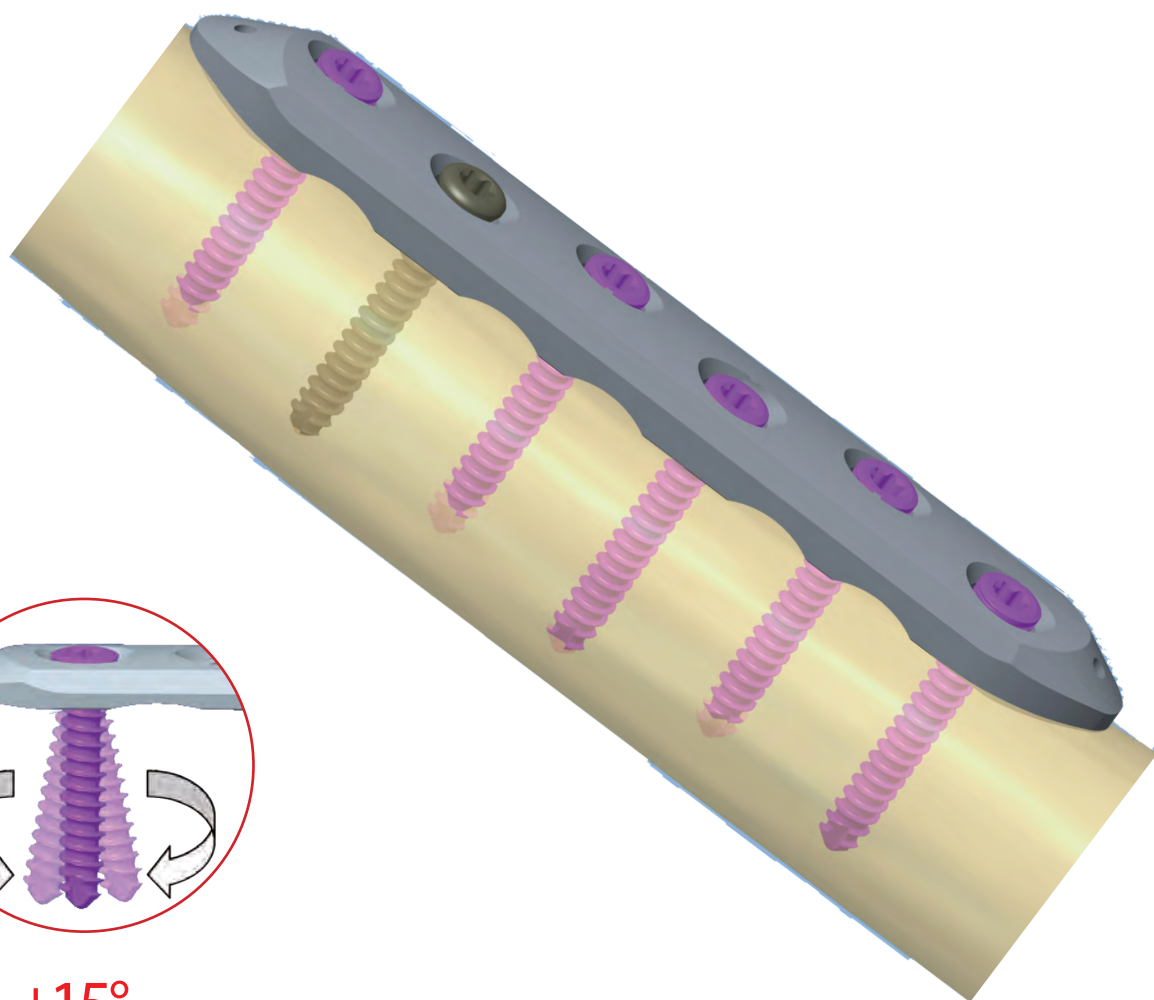


YDFIX Diaphysis



$\pm 15^\circ$

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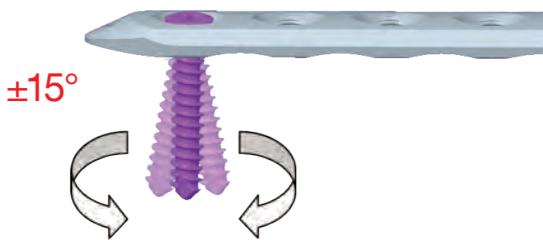
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Ydfix polyaxial locking plates were designed for peri- and intraarticular fracture treatment. YDP (Ydfix DiaPhysis) plates primarily focus on diaphyseal fractures of tubular bones while keeping the choice of both mono- and polyaxial locking.

YDP plates are available in mini, small and large versions the latter of which has a single row and a double row version as well. Apart from the mini plates minimally invasive surgical approach is supported by carbon radiolucent targeting arms.

1.1 | The implant

- Polyaxial angle stabilized system in step - free $\pm 15^\circ$ deg angulation of insertion



- Optimal, pre-determined screw directions in the holes
- Maximum 3 times of correction possibility when misidentifying the correct screw direction
- Rounded edges to protect nearby soft tissues
- Oval hole for dynamic compression locking
- Self tapping but blunt ended screws to avoid tissue irritation
- Anodized Titanium raw material
- Torx recess screws

1.2 | The instruments

- Capable of drilling in preset and $\pm 15^\circ$ deg directions step – free



- Instruments and implants in one tray
- Radio translucent targeting arm



- Optimized instruments
- Color coded torque limiting screwdriver

1.3 | Indications

- Diaphyseal fractures of tubular bones

2.1 | Ydfix straight plate - Large

Holes
Large 6H
Large 7H
Large 8H
Large 9H
Large 10H
Large 11H
Large 12H
Large 14H
Large 16H
Raw material
