

1. Choice of VERO-S clamping module

- Please use the table below for the right choice of your VERO-S clamping module.
- If you choose the proper VERO-S clamping module, please request the assembling drawing of the module at your SCHUNK contact person.
- For the design of rotary applications in combination with VERO-S, please contact your SCHUNK contact person for support.

							Connections	
	unlocking ↔	turbo →↔	monitoring of clamping slide unlocked ↔↔	monitoring of clamping slide locked ↔↔	Feeder control ↕	air purge ↕		
pressure / volume flow	6bar	6bar	2bar 15l/min	2bar 15l/min	2bar 15l/min	max. 10bar		
NSE plus 99	✓	✓	✗	✗	○	○		
NSE plus 138	✓	✓	✓	○	○	○		
NSE plus 138-T	✓	✓	✗	✗	○	○		
NSE plus 176	✓	✓	✓	○	○	○		
NSE mini 90	✓	✓	✓	✓		✓		
NSA plus 120	✓	✓	✓	✓		✓		
NSA plus 160	✓	✓	✓	✓		✓		

✓ = available (standard)
✗ = not possible
○ = optionally (rework)

■ = urgently required
■ = urgently required /
required for turning applications

All modules are clamped via spring force permanently. The pneumatic is needed for the unlocking of the module.

unlocking: unlocking of the modules → you need permanent pressure during change operation.

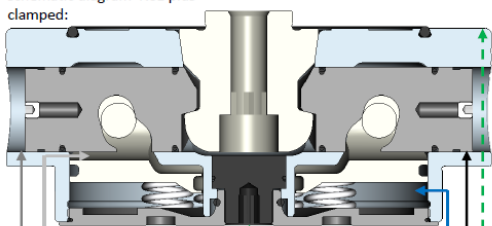
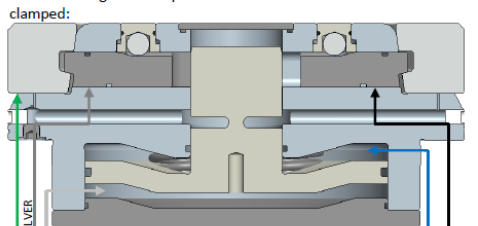
turbo: impulse (approx. 5 seconds) to increase the retraction force.

monitoring of clamping slide unlocked: monitoring via dynamic pressure

monitoring of clamping slide locked: monitoring via dynamic pressure

feeder control: monitoring via dynamic pressure

air purge: slight cleaning air during the changing operation

		Pneumatically Layout	
schematic diagram NSE plus clamped: 		schematic diagram NSA plus clamped: 	
↔	unlocking	GREEN	GREEN
→↔	turbo function	BLUE	BLUE
↔↔	monitoring unlocked	GREEN	GREEN
↔↔	monitoring locked	BLUE	BLUE
↔↔	monitoring of support face	GREEN	GREEN
↕	air purge/ blow out air	RED	RED

Hose color: SILVER
TRANSPARENT
GREEN
BLUE
BLACK

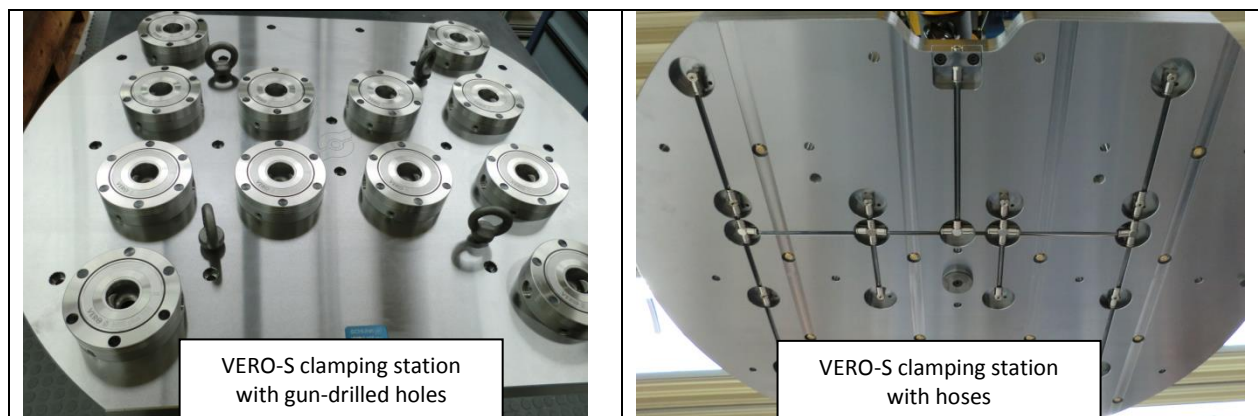
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2. Design of the base plate

