

RAPID NEWS

TECHNICAL INFO

N°: RN/Technical info/06-15 Date: 21/12/06 From: Service department Pages: 1/5	
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SUBJECT : Information about the leak-test function on VRV III heat-pump.

Dear Sirs,

Please find on the next pages some explanation about the leak-test function for VRV III, cooling-only model RXQ5 ~ 18P7W1B, and heat-pump model RXYQ5 ~ 54 P7W1B.

This explanation includes following points :

1. Conditions to be fulfilled in order to have a correct judgement ,
2. Initiation of the leak test function ,
3. Judgment criteria of result of leak-test function ,
4. Repair procedure in case of leak judgment at end of leak-test function.

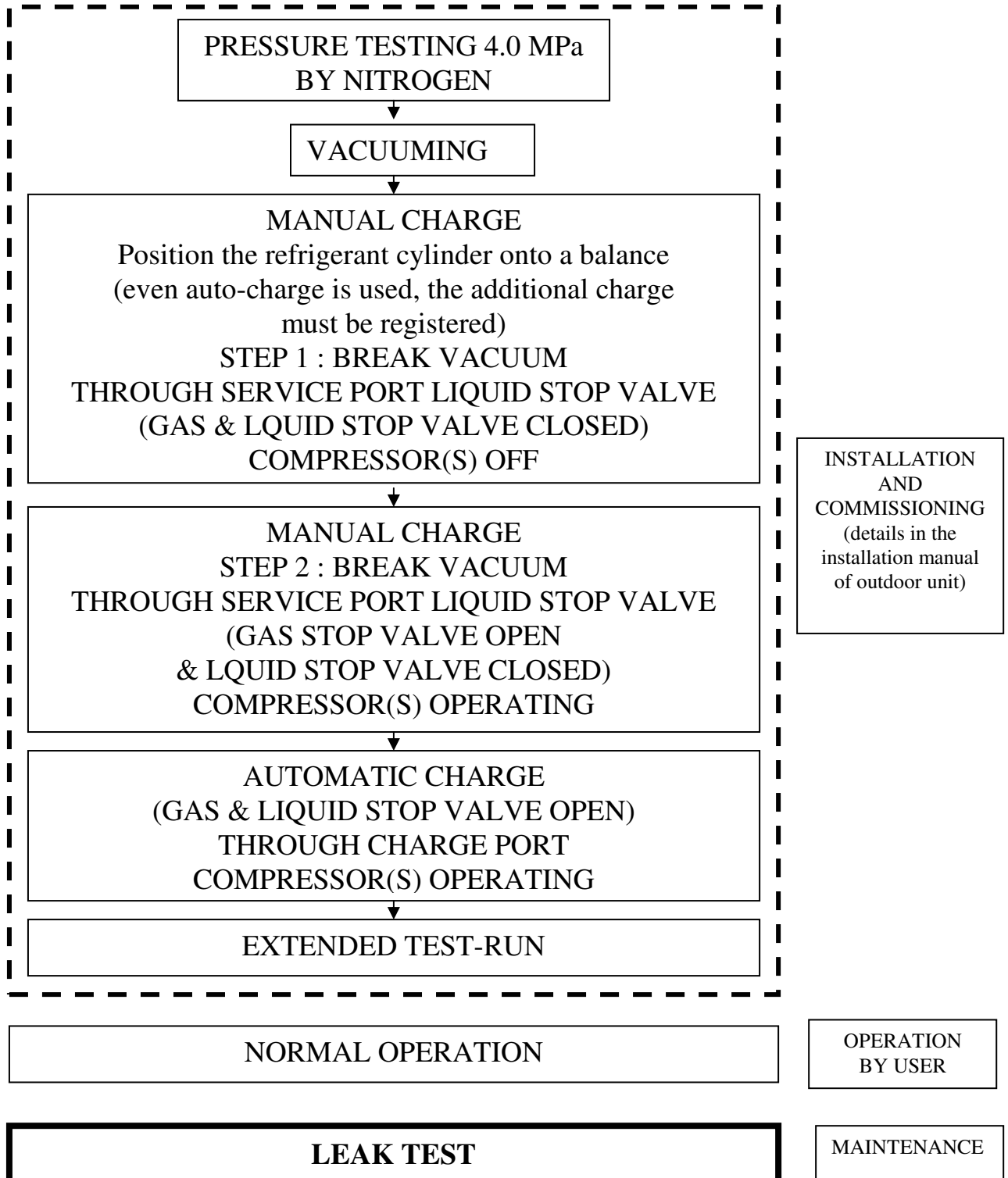
Yours faithfully,
For Daikin Europe NV

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The leak-test function is a feature that can be used during a maintenance.
To have the leak-test function available, following sequence is required during installation.



