



SMARTER. RÖHM.

iJaw

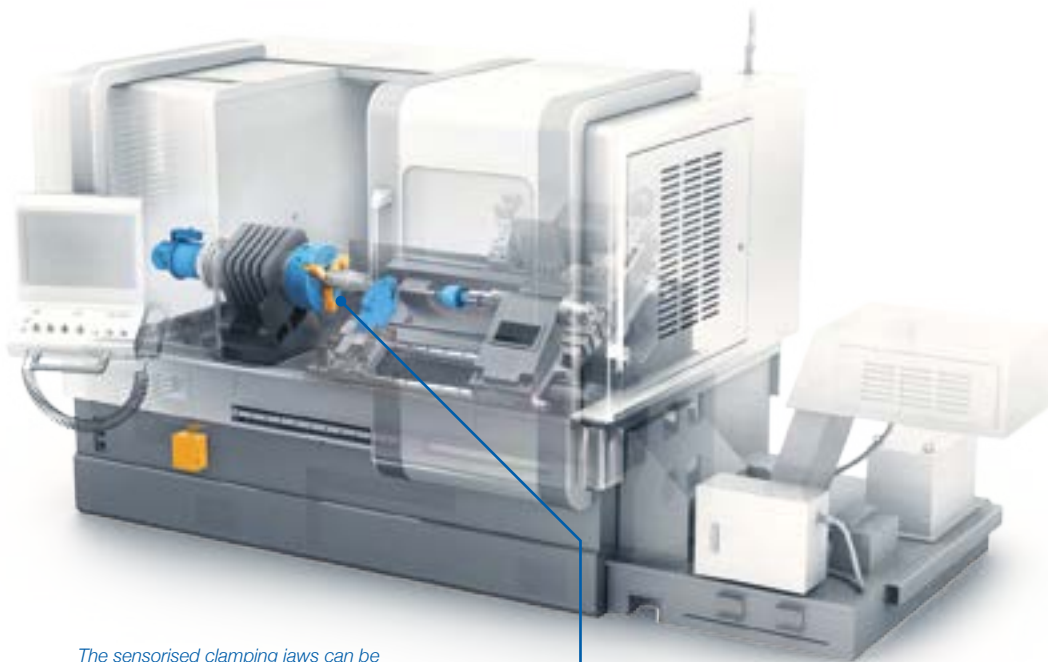
Clamping force
measurement
during machining.

RÖHM

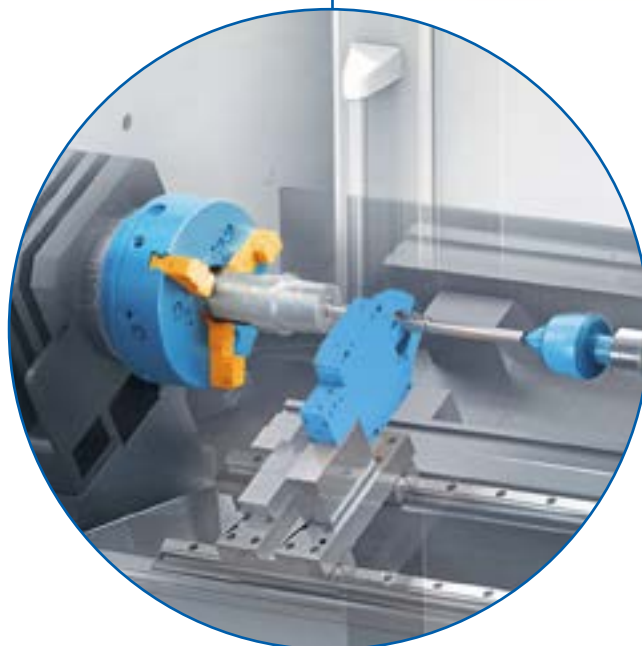
iJaw – CLAMPING FORCE MEASUREMENT DURING MACHINING.

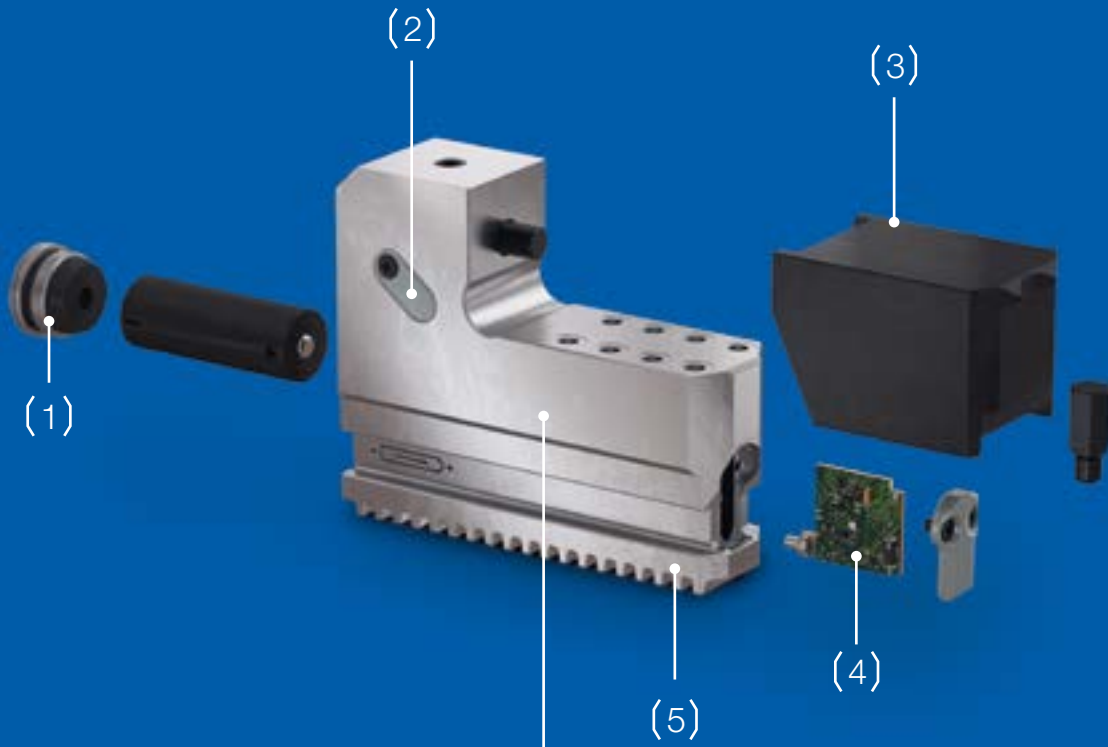
Clamping forces in turning and milling machines can now be measured in real time during machining!

Different physical influences on the applied clamping force are recorded and output. With the analysis of the data, either by the machine operator or automated analysis, machining processes can be made more precise, safer and more efficient.



The sensorised clamping jaws can be used in turning and milling machines.





The jaws of the iJaw can be inserted into many chucks.

-
- (1) Waterproof cover (IP68) Lithium-ion battery
 - (2) Sensor
 - (3) Clamping insert with mounting screw
 - (4) IO-Link Wireless Interface with antenna, or balancing weights for fine balancing
 - (5) Console jaw with straight tothing



A WORKPIECE NARRATES AND YOUR iJaw RECORDS IN REAL TIME.

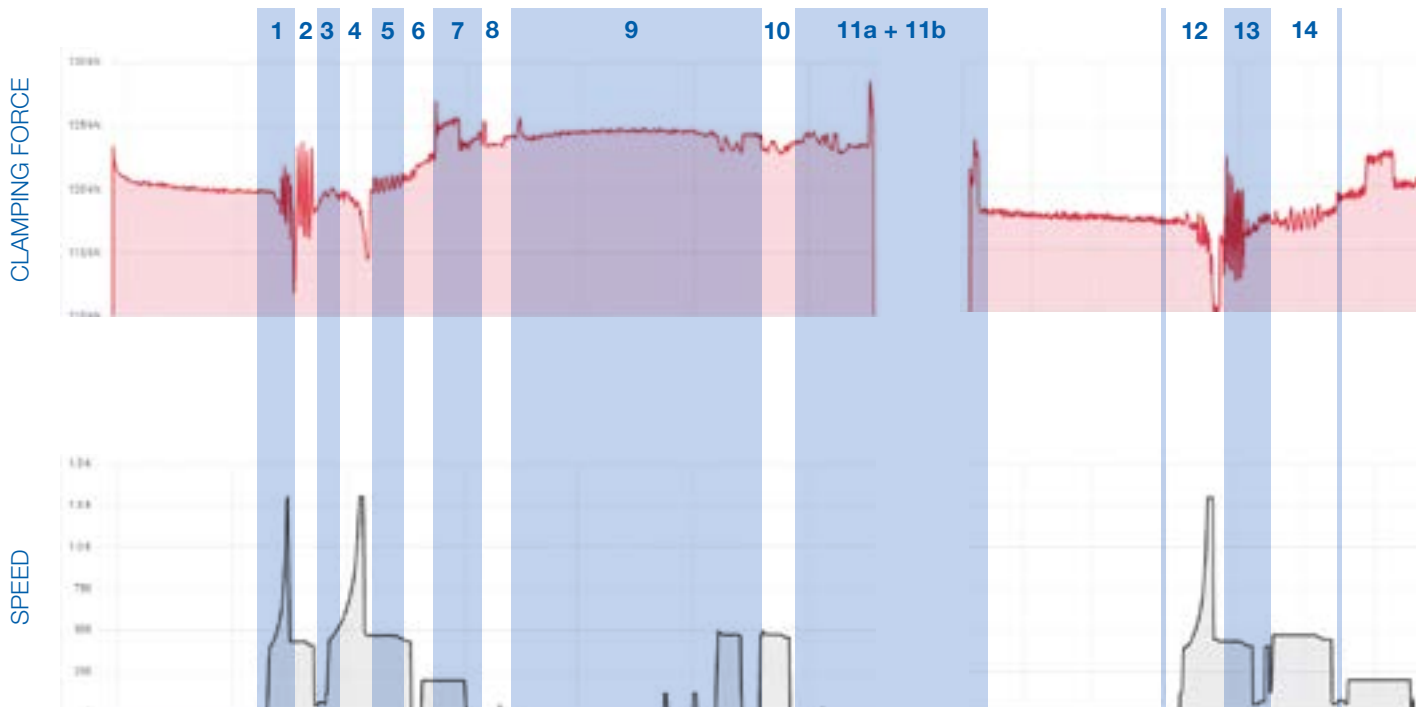
With the iJaw, you measure the clamping forces in real time.

