

Explosion Proof

Ex-M High Ambient Series

Split Unit Air Conditioners



Equipment for Hazardous Areas

Key Benefits

- Specially designed for high ambient temperatures up to 52°C.
- To be used for cooling and heating.
- ATEX zone 2 and 22
- Operation range from +52°C to -20°C ambient temperature
- Wall mount, cassette, ducted or ceiling suspended indoor models
- 5 years warranty included on parts

Ex II 3G Ex h ic nAC IIB(+H2) T4 Gc (indoor unit)

Ex II 3G Ex h nAC IIB(+H2) T3 Gc (outdoor unit)



Applications

Very reliable explosion proof climate control for regions with high ambient temperatures such as The Middle East, Far East and Africa. Ensures a healthy working environment and keeps materials at room temperature at all times in desert or tropical areas. For example (offshore) storage containers and (operator) shelters. These converter based units can also be used for heating during cold nights.

For explosion safe climate control under high ambient temperatures

Based on OEM Daikin Sky Air Alpha series. Designed for high ambient temperatures. Technical cooling function enables 24/7 continuous cooling. Converted and certified to explosion proof ATEX zone 2 (3G) and 22 (3D) by Ex-Machinery Explosion Proof Equipment B.V.

Unique Options

- **3 Configurations:**
 1. Indoor unit for ATEX zone 2, with outdoor unit for safe area
 2. Both the indoor and outdoor units for ATEX zone 2
 3. Indoor unit for safe area, with outdoor unit for ATEX zone 2
- **Marine Upgrade:** corrosion protection coating on fins, coils and/or outdoor casing. AISI 316 fasteners
- **R410a Retrofit:** R32 refrigerant replaced with R410a, including re-labeling
- **50Hz/60Hz upgrade,** including re-labeling
- **Connection to BMS or Industrial DCS**

Explosion Safety Specifications (ATEX)

EU Directive	2014/34/EU (ATEX114)
ATEX marking gas (indoor unit)	II 3G Ex h ic nAC IIB (+H2) T4 Gc
ATEX marking gas (outdoor unit)	II 3G Ex h nAC IIB (+H2) T3 Gc
ATEX marking dust (indoor unit)	II 3D Ex tc h IIB T140°C Dc
ATEX marking dust (outdoor unit)	II 3D Ex tc h IIB (+H2) T150°C Dc
Applied standards	EN 60079-0, EN 60079-11, EN 60079-15, EN 60079-31, EN 60079-36, EN 80079-37



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SUPERIOR AIR CONDITIONING FOR CHALLENGING ENVIRONMENTS

- Battery rooms
- Operator shelters
- Production facilities
- Storage facilities
- Refineries
- Chemical plants
- Offshore platforms
- Control rooms
- Pharmaceutical facilities
- Paint and coating shops
- Fuel storage areas
- Gas compressor stations
- Petrochemical plants
- Food and beverage facilities



CONFIGURATIONS TAILORED TO YOUR UNIQUE NEEDS

1. Both indoor and outdoor unit for zone 2



2. Indoor unit for safe area, outdoor unit for zone 2



3. Indoor unit for zone 2, outdoor unit for safe area



OPTIONAL SPARE PARTS

- Indoor/Outdoor PCB's
- Fan Motors
- Compressor
- Remote control



Gido van Tienhoven
– Founder &
Technical Director

ABOUT EX-MACHINERY

Ex-Machinery delivers the best explosion proof HVAC systems, tailored to meet your needs in hazardous areas. With 20 years of ATEX expertise, we combine exceptional quality, customer-focused service, and reliable solutions to ensure safety in gas and dust-prone zones. Founded by Gido van Tienhoven, a passionate engineer and entrepreneur dedicated to preventing explosion hazards, our team is committed to providing expert advice and fast, efficient service. Contact us today for the best ATEX HVAC solutions and get your quotation within 24 hours.

