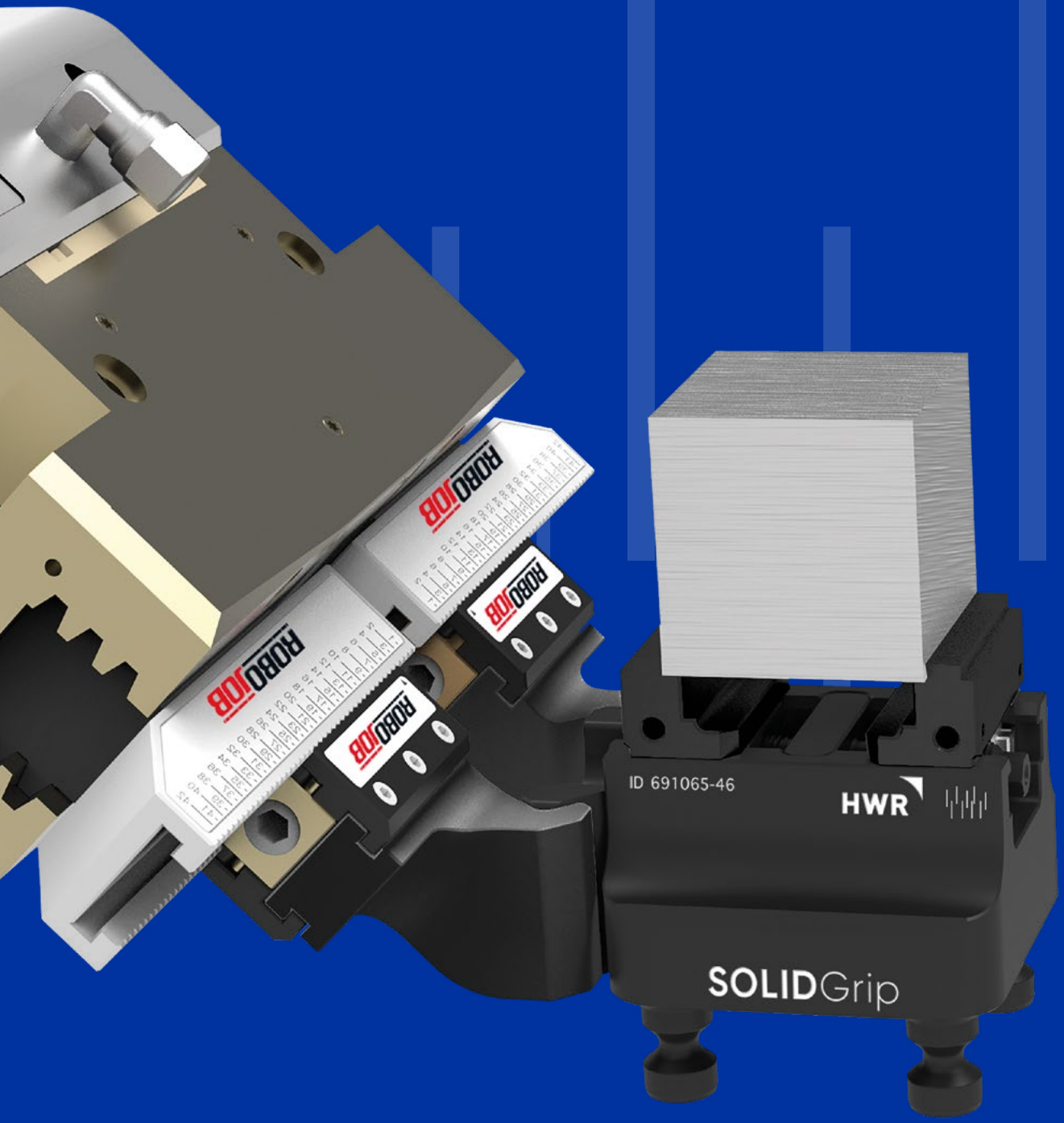
MILLING CLAMPING TECHNOLOGY & ZERO-POINT TECHNOLOGY FOR AUTOMATION

SOLIDLine



www.hwr-usa.com

HWR

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THINKING AHEAD WITH CONVICTION

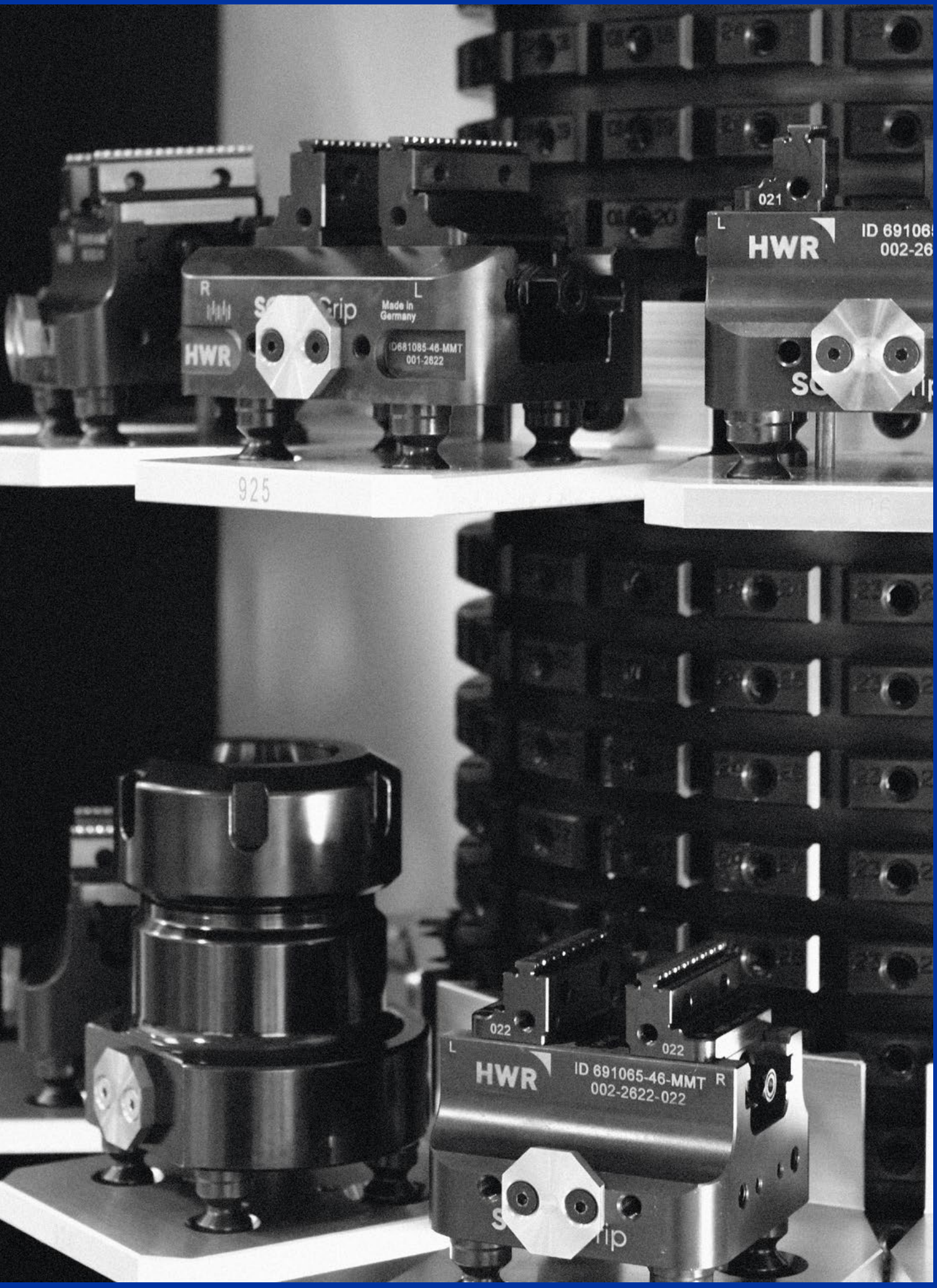
HWR

CREATING NEW STANDARDS

FLEXIBLE QUALITY AUTOMATION

When it comes to automation, we understand the level of quality and precision that is required in every operation. Our high precision components have been made to exceed those expectations. As part of our standard practice, we continue to develop, improve, and simplify our products further. We have specialized our line of **SOLID**Line workholding products to maintain its quality, flexibility, and reliability, even in 24/7 lights out operations.

HWR vises used in automation cell. Octagonal transport plate attached for use with robot gripper.


