

Polund

PRO-CLAMP Systems



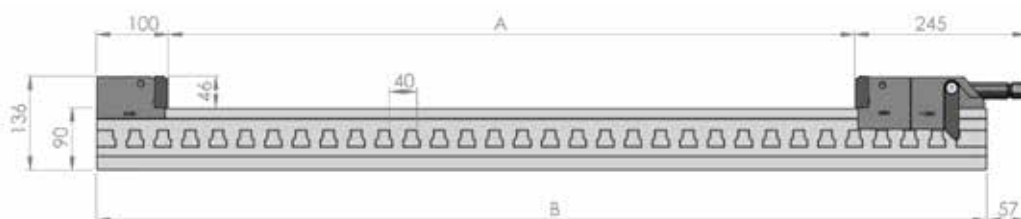
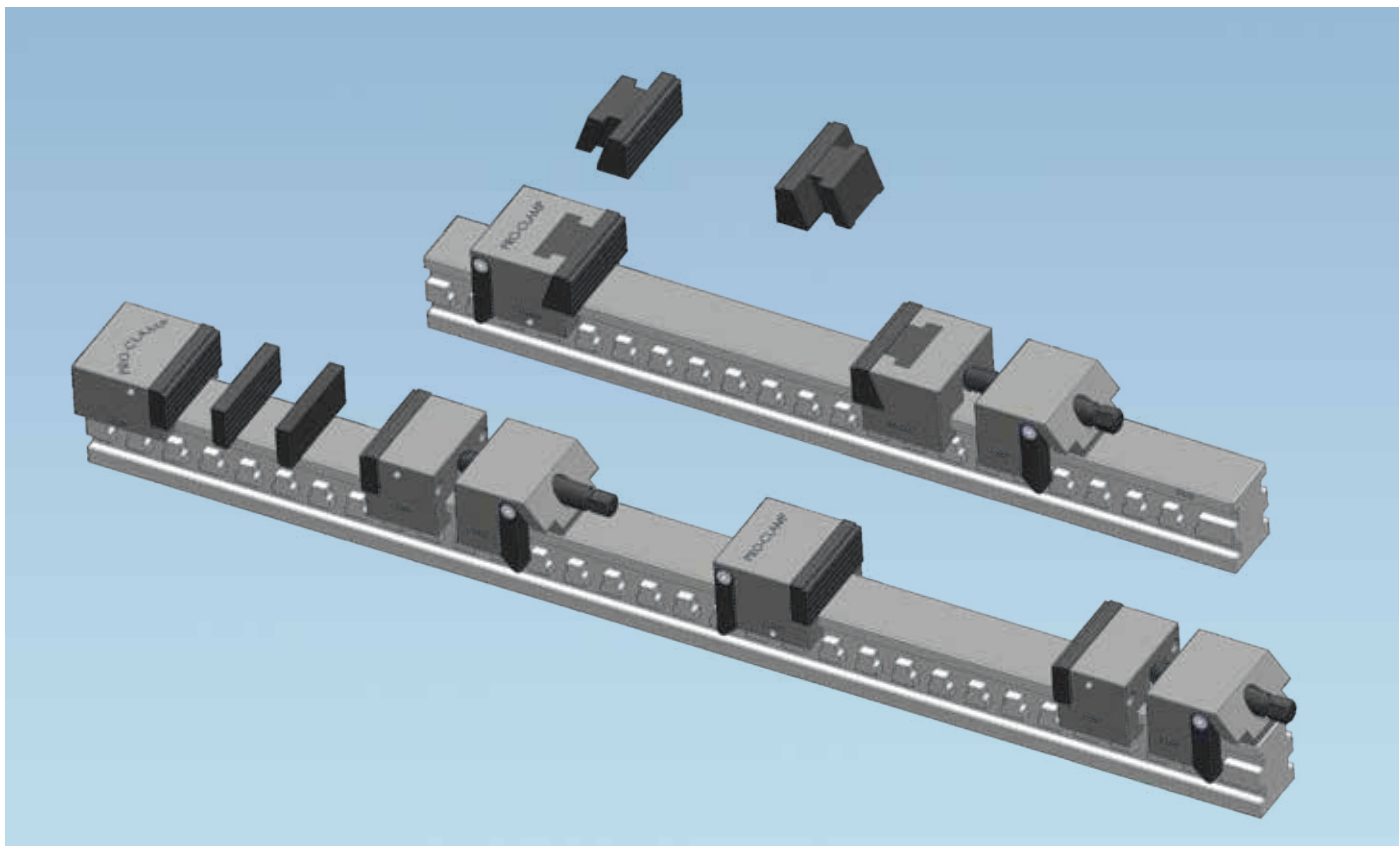
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Polund

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PRO-CLAMP FLEXIBLE



Data sheet PRO-CLAMP Flexible

Item no.	Jaw width (mm)	Jaw height (mm)	A: Opening (mm)	B: Length (mm)	Clamping force (t/Nm)	Weight (kg)
F400	111	46	400	688	7/200	39
F600	111	46	600	888	7/200	48
F800	111	46	800	1088	7/200	57
F1000	111	46	1000	1288	7/200	66
Fxxx	111	46	customised		7/200	

Spindle travel 45 mm

Kendetegn ved PRO-CLAMP Flexible

- Opspænding af et eller flere emner
- Spændvidde standard op til 1000 mm
- Spændekraft 7 t v/200 Nm
- Hurtig udskiftning af løsdeler
- Ergonomisk ved brug af fast/flytbar kæbe
- Kan tilpasses særlige kundeønsker

Features of PRO-CLAMP Flexible

- Clamping of one or more workpieces
- Span standard up to 1000 mm
- Clamping force 7 ton at 200 Nm
- Fast changing of loose parts
- Ergonomic using fixed/movable part
- Can be customized to specific requirements

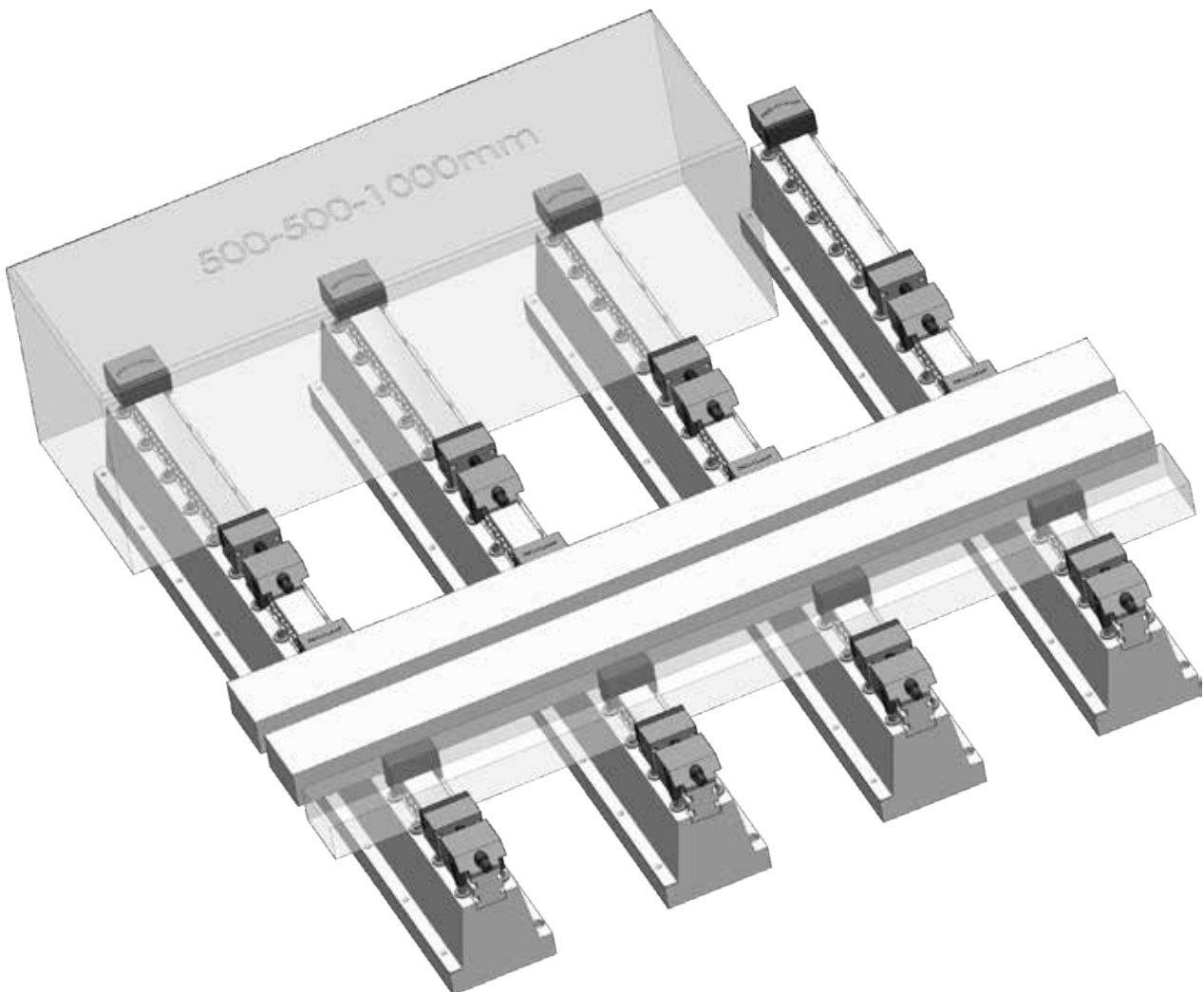
PRO-CLAMP FLEXIBLE

PRO-CLAMP Flexible

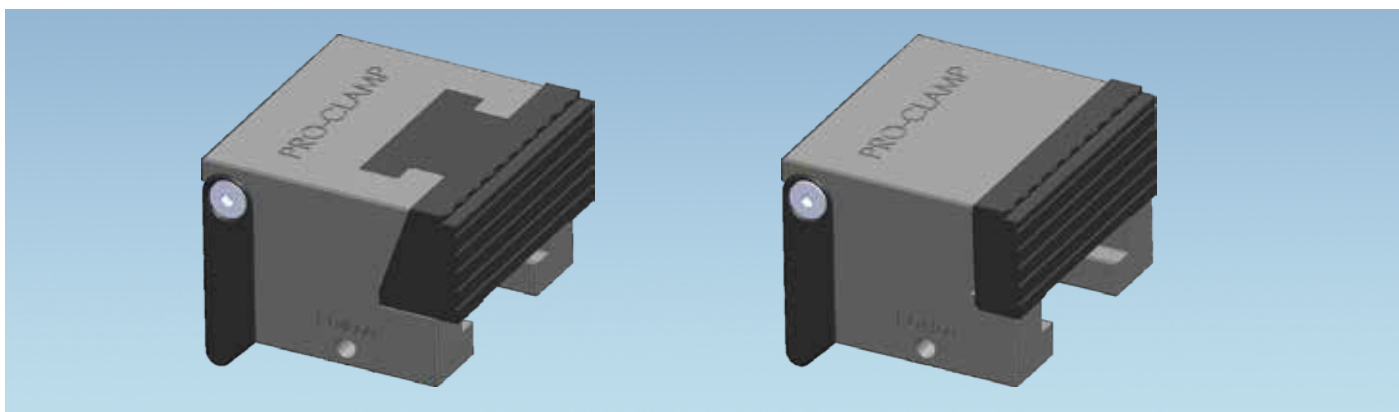
PRO-CLAMP Flexible, er en fantastisk opspændingsløsning, hvor der stilles store krav til opspændings- og omstillingstid. Flexible anvendes, hvor man med fordel kan køre enkeltstyks produktion. Omstillingstiden er på få sekunder fra emne til emne. Systemet er også egnet til serieproduktion, hvor man ved kun at spænde på eet spindel, kan spænde flere emner fast samtidig. Dermed kan man få mere ubemandet køretid på maskinen og kan producere efter normal arbejdstid. Systemet er rengøringsvenligt. Ingen huller i kæber, bakker og stamme. Omstillingstid er fra 0-1000 mm på få sekunder. Systemet er opbygget sådan, at man kan vende spændeenhederne 180 grader og spænde fra begge sider af et asymmetrisk emne. Skruestikken kan fås med pull-down i bakkerne, så emnet presses ned mod parallelskinne/understøtningen. PRO-CLAMP System er dansk produceret og kan i Polund tilpasses efter kundens ønske.

PRO-CLAMP Flexible

PRO-CLAMP Flexible is an amazing solution for clamping, when the demand for clamping- and changeover time is high. Flexible is profitable in production of single work pieces. Changing time is a few seconds from one work piece to another. The system is also suitable for series production. By tightening one mandrel you can clamp several work pieces at the same time. Achieving more unmanned uptime on the machine after normal working hours. The system is cleaning-friendly. No holes or grooves in jaws and stem. Changing time from 0 to 1000 mm in a few seconds. The system is constructed to enable the clamping device to turn by 180 degrees and to clamp from both sides of an asymmetric work piece. The vice is available with pull-down in the jaws. Enabling the work piece to be pressed down towards the support. PRO-CLAMP Systems is produced in Denmark and can by Polund A/S be customised to fulfil the customer's requirements.



PRO-CLAMP FLEXIBLE



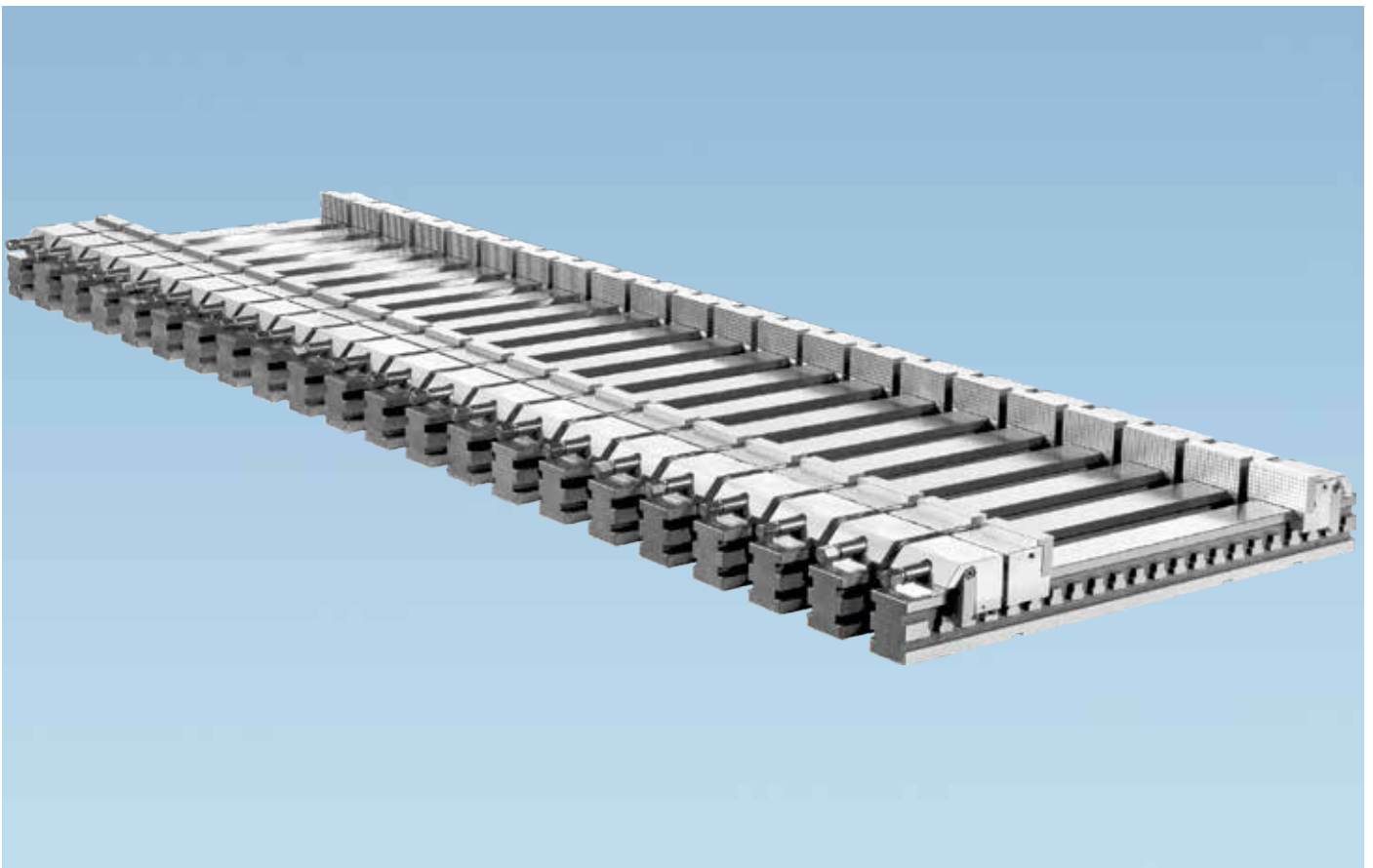
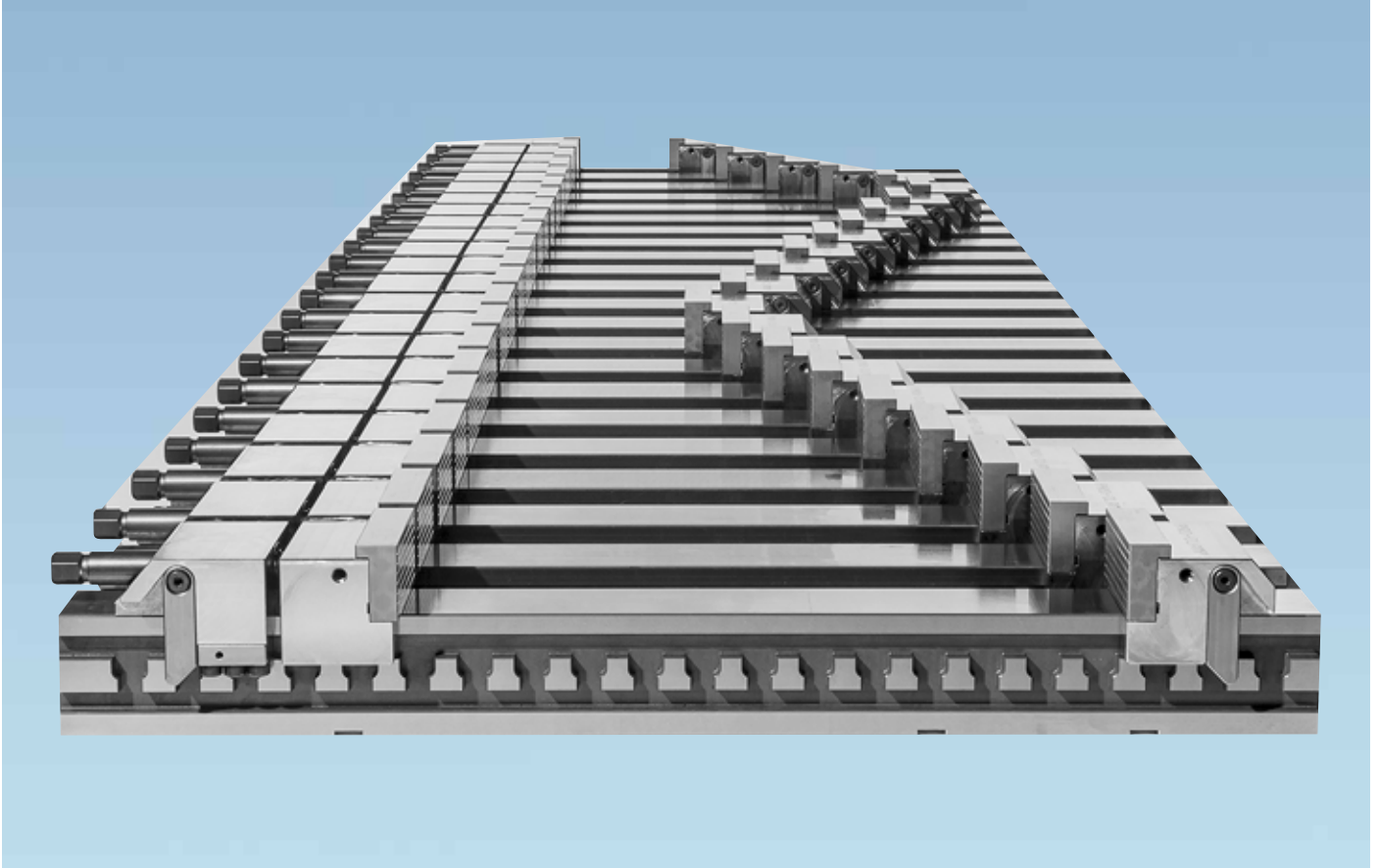
PRO-CLAMP Flexible

