

# HOT WATER SOLUTION

| 142 Hydro Kit



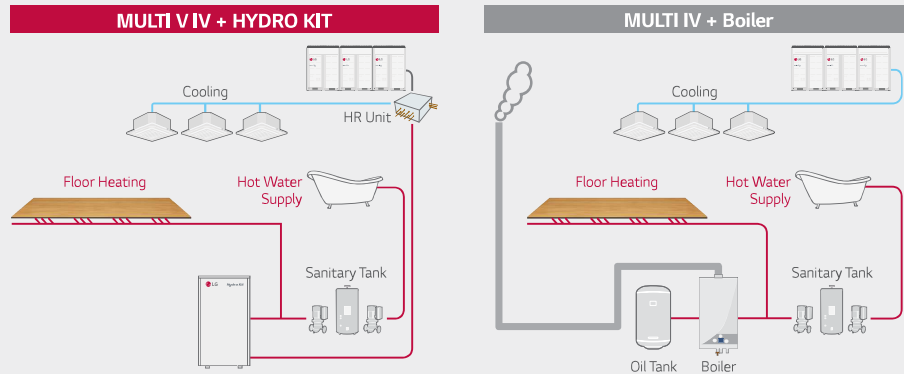
## **HYDRO KIT**

HYDRO KIT, using MULTI V to provide floor heating and hot water supply as a total HVAC solution.

# HYDRO KIT

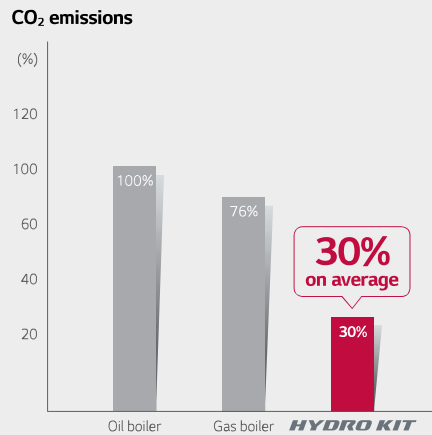
## Easy Installation

Easy to install as it uses a compact and modular structure.



## Eco-friendly Green Energy Solution

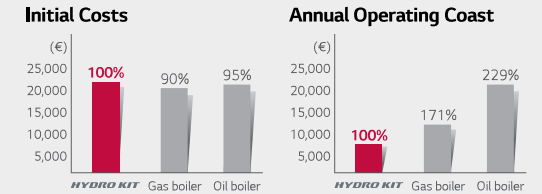
Green energy solution through the reduction of CO<sub>2</sub> emissions.



## Saving Cost through High Efficiency

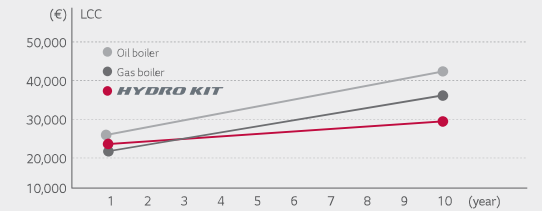
Possible to install with equivalent levels of capital cost as a boiler system and minimise energy bills thanks to lower operation costs.

- 1st Proposal MULTI V IV HYDRO KIT (Air Conditioning + Hot water supply + Floor Heating)
- 2nd Proposal MULTI V IV Air-conditioning + Gas Boiler (Hot water supply + Floor Heating)
- 3rd Proposal MULTI V IV Air-conditioning + Oil Boiler (Hot water supply + Floor Heating)