HWR
Made in Germany
HWR
ID 691065-46-MMT
002-2622-022

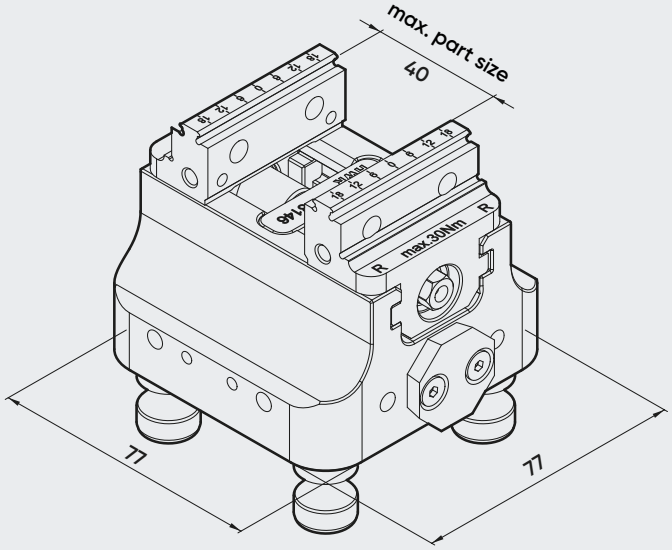
SOLIDGrip 46 – jaw width 46mm

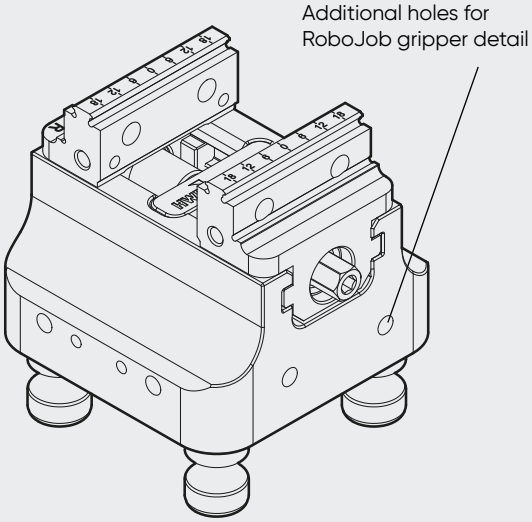
5-axis centering vice

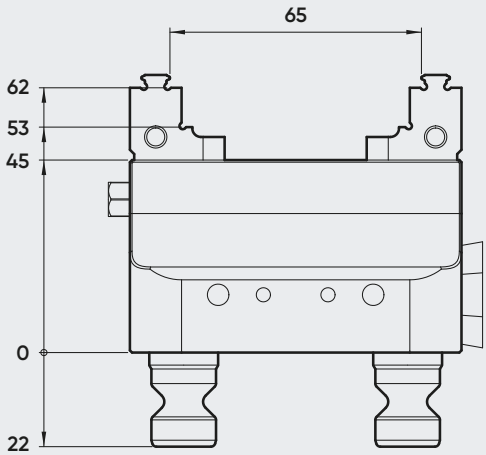
APPLICATION

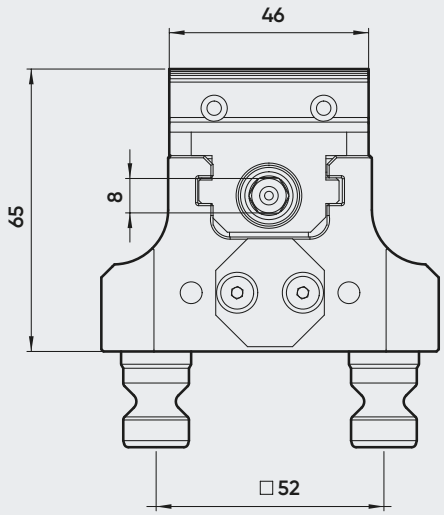
- *Suitable for* **SOLID**Point® 52 and QuickPoint 52 from Lang
- Clamping with stamping technology or smooth soft surfaces
- Jaws can be used on both sides
- Includes transport plate for automation handling

Ident-no.		691065-46-MMT
Jaw width	mm	46
Body length	mm	77
Clamping range	mm	0 - 65
Zero-point system	mm	52
Zero-point bolt	mm	16
Tightening torque	Nm	30
Clamping force	kN	6
Centering accuracy	mm	± 0,02
Weight	kg	1,7
Compatible with	Ident-no.	47065

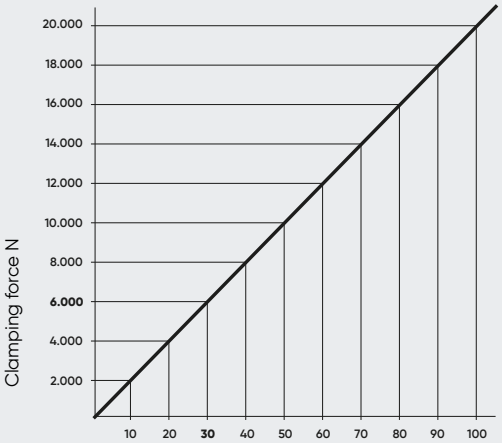








Tightening torque - clamping force diagram



The max. tightening torque of the respective vice must be observed.

NOTE

- Please note that spare jaws must always be replaced as a pair
- Always use a torque wrench to tighten the jaws
- If required, the smooth surfaces of the jaws can be coated with wolfram-carbide. This increases the holding force

SOLIDGrip 46 – jaw width 46mm

Spare parts and accessories

Image may differ

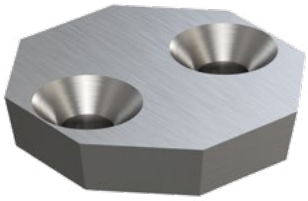
Suitable for ident-no.		691065-46 / 691105-46 / 691145-46
Ident-no.		**681046-0020**
Jaw width	mm	46
Weight	kg	0,5
Compatible with	Ident-no.	47046-20
Tungsten-carbide coating	Ident-no.	681077-4601

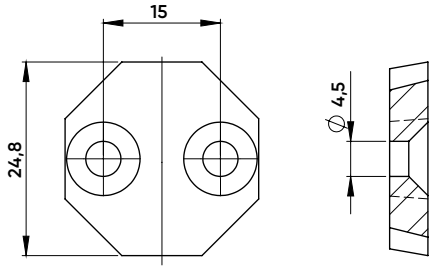
Image may differ

Suitable for ident-no.		691065-46	691105-46	691145-46
Ident-no.		**68146082**	**68146122**	**68146162**
Spindle length	mm	82	122	162
weight	kg	0,08	0,10	0,12
Compatible with	Ident-no.	4046082	68146122	4046162

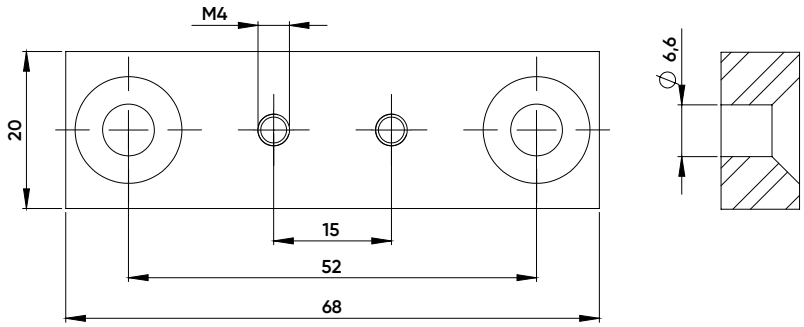
SOLIDGrip

Spare parts and accessories





Suitable for ident-no.	**681085-46-MMT/ 681120-46-MMT/ 681085-77-MMT 681120-77-MMT/ 691065-46-MMT**
Ident-no.	**6900023**



Suitable for ident-no.	**681085-46-MMT/ 681120-46-MMT/ 681085-77-MMT 681120-77-MMT/ 691065-46-MMT**
Ident-no.	**6900024**

Suitable for ident-no.	**691065-46-MMT**	**681085-46-MMT/ 681120-46-MMT/ 681085-77-MMT/ 681120-77-MMT**
Ident-no.	**0.01.83.0131**	**0.01.83.0141**