- Den fastflytbare kæbe kan placeres på stammen efter operatørens ønske
- Alle bakker under tilbehør, kan kombineres med den fastflytbare kæbe F4100
- Mulighed for ekstra fastgørelse med 1 stk. M10 pinolskrue
- F4000 er udstyret med en hurtigudsiftelig bakke med 0,2 mm pull-down, som ikke kræver værktøj ved udskiftning
- Præcisionen på den fastflytbare kæbe er +/- 0,03 mm. For højere præcision kan de hærdede bakker slibes/tilpasses

PRO-CLAMP Flexible

- The fixed/movable jaw can be placed on the vice after operators wish
- All jaws in Accessories can be combined with the fixed/movable jaw F4100
- Extra fixing with 1 pc. M10 set screws – optional
- The F4000 is fitted with a quick removable jaw with 0,2 mm pull-down, which does not need tools for changing
- The precision on the fixed/movable jaw is +/- 0,03 mm. For higher precision the hardened jaws can be planed/customized

PRO-CLAMP FLEXIBLE



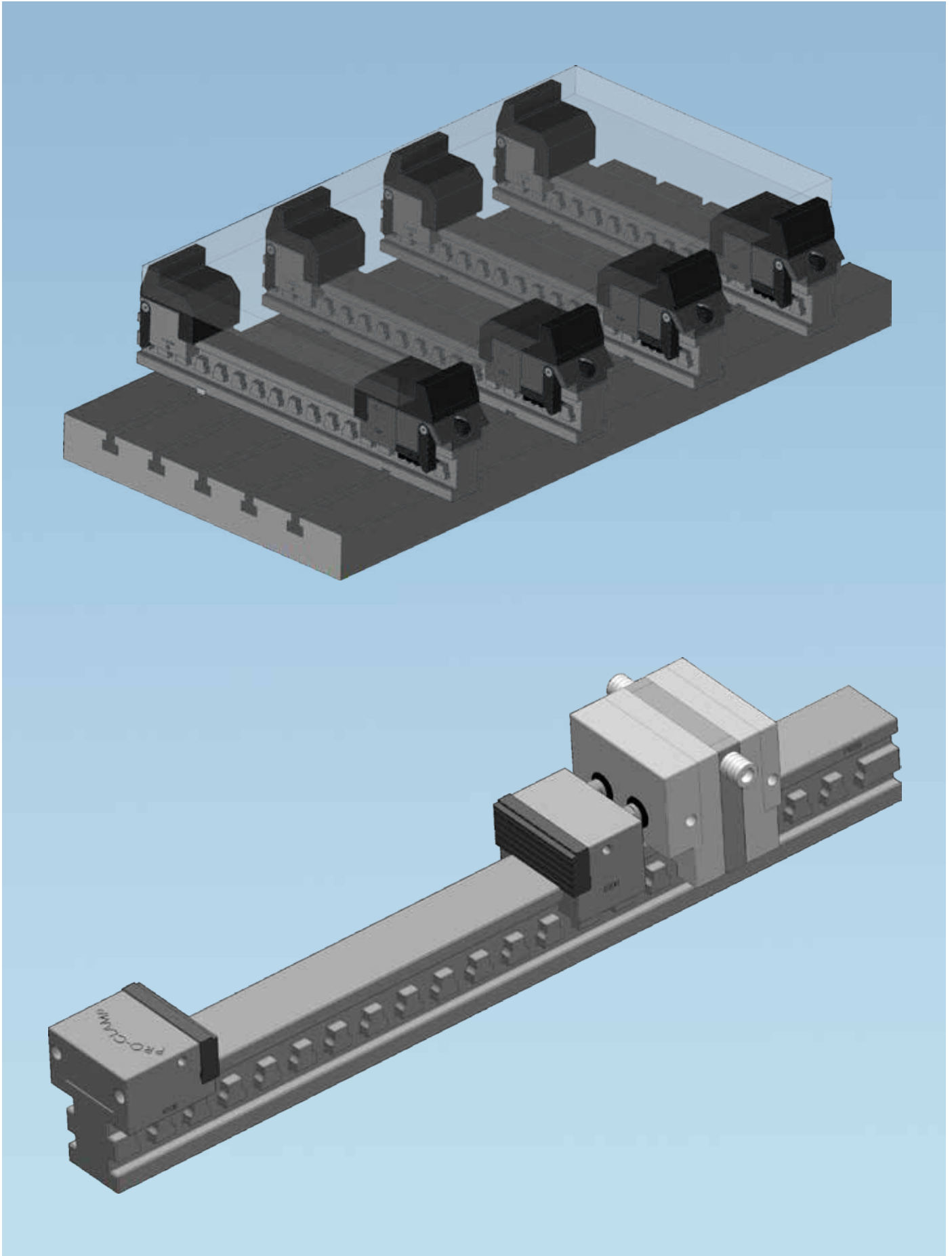
PRO-CLAMP FLEXIBLE



PRO-CLAMP FLEXIBLE



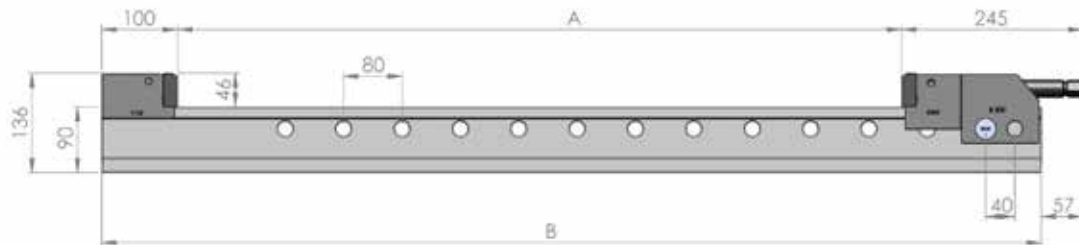
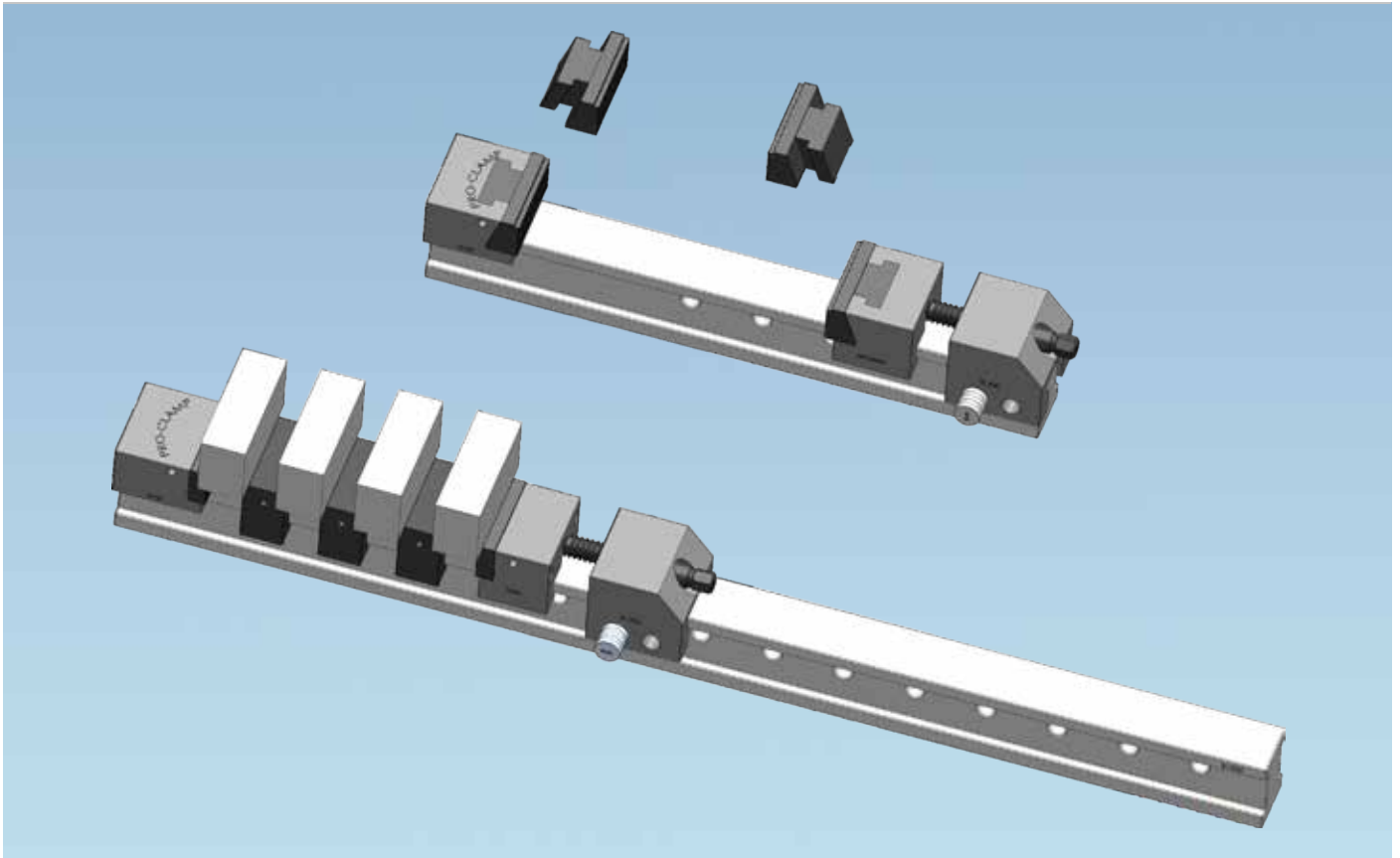
PRO-CLAMP FLEXIBLE



PRO-CLAMP FLEXIBLE



PRO-CLAMP BASIC



Data sheet PRO-CLAMP Basic

Item no.	Jaw width (mm)	Jaw height (mm)	A: Opening (mm)	B: Length (mm)	Clamping force (t)	Weight (kg)
B400	111	46	400	688	7	39
B600	111	46	600	888	7	48
B800	111	46	800	1088	7	57
B1000	111	46	1000	1288	7	66
Bxxxx	111	46	customised		7	

Spindle travel 45 mm

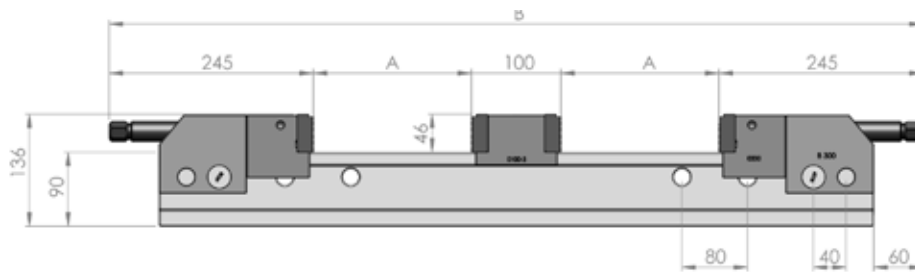
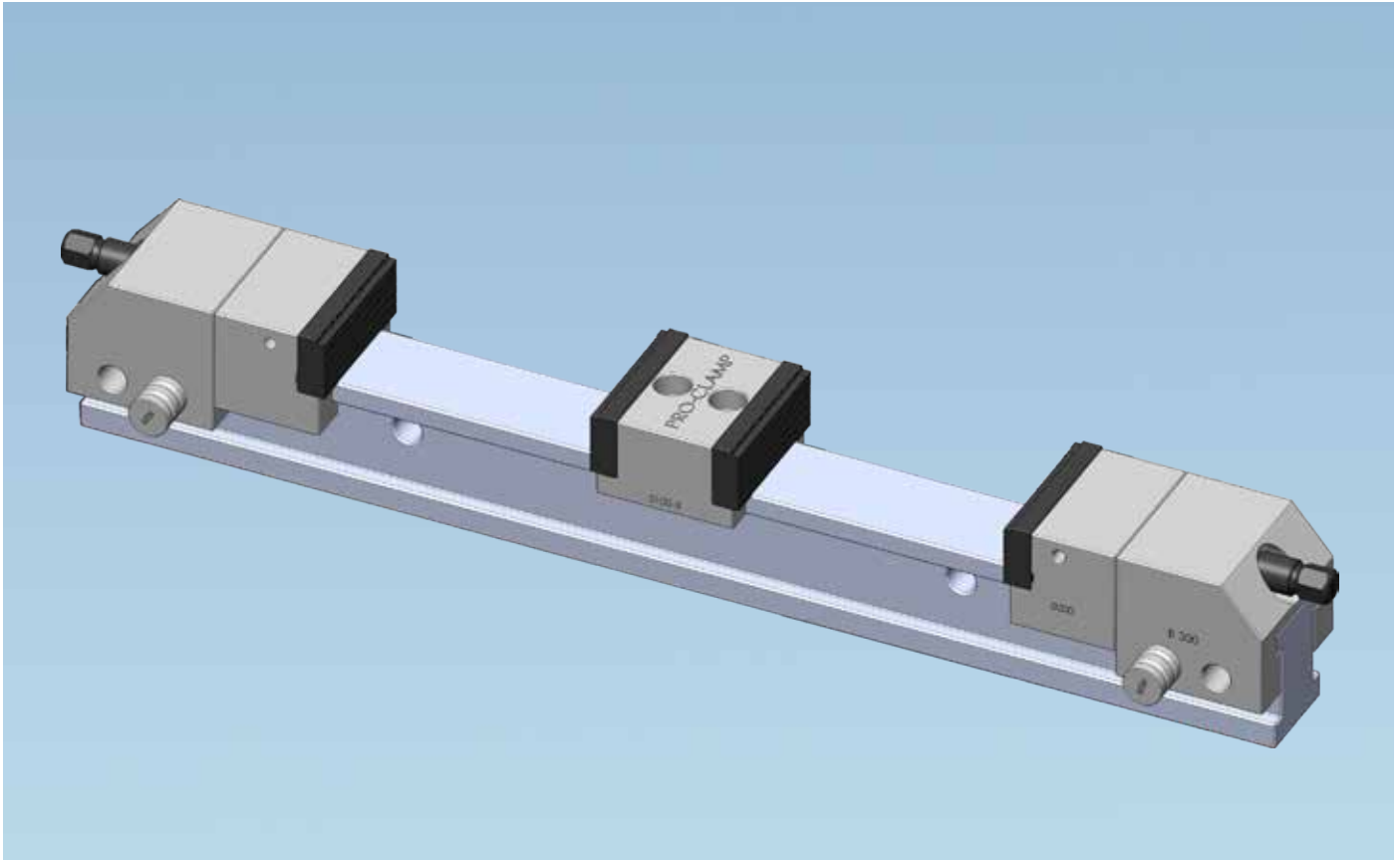
Kendetegn ved PRO-CLAMP Basic