anodized Titanium
Color
grey



2.2 | Ydfix straight plate - XLarge

Holes
XLarge 6H
XLarge 7H
XLarge 8H
XLarge 9H
XLarge 10H
XLarge 11H
XLarge 12H
XLarge 14H
XLarge 16H
Raw material
anodized Titanium
Color
grey



2.3 | Ydfix screw Ø5,1 mm

Size
20-80 mm
Raw material
anodized Titanium
Color
purple




2.4 | Cortical screw - TX Ø5,1 mm

Size
20-80 mm
Raw material
anodized Titanium
Color
grey



2.4 | Ydfix screw Ø6,5 mm


Length (mm)
25 - 80
Raw material
anodized titanium
Color
grey

2 | Implant range

2.8 | Ydfix straight plate - Small

Holes
Small 5H
Small 6H
Small 7H
Small 8H
Small 9H
Small 10H
Small 12H
Small 14H
Small 16H
Small 18H
Small 20H
Raw material
anodized Titanium
Color
grey



2.12 | straight plate - Mini

Holes
Mini 4H
Mini 5H
Mini 6H
Mini 7H
Mini 8H
Mini 10H
Raw material
anodized Titanium
Color
grey



2.9 | Ydfix screw Ø3,5 mm

Raw material
anodized Titanium
Size
10-50 mm
Color
green



2.10 | Cortical screw - TX Ø3,5 mm

Raw material
anodized Titanium
Size
10-50 mm
Color
grey



2.13 | Ydfix screw Ø2,7 mm

Raw material
anodized Titanium
Size
8-34 mm
Color
blue



2.14 | Cortical screw - TX Ø2,7 mm

Raw material
anodized Titanium
Size
8-34 mm
Color
grey



3 | Surgical description

The following points describe the surgical technique of YDP XLarge plates. The main implantation steps of other sized YDP plates are similar.

3.1 | Patient positioning

Position the patient according to local anatomy in such a way that image intensifier can be used freely.

3.2 | Fracture reduction

Perform reduction with regards to the anatomic conditions by image intensifier control. Use Kirschner wires for temporary fixation.

