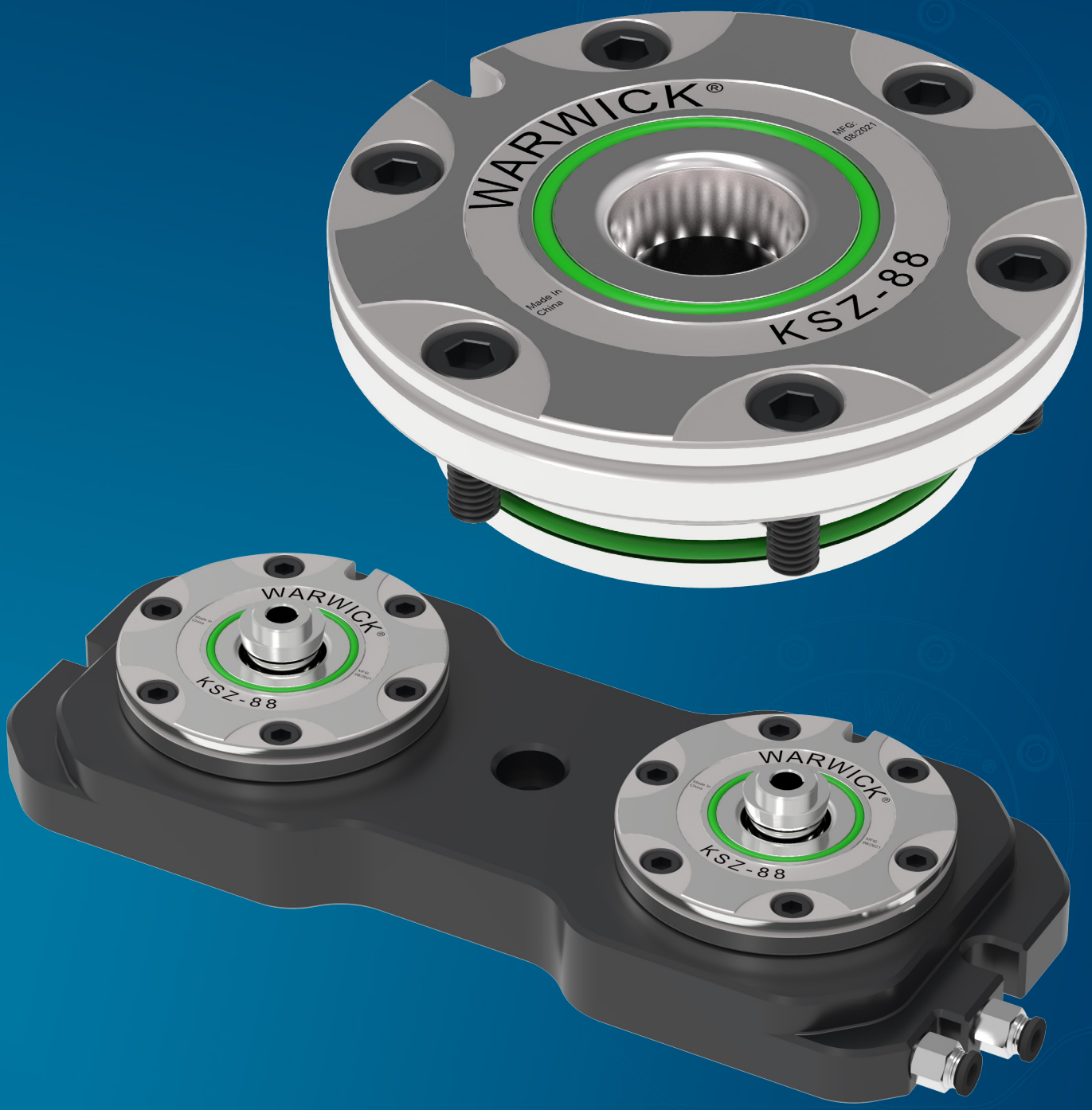
SIMPLE-KSZ
Just to save time

SIMPLE-KSZ is the modular quick-change pallet system for very fast and extremely precise resetting of workpieces, clamping devices or other equipment on modern 3-, 4- or 5-axis machining centers. It reduces the retooling times up to 90% and thus provides optimal utilization of the machine capacity.



Quick-change Pallet Systems

Advantages – Your benefits

WARWICK modular system
Innumerable combinations of standard clamping devices
suitable for different types of machines

All modules can be operated at a system pressure of 6.5 bar Additional pressure intensifiers are not required

Positioning via short taper Very easy joining process at a repeat accuracy of < 0.005 mm

Patented drive system achieves maximum pull-down force, so very firm clamping without vibration

The module is made of anti-rust material, completely sealed, has a long service life, and the highest process reliability

Includes increased pull-down force function and self-locking function (still available when air is cut off), maximizes CNC machine performance and is therefore very efficient

Every KSZ module uses a common clamping pin size to ensure 100% compatibility without the risk of confusion or incorrect operation

Air flow is ejected from the center to protect the replacement interface from coolant, dust and debris

SIMPLE-KSZ
Technology

The clamping process is activated by an integrated spring assembly. The transmission of force is via a patented drive kinematics that converts the available spring force into a maximum pull-down force on the clamped steel ball. Automatically maintains the clamping state and integrates the function of increasing the pull-down force. Opening is performed at 6.5 bar system pressure.

SIMPLE=RELIABLE

1 Air flow is ejected from the center to protect the replacement interface from coolant, dust and debris

2 Patented structural drive system provides extremely high pull-down force between the piston and the steel ball

3 Continuous flow of compressed air increases the pulling force

4 Flat seal to protect the interface during machining Dampens the deposition of the workpiece or clamping pallet

5 Completely sealed system Therefore absolutely maintenance-free

6 Large flat surfaces for best support and highest rigidity

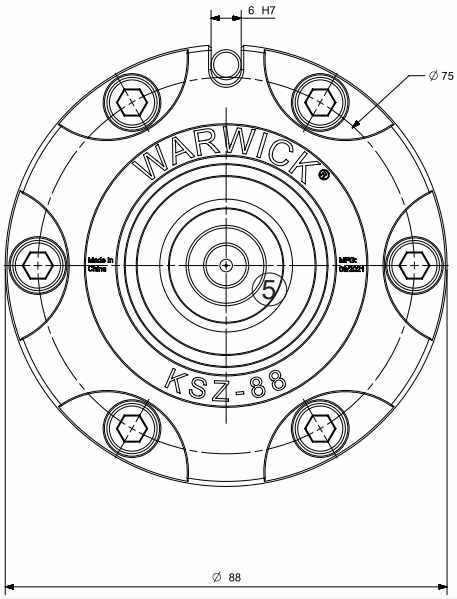
7 Lower-lying countersunk screws For easy cleaning

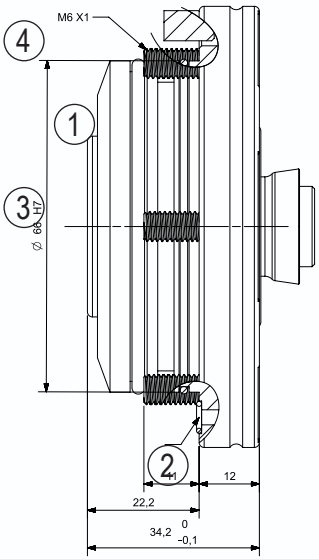
SIMPLE - KSZ - 88

Sistemi di pallet a cambio rapido/Quick-change Pallet Systems

KSZ - 88

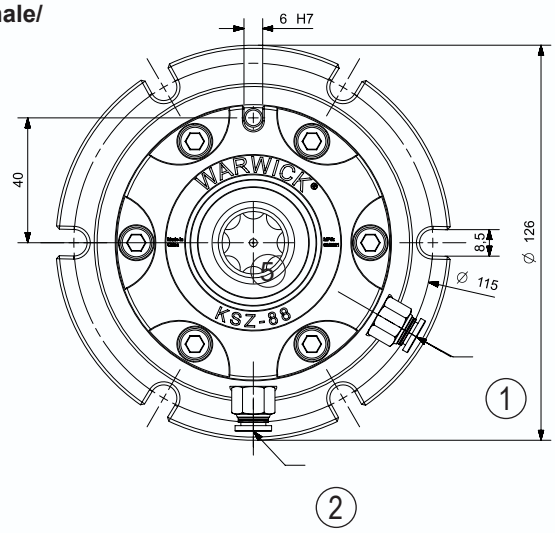
Quick-change Pallet Module

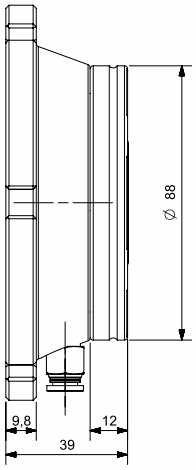




KSZ - 88 - T1

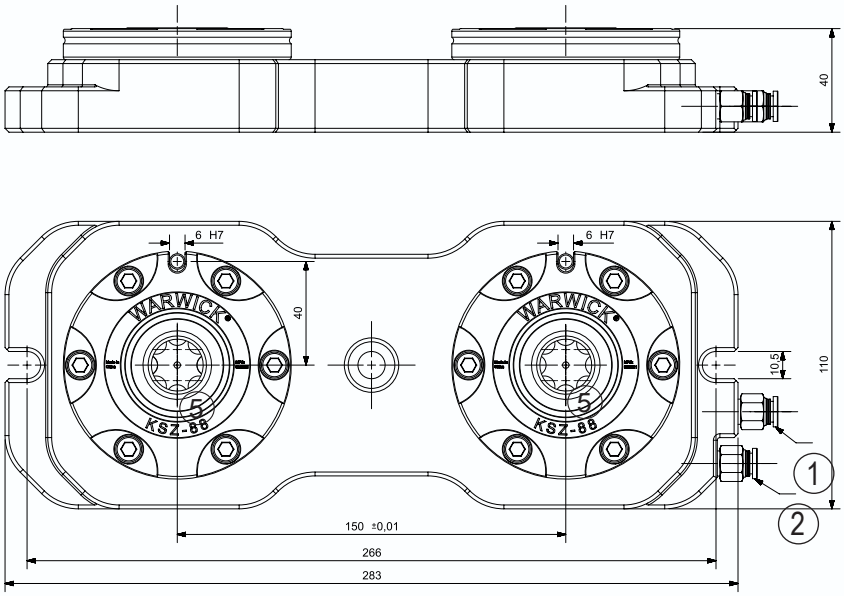
Stazione di serraggio unidirezionale/
1-way Clamping Station





KSZ - 88 - T2

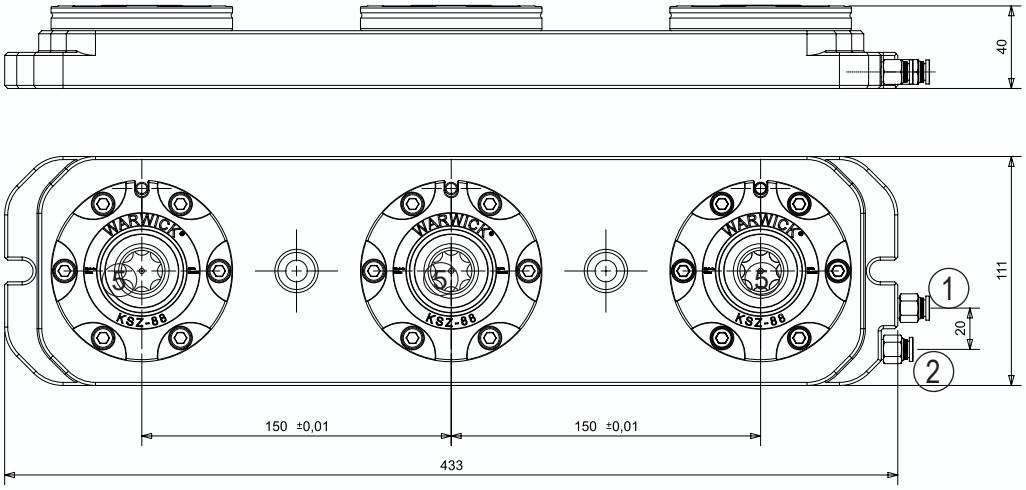
Stazione di serraggio a 2 vie
2-way Clamping Station



1 The intake air is unlocked
2 /The intake air increases the clamping force
3 Installation position size /Fixed lock
4 screw
5 /Clean stomata

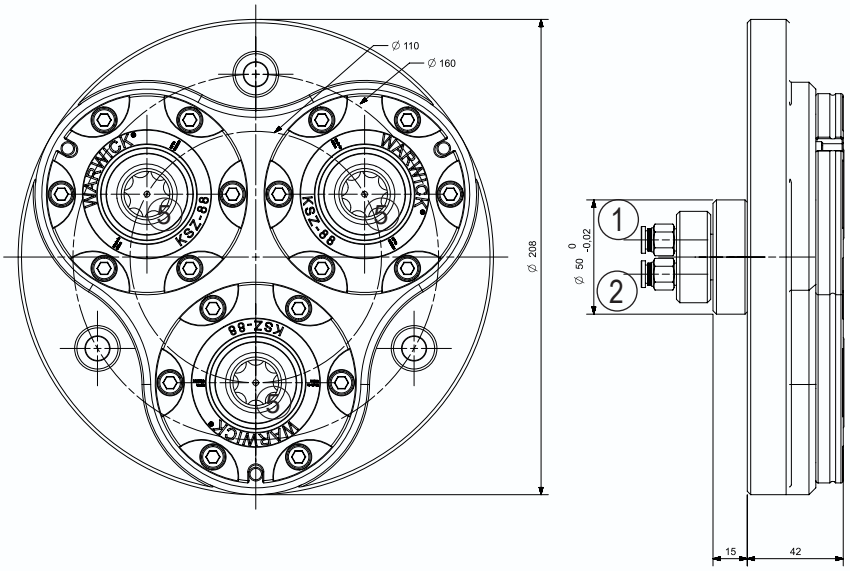
KSZ - 88 - T3

3-way Clamping Station



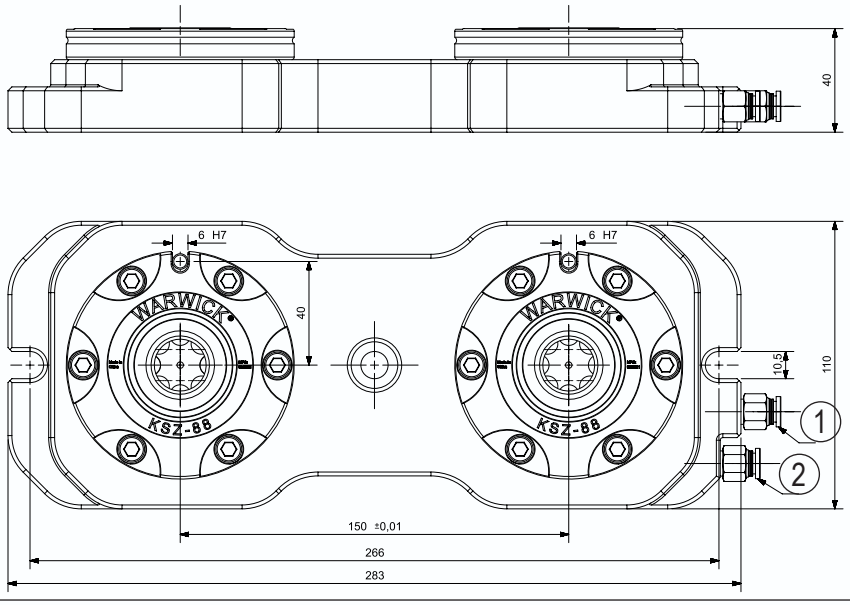
KSZ - 88 - R3

3-way Clamping Station



KSZ - 88 - 2N

2-way Clamping Station



SIMPLE - KSZ - 88

Quick-change Pallet Systems

Technical data

Description	ID	Center distance [mm]	Repeat accuracy [mm]	Closing/opening time [S]	6.8 bar clamping force [kN]	Spring locking force [kN]	Operating pressure [bar]	Stock	Weight [kg]
KSZ88	10000	-	0.005	0.6	6.5	2.1	5.5-9	●	0.9
KSZ88-T1	10010	-	0.005	0.6	6.5	2.1	5.5 - 9	●	2.5
KSZ88-T2	10020	150	0.005	0.6	2 X 6.5	2 X 3	5.5 - 9	●	7.5
KSZ88-T3	10030	150	0.005	0.6	3 X 6.5	3 X 2.1	5.5 - 9	●	11.5
KSZ88-R3	10040	Φ110	0.005	0.6	3 X 6.5	3 X 2.1	5.5 - 9	-	8.5
KSZ88-2N	10050	150	0.005	0.6	N X 6.5	N X 2.1	5.5 - 9	●	6.9

• See pages B3 and B4 for detailed descriptions of the above device versions.
• From page B, match the system and top jaws.

