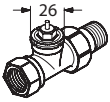
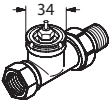


# Installation Guide

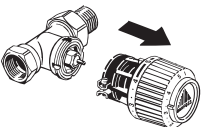
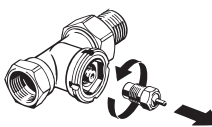


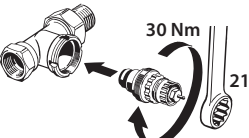
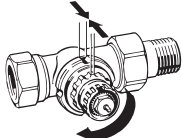
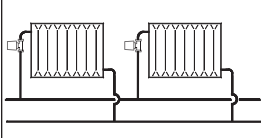
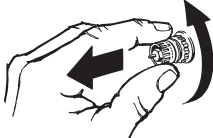
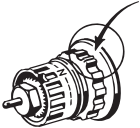
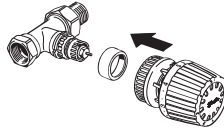
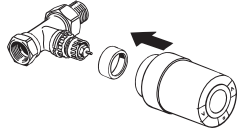


## Presetting Inserts for RAVL and RAV Valves

### 1 Selection and Ordering

Danfoss valve body*	Valve size	Insert	RA 2990 sensor	Combi-set with	
				<i>living eco</i> ®	<i>living connect</i> ®
 <b>RAVL</b>	DN 10-15 (3/8" - 1/2") DN 20 (3/4")	013G4011 013G4012	013G4017 013G4018	014G0056 014G0057	014G0007 014G0008
 <b>RAV</b>	DN 10-15-20 (3/8" - 1/2" - 3/4")	013G4013	013G4019	014G0058	014G0009

\* Inserts for other valve bodies on request.

### 2 Changing the Insert


 1. Drain the system, then remove the old sensor.	 2. Unscrew the gland seal.	 3. Use an Allen key* to unscrew the old insert.	 4. Clean the valve seat with a cloth.
 5. Screw in the new insert by hand and tighten with a spanner.	 6. Align a notch with a cutout in the valve body to assure correct orientation of the sensor.	 7. Flush and refill the system.	 8. Set the desired flow (default is N = max. flow).
 9. Reference mark for flow setting.	 10a. RA 2990: First mount the deco ring, then the new sensor.	 10b. <i>living eco</i> ®: First mount the deco ring, then the sensor by tightening the Allen screw. Press  for approx. three seconds to fix the thermostat.	

\* Dismantling nuts can be used instead of Allen keys (see Accessories).


## Installation Guide Presetting Inserts for RAVL and RAV Valves

### 3 Overview: Insert Combi-sets for RAVL / RAV Valves


#### Combi-sets with RA 2990 sensor

Valve type	Valve size	$k_v$ -value	Recognized by	Order no.
RAVL	3/8"	0,5 / 0,8	 $k_v$ -value noted on valve body. Bottom screw 13 mm Allen.	<b>013G4017</b>
RAVL	1/2"			<b>013G4018</b>
RAVL	3/4"	1,3		<b>013G4019</b>
RAV/8	3/8" - 1/2" - 3/4"	-	Bottom screw 19 mm Allen.	<b>013G4019</b>



#### Combi-sets with *living eco*® sensor

Valve type	Valve size	$k_v$ -value	Recognized by	Order no.
RAVL	3/8"	0,5 / 0,8	 $k_v$ -value noted on valve body. Bottom screw 13 mm Allen.	<b>013G4056</b>
RAVL	1/2"			<b>013G4057</b>
RAVL	3/4"	1,3		<b>013G4058</b>
RAV/8	3/8" - 1/2" - 3/4"	-	Bottom screw 19 mm Allen.	<b>013G4058</b>

#### Combi-sets with *living connect*® sensor

Valve type	Valve size	$k_v$ -value	Recognized by	Order no.
RAVL	3/8"	0,5 / 0,8	 $k_v$ -value noted on valve body. Bottom screw 13 mm Allen.	<b>013G4007</b>
RAVL	1/2"			<b>013G4008</b>
RAVL	3/4"	1,3		<b>013G4009</b>
RAV/8	3/8" - 1/2" - 3/4"	-	Bottom screw 19 mm Allen.	<b>013G4009</b>

### 4 Accessories

Type	Order no.
 Dismantling nut for RAVL valves with 13 mm Allen bottom screw.	<b>192H2210</b>
 Dismantling nut for RAV valves with 19 mm Allen bottom screw.	<b>192H2310</b>