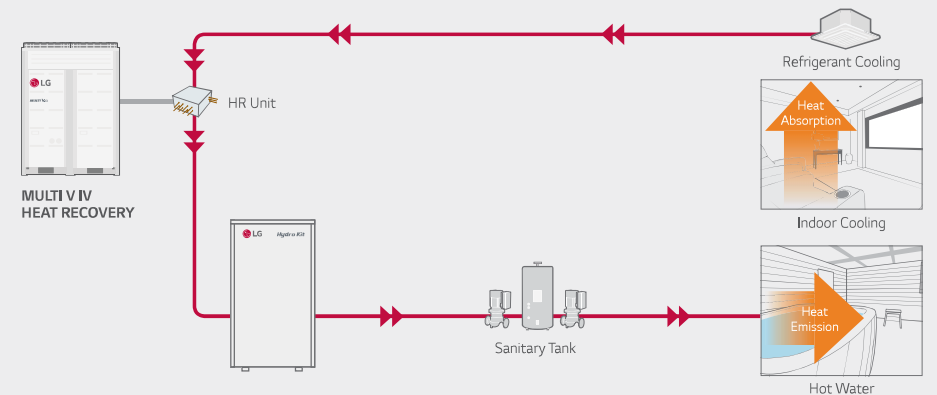
### Analysis Conditions

- Building Type : Dormitory, flats
- Cooling / Floor Heating / Sanitary Hot water for 10 years
- Cooling : MULTI V IV Indoor unit
- Floor Heating : Medium Temp. HYDRO KIT (1ea)
- Sanitary Hot water : High Temp. HYDRO KIT (2ea), Sanitary Hot water tanks
- Electricity cost : Average cost in EU
- Gas cost : Average cost in EU
- Oil cost : Average cost in EU



## Energy Saving through MULTI V IV Heat Recovery

Energy costs can be minimized by reusing the wasted heat from indoor units.



# HYDRO KIT

## High Temperature Concept of HYDRO KIT

Provides high temperature up to 80°C with dual inverter cascade cycle, applicable for buildings that require large amount of hot water supply.

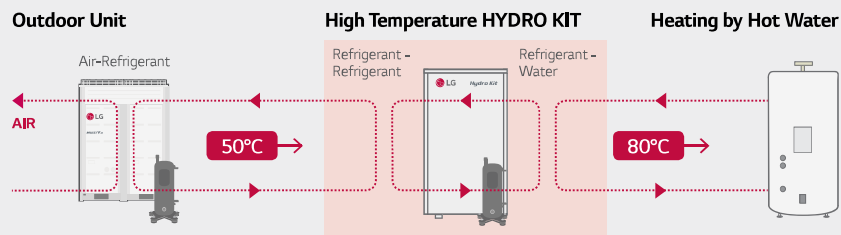
### Dual Inverter Cascade Cycle Technology

- Max 55% improved capacity compared to mid-temp. of HYDRO KIT
- Max 20% reduced heating operating cost compared to mid-temp. of HYDRO KIT
- Cascade R410A to R134A BLDC compressor technology

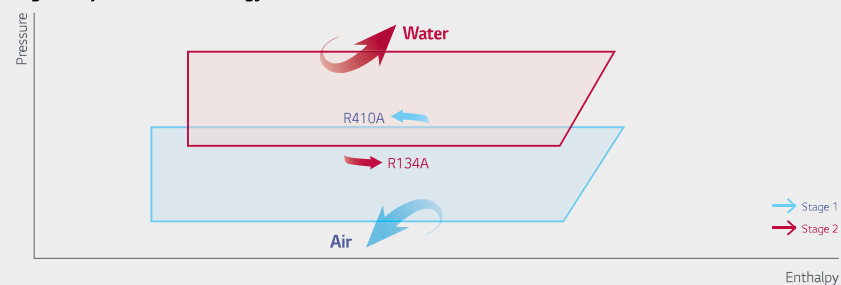
### High Volume of Hot Water

- Compared to lower temperature, storing high temperature water in a sanitary tank increases the quantity of mixed water available for the user.

## High Temperature of HYDRO KIT Cycle Diagram



### High Temperature Technology



## Various Applications

Applicable to a variety of facilities including hospitals, residences and resorts that need floor heating and domestic hot water supply.

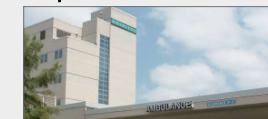
### Office



### University / School



### Hospital / Clinic



### Shopping Mall / Restaurant



### Hotel / Resort

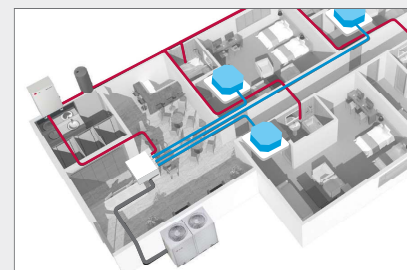


### Factory Facilities



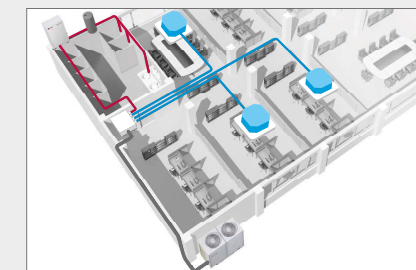
## Hotel Application

It is possible to operating cooling and heating constantly at the same time during the summer; to provide hot water for bathrooms by using waste heat energy of indoor cooling from an indoor unit.



