



Experience makes technology

2013

XRV Multi System



## XRV MULTI SYSTEM



## 2013

### XRV MULTI SYSTEM

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# XRV MULTI SYSTEM DC INVERTER

## XRV SYSTEMS WITH HEAT PUMP

### MINI XRV

<b>6HP</b>
three-phase
HCSU 1551 XRV



### XRV SYSTEMS



#### XRV three-phase single units

8HP	10HP	12HP	14HP	16HP
HCSU 2501 XRV-2	HCSU 3001 XRV-2	HCSU 3501 XRV	HCSU 4001 XRV	HCSU 4501 XRV

#### XRV three-phase combined units

18HP 8+10	20HP 10+10	22HP 10+12	24HP 10+14	26HP 10+16
HCSU 2501 XRV-2 HCSU 3001 XRV-2	HCSU 3001 XRV-2 HCSU 3001 XRV-2	HCSU 3001 XRV-2 HCSU 3501 XRV	HCSU 3001 XRV-2 HCSU 4001 XRV	HCSU 3001 XRV-2 HCSU 4501 XRV
28HP 12+16	30HP 14+16	32HP 16+16	34HP 10+10+14	36HP 10+10+16
HCSU 3501 XRV HCSU 4501 XRV	HCSU 4001 XRV HCSU 4501 XRV	HCSU 4501 XRV HCSU 4501 XRV	HCSU 3001 XRV-2 HCSU 3001 XRV-2 HCSU 4001 XRV	HCSU 3001 XRV-2 HCSU 3001 XRV-2 HCSU 4501 XRV
38HP 10+12+14	40HP 10+14+16	42HP 10+16+16	44HP 12+16+16	46HP 14+16+16
HCSU 3001 XRV-2 HCSU 3501 XRV HCSU 4001 XRV	HCSU 3001 XRV-2 HCSU 4001 XRV HCSU 4501 XRV	HCSU 3001 XRV-2 HCSU 4501 XRV HCSU 4501 XRV	HCSU 3501 XRV HCSU 4501 XRV HCSU 4501 XRV	HCSU 4001 XRV HCSU 4501 XRV HCSU 4501 XRV
48HP 16+16+16	50HP 12+12+12+14	52HP 12+12+12+16	54HP 12+12+14+16	56HP 12+12+16+16
HCSU 4501 XRV HCSU 4501 XRV HCSU 4501 XRV	HCSU 3501 XRV HCSU 3501 XRV HCSU 3501 XRV HCSU 4001 XRV	HCSU 3501 XRV HCSU 3501 XRV HCSU 3501 XRV HCSU 4501 XRV	HCSU 3501 XRV HCSU 3501 XRV HCSU 4001 XRV HCSU 4501 XRV	HCSU 3501 XRV HCSU 3501 XRV HCSU 4501 XRV HCSU 4501 XRV
58HP 10+16+16+16	60HP 12+16+16+16	62HP 14+16+16+16	64HP 16+16+16+16	
HCSU 3001 XRV-2 HCSU 4501 XRV HCSU 4501 XRV HCSU 4501 XRV	HCSU 3501 XRV HCSU 4501 XRV HCSU 4501 XRV HCSU 4501 XRV	HCSU 4001 XRV HCSU 4501 XRV HCSU 4501 XRV HCSU 4501 XRV	HCSU 4501 XRV HCSU 4501 XRV HCSU 4501 XRV HCSU 4501 XRV	

Thanks to its continued efforts on technological research and its long experience in the heating/cooling systems market in Italy and Europe, Hokkaido has introduced the XRV Systems, a product that is a candidate for a leading role in the VRF systems market.

Efficiency, reliability and applicable flexibility, are the quality solutions that the XRV systems offer for the various application requirements of installers, designers and final customers.

The mini XRV units are especially suited for residential and light commercial applications.

The XRV system fully meets new air conditioning requirements of medium and large buildings.

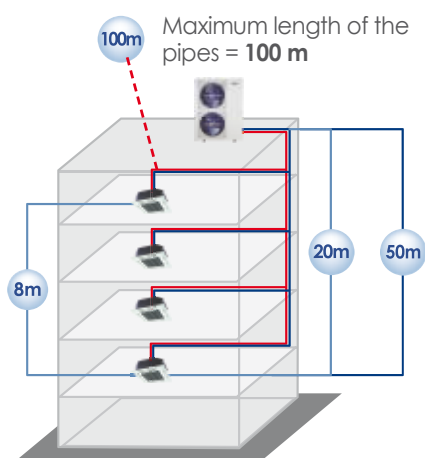
# XRV MULTI SYSTEM DC INVERTER

## MINI XRV WITH HEAT PUMP

HCSU 1551 XRV 15,5 kW (3Ph)



Maximum distance between the outdoor unit and the farthest indoor unit = **50 m**  
 Maximum distance from the first branch pipe to the farthest indoor unit = **20 m**  
 Maximum height difference between the outdoor unit (up high) and the indoor units = **20 m**  
 Maximum height difference between the outdoor unit (down low) and the indoor units = **20 m**  
 Maximum height difference between indoor units = **8 m**  
 Maximum length of the pipes = **100 m**



Model		HCSU 1551 XRV	
Cooling capacity (1)	kW	15,50	
Heating capacity (2)	kW	18,00	
Electrical data			
Power supply	Ph-V-Hz	3-380~415-50	
Electrical power absorption in cooling mode (fully operational)	kW / A	4,25 / 8,0	
Electrical power absorption in heating mode (fully operational)	kW / A	4,45 / 8,34	
EER coeff. performance cooling	W/W	3,65	
COP coeff. performance heating	W/W	4,04	
Refrigerant circuit			
Refrigerant	type	R410A	
Compressor	type	Scroll DC Inverter HITACHI	
Air flow fan (Lo/Hi)	m³/h	4300/6500	
Sound pressure level at 1 m (Lo/Hi)	dB(A)	56/57	
Sound pressure level at 2,5 m (Lo/Hi)	dB(A)	48/49	
Refrigerant pipes Liquid/Gas side	mm/inch.	ø9,53 (3/8") - ø15,9 (5/8")	
Total pipe length	m	100	
Max height difference(i.u.-i.u.)	m	8	
Max height difference (o.u.-i.u.)	m	20	
Temp. range cooling	°C / DB	-15°C / 48°C	
Temp. range heating	°C / WB	-15°C / 21°C	
No. connectable i.u.	n°	7	
Capacity of the connected i.u.	%	50 - 130	
Size and weight			
Dimension (WxHxD)	mm	940x1245x400	
Net weight	kg	115	

### Notes:

(1) Cooling capacity tested in accordance with ISO 5151 Standards; outdoor temperature 35° C DB, 24° C WB and indoor temperature 27° C DB, 19° C WB.  
 (2) Heating capacity tested in accordance with ISO 5151 Standards; outdoor temperature 7° C DB, 6° C WB and indoor temperature 20° C DB, 15° C WB.