Scope of delivery

Clamping table, including SIMPLE-KSZ 88 module, operating manual;
no clamping pins or indexing pins

6.8 bar clamping force

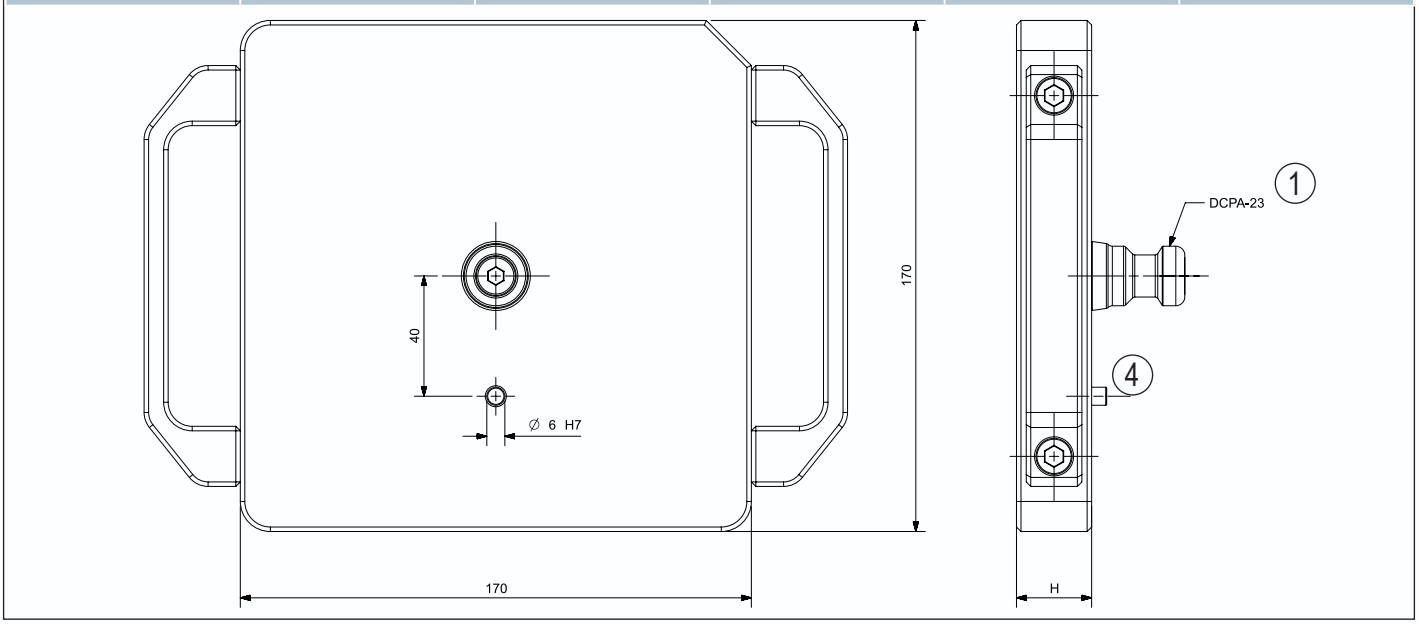
A clamping force is generated simultaneously using a 6.8 bar pressure and a spring assembly, which is measured by a sensor.

The clamping force of the spring assembly

Only a spring assembly is used to generate a clamping force, which is measured by a sensor.

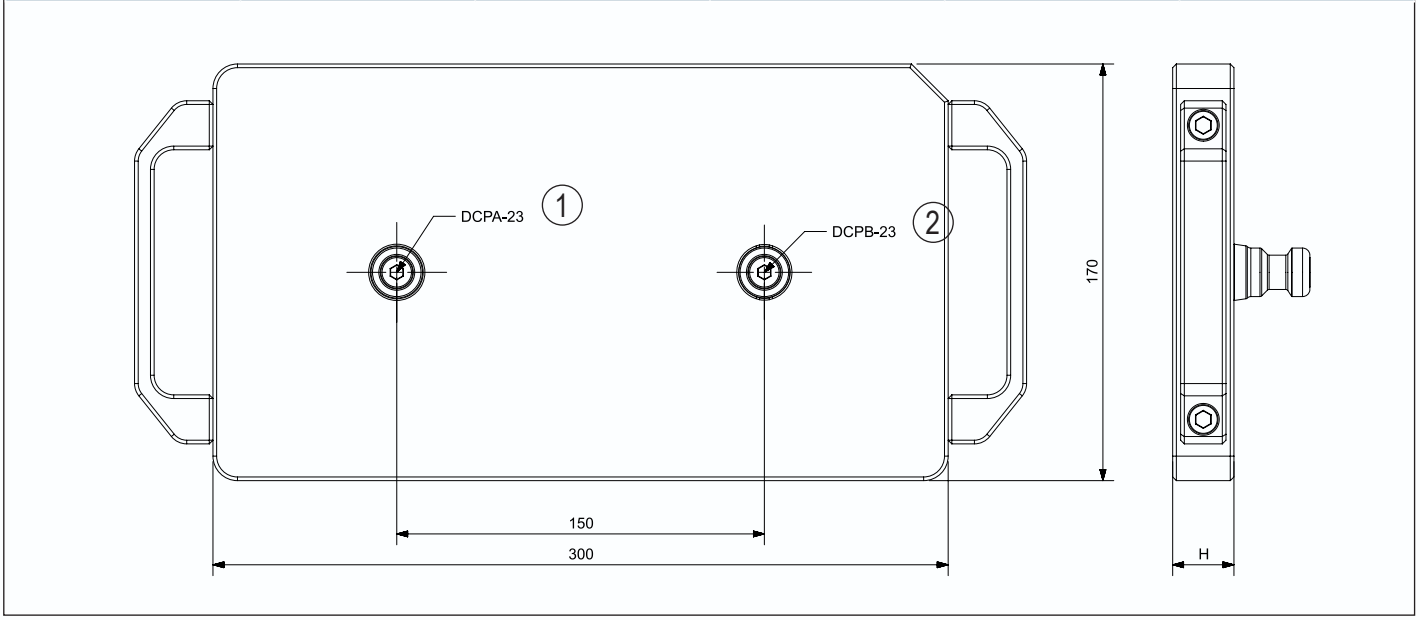
TPC23 - 88 - T1 Quick-change Pallet Module

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 23 - 88 - T1A	10400-A	Aluminum	0.05	25	2.5
TPC 23 - 88 - T1S	10400-S	Steel	0.02	20	5.5



TPC23 - 88 - T1 Quick-change Pallet Module

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 23 - 88 - T2A	10421-A	Aluminum	0.05	25	4.2
TPC 23 - 88 - T2S	10421-S	Steel	0.02	20	9.5

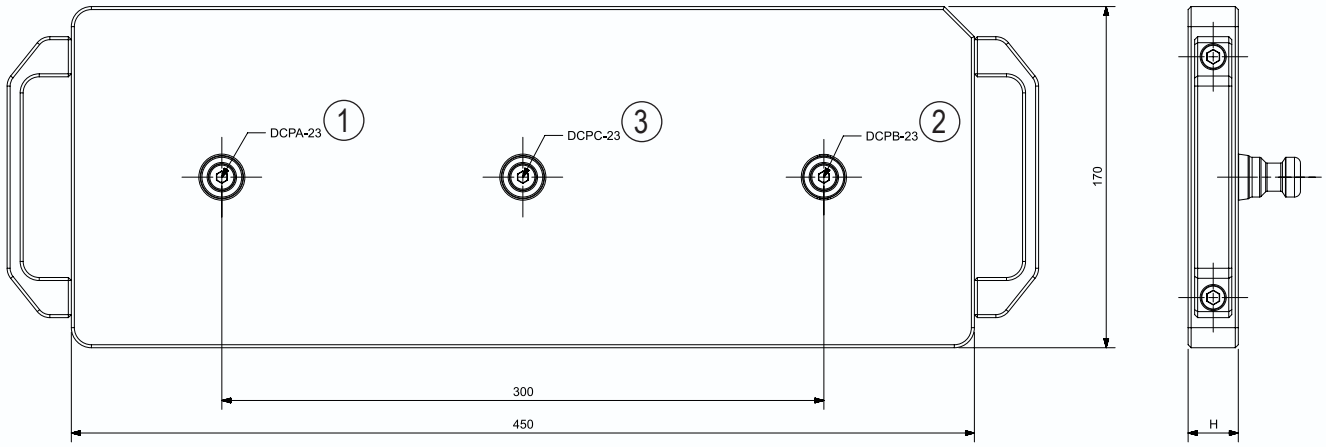


SIMPLE - TPC23 - 88

Clamping Pallets

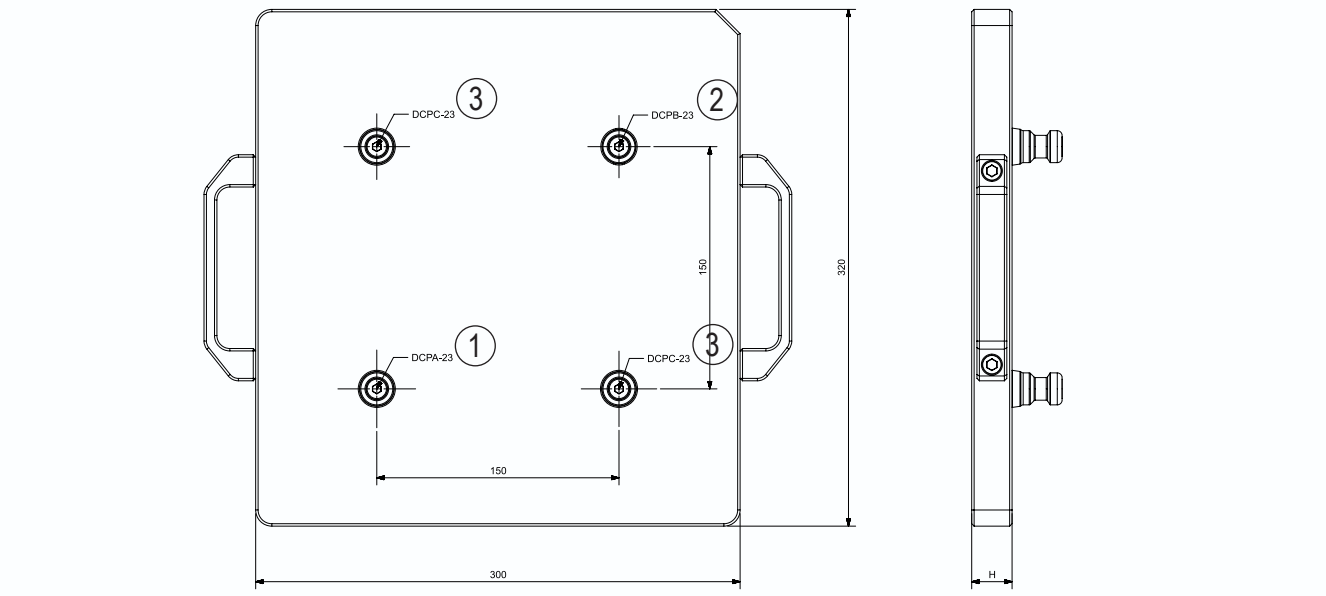
TPC23 - 88 - T3 Quick-change Pallet Module

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 23 - 88 - T3A	10400-A	Aluminum	0.05	25	6.2
TPC 23 - 88 - T3S	10400-S	Steel	0.02	20	14.3



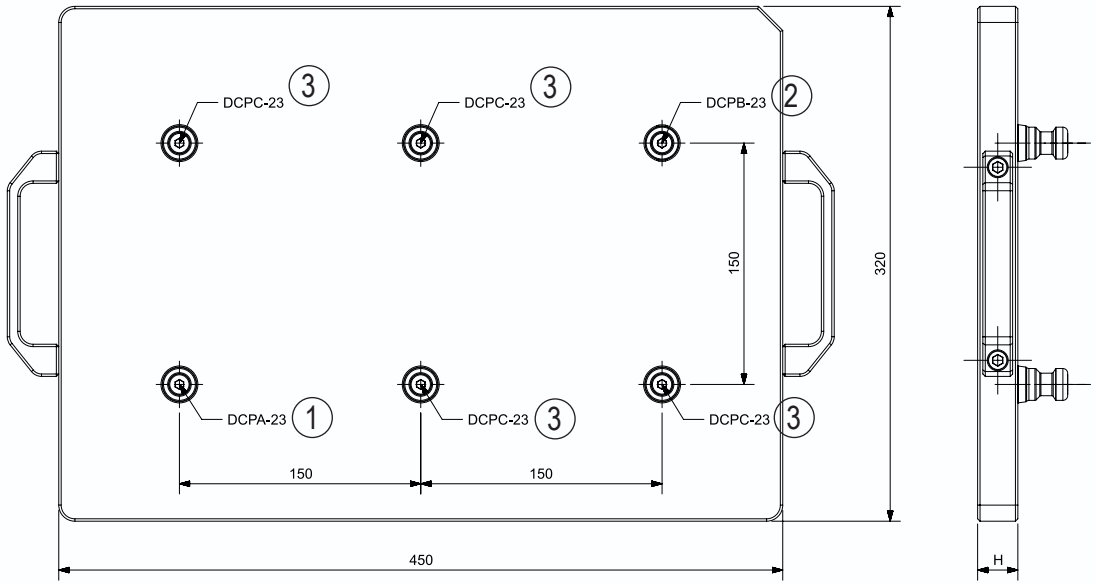
TPC23 - 88 - T4 Quick-change Pallet Module