- Opspænding af 1 eller flere emner
- Ideel til vertikale opspændinger
- Spændvidde standard op til 1000 mm
- Spindelvandring 45 mm
- Kan tilpasses særlige kundeønsker

Features of PRO-CLAMP Basic

- Clamping one or more workpieces
- Ideal for vertical fixing
- Span standard up to 1000 mm
- Spindle travel 45 mm
- Can be adapted to specific customer requirements

PRO-CLAMP BASIC



Data sheet PRO-CLAMP Basic Double

Item no.	Jaw width (mm)	Jaw height (mm)	A: Opening (mm)	B: Length (mm)	Clamping force (t)	Weight (kg)
B200x2	111	46	200	990	7	55
B240x2	111	46	240	1070	7	60
B280x2	111	46	280	1150	7	65
B320x2	111	46	320	1230	7	70

Customised in 40 mm steps

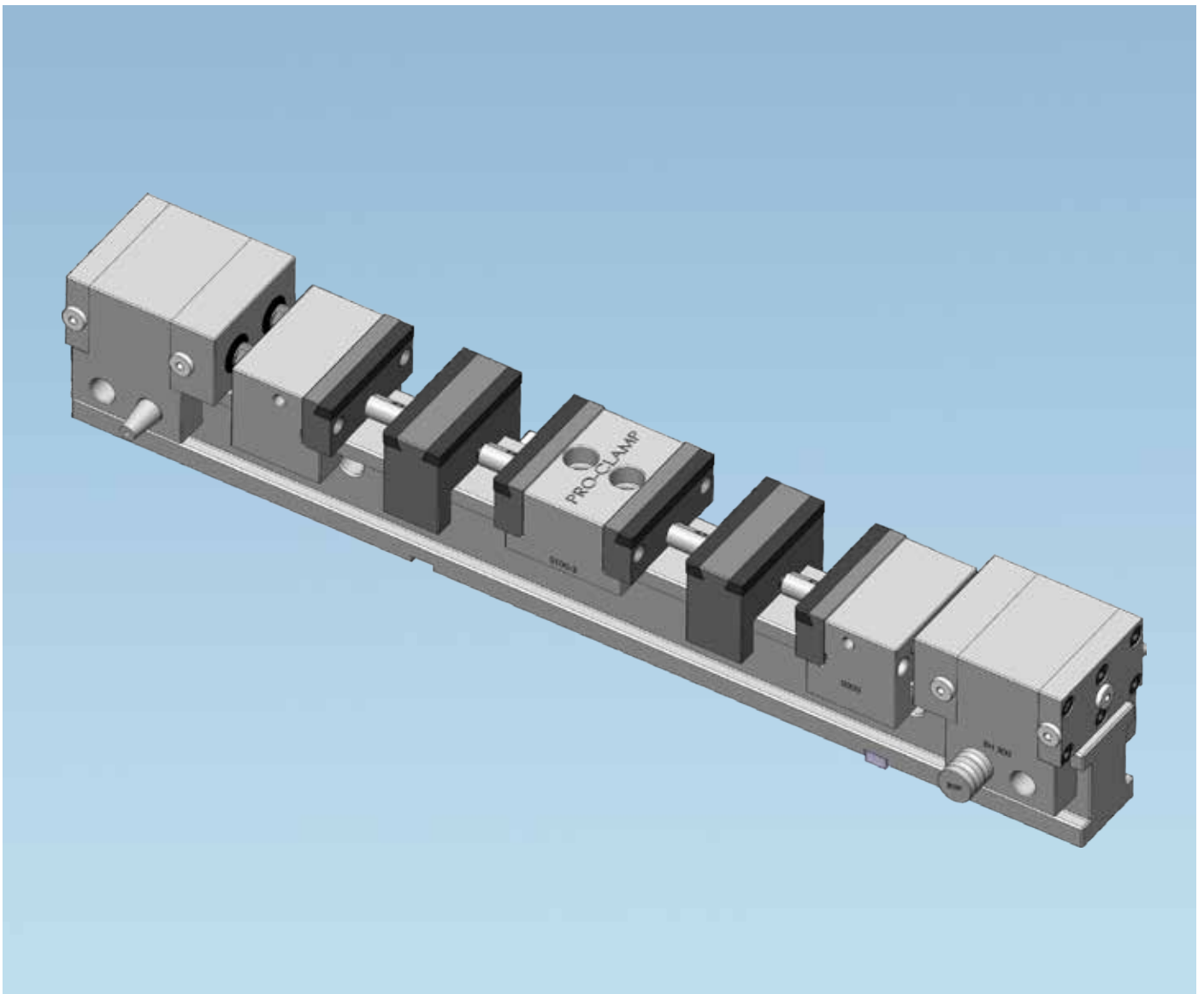
PRO-CLAMP BASIC

PRO-CLAMP Basic

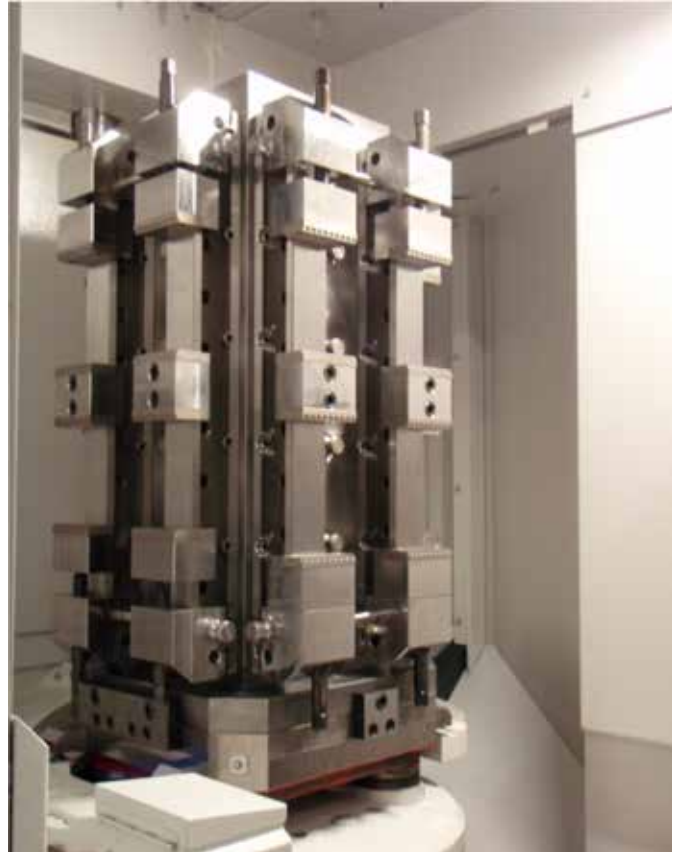
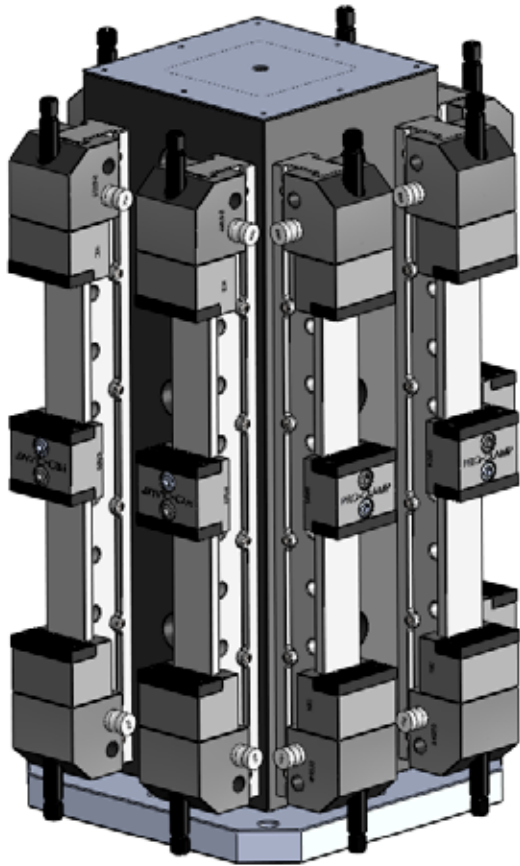
PRO-CLAMP Basic er den enkle løsning med få sliddele, hvor den faste kæbe er fastspændt på stammen, og hvor der samtidig er stor fleksibilitet. Spændeenheden flyttes på få sekunder i trin á 40 mm, og låses fast på stammen med en låsepind. Dette gør at PRO-CLAMP Basic med fordel også kan anvendes ved vertikal opspænding på kuber. Der kan monteres flere spændeenheder på samme stamme af gangen, og flere skruestikke kan lines op på samme bord eller på samme kube.

PRO-CLAMP Basic

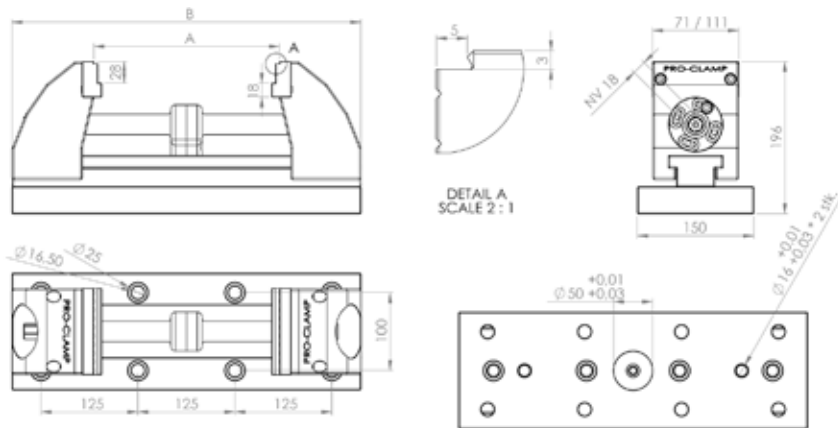
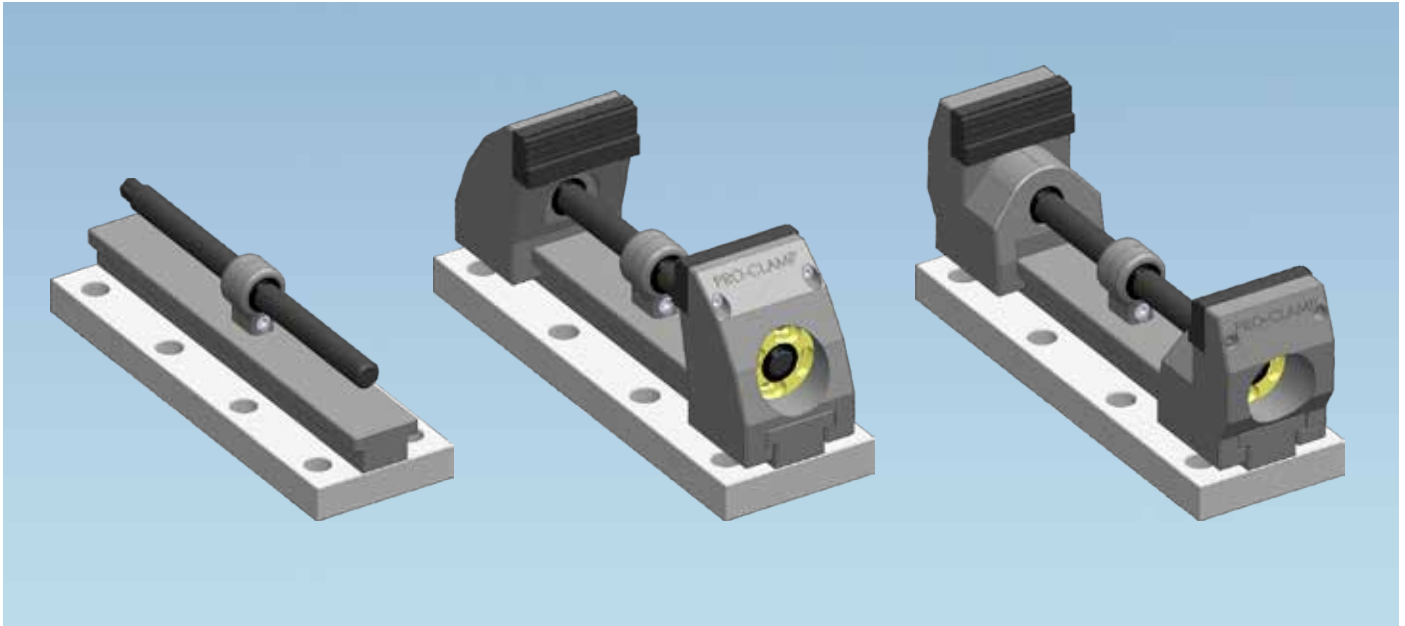
PRO-CLAMP Basic is the simple solution with few wear parts, where the fixed part is fastened to the body, and where there is also great flexibility. Clamping device can be moved and fixed in the body with a locking pin in seconds in increments of 40 mm. This allows PRO-CLAMP Basic to be used with vertical clamping on cubes. Several clamping devices can be mounted on the body at the same time, and several vices can be lined up on the same table or on the same cube.



PRO-CLAMP BASIC



PRO-CLAMP 5-AXIS VICE



Data sheet PRO-CLAMP 5-Axis vice

Item no.	Jaw width (mm)	Jaw height (mm)	A: Opening (mm)	B: Length (mm)	Clamping force (t/Nm)	Weight (kg)
CT5-240	71	46	10-240	450	5/200	39
CT5-240	111	46	10-240	450	5/200	39
CT5-370	71	46	145-370	476	5/200	39
CT5-370	111	46	145-370	476	5/200	39

Kendetegn ved PRO-CLAMP Centrerspænder

- Centrerende skruestik
- Velegnet til 5-akset bearbejdning
- Spændevide 10-240 mm eller 140-370 mm
- Spændekraft 5 t. v/200 Nm
- Kan monteres direkte på maskinplanet
- Stabil og kraftig opbygning – stabil opspænding
- God plads til maskinens spindel
- Kalibrering af centring kan udføres af operatøren
- Bakker efter kundens ønske
- Kæbe-/bakkebredde 71 eller 111 mm
- Rengøringsvenlig

Features of PRO-CLAMP 5-Axis vice

- Centering Vice
- Suitable for 5-Axis machining
- Clamping range 10-240 mm or 140-370 mm
- Clamping force 5 ton at 200 Nm
- Can be mounted directly on the machine table
- Stable and strong structure – stable clamping
- Good room for the machine's spindle
- Calibrating of the center, can be performed by the operator
- Jaws by customer's wishes
- Jaw width, 71 or 111 mm
- Easy to clean

PRO-CLAMP 5-AXIS VICE

PRO-CLAMP Centrerspænder

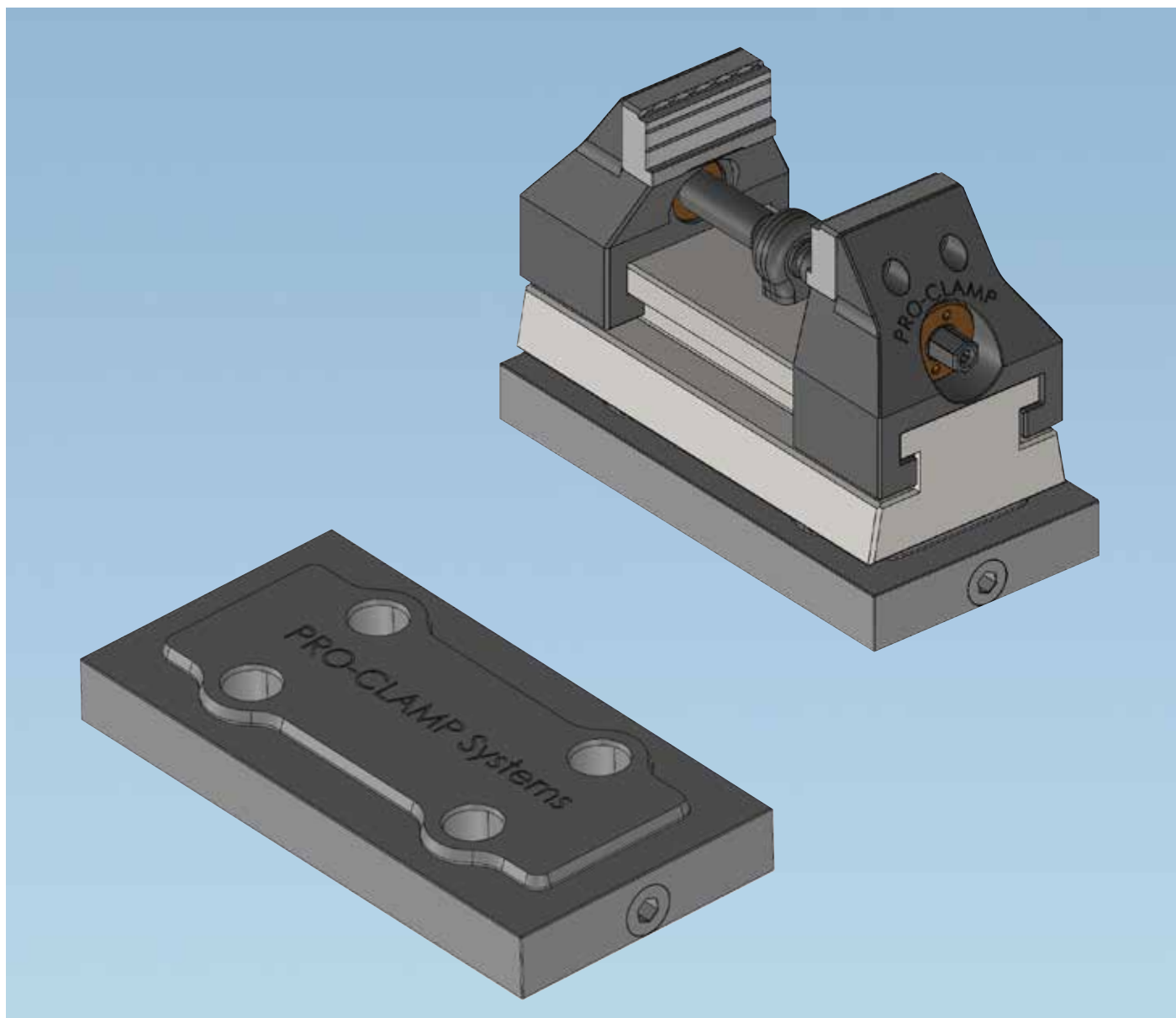
PRO-CLAMP Centrerspænder har en uovertruffen spændvidde og er særdeles velegnet til alle former for opspænding i forbindelse med 5-akset bearbejdning. Specielt for centrerspænderen kan næves at man ikke har brug for en ekstern prægestation, da der præges direkte i skruestikken. Den unikke opbygning sikrer en meget stor spændvidde samt en høj og ensartet spændekraft i hele spændvidden.

