



STARK

Zero Point Mounting *System 1000*

Complete Catalogue



P r o d u c t s | f o r | p r o d u c t i v i t y

Chapter overview



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Systems	1
Examples of use	2
Set-up time savings	3
SPEEDY fast closing clamp	4
Mounting brackets for SPEEDY	5
SPEEDY assembly modules	6
SPEEDY <i>Compact</i> 1000	7
SPEEDY plate sets	8
SPEEDY assembly cylinders	9
Flow-power	10
Control valve and shut-off valve	11
Retractable nipples	12
Pressure booster and devices	13
Pallets perforated	14
Plates perforated	15
Clamping devices - mechanical	16
Attachments	17
Handling equipment	18
Order number index	19
Examples for application	20

Contents



STARK

Systems	5	Shut-off valve for installation in fast closing clamp-plates	47
Examples of use	6	Control valve with ball valve to piping ø 6/4	47
Amortization through reduced set-up time	7	Retractable nipples	48
Advantages of the system at a glance	9	Retractable nipple with zero point for SPEEDY 1000	49
Technical Data	10	Retractable nipple with equalizer for SPEEDY 1000	49
SPEEDY fast closing clamp	12	Retractable nipple without centering for SPEEDY 1000	49
SPEEDY <i>Record</i> 1000 round	12	Retractable nipple for SPEEDY 1000 with flange	50
SPEEDY <i>Record</i> 1000 square	12	Zero point flange	50
SPEEDY <i>Record</i> 1000 set	13	Equalizing flange for SPEEDY 1000	51
SPEEDY <i>Record</i> 1000 blow out round	14	Retraction flange for SPEEDY 1000	51
SPEEDY <i>Record</i> 1000 blow out square	14	Retractable nipple with zero point for SPEEDY 2000, 3000	52
SPEEDY 1000 round	16	Retractable nipple with equalizer for SPEEDY 2000, 3000	52
SPEEDY 1000 square	16	Retractable nipple without centering for SPEEDY 2000, 3000	53
SPEEDY 1000 set	17	Mounting examples	53
SPEEDY 2000 round	18	Retractable nipple with zero point for SPEEDY <i>Sweeper</i> 2000	54
SPEEDY 2000 square	18	Nipple fastening for variant D	55
SPEEDY 2000 set	19	Nipple fastening for variant E	55
SPEEDY 3000 round	20	Pressure booster with/without "third hand" function (DHF)	56
SPEEDY 3000 square	20	Pressure booster and devices	58
SPEEDY <i>Gigant</i> 1000, 2000, 3000 round	21	Pressure booster and devices	58
SPEEDY <i>Gigant</i> 1000, 2000, 3000 square	21	Pumping set, electric	59
Mounting brackets for SPEEDY	22	Pallets perforated	60
Mounting brackets for the fast closing clamps	22	Accuracy (standard)	60
Some possible combinations of mounting brackets	22	Variations in perforated pallets and plates	61
Mounting bracket form 1	23	Pallet perforated	62
Mounting bracket form 2	23	Pallet perforated- square	63
Mounting bracket form 3	23	Pallet perforated- round	63
Mounting bracket form 4	23	Plates perforated	64
Mounting bracket for clamping on perforated grid	23	Plate perforated- square	65
Practical examples	24	Plate perforated- round	65
SPEEDY assembly modules	25	Clamping devices - mechanical	66
SPEEDY <i>Tornado</i> 1000 assembly module with raised	25	Zero point reference also on down draw clamps	66
supports and blow out ducts	25	Guidelines for working with clamping devices	67
SPEEDY <i>Tornado</i> 2000 assembly module with raised	25	Down draw clamp for pegging out zero point	68
supports and blow out ducts	25	Down draw clamp for pegging out zero point, narrow edition	68
SPEEDY <i>Tornado</i> 3000 assembly module with raised	26	Adjustable down draw clamp	69
supports and blow out ducts	26	Down draw clamp for pegging out - zero point reference -	70
Practical example	26	raised model	70
SPEEDY Compact 1000	27	Down draw clamp - adjustable - raised model	70
SPEEDY <i>Compact</i> 1000 assembly	27	Simple prism clamp, as cover with zero point	71
SPEEDY <i>Compact</i> 1000 assembly with blow out ducts	28	Stop rotatable by 360°, with zero point, straight version	72
and mount control	28	Stop rotatable by 360°, with zero point, corner version	72
SPEEDY plate sets	29	Base for flat clamps, deep drawing clamps etc.	73
SPEEDY 1000 plate set, 4-fold	29	Flat clamp single, for setting out with zero point	74
SPEEDY 1000 plate set, 6-fold	29	Flat clamp single, for setting out	74
SPEEDY 1000 plate set, 8-fold	29	Attachments	76
SPEEDY assembly cylinders	30	Retractable nipple key for SPEEDY 1000	76
SPEEDY assembly 1000, 2000, 3000 round	30	Torque wrench	76
SPEEDY assembly 1000, 2000, 3000 square	30	SPEEDY sealing plug for fast closing clamps	77
Examples of use	31	1000, 2000, 3000	77
SPEEDY <i>Tornado</i> 1000, 2000, 3000 round assembly module	32	Protection during transport of retractable nipples in the pallet	77
with raised supports and blow out ducts	32	Lock stopper for perforation variations C / D / E	78
SPEEDY <i>Tornado</i> 1000, 2000, 3000 square assembly module	32	Sliding block with pin (to position in the T-groove)	78
with raised supports and blow out ducts	32	Washers for clamping devices	78
SPEEDY <i>Tornado</i> 1000, 2000, 3000 round assembly module	33	Precision collar bolt	79
with raised supports, blow out ducts and drainage of coolant	33	Connection block complete	79
SPEEDY <i>Tornado</i> Einbau 1000, 2000, 3000 square assembly	33	Coupling	80
module with raised supports, blow out ducts and drainage	33	Hydraulic hose with couplings on both sides	80
of coolant	33	Connecting parts together with screw-on nipple	80
SPEEDY <i>Twister</i> 1000, 2000 round assembly module with	34	Positioning nipple	81
raised supports and blow out ducts	34	Straight screw connection	82
Sample application: SPEEDY <i>Twister</i> 1000, 2000	34	90° screw connection	82
SPEEDY assembly cylinders in use	36	T-screw connection	82
SPEEDY <i>Sweeper</i> 2000	38	Cross connection	82
SPEEDY Sweeper assembly modules	40	Adjustable 90°	82
SPEEDY <i>Sweeper</i> - multiple coupling	40	Adjustable-T	82
SPEEDY with Flow-Power	41	Swivel screw connector	83
Flow-Power	42	T-Swivel screw connector	83
Flow-Power NW4 SPEEDY-side	43	Brass pipe for SPEEDY assembly	83
Flow-Power NW4 pallet-side	43	(for a freely selectable bore hole gauge)	83
SPEEDY 1000, 2000 round with up to 4 Flow-Power	44	Service - set (the set of seals includes all O-rings and	83
ducts NW4	44	sealing rings)	83
Development and quality assurance	45	Handling equipment	84
Control valve	46	Order number index	86
Mechanical locking control valves	46	Examples for application	88
Shut-off valve	47	General terms of delivery	90

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Systems



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STARK - high productivity systems

1

For decades we have been developing and manufacturing "Zero Point Mounting Systems". Our experience makes us your competent partner in the Zero Point mounting technology. We provide first-rate solutions and customer oriented services.

■ System 1000

Our most comprehensive and versatile system.
Available in three sizes.



■ System 2000

Our solid, mechanical Point Zero Mounting System for straightforward and low-cost solutions.



■ System 3000

Our high-force, small-size, bi-directional Zero Point Mounting System.



■ System 4000

Our flexible Zero Point Mounting System for mechanical, pneumatic and hydraulic applications.



Examples of use



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Increase operating time of the machine spindles with Stark's fast clamp systems

2



Vice pallet with handling grips



Pallet of draw-in type three-jaw chuck with handling grip



Special hydraulic actuated clamp module

Upgrade your machinery at any time



Breadboard pallet with flat tension frame



Pressure booster to activate the Stark fast closing clamp cylinder

Information



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Amortization through reduced set-up time

Reference sample based on a vertical machine. Set-up time is taken as machine downtime.
Applies to 5 tool-up procedures per work shift.

3

Manually tooling up a module:

5 times approx. 20 minutes = 100 minutes

Tooling up with Stark's Zero Point Mounting System:

Mean value by experience = 4 minutes

5 times 4 minutes = 20 minutes

Time savings with Stark's Zero Point Mounting System:

100 minutes - 20 minutes = 80 minutes

Time savings per shift = 80 minutes

Time savings assuming 200 work days per annum = 266 hours

Convince yourself: make your own calculations or consult our experts.



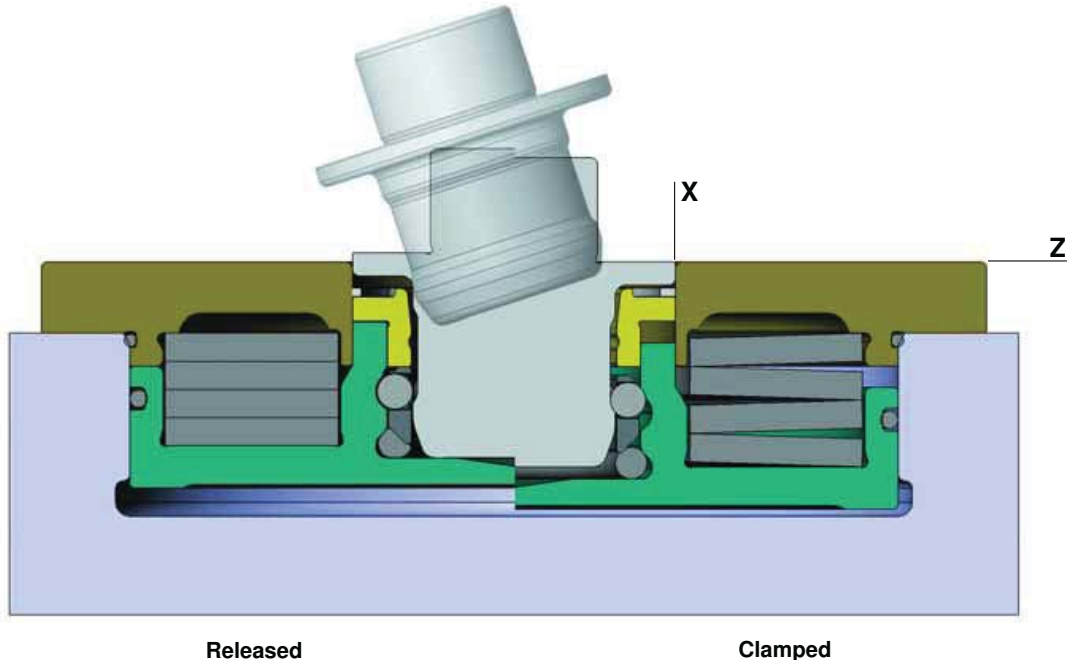
Mounting towers with SPEEDY 1000 and SPEEDY 1000 assembly with pipe system.

Advantages of the system at a glance



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4



- The clamping bolt is retracted from the fitting hole. This prevents damage to the fitting hole diameter "X" and to the bearing face "Z".
- No over determination of the support surface / positioning.
- Permanent hold on the insertion nipples (non-locking). This eliminates vibrations, increases the quality of the processed surface and the idle time of the cutting tool.
- Integrated blow-off and coolant outflow.
Dedicated support and positioning surface.
- Slanted lift off, system size 20kN
Tilt-proof workpiece / pallet change
- Various checks made by the Mounting system 1000
 - Support check
 - Clamping check
 - Positioning check

Additional checks upon request.

Advantages of the system at a glance



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Media ducts – small sized variable designs



Media ducts NW 4



Media duct, integrated in the SPEEDY assembly variant, 4-fold



Assembly example with media duct NW 4



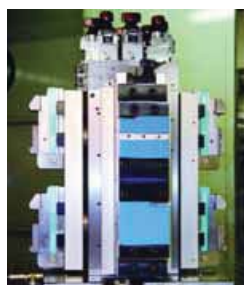
Sweeper 2000
Multi coupling
Coupling plate can be activated under load

4

"Third Hand" function – easy mounting for vertical clamping positions



Click the palette on



Release the palette



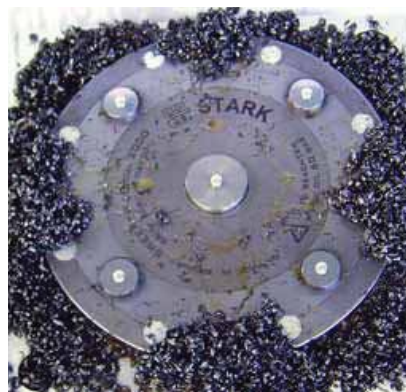
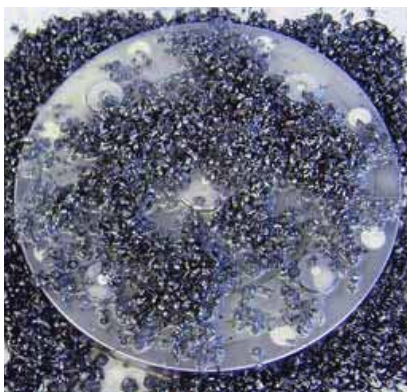
Clamp



Process the workpiece

The "Third hand" function secures the palette against falling off during clamping and also while releasing the fast closing clamp. The palette locks into place effortlessly and is then clamped/released by the pressure booster activated by a foot pedal.

The Sweeper in automatic processes – solves the problem of swarf



An effective and reliable blow-off system for the supporting and positioning surfaces. Also blows off wet swarf in practical, daily operations.

Technical Data



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For mounting data sheets see www.stark-inc.com

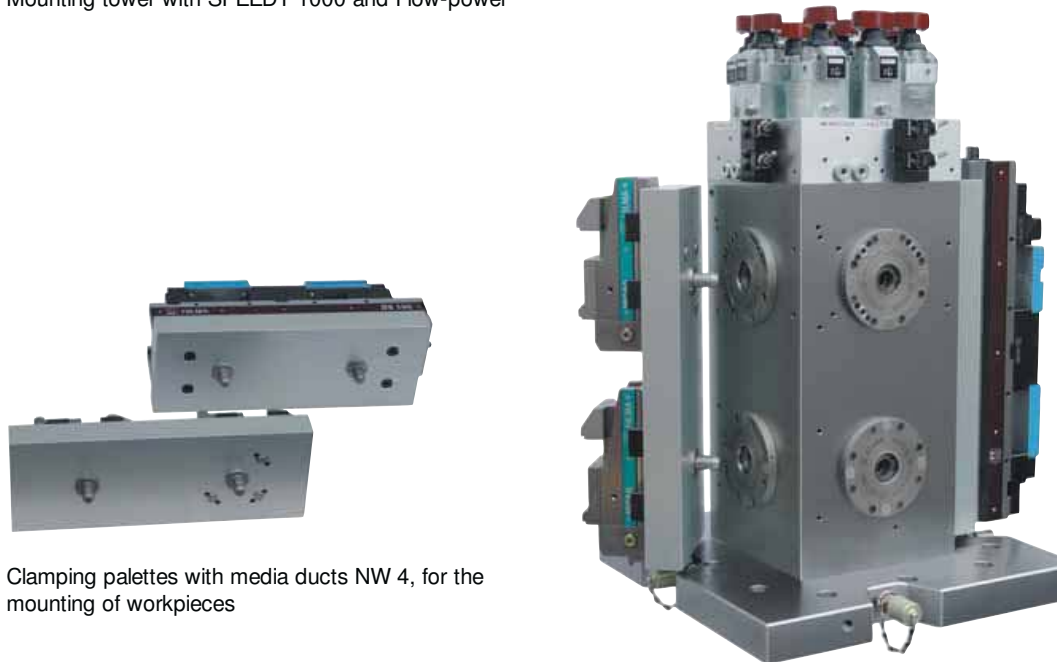
4

	SPEEDY 1000 round	SPEEDY 1000 square	SPEEDY 1000 round, with strong insertion springs	SPEEDY 1000 square with strong insertion springs	SPEEDY Twister 1000 round	SPEEDY Compact 1000 (ø68)
INSERTION FORCE	6722 N	6722 N	10000 N	10000 N	6722 N	5300 N
CLAMPING CYCLES * **	100000	100000	20000	20000	> 100000	15000
EXTRACTION FORCE	>10000 N	>10000 N	10000 N	10000 N	10000 N	10000 N
SIDE FORCES max.permitted	7000 N	7000 N	7000 N	7000 N	7000 N	7000 N
PULL OUT TORQUE *	250 Nm	250 Nm	350 Nm	350 Nm	250 Nm	---
TWISTING TORQUE *	---	300 Nm	---	300 Nm	---	---
OPERATING PRESSURE	40 bar	40 bar	80 bar	80 bar	40 bar	180 bar
max. OPERATING PRESSURE	80 bar	80 bar	80 bar	80 bar	80 bar	180 bar
OIL VOLUME	20 cm ³	20 cm ³	20 cm ³	20 cm ³	21 cm ³	7 cm ³
WEIGHT	~ 3 kg	~ 3 kg	~ 3 kg	~ 3 kg	~ 3 kg	1.5 kg
OPERATING TEMPERATURE	10°C to 80° C		10°C to 80° C		10°C to 80° C	
CLAMPING TIME	~ 2 sec.		~ 2 sec.		~ 2 sec.	
RELEASE TIME	~ 2 sec.		~ 2 sec.		~ 2 sec.	
PREPOSITIONING	±3 mm		±3 mm		±3 mm	±2 mm
REPEATED ACCURACY	< 0,01		< 0,01		< 0,01	

* other specifications upon request

** when a certain amount of clamping cycles is reached, the plate spring must be changed

Mounting tower with SPEEDY 1000 and Flow-power



Clamping palettes with media ducts NW 4, for the mounting of workpieces

Technical Data



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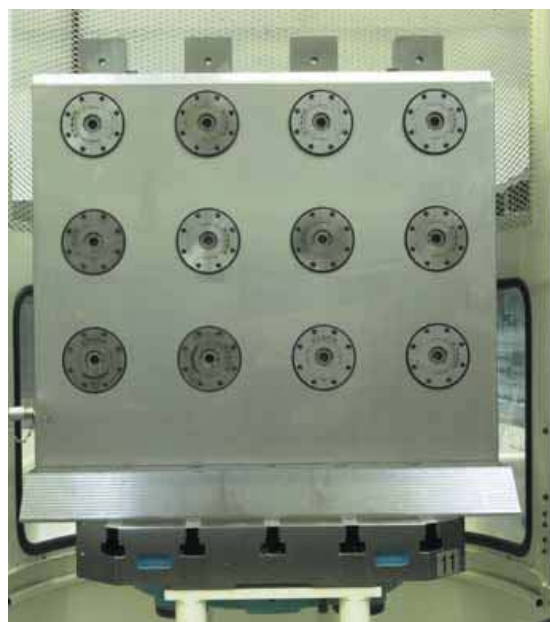
For mounting data sheets see www.stark-inc.com

	SPEEDY 2000 round	SPEEDY 2000 square	SPEEDY Twister 2000 round	SPEEDY 3000 round	SPEEDY 3000 square
INSERTION FORCE	20000 N	20000 N	20000 N	30000 N	30000 N
CLAMPING CYCLES* **	40000	40000	40000	40000	40000
EXTRACTION FORCE	10000 N	10000 N	10000 N	15000 N	15000 N
SIDE FORCES max.permitted	9000 N	9000 N	9000 N	10500 N	10500 N
PULL OUT TORQUE *	1000 Nm	1000 Nm	1000 Nm	2000 Nm	2000 Nm
TWISTING TORQUE *	---	800 Nm	---	---	2000 Nm
OPERATING PRESSURE	40 bar	40 bar	40 bar	30 bar	30 bar
max. OPERATING PRESSURE	40 bar	40 bar	40 bar	30 bar	30 bar
OIL VOLUME	38 cm ³	38 cm ³	38 cm ³	124 cm ³	124 cm ³
WEIGHT	~ 5 kg	~ 5 kg	~ 5 kg	13 kg	13 kg
OPERATING TEMPERATURE	10°C to 80°C		10°C to 80°C	10°C to 80°C	
CLAMPING TIME	~ 2 sec.		~ 2 sec.	~ 2 sec.	
RELEASE TIME	~ 2 sec.		~ 2 sec.	~ 2 sec.	
PREPOSITIONING	±2.5 mm		±2.5 mm	±4 mm	
REPEATED ACCURACY	< 0,01		< 0,01	< 0,01	

* other specifications upon request

** when a certain amount of clamping cycles is reached, the plate spring must be changed

Set SPEEDY Record 1000 with cover



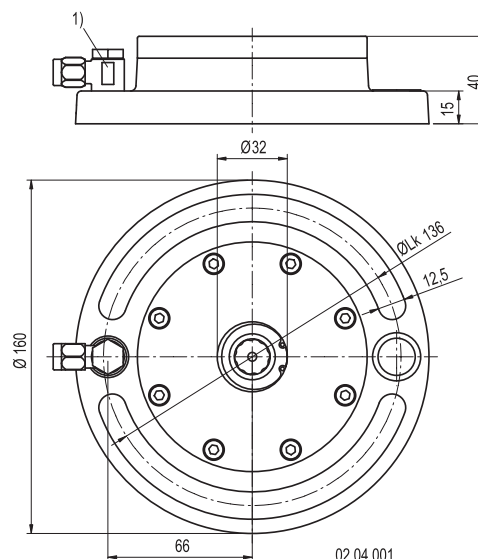
SPEEDY fast closing clamp



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SPEEDY *Record* 1000 round

4

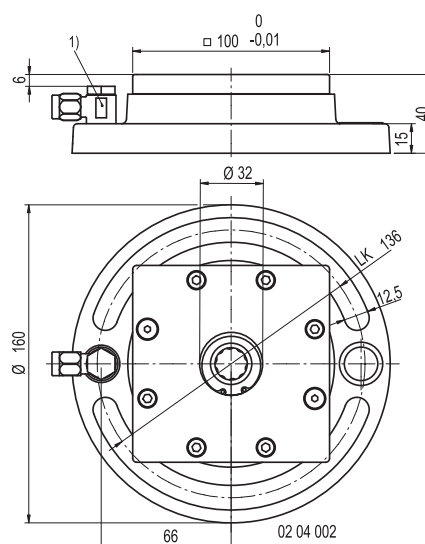


1) Hydraulic connection

Order no.	Description
804 604	SPEEDY <i>Record</i> 1000 round

Total height:	40 mm
Standard retractable force:	6.722 N
Max. axis load:	5.000 kg
Thread connection:	1 x G1/8"
Release hydraulic pressure:	40 bar

SPEEDY *Record* 1000 square



1) Hydraulic connection

Order no.	Description
804 605	SPEEDY <i>Record</i> 1000 square

Suitable for single mounting (with only one insertion nipple) and in combination with the round *Record* 1000.

