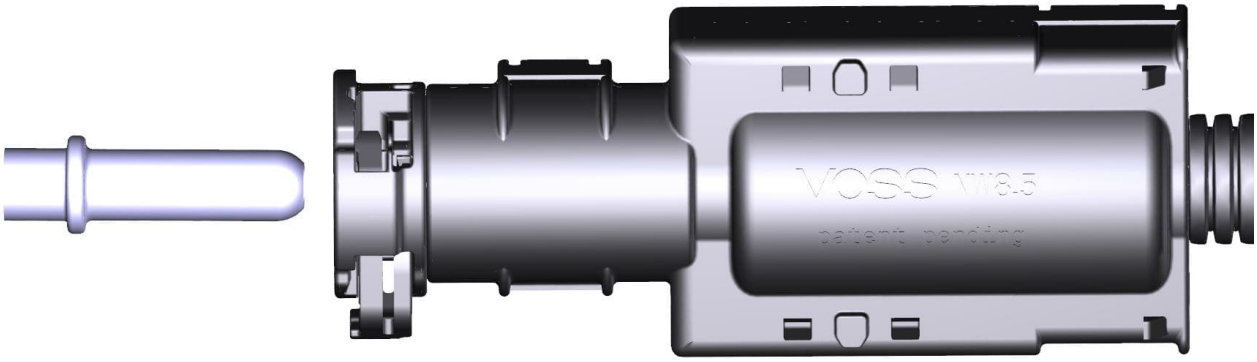
Assembly instructions
VOSS quick connect systems 241 *N/N-SL*



Connect, position and release –
simply and easily

A. Important notices

System properties

- VOSS quick connect systems 241 *N/N-SL* are optionally electrically heated plastic couplings for the connection of electrically and coolant heated AdBlue® lines and for water injection systems.
- Connection profiles meet SAE J2044 requirements (Rev. August 2009)
- Available sizes 1/4‘‘ and 3/8‘‘ for polyamide tube (PA) 4x1
- VOSS quick connect system 241 *N-SL* is available with secondary lock (SL) for additional visual connection.
- The connection of the VOSS quick connect systems 241 *N/N-SL* is made by inserting the coupling onto the male connection. The retaining clip of the coupling engages behind the collar of the SAE male connection contour. By retracting the coupling, the connection is completely established.

Please observe before using the quick connect systems

- VOSS quick connect systems 241 *N/N-SL* are suitable for electrically and coolant-heated SCR and water injection systems in vehicles.
- The temperature range is from -40 °C to +120 °C, +160 °C after consultation with VOSS.
- The maximum operating pressure is 10 bar.
- You can use quick connect systems 241 *N/N-SL* for different requirements upon request.

Please observe during assembly of the quick connect systems

- The assembly of the quick connect system must be conducted by professional mechanics subject to these assembly instructions.
- Incorrectly assembled connections can result in leakage or failure of the system.
- VOSS quick connect systems 241 *N/N-SL* may only be used with connections and tubes described in chapter B (“Components and material“).
- Before connecting both sides, components must be checked. They have to be clean and must not show any signs of damage.

B. Components and material

1. Tube dimensions and nominal sizes

Quick connect systems 241 *N/N-SL*				
PA tube / hose		Available alignments: 90°		
	Outer diameter x tube width [mm] / nominal width	1/4“	5/16“	3/8“
PA tube (laser connection)	4 x 1	■	-	■
	5 x 1	■	■	■
	6 x 1	-	■	■
	7 x 1	-	-	-
	8 x 1	-	■	■
Hose	NW 4	■	■	■
	NW 5,5	■	■	■
PA tube (fir-tree connection)	NW 6	-	-	■
	NW 8	-	■	-
	NW 10	-	-	-

PA tube / hose		Available alignments: 180°		
	Outer diameter x tube width [mm] / nominal width	1/4“	5/16“	3/8“
PA tube (laser connection)	4 x 1	■	-	■
	5 x 1	■	-	■
	6 x 1	-	■	■
	7 x 1	-	-	-
	8 x 1	■	■	■
Hose	NW 4	■	-	-
	NW 5,5	■	■	■
PA tube (fir-tree connection)	NW 6	-	-	-
	NW 8	-	■	-
	NW 10	-	-	■

PA tube / hose		Available alignments: 135° / 145°		
	Outer diameter x tube width [mm] / nominal width	1/4“	5/16“	3/8“
PA tube (laser connection)	4 x 1	■ (145°)	-	■ (135°)
	5 x 1	-	-	-
	6 x 1	-	■ (135°)	■ (135°)

Further connection possibilities (e.g. hose), tube sizes or alignment possible on customer requests.