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 23 - 88 - T2A	10441-A	Aluminum	0.05	25	9
TPC 23 - 88 - T2S	10441-S	Steel	0.02	20	20.5



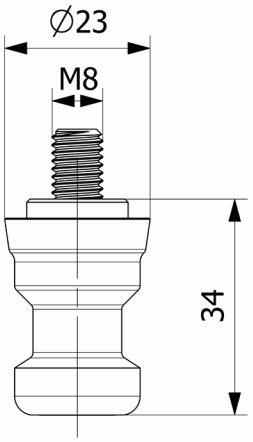
TPC23 - 88 - T6 Quick-change Pallet Module

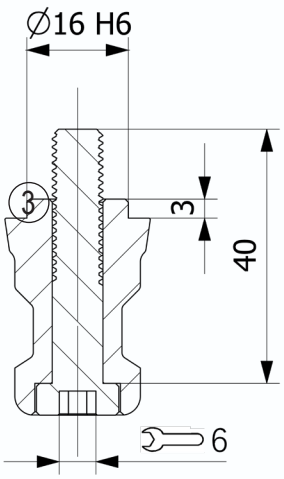
Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 23 - 88 - T6A	10451-A	Aluminum	0.05	25	12.5
TPC 23 - 88 - T6S	10451-S	Steel	0.02	20	25.5



DCP - 23 Clamping Pins

Description	ID	Material	Holding force M8 [kN]	Holding force M10 [kN]	Holding force M12 [kN]	Version	Weight [kg]
DCPA - 23	10601	Stainless steel	22.5			Positioning pin	0.15
DCPB - 23	10602	Stainless steel	22.5			directional pin	0.15
DCPC - 23	10603	Stainless steel	22.5			Clamping pin	0.15



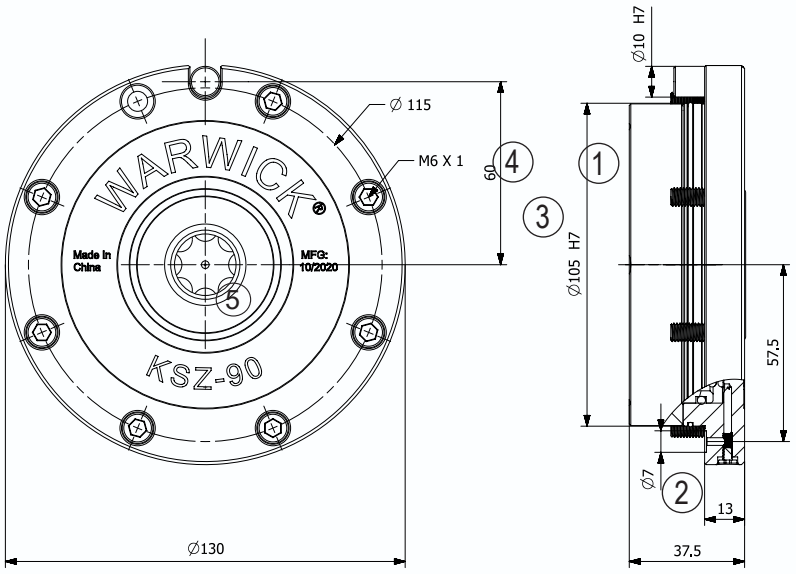


SIMPLE - KSZ - 90

Quick-change Pallet Systems

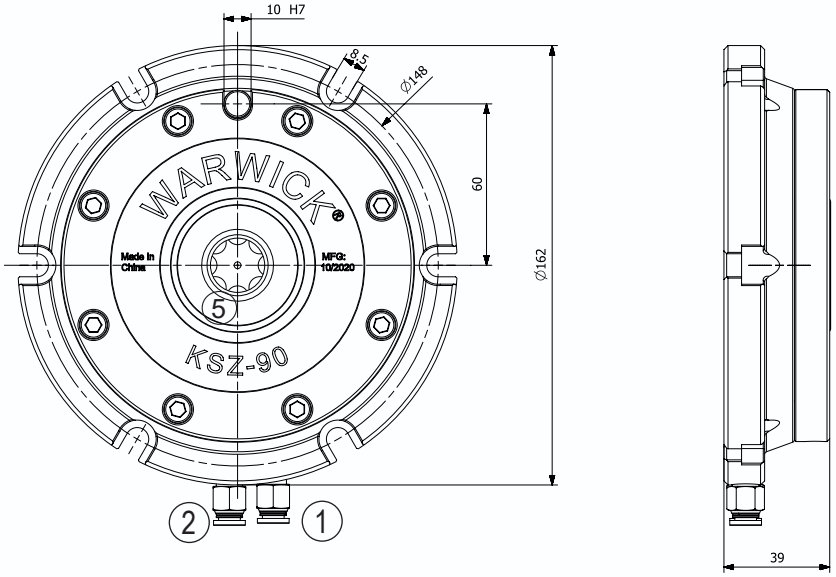
KSZ - 90

Quick-change Pallet Module



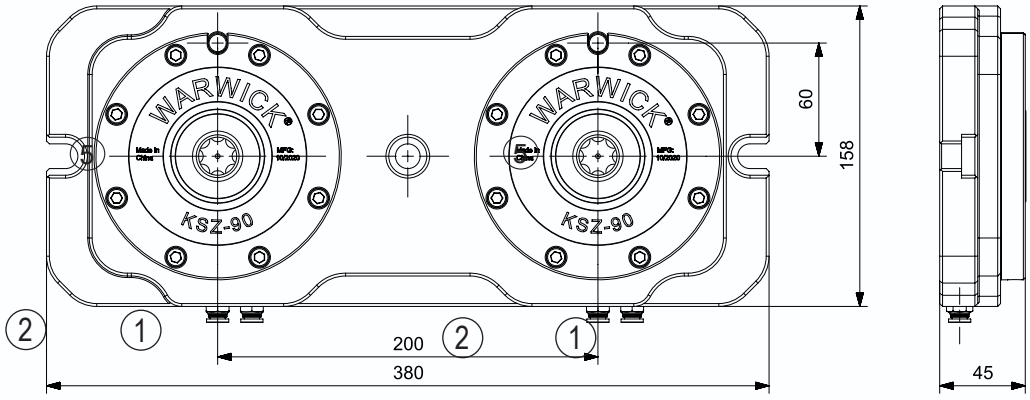
KSZ - 90 - T1

1-way Clamping Station



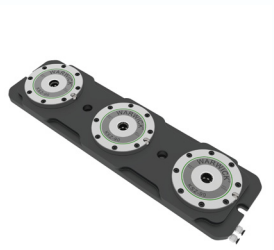
KSZ - 90 - T2

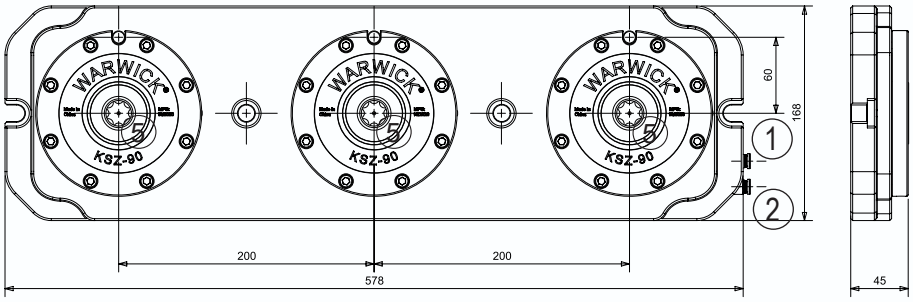
2-way Clamping Station



KSZ - 90 - T3

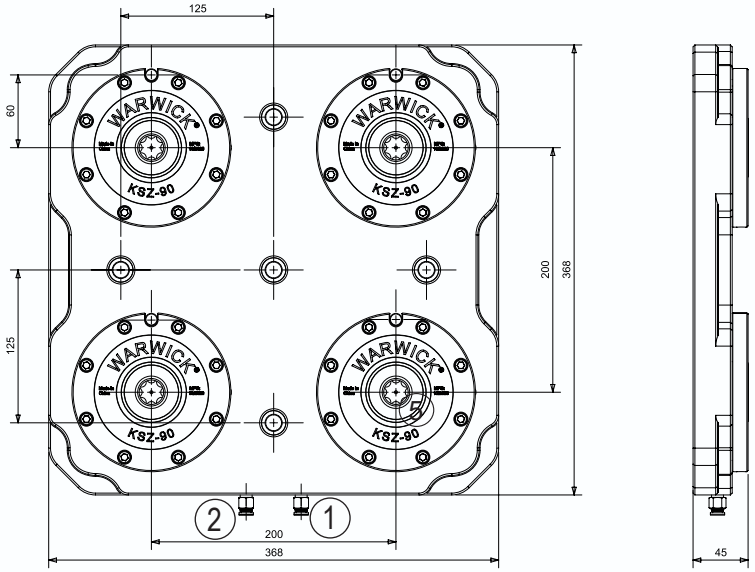
3-way Clamping Station





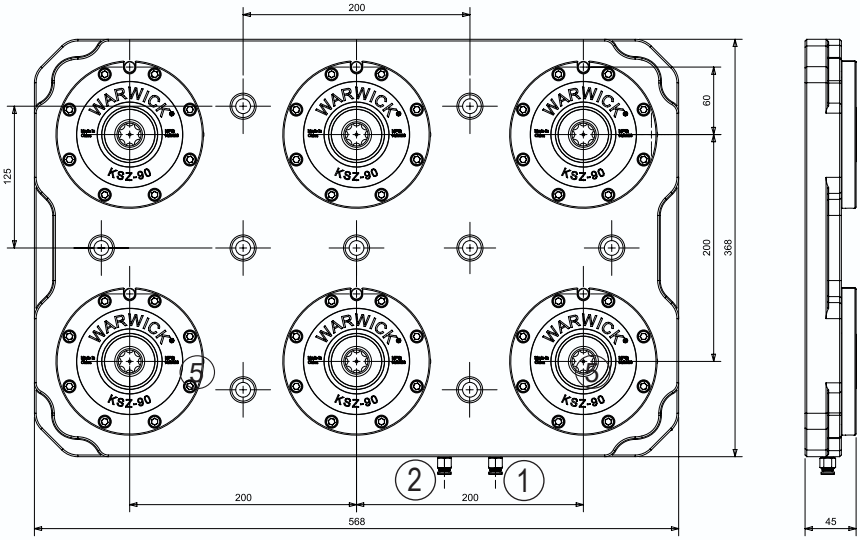
KSZ - 90 - T4

4-way Clamping Station



KSZ - 90 - T6

6-way Clamping Station



SIMPLE - KSZ - 90

Quick-change Pallet Systems

Technical data

Description	ID	Center distance [mm]	Repeat accuracy [mm]	Closing/opening time [S]	6.8 bar clamping force [kN]	Spring locking force [kN]	Operating pressure [bar]	Stock	Weight [kg]
KSZ90	10000	-	0.005	0.6	14	5.5	5.5-9	●	2.7
KSZ90-T1	10010	-	0.005	0.6	14	5.5	5.5 - 9	●	6.5
KSZ90-T2	10020	200	0.005	0.6	2 X 14	2 X 5.5	5.5 - 9	●	15.2
KSZ90-T3	10030	200	0.005	0.6	3 X 14	3 X 5.5	5.5 - 9	●	28.5
KSZ90-T4	10040	200	0.005	0.6	4 X 14	4 X 5.5	5.5 - 9	●	49
KSZ90-T6	10050	200	0.005	0.6	6 X 14	6 X 5.5	5.5 - 9	●	68

- See pages B3 and B4 for detailed descriptions of the above device versions.
- From page B, match the system and top jaws.

Scope of delivery

Clamping table, including SIMPLE-KSZ 88 module, operating manual;
no clamping pins or indexing pins

6.8 bar clamping force

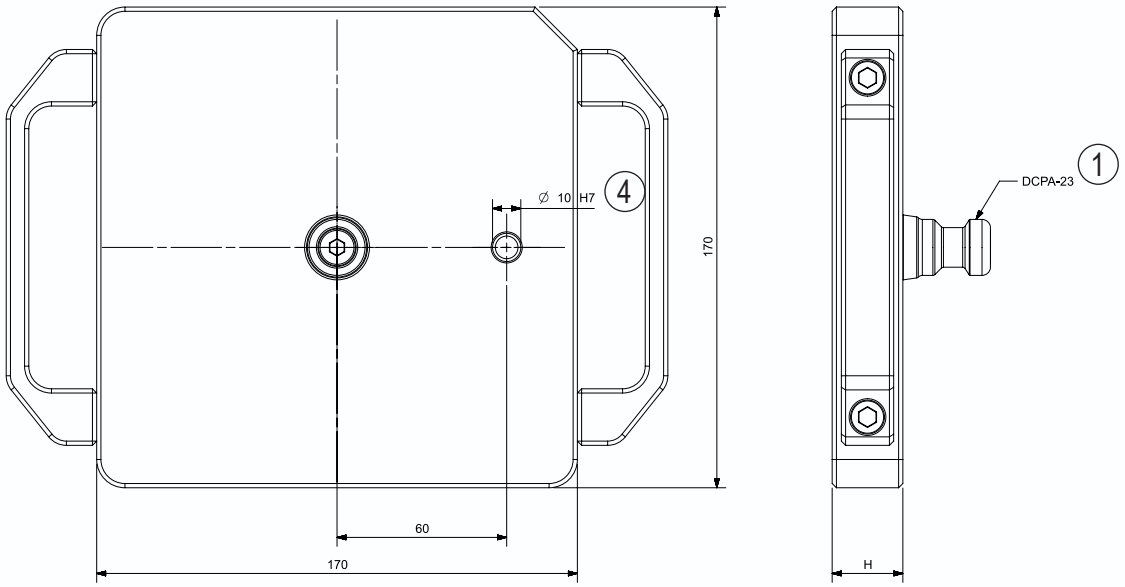
A clamping force is generated simultaneously using a 6.8 bar pressure and a spring assembly, which is measured by a sensor.

The clamping force of the spring assembly

Only a spring assembly is used to generate a clamping force, which is measured by a sensor.

