



TANDEM KSP3-BWA

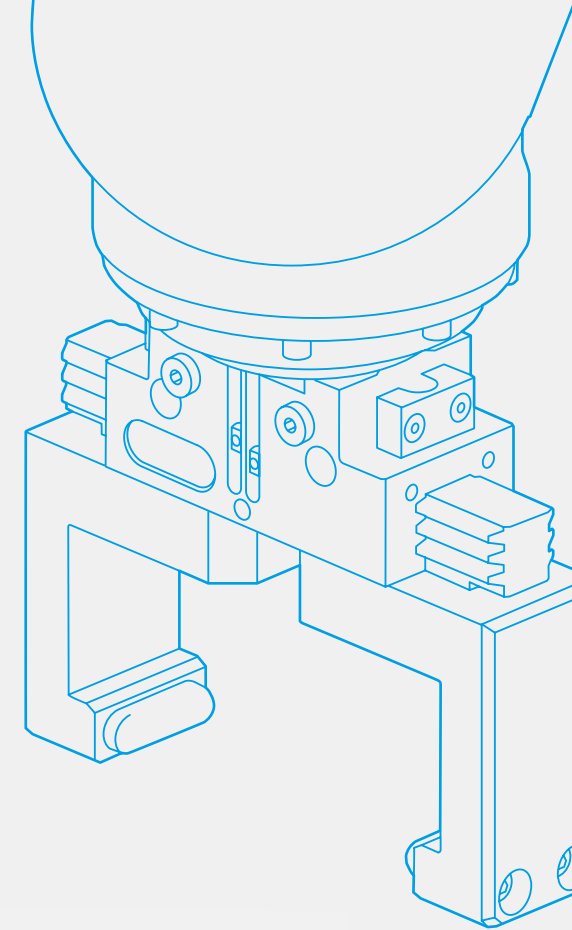
**Tool-free,
fully automatable
jaw change**

TANDEM KSP3-BWA for rapid adjustment to new clamping tasks

Pneumatically actuated 3rd-generation 2-jaw clamping force blocks in a compact design with jaw quick-change system for extremely fast adaptation to new clamping tasks.



Manual jaw change
The jaw quick-change system enables five times faster changes compared to conventional jaw changes.



Automated jaw change
Unlocking of interchangeable inserts can be done fully automatic.

Compact powerhouses

TANDEM KSP3 stands for powerful, pneumatically actuated clamping force blocks, which allow an extremely wide range of applications – whenever pneumatics is available on the machine.

Thanks to the jaw quick-change system the jaws can be exchanged manually or automatically via a robot within seconds – entirely without tools! This leads to an enormous reduction in set-up time, both in the 2-jaw version and in the soon-to-be-available 3-jaw version.

Integrated monitoring options as standard round off these virtues and are absolutely groundbreaking, especially in terms of automation.



NEW

TANDEM KRP3-BWA 3-jaw clamping force block with jaw quick-change.

For cylindrical workpieces and low-deformation clamping, a 3-jaw version will also be available soon.

Why TANDEM BWA? It's time and cost saving!

Competitiveness through maximum flexibility and shortest response times

SEE Clamping insert

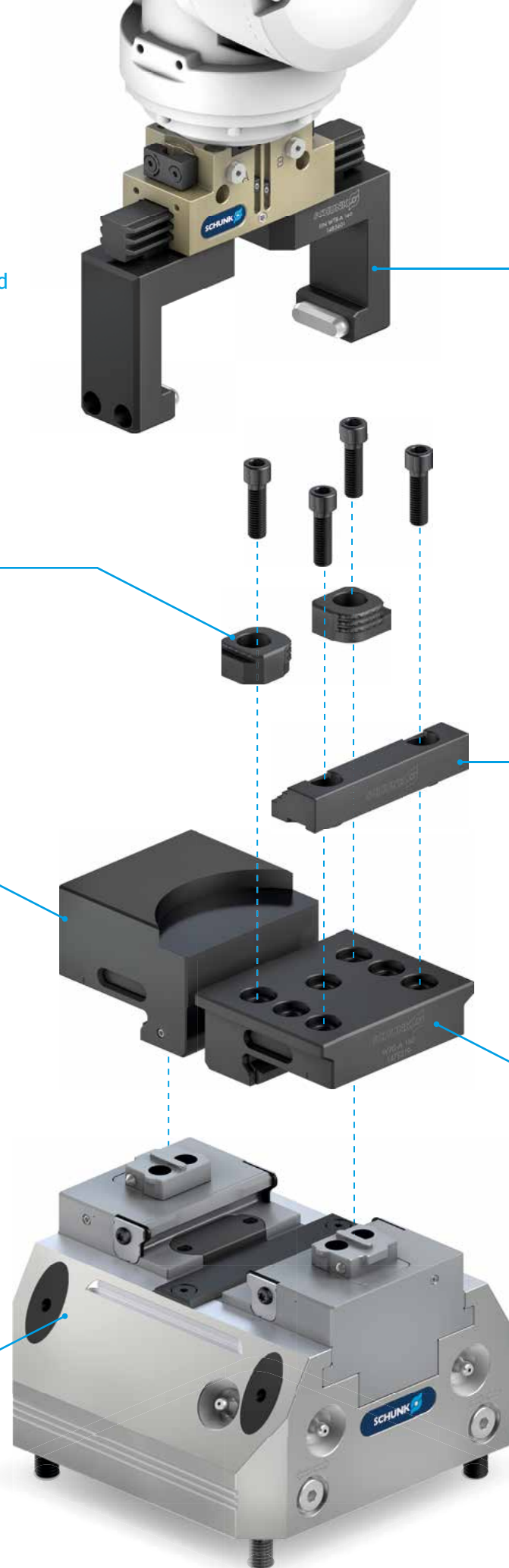
6-way reversible clamping insert for TANDEM reversal jaw WTG-A

WTR-A Quick-change jaw

The quick-change jaws WTR-A correspond to a top jaw blank. The clamping contour can be individually adjusted. The clamping step can be milled within a defined working surface.

KSP3-BWA Clamping force block

Pneumatically actuated 2-jaw clamping force blocks with jaw quick-change system for extremely fast adaptation to new clamping tasks. The clamping force blocks are currently available with standard stroke or long stroke.



FIN WTR-A Gripper finger

For automated handling of the WTR-A and WTG-A quick-change jaws, gripper fingers with spring-loaded compensation pieces are provided. These are designed for SCHUNK parallel grippers.

STG Clamping bar

Hardened clamping bar with three toothed clamping steps.

WTG-A Quick-change jaw

The quick-change jaw WTG-A is a version for clamping raw parts. Suitable accessories for adapting the workpiece clamping can be attached via grid holes.