WORLDWIDE SHIPMENT



WE PROVIDE THE BEST ATEX COOLING SOLUTIONS, COMBINING AFFORDABILITY, RELIABILITY, AND CUSTOMIZED CONFIGURATIONS WITH EXCEPTIONAL AFTERCARE AND SERVICE TO 50+ COUNTRIES

CONTACT US TODAY AT sales@ex-machinery.nl



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Indoor units: Wall Mount

Available wall mount units

Non-ATEX/Standard	HA35W	HA50W	HA60W	HA71W	HA100W
ATEX Zone 2	Ex-M HA35W	Ex-M HA50W	Ex-M HA60W	Ex-M HA71W	Ex-M HA100W
Compatible Outdoor Unit	(Ex-M) HA35O	(Ex-M) HA50O	(Ex-M) HA60O	(Ex-M) HA71O	(Ex-M) HA100O
Set	Ex-M HA35	Ex-M HA50	Ex-M HA60	Ex-M HA71	Ex-M HA100

Wall mount dimensions

HxWxD (mm)	298x804x252	299x998x292	290x1,050x269	340x1,200x262
Shipping HxWxD (mm)	350x875x380	397x1,115x377	368x1,138x380	337x1,310x429
Unit weight (kg)	11.5	14.5	14.0	18.0
Shipping weight (kg)	13.0	17.0	18.0	23.0

Technical specifications

Performance					
Cooling Capacity (Nom.) kW	3.5	5.0	6.0	6.8	9.5
Heating Capacity (Nom.) kW	4.0	6.0	7.0	7.5	10.8
Space cooling					
Energy efficiency class	A+++	A++			
Capacity Pdesign (kW)	3.5	5.0	6.0	6.8	9.5
SEER	9.25	7.80	6.90	6.58	6.42
Annual energy consumption (kWh/a)	132	224	304	362	518
Space heating					
Energy efficiency class	A+++	A++	A+		
Capacity Pdesign (kW)	2.50	4.50	4.60	4.70	7.80
SCOP/A	4.60	4.35	4.35	4.20	4.01
Annual energy consumption (kWh/a)	673	1,312	1,480	1,567	2,725
Heat Exchanger Fin Type	Multi slit fin			Cross fin coil (multi slit fins and hi-XA tubes)	
Refrigerant	R-32 (R140a optional)				
Air Filter	Removable/Washable				
Fan					
Type	Cross Flow Fan				
Air Flow Rate					
Cooling (S/L/M/H) (m³/min)	4.6/7.1/9.4/13.2	5.9/7.8/10.4/12.7	9.1/11.8/14/16.7	12.1/13.4/16.2	18.7/21.1/23.0
Heating (S/L/M/H) (m³/min)	5.1/6.9/9.4/11.1	6.9/8.6/11.5/14.5	11.1/12.4/15.2/16.5	12.7/14.2/16.9	18.7/20.9/23.0
Sound Power Level					
Cooling dB(A)	58	60		61.0	65.0
Heating dB(A)	53	60	59		
Sound Pressure Level					
Cooling (S/L/H) dB(A)	19/29/45	27/33/46	30/37/46	40/42/45	41/45/49
Heating (S/L/H) dB(A)	20/28/39	31/34/46	33/36/45		
Control Systems					
Infrared Remote Control	ARC466A86				
Piping connections					
Liquid Pipe (Flare Connection) OD (mm)	6.40			9.52	
Gas Pipe (Flare Connection) OD (mm)	9.50	12.70		15.90	
Drain	OD: 16 mm			VP13 (I.D. 13/O.D. 18)	
Heat Insulation	Both liquid and gas pipes			Foamed polystyrene/polyethylene	



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Indoor units: Ceiling Suspended

Available ceiling suspended units

Non-ATEX/Standard	HA35S	HA50S	HA60S	HA71S	HA100S	HA125S	HA140S
ATEX Zone 2	Ex-M HA35S	Ex-M HA50S	Ex-M HA60S	Ex-M HA71S	Ex-M HA100S	Ex-M HA125S	Ex-M HA140S
Compatible Outdoor Unit	(Ex-M) HA35O	(Ex-M) HA50O	(Ex-M) HA60O	(Ex-M) HA71O	(Ex-M) HA100O	(Ex-M) HA125O	(Ex-M) HA140O
Set	Ex-M HA35	Ex-M HA50	Ex-M HA60	Ex-M HA71	Ex-M HA100	Ex-M HA125	Ex-M HA140

Ceiling suspended dimensions

HxWxD (mm)	235x960x690		235x1,270x690		235x1,590x690		
Shipping HxWxD (mm)	336x1,060x824		334x1,388x869		334x1,708x869		
Unit Weight (kg)	26	27	32	34	41		
Shipping Weight (kg)	32	33	42	44	53		