3.3 | Incision

Perform incision according to local anatomy. YDP plates (not the YDP Mini) while not modelled can be minimally invasively operated with a radiolucent targeting arm. The length and position of the incision shall be determined accordingly.

3.4 | Monoaxial technique of the intact plate

3.4.1 | Mounting and control of the targeting arm

Attention! YDP Mini plates have no targeting arm!

Place the metal part of the targeting arm on the plate while its peg fits into its respective hole then fix the carbon part with the threaded stem as per the image. The carbon element on the metal part shall be fixed loosely.



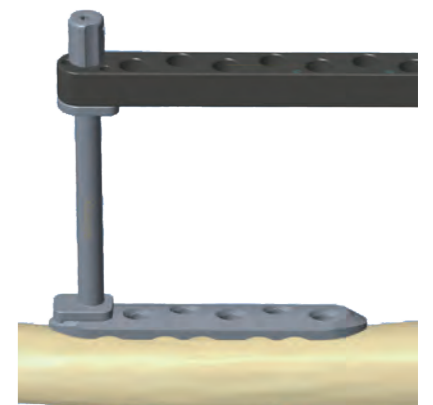
For optimal performance a closed frame shall be created with the plate. Drive a threaded sleeve and tissue protector into the last hole of the plate. This way the holes on the carbon element and those of the plate are aligned. Fix the carbon element firmly and check accuracy by placing a tissue protector and a threaded sleeve into any of the holes. They shall point directly to the center of the hole on the plate.

Attention! Targeting arm can be used only with intact plate otherwise targeting accuracy is greatly reduced.

Put the indicator plug into the carbon arm after the last hole of the plate.

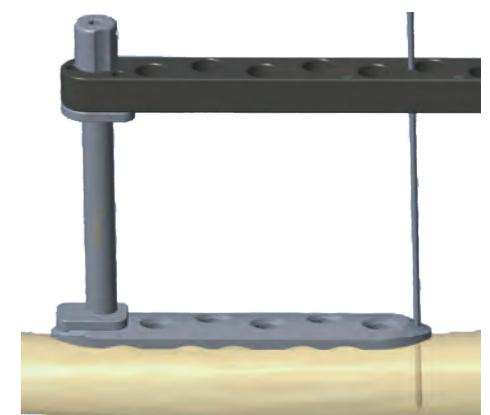
3.4.2 | Plate insertion

Remove the sleeves used for accuracy check. Plate shape allows minimally invasive insertion. Guide the plate into its position with the help of the targeting arm.



3.4.3 | Temporary fixation of the plate

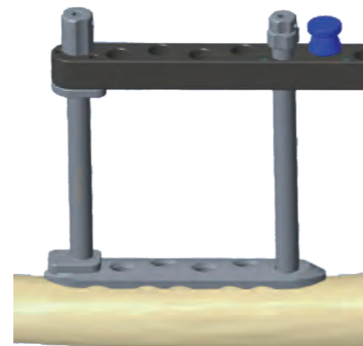
The plate can be temporarily fixed to the bone with Kirschner wires through the holes dedicated for this purpose.



3 | Surgical description

3.4.4 | Closing the frame

Put a tissue protector and a threaded sleeve into the last hole of the plate similarly to the checking procedure. Loosen the carbon element a bit. When the sleeve fixes itself in the last hole tighten the carbon element again.



3.4.5 | Screw insertion

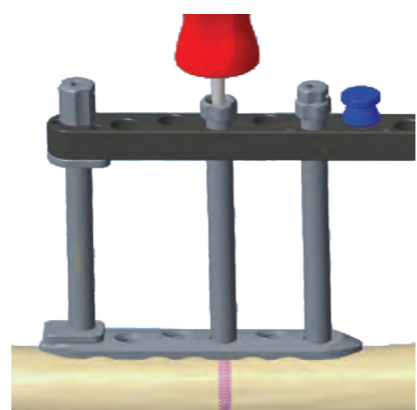
Perform drilling with the 4 mm drillbit through the tissue protector and sleeve.