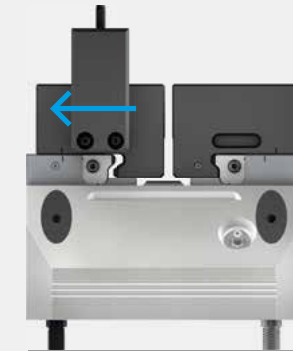


You can find more info in our TANDEM3 video

Automated change process



Step 1:
Changing jaw during insertion in changing interface (teach marks for positioning WTR-A and gripper finger)



Step 2:
WTR-A mounted, pre-centering with transverse clearance ± 0.6 mm



Step 3:
WTR-A interface inserted, is centered transverse to the clamping direction (sealed at sides)



Step 4:
Gripper fingers on both sides with floating spring mounting. Clearance for clamping bar STG to WTG-A

The impetus for flexibility, ergonomics, and future-proofing

- Tool-free jaw quick-change
- Base jaw monitoring
- Media transfer
- Sealing air holes at the jaw change interface

Storage system
for quick-change jaws

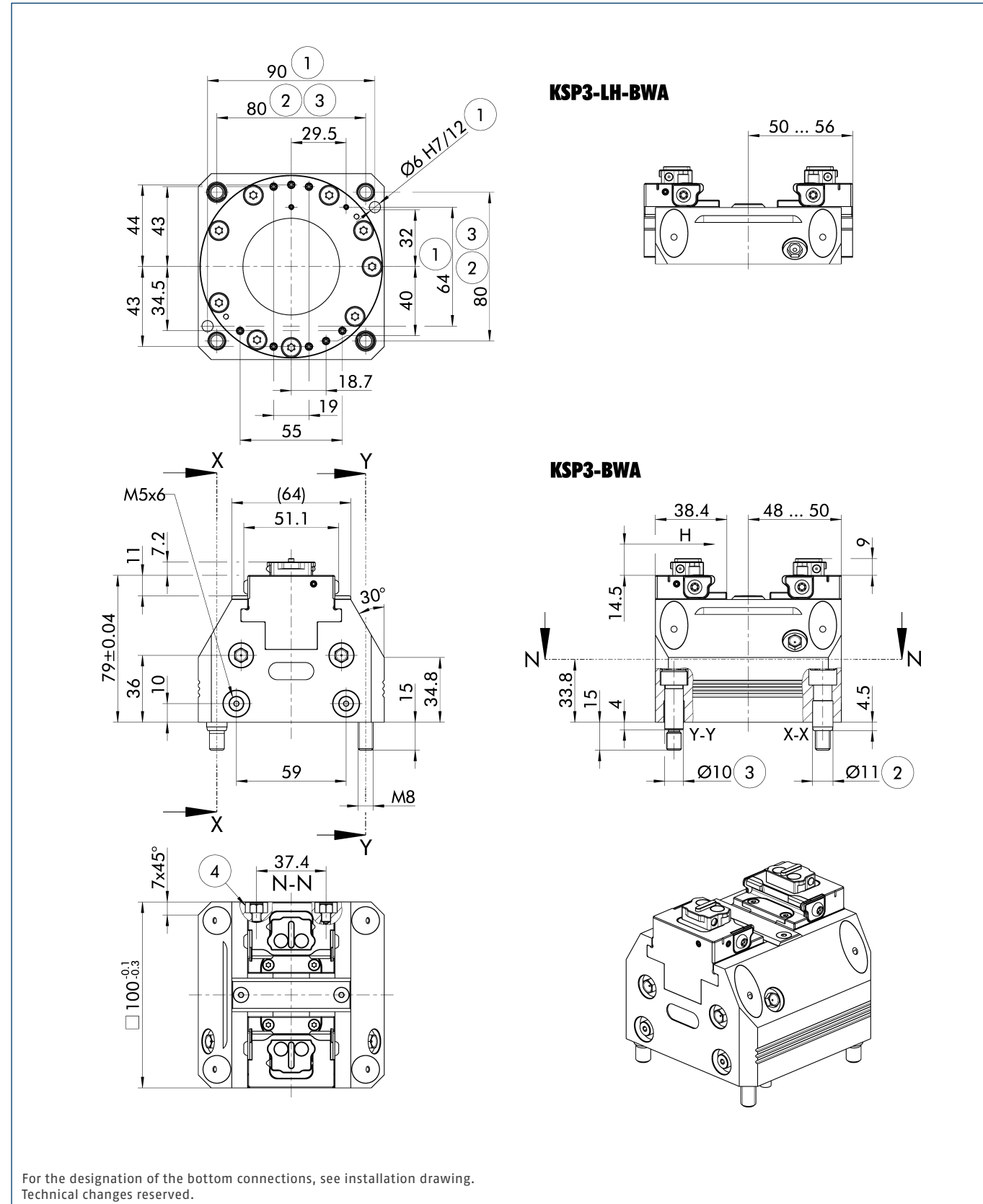
Storage system
for grippers

Gripping unit
with gripper finger
FIN WTR-A and
SCHUNK universal gripper
PGN-plus-P

WTR-A
Quick-change jaw

TANDEM KSP3-BWA
Clamping force block

Storage system
for workpieces



- ① Z-variant ± 0.01 mm to the clamping center
- ② Clamping sleeve ± 0.04 mm to the clamping center

- ③ Fitting screw ± 0.02 mm to the clamping center
- ④ Connection M5 for air purge

Technical data

Description	ID	Jig-machined positioning bores	Clamping force amplification for O.D. clamping	Pneumatic monitoring	Clamping force [kN]	Add. clamping force back from spring assembly [kN]	Operating pressure [bar]
KSP3 100-BWA	1479153			●	18		2-9
KSP3 100-Z-BWA	1479154	●		●	18		2-9
KSP3 100-AS-BWA	1479155		●	●	18	2.5-6.5	3-9
KSP3 100-Z-AS-BWA	1479156	●	●	●	18	2.5-6.5	3-9
KSP3-LH 100-BWA	1479158			●	8		2-9
KSP3-LH 100-Z-BWA	1479159	●		●	8		2-9
KSP3-LH 100-AS-BWA	1479160		●	●	8	1-2.5	3-9
KSP3-LH 100-Z-AS-BWA	1479161	●	●	●	8	1-2.5	3-9

Scope of delivery

Clamping force block, mounting screws, cover plugs, clamping sleeves, fitting screws, operating manual

Definition of clamping force

The clamping force is the arithmetic sum of the individual forces occurring at the chuck jaws at distance "H" at maximum pressure.

Definition of clamping force increase due to spring assembly

The increase in clamping force caused by the spring assembly depends on the stroke because of the spring tension. Max. spring force is reached in the "open" condition, min. spring force in the "closed" condition.