Total height:	40 mm
Standard retractable force:	6.722 N
Max. axis load:	5.000 kg
Thread connection:	1 x G1/8"
Release hydraulic pressure:	40 bar

SPEEDY fast closing clamp



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SPEEDY *Record* 1000 set

Set A/B SPEEDY *Record* 1000



4

Order no.	Description
804 600 Set A	SPEEDY <i>Record</i> 4 fold
804 601 Set B	SPEEDY <i>Record</i> 4 fold without pressure booster

Amount [pcs]	Order no.	Description
1	804 411	Pressure booster
4	804 604	Fast closing clamp SPEEDY <i>Record</i> 1000
8	804 226	Retractable nipple
1	804 370	Connection block
1	804 254	Retractable nipple key
incl. piping and union pieces		Gauge for bore holes 200 mm
Option, for further length	804 398	Set of tubes 1000 mm (Standard retractable force 6722 N)

Set D/E SPEEDY *Record* 1000



Order no.	Description
804 602 Set D	SPEEDY <i>Record</i> 6 fold
804 603 Set E	SPEEDY <i>Record</i> 6 fold without pressure booster

Amount [pcs]	Order no.	Description
1	804 411	Pressure booster
6	804 604	Fast closing clamp SPEEDY <i>Record</i> 1000
12	804 226	Retractable nipple
1	804 370	Connection block
1	804 254	Retractable nipple key
incl. piping and union pieces		Gauge for bore holes 200 mm
Option, for further length	804 398	Set of tubes 1000 mm (Standard retractable force 6722 N)

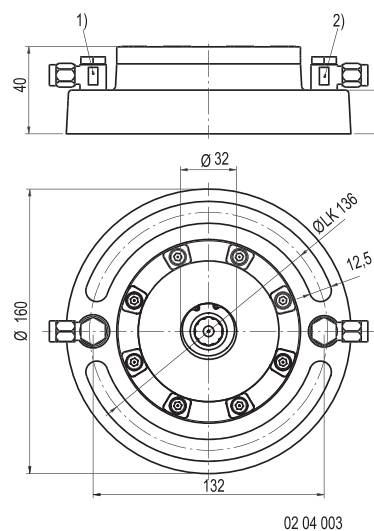
SPEEDY fast closing clamp



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SPEEDY *Record* 1000 blow out round

4

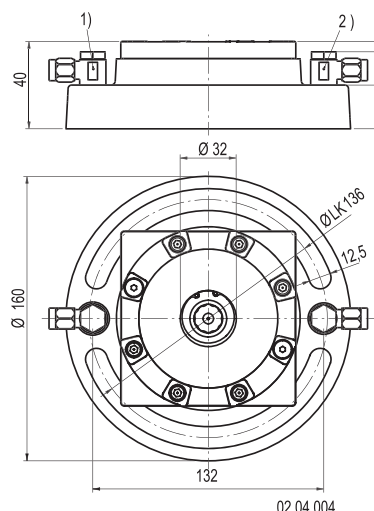


1) Hydraulic connection, 2) Pneumatic connection

Order no.	Description
804 616	SPEEDY <i>Record</i> 1000 round blow out

Standard insertion force:	6.722 N
Max. axis load:	5.000 kg
Thread connection:	2 x G1/8"
Release hydraulic pressure:	40 bar

SPEEDY *Record* 1000 blow out square



1) Hydraulic connection, 2) Pneumatic connection

Order no.	Description
804 618	SPEEDY <i>Record</i> 1000 square blow out

Standard insertion force:	6.722 N
Max. axis load:	5.000 kg
Thread connection:	2 x G1/8"
Release hydraulic pressure:	40 bar

SPEEDY fast closing clamp



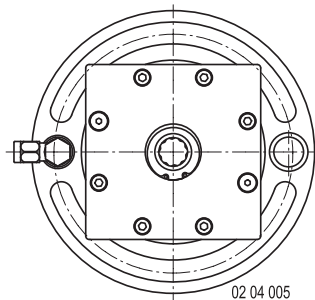
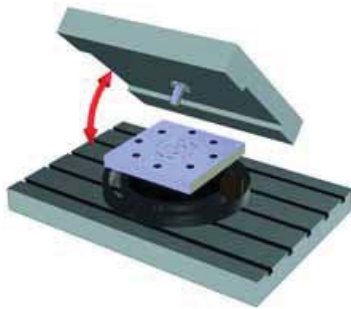
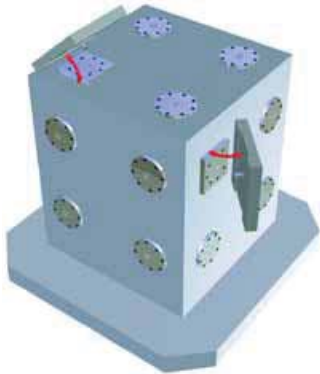
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Square and round SPEEDY fast closing clamps, combined on a cube.

Properties:

- Suitable for the production of small workpieces
- With one fast closing clamp the pallet is warp-proof already
- Pallet can be rotated and positioned each 90°
- With special pallets any angle is possible
- Especially suitable for turning

4



Single square fast closing clamp for milling.



Machine pallet with a combined assembly of round and square SPEEDY clamps for central mounting.

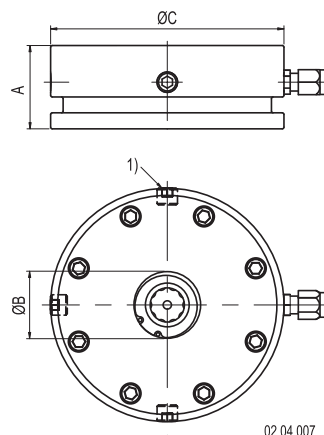
SPEEDY fast closing clamp



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SPEEDY 1000 round

4

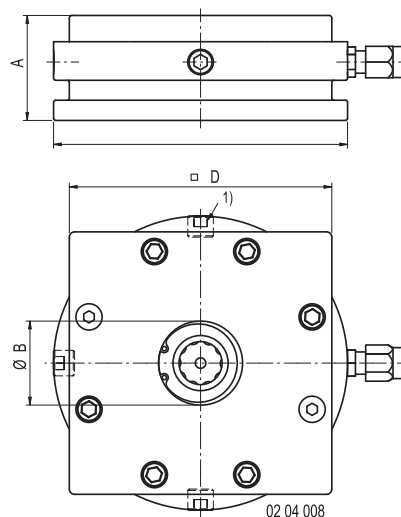


02 04 007

1) Hydraulic thread connection

Order no.	A	ØB	ØC	Insertion force [N]	Max. axis load [kg]	Thread connection	Release hydr. pressure [bar]
804 333	40	32	112	6.722	5.000	G1/8" 4 x à 90°	40
804 351	40	32	112	10.000	5.000	G1/8" 4 x à 90°	80

SPEEDY 1000 square



02 04 008

Suitable for single pallets (pallets with one retractable nipple).

1) Hydraulic thread connection

Order no.	A	ØB	ØC	∇ D	Insertion force [N]	Max. axis load [kg]	Thread connection	Release hydr. pressure [bar]
804 332	40	32	112	100	6.722	5.000	G1/8" 4 x à 90°	40
804 353	40	32	112	100	10.000	5.000	G1/8" 4 x à 90°	80

SPEEDY fast closing clamp



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SPEEDY 1000 set

SPEEDY 1000 set 4-fold



4

Order no.	Description
804 360	SPEEDY 1000 set A 4-fold
804 361	SPEEDY 1000 set B 4-fold without pressure booster

Amount [pcs.]	Order no.	Description
1	804 411	Pressure booster
4	804 333	Fast closing clamp SPEEDY 1000
8	804 354	Mounting bracket
8	804 226	Retractable nipple
1	804 370	Connection block
1	804 254	Retractable nipple key
incl. piping and union pieces		Gauge for bore holes 200mm
Option, for further length		804 398 Set of tubes 1000mm
(Standard retractable force 6722 N)		

SPEEDY 1000 set 6-fold



Order no.	Description
804 366	SPEEDY 1000 set D 6-fold
804 367	SPEEDY 1000 set E 6-fold without pressure booster

Amount [pcs.]	Order no.	Description
1	804 411	Pressure booster
6	804 333	Fast closing clamp SPEEDY 1000
12	804 354	Mounting bracket
12	804 226	Retractable nipple
1	804 370	Connection block
1	804 254	Retractable nipple key
incl. piping and union pieces		Gauge for bore holes 200mm
Option, for further length		804 398 Set of tubes 1000mm
(Standard retractable force 6722 N)		

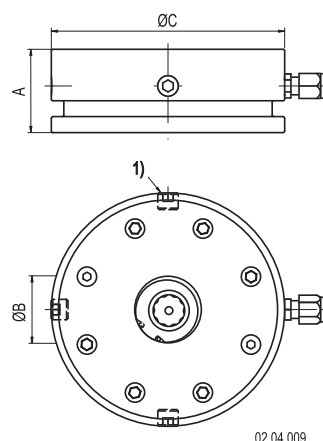
SPEEDY fast closing clamp



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SPEEDY 2000 round

4

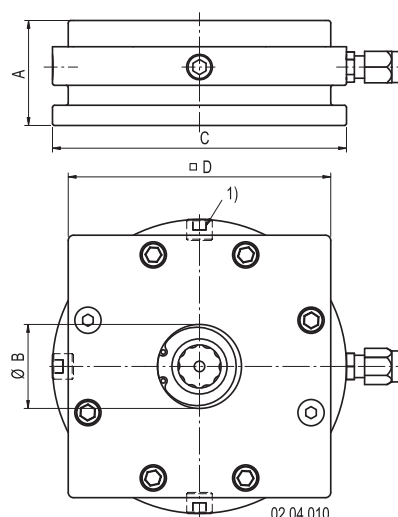


02 04 009

1) Hydraulic thread connection

Order no.	A	ØB	ØC	Insertion force [N]	Max. axis load [kg]	Thread connection	Release hydr. pressure [bar]
804 450	40	47	150	20.000	20.000	G1/8" 4 x à 90°	40

SPEEDY 2000 square



02 04 010

Suitable for single pallets (pallets with one retractable nipple).

1) Hydraulic thread connection

Order no.	A	ØB	ØC	Ø D	Insertion force [N]	Max. axis load [kg]	Thread connection	Release hydr. pressure [bar]
804 451	40	47	150	130	20.000	20.000	G1/8" 4 x à 90°	40

SPEEDY fast closing clamp



STARK

SPEEDY 2000 set

SPEEDY 2000 set 4-fold



4

Order no.	Description	Amount (pcs)	Order no.	Description
804 446	SPEEDY 2000 set A 4-fold	1	804 411	Pressure booster
804 447	SPEEDY 2000 set B 4 fold without pressure booster	4	804 450	Fast closing clamp SPEEDY 2000
		8	804 456	Mounting bracket
		8	804 470	Retractable nipple
		1	804 385	Connection block
				Gauge for bore holes 320mm
			804 399	Set of tubes 1500mm
				(Standard retractable force 20.000 N)

SPEEDY 2000 set 6-fold



Order no.	Description	Amount (pcs)	Order no.	Description
804 448	SPEEDY 2000 set D 6-fold	1	804 411	Pressure booster
804 449	SPEEDY 2000 set E 6-fold without pressure booster	6	804 450	Fast closing clamp SPEEDY 2000
		12	804 456	Mounting bracket
		12	804 470	Retractable nipple
		1	804 385	Anschlussblock
				Gauge for bore holes 320 mm
			804 399	Set of tubes 1500mm
				(Standard retractable force 20.000 N)

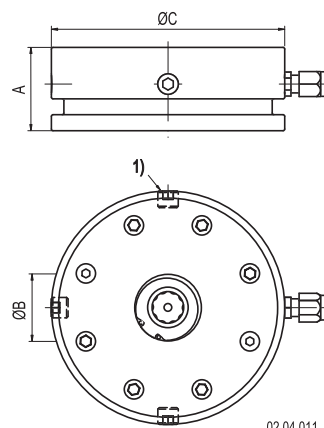
SPEEDY fast closing clamp



STARK

SPEEDY 3000 round

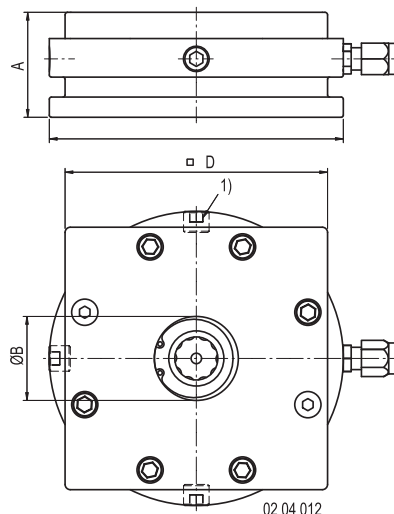
4



1) Hydraulic thread connection

Order no.	A	ØB	ØC	Insertion force [N]	Max. axis load [kg]	Thread connction	Release hydr. pressure [bar]
804 346	65	65	190	30.000	30.000	G1/4" 8 x à 45°	30

SPEEDY 3000 square



Suitable for single pallets (pallets with one retractable nipple).

1) Hydraulic thread connection

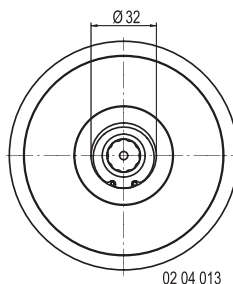
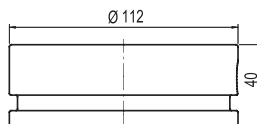
Order no.	A	ØB	ØC	∅ D	Insertion force [N]	Max. axis load [kg]	Thread connction	Release hydr. pressure [bar]
804 345	65	65	190	170	30.000	30.000	G1/4" 4 x à 90°	30

SPEEDY fast closing clamp

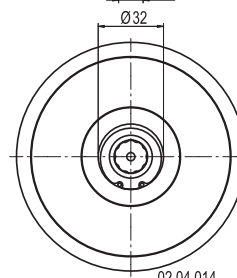
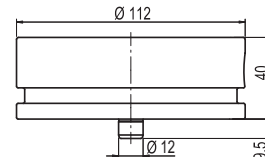


STARK

SPEEDY *Gigant* 1000, 2000, 3000 round



without centring shank



with centring shank

5

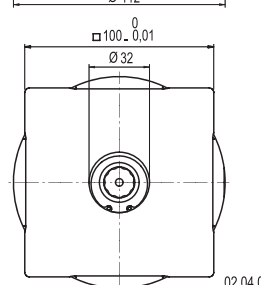
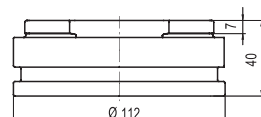
SPEEDY *Gigant* with centring shank

To erode, stainless steel available upon request.

Order no. without centring shank	Order no. with centring shank	Insertion force [N]	Max. axis load [kg]	Release hydr. pressure [bar]	Description
804 820	804 821	6.722	5.000	40	SPEEDY <i>Gigant</i> 1000
804 822	804 823	10.000	5.000	80	SPEEDY <i>Gigant</i> 1000
806 001	806 010	20.000	20.000	40	SPEEDY <i>Gigant</i> 2000
807 100	807 101	30.000	30.000	30	SPEEDY <i>Gigant</i> 3000

Dimensions for all SPEEDY *Gigant* 1000. Dimensions for SPEEDY *Gigant* 2000, 3000 round available on request.

SPEEDY *Gigant* 1000, 2000, 3000 square



02 04 015

Order no. without centring shank	Order no. with centring shank	Insertion force [N]	Max. axis load [kg]	Release hydr. pressure [bar]	Description
804 850	804 851	6.722	5.000	40	SPEEDY <i>Gigant</i> 1000
804 852	804 853	10.000	5.000	80	SPEEDY <i>Gigant</i> 1000
806 040	806 041	20.000	20.000	40	SPEEDY <i>Gigant</i> 2000
807 200	807 201	30.000	30.000	30	SPEEDY <i>Gigant</i> 3000

Blow out

804 860	804 861	6.722	5.000	40	SPEEDY <i>Gigant</i> 1000 blow out
804 862	804 863	10.000	5.000	80	SPEEDY <i>Gigant</i> 1000 blow out
806 050	806 051	20.000	20.000	40	SPEEDY <i>Gigant</i> 2000 blow out
807 120	807 121	30.000	30.000	30	SPEEDY <i>Gigant</i> 3000 blow out

Dimensions for all SPEEDY *Gigant* 1000. Dimensions for SPEEDY *Gigant* 2000, 3000 square available on request.

Mounting brackets for SPEEDY



STARK

Mounting brackets for the fast closing clamps

To mount the fast closing clamps on the machine table, there are several combinations of mounting brackets available.

5



Mounting bracket
Form 1



Mounting bracket
Form 2



Mounting bracket
Form 3



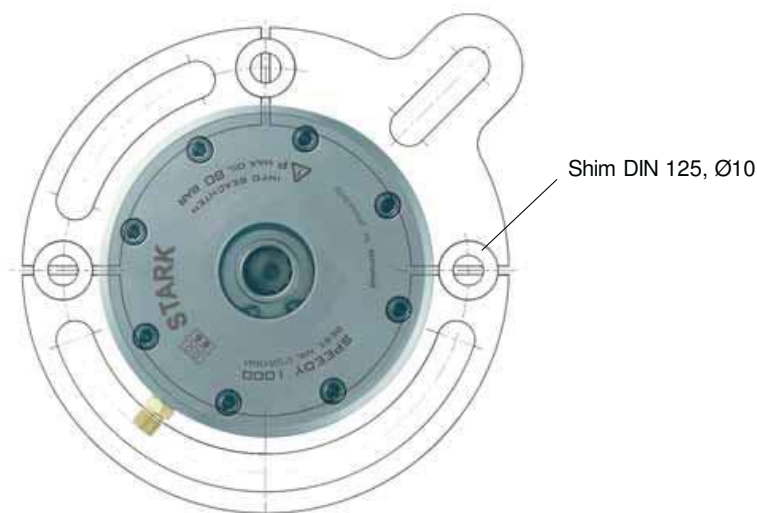
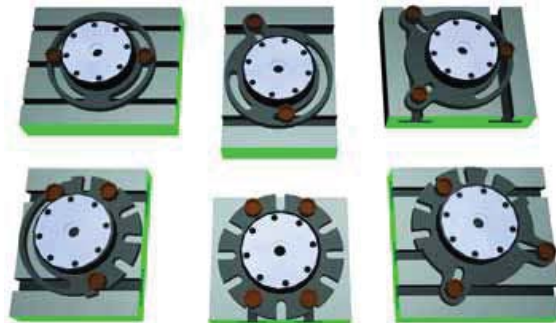
Mounting bracket
Form 4



Mounting bracket
for clamping on
perforated grid

Some possible combinations of mounting brackets

Due to the ingenious forms of the mounting brackets it is possible to fasten the fast closing clamps onto the T-groove table without any problems.