# XRV MULTI SYSTEM DC INVERTER

## XRV SYSTEMS WITH HEAT PUMP



HCSU 2501 XRV-2 25 kW (3Ph)    HCSU 3501 XRV 35 kW (3Ph)  
 HCSU 3001 XRV-2 30 kW (3Ph)    HCSU 4001 XRV 40 kW (3Ph)  
 HCSU 4501 XRV 45 kW (3Ph)

### Splitting lengths and height differences

Maximum distance between the outdoor unit and the farthest indoor unit = **175 m**

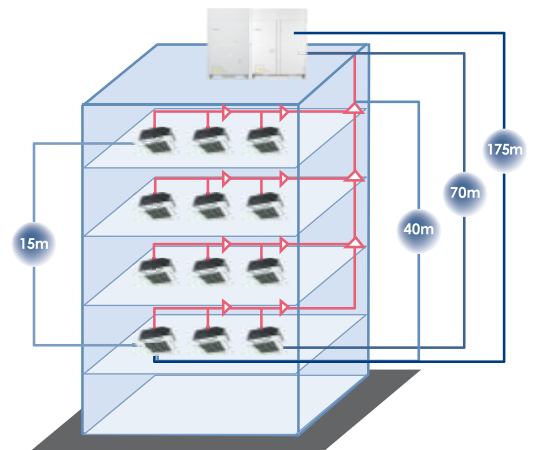
Maximum distance from the first branch pipe to the farthest indoor unit = **40 m**

Maximum height difference between the outdoor unit (up high) and the indoor units = **70 m**

Maximum height difference between the outdoor unit (down low) and the indoor units = **40 m**

Maximum height difference between indoor units = **15 m**

Maximum length of the pipes = **500 m** (>30HP) or **350 m** (≤ 30HP)



### Refrigeration system

#### Connection between the units and the system



#### Gas and oil parallel connection



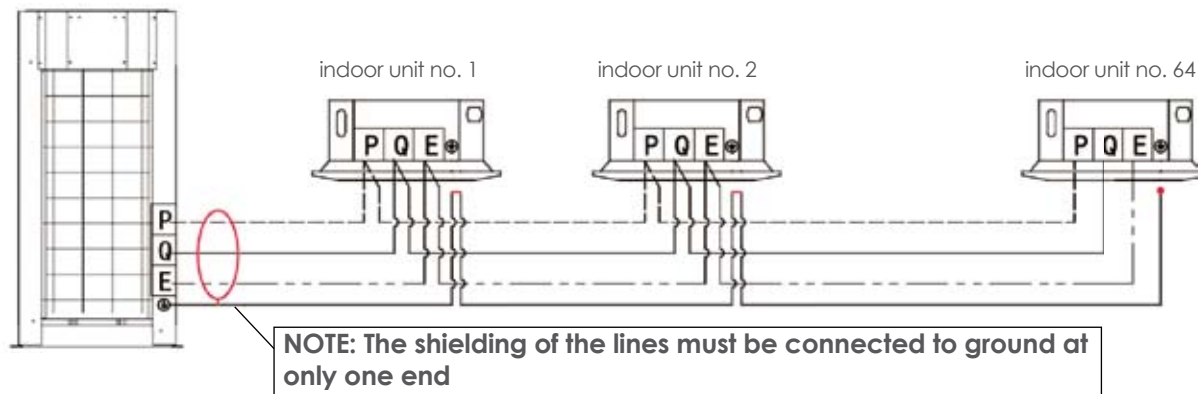
When 2-3-4 outdoor units are combined, a connection to balance the gas pressure and the level of oil in the compressors must be created.

# XRV MULTI SYSTEM DC INVERTER

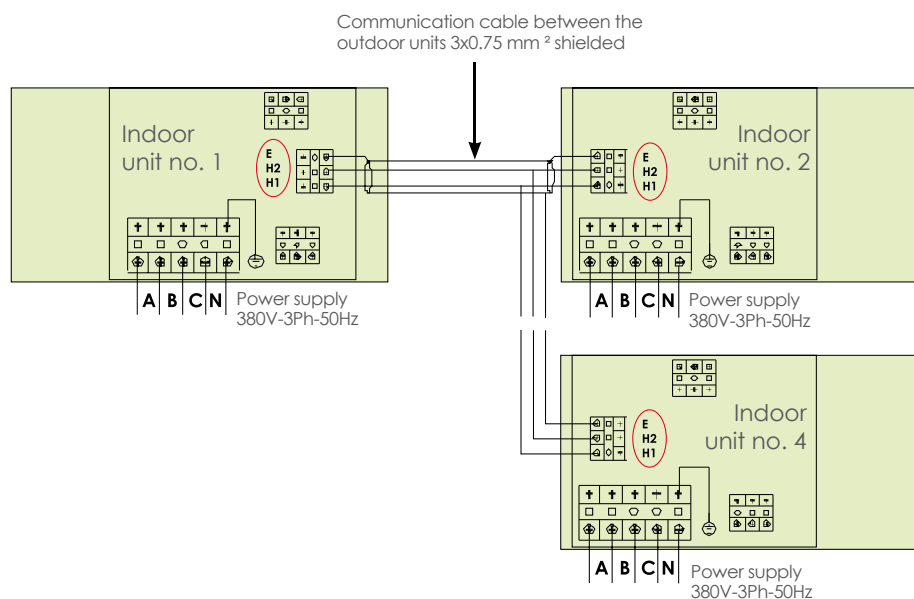
## XRV SYSTEMS WITH HEAT PUMP

### Electrical system

Communication cable between outdoor and indoor units



### Connection between the XRV outdoor units (max 4 units)



### Branch pipes

Branch pipes for XRV Systems (downstream of the first branch pipe)	
Code	A - Capacity of the connectible indoor units (kW)
DIS-22-1T	A<16,8
DIS-180-1T	16,8≤A<22,4
	22,4≤A<33,0
DIS-371-1T	33,0≤A<47,0
	47,0≤A<71,0
DIS-540-1H	71,0≤A<104,0
	104,0≤A<134,4
DIS-1344-1H	134,4≤A

Branch pipe kit for outdoor unit connection	
Code	Outdoor units
DOS 2-1H	Two outdoor unit kit
DOS 3-1H	Three outdoor unit kit
DOS 4-1H	Four outdoor unit kit
OH-BAL-KT*	T-shaped fitting for oil parallel pipe
GH-BAL-KT*	T-shaped fitting for gas parallel pipe

\* Included in the DOS 3-1H and DOS 4-1H kits

# XRV MULTI SYSTEM DC INVERTER

## XRV SYSTEMS WITH HEAT PUMP

The range is characterised by 5 basic modules: 8, 10, 12, 14 and 16HP.

The outdoor units can also be combined up to 4 modules, for a maximum of 64HP, on a single system.



Model / Combination			HCSU 2501 XRV-2	HCSU 3001 XRV-2	HCSU 3501 XRV	HCSU 4001 XRV	HCSU 4501 XRV
Power	HP	8	10	12	14	16	
Cooling capacity (1)	kW	25,00	30,00	35,00	40,00	45,00	
Heating capacity (2)	kW	28,00	33,00	38,00	45,00	50,00	
Electrical data							
Power supply	Ph-V-Hz	3-380~415-50					
Electrical power absorption in cooling mode (fully operational)	kW / A	7,13 / 10,3	8,17 / 13,1	9,84 / 16,7	11,36 / 20,7	12,94 / 23,7	
Electrical power absorption in heating mode (fully operational)	kW / A	6,88 / 10,5	7,98 / 13,0	9,21 / 15,3	10,87 / 18,9	12,12 / 21,3	
EER coeff. performance cooling	W/W	3,51	3,67	3,56	3,52	3,48	
COP coeff. performance heating	W/W	4,07	4,14	4,13	4,14	4,13	
Refrigerant circuit							
Refrigerant	type	R410A					
DC inverter Compressor	n° / type	1 / Scroll DC Inverter HITACHI					
Scroll Compressor	n° / type	1 / Scroll HITACHI				2 / Scroll HITACHI	
Air flow fan	(Lo/Hi)	m3/h	10675 / 12500		11955 / 14000	12875 / 14000	
Sound pressure level at 1 m	(Lo/Hi)	dB(A)	55/57		56/58	58/60	
Sound pressure level at 2,5 m	(Lo/Hi)	dB(A)	47/49		48/50	50/52	
Refrigerant pipes (3)	Liquid	mm/inch.	ø12,7 (1/2")			ø15,9 (5/8")	
	Gas	mm/inch.	ø25,4 (1")			ø28,6 (9/8")	
	Parallel oil	mm/inch.	ø6,35 (1/4")				
	Parallel gas	mm/inch.	ø19,1 (3/4")				
Total pipe length	m	350					
Max height difference(i.u.-i.u.)	m	15					
Max height difference (o.u.-i.u.)	m	70 (outdoor unit above) - 40 (outdoor unit below)					
Temp. range cooling	°C / DB	-5°C / 48°C					
Temp. range heating	°C / WB	-15°C / 27°C					
No. connectable i.u.	n°	13	16				20
Capacity of the connected i.u.	%	50 - 130					
Size and weight							
Dimension (WxHxD) (4)	mm	980x1615x800			1380x1630x830		
Net weight	ka	300			330	400	

### Notes:

- (1) Cooling capacity tested in accordance with ISO 5151 Standards; outdoor temperature 35° C DB, 24° C WB and indoor temperature 27° C DB, 19° C WB.  
 (2) Heating capacity tested in accordance with ISO 5151 Standards; outdoor temperature 7° C DB, 6° C WB and indoor temperature 20° C DB, 15° C WB.