2. Quick connect systems 241 *N/N-SL*

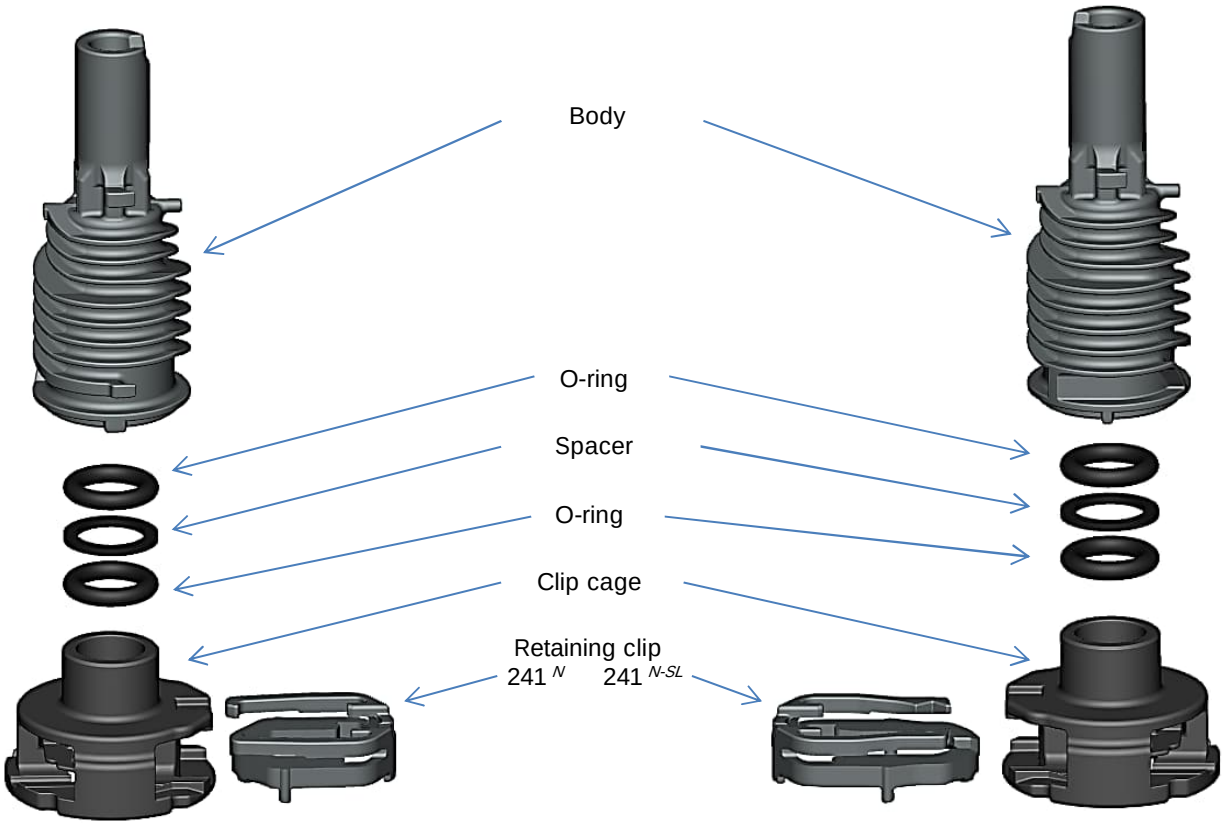


Fig. 1: Components of quick connect system 241 *N* and 241 *N-SL* (without housing)

Male connector profile

Fig. 2: Male connector profile according to SAE J2044 (Rev. August 2009)

C. Assembly instructions

Use of arrow symbols in pictures:

Indicates special points of interest described in the text.

Indicates required manual actions and their direction

Indicates operations that should be avoided.

As-delivered conditions

241 *N*

Fig. 3: As-delivered condition quick connect system 241 *N*

For assembly instructions see from page 7
(„1. Assembly“)

241 *N-SL*

Fig. 4: As-delivered condition quick connect system 241 *N-SL*

Option 1: Retaining clip with secondary lock stands slightly forward out of the clip cage.

For assembly instructions see from page 7
(„1. Assembly“)

Fig. 5: As-delivered condition quick connect system 241 *N-SL*

Option 2: Retaining clip with secondary lock is flush with the clip cage.

For assembly instructions see from page 13
(„3. Subsequent assemblies: 241 *N-SL*“)

1. Assembly

241 *N*

241 *N-SL*

Step 1

Coupling and male connector are separated (starting situation).