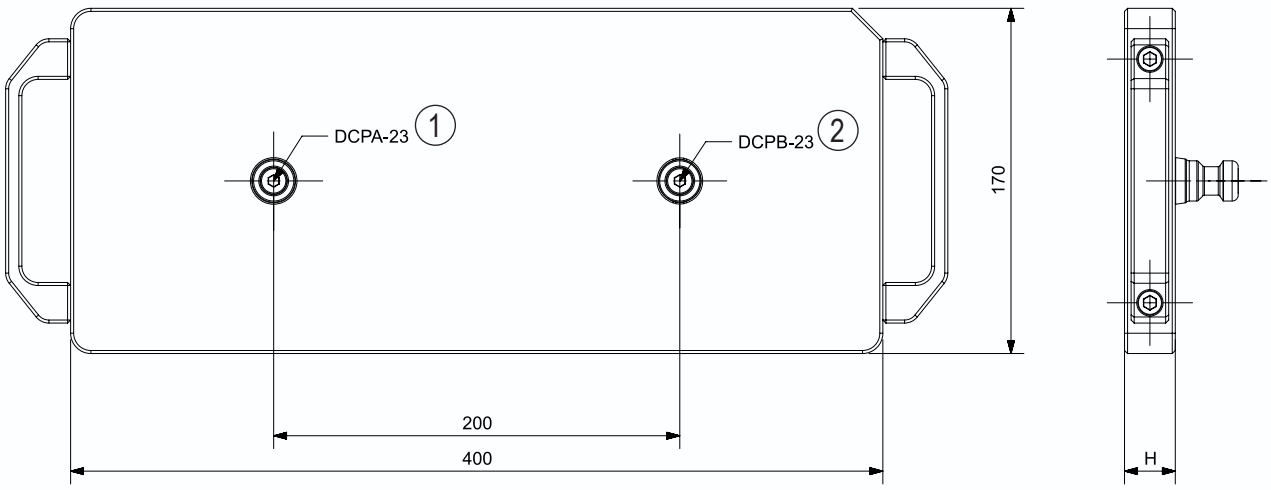
TPC23 - 90 - T1 Quick-change Pallet Module

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 23 - 90 - T1A	10400-A	Aluminum	0.05	25	2.5
TPC 23 - 90 - T1S	10400-S	Steel	0.02	20	5.5



TPC23 - 90 - T2 Quick-change Pallet Module

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 23 - 90 - T2A	10420-A	Aluminum	0.05	25	6.5
TPC 23 - 90 - T2S	10420-S	Steel	0.02	20	13.5

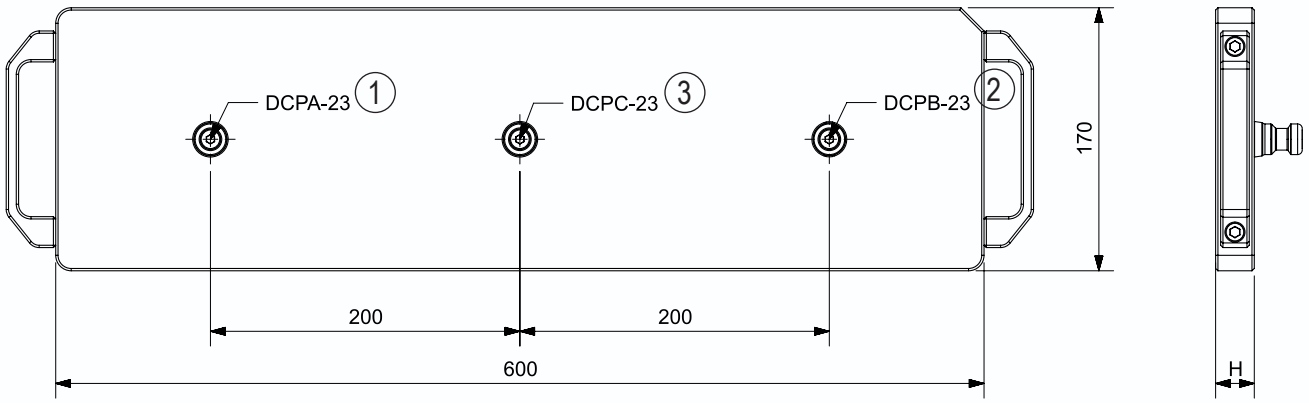


SIMPLE - TPC 23 - 90

Clamping Pallets

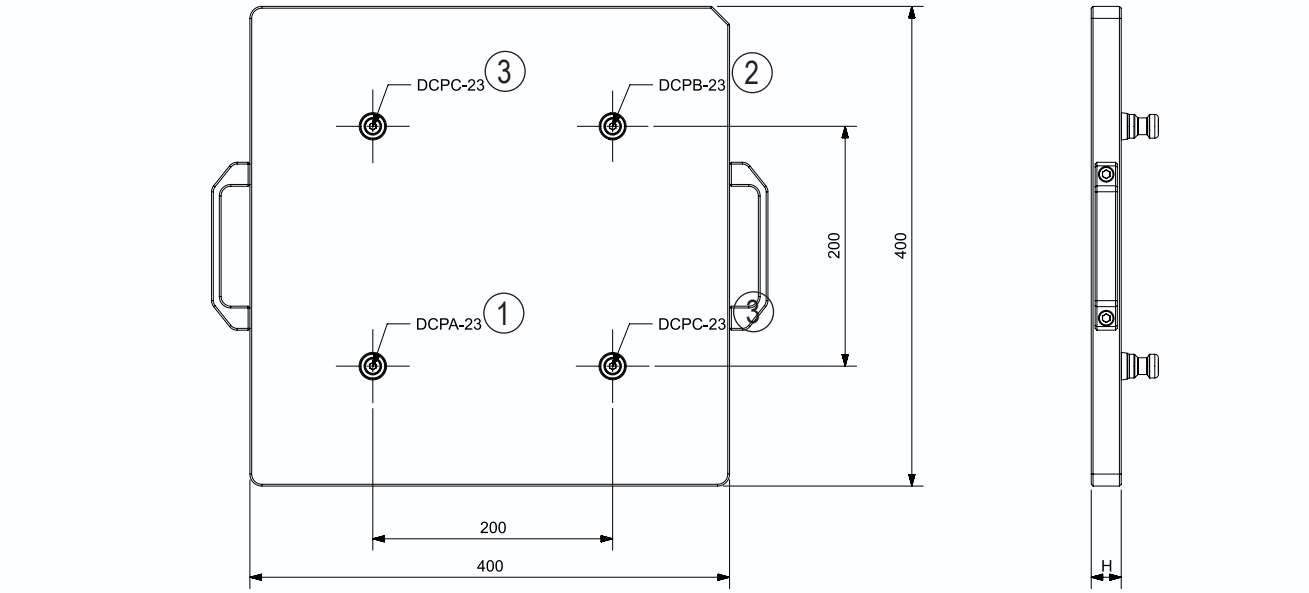
TPC23 - 90 - T3 Quick-change Pallet Module

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 23 - 90 - T3A	10430-A	Aluminum	0.05	25	12.5
TPC 23 - 90 - T3S	10430-S	Steel	0.02	20	24.5



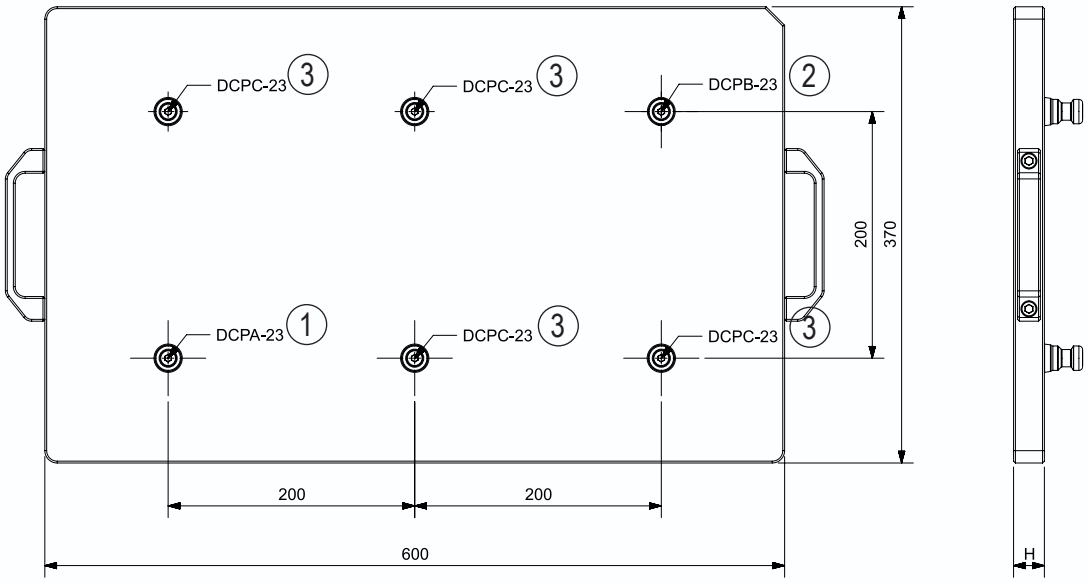
TPC23 - 90 - T4 Quick-change Pallet Module

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 23 - 90 - T4A	10420-A	Aluminum	0.05	25	16.5
TPC 23 - 90 - T4S	10420-S	Steel	0.02	20	29.5



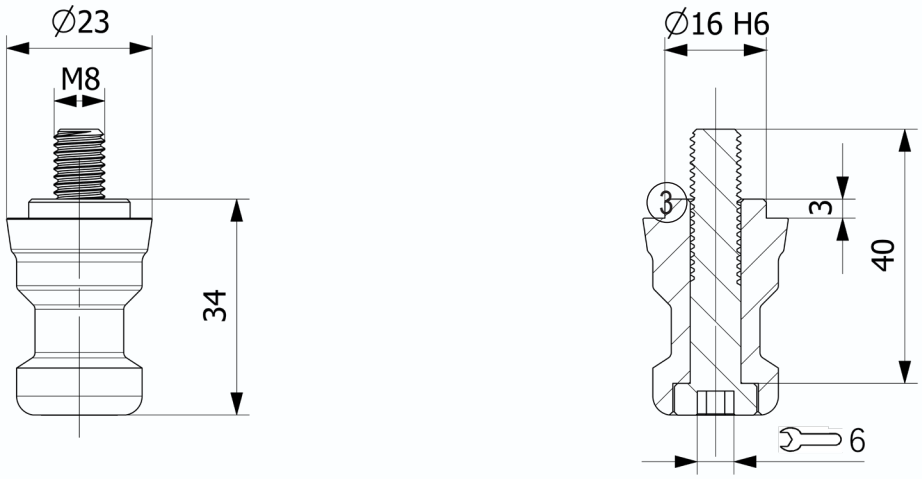
TPC23 - 90 - T6 Quick-change Pallet Module

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 23 - 90 - T6A	10450-A	Aluminum	0.05	25	30.3
TPC 23 - 90 - T6S	10450-S	Steel	0.02	20	48.6



DCP - 23 Clamping Pins

Description	ID	Material	Holding force M8 [kN]	Holding force M10 [kN]	Holding force M12 [kN]	Version	Weight [kg]
DCPA - 23	10601	Stainless steel	22.5			Positioning pin	0.15
DCPB - 23	10602	Stainless steel	22.5			directional pin	0.15
DCPC - 23	10603	Stainless steel	22.5			Clamping pin	0.15