# XRV MULTI SYSTEM DC INVERTER

## OUTDOOR UNITS



HCSU 2501 XRV-2 HCSU 3001 XRV-2	HCSU 3001 XRV-2 HCSU 3001 XRV-2	HCSU 3001 XRV-2 HCSU 3501 XRV	HCSU 3001 XRV-2 HCSU 4001 XRV	HCSU 3001 XRV-2 HCSU 4501 XRV	HCSU 3501 XRV HCSU 4501 XRV	HCSU 4001 XRV HCSU 4501 XRV	HCSU 4501 XRV HCSU 4501 XRV
18	20	22	24	26	28	30	32
55,00	60,00	65,00	70,00	75,00	80,00	85,00	90,00
61,00	66,00	71,00	78,00	83,00	88,00	95,00	100,00
3-380~415-50							
15,3 / 23,4	16,34 / 26,2	18,01 / 28,8	19,53 / 33,8	21,11 / 36,8	22,78 / 40,4	24,30 / 44,4	25,88 / 47,4
14,86 / 23,5	15,96 / 26	17,19 / 28,3	18,85 / 31,9	20,10 / 34,7	21,33 / 36,6	22,99 / 40,2	24,24 / 42,6
3,59	3,67	3,61	3,58	3,55	3,51	3,5	3,48
4,1	4,14	4,13	4,14	4,13	4,13	4,13	4,13
R410A							
2 / Scroll DC Inverter HITACHI							
2 / Scroll HITACHI			3 / Scroll HITACHI			4 / Scroll HITACHI	
10675 / 25000		10675 / 26500			11955 / 28000		12875 / 28000
55/60		55/60,5		55/61,8		56/62,1	
47/52		47/52,5		47/53,8		48/54,1	
ø15,9 (5/8")			ø15,9 (5/8")		ø19,1 (3/4")		
ø28,6 (9/8")			ø34,9 (1" 3/8")		ø34,9 (1" 3/8")		
ø6,35 (1/4")							
ø19,1 (3/4")							
350							500
15							
70 (outdoor unit above) - 40 (outdoor unit below)							
-5°C / 48°C							
-15°C / 27°C							
20	24		28			32	
50 - 130							
2060x1615x800		2460x1630x830			2860x1630x830		
600	630	700		730	800		

### Notes:

- (3) When several outdoor units are paired the diameters indicated refer to the section up to the first branch, with a length equivalent or less than 90 m.  
 (4) Space between the paired units = 100 mm.



# XRV MULTI SYSTEM DC INVERTER

## XRV SYSTEMS WITH HEAT PUMP



Model / Combination		HCSU 3001 XRV-2 HCSU 3001 XRV-2 HCSU 4001 XRV	HCSU 3001 XRV-2 HCSU 3001 XRV-2 HCSU 4501 XRV	HCSU 3001 XRV-2 HCSU 3501 XRV HCSU 4501 XRV	HCSU 3001 XRV-2 HCSU 4001 XRV HCSU 4501 XRV	HCSU 3001 XRV-2 HCSU 4501 XRV HCSU 4501 XRV	HCSU 3501 XRV HCSU 4501 XRV HCSU 4501 XRV
Power	HP	34	36	38	40	42	44
Cooling capacity (1)	kW	100,00	105,00	110,00	115,00	120,00	125,00
Heating capacity (2)	kW	111,00	116,00	121,00	128,00	133,00	138,00
Electrical data							
Power supply	Ph-V-Hz	3-380~415-50					
Electrical power absorption in cooling mode (fully operational)	kW / A	27,70 / 46,9	29,28 / 49,9	30,95 / 53,5	32,47 / 57,5	34,05 / 60,5	35,72 / 64,1
Electrical power absorption in heating mode (fully operational)	kW / A	26,83 / 44,9	28,08 / 47,3	29,31 / 49,6	30,97 / 53,2	32,22 / 53,6	33,45 / 57,9
EER coeff. performance cooling	W/W	3,61	3,59	3,55	3,54	3,52	3,5
COP coeff. performance heating	W/W	4,14	4,13	4,13	4,13	4,13	4,13
Refrigerant circuit							
Refrigerant	type	R410A					
DC inverter Compressor	n° / type	3 / Scroll DC Inverter HITACHI					
Scroll Compressor	n° / type	4 / Scroll HITACHI			5 / Scroll HITACHI		
Air flow fan	(Lo/Hi) m3/h	10675 / 39000			10675 / 40500		11955 / 42000
Sound pressure level at 1 m	(Lo/Hi) dB(A)	55/63			55/63,3		56/64,3
Sound pressure level at 2,5 m	(Lo/Hi) dB(A)	47/55			47/55,3		48/56,3
Refrigerant pipes (3)	Liquid	mm/inch.	ø19,1 (3/4")				
	Gas	mm/inch.	ø41,3 (1" 5/8")				
	Parallel oil	mm/inch.	ø6,35 (1/4")				
	Parallel gas	mm/inch.	ø19,1 (3/4")				
Total pipe length	m	500					
Max height difference (i.u.-i.u.)	m	15					
Max height difference (o.u.-i.u.)	m	70 (outdoor unit above) - 40 (outdoor unit below)					
Temp. range cooling	°C / DB	-5°C / 48°C					
Temp. range heating	°C / WB	-15°C / 27°C					
No. connectable i.u.	n°	36			42		
Capacity of the connected i.u.	%	50 - 130					
Size and weight							
Dimension (WxHxD) (4)	mm	3540x1630x830			3940x1630x830		4340x1630x830
Net weight	kg	1000			1030	1100	1130

### Notes:

- (1) Cooling capacity tested in accordance with ISO 5151 Standards; outdoor temperature 35° C DB, 24° C WB and indoor temperature 27° C DB, 19° C WB.
- (2) Heating capacity tested in accordance with ISO 5151 Standards; outdoor temperature 7° C DB, 6° C WB and indoor temperature 20° C DB, 15° C WB.