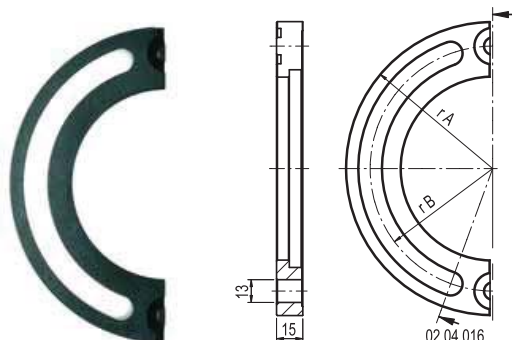


Mounting brackets for SPEEDY



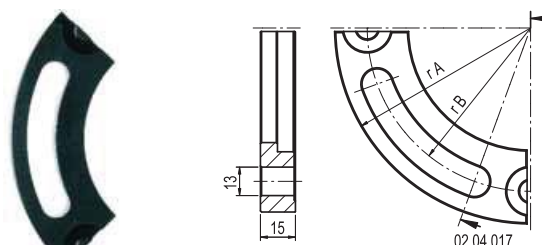
STARK

Mounting bracket form 1



Order no.	suitable for:	r A	r B
804 354	SPEEDY 1000	84	70
804 456	SPEEDY 2000	104	90
804 340	SPEEDY 3000	123	109

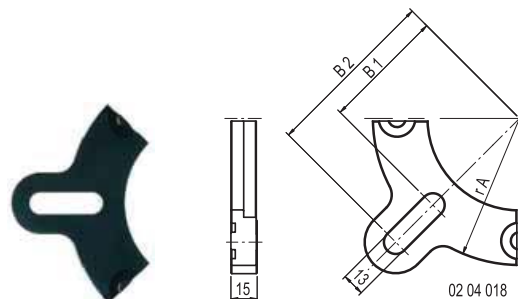
Mounting bracket form 2



Order no.	suitable for:	r A	r B
804 355	SPEEDY 1000	84	70
804 457	SPEEDY 2000	104	90
804 341	SPEEDY 3000	123	109

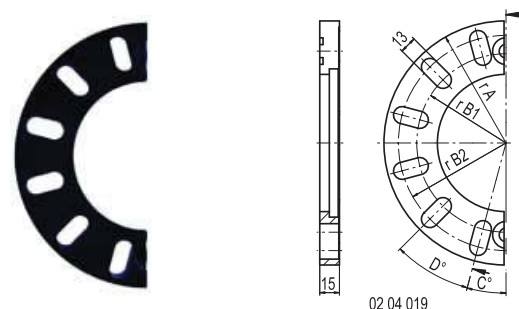
5

Mounting bracket form 3



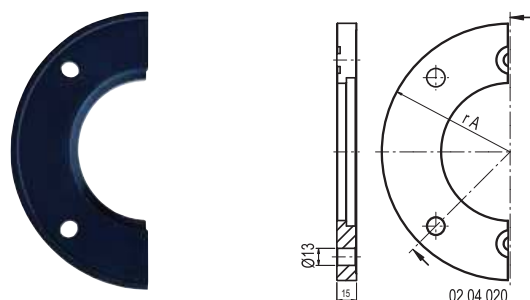
Order no.	suitable for:	r A	B1	B2
804 356	SPEEDY 1000	84	70	100
804 458	SPEEDY 2000	104	90	125
804 342	SPEEDY 3000	123	109	150

Mounting bracket form 4



Order no.	suitable for:	r A	rB1	rB2	C	D
804 357	SPEEDY 1000	89	70	80	15°	30°
804 459	SPEEDY 2000	120	87	108	15°	30°
804 343	SPEEDY 3000	142	107	130	11,5°	22,5°

Mounting bracket for clamping on perforated grid (40 mm matrix dimension)



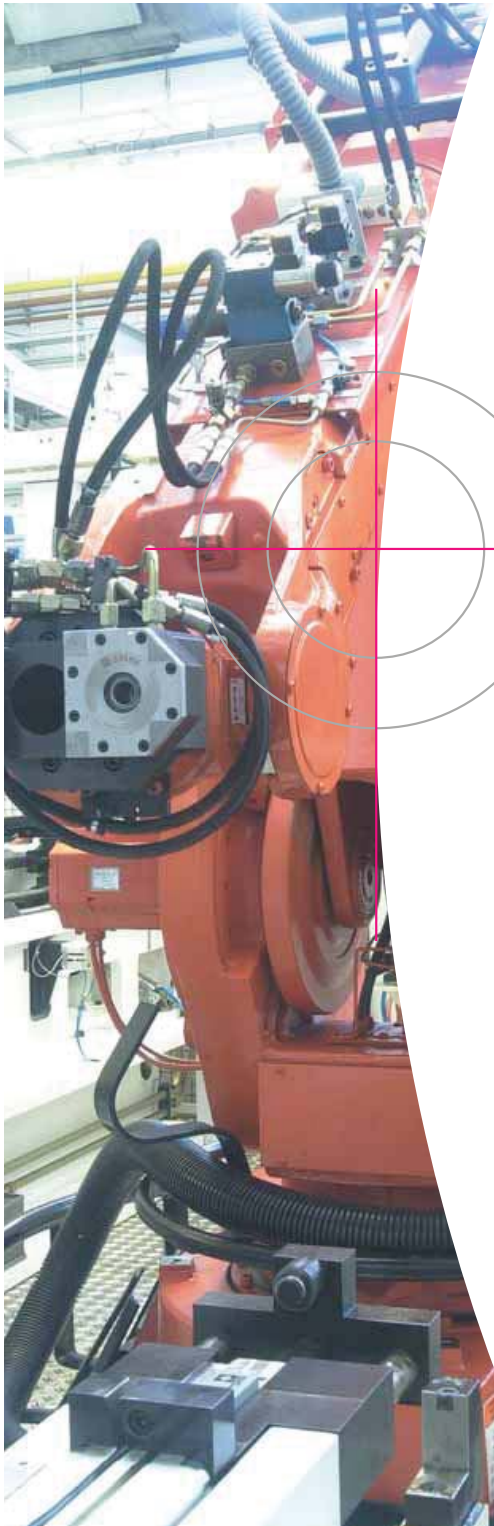
Order no.	suitable for:	r A
804 364	SPEEDY 1000	89
804 463	SPEEDY 2000	104
804 349	SPEEDY 3000	127

Practical examples



STARK

6

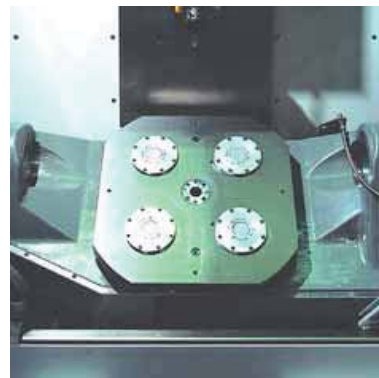


Increase the productivity of your machines

... by increasing the spindle operating time with the STARK zero point clamp system, optimize down-time by setting up outside of the machine – whether you are milling or turning.



Applications of clamp systems in automated production lines.



Applying the SPEEDY Sweeper in automated production.



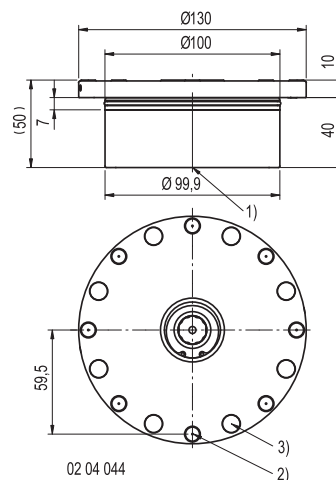
Application on lathes with locking controls.

SPEEDY assembly modules



STARK

SPEEDY *Tornado* 1000 assembly module with raised supports and blow out ducts

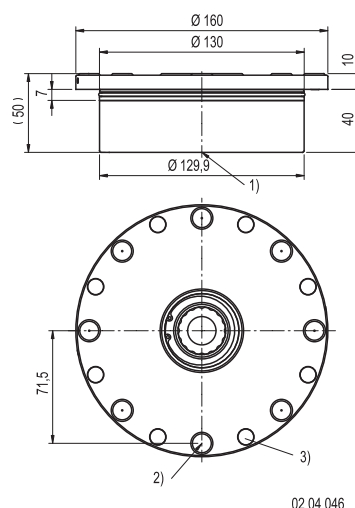


6

Order no.	Insertion force [N]	Release hydr. pressure [bar]
808 100	6.722	40
808 110	10.000	80

- 1) Hydraulic connection selection through floor or flange
- 2) 8x raised supports ø 8 mm with blow out ducts
- 3) 8x cap head screws M5x14

SPEEDY *Tornado* 2000 assembly module with raised supports and blow out ducts



Order no.	Insertion force [N]	Release hydr. pressure [bar]
808 200	20.000	40

- 1) Hydraulic connection selection through floor or flange
- 2) 8x raised supports ø 12 mm with blow out ducts
- 3) 8x cap head screws M6x14

SPEEDY assembly modules

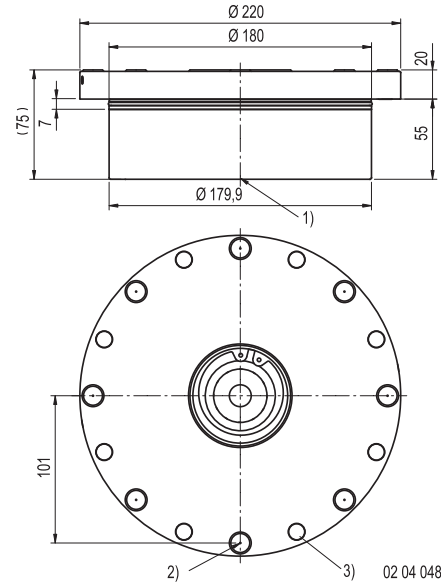


STARK

SPEEDY Tornado 3000 assembly module with raised supports and blow out ducts



6



Order no.	Insertion force [N]	Release hydr. pressure [bar]
808 300	30.000	30

- 1) Hydraulic connection selection through floor or flange
2) 8x raised supports $\varnothing 13$ mm with blow out ducts
3) 8x cap head screws M6x 25

Practical example



Palette DIN 55201 with assembly module

SPEEDY Tornado 1000/2000/3000 assembly module installable in all machine tables.

Advantages:

- Small built-in size
- One interface
- Install protruding or flush
- Torque is absorbed by the assembly module

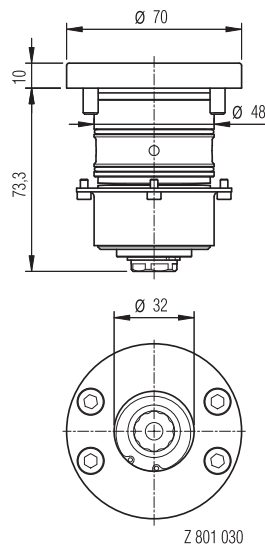
Ask us or the machine manufacturer about the layout of the machine table.

SPEEDY Compact 1000



STARK

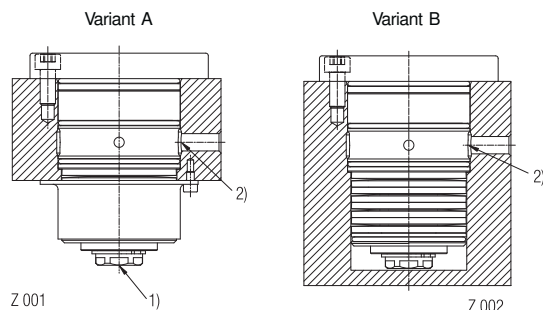
SPEEDY Compact 1000 assembly



7

Order no.	Insertion force [N]	Release hydr. pressure [bar]
801 030	6.500	180

Mounting examples



- 1) Hydraulic thread connection G1/8"
2) Hydraulic connection by deep holes



Advantages:

- small layout pattern
- at limited distance to edge of plate
- completely retractable
- can also be applied with small material thickness

Planslice with SPEEDY Compact 1000

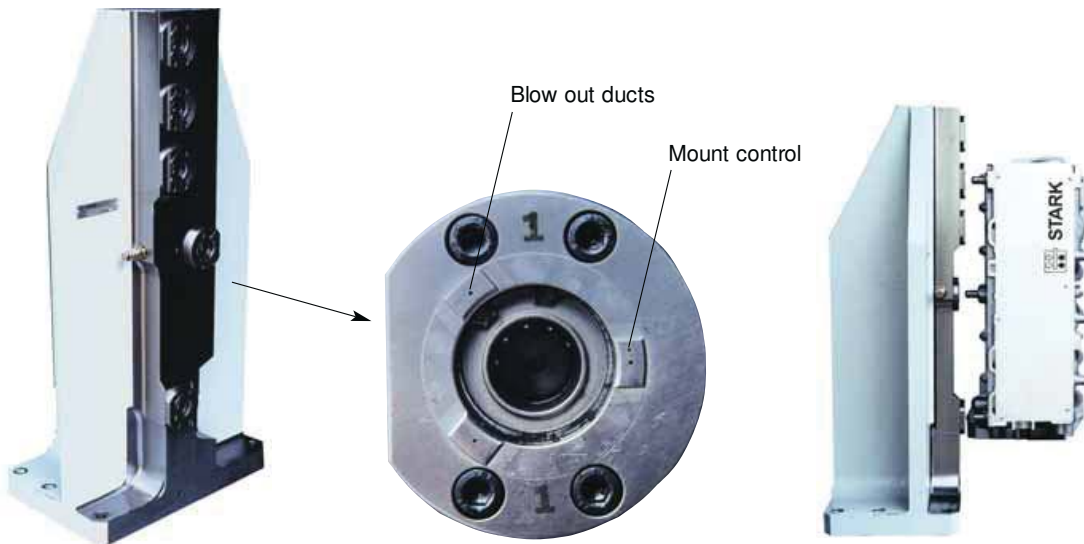
SPEEDY Compact 1000



STARK

SPEEDY Compact 1000 assembly with blow out ducts and mount control

7



Customized: with blow out ducts and mount control



Mount retractable nipples (direct clamping of workpiece)

The retractable nipples are tightened with a torque wrench



SPEEDY plate sets



STARK

SPEEDY 1000 plate set, 4-fold



Order no.	Dimensions	Stitch length	Description
804 700	396 x 396	200 x 200	Set A 4-fold
804 701	396 x 396	200 x 200	Set B 4-fold without pressure booster
804 702	396 x 396	240 x 240	Set A 4-fold
804 703	396 x 396	240 x 240	Set B 4-fold without pressure booster
804 704	396 x 396	250 x 250	Set A 4-fold
804 705	396 x 396	250 x 250	Set B 4-fold without pressure booster

Seperate parts:

Amount [pcs]	Order no.	Description
1	804 411	Pressure booster
1		Fast closing clamp 4-fold
8	804 226	Retractable nipple
1	804 254	Retractable nipple key

SPEEDY 1000 plate set, 6-fold



Order no.	Dimensions	Stitch length	Description
804 710	646 x 396	200 x 200	Set D 6-fold
804 711	646 x 396	200 x 200	Set E 6-fold without pressure booster
804 712	646 x 396	240 x 240	Set D 6-fold
804 713	646 x 396	240 x 240	Set E 6-fold without pressure booster
804 714	646 x 396	250 x 250	Set D 6-fold
804 715	646 x 396	250 x 250	Set E 6-fold without pressure booster

Seperate parts:

Amount [pcs]	Order no.	Description
1	804 411	Pressure booster
1		Fast closing clamp 6-fold
12	804 226	Retractable nipple
1	804 254	Retractable nipple key

8

SPEEDY 1000 plate set, 8-fold



Order no.	Dimensions	Stitch length	Description
804 720	870 x 396	200 x 200	Set F 8-fold
804 721	870 x 396	200 x 200	Set G 8-fold without pressure booster
804 722	870 x 396	240 x 240	Set F 8-fold
804 723	870 x 396	240 x 240	Set G 8-fold without pressure booster
804 724	870 x 396	250 x 250	Set F 8-fold
804 725	870 x 396	250 x 250	Set G 8-fold without pressure booster

Seperate parts:

Amount [pcs]	Order no.	Description
1	804 411	Pressure booster
1		Fast closing clamp 8-fold
16	804 226	Retractable nipple
1	804 254	Retractable nipple key

SPEEDY assembly cylinders

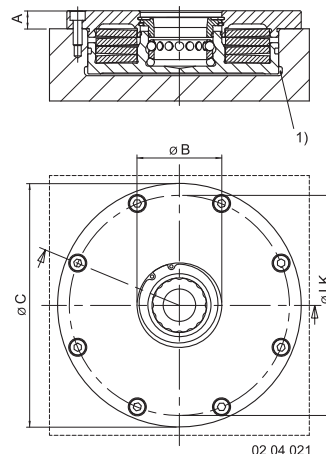


STARK

SPEEDY assembly 1000, 2000, 3000 round



Example: Angle with
8 SPEEDY 1000 round and
4 SPEEDY 1000 square



1) Hydraulic supply

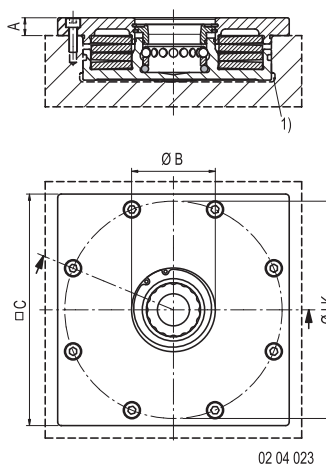
9

Order no.	Description	A	ØB	ØC	ØLK	Insertion force [N]	Release hydr. pressure [bar]
804 331	SPEEDY 1000	10	32	105	92	6.722	40
804 348	SPEEDY 1000	10	32	105	92	10.000	80
804 452	SPEEDY 2000	10	47	135	122	20.000	40
804 339	SPEEDY 3000	19	65	176	160	30.000	30

SPEEDY assembly 1000, 2000, 3000 square



Example: Angle with
9 SPEEDY 1000 square



1) Hydraulic supply

Order no.	Description	A	ØB	ØC	ØLK	Insertion force [N]	Release hydr. pressure [bar]
804 330	SPEEDY 1000	10	32	100	92	6.722	40
804 347	SPEEDY 1000	10	32	100	92	10.000	80
804 453	SPEEDY 2000	10	47	130	122	20.000	40
804 338	SPEEDY 3000	19	65	170	160	30.000	30

Also suited for pallets with only one retractable nipple.

Examples of use



STARK



9

Pallet station with mounting towers, SPEEDY 1000 tubular set up and SPEEDY 1000 assembly



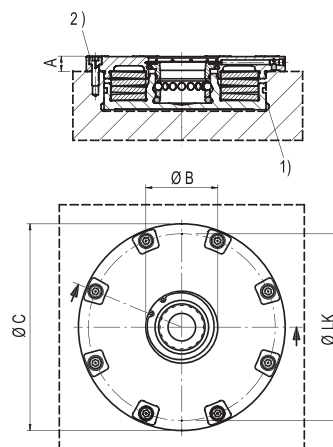
Mounting tower with SPEEDY 1000 round on the top side SPEEDY 1000 squared for central mounting

SPEEDY assembly cylinders



STARK

SPEEDY *Tornado* 1000, 2000, 3000 round assembly module with raised supports and blow out ducts



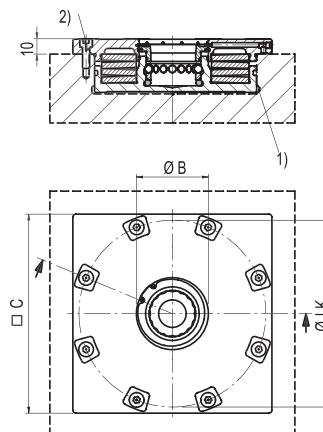
02 04 027

- 1) Hydraulic supply
2) Bolt with blow out

9

Order no.	Description	A	ØB	ØC	ØD	Insertion force [N]	Release hydr. pressure [bar]
804 620	SPEEDY <i>Tornado</i> 1000	10	32	105	92	6.722	40
804 622	SPEEDY <i>Tornado</i> 1000	10	32	105	92	10.000	80
806 020	SPEEDY <i>Tornado</i> 2000	10	47	135	122	20.000	40
807 020	SPEEDY <i>Tornado</i> 3000	19	65	176	160	30.000	30

SPEEDY *Tornado* 1000, 2000, 3000 square assembly module with raised supports and blow out ducts



02 04 029

- 1) Hydraulic supply
2) Bolt with blow out

Order no.	Description	A	ØB	ØC	ØD	Insertion force [N]	Release hydr. pressure [bar]
804 621	SPEEDY <i>Tornado</i> 1000	10	32	100	92	6.722	40
804 623	SPEEDY <i>Tornado</i> 1000	10	32	100	92	10.000	80
806 021	SPEEDY <i>Tornado</i> 2000	10	47	130	122	20.000	40
807 021	SPEEDY <i>Tornado</i> 2000	19	65	170	160	30.000	30

SPEEDY assembly cylinders

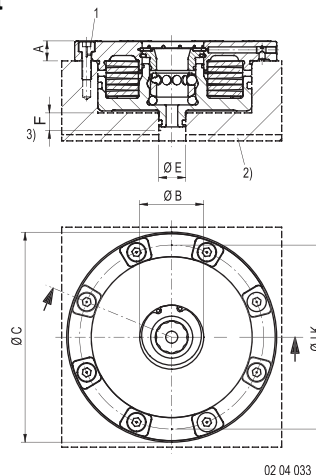


STARK

SPEEDY *Tornado* 1000, 2000, 3000 round assembly module with raised supports, blow out ducts and drainage of coolant



- 1) Bolt with blow out
- 2) When laying the fast closing clamps flat on the machine table, the drainage of coolant must be assured by drilling groves or holes.
- 3) min. fitting length F



02 04 033

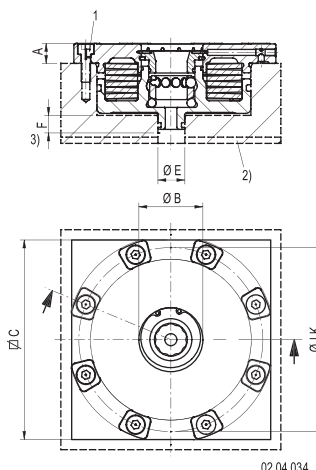
Order no.	Description	A	ØB	ØC	ØLK	ØE	F	Insertion force [N]	Release hydr. pressure [bar]
804 630	SPEEDY <i>Tornado</i> 1000	10	32	105	92	14	9	6.722	40
804 632	SPEEDY <i>Tornado</i> 1000	10	32	105	92	14	9	10.000	80
806 022	SPEEDY <i>Tornado</i> 2000	10	47	135	122	26	9	20.000	40
807 030	SPEEDY <i>Tornado</i> 3000	19	65	176	160	30	17	30.000	30

9

SPEEDY *Tornado* 1000, 2000, 3000 square assembly module with raised supports, blow out ducts and drainage of coolant



- 1) Bolt with blow out
- 2) When laying the fast closing clamps flat on the machine table, the drainage of coolant must be assured by drilling groves or holes.
- 3) min. fitting length F



02 04 034

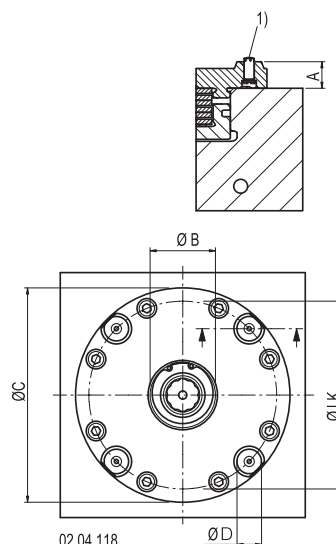
Order no.	Description	A	ØB	ØC	ØLK	ØE	F	Insertion force [N]	Release hydr. pressure [bar]
804 631	SPEEDY <i>Tornado</i> 1000	10	32	100	92	14	9	6.722	40
804 633	SPEEDY <i>Tornado</i> 1000	10	32	100	92	14	9	10.000	80
806 023	SPEEDY <i>Tornado</i> 2000	10	47	130	122	26	9	20.000	40
807 031	SPEEDY <i>Tornado</i> 3000	19	65	170	160	30	17	30.000	30

SPEEDY assembly cylinders



STARK

SPEEDY Twister 1000, 2000 round assembly module with raised supports and blow out ducts

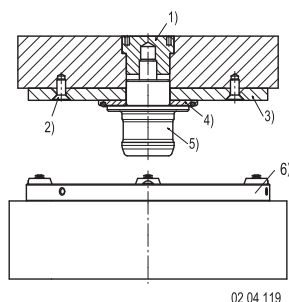


1) Blow out nozzle

9

Order no.	Description	A	ØB	ØC	ØD	Insertion force [N]	ØLK
804 500	SPEEDY Twister 1000	13	32	105	10	6.722	92
804 540	SPEEDY Twister 2000	13	47	140	12	20.000	122

Sample application: SPEEDY Twister 1000, 2000



- 1) Nipple attachment
- 2) Screw DIN 7991
- 3) Hardened bearing face
- 4) Distance washer
- 5) Retractable nipple
- 6) SPEEDY Twister

SPEEDY Twister 1000, 2000 for permanent automatic operations.
Retractable nipple with distance washer and hardened bearing face.