The data is transmitted wirelessly to the gateway via IO-Link Wireless and can be passed on from there via Profinet to the machine or via WLAN to the iJaw Mobile App.

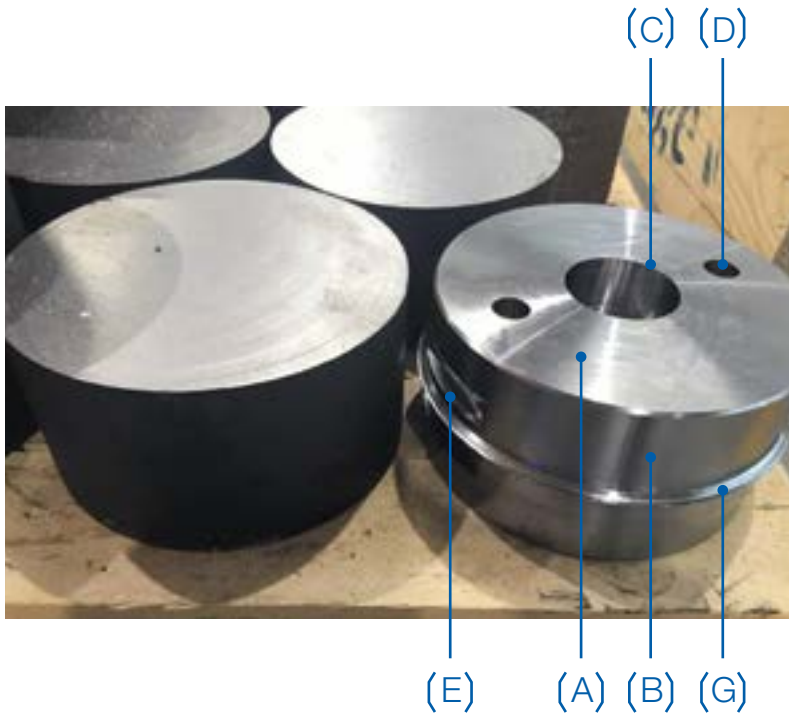
The example below shows the production of a turned part in series production on a multi-spindle lathe. An automatic power chuck with a jaws quick-change system of the type Duro-A RC 315 and a set of iJaw clamping jaws are used on each of the two spindles.

MACHINING ON THE MAIN SPINDLE

SUBSEQUENT MACHINING ON THE COUNTER SPINDLE



MACHINING STEPS



Turning, milling and drilling of turning blanks (left) on a multi-spindle machine. Right: finished workpiece

- 1 Facing (roughing) of the surface **A**. Turning up the spindle causes a reduction of the clamping force due to the centrifugal forces.
- 2 Facing (roughing) of surface **B**
- 3 Tool change
- 4 Facing (finishing) of surface **A**. Again decrease of the clamping force due to the centrifugal forces increasing with the speed.
- 5 Turning (finishing) of surface **B**.
- 6 Drilling of hole **C**
- 7 Drilling of hole **D**
- 8 Turning milling **E**
- 9 Turning of clamping seat **G**
- 10 Surface milling
- 11 a Transfer from main spindle to counter spindle;
+
11 b Increase of clamping force due to axial offset of both spindles
- 12 Facing
- 13 Turning (roughing)
- 14 Turning (finishing)

THIS IS WHAT THE iJaw STANDS FOR:

MORE PRODUCTIVITY

LOWER COSTS

GREATER SAFETY

With the iJaw, clamping forces can be measured and visualized in real-time during machining.

The influences on the workpiece due to machining are recorded and allow conclusions to be drawn about the machining that has taken place as well as a wide range of analyses and evaluations.





THE USE OF THE DETERMINED DATA ENABLES:

- Reduction of cycle times per workpiece
- Analysis and optimization of productivity in production
- Quality assurance in series production
- Increase of safety during production
- Optimal clamping of thin-walled components
- Documentation and analysis of past manufacturing processes

REDUCTION OF THE CYCLE TIME

The visualization of effective forces on the tool and workpiece during the machining process opens up completely new possibilities for optimizing the machining process. Now machine operators and process optimizers can rely on measured data when they want to speed up machining processes.



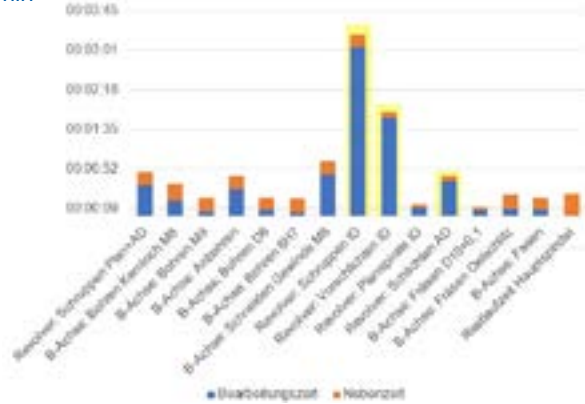
Reduction of parts costs using the example of a Röh m piston housing hydraulic cylinder

HIGH TIME SAVINGS IN SERIES PRODUCTION

Knowing the right effective forces means approaching the workpiece with the maximum possible machining forces. Feed and speed are optimally adjusted so that the machining time for a workpiece can be dramatically reduced. Not only in series production does this mean more throughput and lower part costs.

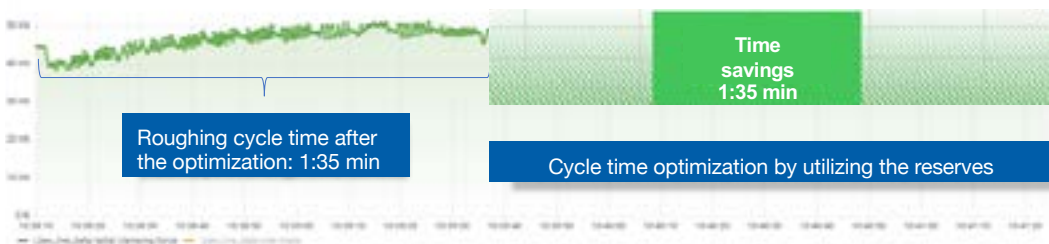
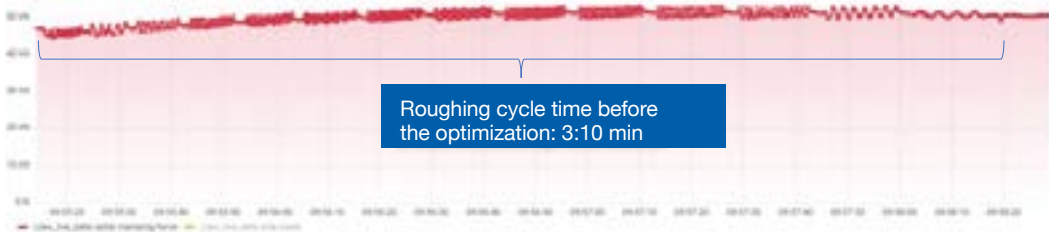
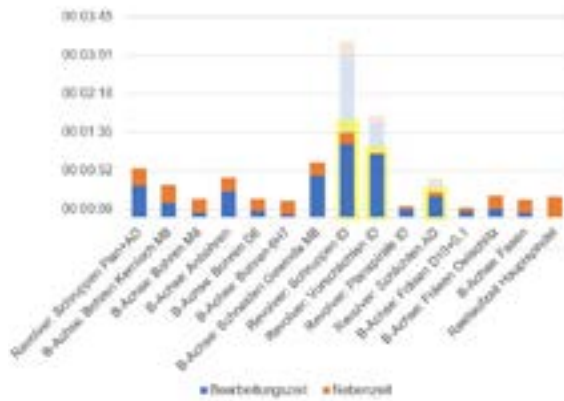
BEFORE OPTIMIZATION