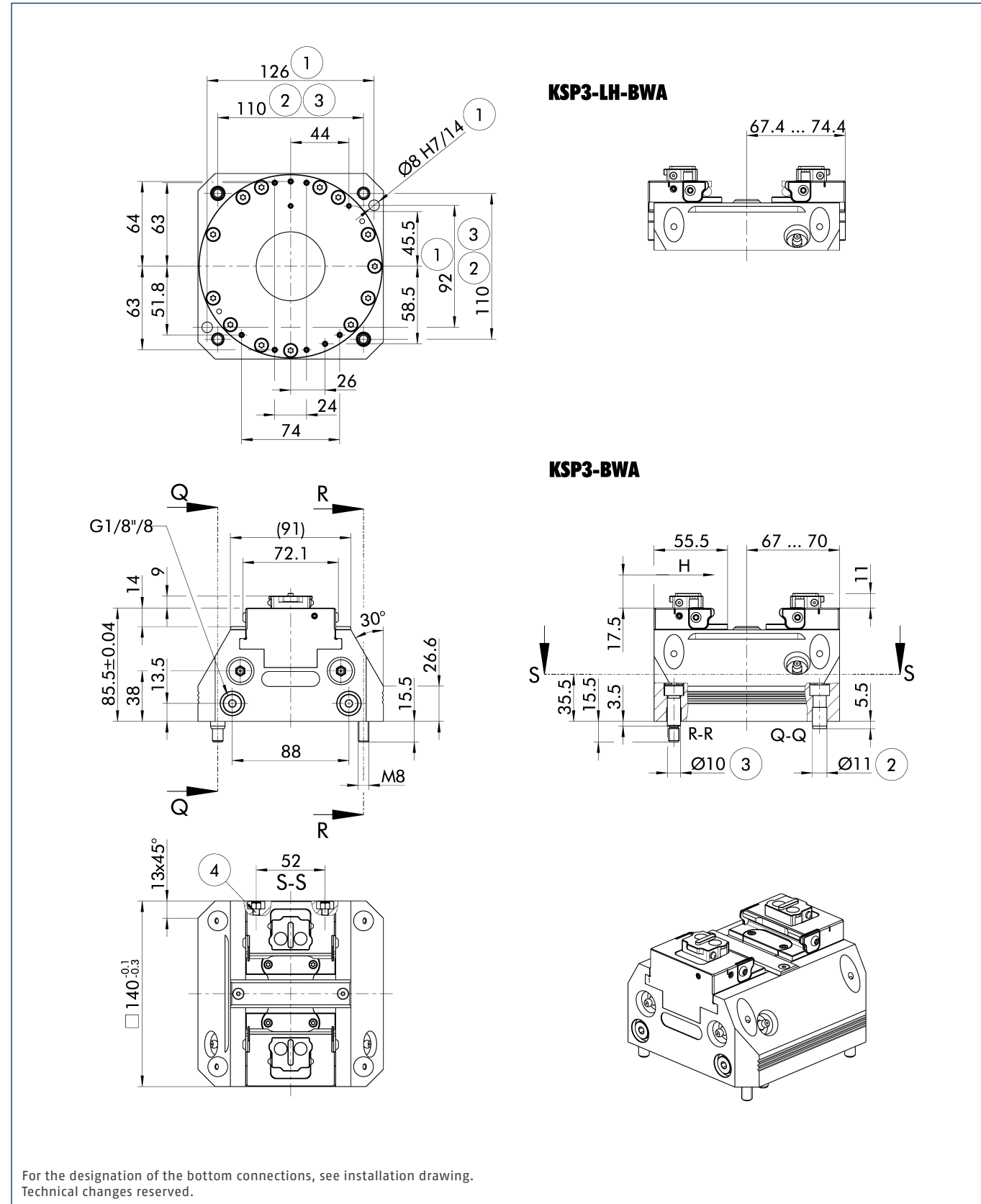
Repeat accuracy of the jaw change

The repeat accuracy in the jaw interface when exchanging the quick-change jaws is 0.01 mm.

The specifications exclusively refer to the LP 410 grease used by SCHUNK.

Further technical data

Description	Stroke version	Stroke per jaw [mm]	Max. jaw height [mm]	Repeat accuracy [mm]	Air consumption per double stroke at 6 bar [cm ³]	Closing/opening time [s]	Weight [kg]
KSP3 100 ...	Standard stroke	2	27	0.01	1000	0.2	4
KSP3-LH 100 ...	Long stroke	6	27	0.01	1000	0.2	4



- ① Z-variant ± 0.01 mm to the clamping center
- ② Clamping sleeve ± 0.04 mm to the clamping center

- ③ Fitting screw ± 0.02 mm to the clamping center
- ④ Connection M5 for air purge

Technical data

Description	ID	Jig-machined positioning bores	Clamping force amplification for O.D. clamping	Pneumatic monitoring	Clamping force [kN]	Add. clamping force from spring assembly [kN]	Operating pressure [bar]
KSP3 140-BWA	1479191			●	30		2-9
KSP3 140-Z-BWA	1479192	●		●	30		2-9
KSP3 140-AS-BWA	1479193		●	●	30	4.5-9	3-9
KSP3 140-Z-AS-BWA	1479194	●	●	●	30	4.5-9	3-9
KSP3-LH 140-BWA	1479196			●	15		2-9
KSP3-LH 140-Z-BWA	1479197	●		●	15		2-9
KSP3-LH 140-AS-BWA	1479198		●	●	15	2-4	3-9
KSP3-LH 140-Z-AS-BWA	1479199	●	●	●	15	2-4	3-9

Scope of delivery

Clamping force block, mounting screws, cover plugs, clamping sleeves, fitting screws, operating manual

Definition of clamping force

The clamping force is the arithmetic sum of the individual forces occurring at the chuck jaws at distance "H" at maximum pressure.

Definition of clamping force increase due to spring assembly

The increase in clamping force caused by the spring assembly depends on the stroke because of the spring tension. Max. spring force is reached in the "open" condition, min. spring force in the "closed" condition.