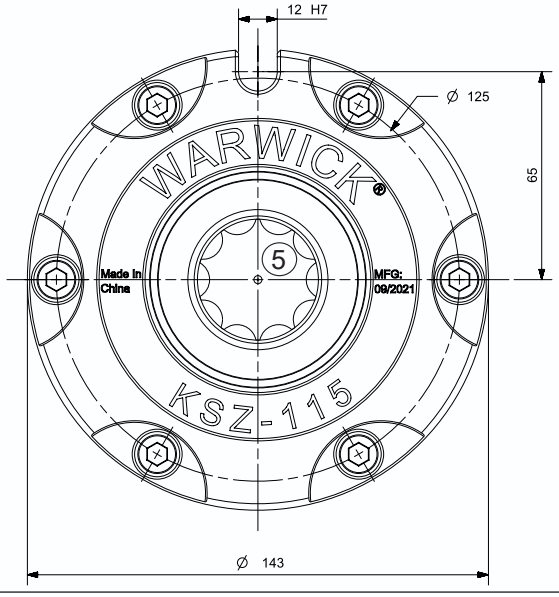


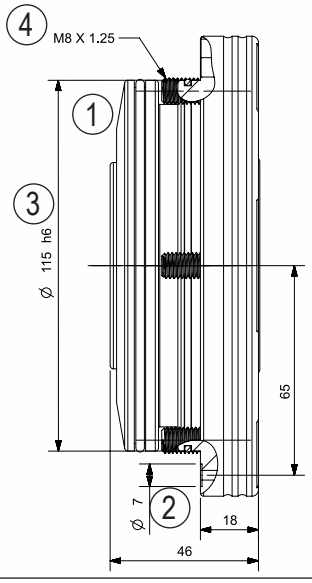
SIMPLE - KSZ - 115

Quick-change Pallet Systems

KSZ - 115

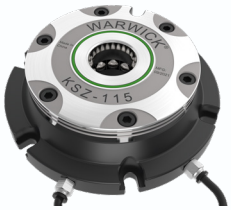
Quick-change Pallet Module

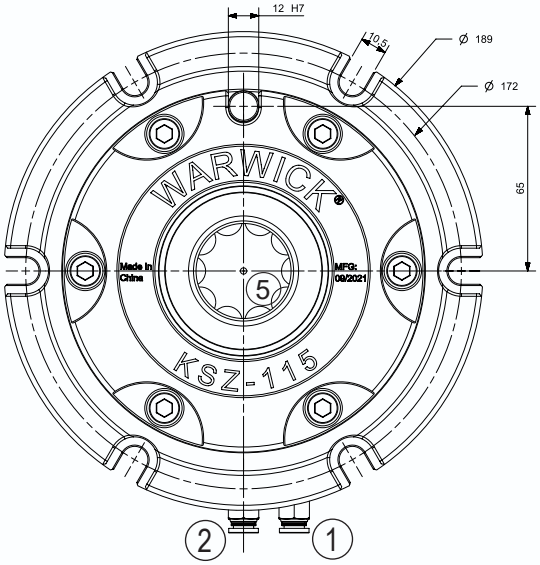


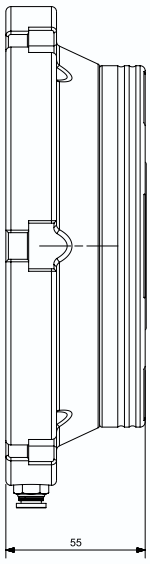


KSZ - 115 - T1

1-way Clamping Station



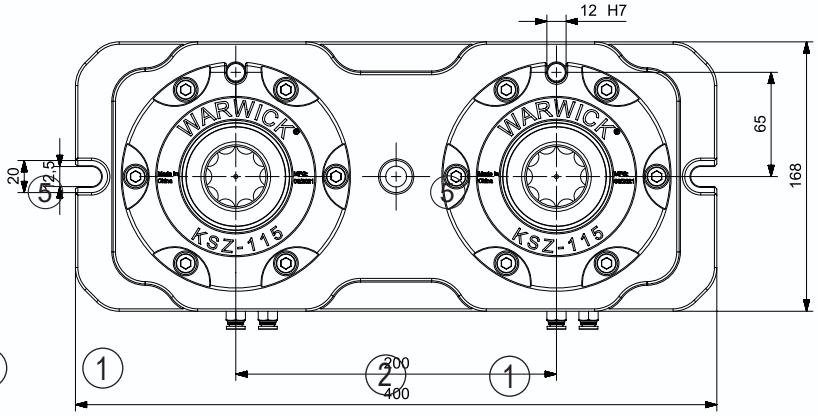


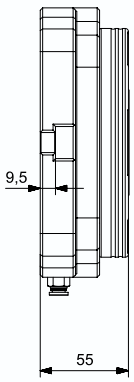


KSZ - 115 - T2

2-way Clamping Station

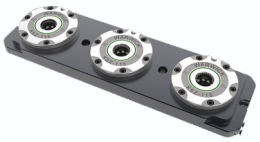
2

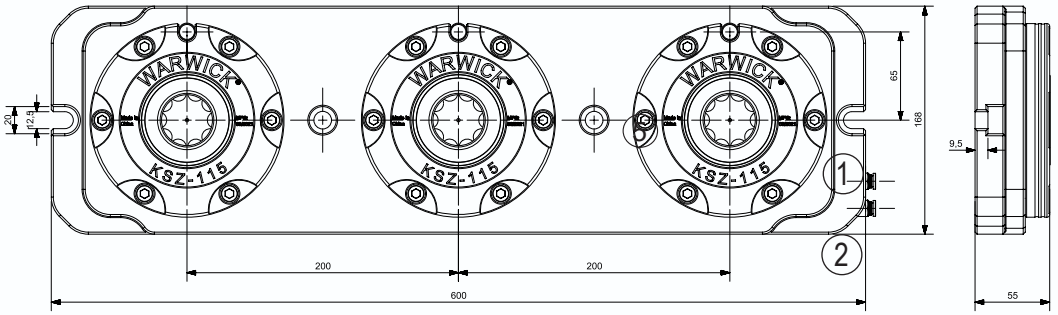




KSZ - 115 - T3

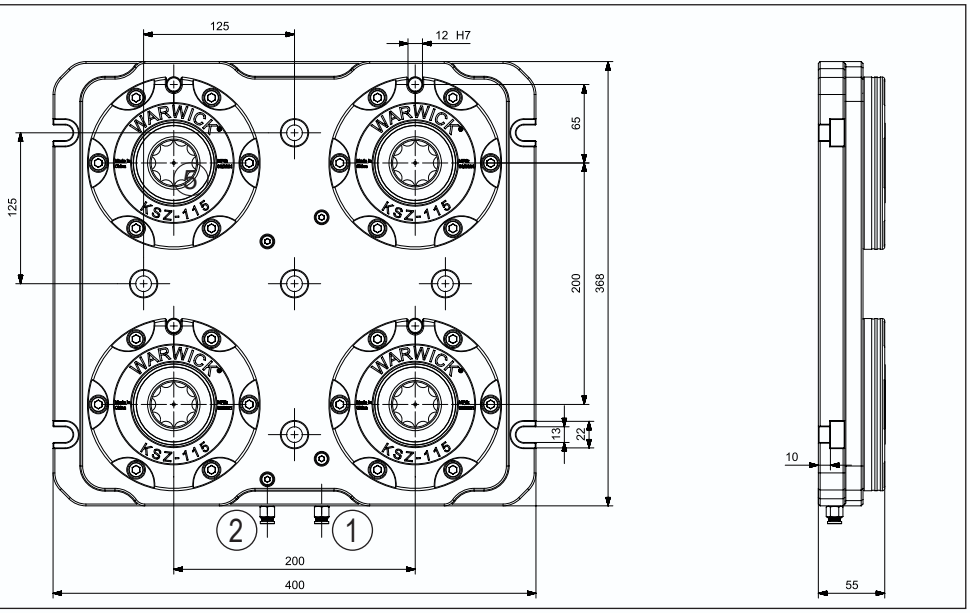
3-way Clamping Station





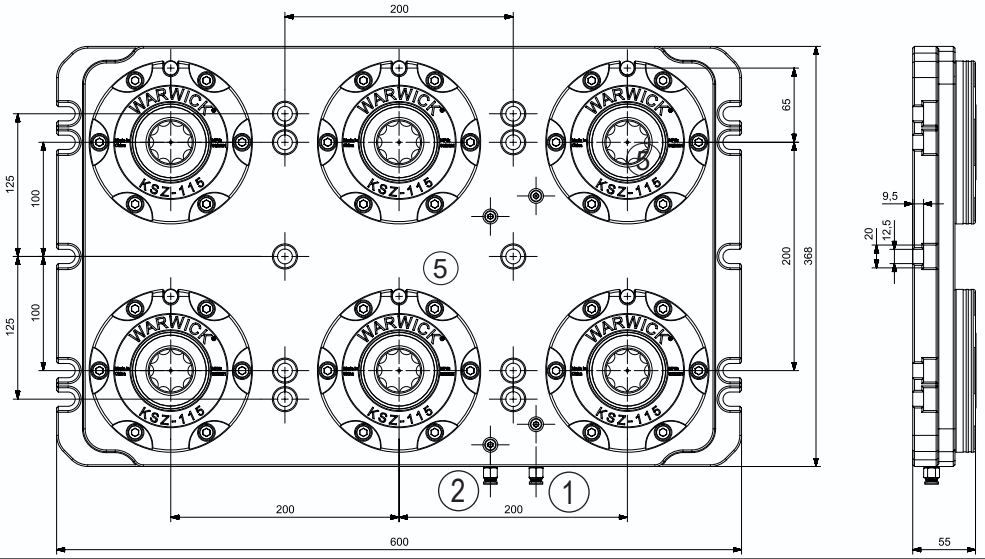
KSZ - 115 - T4

4-way Clamping Station



KSZ - 115 - T6

6-way Clamping Station



SIMPLE - KSZ - 115

Quick-change Pallet Systems

Technical data

Description	ID	Center distance [mm]	Repeat accuracy [mm]	Closing/opening time [S]	6.8 bar clamping force [kN]	Spring locking force [kN]	Operating pressure [bar]	Stock	Weight [kg]
KSZ115	11000	-	0.005	0.6	21	6	5.5-9	●	4.2
KSZ115-T1	11010	-	0.005	0.6	21	6	5.5 - 9	●	8.5
KSZ115-T2	11020	200	0.005	0.6	2 X 21	2 X 6	5.5 - 9	●	25
KSZ115-T3	11030	200	0.005	0.6	3 X 21	3 X 6	5.5 - 9	●	41
KSZ115-T4	11040	200	0.005	0.6	4 X 21	4 X 6	5.5 - 9	●	56
KSZ115-T6	11050	200	0.005	0.6	6 X 21	6 X 6	5.5 - 9	●	79

• See pages B3 and B4 for detailed descriptions of the above device versions.
• From page B, match the system and top jaws.

Scope of delivery

Clamping table, including SIMPLE-KSZ 88 module, operating manual;
no clamping pins or indexing pins

6.8 bar clamping force

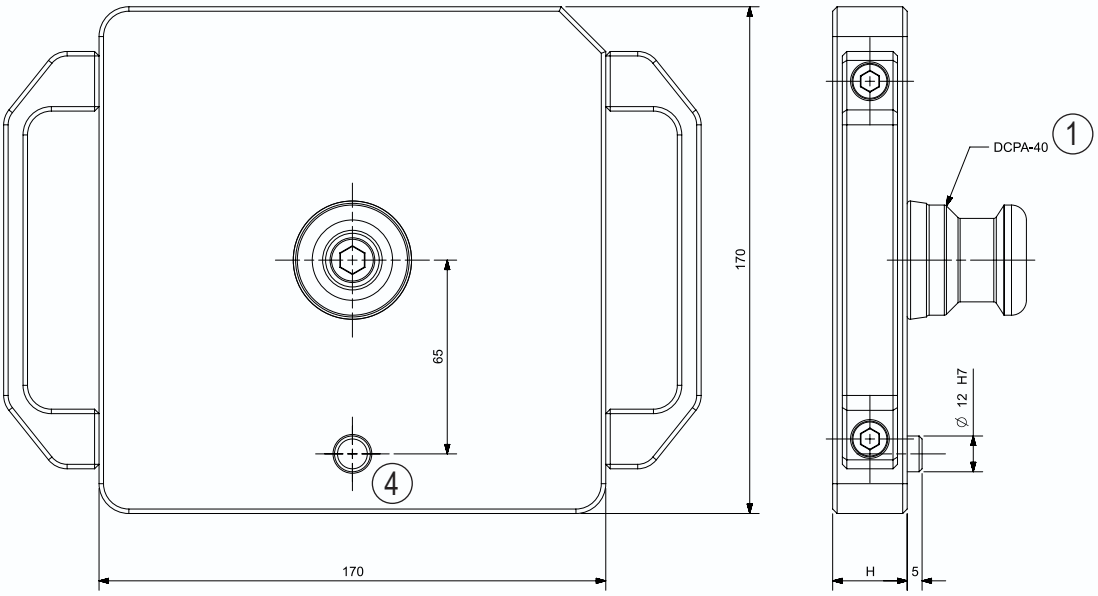
A clamping force is generated simultaneously using a 6.8 bar pressure and a spring assembly, which is measured by a sensor.

The clamping force of the spring assembly

Only a spring assembly is used to generate a clamping force, which is measured by a sensor.

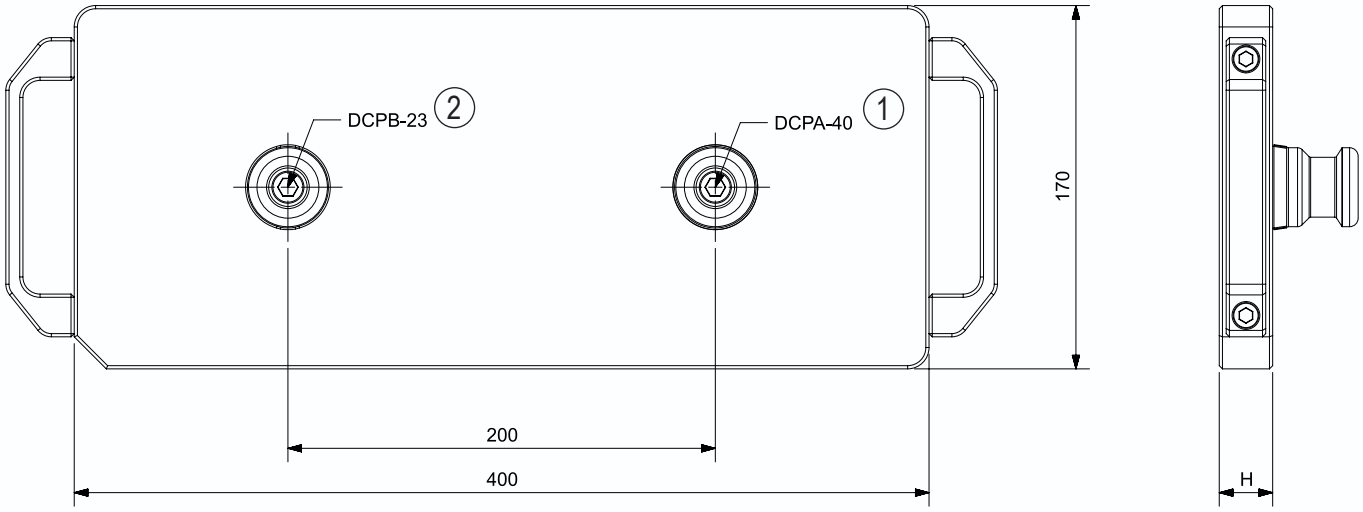
TPC40 - 115 - T1 Quick-change Pallet Module

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 40 - 115 - T1A	11200-A	Aluminum	0.05	25	3
TPC 40 - 115 - T1S	11200-S	Steel	0.02	20	6



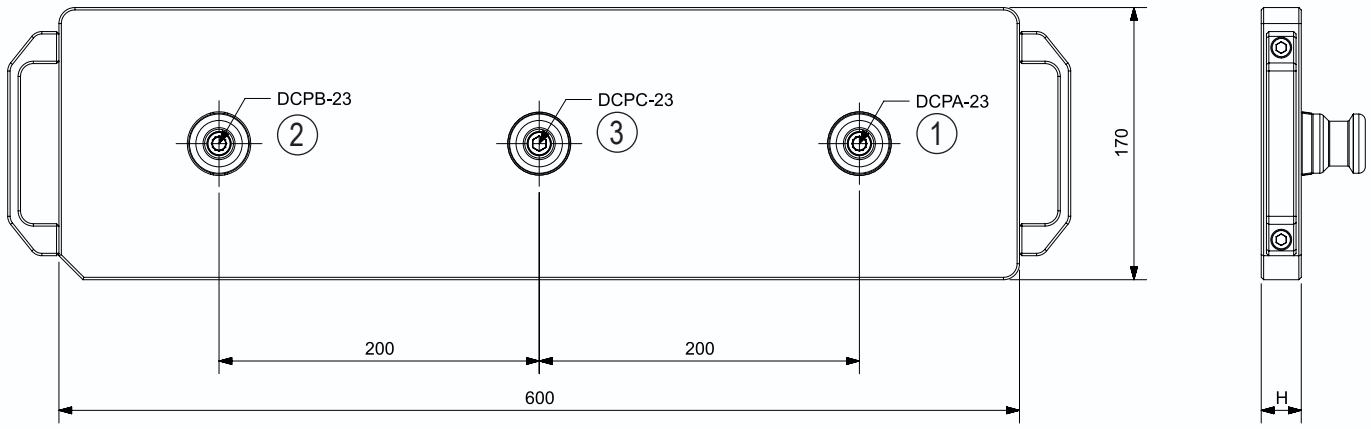
TPC40 - 115 - T2 Quick-change Pallet Module

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 40 - 115 - T2A	11210-A	Aluminum	0.05	25	6.8
TPC 40 - 115 - T2S	11210-S	Steel	0.02	20	13.5