## Office Application

Hot water can be supplied at all times in the office by cooling the HR unit to warm up the sanitary tank, using waste energy.



# HYDRO KIT

ARNH04GK2A2 / ARNH10GK2A2



Type				Low Temp.		Low Temp.		
Model				ARNH04GK2A2		ARNH10GK2A2		
Power Supply			Ø / V / Hz	1 / 220-240 / 50 1 / 220 / 60		1 / 220-240 / 50 1 / 220 / 60		
Capacity (Rated)	Cooling		kW	12,3		28,0		
	Heating		kW	13,8		31,5		
Power Input	Cooling		Max kW	0,01		0,01		
	Heating		Max kW	0,01		0,01		
Water Outlet Temperature	Cooling		Min °C	6°C		6°C		
	Heating		Max °C	50°C		50°C		
Casing				Painted Steel Plate		Painted Steel Plate		
Dimensions	Body	W x H x D	mm	520 x 631 x 330		520 x 631 x 330		
			inch	20-15 / 32 x 24-27 / 32 x13		20-15 / 32 x 24-27 / 32 x13		
Net Weight			kg (lbs)	30,4 (67)		35,0 (77,2)		
Heat Exchanger	Refrigerant to Water	Type	Blazed Plate Hex		Blazed Plate Hex			
		Rated Water Flow	L / min	39,6		92,0		
	Head Loss	kPa	41,0		69,0			
Compressor	Refrigerant to Refrigerant		Type	-		-		
	Type		-		-			
Piping Connections	Water Side	Inlet	inch	Male PT 1		Male PT 1		
		Outlet	inch	Male PT 1		Male PT 1		
	Refrigerant Side	Liquid Side	mm (inch)	9,52 (3/8)		9,52 (3/8)		
		Gas Side	mm (inch)	15,88 (5/8)		22,2 (7/8)		
Drain Piping Connection			mm (inch)	Male PT 1		Male PT 1		
Sound Pressure Level	Cooling	dB (A)	26		26			
	Heating	dB (A)	26		26			
Power Supply Cable			No. x mm <sup>2</sup>	3C x CV2,5		3C x CV2,5		
Communication Cable			No. x mm <sup>2</sup>	2C x CWV-SB 1,0-1,5		2C x CWV-SB 1,0-1,5		
Refrigerant	Refrigerant to Refrigerant		Refrigerant Type	-		-		
	Control		-		-			
	Refrigerant to Water		Refrigerant Type	R410A		R410A		
	Precharged Amount		kg (lbs)	-		-		
Operation Range	Connected to Heat Pump	Cooling	°C (DB)	10°C - 43°C		10°C - 43°C		
		Heating	°C (DB)	-20°C - 35°C		-20°C - 35°C		
	Connected to Heat Recovery	Cooling	°C (DB)	10°C - 43°C		10°C - 43°C		
		Heating	°C (DB)	-20°C - 43°C		-20°C - 43°C		
	Only Hydrokit		Min - Max	%	50 - 100		50 - 100	
	Hydrokit + Standard IDUs		Min - Max	%	50 - 130		50 - 130	

\* This product contains Fluorinated Greenhouse Gases, (R410A)

Note: 1. Capacities are based on the following conditions:

- Cooling: Indoor 27°C (80.6°F) DB / 19°C (66.2°F) WB, Outdoor 35°C (95°F) DB / 24°C (75.2°F) WB, Water Inlet 23°C (73.4°F) / Outlet 18°C (64.4°F)

- Heating: Indoor 20°C (68°F) DB / 15°C (59°F) WB, Outdoor 7°C (44.6°F) DB / 6°C (42.8°F) WB, Water Inlet 30°C (86°F) / Outlet 35°C (95°F)