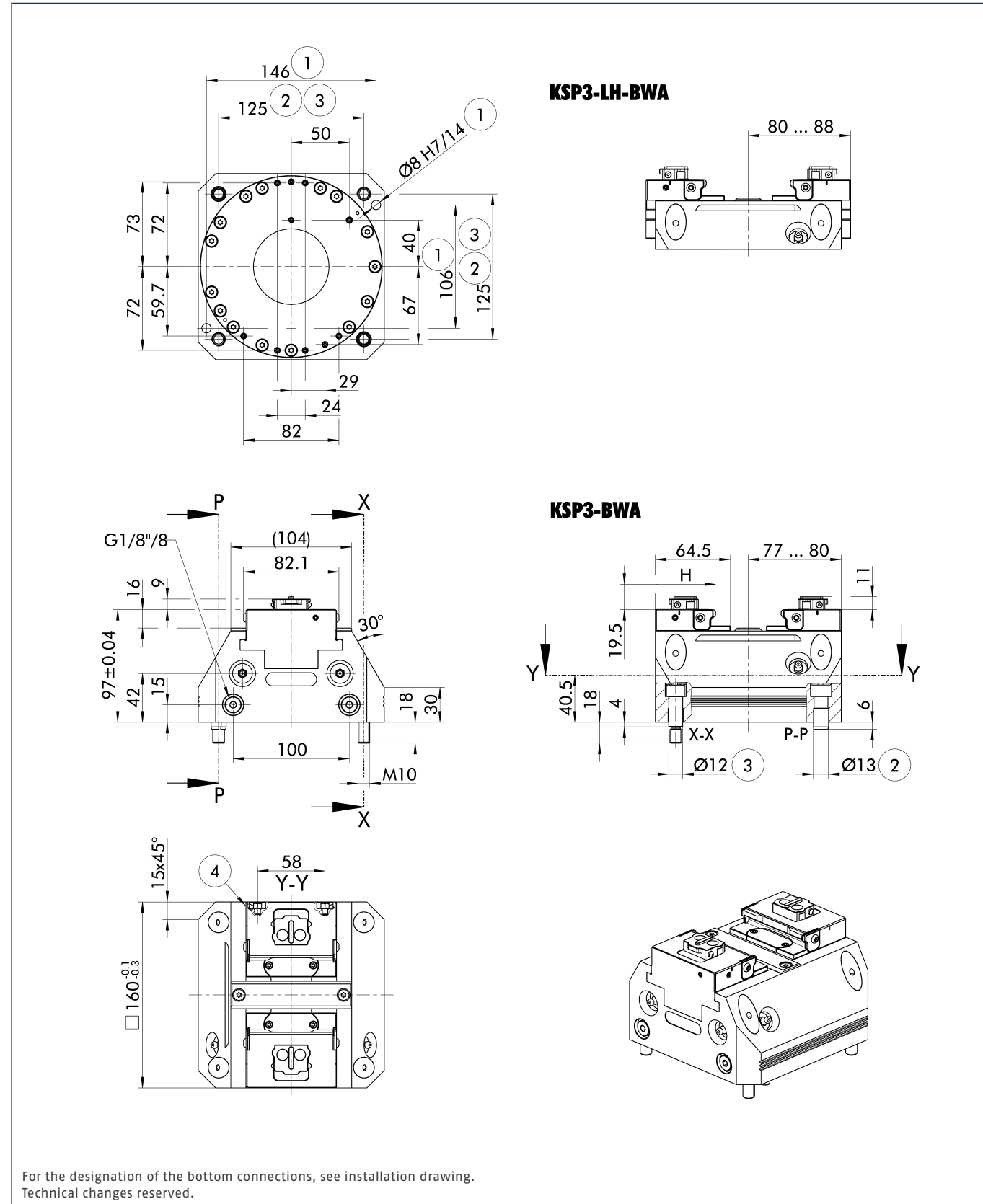
Repeat accuracy of the jaw change

The repeat accuracy in the jaw interface when exchanging the quick-change jaws is 0.01 mm.

The specifications exclusively refer to the LP 410 grease used by SCHUNK.

Further technical data

Description	Stroke version	Stroke per jaw [mm]	Max. jaw height [mm]	Repeat accuracy [mm]	Air consumption per double stroke at 6 bar [cm ³]	Closing/opening time [s]	Weight [kg]
KSP3 140 ...	Standard stroke	3	33	0.01	2300	0.3	8
KSP3-LH 140 ...	Long stroke	7	33	0.01	2300	0.3	8



- ① Z-variant ±0.01 mm to the clamping center
- ② Clamping sleeve ±0.04 mm to the clamping center

- ③ Fitting screw ±0.02 mm to the clamping center
- ④ Connection M5 for air purge

Technical data

Description	ID	Jig-machined positioning bores	Clamping force amplification for O.D. clamping	Pneumatic monitoring	Clamping force [kN]	Add. clamping force from spring assembly [kN]	Operating pressure [bar]
KSP3 160-BWA	1479243			●	45		2-9
KSP3 160-Z-BWA	1479244	●		●	45		2-9
KSP3 160-AS-BWA	1479245		●	●	45	5.5-11	3-9
KSP3 160-Z-AS-BWA	1479246	●	●	●	45	5.5-11	3-9
KSP3-LH 160-BWA	1479262			●	20		2-9
KSP3-LH 160-Z-BWA	1479263	●		●	20		2-9
KSP3-LH 160-AS-BWA	1479264		●	●	20	2-4.5	3-9
KSP3-LH 160-Z-AS-BWA	1479265	●	●	●	20	2-4.5	3-9

Scope of delivery

Clamping force block, mounting screws, cover plugs, clamping sleeves, fitting screws, operating manual

Definition of clamping force

The clamping force is the arithmetic sum of the individual forces occurring at the chuck jaws at distance "H" at maximum pressure.

Definition of clamping force increase due to spring assembly

The increase in clamping force caused by the spring assembly depends on the stroke because of the spring tension. Max. spring force is reached in the "open" condition, min. spring force in the "closed" condition.