Total running time including handover: 12:25 min



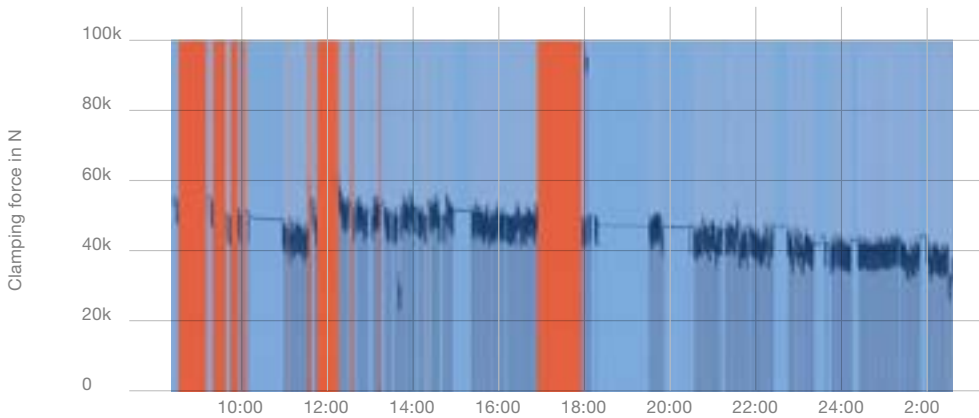
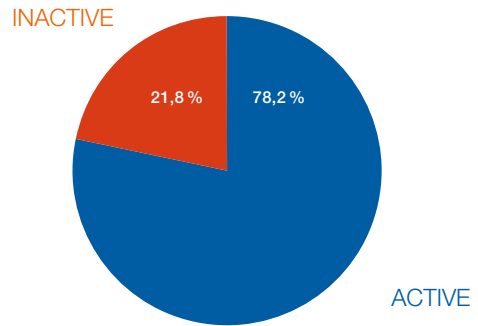
AFTER OPTIMIZATION

Total running time including handover: 09:45 min (-2:40 min)



ANALYSIS AND OPTIMIZATION OF PRODUCTIVITY IN PRODUCTION

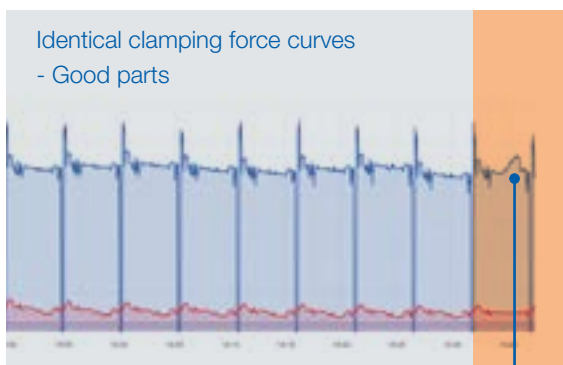
Why is the machine down? When does it do chip removal? How productive is it? These are all questions that you can also answer with the iJaw. A simple analysis shows you uptime and downtime. This allows you to start further analyses at shop floor level and optimization. Especially in times of rising energy costs, optimization of production processes is a must. The iJaw makes potentials transparent!



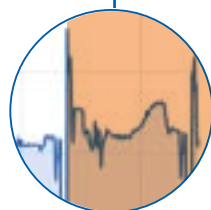
Especially in times of rising manufacturing costs, optimization of production processes is a must. The iJaw makes potentials transparent.

QUALITY ASSURANCE IN SERIES PRODUCTION

The iJaw measures the clamping force between the clamping jaw and workpiece in real-time. The clamping force curve is like the fingerprint of the production step. Each component has its own signature. Significant deviations from part to part in series production indicate malfunctions and faulty production. Parts with a deviating fingerprint can be identified quickly. This speeds up quality assurance and reduces costs.



Each workpiece has its own fingerprint. This pattern enables a data-supported quality check. Outliers are quickly identified.

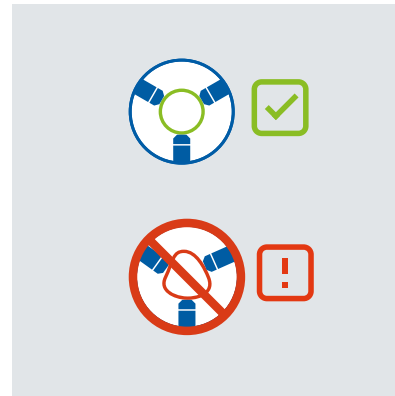


Deviating clamping force curves - Suspicious part

- Detection of rejects
- Sorting out before the next processing step saves follow-up costs

OPTIMAL CLAMPING OF THIN-WALLED WORKPIECES

If you machine thin-walled components, then you may be familiar with the problem of deformation when the clamping force is too high. The iJaw helps you to clamp workpieces with exactly the required force and thus prevent deformation of the parts – and thus rejects.

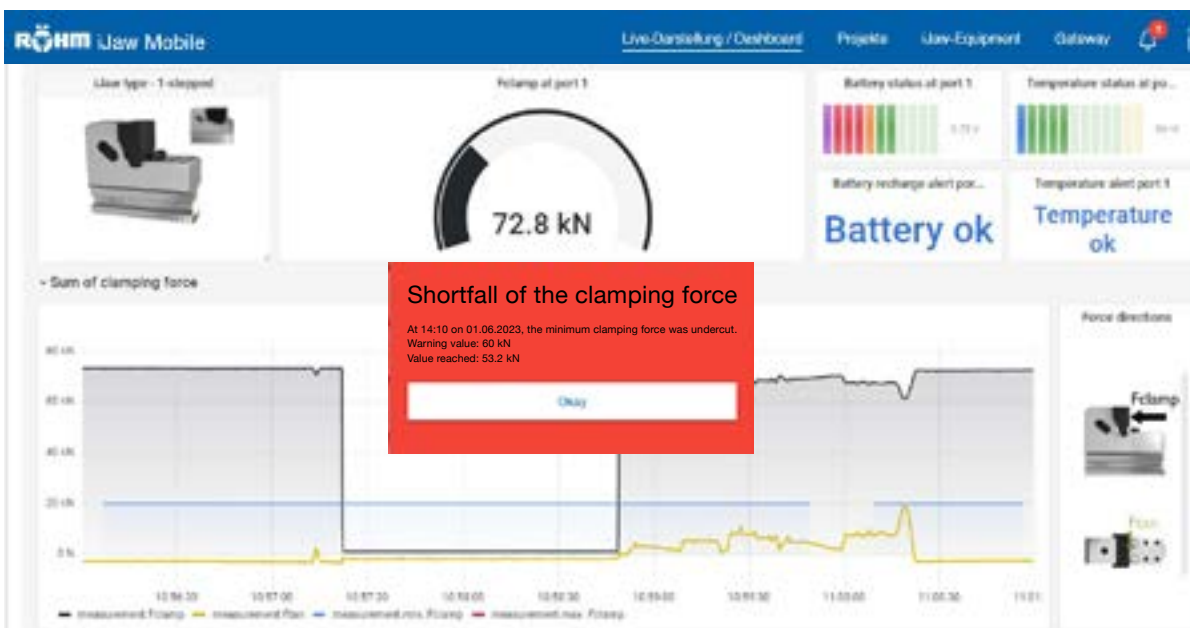


- Clamping with exactly the right force
- No deformation of thin-walled components

INCREASE OF SAFETY DURING PRODUCTION

With the iJaw, you can see the clamping forces applied during the machining process in real-time. By knowing the minimum and maximum clamping forces, you can set up alarms when the applied clamping force

is exceeded or not reached. This makes machining safer for people and materials, because you protect your employees and avoid costly accidents.



DOCUMENTATION AND ANALYSIS OF MANUFACTURING PROCESSES

Fulfilment of the verification obligation

With the iJaw, clamping forces can be measured and archived and thus documented. At any time after machining, the manufacturing process can be traced.

Carrying out analyses

The clamping force data is stored and thus documents the machining process.

The production of critical components can thus also be analysed retrospectively. This is, for example, for damage analysis or to investigate weak points in complex and lengthy manufacturing processes.



HMI CONNECTION

By HMI connection we mean the integration of the iJaw functions into the controller of the machine tool by the manufacturer. The iJaw data can be transmitted to the machine via the universal gateway. The machine controller then has real-time read access to the data. It can be used for control, regulation and visualization purposes.