Measure screw length and drive a 5,1 mm Ydfix screw into the hole.



The final tightening shall be made with the red handle, purple ended torque limiting screwdriver.

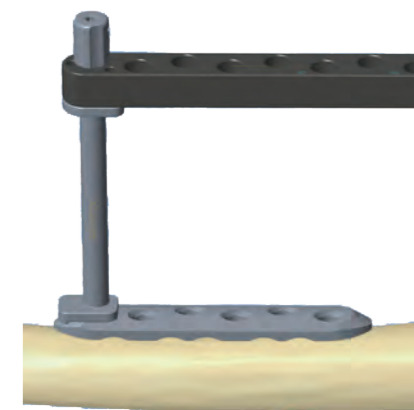


3.5 | Polyaxial technique of the intact plate

If you wish to apply polyaxial locking there is still a possibility for minimally invasive insertion. In this case the targeting arm is used for insertion then it is removed.

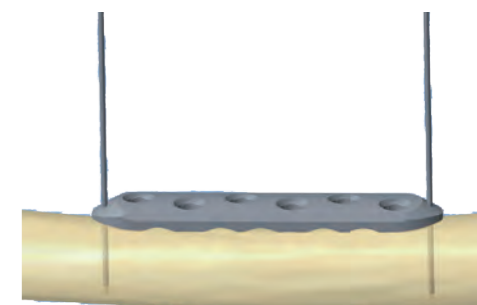
3.5.1 | Mounting

Put the metal element of the targeting arm on the plate so that the peg shall fit into its hole. Fix the carbon element with the threaded sleeve as per the image.



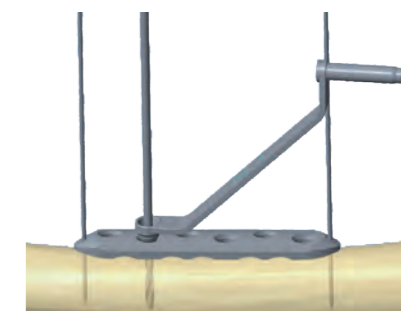
3.5.2 | Plate insertion

Insert the plate into its optimal position and remove the targeting arm after using temporary fixation.



3.5.3 | Polyaxial drilling

The conical side of the 4 mm double drill sleeve fits into the hole of the plate. It ensures ± 15 degrees freedom from this pre-determined direction. Fit the conical sleeve into the hole and perform drilling in the required direction. Use image intensifier control.



3 | Surgical description

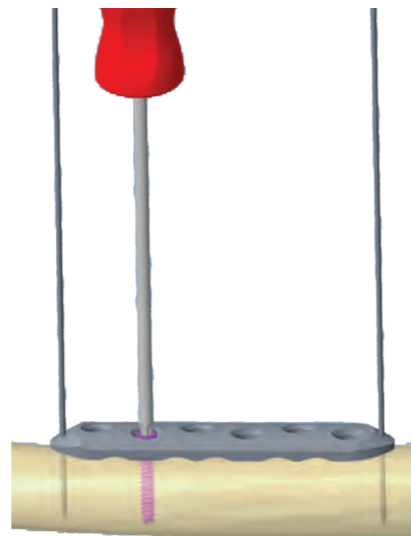
3.5.4 | Depth gauging

Perform depth gauging.



3.5.5 | Screw insertion

Drive in the selected screw with the T25 screwdriver. The final tightening shall be made with the red handle, purple ended torque limiting screwdriver.



3.6 | Technique of the modellated plate

3.6.1 | Plate modellation

Shape the plate according to the given bone surface by using bending tools.

3.6.2 | Plate insertion

If you wish to apply modellated plate there is still a possibility for minimally invasive insertion. In this case the targeting arm is used for insertion then it is removed.

Put the metal element of the targeting arm on the plate so that the peg shall fit into its hole. Fix the carbon element with the threaded sleeve as per the image.