Advantages:

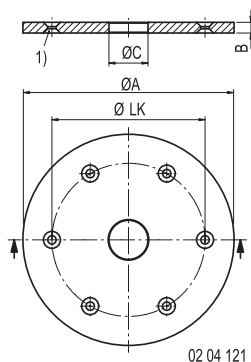
- reliable surface blow off
- no wear
- surface check via differential pressure, air barrier seals are possible

SPEEDY assembly cylinders



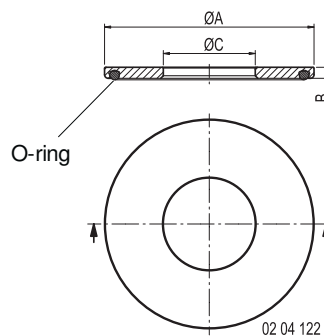
STARK

Hardened bearing face



1) Reduction for bolt DIN 7991

Distance ring



Order no.	suitable for	ØA	ØLK	B	ØC	1)
804 510	SPEEDY <i>Twister</i> 1000	105	70	5	25	M5
804 272	SPEEDY <i>Twister</i> 1000	105	70	5	16	M5
804 281	SPEEDY <i>Twister</i> 2000	138	100	7	25	M5

Order no.	suitable for	ØA	B	ØC
804 269	SPEEDY <i>Twister</i> 1000	42	3	25
804 271	SPEEDY <i>Twister</i> 1000	42	3	16
804 280	SPEEDY <i>Twister</i> 2000	57	3	25

9



Example: SPEEDY *Twister* 1000 special solution for a tight stitch length.



Raised support
with blow out
ducts

The SPEEDY *Twister* with raised blowers is used in the automation technology.

Practical advantages:

- Intelligent blow out and blow off technologies for the mounting points and the bolt hole
- Applications in automated palletizing systems.
- Support check with differential pressure, air-to-lock possible

SPEEDY assembly cylinders in use



STARK



Practical example: Layout 4/5 axis table with SPEEDY 1000 square.

9



Fast closing clamp plate with 4 pcs of flushed SPEEDY assembly round 1000.



Norm pallet with built-in fast closing clamps and flushed SPEEDY assembly 1000 round.



Fast closing clamp plate with SPEEDY assembly 3000 square for 4/5 axis machines.



Fast closing clamp plate for 5 axis table with sealing frame and SPEEDY assembly 1000 round.



Fast closing clamp plate with SPEEDY assembly 1000 round with mounting holes for machine table.

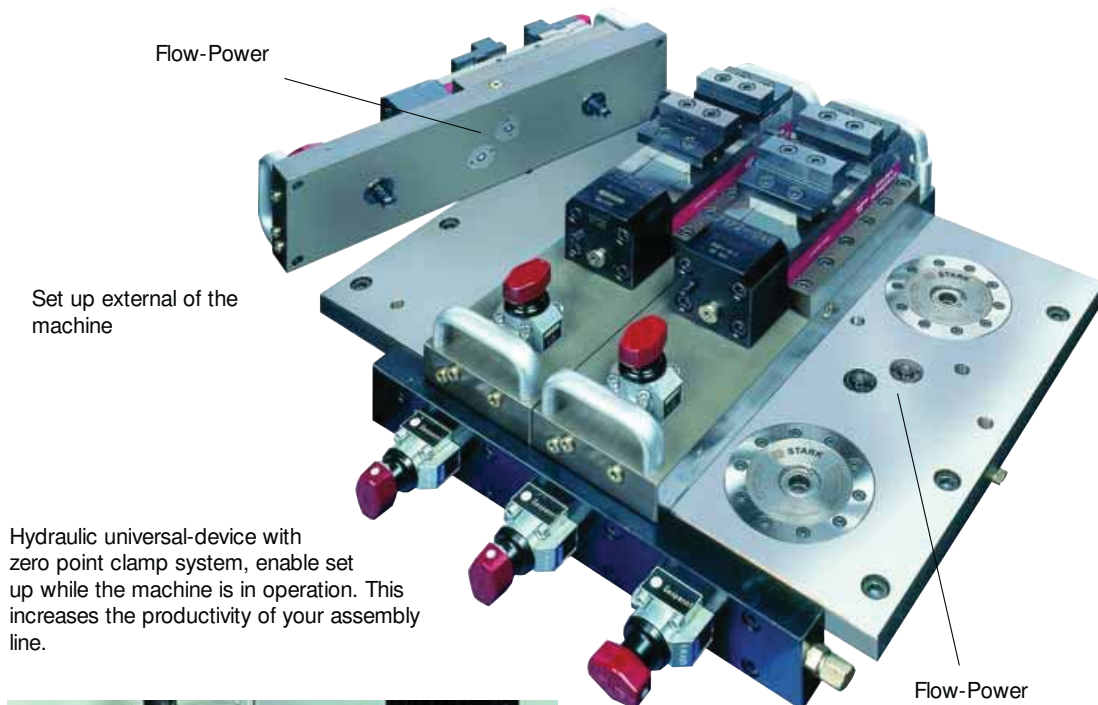


Fast closing clamp plate with SPEEDY assembly 2000, flushed.

SPEEDY assembly cylinders in use



STARK



Hydraulic universal-device with zero point clamp system, enable set up while the machine is in operation. This increases the productivity of your assembly line.

9



Using the machine.



Rotation clamp device with 4 compact clamps. The compact built enables set up without collisions.

SPEEDY Sweeper



STARK

SPEEDY Sweeper 2000



STARK Zero Point clamping system with blow off and integrated mount control for automated production and manual applications.

Free of swarf for automated production lines

Swarf and refuse always place obstacles in the way of palletizing equipment. STARK's new *Sweeper* solves this problem. The blow off system, the central lock and bearing face blow off, maximize the level of production safety.

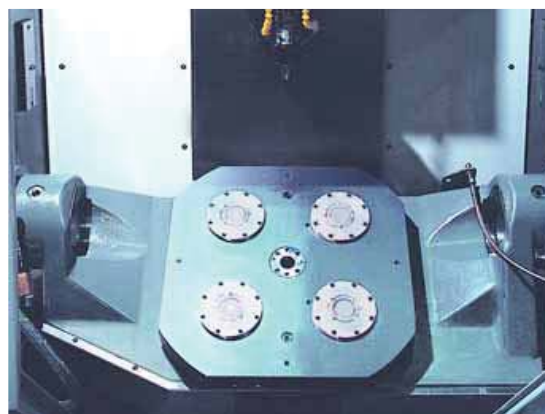
- Fully automatic mounting
- Safe automatic operations
- Protected against dirt build up with the blow out and blow off of bearing faces. Central lock blow off, readied for bearing face sad lock checks.

With integrated mount control

The newly designed *SPEEDY Sweeper* has an additional advantage. The air escaping through the nozzles can be gauged with a differential pressure switch. This enables an exact control of the mount pressure.

Another technical masterpiece feature of this system is its jam-free handling. The clamps are opened wide under pressure and lifted off from their fittings. This makes the equipment easy to mount or remove.

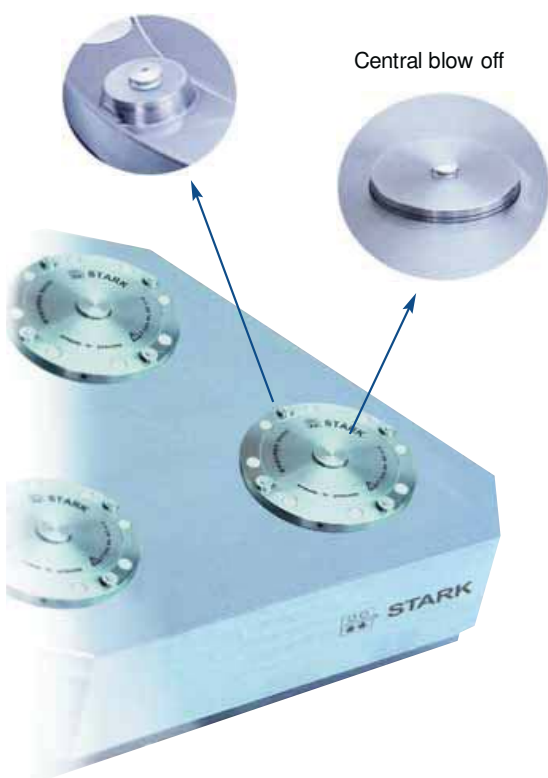
Sample application:



9

Mount with blow off nozzle

Central blow off



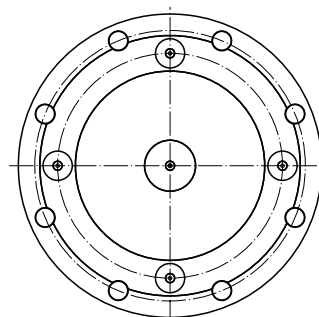
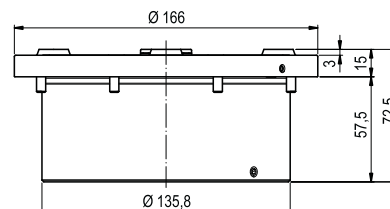
SPEEDY Sweeper



STARK

SPEEDY Sweeper 2000

Clamping module with central lock and raised face blow off



Order no.	Insertion force [N]	Release hydr. pressure [bar]	Min. pressure for blow out [bar]
809 100	20'000	50	6

- Flange connections
- Retractable nipples see page 54

9

Further system sizes upon request, also available with media ducts.



Sweeper 2000 in a practical application

SPEEDY Sweeper assembly modules

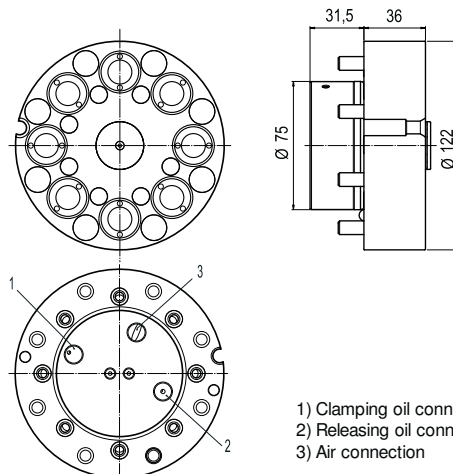


STARK

SPEEDY Sweeper – multiple coupling

Coupling support plate

The hydraulic, double acting coupling support plate is equipped with a central lock and prevents dirt from entering. At the same time, swarf is blown off from the coupling support plate. The coupling support plate can be decoupled under pressure.



9

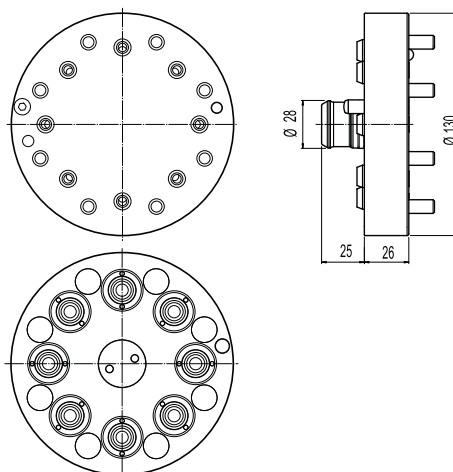
Order no.	Description	Insertion force at 300 bar [N]	max. operating pressure for clamping/releasing [bar]	min. pressure for blow off [bar]	max. pressure at 4x NW 5 [bar]
809 200	with 8 ducts NW 5	max. 20'000	300	6	300
809 204	with 4 ducts NW 5	max. 20'000	300	6	300

Coupling force $F [N] = 15,4 \times p [\text{bar}] \times n$

Depending on the coupling force and the application, the operating pressure should be reduced to the minimum necessary. Stark will give you the required advice.

n = Number of lines under pressure when coupled

Nipple support plate



Order no.	Description	max. operating pressure for clamping/releasing [bar]	max. pressure at 4x NW 5 [bar]
809 220	with 8 ducts NW 5	300	300
809 224	with 4 ducts NW 5	300	300

Sweeper couplings can be combined with the Sweeper fast closing clamp.

SPEEDY with Flow-Power



STARK

Flow-Power assembly variations



1-fold



2-fold



3-fold



4-fold

SPEEDY fast closing clamp with flow-power to switch within seconds hydraulic devices with media feeds for oil, air, water ...

The media ducts can be freely positioned on the SPEEDY.

Examples



Assembly example with comparison of media feed size.



Flow-Power NW4

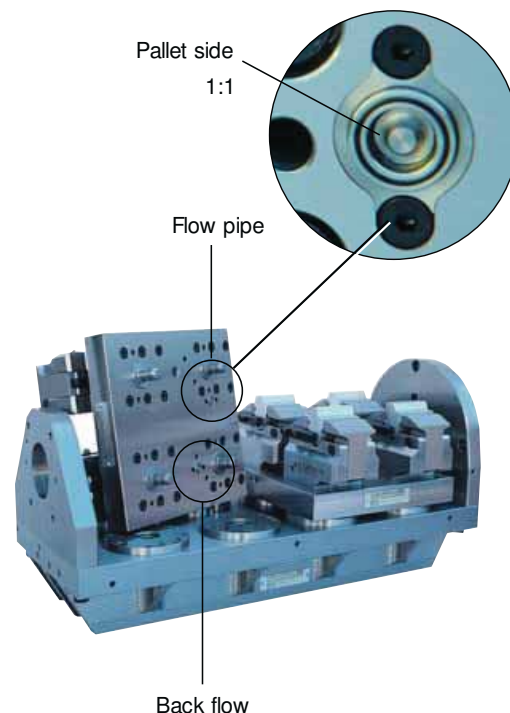


HILMA Mini-Clamp, equipped with a retractable nipple for clamping to the Stark-fast mount system incl. Flow-Power ducts.

4-axis worktable

Equipped with Flow-power for hydraulic clamping.

For additional rotation and slewing, the mounting devices are expandable to process 5 - 6 - 7 axis.



Closing the fast clamping cylinders, SPEEDY automatically positions the Flow-Power ducts. No additional work step has to be taken.

Flow-Power



STARK

Technical Data



SPEEDY side

Pallet side

The Flow-Power may only be positioned without any pressure being applied.

Attention: Pallets equipped with Flow-power (pallet-side) may not be put under pressure if not coupled.

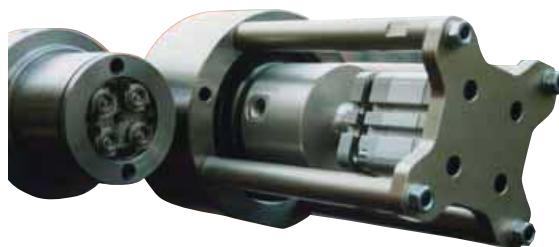
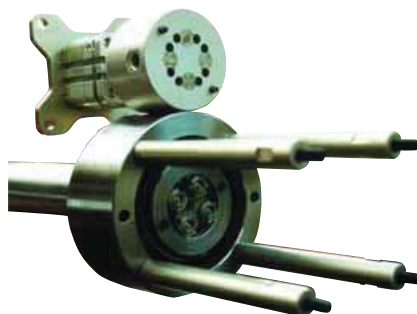
Min. coupling force	250 N
Max. permitted pressure	200 bar
Max. flow rate	28 l/min.

using HP 46 hydraulic oil

A concentric prepositioning of $\varnothing 0.2$ mm is required.

10

Both Flow-power devices are closed when decoupled



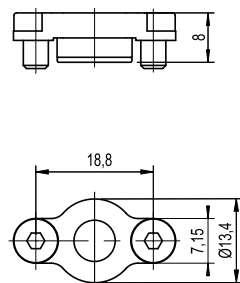
Practical example: Coupling unit

Flow-Power



STARK

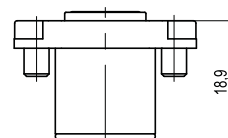
Flow-Power NW4 SPEEDY-side



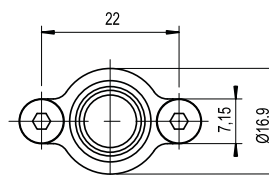
02 04 042

Order no.	Description
704 200	Flow-Power NW4, SPEEDY-side

Flow-Power NW4 pallet-side



10



02 04 041

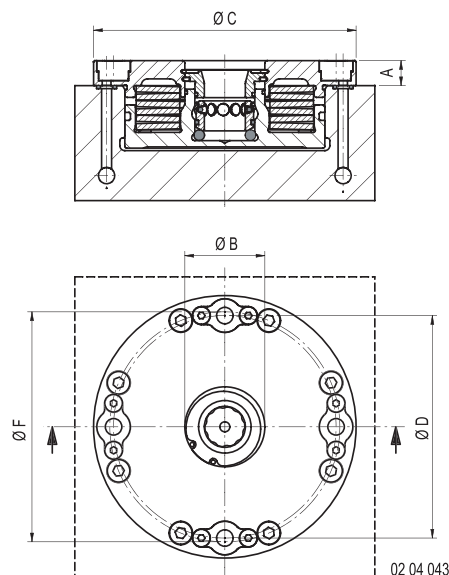
Order no.	Description
704 201	Flow-Power NW4, pallet-side

Flow-Power



STARK

SPEEDY 1000, 2000 round with up to 4 Flow-Power ducts NW4



10

Order no.	A	ØB	ØC	ØD	ØF	Insertion force [N]	Description	Flow-Power ducts
704 301	10	32	105	89	92	6.722	SPEEDY 1000 round	1
704 302	10	32	105	89	92	6.722	SPEEDY 1000 round	2
704 303	10	32	105	89	92	6.722	SPEEDY 1000 round	3
704 304	10	32	105	89	92	6.722	SPEEDY 1000 round	4
704 305	10	32	105	89	92	10.000	SPEEDY 1000 round	1
704 306	10	32	105	89	92	10.000	SPEEDY 1000 round	2
704 307	10	32	105	89	92	10.000	SPEEDY 1000 round	3
704 308	10	32	105	89	92	10.000	SPEEDY 1000 round	4
704 321	10	47	135	119	122	20.000	SPEEDY 2000 round	1
704 322	10	47	135	119	122	20.000	SPEEDY 2000 round	2
704 323	10	47	135	119	122	20.000	SPEEDY 2000 round	3
704 324	10	47	135	119	122	20.000	SPEEDY 2000 round	4

Development and quality assurance



STARK

Stark develops and manufactures mounting towers according to your specifications or dimensioned drawings.

Advantages for you:

- Compatible with your CAD-data
- A single partner for the total development process
- In-house engineering
- QM-protocol on delivery for your quality management
- Air-conditioned measuring room with modern measuring equipment



Mounting tower with 16 SPEEDY 1000.

Example:
Measuring a clamping cube, equipped with SPEEDY 1000.



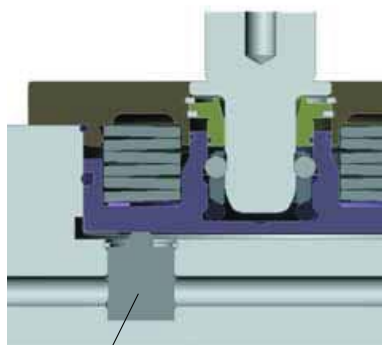
Control valve



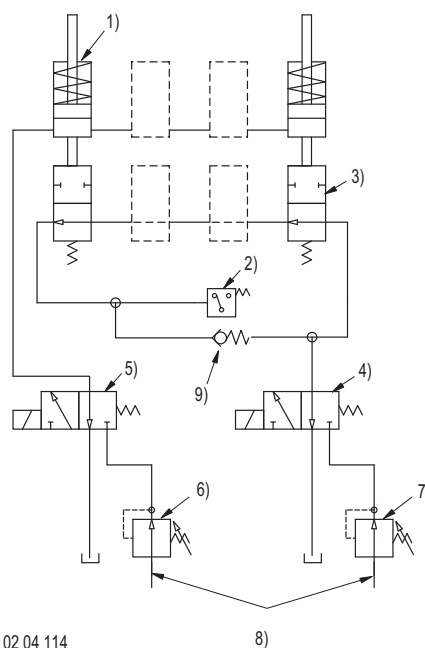
STARK

Locking controls

Mechanical locking control valves



Locking control valve



02 04 114

- 1) SPEEDY
- 2) Pressure switch for clamp signal
- 3) Clamp control valve
- 4) Hydraulic valve for clamp control
- 5) Hydraulic valve to release SPEEDY
- 6) Pressure limiting valve, 40 bar
- 7) Pressure limiting valve, 8 bar
- 8) Lubrication from the machine
- 9) Check valve (bypass)

11

Order no.	Description
704 210	Locking control valve

Further check variations upon request.



