4mm	3.0mm







# **Titanium Cortical Screws**

Length	Diameter 2.4mm 1.5 Hex 1.8 Pilot Drill	Diameter 2.7mm 2.5 Hex 2.0 Pilot Drill	Diameter 3.5mm 2.5 Hex 2.5 Pilot Drill	Diameter 4.5mm 3.5 Hex 3.2 Pilot Drill
Le	Code	Code	Code	Code
6	THS-2406	THS-2706	-	-
8	THS-2408	THS-2708	-	-
10	THS-2410	THS-2710	THS-3510	-
12	THS-2412	THS-2712	THS-3512	-
14	THS-2414	THS-2714	THS-3514	-
16	THS-2416	THS-2716	THS-3516	-
18	THS-2418	THS-2718	THS-3518	-
20	THS-2420	THS-2720	THS-3520	THS-4520
22	THS-2422	THS-2722	THS-3522	THS-4522
24	THS-2424	THS-2724	THS-3524	THS-4524
26	THS-2426	THS-2726	THS-3526	THS-4526
28	THS-2428	THS-2728	THS-3528	THS-4528
30	THS-2430	THS-2730	THS-3530	THS-4530
32	-	-	THS-3532	THS-4532
34	-	-	THS-3534	THS-4534
35	-	-	-	THS-4535
36	-	-	THS-3536	THS-4536
38	-	-	THS-3538	THS-4538
40	-	-	THS-3540	THS-4540
42	-	-	-	THS-4542
44	-	-	-	THS-4544
45	-	-	-	THS-4545
46	-	-	-	THS-4546
48			-	THS-4548
50			-	THS-4550



# TTA Screws (Cruciform Drive) Low Profile

Length	Cruciform Diameter 2.4mm 1.8 Pilot Drill
Le	Code
8	TCS-2408
10	TCS-2410
12	TCS-2412
14	TCS-2414
16	TCS-2416
18	TCS-2418
20	TCS-2420
22	TCS-2422
24	TCS-2424
26	TCS-2426
28	TCS-2428
30	TCS-2430
32	TCS-2432
34	TCS-2434
36	TCS-2436
38	TCS-2438
40	TCS-2440



For TTA Implants please see page 177

# IOHC Screws (Incomplete Ossification of the Humeral Condyle)

This specialist screw was developed over two years to address the sometimes awkward procedure of Incomplete Ossification of the Humeral Condyle. Made from Extra Hard Implant Material (commonly used for Arthrodesis Wires +40% than standard Shaft Bone Screws). Retains shape and wear resistant. Dual Hex Drive.

Main Drive is 2.5mm Hex with an emergency 1.5mm Hex Drive for recovery on opposite end. Offering compression with cutting action flutes. The thread form is a modified HC (Locking Screw) from human ankle surgery. This screw greatly reduces previous complications of micro fractures, screw fatigue failure and reliability.

# A surgeon has written a procedure for how they use these screws which may be of interest

- Pre-op planning- Humeral trans condylar / transcortical distance - this can be taken from a CT or a well centered and positioned CrCa or CaCr radiograph of the elbow. If using a radiograph, be sure to place a calibration marker level with and adjacent to your area of anatomical interest. It can also be very helpful to study your radiographs alongside an anatomical model to help 'visualize' these landmarks when you later palpate them though soft tissue.
- Surgery- Once the appropriate lateral and medial landmarks are determined and soft tissue gently retracted and protected, drill a 1.1mm tunnel across the humeral condyle. The use of a universal drill aiming guide can be helpful. A scrubbed assistant will help maintain the position of the guide, as will drilling a 1.5mm diameter hole at the ideal trans cortex exit point, to anchor the drill aiming guide.
- Remove the aiming guide (if used). Slide a cannulated 3.2mm drill bit over the K-wire, protect the soft tissue at the cis-cortex and steadily over drill the 1.1mm K-wire in situ. Lavage and patience are crucial- Cannulated drill bits are not as efficient and can generate considerable heat. You may have to exit one or two times to lavage debris around the K-wire via a 21G needle on a 20ml syringe, from the hole. (Exercise caution when pulling the drill bit out- placing wire forceps on the trans cortex end of the K-wire can help prevent inadvertent pull out of the K-wire).

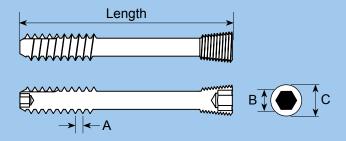
- Use a counter sink or 2mm curette to widen the caudal aspect of the entrance hole on the lateral condyle to help facilitate the seating of the threaded-head portion of the screw. Judicious slow speed use of a 4.5mm drill bit and drill stop may also help widen the first 3-4mm of the hole at the cis-cortex.
- Measure the length of the appropriate screw with a depth gauge. As a final check, review the length of the chosen screw against the exposed length of your depth gauge. Be sure to check that the trans cortex threaded portion of your chosen screw is less than half of your depth gauge distance to ensure a lagged compression.
- Steadily insert the screw by hand in a traditional tapping motion- half to 3/4 turn clockwise, quarter turn back, to facilitate the passage of the screw in the bone stock that is often sclerotic.
- Finally- palpate your transcortical landmarks- you should JUST be able to feel the screw tip almost level with your lateral/medial humeral epicondyle depending on your preferred screw placement direction.
- Consider carrying a spare screw of each length in case of accidental droppage.



# IOHC (Incomplete Ossification of the Humeral Condyle)

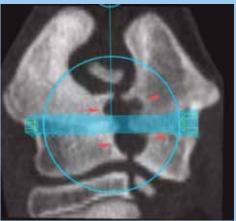
Length	Code	Length	Diameter
24	IOHC-45-24	IOHC L24mm	4.5
26	IOHC-45-26	IOHC L26mm	4.5
28	IOHC-45-28	IOHC L28mm	4.5
30	IOHC-45-30	IOHC L30mm	4.5
32	IOHC-45-32	IOHC L32mm	4.5
34	IOHC-45-34	IOHC L34mm	4.5
36	IOHC-45-36	IOHC L36mm	4.5
38	IOHC-45-38	IOHC L38mm	4.5
40	IOHC-45-40	IOHC L40mm	4.5

Thread Diameter (Main)	4.5mm
Thread Pitch	1.25mm
Drill Bit	3.2
Core Diameter	3.2mm
Hexagonal Slot	2.5mm
Retrieval Hex	1.5mm



For starter kits please see our instrument catalogue



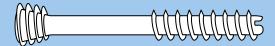


Images courtesy of Rory Paton BVSc Cert AVP MRCVS



## **Headless Lag Screws**

Self-Drilling and Self-Tapping Screws for small bones/fractures where plate placement is not possible. The head is designed to screw in flush in the bone creating a lag effect and minimising tissue irritation. Requires 1.0mm screwdriver for the 1.5mm screws and 1.5mm screwdriver for the 2.0 and 2.7mm ranges

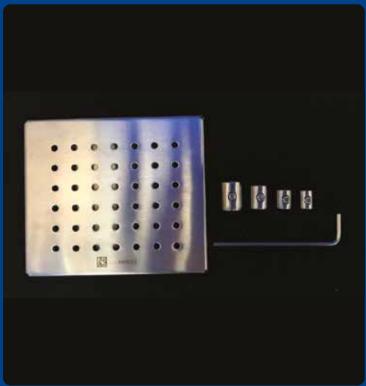


Length	Code	Description	Pilot
20	HCL-15-L	1.5mm Headless Compression Lag Screw - Large	1.1mm
15	HCL-15-M	1.5mm Headless Compression Lag Screw - Medium	1.1mm
10	HCL-15-S	1.5mm Headless Compression Lag Screw - Small	1.1mm
25	HCL-20-L	2.0mm Headless Compression Lag Screw - Large	1.5mm
20	HCL-20-M	2.0mm Headless Compression Lag Screw - Medium	1.5mm
15	HCL-20-S	2.0mm Headless Compression Lag Screw - Small	1.5mm
36	HCL-27-L	2.7mm Headless Compression Lag Screw - Large	2.0mm
20	HCL-27-M	2.7mm Headless Compression Lag Screw - Medium	2.0mm
15	HCL-27-S	2.7mm Headless Compression Lag Screw - Small	2.0mm



# **Drills and Taps**











## **EVODURANCE®** Drill Bits

#### **Next Generation**

Most orthopaedic operations involve drilling before the insertion of screws/pins/accessories into bone. The challenge was to create a superior drill than what is currently available. The current drills have been around for decades and uses old technology without taking advantage of modern CNC grinders to create complex geometry and angled cutting flutes. Investment in medical technology has always been in the human market, leaving the veterinary market requirements far down the list of priorities.

It is known that a rise in temperature above 43°C around a drill hole will cause Thermal Bone Necrosis, with irreversible changes in the structure and physical properties of bone. The immediate effect on the physical structure and the later effect on the cellular components both prejudice the hold of the screw as necrotic bone is reabsorbed, reducing the stability and strength of the fixation. Also, the presence of necrotic tissue may delay healing and be predisposed to infection.

#### Causes and solutions

1. **Blunt drill bits** will generate higher temperatures and the increased force required for penetration causes poor control of the drill, and uncontrolled bursting through the far cortex.

**Solution:** Evodurance® Drill Bits (EDB) complex cutting geometry ensures concentricity, speed and accuracy. It is highly recommended to use a drill stop until you are confident in the increased performance.

2. Blocked flutes: The physical characteristics of bone vary considerably with its state. When drilled dry, it produces debris in small particles that are easily cleared by a drill bit and the optimal helix angle for the flute is a slow helix (less turns per revolution) which most standard orthopaedic drill bits have. However, at the site of operation, the debris is wet and mixed with medullary fat and bio-fluids. In this state, bone debris is no longer in the form of small particles and the flutes of a slow helix drill will clog easily and generate excessive heat.

**Solution:** Evodurance<sup>®</sup> Drill Bits (EDB) have a quick helix in the form of a parabolic flute.

3. Increased force and wear. Standard drill points require more force to penetrate the bone because the contact surface area is larger, generating more friction, and the cutting edge does not run across the central section. If the angles are too sharp, they can cause soft tissue trauma when bursting through the far cortex. Also a more pointed tip will blunt more guickly.

**Solution:** Evodurance® Drill Bits (EDB) have a 100° point angle and our PVD coating with biocompatible TiCN resulting in further reduced friction generated heat.

At N2 UK Ltd we believe we are the first veterinary manufacturer to invest resources in the improvement of bone drills. Our drills will be more efficient, generate minimal friction and reduce the production of thermal energy. We are pleased to say that this style of drill is now available from our Evodurance® Drill Bit range.

#### References

Andrianne Y, Wagenknecht M, Donkerwolcke M, Zurbuchen C, BurnyF. External fixation pin: an in vitro general investigation. Orthopedics 1987;10:1507-16. Ardan NL, James JM, Herrick JF. Ultrasonic energy and surgically produced defects in bone. J Bone Joint Surg [Am] 1957;39-A:394-402. Bonfield W, Li CH. The temperature dependence of the deformation of bone. J Biomechanics 1968;1:323-9. Fuchsberger A. Optimization of the spiral drill for use in medicine. Z Orthop1987;125:290-7. Matthews LS, Green CA, Goldstein SA. The thermal effects of steelal fixation-pin insertion in bone. J Bone Joint Surg [Am] 1984;66-A: 1077-83. Matthews LS, Hirsch C. Temperatures measured in human cortical bone when drilling. J Bone Joint Surg [Am] 1972;54-A:297-308. Saha S, Pal S, Albright JA. Surgical drilling: design and performance of an improved drill. J Biomech Eng 1982;104:245-52. Sidak Z. Rectangular confidence regions for the means of multivariant normal distributions. J Am Stat Assoc 1967;62:626-33.



### **Evodurance® Drill Bits**

Our popular Evodurance® range has been improved; they still cut quickly and precisely as before but they have been strengthened to ensure even the most heavy-handed surgeon can use them.

Drills are coated in TiN (Titanium Nitride) to help resist wear.

Order Code	Description	Working Length mm
EDB-QR-15-080	1.5mm Evodurance <sup>®</sup> Drill Bit AO Quick Release.	80
EDB-QR-18-080	1.8mm Evodurance® Drill Bit AO Quick Release.	80
EDB-QR-20-110	2.0mm Evodurance® Drill Bit AO Quick Release.	110
EDB-QR-25-150	2.5mm Evodurance® Drill Bit AO Quick Release.	150
EDB-QR-27-150	2.7mm Evodurance® Drill Bit AO Quick Release.	150
EDB-QR-28-150	2.8mm Evodurance® Drill Bit AO Quick Release.	150



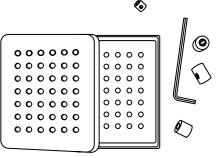
These sizes are also available in plain shank; contact us for further information.

We recommend the use of drill stops with these drills due to fast cutting action.

### **Drill Stop Set**

Comprises four stoppers in an autoclavable case simply choose the nearest stopper to your drill bit and lock it off at the required drill depth.

Order Code	Description
DR-ST-SET	Drill Stop Set in stainless steel case, for drill sizes 2.0,2.5,2.7,3.2,3.5,4.5



#### **Veterinary Supplies**

### **Drill Bit - Anti Skid**

Standard tipped drills can slip or skid when making the initial entry into the bone especially when the angle differs from 90 degrees. Anti skid drills have a very sharp point on the end which bites into the bone and holds the drill in place, ensuring the hole is exactly where you need it.

Order Code	Diameter	Total Length mm
DRL-AS-15-R	1.5	60
DRL-AS-18-R	1.8	80
DRL-AS-20-R	2.0	100
DRL-AS-24-R	2.4	115
DRL-AS-25-R	2.5	130
DRL-AS-27-R	2.7	130
DRL-AS-32-R	3.2	130
DRL-AS-35-R	3.5	130



For drilling over A-wires when drill hole angle and site are critical.

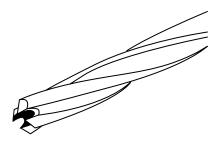
Order Code	Description	Length mm
DRL-CAN-25-130	Drill Bit 2.5mm with 1.1mm Cannulation	130
DRL-CAN-32-130	Drill Bit 3.2mm with 1.1mm Cannulation	130
DRL-CAN-35-130	Drill Bit 3.5mm with 1.1mm Cannulation	130

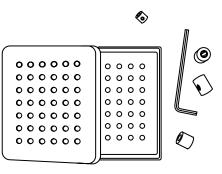
### **Drill Stop Set**

Comprises four stoppers in an autoclavable case simply choose the nearest stopper to your drill bit and lock it off at the required drill depth.

Order Code	Description
DR-ST-SET	Drill Stop Set in stainless steel case, for drill sizes 2.0,2.5,2.7,3.2,3.5,4.5





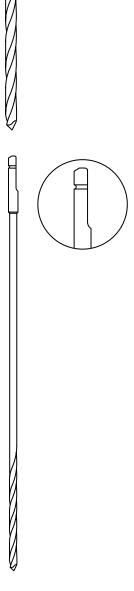


### **Standard Drill Bits**

We have added the most common sizes and lengths to our standard drill range and offer a set price for all sizes. These drills offer excellent value.

Order Code	Diameter	Total Length	Flute Length
DRL-11-060	1.1	60	25
DRL-11-080	1.1	80	25
DRL-15-060	1.5	60	30
DRL-15-080	1.5	80	30
DRL-18-080	1.8	80	30
DRL-18-110	1.8	110	30
DRL-20-080	2.0	80	40
DRL-20-110	2.0	110	40
DRL-25-100	2.5	100	50
DRL-25-150	2.5	150	50
DRL-27-100	2.7	100	50
DRL-27-150	2.7	150	50
DRL-32-170	3.2	170	60
DRL-35-170	3.5	170	60
DRL-40-170	4.0	170	60
DRL-45-170	4.5	170	60

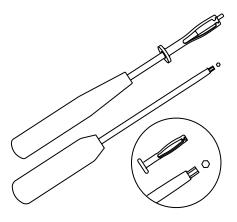
Order Code	Diameter	Total Length	Flute Length
DRL-QR-11-060	1.1	85	25
DRL-QR-11-080	1.1	105	25
DRL-QR-15-060	1.5	85	25
DRL-QR-15-080	1.5	105	30
DRL-QR-18-080	1.8	105	40
DRL-QR-18-110	1.8	135	40
DRL-QR-20-080	2.0	105	40
DRL-QR-20-115	2.0	130	40
DRL-QR-24-100	2.4	125	50
DRL-QR-25-100	2.5	125	40
DRL-QR-25-150	2.5	175	40
DRL-QR-27-100	2.7	125	40
DRL-QR-27-150	2.7	125	40
DRL-QR-27-170	2.7	170	60
DRL-QR-28-150	2.8	175	40
DRL-QR-32-170	3.2	195	60
DRL-QR-35-170	3.5	195	60
DRL-QR-40-170	4.0	195	60
DRL-QR-45-170	4.5	195	60



### **Hex Head Screwdrivers**

Standard Screwdrivers for Hex Head Screws.

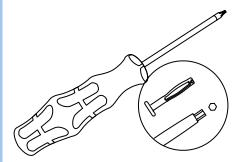
Order Code	Description	
SD-H15	ledow	Screwdriver for 1.5mm, 2.0mm and 2.4mm Hex Screws with Sleeve
SD-H20	•	Screwdriver for 2.4mm screws with 2.0mm Hex Screws with Sleeve
SD-H25	•	Screwdriver for 2.7mm, 3.5mm and 4.0mm Hex Screws with Sleeve
SD-H35	•	Screwdriver for 4.5mm, 5.5mm and 6.5mm Hex Screws with Sleeve



### **Torx/Star Head Screwdrivers**

Hardened Tipped Screwdrivers for Torx Screws.

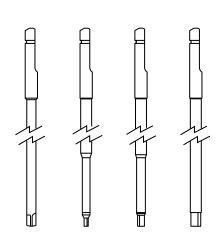
Order Code	Description	
SD-TD-T6	•	Screwdriver for 2.0mm Star Torx Drive Locking Screws
SD-TD-T8	•	Screwdriver for 2.4mm/2.7mm Star Torx Drive Locking Screws
SD-TD-T15	•	Screwdriver for 3.5mm Star Torx Drive Locking Screws



### **Quick Release Screwdriver Tips**

Superior quality Hardened Screwdriver Tips.

Order Code	Fits Screw sizes	
SDT-QR-H15	•	Hex Screwdriver Tip for 1.5,2.0,2.4mm Screws
SDT-QR-H20	•	Hex Screwdriver Tip for 2.4mm Cortical Screws with 2.0mm hex
SDT-QR-H25	•	Hex Screwdriver Tip for 2.7,3.5,4.0mm Screws
SDT-QR-H35	•	Hex Screwdriver Tip for 4.5,6.5mm Screws
SDT-QR-C24	<b></b>	2.4mm with Cruciform Drive



### **Premium Screwdrivers Tips**

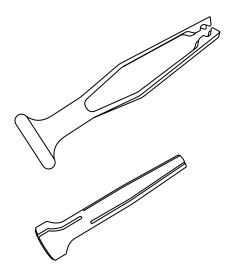
Superior quality Hardened Screwdriver Tips for Star Torx Head Screws.

Order Code	Description
SDT-QR-T6	T6 Premium Screwdriver Tip for 2.0mm Torx Head Screws
SDT-QR-T8	T8 Premium Screwdriver Tip for 2.4/2.7mm Torx Head Screws
SDT-QR-T15	T15 Premium Screwdriver Tip for 3.5mm Torx Head Screws



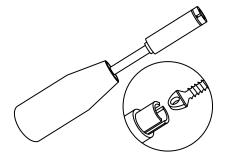
### **Screw Holding Sleeves**

Order Code	Description
SD-SLEEVE-152024	Spare Screw Holding Sleeve for 1.5mm Hex Screwdriver (SD-H15)
SD-SLEEVE-273540	Spare Screw Holding Sleeve for 2.5mm Hex Screwdriver (SD-H25)
SD-SLEEVE-4565	Spare Screw Holding Sleeve for 3.5mm Hex Screwdriver (SD-H35)
SHS-T6	Screw Holding Sleeve for T6 Screwdriver and Premium tips
SHS-T8	Screw Holding Sleeve for T8 Screwdriver and Premium tips
SHS-T15	Screw Holding Sleeve for T15 Screwdriver and Premium tips



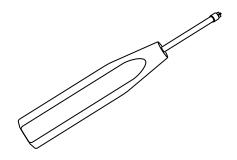
Screwdriver to fit all Suture Head Screws, for kit see our Instrument Catalogue.

Order Code	Description
SA-INSERT	Universal Suture Screw Insertion Driver



2.4mm Cross Head Screwdriver for TCS-24 Screws.

Order Code	Description			
SD-C24	<b>⊕</b>	Screwdriver 2.4mm Cross-Head (2.4mm Titanium Screws)		



### **Sherman Screwdrivers**

Order Code	Desc	ription	Length mm
SD-F20-L17	$\Theta$	Screwdriver Flat Head 2.0mm	175
SD-F27-L17	$\Theta$	Screwdriver Flat Head 2.7mm	175
SD-F35-L17	$\Theta$	Screwdriver Flat Head 3.5mm	175
SD-C35-L25	<b></b>	Screwdriver Cross Head 3.5mm	250



A range of premium screwdrivers with a silicone handle, available in standard quick fit, T-bar and dental fit. The silicone handle greatly improves the antislip surface in a gloved hand, whilst also being easier to clean.

Order Code	Description
SGH-DF	Premium Quality Comfort Silicone Handle - Dental Fit
SGH-QF	Premium Quality Comfort Silicone Handle - AO Quick Release
STH-QF	Premium Quality Comfort Silicone Handle - T-Bar AO Quick Release

Colour may vary

There is also a standard version with Teflon handle.

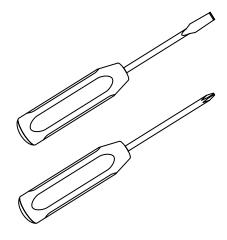
Order Code	Description
	Standard Teflon Quick Release Screwdriver Handle

### **Drill Storage Box**

Marked to hold the following drill bits.

1.1, 1.5, 1.8, 2.0, 2.4, 2.5, 2.7, 3.2, 3.5, 4.0, 4.5

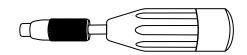
Order Code	Description
DR-BOX	Drill Box Empty
DR-BOX-FULL	Drill Box Complete with 1.1, 1.5, 1.8, 2.0, 2.4, 2.5, 2.7, 3.2, 3.5, 4.0, 4.5mm drills











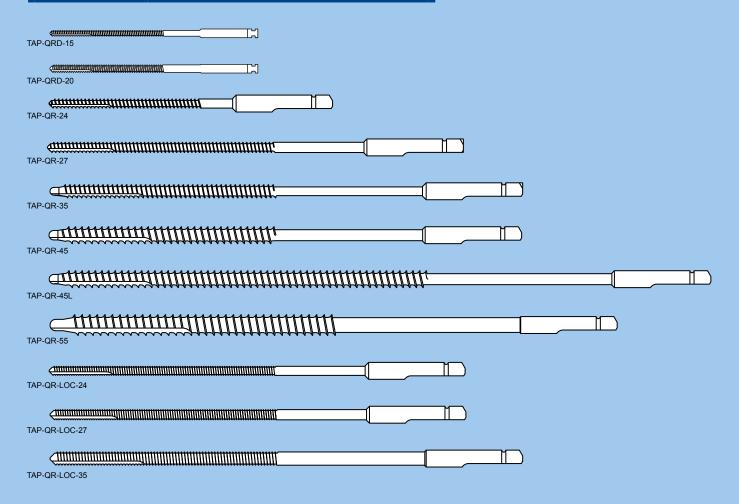


### Taps Quick Release AO / Dental Fit

Taps are designed to cut a thread prior to screw placement. Removal of the material allows the screws to be placed in the bone much easier and reduces risk of stripping.

N2 taps are hardened to last longer and the threads are cut with a sharp edge to aid the pre tapping process.

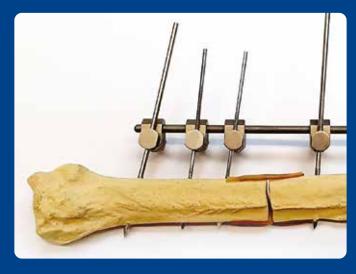
Order Code	Description			
Cortical Taps				
TAP-QRD-15	1.5mm Cortical tap with Dental quick fit			
TAP-QRD-20	2.0mm Cortical tap with Dental quick fit			
TAP-QR-24	2.4mm Cortical tap with AO quick fit			
TAP-QR-27	2.7mm Cortical tap with AO quick fit			
TAP-QR-35	3.5mm Cortical tap with AO quick fit			
TAP-QR-45	4.5mm Cortical tap with AO quick fit			
TAP-QR-45L	4.5mm Cortical tap extra long with AO quick fit			
TAP-QR-55	5.5mm Cortical tap with AO quick fit			
Locking Taps				
TAP-QR-LOC-24	2.4mm Locking screw tap with AO quick fit			
TAP-QR-LOC-27	2.7mm Locking screw tap with AO quick fit			
TAP-QR-LOC-35	3.5mm Locking screw tap with AO quick fit			



### Wires and Pins







# N2 (UK) Ltd L2 Veterinary Supplies

	Page
Steinman Intra-Medullary Pins	48
Kirschner/Arthrodesis Wires Trochar	49
Extra Long Kirschner Wires	49
Kirschner Wires Bayonet	49
Fully Threaded Kirschner Wires	50
Fragment Pins Fine Thread	50
Negative Threaded End Thread Pins	50
Negative Threaded Ellis Pins	51
Positive Threaded Cortical Pins	51
TPLO Jig Pin	51
TPLO Stabilising Pin	51
Positive Threaded Mid Thread Cortical Pins	52
Positive Threaded Cancellous End Thread Pins	52
Positive Threaded Cancellous Mid Thread Pins	52



### Kirschner/Arthrodesis Wires (K-wires), Steinmann Pins, Denham pins and guide wires

Wire Diameters Ø Available
0.80mm
0.90mm
1.00mm
1.10mm
1.20mm
1.25mm
1.40mm
1.50mm
1.60mm
1.80mm
2.00mm
2.20mm
2.40mm
2.50mm
2.80mm
3.00mm
3.18mm
3.50mm
4.00mm
4.50mm
5.00mm
6.00mm
6.35mm
8.00mm

Variables on end type		Code	Comments
	Trocar (Trochar)	Т	3 Faceted triangular point
	Bayonet	В	Spade drill style point
	Round	R	Blunt round end
$\circ \subset \longrightarrow$	Dome	D	Blunt domed end
	Triangle	Α	3 Faced tri-drive
	Square	Q	4 Faced square-drive
⊗ (CCCC) ⊗	Drill Point	Р	Short 4 facet drill point
	Eyelet	Е	Eyelet (suture loop)

Variables on end type		Code	Comments	
	Fully Threaded	PFT	Thread runs full length of wire	
	Front End Threaded Short	PST	5-10mm of front end thread	
	Front End Threaded Long	PLT	15-30mm of front end thread	
	No Thread	PIN	Parallel shaft with no thread	
	Positive Mid Thread (Denham Pin)	PMT	Threaded mid section diameter larger than pin shaft	
<	Positive End Thread	PET	Threaded end section diameter larger than pin shaft	

#### **Kirschner Wires**

Unthreaded Kirschner/Arthrodesis Wires are supplied in several formats, Trocar point in which the tip is sharpened to a 3 facet point, Bayonet point which provides a spade drill for improved cutting, Triangular end to allow greater grip in the jaws of the drill, and Round end, plain finished with domed tip. Threaded, trocar pointed wires are also available for use as guide wires.

#### **Steinmann Pins**

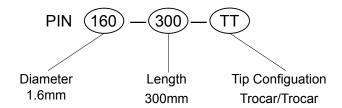
Used in skeletal traction for alignment and reduction of fractures and with certain external fixation systems. Steinmann Pins are supplied either with a three facet trocar point or 'spade drill type' bayonet point. The ends of the pins are available either triangular or round.

#### **Material**

Material for sizes up to Ø5.00mm = Stainless Steel ISO5832-1 XH (extra high) = 1400 N/mm2

Material for sizes over Ø5.00mm = Stainless Steel ISO5832-1 HI (high) = 1100 N/mm2

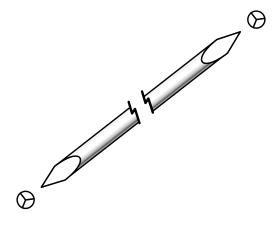
#### **Order Code explained**





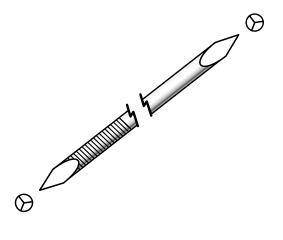
# Steinman Intra-Medullary Pin Trocar Tips

Order Code	Pin Diameter	Length
PIN-100-300-TT	1.00	300
PIN-150-300-TT	1.50	300
PIN-160-300-TT	1.60	300
PIN-200-300-TT	2.00	300
PIN-240-300-TT	2.40	300
PIN-250-300-TT	2.50	300
PIN-280-300-TT	2.80	300
PIN-320-300-TT	3.20	300
PIN-360-300-TT	3.60	300
PIN-400-300-TT	4.00	300
PIN-480-300-TT	4.80	300
PIN-560-300-TT	5.60	300
PIN-635-300-TT	6.35	300
PIN-800-300-TT	8.00	300



### Steinman Intra-Medullary Pin Threaded Trocar / Plain Trocar Tips

Order Code	Pin Diameter	Length/ Thread
PLT-160-300-TT	1.60	300 / 30
PLT-200-300-TT	2.00	300 / 30
PLT-240-300-TT	2.40	300 / 30
PLT-280-300-TT	2.80	300 / 30
PLT-320-300-TT	3.20	300 / 30
PLT-360-300-TT	3.60	300 / 30
PLT-400-300-TT	4.00	300 / 30
PLT-480-300-TT	4.80	300 / 30
PLT-635-300-TT	6.35	300 / 30
PLT-800-300-TT	8.00	300 / 30
PLT-560-300-TT	5.60	300 / 30





# **Kirschner/Arthrodesis Wire (Trocar both ends) Sold in packs of 10**

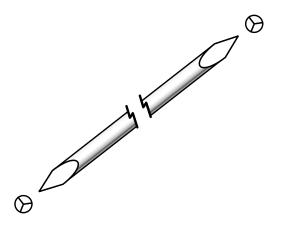
Order Code	Pin Diameter	Length
PIN-080-125-TT	0.80	125
PIN-090-125-TT	0.90	125
PIN-100-125-TT	1.00	125
PIN-110-125-TT	1.10	125
PIN-125-125-TT	1.25	125
PIN-140-125-TT	1.40	125
PIN-150-125-TT	1.50	125
PIN-160-125-TT	1.60	125
PIN-180-125-TT	1.80	125
PIN-200-125-TT	2.00	125

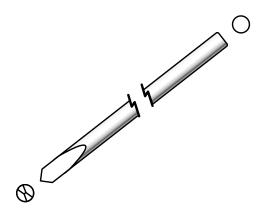
# Extra Long Kirschner/ Arthrodesis Wires

Order Code	Pin Diameter	Length
PIN-125-150-TT	1.25	150
PIN-140-160-TT	1.40	160
PIN-160-160-TT	1.60	160

### Kirschner/Arthrodesis Wire (Bayonet / Round) Sold in packs of 10

Order Code	Pin Diameter	Length
PIN-090-125-BR	0.90	125
PIN-100-125-BR	1.00	125
PIN-110-125-BR	1.10	125
PIN-125-125-BR	1.25	125
PIN-140-125-BR	1.40	125
PIN-150-125-BR	1.50	125
PIN-160-125-BR	1.60	125
PIN-180-125-BR	1.80	125
PIN-200-125-BR	2.00	125





**Veterinary Supplies** 

### **Fully Threaded** Kirschner/Arthrodesis Wires Trocar / Trocar

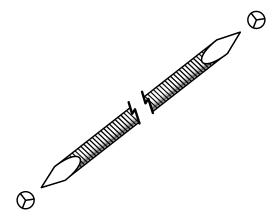
Order Code	Pin Diameter	Length / Thread
PFT-110-150-TT	1.10	150
PFT-150-150-TT	1.50	150
PFT-160-150-TT	1.60	150
PFT-200-150-TT	2.00	150

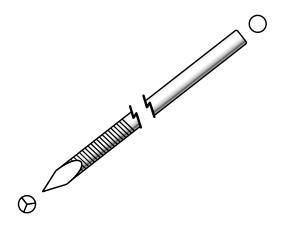
### 2.0mm Fine Threaded **Fragment Pins With** Washer

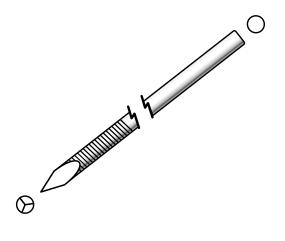
Order Code	Pin Diameter	Length / Thread
PIN-M2-05	2.0	125 / 5
PIN-M2-10	2.0	125 / 10
PIN-M2-15	2.0	125 / 15
PIN-M2-20	2.0	125 / 20
PIN-M2-25	2.0	125 / 25
PIN-M2-30	2.0	125 / 30
PIN-M2-40	2.0	125 / 40
WAS-M2	Fine threaded washer 5.0 dia	

### **Negative Threaded Pins Cortical End Thread**

Order Code	Pin Diameter	Length / Thread
PLT-110-070-TR	1.1	70 / 15
PLT-150-070-TR	1.5	70 / 15
PLT-160-070-TR	1.6	70 / 20
PLT-180-085-TR	1.8	85 / 25
PLT-200-085-TR	2.0	85 / 25
PLT-240-100-TR	2.4	100 / 25
PLT-300-130-TR	3.0	130 / 35
PLT-350-130-TR	3.5	130 / 40
PLT-400-150-TR	4.0	150 / 45
PLT-500-150-TR	5.0	150 / 50









# **Negative Threaded Ellis Pins Short Fine End Thread**

Order Code	Pin Diameter	Length / Thread
PST-110-070-TR	1.1	70 / 5
PST-160-070-TR	1.6	70 / 5
PST-160-085-TR	1.6	85 / 5
PST-180-085-TR	1.8	85 / 10
PST-200-085-TR	2.0	85 / 10
PST-200-130-TR	2.0	130 / 10
PST-280-115-TR	2.8	115 / 15
PST-240-100-TR	2.4	100 / 10
PST-240-130-TR	2.4	130 / 10
PST-320-130-TR	3.0	130 / 15
PST-300-130-TR	3.2	130 / 15
PST-360-130-TR	3.6	130 / 15
PST-400-150-TR	4.0	150 / 20

# **Positive Threaded Pins Cortical End Thread**

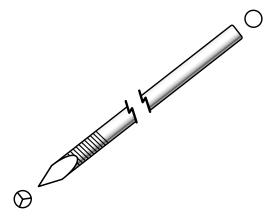
Order Code	Shank / Thread	Length
PET-1620-070-TR	1.6 / 2.0	70
PET-1822-070-TR	1.8 / 2.2	70
PET-2024-085-TR	2.0 / 2.4	85
PET-2432-100-TR	2.4 / 3.2	100
PET-2735-110-TR	2.7 / 3.5	110
PET-3036-120-TR	3.0 / 3.6	120
PET-3240-130-TR	3.2 / 4.0	130
PET-3543-130-TR	3.5 / 4.3	130
PET-4048-150-TR	4.0 / 4.8	150

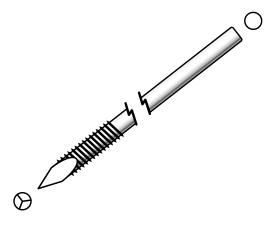
### **TPLO Jig Guide Pin**

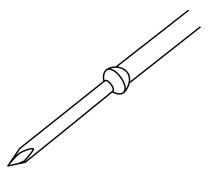
Order Code	Shank / Thread	Length
PIN-TPLOS-32	3.2	125

### **Stabilising Pin with Olive**

Order Code	Shank / Thread	Length
PIN-OL3-160-125- TR	1.6	125



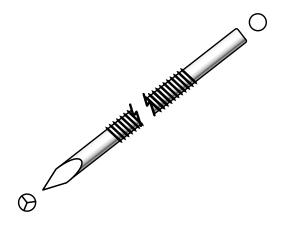






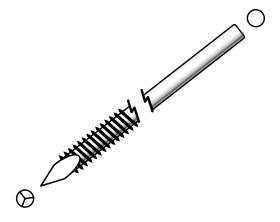
## **Positive Threaded Pins Cortical Mid Thread**

Order Code	Shank / Thread	Length
PMT-1620-085-TR	1.6 / 2.0	85
PMT-1822-085-TR	1.8 / 2.2	85
PMT-2024-105-TR	2.0 / 2.4	105
PMT-2432-105-TR	2.4 / 3.2	105
PMT-2735-115-TR	2.7 / 3.5	115
PMT-3036-120-TR	3.0 / 3.6	120
PMT-3240-130-TR	3.2 / 4.0	130
PMT-3543-140-TR	3.5 / 4.3	140
PMT-4048-150-TR	4.0 / 4.8	150



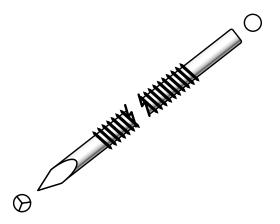
## **Positive Threaded Pins Cancellous End Thread**

Order Code	Shank / Thread	Length
PETC-2435-115-TR	2.4 / 3.5	115
PETC-3248-150-TR	3.2 / 4.8	150



# **Positive Threaded Pins Cancellous Mid Thread**

Order Code	Shank / Thread	Length
PMTC-2435-150-TR	2.4 / 3.5	150
PMTC-3248-180-TR	3.2 / 4.8	180



### **Bone Plates**











### Not just any Bone Plate, but an N2 Bone Plate

### Let's talk Bone Plates

I would like to introduce you to how a plate is made to our standards.