Insert the plate into its optimal position and remove the targeting arm after using temporary fixation.

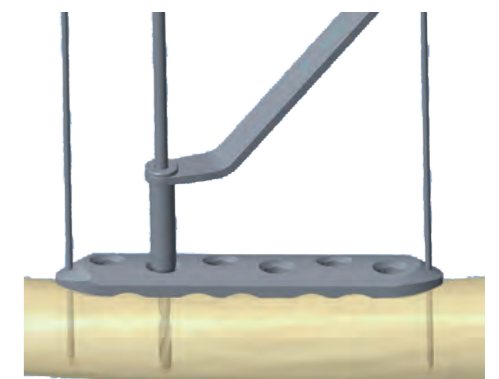


3.6.3 | Screw insertion

With modellated plate we can use the double drill sleeve for both mono- and polyaxial locking.

3.6.4 | Monoaxial drilling

Put the straight part of the 4 mm double drill sleeve into the hole and perform drilling with the 4 mm drillbit.



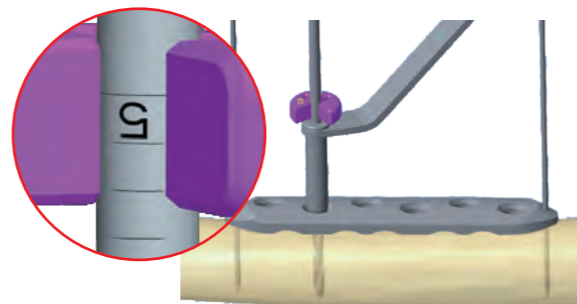
3.6.5 | Depth gauging

Measure necessary screw length.

3 | Surgical description

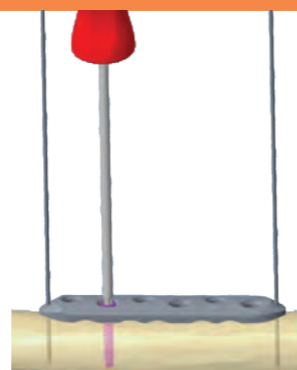
(Alternative method: prior to drilling place the purple drill stop on the 4 mm drillbit just above the spiral part. After drilling length can be read at the edge facing the spiral part.)

Attention! Apply image intensifier control during drilling!



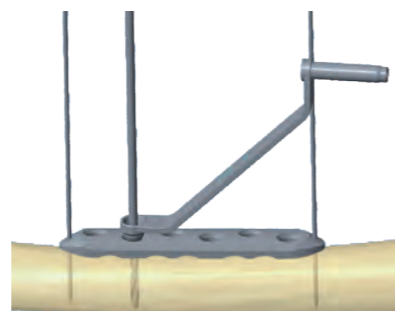
3.6.6 | Screw insertion

Drive in the selected screw with the T25 screwdriver. The final tightening shall be made with the red handle, purple ended torque limiting screwdriver.



3.6.7 | Polyaxial drilling

The conical side of the 4 mm double drill sleeve fits into the hole of the plate. It ensures ± 15 degrees freedom from this pre-determined direction. Fit the conical sleeve into the hole and perform drilling in the required direction. Use image intensifier control.



3.6.8 | Depth gauging

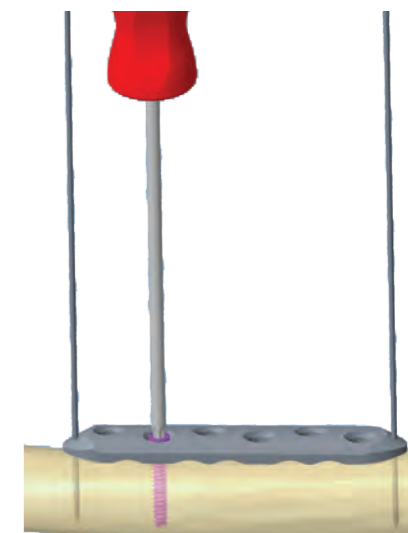
Measure necessary screw length.