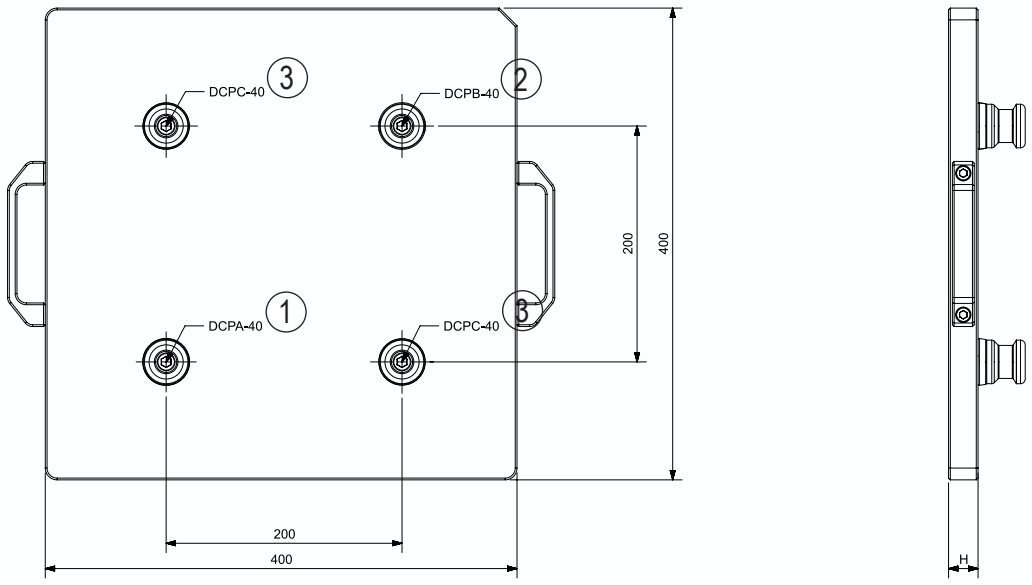
TPC40 - 115 Quick-change Pallet Module

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 40 - 115 - T3A	11220-A	Aluminum	0.05	25	9.5
TPC 40 - 115 - T3S	11220-S	Steel	0.02	20	18.5



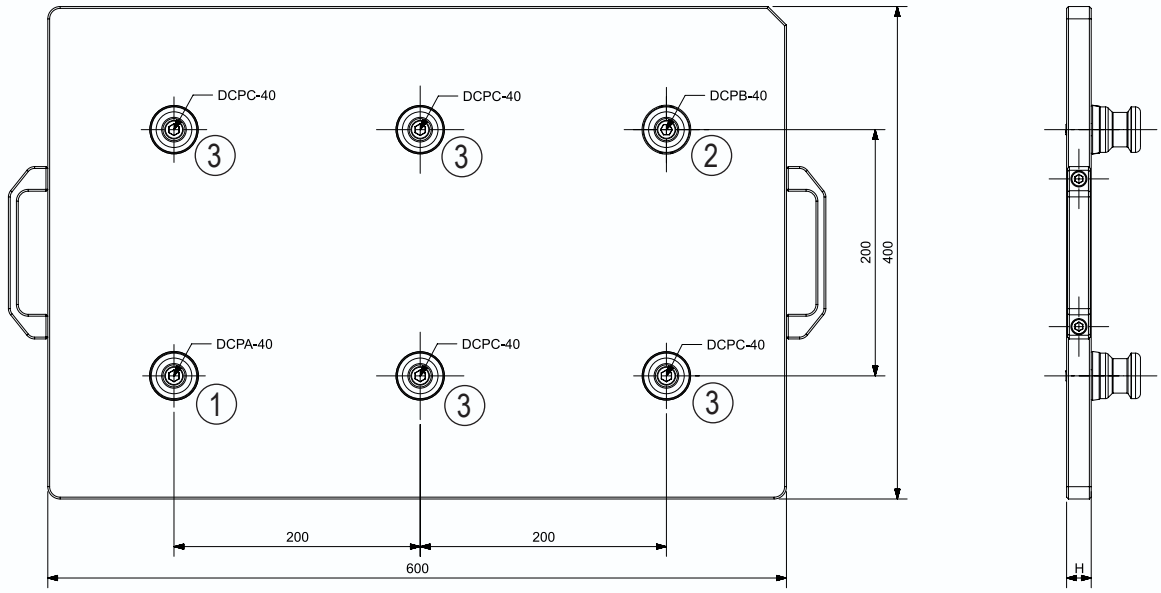
TPC40 - 115 - T4 Quick-change Pallet Module

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 40 - 115 - T4A	11230-A	Aluminum	0.05	25	13.5
TPC 40 - 115 - T4S	11230-S	Steel	0.02	20	26.5



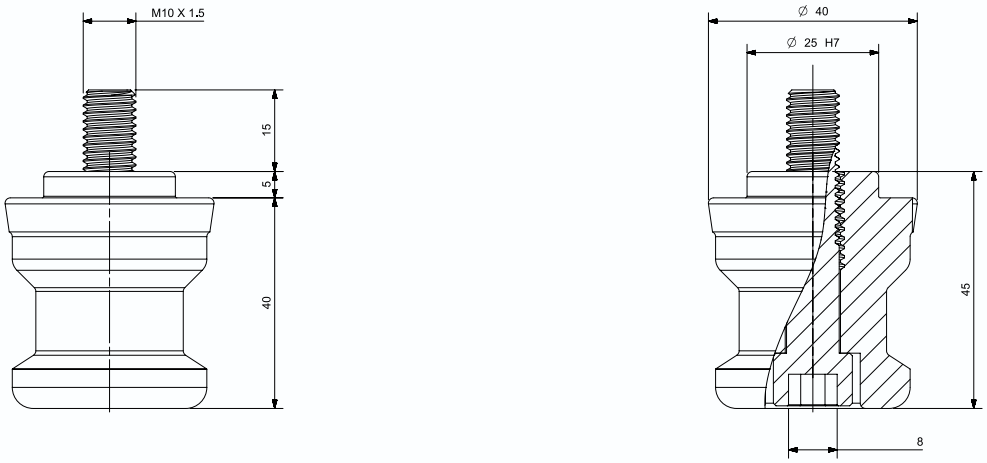
TPC23 - 90 - T6 Quick-change Pallet Module

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
TPC 40 - 115 - T6A	11240-A	Aluminum	0.05	25	30.3
TPC 40 - 115 - T6S	11240-S	Steel	0.02	20	52.2



DCP - 23 Clamping Pins

Description	ID	Material	Holding force M8 [kN]	Holding force M10 [kN]	Holding force M12 [kN]	Version	Weight [kg]
DCPA - 40	10611	Stainless steel	22.5			Centering pin	0.3
DCPB - 40	10612	Stainless steel	22.5			Positioning pin	0.3
DCPC - 40	10613	Stainless steel	22.5			Clamping pin	0.3

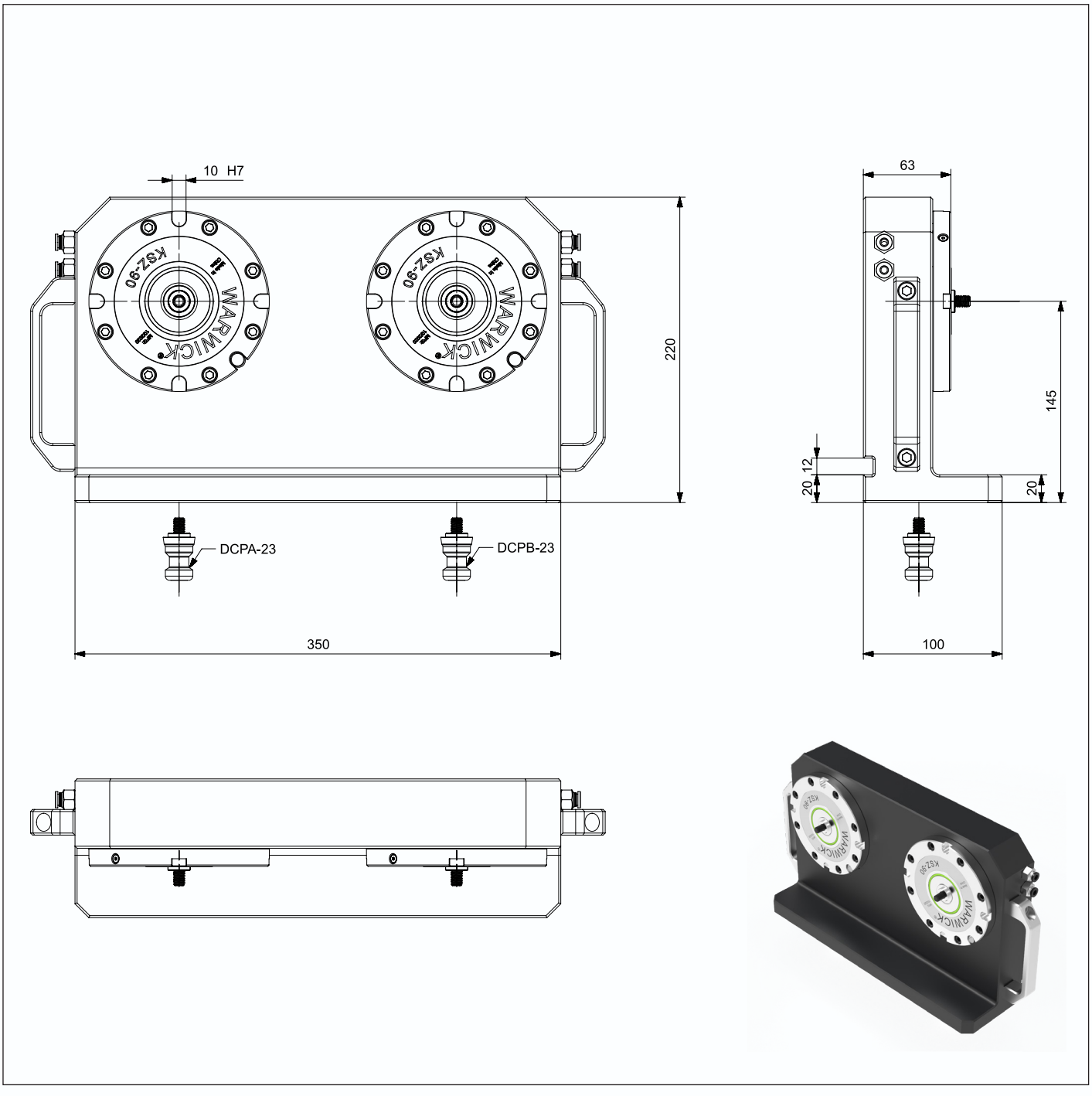


SIMPLE - KSZ90-T2-LS

Quick-change Pallet Systems

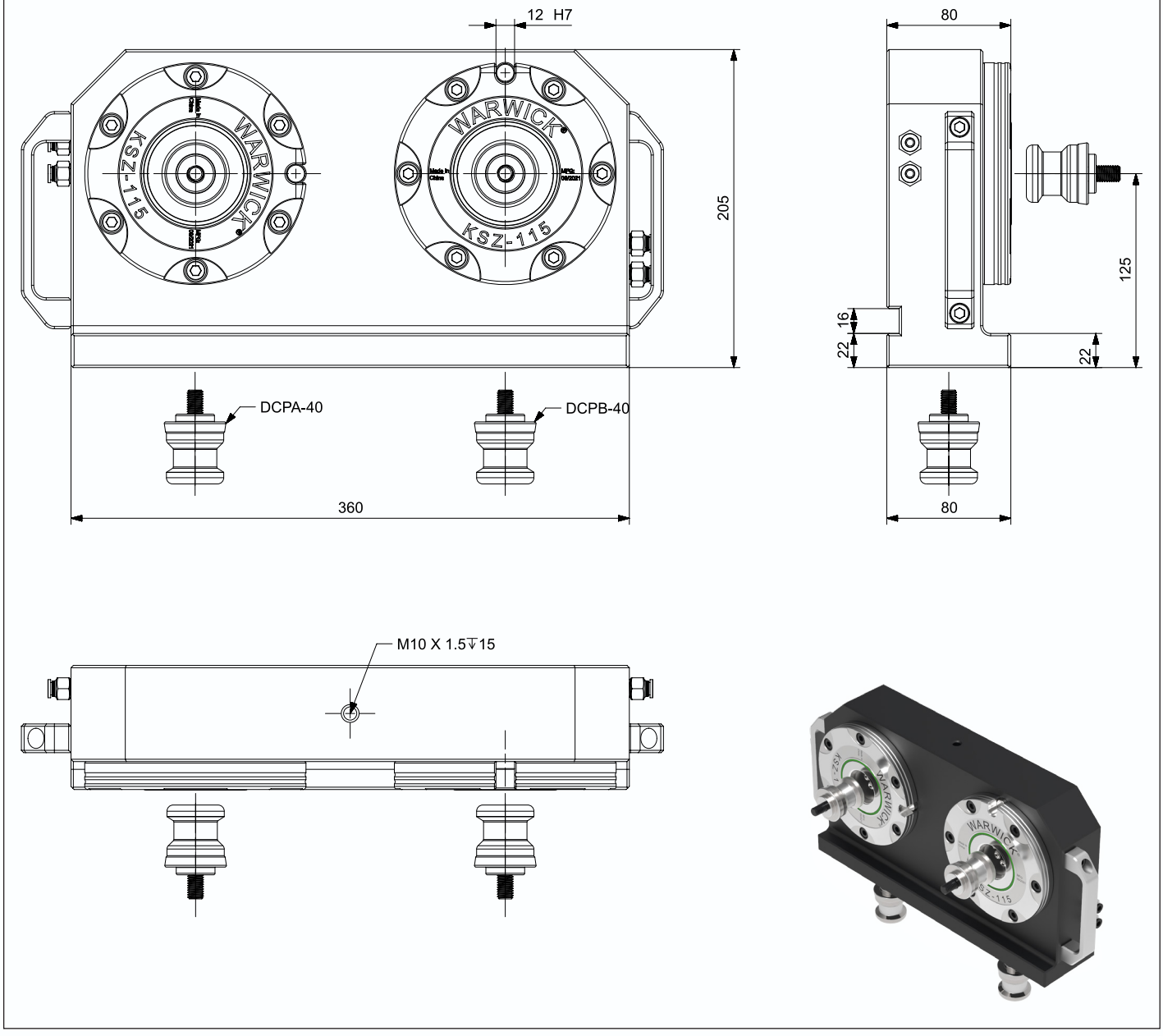
LS Quick-change Pallet Systems

Description	ID	Center distance [mm]	Repeat accuracy [mm]	Closing/opening time [S]	0.68 bar clamping force [kN]	Spring locking force [kN]	Operating pressure [bar]	Stock	Weight [kg]
KSZ90-T2-LS	10021	-	0.005	0.6	2 X 14	2 X 5.5	5.5-9	●	34.5



LS Quick-change Pallet Systems

Description	ID	Center distance [mm]	Repeat accuracy [mm]	Closing/opening time [S]	0.68 bar clamping force [kN]	Spring locking force [kN]	Operating pressure [bar]	Stock	Weight [kg]
KSZ115-T2-LS	11021	-	0.005	0.6	2 X 21	2 X 6	5.5-9	●	34.5