**THE OEM SOLUTION
MAKES THE FOLLOWING
FUNCTIONS
AVAILABLE TO YOU:**

BASIC FUNCTIONS

- Measurement of the clamping forces of internal and external clamping at a standstill and under rotation
- Setting the minimum and maximum clamping force
- Temperature of the iJaw
- Charging status of the battery

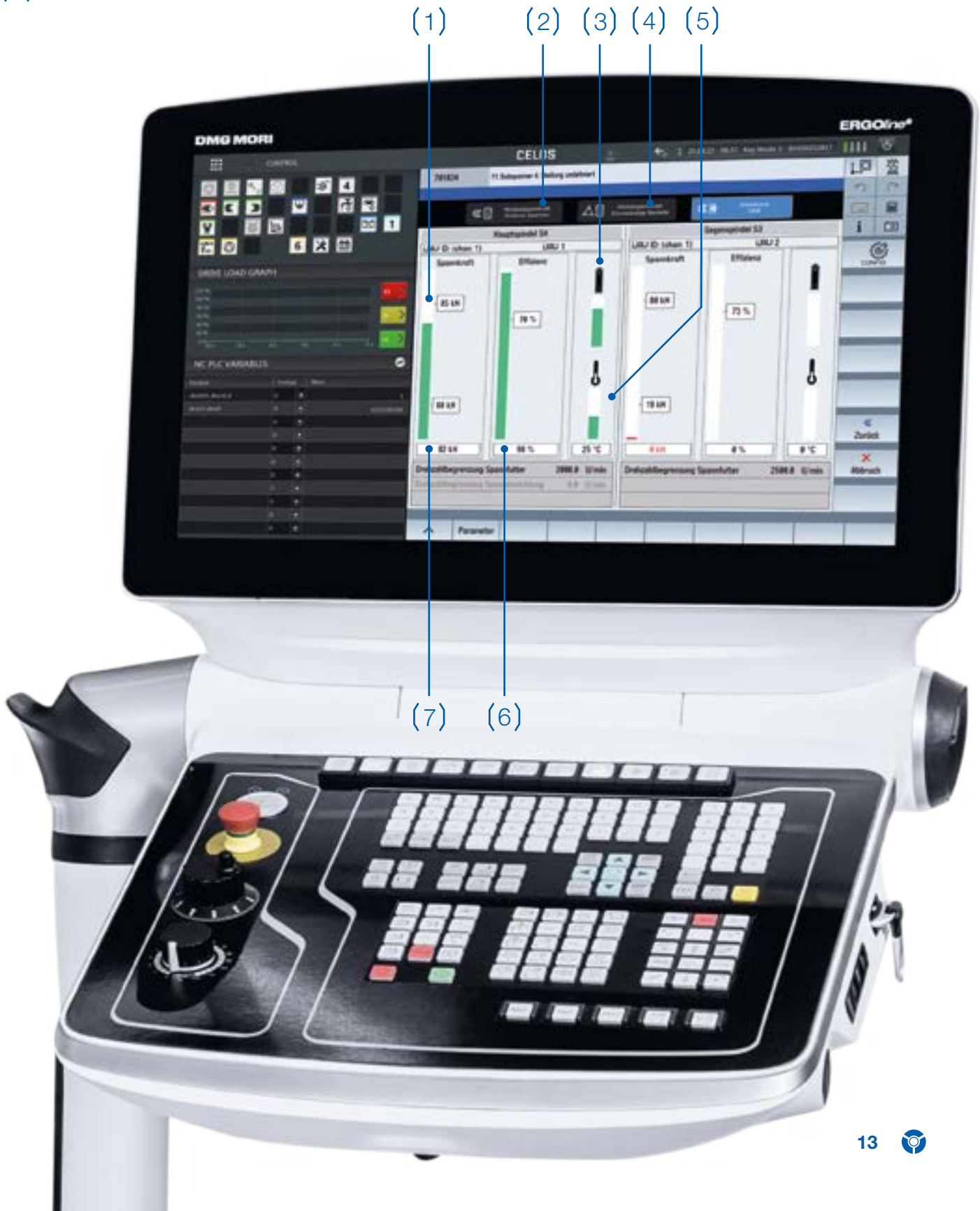
POSSIBLE APPLICATIONS:

- Setting the minimum and maximum clamping force
- Alarm for undercutting and exceeding the minimum and maximum clamping force
- Limitation of the maximum speed to avoid undercutting of the clamping force
- Active control of the clamping pressure at a standstill
- Trend analysis for chuck condition
- Calculation tool for the minimum clamping force
- Triggering of machine stop if clamping force falls below the minimum clamping force
- And much more

GOOD TO KNOW

OEM solution can be obtained via machine manufacturers.
Please contact your machine manufacturers.

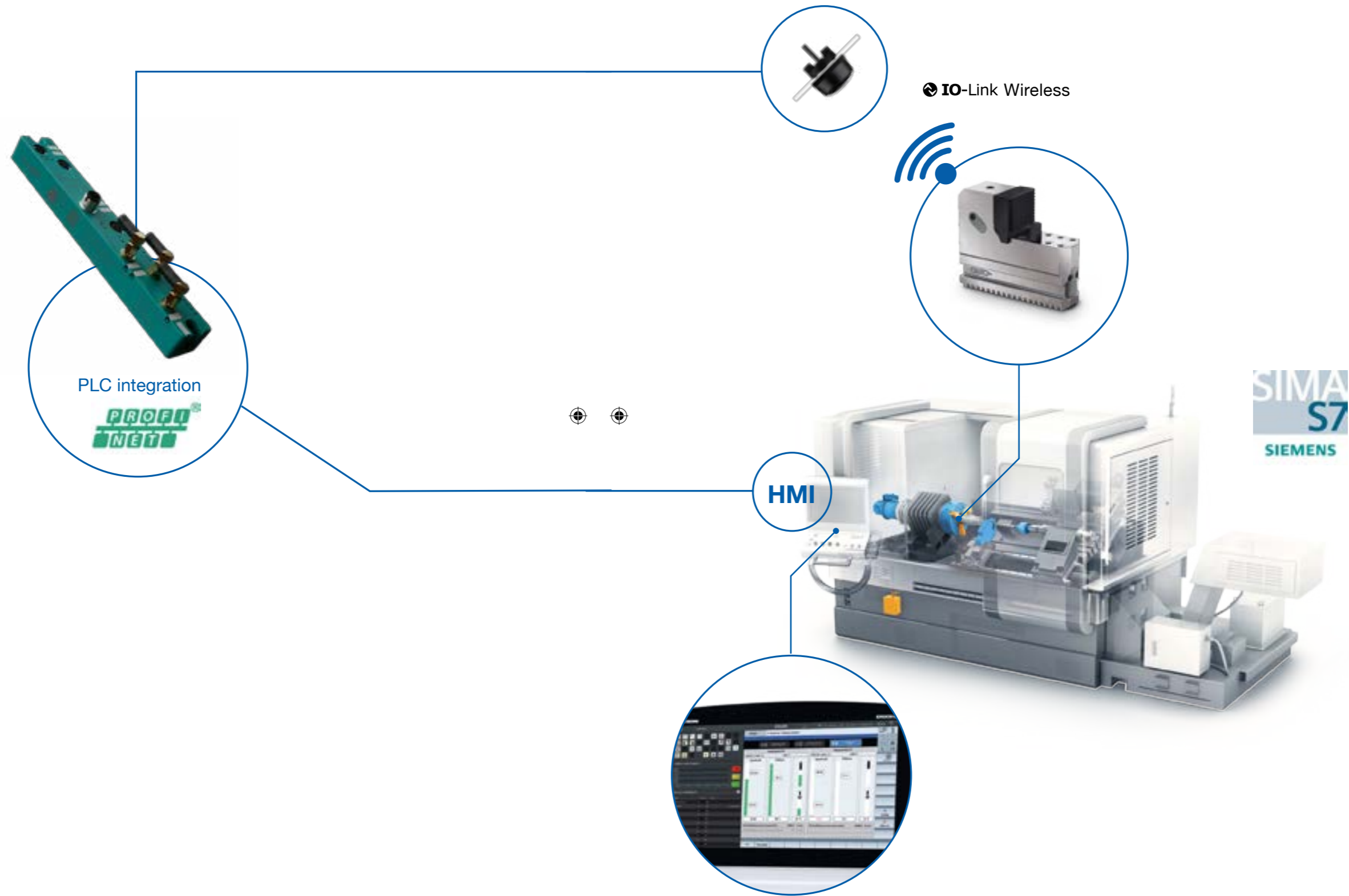
- (1) Real-time display of clamping forces
- (2) Calculation of the minimum clamping force
- (3) Battery charge status display
- (4) Clamping force calculation for different applications
- (5) Temperature display of the iJaw
- (6) Chuck efficiency / condition of the chuck
- (7) Numerical clamping force display



iJaw HARDWARE ARCHITECTURE

OEM SOLUTION

1. OEM solution/PLC integration



AFTER MARKET SOLUTION – THE RETROFIT SOLUTION

Machine tools can be equipped with the iJaw very easily. For this you only need the sensorized clamping jaws, the iJaw Connect control cabinet and a medium for visualizing the measured data. This can be a local PC or a mobile tablet. The system is controlled by the iJaw Mobile web app. With this application, you establish the connection between the iJaw and the iJaw Connect so that you can retrieve the data. You can create jobs, manage your jaws and receive warnings via it, e.g. if the minimum clamping force has not been reached.