Clamp control is mandatory for all rotation machines according to DIN-regulations.

Surface plate with SPEEDY 2000 and clamp control valve.

Shut-off valve



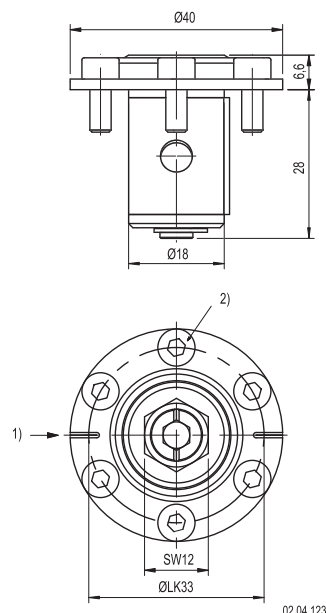
STARK

Shut-off valve for installation in fast closing clamp-plates



Shut-off valve for installation in fast closing clamp-plates to shut off individual clamping circuits.

Order no.	Description
804 799	Shut-off valve
	Key included



02 04 123

1) Mark for flow

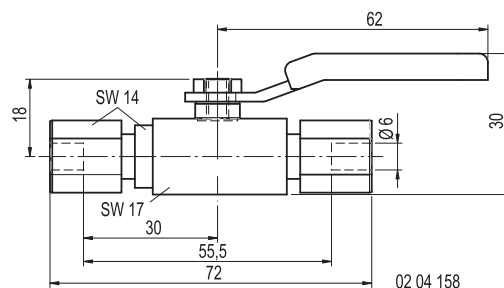
2) Fillister-head screws M4

11

Control valve with ball valve to piping ø 6/4



Order no.	Description
999 104	Control valve with ball valve to piping



02 04 158

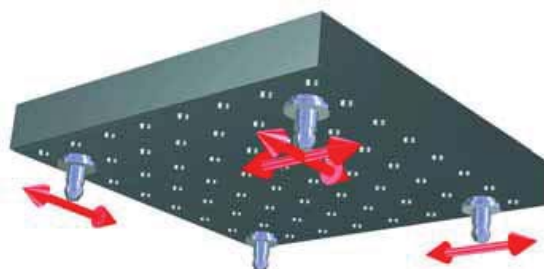


SPEEDY 1000 assembly, 8-fold with pipe system and shut off valve to shut off clamping circuits.

Retractable nipples



STARK



The critical contrasts between "stable clamping" and the required "flexibility for heat expansion" have been ideally solved with the Stark zero point mounting system.

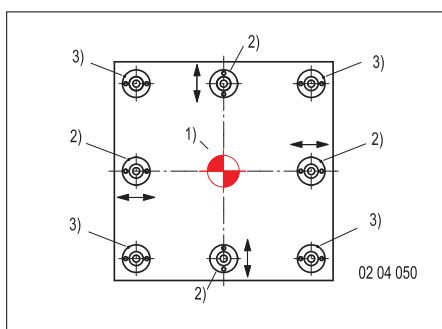
There are 3 different retraction nipples:

- a) Retraction nipple with zero point
 - b) Retraction nipple with equalizer
 - c) Retractable nipple without centering
- that can solve this problem.

Independent of the size of the pallet during the processing there is always the same zero point. The position of the retraction nipple with the zero point can be determined by yourself.

Examples:

Here the retraction nipple with the zero point is in the middle of the pallet.

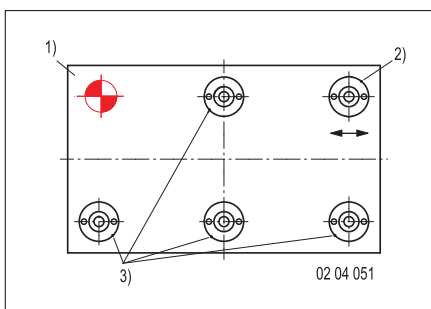


- 1) Retractable nipple with centering
- 2) Retractable nipple with equalizer
- 3) Retractable nipple without centering

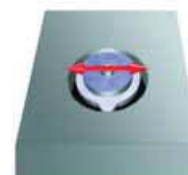


12

Here the retraction nipple with the zero point is in the upper left corner of the pallet.



- 1) Retractable nipple with centering
- 2) Retractable nipple with equalizer
- 3) Retractable nipple without centering

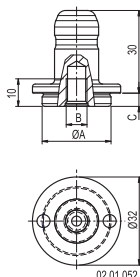


Retractable nipples



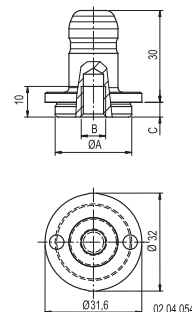
STARK

Retractable nipple with zero point for SPEEDY 1000



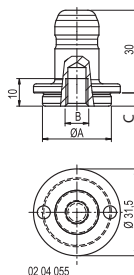
Order no.	ØA	B	C
804 209	25	M 8	4,8
804 219	16	M 8	4,8
804 226	25	M 8	19,8
804 228	16	M 8	19,8

Retractable nipple with equalizer for SPEEDY 1000



Order no.	ØA	B	C
804 230	25	M8	4,8
804 232	16	M8	4,8
804 234	25	M8	19,8
804 236	16	M8	19,8

Retractable nipple without centering for SPEEDY 1000

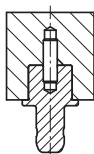


Order no.	ØA	B	C
804 238	25	M8	4,8
804 240	16	M8	4,8
804 242	25	M8	19,8
804 244	16	M8	19,8

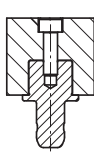
12

Mounting examples

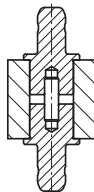
Variant A



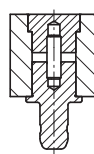
Variant B



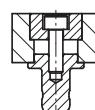
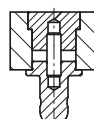
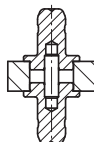
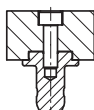
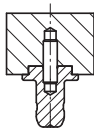
Variant C



Variant D



Variant E



A and C are not possible with compensating variants.

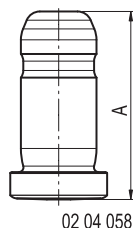
Retractable nipples



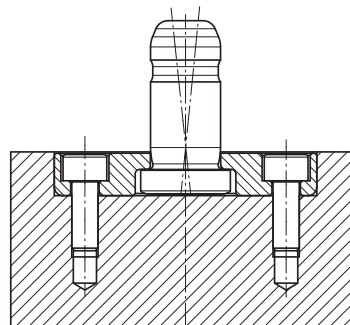
STARK

Retractable nipple for SPEEDY 1000 with flange

Mounting example - retractable nipple with flange



02 04 058



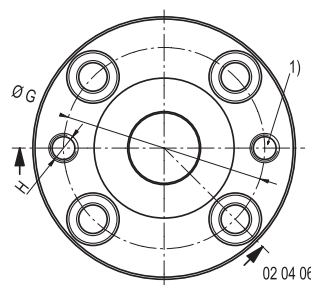
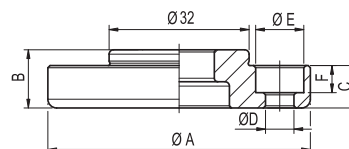
02 04 057

Order no.	A	suitable for
801 004	39,8	Flange $\varnothing$ 60 SPEEDY 1000
801 009	44,8	Flange $\varnothing$ 68 SPEEDY 1000

The retractable nipple is mounted flexibly to prevent jamming during a change of pallet (especially for heavy work pieces and large pallets). It is used for the retraction phase of the pallet or workpiece only. Positioning and centering are done through zero point and equalization flange.

12

Zero point flange for SPEEDY 1000



02 04 061

1) Tapped holes for extracting the press fit flange

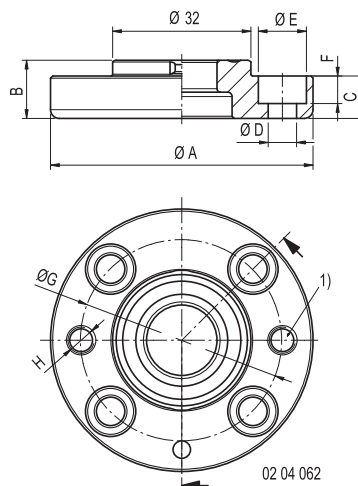
Order no.	ØA	B	C	ØD	ØE	F	ØG	H	suitable for
801 006	60	13,3	9,7	6,5	11	6,3	46	M6	SPEEDY 1000
801 010	68	18,3	14,7	8,5	13,5	8,2	50	M8	SPEEDY 1000

Retractable nipples



STARK

Equalizing flange for SPEEDY 1000

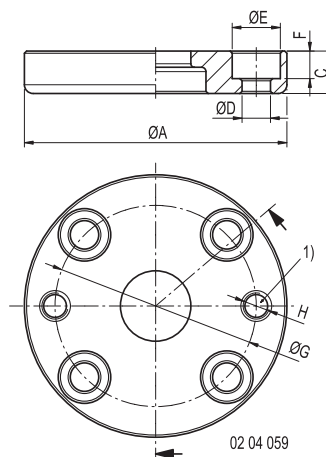


1) Tapped holes for extracting the press fit flange

Order no.	ØA	B	C	ØD	ØE	F	ØG	H	suitable for
801 007	60	13,3	9,7	6,5	11	6,3	46	M6	SPEEDY 1000
801 011	68	18,3	14,7	8,5	13,5	8,2	50	M8	SPEEDY 1000

Retraction flange for SPEEDY 1000

12



1) Tapped holes for extracting the press fit flange

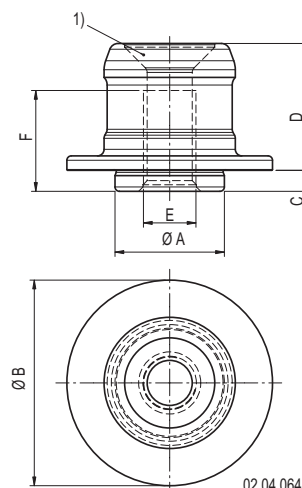
Order no.	ØA	C	ØD	ØE	F	ØG	H	suitable for
801 008	60	9,7	6,5	11	6,3	46	M6	SPEEDY 1000
801 012	68	14,7	8,5	13,5	8,2	50	M8	SPEEDY 1000

Retractable nipples



STARK

Retractable nipple with zero point for SPEEDY 2000, 3000



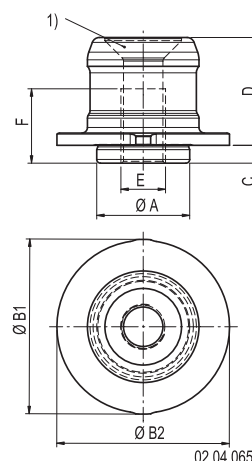
1) Recess for countersunk bolt DIN 7991

Order no.	ØA	ØB	C	D	E	F	Hexagon socket screw	Tightening torque [Nm]	suitable for
804 470	25	47	4,8	29	M12	20	M10 DIN 7991 / 10.9	45	SPEEDY 2000
804 474	25	47	14,8	29	M12	20	M10 DIN 7991 / 10.9	45	SPEEDY 2000
804 290	32	65	7,8	46	M16	25	M12 DIN 7991 / 10.9	75	SPEEDY 3000
804 291	25	65	7,8	46	M16	25	M12 DIN 7991 / 10.9	75	SPEEDY 3000

Other diameters (Ø A) upon request.

12

Retractable nipple with equalizer for SPEEDY 2000, 3000



1) Recess for countersunk bolt DIN 7991

Order no.	ØA	ØB1	ØB2	C	D	E	F	Hexagon socket screw	Tightening torque [Nm]	suitable for
804 471	25	47	46,4	4,8	29	M12	20	M10 DIN 7991 / 10.9	45	SPEEDY 2000
804 476	25	47	46,4	14,8	29	M12	20	M10 DIN 7991 / 10.9	45	SPEEDY 2000
804 292	32	65	64,2	7,8	46	M16	25	M12 DIN 7991 / 10.9	75	SPEEDY 3000
804 293	25	65	64,2	7,8	46	M16	25	M12 DIN 7991 / 10.9	75	SPEEDY 3000

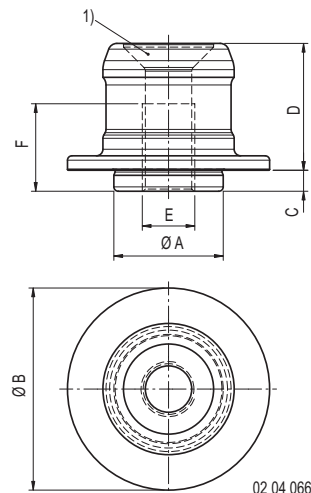
Other diameters (Ø A) upon request.

Retractable nipples



STARK

**Retractable nipple without centering
for SPEEDY 2000, 3000**



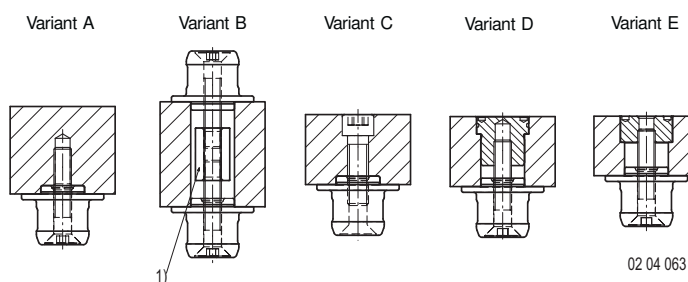
1) Recess for countersunk bolt DIN 7991

Order no.	ØA	ØB	C	D	E	F	Hexagon socket screw	Tightening torque [Nm]		suitable for
804 472	25	46,2	4,8	29	M12	20	M10 DIN 7991 / 10.9	45	55	SPEEDY 2000
804 478	25	46,2	14,8	29	M12	20	M10 DIN 7991 / 10.9	45	55	SPEEDY 2000
804 294	32	64	7,8	46	M16	25	M12 DIN 7991 / 10.9	75	110	SPEEDY 3000
804 295	25	64	7,8	46	M16	25	M12 DIN 7991 / 10.9	75	110	SPEEDY 3000

Other diameters (Ø A) upon request.

12

Mounting examples



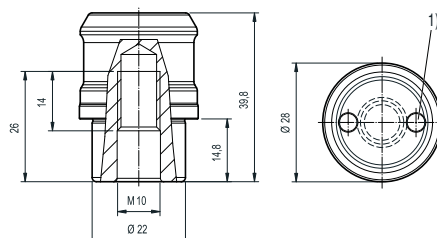
1) Nut DIN 6334

Retractable nipples



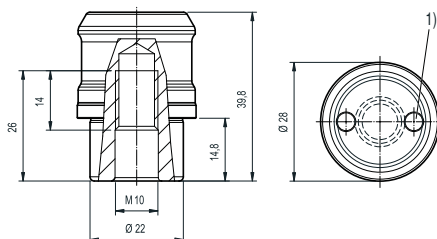
STARK

Retractable nipple with zero point for SPEEDY Sweeper 2000



Order no.	Description
804 490	Retractable nipple with zero point

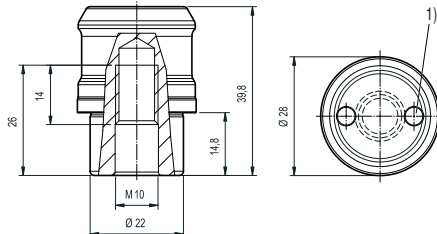
Retractable nipple with equalizer for SPEEDY Sweeper 2000



Order no.	Description
804 495	Retractable nipple with equalizer

12

Retractable nipple without centering for SPEEDY Sweeper 2000



Order no.	Description
804 485	Retractable nipple without centering

1) For insertion, use the retractable nipple key!
Tightening torque 75 Nm

Retractable nipple key

Order no.	Description
804 247	Retractable nipple key to tighten the <i>Sweeper</i> nipples

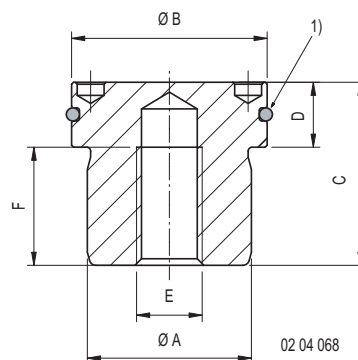


Retractable nipples



STARK

Nipple fastening for variant D



1) O-ring

Order no.	ØA	ØB	C	D	E	F	suitable for
804 252	25	29,8	21,9	9,9	M8	13	SPEEDY 1000
804 253	16	19,8	21,9	9,9	M8	13	SPEEDY 1000
804 267	25	29,8	21,9	9,9	M10	13	SPEEDY 2000
804 262	32	37,8	27,9	9,9	M12	18	SPEEDY 3000
804 263	25	29,8	27,9	9,9	M12	18	SPEEDY 3000

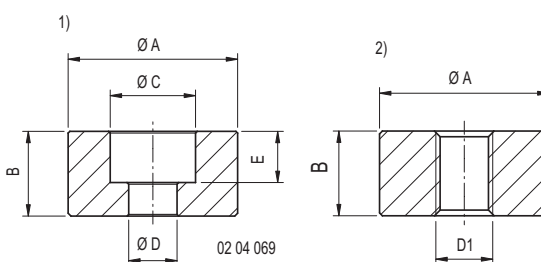
Nipple fastening for variant E

12



1) for Speedy 1000

2) for Speedy 2000 and 3000



Order no.	ØA	B	ØC	ØD	F	suitable for
804 250	29,8	14,9	15	8,5	9	SPEEDY 1000
804 251	19,8	14,9	15	8,5	9	SPEEDY 1000
804 249	34,8	14,9	15	8,5	9	SPEEDY 1000
804 266	29,8	14,9	-	M10	-	SPEEDY 2000
804 264	37,8	17,9	-	M12	-	SPEEDY 3000
804 265	29,8	17,9	-	M12	-	SPEEDY 3000

Pressure booster with/without "third hand" function (DHF)



STARK

The pressure booster converts air pressure into hydraulic pressure for all ranges between 30 and 110 bar.

The pressure booster is available with or without "third hand" function (DHF). A hydraulic hose of 1,5 m length is included in the delivery (other hose length available on request).

Pressure booster with "third hand" function (DHF) - clink on, release and clamping

Pressure boosters with "third hand" function (DHF) keep the workpiece or pallet in the engaged position after positioning. Workpiece and pallet are thus secured against falling out and no longer need to be held by the operators. The clamping process can be performed more rapidly and more safely.

Existing pressure boosters without "third hand" function (DHF) can be rapidly and straightforwardly upgraded using a conversion kit. The upgrade can be performed on your premises or in our service centre.

NEW

Outstanding advantages on vertical, horizontal and "overhead" clamping

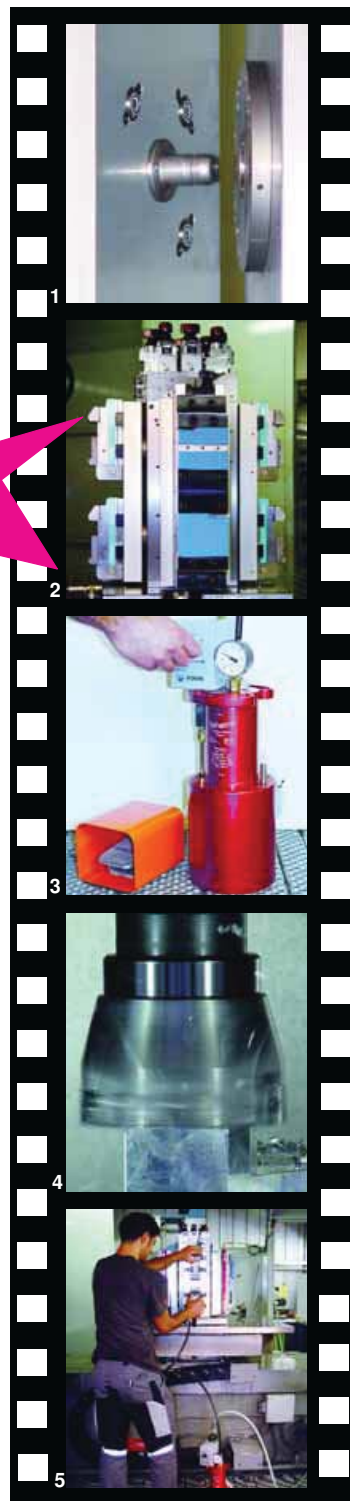
- Can be upgraded to all systems
- Increased safety during clamping
- Secures pallets and jigs against falling out
- Simple depositing of pallets or workpiece clamping using robots: move in - engage - release
- Overhead workpiece clamping possible
- Pre-adjustable retention and clamping pressure
- User-friendly
- Not necessary to apply force when removing the jig
- Can also be realised using the machine functions

13



Mounting made easy

- 1 Clink on the palette
- 2 Release the palette
- 3 Clamp
- 4 Process the workpiece
- 5 Change the palette



Pressure booster with/without "third hand" function (DHF)



STARK

Pressure booster 30 - 110 bar



Pressure booster RECORD 40 bar (oil volume 0,31 l)

Order no.	releases max. [pcs]	system pressure [bar]	air pressure [bar]
804 411	14 SPEEDY, 6.722 N	40	6
	7 SPEEDY, 20.000 N	40	6
804 418	14 SPEEDY, 6.722 N, with DHF	40	6
	7 SPEEDY, 20.000 N, with DHF	40	6



Pressure booster RECORD 80 bar (oil volume 0,148 l)

Order no.	releases max. [pcs]	system pressure [bar]	air pressure [bar]
804 412	7 SPEEDY, 10.000 N	80	6
804 429	7 SPEEDY, 10.000 N, with DHF	80	6



Pressure booster KOLOSS 40 bar (oil volume 0,8 l)

Order no.	releases max. [pcs]	system pressure [bar]	air pressure [bar]
804 413	36 SPEEDY, 6.722 N	40	6
	18 SPEEDY, 20.000 N	40	6
	6 SPEEDY, 30.000 N	30	4,5
804 431	36 SPEEDY, 6.722 N, with DHF	40	6
	18 SPEEDY, 20.000 N, with DHF	40	6
	6 SPEEDY, 30.000 N, with DHF	30	4,5



Pressure booster KOLOSS 110 bar (oil volume 0,29 l)

Order no.	releases max. [pcs]	system pressure [bar]	air pressure [bar]
804 414	12 SPEEDY, 10.000 N	80	6
804 430	12 SPEEDY, 10.000 N, with DHF	80	6

For SPEEDY 1000 mit 10.000 N retraction force should be reduced to 4,6 bars. This results in a hydraulic pressure of 80 bars.