Attention! The method with scaled drillbit cannot be applied!



3.6.9 | Screw insertion

Drive in the selected screw with the T25 screwdriver. The final tightening shall be made with the red handle, purple ended torque limiting screwdriver.



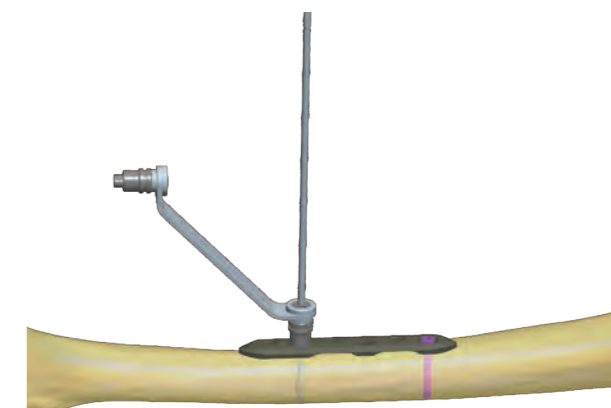
3.7 | Compression technique with all plates

One side of the double drill sleeve - V is for neutral while the other is for compression drilling.

Put the compression side of the sleeve into the hole with the arrow pointing towards the direction of the fracture.

Perform drilling and drive a 5,1 mm cortical screw into the hole as per the above described method.

With proper technique 1 mm compression can be reached.



3.8 | Using cancellous screws

For the YDP plates AO type cancellous screws can also be used. Please note that they require some separate instruments which cannot be found in YDP tray. See section Implant list for reference.

4.1 | Ydfix straight plate - Large



Anodized Titanium

Cat no	Size
3042406003	Large 6H
3042408003	Large 8H
3042410003	Large 10H
3042412003	Large 12H
3042414003	Large 14H
3042416003	Large 16H

4.2 | Ydfix straight plate - XLarge



Anodized Titanium

Cat no	Size
3042406004	XLarge 6H
3042408004	XLarge 8H
3042410004	XLarge 10H
3042412004	XLarge 12H
3042414004	XLarge 14H
3042416004	XLarge 16H
3042418004	XLarge 18H
3042420004	XLarge 20H

4.4 | Ydfix screw Ø5,1 mm



Anodized Titanium

Cat no	Size
1017451020	20
1017451022	22
1017451024	24
1017451026	26
1017451028	28
1017451030	30
1017451032	32
1017451034	34
1017451036	36
1017451038	38
1017451040	40
1017451042	42
1017451044	44
1017451046	46
1017451048	48
1017451050	50
1017451055	55
1017451060	60
1017451065	65
1017451070	70
1017451075	75
1017451080	80

4.5 | Cortical screw - TX Ø5,1 mm



Anodized Titanium

Cat no	Size
1032451020	20
1032451022	22
1032451024	24
1032451026	26
1032451028	28
1032451030	30
1032451032	32
1032451034	34
1032451036	36
1032451038	38
1032451040	40
1032451042	42
1032451044	44
1032451046	46
1032451048	48
1032451050	50
1032451055	55
1032451060	60
1032451065	65
1032451070	70
1032451075	75
1032451080	80

4.4 | Ydfix screw Ø6,5 mm

Anodized Titanium

Cat no	Size (mm)
1057465065	65
1057465070	70
1057465075	75
1057465080	80



4.8 | Ydfix straight plate - Small



Anodized Titanium

Cat no	Size
3042406002	Small 6H
3042408002	Small 8H
3042410002	Small 10H
3042412002	Small 12H
3042414002	Small 14H
3042416002	Small 16H
3042418002	Small 18H
3042420002	Small 20H