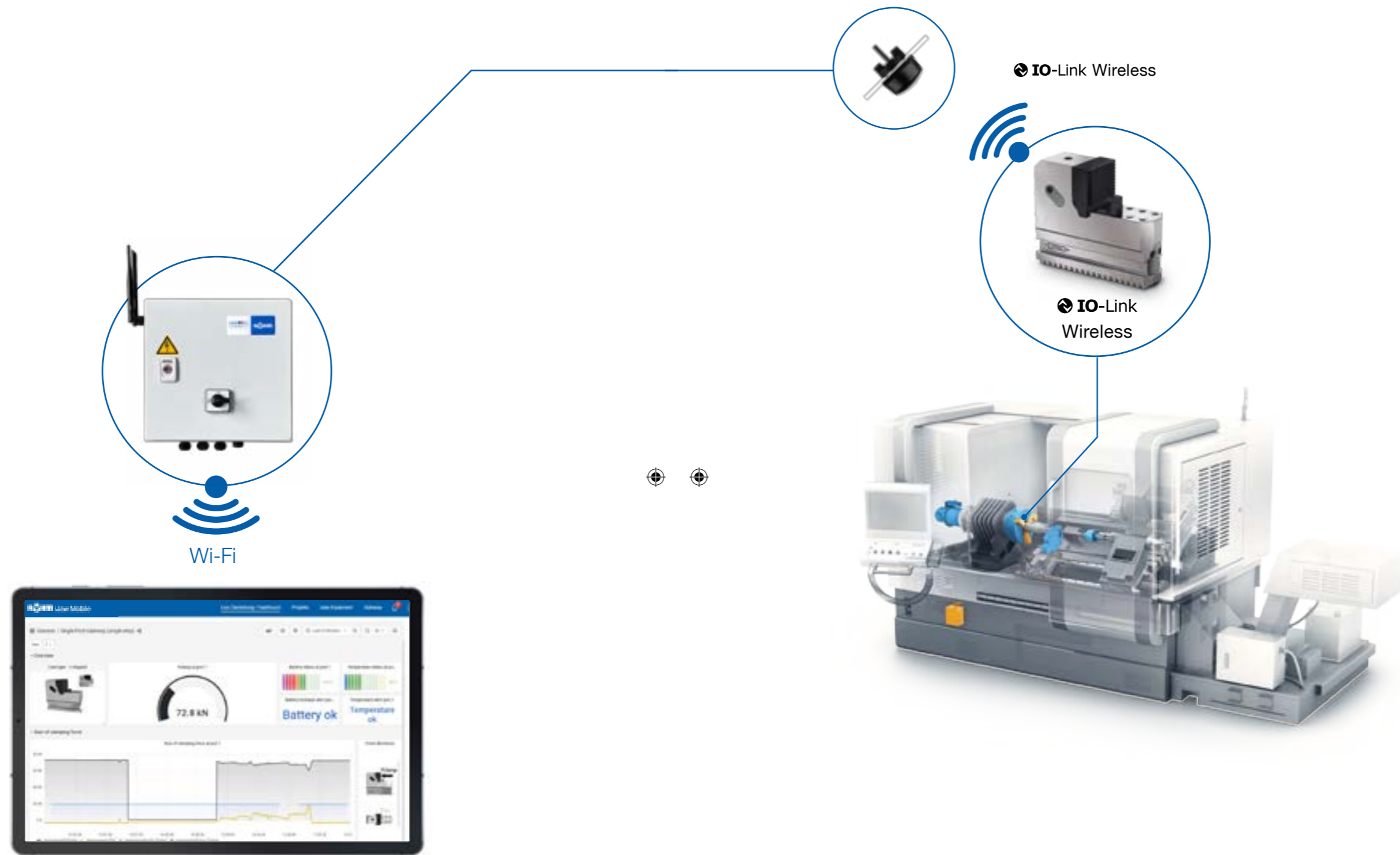
**THE RETROFIT SOLUTION
MAKES THE FOLLOWING
FUNCTIONS AVAILABLE
TO YOU:**

FUNCTIONAL OVERVIEW:

- Measurement of the clamping forces of internal and external clamping at a standstill and under rotation
- Display of minimum and maximum clamping force
- Alarm when clamping force limit is exceeded or not reached
- Display of the clamping force curve on one or two spindles
- Productivity analysis from stored clamping force data
- Quality analysis with stored clamping force data
- Documentation of clamping force data
- Overview of all created projects
- Temperature of the iJaw
- Charging status of the battery



iJaw HARDWARE ARCHITECTURE AFTER MARKET SOLUTION





THE iJaw. FROM RÖHM.

The iJaw is a sensor-integrated clamping jaw for clamping workpieces by means of manual or power-operated chucks.

With the iJaw, the clamping forces can be measured in real-time during machining.

The measured data is transmitted wirelessly via the IO-Link Wireless protocol. The iJaw Mobile Software is used for display and analysis. For example, by monitoring the clamping forces, a higher level of safety can be ensured during machining and lower part costs can be realized.





iJaw
single-stage



iJaw
two-stage



iJaw
through-hole



(1) Console jaw, single-stage iJaw

(2) Clamping insert, single-stage iJaw

(3) Face contact bolts

(4) Console jaw, two-stage iJaw

(5) Clamping insert, two-stage iJaw

(6) Console jaw, through-hole iJaw

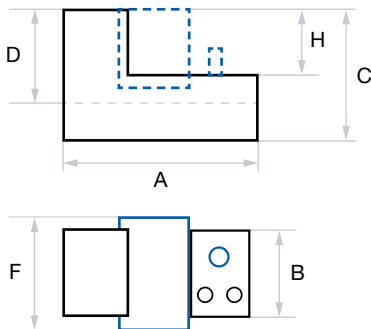
(7) Clamping insert, through-hole, hard iJaw





iJaw – SINGLE-STAGE – TECHNICAL SPECIFICATIONS

| Size | 215 | 260 | 315 | 400 |
|---|---|-------|---|-------|
| Clamping height per clamping stage [mm] | 30 | 35 | 40 | 45 |
| Max. speed external clamping [rpm] | 6,000 | 4,700 | 4,000 | 3,500 |
| Max. speed internal clamping [rpm] | 2,000 | 2,000 | 2,000 | 2,000 |
| Clamping force up to [kN] | 100 | 135 | 180 | 240 |
| Max. distance iJaw – antenna [m] (feet) | 15 (49.2) | | | |
| Battery time | 1,400 mAh up to 304 h [5 days (depending on transmission rate)] | | 2,300 mAh up to 504 h [7 days (depending on transmission rate)] | |
| Radio frequency [GHz] | 2.4 – 2.48 | | | |
| Transmission rate [Hz] | 100 | | | |
| Toothing | straight toothing | | | |



| Size | 215 | 260 | 315 | 400 |
|---------------------------|---------|---------|---------|---------|
| ID no. iJaw Set | 1392813 | 1391677 | 1392225 | 1393697 |
| Jaw length A | 94.5 | 109.5 | 118.9 | 127.5 |
| Jaw length B | 30 | 32 | 32 | 38 |
| Jaw length C | 82 | 90 | 100 | 106 |
| Overhang length* D | 57.4 | 61.5 | 66.3 | 72.3 |
| Clamping height H | 30 | 35 | 40 | 45 |
| Thread face contact bolts | M6 | M6 | M6 | M8 |

* Measured with a DURO-A RC power chuck

iJaw – SINGLE-STAGE – CLAMPING RANGES

External clamping



Internal clamping



Through-hole clamping



215

| Type | Clamping insert short, hard | Clamping insert long, hard | Clamping insert short, hard, claws | Clamping insert long, hard, claws | Clamping insert through-hole, hard | Clamping insert soft |
|----------------------------|-----------------------------|----------------------------|------------------------------------|-----------------------------------|------------------------------------|----------------------|
| ID no. Clamping insert set | 1392817 | 1392819 | 1392825 | 1392827 | 1392823 | 1392821 |
| Clamping diameter A1 | | | | | 8 - 90 | |
| Clamping diameter A2 | 94 - 177 | 43 - 125 | 94 - 174 | 42 - 122 | | 6 - 90 |
| Clamping diameter J1 | 128 - 201 | 180 - 215 | 130 - 200 | 181 - 215 | | 130 - 215 |

260

| Type | Clamping insert short, hard | Clamping insert long, hard | Clamping insert short, hard, claws | Clamping insert long, hard, claws | Clamping insert through-hole, hard | Clamping insert soft |
|----------------------------|-----------------------------|----------------------------|------------------------------------|-----------------------------------|------------------------------------|----------------------|
| ID no. Clamping insert set | 1391685 | 1391687 | 1389829 | 1389831 | 1391681 | 1391683 |
| Clamping diameter A1 | | | | | 13 - 112 | |
| Clamping diameter A2 | 120 - 219 | 48 - 147 | 116 - 215 | 44 - 143 | | 20 - 219 |
| Clamping diameter J1 | 131 - 230 | 203 - 260 | 136 - 230 | 207 - 260 | | 134 - 260 |