Treadle to pressure booster (replaces manual operation)

Order no.	Description
804 419	Treadle to pressure booster incl. pneumatic hose and connections



Third Hand function controls

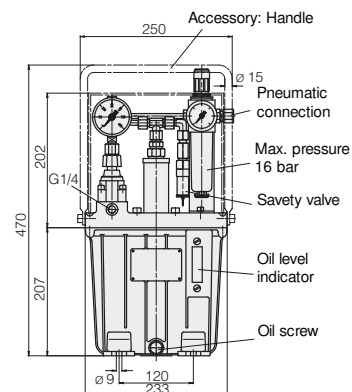
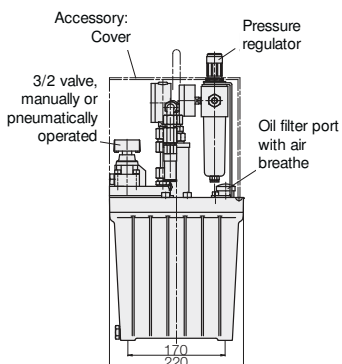
Order no.	Description
804 428	The Third Hand function controls are in the housing with the ratchet foot pedal incl. pneumatic hose

Pressure booster and devices



STARK

Hydraulic clamping pump



Application

The hydraulic clamping pump is particularly suitable for small to medium-sized clamping and mounting devices having single-acting cylinders which operate primarily by intermittence (pressure build-up and pressure holding). As the power supplied is compressed air, they can be used without restriction in hazardous surroundings.

Description

The tandem plunger pump is built into the oil reservoir in a space-saving manner. It operates with oscillating movements and automatic stroke reversal control by a pilot-operated 4/2 valve. The stroke frequency, and consequently the delivery flow rate depend on the air pressure and the hydraulic counterpressure.

Control variants

Hand-operated 3/2 valve

This valve is equipped with a turning handle for direct operation on the unit.

Pneumatically operated 3/2 valve

This valve is mounted on the unit allowing for pneumatic remote control which, however, requires an additional pilot valve (accessory). According to the length of the pneumatic piping between both valves, there is a longer or shorter time delay for the clamping and unclamping operation.

Without valve (for remote control)

This type is designed for external valve control connected with a pressure and return line each. The clamping pump keeps the set pressure constant.

A valve must never be used for depressurized circulation as the pump only serves for intermittent operation

Technical data

Max. delivery flow rate	[cm ³ /s]	25
	[l/min]	1,5
Max. operating pressure	[bar]	500
Min. operating pressure	[bar]	100
Max. air pressure	[bar]	4,7
Min. air pressure	[bar]	1,0
Transmission ratio		1:108
Max. air consumption	[l/min]	1200
Min. control pressure for pneumatic valve	[bar]	3
Max. charge	[l]	4,0
Usable oil volume	[l]	1,8
Viscosity range	[m ² /s]	10...500
Recomm. viscosity grade as per DIN 51519	ISO VG 22	
Recomm. hydraulic oil as per DIN 51524	HLP 22	
Noise level	[dBA]	78
Weight	[kg]	20

Delivery circuit

The units are delivered complete and ready for connection. On the pneumatic side there is a service unit with pressure reducer, filter and oiler. An additional pressure relief valve prevents increase of pressure over 4.8 bar, and thus operating pressures over 500 bar on the hydraulic side.

Order no.

Pump with hand-oper. valve	8600-110
Pump with pneumatic valve	8600-111
Pump without valve	8600-112

Accessories

Handle	0353-217
Cover	0353-714

Accessories for remote control of 8600-112

Hand lever valve with catch	3812-005
Sound absorber for hand lever valve	3887-015
Foot valve with catch incl.	0381-206
Air hose NW 6	3890-059
Screwed socket G1/4	3890-071
Hose clamp	3890-076

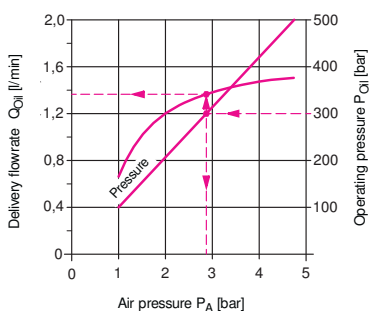
Example for ordering



Pump with hand-operated valve	8600-110
Handle	0353-217
Cover	0353-714

13

Delivery flow rate without counterpressure



Example:

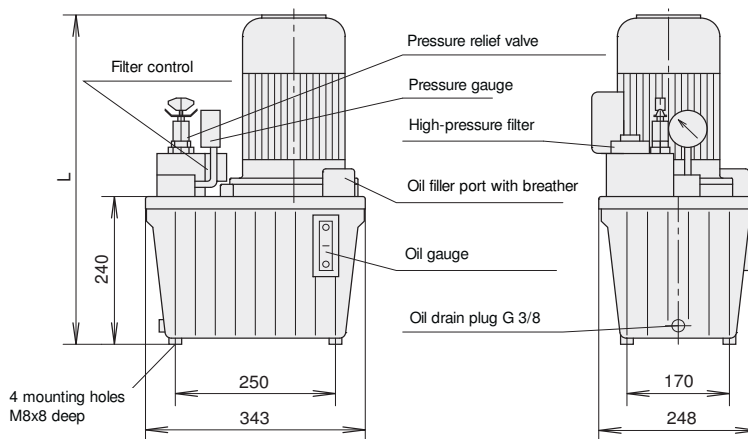
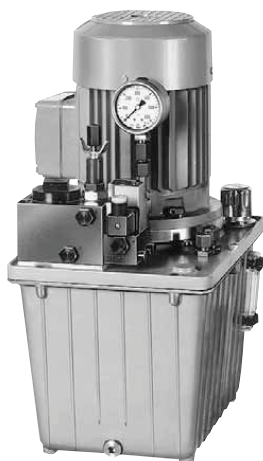
To get the operating pressure $P_{Oil} = 300$ bar, an air pressure of $P_A = 2.8$ bar is set on the pressure regulator. The delivery flow rate Q_{Oil} without counterpressure is 1.35 l/min.

Pressure booster and devices



STARK

Pumping set, electric



General characteristics

Design: 81XX-gear pump
82XX-radial piston pump 8223-323
two-stage hydraulic pump
Mounting: foot mounting
Porting: G1/4
Direction of rotation: radial piston pump - any
gear pump - clockwise
two-stage hydraulic pump - counterclockwise (viewed from above onto drive shaft)
Mounting position: upright
Reservoir volume: V = 11 l
Usable oil volume: Vn = 6 l

Hydraulic characteristics

Vol. efficiency: h vol = 85-95% with gear pumps
h vol = 92-96% with radial piston pumps

Electrical characteristics

Nominal voltage: 230/400 V
Power system: 3-phase AC, 50 Hz
Degree of protection: IP 54
Rel. duty cycle (ED): Depends on operating pressure. For details of 100% and 40% ED see table.

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 of up to 50% of the nominal output and should run continuously.

Different types on request.

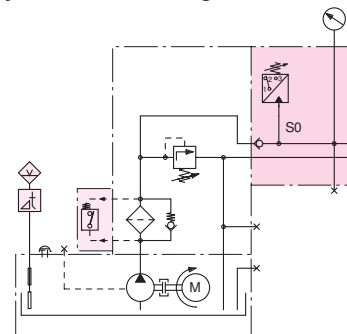
Note on figure and hydraulic circuit diagram

The pressure switch, oil level and temperature control and filter control shown in the above figure are not supplied with the pumping set.

Oil level and temperature control

Order no. **3822-008**

Hydraulic circuit diagram



13

Accessories

The power units can be supplied, on request, with solenoid operated directional control valves as per data sheet C 2.360 ND4 and C2.530 ND6, which are fixed to the power unit on a mounting plate.

The valves have to be ordered separately. The mounting plate for the pressure switch as per catalogue is available on request.

Flow rate		Operating pressure at 100% ED ¹⁾		Nominal rating kW	L ²⁾ mm	Weight kg	Order no. Basic	Order no. with filter control
ccm/s	l/min	bar	40% ED bar					
15	0,9	350	500	0,75	489	27	8223-310	8223-910
25	1,5	150	200	0,75	489	27	8122-300	8122-900
25	1,5	360	500	1,1	504	30	8223-308	8223-908
86/12	5,2+0,7	100/500	100/500	0,75	489	29	8223-323	8223-923
41	2,5	220	300	1,1	504	30	8223-311	8223-911
70	4,5	64	85	0,75	489	27	8142-300	8142-900
70	4,5	104	142	1,1	504	30	8143-300	8143-900
70	4,5	142	180	1,5	531	34	8144-300	8144-900
102	6,2	50	65	0,75	489	27	8152-300	8152-900
102	6,2	73	100	1,1	504	30	8153-300	8153-900
102	6,2	100	125	1,5	531	34	8154-300	8154-900

1) Applies to electric motor only. Running time of pump at max. pressure depends on unit power losses. It should be noted that the oil temperature should not exceed 70°C.

2) The mounting height (dimension L) of the power units depends on the type of motors used.

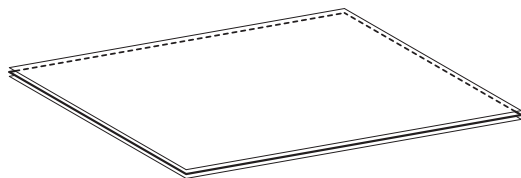
Pallets perforated



STARK

Accuracy (standard)

Pallet



04 02 071

Flatness of pallet

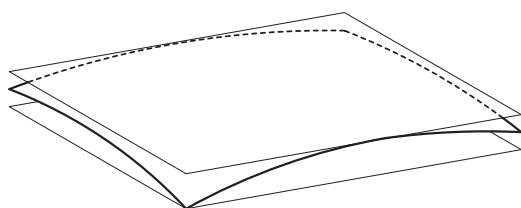
The tolerance of position of the nipple bores to the backing plates, T-grooves, vise mounts and jaws etc. is ± 0.01 mm.

Variant "E" is the standard nipple mount.

Flatness	0,02 mm / 300 mm	
Parallelism	0,02 mm / 500 mm	
Rectangularity	0,02 mm / 200 mm	
Surfaces are polished		
Material	Steel	CK 45
	Cast	GG 25
	Aluminium	Al 50

Other materials and tolerances on request.

Plate



04 02 070

Flatness of plate

SDIN 74-Km $\varnothing$ 12 for recess of cylinder head bolts DIN 912-M12 to attach on T-grooves.

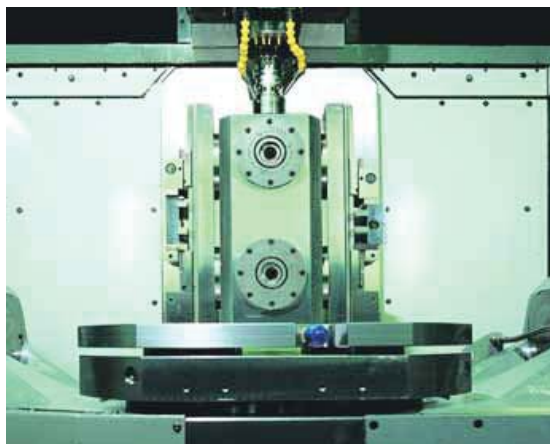
Other connections on request.

Flatness	0,05 mm / 300 mm	
Parallelism	0,02 mm / 500 mm	
Rectangularity	0,02 mm / 200 mm	
Surfaces are polished		
Material	Steel	CK 45
	Cast	GG 25
	Aluminium	Al 50

Other materials and tolerances on request.

14

Examples for application:

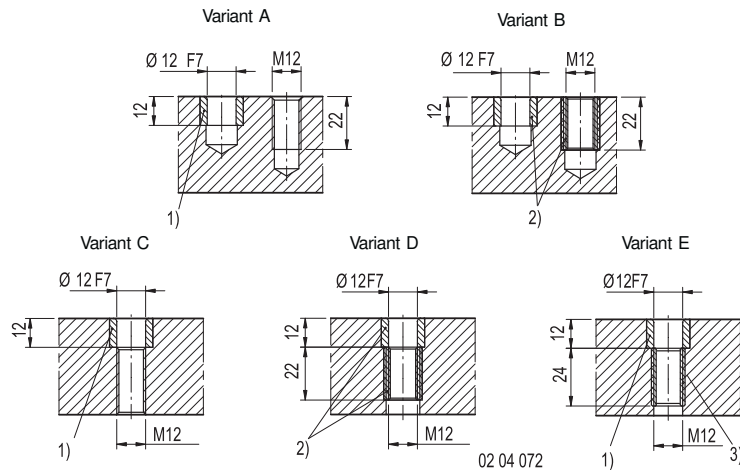


Pallets perforated



STARK

Variations in perforated pallets and plates



- 1) Centering insert hardened
- 2) Centering insert and thread insert hardened
- 3) Wire thread insert stainless

Other variations on request.



14



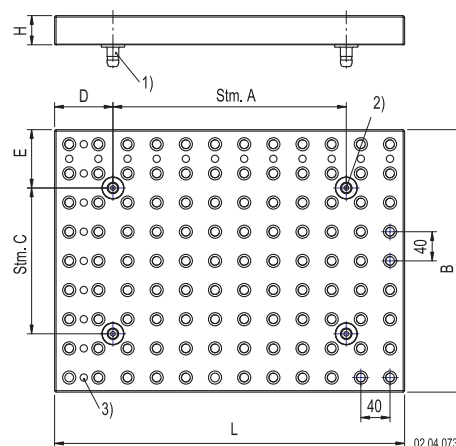
Perforated palette with deep drawing clamp

Pallets perforated



STARK

Pallet perforated



- 1) Retractable nipple
- 2) Drill hole for retractable nipple
- 3) Alphanumerical scale

Order no.	L	B	H	No. of drill-holes	Weight [kg]
104 102	320	320	40	64	30
104 104	400	400	40	100	47
104 106	480	360	40	108	50
104 108	480	480	40	144	67
104 110	600	400	40	150	70
104 112	600	600	40	225	105
104 114	640	480	40	192	90
104 116	680	400	40	170	80
104 118	680	680	50	289	169
104 120	800	480	40	240	112
104 122	800	800	50	400	234
104 123	920	440	40	253	118
104 124	960	480	40	288	135
104 126	960	600	40	360	168
104 128	960	760	50	456	267

Stoppers (904 403) are included in delivery.

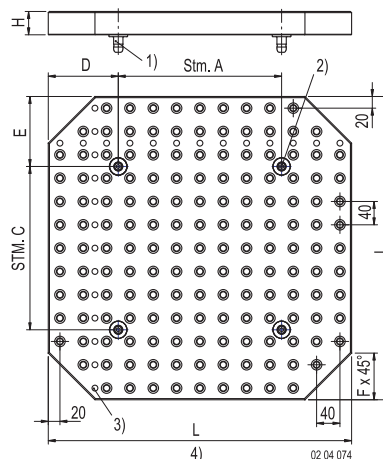
Dimensions A, C, D and E according to customer's wishes, other dimensions on request.

Pallets perforated



STARK

Pallet perforated - square



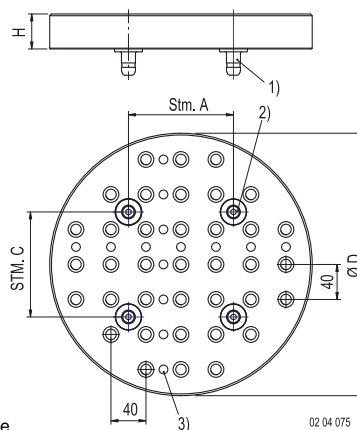
- 1) Retractable nipple
- 2) Drill hole for retractable nipple
- 3) Alphanumerical scale

Order no.	∅ L	H	F	No. of drill-holes	Weight [kg]
104 551	400	40	80	88	43
104 553	520	40	80	157	75
104 555	600	50	80	213	127
104 557	680	50	80	277	164
104 559	800	50	80	388	229

Stoppers (904 403) are included in delivery.

Dimensions A, C, D and E according to customer's wishes, other dimensions on request.

Pallet perforated - round



- 1) Retractable nipple
- 2) Drill hole for retractable nipple
- 3) Alphanumerical scale

Order no.	ØD	H	No. of drill-holes	Weight [kg]
204 051	300	40	37	21
204 054	400	40	68	37
204 056	500	40	112	57
204 058	600	40	162	83
204 060	700	40	222	113

Stoppers (904 403) are included in delivery.

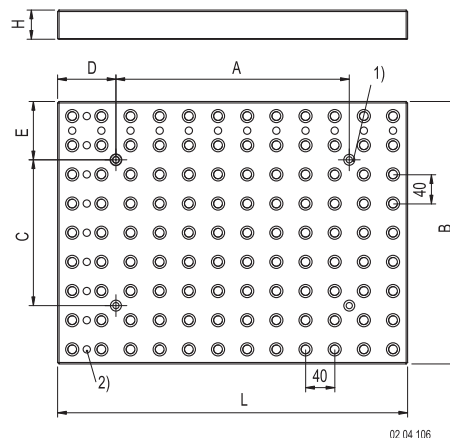
Dimensions A and C according to customer's wishes, other dimensions on request.

Plates perforated



STARK

Plate perforated



02 04 106

1) Drill hole for retractable nipple

2) Alphanumeric scale

Order no.	L	B	H	No. of drill-holes	Weight [kg]
104 002	320	320	40	64	30
104 004	400	400	40	100	47
104 006	480	360	40	108	50
104 008	480	480	40	144	67
104 010	600	400	40	150	70
104 012	600	600	40	225	105
104 014	640	480	40	192	90
104 016	680	400	40	170	80
104 018	680	680	50	289	169
104 020	800	480	40	240	112
104 022	800	800	50	400	234
104 023	920	440	40	253	118
104 024	960	480	40	288	135
104 026	960	600	40	360	168
104 028	960	760	40	456	267
104 030	960	960	50	576	336
104 031	1120	400	40	280	131
104 032	1280	480	40	384	180
104 034	1280	600	40	480	224
104 036	1360	880	50	748	437

Stoppers (904 403) are included in delivery.

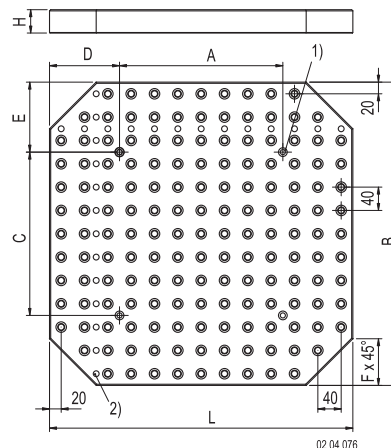
Dimensions A, C, D and E according to customer's wishes (T-slot distances), other dimensions on request.

Plates perforated



STARK

Plate perforated - square



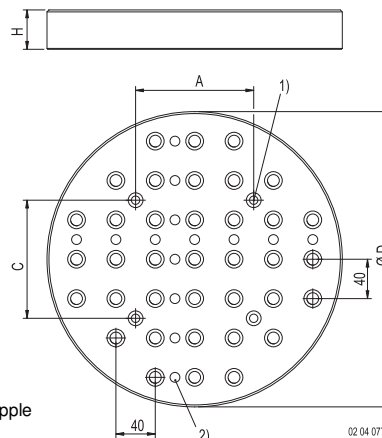
- 1) Drill hole for retractable nipple
2) Alphanumeric scale

Order no.	L	H	F	No. of drill-holes	Weight [kg]
104 501	400	40	80	88	43
104 503	520	40	80	157	75
104 505	600	50	80	213	127
104 507	680	50	80	277	164
104 509	800	50	80	388	226

Stoppers (904 403) are included in delivery.

Dimensions A, C, D and E according to customer's wishes (T-slot distances), other dimensions on request.

Plate perforated - round



- 1) Drill hole for retractable nipple
2) Alphanumeric scale

Order no.	ØD	H	No. of drill-holes	Weight [kg]
204 001	300	40	37	21
204 004	400	40	68	37
204 006	500	40	112	57
204 008	600	40	162	83
204 010	700	40	222	113

Stoppers (904 403) are included in delivery.

Dimensions A, C, D and E according to customer's wishes (T-slot distances), other dimensions on request.

Clamping devices - mechanical

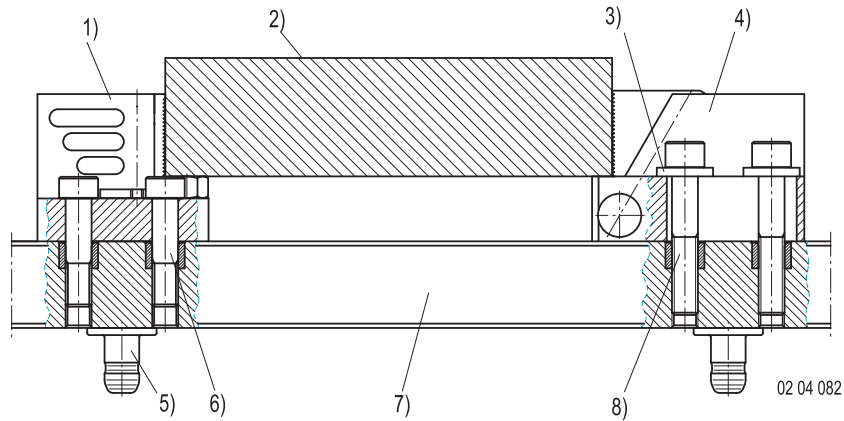


STARK

Zero point reference also on down draw clamps

A fixed zero point reference on down draw clamps is self-evident in the STARK zero point mounting system.