Technical specifications

Performance							
Cooling Capacity (Nom.) (kW)	3.5	5.0	6.0	6.8	9.5	12.1	13.4
Heating Capacity (Nom.) (kW)	4.0	5.8	7.0	7.5	10.8	13.5	15.5
Space Cooling							
Energy Efficiency Class	A++					-	
Capacity Pdesign (kW)	3.5	5.0	6.0	7.1	9.5	12.1	13.4
SEER	6.40	6.80	6.60	7.11	6.42	7.14	6.42
Annual Energy Consumption (kWh/a)	191	257	318	335	518	1,017	1,253
Space Heating (Average Climate)							
Energy Efficiency Class	A+				A++	-	
Capacity Pdesign (kW)	3.10	4.00	4.60	4.70	7.80	9.52	
SCOP/A	4.10	4.30	4.20	4.32	4.61	4.20	4.30
Annual Energy Consumption (kWh/a)	1,058	1,302	1,633	1,523	2,369	3,174	3,100
Power Supply	1~/50/60/220-240/220						
Heat Exchanger Fin Type	ML fin (Anti Corrosion Hydrophilic)						
Refrigerant	R-32 (R410a optional)						
Air Filter	Resin Net						
Fan							
Type	Sirocco Fan						
Quantity	2		3		4		
Air Flow Rate							
Cooling (S/L/M/H) (m³/min)	10.0/11.5/14.0	10.0/12.0/15.0	11.5/15.0/19.5	14.0/17.0/20.5	20.0/24.0/28.0	23.0/27.0/31.0	23.0/27.0/31.0
Heating (S/L/M/H) (m³/min)							
Sound Power Level							
Cooling (dBA)	53.0	54.0		55.0	60.0	62.0	64.0
Heating (dBA)							
Sound Pressure Level							
Cooling (L/M/H) (dBA)	31.0/34.0/36.0	32.0/35.0/37.0	33.0/35.0/37.0	34.0/36.0/38.0	34.0/38.0/42.0	37.0/41.0/44/0	38.0/42/0/46.0
Heating (L/M/H) (dBA)							
Control Systems							
Infrared Remote Control	BRC1D528/BRC1H51W/S/K						
Wired Remote Control	BRC1D528 / BRC1H51(9)W/S/K7 / BRC1H52W/S/K / BRC1H81W7 / BRC1H81S7 / BRC1E53A/B/C7 / BRC1H82W/S/K						
Piping Connections							
Liquid Pipe (Flare Connection) OD (mm)	6.35			9.52			
Gas Pipe (Flare Connection) OD (mm)	9.50	12.70		15.9			
Drain	VP20						

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Split Unit Air Conditioners



Indoor units: Cassette

Available cassette units

Non-ATEX/Standard	HA35C	HA50C	HA60C	HA71C	HA100C	HA125C	HA140C
ATEX Zone 2	Ex-M HA35C	Ex-M HA50C	Ex-M HA60C	Ex-M HA71C	Ex-M HA100C	Ex-M HA125C	Ex-M HA140C
Compatible Outdoor Unit	(Ex-M) HA35O	(Ex-M) HA50O	(Ex-M) HA60O	(Ex-M) HA71O	(Ex-M) HA100O	(Ex-M) HA125O	(Ex-M) HA140O
Set	Ex-M HA35	Ex-M HA50	Ex-M HA60	Ex-M HA71	Ex-M HA100	Ex-M HA125	Ex-M HA140

Cassette dimensions

HxWxD (mm)	204x840x840				246x840x840		
Shipping HxWxD (mm)	220x882x882				260x882x882		
Unit Weight (kg)	18	19	21	23	23	23	23
Shipping Weight (kg)	20	21	23	26	26	26	26