Firstly, we never sub-contract, buy in and refinish/repackage other supplier's implants.

We do not skip processes or cut corners on our processes for our human or veterinary implants, and both are of equal quality.

Some IP details and manufacturing specifics are left out for obvious reasons...

#### My "3.5mm Compression Plate"

1. The raw material is a pre-determined extruded profile (shape) direct from the Steel Mill. The same profile is used in the human market and tested for structural tensile strength, contaminates and composition. The raw material batches are registered, inspected for imperfections and approved prior to manufacturing and must meet stringent ISO specifications.

#### All our implants are made from:



Profile



Bar



Strip



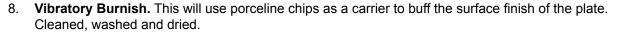
Sheets

- 2. The Profile is machined with compression features to size and length using specialist certified carbide tooling and degreased. It is inspected by the operator using gauges and shadowgraph and documented. All products are made with a WIP card (work in progress) containing a technical drawing, procedures (GPN) as this tells the whole manufacturing life of the implant for total traceabilty. This includes the quantity, date and signature of everybody involved in the process from beginning to end.
- 3. Cleaning to the next level. We have four types of cleaning in implants manufacturing. Ultrasonic cleaners remove debris from Bone Plates which have been machined in bio de-gradeable cutting oil; degreasers clean products using neat cutting oils; blast washing removes Bead Blasting residue and acid cleans prior to final inspection. The machines themselves have a strict cleaning regime and are tested for PH Levels, bacteria and tramp oil (mixture of lubricants, coolant and metal residues).
- 4. The plate is then manually 'Linished'. This process can only be done by hand and removes any surface machining marks, scale and imperfections. This is a process either using a cutting impregnated belt or specialist rotating wheel.
- 5. Cut Back. The machine then spends approximately 17 hours being rumbled in a 300 Litre vibratory bowl to break down all the edges to a consistent size. The actual process is a guarded secret and 'Black Art' and took about 18 months of trials to achieve the optimal results. 'Cut Back' is when thousands of shaped pieces are rumbled and rotated with filtered water and 'X' chemical against the products to remove minor burrs and smoothing all the edges consistently. The shaped pieces, known as media, will gradually wear and need constant replacing.

6. **Vibratory Grind.** Like using grit in sandpaper, the product is ground down using porceline to smooth the surface finish of the plate. The pastes start with a coarse grit and then becomes finer with time.

Vibratory Polish. This process is a gentle slow polish using ultra fine polishing pastes.

The finishing process takes place over a three day period using small porceline shapes. Unlike the 'Cut Back' process the actual media does not break down but acts as a carrier to the pastes to grind the product in every direction. A three stage process to ensure the surface is ultra smooth, no sharp edges, and free from imperfections or inclusions.



9. **Electropolishing** removes a very minute layer of material whereas electroplating adds a layer of material. In lay mans terms Electropolishing is a mixture of two acids (green in colour) in a hot bubbly cauldron and electricity is passed through the mix to remove a layer of material. This process is a 'dark art' and requires a critical data for electricity, time and weight to calculate to achieve the required result. This process removes the microscopic peaks and valleys from the surface for an even greater polished finish.

10. **BeadBlasting.** The plate is then surface treated with ceramic bead to give a non reflective look. Cleaned and washed.

11. The plate is then treated for 20 minutes in a diluted mixture of nitric acid to ensure any contaminates are removed from all of the manufacturing processes

The product is then washed in clean water and dried using micro fibre clothes and using protective gloves.

12. The product then undergoes final inspection including visual and dimensional checks.

13. We then use a Windows based Laser system to mark the product or coded as per customer specification.

14. It is then registered and packaged in sealed foil pouches. The product data and full history is electronically scanned and stored on site and to the cloud for full traceabilty.



	Page
1.5mm Mini Self Compression Plate	58
2.0mm Mini Self Compression Plate	58
2.0mm Broad Mini Self Compression Plate	60
2.4mm Mini Self Compression Plate	60
2.7mm Mini Self Compression Plate	62
2.7mm Mini Self Compression Plate Thick	62
3.5mm Self Compression Plate Narrow	64
3.5mm Self Compression Plate Broad	66
4.5mm Self Compression Plate Narrow	68
4.5mm Self Compression Plate Broad	70
2.0/2.7/3.5/4.5mm Buttress Bridge Plate (Biological Healing)	72
3.5mm Broad Buttress Bridge Plate	74
2.0mm Mini Plate Straight Tubular	76
2.7mm Quarter Tubular	76
3.5mm One Third Tubular	76
2.7mm Reconstruction Plates	78
3.5mm Reconstruction Plates	78
Cuttable Plates	80
Cuttable Malleable Plates	80
Broad Cuttable Plates	80
H-Plates	82
2.0mm Distal Plates	82
2.7mm Distal Plates	82
3.5mm T-Plates Round Hole	82
Acetabular Plates	82
Hybrid T-Plates	84
Pantarsal Arthrodesis Plates	86



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### 1.5mm Mini Self-Compression Plate

Order Code	No. of Holes	Length mm
MCP-15-02	2	11
MCP-15-03	3	15
MCP-15-04	4	19
MCP-15-05	5	23
MCP-15-06	6	27
MCP-15-07	7	31
MCP-15-08	8	35
MCP-15-09	9	39
MCP-15-10	10	43
MCP-15-11	11	47
MCP-15-12	12	51
MCP-15-13	13	55
MCP-15-14	14	59

<sup>1.5</sup>mm Compression Plate - Dimensions are 4mm wide, 1mm thick. Use with 1.5mm Cortical Screws

### 2.0mm Mini Self Compression Plate

Order Code	No. of Holes	Length mm
MCP-20-02	2	12
MCP-20-03	3	17
MCP-20-04	4	22
MCP-20-05	5	27
MCP-20-06	6	32
MCP-20-07	7	37
MCP-20-08	8	42
MCP-20-09	9	47
MCP-20-10	10	52
MCP-20-11	11	57
MCP-20-12	12	62
MCP-20-13	13	67
MCP-20-14	14	72



2.0mm Compression Plate - Dimensions are 5mm wide, 1mm thick up to 6 holes and 1.5mm thick upwards. Use with 2.0mm Cortical Screws.



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**110** 

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**₽** 70

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130

### 1.5mm Mini Self-Compression Plate

MCP-15-13	0000000000000
MCP-15-12	000000 000000
MCP-15-11	00000 00000
MCP-15-10	00000 00000
MCP-15-09	0000 0000
MCP-15-08	0000 0000
MCP-15-07	0000 000
MCP-15-06	000 000
MCP-15-05	000 00
MCP-15-04	00 00

### 2.0mm Mini Self Compression Plate

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### 2.0mm Broad Mini Compression Plate

Order Code	No. of Holes	Length mm
MCPX-20-02	2	12
MCPX-20-03	3	17
MCPX-20-04	4	22
MCPX-20-05	5	27
MCPX-20-06	6	32

2.0mm Compression Plate Broad - Dimensions are 5mm wide, 1.5mm thick. Use with 2.0mm Cortical Screws.



### 2.4mm Mini Self Compression Plate

Order Code	No. of Holes	Length mm
MCP-24-04	4	31.5
MCP-24-05	5	38.5
MCP-24-06	6	45.5
MCP-24-07	7	52.5
MCP-24-08	8	59.5
MCP-24-09	9	66.5
MCP-24-10	10	73.5
MCP-24-11	11	80.5
MCP-24-12	12	87.5
MCP-24-13	13	94.5
MCP-24-14	14	101.5
MCP-24-16	16	115.5



2.4mm Compression Plate - Dimensions are 7mm wide, 2mm thick. Use with 2.4mm Cortical Screws.

Self-compressing plates that achieve axial compression of the fracture site by combining screw hole geometry with screw insertion. Screws can be inserted off centre to the screw hole so that when tightened the head will glide alongside the hole displacing the plate in the direction of the fracture resulting in compression. They can adapt to many different internal fixation situations and function as a dynamic compression plate, a neutralization plate, or be used in bridging fashion as a lengthening plate. Use with ISO standard Cortical Bone Screws with spherical head.

All plates are made from Stainless Steel ISO 5832-1



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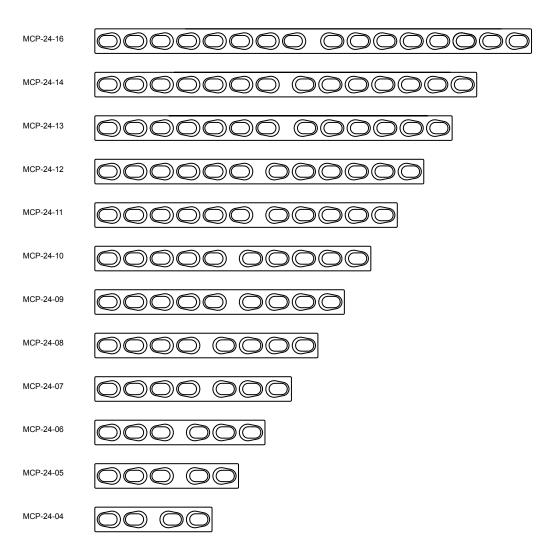
## 2.0mm Broad Mini Self Compression Plate

MCPX-20-04

MCPX-20-03

MCPX-20-02

### 2.4mm Mini Self Compression Plate





### 2.7mm Mini Self Compression Plate Thin

Order Code	No. of Holes	Length mm
MCP-27-02	2	21
MCP-27-03	3	29
MCP-27-04	4	37
MCP-27-05	5	45
MCP-27-06	6	53



### 2.7mm Mini Self Compression Plate Thick

Order Code	No. of Holes	Length mm
MCP-27-07	7	61
MCP-27-08	8	69
MCP-27-09	9	77
MCP-27-10	10	85
MCP-27-11	11	93
MCP-27-12	12	101
MCP-27-13	13	109
MCP-27-14	14	117
MCP-27-15	15	125
MCP-27-16	16	133



Dimensions are 8mm wide, 2mm thick up to 6 holes and 2.5mm thick upwards. Use with 2.7mm Cortical Screws.

Self-compressing plates that achieve axial compression of the fracture site by combining screw hole geometry with screw insertion. Screws can be inserted off centre to the screw hole so that when tightened the head will glide alongside the hole displacing the plate in the direction of the fracture resulting in compression. They can adapt to many different internal fixation situations and function as a dynamic compression plate, a neutralization plate, or be used in bridging fashion as a lengthening plate. Use with ISO standard Cortical Bone Screws with spherical head.

All plates are made from Stainless Steel ISO 5832-1



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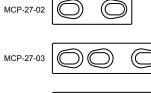
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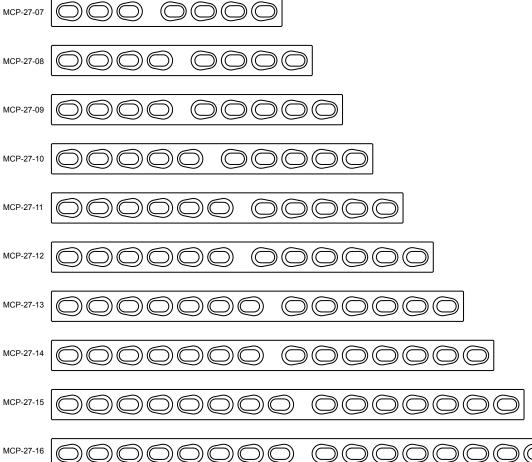
110

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### 2.7mm Mini Self Compression Plate 2.0mm Thin



### 2.7mm Mini Self Compression Plate 2.5mm Thick



### 3.5mm Self Compression Plate Straight Narrow

Order Code	No. of Holes	Length mm
CPN-35-02	2	26
CPN-35-03	3	38
CPN-35-04	4	50
CPN-35-05	5	62
CPN-35-06	6	74
CPN-35-07	7	86
CPN-35-08	8	98
CPN-35-09	9	110
CPN-35-10	10	122
CPN-35-11	11	134
CPN-35-12	12	146
CPN-35-13	13	158
CPN-35-14	14	170
CPN-35-15	15	182
CPN-35-16	16	194
CPN-35-17	17	206
CPN-35-18	18	218



Dimensions are 10.2mm wide, 3.2mm thick Pre contoured Profile. Use with 3.5mm Cortical Screws or 3.5mm/4.0mm Cancellous.

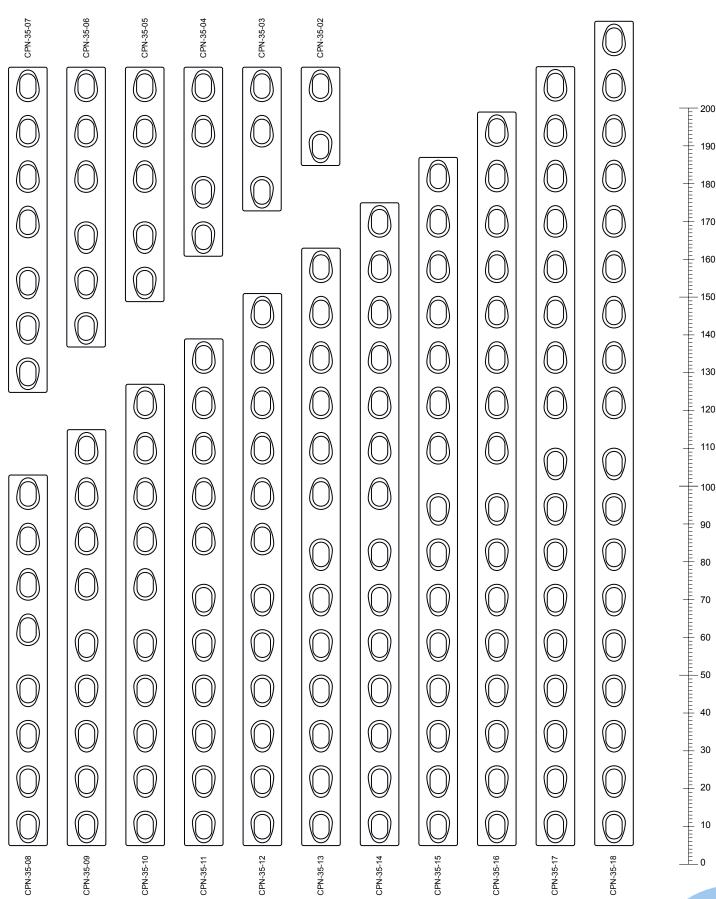
Self-compressing plates that achieve axial compression of the fracture site by combining screw hole geometry with screw insertion. Screws can be inserted off centre to the screw hole so that when tightened the head will glide alongside the hole displacing the plate in the direction of the fracture resulting in compression. They can adapt to many different internal fixation situations and function as a dynamic compression plate, a neutralization plate, or be used in bridging fashion as a lengthening plate. Use with ISO standard Cortical Bone Screws with spherical head.

All plates are made from Stainless Steel ISO 5832-1



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### 3.5mm Self Compression Plate Straight Narrow



### 3.5mm Self Compression Plate Straight Broad

Order Code	No. of Holes	Length mm
CPB-35-02	2	26
CPB-35-03	3	38
CPB-35-04	4	50
CPB-35-05	5	62
CPB-35-06	6	74
CPB-35-07	7	86
CPB-35-08	8	98
CPB-35-09	9	110
CPB-35-10	10	122
CPB-35-11	11	134
CPB-35-12	12	146
CPB-35-13	13	158
CPB-35-14	14	170
CPB-35-15	15	182
CPB-35-16	16	194
CPB-35-17	17	206
CPB-35-18	18	218
CPB-35-19	19	230
CPB-35-20	20	242
CPB-35-21	21	254
CPB-35-22	22	266



Dimensions are 11.5mm wide; 4mm thick Pre contoured Profile. Use with 3.5mm Cortical Screws or 3.5mm/4.0mm Cancellous.

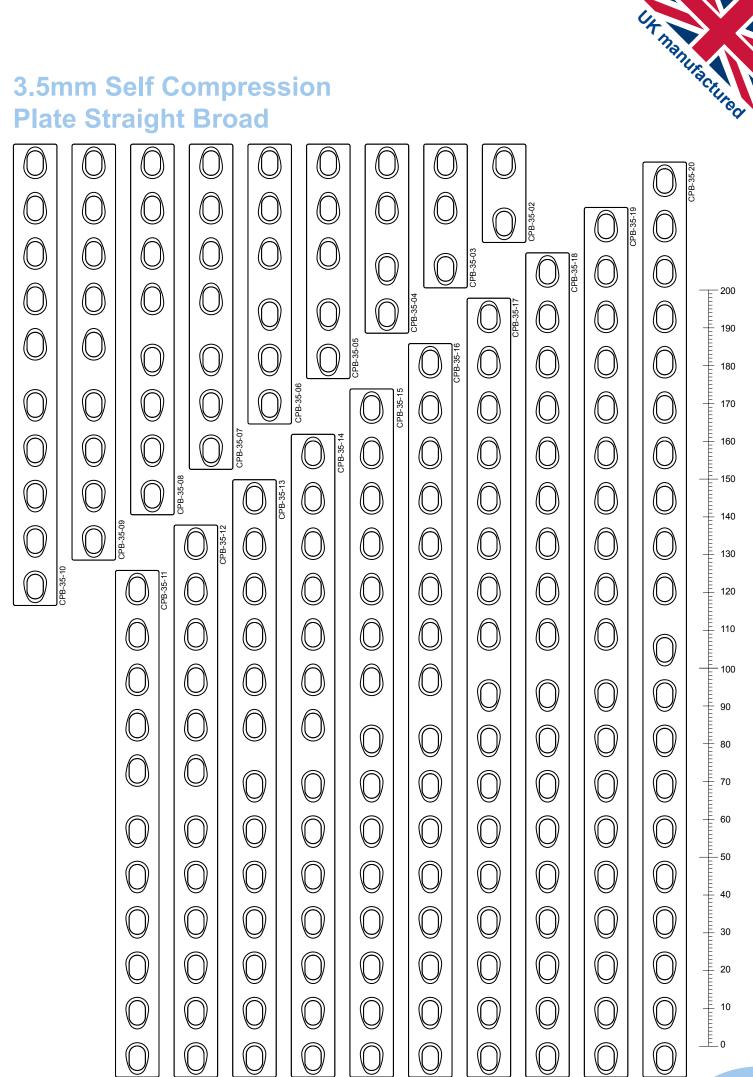
Self-compressing plates that achieve axial compression of the fracture site by combining screw hole geometry with screw insertion. Screws can be inserted off centre to the screw hole so that when tightened the head will glide alongside the hole displacing the plate in the direction of the fracture resulting in compression. They can adapt to many different internal fixation situations and function as a dynamic compression plate, a neutralization plate, or be used in bridging fashion as a lengthening plate. Use with ISO standard Cortical Bone Screws with spherical head.

All plates are made from Stainless Steel ISO 5832-1

Other sizes available on request.

### 3.5mm Self Compression

### **Plate Straight Broad**



### 4.5mm Self Compression Plate Straight Narrow

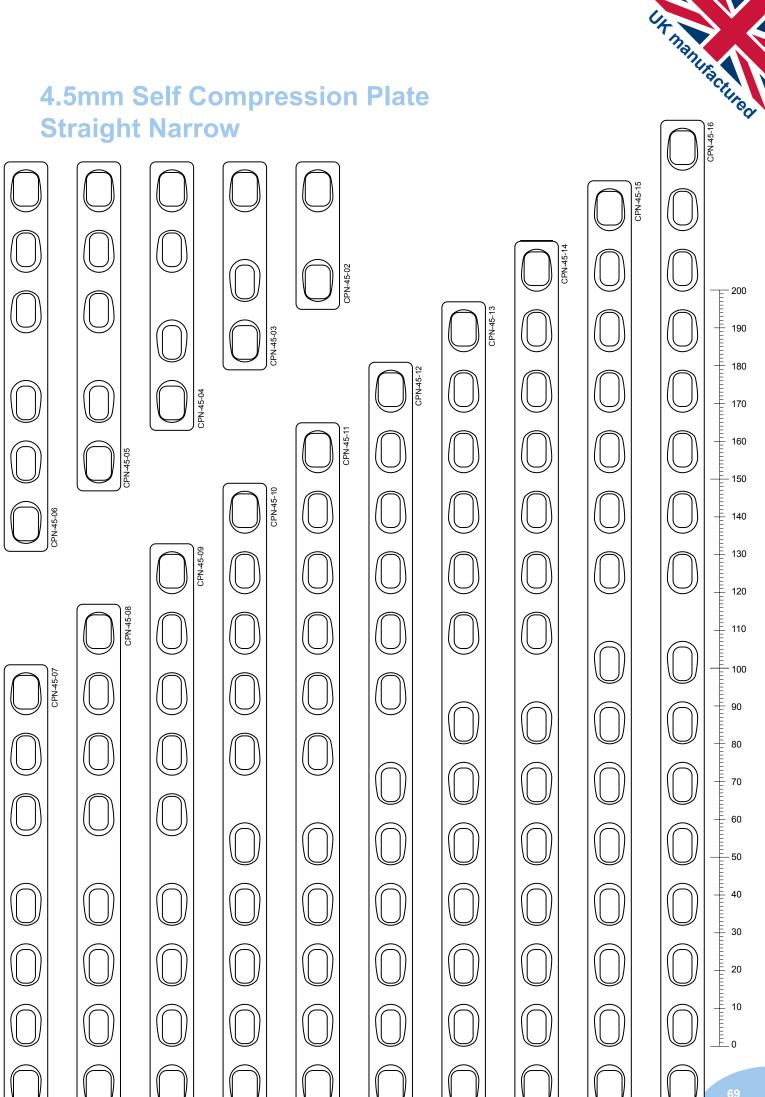
Order Code	No. of Holes	Length mm
CPN-45-02	2	39
CPN-45-03	3	55
CPN-45-04	4	71
CPN-45-05	5	87
CPN-45-06	6	103
CPN-45-07	7	119
CPN-45-08	8	135
CPN-45-09	9	151
CPN-45-10	10	167
CPN-45-11	11	183
CPN-45-12	12	199
CPN-45-13	13	215
CPN-45-14	14	231
CPN-45-15	15	247
CPN-45-16	16	263
CPN-45-17	17	279
CPN-45-18	18	295



Dimensions are 11.5mm wide; 4mm thick Pre contoured Profile. Use with 4.5mm Cortical Screws. 6.5mm End Cancellous screws.

Self-compressing plates that achieve axial compression of the fracture site by combining screw hole geometry with screw insertion. Screws can be inserted off centre to the screw hole so that when tightened the head will glide alongside the hole displacing the plate in the direction of the fracture resulting in compression. They can adapt to many different internal fixation situations and function as a dynamic compression plate, a neutralization plate, or be used in bridging fashion as a lengthening plate. Use with ISO standard Cortical Bone Screws with spherical head. All plates are made from Stainless Steel ISO 5832-1

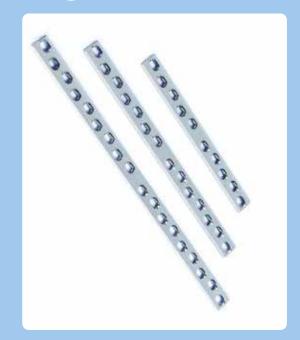
### 4.5mm Self Compression Plate **Straight Narrow**



#### **Veterinary Supplies**

### 4.5mm Self Compression Plate Straight Broad

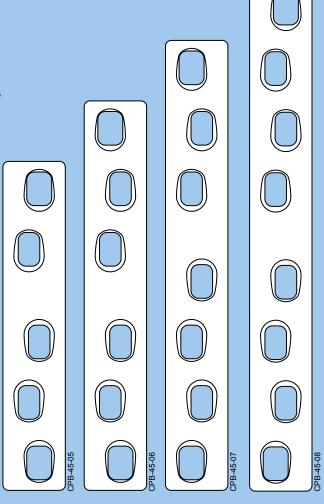
Order Code	No. of Holes	Length mm
CPB-45-05	5	87
CPB-45-06	6	103
CPB-45-07	7	119
CPB-45-08	8	135
CPB-45-09	9	151
CPB-45-10	10	167
CPB-45-11	11	183
CPB-45-12	12	199
CPB-45-13	13	215
CPB-45-14	14	231
CPB-45-15	15	247
CPB-45-16	16	263
CPB-45-17	17	279
CPB-45-18	18	295



Dimensions are 16.5mm wide; 4.5mm thick Pre contoured Profile. Use with 4.5mm Cortical Screws. 6.5mm End Cancellous screws.

Self-compressing plates that achieve axial compression of the fracture site by combining screw hole geometry with screw insertion. Screws can be inserted off centre to the screw hole so that when tightened the head will glide alongside the hole displacing the plate in the direction of the fracture resulting in compression. They can adapt to many different internal fixation situations and function as a dynamic compression plate, a neutralization plate, or be used in bridging fashion as a lengthening plate. Use with ISO standard Cortical Bone Screws with spherical head.

All plates are made from Stainless Steel ISO 5832-1 Other sizes available on request.



### Ux manufactured **4.5mm Self Compression Plate Straight Broad** ₹ 90 ₹ 30 CPB-45-10 CPB-45-09 CPB-45-14



**Veterinary Supplies** 

# 2.0/2.7/3.5/4.5mm Buttress Bridge Plate (Biological Healing Plate)

Order Code	No. of Holes	Length mm
BBP-20-07-060	7	60
BBP-20-08-065	8	65
BBP-20-08-070	8	70

Order Code	No. of Holes	Length mm
BBP-27-06-063	6	63
BBP-27-07-067	7	67
BBP-27-07-073	7	73
BBP-27-07-079	7	79
BBP-27-08-075	8	75
BBP-27-08-081	8	81
BBP-27-08-085	8	85

Order Code	No. of Holes	Length mm
BBP-35-07-120	7	120
BBP-35-07-130	7	130
BBP-35-07-142	7	142
BBP-35-08-130	8	130
BBP-35-08-142	8	142
BBP-35-08-154	8	154

No. of Holes	Length mm
7	138
7	151
7	164
8	150
8	163
8	176
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Biological Healing Plates (Buttress Bridge Plates)

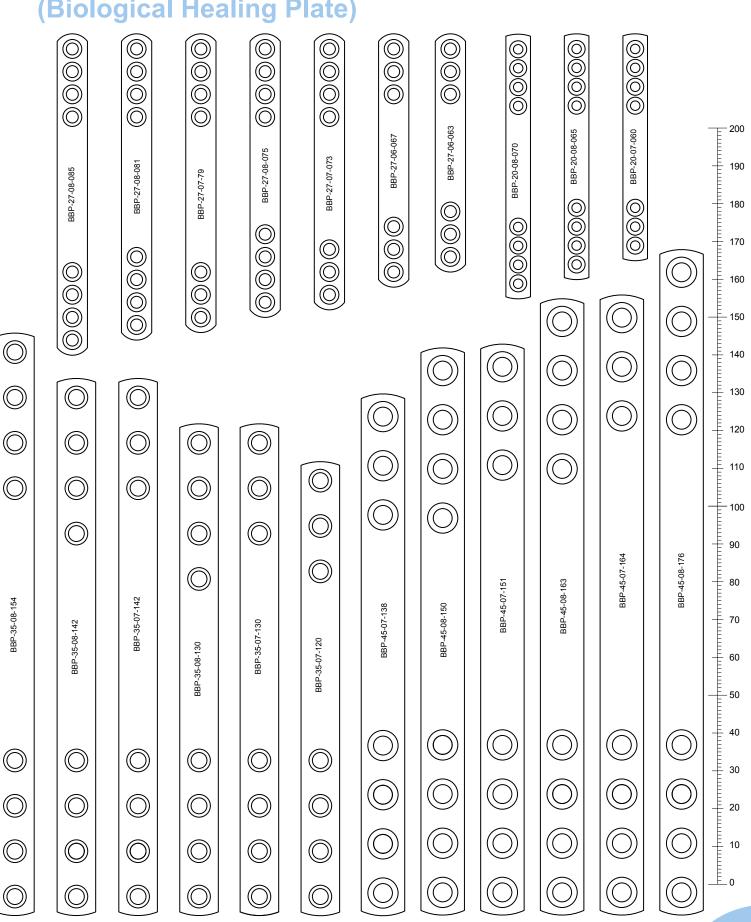
- 2.0mm/2.7mm is 8mm wide by 2mm Thick.
- 3.5mm are 10.2mm wide by 3.2mm Thick Pre-contoured Profile.
- 4.5mm are 12mm by 4.0mm Thick Pre-Contoured Profile.

A plate that prevents axial deformity or deviation as a result of shearing or bending forces (central portion of plate has no screw holes to increase plate strength). They are also used to splint or bridge a fracture area to maintain the length of the bone. They can be used in conjunction with lag screws and can maintain alignment of highly comminute segments of bone (a fracture in which the bone is splintered or crushed into numerous pieces). Gaps in the bone may be present. When gaps are present, the plate with this type of fixation is subject to full loading. Therefore, every possible effort should be made to maintain soft tissue attachments and blood supply to the comminute fragments since union will depend on the formation of a callus bridge and not direct healing of the bone.

All plates are made from Stainless Steel ISO 5832-1



# 2.0/2.7/3.5/4.5mm Buttress Bridge Plate (Biological Healing Plate)



# 3.5mm Broad Buttress Bridge Plate (Biological Healing Plate)

Order Code	No. of Holes	Length mm
BBPX-35-08-130	8	130
BBPX-35-07-130	7	130
BBPX-35-08-142	8	142
BBPX-35-07-142	7	142
BBPX-35-08-154	8	154
BBPX-35-07-154	7	154

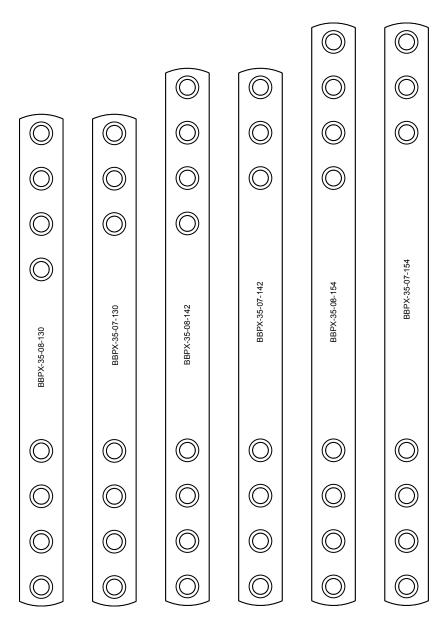
Biological Healing Plates (Buttress Bridge Plates)

3.5mm Broad are 11.5mm by 4.0mm Thick Pre-Contoured Profile

A plate that prevents axial deformity or deviation as a result of shearing or bending forces (central portion of plate has no screw holes to increase plate strength). They are also used to splint or bridge a fracture area to maintain the length of the bone. They can be used in conjunction with lag screws and can maintain alignment of highly comminute segments of bone (a fracture in which the bone is splintered or crushed into numerous pieces). Gaps in the bone may be present. When gaps are present, the plate with this type of fixation is subject to full loading. Therefore, every possible effort should be made to maintain soft tissue attachments and blood supply to the comminute fragments since union will depend on the formation of a callus bridge and not direct healing of the bone.