This zero point reference on down draw clamps is a definite must on external setting-up and palletting work.



- 1) Down draw clamp with zero point
- 2) The workpiece can be machined on all sides
- 3) Washer
- 4) Down draw clamp

- 5) Retractable nipple
- 6) Precision collar bolt
- 7) Perforated pallet
- 8) Bolt DIN 912

Clamping devices - mechanical



STARK

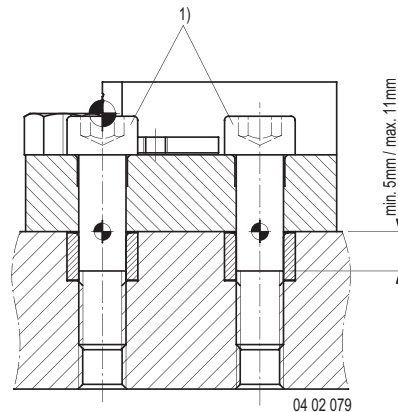
Guidelines for working with clamping devices

Clamping devices for pegging out with zero point

To mount clamping devices only precision collar bolts of the property class 10.9 may be used. The bolts with adequate length have to be screwed into the plate to a depth of at least 12 mm.
Caution: Watch the length of the positioning socket!

Max. tightening torque

M12 = 70 Nm



1) Precision collar bolts

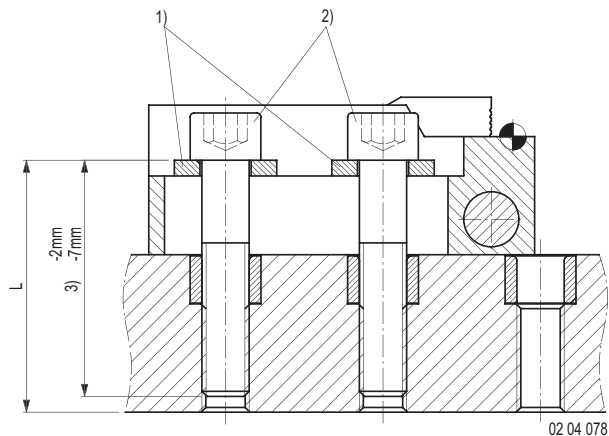
Adjustable clamping devices

In attaching clamping devices, screws of the property class 10.9 or 12.9 and hardened washers must be used.

To assure the downtime of the plate the length of the screw must be as given in the illustration at the right.

Maximum tightening torque

M 12 = 94 Nm



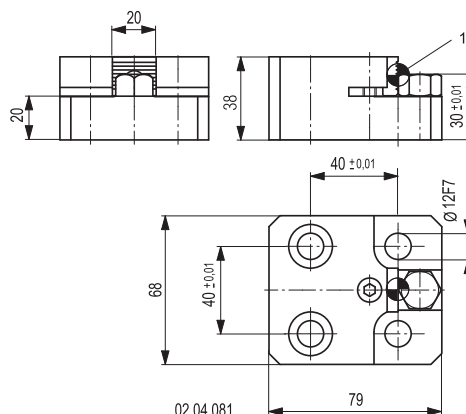
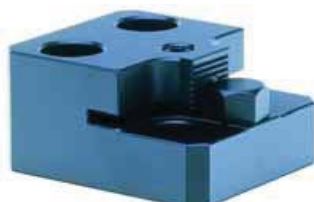
1) Washers
2) Bolts DIN 912
3) Length of screw (L - 2 mm to L - 7 mm)

Clamping devices - mechanical



STARK

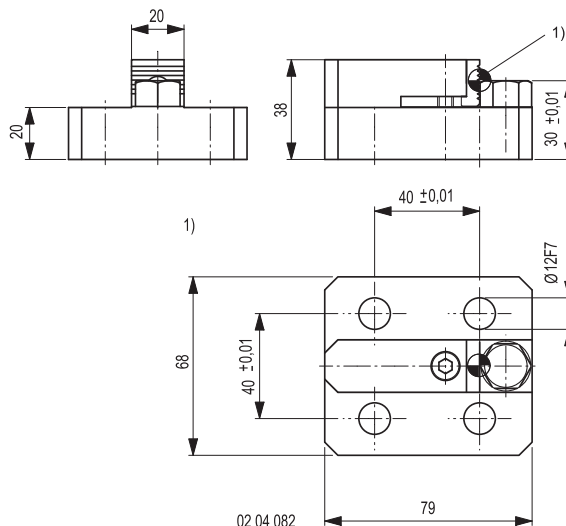
Down draw clamp for pegging out zero point



1) Middle of the bore = End position of work piece ± 0.01

Order no.	Description
804 011	Down draw clamp
704 054	Precision collar bolt M12 10.9

Down draw clamp for pegging out zero point, narrow edition



1) Middle of the bore = End position of work piece ± 0.01

Order no.	Description
804 025	Down draw clamp
704 054	Precision collar bolt M12 10.9 x L = 60mm

Clamping devices - mechanical



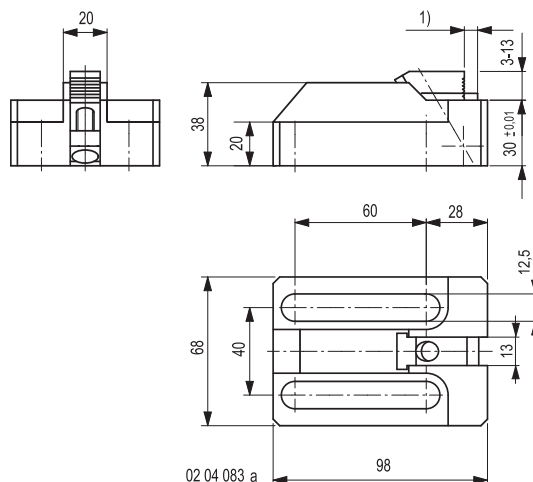
STARK

Adjustable down draw clamp



We recommend using washers when mounting the clamps.

Order no.	Description
804 009	Down draw clamp
931 065	Bolt DIN 912, M12, 10.9, L = 60mm
704 020	Washer



1) Clamping distance



Down draw clamp for pegging out zero point



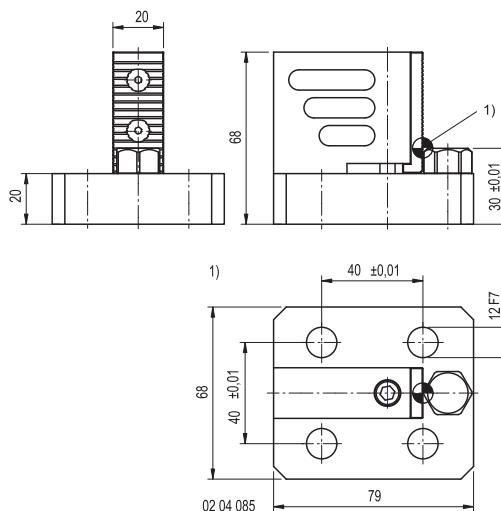
Down draw clamp in use

Clamping devices - mechanical



STARK

Down draw clamp for pegging out - zero point reference - raised model

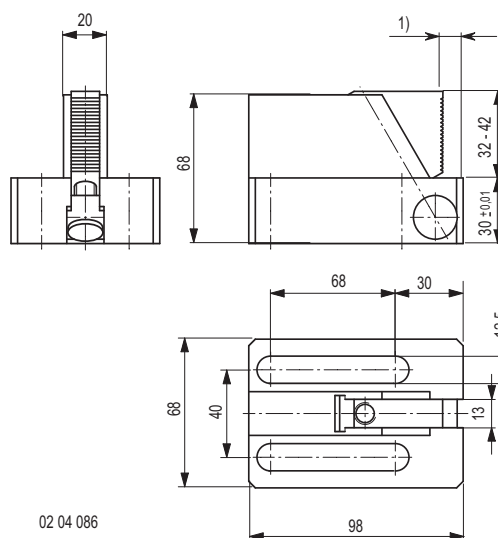


Order no.	Description
804 019	Down draw clamp
704 054	Precision collar bolt M12 10.9

1) Middle of the bore = End position of work piece ± 0.01

Down draw clamp - adjustable - raised model

16



Max. torque	42 Nm
Max. clamp strength	62 000 N

We recommend using washers when mounting the clamps.

Order no.	Description
804 017	Down draw clamp
931 068	Bolt DIN 912, M12, 8.8, L = 70mm
704 020	Washer

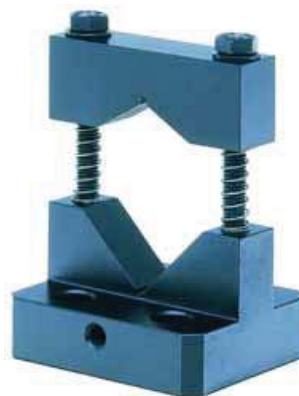
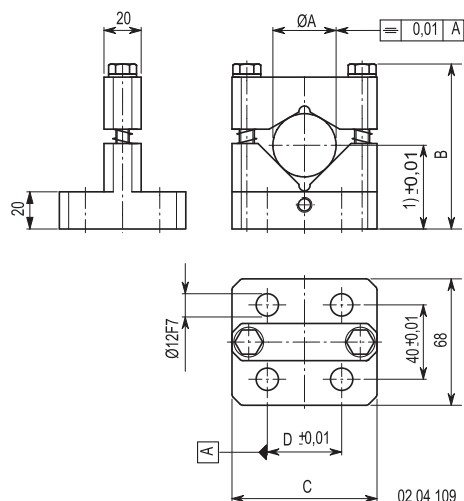
1) Clamping distance

Clamping devices - mechanical



STARK

Simple prism clamp, as cover with zero point



Order no.	Description	ØA	B	C	D
804 050	Prism clamp	14-30	82-103	78	40
804 052	Prism clamp	29-50	82-110	78	40
804 054	Prism clamp	40-90	120-184	118	80
704 054	Precision collar bolt M12, 10.9				

1) Middle of the bore = End position of work piece ± 0.01

The clamp distance "B" can be extended by exchanging the clamping screws and the support screws.



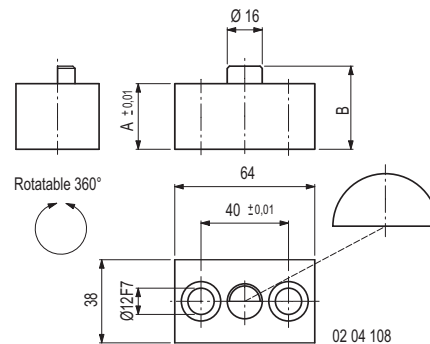
Example: Prism clamp

Clamping devices - mechanical



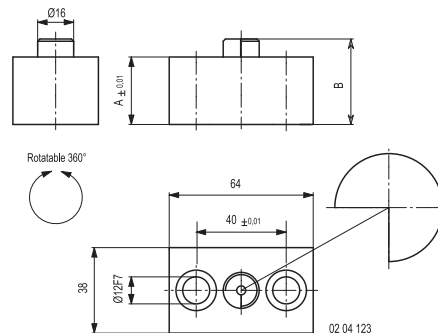
STARK

Stop rotatable by 360°, with zero point, straight version



Order no.	Description	A	B
904 404	Stop, straight version	30	38
904 405	Stop, straight version	60	68
704 054	Precision collar bolt M12 10.9 for 904 404		
704 058	Precision collar bolt M12 10.9 for 904 405		

Stop rotatable by 360°, with zero point, corner version



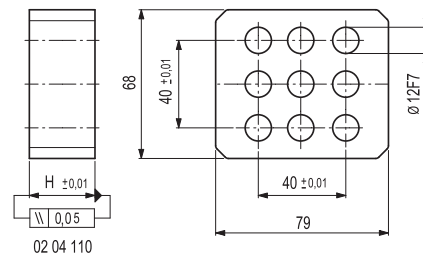
Order no.	Description	A	B
904 406	Stop, corner version	30	38
904 407	Stop, corner version	60	68
704 054	Precision collar bolt M12 10.9 for 904 406		
704 058	Precision collar bolt M12 10.9 for 904 407		

Clamping devices - mechanical



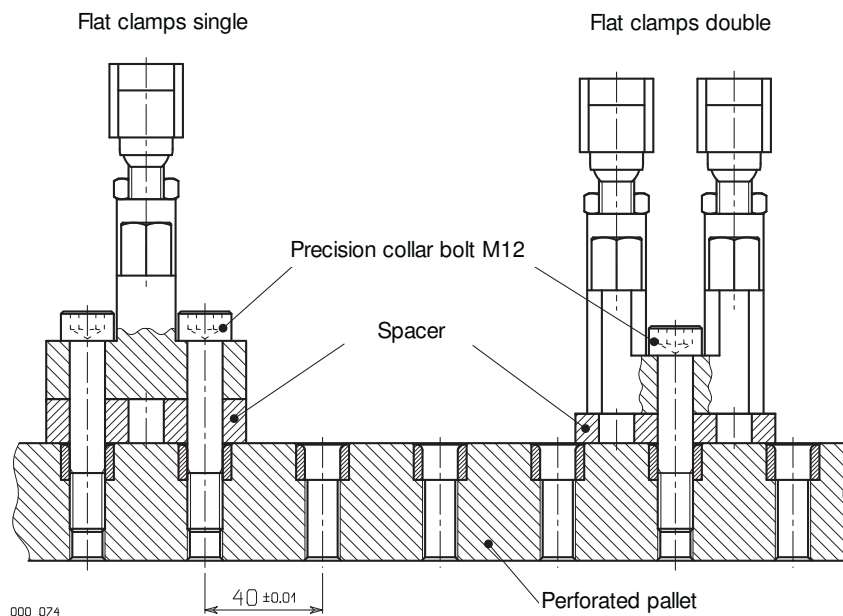
STARK

Base for flat clamps, deep drawing clamps etc.



Order no.	Description	H
704 100	Base	2
704 101	Base	3
704 102	Base	4
704 103	Base	5
704 104	Base	10
704 105	Base	15
704 106	Base	20
704 107	Base	30
704 108	Base	40
704 109	Base	50

Practical example

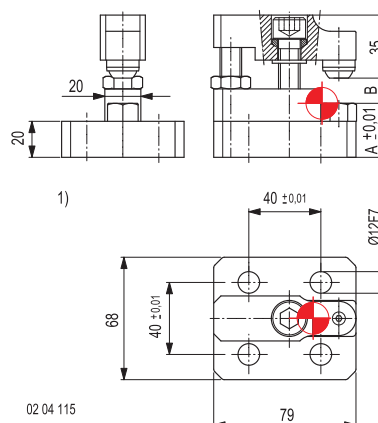


Clamping devices - mechanical



STARK

Flat clamp single, for setting out with zero point



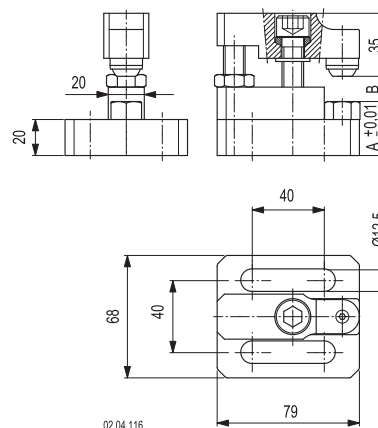
Order no.	Description	A	B
904 010	Flat clamp	30	4 - 26
904 150	Flat clamp	60	0 - 45
704 054	Precision collar bolt M12 10.9		

1) Middle of the bore = End position of work piece +/- 0.01

The clamp distance "B" can be extended by exchanging the clamping screws and the support screws.

Flat clamp single, for setting out

16



Order no.	Description	A	B
904 110	Flat clamp	30	4 - 26
904 250	Flat clamp	60	0 - 45
931 065	Bolt DIN 912, M12, 10.9, L = 60mm		

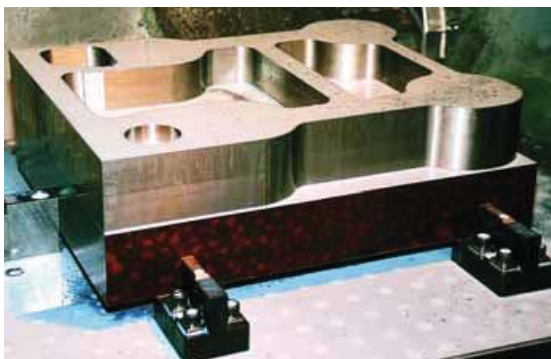
The clamp distance "B" can be extended by exchanging the clamping screws and the support screws.

We recommend the use of washers (order no. 704 020) when bolting on clamping elements.

Clamping devices - mechanical



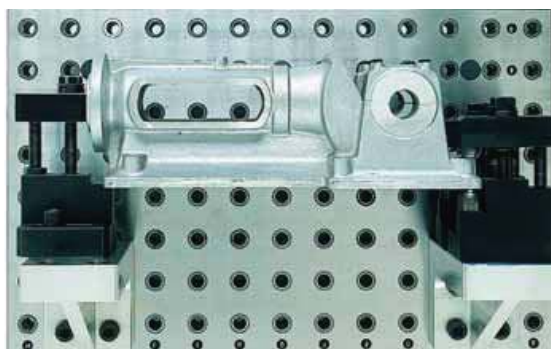
STARK



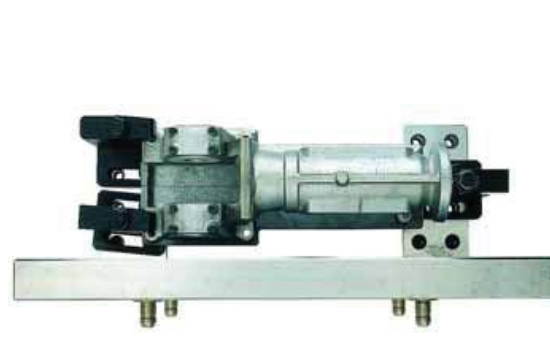
Raw work piece clamped with down draw clamp, raised model



Finished work piece clamped with down draw clamp, raised model



Workpiece with flat clamp



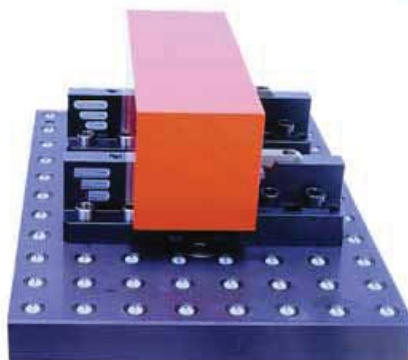
Perforated pallet with retractable nipple 1000



Down draw clamp for pegging the zero point



Adjustable down draw clamp

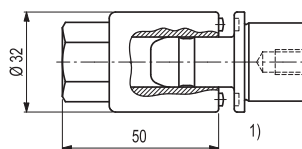


Attachments



STARK

Retractable nipple key for SPEEDY 1000



1) Tightening torque for retractable nipples M8/M10 = 20Nm

Order no.	Description
804 254	Retractable nipple key for retractable nipple 1000
804 257	Socket 3/8" SW22 for retractable nipple

Torque wrench



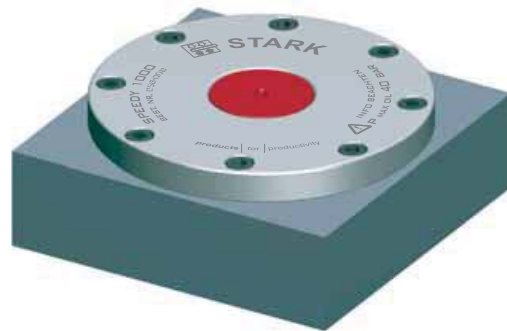
Order no.	Range [Nm]	Description
804 255	5 - 50	Allen head 3/8", SW 4, SW 5, SW 6
804 256	20 - 100	Allen head 1/2", SW 10
		Socket 1/2", SW 22

Attachments



STARK

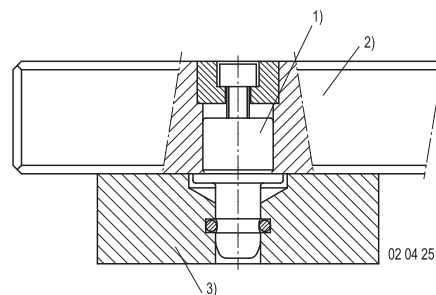
SPEEDY sealing plug for fast closing clamps 1000, 2000, 3000



Order no.	suitable for
704 094	SPEEDY 1000
704 095	SPEEDY 2000
704 096	SPEEDY 3000

Accessory	Wing handle
Order no.	to pull off sealing plug for
704 094-01	SPEEDY 1000, 2000, 3000

Protection during transport of retractable nipples in the pallet



- 1) Retraction nipple
- 2) Pallets
- 3) Transport and bearing protection

Order no.	suitable for
704 130	Nipple, SPEEDY 1000
704 133	Nipple, SPEEDY 2000
704 131	Nipple, SPEEDY 3000

Using transport protection caps safeguards the nipples and pallet surfaces during transportation and also makes the pallets stackable.

