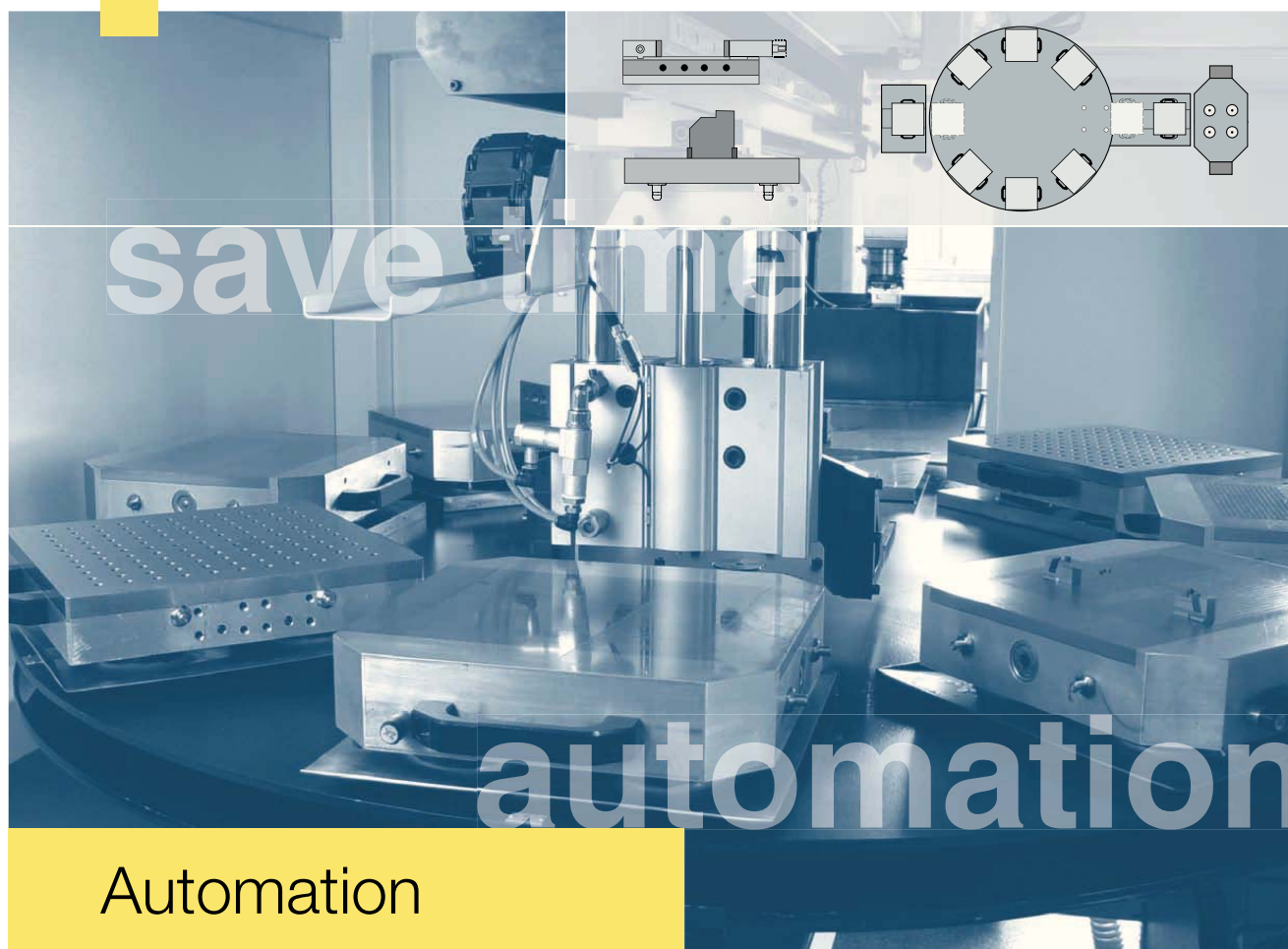




STARK

**Components for full automatic production –
from setting up to processing**



Palette changer

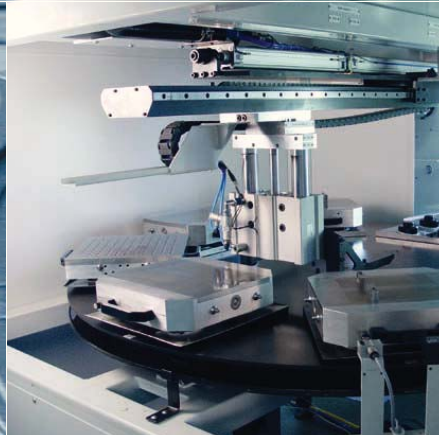
Palettes

**Zero point – mounting
systems**

Palette changer



STARK



STARK - systems for innovative production

Driven by technological progress, tooling machines and processing tools have experienced an enormous leap forward and their productivity has been greatly increased. Only setting-up workpieces on the tooling machines still requires downtimes.

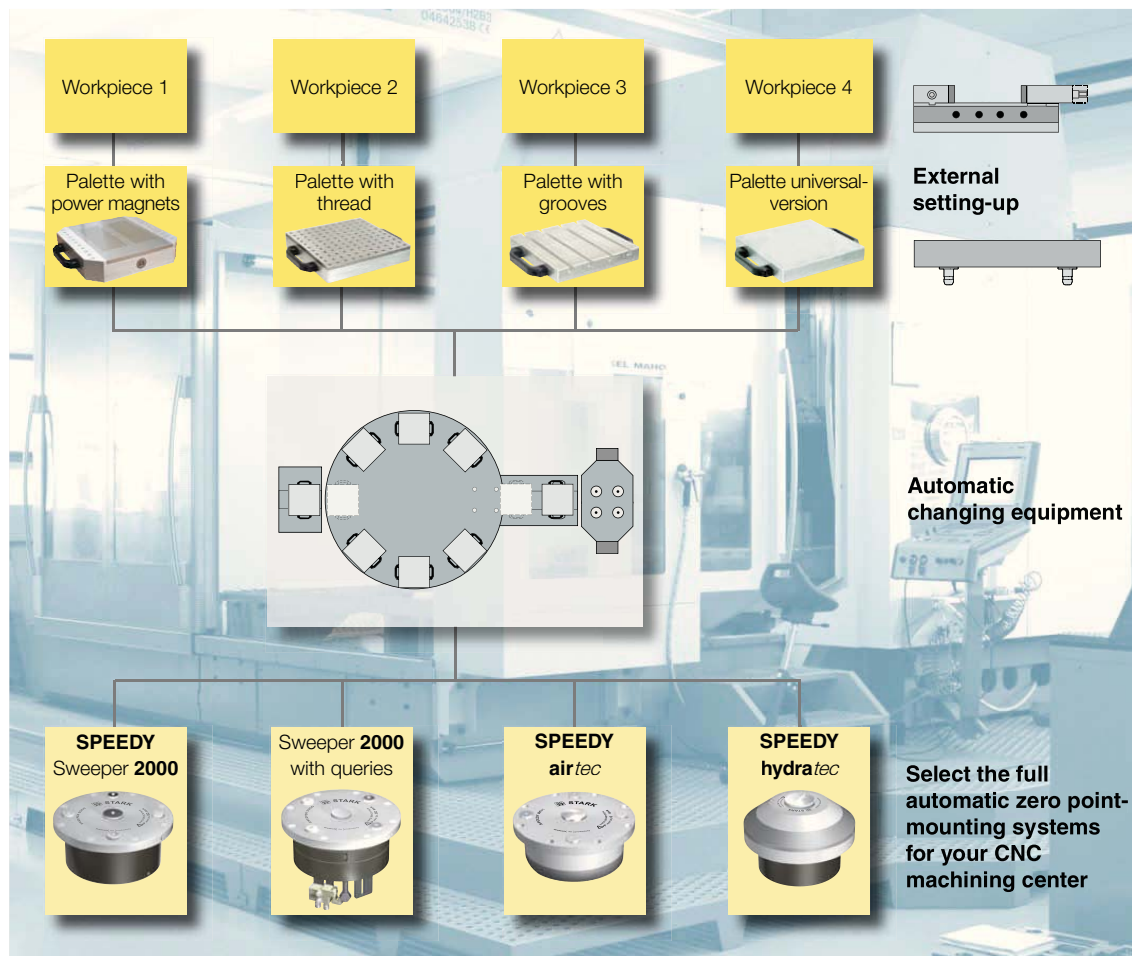
As pioneers of the zero point mounting technology, the strategy of STARK will always remain the optimization of setting up times. Therefore, STARK now offers solutions for complete automation projects. From paletting systems and the proven SPEEDY clamping devices up to systems for full automatic production.