# XRV MULTI SYSTEM DC INVERTER

## OUTDOOR UNITS



HCSU 4001 XRV HCSU 4501 XRV HCSU 4501 XRV	HCSU 4501 XRV HCSU 4501 XRV HCSU 4501 XRV	HCSU 3501 XRV HCSU 3501 XRV HCSU 3501 XRV HCSU 4001 XRV	HCSU 3501 XRV HCSU 3501 XRV HCSU 3501 XRV HCSU 4501 XRV	HCSU 3501 XRV HCSU 3501 XRV HCSU 4001 XRV HCSU 4501 XRV	HCSU 3501 XRV HCSU 3501 XRV HCSU 4501 XRV HCSU 4501 XRV	HCSU 3001 XRV-2 HCSU 4501 XRV HCSU 4501 XRV HCSU 4501 XRV	HCSU 3501 XRV HCSU 4501 XRV HCSU 4501 XRV HCSU 4501 XRV	HCSU 4001 XRV HCSU 4501 XRV HCSU 4501 XRV HCSU 4501 XRV	HCSU 4501 XRV HCSU 4501 XRV HCSU 4501 XRV HCSU 4501 XRV
46	48	50	52	54	56	58	60	62	64
130,00	135,00	145,00	150,00	155,00	160,00	165,00	170,00	175,00	180,00
145,00	150,00	159,00	164,00	171,00	176,00	183,00	188,00	195,00	200,00
3-380~415-50									
37,24 / 68,1	38,82 / 71,1	40,88 / 70,8	42,46 / 73,8	43,98 / 77,8	45,56 / 80,8	46,99 / 84,2	48,66 / 87,8	50,18 / 91,8	51,76 / 94,8
35,11 / 61,5	36,36 / 63,9	38,50 / 64,8	39,75 / 67,2	41,41 / 70,8	42,66 / 73,2	44,34 / 76,9	45,57 / 79,2	47,23 / 82,8	48,48 / 85,2
3,49	3,48	3,55	3,53	3,52	3,51	3,51	3,49	3,49	3,48
4,13	4,13	4,13	4,13	4,13	4,13	4,13	4,13	4,13	4,13
R410A									
4 / Scroll DC Inverter HITACHI									
6 / Scroll HITACHI	5 / Scroll HITACHI		6 / Scroll HITACHI			7 / Scroll HITACHI		8 / Scroll HITACHI	
12875 / 42000	11955 / 56000		10675 / 56000			11955 / 56000		12875 / 56000	
58/64,7	56/64,6		56/65,1			55/65,5		56/65,6	
50/56,7	48/56,6		48/57,1			47/57,5		48/57,6	
ø22,2 (7/8")									
ø44,5( 1" 3/4")									
ø6,35 (1/4")									
ø19,1 (3/4")									
500									
15									
70 (outdoor unit above) - 40 (outdoor unit below)									
-5°C / 48°C									
-15°C / 27°C									
48	54			58			64		
50 - 130									
4340x1630x830									
5820x1630x830									
1200	1330		1440			1500	1530	1600	


### Notes:

- (3) When several outdoor units are paired the diameters indicated refer to the section up to the first branch, with a length equivalent or less than 90 m.  
 (4) Space between the paired units = 100 mm.

# XRV MULTI SYSTEM DC INVERTER

## MINI XRV - XRV SYSTEMS

### INDOOR UNITS

	1,80 kW	2,20 kW	2,80 kW	3,60 kW	4,50 kW	5,60 kW
CASSETTE 60x60 ROUND FLOW HTFU XRV						
CASSETTE 84x84 HTBU XRV						
DUCT LOW STATIC PRESSURE HRDU XRV						
DUCT MEDIUM STATIC PRESSUR HUCU XRV						
DUCT HIGH STATIC PRESSURE HVDU XRV						
CONSOLE HFIU XRV						
FLOOR/CEILING HSFU XRV						
EXPOSED FLOOR HFLU XRV						
HIDDEN FLOOR HFCU XRV						
WALL HKEU XRV						

Performance and consumption are based on the following test conditions: heating E.T. 7° C DB, 6° C WB - I.T. 20° C DB - cooling E.T. 35° C DB, 24° C WB - I.T. 27° C DB, 19° C WB (ISO T1).

# XRV MULTI SYSTEM DC INVERTER

## MINI XRV - XRV SYSTEMS



7,10 kW

9,00 kW

11,20 kW

14,00 kW

16,00 kW

20,00 kW

28,00 kW



new

new

new



# XRV MULTI SYSTEM DC INVERTER

## MINI XRV - XRV SYSTEMS

### INDOOR UNITS

#### HTFU XRV CASSETTE 60x60 - ROUND FLOW



4 power levels: 2.20~4.50 kW.

Ultra-compact cassette.

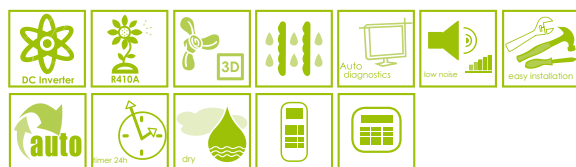
TFP 352 IHRS panel with 360° air diffusion only for the XRV cassette.

Wide range of oscillation at 40°.

Electrical box inside.

External air intake pre-set.

Condensate drain pump with possibility of raising the discharge up to 360 mm from the outlet height.



Model		HTFU 222 XRV	HTFU 282 XRV	HTFU 362 XRV	HTFU 452 XRV
Cooling capacity	kW	2,20	2,80	3,60	4,50
Heating capacity	kW	2,60	3,20	4,00	5,00
Moisture Removal	l/h	1,0	1,0	1,2	1,5
Power supply	Ph-V-Hz	1-220~240-50			
Power consumption	W	48	48	56	56
Air flow (Lo/Mi/Hi)	m3/h	238 / 313 / 414		314 / 409 / 521	
Noise level 1,5 m (Lo/Mi/Hi)	dB(A)	23/33/36		29/35/41	
Noise level 2,5 m (Lo/Mi/Hi)	dB(A)	15/25/28		21/27/33	
Unit dimension (WxHxD)	mm	575x265x575			
Grille size (WxHxD)	mm	647x50x647			
Net weight (body + grille)	kg	20		22	
Refrigerant pipes Liquid/Gas side	mm/inch.	ø6,35 (1/4") - ø12,7 (1/2")			
Drain hose diameter	ø mm	25			
Drain pump head	mm	(up to) 360			
Refrigerant Control	type	Electronic Expansion Valve box			
Remote Control	type	IR Remote Control (included)			

# XRV MULTI SYSTEM DC INVERTER

## MINI XRV - XRV SYSTEMS

### INDOOR UNITS

#### HTBU XRV CASSETTE 84x84



5 power levels: 5.50~14.00 kW.

3D coaxial fan: reduces the resistances to rotation and allows for a uniform distribution of air in the heat exchanger and when the air exits the 4 outlets.

Opening angle of flap up to 42°.

Low resistance and low noise fan profile.

Innovative design of air delivery opening and flap to reduce blackening of the ceiling and the condensing formation.

TBP 711 IHXR panel and 4 removable corners for easy installation.

Condensing drain pump with possibility of raising the discharge up to 360 mm from the outlet height.

Built-in electronic control (accessible from the panel).

Pre-set for duct connection of fresh-air intake and duct for cooling/heating a small adjacent room.



Model		HTBU 561 XRV	HTBU 711 XRV	HTBU 901 XRV	HTBU 1121 XRV	HTBU 1401 XRV
Cooling capacity	kW	5,50	7,10	9,00	11,20	14,00
Heating capacity	kW	6,30	8,00	10,00	12,50	15,00
Moisture Removal	l/h	1,8	2,4	3,0	3,8	4,0
Power supply	Ph-V-Hz	1-220~240-50				
Power consumption	W	90	115	160		180
Air flow (Lo/Mi/Hi)	m <sup>3</sup> /h	650/800/950	820/1010/1220	1120/1300/1540		1280/1500/1800
Noise level 1,5 m (Lo/Mi/Hi)	dB(A)	36/38/39		36/38/40	37/39/41	44/47/50
Noise level 2,5 m (Lo/Mi/Hi)	dB(A)	29/31/32		29/31/33	30/32/34	37/40/43
Unit dimension (WxHxD)	mm	840x230x840			840x300x840	
Grille size (WxHxD)	mm	950x46x950				
Net weight (body + grille)	kg	32			38	
Refrigerant pipes Liquid/Gas side	mm/inch.	ø9,53 (3/8") - ø15,9 (5/8")				
Drain hose diameter	ø mm	32				
Fresh air intake	ø mm	75				
Air intake for adjacent room	mm	350 x 85			350 x 155	
Drain pump head	mm	(up to) 360				
Refrigerant Control	type	Electronic Expansion Valve box				
Remote Control	type	IR Remote Control (included)				



# XRV MULTI SYSTEM DC INVERTER

## MINI XRV - XRV SYSTEMS

### INDOOR UNITS

#### HRDU XRV DUCT LOW STATIC PRESSURE



6 power levels: 1.80~5.60 kW.