# 3.5mm Broad Buttress Bridge Plate (Biological Healing Plate)



#### 2.0mm Mini Plate Straight Tubular

Order Code	No. of Holes	Length mm
MPT-20-03	3	17
MPT-20-04	4	23
MPT-20-05	5	29
MPT-20-06	6	35
MPT-20-07	7	41
MPT-20-08	8	47



2.0mm Straight Tubular Compression Plate - Dimensions are 5mm wide, 1.1mm thick pre-contoured. Use with 2.0mm Cortical Screws.

The relative thickness of this plate facilitates closure of soft tissue over the plate and due to the tubular contoured plate design it lends itself well to high torsional and bending strengths.

#### 2.7mm Quarter Tubular

Order Code	No. of Holes	Length mm
QTP-27-03	3	24
QTP-27-04	4	32
QTP-27-05	5	40
QTP-27-06	6	48
QTP-27-07	7	56
QTP-27-08	8	64

Quarter Tubular - Dimensions are 7mm wide, 1.1mm pre contoured. Use with 2.7mm Cortical Screws.



#### 3.5mm One Third Tubular

Order Code	No. of Holes	Length mm
OTP-35-02	2	25
OTP-35-03	3	37
OTP-35-04	4	49
OTP-35-05	5	61
OTP-35-06	6	73
OTP-35-07	7	85
OTP-35-08	8	97
OTP-35-09	9	109
OTP-35-10	10	121
OTP-35-11	11	133



One Third Tubular - Dimensions are 9mm wide, 1.1mm pre contoured. Use with 3.5mm Cortical Screws.

Used as a compression plate for smaller bones or metatarsals and metacarpals in larger breeds. The precontoured shape of the plate adds to the strengths even though it remains dimensionally thin. Compression is applied by eccentric positioning of the screw against the side of the screw hole furthest from the fracture line.

The relative thinness of this plate facilitates closure of soft tissue over the plate and due to the tubular contoured plate design it lends itself well to high torsional and bending strengths.

Stainless Steel ISO 5832-1



#### 2.7mm Quarter Tubular

QTP-27-03 O O

QTP-27-05 O O O

QTP-27-06  $\bigcirc$   $\bigcirc$   $\bigcirc$   $\bigcirc$   $\bigcirc$   $\bigcirc$   $\bigcirc$ 

# 2.0mm Mini Plate Straight Tubular

MPT-20-08

MPT-20-07

MPT-20-03

#### 3.5mm One Third Tubular

OTP-35-02

OTP-35-03 O O

OTP-35-04 O O

OTP-35-05

OTP-35-06 O O O O

OTP-35-08 O O O O O

OTP-35-09 O O O O O

OTP-35-10 O O O O O O O



# 2.7mm Reconstruction Plates

Order Code	No. of Holes	Length
RCP-27-05	5	40
RCP-27-06	6	48
RCP-27-07	7	56
RCP-27-08	8	64
RCP-27-09	9	72
RCP-27-10	10	80
RCP-27-11	11	88
RCP-27-12	12	96

# 3.5mm Reconstruction Plates

Order Code	No. of Holes	Length
RCP-35-05	5	58
RCP-35-06	6	70
RCP-35-07	7	82
RCP-35-08	8	94
RCP-35-09	9	106
RCP-35-10	10	118
RCP-35-11	11	130
RCP-35-12	12	142

2.7mm Pre-contoured 8mm X 2mm Thick Notched

3.5mm Pre-contoured 8mm X 2.5mm Thick Notched

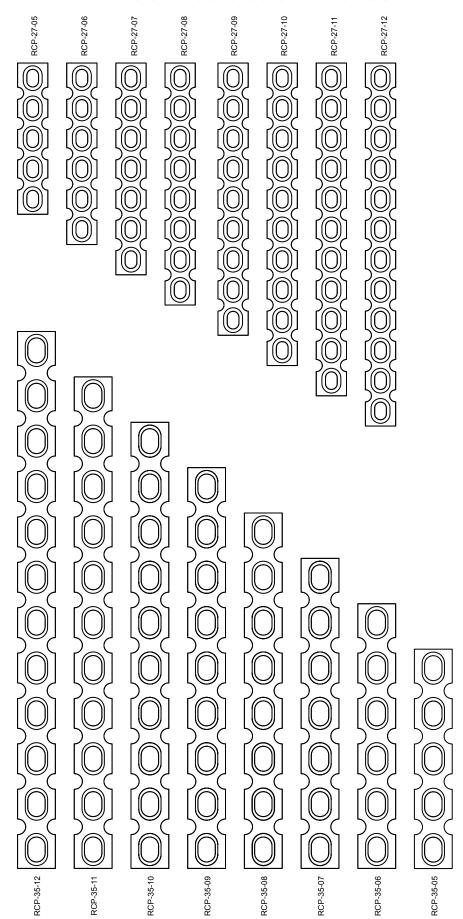
Specifically designed for easy three dimensional contouring but not exceeding more than 15 degrees in any one direction. The plate's stiffness is reduced by bending and if a strong curvature is needed, a pre contoured plate should be ordered. The longer plate lengths can be cut to size and we offer intermediate odd hole sizes on the 2.7mm and 3.5mm range.

Commonly used for stabilization of pelvic fractures.

These plates are not designed to withstand the forces of weight bearing.



#### 2.7mm Reconstruction Plates





#### **Cuttable Plates**

Order Code	Length	No. of Holes	Screw Size
CUT-15-20-100	100mm	20	1.5
CUT-15-30-120	120mm	30	1.5
CUT-15-27-120	120mm	27	1.5
CUT-20-27-150	150mm	27	2.0
CUT-20-30-150	150mm	30	2.0
CUT-24-27-150	150mm	27	2.4
CUT-24-24-150	150mm	24	2.4
CUT-27-22-150	150mm	22	2.7
CUT-27-25-150	150mm	25	2.7

#### **Cuttable Malleable Plates**

Order Code	Length	No. of Holes	Screw Size
CMP-20-30-150	150mm	30	2.0
CMP-24-27-150	150mm	27	2.4
CMP-27-25-150	150mm	25	2.7

Veterinary cuttable plates are used for internal fixation of long bone fractures in small dogs and cats and for smaller fracture procedures in larger breeds of dogs. Case studies have also been successful and widely accepted in repair of the metacarpals and metatarsals.

The Grooved Styled plates lends itself well to three dimensional contouring like a reconstruction plate.

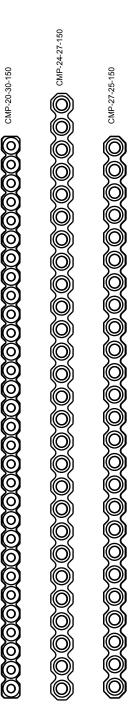
Both styles of plates can be cropped to size or stacked on top of each other for added strength. Each individual size plate has equal pitch between screw holes for easy alignment.

Suited to small sized screws.

All plates are made from Stainless Steel ISO 5832-1

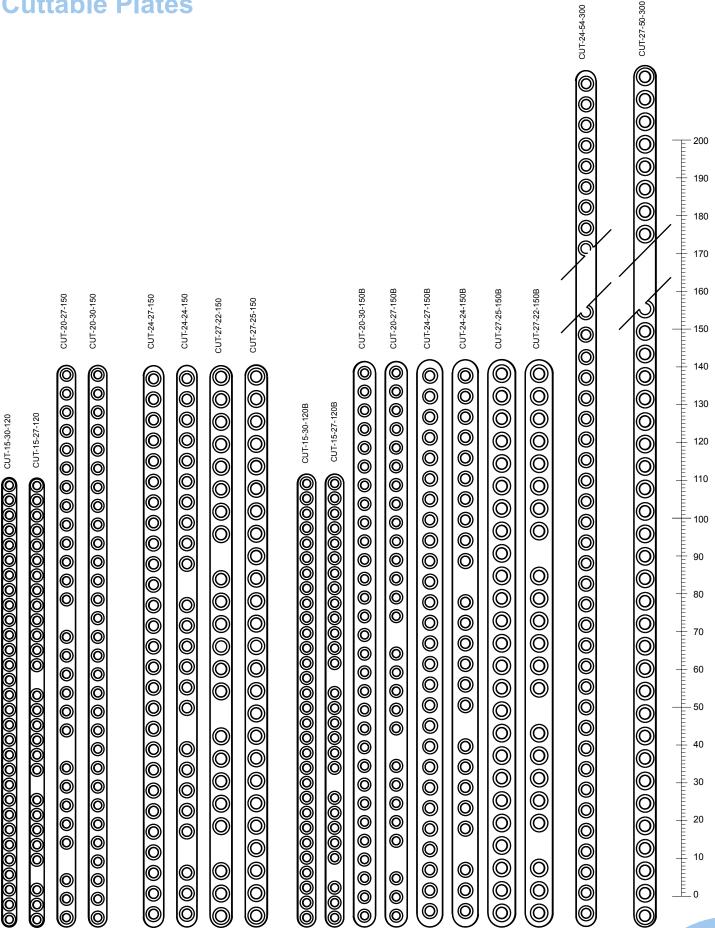
## **Broad Cuttable Plates**

Order Code	Length	No. of Holes	Screw Size
CUT-15-30-120B	120mm	30	1.5
CUT-15-27-120B	120mm	27	1.5
CUT-20-30-150B	150mm	30	2.0
CUT-20-27-150B	150mm	27	2.0
CUT-24-27-150B	150mm	27	2.4
CUT-24-24-150B	150mm	24	2.4
CUT-27-25-150B	150mm	25	2.7
CUT-27-22-150B	150mm	22	2.7
CUT-24-54-300	300mm	54	2.4
CUT-27-50-300	300mm	50	2.7





#### **Cuttable Plates**





#### **H-Plates**

Order Code	No. of Holes	Length mm
H-15-4	4	8.9
H-20-4	4	11.7

#### 2.0mm Distal Plates

No. of Holes	Length mm
4	18
5	24
4	18
4	18
4	18
4	18
	4

#### 2.7mm Distal Plates

Order Code	No. of Holes	Length mm
DRP-27-05-T	5	32
DRP-27-06-T	6	39
DRP-27-05-L	5	32
DRP-27-05-R	5	32
DRP-27-05-OL	5	32
DRP-27-05-OR	5	32

#### 3.5 T-Plates Round Hole

Order Code	No. of Holes	Length mm
DRP-35-06-T	6	55
DRP-35-07-T	7	77
DRP-35-08-T	8	77

#### **Acetabular Plates**

Order Code	No. of Holes	Length mm
ACE-20-04-0	4	19
ACE-20-04-1	4	27
ACE-24-04-6	4	21
ACE-27-06-2	6	33
ACE-27-06-3	6	34
ACE-35-06-4	6	42
ACE-35-06-5	6	46

#### 1.5mm Thick Plate.

An economical plate can be used with 2.0mm Cortical Screws or

2.0mm Sherman Screws.

All plates are made from Stainless Steel ISO 5832-1

#### 2.0mm Thick Plate.

An economical plate can be used with 2.7mm Cortical Screws or

2.7mm (2.9mm) Sherman Screws.

All plates are made from Stainless Steel ISO 5832-1

#### 3.0mm Thick Plate.

An economical plate can be used with 3.5mm Cortical Screws or

9/64" Sherman Screws.

All plates are made from Stainless Steel ISO 5832-1

These plates were specifically designed for the stabilisation of acetabular fractures in dogs. The pre-contoured shape simplifies the contouring to the dorsal acetabular surface which facilitates accurate reduction of acetabular fractures.

Seven sizes to suit screw ranges from 2.0mm/2.4mm/2.7mm and 3.5mm. Holes are standard round.

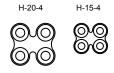
Stainless Steel ISO 5832-1

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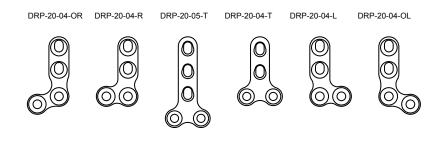
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#### **H-Plates**

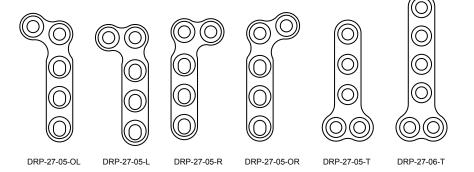


#### 2.0mm Distal Plates

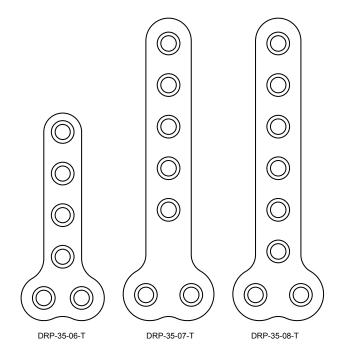
#### **Acetabular Plates**

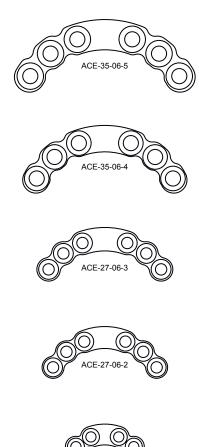


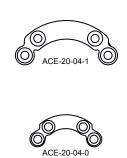
#### 2.7mm Distal Plates



#### 3.5 T-Plates Round Hole









## **Hybrid T-Plates**

Order Code	No. of Holes	Length mm
HTP-15-4-3	4 + 3	31
HTP-15-5-3	5 + 3	34
HTP-15-6-2	6 + 2	34
HTP-15-6-3	6 + 3	34
HTP-15-9-4	9 + 4	50
HTP-20-4-2	4 + 2	35
HTP-20-4-3-42	4 + 3	42
HTP-20-4-3-49	4 + 3	49
HTP-20-5-2	5 + 2	49
HTP-20-5-3	5 + 3	49
HTP-20-6-2	6 + 2	49
HTP-20-7-3	7 + 3	63
HTP-20-8-2	8 + 2	63
HTP-20-9-4	9 + 4	50
HTP-24-5-2	5 + 2	52
HTP-24-5-3	5 + 3	57
HTP-24-7-2	7 + 2	71
HTP-24-9-4	9 + 4	81
HTP-27-5-2	5 + 2	65
HTP-27-5-3	5 + 3	68
HTP-27-5-3XL	5 + 3	78
HTP-27-7-2	7 + 2	85
HTP-27-9-2	9 + 2	105
HTP-35-5-3	5 + 3	78

These comprehensive range of plate designs helps overcome the limitations for screw placement in distal radius fractures

The plate head has smaller diameter round holes and are spaced closer together than the plate shaft and anatomically contoured the length of the plate.

To suit screw ranges from

1.5mm/2.0mm/2.4mm/2.7mm and 3.5mm. Head holes are standard round with shaft compression

Stainless Steel ISO 5832-1





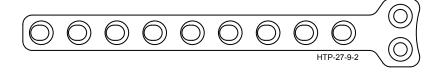
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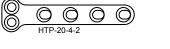


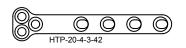
## **Hybrid T-Plates**



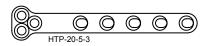


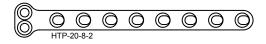


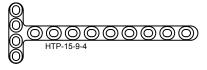


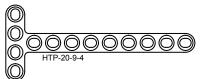


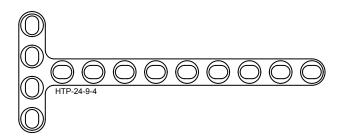




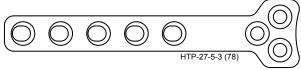


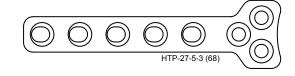


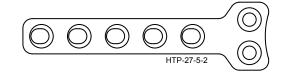


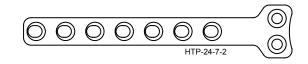
















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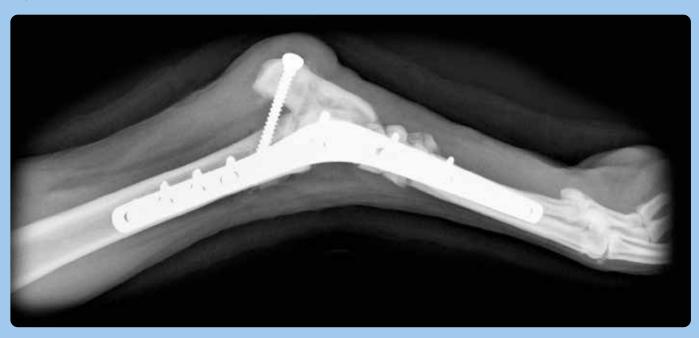
## **Pantarsal Arthrodesis Plates**

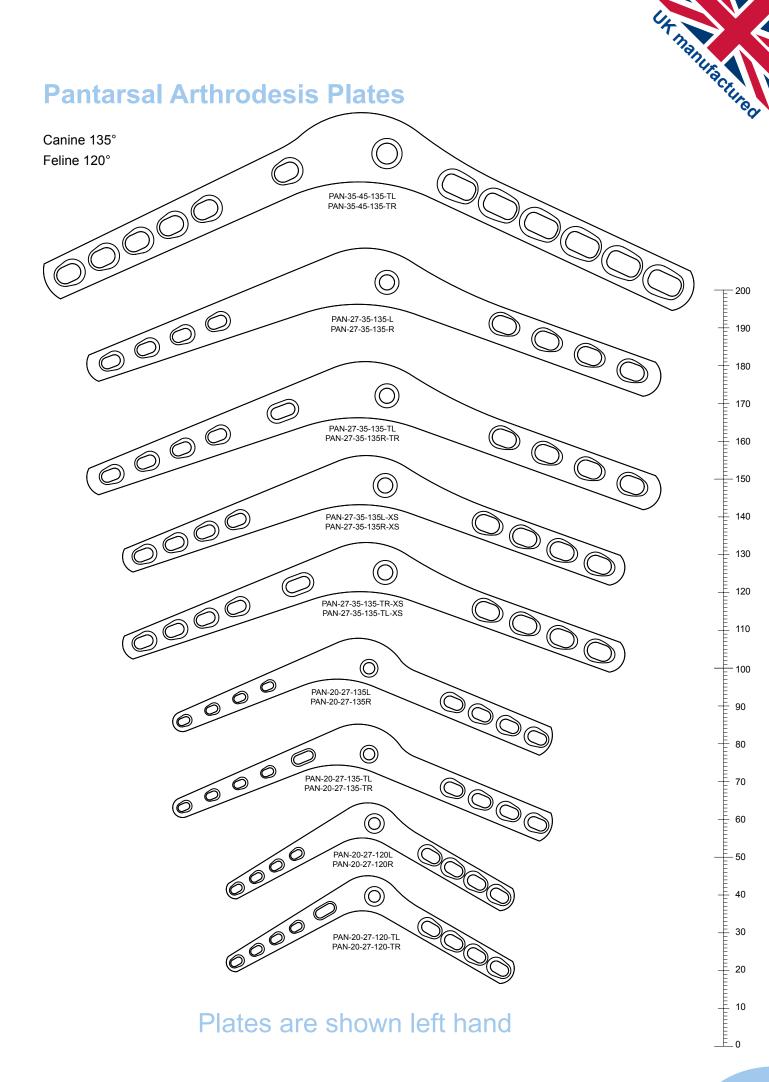
Codes L=Left R=Right T=Tarsal Slot XS=Short

Order Code	Screw Size	Degrees
PAN-20-27-120L	2.0/2.7	120 Degrees. With Tarsal Slot Left
PAN-20-27-120R	2.0/2.7	120 Degrees. With Tarsal Slot Right
PAN-20-27-120-TL	2.0/2.7	120 Degrees with Tarsal Slot Left
PAN-20-27-120-TR	2.0/2.7	120 Degrees with Tarsal Slot Right
PAN-20-27-135-L	2.0/2.7	135 Degrees Left
PAN-20-27-135-R	2.0/2.7	135 Degrees Right
PAN-20-27-135-TL	2.0/2.7	135 Degrees. With Tarsal Slot Left
PAN-20-27-135-TR	2.0/2.7	135 Degrees. With Tarsal Slot Right
PAN-27-35-135-L	2.7/3.5	135 Degrees Left
PAN-27-35-135-L-XS	2.7/3.5	135 Degrees. Short Left
PAN-27-35-135-R	2.7/3.5	135 Degrees Right
PAN-27-35-135-R-XS	2.7/3.5	135 Degrees. Short Right
PAN-27-35-135-TL	2.7/3.5	135 Degrees. With Tarsal Slot Left
PAN-27-35-135-TL-XS	2.7/3.5	135 Degrees. With Tarsal Slot. Short Left
PAN-27-35-135-TR	2.7/3.5	135 Degrees. With Tarsal Slot Right
PAN-27-35-135-TR-XS	2.7/3.5	135 Degrees. With Tarsal Slot. Short Right
PAN-35-45-135-TL	3.5/4.5	135 Degrees. With Tarsal Slot Left
PAN-35-45-135-TR	3.5/4.5	135 Degrees. With Tarsal Slot Right

Arthrodesis is an elective surgical procedure to eliminate motion in a joint by providing a bony fusion. The procedure is used for several specific purposes: to relieve pain; to provide stability; to overcome postural deformity resulting from neurologic deficit; and to halt advancing disease.

Designed in Canine (135°) and in Feline (120°) for a functional position.





#### Canine Cranial Pantarsal Arthrodesis Plate

Order Code	Screw Size
CPA-20-27-140	2.0 / 3.7
CPA-27-35-140	2.7 / 3.5

2.7mm /3.5mm Pre contoured to 140° to reduce stress risers. Profile 12mm X 4.0mm for added strength. 140° 2.0/2.4/2.7mm Pre contoured to 140° to reduce stress risers. Profile 8mm X 2.5mm for added strength. 140°

An improved plate with increased screw placement angulation in elliptical slots similar in design of Limited contact slots. The oblique undercut for improved range of inclination either side of the bend greatly improves screw placement to secure the talus.



New range has the added advantage of reduced profile height to aid closure without affecting torsional strength.

Larger compression slots in the tibia than the metatarsal and tapered to suit.

All plates are made from Stainless Steel ISO 5832-1

#### **Feline Pantarsal Plate Cranial Position**

Order Code	Screw Size
CPA-20-20-120	2.0 / 2.0
CPA-20-24-120	2.0 / 2.4
CPA-20-27-120	2.0 / 2.7

2.0mm/2.0mm Dimensions are 5mm wide by 2mm thick, tapering to 1.5mm pre bent at 120° to reduce stress risers.

2.0mm/2.4mm Dimensions are 6.5mm wide by 2mm thick, tapering to 1.5mm pre bent at 120° to reduce stress risers.

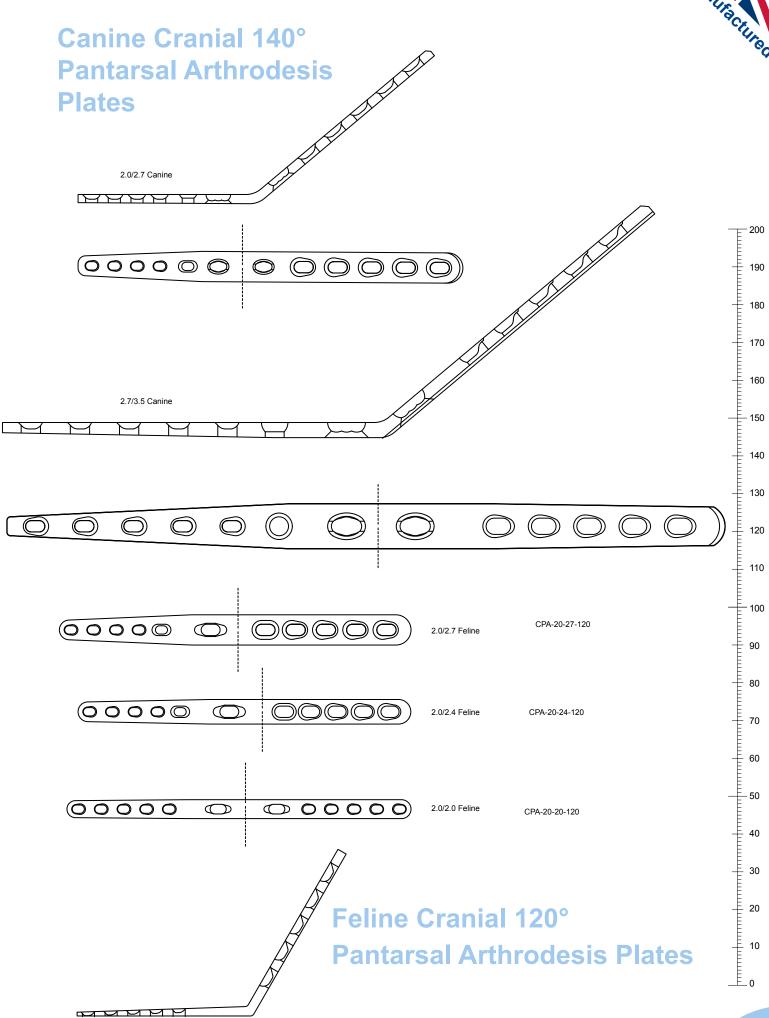
2.0mm/2.0mm Dimensions are 8mm wide by 2mm thick, tapering to 1.5mm pre bent at 120° to reduce stress risers.

Larger compression slots in the tibia than the metatarsal and tapered to suit.









## Partial Carpal Arthrodesis Plate

Order Code	Length mm	Ø Screw mm
PCA-15-20	35	1.5/2.0
PCA-20-24-27	51	2.0/2.4/2.7
PCA-27-35	65	2.7/3.5

Is used to treat subluxation of the carpometacarpal joint occurring without disruption and displacement of the accessory carpal and ulna carpal bones.

Three sizes available with a 5 degree incline on the head of the reduced sized head.

All plates are made from Stainless Steel ISO 5832-1

#### Pancarpal Arthrodesis Plates DCP Style

Order Code	Length mm	Ø Screw mm
PAD-15-20	53	1.5/2.0
PAD-15-20L	61	1.5/2.0
PAD-20-20	57	2.0/2.0
PAD-20-20L	67	2.0/2.0
PAD-20-27	75	2.0/2.7
PAD-20-27L	90	2.0/2.7
PAD-20-27-PB	75 pre-bent	2.0/2.7
PAD-24-27L	95	2.4/2.7
PAD-27-35	101	2.7/3.5
PAD-27-35L	118	2.7/3.5
PAD-27-35-PB	101 pre-bent	2.7/3.5
PAD-27-35L-PB	118 pre-bent	2.7/3.5
PAD-35-35	141	3.5/3.5
PAD-35-35L	154	3.5/3.5
PAD-35-45	185	3.5/4.5

Is used to treat subluxations or luxations of the middle carpal and carpometacarpal joints which are associated with disruption of the accessory carpal ligaments, palmar fibrocartilage and palmar ligaments.

Sizes using 1.5mm Cortical Screws to a heavy duty 4.5mm Cortical Screw. Available in round hole versions and Compression slots.

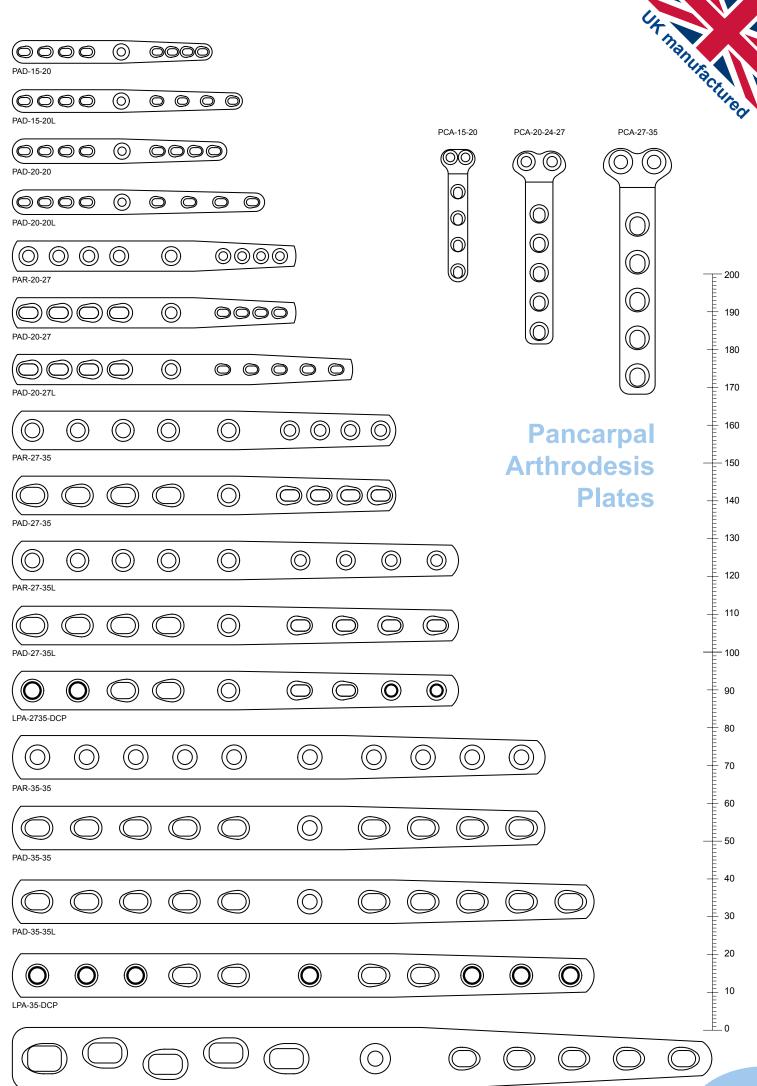
All plates are made from Stainless Steel ISO 5832-1

#### Pancarpal Arthrodesis Plates Round Holes

Order Code	Length mm	Ø Screw mm
PAR-20-27	75	2.0/2.7
PAR-27-35	101	2.7/3.5
PAR-27-35L	118	2.7/3.5
PAR-35-35	141	3.5/3.5

#### **Locking Pancarpal Arthrodesis**

Order Code	Description	Length mm	Ø Screw mm
LPA-2735-DCP	Mix of 2.7/3.5mm Locking and DCP's	118	2.7/3.5 Lock+2.7/3.5
LPA-35-DCP	3.5mm Locking and DCP	154	3.5 Lock+3.5



PAD-35-45

91

#### 2.0mm Limited Contact Plate

Order Code	No. of Holes	Length mm
LCP-20-04	4	25
LCP-20-05	5	31
LCP-20-06	6	37
LCP-20-07	7	43
LCP-20-08	8	49
LCP-20-09	9	55
LCP-20-10	10	61
LCP-20-11	11	67
LCP-20-12	12	73
LCP-20-13	13	79
LCP-20-14	14	85

Dimensions are 5.3mm X 1.5mm End Hole is fixed round Hole

Single Tapered end for submuscular plate application

All plates are made from Stainless Steel ISO 5832-1

#### 2.4mm Limited Contact Plate

Order Code	No. of Holes	Length mm
LCP-24-04	4	38
LCP-24-05	5	46
LCP-24-06	6	54
LCP-24-07	7	62
LCP-24-08	8	70
LCP-24-09	9	78
LCP-24-10	10	86
LCP-24-11	11	94
LCP-24-12	12	102
LCP-24-13	13	110
LCP-24-14	14	118
LCP-24-15	15	126
LCP-24-16	16	134

Dimensions are 7mm X 2mm + Plate Length/ No. of Slots.

These plates are used in the same manner as the DCP, but have grooves (undercuts) in the plate that allow for more uniform stiffness throughout the plate (reduced stiffness between the screw holes). These undercuts allow for easier bending of the plate between the screw holes when contouring. They also decrease the chance of plate failure because forces are more evenly distributed throughout the plate. In addition, they allow cells and blood supply to infiltrate the area more easily to aid in healing. Unlike the standard DCP screw holes, the screw holes in LC-DCPs are designed to compress in both directions.

By design, the screw holes have an oblique undercut for improved range of inclination. Lateral undercuts in the Plate profile allow for bone formation at the plate side of the periosteal surface.