PRO-CLAMP 5-Axis Vice

PRO-CLAMP 5-Axis vice has a long clamping distance and is ideal for all kinds of clamping associated with 5-Axis machining. The unique design ensures a very large clamping range, as well as a high and uniform clamping force in the whole clamping range.



PRO-CLAMP MINI 5-AXIS VICE



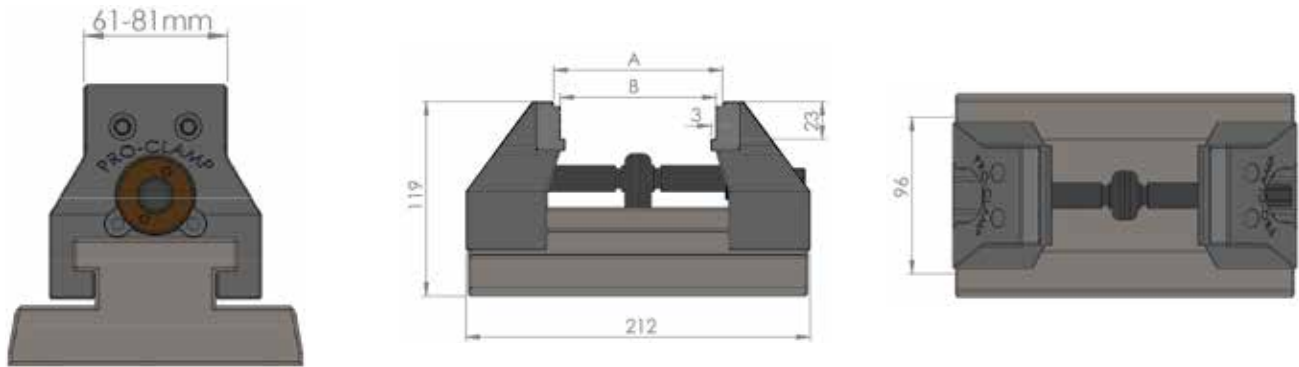
PRO-CLAMP Mini Centrerspænder

PRO-CLAMP Mini Centrerspænder er særdeles velegnet til alle former for opspænding i forbindelse med både 3-, 4- og 5-akset bearbejdning. Specielt for centrerspænderen kan næves at man ikke har brug for en ekstern prægestation, da der præges direkte i skruestikken. Spændvidden justeres, som standard mekanisk. Den unikke opbygning sikrer en meget stor spændvidde samt en høj og ensartet spændekraft i hele spændvidden. God adgang til bearbejdning fra alle sider.

PRO-CLAMP Mini 5-Axis vice

PRO-CLAMP Mini 5-Axis vice is highly suitable for all kinds of clamping associated with both 3-, 4- and 5-Axis machining. Especially for the Mini 5-Axis Vice can be mentioned, that there is no need for an extern Embossing Station, as it embosses directly in the Vice. The clamping range is as standard adjusted mechanically. The unique design ensures a very large clamping range and a high and uniform clamping force in the whole clamping range. Good access for machining from all sides.

PRO-CLAMP MINI 5-AXIS VICE



Skruestikken er forberedt til en centerafstand på 96*96 eller 110*55 mm for tilpasning til nulpunktsspændesystemet.

The vice is prepared for a center distance of 96*96 or 110*55 mm for adaption to the zero point clamping system.

Data sheet PRO-CLAMP Mini

Item no.	Jaw width (mm)	Jaw height (mm)	A: Opening (mm)	B: Opening (mm)	C: Length (mm)	Clamping force (t/Nm)	Weight (Kg)
CT5-100	61	23	104	96	212	4/100	10
CT5-100	81	23	104	96	212	4/100	10
CT5-200	61	23	204	196	312	4/100	13
CT5-200	81	23	204	196	312	4/100	13

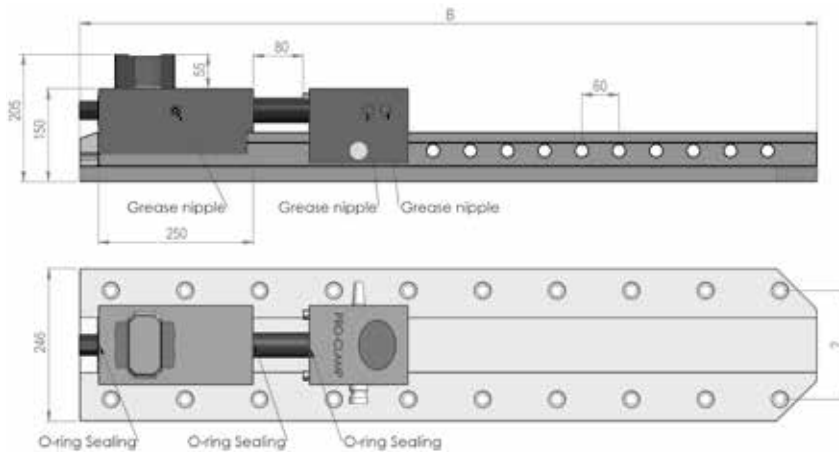
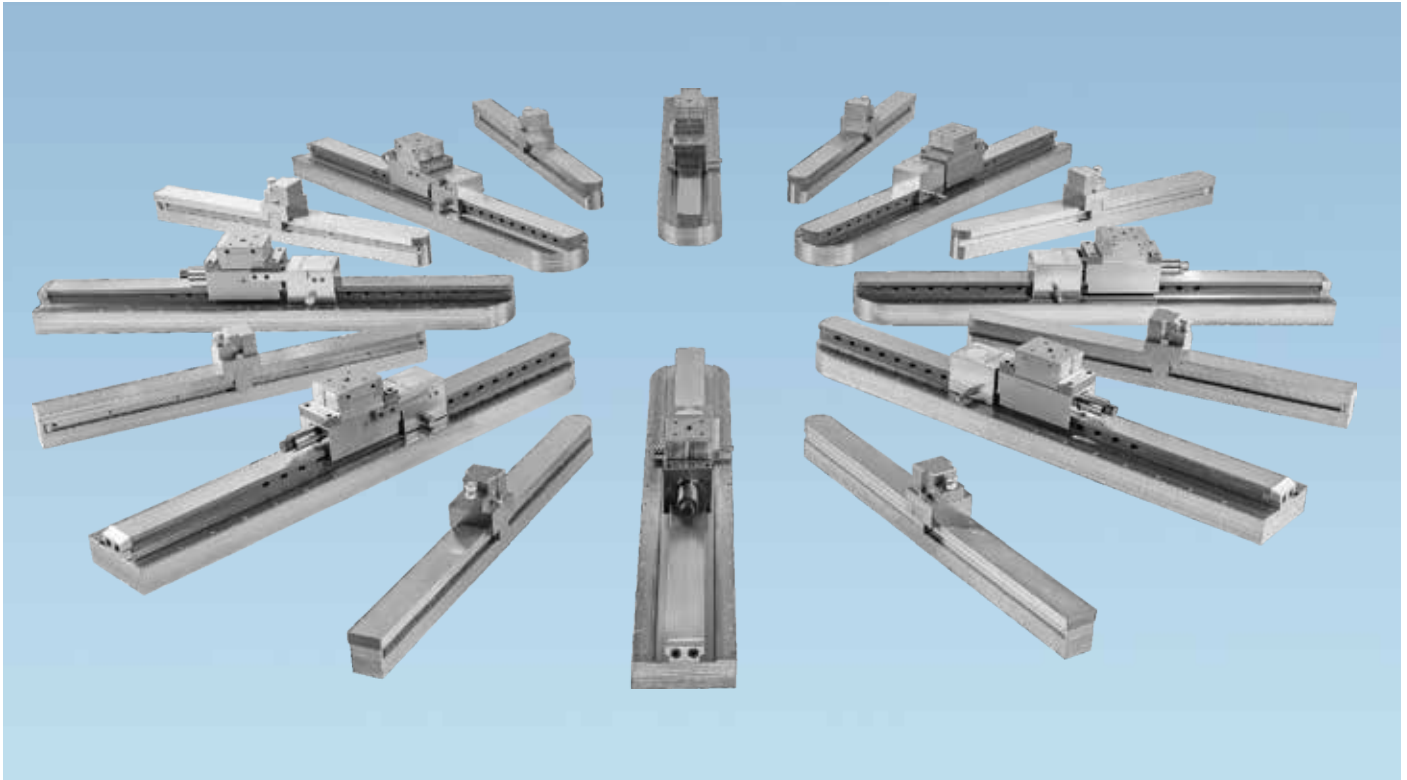
Kendetegn ved PRO-CLAMP Mini Centrerspænder

- Centrerende skruestik
- Velegnet til 5-akset bearbejdning
- Spændevide 0-200 mm
- Spændekraft 4 t. v/100 Nm
- Kan monteres direkte på Polund's eget 0-pkt-system eller de fleste andre 0-pkt-systemer
- Stabil og kraftig opbygning
- God plads til maskinens spindel
- Kalibrering af centrering kan udføres af operatøren
- Bakker efter kundens ønske
- Kæbe-/bakkebredde 61 eller 81 mm
- Rengøringsvenlig
- Ikke brug for ekstern prægestation, da der præges direkte i skruestikken

Features of PRO-CLAMP 5-Axis Mini Vice

- Centering Vice
- Suitable for 5-Axis machining
- Clamping range 0-200 mm
- Clamping force 4 ton at 100 Nm
- Can be mounted directly on Polunds or others 0-point systems.
- Stable and strong structure
- Good space for the machine's spindle
- Calibrating of the center, can be performed by the operator
- Jaws by customer's wishes
- Jaw width, 61 or 81 mm
- Easy to clean
- No need for extern embossing station as we emboss directly in the vice

PRO-CLAMP HEAVY



Data sheet PRO-CLAMP Heavy

Item no.	Jaw width (mm)	Jaw height (mm)	A: Opening (mm)	B: Length (mm)	Clamping force (t)	Weight (kg)
H500	75	55	500	950	20	114
H740	75	55	740	1190	20	134
H1040	75	55	1040	1500	20	159
Hxxxx	75	55	customised			

Kendetegn ved PRO-CLAMP Heavy

- Anvendes til karruseller/boremøller
- Spændeenhed vendbar 180 grader
- Spændvidde standard op til 1040
- Spindelvandring 80 mm
- Kan tilpasses særlige kundeønsker

Features of PRO-CLAMP Heavy

- Used for Carousel/boring mills
- Clamping device can be rotated 180 degrees
- Span standard up to 1040 mm
- Spindle travel 80 mm
- Can be adapted to specific customer requirements