Ultra-compact design: only 190 mm in height; thanks to its small size it is ideal for use in hotels.

Low acoustic impact: only 21 dB(A) for models from 1.80~2.20 kW.

Bottom air intake.

Body made of ABS.

Available static pressure: 5 Pa.

Filter supplied standard.



Model		HRDU 182 XRV	HRDU 222 XRV	HRDU 282 XRV	HRDU 362 XRV	HRDU 452 XRV	HRDU 562 XRV
Cooling capacity	kW	1,80	2,20	2,80	3,60	4,50	5,60
Heating capacity	kW	2,20	2,60	3,20	4,00	5,00	6,30
Moisture Removal	l/h	0,6	0,7	1,0	1,2	1,5	1,8
Power supply	Ph-V-Hz	1-220~240-50					
Power consumption	W	40					56
Air flow	(Lo/Mi/Hi) m³/h	250/323/446		267/359/527		512/634/767	
Noise level 1 m	(Lo/Mi/Hi) dB(A)	21/27/33	21/29/34	30/34/36		31/35/37	
Noise level 2,5 m	(Lo/Mi/Hi) dB(A)	13/19/25	13/21/26	22/26/28		23/27/29	
Dimension (WxHxD)	mm	850x190x405				1030x190x430	
Available static pressure	Pa	5					
Net	kg	11,5				14	
Refrigerant pipes Liquid/Gas side	mm/inch.	ø6,35 (1/4") - ø12,7 (1/2")					ø9,53 (3/8") - ø15,9 (5/8")
Drain hose diameter	ø mm	16					
Fresh air intake	ø mm	-					
Refrigerant Control	type	Electronic Expansion Valve box					
Remote Control	type	IR Remote Control (included)					

# XRV MULTI SYSTEM DC INVERTER

## MINI XRV - XRV SYSTEMS

### INDOOR UNITS

#### HUCU XRV DUCT MEDIUM STATIC PRESSURE



7 power levels: 2.80~11.20 kW.

Ultra-compact design: only 210 mm (2.80~5.60 kW) and 270 mm (7.10~11.20 kW) in height.

Low acoustic impact: only 29 dB(A) for model from 7.10 kW.

4 ventilation speeds (high optional) can be set on the electronic control.

Available static pressure: 30 Pa (2.80~7.10 kW); 50 Pa (9.00 kW); 80 Pa (11.20 kW).

Bottom or rear intake selectable at time of installation with interchangeable panel.

Condensing drain pump included.

Pre-cut for external air intake fitting.

Aluminium alloy filter supplied as standard.

Electrical box can be removed from the machine body and installed up to 1 m.

Display board can be freely positioned of up to 3 m.

Model		HUCU 282 XRV	HUCU 362 XRV	HUCU 452 XRV	HUCU 562 XRV	HUCU 712 XRV	HUCU 902 XRV	HUCU 1122 XRV
Cooling capacity	kW	2,80	3,60	4,50	5,60	7,10	9,00	11,20
Heating capacity	kW	3,20	4,00	5,00	6,30	8,00	10,00	12,50
Moisture Removal	l/h	1,0	1,2	1,5	1,8	2,4	3,0	3,8
Power supply	Ph-V-Hz	1-220~240-50						
Power consumption	W	62	67	115		163	231	357
Air flow (ULo/Lo/Mi/Hi)	m3/h	320/410/530/570		583/667/850/958		821/905/1050/1207	1033/1167/1350/1558	1400/1564/1800/2036
Noise level 1,5 m (Lo/Hi)	dB(A)	36/40		32/41		29/42	35/44	38/48
Noise level 2,5 m (Lo/Hi)	dB(A)	29/33		25/34		22/35	28/37	31/41
Dimension (WxHxD)	mm	700x210x635		920x210x635		920x270x635	1140x270x775	
Available static pressure (Lo/Hi)	Pa			10/30			20/50	40/80
Net	kg	21,5		27		31	41	
Refrigerant pipes Liquid/Gas side	mm/inch.	ø6,35 (1/4") - ø12,7 (1/2")				ø9,53 (3/8") - ø15,9 (5/8")		
Drain hose diameter	ø mm	25						
Refrigerant Control	type	Electronic Expansion Valve box						
Remote Control	type	IR Remote Control (included)						



# XRV MULTI SYSTEM DC INVERTER

## MINI XRV - XRV SYSTEMS

### INDOOR UNITS

#### HVDU XRV DUCT HIGH STATIC PRESSURE



5 power levels: 7.10~28.00 kW.

Ultra-compact design: only 400 mm in height for 14.00 kW model.

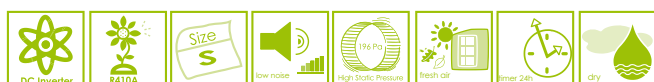
Low acoustic impact: only 44 dB(A) for 7.10 kW model.

Available static pressure: 196 Pa.

Rear air intake.

Filter supplied standard.

Ease of maintenance.



new

new

new

Model		HVDU 714 XRV	HVDU 1124 XRV	HVDU 1604 XRV	HVDU 2004 XRV	HVDU 2804 XRV
Cooling capacity	kW	7,10	11,20	14,00	20,00	28,00
Heating capacity	kW	8,00	12,50	15,50	22,50	31,50
Moisture Removal	l/h	2,4	3,8	4,8	7	10
Power supply	Ph-V-Hz	1-220~240-50				
Power consumption	W	263	524	832	1450	
Air flow	(Lo/Mi/Hi) m³/h	1236/1399/1510	1644/1950/2117	2700/3200/3890	3200/3820/4180	3300/3940/4400
Noise level 1,5 m	(Lo/Mi/Hi) dB(A)	44/46/48	47/49/52	50/52/54	55/58/61	
Noise level 2,5 m	(Lo/Mi/Hi) dB(A)	37/39/41	40/42/45	43/45/47	48/51/54	
Dimension (WxHxD)	mm	952x420x690			1200x400x600	1425x500x928
Available static pressure	Pa	40(30-196)	50(30-196)			196
Net	kg	45	50,6	70	122	
Refrigerant pipes Liquid/Gas side	mm/inch.	ø9,53 (3/8") - ø15,9 (5/8")			2 x ø9,53 (3/8") - 2 x ø15,9 (5/8")	
Drain hose diameter	ø mm	32				
Fresh air intake	ø mm	-				
Refrigerant Control	type	EEV box already connected			2 x Box with electronic expansion valve	
Remote Control	type	Wired control (included)				

# XRV MULTI SYSTEM DC INVERTER

## MINI XRV - XRV SYSTEMS

### INDOOR UNITS

#### HFIU XRV CONSOLE



4 power levels: 2.20~4.50kW.

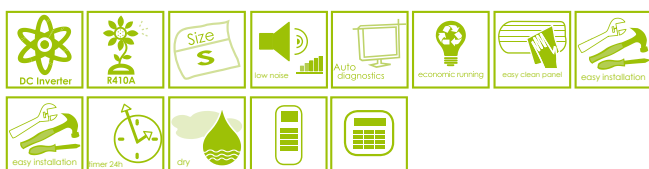
Ultra-compact measurements: only 210 mm in depth.

Double air outlet control: upper and lower.

Front and side air intake.

5 fan speeds.

Anti-formaldehyde filter.