€ 90

₽ 80

₹ 40

#### **Limited Contact Plate 2.0mm**

(Underside Shown)		LCP-20-14
	00000000	LCP-20-14
	00000000	LCP-20-13
	00000000	LCP-20-12
	00000000	LCP-20-11
	000000000	LCP-20-10
	(00000000)	LCP-20-09
	(0000000)	LCP-20-08
2.4mm Limited Contact Plate	$(\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc\bigcirc)$	LCP-20-07
LCP-24-04		LCP-20-06
		LCP-20-05
LCP-24-05		LCP-20-04
LCP-24-06		
LCP-24-07		
LCP-24-08		
LCP-24-09		
LCP-24-10 (		
LCP-24-11 (00000000000000000000000000000000000		
LCP-24-12	<u> </u>	

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#### 2.7mm Limited Contact Plate

Order Code	No. of Holes	Length mm
LCP-27-02	2	26
LCP-27-03	3	35
LCP-27-04	4	44
LCP-27-05	5	53
LCP-27-06	6	62
LCP-27-07	7	71
LCP-27-08	8	80
LCP-27-09	9	89
LCP-27-10	10	98
LCP-27-11	11	107
LCP-27-12	12	116
LCP-27-13	13	125
LCP-27-14	14	134
LCP-27-15	15	143
LCP-27-16	16	152
LCP-27-18	18	161

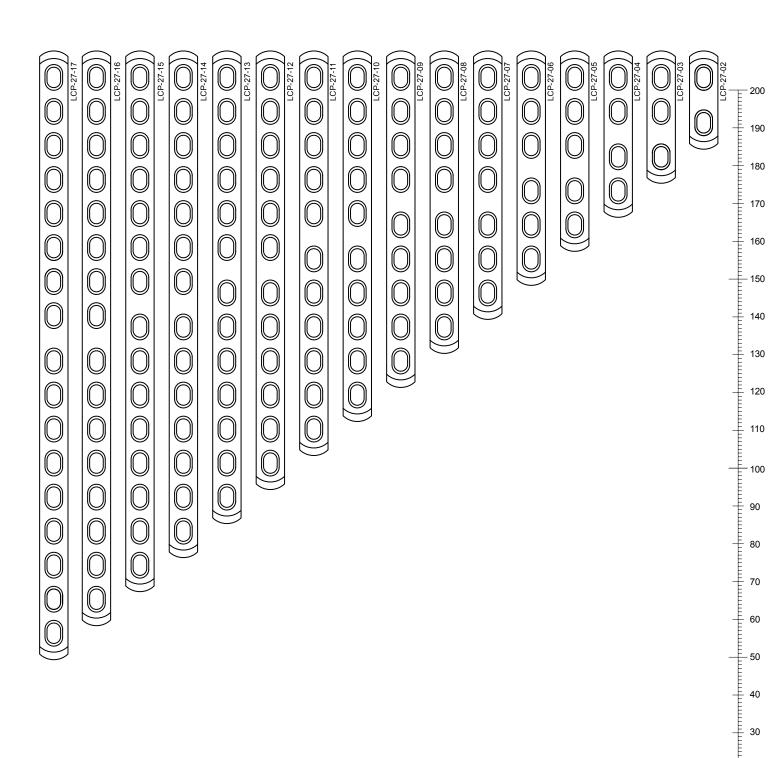
Dimensions are 7.5mm X 2.5mm + Plate Length/No. of Slots.

These plates are used in the same manner as the DCP, but have grooves (undercuts) in the plate that allow for more uniform stiffness throughout the plate (reduced stiffness between the screw holes). These undercuts allow for easier bending of the plate between the screw holes when contouring. In addition, they allow cells and blood supply to infiltrate the area more easily to aid in healing. Unlike the standard DCP screw holes, the screw holes in LC-DCPs are designed to compress in both directions.

By design, the screw holes have an oblique undercut for improved range of inclination. Lateral undercuts in the plate profile allow for bone formation at the plate side of the periosteal surface.



#### 2.7mm Limited Contact Plate



\_E\_0

# N2 (UK) Ltd

#### **Veterinary Supplies**

#### 3.5mm Limited Contact Plate

Order Code	No. of Holes	Length mm
LCP-35-02	2	30
LCP-35-03	3	43
LCP-35-04	4	56
LCP-35-05	5	69
LCP-35-06	6	82
LCP-35-07	7	95
LCP-35-08	8	108
LCP-35-09	9	121
LCP-35-10	10	134
LCP-35-11	11	147
LCP-35-12	12	160
LCP-35-13	13	173
LCP-35-14	14	186
LCP-35-15	15	199
LCP-35-16	16	212

11mm X 3.3mm Pre Contoured Profile + Plate Length/No. of Slots.

These plates are used in the same manner as the DCP, but have grooves (undercuts) in the plate that allow for more uniform stiffness throughout the plate (reduced stiffness between the screw holes). These undercuts allow for easier bending of the plate between the screw holes when contouring. In addition, they allow cells and blood supply to infiltrate the area more easily to aid in healing. Unlike the standard DCP screw holes, the screw holes in LC-DCPs are designed to compress in both directions.

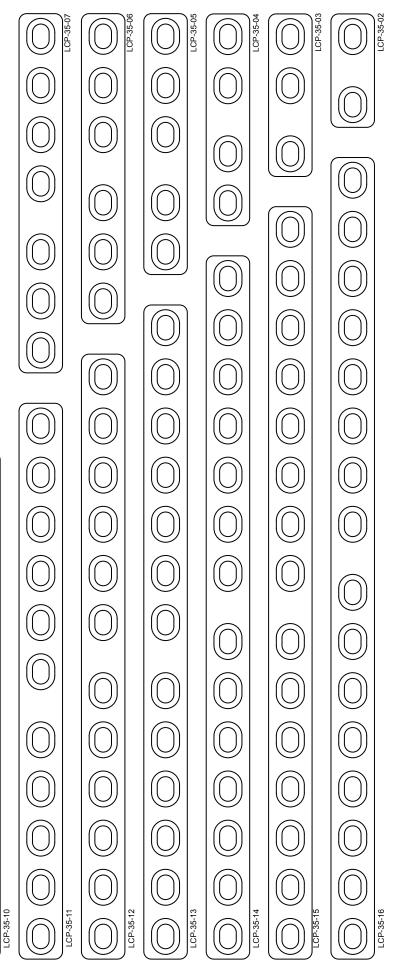
By design, the screw holes have an oblique undercut for improved range of inclination. Lateral undercuts in the plate profile allow for bone formation at the plate side of the periosteal surface.



- 200

- 150

## 3.5mm Limited Contact Plate





#### 3.5mm Broad Limited Contact Plate

Order Code	No. of Holes	Length mm
LCB-35-04	4	56
LCB-35-05	5	69
LCB-35-06	6	82
LCB-35-07	7	95
LCB-35-08	8	108
LCB-35-09	9	121
LCB-35-10	10	134
LCB-35-11	11	147
LCB-35-12	12	160
LCB-35-13	13	173
LCB-35-14	14	186
LCB-35-15	15	199
LCB-35-16	16	212

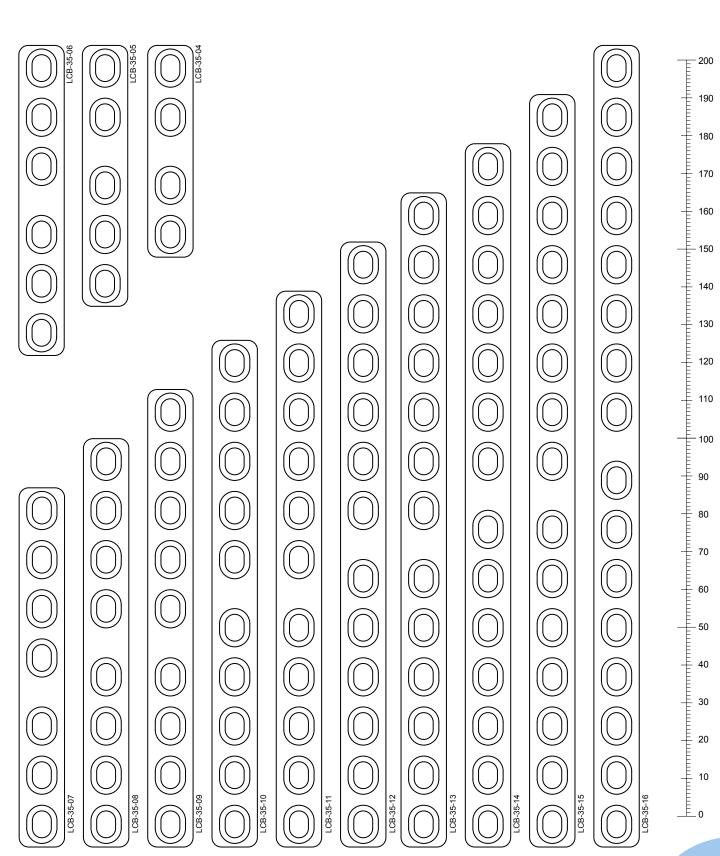
12mm X 4mm Pre Contoured Profile + Plate Length/No. of Slots.

These plates are used in the same manner as the DCP, but have grooves (undercuts) in the plate that allow for more uniform stiffness throughout the plate (reduced stiffness between the screw holes). These undercuts allow for easier bending of the plate between the screw holes when contouring. In addition, they allow cells and blood supply to infiltrate the area more easily to aid in healing. Unlike the standard DCP screw holes, the screw holes in LC-DCPs are designed to compress in both directions.

By design, the screw holes have an oblique undercut for improved range of inclination. Lateral undercuts in the plate profile allow for bone formation at the plate side of the periosteal surface.



# 3.5mm Broad Limited Contact Plate



#### Supracondylar and Osteotomy (Distal Femur) Plates

Order Code	Length mm	
SUP-20-50-R	50	
SUP-20-50-L	50	
SUP-20-120-R	120	
SUP-20-120-L	120	
SUP-24-62-R	62	
SUP-24-62-L	62	
SUP-27-69-L	69	
SUP-27-69-R	69	
SUP-35-135-NL	135	
SUP-35-135-NR	135	
SUP-35-135-BL	135	
SUP-35-135-BR	135	
SUP-35-173-BL	173	
SUP-35-173-BR	173	
N = Narrow B = Broad		

Available in screw sizes 2.0mm to 3.5mm with various lengths to suit. Multiple compression slots and pre-contoured for convenience. If further contouring is required it is recommended to use a bending template as an aid.

Plates are not manufactured from cast or forged material.

All plates are made from Stainless Steel ISO 5832-1.

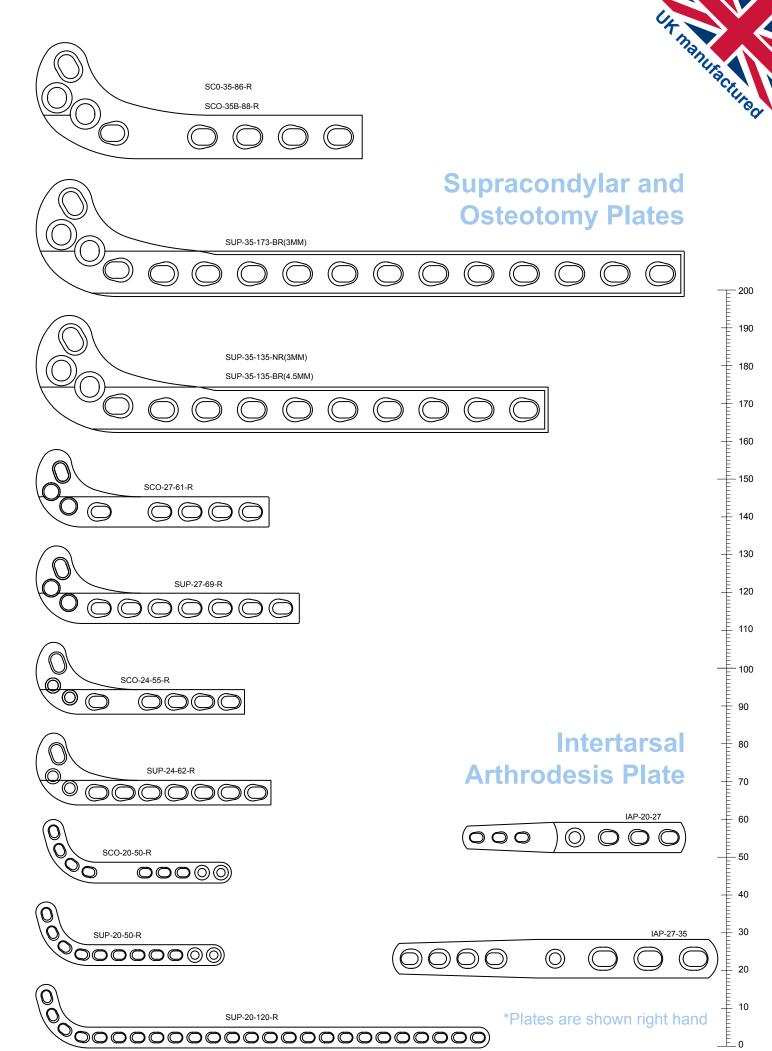
#### Supracondylar Osteotomy Plates

Length mm
50
50
55
55
61
61
86
86
88
88

#### **Intertarsal Arthrodesis Plate**

Order Code	Length mm
IAP-20-27	59
IAP-27-35	86

Designed to fuse the bones of the calcaneoquartal or tarsometatarsal joints in a functional position due to injury of the plantar tarsal fibrocartilage.





## 2.0mm Round Hole Plate

Order Code	No. of Holes	Lengths mm
RHP-20-02	2	10
RHP-20-03	3	15
RHP-20-04	4	20
RHP-20-05	5	25
RHP-20-06	6	30
RHP-20-07	7	35
RHP-20-08	8	40
RHP-20-02-XL	2	13
RHP-20-03-XL	3	18
RHP-20-04-XL	4	23
RHP-20-05-XL	5	28
RHP-20-06-XL	6	33
RHP-20-07-XL	7	38
RHP-20-08-XL	8	43

2.0mm Plate is 5mm wide, 1.5mm thick. Use with 2.0mm Cortical Screws/Sherman Screws.

Non Compression Plate. An economical range of Bone Plates pre-contoured for secure fixation.

All plates are made from Stainless Steel ISO 5832-1

## 2.7mm Round Hole Plate

Order Code	No. of Holes	Lengths mm
RHP-27-02	2	12
RHP-27-03	3	18
RHP-27-04	4	24
RHP-27-05	5	30
RHP-27-06	6	36
RHP-27-07	7	42
RHP-27-08	8	48
RHP-27-02-XL	2	15
RHP-27-03-XL	3	21
RHP-27-04-XL	4	27
RHP-27-05-XL	5	33
RHP-27-06-XL	6	39
RHP-27-07-XL	7	45
RHP-27-08-XL	8	51

2.7mm Plate is 6mm wide, 2mm thick. Use with 2.7mm Cortical Screws/Sherman Screws.

Non Compression Plate. An economical range of Bone Plates pre-contoured for secure fixation.

All plates are made from Stainless Steel ISO 5832-1

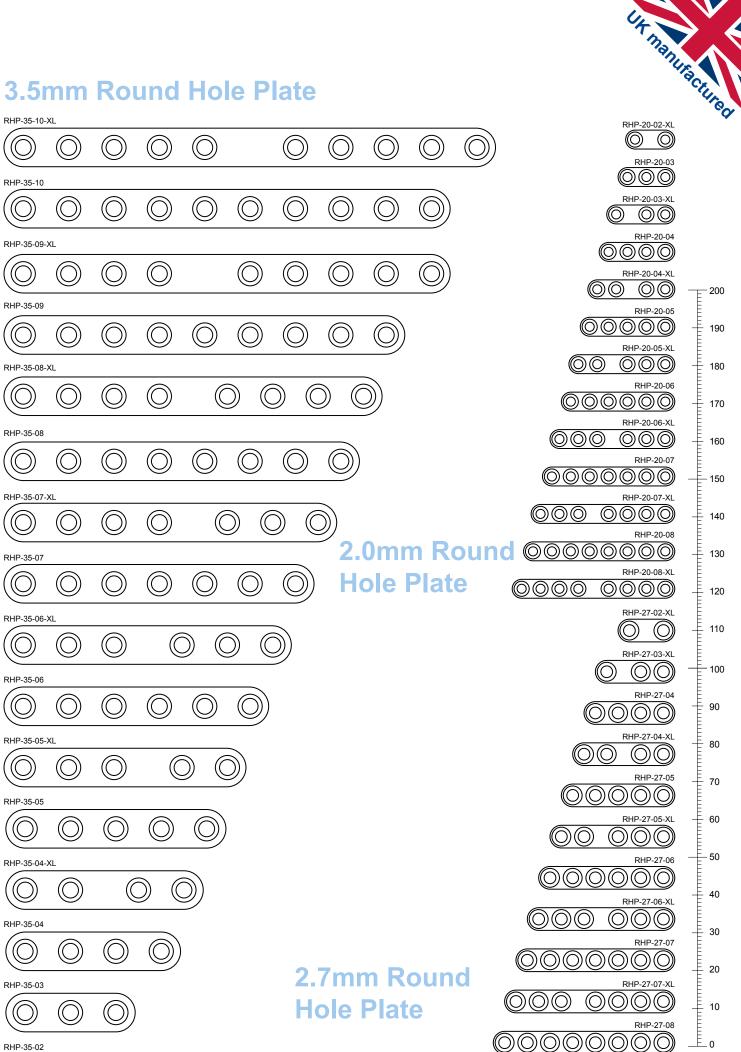
## 3.5mm Round Hole Plate

Order Code	No. of Holes	Lengths mm
RHP-35-02	2	22
RHP-35-03	3	34
RHP-35-04	4	46
RHP-35-05	5	58
RHP-35-06	6	70
RHP-35-07	7	82
RHP-35-08	8	94
RHP-35-09	9	106
RHP-35-10	10	118
RHP-35-04-XL	4	52
RHP-35-05-XL	5	64
RHP-35-06-XL	6	76
RHP-35-07-XL	7	88
RHP-35-08-XL	8	100
RHP-35-09-XL	9	118
RHP-35-10-XL	10	130

3.5mm Plate are 10.2mm wide, 3.2mm thick Pre contoured Profile. Use with 3.5mm Cortical Screws or 9/64"Sherman Screws.

Non Compression Plate. An economical range of Bone Plates pre-contoured for secure fixation.

#### 3.5mm Round Hole Plate



## 2.7mm Heavy Duty Round Hole Plate

Order Code	No. of Holes	Length mm
HDR-27-07	7	44
HDR-27-08	8	50
HDR-27-09	9	56
HDR-27-10	10	62
HDR-27-11	11	68
HDR-27-12	12	74
HDR-27-07-XL	7	50
HDR-27-08-XL	8	56
HDR-27-09-XL	9	62
HDR-27-10-XL	10	68
HDR-27-11-XL	11	74
HDR-27-12-XL	12	80

Plates are 8mm wide, 2.0mm thick Pre contoured Profile. Use with 2.7mm Cortical Screws /Sherman Screws.

Non Compression Plate. An economical range of Bone Plates pre-contoured for secure fixation.

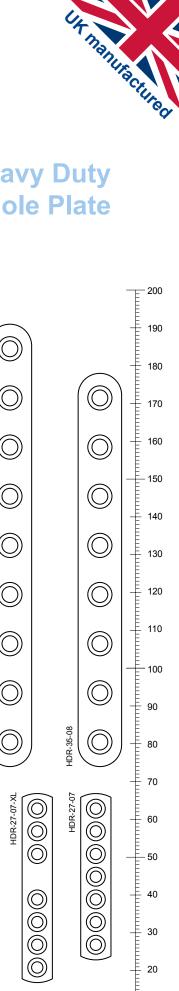
All plates are made from Stainless Steel ISO 5832-1

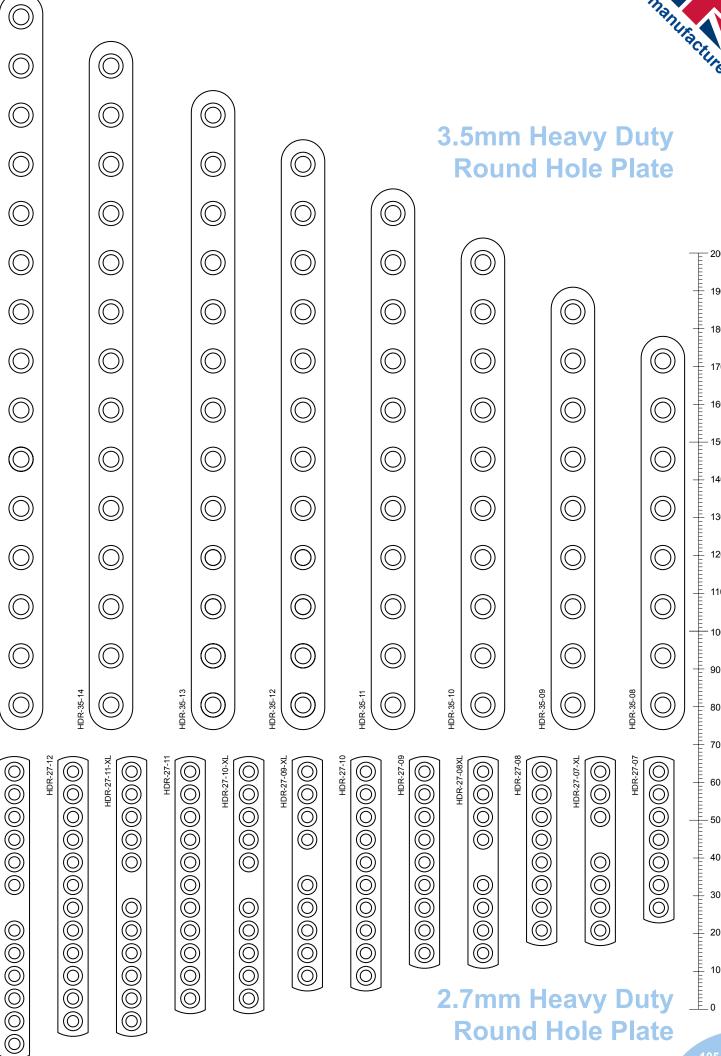
#### 3.5mm Heavy Duty Round Hole Plate

Order Code	No. of Holes	Length mm
HDR-35-08	8	104
HDR-35-09	9	117
HDR-35-10	10	130
HDR-35-11	11	143
HDR-35-12	12	156
HDR-35-13	13	169
HDR-35-14	14	182
HDR-35-15	15	195

Heavy Duty Plates are 11.5mm wide, 4mm thick Pre contoured Profile. Use with 3.5mm Cortical Screws/9/64"Sherman Screws.

Non Compression Plate. An economical range of Bone Plates pre-contoured for secure fixation.





1DR-35-15

**Round Hole Plate** 



#### **TPO EQ**

Order Code	No. of Holes	Length mm
TPO35-SM	4	36
TPO35-SML30	4	36
TPO35-SMR30	4	36
TPO35-LG	4	48
TPO35-LGL30	4	48
TPO35-LGR30	4	48

Available flat or pre-bent at 30 degrees

## TPLO Delta 'Style' Plates

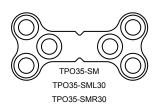
Ø Screw mm
2.0
2.0
2.4
2.4
2.7
2.7
2.7
2.7
3.5
3.5
3.5
3.5

Tibial Plateau Levelling Osteotomy
Pre Contoured TPLO Triangular shaped Plates
Available in six sizes (2.0mm, 2.4mm, 2.7mm, 2.7mm Broad, 3.5mm and 3.5mm Broad) and both Left and Right Hands.
Stainless Steel ISO 5832-1
For Evolox® selection of Delta plates please see page 170



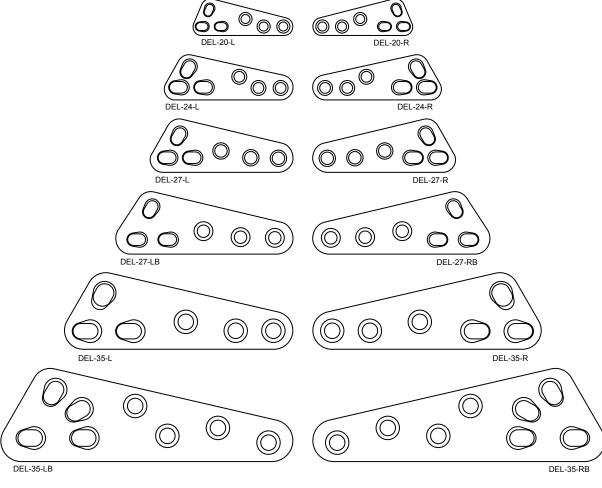
- 200

#### **TPO EQ**





## **TPLO Delta 'Style' Plates**





#### TPLO (Slocum style)

Order Code	No. of Holes	Length mm
SLO-20-L	6	26.5
SLO-20-R	6	26.5
SLO-24-L	6	35
SLO-24-R	6	35
SLO-27-L	6	41
SLO-27-R	6	41
SLO-35-L	6	64
SLO-35-R	6	64
SLO-35-PCL	6	64
SLO-35-PCR	6	64

Tibial Plateau Levelling Osteotomy

Available in six sizes (2.0mm, 2.4mm, 2.7mm, 3.5mm, 3.5mm Pre-contoured and 3.5mm broad) and both Left and Right Hands.

Pre-Contoured and a notched underside to aid final contouring.

Not from Cast or Forging

All plates are made from Stainless Steel ISO 5832-1

#### **TPLO Compression Plates**

Order Code	No. of Holes	Length mm
TPL-15-15-31	4 + 3	31
TPL-20-20-26	3 + 3	26
TPL-24-24-34	3 + 3	34
TPL-24-24-41	4 + 3	41
TPL-24-24-41G	3 + 3	41
TPL-27-27-39	3 + 3	39
TPL-27-37-45	3 + 3	45
TPL-27-35-39	3 + 3	39
TPL-27-35-45	3 + 3	45
TPL-35-35-55	3 + 3	55
TPL-35-35-57	3 + 3	57
TPL-35-35-62	3 + 3	62
TPL-35-35-78	4 + 3	78
TPL-35-35-80	4 + 3	80
TPL-35-45-80	4 + 3	80
TPL-35-45/65-80	4 + 3	80
TPL-45/65-90-30	4 + 3	90*
TPL-45/65-90-45	4 + 3	90**

#### Tibial Plateau Levelling Osteotomy

This technique strives to alter the naturally-occurring downward slope (angle) of the tibial plateau. Because of this slope, the femur, which rests upon the tibial plateau, has a tendency to push the tibia forward; normally the CCL acts to restrain this thrust but cannot adequately stabilize the stifle joint when injured or torn. This bio-mechanical fixation procedure is designed to eliminate tibial thrust using standard screws and plates

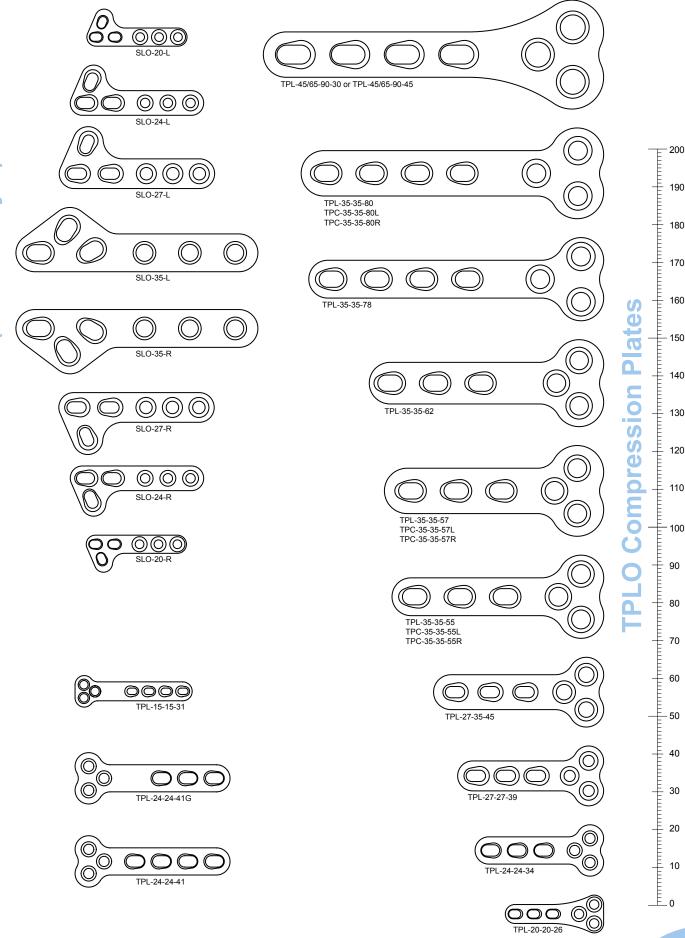
All size screws from 2.0mm to 6.5mm are covered within the range. Various lengths and pre-contouring enhance a popular choice for TPLO surgery.

Stainless Steel ISO 5832-1

- \* 3.0mm thick
- \*\* 4.5mm thick

#### **TPLO Pre Contoured Compression Plates**

Order Code	No. of Holes	Length mm
TPC-35-35-55L	3+3	55
TPC-35-35-55R	3+3	55
TPC-35-35-57L	3+3	57
TPC-35-35-57R	3+3	57
TPC-35-35-80L	4+3	80
TPC-35-35-80R	4+3	80



### **Titanium Plates**

There has been a strong demand for Titanium Plates and we are introducing a select range of common product ranges anodised in blue for easy reference.

nb Please ensure only Titanium Screws are used with these plates.

We only use implantable grade Titanium which conforms to ISO 5832-3 ASTM F139 and implants are completely manufactured in the UK to strict Human Implant Standards.

- Titanium is light weight, around 45% of stainless 316LVM making it much lighter on larger plates.
- It is extremely biocompatible and has a low rejection rate by the body.
- MRI Compatible (non-ferromagnetic, which means it can be safely examined).
- Higher Fatigue Life.
- Excellent corrosion resistance.
- Titanium anodising also produces anti-galling properties.
- Osseointegration.

# **Titanium TPLO Compression Plates**

Order Code	Ø Screw	No. of Holes	Length mm
Ti-TPL-24-24-34	2.4/2.4mm	3 + 3	34
Ti-TPL-27-27-39	2.7/2.7mm	3 + 3	39
Ti-TPL-27-35-39	2.7/3.5mm	3 + 3	39
Ti-TPL-35-35-55	3.5/3.5mm	3 + 3	55
Ti-TPL-35-35-57	3.5/3.5mm Broad	3 + 3	57
Ti-TPL-35-35-62	3.5/3.5mm Long	3 + 3	62
Ti-TPL-35-35-78	3.5/3.5mm X Long	4 + 3	78
Ti-TPL-35-35-80	3.5/3.5mm X Long Broad	4 + 3	80
Ti-TPL-35-45-80	3.5/4.5mm X Long Broad	4 + 3	80

# **Titanium TPLO Delta Plates**

Order Code	Ø Screw	Length mm
Ti-DEL-24-L	Up to 2.4mm	34
Ti-DEL-24-R	Up to 2.4mm	34
Ti-DEL-27-L	Up to 2.7mm	38
Ti-DEL-27-R	Up to 2.7mm	38
Ti-DEL-35-L	Up to 3.5mm	60
Ti-DEL-35-R	Up to 3.5mm	60
Ti-DEL-35-RB	Up to 3.5mm	76
Ti-DEL-35-LB	Up to 3.5mm	76



### **For Profile images**

See page 120 - 2.4mm Locking Plates

See Page 108 - TPLO Compression Plates

See page 106 - TPLO Delta Plates





# **Titanium Pancarpal and Pantarsal Plates**

Order Code	Ø Screw	Length mm
TI-PAD-20-27	2.0/2.7mm	75
TI-PAD-20-27L	2.0/2.7mm	90
TI-PAD-27-35	2.7/3.5mm	101
TI-PAD-27-35-PB-L	2.7/3.5mm	118
TI-PAD-27-35L	2.7/3.5mm	118

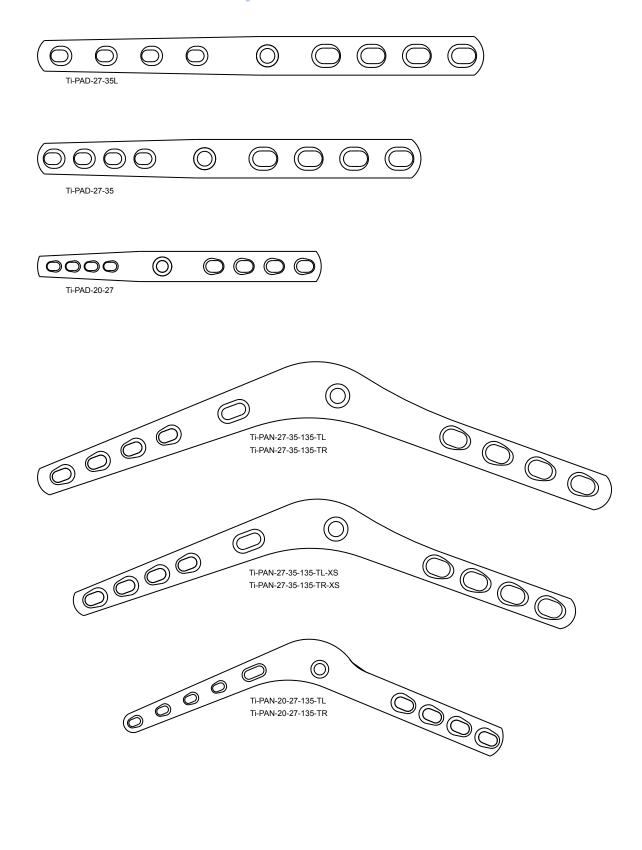
### Codes L=Left R=Right T=Tarsal Slot XS=Short

Order Code	Ø Screw	Degrees
Ti-PAN-20-27-135-TL	2.0/2.7	135° With Tarsal Slot Left
Ti-PAN-20-27-135-TR	2.0/2.7	135° With Tarsal Slot Right
Ti-PAN-27-35-135-TL	2.7/3.5	135° With Tarsal Slot Left
Ti-PAN-27-35-135-TL XS	2.7/3.5	135° With Tarsal Slot. Short Left
Ti-PAN-27-35-135-TR	2.7/3.5	135° With Tarsal Slot Right
Ti-PAN-27-35-135-TR-XS	2.7/3.5	135° With Tarsal Slot. Short Right
Ti-PAN-27-35-135L	2.7/3.5	135° Left
Ti-PAN-27-35-135R	2.7/3.5	135° Right

<sup>\*\*</sup> We can make a large selection of titanium plates not listed here. If you have a special request or want a stainless-steel plate manufactured in titanium please contact us for more information.



# **Titanium Pancarpal and Pantarsal Plates**





# Locking Plates (Mono-axial)









# N2 (UK) Ltd L2 Veterinary Supplies

	Page
2.0mm Locking Plates	117
2.0mm YY Plates	117
2.0mm Circular Cuttable Locking Plate	117
2.0mm Locking T-Plates	117
Mono-Axial Locking Antebrachial Plates	118
2.0mm Locking/Compression Plates	118
2.4mm Locking Plates	120
2.7mm Locking Plates	122
3.5mm Locking Plates	124
Locking Drill Guides	126
Locking Plugs	128



### 2.0mm Locking Plate

There is a need for 2.0mm Locking Screws and Plates for very small patients so we have launched two cuttable plates that will prove to be a versatile addition to your inventory.