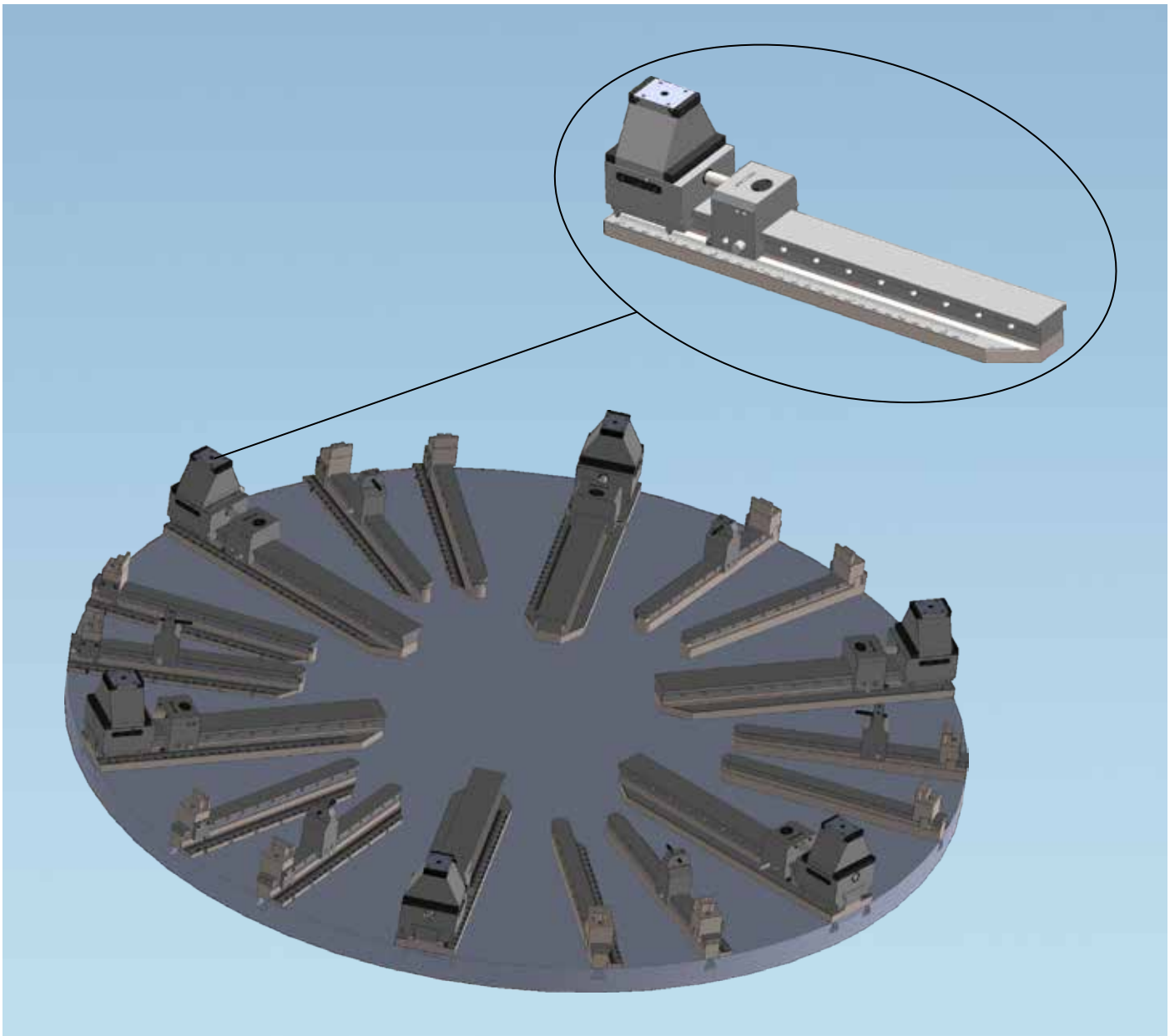
PRO-CLAMP HEAVY

PRO-CLAMP Heavy

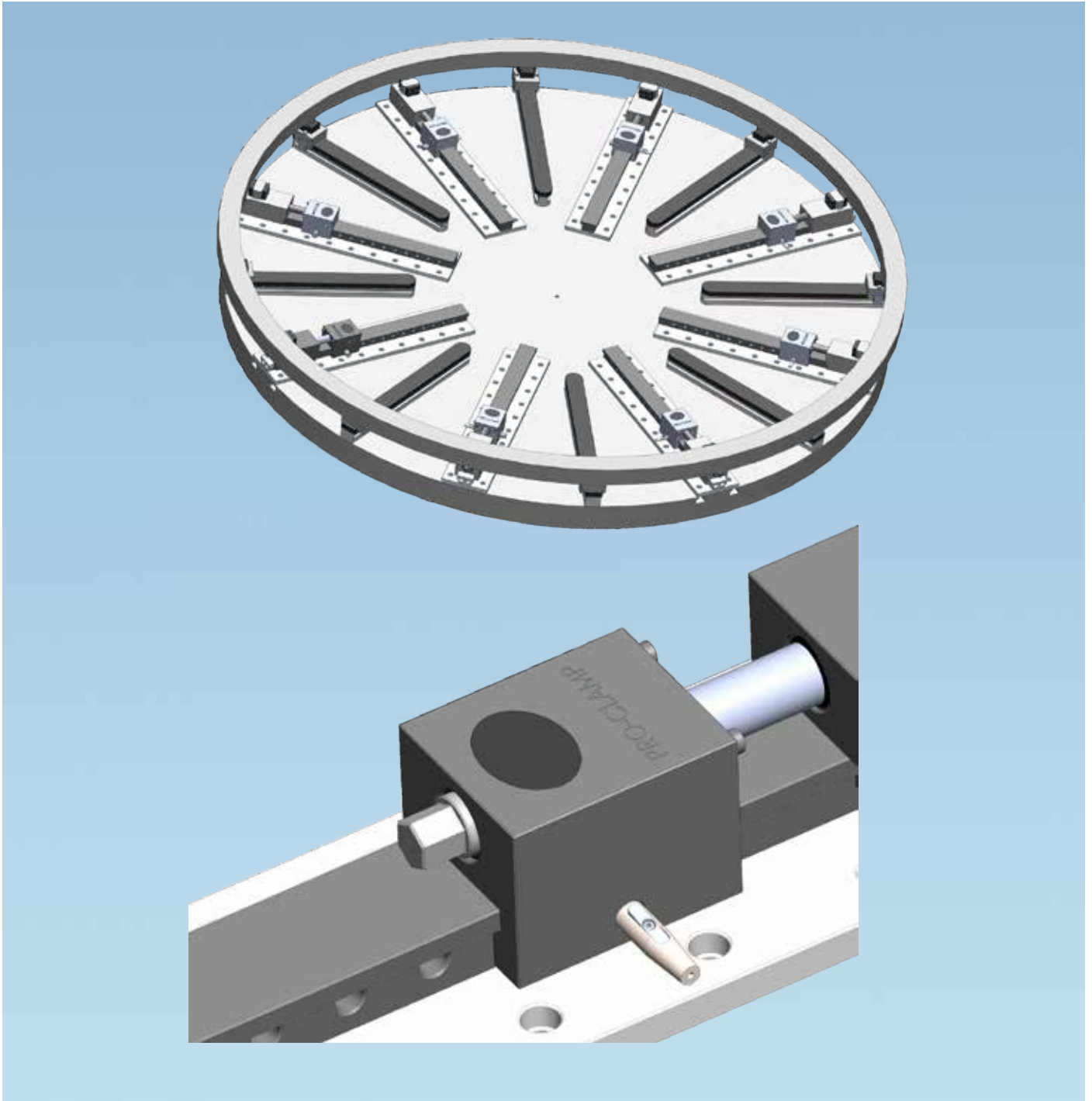
PRO-CLAMP Heavy anvendes især til karruseller/boremøller, og kan udbygges til store diametre. Den meget kraftige konstruktion sikrer en stor og ensartet spændekraft på op til 20 t. Opbygningen af stammen, uden huller, sikrer en hurtig og let fjernelse af spåner, og samtidig en meget hurtig omstillingstid – max. 10 sekunder pr. skruestik.

PRO-CLAMP Heavy

PRO-CLAMP Heavy is mainly used for carousels/boring mills and can be expanded to large diameters. The very sturdy construction ensures a large and uniform clamping force of up to 20 ton. The structure of the body, without holes, ensures quick and easy removal of chips, as well as a very fast changeover time – at the most 10 seconds per vice.



PRO-CLAMP HEAVY



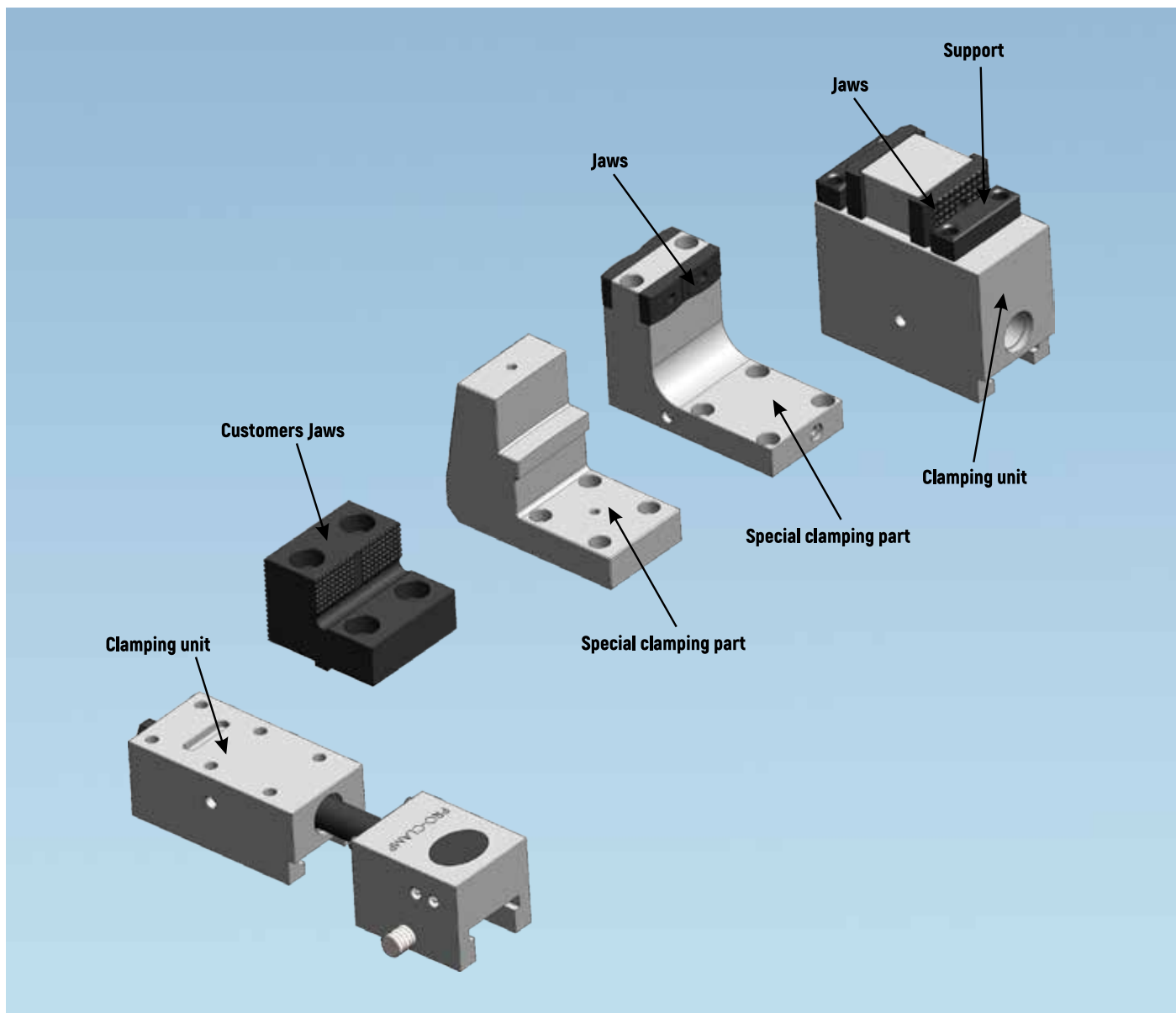
Spændeenhed

Mulighed for at vende spændeenheden med 180 grader for at udvide spændevidden, og dermed komme mere i center på maskinen. Dette ved tilføjelse af nøglevidde 30 i begge sider.

Clamping device

As extra we offer an extra hexagon screw fitted to the clamping device. Thereby the clamping device can be turned 180° and gain increased opening.

PRO-CLAMP HEAVY



Spænder, kæber og bakker

Spænderen kan ændres og tilpasses kundens eksisterende bakker.

Kæber og bakker fremstilles efter kundens ønske og Polund tilpasser spænderen på skruestikken.

Special bakker kan laves så man kan spare en operation ved at give plads til drejestålet under emnet i de forhøjede bakker.

Se 4 eksempler på løsninger og spørg på en løsning til jeres produktion.

Clamping unit, clamp part and jaws

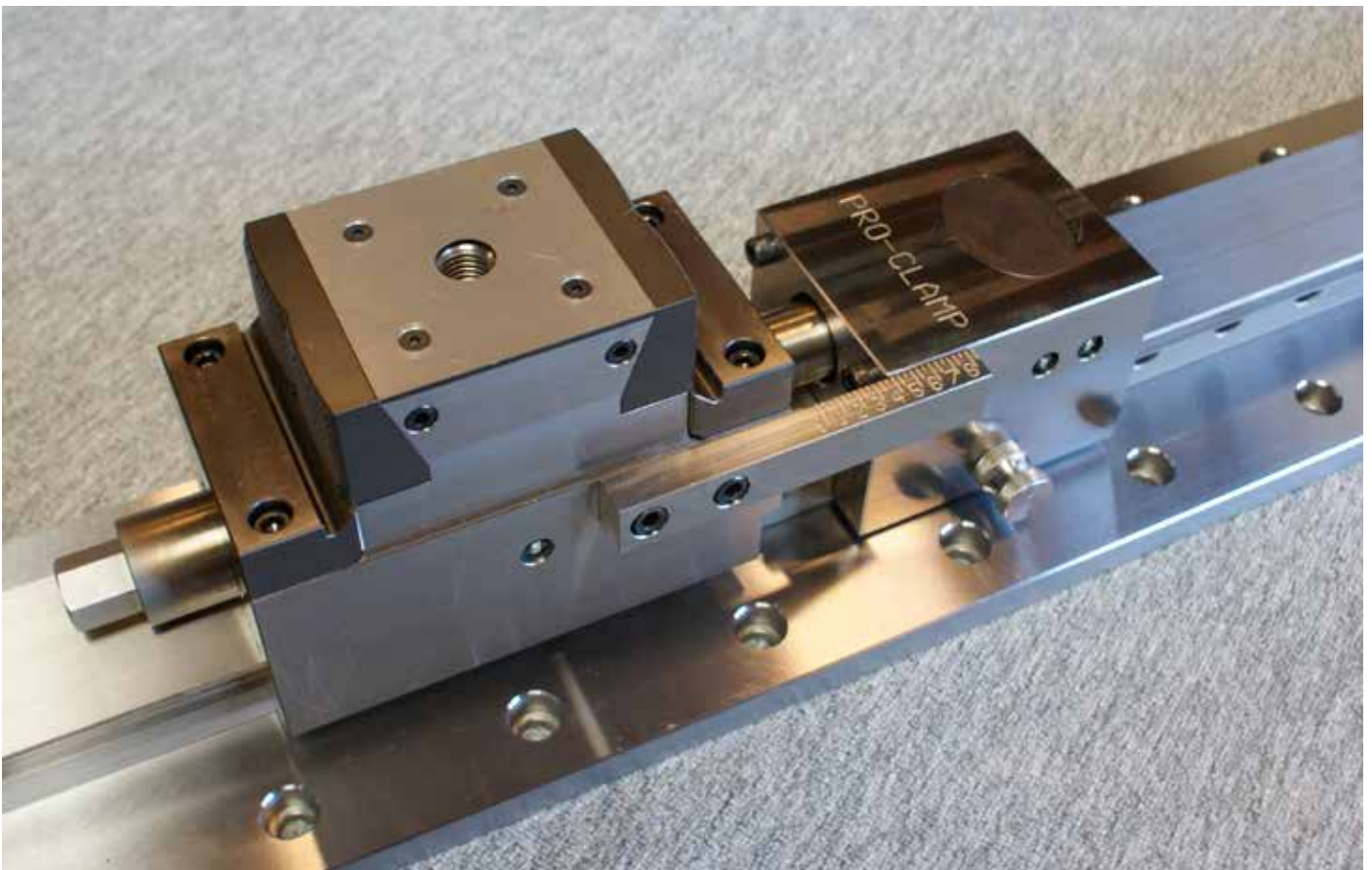
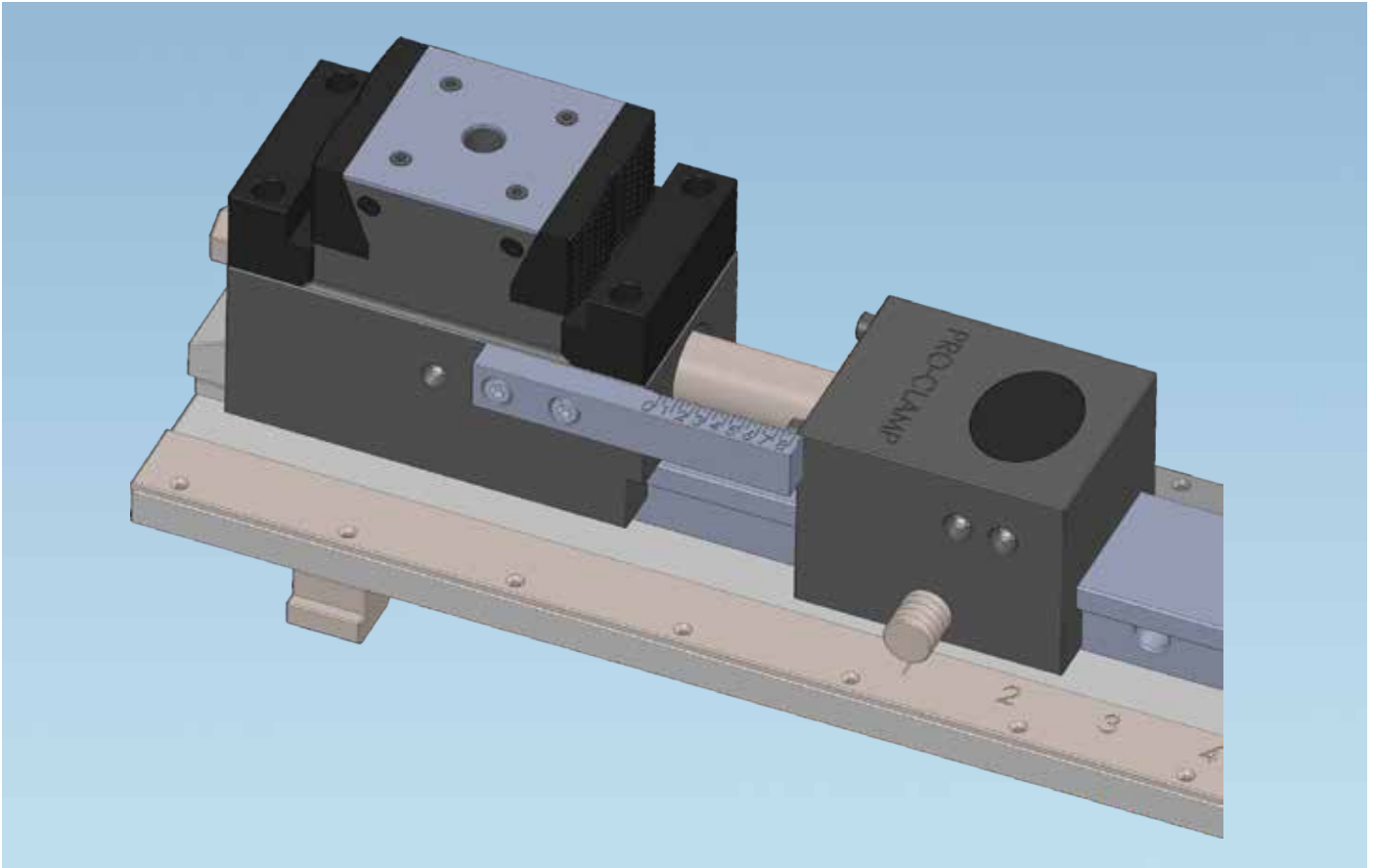
The clamping unit can be altered and customized the customers' existing jaws.

The clamping part and the jaws can be made from the customers' wishes and Polund will fit the clamping unit to the vice.

Customized jaws are a possibility to save an operation by adding space for the turning tool under the workpiece in the heightened jaws.

Watch the 4 examples and ask for a solution for your production.