Details explained in this Rapid News and in next revision of service manual.

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Conditions to be fulfilled in order to have the correct judgment :


1.1. System lay out :

Condition	Outdoor above indoor	Outdoor below indoor
Level difference	Max 50m : Standard	Up to 60 m : minimum 80% index
	Max 90m : Option kit + liquid pipe 1-size up	Up to 65 m : minimum 90% index
		Up to 80m : minimum 100% index
		Up to 90 m : minimum 110% index
Connection ratio 80 ~ 130 %	Or 3 module if other VRV indoor than FXDQ-M/NA/P, FXSQ-M, FXAQ-MA Or among indoor FXFQ20,25M or/and VKM-G (1, 2 or 3 modules)	
Connection ratio 80 ~ 160 %	Or 2 module if other VRV indoor than FXDQ-M/NA/P, FXSQ-M, FXAQ-MA And among indoor NO FXFQ20,25M nor VKM-G	
Connection ratio 80 ~ 200 %	Or 1,2 or 3 modules if only FXDQ-M/NA/P ,FXSQ-M or FXAQ-MA Or 1 module if among VRV indoor NO FXFQ20,25M nor VKM-G	
temperature condition	Indoor average 20 ~ 32°C and outdoor (master in case of multi) 0 ~ 43°C	

1.2. Front panels must be closed .

1.3. Auto-charge function was previously performed and all above conditions were met,

1.4. After the auto-charge function,

1.4.1. The additional refrigerant charge should be inputted by field setting on the outdoor unit : mode 2, code binary 14 ; LED indication = 

Procedure for field settings : see service manual "SIE34-601" page 178 & 180.

1.4.2. The table below shows the possible settings : It is essential to add the trim charge value before the extended test-run is initiated to ensure that the detection can be made within the target tolerance.

R1 = additional refrigerant charge : mode 2 – code binary 14

Setting number	INPUT [kg]:R1	LED outdoor board							Setting number	INPUT [kg]:R1	LED outdoor board						
		1	2	3	4	5	6	7			1	2	3	4	5	6	7
0	Default	○	●	●	●	●	●	●	10	~50	○	●	●	○	●	○	●
1	~5	○	●	●	●	●	●	○	11	~55	○	●	●	○	●	○	○
2	~10	○	●	●	●	●	○	●	12	~60	○	●	●	○	○	●	●
3	~15	○	●	●	●	●	○	○	13	~65	○	●	●	○	○	●	○
4	~20	○	●	●	●	○	●	●	14	~70	○	●	●	○	○	○	●
5	~25	○	●	●	●	○	●	○	15	~75	○	●	●	○	○	○	○
6	~30	○	●	●	●	○	○	●	16	~80	○	●	○	●	●	●	●
7	~35	○	●	●	●	○	○	○	17	~85	○	●	○	●	●	●	○
8	~40	○	●	●	○	●	●	●	18	~90	○	●	○	●	●	○	●
9	~45	○	●	●	○	●	●	○	19	~95	○	●	○	●	●	○	○
									20	~100	○	●	○	●	○	●	●
									21	100~	○	●	○	●	○	●	○

1.5. After the auto-charge function, it is required to perform the extended test-run.

1.5.1. Initiation of the extended test-run : press & hold the "test" button BS4 for approx. 5 seconds (till "Test" LED nr.1 blinks and LED nr.7 lights up.