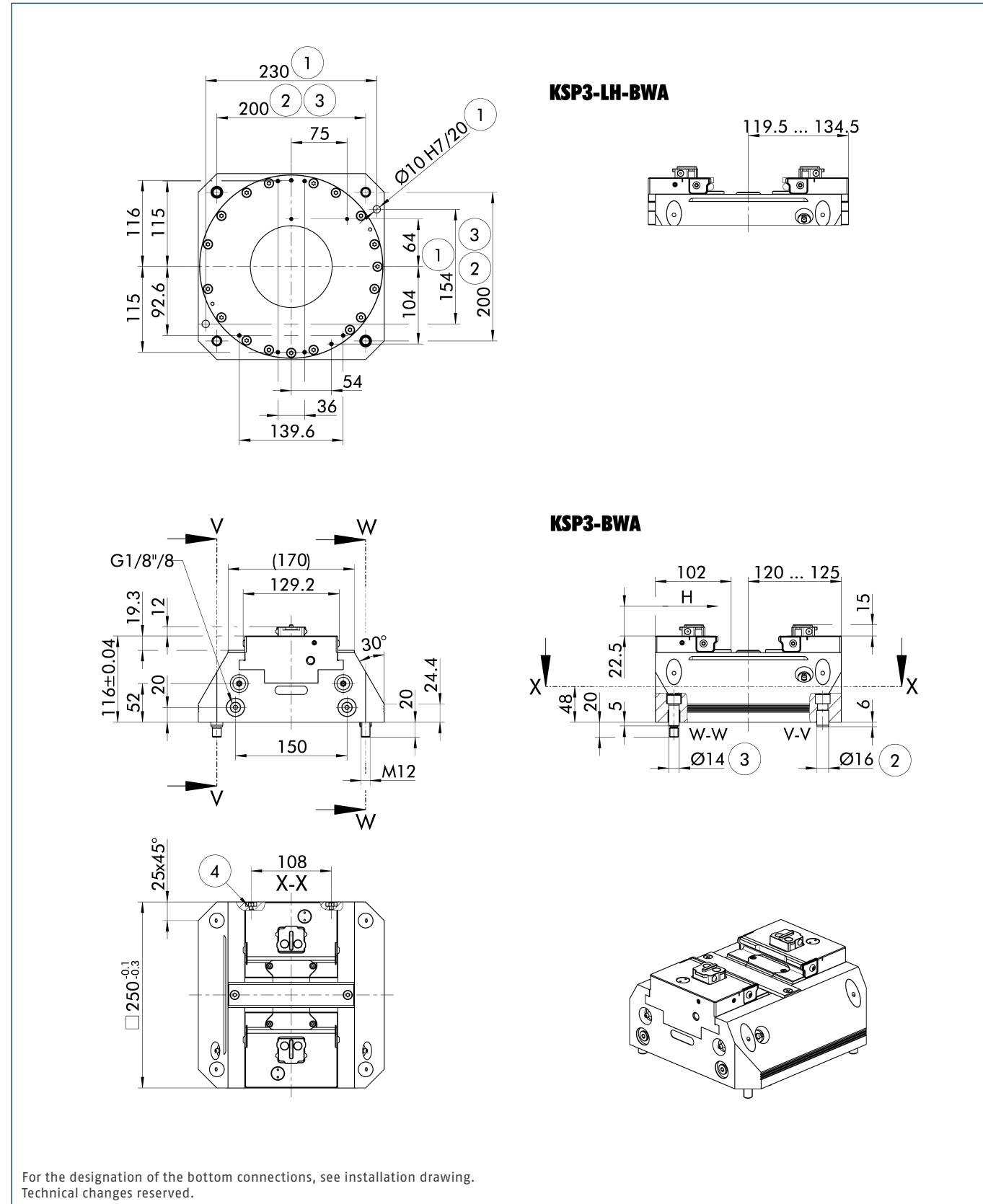
Repeat accuracy of the jaw change

The repeat accuracy in the jaw interface when exchanging the quick-change jaws is 0.01 mm.

The specifications exclusively refer to the LP 410 grease used by SCHUNK.

Further technical data

Description	Stroke version	Stroke per jaw [mm]	Max. jaw height [mm]	Repeat accuracy [mm]	Air consumption per double stroke at 6 bar [cm³]	Closing/opening time [s]	Weight [kg]
KSP3 160 ...	Standard stroke	3	41	0.01	3400	0.4	11.5
KSP3-LH 160 ...	Long stroke	8	41	0.01	3400	0.4	11.5



For the designation of the bottom connections, see installation drawing.
Technical changes reserved.

- ① Z-variant ±0.01 mm to the clamping center
- ② Clamping sleeve ±0.04 mm to the clamping center
- ③ Fitting screw ±0.02 mm to the clamping center
- ④ Connection M5 for air purge

Technical data

Description	ID	Jig-machined positioning bores	Clamping force amplification for O.D. clamping	Pneumatic monitoring	Clamping force [kN]	Add. clamping force from spring assembly [kN]	Operating pressure [bar]
KSP3 250-BWA	1479282			●	55		2-6
KSP3 250-Z-BWA	1479283	●		●	55		2-6
KSP3 250-AS-BWA	1479284		●	●	55	10.5-20	3-6
KSP3 250-Z-AS-BWA	1479285	●	●	●	55	10.5-20	3-6
KSP3-LH 250-BWA	1479288			●	20		2-6
KSP3-LH 250-Z-BWA	1479289	●		●	20		2-6
KSP3-LH 250-AS-BWA	1479290		●	●	20	3.5-7	3-6
KSP3-LH 250-Z-AS-BWA	1479291	●	●	●	20	3.5-7	3-6

Scope of delivery

Clamping force block, mounting screws, cover plugs, clamping sleeves, fitting screws, operating manual

Definition of clamping force

The clamping force is the arithmetic sum of the individual forces occurring at the chuck jaws at distance "H" at maximum pressure.

Definition of clamping force increase due to spring assembly

The increase in clamping force caused by the spring assembly depends on the stroke because of the spring tension. Max. spring force is reached in the "open" condition, min. spring force in the "closed" condition.

Repeat accuracy of the jaw change

The repeat accuracy in the jaw interface when exchanging the quick-change jaws is 0.01 mm.

The specifications exclusively refer to the LP 410 grease used by SCHUNK.

Further technical data

Description	Stroke version	Stroke per jaw [mm]	Max. jaw height [mm]	Repeat accuracy [mm]	Air consumption per double stroke at 6 bar [cm³]	Closing/opening time [s]	Weight [kg]
KSP3 250 ...	Standard stroke	5	52	0.02	9100	1.6	34.5
KSP3-LH 250 ...	Long stroke	15	52	0.02	9100	1.6	34.5

Quick-change jaw

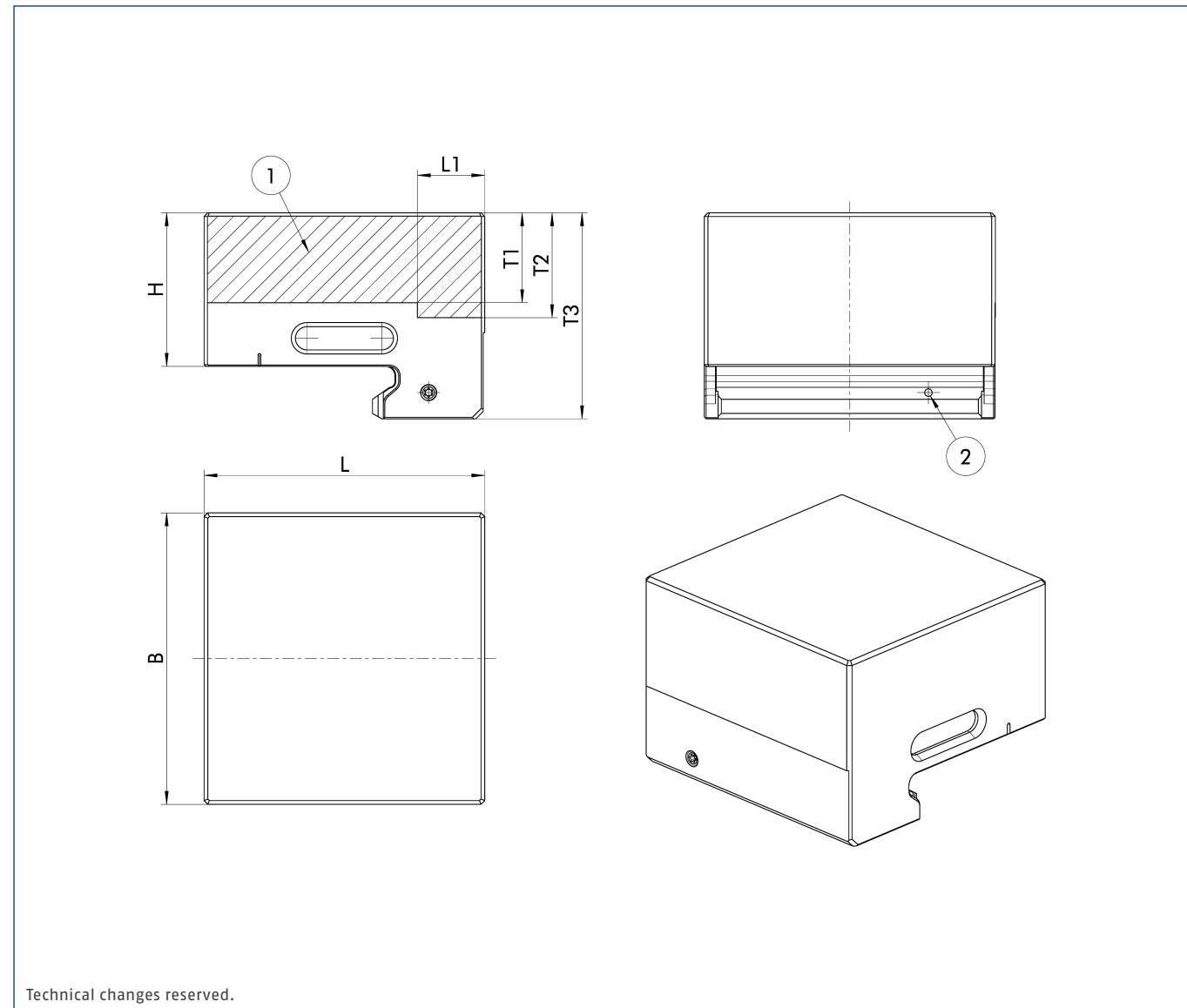
Top jaw blanks with jaw quick-change interface BWA for customer rework.
1 set = 2 pieces