4.9 | Ydfix screw Ø3,5 mm



Anodized Titanium

Cat no	Size
1017435010	10
1017435012	12
1017435014	14
1017435016	16
1017435018	18
1017435020	20
1017435022	22
1017435024	24
1017435026	26
1017435028	28
1017435030	30
1017435032	32
1017435034	34
1017435036	36
1017435038	38
1017435040	40
1017435042	42
1017435044	44
1017435046	46
1017435048	48
1017435050	50

4.10 | Cortical screw - TX Ø3,5 mm



Anodized Titanium

Cat no	Size
1032435010	10
1032435012	12
1032435014	14
1032435016	16
1032435018	18
1032435020	20
1032435022	22
1032435024	24
1032435026	26
1032435028	28
1032435030	30
1032435032	32
1032435034	34
1032435036	36
1032435038	38
1032435040	40
1032435042	42
1032435044	44
1032435046	46
1032435048	48
1032435050	50

4 | Implant list

4.12 | Ydfix straight plate - Mini



Anodized Titanium

Cat no	Size
3042404001	Mini 4H
3042406001	Mini 6H
3042408001	Mini 8H
3042410001	Mini 10H

4.13 | Ydfix screw Ø2,7 mm



Anodized Titanium

Cat no	Size
1017427008	8
1017427010	10
1017427012	12
1017427014	14
1017427016	16
1017427018	18
1017427020	20
1017427022	22
1017427024	24
1017427026	26
1017427028	28
1017427030	30
1017427032	32
1017427034	34

4.14 | Cortical screw - TX Ø2,7 mm




Anodized Titanium

Cat no	Size
1032427008	8
1032427010	10
1032427012	12
1032427014	14
1032427016	16
1032427018	18
1032427020	20
1032427022	22
1032427024	24
1032427026	26
1032427028	28
1032427030	30
1032427032	32
1032427034	34


5.1 | Instruments - YDP Large

Screwdriver (T25)	1 pc	 5210720025
Torque screwdriver (T25/3,5 Nm)	1 pc	 5210510046
Spiral drill (4x260 mm)	1 pc	 5280122915
Double drill sleeve - PAS (4 mm)	1 pc	 5280122910
Double drill sleeve - V (Large)	1 pc	 5275214902
Kirschner wire (2x230 mm)	5 pcs	 5937520230
Screw forceps	1 pc	 5939999002
Drill stop (4 mm)	2 pcs	 5210510240
Depth gauge (10-90 mm)	1 pc	 5280122912
Target device (Large)	1 pc	 5275214901
Target device (XLarge)	1 pc	 5275216901











Filled up tray (YDP Large)	5275214800
Optional	
Torque screwdriver for motor (T25/3,5 Nm)	 5210510048

5.2 | Instruments - YDP Small


Screwdriver (T15)	1 pc	 5210720015
Torque screwdriver (T15/1,5 Nm)	1 pc	 5210510044
Spiral drill (2,8x190 mm)	2 pcs	 5280122906
Double drill sleeve - V (Small)	1 pc	 5275212902
Double drill sleeve - PAS (2,8 mm)	1 pc	 5280122903
Kirschner wire (2x210 mm)	6 pcs	 5937520210
Screw forceps	1 pc	 5939999002
Drill stop (2,8 mm)	2 pcs	 5210510227
Depth gauge (8-60 mm)	1 pc	 5280122904
Plate bender - V (6 mm)	2 pcs	 5280122914
Target device (Small)	1 pc	 5275212901