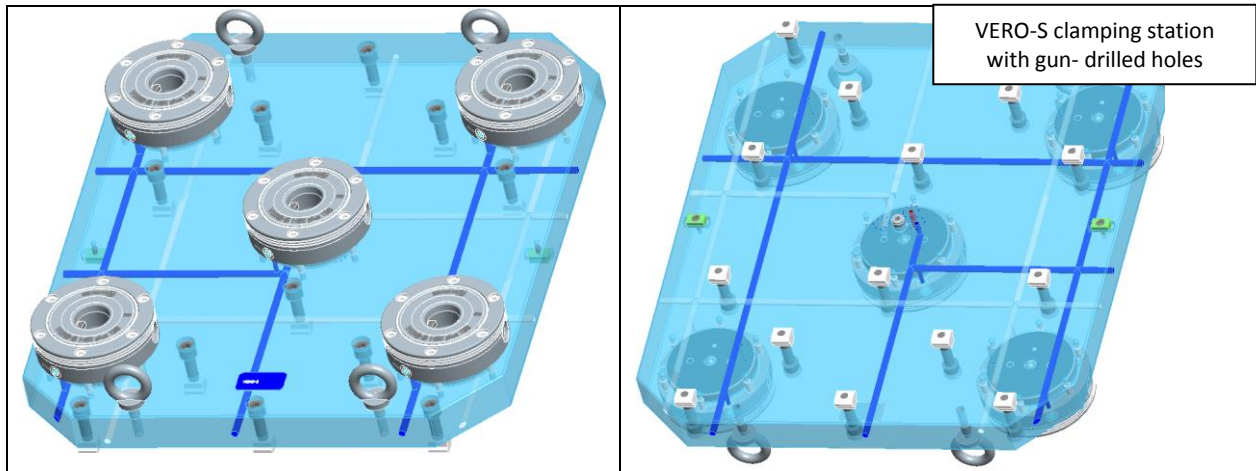
- The base plate of your VERO-S clamping station should cover the whole machine table.
Please note that the base plate should not overlap the machine table. If the base plate would overlap the machine table, it's possible that a force effect will deform the clamping station.
- Please choose the thickness of the base plate according to the following guide line:
 Dimension clamping station 0 – 1200mm → **h ≥ 38mm**
 Dimension clamping station 1200 – 1800mm → **h ≥ 55mm**
- We suggest C45 or S355J2G3 as material of the base plate
- Please design the alignment components according to your machine table (centering pin, alignment edges, etc.).
- Pitch between the VERO-S clamping module max. ±0.015mm
- By using shims between the VERO-S module and base plate, it's possible to align the height of the module to each other. In case of using shims, the sealing for the transfer of the pneumatic from the base plate to the module need to be considered.
- The fastening bores of the VERO-S clamping station need to be placed as close as possible beside the VERO-S clamping module.
- Please provide transportation- threads for the handling of the VERO-S clamping station

3. Actuation

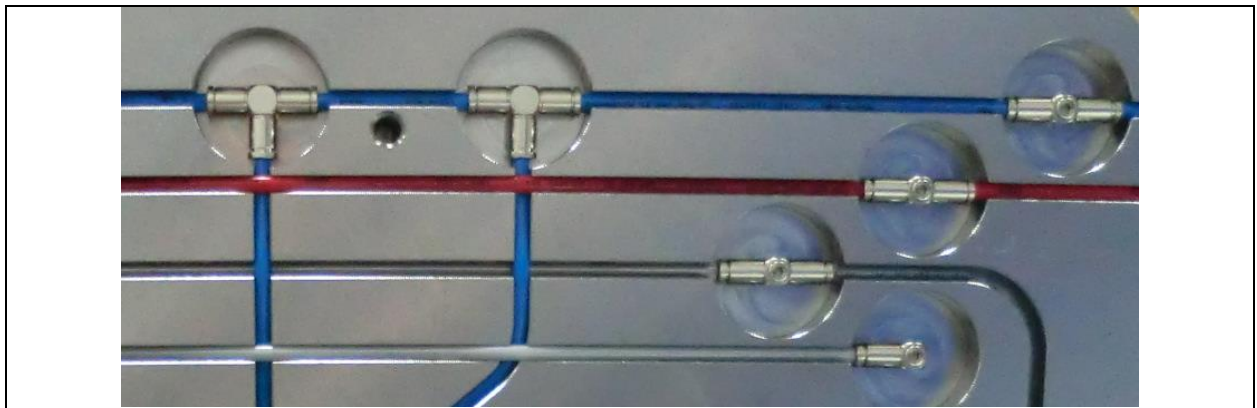
- The actuation of the module can be realized either via gun drilled holes or via grooves for hoses on the bottom side of the base plate.