Technical specifications

Performance							
Cooling Capacity (Nom.) (kW)	3.5	5.0	6.0	6.8	9.5	12.1	13.4
Heating Capacity (Nom.) (kW)	4.0	5.8	7.0	7.5	10.8	13.5	15.5
Space Cooling							
Energy Efficiency Class	A++					-	
Capacity Pdesign (kW)	3.5	5.0	6.0	6.8	9.5	12.1	13.4
SEER	7.30	6.80	6.60	6.83	7.14	7.15	6.80
Annual Energy Consumption (kWh/a)	168	257	318	348	466	1,016	1,182
Space Heating (Average Climate)							
Energy Efficiency Class	A+					-	
Capacity Pdesign (kW)	3.30	4.30	4.60	4.70	7.80	9.52	
SCOP/A	4.30		4.25	4.22	4.53	4.34	
Annual Energy Consumption (kWh/a)	1,074	1,398	1,515	1,560	2,413	3,071	
Heat Exchanger Fin Type	Cross fin coil (multi slit fins and hi-XA tubes)						
Refrigerant	R-32 (R140a optional)						
Fan	Turbo fan						
Steps	5						
Air Flow Rate Cooling (L/M/H) (m³/min)	8.8/10.6/12.9	9.4/11.8/14.6	9.6/12.2/14.9	10.8/13.0/15.1	13.0/17.8/22.7	13.1/20.4/27.2	
Air Flow Rate Heating (L/M/H) (m³/min)	9.4/11.6/14.1	9.4/11.8/14.6	9.6/12.2/14.9	10.8/12.9/15.1	13.0/18.1/23.0	13.0/20.0/27	
Sound Power Level							
Cooling dB(A)	49.0		51.0		54.0	58.0	
Heating dB(A)							
Sound Pressure Level							
Cooling (L/M/H) dB(A)	27.0/29.0/31.0		28.0/31.0/33.0	28.0/31.0/35.0	29.0/33.0/37.0	29.0/35.0/41.0	
Heating (L/M/H) dB(A)			28.0/31.0/33.0				
Control Systems							
Infrared Remote Control	BRC7FA532F / BRC7FB532F / BRC7FA532FB / BRC7FB532FB						
Wired Remote Control	BRC1H52W/S/K / BRC1E53A / BRC1E53B / BRC1E53C / BRC1D52						
Piping connections							
Sound Absorbing Insulation	Foamed polyurethane						
Liquid Pipe (Flare Connection) OD (mm)	6.35			9.52	9.52	9.52	9.52
Gas Pipe (Flare Connection) OD (mm)	9.52	12.70		15.9			
Drain	VP25 (O.D. 32 / I.D. 25)						
Heat Insulation	Foamed Polystyrene / Foamed Polyethylene						

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Indoor units: Ducted

Available ducted units

Non-ATEX/Standard	HA35D	HA50D	HA60D	HA71D	HA100D	HA125D	HA140D
ATEX Zone 2	Ex-M HA35D	Ex-M HA50D	Ex-M HA60D	Ex-M HA71D	Ex-M HA100D	Ex-M HA125D	Ex-M HA140D
Compatible Outdoor Unit	(Ex-M) HA35O	(Ex-M) HA50O	(Ex-M) HA60O	(Ex-M) HA71O	(Ex-M) HA100O	(Ex-M) HA125O	(Ex-M) HA140O
Set	Ex-M HA35	Ex-M HA50	Ex-M HA60	Ex-M HA71	Ex-M HA100	Ex-M HA125	Ex-M HA140

Ducted unit dimensions

HxWxD (mm)	245x700x800	245x1,000x800	245x1,400x800
Shipping HxWxD (mm)	890x900x295	890x1200x295	890x1600x295
Unit Weight (kg)	28.0	35.0	46.0
Shipping Weight (kg)	30.5	38.0	49.0

Technical specifications

Performance		Technical Specifications						
Cooling Capacity (Nom.) kW	3.5	5.0	6.0	6.8	9.5	12.1	13.4	
Heating Capacity (Nom.) kW	4.0	6.0	7.0	7.5	10.8	13.5	15.5	
Space Cooling								
Energy Efficiency Class	A++				-			
Capacity Pdesign (kW)	3.5	5.0	6.0	6.8	9.5	12.1	13.4	
SEER	6.12	6.30	6.15	6.50	6.47	6.56	6.42	
Annual Energy Consumption (kWh/a)	200	278	341	366	514	1,107	1,252	
Space Heating (Average Climate)								
Energy Efficiency Class	A+				-			
Capacity Pdesign (kW)	2.5	3.6	4.0	4.8	6.0	8.0	8.0	
SCOP/A	4.20	4.30	4.50	4.70	7.80	9.52		
Annual Energy Consumption (kWh/a)	1,434	1,469	1,537	1,566	2,505	3,050	3,070	
Refrigerant	R-32 (R140a optional)							
Air Filter Type	Resin Net							
Fan	Sirocco fan							
Air Flow Rate Cooling (L/M/H) (m³/min)	10.5/12.5/15.0		12.5/15.0/18.0		20.0/24.5/29.0		23.5/29.0/34.0	
Air Flow Rate Heating (L/M/H) (m³/min)								
External static pressure (Nom.)	30 Pa				40 Pa	50 Pa		
Sound Power Level								
Cooling dB(A)	60.0		56.0		58.0	62.0		
Sound Pressure Level								
Cooling (Low/High) dB(A)	29/35		25/30		30/34	32/37		
Heating (Low/High) dB(A)	29/37		25/31		30/36	32/38		
Control Systems								
Infrared Remote Control	BRC4C65 / BRC4C66							
Wired Remote Control	BRC1H52W/S/K / BRC1E53A / BRC1E53B / BRC1E53C / BRC1D52							
Power Supply	1~/50/60/220-240/220							
Drain-Up Height	625 mm							
Piping Connections								
Sound Absorbing Insulation	Butyl Rubber							
Liquid - Type	Flare connection							
Liquid OD (mm)	6.35			9.52				
Gas - Type	Flare connection							
Gas OD (mm)	9.52	12.70		15.90				
Drain	VP20 (I.D. 20/O.D. 26)							
Heat Insulation	Foamed polystyrene / Foamed polyethylene							