Scope of delivery

Quick-change jaws

Technical data

ID	Suitable for	L [mm]	W [mm]	H [mm]	L1 [mm]	T1 [mm]	T2 [mm]	T3 [mm]
1479313	100	46.4	46.8	27	15	18	22	36
1479314	140	65	67.8	33	18	24	28	45
1479315	160	75	77.8	41	24	28	38	55
1479316	250	118	124.8	52	30	32	38	70



Technical changes reserved.

- ① Work surface
- ② Air transfer in the system jaw

Quick-change jaw

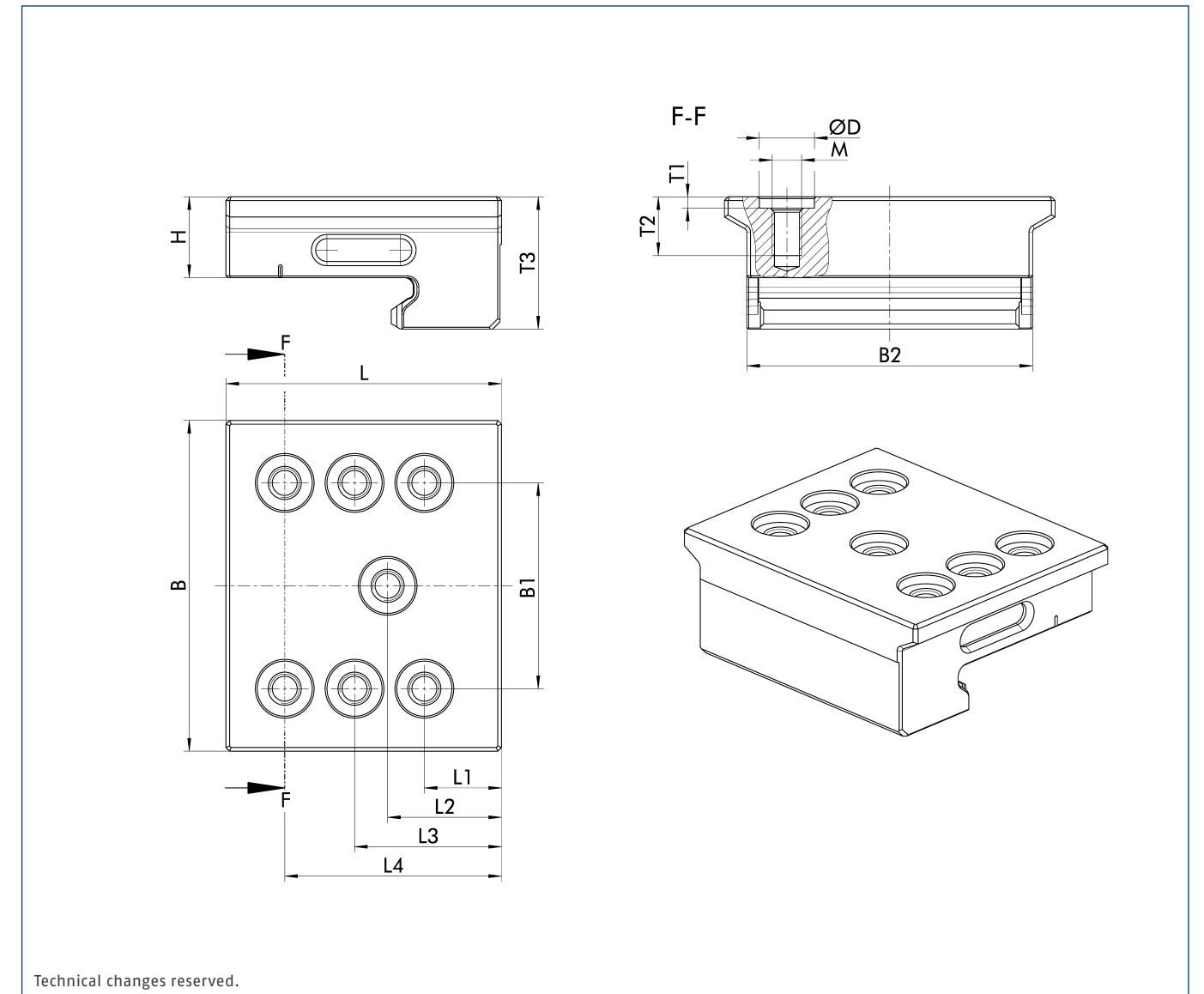
Top jaw blanks with jaw quick-change interface BWA and prefabricated mounting threads for SEI clamping inserts.
1 set = 2 pieces

Scope of delivery

Quick-change jaws

Technical data

ID	Suitable for	L [mm]	W [mm]	H [mm]	D [mm]	B1 [mm]	B2 [mm]	G	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	T1 [mm]	T2 [mm]	T3 [mm]
1479317	100	46.4	55	16	10	34	46.8	M6	11.4	15.4	24.4	37.4	2.1	11	25
1479318	140	65	80	20	15	46	67.8	M8	15	22	32	49	3.1	16	32
1479319	160	75	90	22	15	56	77.8	M8	21	31.5	40	59	3.1	16	36
1479320	250	118	140	28	20	96	124.8	M10	37	43	67	97	4.1	21	46



Technical changes reserved.