Model		HFIU 222 XRV	HFIU 282 XRV	HFIU 362 XRV	HFIU 452 XRV
Cooling capacity	kW	2,20	2,80	3,60	4,50
Heating capacity	kW	2,60	3,20	4,00	5,00
Moisture Removal	l/h	0,7	1,0	1,2	1,5
Power supply	Ph-V-Hz	1-220~240-50			
Power consumption	W	20	25		45
Air flow (Lo/Mi/Hi)	m3/h	229/345/430	229/430/510		400/512/660
Noise level 1 m (Lo/Mi/Hi)	dB(A)	26/32/38	27/33/39		36/39/42
Noise level 2,5 m (Lo/Mi/Hi)	dB(A)	18/24/30	19/25/31		28/31/34
Dimension (WxHxD)	mm	700x600x210			
Net	kg	13			
Refrigerant pipes Liquid/Gas side	mm/inch.	ø6,35 (1/4") - ø12,7 (1/2")			
Drain hose diameter	ø mm	16			
Refrigerant Control	type	Electronic Expansion Valve box			
Remote Control	type	IR Remote Control (included)			



# XRV MULTI SYSTEM DC INVERTER

## MINI XRV - XRV SYSTEMS

### INDOOR UNITS

#### HSFU XRV FLOOR/CEILING



5 power levels: 3.60~11.20 kW.

3 fan speeds.

Motorized horizontal and vertical flaps for optimal air flow control, 3D ventilation (Auto Swing and Wide Angle functions).

Easy installation with unit attached to the wall or ceiling (brackets supplied standard).

Waterproofing of the condensing drain tank (special treatment with water-repellent film).

Built-in electronic expansion valve.

Electric and refrigeration connections accessible from the air intake grille.



Model		HSFU 361 XRV	HSFU 561 XRV	HSFU 711 XRV	HSFU 901 XRV	HSFU 1121 XRV
Cooling capacity	kW	3,60	5,60	7,10	9,00	11,20
Heating capacity	kW	4,00	6,30	8,00	10,00	12,50
Moisture Removal	l/h	1,2	1,9	2,4	3,0	3,8
Power supply	Ph-V-Hz	1-220~240-50				
Power consumption	W	120	122	125	130	182
Air flow (Lo/Mi/Hi)	m3/h	500/570/650	500/600/800		700/900/1200	1730/1860/1980
Noise level 1 m (Lo/Mi/Hi)	dB(A)	38/41/43			42/43/45	42/45/47
Noise level 2,5 m (Lo/Mi/Hi)	dB(A)	30/33/35			32/35/37	34/37/39
Dimension (WxHxD)	mm	990x660x206			1280x660x206	1670x680x244
Net	kg	29			37	54
Refrigerant pipes Liquid/Gas side	mm/inch.	ø6,35 (1/4") - ø12,7 (1/2")		ø9,53 (3/8") - ø15,9 (5/8")		
Drain hose diameter	ø mm	25				
Refrigerant Control	type	Electronic Expansion Valve box				
Remote Control	type	IR Remote Control (included)				

# XRV MULTI SYSTEM DC INVERTER

## MINI XRV - XRV SYSTEMS

### INDOOR UNITS

#### HFLU XRV EXPOSED FLOOR



2 power levels: 5.60~7.10 kW.

Lower air intake.

Built-in expansion valve and electronic control.

Fast extraction of air filters and removal of panel for maintenance and cleaning.

Easy installation.



Model		HFLU 561 XRV	HFLU 711 XRV
Cooling capacity	kW	5,60	7,10
Heating capacity	kW	6,30	8,00
Moisture Removal	l/h	1,8	2,4
Power supply	Ph-V-Hz	1-220~240-50	
Power consumption	W	88	130
Air flow (Lo/Mi/Hi)	m <sup>3</sup> /h	830/970/1150	870/1100/1380
Noise level 1 m (Lo/Mi/Hi)	dB(A)	37/39/41	38/41/43
Noise level 2,5 m (Lo/Mi/Hi)	dB(A)	29/31/33	30/33/35
Dimension (WxHxD)	mm	1500x625x220	
Net	kg	44	
Refrigerant pipes Liquid/Gas side	mm/inch.	ø9,53 (3/8") - ø15,9 (5/8")	
Drain hose diameter	ø mm	25	
Refrigerant Control	type	Electronic Expansion Valve box	
Remote Control	type	IR Remote Control (included)	

# XRV MULTI SYSTEM DC INVERTER

## MINI XRV - XRV SYSTEMS

### INDOOR UNITS

#### HFCU XRV HIDDEN FLOOR



5 power levels: 2.80~7.10 kW.

Extremely quiet: only 33 dB(A) for the 2.80 kW model.

Available static pressure: 12 Pa.

Lower air intake.

Built-in expansion valve and electronic control.

Easy installation.



Model		HFCU 281 XRV	HFCU 361 XRV	HFCU 451 XRV	HFCU 561 XRV	HFCU 711 XRV
Cooling capacity	kW	2,80	3,60	4,50	5,60	7,10
Heating capacity	kW	3,20	4,00	5,00	6,30	8,00
Moisture Removal	l/h	1,0	1,2	1,5	1,8	2,4
Power supply	Ph-V-Hz	1-220~240-50				
Power consumption	W	46	35	49	88	130
Air flow (Lo/Mi/Hi)	m3/h	421/485/569	375/522/624	440/542/660	830/970/1150	870/1100/1380
Noise level 1 m (Lo/Mi/Hi)	dB(A)	33/35/37	35/37/39		37/39/41	38/41/43
Noise level 2,5 m (Lo/Mi/Hi)	dB(A)	25/27/29	27/29/31		29/31/33	30/33/35
Dimension (WxHxD)	mm	840x544x212	1036x544x212		1336x544x212	
Available static pressure	Pa	12				
Net	kg	30	37		44	
Refrigerant pipes Liquid/Gas side	mm/inch.	ø6,35 (1/4") - ø12,7 (1/2")			ø9,53 (3/8") - ø15,9 (5/8")	
Drain hose diameter	ø mm	25				
Refrigerant Control	type	Electronic Expansion Valve box				
Remote Control	type	IR Remote Control (included)				

# XRV MULTI SYSTEM DC INVERTER

## MINI XRV - XRV SYSTEMS

### INDOOR UNITS

#### HKEU XRV WALL



4 power levels: 2.20~5.60 kW.

Extremely quiet: only 29 dB(A) for models from 2.20~ 3.60 kW.

New built-in electronic expansion valve that operates at 2000 pulses per minute.

Standard washable filter and anti-formaldehyde filter.



Model		HKEU 222 XRV	HKEU 282 XRV	HKEU 362 XRV	HKEU 562 XRV
Cooling capacity	kW	2,20	2,80	3,60	5,60
Heating capacity	kW	2,60	3,20	4,00	6,30
Moisture Removal	l/h	0,7	1,0	1,2	1,8
Power supply	Ph-V-Hz	1-220~240-50			
Power consumption	W	30			45
Air flow (Lo/Mi/Hi)	m <sup>3</sup> /h	420/500/580			650/760/900
Noise level 1 m (Lo/Mi/Hi)	dB(A)	29/32/35			34/38/40
Noise level 2,5 m (Lo/Mi/Hi)	dB(A)	21/24/27			26/30/32
Dimension (WxHxD)	mm	915x290x230			1075x315x230
Net	kg	13			15
Refrigerant pipes Liquid/Gas side	mm/inch.	ø6,35 (1/4") - ø12,7 (1/2")			ø9,53 (3/8") - ø15,9 (5/8")
Drain hose diameter	Ø mm	20			
Refrigerant Control	type	Electronic Expansion Valve box			
Remote Control	type	IR Remote Control (included)			





## CONTROLS



## 2013

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[illegible]

The final report is a summary of the units used, the pipes divided into the various diameters, the branch pipes, the system's electrical wiring diagrams and selected control connection diagrams.