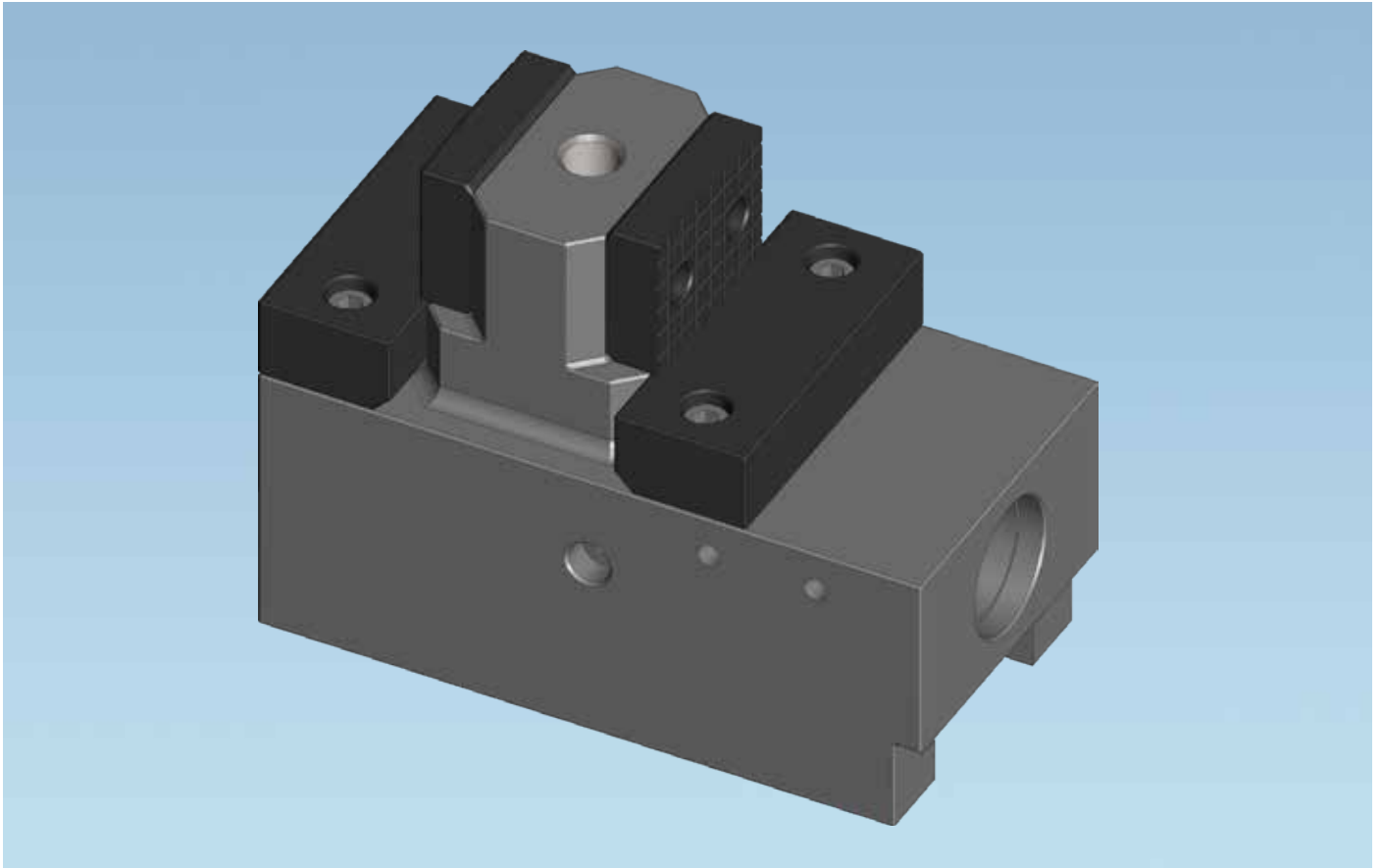
PRO-CLAMP HEAVY



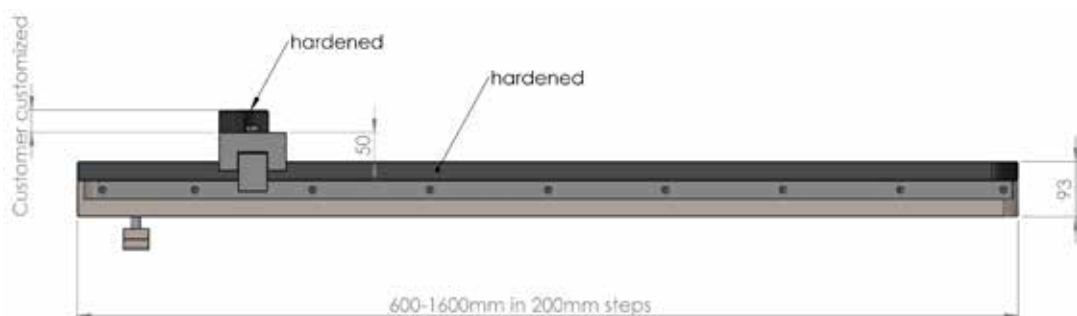
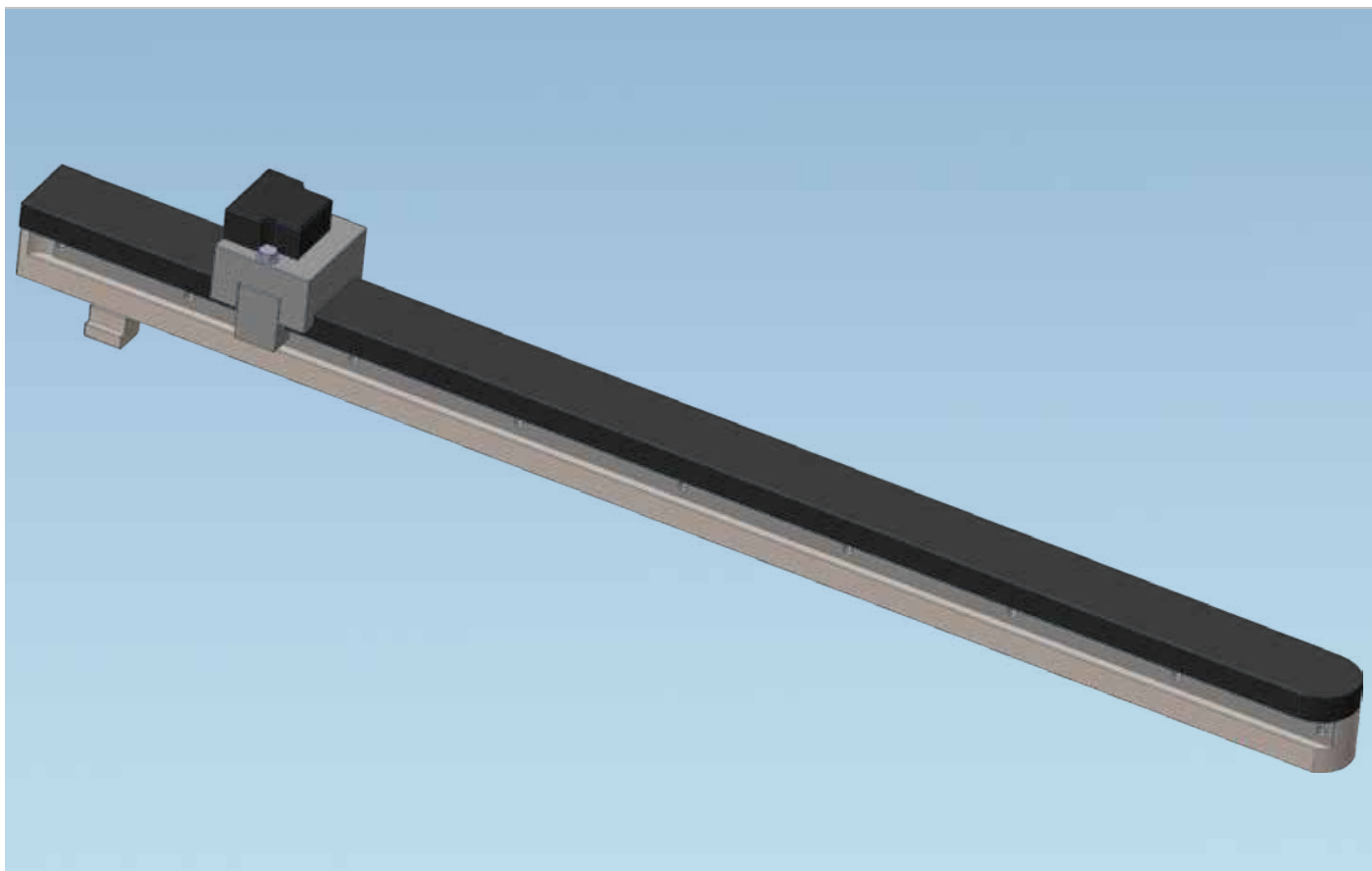
PRO-CLAMP HEAVY



PRO-CLAMP HEAVY



PRO-CLAMP SUPPORT



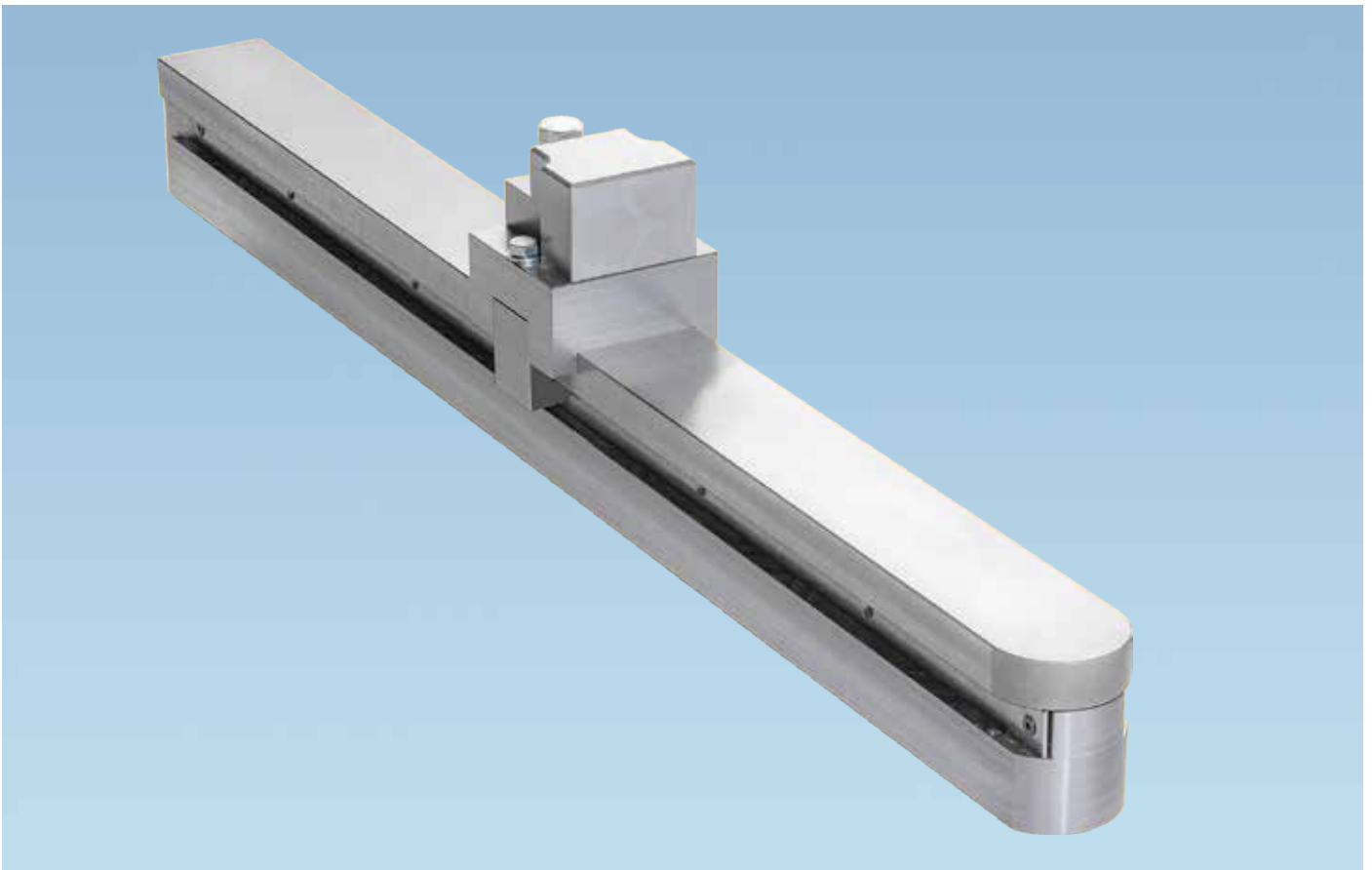
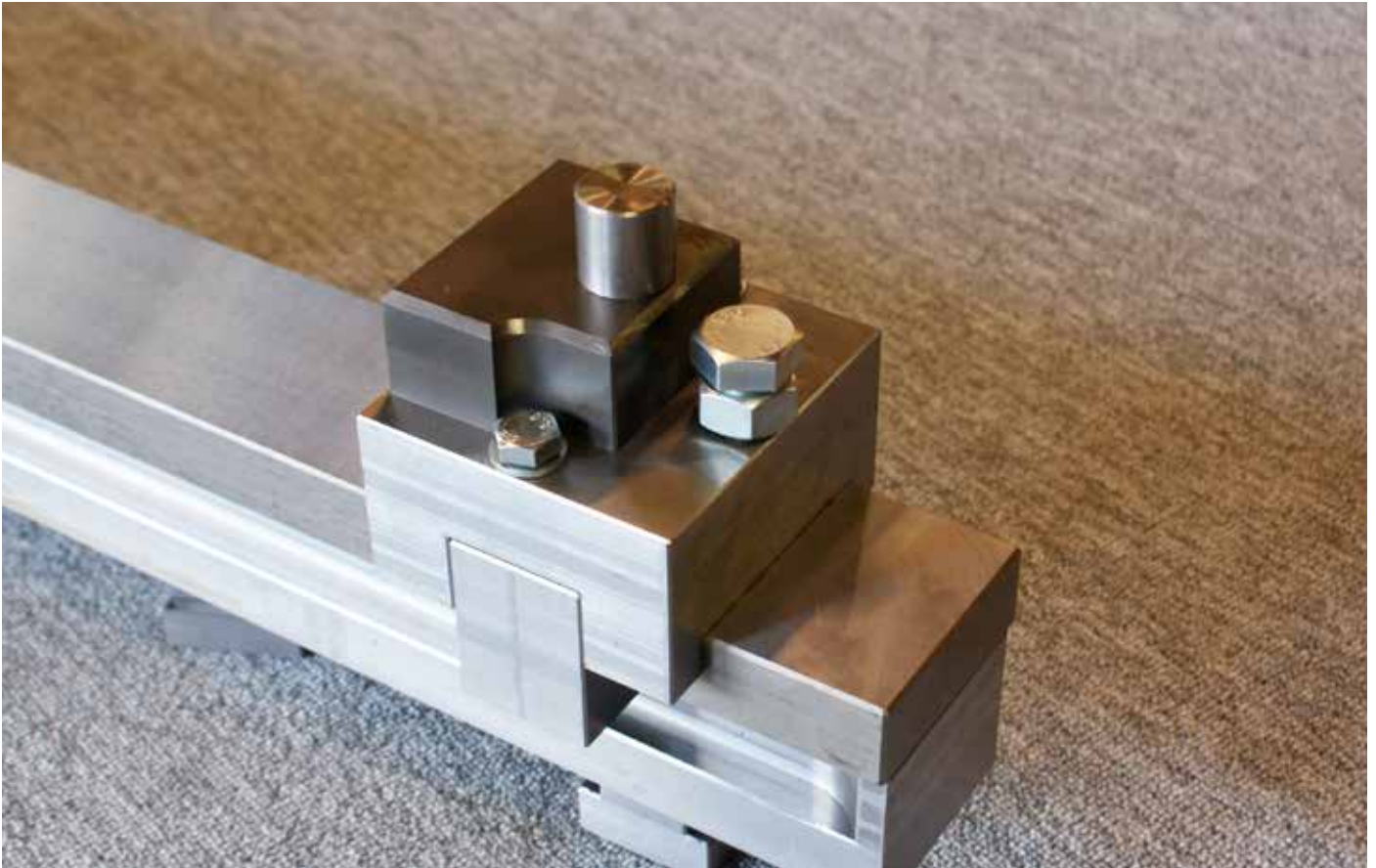
Fordele ved understøtning

- Længde fra 600 til 1600 mm i trin á 200 mm
- Hurtig og trinløs omstilling
- Anvendes på vertikale karruseldrejebænke
- Længde tilpasses maskinens bord
- Ingen rengøring

Features of Support

- Length from 600 to 1600 mm in steps of 200 mm
- Fast and stepless adjustment
- Used for vertical turning lathes
- Length is customized the machines table
- No cleaning

PRO-CLAMP SUPPORT



PRO-CLAMP HYDRAULIC/AUTOMATION



Kendetegn ved PRO-CLAMP Multi

- Bluetooth overvågning af hydrauliktrykket
- Gap check med luft i bakkerne
- Bakkeskift af robotten
- Integreret nulpunkt system i kæberne
- Ved fejlplacering af emne, kan hydrauliktrykket ikke opbygges og maskinen går i nødstop
- Skruestikken fås, så kunden selv kan tilpasse den til egne bakker (grønt areal)
- Emnet kan sættes i skruestikken uden for maskinen, og begge dele sættes i maskinen
- Spændvidden er 100 mm
- Hydrauliktryk er 7 tons
- Bakker kan vendes 180 grader af robotten

Features of PRO-CLAMP Multi

- Bluetooth surveillance of the hydraulics pressure
- Gap check with air in the jaws
- Jaw change by the robot
- Integrated zero-point system in the fixed clamping part
- By misplacement of the work piece the hydraulics pressure will not build up and the machine enters emergency stop
- The vice can be acquired to be able to customize it for own jaws (green area)
- The work piece can be mounted on the vice outside the machine and both can be placed on the machine
- The span is 100 mm
- The hydraulics pressure is 7 ton
- The jaws can be turned 180 degrees by the robot

PRO-CLAMP HYDRAULIC/AUTOMATION

PRO-CLAMP Multi

PRO-CLAMP Multi skruestikken er fremstillet til automation, hvor sikkerhed er i top.