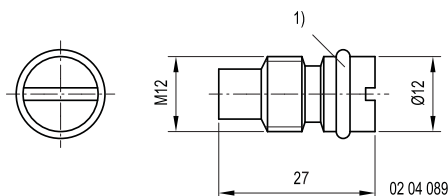
Material: Plastics

Attachments



STARK

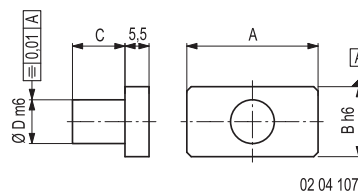
Lock stopper for perforation variations C / D / E



1) O-ring

Order no.	Description
904 403	Lock stopper for perforation variations C / D / E

Sliding block with pin (to position in the T-groove)

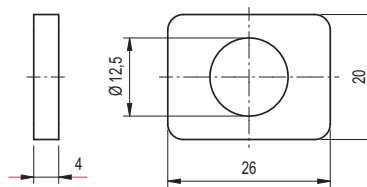
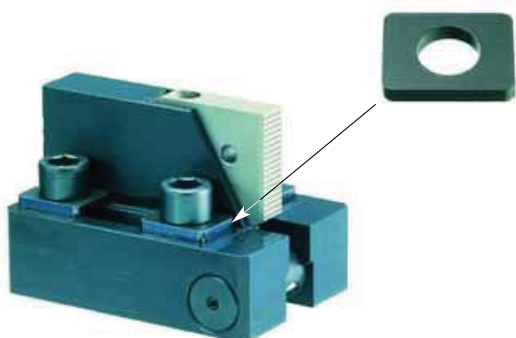


02 04 107

Order no.	A	B	C	ØD
704 160	20	12	9	6
704 161	30	14	12	10
704 162	40	14	15	12
704 163	50	18	19	16
704 164	20	14	9	6
704 165	30	20	15	10
704 166	30	20	18	12
704 167	30	20	24	16

Washers for clamping devices

17



02 04 091

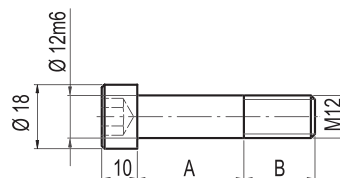
Order no.	Description
704 020	Washer for clamping devices

Attachments



STARK

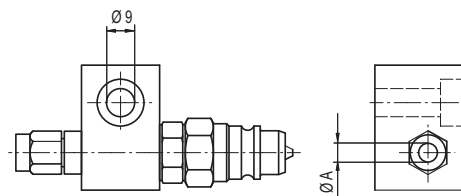
Precision collar bolt



02 04 111

Order no.	A	B
704 051	15	20
704 052	20	20
704 053	25	20
704 054	30	20
704 055	35	20
704 056	40	20
704 057	45	20
704 058	50	20

Connection block complete



02 04 092

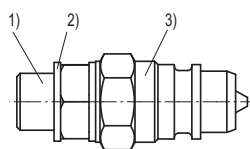
Order no.	$\varnothing A$	suitable for
804 370	6	SPEEDY 1000 + 2000
804 385	8	SPEEDY 3000

Attachments



STARK

Coupling



02 04 093

- 1) Double nipple
- 2) Sealing washer
- 3) Coupling

Order no.	Description
804 371	Hydraulic coupler, Gromelle HA 5012 VT
804 372	Dual steel nipple 1/4" - 1/4"
804 395	Aluminium protecting cap

Hydraulic hose with couplings



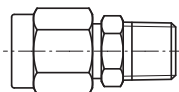
02 04 094

Order no.	L [m]	Description
704 150	1,5	Hydraulic couplers on both sides Gromelle HA 5011 MT

Other length upon request.

Connecting parts together with screw-on nipple

17



02 04 095

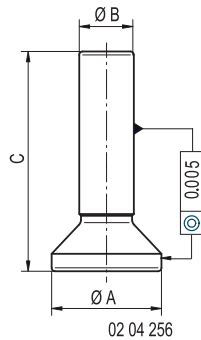
Order no.	Description	suitable for
804 374	SO 41121-8-1/4" with reduced brass clamping ring ø 6	SPEEDY 1000 + 2000
804 375	SO 41121-6-1/8"	SPEEDY 1000 + 2000
804 386	SO 41121-10-1/4" with reduced brass clamping ring ø 8	SPEEDY 3000
804 387	SO 41121-8-1/4"	SPEEDY 3000

Attachments



STARK

Positioning nipple

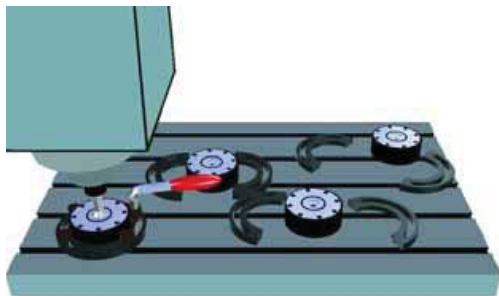


For a quick and precise positioning of the SPEEDY fast closing clamps on the machine table.

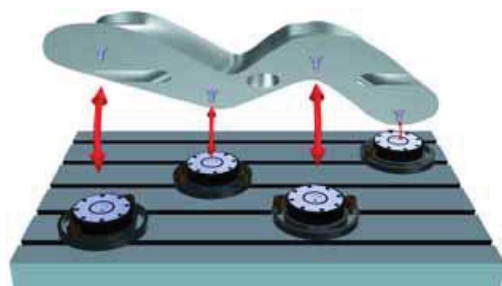
The positioning nipple is first set into the clamping jaws. Then the coordinate table is moved to the desired X/Y position and the positioning nipple is loosely inserted with "Ø A" into the fast closing clamp on the machine table. This makes positioning the SPEEDY very precise.

Order no.	ØA	ØB	C	suitable for
804 259	32	16	64	SPEEDY 1000
804 258	47	25	82	SPEEDY 2000
804 260	65	32	100	SPEEDY 3000

Example of use



Position closing clamps and fasten them with the aid of the mounting brackets.



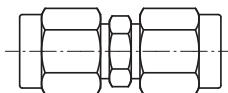
Mounting of the work piece.

Attachments



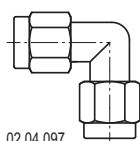
STARK

Straight screw connection



Order no.	Description	suitable for
804 379	SO 41021-8 with reduced brass clamping ring ø 6	SPEEDY 1000 + 2000
804 388	SO 41021-10 with reduced brass clamping ring ø 8	SPEEDY 3000

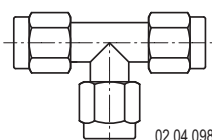
90° screw connection



02 04 097

Order no.	Description	suitable for
804 380	SO 42021-8 with reduced brass clamping ring ø 6	SPEEDY 1000 + 2000
804 389	SO 42021-10 with reduced brass clamping ring ø 8	SPEEDY 3000

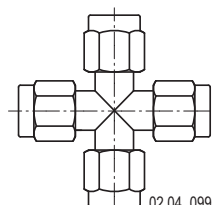
T-screw connection



02 04 098

Order no.	Description	suitable for
804 381	SO 43021-8 with reduced brass clamping ring ø 6	SPEEDY 1000 + 2000
804 390	SO 43021-10 with reduced brass clamping ring ø 8	SPEEDY 3000

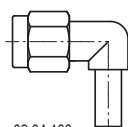
Cross connection



02 04 099

Order no.	Description	suitable for
804 382	SO 44021-8 with reduced brass clamping ring ø 6	SPEEDY 1000 + 2000
804 391	SO 44021-10 with reduced brass clamping ring ø 8	SPEEDY 3000

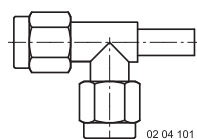
Adjustable 90°



02 04 100

Order no.	Description	suitable for
804 376	SO 42621-6-A6	SPEEDY 1000 + 2000

Adjustable-T



02 04 101

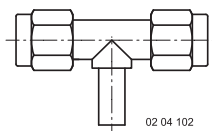
Order no.	Description	suitable for
804 377	SO 43621-A6-6-6	SPEEDY 1000 + 2000

Attachments



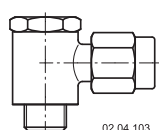
STARK

Adjustable-T



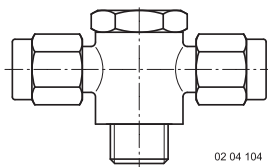
Order no.	Description	suitable for
804 378	SO 43621-6-A6-6	SPEEDY 1000 + 2000

Swivel screw connector



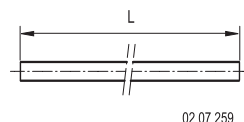
Order no.	Description	suitable for
804 392	SO 42824-8-1/4"	SPEEDY 3000

T-Swivel screw connector



Order no.	Description	suitable for
804 393	SO 43824-8-1/4"	SPEEDY 3000

Brass pipe for SPEEDY assembly (for a freely selectable bore hole gauge)



Order no.	Description	suitable for
804 398	Brass pipe ø 6/4mm, 1000 mm	SPEEDY 1000/2000

Order no.	Description	suitable for
804 399	Brass pipe ø 6/4mm, 1500 mm	SPEEDY 1000/2000

Service - set (the set of seals includes all O-rings and sealing rings)

Order no.	Description	suitable for
804 191	1000	SPEEDY 1000
804 192	2000	SPEEDY 2000
804 193	3000	SPEEDY 3000

17

Attention:

The fast closing clamp is always under spring pressure.

Basically, only authorized service technicians may perform any repair work at the fast closing clamps. During all work performed the required safety measures must be adhered to entirely and without exception.

Handling equipment

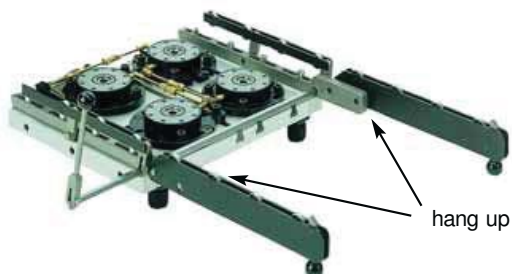
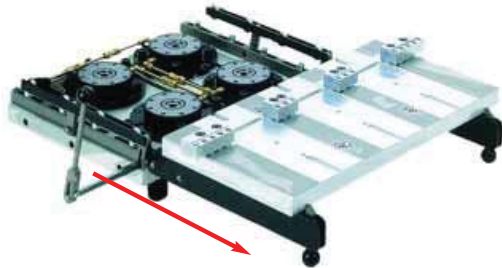


STARK

Features:

No extension outside the machine required.

- Work is made easier as the pallet can be lifted in an ergonomically good position.
- Specially suited to machines that have a protective cover and that would thus make it impossible for a crane to be used.
- The lifting and lowering of the pallet is done in a parallel fashion and the likelihood of the pallets jamming is reduced.
- The extensions which jut out from the machine can be dismantled with a handle.
- Suited for a total pallet weight of 130 kg.
- Complex automatic changer systems on request.



Handling equipment



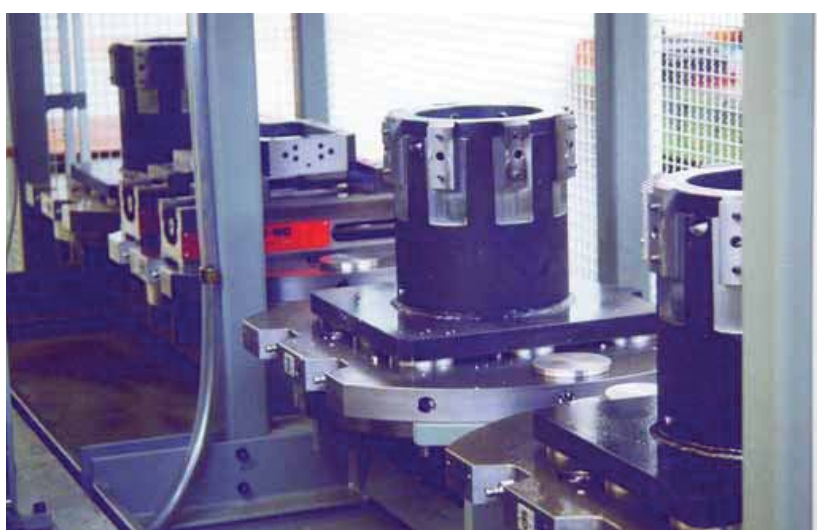
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Robot handling system



Pallet loader



Pallet station

Order number index



STARK

Order no.	Page	Order no.	Page	Order no.	Page	Order no.	Page
0353-217	58	3890-071	58	704 314	44	804 263	55
0353-714	58	3890-076	58	704 321	44	804 264	55
0381-206	58	704 020	69	704 322	44	804 265	55
104 002	64	704 020	70	704 323	44	804 266	55
104 004	64	704 020	78	704 324	44	804 267	55
104 006	64	704 051	79	704 331	44	804 269	35
104 008	64	704 052	79	704 332	44	804 271	35
104 010	64	704 053	79	704 333	44	804 272	35
104 012	64	704 054	68	704 334	44	804 280	35
104 014	64	704 054	68	801 003	27	804 281	35
104 016	64	704 054	70	801 004	50	804 290	52
104 018	64	704 054	71	801 006	51	804 291	52
104 020	64	704 054	72	801 007	51	804 292	52
104 022	64	704 054	74	801 008	50	804 293	52
104 023	64	704 054	79	801 009	50	804 294	53
104 024	64	704 055	79	801 010	51	804 295	53
104 026	64	704 056	79	801 011	51	804 330	30
104 028	64	704 057	79	801 012	50	804 331	30
104 030	64	704 058	72	804 009	69	804 332	16
104 031	64	704 058	79	804 011	68	804 333	16
104 032	64	704 094	77	804 017	70	804 333	17
104 034	64	704 094-01	77	804 019	70	804 338	30
104 036	64	704 095	77	804 025	68	804 339	30
104 102	62	704 096	77	804 050	71	804 340	23
104 104	62	704 100	73	804 052	71	804 341	23
104 106	62	704 102	73	804 054	71	804 342	23
104 108	62	704 103	73	804 191	83	804 343	23
104 110	62	704 104	73	804 192	83	804 345	20
104 112	62	704 105	73	804 193	83	804 346	20
104 114	62	704 106	73	804 209	49	804 347	30
104 116	62	704 107	73	804 219	49	804 348	30
104 118	62	704 108	73	804 226	13	804 349	23
104 120	62	704 109	73	804 226	17	804 351	16
104 122	62	704 130	77	804 226	29	804 353	16
104 123	62	704 131	77	804 226	49	804 354	17
104 124	62	704 133	77	804 228	49	804 354	23
104 126	62	704 150	80	804 230	49	804 355	23
104 128	62	704 160	78	804 232	49	804 356	23
104 501	65	704 161	78	804 234	49	804 357	23
104 503	65	704 162	78	804 236	49	804 360	17
104 505	65	704 163	78	804 238	49	804 361	17
104 507	65	704 164	78	804 240	49	804 364	23
104 509	65	704 165	78	804 242	49	804 366	17
104 551	63	704 166	78	804 244	49	804 367	17
104 553	63	704 167	78	804 247	54	804 370	13
104 555	63	704 200	42	804 249	55	804 370	17
104 557	63	704 200	43	804 250	55	804 370	79
104 559	63	704 201	42	804 251	55	804 371	80
204 001	65	704 201	43	804 252	55	804 372	80
204 004	65	704 210	46	804 253	55	804 374	80
204 006	65	704 301	44	804 254	13	804 375	80
204 008	65	704 302	44	804 254	17	804 376	82
204 010	65	704 303	44	804 254	29	804 377	82
204 051	63	704 304	44	804 254	76	804 378	83
204 054	63	704 305	44	804 255	76	804 379	82
204 056	63	704 306	44	804 256	76	804 380	82
204 058	63	704 307	44	804 257	76	804 381	82
204 060	63	704 308	44	804 258	81	804 382	82
3812-005	58	704 311	44	804 259	81	804 385	19
3887-015	58	704 312	44	804 260	81	804 385	79
3890-059	58	704 313	44	804 262	55	804 386	80

Order number index



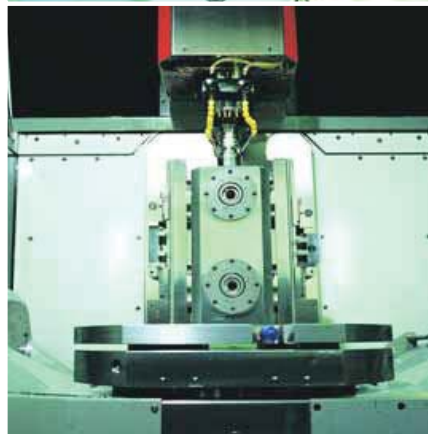
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Order no.	Page	Order no.	Page	Order no.	Page
804 387	80	804 630	33	809 220	40
804 389	82	804 631	33	809 224	40
804 390	82	804 632	33	8122-300	59
804 391	82	804 700	29	8122-900	59
804 392	83	804 701	29	8142-300	59
804 393	83	804 702	29	8142-900	59
804 395	80	804 703	29	8143-300	59
804 398	83	804 704	29	8143-900	59
804 399	83	804 705	29	8144-300	59
804 411	13	804 710	29	8144-900	59
804 411	19	804 711	29	8152-300	59
804 411	29	804 712	29	8152-900	59
804 411	57	804 713	29	8153-300	59
804 412	57	804 714	29	8153-900	59
804 413	57	804 715	29	8154-300	59
804 414	57	804 720	29	8154-900	59
804 418	57	804 721	29	8223-308	59
804 419	57	804 722	29	8223-310	59
804 428	57	804 723	29	8223-311	59
804 429	57	804 724	29	8223-323	59
804 430	57	804 725	29	8223-908	59
804 431	57	804 799	47	8223-910	59
804 441	17	804 820	21	8223-911	59
804 446	19	804 821	21	8223-923	59
804 447	19	804 822	21	8600-110	58
804 448	19	804 823	21	8600-111	58
804 449	19	804 850	21	8600-112	58
804 450	18	804 851	21	904 010	74
804 450	19	804 852	21	904 110	74
804 451	18	804 853	21	904 150	74
804 452	30	804 860	21	904 250	74
804 453	30	804 861	21	904 388	82
804 456	19	804 862	21	904 404	72
804 456	23	804 863	21	904 405	72
804 457	23	806 001	21	904 406	72
804 458	23	806 010	21	904 407	72
804 459	23	806 020	32	904 633	33
804 463	23	806 021	32	931 065	69
804 470	19	806 022	33	931 065	74
804 470	52	806 023	33	999 104	47
804 471	52	806 040	21		
804 472	53	806 041	21		
804 485	54	806 050	21		
804 490	54	806 051	21		
804 495	54	807 020	32		
804 500	34	807 021	32		
804 510	35	807 030	33		
804 540	34	807 031	33		
804 600	13	807 100	21		
804 601	13	807 101	21		
804 602	13	807 120	21		
804 603	13	807 121	21		
804 604	12	807 200	21		
804 604	13	807 201	21		
804 605	12	808 100	25		
804 616	14	808 110	25		
804 618	14	808 200	25		
804 620	32	808 300	26		
804 621	32	809 100	39		
804 622	32	809 200	40		
804 623	32	809 204	40		

Examples for application



STARK



20

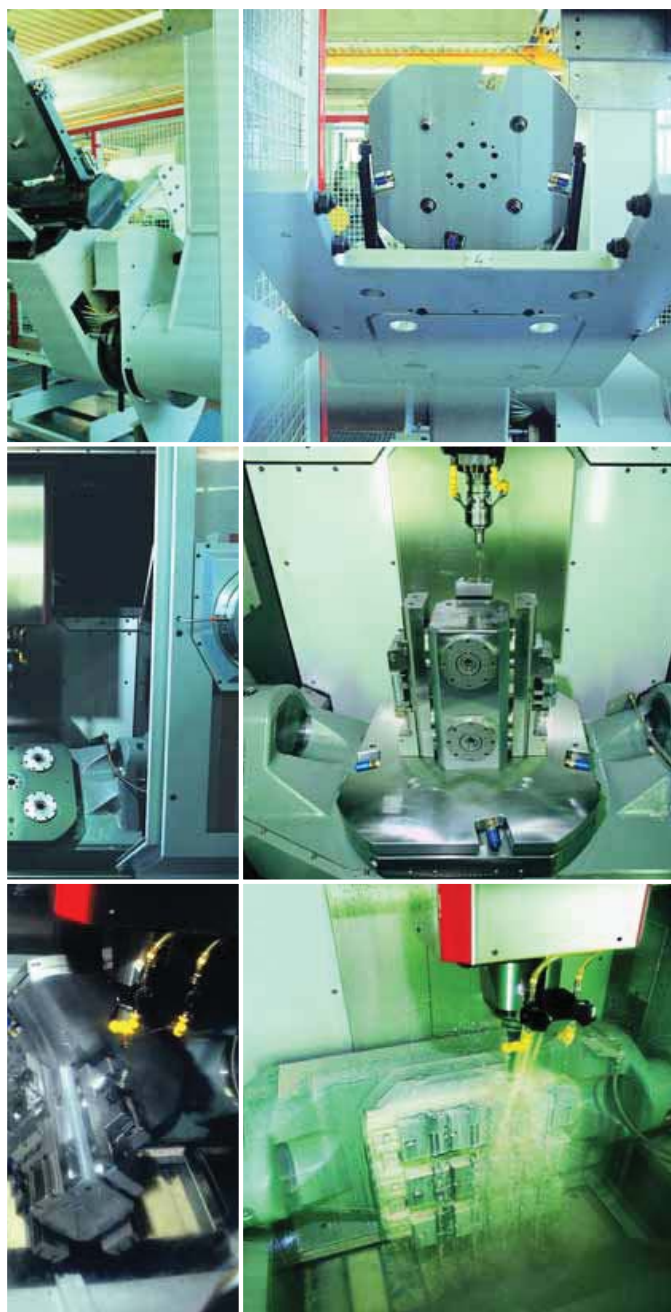
Setting up a machine centre with mounting towers.

Process steps taken from retrieving the mounting tower to the pallet loader up to manufacturing.

Examples for application



STARK



Clamp to mount round work pieces.

The front and rear can be processed by rotating the clamping plate without reclamping the work-piece.

20