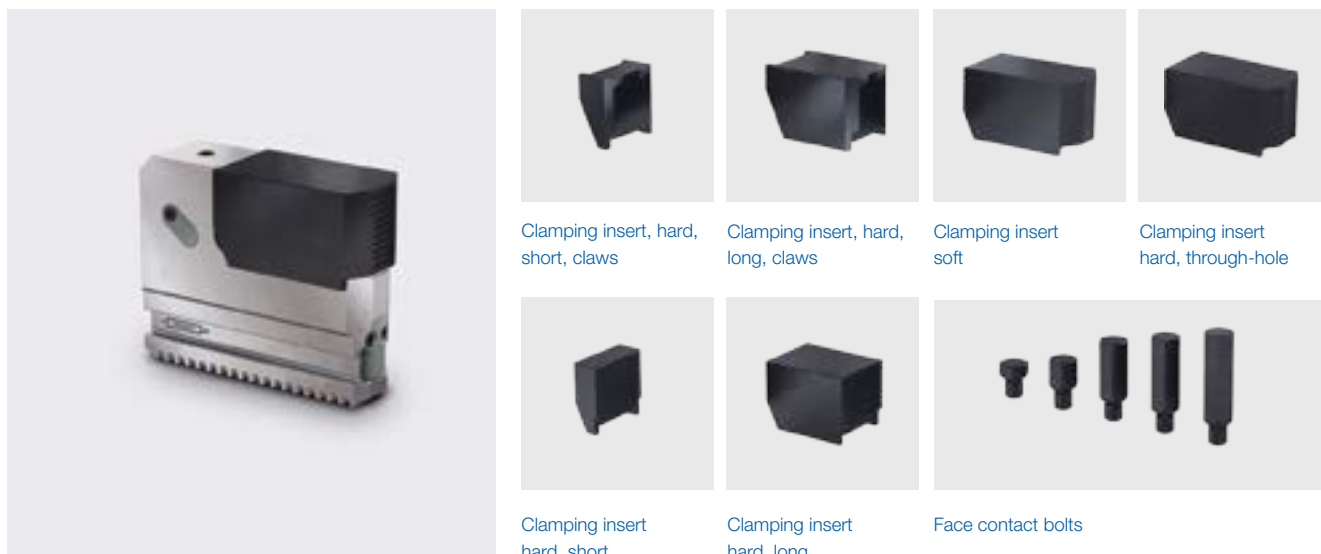
315

| Type | Clamping insert short, hard | Clamping insert long, hard | Clamping insert short, hard, claws | Clamping insert long, hard, claws | Clamping insert through-hole, hard | Clamping insert soft |
|----------------------------|-----------------------------|----------------------------|------------------------------------|-----------------------------------|------------------------------------|----------------------|
| ID no. Clamping insert set | 1392229 | 1392231 | 1392237 | 1392239 | 1392235 | 1392233 |
| Clamping diameter A1 | | | | | 35 - 145 | |
| Clamping diameter A2 | 139 - 249 | 67 - 177 | 139 - 249 | 72 - 177 | | 18 - 251 |
| Clamping diameter J1 | 177 - 287 | 249 - 315 | 176 - 286 | 247 - 315 | | 175 - 315 |

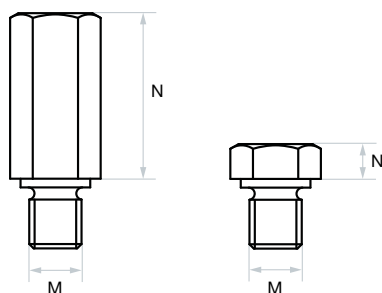
400

| Type | Clamping insert short, hard | Clamping insert long, hard | Clamping insert short, hard, claws | Clamping insert long, hard, claws | Clamping insert through-hole, hard | Clamping insert soft |
|----------------------------|-----------------------------|----------------------------|------------------------------------|-----------------------------------|------------------------------------|----------------------|
| ID no. Clamping insert set | 1393701 | 1393703 | 1393709 | 1393711 | 1393707 | 1393705 |
| Clamping diameter A1 | | | | | 56 - 176 | |
| Clamping diameter A2 | 180 - 300 | 108 - 228 | 177 - 294 | 111 - 229 | | 48 - 300 |
| Clamping diameter J1 | 228 - 348 | 300 - 400 | 233 - 351 | 310 - 400 | | 235 - 400 |

CLAMPING INSERTS FOR SINGLE-STAGE iJaw JAWS



Clamping inserts – Single-stage iJaw – Set consisting of 3 pcs. + screws



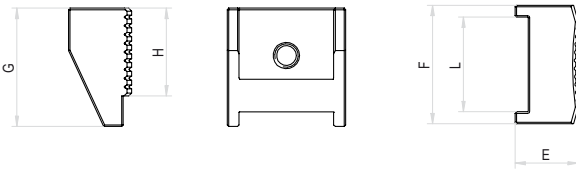
200 - 315

| Type | Face contact bolts 5 mm | Face contact bolts 10 mm | Face contact bolts 15 mm | Face contact bolts 20 mm | Face contact bolts 25 mm | Face contact bolts 30 mm | Face contact bolts 35 mm |
|--------------------------------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| ID no. face contact bolts set | 1391689 | 1391691 | 1391693 | 1391695 | 1391697 | 1391699 | 1392243 |
| Face contact bolts height N | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
| Thread M | M6 | M6 | M6 | M6 | M6 | M6 | M6 |

400

| Type | Face contact bolts 5 mm | Face contact bolts 10 mm | Face contact bolts 15 mm | Face contact bolts 20 mm | Face contact bolts 25 mm | Face contact bolts 30 mm | Face contact bolts 35 mm | Face contact bolts 40 mm |
|--------------------------------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| ID no. face contact bolts set | 1393713 | 1393715 | 1393717 | 1393719 | 1393721 | 1393723 | 1393725 | 1393727 |
| Face contact bolts height N | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| Thread M | M8 | M8 | M8 | M8 | M8 | M8 | M8 | M8 |

CLAMPING INSERTS SINGLE-STAGE



215

| Type | Clamping insert short, hard | Clamping insert long, hard | Clamping insert short, hard, claws | Clamping insert long, hard, claws | Clamping insert through-hole, hard | Clamping insert soft |
|----------------------------|-----------------------------|----------------------------|------------------------------------|-----------------------------------|------------------------------------|----------------------|
| ID no. Clamping insert set | 1392817 | 1392819 | 1392825 | 1392827 | 1392823 | 1392821 |
| Clamping insert length E | 21 | 42 | 21 | 47 | 63 | 64 |
| Clamping insert width F | 40 | 40 | 40 | 40 | 40 | 40 |
| Clamping insert height G | 35 | 35 | 35 | 35 | 35 | 35 |
| L | 30 | 30 | 30 | 30 | 30 | 30 |
| Clamping height H | 30 | 30 | 30 | 30 | 30 | 30 |

260

| Type | Clamping insert short, hard | Clamping insert long, hard | Clamping insert short, hard, claws | Clamping insert long, hard, claws | Clamping insert through-hole, hard | Clamping insert soft |
|----------------------------|-----------------------------|----------------------------|------------------------------------|-----------------------------------|------------------------------------|----------------------|
| ID no. Clamping insert set | 1391685 | 1391687 | 1389829 | 1389831 | 1391681 | 1391683 |
| Clamping insert length E | 21 | 58 | 23 | 59 | 75 | 73 |
| Clamping insert width F | 40 | 40 | 40 | 40 | 40 | 40 |
| Clamping insert height G | 40 | 40 | 40 | 40 | 40 | 40 |
| L | 32 | 32 | 32 | 32 | 32 | 32 |
| Clamping height H | 35 | 35 | 35 | 35 | 35 | 35 |

315

| Type | Clamping insert short, hard | Clamping insert long, hard | Clamping insert short, hard, claws | Clamping insert long, hard, claws | Clamping insert through-hole, hard | Clamping insert soft |
|----------------------------|-----------------------------|----------------------------|------------------------------------|-----------------------------------|------------------------------------|----------------------|
| ID no. Clamping insert set | 1392229 | 1392231 | 1392237 | 1392239 | 1392235 | 1392233 |
| Clamping insert length E | 22 | 59 | 22 | 58 | 74 | 84 |
| Clamping insert width F | 40 | 40 | 40 | 40 | 40 | 40 |
| Clamping insert height G | 45 | 45 | 45 | 45 | 45 | 45 |
| L | 32 | 32 | 32 | 32 | 32 | 32 |
| Clamping height H | 40 | 40 | 40 | 40 | 40 | 40 |