Centrerspænderen kan placeres udenfor maskinen i en ladestation og her lades af robotten. Bakker kan skiftes og emner placeres i centrerspænderen. Inden flytning af centrerspænderen til bearbejdsningscentret, udføres følgende: gap-tjek, hydrauliktryk tjekkes, placering af emnet tjekkes. Når alt er godkendt, løftes hele setuppet til bearbejdsningscentret af robotten. Der vil i bearbejdsningscenteret også udføres tjek af centrerspænderens placering i 0-punkterne.

Spændvidde er 100 mm, spædekraften er 5 tons og vægten er 85 kg. Antrækket er det samme til skruestik og bakker. De aftagelige bakker fastlåses mekanisk og løsnes hydraulisk af robotten.

Setupet er konstrueret, så hydrauliktrykket, som bruges til fastholdelse af emnet, også bruges til åbning af 0-punkt-systemet. Når hydrauliktrykket fjernes, vil den låsbare bakke manuelt trækkes an.

Som option kan monteres en nyudviklet hydrauliksensorm, som forbindes trådløst til bearbejdsningscenteret ved hjælp af Bluetooth. Under anvendelse af eksisterende kontrolpanel sikres konstant hydrauliktryk. Ved trykfald sender kontrolpanelet besked til bearbejdsningscentret om at gå i nødstop.

PRO-CLAMP Multi

PRO-CLAMP Multi vice is made for automation, where safety is first priority.

The Centering Vice is placeable outside the machine in a loading station and can here be loaded by the robot. Jaws can be changed, and work pieces can be placed in the centering vice. Before moving the centering vice to the machining center, the following is executed: gap-check is performed, and hydraulics pressure and position of the work piece is checked. When everything is approved, the setup is lifted to the machining center by the robot. In the machining center there will also be performed check of the positioning of the centering vice in the zero-points.

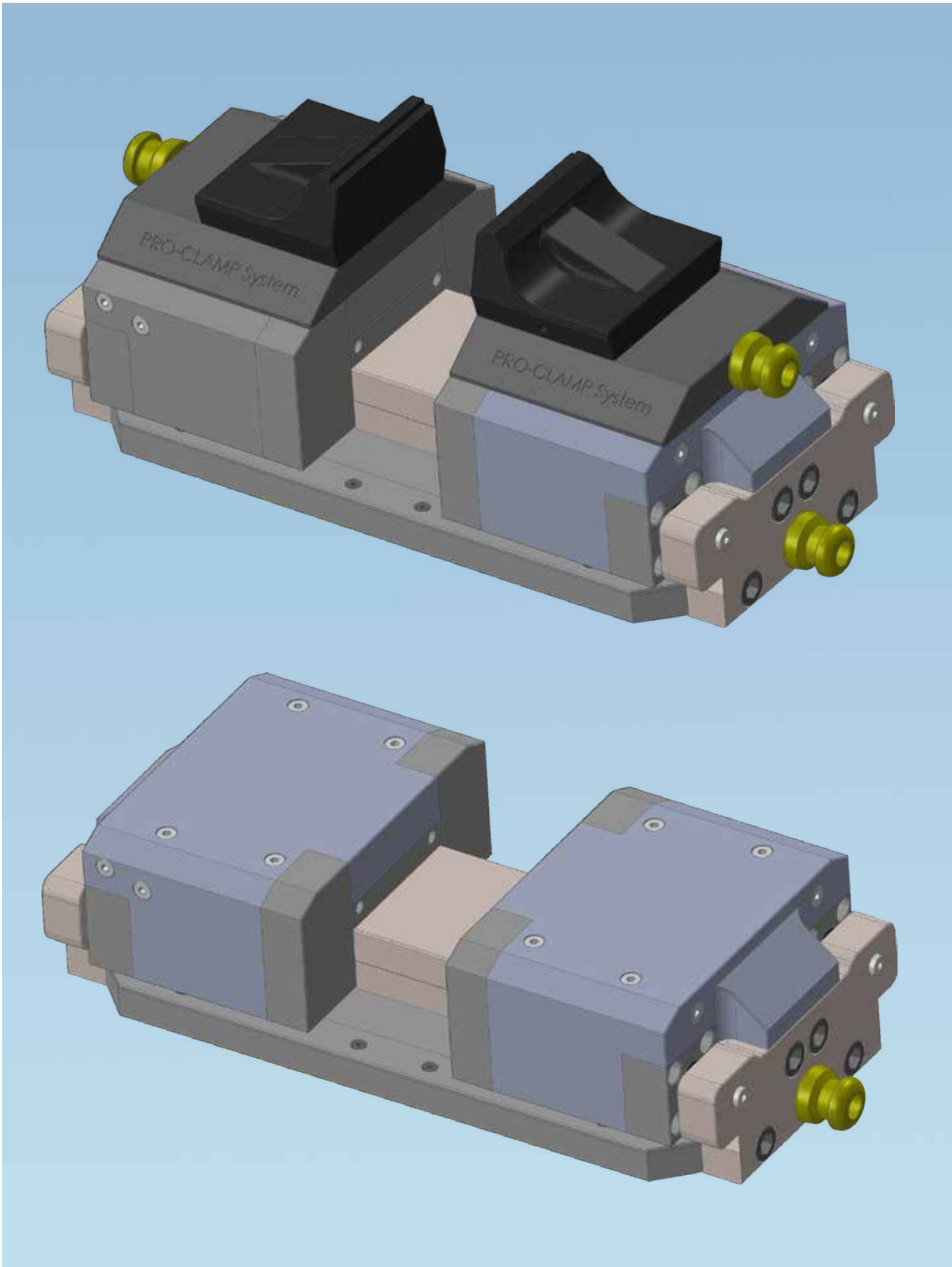
The clamping area is 100 mm, the clamping force is 5 tons, and the weight is 85 Kg. The clamping pull studs are the same for vice and jaws. The movable jaws are locked mechanically and is unclamped with hydraulic by the robot.

The setup is constructed so that the hydraulics pressure, which is used for clamping the work piece, is also used for opening the zero-point-system. When the hydraulics pressure is removed, the jaw will automatically be locked.

As an option a newly developed hydraulics sensor can be installed. It is wireless connected to the machining center with Bluetooth. Using the existing control panel, a constant hydraulics pressure is secured. By drop of pressure the control panel sends a message to the machining center to enter emergency stop.



PRO-CLAMP HYDRAULIC/AUTOMATION



PRO-CLAMP HYDRAULIC/AUTOMATION



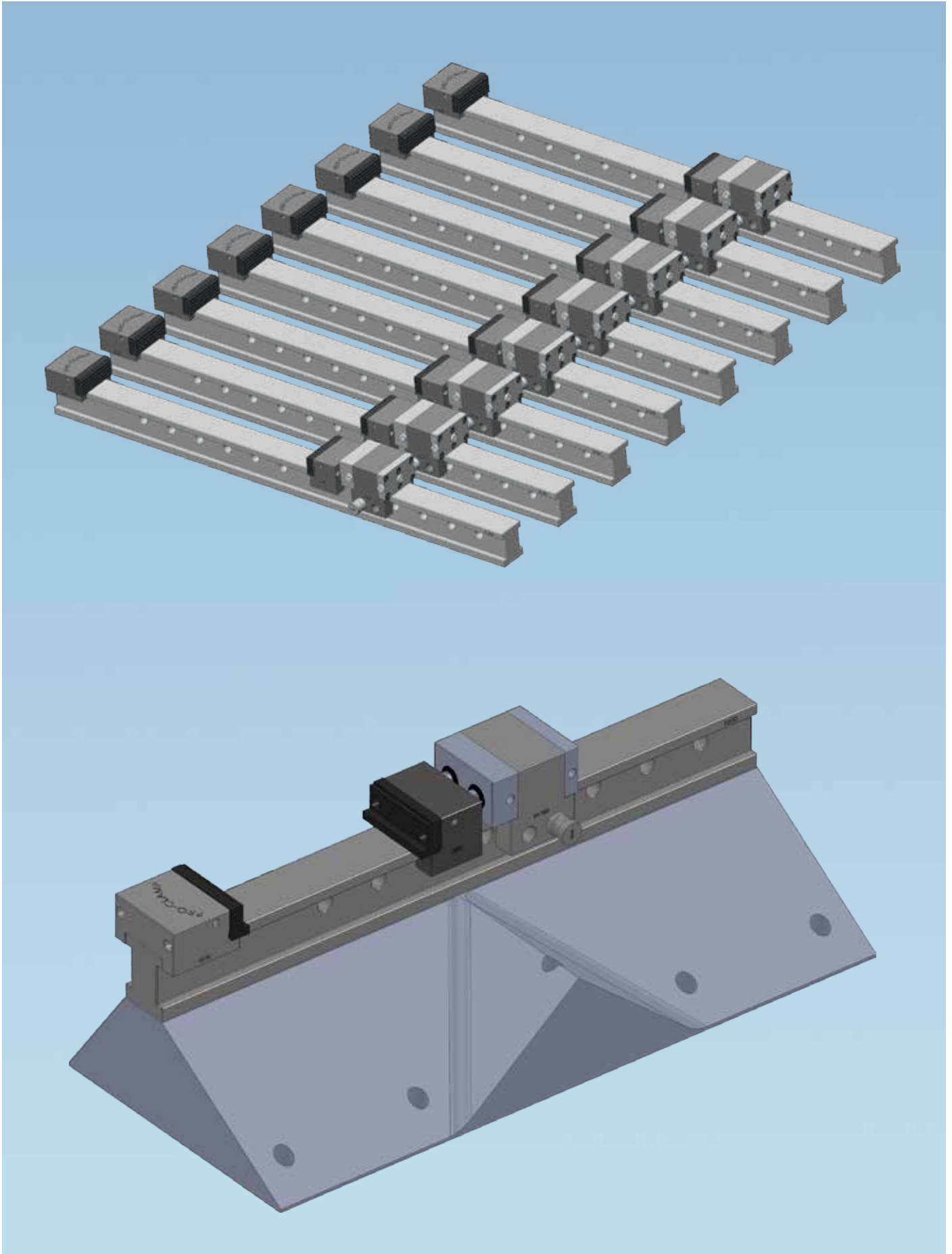
PRO-CLAMP HYDRAULIC/AUTOMATION



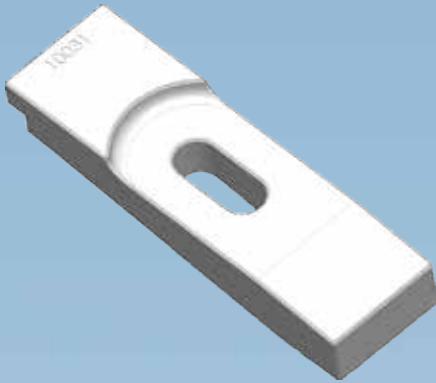
PRO-CLAMP HYDRAULIC/AUTOMATION



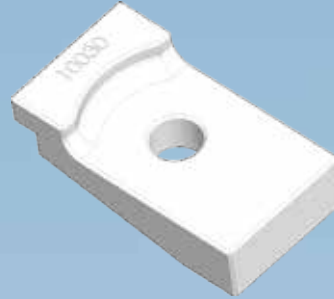
PRO-CLAMP HYDRAULIC/AUTOMATION



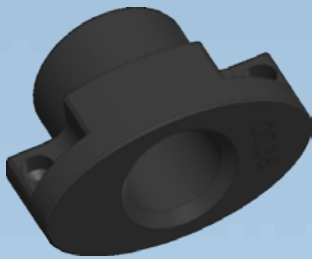
PRO-CLAMP ACCESSORIES



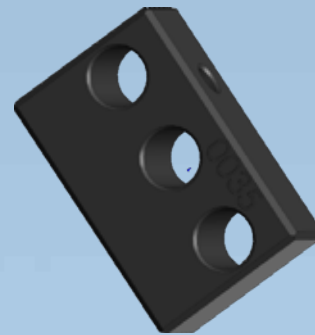
Item No. 10031
Clamping iron, large



Item No. 10030
Clamping iron, small



Item No. 36
Spindle threadpart, hardened



Item No. 35
Wear part

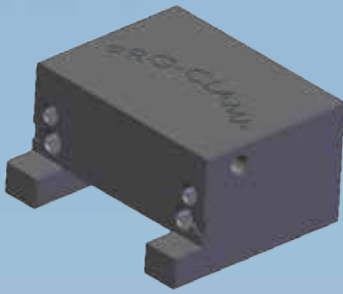


Item No. 31
Spindle

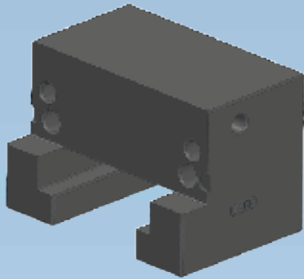


Item No. F 330 + F 320
Locking Pawl, L + R

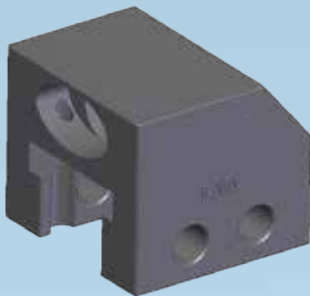
PRO-CLAMP ACCESSORIES



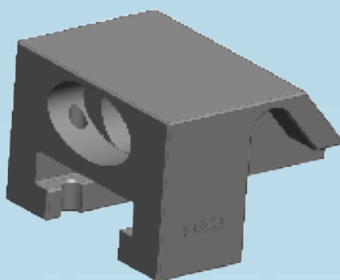
Item No. 100 Fixed Clamping part



Item No. 200 Movable Clamping part

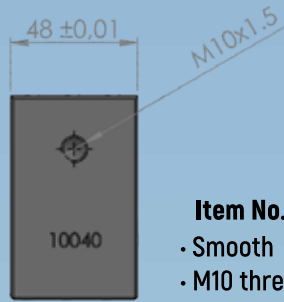
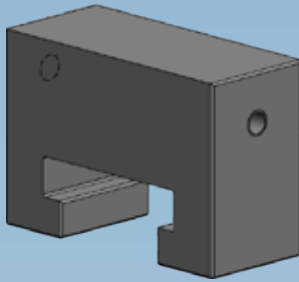


Item No. B300 Spindle Holder Basic

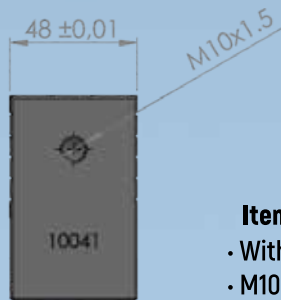
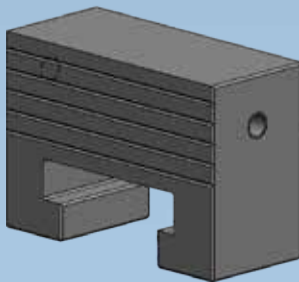


Item No. F300 Spindle Holder Flexible

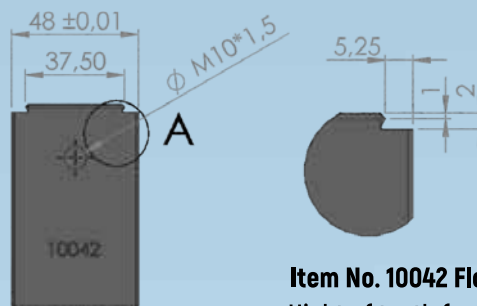
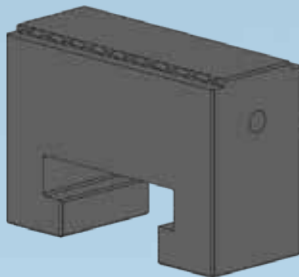
PRO-CLAMP ACCESSORIES



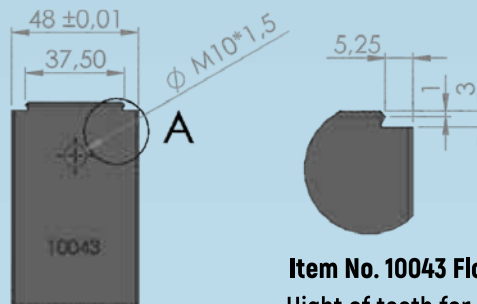
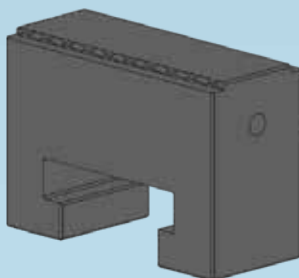
- Item No. 10040 Floating centerjaw-smooth**
- Smooth
 - M10 thread for mounting of work piece stop