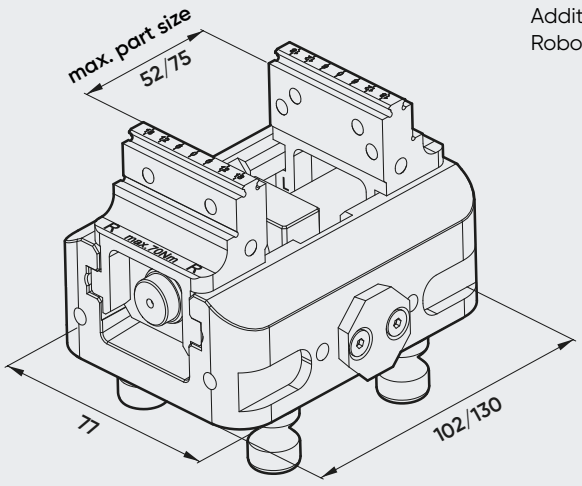
SOLIDGrip 77 – jaw width 46mm

5-axis centering vice

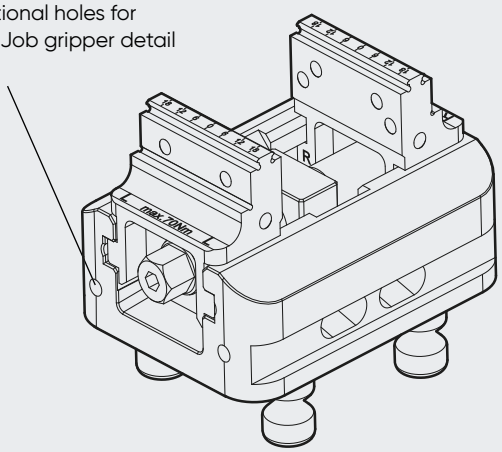
APPLICATION

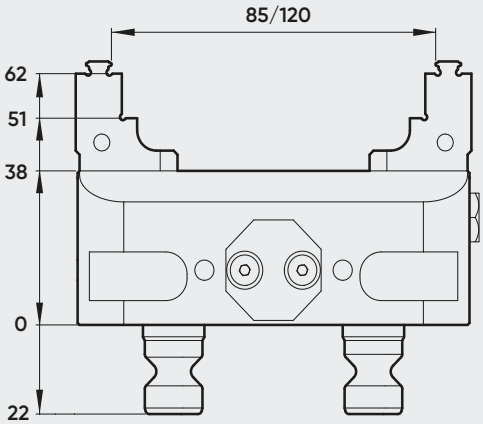
- Suitable for **SOLID**Point® 52 and QuickPoint 52 from Lang
- Clamping with stamping technology or smooth soft surfaces
- Jaws can be used on both sides
- Includes transport plate for automation handling

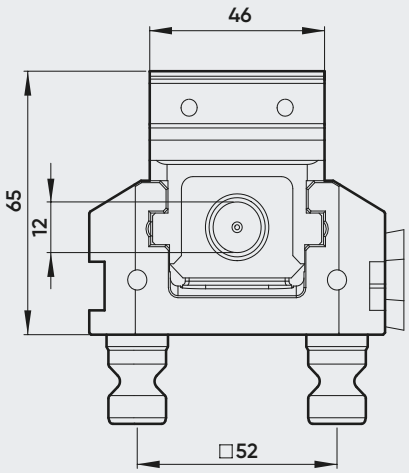
Ident-no.		681085-46-MMT	681120-46-MMT
Jaw width	mm	46	46
Body length	mm	102	130
Clamping range	mm	0 - 85	0 - 120
Zero-point system	mm	52	52
Zero-point bolt	mm	16	16
Tightening torque	Nm	70	70
Clamping force	kN	14	14
Centering accuracy	mm	0,02	0,02
Weight	kg	2,2	2,6
Compatible with	Ident-no.	48085-46	48120-46



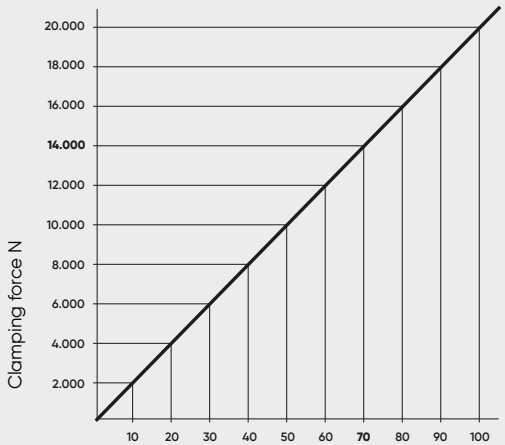
Additional holes for
RoboJob gripper detail







Tightening torque - clamping force diagram



The max. tightening torque of the respective vice must be observed.

NOTE

- Please note that spare jaws must always be replaced as a pair
- Always use a torque wrench to tighten the jaws
- If required, the smooth surfaces of the jaws can be coated with wolfram-carbide. This increases the holding force

SOLIDGrip 77 – jaw width 46mm

Spare parts and accessories

Suitable for ident-no.		683085-46 / 681085-46	683120-46 / 681120-46
Ident-no.		**681085-4620**	**681077-4620**
Jaw width	mm	46	46
Weight	kg	0,5	0,5
Compatible with	Ident-no.	48085-46	48120-46
Tungsten-carbide coating	Ident-no.	681077-4601	

Suitable for ident-no.		683085-46 / 681085-46	683120-46 / 681120-46
Ident-no.		**681077-100**	**681077-135**
Spindle length	mm	100	135
Weight	kg	0,2	0,3
Compatible with	Ident-no.	4877100	4877135

SOLIDClick 77

Base Jaws and soft contour jaws/body width 77mm

SOLIDClick Base Jaws

Ident-no.		682000-77
Suitable for body width	mm	77
Suitable contour-jaws		SOLIDClick 77 SOLIDLock 77

SOLIDClick soft contour jaws with quick-change system

Ident-no.		682400-44	682400-64	682410-44	682410-64
Width x height x length	mm	77 x 44 x 66	77 x 64 x 66	77 x 44 x 66	77 x 64 x 66
Material		16MnCr5	16MnCr5	Al-ZnMgCu1,5	Al-ZnMgCu1,5
Suitable to vice		SOLIDClick 77	SOLIDClick 77	SOLIDClick 77	SOLIDClick77
Suitable to base-jaw	Ident-no.	682000-77	682000-77	682000-77	682000-77

Jaw change in seconds thanks to HWR SOLIDClick quick jaw change system
Jaw connection dimensions for producing your own top jaws can be found in our downloading area at www.hwr-usa.com

SOLIDLock soft contour jaws for mounting with fixing bolts

Ident-no.		682440-41	682445-41
Width x height x length	mm	112 x 41 x 66	112 x 41 x 66
Material		16MnCr5	Al-ZnMgCu1,5
Suitable to vice		SOLIDClick 77	SOLIDClick 77
Suitable to base-jaw	Ident-no.	682000-77	682000-77