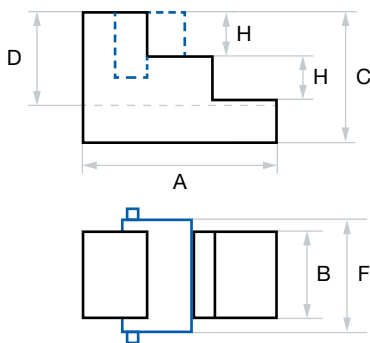
400

| Type | Clamping insert short, hard | Clamping insert long, hard | Clamping insert short, hard, claws | Clamping insert long, hard, claws | Clamping insert through-hole, hard | Clamping insert soft |
|----------------------------|-----------------------------|----------------------------|------------------------------------|-----------------------------------|------------------------------------|----------------------|
| ID no. Clamping insert set | 1393701 | 1393703 | 1393709 | 1393711 | 1393707 | 1393705 |
| Clamping insert length E | 22 | 58 | 24 | 59 | 84 | 86 |
| Clamping insert width F | 45 | 45 | 45 | 45 | 45 | 45 |
| Clamping insert height G | 50 | 50 | 50 | 50 | 50 | 50 |
| L | 38 | 38 | 38 | 38 | 38 | 38 |
| Clamping height H | 45 | 45 | 45 | 45 | 45 | 45 |



iJaw – TWO-STAGE – TECHNICAL SPECIFICATIONS

| Size | 215 | 260 | 315 | 400 |
|---|---|-------|---|-------|
| Clamping height per clamping stage [mm] | 15 | 17 | 20 | 23 |
| Max. speed external clamping [rpm] | 6,000 | 4,700 | 4,000 | 3,500 |
| Max. speed internal clamping [rpm] | 2,000 | 2,000 | 2,000 | 2,000 |
| Clamping force up to [kN] | 100 | 135 | 180 | 240 |
| Max. distance iJaw – antenna [m] (feet) | 15 (49.2) | | | |
| Battery time | 1,400 mAh up to 304 h [5 days (depending on transmission rate)] | | 2,300 mAh up to 504 h [7 days (depending on transmission rate)] | |
| Radio frequency [GHz] | 2.4 – 2.48 | | | |
| Transmission rate [Hz] | 100 | | | |
| Toothing | straight toothing | | | |

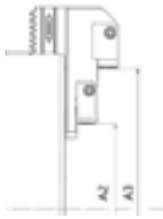


| Size | 215 | 260 | 315 | 400 |
|------------------------|----------------|----------------|----------------|----------------|
| ID no. iJaw Set | 1394233 | 1388989 | 1388990 | 1390109 |
| Jaw length A | 94.5 | 109 | 118.4 | 127 |
| Jaw length B | 28 | 32 | 32 | 32 |
| Jaw length C | 67 | 73 | 80 | 88 |
| Overhang length* D | 42.4 | 44.5 | 46.3 | 54.3 |
| Clamping height H | 15 | 17 | 20 | 23 |

* Measured with a DURO-A RC power chuck

iJaw – TWO-STAGE – CLAMPING RANGES

External clamping



Internal clamping



Through-hole clamping



215

| Type | Clamping insert hard | Clamping insert through-hole, hard | Clamping insert soft |
|----------------------------|----------------------|------------------------------------|----------------------|
| ID no. Clamping insert set | 1394657 | 1394661 | 1394659 |
| Clamping diameter A1 | | 9 - 91 | |
| Clamping diameter A2 | 34 - 117 | | 18 - 116 |
| Clamping diameter A3 | 106 - 189 | | 90 - 188 |
| Clamping diameter J1 | 185 - 215 | | 186 - 215 |
| Clamping diameter J2 | 113 - 186 | | 115 - 204 |

260

| Type | Clamping insert hard | Clamping insert through-hole, hard | Clamping insert soft |
|----------------------------|----------------------|------------------------------------|----------------------|
| ID no. Clamping insert set | 1388625 | 1388627 | 1388626 |
| Clamping diameter A1 | | 14 - 113 | |
| Clamping diameter A2 | 37 - 136 | | 15 - 133 |
| Clamping diameter A3 | 133 - 232 | | 111 - 229 |
| Clamping diameter J1 | 212 - 260 | | 236 - 260 |
| Clamping diameter J2 | 117 - 216 | | 136 - 235 |

315

| Type | Clamping insert short, hard | Clamping insert through-hole, hard | Clamping insert soft |
|----------------------------|-----------------------------|------------------------------------|----------------------|
| ID no. Clamping insert set | 1388974 | 1388976 | 1388975 |
| Clamping diameter A1 | | 24 - 145 | |
| Clamping diameter A2 | 47 - 169 | | 28 - 196 |
| Clamping diameter A3 | 155 - 277 | | 136 - 277 |
| Clamping diameter J1 | 244 - 315 | | 244 - 315 |
| Clamping diameter J2 | 135 - 258 | | 137 - 278 |

400

| Type | Clamping insert hard | Clamping insert through-hole, hard | Clamping insert soft |
|----------------------------|----------------------|------------------------------------|----------------------|
| ID no. Clamping insert set | 1390113 | 1390117 | 1390115 |
| Clamping diameter A1 | | 71 - 191 | |
| Clamping diameter A2 | 97 - 218 | | 74 - 219 |
| Clamping diameter A3 | 199 - 320 | | 176 - 321 |
| Clamping diameter J1 | 309 - 400 | | 309 - 400 |
| Clamping diameter J2 | 208 - 327 | | 206 - 350 |

CLAMPING INSERTS FOR TWO-STAGE iJaw JAWS



Clamping insert
hard



Clamping insert
soft

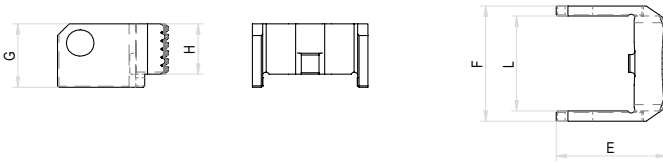


Clamping insert
hard, through-hole



Clamping
surfaces-cover

CLAMPING INSERT, TWO-STAGE



215

| Type | Clamping insert hard | Clamping insert through-hole, hard | Clamping insert soft | Clamping surfaces-cover |
|----------------------------|----------------------|------------------------------------|----------------------|-------------------------|
| ID no. Clamping insert set | 1394657 | 1394661 | 1394659 | 1394663 |
| L | 28 | 28 | 28 | 28 |
| Clamping insert length E | 33 | 46 | 42 | 31 |
| Clamping insert width F | 35 | 35 | 35 | 35 |
| Clamping insert height G | 20 | 20 | 20 | 15 |
| Clamping height H | 15 | 15 | 15 | - |

260

| Type | Clamping insert hard | Clamping insert through-hole, hard | Clamping insert soft | Clamping surfaces-cover |
|----------------------------|----------------------|------------------------------------|----------------------|-------------------------|
| ID no. Clamping insert set | 1388625 | 1388627 | 1388626 | 1348566 |
| L | 32 | 32 | 32 | 32 |
| Clamping insert length E | 37 | 49 | 48 | 36 |
| Clamping insert width F | 39 | 39 | 39 | 39 |
| Clamping insert height G | 22 | 22 | 22 | 17 |
| Clamping height H | 17 | 17 | 17 | - |

315

| Type | Clamping insert hard | Clamping insert through-hole, hard | Clamping insert soft | Clamping surfaces-cover |
|----------------------------|----------------------|------------------------------------|----------------------|-------------------------|
| ID no. Clamping insert set | 1388974 | 1388976 | 1388975 | 1391225 |
| L | 32 | 32 | 32 | 32 |
| Clamping insert length E | 39 | 51 | 49 | 36 |
| Clamping insert width F | 39 | 39 | 39 | 39 |
| Clamping insert height G | 25 | 25 | 25 | 20 |
| Clamping height H | 20 | 20 | 20 | - |

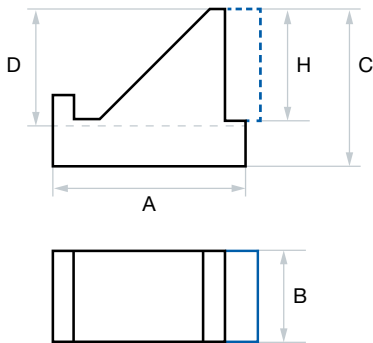
400

| Type | Clamping insert hard | Clamping insert through-hole, hard | Clamping insert soft | Clamping surfaces-cover |
|----------------------------|----------------------|------------------------------------|----------------------|-------------------------|
| ID no. Clamping insert set | 1390113 | 1390117 | 1390115 | 1390119 |
| L | 40 | 40 | 40 | 32 |
| Clamping insert length E | 44 | 58 | 55 | 39 |
| Clamping insert width F | 39 | 39 | 39 | 39 |
| Clamping insert height G | 28 | 28 | 28 | 23 |
| Clamping height H | 23 | 23 | 23 | - |



iJaw – THROUGH-HOLE – TECHNICAL SPECIFICATIONS

| Size | 215 | 260 | 315 | 400 |
|---|---|---|-------|-------|
| Clamping height per clamping stage [mm] | 40 | 50 | 50 | 60 |
| Max. speed external clamping [rpm] | 6,000 | 4,700 | 4,000 | 3,500 |
| Max. speed internal clamping [rpm] | 2,000 | 2,000 | 2,000 | 2,000 |
| Clamping force up to [kN] | 100 | 135 | 180 | 240 |
| Max. distance iJaw – antenna [m] (feet) | 15 (49.2) | | | |
| Battery time | 1,400 mAh up to 304 h [5 days (depending on transmission rate)] | 2,300 mAh up to 504 h [7 days (depending on transmission rate)] | | |
| Radio frequency [GHz] | 2.4 – 2.48 | | | |
| Transmission rate [Hz] | 100 | | | |
| Toothing | straight toothing | | | |