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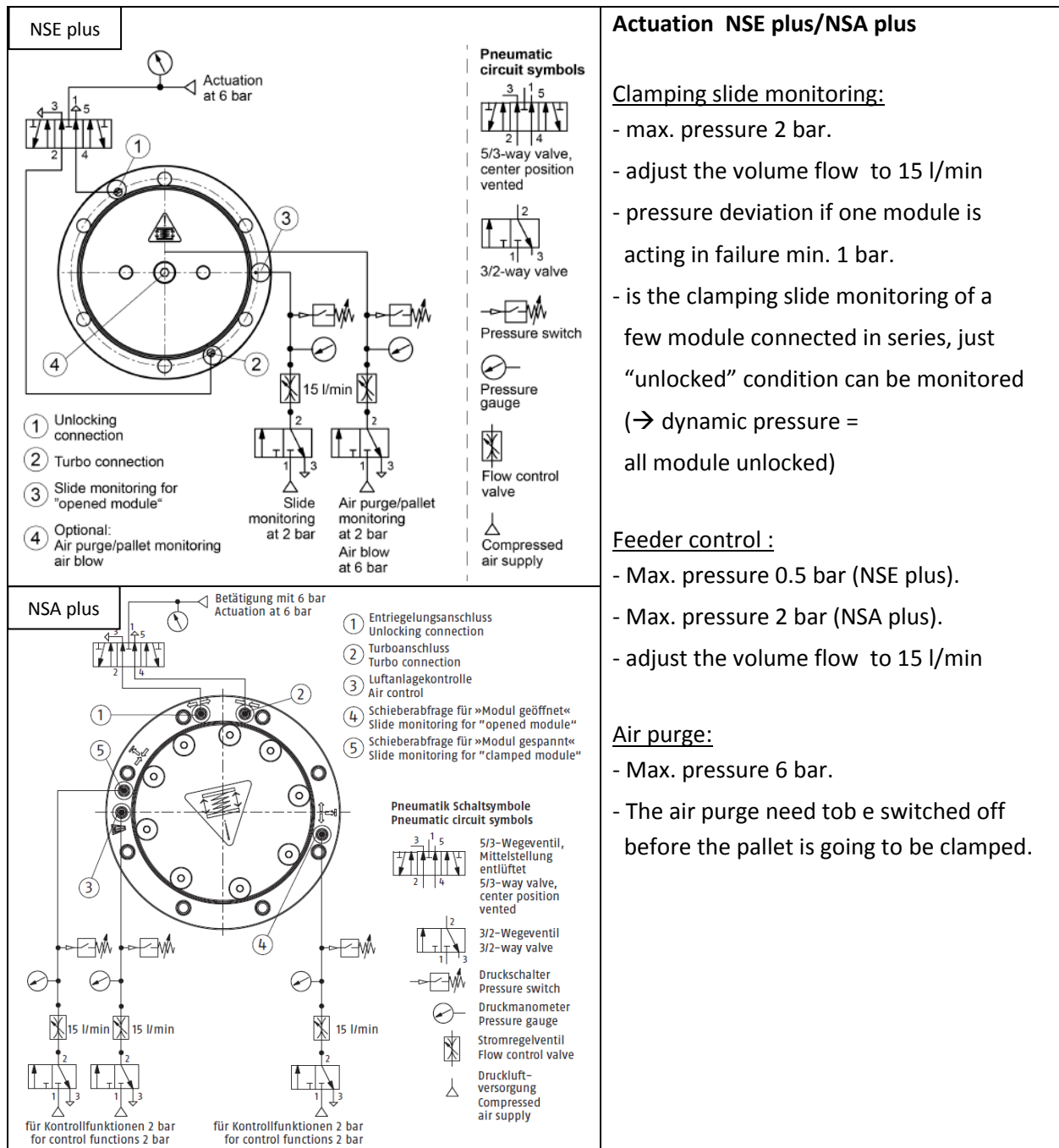


- If you don't use the turbo function of the module, please vent the piston of the clamping module (please find more information in the assembling drawings of the VERO-S clamping module)
- Different colors for hoses are making the assembling of the clamping module more easy. Please choose the colors as shown on the pneumatically layout
- Choice of hoses: hose- diameter / dimensions notches for the hoses:
 Up to 5 module: hose- $\varnothing$ 6mm (notch 6mm width and 12.5 mm depth).
 Up to 10 module: hose- $\varnothing$ 8mm (notch 8mm width and 16.5 mm depth).
 from 11 module: hose- $\varnothing$ 10mm (notch 10mm width and 20.5 mm depth).
 The mentioned depth is based on the crossing of 2 hose- lines



- To maintain the max. stability of the base plate, please choose the depth of the notches as low as possible.
- To optimize the opening- and closing times, the piping could be also realized as a ring line. minimal bending radius $\rightarrow R_{min} = \varnothing * 5$ ($\varnothing 6$ hose = R30mm).
 - Please choose uniform connections for the piping. The connection with M7- screw connection are more flat and should be preferred.