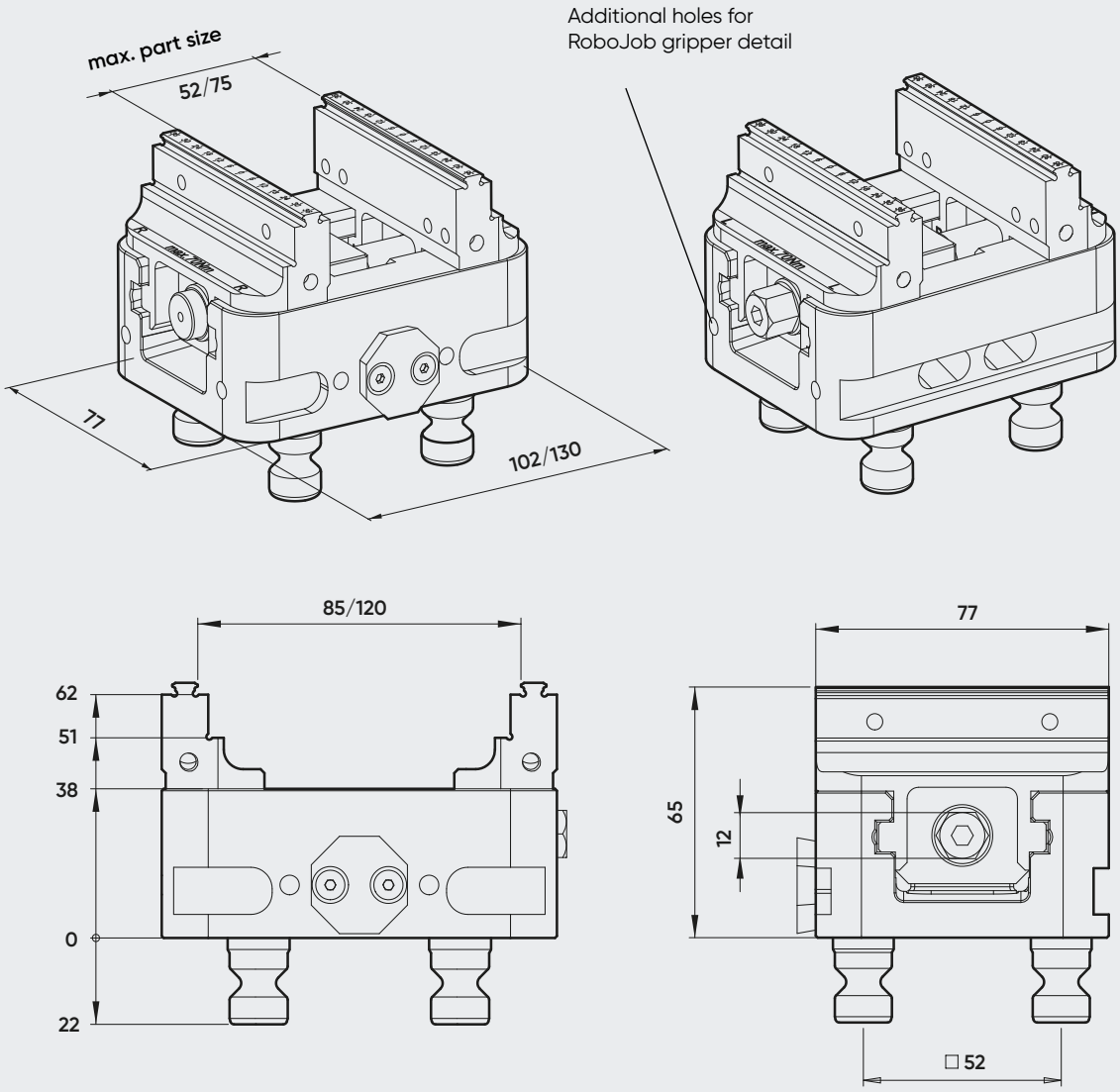
SOLIDGrip 77 – jaw width 77mm

5-axis centering vice

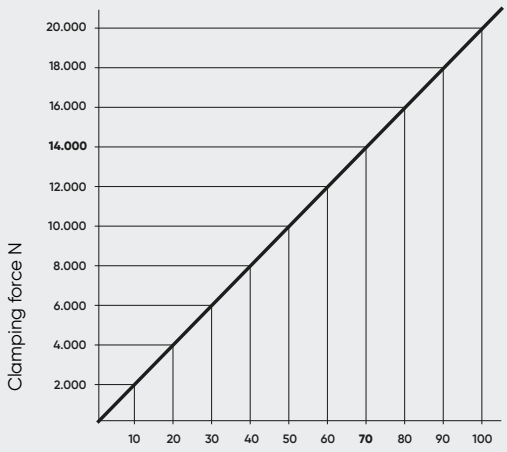
APPLICATION

- *Suitable for* **SOLID**Point® 52 and QuickPoint 52 from Lang
- Clamping with stamping technology or smooth soft surfaces
- Jaws can be used on both sides
- Includes transport plate for automation handling

Ident-no.		681085-77-MMT	681120-77-MMT
Jaw width	mm	77	77
Body length	mm	102	130
Clamping range	mm	0 - 85	0 - 120
Zero-point system	mm	52	52
Zero-point bolt	mm	16	16
Tightening torque	Nm	70	70
Clamping force	kN	14	14
Centering accuracy	mm	± 0,02	± 0,02
Weight	kg	2,3	2,9
Compatible with	Ident-no.	48085-77	48120-77



Tightening torque - clamping force diagram



The max. tightening torque of the respective vice must be observed.

NOTE

- Please note that spare jaws must always be replaced as a pair
- Always use a torque wrench to tighten the jaws
- If required, the smooth surfaces of the jaws can be coated with wolfram-carbide. This increases the holding force

SOLIDGrip 77 – jaw width 77mm

Spare parts and accessories

Suitable for ident-no.		681085-77 / 683085-77	681120-77 / 683120-77	681160-77 / 683160-77	681200-77 / 683200-77
Ident-no.		**681085-7720**	**681077-7720**	**681077-7720**	**681077-7720**
Jaw width	mm	77	77	77	77
Weight	kg	0,7	0,7	0,7	0,7
Compatible with	Ident-no.	48085-77	48120-77	48160-77	48200-77
Tungsten-carbide coating	Ident-no.	681077-7701			

Suitable for ident-no.		681085-77 / 683085-77	681120-77 / 683120-77	681160-77 / 683160-77	681200-77 / 683200-77
Ident-no.		**681077-100**	**681077-135**	**681077-175**	**681077-215**
Spindle length	mm	100	135	175	215
weight	kg	0,2	0,3	0,4	0,4
Compatible with	Ident-no.	4877100	4877135	4877175	4877215

SOLIDClick 77

Base Jaws and soft contour jaws/body width 77 mm

SOLIDClick Base Jaws

Ident-no.		682000-77
Suitable for body width	mm	77
Suitable contour-jaws		SOLIDClick 77 SOLIDLock 77

SOLIDClick soft contour jaws with quick-change system

Ident-no.		682400-44	682400-64	682410-44	682410-64
Width x height x length	mm	77 x 44 x 66	77 x 64 x 66	77 x 44 x 66	77 x 64 x 66
Material		16MnCr5	16MnCr5	Al-ZnMgCu1,5	Al-ZnMgCu1,5
Suitable to vice		SOLIDClick 77	SOLIDClick 77	SOLIDClick 77	SOLIDClick77
Suitable to base-jaw	Ident-no.	682000-77	682000-77	682000-77	682000-77

Jaw change in seconds thanks to HWR SOLIDClick quick jaw change system
Jaw connection dimensions for producing your own top jaws can be found in our downloading area at www.hwr-usa.com

SOLIDLock soft contour jaws for mounting with fixing bolts

Ident-no.		682440-41	682445-41
Width x height x length	mm	112 x 41 x 66	112 x 41 x 66
Material		16MnCr5	Al-ZnMgCu1,5
Suitable to vice		SOLIDClick 77	SOLIDClick 77
Suitable to base-jaw	Ident-no.	682000-77	682000-77

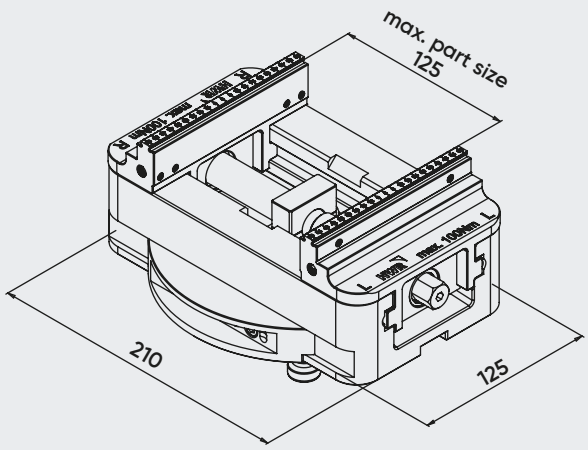
SOLIDGrip DRC – jaw width 77/125mm

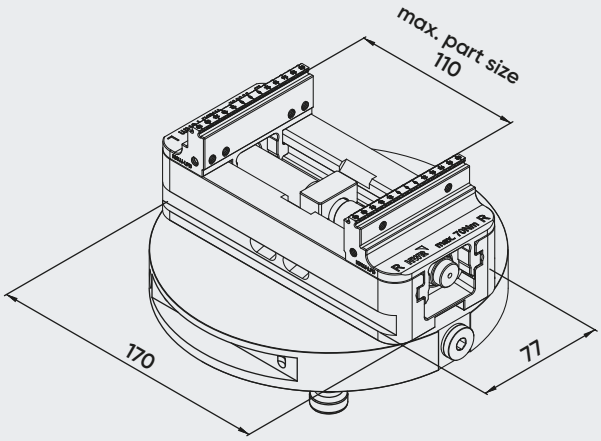
5-axis centering vice

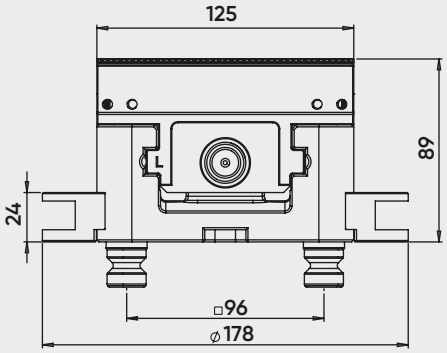
APPLICATION

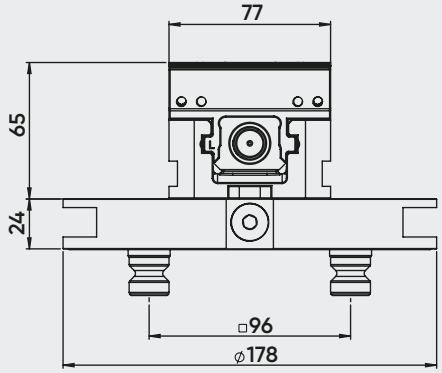
- Suitable for **SOLID**Point® 96 and QuickPoint 96 from Lang
- Clamping with stamping technology or smooth soft surfaces
- Jaws can be used on both sides
- Includes gripper detail