Gripper finger

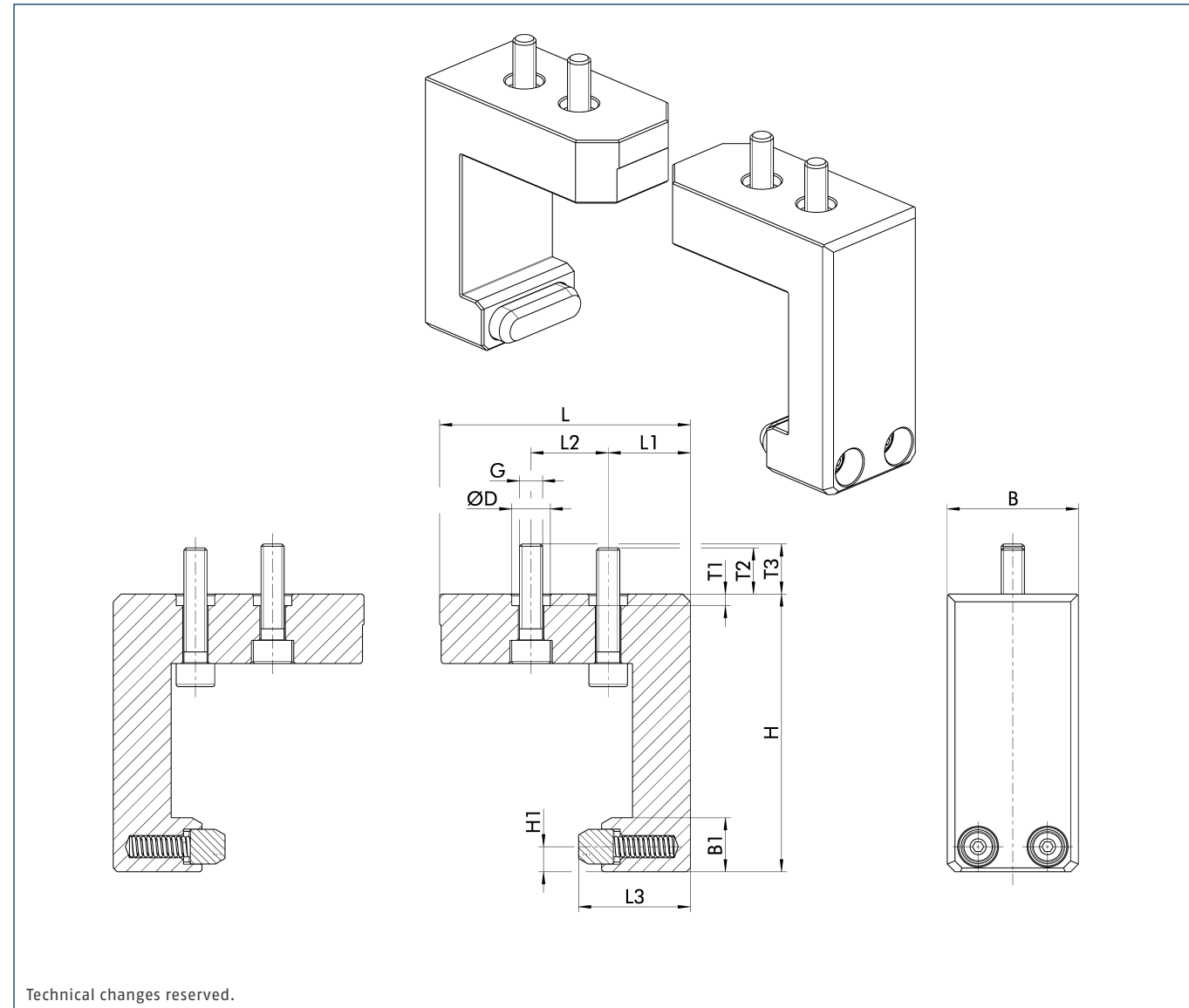
Gripper fingers specifically designed to clamp the WTR-A and WTG-A quick-change jaws.
Suitable for parallel gripper series PGN-plus and PGN-plus-P.

Scope of delivery

Gripper finger

Technical data

ID	Suitable for	L [mm]	W [mm]	H [mm]	D (H7) [mm]	B1 [mm]	G	L1 [mm]	L2 [mm]	L3 [mm]	T1 [mm]	T2 [mm]	T3 [mm]
1485599	100	44	32	50	8	11.5	M5	9	16	21.5 - 23	2.5	11	11
1485600	140	65	34	64	10	14	M6	21.3	20	32.3 - 34	3	12	13
1485601	160	65	34	72	10	14	M6	21.3	20	27.3 - 29	3	12	13
1485602	250	89	42	86	10	16	M6	33	24	27.7 - 29.5	3	13	13



Technical changes reserved.

The PGN-plus-P universal gripper

Universal 2-finger parallel gripper with permanent lubrication, high gripping force, and high maximum moments due to the use of a multi-tooth guidance.

+ Up to 50% higher gripping force
with the increased surface area of the drive piston.

+ Up to 50% longer gripper fingers
The higher maximum moment of the multi-tooth guidance enables the use of longer gripper fingers.

+ Variety in accessories
A broad range of high-quality accessory components and suitable sensors.



Automated machine loading with the SCHUNK gripper PGN-plus-P


All machine and system loading requirements can be handled in a reliable process with the PGN-plus-P universal gripper. SCHUNK has now equipped the multi-tooth guidance contour with innovative continuous lubricant

pockets. This ensures that the sliding surfaces are continuously lubricated, and the PGN-plus-P operates lifelong maintenance-free under clean operating conditions.






Technical data

Size	Stroke per finger [mm]	Gripping force [N]	Max. permissible finger length [mm]	Recommended workpiece weight [kg]
PGN-plus P 80	8	540	125	5.5
PGN-plus P 100	10	870	160	8.75


Console plates

Description	Suitable for	Description	ID
 <p>Console plates For direct mounting on VERO-S or T-slot tables.</p>	KSP3 100-BWA	KSL3 100-1	1466119
	KSP3 140-BWA	KSL3 140-1	1466120
	KSP3 160-BWA	KSL3 160-1	1466121

Base plates

Description	Suitable for	Description	ID
 <p>1-way base plate For direct mounting and actuation of a TANDEM clamping force block with VERO-S. Suitable for sizes 100 and 160.</p>	KSP3 100-BWA KSP3 160-BWA	ABP-h plus 100/160-1	1323973
 <p>2-way base plate For direct mounting and actuation of up to two TANDEM clamping force blocks with VERO-S. Suitable for sizes 100 and 160.</p>	KSP3 100-BWA KSP3 160-BWA	ABP-h plus 100/160-2	1323974
 <p>3-way base plate For direct mounting and actuation of up to three TANDEM clamping force blocks with VERO-S. Suitable for sizes 100 and 160.</p>	KSP3 100-BWA KSP3 160-BWA	ABP-h plus 100/160-3	1323975
 <p>1-way base plate For direct mounting and actuation of a TANDEM clamping force block with VERO-S. Suitable for size 250.</p>	KSP3 250-BWA	ABP-h plus 250-1	1323976
 <p>2-way base plate For direct mounting and actuation of up to two TANDEM clamping force blocks with VERO-S. Suitable for size 250.</p>	KSP3 250-BWA	ABP-h plus 250-2	1323977