# CONTROLS

## STANDARD INDIVIDUAL

■ RESIDENTIAL/MULTI  
■ COMMERCIAL  
■ XRV MULTI SYSTEM



HKEQ X  
(Performance Line)

*new*



HKEU X  
(Multi Liberty)



HFIU XRV



HTFU X  
 HSFI X  
 HTBU XRV  
 HSFU XRV  
 HRDU XRV  
 (Multi Liberty)



HUCU X  
 HUCI X  
 HTFU XRV  
 HUCU XRV  
 HVDU XRV  
 HFLU XRV  
 HFCU XRV  
 HKEU XRV  
 (Multi Liberty)



DTW-IHXR-TOUCH  
 HTBI X

Able to control lift panel for filter cleaning.

- Ambient temperature range: 17° C~30° C.
- Mode: auto, cooling, dehumidification, heating, ventilation.
- Clock, timer and fan speed setting.
- Setting the motorized flaps for all or single use.
- Fan speed: low, medium, high or automatic.
- Follow me function: built-in temperature sensor for an accurate ambient temperature control.



# CONTROLS

## OPTIONALS

RESIDENTIAL/MULTI

COMMERCIAL

XRV MULTI SYSTEM



DTW2-IHXRV



WIRED REMOTE CONTROL

- Ambient temperature range: 17° C~30° C.
- Mode: auto, cooling, dehumidification, heating, ventilation.
- Clock, timer and fan speed setting.
- Setting for motorized flaps.
- Fan speed: low, medium, high or automatic.
- ECO function, with automatic variation of the ambient temperature setting.



DTW-IHXR

DTWS-IHXR\*



WIRED REMOTE CONTROL

Can be used to control from 1 to 4 units simultaneously.

- Ambient temperature range: 17° C~30° C.
- Mode: auto, cooling, dehumidification, heating, ventilation.
- Clock, timer and fan speed setting.
- Setting for motorized flaps.
- Fan speed: low, medium, high or automatic.
- ECO function, with automatic variation of the ambient temperature setting.

\* Built-in temperature sensor and FOLLOW ME function.



DTC-IHXR



CENTRALISED CONTROL

- Max of 64 units can be connected.
- The following can be set on individual or all units: ON/OFF, ambient temperature, fan speed, flap setting and timer programming.
- Memory of set functions.
- Set function lock (cooling/heating, keyboard remote control).
- Display for operating modes (temp. sensors, batteries and environment).
- Display of alarm codes and safety devices.
- Connection to PC, with adapter.



DTC-2-IHXR



CENTRALISED CONTROL

- Centralized Control with a particularly charming and attractive design.
- It allows the control of the Indoor Units and Heat Pump for hot water:
  - up to 16 Indoor Units;
  - 1 Heat Pump for hot water.

**new**



DTCWT-IHXR



CENTRALISED CONTROL WITH WEEKLY TIMER

- Max of 64 units can be connected.
- Possibility of 4 daily settings (Mon-Sun) on single or on all units: ON/OFF, operating mode, ambient temperature, and fan speed.
- Memory of set functions.
- Set function lock (cooling/heating, keyboard remote control).
- Display for operating modes (temp. sensors, batteries and environment).
- Display of alarm codes and safety devices.

## OPTIONALS



**DTWT-IHXR**  
WEEKLY  
PROGRAMMER

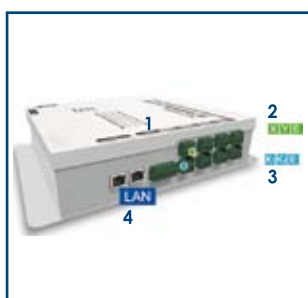
- 4 daily settings of:
- Start-up/shut-down times.
  - Operating mode.
  - Fan speed.
  - Display of alarms and protection devices.
  - Can be combined with remote control and/or wired control.

Note: if this wired control is used, connection to a centralised control is not possible.



**BH-UHXRV**  
BADGE HOTEL

Interface for ON/OFF remote with reactivation of the functions set at restart.



**DTMBS-IHXR**  
INTERFACE

1 Output signal for Emergency stop/Alarm  
2 4 ports for XYE  
3 4 ports for K1K2E  
4 LAN port

**new**

DTMBS-IHXR interface, is the real physical hardware that allows the connection of:

- up to max. 64 Outdoor Units;
- up to max. 256 Indoor Units;
- divided in max. 16 refrigerant circuits;
- LAN connection (RJ45) for PC, Router, Hub, Switch;
- up to max. 4 DTMBS-IHXR can be connected to only one PC (so as to control up to 1024 Indoor Units).



**BMS2-UHXRV**  
NETWORK CONTROL  
SOFTWARE (V.3.1)

- XRV system management and control software.
- Operating settings.
- Display of operating modes.
- Display of alarms and protection devices.



**DTCO-UHXRV**  
CENTRALISED CONTROL  
FOR OUTDOOR UNITS

Centralised control connected to outdoor units (max 32) for viewing the operating parameters and alarms of the outdoor units.

**DT-BOX-IHXR**  
BOX

Box for wall-installation of wired controls.



## TECHNICAL COURSES - KEY TO ICONS



## 2013

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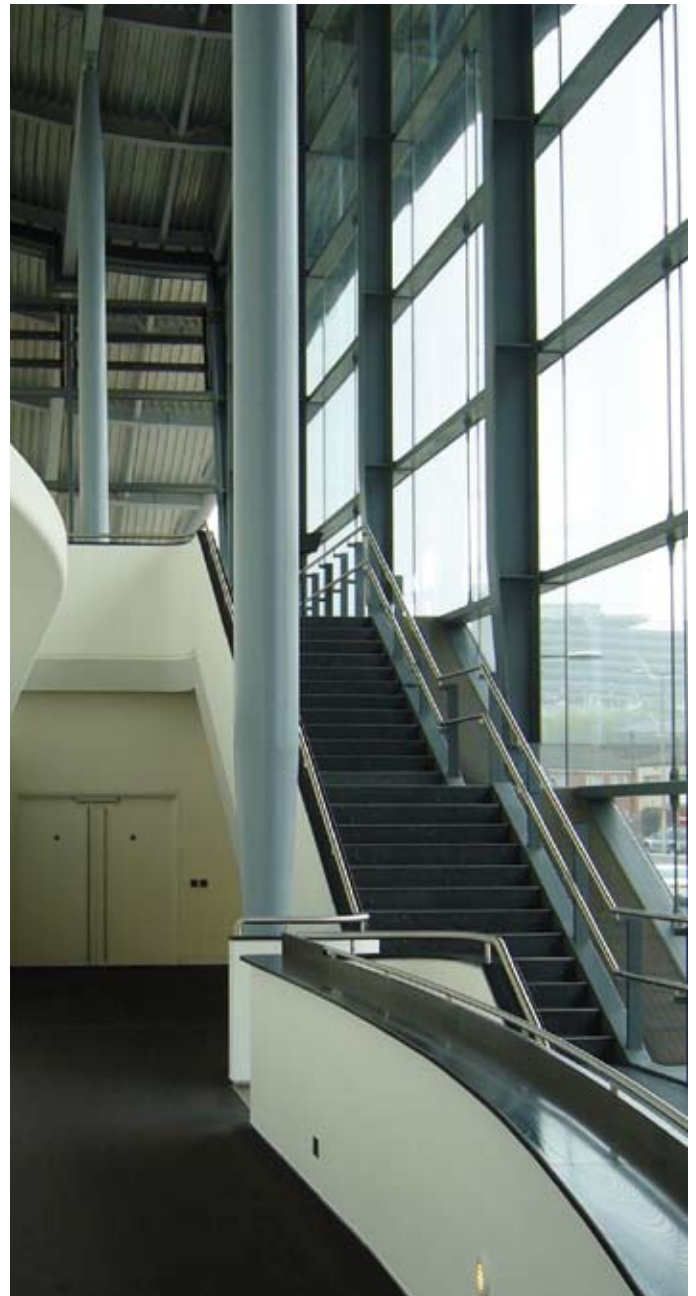
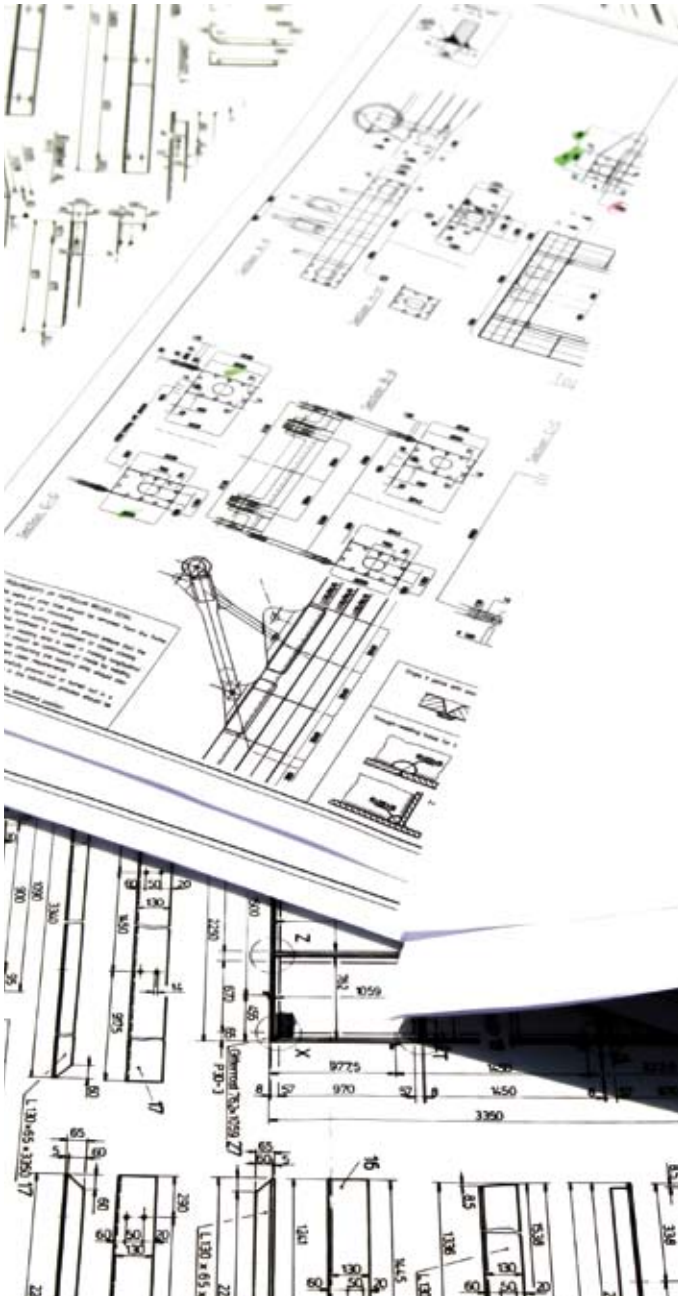