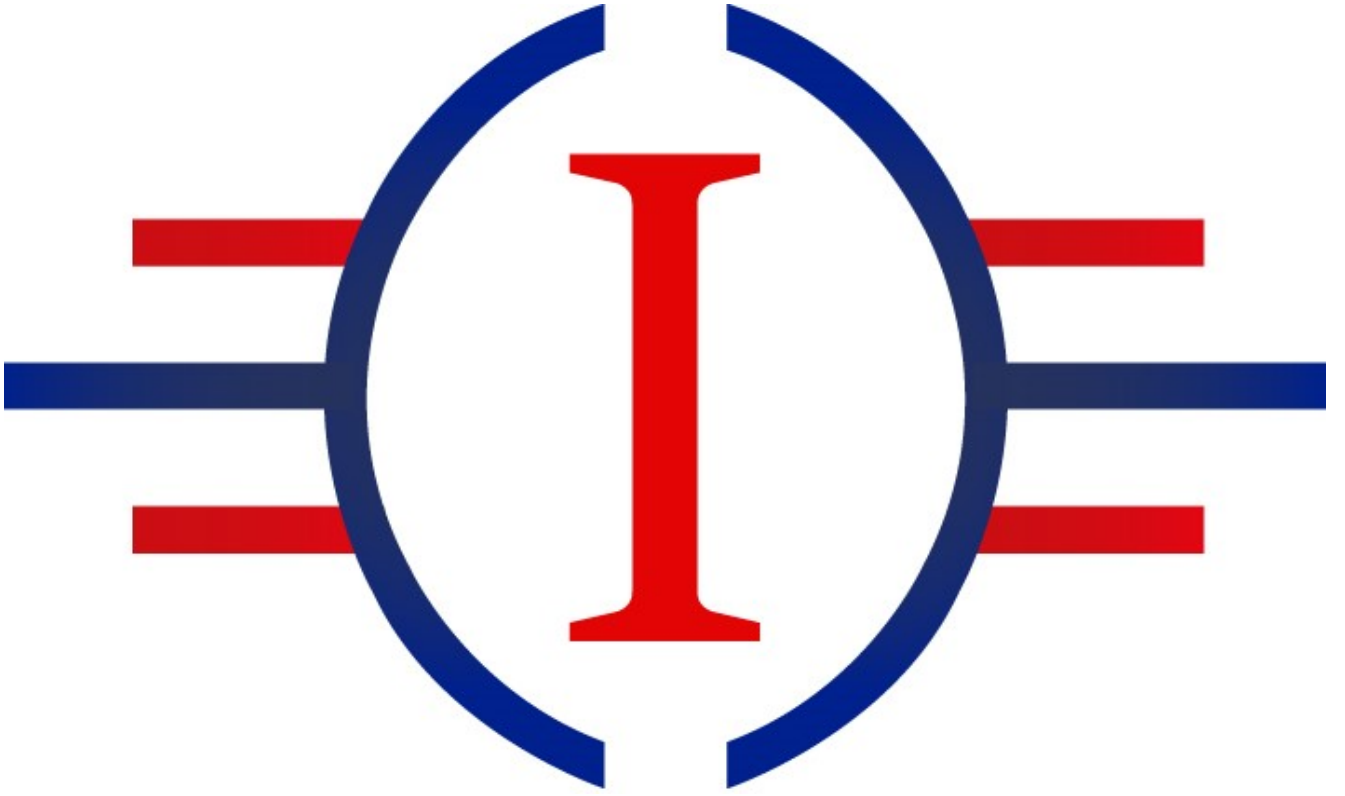
Filled up tray (YDP Small)	5275212800
Optional	
Torque screwdriver for motor (T15/1,5 Nm)	 5210510037

5.3 | Instruments - YDP Mini

Screwdriver (T9)	1 pc	 5210720009
Torque screwdriver (T9/1 Nm)	1 pc	 5210510036
Spiral drill (2x125 mm)	1 pc	 5280114903
Double drill sleeve - PAS (2 mm)	1 pc	 5280114902
Double drill sleeve - V (Mini)	1 pc	 5275208901
Kirschner wire (1,2x100 mm)	10 pcs	 5937512100
Screw forceps	1 pc	 5939999002
Drill stop (2 mm)	2 pcs	 5210510222
Depth gauge (2,7-3,5 mm)	1 pc	 5280114905
Plate bender (4 mm)	2 pcs	 5280114901
Filled up tray (YDP Mini)		5275208800

Optional

Torque screwdriver for motor (T9/1 Nm)	 5210510047
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