Palette changer



STARK

Increase the productivity of your machine park.



The complete solution – for full automatic production

Take a close look at STARK systems and products to optimize and automate tool changing in your machine park.

In the wake of external setting-up and mounting systems, incorporating a palette changer is the next step towards increasing productivity.

Detailed information on the individual products can be found in the Internet on our homepage or have our competent specialists advise you directly.

Palette changer



STARK

Palette changer

- Can be installed on all common CNC machines
- Modular structure
(setting up space - palette changer - machine interface)
- Autonomous control unit with data interface (machine specific)
- High reliability and precision
- Comprehensive assortment of palettes
- Complete system solutions

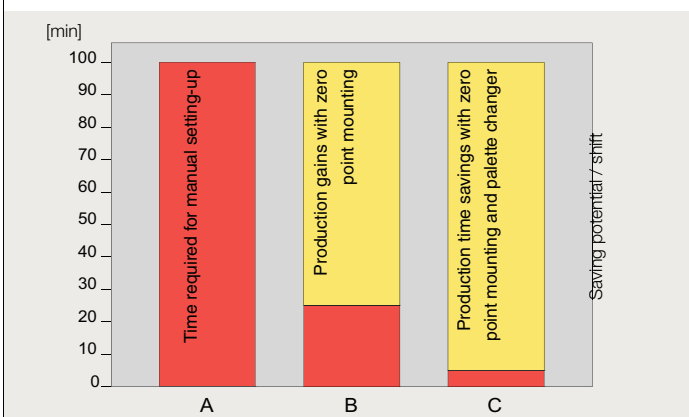


With batch sizes getting smaller, growing numbers and varieties of parts, low inventories and sales related production, setting-up times and the ensuing costs are becoming an ever growing factor in production costs.

Companies that can significantly reduce setting up times and the ensuing costs will gain immense advantages over their competitors. They are in the position to profitably producing the smallest of batches or even single components. They are in the position of synchronizing the production and assembly of products on a **just in time** basis. This type of strictly on demand production reduces storage costs significantly as they only arise during the production period.

From external setting-up, transfer to the CNC machine up to the accurately repeatable zero point clamping - the STARK palette changer provides all these productivity enhancements.

- Setting up existing machine parks more efficiently
- Automatic production
- Longer machine operation cycles
- External setting-up
- Minimal setting-up costs
- Standardized setting-up procedures
- Quality increase by error avoidance
- Reduction of defective finished products
- Machine independent zero point mounting technology, unified gauge for bore holes
- Productivity-enhancing



- A Setting-up the CNC (manually mounting the workpiece)
B Manual palette change (after external setting-up on a palette with zero point-mounting system)
C Automatic palette change with palette changer (without considering automatic shifts)

Potential savings

This diagram on the left shows how much shorter setting-up times are at the CNC based on the following empirical data:

- 20 minutes are required to manually mount a workpiece
- 5 workpiece changes per shift (8 h)
- 5 minutes are required for a manual palette change
- 1 minute is required for an automatic palette change

Palette changer



STARK

STARK palette changer - SPW

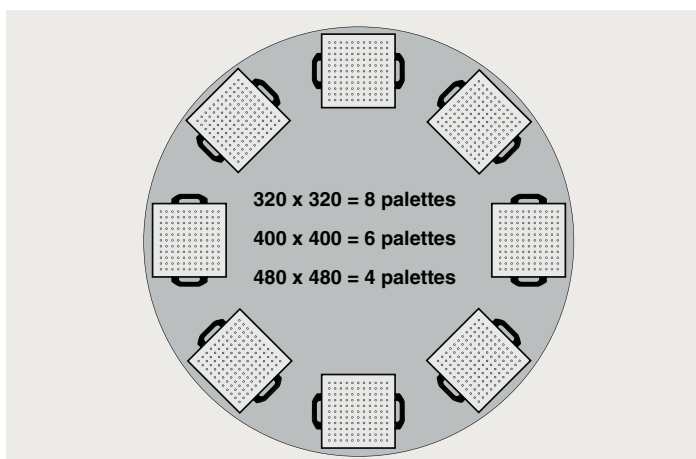


With its compact size, the SPW palette changer is easily installed in CNC machining centers. Depending on the equipment, up to 8 machine palettes can be loaded.

STARK offers a wide range of palettes with power magnets, threads and T-grooves as well as universal palettes – and manufactures special palettes upon customer request.

Control unit options

- Workpiece recognition with light barriers (loaded / empty palette)
- Palette identification



STARK offers palette changers in 3 different sizes:

Version SPW 8320

Capacity: 8 palettes at 320 x 320 mm

Version SPW 6400

Capacity: 6 palettes at 400 x 400 mm

Version SPW 4480

Capacity: 4 palettes at 480 x 480 mm

- All palettes are equipped with hand grips.
- The permissible transfer weights are 120 kg or 200 kg depending on size (per palette with workpiece).

Order no.	Designation	Dimensions [mm]			Machine weight [kg]	Number Palettes	Palette-size [mm]	Transfer-weight [kg]
		L	W	H				
104 943	SPW 8320	1740	1660	1660	1600	8	320 x 320	120*
104 944	SPW 6400	1740	1660	1660	1600	6	400 x 400	120*
104 945	SPW 4480	1740	1660	1660	1600	4	480 x 480	200

* Augmented transfer weight (max. 200 kg) upon request.

Palette changer



STARK

Equipment palettes

Palette with power magnets



Material:

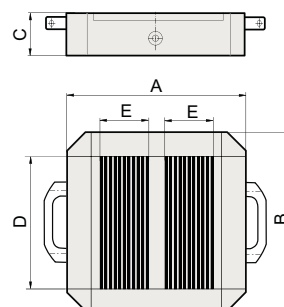
Body made of aluminum with pole flange St 37 / V4A, including gripper unit and nipple bore holes (open gauge). Additional threaded bore holes for stop strips and stop brackets are possible.

Application:

For cutting grinding, washing and measuring.

Technical specifications:

Parallelity: 0,03 mm
Magnet field height: 4 mm
Wear of the pole flange: 2 mm
Nominal clamping force: 140 N/cm²
Quiry: 1,9 mm



Order no.	Designation	Dimensions [mm]					Sectioning point	Weight [kg]
		A	B	C	D	E		
812 501	PPM 320	320	320	60	206	80	1	25
812 502	PPM 400	400	400	94	293	125	2	32
812 503	PPM 480*	480	480	—	—	—	—	—

* Version as electro permanent-clamping plate. Technical data upon request.

Palette with thread



Material:

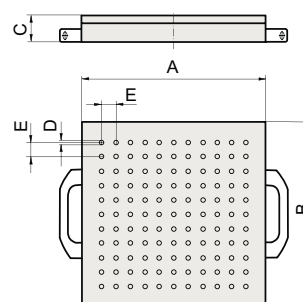
Body made of aluminum with screwed on, hardened and stainless steel plate with thread, pallette including gripper unit and nipple bore holes (open gauge).

Application:

For cutting, grinding, washing and measuring.

Technical specifications:

Parallelity: 0,03 mm
Surface: hardened
Clamping devices: available upon request



Order no.	Designation	Dimensions [mm]			Thread	Thread grid	Number of threads	Weight [kg]
		A	B	C				
812 204	PMG 320	320	320	46	M8	25	121	22
812 208	PMG 400	400	400	52	M8	50	64	35
812 206	PMG 480	480	480	52	M8	50	81	53

Palette changer



STARK

Palette with grooves



Material:

Aluminium with engraved T-grooves, palette including gripper unit and nipple bores (open gauge).

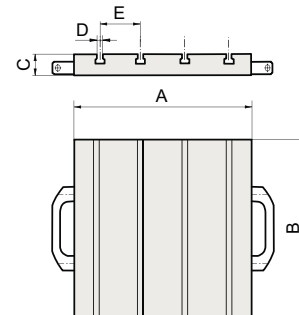
Application:

For cutting, grinding, washing and measuring.