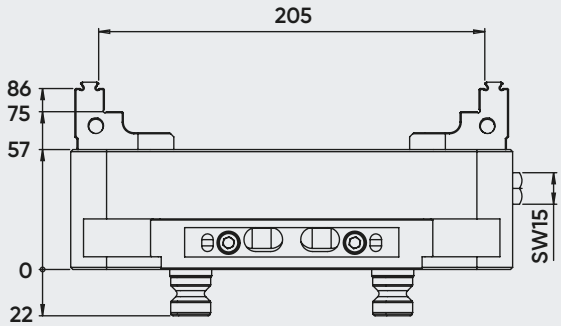
Ident-no.		681205-125-DRC	681160-77-DRC
Jaw width	mm	125	77
Body length	mm	210	170
Clamping range	mm	0-205	0-160
Zero-point system	mm	96	96
Zero-point bolt	mm	20	20
Tightening torque	Nm	100	70
Clamping force	kN	20	14
Centering accuracy	mm	0,02	0,02
Weight	kg	10,6	7,7
Compatible with	Ident-no.	46205	46160

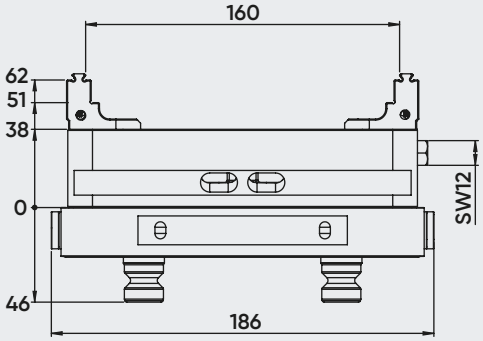




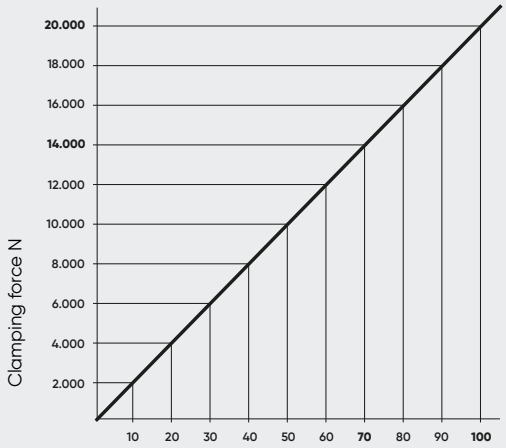








Tightening torque - clamping force diagram



The max. tightening torque of the respective vice must be observed.

NOTE

- Please note that spare jaws must always be replaced as a pair
- Always use a torque wrench to tighten the jaws
- If required, the smooth surfaces of the jaws can be coated with wolfram-carbide. This increases the holding force

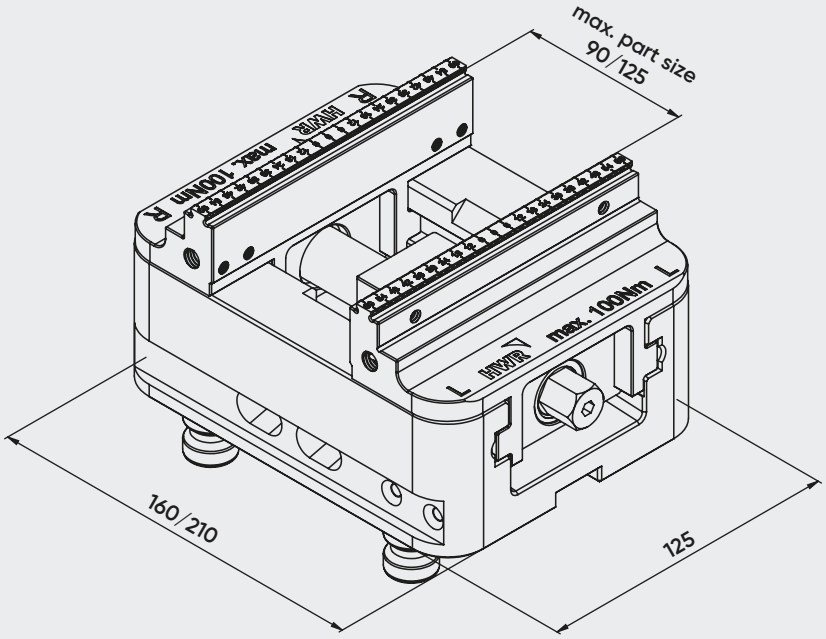
SOLIDGrip AG – jaw width 125mm

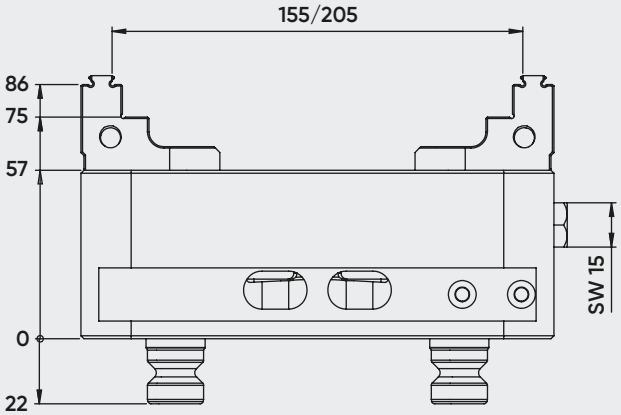
5-axis centering vice

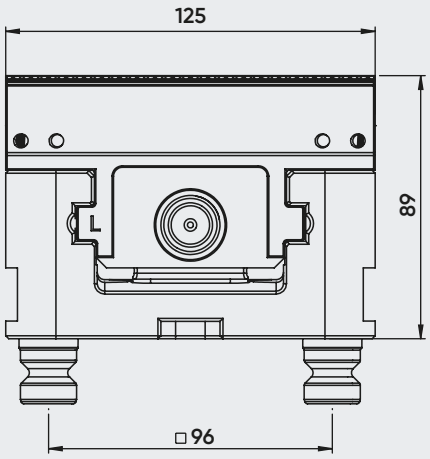
APPLICATION

- Suitable for **SOLID**Point® 96 and QuickPoint 96 from Lang
- Clamping with stamping technology or smooth soft surfaces
- Jaws can be used on both sides
- Includes gripper detail

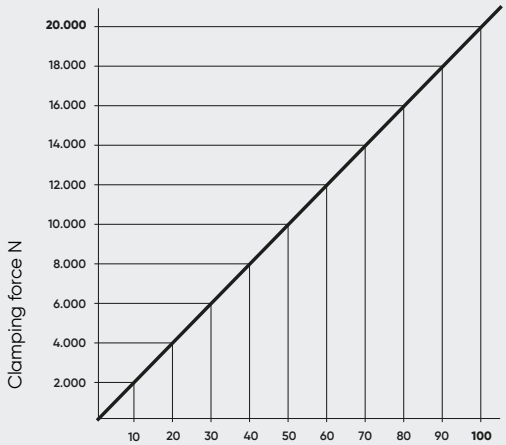
Ident-no.		683155-125-AG	683205-125-AG
Jaw width	mm	125	125
Body length	mm	160	210
Clamping range	mm	0-155	0-205
Zero-point system	mm	96	96
Zero-point bolt	mm	20	20
Tightening torque	Nm	100	100
Clamping force	kN	20	20
Centering accuracy	mm	0,02	0,02
Weight	kg	8,2	9,9







Tightening torque - clamping force diagram



The max. tightening torque of the respective vice must be observed.

NOTE

- Please note that spare jaws must always be replaced as a pair
- Always use a torque wrench to tighten the jaws
- If required, the smooth surfaces of the jaws can be coated with wolfram-carbide. This increases the holding force

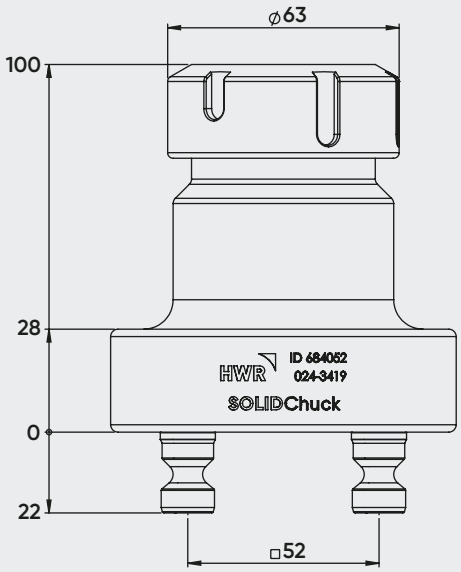
SOLIDGrip - Collet Holders

Collet chuck

APPLICATION

- Suitable for **SOLID**Point® 52 and QuickPoint 52 from Lang
- For ER-type collets
- Transport plate included for automated use with Robot
- Adjustable back stop