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Outdoor units

Available outdoor units

Non-ATEX/Standard	HA350	HA500	HA600	HA710	HA1000	HA1250	HA1400
ATEX Zone 2	Ex-M HA350	Ex-M HA500	Ex-M HA600	Ex-M HA710	Ex-M HA1000	Ex-M HA1250	Ex-M HA1400

Outdoor unit dimensions

HxWxD (mm)	734x870x373			870x1,100x460			
Shipping HxWxD (mm)	820x1,050x480			1,050x1,205x569			
Unit Weight (kg)	52			81	85	95	
Shipping Weight (kg)	57			92	95	106	

Technical specifications

Performance		Technical Specifications					
Cooling Capacity (kW)	3.5	5.0	6.0	6.8	9.5	12.1	13.4
Heating Capacity (kW)	4.0	5.8/6.0	7.0	7.5	10.8	13.5	15.5
Casing Material	Painted galvanized (DZ140) steel (DX54) plate						
Operation Range							
Cooling	-20~52°C						
Heating	-20~24°C			-20~18°C			
Heat Exchanger							
Length (mm)	920						
Rows (Qty)	2						
Fin pitch (mm)	1.4						
Passes (Qty)	2.2						
Stages (Qty)	32						
Tube type	ø7 Hi-XD						
Fin type	Waffle fin (PE)			WF fin			
Fin treatment	Anti-corrosion treatment (PE)						
Fan							
Type	Propeller						
Air Flow Rate - Cooling (m³/min)	55.1			68	67	80	87
Air Flow Rate - Heating (m³/min)				75	82	80	87
Sound Power level							
Cooling (dBA)	62	63	64	64	66	69	70
Heating (dBA)				-		68(1)	71 (1)
Sound Pressure Level							
Cooling	48	49	50	47	47	49	50
Heating				48	50	52	
Refrigerant							
Type	R32 (R140a optional)						
Charge (kg)	1.55			3.20		3.70	
Power Supply	1~/50/220-240 V			1~/50/220-240 V OR 3~/50/380-415 V			
Piping connections							
Liquid (OD, mm)	6.35			10 (Flare connection, 1x)			
Gas (OD, mm)	9.52	12.70		15.9 (Flare connection, 1x)			
Drain (OD, mm)	16			26 (Hole, 8x)			
Piping length (OU - IU, m)	Max. 50			Min. 3, Max. 55	Min. 3, Max. 85		
Level difference (OU - IU, m)	Max. 30						
Heat insulation	Both liquid and gas pipes						

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Optional

Refrigerant R410a retrofit
ATEX isolating switch
ATEX zone 2 or 22 converter to connect with 3phase no neutral/400-440V, 50/60 Hz
ATEX zone 2 or 22 converter to connect with 3phase no neutral/400-460V, 50/60 Hz
Infra-red remote control included. ATEX zone 2 or ATEX zone 22 available
Wired remote control (optional): In rugged IP66 casing. Various options depending on required functions as remote alarm, redundant operation, set-point function. Available for ATEX zone 2, ATEX zone 22 or for non-hazardous area.
Offshore corrosion resistance treatment
Communication PCB, for connection to industrial controls
Power split box
Control cabinet for interface with Air Handling Unit (AHU)