Order Code	Description	Length mm
LPL-CUT-20-100-18	2.0mm Cuttable Locking Plate 18 Holes	100
LPL-CUT-20-100-20	2.0mm Cuttable Locking Plate 20 Holes	100



scale 1:1

# 2.0mm YY Plates

Newly added, these 2.0mm YY plates offer additional stability at both ends of the fracture. The plate flexibility ensures easy contourabilty and allows a good plate/bone interface.

Order Code	Description
LPL-YY-20-12	2.0mm 12 Hole Locking Double ended Y plate
LPL-YY-20-13	2.0mm 13 Hole Locking Double ended Y plate
LPL-YY-20-14	2.0mm 14 Hole Locking Double ended Y plate



# **Circular Cuttable Locking Plate**

The smallest ring in our range, this cuttable monoaxial plate is useful for a variety of maxiofacial and pelvic trauma injuries.

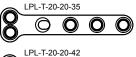
Order Code	Description
LPL-RP-20-36-24	2.0mm Locking Maxillofacial Ring Plate 24 Hole 36mm Diameter

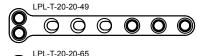


# 2.0mm Locking T-Plates

A selection of useful Locking T-plates for smaller patients

Order Code	Head Locking screw size	Shaft Locking screw size	Shaft DCP screw size	Length
LPL-T-20-20-35	2.0	2.0	2.0	35
LPL-T-20-20-42	2.0	2.0	2.0	42
LPL-T-20-20-49	2.0	2.0	2.0	49
LPL-T-20-20-65	2.0	2.0	2.0	65









### **Mono-Axial Locking Antebrachial Plates**

Order Code	Description	Length mm
LPL-BRA-20-6XL	2.0mm Locking Antebrachial Plate	39.5
LPL-BRA-20-6	2.0mm Locking Antebrachial Plate	34.5
LPL-BRA-24-6XL	2.4mm Locking Antebrachial Plate	59
LPL-BRA-24-6	2.4mm Locking Antebrachial Plate	52
LPL-BRA-27-6XL	2.7mm Locking Antebrachial Plate	66
LPL-BRA-27-6	2.7mm Locking Antebrachial Plate	58
LPL-BRA-35-6XL	3.5mm Locking Antebrachial Plate	86
LPL-BRA-35-6	3.5mm Locking Antebrachial Plate	76

### Mono-Axial Trauma/Antebrachial Plates:

Based on 7 & 8 hole Mono-Axial locking plates, this useful new design is intended for mid-distal antebrachial fractures suited to a straight plate. They are indicated for application to the radius to treat fractures with the following features:

obliquity
 bone deficits
 comminution
 poor blood supply (e.g. toy breeds)

### Features:

Extra plate strength - no empty screw holes over your fracture line.

Versatile lengths - 1 or 2 hole spacing to suit the fracture.

Less extensor restriction - very useful around the distal antebrachium.

Increased simplicity - increased plate strength reduces the need for orthogonal plating of the ulna.

Extensive size range - 2.0mm, 2.4mm, 2.7mm & 3.5mm locking.

Cost effective - benefits of locking fixation without the extra cost of Poly-Axial Screw holes where not needed.

Conical shaped threaded holes - suit locking screws or cortical screws allowing bone to conform to the plate if needed.

Reduced inventory - no need for locking plugs.

Thanks to: Patrick Currivan MVB GPCertSAS CertAVP(GSAS) MRCVS

### 2.0mm Mono-Axial Locking and Compression Plate

You can use 2.0mm ISO Regular Locking Screws, 2.0mm Cortical Screws or a mixture of both.

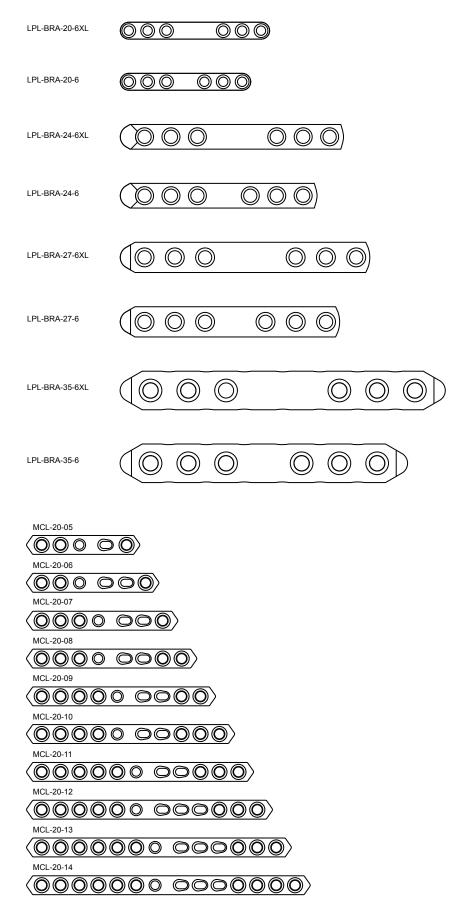
Designed to also take 2.2mm Cancellous Screws.

Order Code	Description	Length mm
MCL-20-05	2.0mm Locking and Compression Plate 5 Hole	30
MCL-20-06	2.0mm Locking and Compression Plate 6 Hole	35
MCL-20-07	2.0mm Locking and Compression Plate 7 Hole	40
MCL-20-08	2.0mm Locking and Compression Plate 8 Hole	45
MCL-20-09	2.0mm Locking and Compression Plate 9 Hole	50
MCL-20-10	2.0mm Locking and Compression Plate 10 Hole	55
MCL-20-11	2.0mm Locking and Compression Plate 11 Hole	60
MCL-20-12	2.0mm Locking and Compression Plate 12 Hole	65
MCL-20-13	2.0mm Locking and Compression Plate 13 Hole	70
MCL-20-14	2.0mm Locking and Compression Plate 14 Hole	75



- 200

### **Antebrachial Plates**



### N2 (UK) Ltd



### **Veterinary Supplies**

Conical shaped threaded holes to suit either twin start Locking Screws or standard plating techniques using approved ISO Cortical Bone Screws. This dual combination hole is integral to the plate design not to pull the Locking Screw through the plate and offer a rigid reversible dual application solution to fixation.

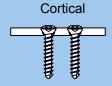
The limited contact design on the underside of the plate offer the added advantage of reducing bending stress risers and vascular trauma.

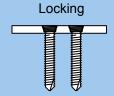
All plates are made from Stainless Steel ISO 5832-1

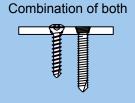


# 2.4mm Locking Plate

Order Code	Description	No. of Holes	Length mm
LPL-24-04	2.4mm Stacked Locking Plate	4	31
LPL-24-05	2.4mm Stacked Locking Plate	5	38
LPL-24-06	2.4mm Stacked Locking Plate	6	45
LPL-24-07	2.4mm Stacked Locking Plate	7	52
LPL-24-08	2.4mm Stacked Locking Plate	8	59
LPL-24-09	2.4mm Stacked Locking Plate	9	66
LPL-24-10	2.4mm Stacked Locking Plate	10	73
LPL-24-11	2.4mm Stacked Locking Plate	11	80
LPL-24-12	2.4mm Stacked Locking Plate	12	87
LPL-24-13	2.4mm Stacked Locking Plate	13	94
LPL-24-14	2.4mm Stacked Locking Plate	14	101
LPL-24-15	2.4mm Stacked Locking Plate	15	108
LPL-24-16	2.4mm Stacked Locking Plate	16	115
LPL-24-17	2.4mm Stacked Locking Plate	17	122
LPL-24-18	2.4mm Stacked Locking Plate	18	129

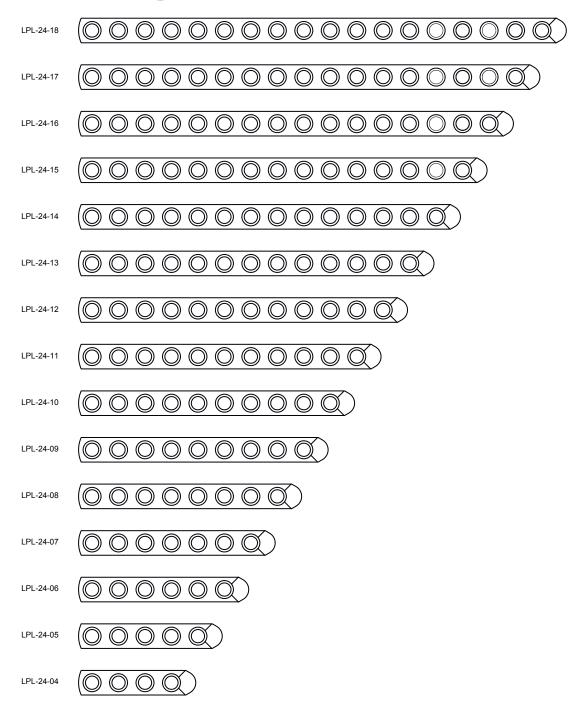








## 2.4 Locking Plate



# N2 (UK) Ltd L2 Veterinary Supplies

# 2.7mm Locking Plate

Order Code	Description	No. of Holes	Length mm
LPL-27-04	2.7mm Stacked Locking Hole Plate	4	34
LPL-27-05	2.7mm Stacked Locking Hole Plate	5	42
LPL-27-06	2.7mm Stacked Locking Hole Plate	6	50
LPL-27-07	2.7mm Stacked Locking Hole Plate	7	58
LPL-27-08	2.7mm Stacked Locking Hole Plate	8	66
LPL-27-09	2.7mm Stacked Locking Hole Plate	9	74
LPL-27-10	2.7mm Stacked Locking Hole Plate	10	82
LPL-27-11	2.7mm Stacked Locking Hole Plate	11	90
LPL-27-12	2.7mm Stacked Locking Hole Plate	12	98
LPL-27-13	2.7mm Stacked Locking Hole Plate	13	106
LPL-27-14	2.7mm Stacked Locking Hole Plate	14	114
LPL-27-15	2.7mm Stacked Locking Hole Plate	15	122
LPL-27-16	2.7mm Stacked Locking Hole Plate	16	130
LPL-27-17	2.7mm Stacked Locking Hole Plate	17	138
LPL-27-18	2.7mm Stacked Locking Hole Plate	18	146



200

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170

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100

+ 90

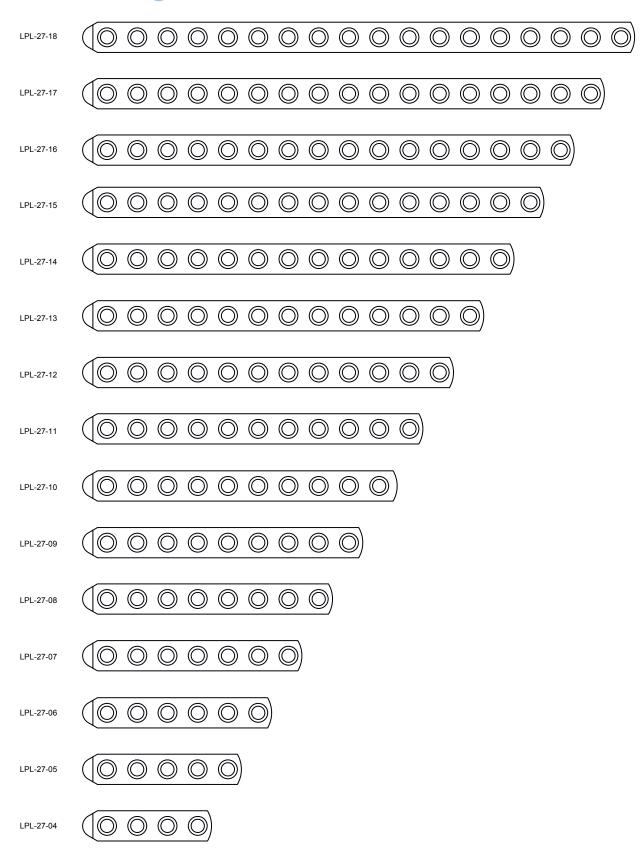
80

**₽** 70

<del>-</del> 50

<del>-</del> 40

## 2.7 Locking Plate



上。

# N2 (UK) Ltd L2 Veterinary Supplies

# 3.5mm Locking Plate

Order Code	Description	No. of Holes	Length mm
LPL-35-04	3.5mm Stacked Locking Hole Plate	4	46
LPL-35-05	3.5mm Stacked Locking Hole Plate	5	56
LPL-35-06	3.5mm Stacked Locking Hole Plate	6	66
LPL-35-07	3.5mm Stacked Locking Hole Plate	7	76
LPL-35-08	3.5mm Stacked Locking Hole Plate	8	86
LPL-35-09	3.5mm Stacked Locking Hole Plate	9	96
LPL-35-10	3.5mm Stacked Locking Hole Plate	10	106
LPL-35-11	3.5mm Stacked Locking Hole Plate	11	116
LPL-35-12	3.5mm Stacked Locking Hole Plate	12	126
LPL-35-13	3.5mm Stacked Locking Hole Plate	13	136
LPL-35-14	3.5mm Stacked Locking Hole Plate	14	146
LPL-35-15	3.5mm Stacked Locking Hole Plate	15	156
LPL-35-16	3.5mm Stacked Locking Hole Plate	16	166
LPL-35-17	3.5mm Stacked Locking Hole Plate	17	176
LPL-35-18	3.5mm Stacked Locking Hole Plate	18	186





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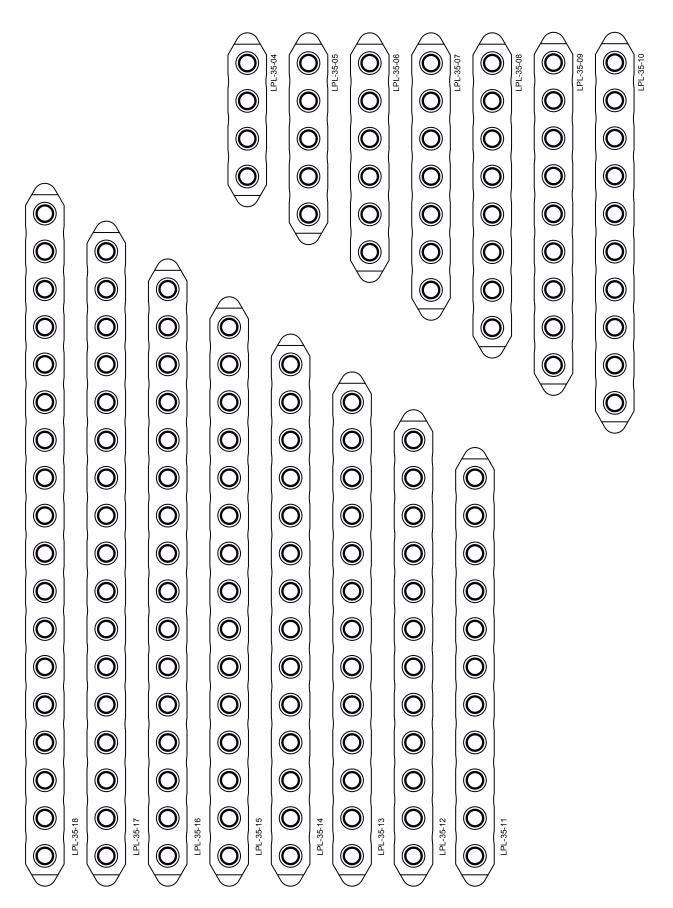
÷ 90

₽ 70

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## 3.5mm Locking Plate



# **Locking Drill Guides**

These can be used on all our mono-axial and poly-axial plates. We recommend keeping the angulation around 10° off centre, however a good rule of thumb is if the drill guide locks in the plate then the screw will also locate.

# 1.5mm Locking Drill Guide

Order Code	Length
LOC-1520-DGS*	23

<sup>\*</sup>For Hybrid 1520 screws

# 2.0mm Locking Drill Guide

Order Code	Length
LOC-20-DGS	23
LOC-2024-DGS*	25

<sup>\*</sup>For Hybrid 2024 screws

# 2.4mm Locking Drill Guide

Order Code	Length
LOC-24-DGS	30

# 2.7mm Locking Drill Guide

Order Code	Length
LOC-27-DGS	35

# 3.5mm Locking Drill Guide

Order Code	Length
LOC-35-DGS	45



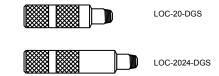




# 1.5mm Locking Drill Guide



# 2.0mm Locking Drill Guide



# 2.4mm Locking Drill Guide



# 2.7mm Locking Drill Guide



# 3.5mm Locking Drill Guide





# 2.0mm Locking Plug

Order Code	Fits Plate	Head	LOC-20-PTD
LOC-20-PTD	2.0mm	Torx	

# 2.7mm Locking Plug

Order Code	Fits Plate	Head
LOC-2724-P	2.4/2.7mm	Hex
LOC-2724-PTD	2.4/2.7mm	Torx

### LOC-2724-P

# 3.5mm Locking Plug

Order Code	Fits Plate	Head
LOC-35-P	3.5mm	Hex
LOC-35-PTD	3.5mm	Torx



# **Cannulated Locking Plugs**

The Cannulated plugs are particularly useful as a way of holding the plates in situ whilst the other holes are drilled and filled. Reduces the need for bone holding forceps which can sometimes be hard to locate without interfering with the surgeon's working area.

Code	Description	Fits Plate	Drive
LOC-20-P-TDC	2.0mm Locking Plug. Cannulated 1.1mm (use 1.0mm guide wire)	2.0	Torx T6
LOC-2724-P-TDC	2.7/2.4mm Locking Plug. Cannulated 1.6mm (use 1.4mm guide wire)	2.4/2.7	Torx T8
LOC-35-P-TDC	3.5mm Locking Plug. Cannulated 1.6mm (use 1.4mm guide wire)	3.5	Torx T15



# **Manufacturing Facilities in the UK**

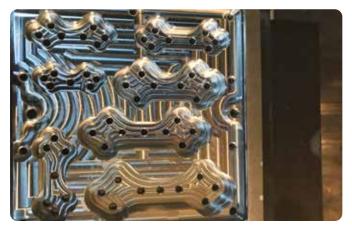
We are proud of our complete manufacturing facilities in the UK.

We would be more than happy to arrange a guided tour of the facilities to see how we manufacturer your implants and prove they are never 'bought in' or 'reprocessed' from afar.

- CAD/CAM
- Electropolishing
- Laser Marking
- CNC Milling, CNC Multi Axis Turning & Threading
- Vibratory Finishing including Diamond, Porceline and Ultrasonic
- Packaging Solutions

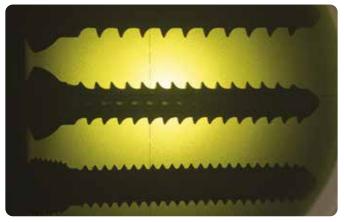






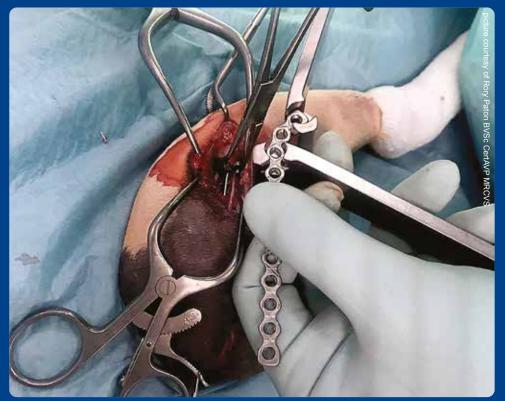






# **Evolox**<sup>®</sup> **Locking System**

Poly-Axial Locking Systems















	Page
2.4mm Evolox® Cuttable and Cuttable Malleable Plates	138
2.7mm Evolox® Osteosynthesis Plates	138
3.5mm Evolox® Osteosynthesis Plates	140
3.5mm Evolox® Broad Osteosynthesis Plates	144
3.5mm PCL Evolox® Poly-axial Compression Locking	146
2.4mm Evolox® PCL Plates	148
2.7mm Evolox® PCL Plates	148
2.4mm Evolox® Biological Healing Plates	150
3.5mm Evolox® Biological Healing Plates	150
Evolox® GEN2 Acetabular Plates	150
Evolox® Locking T-Plates	152
Evolox® YY Plates	154
Evolox® Circular Cuttable Locking Plates	154
Evolox® Gen2 Hybrid T-Plates	155
Evolox® Pantarsal Plates	156
Evolox® Pancarpal Plates	158
Evolox® Pancarpal Arthrodesis Plate (All Locking)	158
Evolox® Canine Cranial Pantarsal Arthrodesis Plate	160
Evolox® Feline Pantarsal Plate Cranial Position	160
Evolox® TPLO Spinnaker Plates	164-169
Evolox® TPLO	170-173
Evolox® TPLO Delta Plates	174
Evolox® Dual Direction Compression Plates	175
Evolox® Supracondylar Osteotomy Plates	176
Evolox® Partial Carpal Arthrodesis Plates	176
3.5mm Evolox® Distal Radius T-Plate	176

# Evolox® Poly Axial Locking System

Evolox® Locking System

is an abbreviation of "Evolutionary Locking"

Designed to offer the surgeon a flexible solution for a wide range of fixation including, but not limited to Humerous, Femur, Ulna and Tibia.

The **Evolox®** System progresses the established mono axial locking technology to the next level through its unique and innovative design. The surgeon now has freedom in the angular (poly axial) placement of fixation screws, whilst still allowing complex, multi plane contouring of the plate to take place. The design of the tapered twin start threaded locking hole allows the use of both conventional (ISO 5835) Cortical (Cortex)/Cancellous Bone Screws\*, and compatible Locking Screws or any combinations. Unlike other angular locking systems available, there is no metal cutting involved in the locking of the screw head to the plate. This allows for easy removal or replacement.







\*Conventional screws do not lock into the plate, but locate into the spherical recess above the **Evolox**® feature.

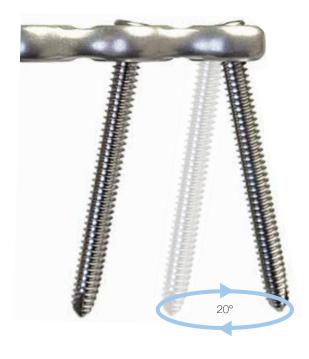
N2 only use fully Class IIB Implantable Stainless Steel to ISO 5832-1

N2 only recommend using fully compatible bone screws in our Evolox Implants due to competitive products not following our standards of quality and compatibility.



**Evolox**® is a registered Trademark of N2(UK)Ltd **Evolox**® and **Evolox**® Gen2 is protected technology by International Law and Patents Pending









### **Benefits**

# Reduced soft tissue irritation

Low profile plates with smooth rounded edges reduce soft tissue irritation, and aid wound closure.

### Crumple zones

Plates in the **Evolox**® range that require anatomical bending are designed with crumple zones that control the movement of the material during manipulation, and direct distortion away from the locking holes. Locking plugs should be used for added protection.

### Secure fixation

The **Evolox**® technology creates a locked construct when used in conjunction with a compatible locking screw, providing angular stability, and a reduced risk of primary and secondary losses of reduction.

### Plate bending

The need to bend the plates to an accurate anatomical form prior to implantation is greatly reduced as the need to generate compressive forces between plate and bone is not required. The **Evolox®** technology can be angled toward the fragment and still create a stable fixation. The reduced bending requirement also helps to retain the full strength of the plate, and protect it from stress risers that can cause premature implant failure.

### Preservation of blood supply

Locking plates do not need to be compressed against the bone to create a stable fixation, thus reducing plate to bone contact, which in turn reduces complications caused by vascular trauma to periosteal tissue.

### Fragment reduction

The **Evolox**® technology allows individual fragment fixation by allowing the screws to angle and lock towards the core of the bone rather than be limited to the perpendicular axis of the plate. This gives the plate coverage for multiple fracture configurations.

### Satin Finish

In addition to the obvious non-reflective surface providing less light glare during surgery, the uniform surface layer of compressive stress acts to combat stress cracks and corrosion, therefore, increasing the life of implant. Also this type of surface finish has a greater ultrasound reflection. The process itself cleans the part, leaving it free from residues with a low CFU (microorganism) count, resulting in easier autoclave sterilisation.





### **Contouring Tips**

- · Anatomic contouring only required with nonlocking screw placement
- · Perform contouring over the instrument trolley
- · Placeing a thumb securely over the plate in the bending iron prevents dropping the plate
- · Inverting one bending iron helps keep plate securely in the bending irons
- · Placing one bending iron opposite the other increases range of contouring
- · Greater distance between bending irons the more gradual the bend created

### **Plate Contouring**

- The Evolox® osteosynthesis system is versatile and can be used throughout the skeleton
- · Freedom of contouring allows accurate anatomy matching combined with polyaxial system
- · Examples of plate applications includes:-



### **Radius**





- · Typically zero or minimal contouring required
- · Distal or spanning plate applications
- Cranial radius application most common. Medial radius and ulna plating also possible

### **Humerus – Condylar fractures**



Medial condyle caudomedial placement with no contouring required



Lateral condyle lateral or caudolateral placement, plate curves over the lateral supracondylar crest



Bicondylar -Combination of both

### **Humerus - Diaphyseal**



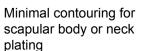
**Medial plating** Gentle bow



Lateral plating Distal flare and proximal curve to form a gentle "S" shape Cranial or Caudal diaphyseal plating also possible

### Scapula









Vertebral body plating

- Thoracolumbar and ventral cervical

   minimal contouring
- Dorsal Lumbar Requires multiplane contouring



Acetabular – Dorsal Acetabular rim placement \*Designated Acetabular plates also available

### **Pelvis**







- Lateral plating plate length, number, and contouring based on fracture location/configuration
- · Ventral placement alternative

**Femur** 





- Mid Diaphyseal
- · Supracondylar plating
- Spanning plate
  - · Gentle bow for mid-diaphysis
  - Proximally plate bent over the greater trochanter
  - Distally curved around the femoral condyles

**Tibia** 



- · Medial plating
  - Distal malleolar and proximal metaphyseal flare
  - Straight OR slight curve in the sagittal plane
- Cranial plating also possible

**Meta Bones** 



- Dorsal plating3rd and 4th bone
- Lateral plating2nd and 5th bone
- · Minimal contouring

# Standard Operating Procedures for Evolox® Osteosynthesis Fixation of Fractures

Kindly Prepared by: Aiz Baig BVSc, MBA, MRCVS

### Humerus - Elbow 'Y' or 'T'

Combined medial and lateral approaches. Anatomic reconstruction with lag screws, K wires etc. Fracture reduction of the articular surface should be confirmed by direct visualization.

If only locking screws are used, contouring of the plate is generally not required. The use of Locking Drill Guides is recommended to ensure correct screw trajectory. The Locking Drill Guides can also be used as handles to help position the plate. Drill through the guide hole to the desired depth using an appropriate sized drill bit. Measure the hole depth via a depth gauge. Remove the Locking Drill Guide and insert the appropriate length Locking Screw using a screwdriver. Do not use power tools to insert the locking screws.

If non-locking screws (cortex or cancellous) are used in the plate, the following precautions are necessary:

Since conventional screws pull bone to the plate, contouring of the plate may be required to enhance bone-plate contact. If non-locking screws are used in combination with locking screws, non-locking screws must be adequately inserted and fully tightened prior to locking screw(s) insertion.

Note: Contouring of the plate will alter the angle of the locking screws. It is recommended to insert locking plugs prior to contouring to avoid distortion of internal threads.

Two Evolox Osteosynthesis Plates, one medial and one lateral. Total of 4 Evolox Osteosynthesis Plate screws in reconstructed condylar fragment (not necessary to have all 4 screws in the same Evolox Osteosynthesis Plate). Total of 4 screws in proximal major fragment (not necessary to have all 4 screws in the same Evolox Osteosynthesis Plate). Two x 2.7mm Evolox Osteosynthesis Plates in

patients up to 20 kg. Two x 3.5mm Evolox Osteosynthesis Plates in patients over 35 kg. Fill any empty holes with a locking plug.

### Femur - Diaphysis

If only locking screws are used, contouring of the plate is generally not required. The use of Locking Drill Guides is recommended to ensure correct screw trajectory. The Locking Drill Guides can also be used as handles to help position the plate. Drill through the guide hole to the desired depth using an appropriate sized drill bit. Measure the hole depth via a depth gauge. Remove the Locking Drill Guide and insert the appropriate length Locking Screw using a screwdriver. Do not use power tools to insert the locking screws.

If non-locking screws (cortex or cancellous) are used in the plate, the following precautions are necessary:

Since conventional screws pull bone to the plate, contouring of the plate may be required to enhance bone-plate contact. If non-locking screws are used in combination with locking screws, non-locking screws must be adequately inserted and fully tightened prior to locking screw(s) insertion.

Note: Contouring of the plate will alter the angle of the locking screws. It is recommended to insert locking plugs prior to contouring to avoid distortion of internal threads.

4 screws in distal and 4 screws in proximal fragments. Single 2.7mm Evolox Osteosynthesis Plate in patients up to 10 kg (medial aspect). Single 3.5mm Evolox Osteosynthesis Plate in patients up to 35 kg (lateral aspect). Double 3.5mm Evolox Osteosynthesis Plate in patients over 35 kg (lateral aspect). Fill any empty holes with a hole plug. If only locking screws are used in the plate absolute anatomical contouring is not necessary.

### Tibia - Diaphysis

If only locking screws are used, contouring of the plate is generally not required. The use of Locking Drill Guides is recommended to ensure correct screw trajectory. The Locking Drill Guides can also be used as handles to help position the plate. Drill through the guide hole to the desired depth using an appropriate sized drill bit. Measure the hole depth via a depth gauge. Remove the Locking Drill Guide and insert the appropriate length Locking Screw using a screwdriver. Do not use power tools to insert the locking screws.

If non-locking screws (cortex or cancellous) are used in the plate, the following precautions are necessary:

Since conventional screws pull bone to the plate, contouring of the plate may be required to enhance bone-plate contact. If non-locking screws are used in combination with locking screws, non-locking screws must be adequately inserted and fully tightened prior to locking screw(s) insertion.

Note: Contouring of the plate will alter the angle of the locking screws. It is recommended to insert locking plugs prior to contouring to avoid distortion of internal threads.

4 screws in distal and 4 screws in proximal fragments. Single 2.7mm Evolox Osteosynthesis Platein patients up to 10 kg (medial aspect). Single 3.5mm Evolox Osteosynthesis Plate in patients up to 35 kg (medial aspect). Double 3.5mm Evolox Osteosynthesis Plate in patients over 35 kg (medial aspect). Fill any empty holes with a hole plug. If only locking screws are used in the plate absolute anatomical contouring is not necessary.



#### **Ulna - Radius**

If only locking screws are used, contouring of the plate is generally not required. The use of Locking Drill Guides is recommended to ensure correct screw trajectory. The Locking Drill Guides can also be used as handles to help position the plate. Drill through the guide hole to the desired depth using an appropriate sized drill bit. Measure the hole depth via a depth gauge. Remove the Locking Drill Guide and insert the appropriate length Locking Screw using a screwdriver. Do not use power tools to insert the locking screws.

If non-locking screws (cortex or cancellous) are used in the plate, the following precautions are necessary:

Since conventional screws pull bone to the plate, contouring of the plate may be required to enhance boneplate contact. If non-locking screws are used in combination with locking screws, non-locking screws must be adequately inserted and fully tightened prior to locking screw(s) insertion.

Note: Contouring of the plate will alter the angle of the locking screws. It is recommended to insert locking plugs prior to contouring to avoid distortion of internal threads.

Evolox Osteosynthesis Plateon radius (4 screws in proximal and 4 screws in distal fragment). Evolox Osteosynthesis Plateon medial or dorsal aspect distally. Evolox Osteosynthesis Plate on cranial aspect proximally. Avoid overlong screws transfixing radius and ulna. 2.7mm Evolox Osteosynthesis Platein patients up to 10 kg. 3.5mm Evolox Osteosynthesis Platein patients over 10 kg. Fill any empty holes with a hole plug. If only locking screws are used in the plate absolute anatomical contouring is not necessary.

#### **Relative Contraindications**

The veterinarian's education, training and professional judgement must be relied upon to choose the most appropriate surgical implant and treatment. The following contraindications should be taken into account by the veterinarian:

- Any active or suspected latent infection or marked local inflammation in or about the surgical site.
- Compromised vascularity that would inhibit sufficient blood supply to the fracture site.
- Bone stock compromised by pathology prior to application that cannot provide adequate support and/or fixation of the implants.
- Implant sensitivity, documented or suspected.
- Obesity. An overweight animal can produce loads on the implant that can lead to failure of the surgical procedure or the implant itself.
- Animals having insufficient soft tissue coverage over the operative site.
- Implant application that would interfere with normal anatomical structures and range of motion.
- Any neuromuscular pathology that would create an unacceptable risk of fixation failure or postoperative complications.
- Other medical or surgical conditions which would preclude the potential benefit of surgery.

# Maximum recommended torque for tapered screw head engagement:

3.5mm Locking screw = 2.30 N-mm (0.02 lbf-in)

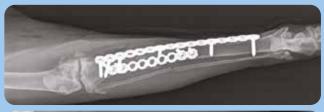
2.7mm Locking screw = 1.15 N-mm (0.01 lbf-in)

Over tightening the screw may result in threads stripping, and loss of secure fixation.

In this event replace the over tightened screw with a conventional cortical screw.

Secure fixation can be achieved with much lower torque levels using locking screw technology.