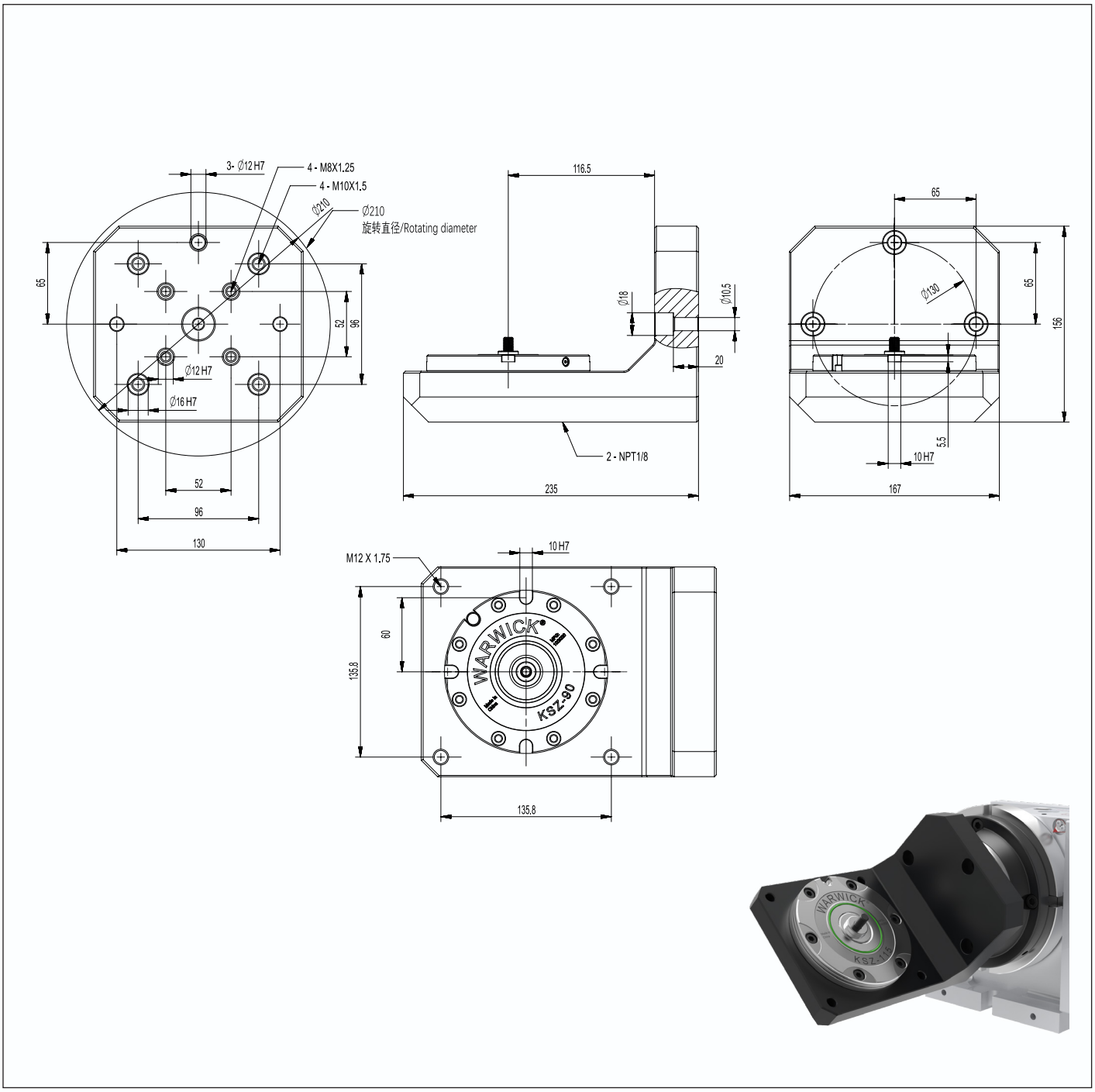


SIMPLE - KSZ90-T1-L

Quick-change Pallet Systems

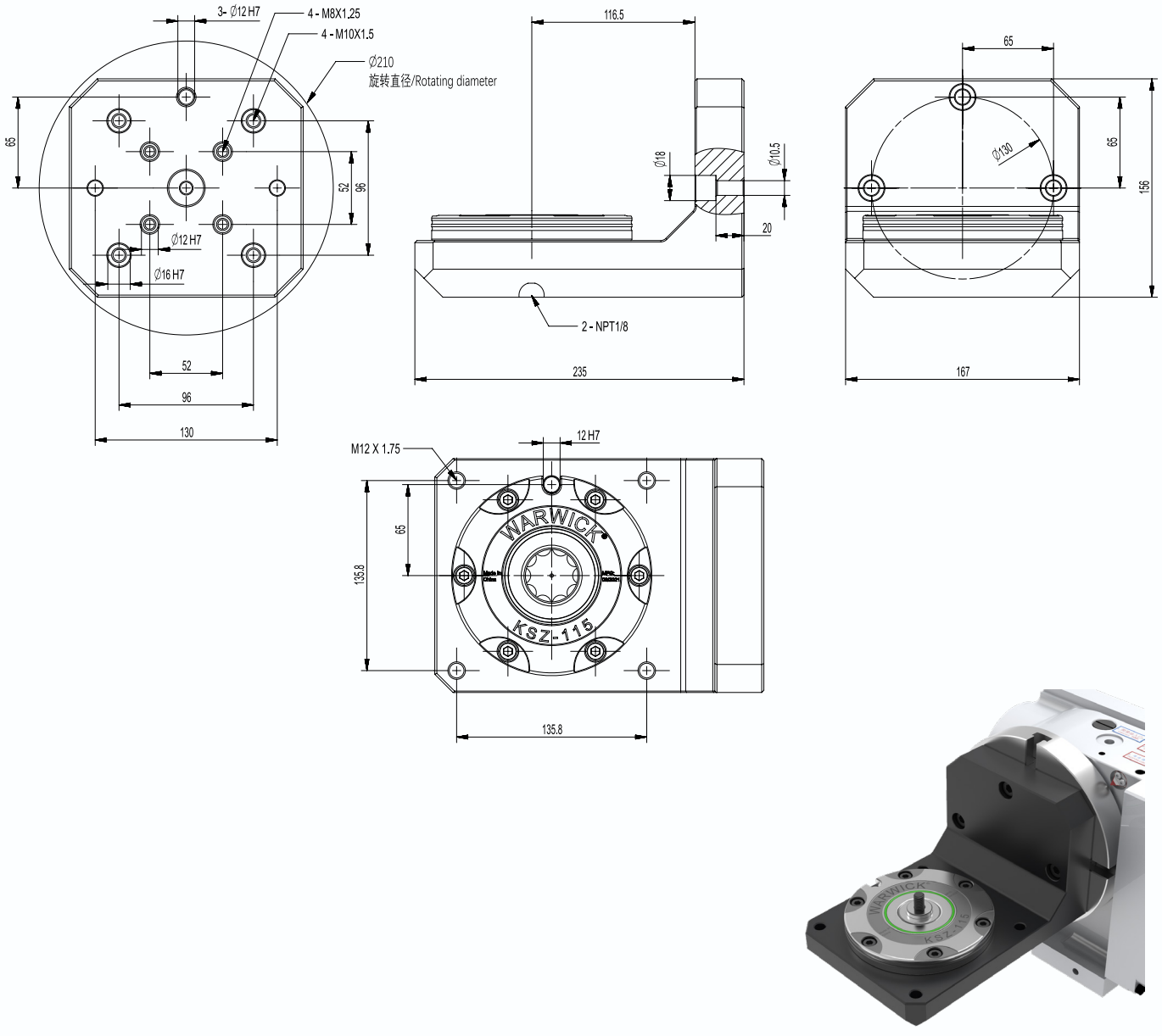
L Quick-change Pallet Systems

Description	ID	Center distance [mm]	Repeat accuracy [mm]	Closing/opening time [S]	0.68 bar clamping force [kN]	Spring locking force [kN]	Operating pressure [bar]	Stock	Weight [kg]
KSZ90-T1-L	10030	-	0.005	0.6	14	5.5	5.5-9	●	22.5



L Quick-change Pallet Systems

Description	ID	Center distance [mm]	Repeat accuracy [mm]	Closing/opening time [S]	0.68 bar clamping force [kN]	Spring locking force [kN]	Operating pressure [bar]	Stock	Weight [kg]
KSZ115-T1-L	11032	-	0.005	0.6	21	6	5.5-9	●	24.5



SIMPLE - KSZ

Optional accessories

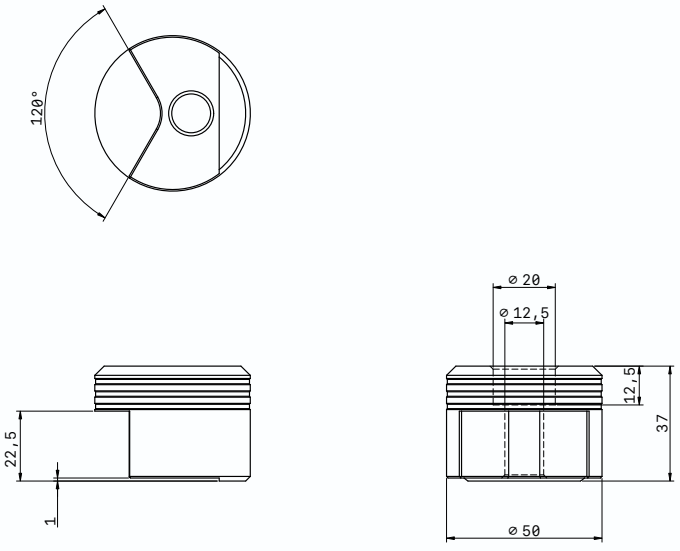
DT Dust-proof plugs

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
DT 23	10605	ABS	-	-	0.1
DT 40	10615	ABS	-	-	0.2

The positioning cone of the zero point positioning is sealed to play the role of dust and waterproof.

YB Dust-proof plugs

Description	ID	Material	Plane parallelism [mm]	Height H [mm]	Weight [kg]
KSZ-YB	10607	45#	-	-	0.7



The positioning cone of the zero point positioning is sealed to play the role of dust and waterproof.

SIMPLE - KSG - 52S

Clamping Pallets

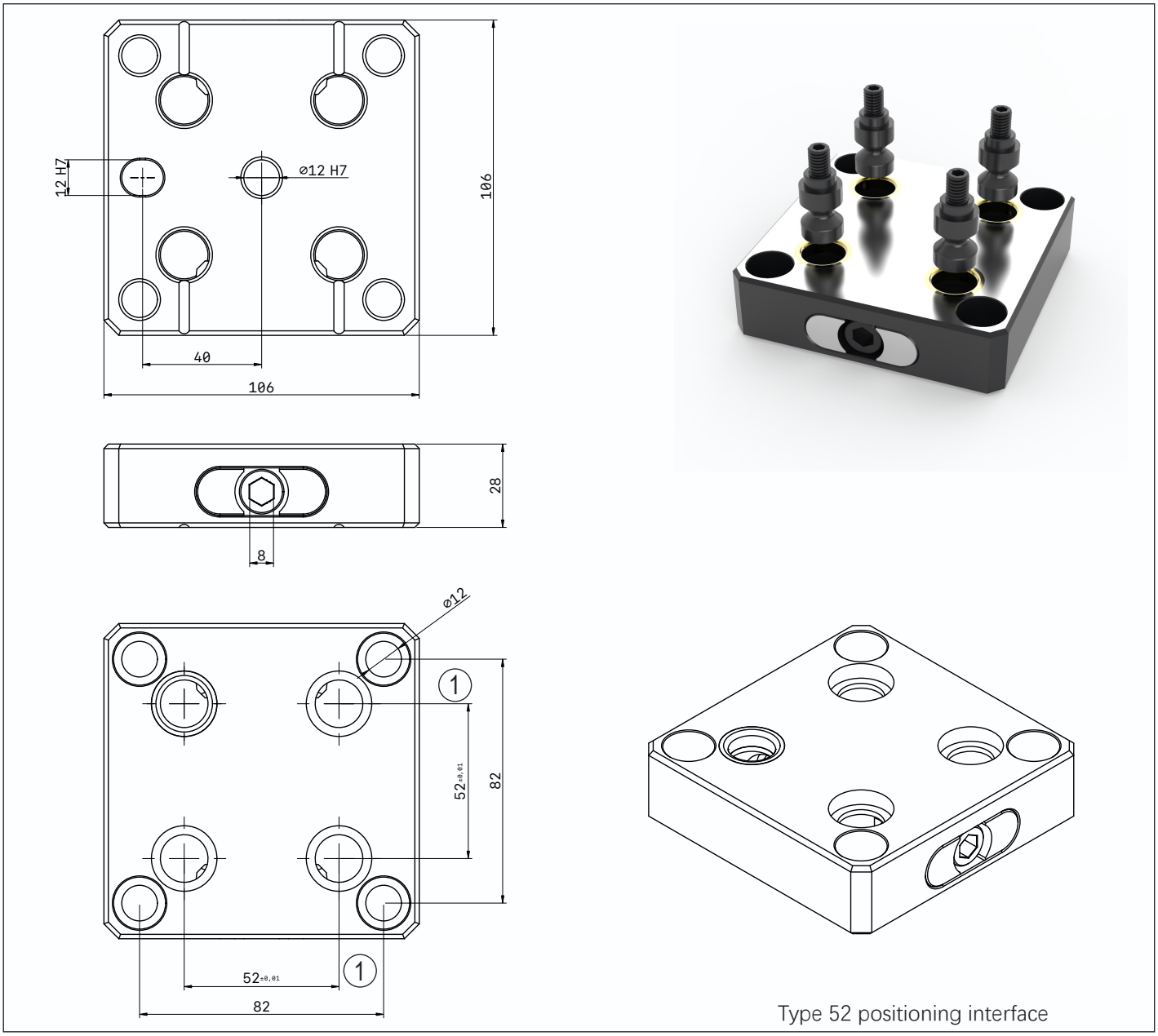
Manual Zero PointPositioning

It is positioned with 4 rivets to maintain the pull-down force for a long time and is locked by a wrench.