Technical specifications:

Parallelity: 0,03 mm

Clamping devices: available upon request



Order no.	Designation	Dimensions [mm]			Dimensions [mm] T-grooves D H8	Grid T-grooves E	Number of T-grooves	Weight [kg]
		A	B	C				
812 304	PMN 320	320	320	30	12*	75	5	9,50
812 308	PMN 400	400	400	52	12*	70	6	22,00
812 306	PMN 480	480	480	52	12*	70	7	36,00

Universal palette



Material:

Aluminum, palette including gripper unit and nipple bores on palettes (open gauge).

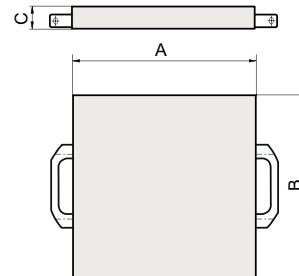
Application:

For cutting, grinding, washing and measuring.

Technical specifications:

Parallelity: 0,03 mm

Clamping devices: available upon request

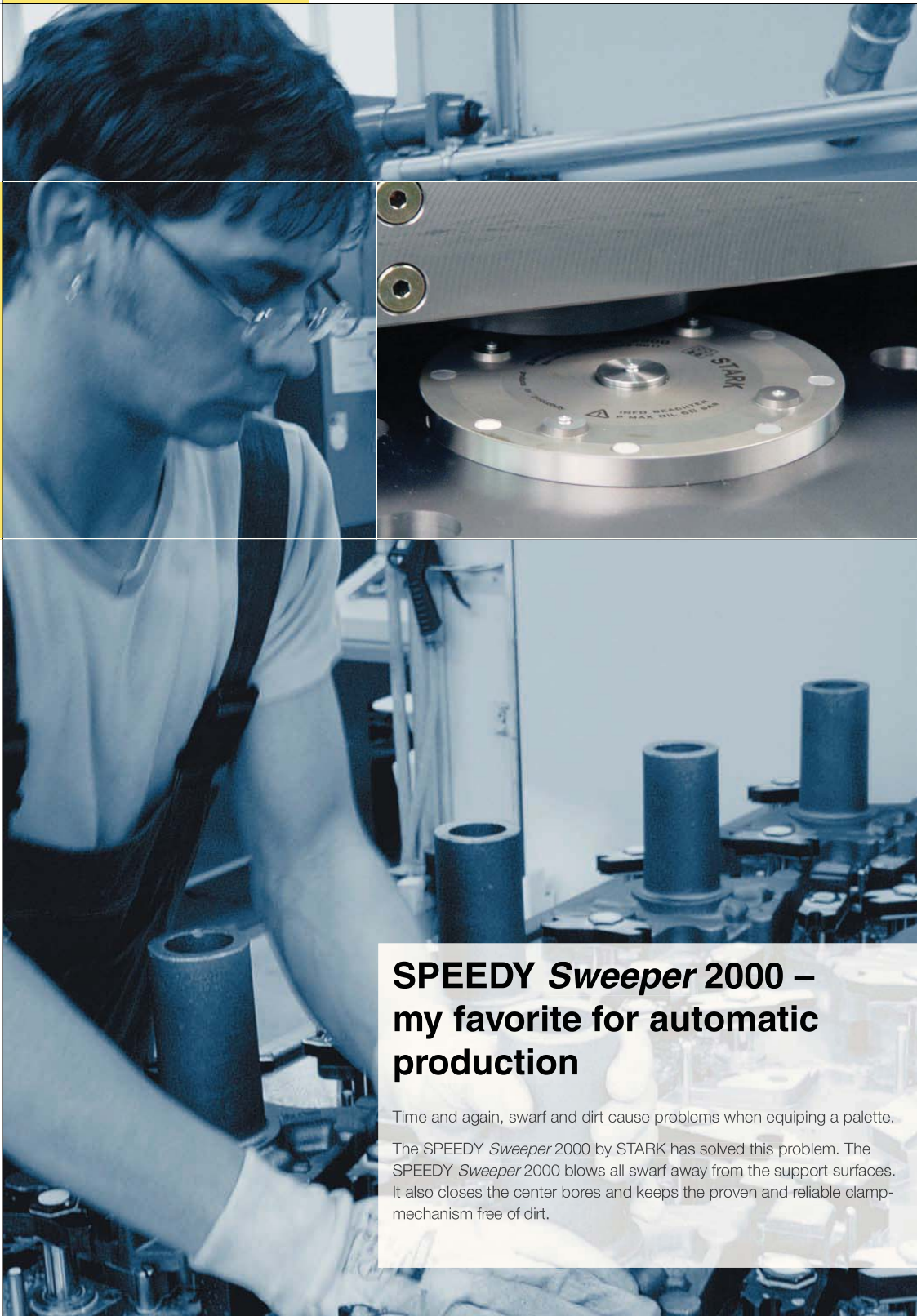


Order no.	Designation	Dimensions [mm]			Weight [kg]
		A	B	C	
812 401	PU 320	320	320	30	9,30
812 402	PU 400	400	400	40	17,00
812 403	PU 480	480	480	40	25,00

SPEEDY *Sweeper* 2000



STARK



SPEEDY *Sweeper* 2000 – my favorite for automatic production

Time and again, swarf and dirt cause problems when equipping a palette.

The SPEEDY *Sweeper* 2000 by STARK has solved this problem. The SPEEDY *Sweeper* 2000 blows all swarf away from the support surfaces. It also closes the center bores and keeps the proven and reliable clamp-mechanism free of dirt.

SPEEDY *Sweeper* 2000



STARK

Swarf free full automatic production – for vertical or horizontal clamping positions



Machine brackets with
SPEEDY
Sweeper 2000
including system- and
clamping controls

In automated systems, reliable system components are essential. While setting up CNC machines, the refuse factor often prohibits safe processing and handling. The central locking provided on the patented STARK clamping device, SPEEDY *Sweeper* 2000 effectively protects the clamping mechanism against refuse. In addition, the mounts and the central locking are cleaned with blow off nozzles making automatic, accurately repeatable zero point mounting possible.

- Upon request, media ducts can be integrated in the SPEEDY *Sweeper* 2000, allowing media to flow through the clamping devices. This technology permits controlling the swivelling mounts or machine vices with the machine control unit.
- The autonomous SPEEDY *Sweeper* multiple coupling can be equipped with up to 8 media ducts with nominal width 5. The ensuing coupling force is bridged by the integrated, double action, hydraulic clamping cylinder.
- As a surface check the air escaping from the blow off nozzles can be controlled by a differential pressure switch.
- The mounting system can also be controlled with an additional camshaft controller or remotely.

Significant product advantages

- Pneumatic self-cleaning system
- Central locking system protects against refuse
- Enables full-automatic machine setting up
- High operational safety during automatic processing
- Special clamping geometry provides no-tilt handling even if the weight distribution is unfavorable.
- 20 kN draw in force, vibration damping permanent draw in system and fail-safe spring activated force.
- Available with integrated media ducts
- Ready for surface and clamp controls
- High clamping cycles
- Modular structure

SPEEDY *Sweeper* clamping devices are modular and can be equipped with a wide range of accessories – to meet your requirements.

- Media ducts
- Clutches
- Mechanical queries
- Blocking air and differential pressure
- Varying clutch travel
- Varying strokes



... ask us.

SPEEDY Sweeper 2000



STARK

Zero point mounting system 1000

SPEEDY Sweeper 2000

SPEEDY Sweeper 2000

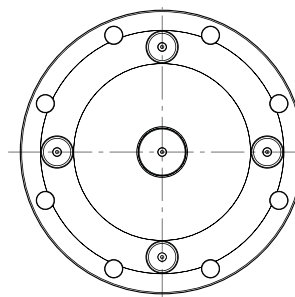
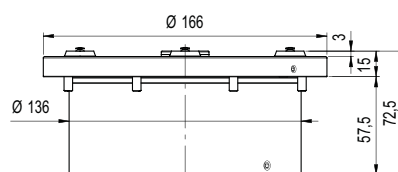


Properties:

Assembly module with central locking and mount blow off and surface control. Is blocked mechanically and released hydraulically.

Areas of application:

Automated production



Order no.	Draw in force	Hydraulic release pressure	Min. blow off pressure	Weight
809 100	20 kN	50 bar	6 bar	7,50 kg

Including fixing screws and screw cover caps.