# TECHNICAL COURSES

Hokkaido organizes technical courses at its headquarters or at dealers' facilities, in collaboration with its agencies in order to deepen technicians' and designers' knowledge of various topics, including:

- Refrigerant circuit
- Installation problems
- Fault diagnostics
- Assistance
- Design of systems with variable capacities
- Use of “Easy Solution” software



# KEY TO ICONS

 RESIDENTIAL/MULTI  
 COMMERCIAL  
 XRV MULTI SYSTEM



## DC INVERTER TECHNOLOGY

It ensures the best levels of efficiency and high energy savings, thereby guaranteeing that the temperature parameters selected are reached evenly and quickly.



## ATTENTION TO THE ENVIRONMENT

All products use environmentally friendly R410A refrigerant gas, bi component mixture without CFCs and ozone friendly, which ensures maximum efficiency and running economy.



## ENERGY CLASS

The most part of units have a class a efficiency rating both in cooling and heating.



## MICROCOMPUTER CONTROLLED DEFROSTING

The microcomputer is able to detect a fall off in heating capacity of the system, due to frosting on outdoor unit heat exchanger and activates defrosting function. When this function is on, a LED on indoor unit's front panel lights up.



## RANGE OF OPERATION

The most part of units can operate in heating with an outdoor temperature of -15° C.



## AUTO-RESTART FUNCTION

Automatic switching on after a power outage. In case of blackout, when the power supply returns, the equipment starts up again with the previously selected settings.



## SLEEP MODE

Improves comfort during the nocturnal use, by reducing (in heating) or increasing (in cooling) the set temperature gradually.



## TIMER WITH DEFERRED PROGRAMMING



## INTELLIGENT CONTROL OF THE INTERNAL FAN

In heating mode:

- during thermostatic breaks the fan speed is automatically maintained to avoid discomfort caused by currents of cold air;
- in pre-heating, the air conditioner will not emit air until the heat exchanger has reached the programmed temperature.



## DRY



## 3-DIMENSIONAL COAXIAL FAN

The 60x60 cassette-type model have been designed to house a special (3-dimensional, coaxial) fan which, by reducing resistance to rotation, allows even distribution of the airflow onto the heat exchanger, guaranteeing comfort and wellbeing in the air-conditioned environment.



## AUTO SWING AND WIDE ANGLE FUNCTIONS

The innovative 3D system (Auto Swing and Wide Angle) is present on the floor/ceiling model; the horizontal and vertical flaps are motorized to achieve optimum airflow, allowing a better distribution of air inside the air-conditioned environment.



## COMPACT DESIGN

Indoor units show a compact and modern design, guaranteeing a wide versatility of application leading to quality air-conditioning.



## LOW SOUND LEVELS

Made with innovative technologies, the wide range of indoor units is designed to give a customized response to all requirements of ambient comfort.



## EXTERNAL AIR

Pre-cut for external air inlet fitting.



## EASE OF MAINTENANCE

The auto diagnosis functions on the remote controls and on the indoor and outdoor units provide all the information required to identify malfunctions, thus facilitating and reducing technical assistance.



## CENTRALIZED CONTROL

With centralized control (optional) you can control up to 64 indoor units, console model only.



# KEY TO ICONS

 RESIDENTIAL  
 COMMERCIAL  
 XRV MULTI SYSTEM



 **EASE OF MAINTENANCE**



 **24H TIMER**



 **IR WIRELESS**



 **WIRED CONTROL**



 **EASY CLEAN PANEL**



 **STATIC PRESSURE**



 **ECONOMIC RUNNING FUNCTION**

The operating software automatically sets certain operating parameters in order to obtain the desired temperature with the least expenditure of energy.



 **EASY TO USE REMOTE CONTROL**

The remote controls provided allow the end-user to select the ambient conditions of each area as required and to achieve maximum comfort.



 **VERSATILITY OF CONTROL SYSTEMS**

The control systems allow many combinations of controls; individual or group. The application can easily be incorporated into a BMS control system.



 **EASY SYSTEM MODIFICATION**

It is feasible and simple to make modifications to the system if the need arises. It is, in fact, possible to connect indoor units up to a total rated capacity of 130% of the outdoor unit.



 **REDUCED OPERATING COSTS**

The modular systems have high efficiency compressors with continuous DC Inverter modulation which allow energy savings of 30% compared to conventional systems and require less maintenance.



 **MAXIMUM DESIGN FLEXIBILITY**

The total length of the cooling pipes can reach 100 m with a height difference between the units of 20 m for Mini units and 500 m with a height difference of 70 m for modular units, thus making it easier to adapt the system to the structure of the building. Thanks to the compact and modular design of the outdoor units, they can be positioned in outdoor locations where space is limited.



 **COMPACT DESIGN**

The weight and compact design of the outdoor units facilitate easy transportation and positioning, with a consequent reduction in the installation time and operating costs.



 **EASY REMOVAL OF MACHINE PANEL**

Thanks to a new fastening located inside the units, its ergonomic design allows for easy removal of the panel and improves the overall design of the machine.