# 2.4mm Evolox® Cuttable & Cuttable Malleable Plates





Order Code	No. of Holes	Length mm
EV-CMP-24-25-150	25	150
EV-CUT-24-25-150	25	150

### Will accept

2.4mm Cortical, 2.2mm Cancellous, 2.4mm Locking (Hex or/and Star Torx Drive), 2024 Hybrid Locking, 2.7mm Locking



# 2.7mm Evolox® Osteosynthesis Plates





Order Code	No. of Holes	Length mm
EV-OS-27-04	4	34
EV-OS-27-05	5	40
EV-OS-27-06	6	48
EV-OS-27-07	7	56
EV-OS-27-08	8	64
EV-OS-27-09	9	72
EV-OS-27-10	10	80
EV-OS-27-11	11	88
EV-OS-27-12	12	96
EV-OS-27-13	13	104
EV-OS-27-14	14	112
EV-OS-27-15	15	120
EV-OS-27-16	16	128

### Will accept

2.7mm Cortical, 3mm Cancellous, 2.4mm Locking (Hex or/and Star Torx Drive), 2024 Hybrid Locking, 2.7mm Locking











200

190

170

160

150

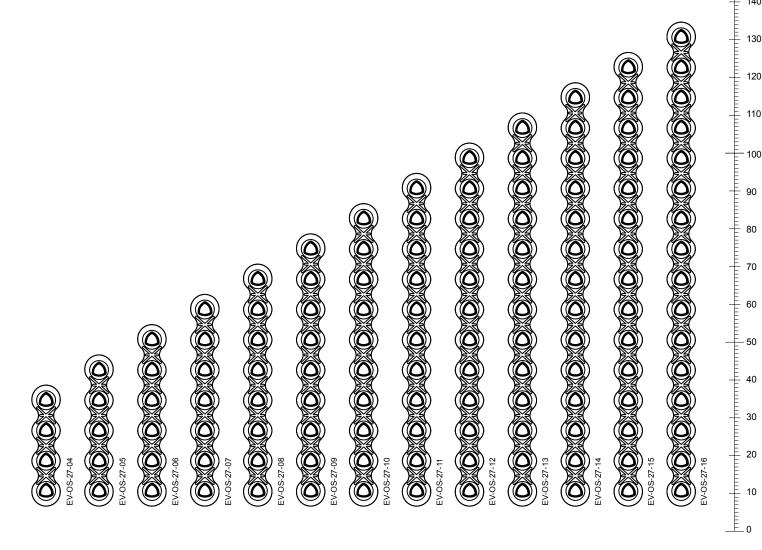
### 2.4mm Evolox® Cuttable Malleable Plate



### 2.4mm Evolox® Cuttable Plate



# 2.7mm Evolox® Osteosynthesis Plates



# 3.5mm Evolox® Osteosynthesis Plates

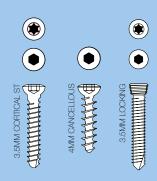


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Order Code	No. of Holes	Length mm
EV-OS-35-04	4	45
EV-OS-35-05	5	57
EV-OS-35-06	6	69
EV-OS-35-07	7	81
EV-OS-35-08	8	93
EV-OS-35-09	9	105
EV-OS-35-10	10	117
EV-OS-35-11	11	129
EV-OS-35-12	12	141
EV-OS-35-13	13	153
EV-OS-35-14	14	165
EV-OS-35-15	15	177
EV-OS-35-16	16	189
EV-OS-35-17	17	201
EV-OS-35-18	18	213
EV-OS-35-19	19	225
EV-OS-35-20	20	238

### Will accept

3.5mm Cortical, 4mm Cancellous, 3.5mm Locking (Hex or/and Star Torx Drive)

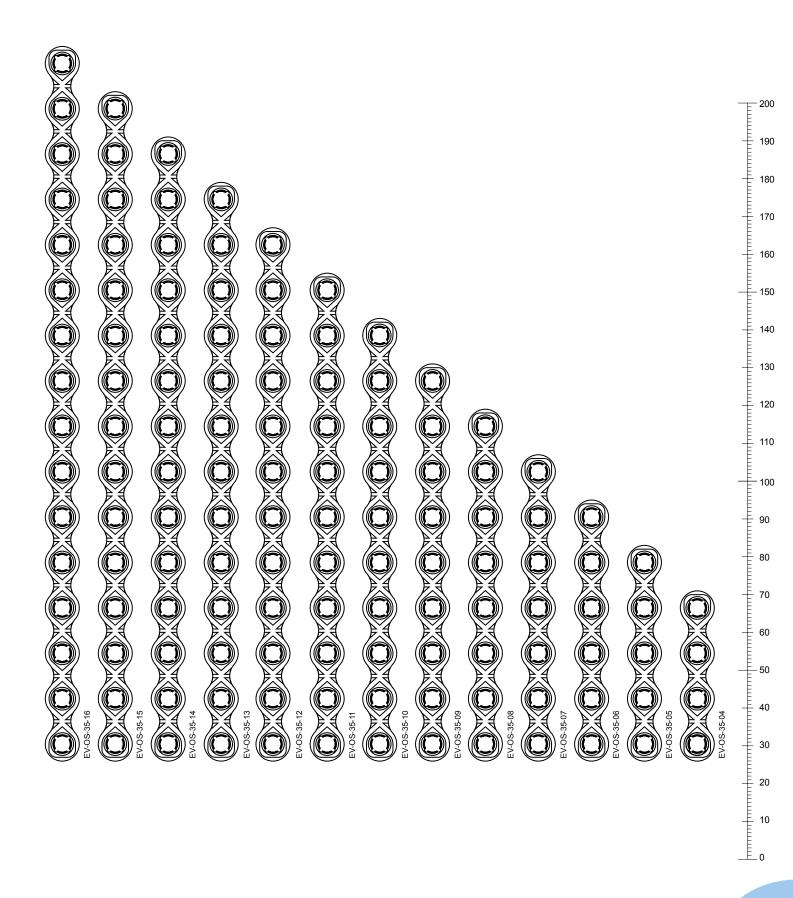




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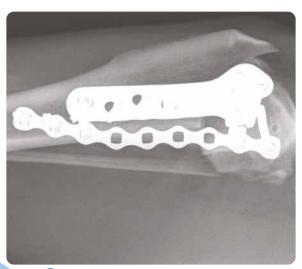
# 3.5mm Evolox® Osteosynthesis Plates











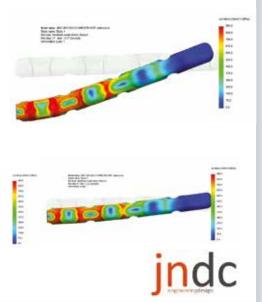






# **Results EVO LOX Component** •EVO LOX part was tested with SS 316

- •Results show that the bar starts yielding at a load of 625N •With a Proof Load of 702N according to
- the methodology in BS 3531 •Top figure shows stress distribution and deflection at maximum load.
- •Bottom two figures show stress and
- deflection at yield



### Results EVO LOX Component

- •EVO LOX part was tested with SS 316
- •Due to the fact that the design of the EVO LOX allows for up to 10 degrees of twist when attached to the screws the first step in the FEA analysis was a central bend of 15 degrees by carrying out a 3 point bend on the part.
- •Figure shows the mesh of the EVO LOX 316LVM component bent to 15 degrees.







# 3.5mm Evolox® Broad Plates







A wider version of the standard plates by 2mm when a more substantial fixation is desirable. Still with all the benefits of the standard plate but offering further rigidity and starting size is 4 holes.

Order Code	No. of Holes	Length mm
EV-OS-35-04B	4	32
EV-OS-35-05B	5	59
EV-OS-35-06B	6	71
EV-OS-35-07B	7	83
EV-OS-35-08B	8	95
EV-OS-35-09B	9	107
EV-OS-35-10B	10	119
EV-OS-35-11B	11	131
EV-OS-35-12B	12	143
EV-OS-35-13B	13	155
EV-OS-35-14B	14	167
EV-OS-35-15B	15	179
EV-OS-35-16B	16	191
EV-OS-35-17B	17	203
EV-OS-35-18B	18	215
EV-OS-35-19B	19	227
EV-OS-35-20B	20	239

### Will accept

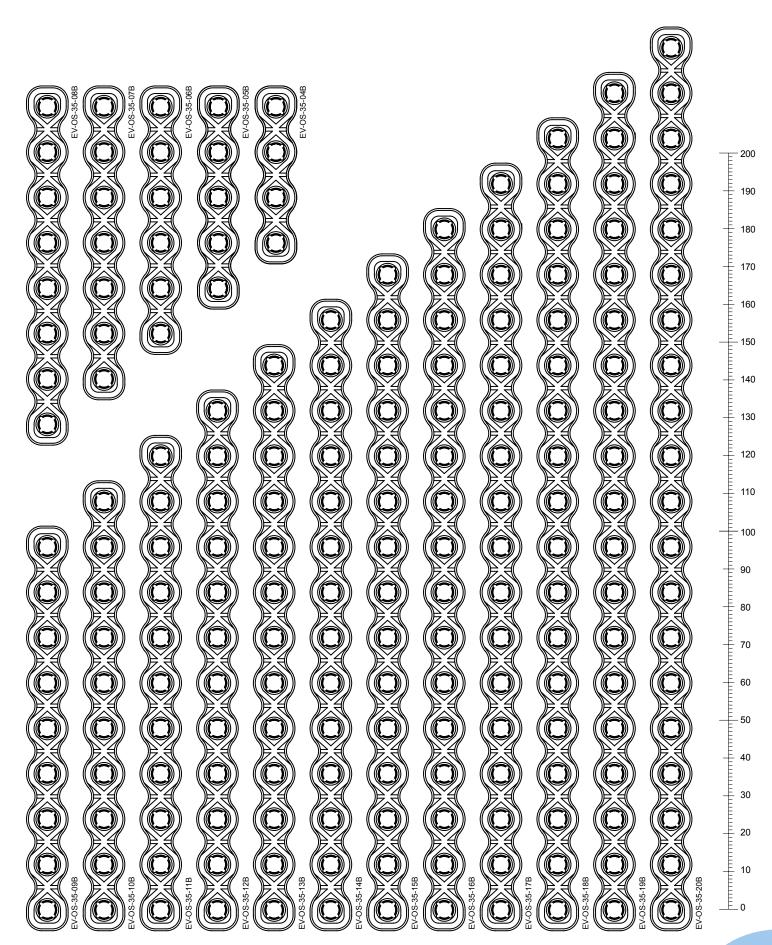
- 3.5mm Cortical, 4mm Cancellous, 3.5mm Locking (Hex or/and Star Torx Drive)



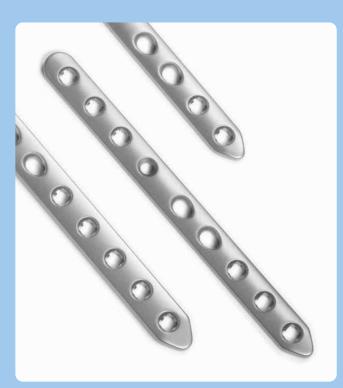
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#### 3.5mm Evolox® Broad Plates



## **Poly-Axial Compression Plates**







# 3.5mm PCL Evolox® (Poly-axial Compression Locking Plate)

A dedicated heavy duty plate for long bone fractures requiring minimal contouring but maximum strength. Rigid Extruded Profile Constuct.

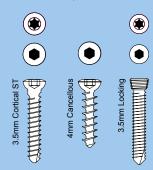
#### Some key points

- Single locating fixing
- Compression
- Poly-Axial Evolox Locking Plate

Order Code	No. of Holes	Length mm
EV-PCL-35-06	6	81
EV-PCL-35-07	7	93
EV-PCL-35-08	8	105
EV-PCL-35-09	9	117
EV-PCL-35-10	10	129
EV-PCL-35-11	11	141
EV-PCL-35-12	12	153
EV-PCL-35-13	13	165
EV-PCL-35-14	14	177
EV-PCL-35-15	15	189
EV-PCL-35-16	16	201

#### Will accept

- 3.5mm Cortical, 4mm Cancellous,
- 3.5mm Locking (Hex or/and Star Torx Drive)

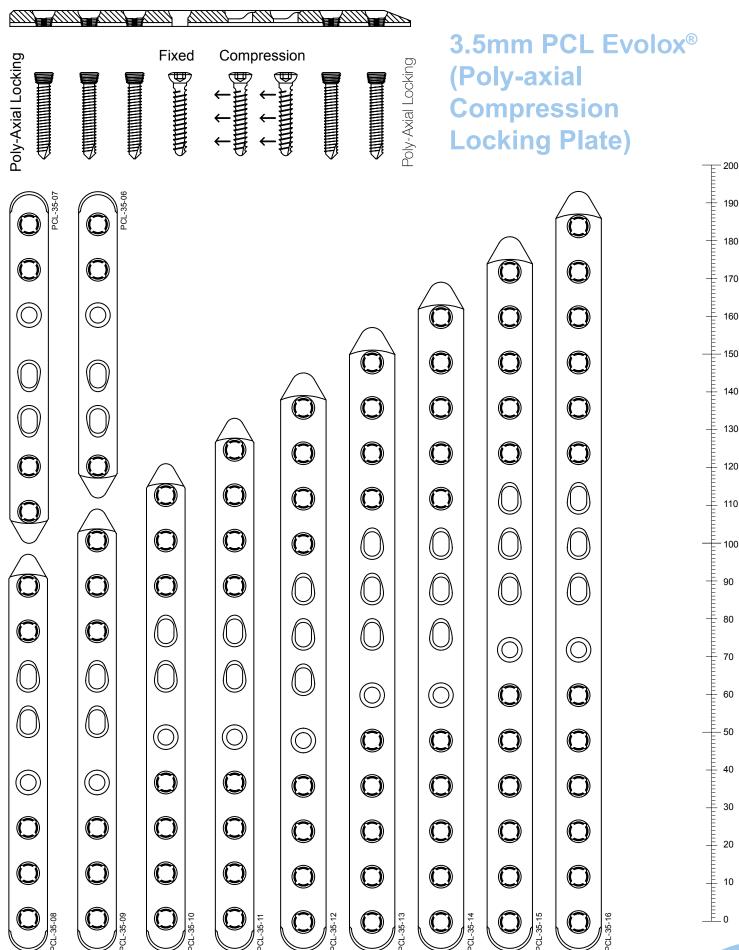




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#### Evolox® Poly/Mono-Axial Compression Locking Plates

#### **PCL**

These unique plates were requested by surgeons to offer the flexibility of Poly-Axial Locking and a combination of compression and secure fixation. The use of Evolox® Locking greatly increases pull out resistance and offers enhanced screw placement while offering a rigid construct. The need to perfectly contour the plate anatomically is reduced by the angulation of the Evolox® Locking Hole.

Our plates are made from specific Bone Plate Profiles (ISO 5832-1) increasing strength while reducing potential fatigue. Our human grade material has almost twice the tensile strength of our competitors 316L Stainless Steel. They are a cost effective solution to reduce inventory and have tapered ends for clear identification.

#### 2.4mm Evolox® Poly-Axial Compression Locking Plate (EV-PCL-24-XXX)

You can use 2.4mm ISO Regular Locking Screws, 2.4mm Cortical Screws or a mixture of both. Designed to also take 3mm Cancellous Screws and 2.4mm Locking Screws with 2mm shaft depending on the quality of the bone or revision.

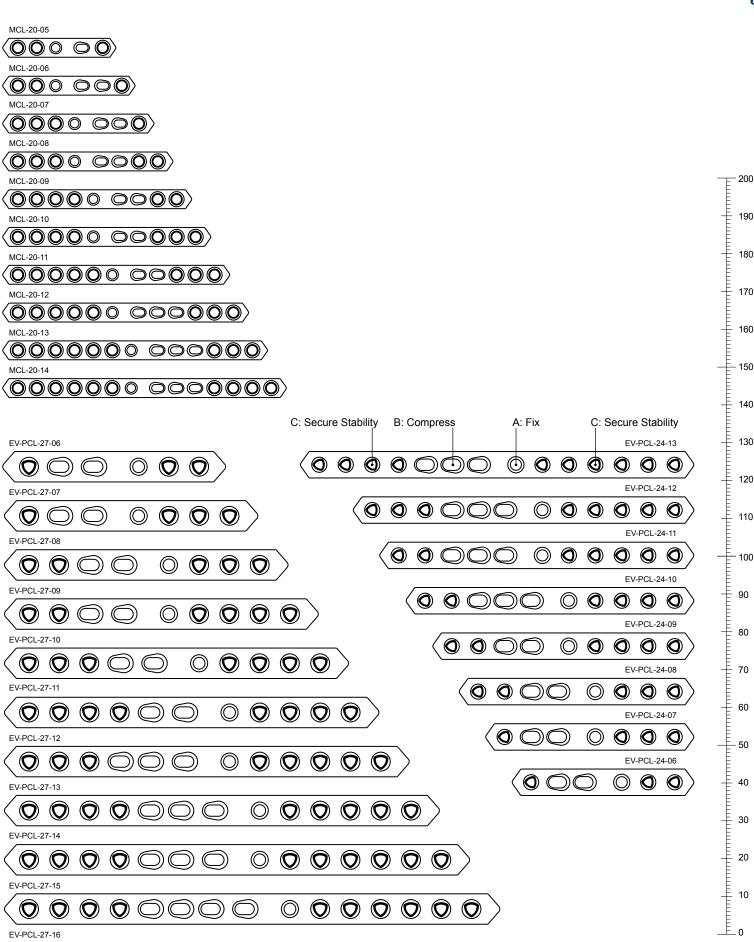
#### 2.7mm Evolox® Poly-Axial Compression Locking Plate (EV-PCL-27-XXX)

You can use 2.7mm ISO Regular Locking Screws, 2.7mm Cortical Screws or a mixture of both. Designed to also take 3mm Cancellous Screws and 2.4mm Locking Screws, or a 2.4mm Locking Screw with 2mm shaft.

Order Code	Description	Length mm
MCL-20-05	2.0mm Locking and Compression Plates 5 Hole	30
MCL-20-06	2.0mm Locking and Compression Plates 6 Hole	35
MCL-20-07	2.0mm Locking and Compression Plates 7 Hole	40
MCL-20-08	2.0mm Locking and Compression Plates 8 Hole	45
MCL-20-09	2.0mm Locking and Compression Plates 9 Hole	50
MCL-20-10	2.0mm Locking and Compression Plates 10 Hole	55
MCL-20-11	2.0mm Locking and Compression Plates 11 Hole	60
MCL-20-12	2.0mm Locking and Compression Plates 12 Hole	65
MCL-20-13	2.0mm Locking and Compression Plates 13 Hole	70
MCL-20-14	2.0mm Locking and Compression Plates 14 Hole	75

EV-PCL-24-05	2.4mm Evolox® Locking and Compression Plates 5 Hole	41
EV-PCL-24-06	2.4mm Evolox <sup>®</sup> Locking and Compression Plates 6 Hole	48
EV-PCL-24-07	2.4mm Evolox® Locking and Compression Plates 7 Hole	55
EV-PCL-24-08	2.4mm Evolox® Locking and Compression Plates 8 Hole	62
EV-PCL-24-09	2.4mm Evolox® Locking and Compression Plates 9 Hole	69
EV-PCL-24-10	2.4mm Evolox <sup>®</sup> Locking and Compression Plates 10 Hole	76
EV-PCL-24-11	2.4mm Evolox® Locking and Compression Plates 11 Hole	83
EV-PCL-24-12	2.4mm Evolox® Locking and Compression Plates 12 Hole	90

EV-PCL-27-06	2.7mm Evolox® Locking and Compression Plates 6 Hole	59
EV-PCL-27-07	2.7mm Evolox® Locking and Compression Plates 7 Hole	67
EV-PCL-27-08	2.7mm Evolox® Locking and Compression Plates 8 Hole	75
	<u> </u>	
EV-PCL-27-09	2.7mm Evolox® Locking and Compression Plates 9 Hole	83
EV-PCL-27-10	2.7mm Evolox® Locking and Compression Plates 10 Hole	91
EV 1 OE 21 10	2.711111 Evolox Lecturing and Compression Flates To Flore	0 1
EV-PCL-27-11	2.7mm Evolox® Locking and Compression Plates 11 Hole	99
E) / DOL 07 40		407
EV-PCL-27-12	2.7mm Evolox® Locking and Compression Plates 12 Hole	107



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#### 2.4mm Evolox® Biological Healing Plates

The 2.4mm Plates are specifically designed for economical use on Feline Long Bone fractures. They benefit from a rigid extruded construct with the flexibility of having Poly-axial Locking fixation or even 2.4mm Locking Screws with 2mm shaft. They are low profile and pre contoured to aid closure.

Order Code	Description	Length mm
EV-BH-24-07-059	2.4mm Biological Healing Plate 7 Holes	59
EV-BH-24-08-084	2.4mm Biological Healing Plate 8 Holes	84





#### 3.5mm Evolox® **Biological Healing Plates**

Order Code	No. of Holes	Length mm
EV-BH-35-08-154	8	154
EV-BH-35-08-142	8	142
EV-BH-35-07-130	7	130
EV-BH-35-07-120	7	120

#### Will accept

3.5mm Cortical, 4mm Cancellous, 3.5mm Locking (Hex or/and Star Torx Drive)













#### Evolox® GEN2 Acetabular

Order Code	No. of Holes	Length mm
EV-ACE-24	4	21
EV-ACE-24B	6	26
EV-ACE-27	6	33
EV-ACE-27B	6	36
EV-ACE-35	6	46

- 2.4mm Version will accept 2.4mm Cortical, 2.2mm Cancellous, 2.4mm Locking (Hex or/and Star Torx Drive), 2.7mm locking, 2.4/2.0 Hybrid Locking
- 2.7mm Version will accept 2.7mm Cortical, 3mm Cancellous, 2.7/2.4mm Locking (Hex or/and Star Torx Drive), 2.4/2.0 Hybrid Locking
- 3.5mm Version will accept 3.5mm Cortical, 4mm Cancellous, 3.5mm Locking (Hex or/and Star Torx Drive)



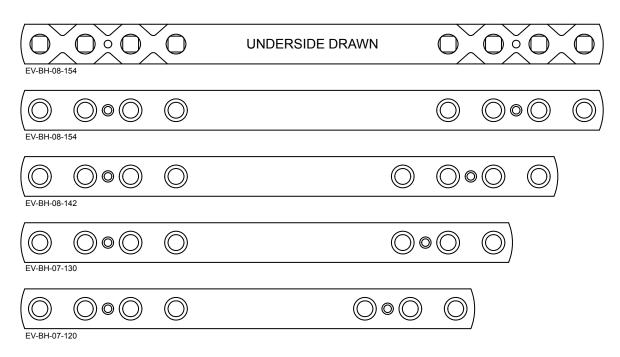
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# UX manufactured

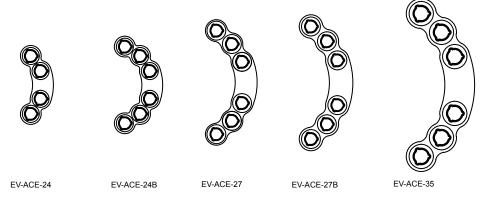
#### 2.4mm Evolox® Biological Healing Plates



#### 3.5mm Evolox® Biological Healing Plates



#### Evolox® GEN2 Acetabular



N2 (UK) Ltd



# T-Plates with Locking and Evolox®





Order Code	Description	Length
LPL-T-20-6-35	T-Plate Locking 2.0mm 3+3	35mm Long
LPL-T-20-6-35X	T-Plate Locking 2.0mm 2+4	35mm Long
EV-T-2427-7-48	T-Plate Evolox® 2.4/2.7mm 3+4	48mm Long
EV-T-2427-8-55	T-Plate Evolox® 2.4/2.7mm 3+5	55mm Long
EV-T-35-7-70	T-Plate Evolox® 3.5mm 3+4	70mm Long
EV-T-35-8-80	T-Plate Evolox® 3.5mm 3+5	80mm Long
EV-T-35-10-100	T-Plate Evolox® 3.5mm 3+7	80mm Long

We are pleased to introduce the expansion of our Evolox® and Locking T Plates with emphasis of improving on current Implants.

Designed, Developed and Manufactured in the UK.

- Each Plate size can take the relevant ISO recognised Locking and Cortical Screws.
- Scalloped Edges for easier anatomical handling.
- Arthrodesis Wire hole to aid placement.
- Grooved Feature for Plate Clamping.
- Evolox® for Poly-axial Locking for better pull-out resistance and Secure Fixation.
- Can be contoured.



# T-Plates with Evolox®/Locking



#### **Veterinary Supplies**



LPL-T-20-6-35



LPL-T-20-6-35X



EV-T-2427-7-48

- ▲ Made with Human Grade Stainless Steel to ISO 5832-1.
- Non-Reflective surface.
- 2mm Plate will take either 2mm Cortical, 2mm Locking or 2.2mm Cancellous.
- 2.4mm/2.7mm will take 2.4/2.7 Cortical, 2.4/2.7 Locking and 3mm Cancellous.
- 3.5mm will take either 3.5mm Cortical, 3.5mm Locking or 4.0mm Cancellous.
- Can be used with N2's Hybrid Locking Screws where Bone Stock is Limited.



EV-T-2427-8-55



EV-T-35-7-70



EV-T-35-8-80



EV-T-35-10-100

Drawings at 1:1 scale





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sales@n₂-uk.com



#### **Evolox® YY Plates**

Originally designed for a chondrodystrophic bi-apical antebrachial deformity that had caused paw rotation in a Basset Hound this plate was designed to stabilise both ends of the realigned area. The plate is useful for other procedures in particular the distal radius.

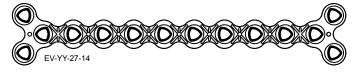
Order Code	Description
EV-YY-27-12	2.7mm EVOLOX® 12 Hole Double Ended Y Plate
EV-YY-27-13	2.7mm EVOLOX® 13 Hole Double Ended Y Plate
EV-YY-27-14	2.7mm EVOLOX® 14 Hole Double Ended Y Plate

2.0mm YY locking plates see page 117



scale 1:1





#### **Circular Cuttable Locking Plates**

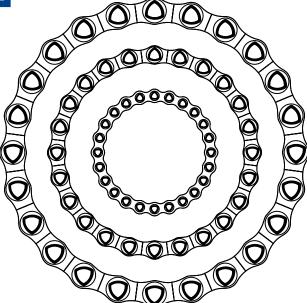
A unique versatile plate to have available. Whether it is for acetabular work or maxillofacial work this range will be useful. They have been used in jaw fractures as well as around the orbit. This cuttable option offers flexibility to allow all your requirements to be met in one plate.

Order Code	Description
LPL-RP-20-36-24	2.0mm Locking Ring Plate 24 Hole 36mm Diameter (Mono-axial)
EV-RP-24-57-24	2.4mm EVOLOX® Ring Plate 24 Hole 57mm Diameter
EV-RP-27-82-24	2.7mm EVOLOX® Ring Plate 24 Hole 82mm Diameter



scale 1:1







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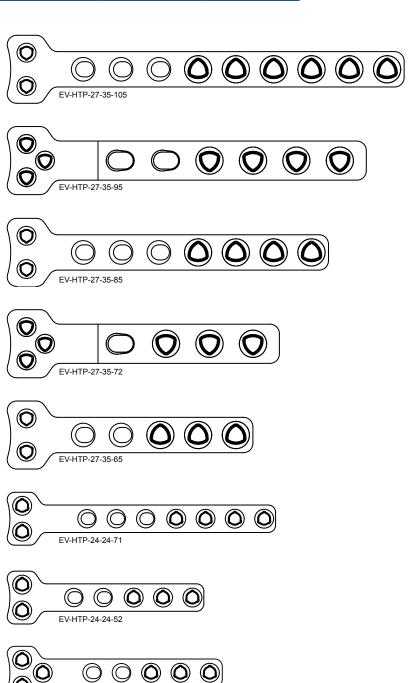
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#### **Evolox® Gen-2 Hybrid T-Plates**

We have added a range of Hybrid T-Plates with our Evolox® polyaxial locking holes as requested by veterinary surgeons.

Code	Head Locking screw size	Shaft Locking screw size	Shaft DCP screw size	Length
EV-HTP-27-35-105	2.7	3.5	3.5	105
EV-HTP-27-35-95	2.7	3.5	3.5	95
EV-HTP-27-35-85	2.7	3.5	3.5	85
EV-HTP-27-35-72	2.7	3.5	3.5	72
EV-HTP-27-35-65	2.7	3.5	3.5	65
EV-HTP-24-24-71	2.4	2.4	2.4	71
EV-HTP-24-24-52	2.4	2.4	2.4	52
EV-HTP-24-5-3	2.4	2.4	2.4	57





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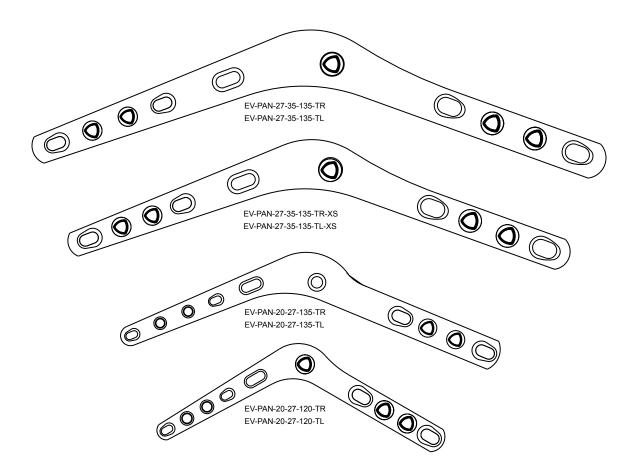
#### **Evolox® Pantarsal**

We have launched a range of Pantarsal Plates with Poly-Axial Holes included to give surgeons more flexibility in screw placement.

Order Code	Description
EV-PAN-27-35-135-TR-XS (Small)	Evolox® Pantarsal Arthrodesis Plate 2.7mm x 3.5mm 135 Degrees Right with Slot - SHORT
EV-PAN-27-35-135-TR	Evolox® Pantarsal Arthrodesis Plate 2.7mm x 3.5mm 135 Degrees Standard Right with Slot
EV-PAN-27-35-135-TL-XS (Small)	Evolox® Pantarsal Arthrodesis Plate 2.7mm x 3.5mm 135 Degrees Left with Slot - SHORT
EV-PAN-27-35-135-TL	Evolox® Pantarsal Arthrodesis Plate 2.7mm x 3.5mm 135 Degrees Standard Left with Slot
EV-PAN-20-27-135-TR	Evolox® Pantarsal Arthrodesis Plate 2.0mm x 2.7mm 135 Degrees Right with Slot
EV-PAN-20-27-135-TL	Evolox® Pantarsal Arthrodesis Plate 2.0mm x 2.7mm 135 Degrees Left with Slot
EV-PAN-20-27-120-TR	Evolox® Pantarsal Arthrodesis Plate 2.0mm x 2.7mm 120 Degrees Right with Slot
EV-PAN-20-27-120-TL	Evolox® Pancarpal Arthrodesis Plate 2.0mm x 2.7mm 120 Degrees Left with Slot

# UK manufactured

#### Pantarsal Evolox®





#### **Evolox® Locking Pancarpal**

Order Code	Description	Length mm
LPL-PAD-15-20	1.5/2.0mm Pancarpal Arthrodesis Plate Locking and Compression	53
LPL-PAD-15-20L	1.5/2.0mm Pancarpal Arthrodesis Plate Extra Long	61
LPL-PAD-20-20	2.0/2.0mm Pancarpal Arthrodesis Plate	57
LPL-PAD-20-20L	2.0/2.0mm Pancarpal Arthrodesis Plate Extra Long	67
EV-PAD-20-27L	Evolox® 2.0/2.7mm Pancarpal Arthrodesis Plate, Evolox® Locking and Compression	90
EV-PAD-20-27-PB	Evolox® 2.0/2.7mm Pancarpal Arthrodesis DCP Plate Pre Bent 7 deg	-
EV-PAD-20-27	Evolox® 2.0/2.7mm Pancarpal Arthrodesis Plate Evolox®, Locking and Compression	75
EV-PAD-27-35L	-27-35L Evolox® 2.7/3.5mm Pancarpal Arthrodesis Plate Evolox® and Compression Extra Long	
EV-PAD-27-35-PB-L Evolox® 2.7/3.5mm Pancarpal Arthrodesis DCP Plate Extra Long Pre Bent 7 deg		-
EV-PAD-27-35-PB	Evolox® 2.7/3.5mm Pancarpal Arthrodesis DCP Plate Pre Bent 7 deg	-
EV-PAD-27-35	Evolox® 2.7/3.5mm Pancarpal Arthrodesis Plate Evolox® and Compression	100
EV-PAD-35-35	Evolox® 3.5/3.5mm Pancarpal Arthrodesis Plate Evolox® and Compression	141
EV-PAD-35-35L	Evolox® 3.5/3.5mm Pancarpal Arthrodesis Plate Extra Long	154
EV-PAD-35-45	Evolox® 3.5/4.5mm Pancarpal Arthrodesis Plate	185

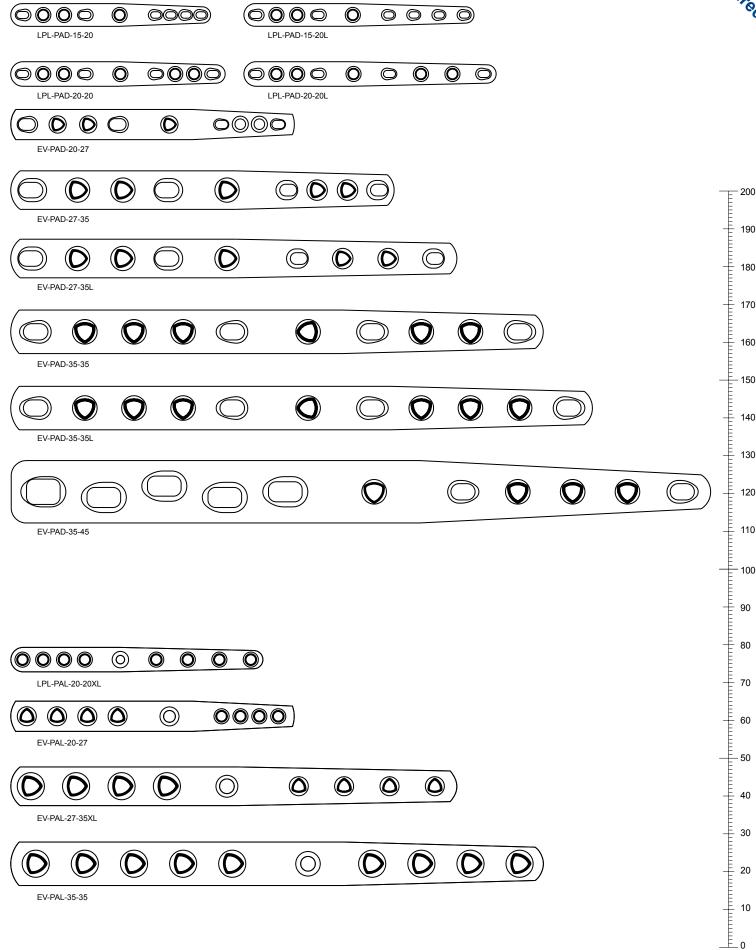
# Evolox® Pancarpal Arthrodesis Plates Special All Locking (PAL)

We have produced quite a few of this plates over the past two years as a bespoke special implant. The demand has enabled us to produce this plate as an 'Off the Shelf' stock Item thus reducing lead times and benefitting the patient. All holes are locking and can be pre-contoured upon request.