SPEEDY Sweeper 2000 with mechanical query

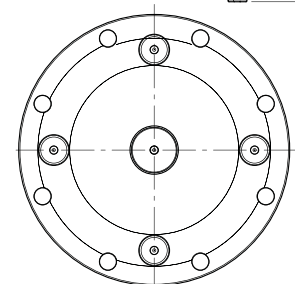
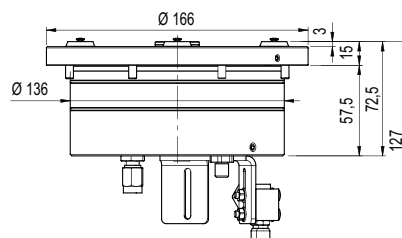


Properties:

Assembly module with central locking, mount blow off, surface control and cam controller for clamp control. Available with electrical, pneumatic or hydraulic signal processing. The assembly module is mechanically blocked and hydraulically released.

Areas of application:

Automated production



Order no.	Draw in force	Hydraulic release pressure	Min. blow off pressure	Weight
809 107	20 kN	50 bar	6 bar	7,60 kg

Including fixing screws and screw cover caps.

Technical data and other versions of the cam controller upon request.

SPEEDY Sweeper 2000



STARK

Zero point mounting system 1000

SPEEDY Sweeper 2000 with media ducts / clutches

SPEEDY Sweeper 2000 with media ducts

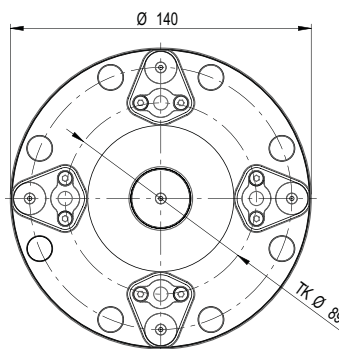
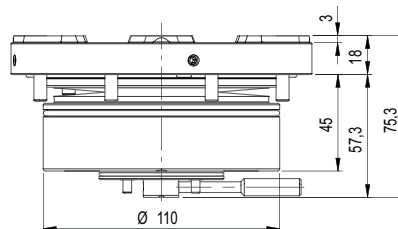


Properties:

Assembly module with central locking, mount blow off and 4 media ducts MD (suitable for oil, water, compressed air or vacuum) with NW 4. The assembly module is clamped mechanically and hydraulically released. Cannot be coupled under pressure.

Areas of application:

CNC with media ducts on the machine table for hydraulic mounting systems.



Order no.	Draw in force	Hydraulic release pressure	Min. blow off pressure	MD	NW	Weight
809 108	20 kN	50 bar	6 bar	4*	4	4,40 kg

* Each media duct is designed for a maximum pressure of 200 bar.
Including fixing screws and screw cover caps.
Technical data and other numbers of media ducts upon request.

Order no.	Designation
704 201	Media ducts NW 4, palette side

For the technical data, refer to the main catalog.

SPEEDY Sweeper 2000 with clutches

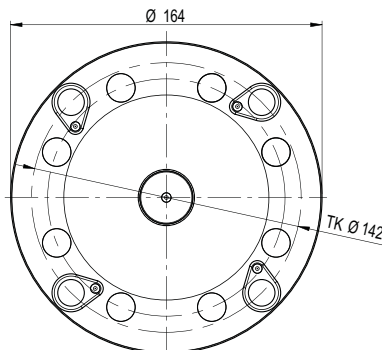
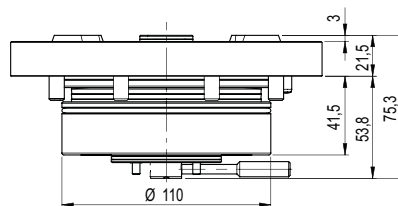


Properties:

Assembly module with central locking, mount blow off and 4 clutches, NW 5. The assembly module is clamped mechanically, hydraulically released and can be coupled under pressure.

Areas of application:

CNC with media ducts on the machine table for hydraulic mounting systems.



Order no.	Draw in force	Hydraulic release pressure	Min. blow off pressure	Clutches NW 5	Weight
809 109	20 kN	50 bar	6 bar	4*	5,10 kg

* Each clutch is designed for a maximum pressure of 300 bar.
Including fixing screws and screw cover caps.
Technical data and other number of clutches upon request.

Order no.	Designation
R 0460-691	Clutch nipple NW 5, short version
R 0460-814	Clutch nipple NW 5, long version
R 0460-837	Clutch nipple NW 5, short version with clamping unit

For the technical data, refer to the main catalog.

SPEEDY Sweeper 2000



STARK

Multiple coupling

SPEEDY Sweeper 2000

SPEEDY Sweeper 2000 clutch bearing

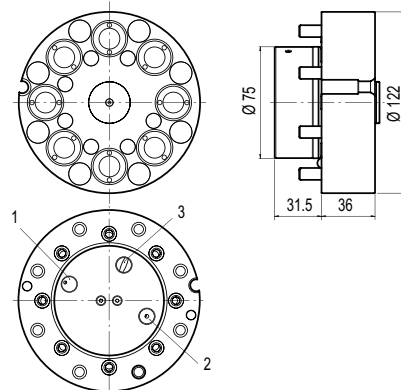


Properties:

Hydraulic double action clutch bearing with blow off central locking and indexing. The clutches are suitable for oil, water, compressed air and vacuum. The clutches can be coupled under pressure.

Areas of application:

CNC machining centers with clutches on the clamping table, special applications.



- 1) Oil connection for clamping
- 2) Oil connection for release
- 3) Compressed air connection

Order no.	Clutches NW 5	Draw in force	max. operating pressure	max. pressure bei 4x NW 5	min. pressure for blow off	Radial positioning	Weight
809 200	8	20 kN	300 bar	300 bar	6 bar	± 2 mm	3,40 kg
809 204	4	20 kN	300 bar	300 bar	6 bar	± 2 mm	3,10 kg

Including fixing screws and screw cover caps.

SPEEDY Sweeper 2000 nipple bearings

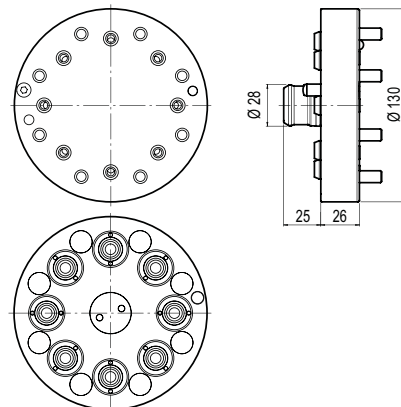


Properties:

Nipple bearings with clutches (suitable for oil, water, compressed air or vacuum) and indexing. The clutches can be coupled under pressure.

Areas of application:

CNC machining centers with clutches on the clamping table, special applications.



Order no.	Clutches NW 5	Radial positioning	Weight
809 220	8	± 2 mm	2,40 kg
809 224	4	± 2 mm	2,10 kg

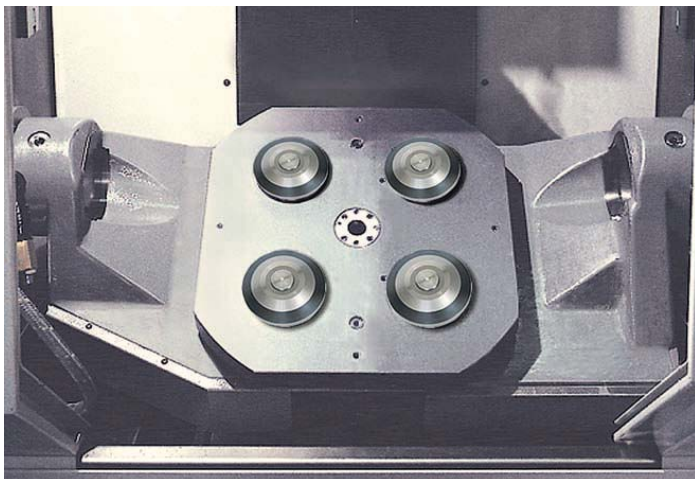
SPEEDY hydratec



STARK

Zero point mounting system 6000

SPEEDY hydratec

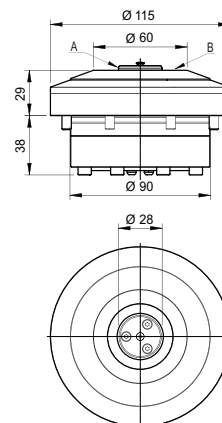
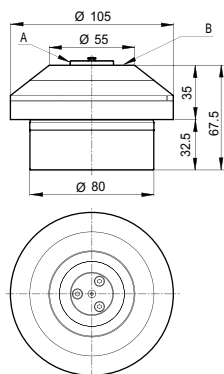


With the SPEEDY hydratec, STARK has developed a hydraulic double action clamping element. If the distancer (order no. 804 289) with the retractable nipple is used the palette can be blocked with SPEEDY *Sweeper* 2000 and SPEEDY hydratec. This enables using palettes independently of the different machine setting ups with SPEEDY hydratec or SPEEDY *Sweeper* 2000 or moving them from machine to machine. The extremely fast clamping cycles of the SPEEDY hydratec makes it very suitable for applications in automated production with short cycle times.