Only 241 *N-SL*: Retaining clip with secondary lock extends beyond clip cage.

Fig. 6: Separated coupling 241 *N* and male connector

Fig. 7: Separated coupling 241 *N-SL* and male connector

Step 2

Place coupling centered above male connector.

Fig. 8: Centered placement of coupling 241 *N* above male connector

Fig. 9: Centered placement of coupling 241 *N-SL* above male connector

241 N

241 N-SL

Step 3

Plug coupling onto male connector.

Fig. 10: Plugging of coupling 241 N onto male connector

Fig. 11: Plugging of coupling 241 N-SL onto male connector

Only 241 N-SL:
Retaining clip with secondary lock cannot be activated in this position.

Fig. 12: Blocked secondary lock

Step 4

Plug coupling onto the male connector until it stops.

Fig. 13: Until stop plugged coupling 241 N

Fig. 14: Until stop plugged coupling 241 N-SL

Go on with step 6 (page 8)

241 *N* 241 *N-SL*

Step 5

Only 241 *N-SL*:
Activate retaining clip with secondary lock with flat finger…

Fig. 15: Activation of seocndary lock

… until retaining clip with secondary lock engages and is flush with clip cage.

Fig. 16: Activated secondary lock

Step 6

Slightly retract coupling, until it reaches the collar of the male connector.

Fig. 17: Retracting of connected coupling 241 *N*

Fig. 18: Retracting of connected coupling 241 *N-SL*

Step 7

Completely connected coupling (final position)

241 *N*

Fig. 19: Completely connected coupling 241 *N*

241 *N-SL*

Fig. 20: Completely connected coupling 241 *N-SL*

2. Disassembly

Before disconnecting, the line must be free of pressure, and the area around the secondary lock must be free of dirt.

241 *N*

241 *N-SL*

Step 1

Slightly push down coupling.

Fig. 21: Pushing down coupling 241 *N*

Fig. 22: Pushing down coupling 241 *N-SL*

Step 2

Push in retaining clip with fingertip.

Fig. 23: Pushing in retaining clip 241 *N*

Fig. 24: Pushing in retaining clip 241 *N-SL*

Step 3

Pull off coupling to the top…

241 *N*

Fig. 25: Pulling off detached coupling 241 *N*

241 *N-SL*

Fig. 26: Pulling off detached coupling 241 *N-SL*

… until coupling and male connector are completely disconnected.

Fig. 27: Disconnection of coupling 241 *N* and male connector

Fig. 28: Disconnection of coupling 241 *N-SL* and male connector

Step 4

Completely disassemble coupling with male connector.

Only 241 *N-SL*: Retaining clip with secondary lock is flush with clip cage.

Fig. 29: Completely disassembled coupling 241 *N* with male connector

Fig. 30: Completely disassembled coupling 241 *N-SL* with male connector

3. Subsequent assemblies: 241 *N-SL*

Before connecting both sides, components must be checked. They have to be clean and must not show any signs of damage.

Step 1

Coupling with flush retaining clip with secondary lock and male connector are separated (starting situation).

241 *N-SL*

Fig. 31: Disconnected coupling 241 *N-SL* and male connector (subsequent assemblies)

Step 2

Place coupling centered above male connector.

Fig. 32: Centered placement of coupling 241 *N-SL* above male connector (subsequent assemblies)

Step 3

Plug coupling onto male connector.

Fig. 33: Plugging of coupling 241 N-SL onto male connector (subsequent assemblies)

When the coupling passes the collar of the male connector, the retaining clip with secondary lock jumps forward, back to its original position, so it extends beyond the clip cage (visual connection indicator).

Fig. 34: Visual connection indicator for subsequent assemblies

Step 4

Plug coupling further onto the male connector until it stops.

Fig. 35: Until stop plugged coupling 241 N-SL (subsequent assemblies)

Step 5

Activate retaining clip with secondary lock with flat finger…

Fig. 36: Activation of seocndary lock (subsequent assemblies)

… until retaining clip with secondary lock engages and is flush with clip cage.

Fig. 37: Activated secondary lock (subsequent assemblies)

Step 6

Slightly retract coupling, until it reaches the collar of the male connector.

Fig. 38: Retracting of connected coupling 241 N-SL (subsequent assemblies)

Step 7

Completely connected coupling (final position)

241 *N-SL*

Fig. 38: Completely connected coupling 241 *N-SL* (subsequent assemblies)

Customer service

Contact VOSS for questions concerning quick connectors, nylon tubes, line routing, etc.

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Technical modifications and errors excepted.

Contact

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