Ident-no.		684052-MMT	684053-MMT
Clamping range	mm	2,5-26	6-34
Zero-point system	mm	52	52
Zero-point bolt	mm	16	16
Weight	kg	2,4	2,8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HWR
ID 684052
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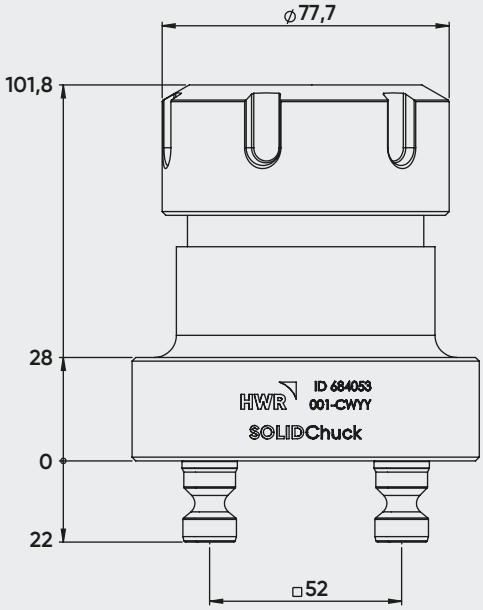
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001-CWYY
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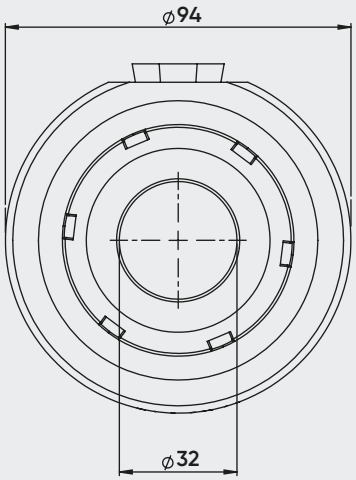
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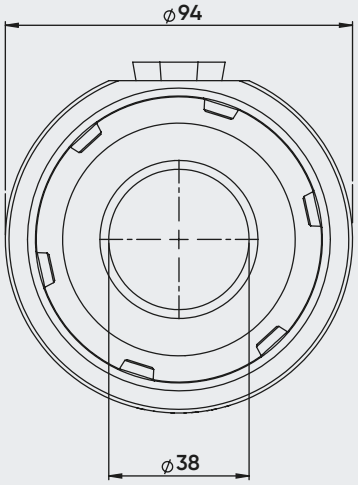
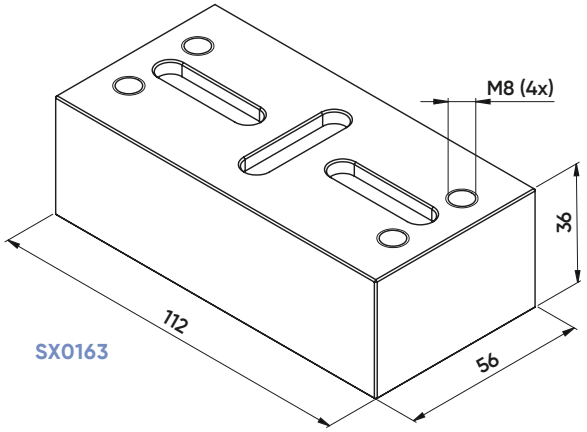
⌀32

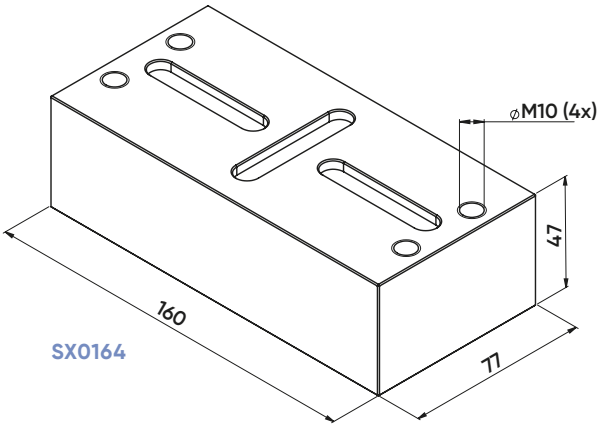

⌀94
⌀38

SOLIDGrip – Accessories

Profilo Base Jaws



SX0163



SX0164

Profilo Base Jaws

Ident-no.		SX0163	SX0164
Suitable for body width	mm	77	125
Suitable to vice		SOLIDClick 77 SOLIDGrip 77	SOLIDClick 125 SOLIDGrip 125

Profilo Soft Jaws

Ident-no.		SX0163-03	SX0164-03
Width x height x length	mm	77 x 44 x 66	77 x 64 x 66
Material		16MnCr5	16MnCr5
Suitable to base-jaw		Profilo 77	Profilo 125
Suitable to base-jaw	Ident-no.	682000-77	682000-77

Preset Torque Wrench

Ident-no.	QSP140N3-100	QSP140N3-70	QSP100N4-3/8-45	QSP50N3-30
Max. Torque	140Nm	140Nm	100Nm	50Nm
Pre-set Torque	100Nm	70Nm	45Nm	30Nm
Drive Size	1/2“	1/2“	3/8“	3/8“

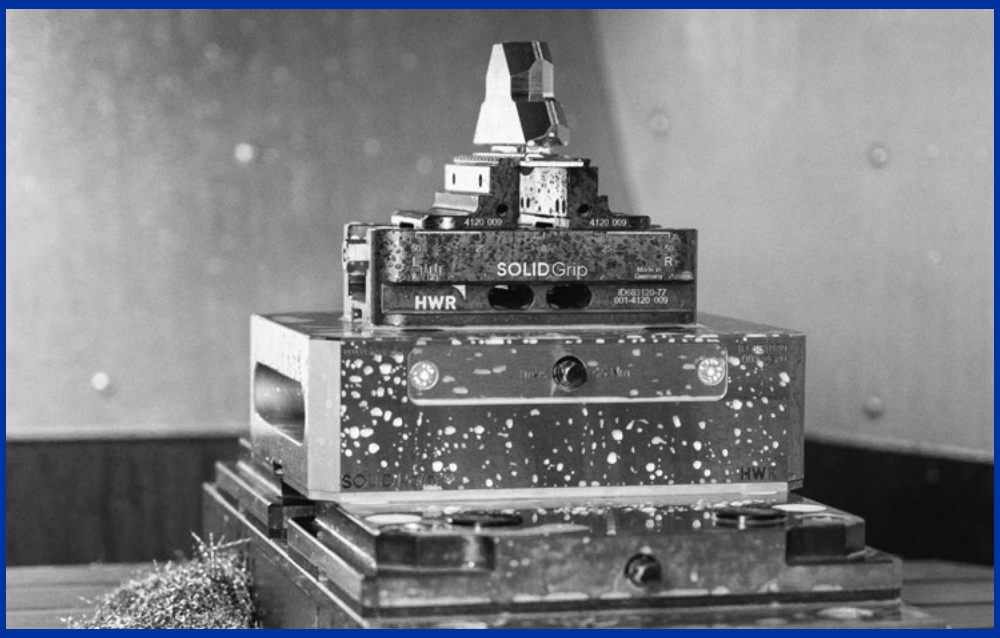
High End Sockets

Ident-no.	31501-T	31201	20801
Hex Size	15mm	12mm	8mm
Drive Size	1/2“	1/2“	3/8“

Adjustment Key

Ident-no.	930
	Required to adjust Torque Wrench settings

SOLIDLine
THINKING AHEAD THROUGH CONVICTION.



The **SOLID**Line modular system is as practical as it is flexible

To develop a product further and to improve or simplify is normal practice at HWR. Our employees in production, design and sales are highly motivated and are constantly on the lookout for new ideas, which often come from our customers, to incorporate into our product ranges. Constant development, and not being satisfied with what we have already achieved, is our motivation to provide our customers with maximum quality and precision on a daily basis.