Significant product advantages

- Small in size - enables tight gauges
- extremely fast clamping cycle
- Long service life
- Readjustable clamping force
- Integrated surface control
- Clamping controls and other versions upon request

SPEEDY hydratec



Properties:

Hydraulic double action clamping element.
Ideal shape for swarf blow off.
Positioning is done with the fit diameter (A) of the nipple mount and via the support surface (B).

Areas of application:

Automation with short cycle times

Order no.	Draw in force	System pressure max.	Min. pressure for blow off	Weight
6000 001	20 kN	300 bar	6 bar	2,60 kg
6000 002	20 kN	140 bar	6 bar	3,50 kg

SPEEDY Sweeper 2000 / SPEEDY hydratec



STARK

Retractable nipple

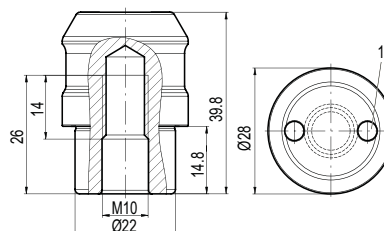
The retractable nipples can be used with SPEEDY Sweeper 2000 and SPEEDY hydratec.

Retractable nipple with zero point



Properties:
Retractable nipple with zero point.

Areas of application:
Palettes, machine vices, chucks, jigs, workpieces-direct clamping.



1) Use retractable nipple key to tighten. Tightening torque 75 Nm.

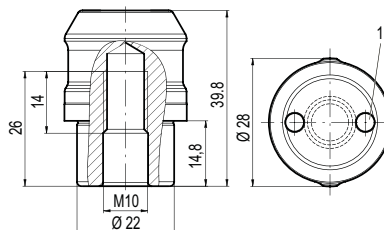
Order no.	Designation	Weight
804 490	Retractable nipple with zero point	0,13 kg

Retractable nipple with compensation



Properties:
Retractable nipple with compensation in one axis (sword shape).

Areas of application:
Palettes, machine vices, chucks, jigs, workpieces-direct clamping.



1) Use retractable nipple key to tighten. Tightening torque 75 Nm.

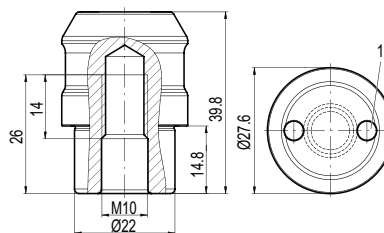
Order no.	Designation	Weight
804 495	Retractable nipple with compensation	0,13 kg

Retractable nipple without centering



Properties:
Retractable nipple with compensation in all axis.

Areas of application:
Palettes, machine vices, chucks, jigs, workpieces-direct clamping.



1) Use retractable nipple key to tighten. Tightening torque 75 Nm.

Order no.	Designation	Weight
804 485	Retractable nipple without centering	0,13 kg

Draw in nipple spanner



Tightening torque:
M8 = 20 Nm, M10 = 45 Nm

Areas of application:
Attachment of the retractable nipple.

Order no.	Designation
804 247	Draw in nipple spanner, SW 22
804 257	Socket 3/8", SW22 for retractable nipple

SPEEDY Sweeper 2000 / SPEEDY hydratec



STARK

Accessories

Distancer



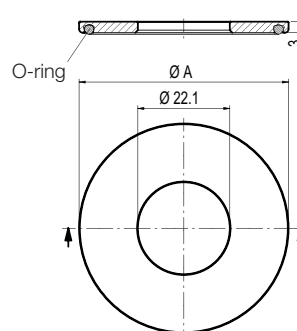
Properties:

Distancer with seal.

Areas of application:

Distancer for height compensation for SPEEDY Sweeper 2000 with central locking and mount.

Order no.	Designation	Ø A	Weight
804 283	Distancer for SPEEDY Sweeper 2000	42 mm	0,02 kg
804 289	Distancer for SPEEDY Sweeper 2000 and SPEEDY hydratec	57 mm	0,03 kg



Washer



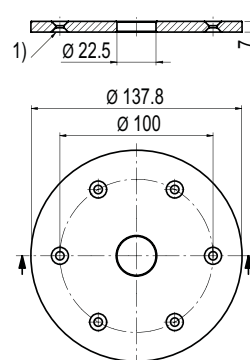
Properties:

Hardened washer

Areas of application:

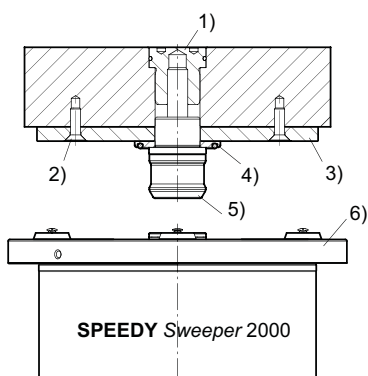
Washer for SPEEDY Sweeper 2000 and SPEEDY hydratec. To use with non-hardened surfaces

Order no.	Designation	Weight
804 284	Washer for SPEEDY Sweeper 2000 and SPEEDY hydratec	0,8 kg



1) Recess for M5 - screw DIN 7991

Sample application

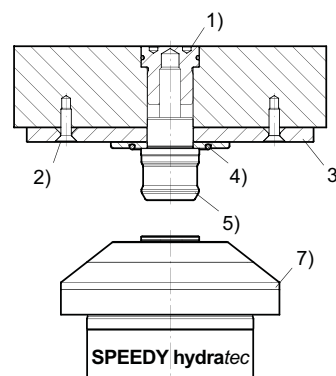


SPEEDY Sweeper 2000 for permanent automatic production. Retractable nipple with distancer and hardened washer.

Advantages:

- Safe and reliable surface blow off
- Nearly no wear
- Surface control available with differential pressure, blocking air

- Nipple mount
- Countersunk head screw DIN 7991
- Hardened surface
- Distancer
- Retractable nipple
- SPEEDY Sweeper 2000
- SPEEDY hydratec



To combine SPEEDY Sweeper 2000 with the SPEEDY hydratec, use distancer, pos. 4, order no. 804 289.

SPEEDY Sweeper 2000 / SPEEDY hydratec



STARK

Accessories

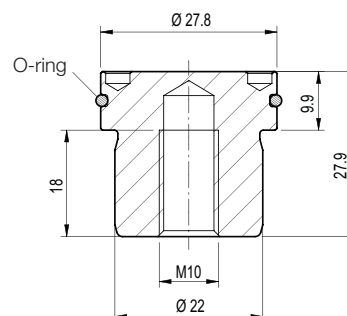
Nipple mount version D



Properties:
Nipple mount with O-ring.

Areas of application:
Equipment palettes, handling palettes, adapter palettes.

Order no.	Designation	Weight
809 125	Nipple mount version D	0,09 kg



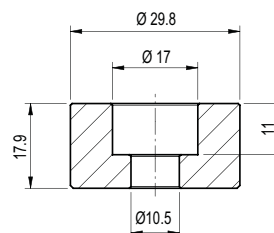
Nipple mount, version E



Properties:
Hardened screw retainer.

Areas of application:
Equipment palettes, handling palettes, adapter palettes.

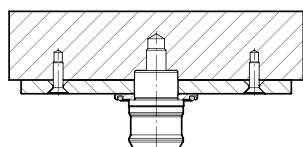
Order no.	Designation	Weight
809 120	Nipple mount, version E	0,07 kg



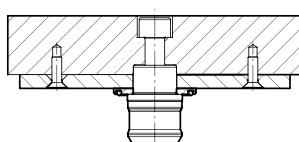
Versions D and E have the advantage that the fit diameter can be made with high precision on the upper side of the palettes in a single setting up operation.