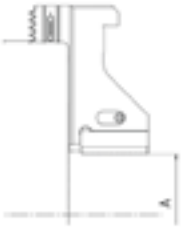


| Size | 215 | 260 | 315 | 400 |
|------------------------|----------------|----------------|----------------|----------------|
| ID no. iJaw Set | 1388993 | 1391289 | 1391725 | 1392525 |
| Jaw length A | 96 | 109 | 118.4 | 127 |
| Jaw length B | 26 | 32 | 32 | 40 |
| Jaw length C | 74 | 88 | 93 | 106 |
| Overhang length* D | 49.4 | 59.5 | 59.3 | 72.3 |
| Clamping height H | 40 | 50 | 50 | 60 |

* Measured with a DURO-A RC power chuck

iJaw – THROUGH-HOLE – CLAMPING RANGES

External clamping



215

| Type | Clamping insert hard | Clamping insert soft |
|----------------------------|----------------------|----------------------|
| ID no. Clamping insert set | 1388581 | 1388582 |
| Clamping diameter A1 | 15 – 70 | 4 – 70 |

260

| Type | Clamping insert hard | Clamping insert soft |
|----------------------------|----------------------|----------------------|
| ID no. Clamping insert set | 1391293 | 1391295 |
| Clamping diameter A1 | 12 – 87 | 4 – 87 |

315

| Type | Clamping insert hard | Clamping insert soft |
|----------------------------|----------------------|----------------------|
| ID no. Clamping insert set | 1391729 | 1391731 |
| Clamping diameter A1 | 18 – 110 | 35 – 110 |

400

| Type | Clamping insert hard | Clamping insert soft |
|----------------------------|----------------------|----------------------|
| ID no. Clamping insert set | 1392529 | 1392531 |
| Clamping diameter A1 | 21 – 127 | 37 – 127 |

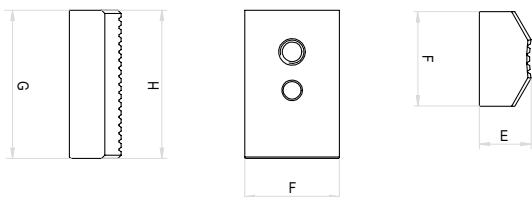
CLAMPING INSERTS FOR iJaw THROUGH-HOLE JAWS



Clamping insert hard

Clamping insert soft

CLAMPING INSERTS, THROUGH-HOLE JAWS



215

| Type | Clamping insert hard | Clamping insert soft |
|----------------------------|----------------------|----------------------|
| ID no. Clamping insert set | 1388581 | 1388582 |
| Clamping insert length E | 14 | 19 |
| Clamping insert width F | 26 | 26 |
| Clamping insert height G | 40 | 40 |
| Clamping height H | 40 | 40 |

260

| Type | Clamping insert hard | Clamping insert soft |
|----------------------------|----------------------|----------------------|
| ID no. Clamping insert set | 1391293 | 1391295 |
| Clamping insert length E | 17 | 22 |
| Clamping insert width F | 32 | 32 |
| Clamping insert height G | 50 | 50 |
| Clamping height H | 50 | 50 |

315

| Type | Clamping insert hard | Clamping insert soft |
|----------------------------|----------------------|----------------------|
| ID no. Clamping insert set | 1391729 | 1391731 |
| Clamping insert length E | 18 | 26 |
| Clamping insert width F | 32 | 32 |
| Clamping insert height G | 50 | 50 |
| Clamping height H | 50 | 50 |

400

| Type | Clamping insert hard | Clamping insert soft |
|----------------------------|----------------------|----------------------|
| ID no. Clamping insert set | 1392529 | 1392531 |
| Clamping insert length E | 39 | 45 |
| Clamping insert width F | 40 | 40 |
| Clamping insert height G | 60 | 60 |
| Clamping height H | 60 | 60 |



iJaw FOR INDEPENDENT CHUCKS



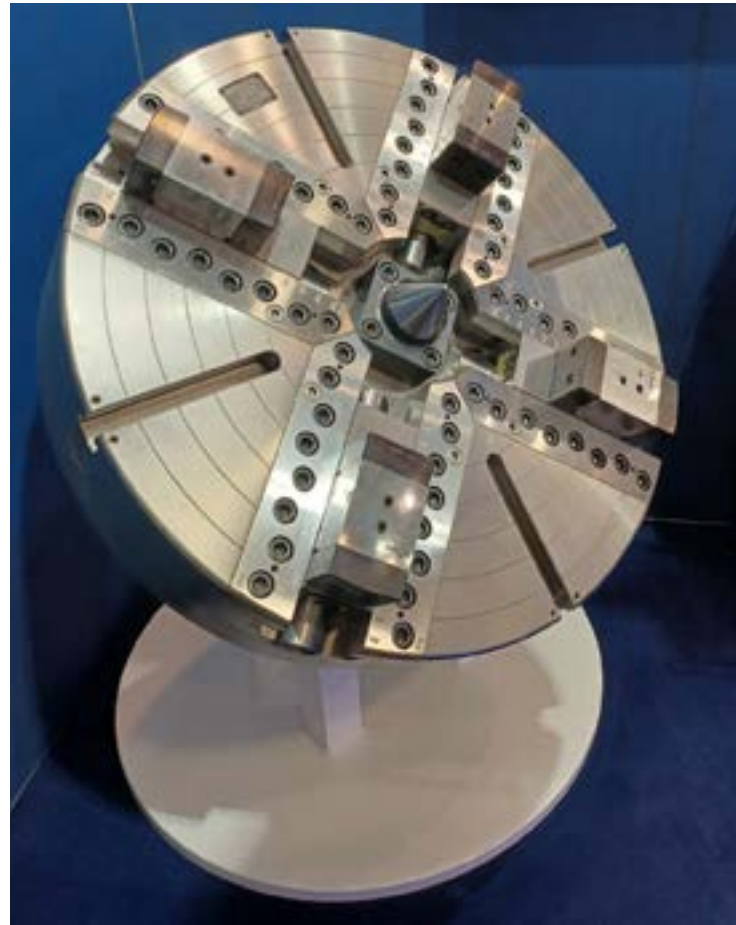
With the iJaw's real-time data, you can accurately align very large workpieces on independent chucks. By visualizing the clamping forces on each individual jaw, you can see any clamping pressure deviation exactly and thus correct it.

In addition, this speeds up the setup process because you can quickly see whether the correct clamping forces are applied and your workpiece is optimally clamped.

ALL THE ADVANTAGES OF THE iJaw FOR INDEPENDENT CHUCKS ALSO APPLY TO THE SYSTEM:



- More productivity through optimized processes such as shorter setup times
- Reduction of part costs through an optimized process and better quality monitoring
- Increased safety during machining due to constant monitoring of the clamping forces

The iJaw for the independent chuck is available on request.




DELIVERY CONTENTS

iJaw SET

| | COMPONENT | NO. |
|---|---|----------|
|  | iJaw sensor-integrated jaw <ul style="list-style-type: none"> Factory calibrated | 1 |
|  | Sensor-less jaw | 2 |

| | COMPONENT | NO. |
|--|--|----------|
|  | Case made of blue hard plastic including: milled rigid foam insert | 1 |

AFTER MARKET SOLUTION

| | COMPONENT | NO. |
|---|---|----------|
|  | iJaw Connect Receiver electrical cabinet <ul style="list-style-type: none"> iJaw Mobile App IO-Link Wireless Antenna Antenna extension cable, 10m | 1 |

| Name | ID no. |
|--------------|---------|
| iJaw Connect | 1410836 |

OEM SOLUTION

For the machine-integrated solution, please consult your machine manufacturer.

ACCESSORIES

| Name | ID no. |
|--|---------|
| 10" Windows tablet for iJaw Mobile application | 1381862 |
| Tablet holder with magnetic base | 1394952 |
| Battery charger with USB cable | 1388193 |
| Rechargeable battery, 2300 mAh, 18500 Li-ion for iJaw size 260 / 315 / 400 | 1388178 |
| Rechargeable battery, 1400 mAh, 18350 Li-ion for iJaw size 215 | 1388408 |
| Antenna extension cable, 10m (32'9") | 1379934 |
| IO-Link wireless antenna for iJaw | 1411156 |





RÖHM GmbH Heinrich-Roehm-Straße 50 • 89567 Sontheim/Brenz • Germany
TEL +49 7325 16 0 • info@roehm.biz • roehm.biz

Subject to changes.
ID no. 1355131 / 0723