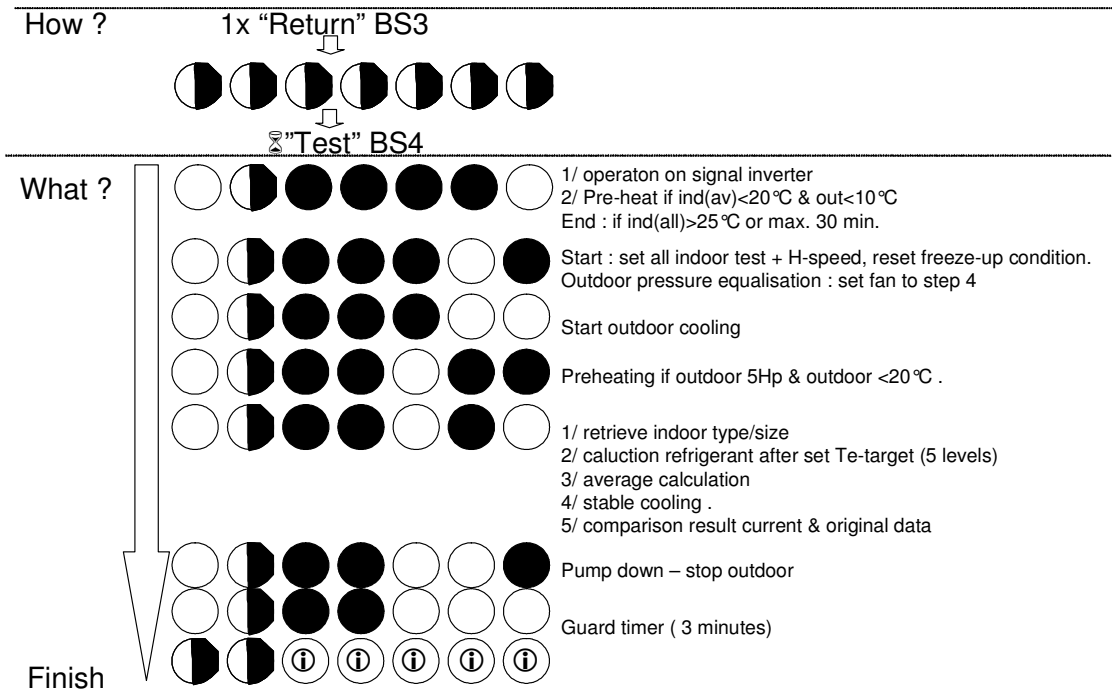
1.5.2. After start of the extended test-run, all front panels must be closed.

1.5.3. Following points are checked during test-run : the cross piping check , the pipe length judgment, rough calculation of the total refrigerant charge by using 5 different target evaporation temperatures. (When the target evaporation temperature is reached and stable, control collects data of several sensors to estimate actual refrigerant volume of the system.)

Above information can also be found on <http://intranet/extranet/dkrapidnews.nsf>

Specifications are subject to change without notice

2. Initiation of the leak-test function : After completion of the auto-charge, and the extended test-run , the leak-test function becomes available for later use.



3. Judgment criteria of the result of the leak test function : at the end of the leak-test function, the LED indication can show if system could judge a leak :

• If a leak is detected, one of following indications can appear :

LED indication ○ = ON
 ◐ = BLINKING
 ● = OFF

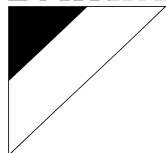
• Result of refrigerant leak detection function is kept till Refrigerant Leak Detection function is terminated by pressing once "BS1" Mode button

• Error display :

	Target evaporation temperature could not kept stable or discharge pressure was below 2.6 MPa (saturated Condensing Below 44° C)
	Extended test-run was not performed prior to the leak-test function

- At the end of the leak-test function, indoor controller shows the inspection code "P9" .
- The last 3 results of the leak-function are memorized in the monitoring mode, code binary 26 (latest result), 27 (second last result), 28 (third last result). The procedure to display the memorized data, see service manual "SIE34-601" page 178 & 184.

Above information can also be found on <http://intranet/extranet/dkrapidnews.nsf>
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4. Repair procedure in case of LED indication shows a leak is judged .
 - 4.1. The repair procedure should include always following steps :
 - 4.1.1. Set system into "refrigerant recovery mode" : method see service manual "SIE34-601" page 178 & 180.
 - 4.1.2. Recovery & weight the remaining refrigerant,
 - 4.1.3. Pressure test the system (basically indoor & outdoor separately) to trace back the location.
 - 4.1.4. Repair the leak
 - 4.1.5. Continue with same steps as indicated on second page "Sequence required during installation" to vacuum & re-charging of the system .
 - 4.2. If the additional charge by the automatic charge is different to the original trim charge, correct the field setting "value of additional charge" as indicated in paragraph 1.4.2.