Accessories

Description	Suitable for	Description	ID
 <p>Clamping force tester For measuring the jaw clamping force of stationary clamping devices.</p>	All sizes	IFT SST set	1475766



Accessories

Description	Suitable for	Description	ID
 <p>Clamping pins Standard clamping pin for form-fit connection of workpieces or devices with clamping modules. Clamping pin holding force = 35 kN (M10), 50 kN (M12)</p>	ABP-h plus 100/160-1 ABP-h plus 100/160-2 ABP-h plus 100/160-3 ABP-h plus 250-1 ABP-h plus 250-2 KSL3 100-1 KSL3 140-1 KSL3 160-1	SPA 40	0471151
 <p>Indexing pin Used to position the clamping pallets or clamping devices.</p>	ABP-h plus 100/160-2 ABP-h plus 100/160-3 ABP-h plus 250-2	SPB 40	0471152
	ABP-h plus 100/160-3 ABP-h plus 250-2	SPC 40	0471153
 <p>Cylindrical clamping blanks For individual fastening of clamping stations or base plates on all common machine table slot spacings The mounting holes are reworked by the customer.</p>	ABP-h plus 100/160-1 KSL3 100-1 KSL3 140-1 KSL3 160-1	IXB V1	0471980
	KSL3 100-1 KSL3 140-1 KSL3 160-1	BRR 50	0470020

Accessories

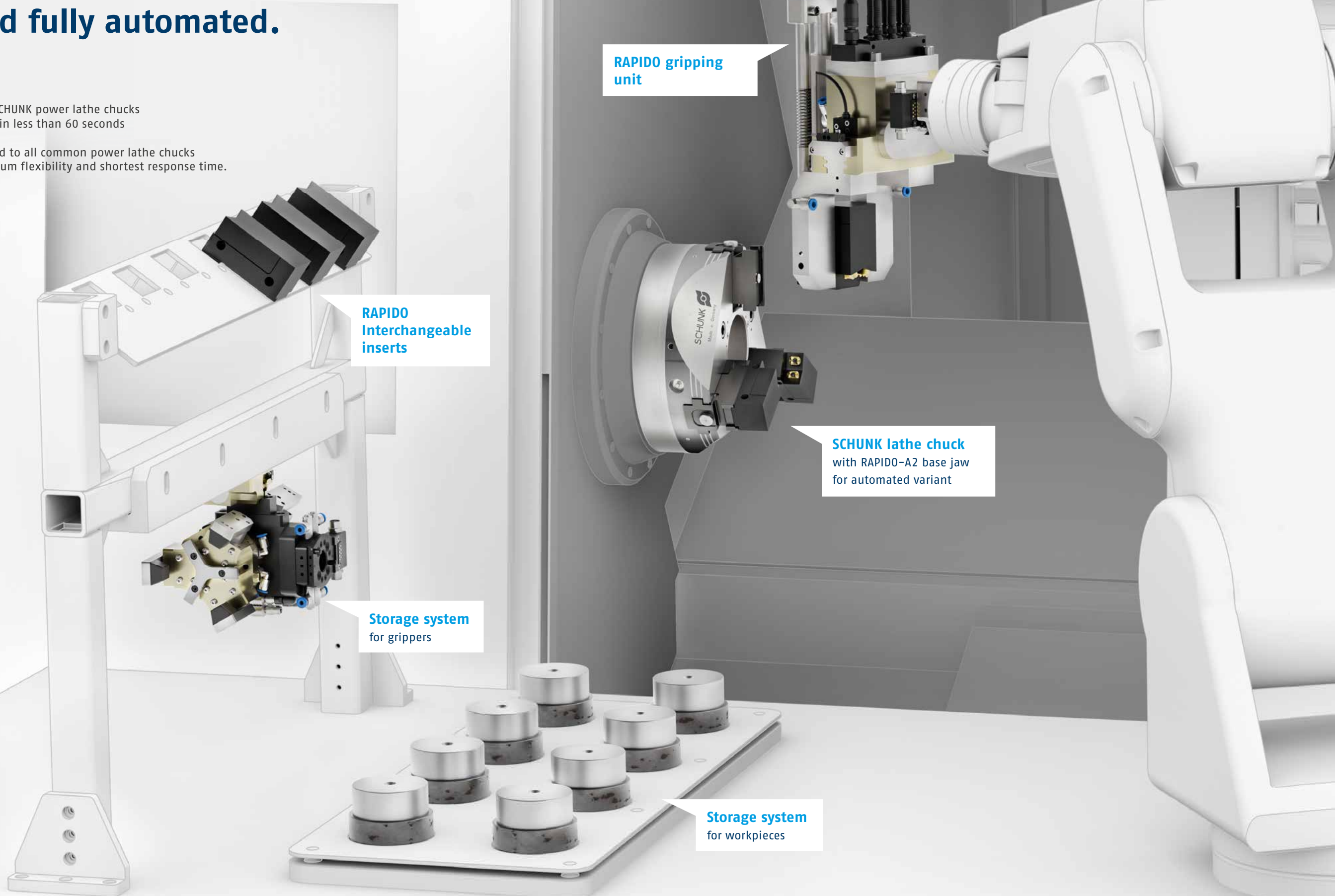
Description	Bundle	Description	ID
 <p>6-way reversal jaws With five carbide grip steps as well as a coated clamping face.</p>	WTG-A 100	SEI M6	0402317
	WTG-A 140 WTG-A 160	SEI M8	0402318
	WTG-A 250	SEI M10	0402319
 <p>Clamping bar With three grip levels.</p>	WTG-A 100	STG 100	0402314
	WTG-A 140	STG 140	1452063
	WTG-A 160	STG 160	0402315
	WTG-A 250	STG 250	0402316

Accessories

Description	Bundle	Description	ID
 <p>LP 410 High-performance grease as standard for regularly lubricating SCHUNK TANDEM clamping force blocks.</p>	Cartridge	LP 410 cartridge	0184213
 <p>Grease gun Tool for lubrication of all kinds of SCHUNK products. The grease gun can be used for cartridges of all types of grease used by SCHUNK.</p>	Cartridge	Grease gun	9900543

RAPIDO-A2 Lathe chuck jaw quick-change – tool-free and fully automated.

- Fully automatable for selected SCHUNK power lathe chucks
- Complete, tool-free jaw change in less than 60 seconds
- I.D. and O.D. clamping possible
- Manual variant can be retrofitted to all common power lathe chucks
- Competitiveness through maximum flexibility and shortest response time.



RAPIDO gripping unit

RAPIDO Interchangeable inserts

SCHUNK lathe chuck with RAPIDO-A2 base jaw for automated variant

Storage system for grippers

Storage system for workpieces



**H.-D. SCHUNK GmbH & Co.
Spanntechnik KG**

Lothringer Str. 23
D-88512 Mengen
Tel. +49-7572-7614-1300
CMM@de.schunk.com
schunk.com

Follow us



We print sustainably



15976941-2M-06/2023