2. Piping Length: Interconnected Pipe Length = 7.5m

3. Difference Limit of Elevation (Outdoor - Indoor Unit) is Zero.

4. MULTI V S 4HP (ARUN040G550, ARUH040L550) cannot be connected to Hydro Kit.

5. MULTI V Water 5 cannot be connected to Hydro Kit.

6. Anti freezing liquid should be added under 10°C (outdoor temp.) during cooling mode

# HYDRO KIT

ARNH04GK3A2 / ARNH08GK3A2



Type				High Temp.		High Temp.		
Model				ARNH04GK3A2		ARNH08GK3A2		
Power Supply			Ø / V / Hz	1 / 220-240 / 50 1 / 220 / 60		1 / 220-240 / 50 1 / 220 / 60		
Capacity (Rated)	Cooling		kW	-		-		
	Heating		kW	13,8		25,2		
Power Input	Cooling		Max kW	-		-		
	Heating		Max kW	2,3		5,0		
Water Outlet Temperature	Cooling		Min °C	-		-		
	Heating		Max °C	80°C		80°C		
Casing				Painted Steel Plate		Painted Steel Plate		
Dimensions	Body	W x H x D	mm	520 x 1,080 x 330		520 x 1,080 x 330		
			inch	20-15 / 32 x 42-17 / 32 x13		20-15 / 32 x 42-17 / 32 x13		
Net Weight			kg (lbs)	88,0 (194,0)		94,0 (207,2)		
Heat Exchanger	Refrigerant to Water	Type	Blazed Plate Hex		Blazed Plate Hex			
		Rated Water Flow	L / min	19,8		36,0		
	Head Loss	kPa	5,0		20,0			
Compressor	Refrigerant to Refrigerant		Type	Blazed Plate Hex		Blazed Plate Hex		
	Type		Twin Rotary Inverter		Twin Rotary Inverter			
Piping Connections	Water Side	Inlet	inch	Male PT 1		Male PT 1		
		Outlet	inch	Male PT 1		Male PT 1		
	Refrigerant Side	Liquid Side	mm (inch)	9,52 (3/8)		9,52 (3/8)		
		Gas Side	mm (inch)	15,88 (5/8)		19,05 (3/4)		
Drain Piping Connection			mm (inch)	Male PT 1		Male PT 1		
Sound Pressure Level	Cooling	dB (A)	-		-			
	Heating	dB (A)	43		43			
Power Supply Cable			No. x mm <sup>2</sup>	3C x CV4,0		3C x CV4,0		
Communication Cable			No. x mm <sup>2</sup>	2C x CWV-SB 1,0-1,5		2C x CWV-SB 1,0-1,5		
Refrigerant	Refrigerant to Refrigerant		Refrigerant Type	R410A		R410A		
	Control		EEV		EEV			
	Refrigerant to Water		Refrigerant Type	R134A		R134A		
	Precharged Amount		kg (lbs)	2,3(5,1)		3,0(6,6)		
Operation Range	Connected to Heat Pump	Cooling	°C (DB)	-		-		
		Heating	°C (DB)	-20°C - 35°C		-20°C - 35°C		
	Connected to Heat Recovery	Cooling	°C (DB)	-		-		
		Heating	°C (DB)	-20°C - 43°C		-20°C - 43°C		
	Only Hydrokit		Min - Max	%	50 - 100		50 - 100	
	Hydrokit + Standard IDUs		Min - Max	%	50 - 130		50 - 130	

\* This product contains Fluorinated Greenhouse Gases, (R410A, R134A)

Note: 1. Capacities are based on the following conditions:

- Cooling: Indoor 27°C (80.6°F) DB / 19°C (66.2°F) WB, Outdoor 35°C (95°F) DB / 24°C (75.2°F) WB, Water Inlet 23°C (73.4°F) / Outlet 18°C (64.4°F)

- Heating: Indoor 20°C (68°F) DB / 15°C (59°F) WB, Outdoor 7°C (44.6°F) DB / 6°C (42.8°F) WB, Water Inlet 30°C (86°F) / Outlet 35°C (95°F)

2. Piping Length: Interconnected Pipe Length = 7.5m

3. Difference Limit of Elevation (Outdoor - Indoor Unit) is Zero.

4. MULTI V S 4HP (ARUN040G550, ARUH040L550) cannot be connected to Hydro Kit.

5. MULTI V Water 5 cannot be connected to Hydro Kit.