Mounting versions for retractable nipple

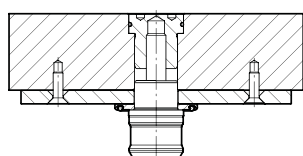
Version A



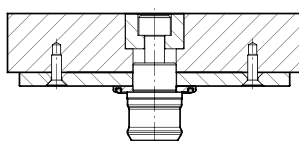
Version B



Version D



Version E



For SPEEDY hydratec versions without distancer the fitting holes must be made 3 mm deeper.

SPEEDY airtec



STARK



SPEEDY airtec – my first choice for applications in oil free environments

With the SPEEDY airtec, STARK developed a pneumatically activated fast clamping lock for applications in oil free environments.

SPEEDY airtec stands out with

- high clamping force,
- operational safety at a pressure drop,
- optimized power curve,
- long service life,
- service friendly construction.

SPEEDY airtec



STARK

Zero point mounting system 5000

SPEEDY airtec

SPEEDY airtec is a pneumatically activated fast clamping lock. It is activated by a single compressed air connection with 6 bar - without pressure booster or auxiliary devices.

This newly developed mounting system has given the SPEEDY airtec a clamping force of 20 kN.

The SPEEDY airtec is best suited for areas of application requiring oil free mounting systems, e.g in food processing, for medicine technology and where hygiene is of the highest priority.

The SPEEDY airtec is available in 4 versions. There is the standard version with support ring and a version with central locking. Index bores for the locking piston and mounts with integrated blow off, widen the range of application.

SPEEDY airtec with support ring

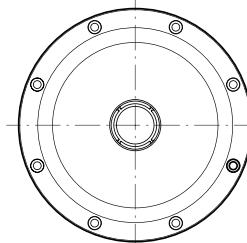
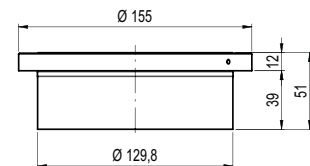


Properties:

Assembly module, air activated with support ring. Is mounted mechanically and released pneumatically. Combined with order no. 5000 102 it is suited for raised assembly.

Areas of application:

Especially for oil free plants, in clean rooms, medicine and food processing technologies.



Order no.	Designation	Clamping force	Operating pressure	Weight
5000 001	With support ring	20 kN	6 bar	4,80 kg

SPEEDY airtec with support ring and index bores

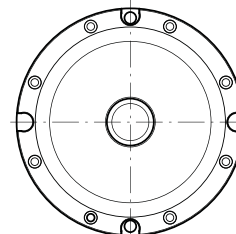
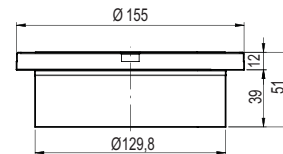


Properties:

Assembly module, air activated with support ring and 4 index bores. Is mounted mechanically and released pneumatically. Combined with order no. 5000 102 it is suited for raised assembly.

Areas of application:

Especially for oil free plants, in clean rooms, medicine and food processing technologies.



Order no.	Designation	Clamping force	Operating pressure	Weight
5000 002	With support ring and 4 index bores	20 kN	6 bar	4,80 kg

SPEEDY airtec



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SPEEDY airtec with central locking

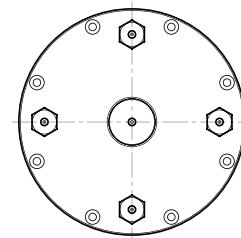
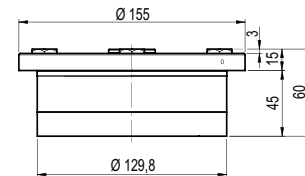


Properties:

Assembly module, air activated with central locking and mounts with blow off. Is mounted mechanically and released pneumatically.

Areas of application:

Especially for oil free plants, in clean rooms, medicine and food processing technologies.



Order no.	Designation	Clamping force	Operating pressure	Weight
5000 003	With central locking and support mounts	20 kN	6 bar	5,40 kg

SPEEDY airtec with central locking, index bores

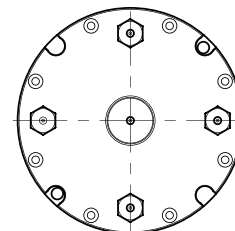
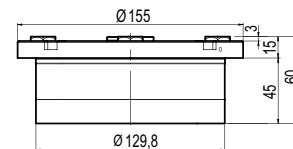


Properties:

Assembly module, air activated with central locking and mounts with blow off. 4 index bores. Is mounted mechanically and released pneumatically.

Areas of application:

Especially for oil free plants, in clean rooms, medicine and food processing technologies.



Order no.	Designation	Clamping force	Operating pressure	Weight
5000 004	With central locking, mounts and 4 index bores	20 kN	6 bar	5,40 kg

SPEEDY airtec raised housing with clamping devices

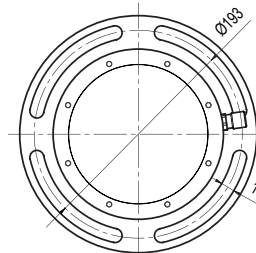
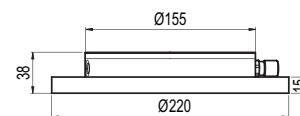


Properties:

Raised housing with clamping devices for flexible mounting on the machine table. Suited for the SPEEDY airtec order no. 5000 001, 5000 002.

Areas of application:

For raised assembly for oil free plants, in clean rooms, medicine and food processing technologies.



Order no.	Designation	Weight
5000 102	Raised housing with clamping devices	2,20 kg

SPEEDY airtec



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Retractable nipple

These retractable nipples are only suitable for the SPEEDY airtec zero point mounting system.

Retractable nipple with zero point

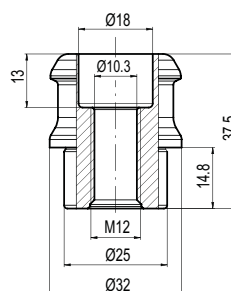


Properties:

Retractable nipple with zero point, including screw covers.

Areas of application:

Palettes, machine vices, chucks, jigs, workpieces-direct clamping.



Order no.	Designation	Weight
5000 009	Retractable nipple with zero point	0,13 kg

Retractable nipple with compensation

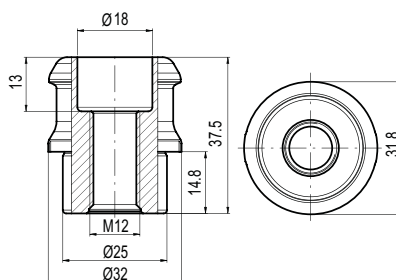


Properties:

Retractable nipple with compensation in one axis (sword form), including screw cover.

Areas of application:

Palettes, machine vices, chucks, jigs, workpieces-direct clamping.



Order no.	Designation	Weight
5000 010	Retractable nipple with compensation	0,13 kg

Retractable nipple without centering

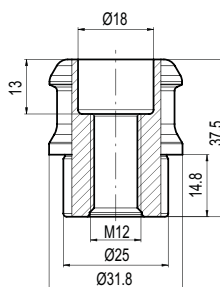


Properties:

Retractable nipple with compensation in all axis, including screw cover.

Areas of application:

Palettes, machine vices, chucks, jigs, workpieces-direct clamping.



Order no.	Designation	Weight
5000 011	Retractable nipple without centering	0,13 kg

SPEEDY airtec



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Accessories

Suited for SPEEDY airtec with central locking (order no. 5000 003) and SPEEDY airtec with central locking and index bores (order no. 5000 004).

Distancer

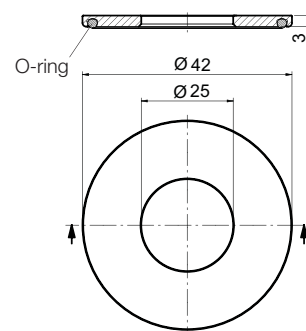


Properties:

Distancer with seal.

Areas of application:

Distancer for height compensation for SPEEDY airtec with central locking and support mount.