- Item No. 10041 Floating centerjaw-with grooves**
- With grooves
 - M10 thread for mounting of work piece stop

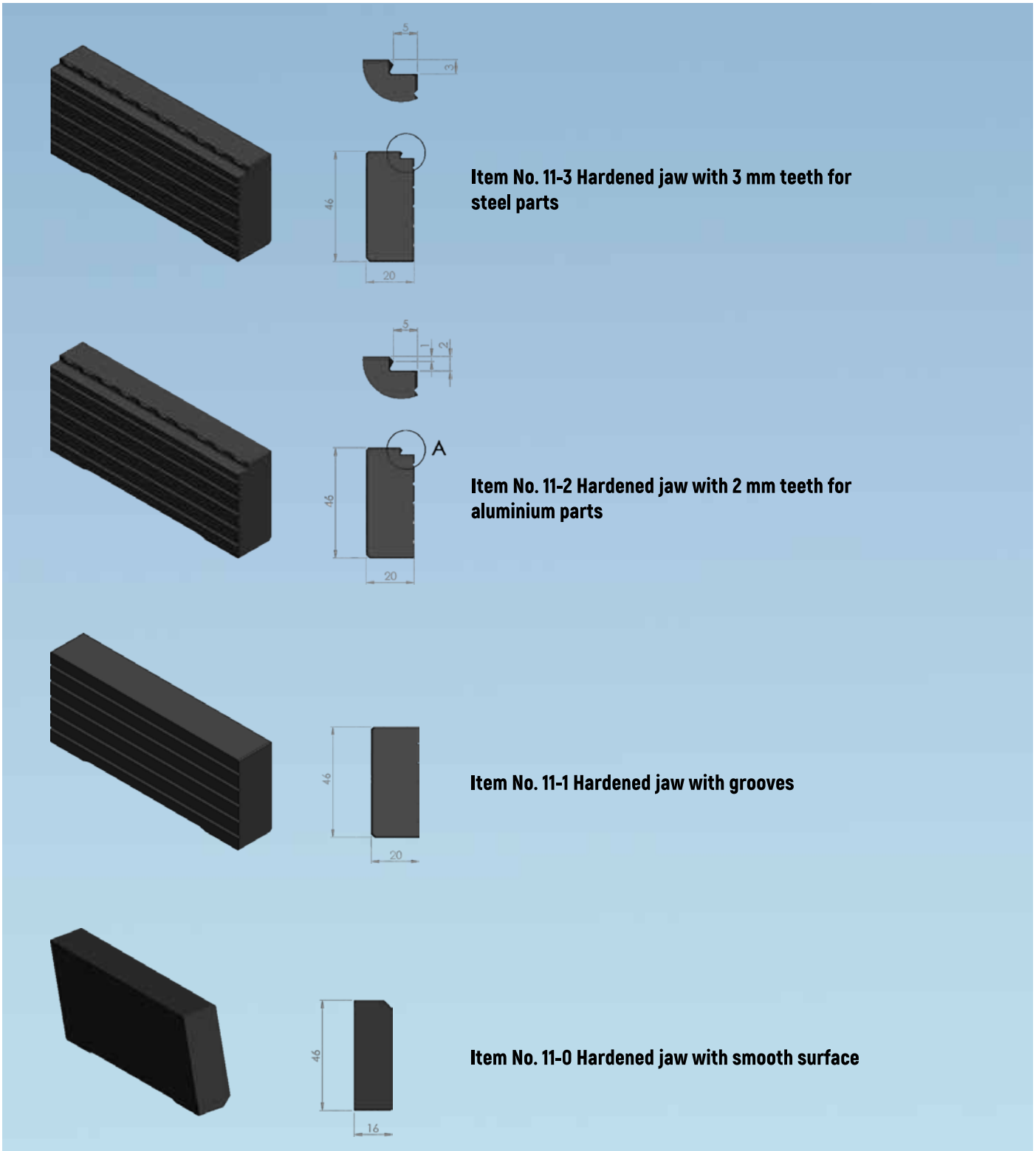


- Item No. 10042 Floating centerjaw with 2 mm teeth**
- Hight of teeth for aluminium: 2 mm
 - M10 Thread for mounting of work piece stop



- Item No. 10043 Floating centerjaw with 3 mm teeth**
- Hight of teeth for steel: 3 mm
 - M10 thread for mounting of work piece stop

PRO-CLAMP ACCESSORIES



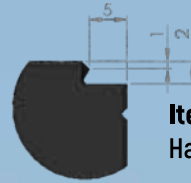
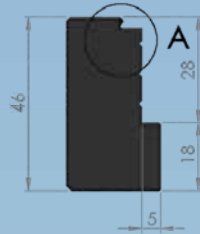
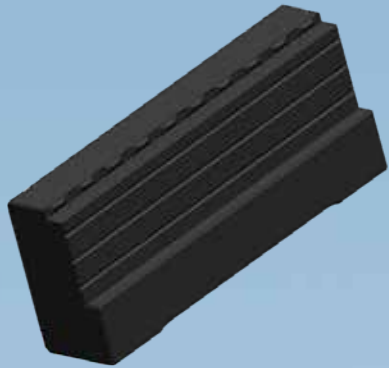
Bakker

Alle hærdede og bløde bakker er monteret med stifter, som sikrer en ensartet placering.

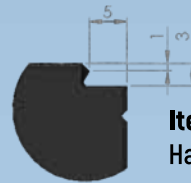
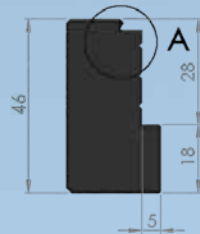
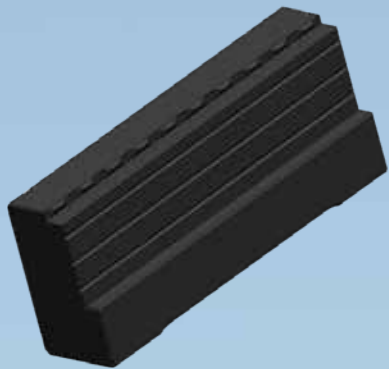
Jaws

All hardened and soft jaws are mounted with precision orientation pins, to ensure the exactness by replacement.

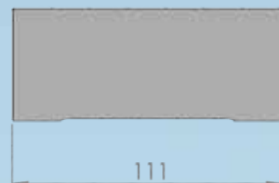
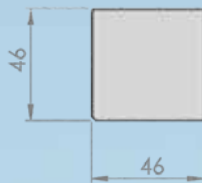
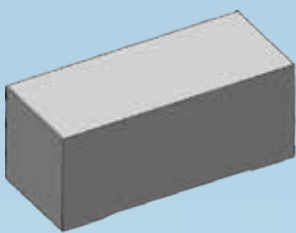
PRO-CLAMP ACCESSORIES



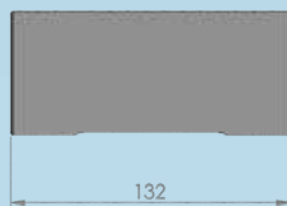
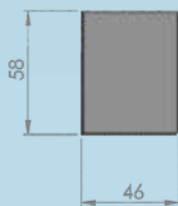
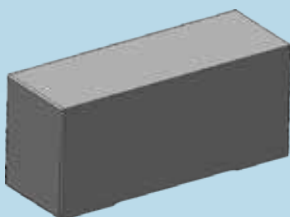
Item No. CT 5 11 - 2
Hardened jaw for 5-Axis Vice



Item No. CT 5 11 - 3
Hardened jaw for 5-Axis Vice



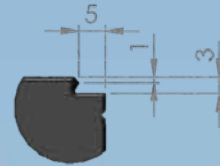
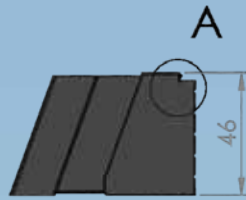
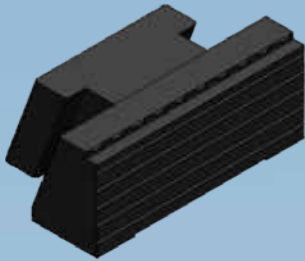
Item No. 12-0 Soft jaw



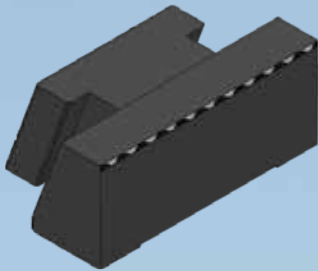
Item No. 13-0 Soft jaw

PRO-CLAMP ACCESSORIES

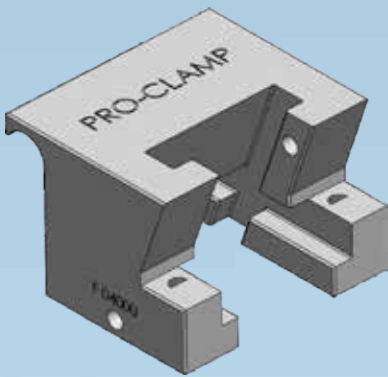
Jaws for fixed/movable



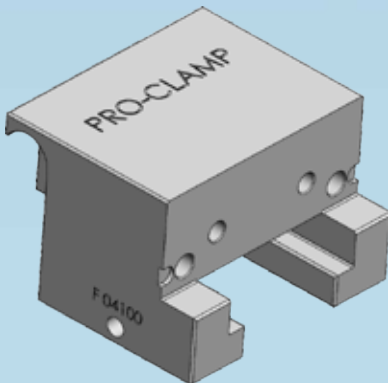
Item No. HB4000
Fast changeable jaw



Jaws for fixed/movable
Item No. -special - on request

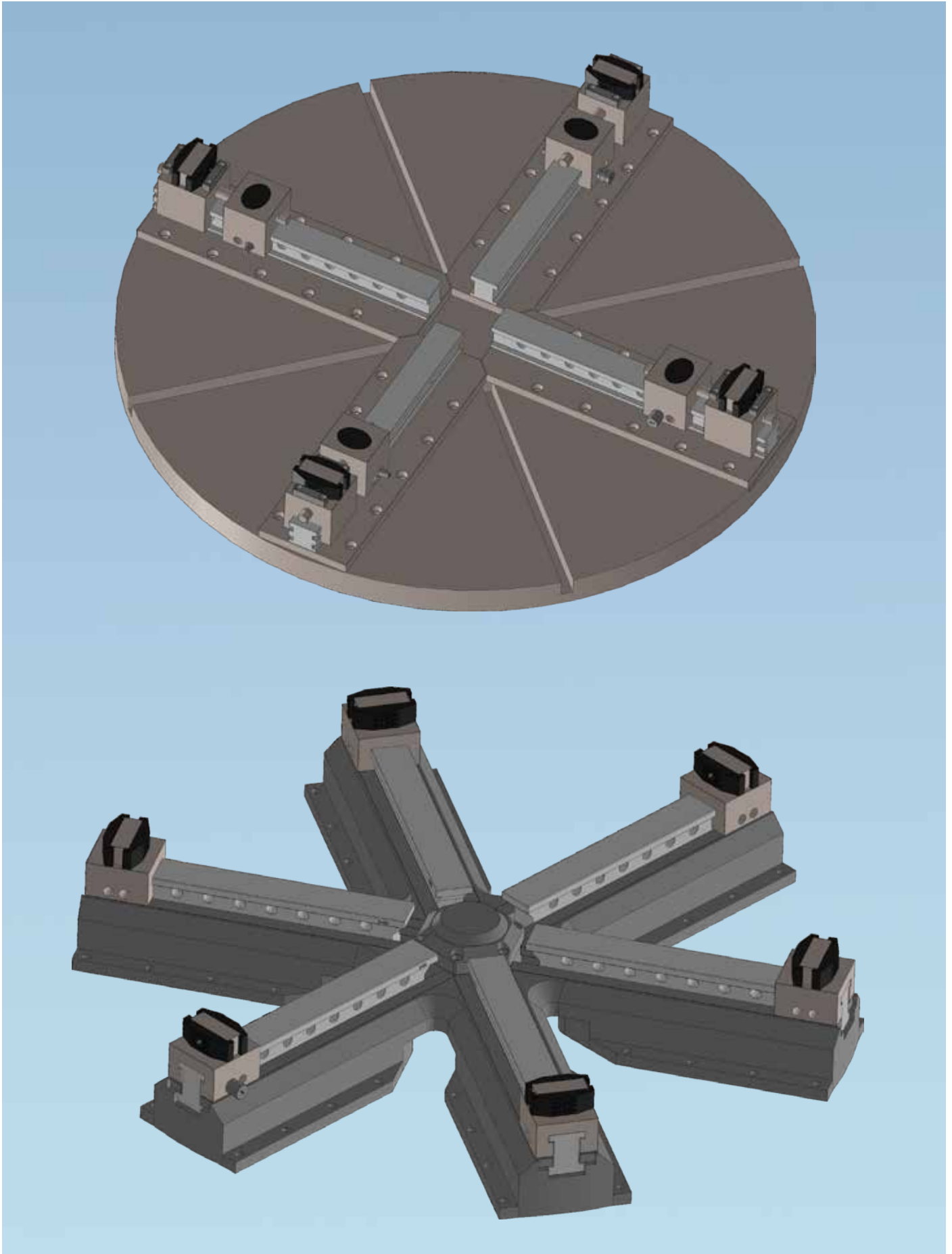


Fixed/movable for quick removable jaw
Item No. F4000

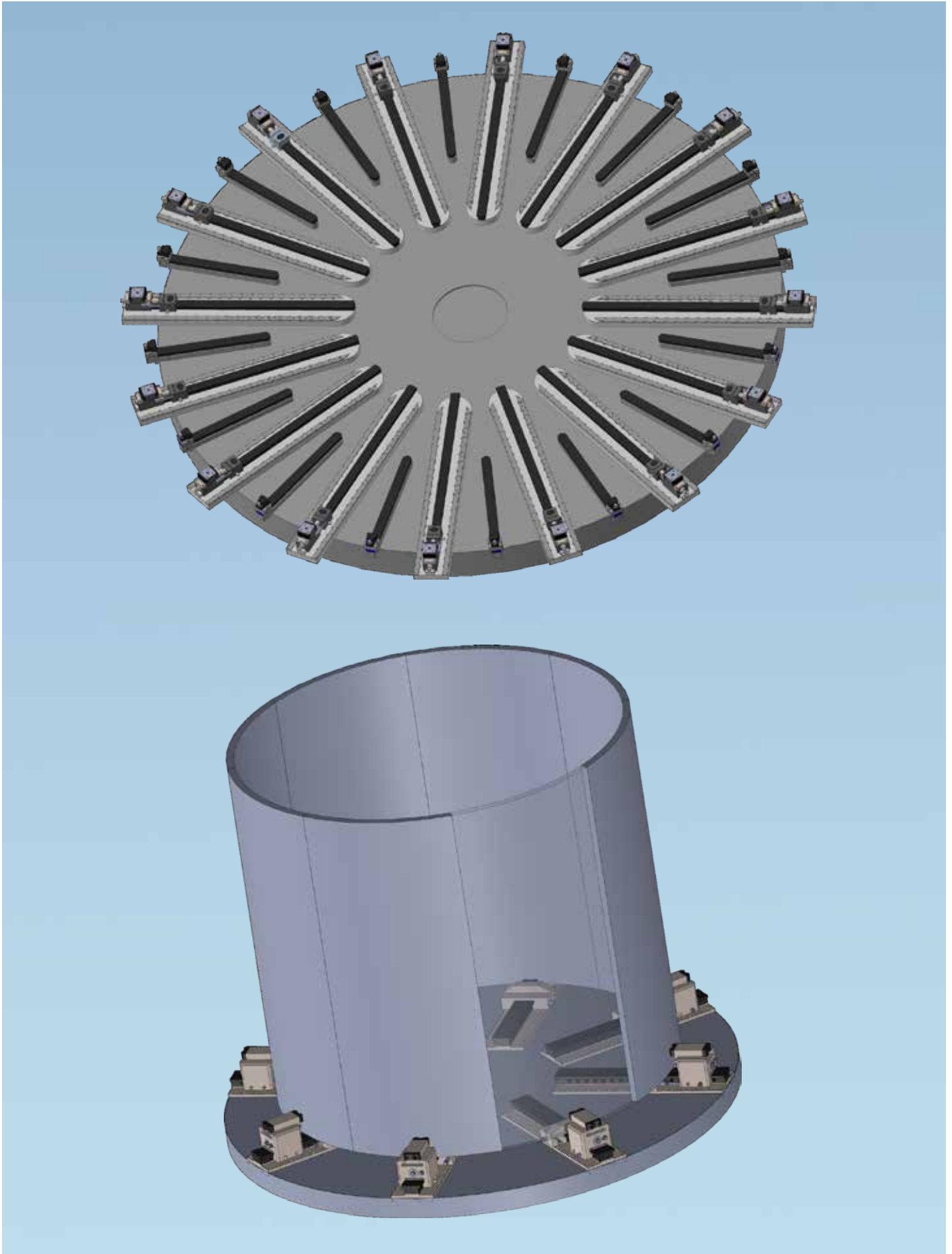


Fixed/movable
Item No. F4100

PRO-CLAMP SPECIAL SOLUTIONS



PRO-CLAMP SPECIAL SOLUTIONS



Polund

PRO-CLAMP Systems

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V4