- Please consider the pneumatically connection diagramm NSE PLUS / NSA PLUS for the actuation of the clamping module.

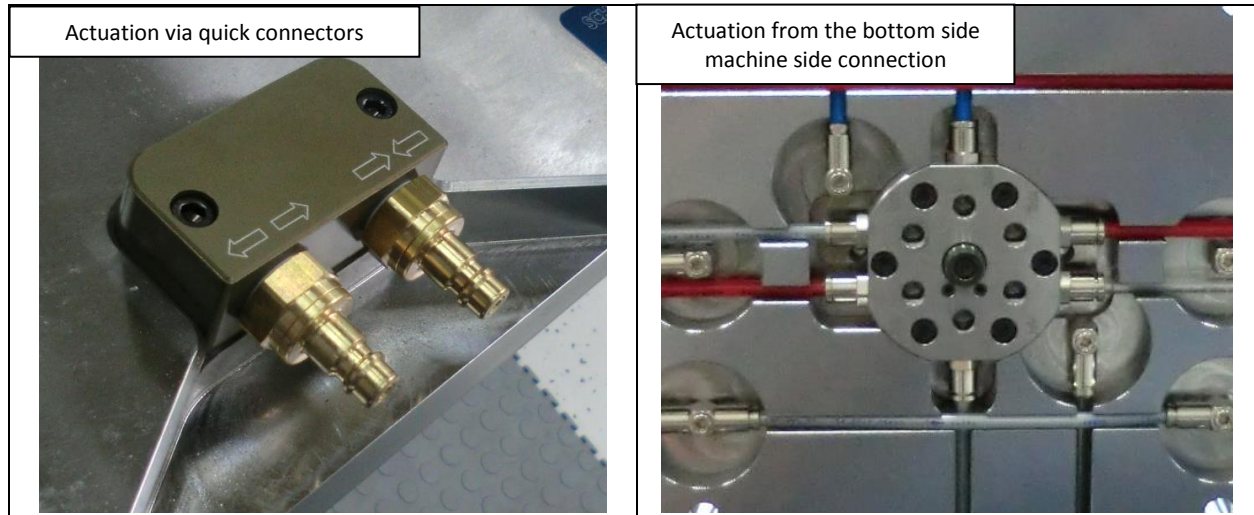


- Please visit our SCHUNK homepage for further information:
 NSE plus: http://www.schunk.com/schunk_files/attachments/OM_SCS_NSEplus_NSLplus_NSDplus_DE.pdf
 NSA plus: http://www.schunk.com/schunk_files/attachments/OM_SCS_NSAprus_120_DE.pdf

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- The actuation takes place either via face side quick connectors or via a bottom side connection from the machine table.

Attention: Please use a coupling without shutting- off function.



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Frequently used accessories:

Description	Typ	ID	Picture
Angle connection G1/8	hose 8/6	9985391	
Angle connection G1/8	hose 6/4	9984423	
Angle connection M7	hose 6/4	9984445	
T-connection G1/8	hose 8/6	9984867	
T- connection G1/8	hose 6/4	9989420	
T- connection M7	hose 6/4	9985211	
Straight connection G1/8	hose 8/6	9985393	
Straight connection G1/8	hose 6/4	9964613	
Straight connection M7	hose 6/4	9985037	
T-connection	hose 8/6	9988753	
T-connection	hose 6/4	9984774	
Cross connection	8/6-8/6	9988370	
Cross connection	6/4-6/4	9988170	
Quick connector nipple G1/8	21SB AW10 MPX (NW 5)	40105478	
Quick connector nipple G1/8	25SB AW10 MPX (NW 7.4)	40105479	
Quick connector coupling	21KB KO06 MPX (NW 5)	9659007	
Quick connector coupling	25KB KO 10 BPX (NW 7.4)	9988505	
Sealing ring G1/8		9905376	
Shim 1 mm	NSE plus 99	40102151	
Shim 1 mm	NSE plus 138 / 138-T	40010893	
Shim 1 mm	NSE plus 176	40101055	
Shim 1 mm	NSA plus 120	40100570	
Shim 1 mm	NSA plus 160	40104068	
T-Nut	Notcht 12 / M10	9989135	
T-Nut	Notch 14 / M12	9988525	
T-Nut	Notch 18 / M16	9985272	
T-Nut	Notch 22 / M20	9985967	