Order Code	Description	Length mm
LPL-PAL-20-20XL	2.0/2.0mm Mono-Axial Locking Pancarpal Arthrodesis	67
EV-PAL-20-27	2.0/2.7mm Evolox® Pancarpal Arthrodesis	75
EV-PAL-27-35XL	2.7/3.5mm Evolox® Pancarpal Arthrodesis	118
EV-PAL-35-35	3.5/3.5mm Evolox® Pancarpal Arthrodesis	141

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#### Evolox® Canine Cranial Pantarsal Arthrodesis Plate

Our Evolox® CPA plates offer the reassurance of having a locking construct with the benefit of compression as needed.

Order Code	Screw Size
LPL-CPA-20-20-140	2.0 / 2.0
EV-CPA-20-24-140	2.0 / 2.4
EV-CPA-20-27-140	2.0 / 2.7
EV-CPA-27-35-140	2.7 / 3.5

2.7mm/ 3.5mm Pre contoured to 140° to reduce stress risers. Profile 12mm X 4.0mm for added strength. 140° 2.0/2.4/2.7mm Pre contoured to 140° to reduce stress risers. Profile 8.0mm X 2.5mm for added strength. 140° An improved plate with increased screw placement angulation in elliptical slots similar in design of Limited contact slots. The oblique undercut for improved range of inclination either side of the bend greatly improves screw placement to secure the talus.

New range has the added advantage of reduce profile height to aid closure without affecting torsional strength. Larger compression slots in the tibia than the metatarsal and tapered to suit.

All Plates are made from Stainless Steel ISO 5832-1



#### Evolox® Feline Pantarsal Plate Cranial Position

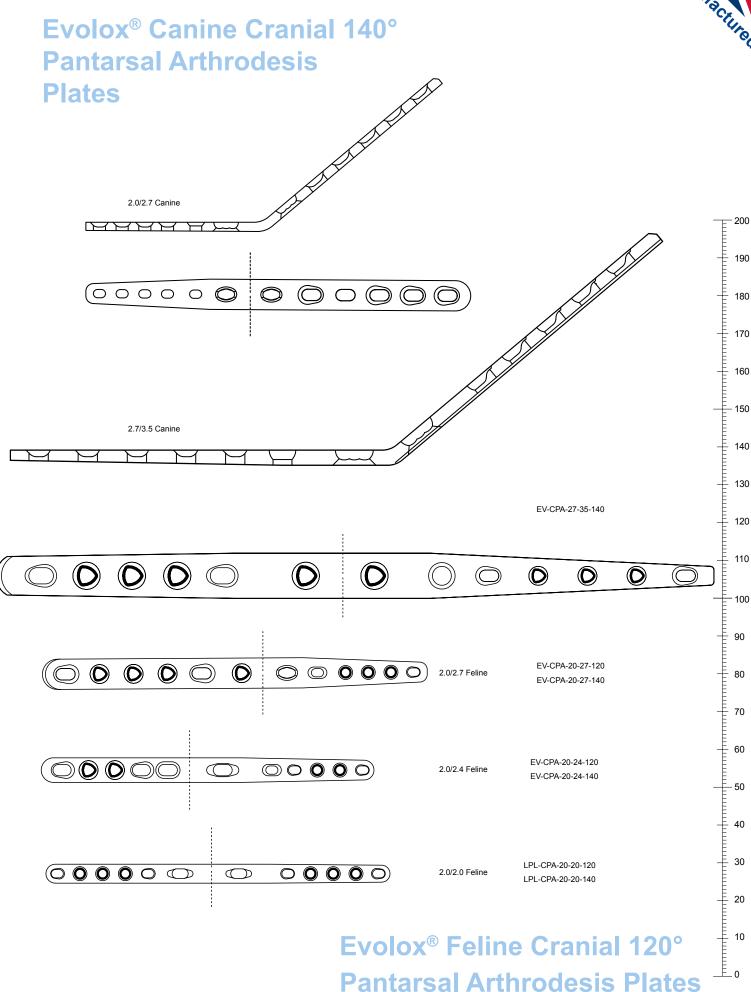
Order Code	Screw Size
LPL-CPA-20-20-120	2.0 / 2.0
EV-CPA-20-24-120	2.0 / 2.4
EV-CPA-20-27-120	2.0 / 2.7

- 2.0mm/2.0mm Dimensions are 5.0mm wide by 2.0mm thick, tapering to 1.5mm pre bent at 120° to reduce stress risers.
- 2.0mm/2.4mm Dimensions are 6.5mm wide by 2.0mm thick, tapering to 1.5mm pre bent at 120° to reduce stress risers.
- 2.0mm/2.0mm Dimensions are 8.0mm wide by 2.0mm thick, tapering to 1.5mm pre bent at 120° to reduce stress risers.

Larger compression slots in the tibia than the metatarsal and tapered to suit.

All plates are made from Stainless Steel ISO 5832-1





### **Evolox® TPLO**

We now have one of the largest TPLO plate offerings in the market which should mean we have an option to suit every technique.

We offer our TPLO plate styles with both a polyaxial proximal hole (PP and V2) and also a range with a mono axial proximal hole (MP and V1) with the hole set to angle the screw down away from the joint.

#### Gen 2 Evolox®

The latest advancement in Evolox poly-axial locking technology is unlike any previous medical thread form seen in the market place.

The usual method to achieve poly-axial locking is to either:

- Create interrupts (breaks) in the thread form, thus allowing the mating thread to pass through the gap to the next thread.
- 2. Self-cut the screw thread into the plate.

The method in system 1 incurs far less complications with removal of the screw and implant, as system 2 requires the plate to be of a softer material than the screw which then cold fuses the screw to the plate. This is what makes the screw difficult to remove. Also the softer plate is inherently weaker than if using harder material. This method is usually reserved for Titanium products, using pure Titanium on the plate and alloyed Titanium on the screws.

System 1 can have limitations, as the interrupts in thread form reduce the thread strength and can result in thread stripping if subjected to excessive load after placement or excessive torque during placement. Thread stripping, although uncommon, will weaken the overall construct. To avoid this occurrence where excessive load after placement is anticipated, it is usual to advise an increase in the plate size to the next range, ie 2.7mm to 3.5mm or 3.5mm to 3.5mm broad etc.

This is not always ideal for many reasons, including wound closure and poor bone stock.

For this reason, N2 UK Ltd have strived to overcome this problem and increased the scope of its useability through innovative design and complex machining strategies. We are pleased to say that after several designs and prototypes we have achieved our goal.

Our 2nd generation Evolox® hole system (patent pending) uses a unique twin start tapered triangular thread form that naturally generates the space required to allow the threads to skip to the next level, thus maintaining a continuous thread form and drastically improving the rigidity of the locking interface.

(Please note that it is critical to fill all holes with either a screw or a plug, and follow the torque guidelines)





X-rays courtesy of Christchurch Referrals



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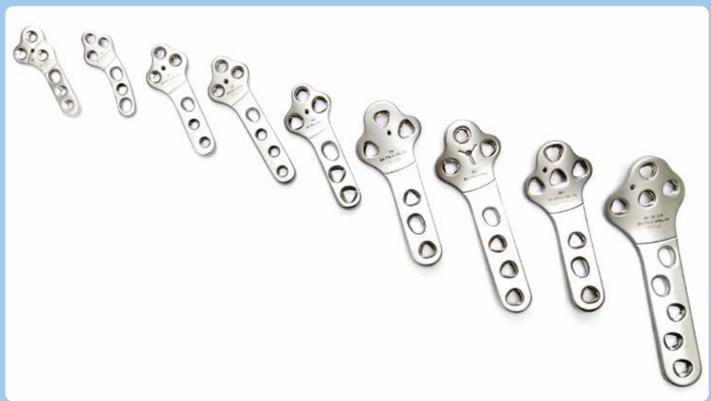


# **Evolox® TPLO**

#### Some key points are:

- Protected triangular uninterrupted thread form for Poly-axial Locking.
- Unique. Durable. Flexible.
- Uses standard Twin Start Locking and conventional Cortical(Cortex)/Cancellous screws.
- More precise compression angled towards the Osteotomy.
- Limited Contacts Areas for increased Vascular flow.

- Lower profile with tapered end and smooth rounded edges.
- Deformation Grooves.
- Anatomically Shaped.
- Available in 6 sizes from 2.4 to 3.5mm Broad.
  All Handed Left or Right.
- Satin Finish with Polished Threads.











#### **TPLO Spinnaker**

1 year in the making, we are pleased to launch the Spinnaker Range.

The name is synonymous with Portsmouth the home of N2 with its iconic Spinnaker tower.

A spinnaker is a triangular curved sail on the bow of a ship leading from the front to improve speed and efficiency, so the name fits nicely with curved shape of the plate and iconic triangular holes of the Evolox® range.

Working with leading surgeons in the UK market to develop, it takes the best parts of our current popular range and improves it further.

The head is much smaller and kinked over to fit the osteotomy better after the cut, and the angle has been trialled to fit perfectly to most tibias.

The shaft has a very shallow curve in it to fit nicely on the bone without the risk of sitting off the bottom of the bone with larger curves, allowing you to rotate the plate into position.

Material wise we continue to use the same high grade Steel as in our other plates to ensure internal plate strength. The plate will be available with both monoaxial proximal holes and Poly-axial Proximal holes to ensure all users will have an option that suits them. The Poly-axial nature of the holes only adds to the construct strength even under heavy loads.



Order Code	Description
EV-SP-TPLO-24L-PP*	Spinnaker TPLO Evolox® Plate 2.4mm - Left (Polyaxial Proximal Hole)
EV-SP-TPLO-24R-PP*	Spinnaker TPLO Evolox® Plate 2.4mm - Right (Polyaxial Proximal Hole)
EV-SP-TPLO-27L-PP*	Spinnaker TPLO Evolox® Plate 2.7mm - Left (Polyaxial Proximal Hole)
EV-SP-TPLO-27R-PP*	Spinnaker TPLO Evolox® Plate 2.7mm - Right (Polyaxial Proximal Hole)
EV-SP-TPLO-35LS-PP*	Spinnaker TPLO Evolox® Plate 3.5mm Short - Left (Polyaxial Proximal Hole)
EV-SP-TPLO-35RS-PP*	Spinnaker TPLO Evolox® Plate 3.5mm Short - Right (Polyaxial Proximal Hole)
EV-SP-TPLO-35L-PP*	Spinnaker TPLO Evolox® Plate 3.5mm - Left (Polyaxial Proximal Hole)
EV-SP-TPLO-35R-PP*	Spinnaker TPLO Evolox® Plate 3.5mm - Right (Polyaxial Proximal Hole)
EV-SP-TPLO-35LB-PP*	Spinnaker TPLO Evolox® Plate 3.5mm Broad - Left (Polyaxial Proximal Hole)
EV-SP-TPLO-35RB-PP*	Spinnaker TPLO Evolox® Plate 3.5mm Broad - Right (Polyaxial Proximal Hole)

Order Code	Description
LPL-SP-TPLO-20L-MP	Spinnaker TPLO Locking Plate 2.0mm - Left (Monoaxial Proximal Hole)
LPL-SP-TPLO-20R-MP	Spinnaker TPLO Locking Plate 2.0mm - Right (Monoaxial Proximal Hole)
EV-SP-TPLO-24L-MP	Spinnaker TPLO Evolox® Plate 2.4mm - Left (Monoaxial Proximal Hole)
EV-SP-TPLO-24R-MP	Spinnaker TPLO Evolox® Plate 2.4mm - Right (Monoaxial Proximal Hole)
EV-SP-TPLO-27L-MP	Spinnaker TPLO Evolox® Plate 2.7mm - Left (Monoaxial Proximal Hole)
EV-SP-TPLO-27R-MP	Spinnaker TPLO Evolox® Plate 2.7mm - Right (Monoaxial Proximal Hole)
EV-SP-TPLO-35LS-MP*	Spinnaker TPLO Evolox® Plate 3.5mm Short - Left (Monoaxial Proximal Hole)
EV-SP-TPLO-35RS-MP*	Spinnaker TPLO Evolox® Plate 3.5mm Short - Right (Monoaxial Proximal Hole)
EV-SP-TPLO-35L-MP	Spinnaker TPLO Evolox® Plate 3.5mm - Left (Monoaxial Proximal Hole)
EV-SP-TPLO-35R-MP	Spinnaker TPLO Evolox® Plate 3.5mm - Right (Monoaxial Proximal Hole)
EV-SP-TPLO-35LB-MP*	Spinnaker TPLO Evolox® Plate 3.5mm Broad - Left (Monoaxial Proximal Hole)
EV-SP-TPLO-35RB-MP*	Spinnaker TPLO Evolox® Plate 3.5mm Broad - Right (Monoaxial Proximal Hole)

<sup>\*</sup>Coming 3rd quarter 2024

#### Stabilising Pin with Olive

Order Code	Shank / Thread	Length
PIN-OL3-160-125-TR	1.6	125





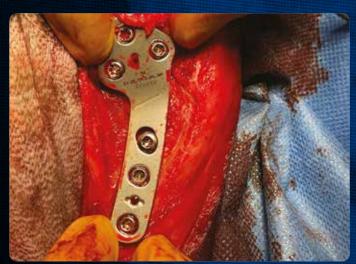


Image courtesy of Kalin Spasov at Rata Veterinary Surgery



Image courtesy of Ben Garland from Debenham Veterinary Referrals



Image courtesy of Colin Whiting at Beacon Vet Care



Image courtesy of James Pattison at Rata Veterinary Surgery



Image courtesy of Ben Garland from Debenham Veterinary Referrals



Image courtesy of Ben Garland from Debenham Veterinary Referrals



## **Spinnaker Plates**

UX manufactured

Placement hole for olive wires



"I love the new plate design, in the 3.5mm size it fitted intuitively and so far has been working well. I am looking forward to getting my hands on some more sizes."

James Pattison

BVSc CertAVP(GSAS) MRCVS Rata Veterinary Surgery

"We love the new plate, very comfortable to use. Easy to apply and the polyaxial option does help when you have limited bone stock. Compression is also very good"

Kalin Spasov MSc MRCVS Rata veterinary surgery

"The curved design of the Spinnaker TPLO plate along with the anatomical contouring and new plate head configuration excellently matches the proximal tibia post-rotation. The olive wire hole in the plate shaft is a simple yet innovative addition, alongside the familiar polyaxial locking and angle dynamic compression screw holes.

Satisfying and simple to use!"

Dr Ben Garland BVetMed (Hons) CertAVP(GSAS) MRCVS

RCVS Advanced Practitioner in Small Animal Surgery Debenham Veterinary Referrals



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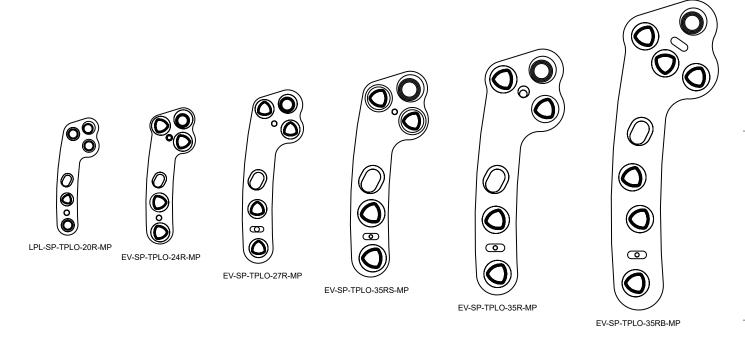
office@n2-uk.com for orders



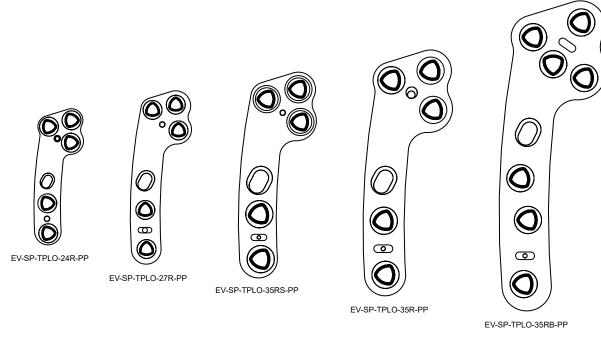
# Innovate not Replicate

		0		
0	The New Spinnaker TPLO challenge was to improve on our current range, listen and act on Surgical concerns, and used our decades of engineering skills of Implants manufacturing to create the next generation of TPLO Plate.	0		
0	Our motto '/nnovate not replicate' has never meant so much.	0		
0	N2 is a privately owned independent company based in the UK.	0		
Ō	The new range is completely redesigned, developed, and manufactured in the UK.	Ō		
0	The head section of the plate has multidirectional curves and angled to sweep in the direction of proximal osteotomy.	0		
() ()	The anatomical shape of the shaft has a gentle curve ensuring optimal fit and strength. Based upon published surgical data and reviews, an over curved plate can restrict optimal fit and offers no benefits.	0		
<b>O</b>	The plates all have an Kirschner (K) wire hole near the first locking shaft screw to aid predrilling. The 2.7mm sizes upwards also incorporate a groove/hole for plate clamping and head K wire holes to secure the head to the bone prior to drilling.	0		
0	The 3.5mm size upwards also have the added feature of a hole with an offset domed groove for an Olive wire or Forceps to sit to sit perpendicular to the shaft of the plate.	0		
<b>O</b>	The Evolox Poly-axial shaft screws enable angular screw placement to increase pull out resistance and highly resistant to working loose under repeating loads.	0		
0	The plate contains a single compression slot angled to compliment the head design and the most functional solution. The use of multiple compression slots has no benefits over solid bone stock.	<b>©</b>		
() ()	Our screw and compression slots are fractionally offset from the centre line of the plate reducing the risk of failure and dispersing the weight across the screw areas and making the plate a more rigid construct.	0		
<b>O</b>	The screws (Proximal, Cranial and Caudal) in the head of the plate are newly rotated than traditional offerings to ensure when the screws are fixed they offer optimal stabilisation. We saw that a smaller length screws in thinner bone area could compromise the plate.	0		
0	All of our Evolox threaded holes can take either a cortical or locking screw.	0		
0	Our Implants are non-reflective with a satin finish but threads remain polished and therefore do not deform or hide contaminates.	0		
<ul><li>○</li><li>○</li><li>○</li></ul>	Our plates are formed to the exact geometry and ensure metal grain structure is stronger than a fully machined/cast Implant. With the combination of material tensile strength and manufacturing processes, our plate thicknesses are reduced without compromise.	0		
<ul><li>O</li><li>O</li><li>O</li><li>O</li></ul>	We have always made our plates to use standard Cortical(Cortex), Cancellous and Locking Screws and do not require extra inventory, brand exclusive screws, and always using Human grade Stainless Steel. Using nonstandard screws leaves the customer to ransom to stock outages and pricing hikes without alternative supply.	0 0		
<b>O</b>	N2 also offers variable locking screw adapters to reduce s screws while keeping the head portion constant when bone stock is damaged or reduced.	0		
0	Made with human grade Stainless Steel to IS0 5832-1 specification.316LVM.	0		
0				
•	Spinnaker TPLO designed by Nick Gardener, Director	0		

#### Spinnaker Tplo Evolox Plate (Monoaxial Proximal Hole)



#### Spinnaker Tplo Evolox Plate (Polyaxial Proximal Hole)



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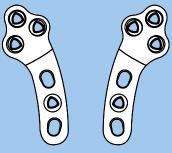


#### EVOLOX® 2.4mm TPLO Version 2

This completely re-engineered and reconfigured TPLO Plate incorporates a range of technical feature designs for greater osteotomy stability and reduced healing times

#### **New Head Features:**

- All Evolox® screw holes allowing enhanced freedom of screw orientation and optimal bone purchase
- **Evolox**® proximal screw hole configuration ensures joint space avoidance even where contouring of the plate is necessary
- New curved profile ensures head-screw holes overlie osteotomised tibial fragment allowing more central screw placement in the thickest available bone



scale 1:1

#### **New Shaft features:**

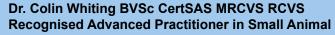
- Angled proximal compression hole perpendicular to the osteotomy line ensures correct compression of the central zone
- Offset distal compression hole ensures compression of the proximal zone of the osteotomy
- Single central Evolox® hole reducing implant costs

Our Version One Evolox® 2.4mm TPLO Plate is still available and remains a premier choice for the closing wedge technique (using left as right and visa versa)

#### **EVOLOX® 2.4mm Closing Wedge TPLO plates**

Used for both closing wedge and Slocum Style the 2.4 plate is a versatile plate for smaller patients. It's in the closing wedge method that the plate really comes into its own.

"I prefer Wedge TPLO for small breeds with steep plateaus, and I use a controlateral N2 2.4mm locking/compression TPLO plate - put a right sided plate on a left stifle. The proximal triangular offset hole is therefore cranial, and sits really nicely towards the tibial crest."











"I find it fits the anatomy beautifully for a wedge, if used back to front then you get a linear arrangement of locking screws at the caudal (widest) part of the tibia, with an extra screw cranially to take advantage of the anatomy of the proximal tibia. It certainly fits better for a CCWO than the modern TPLO plates (which work far better for slocum), and polyaxial ability is useful in such small anatomy. It's the only plate I use in small dogs for CCWO."

Jamie McClement BVSc MSc CertSAS MRCVS RCVS Advanced Practitioner in Small Animal Surgery

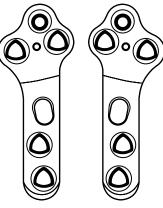
Images Courtesy of Matt Hibberd BVSc Cert AVP(GSAS) MRCVS Rata Vets



#### **EVOLOX® 3.5mm TPLO Small**

The 3.5mm mini plate is designed to fit small stocky dogs such as a Staffordshire Bull Terrier and other breeds weighing between 18-24kg and fills the jump in size between 2.7mm plates and 3.5mm standard plates.





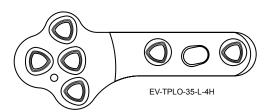
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#### **Evolox® 3.5mm TPLO Heavy**

"Introducing the new Evolox® 3.5mm heavyweight standard plate. Indicated for patients requiring a little extra security beyond that of the standard 3.5mm V2 plate. The heavyweight standard plate has an extra screw hole in the head to allow Poly-Axial placement of 4 locking screws in the osteotomised fragment without any additional increase in plate dimensions".

The circumstances where N2 would recommend this plate are:

- Overweight dogs where the tibia is too small to accept a broad plate.
- Very active and younger dogs where patient/owner compliance with post-operative aftercare may be challenged.





Patrick Currivan
MVB GPCertSAS CertAVP(GSAS) MRCVS

### **Evolox® TPLO**

We know everyone has different techniques and preferences when doing TPLO. We have tried to accommodate the variation with our PAP and MAP ranges.

Both types are identical in size, screw location etc; the only difference is the PAP has a polyaxial proximal hole to allow surgeons to set their own screw angulation (useful where plate tweaks are used) and MAP where the proximal hole is monoaxial and pre-set to angle away from the joint, allowing the surgeon to be guided by the plate angulation.







# Evolox® TPLO Poly-Axial Proximal Hole

Order Code	No. of Holes	Length mm
EV-TPLO-24L-V2	3+3	37.5
EV-TPLO-24R-V2	3+3	37.5
EV-TPLO-27L-V2	3+3	46
EV-TPLO-27R-V2	3+3	46
EV-TPLO-35-LS V2	3+3	50
EV-TPLO-35-RS V2	3+3	50
EV-TPLO-35-L V2	3+3	64
EV-TPLO-35-R V2	3+3	64
EV-TPLO-35-L-4H	3+4	64
EV-TPLO-35-R-4H	3+4	64
EV-TPLO-35BL-V2	4+5	85
EV-TPLO-35BR-V2	4+5	85

# **Evolox® TPLO Mono-Axial Proximal Hole**

Order Code	No. of Holes	Length mm
EV-TPLO-27L	3+3	46
EV-TPLO-27R	3+3	46
EV-TPLO-27LL	3+4	54
EV-TPLO-27RL	3+4	54
EV-TPLO-35 LS	3+3	50
EV-TPLO-35 RS	3+3	50
EV-TPLO-35LL	3+4	74
EV-TPLO-35RL	3+4	74
EV-TPLO-35L	3+3	64
EV-TPLO-35R	3+3	64
EV-TPLO-35BL	4+5	85
EV-TPLO-35BR	4+5	85

# **Evolox® TPLO Closing Wedge**

Order Code	No. of Holes	Length mm
EV-CW-TPLO-24L	3+3	39
EV-CW-TPLO-24R	3+3	39

For stabilising pin with olive please see page 51



**Evolox**® is a registered Trademark of N2(UK)Ltd **Evolox**® and **Evolox**® Gen2 is protected technology by International Law and Patents Pending



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190

170

160

150

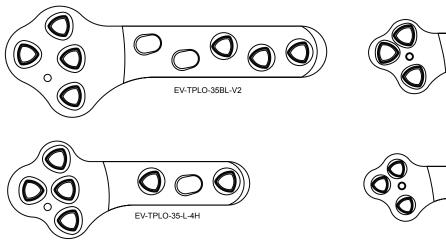
110

100

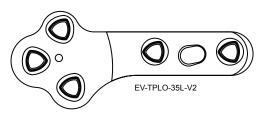
90

**₽** 70

#### **Evolox® TPLO Poly-Axial Proximal Hole**

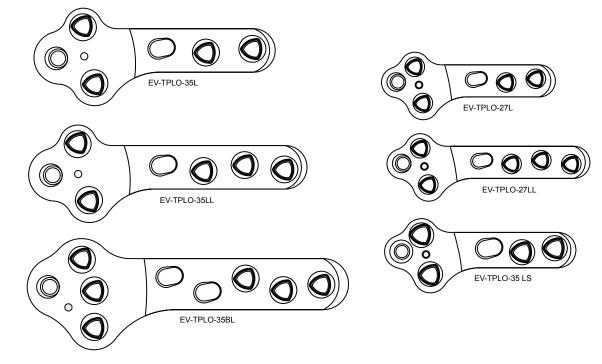








#### **Evolox® TPLO Mono-Axial Proximal Hole**



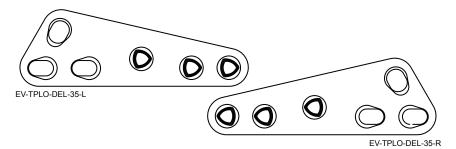
#### **Evolox® TPLO Closing Wedge**



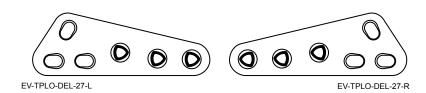


#### **TPLO** Evolox® Delta 'Style' Plates

Order Code	Ø Screw mm	
EV-TPLO-DEL-35-L	3.5+Locking	
EV-TPLO-DEL-35-R	3.5+Locking	



Order Code	Ø Screw mm
EV-TPLO-DEL-27-L	2.7+Locking
EV-TPLO-DEL-27-R	2.7+Locking



#### **Dual Direction Compression (DDC) Evolox® Locking Plates**

A cleverly designed, unique heavy duty plate offering left and right compression from the same slot across the length of the plate. Made from pre contoured profile and also benefits from Evolox Poly-Axial Locking Screw triangular threads. This heavy duty plate offers a solution for comminuted fractures on long bone.

- Works with standard compression slot drill guides.
- Will accept 3.5mm Cortical, Locking or 4mm Cancellous Screws.

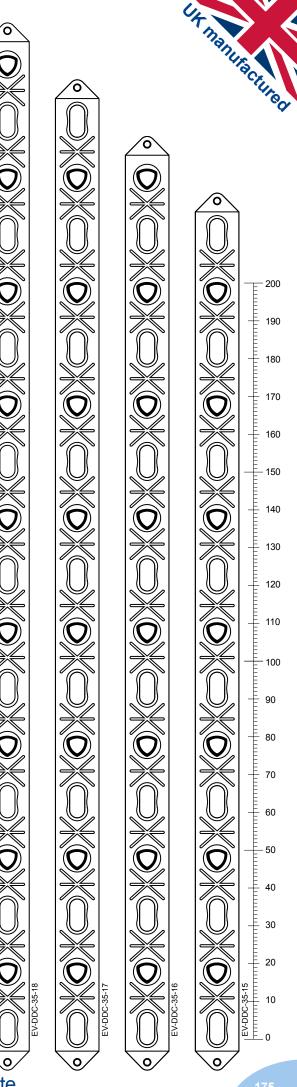
#### 3.5mm Evolox® DDC

Order Code	Description
EV-DDC-35-15	3.5mm Dual Direction Evolox <sup>®</sup> Locking Compression 15H X 232mm
EV-DDC-35-16	3.5mm Dual Direction Evolox <sup>®</sup> Locking Compression 16H X 247 mm
EV-DDC-35-17	3.5mm Dual Direction Evolox <sup>®</sup> Locking Compression 17H X 262 mm
EV-DDC-35-18	3.5mm Dual Direction Evolox <sup>®</sup> Locking Compression 18H X 277 mm





Pictures courtesy of Christchurch Referrals



# Evolox® Supracondylar

#### Evolox® Supracondylar Osteotomy

The same profile and footprint as the standard plate but benefitting from Evolox® Poly-Axial Locking holes for greater placement. This ensures screws do not work their way loose and increases pull out resistance. Using the combination of Locking or Cortical Screws can aid procedure. Available in 2.0/2.4/2.7/3.5/3.5mm long and broad.

Cortical and Locking Screws can be used. There is also room to use 2.2/3.0/4.0mm Cancellous Screws in extreme case where other sizes have failed.

Order Code	Description
LPL-SCO-20-50-L	2.0mm Locking Supracondylar Osteotomy Plate Left
LPL-SCO-20-50-R	2.0mm Locking Supracondylar Osteotomy Plate Right
LPL-SUP-20-120-L/R	2.0mm Locking Supracondylar Osteotomy Plate
EV-SCO-24-62-L	2.4mm Evolox <sup>®</sup> Locking Supracondylar Osteotomy Plate Left
EV-SCO-24-62-R	2.4mm Evolox <sup>®</sup> Locking Supracondylar Osteotomy Plate Right
EV-SCO-27-69-L	2.7mm Evolox <sup>®</sup> Locking Supracondylar Osteotomy Plate Left
EV-SCO-27-69-R	2.7mm Evolox <sup>®</sup> Locking Supracondylar Osteotomy Plate Right
EV-SCO-35-86-L	3.5mm Evolox <sup>®</sup> Locking Supracondylar Osteotomy Plate Left
EV-SCO-35-86-R	3.5mm Evolox <sup>®</sup> Locking Supracondylar Osteotomy Plate Right
EV-SCO-35-135-L	3.5mm Evolox® Locking Supracondylar Osteotomy Plate Left
EV-SCO-35-135-R	3.5mm Evolox® Locking Supracondylar Osteotomy Plate Right
EV-SUP-35-173-BL/BR	3.5mm Evolox® Locking Supracondylar Osteotomy Plate Broad

#### Evolox® Partial Carpal Arthrodesis

Specialist plates that have become a popular bespoke plate. All holes are locking, with single compression.

Order Code	Description	Length mm	
EV-PCA-24-27	2.4/2.7mm Evolox® Partial Carpal Arthrodesis	51	
EV-PCA-27-35	2.7/3.5mm Evolox® Partial Carpal Arthrodesis	65	

#### 3.5mm Evolox® Distal Radius T-Plate

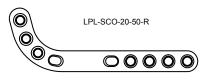
Combining Locking/Evolox® technology with these plates has always been a recommendation from surgeons.

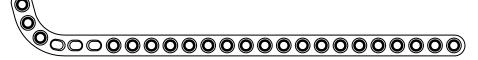
Order Code	Description	Length mm
EV-DRP-35-07-T	3.5mm Evolox® Distal Radius T-Plate 7 Hole	77
EV-DRP-35-08-T	3.5mm Evolox® Distal Radius T-Plate 8 Hole	77

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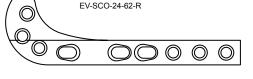
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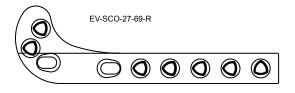


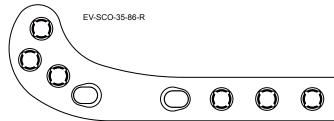


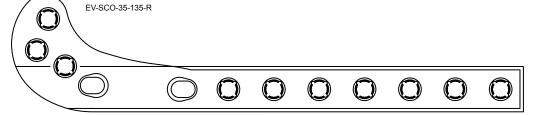
LPL-SUP-20-120-L/R

EV-SCO-24-62-R



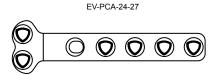


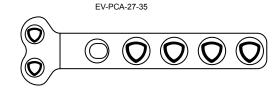


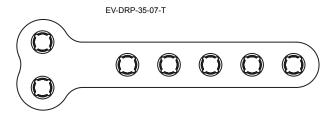


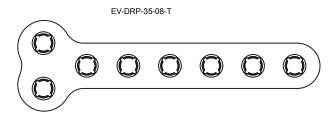


EV-SUP-35-173-BL/BR









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# **Evolox® Plate Chart**

The following plate sizes are recommendations only.