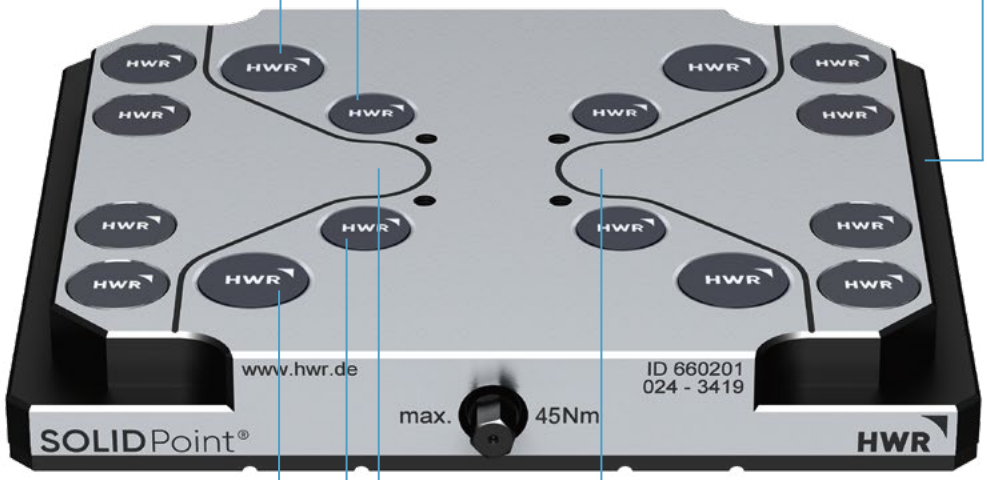
MECHANICAL ZERO-POINT-TECHNOLOGY

PATENTED

ORIGINAL HWR QUALITY

52 and 96 grid combined in one plate

Optimized flap edge for mounting in the center groove



3 times higher locking force

Marking of the possible drilling range for mounting holes

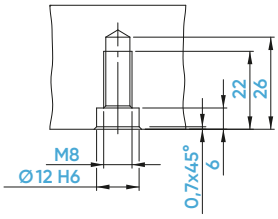
ZERO-POINT TECHNOLOGY UPGRADED

SOLIDPoint® is a development by HWR which has a significantly higher pull-in force than the systems already on the market, in addition to the established properties. Combination plates with 96 and 52 centres in one plate are also possible. The locking technology also consists of significantly less components than comparable systems. This results in only minimal friction losses and 3 times higher locking force is generated.

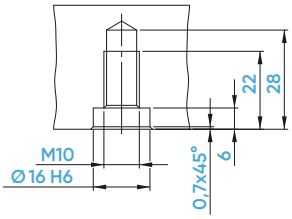
SOLIDPoint® 96/52

Accessories

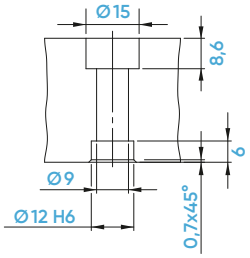
52 mm
Mounting with grub screws



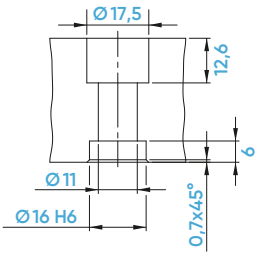
96 mm
Mounting with grub screws



52 mm
Mounting with bolts

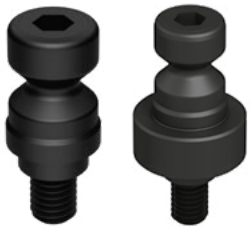


96 mm
Mounting with bolts



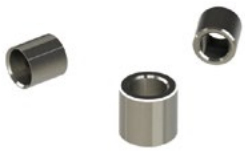
Zero-point studs

Ident-no.		662096	662096-10	652052	652052-10
Version		Standard	Distance stud	Standard	Distance stud
Bolt diameter	mm	20	20	16	16
Zero-point system	mm	96	96	52	52
Distance height	mm	–	10 [Ø28]	–	10 [Ø24]
Compatible with		45570	45570-10	45270	45270-10



Fitting sleeves

Ident-no.		662003	662004	662005
Dimensions	mm	Ø 12 x 12	Ø 12 x 12	Ø 16 x 15
For bolt		M10	M8	M10
Compatible with		45000-09	65191-04	65191-05



Protective plugs

Ident-no.		662001	652002
Bolt diameter	mm	20	16
Compatible with		45096-30	45052-30

Cover plates for mounting holes

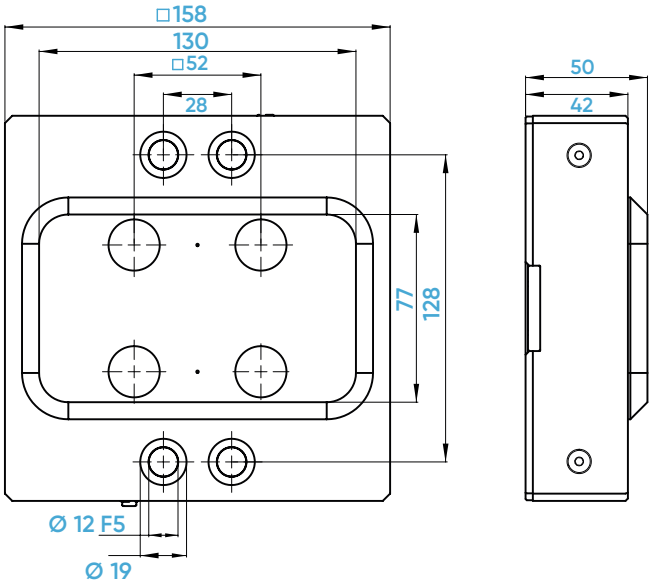
Ident-no.		669015	669020	669027
Diameter	mm	15	20	27
Compatible with		45008-15	45008-20	45008-27

SOLIDPoint® 52

Pneumatic zero-point plates

653003

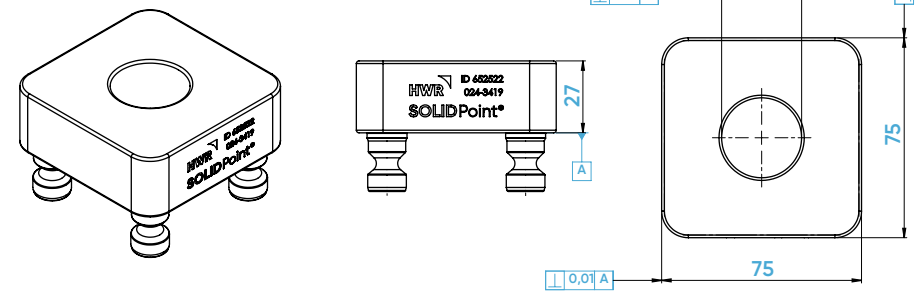
Pneumatic plate in grid 96 ***available from beginning of 2023!***

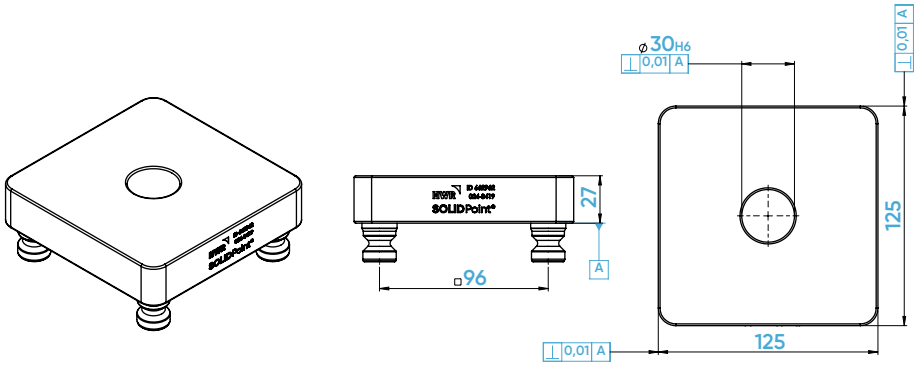


Ident-no.		653003
Dimensions	mm	158 x 158 x 50
Zero-point system	mm	52
Zero-point stud	mm	Ø 16
Suitable vice		77 / 46
Pneumatic actuating pressure	bar	min. 7
Holding force (boosted)	kN	60 [4 studs]
Accuracy	mm	0,005
Weight	kg	7,4