Order no.	Designation	Weight
804 269	Distancer for SPEEDY airtec	0,02 kg

Washer

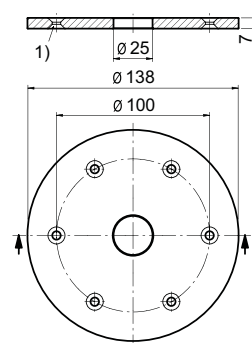


Properties:

Hardened washer

Areas of application:

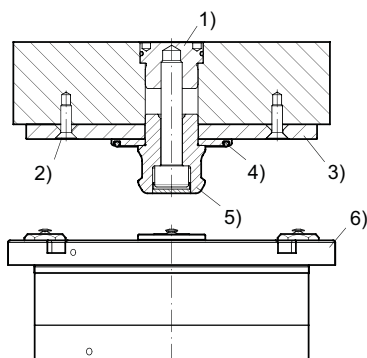
Washer for SPEEDY airtec. To use with non-hardened surfaces.



Order no.	Designation	Weight
804 281	Washer for SPEEDY airtec	0,80 kg

1) Recess for M5 - screw DIN 7991

Sample application



SPEEDY airtec 5000 for permanent automatic production. Retractable nipple with distancer and hardened washer.

Advantages:

- Safe and reliable surface blow off
- Nearly no wear
- Surface control available with differential pressure, blocking air

- 1) Nipple mount
2) Countersunk head screw DIN 7991
3) Hardened surface

- 4) Distancer
5) Retractable nipple
6) SPEEDY airtec 5000

to 1) Nipple mount selectable from the top or from below. Tightening torque for:
M10 - screw = 45 Nm
M12 - screw = 70 Nm

SPEEDY airtec



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Accessories

Nipple mount version D

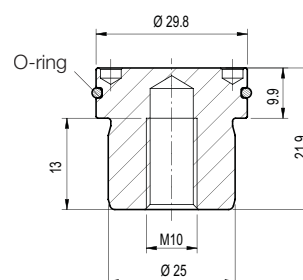


Properties:

Nipple mount with O-ring.

Areas of application:

Equipment palettes, handling palettes, adapter palettes.



Order no.	Designation	Weight
804 267	Nipple mount version D	0,09 kg

Nipple mount, version E

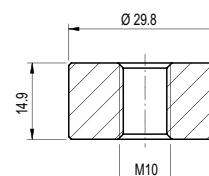


Properties:

Hardened screw retainer.

Areas of application:

Equipment palettes, handling palettes, adapter palettes.

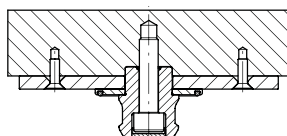


Order no.	Designation	Weight
804 266	Nipple mount, version E	0,07 kg

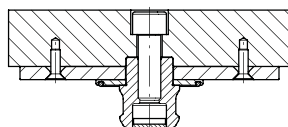
Versions D and E have the advantage that the fit diameter can be made with high precision on the upper side of the palettes in a single setting up operation.

Mounting versions for retractable nipple

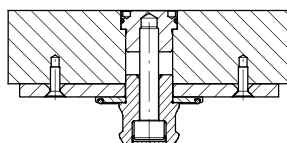
Version A



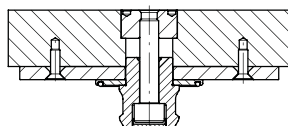
Version B



Version C



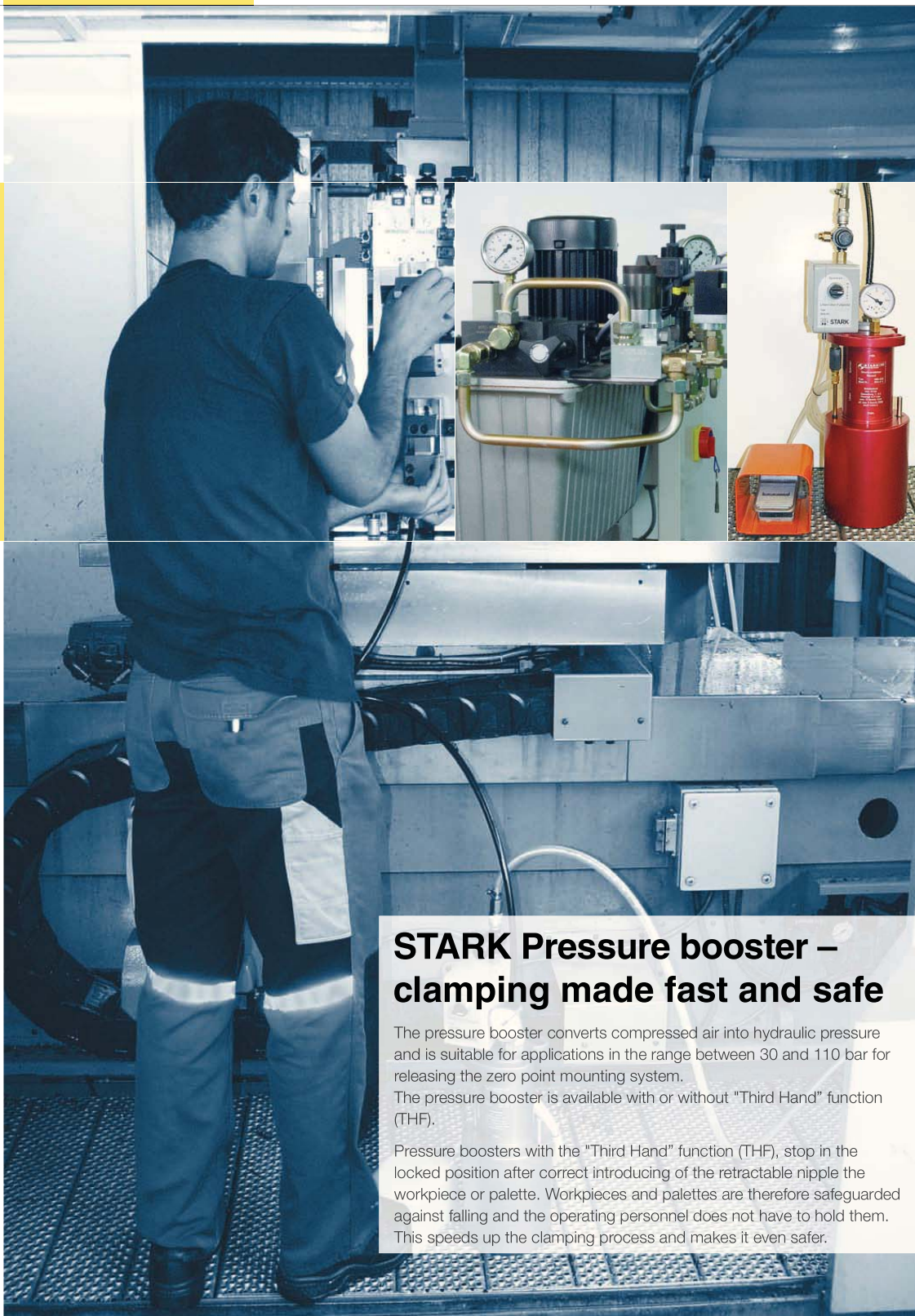
Version D



Pressure booster



STARK



STARK Pressure booster – clamping made fast and safe

The pressure booster converts compressed air into hydraulic pressure and is suitable for applications in the range between 30 and 110 bar for releasing the zero point mounting system.

The pressure booster is available with or without "Third Hand" function (THF).

Pressure boosters with the "Third Hand" function (THF), stop in the locked position after correct introducing of the retractable nipple the workpiece or palette. Workpieces and palettes are therefore safeguarded against falling and the operating personnel does not have to hold them. This speeds up the clamping process and makes it even safer.

Pressure booster



STARK

Pressure booster

The pressure booster converts air pressure into hydraulic pressure.
The "Third Hand" function (THF) safeguards the workpiece or palette after positioning against falling until the clamping process is completed.

Pressure booster RECORD 80 bar

Order no.	Releases approx. pieces	System pressure	Air pressure	Weight
804 412	14 x SPEEDY 6 kN	40	6	8,80 kg
	7 x SPEEDY 20 kN	40	6	
804 429	14 x SPEEDY 6 kN with THF	40	6	10,50 kg
	7 x SPEEDY 20 kN with THF	40	6	



Pressure booster KOLOSS 110 bar

Order no.	Releases approx. pieces	System pressure	Air pressure	Weight
804 414	12 x SPEEDY 10 kN	80	6	14,10 kg
804 430	12 x SPEEDY 20 kN with THF	80	6	15,80 kg



Pressure booster BOOSTER 40/80 bar

Order no.	Releases approx. pieces	System pressure	Air pressure	Weight
804 435	45 x SPEEDY 6 kN	40 bar	6 bar	27,30 kg
	23 x SPEEDY 20 kN	40 bar	6 bar	
	7 x SPEEDY 30 kN	30 bar	5 bar	
804 436	22 x SPEEDY 10 kN	80 bar	6 bar	27,30 kg
	6 x SPEEDY Sweeper 20 kN	60 bar	5 bar	

The pressure booster BOOSTER is also available with THF.