Featuring plates with the Evolox® Polyaxial locking system. Monoaxial locking plates available.

It remains the surgeon's responsibility to consider the mechanical and biological factors associated with individual fracture management when selecting implant size, construct type, and need for ancillary implants.

Anatomical Region	CAT	1-10kg	10-20kg	20-30kg	30-45kg	45-60kg	60+kg
Metabones	-	2.0 C 2.4 C/CM/ PMCL	2.4 C/CM/ PMCL 2.7 EVOS PMCL	2.7 EVOS/ PMCL	2.7-3.5 EVOS	3.5 EVOS	3.5 EVOS
Humerus	2.0 C 2.4C/CM/ PMCL/ BHP	2.0 C 2.4 C/CM/ PMCL/ BHP	2.7 EVOS/ PMCL 3.5 EVOS	3.5 EVOS/ PCL	3.5-3.5B EVOS 3.5 PCL/ BHP/DDC	3.5B EVOS 3.5 PCL (+)/ BHP(+)/ DDC(+)	3.5B EVOS (double OR + ) 3.5 PCL(+)/ BHP (+)/ DDC(+)
Antebrachium	2.4 C/CM/ PMCL/ BHP	2.0 C 2.4 C/CM/ PMCL/ BHP/G2T	2.4 C/CM/ PMCL/ G2T 2.7 EVOS/ PMCL/YY 3.5 EVOS/ BHP/T 2.7/3.5 G2T	3.5 EVOS/ PCL/ BHP/T 2.7/3.5 G2T (+)	3.5-3.5 B EVOS 3.5 PCL (+)/BHP/T	3.5B EVOS 3.5 PCL (+)/ BHP(+)/ DDC(+)/ T(+)	3.5B (double OR +) EVOS 3.5 PCL (+)/ BHP(+)/ DDC(+)/ T(+)
Scapula	2.4 C/CM	2.4 C/CM	2.7 EVOS/ YY	2.7-3.5 EVOS	3.5 EVOS	3.5-3.5B EVOS	3.5B EVOS
Tibia	2.4 C/CM/ PMCL/ BHP	2.4 C/CM/ PMCL/ BHP/G2T 2.7 EVOS/ PMCL	2.7 EVOS/ PMCL/YY 3.5 EVOS/ PCL 2.7/3.5 G2T	3.5 EVOS/ PCL/BHP 2.7/3.5 G2T (+)	3.5 (double plate) - 3.5 B EVOS 3.5 PCL (+)/BHP	3.5 B EVOS 3.5 PCL (+)/ BHP(+)/ DDC(+)	3.5B EVOS (double OR + ) 3.5 PCL (+)/ BHP(+)/ DDC(+)
Femur	2.4 C/CM/ PMCL/ BHP 2.7 EVOX/ PMCL 2.0-2.4 S	2.4 C/CM/ PMCL/ BHP 2.7 EVOS/ PMCL 2.0-2.4 S	2.4-2.7 S 2.7EVOS/ PMCL 3.5 EVOS/ PCL	3.5 EVOS/ PCL/S	3.5-3.5B EVOS 3.5 PCL (+)/S(+)	3.5B EVOS 3.5 PCL (+)/ DDC(+)/ S(+)	3.5B EVOS (double OR + ) 3.5 PCL (+)/ DDC(+)/ S(+)
Pelvis	2.0 C 2.4 C/CM/ PMCL	2.0 C 2.4 C/CM/ PMCL/ G2T	2.7 EVOS/ PMCL 3.5 EVOS/ PCL 2.4 G2T	3.5 EVOS/ PCL 2.7/3.5 G2T	3.5-3.5B EVOS 3.5 PCL (+)	3.5 B EVOS 3.5PCL (+)	3.5B EVOS (double OR + ) 3.5 PCL(+)

Anatomical Region	САТ	1-10kg	10-20kg	20-30kg	30-45kg	45-60kg	60+kg
Vertebrae	2.0 C 2.4 C/CM	2.4 C/CM 2.7 EVOS	2.7-3.5 EVOS	3.5 EVOS	3.5 EVOS	3.5-3.5B	3.5-3.5 B
TPLO	2.0 SP	2.0 SP – 2.4 SP/E	2.7-3.5 SP/E	3.5 SP/E	3.5 SP/E	3.5 BROAD SP/E	3.5 BROAD SP/E (Plus ancillary)
Acetabulum	2.4 G2A (4 hole) 2.0 CC	2.4 G2A (4-6 hole) 2.0-2.4CC	2.7-2.7B G2A 2.4-2.7CC	2.7B-3.5 G2A 2.7CC	3.5 G2A	3.5 G2A	3.5 G2A
Maxillofacial	2.0 CC	2.0-2.4CC	2.4-2.7CC	2.7CC	2.7CC	2.7CC (+)	2.7CC (+)
Partial Carpal			2.4/2.7 PaCA	2.7/3.5 PaCA	2.7/3.5 PaCA (+)	2.7/3.5 PaCA (+)	2.7/3.5 PaCA (+)
Pancarpal	2.0/2.0 PCA (with 1.5/2.0 hy- brid lock- ing screws distally)	2.0/2.7 PCA	2.0/2.7- 2.7/3.5 PCA	2.7/3.5 PCA	2.7/3.5 (+) -3.5/3.5 PCA	3.5/3.5 PCA	3.5/3.5 (+) PCA
Pantarsal	2.0/2.7 PTAd (120 deg) 2.0/2.0,2.0/ 2.4, 2.0/2.7 dPTA (120)	2.0/2.7 PTA/dPTA	2.0/2.7- 2.7/3.5 (short) PTA/dPTA	2.7/3.5 PTA/d PTA	2.7/3.5 PTA (+)/ dPTA(+)	2.7/3.5 PTA(+)/ dPTA(+)	2.7/3.5 PTA(+)/ dPTA(+)

EVOS - (EV-OS)	Evolox® Osteosynthesis Locking	CC - (EV-RP)	Circular Cuttable Plate
	Reconstruction Plates	G2T - (EV-HTP)	GEN2 Hybrid T Plates
PCL – (EV-PCL)	Evolox® Polyaxial Locking	T – (EV-DRP)	3.5mm Distal Radius T Plate
	Compression Plate	PCA – (EV-PAD)	Pancarpal Arthrodesis
PMCL – (MCL)	Evolox® Poly-/Mono- Axial Locking Compression Plate	PaCA – (EV-PCA)	Partial Carpal Arthrodesis
C - (EV-CUT)	Evolox® Locking Cuttable	PTA – (EV-PAN)	Pantarsal Arthrodesis
•	· ·	PTAd - (EV-CPA)	Pantarsal Arthrodesis
CM – (EV-CMP)	Evolox® Locking Cuttable Malleable	, , , , , , , , , , , , , , , , , , ,	(DORSAL)
B – (-B)	Broad Plate	+ -	Consider ancillary implants
BHP – (EV-BHP)	Evolox® Biological Healing Plate		such as double plating/
DDC - (EV-DDC)	Evolox® Dual Direct Compression		orthogonal plating, additional
	Plate		plate, additional intramedullary
S - (EV-SUP)	Evolox® Supracondylar Plate		pin
G2A – (EV-ACE)	Evolox® Gen2 Acetabular Plate	TPLO	
YY – (EV-YY)	Evolox® Osteosynthesis Locking Reconstructable Plate with 'Y'	SP	SP Spinnaker TPLO Plate Range
	Shape at both ends	E	Evolox® TPLO Plate Range



## More Choice, Better Outcomes



# Flexible Locking Options

We have the largest range of locking screws to cover most situations.

As well as the standard 2.0mm, 2.4mm, 2.7mm and 3.5mm, we offer hybrid screw sizes to cover those times you may need a smaller screw in the plate.

We offer a 1.5/2.0 hybrid screw which fits into all of our 2.0mm locking plates but has a 1.5mm shaft and also a very popular 2.0/2.4 screw that fits all of our 2.4mm and 2.7mm locking plates but with a 2.0mm shaft.



Screw Diameter (mm)							
Thread Diameter	1.5/2.0	2.0	2.0/2.4	2.4	2.7	3.5	
_ `	tible with 2mr	J	_	npatible with 2			
Compa	tible with 2.7r	nm Locking P	lates Con	npatible with 3	3.5mm Locking	g Plates	
		Drill bit an	d Tap Diar	neter (mm	)		
Drill Bit for Pilot hole	1.1	1.5	1.5	1.8	2.0	2.7	
Drive Type	T6	T6	Т8	1.5mm Hex T8	1.5mm Hex T8	2.5mm Hex T15	



At N2 we pioneered the modular kit system.

Over three years ago, we launched our system allowing the surgeon to tailor their own kits to their needs and not just take what is available off the shelf.

We know, for example, some surgeons like all their compression and locking 3.5mm kit together, where others prefer having a dedicated large dog locking kit with 2.7mm and 3.5mm locking plates and screws all kept together. Some like a TPLO kit with a designated box with enough room for all the plates, locking screws and cortical screws kept separate from other kits.

The choices are now with you, and we continue to add options to the range.

Why not let us help you build your ideal kit.



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## TTA







## Tibial Tuberosity Advancement - Titanium Alloy (Ti) TTA Cages

N2 ITEM NO	Description	Colour
TTC-3/10	TTA Cage	Gold
TTC-3/11	TTA Cage	Gold
TTC-3/13	TTA Cage	Gold
TTC-3/16	TTA Cage	Gold
TTC-3/19	TTA Cage	Gold
TTC-4.5/10	TTA Cage	Green
TTC-4.5/13	TTA Cage	Green
TTC-4.5/16	TTA Cage	Green
TTC-4.5/19	TTA Cage	Green
TTC-6/13	TTA Cage	Blue
TTC-6/16	TTA Cage	Blue
TTC-6/19	TTA Cage	Blue
TTC-6/22	TTA Cage	Blue
TTC-7.5/13	TTA Cage	Brown
TTC-7.5/16	TTA Cage	Brown
TTC-7.5/19	TTA Cage	Brown
TTC-7.5/22	TTA Cage	Brown
TTC-9/16	TTA Cage	Blue
TTC-9/19	TTA Cage	Blue
TTC-9/22	TTA Cage	Blue
TTC-9/25	TTA Cage	Blue
TTC-10.5/19	TTA Cage	Dark purple
TTC-10.5/22	TTA Cage	Dark purple
TTC-10.5/25	TTA Cage	Dark purple
TTC-12/22	TTA Cage	Light purple
TTC-12/25	TTA Cage	Light purple
TTC-12/28	TTA Cage	Light purple
TTC-13.5/22	TTA Cage	Green
TTC-13.5/25	TTA Cage	Green
TTC-13.5/28 TTC-15/22	TTA Cage	Green
TTC-15/22	TTA Cage	Brown
TTC-15/25	TTA Cage	Brown
TTC-15/28	TTA Cage	Brown
TTC-15/31	TTA Cage	Brown



### **TTA Cuttable Cage**

Our cages have four thin bars to cut instead of 2 thick bars that others use. This makes ours easier to cut with much less force required to cut through the cage, reducing the chance of cage parts flying across the theatre during the op.

Cuttable cages work in the same way as standard cages however as the name implies, they are cut to size. This allows the surgeon to be more precise in the length options available to them but also vastly reduces the inventory they need to carry.

N2 ITEM NO	Description	Colour
TTCC-3/19	TTA Cuttable Cage	Gold
TTCC-4.5/16	TTA Cuttable Cage	Green
TTCC-6/22	TTA Cuttable Cage	Blue
TTCC-7.5/23	TTA Cuttable Cage	Brown
TTCC-9/25	TTA Cuttable Cage	Blue
TTCC-10.5/25	TTA Cuttable Cage	Dark purple
TTCC-12/28	TTA Cuttable Cage	Light purple
TTCC-13.5/28	TTA Cuttable Cage	Green
TTCC-15/31	TTA Cuttable Cage	Brown
TTCC-16/34	TTA Cuttable Cage	Green



## TTA Spacers

Order Code	Description
TTS-2-S	2mm Titanium Spacer 6mm Diameter
TTS-4-S	4mm Titanium Spacer 6mm Diameter
TTS-6-S	6mm Titanium Spacer 6mm Diameter
TTS-2-L	2mm Titanium Spacer 13mm Diameter
TTS-4-L	4mm Titanium Spacer 13mm Diameter
TTS-6-L	6mm Titanium Spacer 13mm Diameter

## **TTA Plates**

Order Code	Description
TTP-2H	TTA Plate 2 Hole
TTP-3H	TTA Plate 3 Hole
TTP-4H	TTA Plate 4 Hole
TTP-5H	TTA Plate 5 Hole
TTP-6H	TTA Plate 6 Hole
TTP-7H	TTA Plate 7 Hole
TTP-8H	TTA Plate 8 Hole

For Titanium Screws please see page 30 & 31

## **TTA Forks**

Description
TTA Fork 2 Prong
TTA Fork 3 Prong
TTA Fork 4 Prong
TTA Fork 5 Prong
TTA Fork 6 Prong
TTA Fork 7 Prong
TTA Fork 8 Prong

## **TTA Forkless Plates**

Order Code	Description
TTP-X2-FL	TTA Forkless Plate
TTP-X3-FL	TTA Forkless Plate
TTP-X4-FL	TTA Forkless Plate
TTP-X5-FL	TTA Forkless Plate
TTP-X6-FL	TTA Forkless Plate
TTP-X7-FL	TTA Forkless Plate
TTP-X8-FL	TTA Forkless Plate

For TTA instrumentation please see our Instrument Catalogue

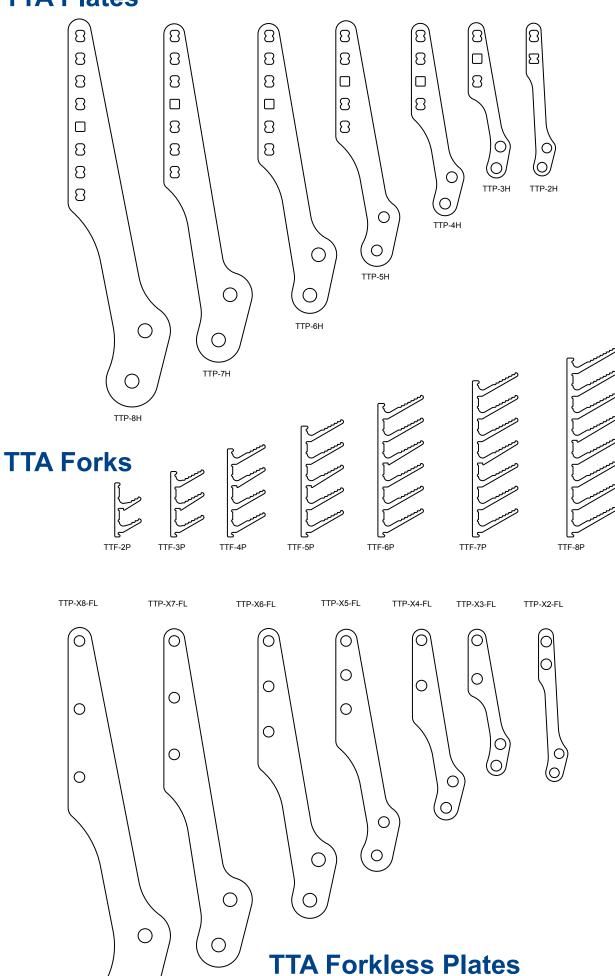
Order Code	Description
WAS-24-TTA	2.4 Titanium TTA Washer ID 2.7 OD 5.0 W 1.0

# Ux manufactured

- 150

₹ 90

### **TTA Plates**





### **Choices and Preferential Options**

We can produce all of our Trauma Plate range to have any of the three finish options.

#### **Satin Finish**

Starting to be very popular and desirable for the following reasons:

- · Lack of annoying light reflection during surgery.
- Creates a uniform surface layer of compressive stress, which acts to combat stress cracks and corrosion, therefore, increasing the life of implant.
- · Greater ultrasound reflection.
- Cleaner part, free from residues with a low CFU (microorganism) count, resulting in easier autoclave sterilisation.

#### **Titanium**

- Blue Anodised.
- Extreme light weight (around 45% of Stainless 316LVM).
- Biocompatible, (Limited Rejection Rates, non-toxic AND not rejected by the body).
- MRI Compatible, (non-ferromagnetic, which means it can be safely examined).
- Higher Fatigue Life.
- · Excellent corrosion resistance.
- Titanium Anodising also produces anti-galling properties.

Osseointegration is a unique phenomenon where your body's natural bone and tissue actually bond to the artificial implant. This firmly anchors the titanium dental or medical implant into place. Titanium is one of the only metals that allows for this integration.





### **Titanium vs Stainless Steel**

### - Quality and Choice

Our manufacturing facility is independently audited and meets the Quality management system of ISO 134585:2016 criteria for medical devices and regulatory requirements.

Stainless Steel has long been the economical and accepted material for most implants in the Veterinary and Human Orthopaedic sector. There is no 'Right' or 'Wrong' choices of either Titanium or Stainless and the surgeon will ultimately choose the best product to load bearing, infections risks, cost and procedure.

Some keys points.

#### Stainless Steel

All our implants are made with fully compliant and certified materials (ISO 5832-1 ASTM F138 for screws and ASTM F139 for plates to the latest ISO approved human raw materials.

Benefits to the Surgeon;

High tensile strength
High fatigue strength
Excellent micro cleanliness

Reduced impurities

Excellent structural homogeneity

High surface finish

Our 316LVM Stainless Steel (conforming to ISO 5832-1) has very good resistance in physiological environments to:

General and intergranular corrosion due to high purity and low ferrite content.

Pitting and crevice corrosion due to the high molybdenum content.

Arthrodesis/Kirschner Wires (K-Wires) and Pins are only made from Extra Hard (XH) material (1400-Nmm2) which is some 50%+ harder than standard screw products. This ensures the wire has increased stiffness, reducing deformation during placement which in turn reduces thermal necrosis. Using the wrong materials increases the risk of necrosis, blunt points and product breakage.

## Titanium CP/ Titanium Alloy

There are many grades of Titanium used in the Veterinary market; more worryingly this is a growing market for unscrupulous suppliers of sub standard raw materials. We only use medical grade which conforms to the strict Human grade ISO 5832-3 Titanium Alloy.

Titanium is around 45% the weight of Stainless 316LVM meaning large plates are much lighter and has the following benefits

Extremely biocompatible leading to low rejection rates	s

MRI compatible meaning it can be safely examined

Excellent corrosion resistance

Higher Fatigue Life

Anodising produces anti-galling properties

Osseointegration

We have a range of popular plates manufactured in Titanium for specific procedures. We only recommend using Titanium Screws with all our Titanium Plates due to clinical concerns over galvanic corrosion.

Your current supplier/agent should be more than happy to supply you with a certificate of conformity (CFC) telling you country of manufactured origin, material specification and their quality credentials. We have manufacturing professionals who are happy to test and perform appraisals if you have any concerns.

Index	Page
1.5mm Cortical Screws (1.5 Hex)	21
1.5mm Locking Drill Guide	126
1.5mm Mini Self Compression Plate	58
2.0/2.7/3.5/4.5mm Buttress Bridge Plate (Biological Healing Plate)	72
2.0mm Broad Mini Compression Plate	60
2.0mm Cortical Screws (Various Drives)	21
2.0mm Distal Plates	82
2.0mm Fine Threaded Fragment Pins	50
2.0mm Limited Contact Plate	92
2.0mm Locking Drill Guide	126
2.0mm Locking Plate	117
2.0mm Locking Plug	128
2.0mm Locking T-Plates	117
2.0mm Mini Plate Straight Tubular	76
2.0mm Mini Self Compression Plate	58
2.0mm Mono-Axial Locking Compression Locking Plate	118
2.0mm Round Hole Plate	102
2.0mm YY Plates	117
2.4mm - Evolox® TPLO Version 2	172
2.4mm Evolox® Biological Healing Plates	150
2.4mm Evolox® Cuttable & Cuttable Malleable Plates	138
2.4mm Evolox® Poly-Axial Compression Locking Plate	148
2.4mm Limited Contact Plate	92
2.4mm Locking Drill Guide	126
2.4mm Locking Plate	120
2.4mm Mini Self Compression Plate	60
2.4mm Self Tapping Cortical Screws (Various Drives)	22
2.7mm Cortical Screws (Various Drives)	23
2.7mm Distal Plates	82
2.7mm Evolox® Osteosynthesis Plates	138
2.7mm Evolox® Poly-Axial Compression Locking Plate	148
2.7mm Heavy Duty Round Hole Plate	104
2.7mm Limited Contact Plate	94
2.7mm Locking Drill Guide	126
2.7mm Locking Plate	122
2.7mm Locking Plug	128
2.7mm Mini Self Compression Plate Thick	62
2.7mm Mini Self Compression Plate Thin	62
2.7mm Quarter Tubular	76
2.7mm Reconstruction Plates	78
2.7mm Round Hole Plate	102

Index	Page
3.5 T-Plates Round Hole	82
3.5mm - Evolox® TPLO Small	172
3.5mm Broad Buttress Bridge Plate (Biological Healing Plate)	74
3.5mm Broad Limited Contact Plate	98
3.5mm Cortical Screws (Various Drives)	24
3.5mm Evolox® Biological Healing Plates	150
3.5mm Evolox® Broad Plates	144
3.5mm Evolox® DDC	175
3.5mm Evolox® Osteosynthesis Plates	140
3.5mm Heavy Duty Round Hole Plate	104
3.5mm Limited Contact Plate	96
3.5mm Locking Drill Guide	126
3.5mm Locking Plate	124
3.5mm Locking Plug	128
3.5mm One Third Tubular	76
3.5mm PCL Evolox® (Poly-axial Compression Locking Plate)	146
3.5mm Reconstruction Plates	78
3.5mm Round Hole Plate	100
3.5mm Self Compression Plate Straight Broad	66
3.5mm Self Compression Plate Straight Narrow	64
4.5mm Cortical Screws	25
4.5mm Self Compression Plate Straight Broad	70
4.5mm Self Compression Plate Straight Narrow	68
Acetabular Plates	82
Antebrachial Plates - Mono-Axial Locking	118
Anti Skid Drill Bit	38
Arthrodesis Plates - Pancarpal DCP Style	90
Arthrodesis Plates - Pancarpal Round Holes	90
Biological Healing Plates - 2.4mm Evolox®	150
Biological Healing Plates - 3.5mm Evolox®	150
Broad Buttress Bridge Plate (Biological Healing Plate) - 3.5mm	74
Broad Cuttable Plates	80
Broad Limited Contact Plate - 3.5mm	98
Broad Mini Compression Plate - 2.0mm	60
Broad Plates - 3.5mm Evolox®	144
Buttress Bridge Plate (Biological Healing Plate) - 2.0/2.7/3.5/4.5mm	72
Cage - TTA	182
Cancellous Screws	26
Canine Cranial Pantarsal Arthrodesis Plate	88
Cannulated Drill Bit	38
Cannulated Locking Plugs	19

Index	Page
Cannulated Locking Plugs	19,128
Circular Cuttable Locking Plate	117,154
Circular Cuttable Locking Plates	154
Compression Plates	58-70
Cortical screws	21-25
Cortical Screws - 4.5mm	25
Cortical Screws - Titanium	30,31
Cortical Screws (1.5 Hex) - 1.5mm	21
Cortical Screws (Various Drives) - 2.0mm	21
Cortical Screws (Various Drives) - 2.7mm	23
Cortical Screws (Various Drives) - 3.5mm	24
Cortical Screws Hex Head	21
Cortical Screws Torx/Star Head	21,22,23,24,25
Cross-Head Screwdriver 2.4mm	42
Cuttable & Cuttable Malleable Plates - 2.4mm Evolox®	138
Cuttable Cage - TTA	183
Cuttable Malleable Plates	80
Cuttable Plates	80
Distal Plates - 2.0mm	82
Distal Plates - 2.7mm	82
Drill Bit - Anti Skid	38
Drill Bit - Cannulated	38
Drill Bits - Evodurance®	37
Drill Bits - Standard	39
Drill Stop Set	38
Drill Storage Box	42
Dual Direction Compression	175
Dual Direction Compression (DDC) Evolox® Locking Plates	175
Evodurance® Drill Bits	37
Evolox T-Plates	152
Evolox® 2.4mm Closing Wedge TPLO Plates	172
Evolox® 2.4mm TPLO Version 2	172
Evolox® 3.5mm Distal Radius T-Plate	176
Evolox® 3.5mm TPLO Heavy	172
Evolox® 3.5mm TPLO Small	172
Evolox® Canine Cranial Pantarsal Arthrodesis Plate	160
Evolox® DDC - 3.5mm	175
Evolox® Feline Pantarsal Plate Cranial Position	160
Evolox® GEN2 Acetabular	150
Evolox® Gen-2 Hybrid T-Plates	155
Evolox® Pancarnal Arthrodesis Plates Special All Locking (PAL)	158

Index	Page
Evoloxv Partial Carpal Arthrodesis	176
Evolox® Poly-Axial Compression Locking Plate - 2.4mm	148
Evolox® Poly-Axial Compression Locking Plate - 2.7mm	148
Evolox® Supracondylar Osteotomy Plates	176
Evoloxy TPLO	172
Evoloxv TPLO Closing Wedge	172
Evolox® TPLO Delta 'Style' Plates	174
Evoloxv TPLO Delta Plates	174
Evolox® TPLO Mono-Axial Proximal Hole	172
Evoloxv TPLO Poly-Axial Proximal Hole	172
Evolox® YY Plates	154
Extra Long Kirschner Wires	49
Feline Pantarsal Plate Cranial Position	88
Fine Threaded Fragment Pins - 2.0mm	50
Forkless Plates - TTA	184
Forks - TTA	184
Fully Threaded Kirschner Wires Trocar / Trocar	50
GEN2 Acetabular - Evolox®	150
Handles - Screw Driver Premium AO & Dental Fit Quick Release	42
Head Screwdrivers - Torx/Star	40
Headless Lag Screws	34
Hex Drive Locking Screws	15
Hex Head Screwdrivers	40
Holding Sleeves - Screw	41
H-Plates	82
Hybrid Locking Screws	17
Hybrid Screw Kit	18
Hybrid T-Plates	84
Hybrid T-Plates - Evolox® Gen-2	155
Intertarsal Arthrodesis Plates	100
IOHC (Incomplete ossification of the humeral condyle)	33
IOHC Screws	33
Kirschner Wire (Bayonet / Round)	49
Kirschner Wire (Trocar both ends)	49
Kirschner Wires (K-wires), Steinmann Pins Denham pins and guide wires	48-52
Limited Contact Plate - 2.0mm	92
Limited Contact Plate - 2.4mm	92
Limited Contact Plate - 2.7mm	94
Limited Contact Plate - 3.5mm	96
Locking Drill Guide - 1.5mm	126
Locking Drill Guide - 2 0mm	126

Index	Page
Locking Drill Guide - 2.0mm	126
Locking Drill Guide - 2.4mm	126
Locking Drill Guide - 2.7mm	126
Locking Drill Guide - 3.5mm	126
Locking Pancarpal Arthrodesis	90
Locking Plate - 2.0mm	117
Locking Plate - 2.4mm	120
Locking Plate - 2.7mm	122
Locking Plate - 3.5mm	124
Locking Plates - Circular Cuttable	117,154
Locking Plug - 2.0mm	128
Locking Plug - 2.7mm	128
Locking Plug - 3.5mm	128
Locking Plugs	17
Locking Plugs - Cannulated	128
Locking Screws	14,15,17
Locking Screws - Hex Drive	15
Locking Screws - Hybrid	17
Locking Screws - Torx Drive	14
Locking T-Plates - 2.0mm	117
Mini Plate Straight Tubular - 2.0mm	76
Mini Self Compression Plate - 1.5mm	58
Mini Self Compression Plate - 2.0mm	58
Mini Self Compression Plate - 2.4mm	60
Mini Self Compression Plate Thick - 2.7mm	62
Mini Self Compression Plate Thin - 2.7mm	62
Mono-Axial Locking Antebrachial Plates	118
Mono-Axial Locking Compression Locking Plate - 2.0mm	148
Negative Threaded Ellis Pins Short Fine End Thread	51
Negative Threaded Pins Cortical End Thread	50
One Third Tubular - 3.5mm	76
Osteosynthesis Plates - 2.7mm Evolox®	138
Osteosynthesis Plates - 3.5mm Evolox®	140
Pancarpal and Pantarsal	86-90
Pancarpal and Pantarsal Evolox®	158
Pancarpal Arthrodesis - Locking	90
Pancarpal Arthrodesis Plates DCP Style	90
Pancarpal Arthrodesis Plates Round Holes	90
Pantarsal and Pancarpal	86-90
Pantarsal Arthrodesis Plates	86
Pantarsal Plate - Feline Cranial Position	88

Index	Page
Partial Carpal Arthrodesis Plate	90
PCL Evolox® (Poly-axial Compression Locking Plate) - 3.5mm	146
Pin - Steinman Intra-Medullary Threaded Trocar / Plain Trocar Tips	48-52
Pin - Steinman Intra-Medullary Trocar Tips	48-52
Pins - Kirschner Wires (K-wires), Steinmann Pins, Denham pins and guide wires	48-52
Pins - Negative Threaded Cortical End Thread	50
Pins - Negative Threaded Ellis Short Fine End Thread	51
Pins - Positive Threaded Cancellous End Thread	52
Pins - Positive Threaded Cancellous Mid Thread	52
Pins - Positive Threaded Cortical End Thread	51
Pins - Positive Threaded Cortical Mid Thread	52
Pins - Suture Anchor	28
Plate - Canine Cranial Pantarsal Arthrodesis	88
Plate - Feline Pantarsal Cranial Position	88
Plate - Partial Carpal Arthrodesis	90
Plate Spacers	16
Plates - Acetabular	82
Plates - Broad Cuttable	80
Plates - Compression	58-70
Plates - Cuttable	80
Plates - Cuttable Malleable	80
Plates - Intertarsal Arthrodesis	100
Plates - Pantarsal Arthrodesis	86
Plates - Supracondylar Osteotomy	100
Plates - Supracondylar Osteotomy	172
Plates - Supracondylar Osteotomy (Distal Femur)	100
Plates - Titanium	110
Plates - TTA	184
Plugs - Locking	17
Positive Threaded Pins Cancellous End Thread	52
Positive Threaded Pins Cancellous Mid Thread	52
Positive Threaded Pins Cortical End Thread	51
Positive Threaded Pins Cortical Mid Thread	52
Premium Screwdrivers Tips	41
Quarter Tubular - 2.7mm	76
Quick Release - Taps AO / Dental Fit	43
Quick release Screwdriver Tips	42
Reconstruction Plates - 2.7mm	78
Reconstruction Plates - 3.5mm	78
Round Hole Plate - 2.0mm	102
Round Hole Plate - 2.7mm	102

Index	Page
Round Hole Plate - 2.7mm Heavy Duty	104
Round Hole Plate - 3.5mm	102
Round Hole Plate - 3.5mm Heavy Duty	104
Screw Driver Handles - Premium AO & Dental Fit Quick Release	42
Screw Holding Sleeves	41
Screwdriver 2.4mm Cross-Head	40
Screwdriver Tips - Quick release	41
Screwdrivers	40-42
Screwdrivers - Hex Head	40
Screwdrivers - Sherman	42
Screwdrivers - Torx/Star Head	40
Screwdrivers Tips - Premium	41
Screws - Cancellous	26
Screws - Headless Lag	34
Screws - Suture Anchor	27
Screws - Titanium	30,31
Screws - TTA (Cruciform Drive) Low profile	31
Screws Cortical	21-25
Screws Locking	14,15,17
Self Compression Plate Straight Broad - 3.5mm	66
Self Compression Plate Straight Broad - 4.5mm	70
Self Compression Plate Straight Narrow - 3.5mm	64
Self Compression Plate Straight Narrow - 4.5mm	68
Self Tapping Cortical Screws (Various Drives) - 2.4mm	22
Sherman Screwdrivers	42
Spacers - TTA	184
Spinnaker TPLO	164
Stabilising pin with olive	51
Standard Drill Bits	39
Steinman Intra-Medullary Pin Threaded Trocar / Plain Trocar Tips	48-52
Steinman Intra-Medullary Pin Trocar Tips	48-52
Stop Set - Drill	38
Storage Box - Drill	42
Supracondylar Osteotomy (Distal Femur) Plates	100
Supracondylar Osteotomy Plates	100
Suture Anchor Pins Self tapping)	28
Suture Anchor Screws	27
Taps Quick Release AO / Dental Fit	43
Titanium Cortical Screws	30,31
Titanium Pancarpal and Pantarsal Plates	112
Titanium Plates	110

Index	Page
Titanium TPLO Compression Plates	110
Titanium TPLO Delta Plates	110
Torx Drive Locking Screws	14
Torx/Star Head Screwdrivers	40
T-Plates - Hybrid	84
T-Plates Evolox	152
T-Plates Round Hole - 3.5	82
TPLO - Evolox®	172
TPLO (Slocum style)	108
TPLO Compression Plates	108
TPLO Delta 'Style' Plates	106
TPLO Evolox® Delta 'Style' Plates	174
TPLO Jig Guide Pin	51
TPLO Pre Contoured Compression Plates	108
TPLO Spinnaker	164
TPO EQ	106
TTA Cage	182
TTA Cuttable Cage	183
TTA Forkless Plates	184
TTA Forks	184
TTA Plates	184
TTA Screws (Cruciform Drive) Low profile	31
TTA Spacers	184
Universal Suture Screw Insertion Driver	27
Wire - Fully Threaded Kirschner Trocar / Trocar	50
Wire - Kirschner (Bayonet / Round)	49
Wire - Kirschner (Trocar both ends)	49
Wire - Kirschner Extra Long	49
YY Plates - 2.0mm	117
YY Plates - Evolox®	154

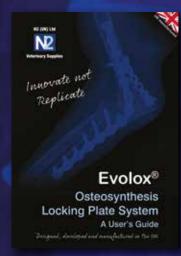
## N2 (UK) Ltd













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