SOLIDPoint®

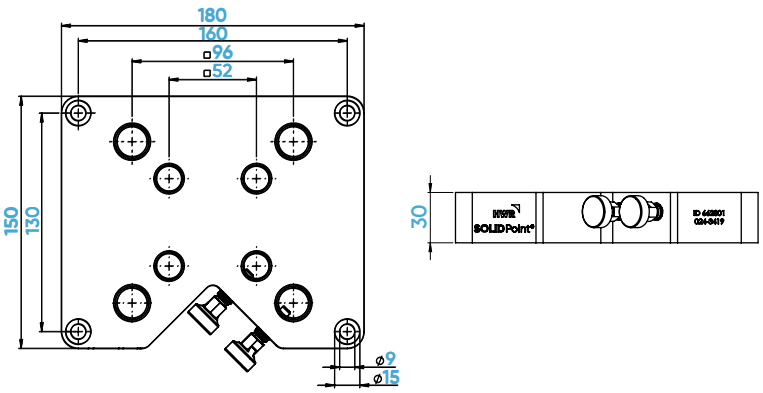
Gauging pallet and setup station





SOLIDPoint®

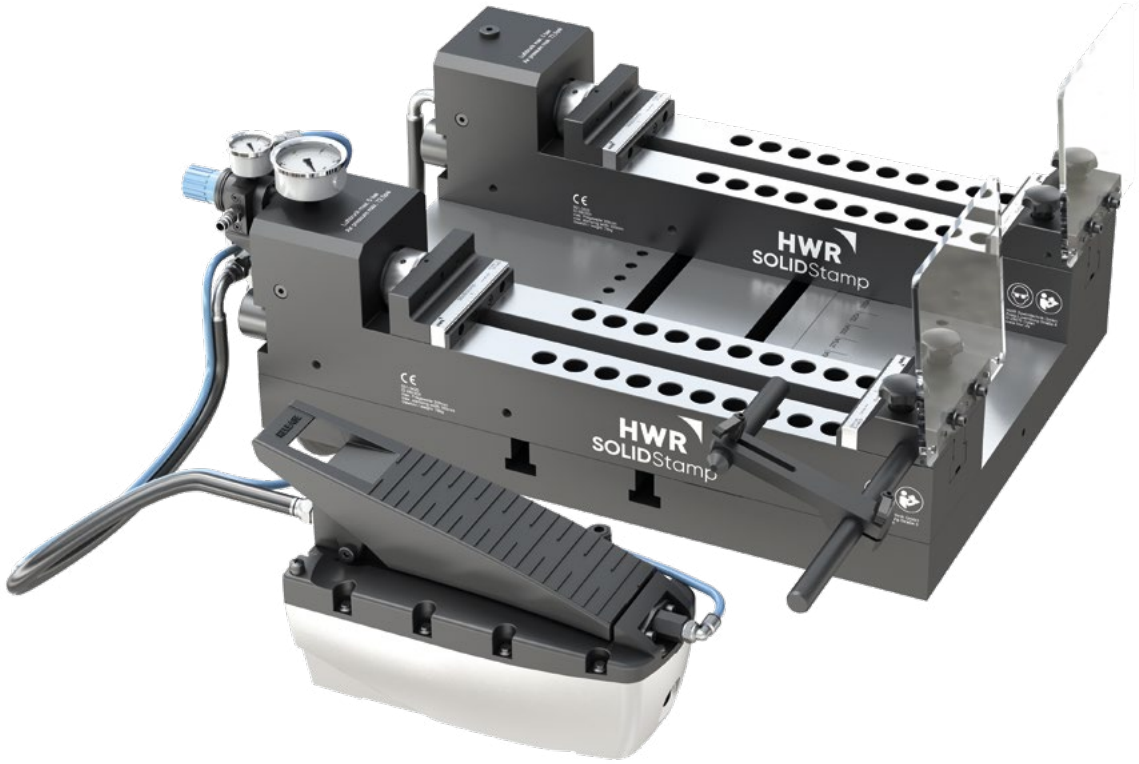
Ident-no.		652522	662962
Width x height x length	mm	75 x 27 x 75	125 x 27 x 125
zero-point system		52	96
zero-point stud		16	20



SOLIDPoint®

Ident-no.		662301
Width x height x length	mm	150 x 30 x 180
zero-point system		52 / 96

STAMPING UNIT FOR MAKING THE FORM FITTING



EXCELLENT HOLDING FORCES DUE TO FORM FIT

The stamping technology is a process in which a defined tooth contour is stamped into the workpiece in advance under high pressure for subsequent clamping by the form fit. This working step takes place outside the clamping device. With **SOLID**Stamp from HWR, you create a secure clamping due to established clamping technology. With the help of the stamping station, raw parts can be prepared for clamping in the vice within seconds. Complex premachining, such as the milling of clamping points, is no longer necessary. A minimum clamping depth of 3 mm and highest holding forces are only some of the advantages of **SOLID**Stamp.

SOLIDStamp stamping units

Ident-no.		680240	680245	680350	680355	68035X
Version		standard	HiEnd	standard	HiEnd	Additional stamping unit and grooved base plate on request
max. stamping width	mm	245	245	355	355	
for materials up to	HRc	35	45	35	45	
Weight	kg	76	76	84	84	
Scope of delivery		Stamping vice Stamping jaws hydr.-pneum. Multiplier Scaled workpiece stop				

SOLIDStamp stamping jaws

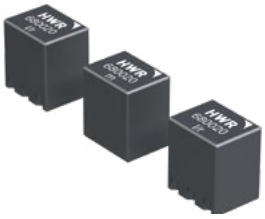
Ident-no.		680111	680112
Version		standard	HiEnd
Jaw width	mm	125	125
for materials up to	HRc	35	45
Reworking the stamping contour	Ident-no.	680111-02	680112-02

SOLIDStamp center marking tool

Ident-no.	680010
suitable for	SOLIDStamp stamping units
Spare marking bolt	680010-01

SOLIDStamp gauging blocks for wear measuring

Ident-no.	680020
Suitable for	SOLIDStamp stamping jaws



Stamping jaws suitable for Lang stamping units

Ident-no.		680411	680412
Version		standard	HiEnd
Jaw width	mm	125	125
for materials up to	HRc	35	45
As an alternative to	Ident-no.	41111	41112

SOLIDClean

Chip fan

APPLICATION

- The **SOLID**Clean fan may be clamped on the 20 mm or ¾" in a standard collet or Weldon-style chuck.
- The **SOLID**Clean fan is stored just like a common tool in the tool magazine and selected automatically via CNC program.
- Proir to the actual cleaning process workpieces and fixtures can be cleanded with coolant using the supply through the spindle. (No rotation of the spindle!)

686160

686260

686330

Ident-no.		686160	686260	686330
Version	mm	Ø 160	Ø 260	Ø 330
Shaft	mm	Ø 20	Ø 20	Ø 20
Maximum speed	U/min /rpm	12.000	8.000	8.000
Spare part kit	Ident-no.	686161	686261	686331

CLEANING PROCESS

1. Rinsing
If possible, first flush away chips over IKZ and stationary spindle.

2. Drying
Accelerate the spindle in two steps. Start with 500 rpm. Then accelerate the spindle to the required and permissible speed.

The **SOLID**Clean fan already cleans efficiently in the medium rpm range.

MAXIMUM SPEED*

Turn the **SOLID**Clean fan (clockwise) with sufficient distance. Please note that the interfering contour and thus also the risk of collision changes dynamically when the spindle accelerates (wings fold out) and when the spindle stops (wings fold in). Keep sufficient distance to the workpiece at all times.

SAFETY NOTICE

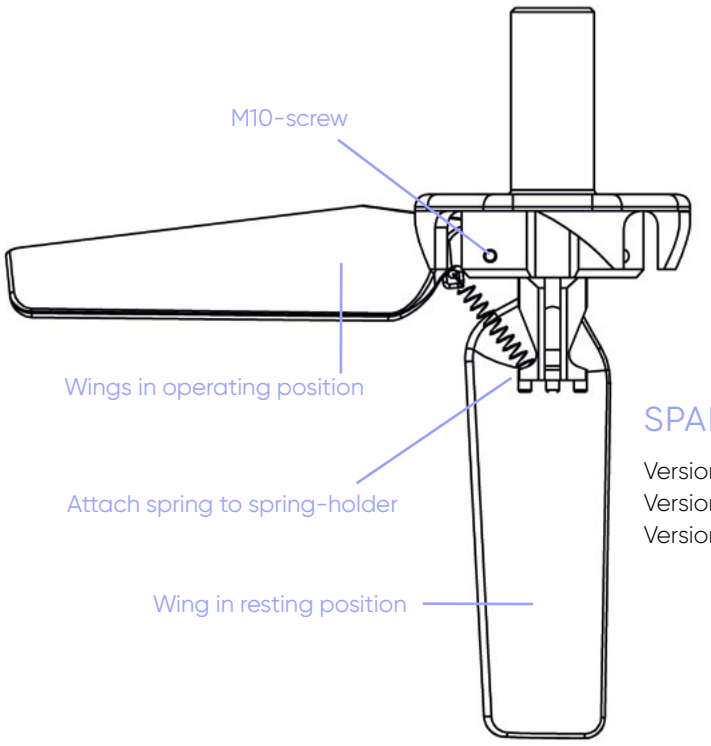
The **SOLID**Clean fan must be used in enclosed machining centers only.

ASSEMBLY INSTRUCTION

1. Remove the M10-screws (4 pcs.) with a 5 mm Allen key. Then remove the pins.

2. Attach the spring first at the spring-holder and then put the new wing into the groove of the body. Now push the ∅ 3 mm pin through the drilling holes of the wing and the body. In a final step tighten the M10-screws again to secure the pins.

3. After assembly, please check the function of the wings. Open the wings by hand and release. The wings must close automatically and smoothly to the resting position.



SPARE PART KIT

Version 160: *Item no.:* 686161
Version 260: *Item no.:* 686261
Version 330: *Item no.:* 686331

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IF YOU ALWAYS DO WHAT YOU'VE ALWAYS DONE, YOU'LL ALWAYS GET WHAT YOU'VE ALWAYS GOT.

«

[Henry Ford]

CREATING NEW STANDARDS

HWR