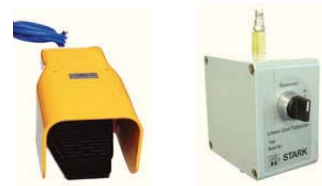


Accessories for the pressure booster

A hydraulic hose of 1,5 meter in length is included in the delivery (other hose lengths upon request).

Order no.	Designation	Weight
804 419	Indexing foot pedal for the pressure booster complete	2,40 kg
804 428	THF-controller in the housing with foot pedal	1,70 kg

All pressure boosters can be equipped with indexing footpedals upon request.



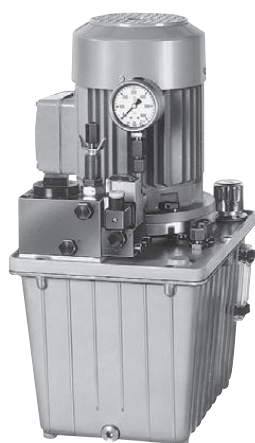
Pressure booster



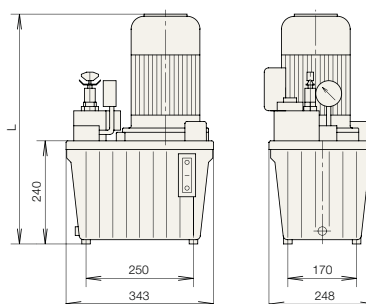
STARK

Pumping unit

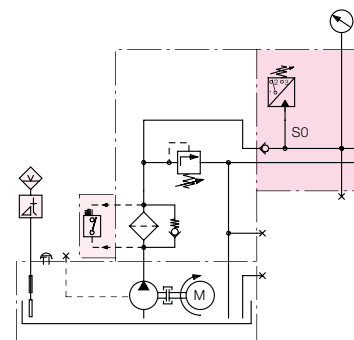
Electrical pumping unit



The pumping unit is specially suited for small to medium size clamping and assembly devices with one-way cylinders that mainly operate during intermittent operation (pressure build up and pressure maintenance).



Hydraulic diagram



The pictured pressure switch, the oil level and oil temperature gauges and the filter monitors are not part of the base equipment.
Oil level and oil temperature gauge:
Order no. 3822-008.

Order no. Base equipment	Order no. With filter check	Blower output ccm/s	l/ min.	Operating pressure 100% ED 40% ED bar		Nominal output KW	L2 mm	kg
8223-310	8223-910	15	0,9	350	500	0,75	489	27
8122-300	8122-900	25	1,5	150	200	0,75	489	27
8223-308	8223-908	25	1,5	360	500	1,1	504	30
8223-323	8223-923	86/12	5,2	100/500	100/500	0,75	489	29
8223-311	8223-911	41	2,5	220	300	1,1	504	30
8142-300	8142-900	70	4,5	64	85	0,75	489	27
8143-300	8143-900	70	4,5	104	142	1,1	504	30
8144-300	8144-900	70	4,5	142	180	1,5	531	34
8152-300	8152-900	102	6,2	50	65	0,75	489	27
8153-300	8153-900	102	6,2	73	100	1,1	504	30
8154-300	8154-900	102	6,2	100	125	1,5	531	34

General specifications

Type:	81XX-toothed wheel pumps, 82XX-radial piston pumps, 8223-323 2-stage pump
Mounting:	Foot mount, connection gauge G 1/4
Rotation:	Bidirectional for radial piston pumps, clockwise for toothed wheel pumps, counter clockwise for 2-stage pumps (looking down on the drive shafts)
Fitting:	Vertical, container volume 11 l, usable volume Vn = 6 l
Efficiency:	Vol. efficiency h vol = 85-95% for toothed wheel pumps, h vol = 92-96% for radial piston pumps
Accessories:	Upon request the pumping units are available with electrically activated directional control valves. Order valves separately.

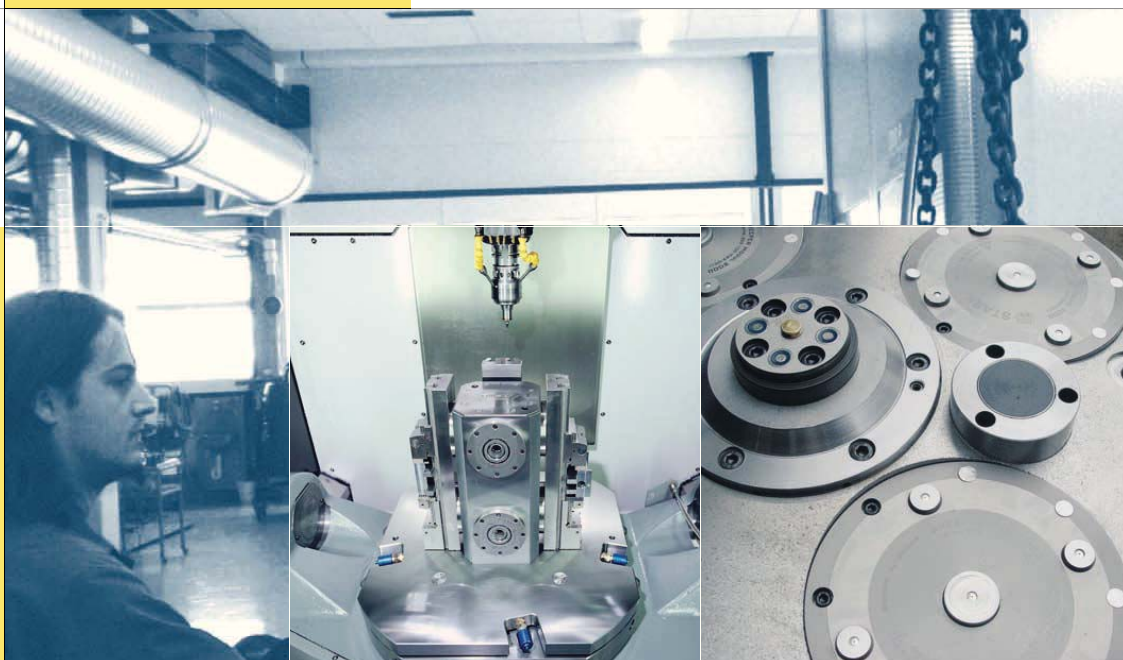
Electrical specifications

Nominal voltage: 230/400 V, 50 Hz
Fusing: IP 54
The calculation of the relative duty cycle is based on a cycle of 10 min. With 40% ED e.g. the maximum load within the cycle should not exceed 4 min. During the remaining time, the motor can carry a load off up to 50% of the nominal output and should run continuously.

Examples for application



STARK



STARK – my partner for practical and proven solutions from a single source

STARK is your partner for sophisticated automations and retrofitting projects. In close cooperation with customers, complete solutions are developed to meet the highest demands.

Examples for application



STARK

Retrofitting a CNC machining center with palette changer and zero point-mounting system

What can be done if parts production should remain in-house but budgetary constraints do not allow for the new acquisitions required?
How can the cost of parts produced be as commercially viable as outsourcing?

Faced with these questions, an automobile parts supplier went searching for a partner to retrofit its semi-automatic CNC machining center. Their aim was adding a palette changer that would enable setting-up and removing parts parallel to the processing lines. Without these measures, every shift would require a second co-worker.

The comprehensive solution offered by STARK was found to be more effective than the offers made by the competitors:

Using a zero point-mounting system made the need for expensive reconstructions unnecessary. Only minimal changes were required at the CNC machining center: Only a plate with six SPEEDY *Sweeper* assembly elements was added to their working table.

In addition, STARK provided a completely autonomous palette changer, which helped to load the zero point-mounting system, as the existing CNC had no hydraulic supply lines.

With pneumatic activated retractable clamping nipples, the stroke of the zero point mounting system is significantly reduced and zero point mounting is guaranteed even under difficult handling conditions or tricky setting up situations.

Recessed retractable nipples permit even the heaviest of palettes to be moved and positioned on ball roller strips and then lowered hydraulically onto the automatic clamping devices.