Scope of delivery
Clamping module, fastening screws, operable manual, clamping rivets

Technical data

Description	ID	Positioning diameter	Max. torque [N.m]	Repeat accuracy [mm]	Weight [kg]
KSG - 52S	15000	Φ16 ①	30	0.01	2.1



Type 52 positioning interface

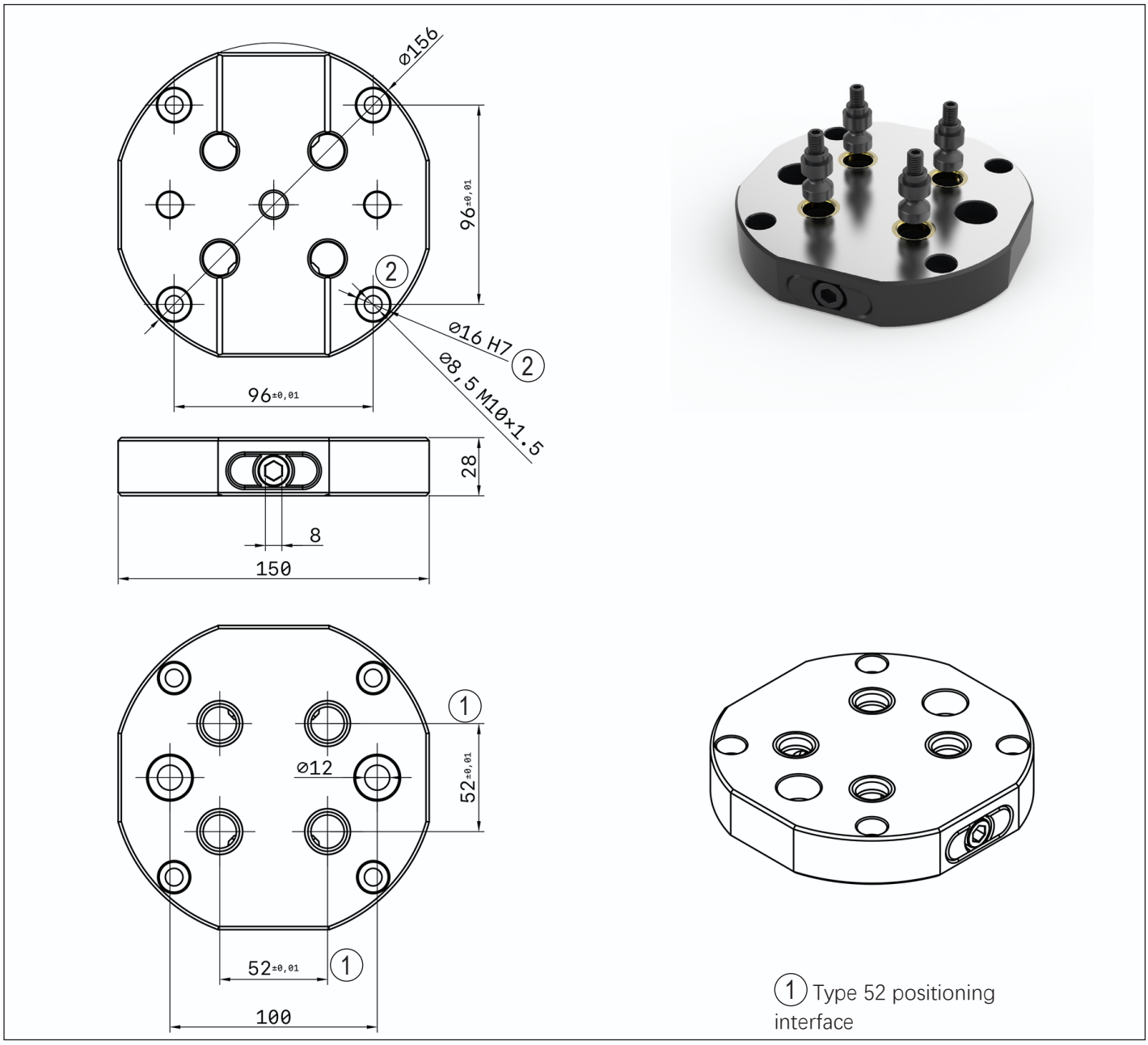
Manual Zero PointPositioning

It is positioned with 4 rivets to maintain the pull-down force for a long time and is locked by a wrench.

Scope of delivery
Clamping module, fastening screws, operable manual, clamping rivets

Technical data

Description	ID	Positioning diameter	Max. torque [N.m]	Repeat accuracy [mm]	Weight [kg]
KSG - 52R	15010	Φ16 ①	30	0.01	3.1



① Type 52 positioning interface

SIMPLE - KSG - 96S

Manual zero point positioning

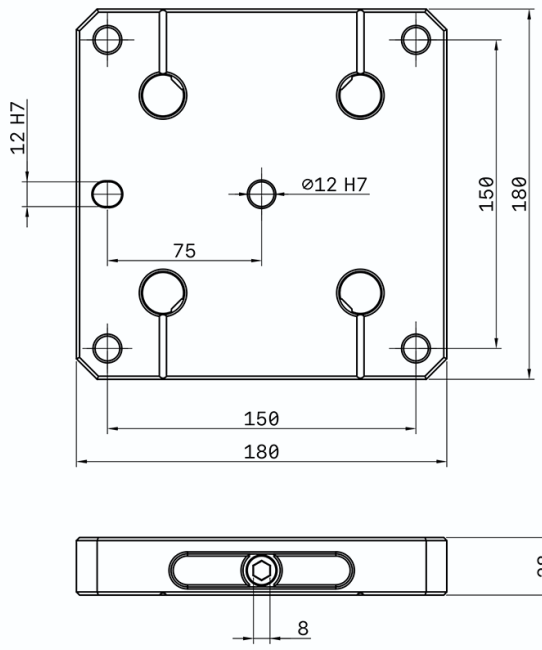
Manual Zero PointPositioning

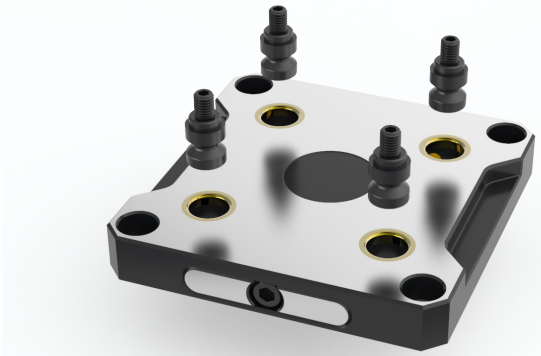
It is positioned with 4 rivets to maintain the pull-down force for a long time and is locked by a wrench.

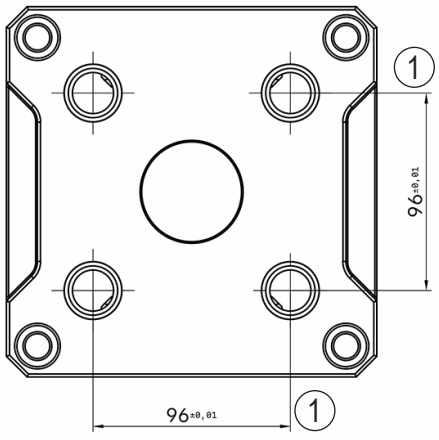
Scope of delivery
Clamping module, fastening screws, operable manual, clamping rivets

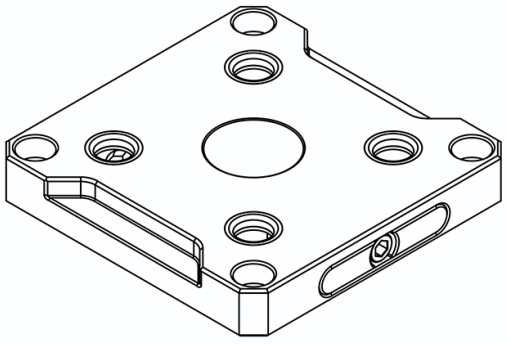
Technical data

Description	ID	Positioning diameter	Max. torque [N.m]	Repeat accuracy [mm]	Weight [kg]
KSG - 96S	15100	Φ20 ①	30	0.01	7.1









① Type 96 positioning interface

SIMPLE-Clamping Pins 52/96

Manual zero point positioning

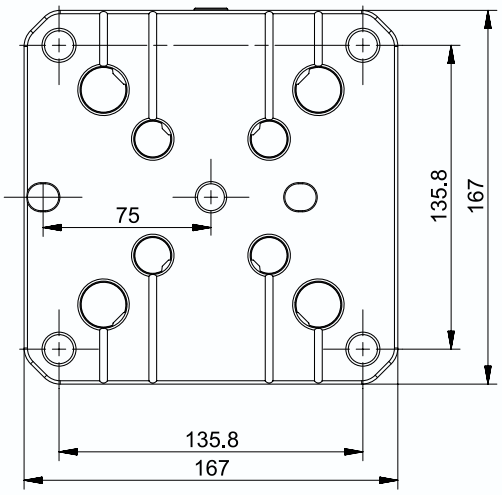
Technical data

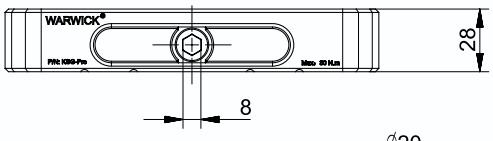
Manual Zero PointPositioning

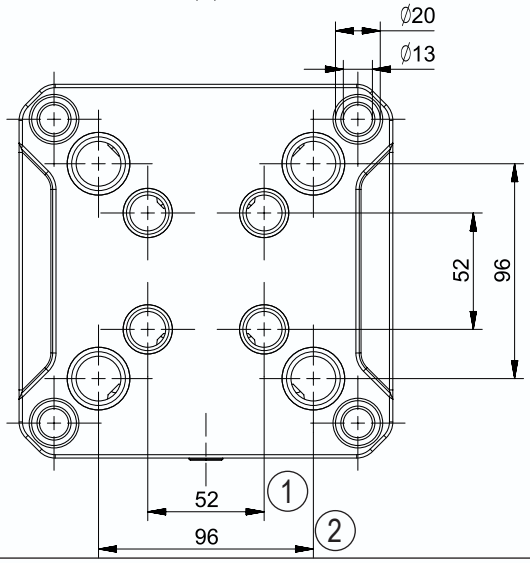
It is positioned with 4 rivets to maintain the pull-down force for a long time and is locked by a wrench.

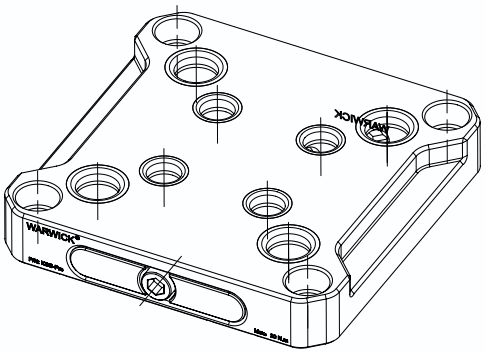
Scope of delivery
Clamping module, fastening screws, operable manual, clamping rivets

Description	ID	Positioning diameter	Max. torque [N.m]	Repeat accuracy [mm]	Weight [kg]
KSG -Pro	15200	Φ16 ① Φ20 ②	30	0.01	7.1









① Type 52 positioning interface

② Type 96 rivet mounting position

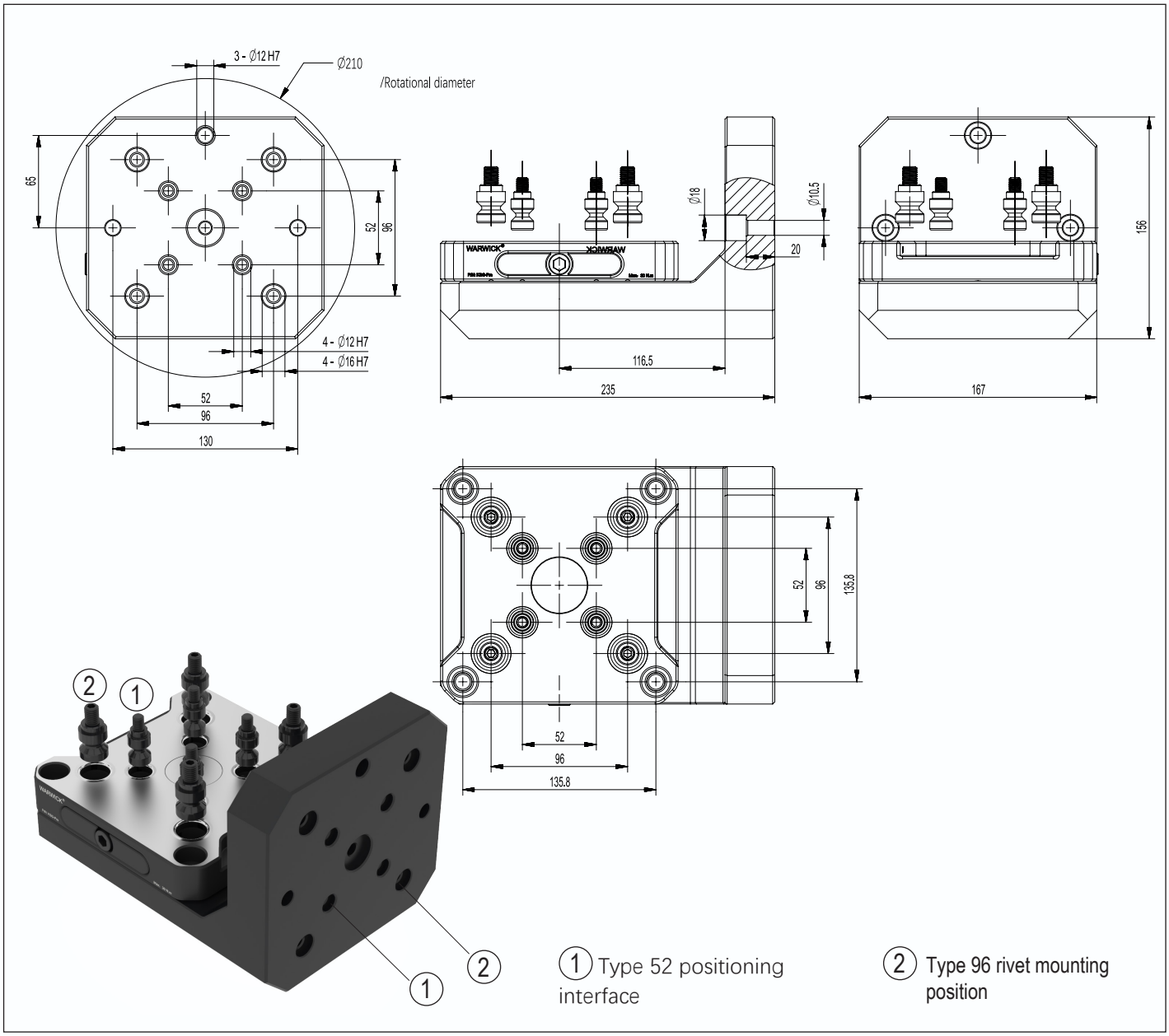
Manual Zero PointPositioning

It is positioned with 4 rivets to maintain the pull-down force for a long time and is locked by a wrench.

Scope of delivery
Clamping module, fastening screws, operable manual, clamping rivets

Technical data

Description	ID	Positioning diameter	Max. torque [N.m]	Repeat accuracy [mm]	Weight [kg]
KSG - Pro-L	15202	Φ20 ①	30	0.01	24.5



Clamping Pins

Scope of delivery
Clamping pins including fastening screws

Description	ID	Material	Holding force M8 [kN]	Holding force M10 [kN]	Holding force M12 [kN]	Version	Weight [kg]
52S- 16	15500	steel	20			Positioning pin	0.1
96S - 20	15502	steel		35		Positioning pin	0.15