

Explosion Proof Ex-M Classic Series Split Unit Air Conditioners



Equipment for Hazardous Areas

Key Benefits



- ATEX modification of latest Daikin series.
- To be used for cooling and heating.
- ATEX zone 2 and 22
- Operation range from -20°C up to +50°C ambient temperature
- R32 refrigerant; R410a retrofit on request
- 5 years warranty included on parts

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

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



Best of Both Worlds

Daikin Air Conditioners, the global No. 1 air conditioner manufacturer, are now available for safe use in industrial areas prone to gas or dust explosive atmospheres. Daikin Air Conditioners are one of the preferred brands for many end users in the Oil & Gas Industry, Marine Industry, Chemical Industry, and Pharmacy. They ensure a healthy working environment and always maintain hazardous substances at room temperature.

Applications:

- Cooling and heating of offshore storage containers
- Temperature control for operator shelters
- Battery rooms
- Control rooms in oil refineries
- Chemical storage facilities
- Marine vessel accommodations

ATEX modification and certification are performed by Ex-Machinery Explosion Proof Equipment B.V. in our dedicated workshop in Ridderkerk, The Netherlands. Ex-Machinery modifies only the unit(s) that will be placed in an ATEX-classified area, ensuring the most cost-effective solution for safe cooling and heating in hazardous areas. 90% of Daikin AC models can be modified to explosion proof by Ex-Machinery.

Unique Options

- **3 Configurations:**
 1. Indoor unit for ATEX zone 2, with outdoor unit for safe area
 2. Indoor unit for safe area, with outdoor unit for ATEX zone
 3. Both the indoor and outdoor units 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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Split Unit Air Conditioners



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 info@ex-machinery.nl



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Equipment for Hazardous Areas



Indoor units: Wall Mount

Available wall mount units

Non-ATEX/Standard	CS20W	CS25W	CS35W	CS42W	CS50W	CS60W	CS71W
ATEX Zone 2	Ex-M CS20W	Ex-M CS25W	Ex-M CS35W	Ex-M CS42W	Ex-M CS50W	Ex-M CS60W	Ex-M CS71W
Compatible Outdoor Unit	(Ex-M) CS20O	(Ex-M) CS25O	(Ex-M) CS35O	(Ex-M) CS42O	(Ex-M) CS50O	(Ex-M) CS60O	(Ex-M) CS71O
Set	Ex-M CS20	Ex-M CS25	Ex-M CS35	Ex-M CS42	Ex-M CS50	Ex-M CS60	Ex-M CS71

Wall mount dimensions

HxWxD (mm)	298x804x252	298x997x292
Shipping HxWxD (mm)	350x875x380	397x1,115x377
Unit weight (kg)	11.5	14.5
Shipping weight (kg)	13	17

Technical specifications

Performance							
Cooling Capacity (Nom.) kW	2.0	2.5	3.5	4.2	5.0	6.0	7.1
Heating Capacity (Nom.) kW	2.5	2.8	4.0	5.4	5.8	7.0	8.2
Space cooling							
Energy efficiency class	A+++			A++			
Capacity Pdesign (kW)	2.0	2.5	3.5	4.2	5.0	6.0	7.1
SEER	9.47		9.25	8.11	7.80	6.90	6.20
Annual energy consumption (kWh/a)	74	92	132	181	224	304	401
Space heating							
Energy efficiency class	A+++			A++		A+	
Capacity Pdesign (kW)	2.3	2.4	2.5	4.0	4.5	4.8	6.2
SCOP/A	5.2			5.0	4.8	4.3	4.1
Annual energy consumption (kWh/a)	619	647	673	1,120	1,312	1,562	2,117
Heat Exchanger							
Length (mm)	622					820	
Rows (Qty)	2						
Face area (m²)	0.214					0.281	
Tube type	ø5 Hi-XB						
Tube material	Copper						
Fin type	Multi slit fin						
Refrigerant	R-32 (R140a optional)						
Air Filter	Removable/Washable						
Fan							
Type	Cross Flow Fan						
Air Flow Rate							
Cooling (S/L/M/H) (m³/min)	294 / 378 / 534 / 714		276 / 426 / 564 / 792	300 / 432 / 588 / 798	354 / 468 / 624 / 762	546 / 708 / 840 / 1002	600 / 732 / 900 / 1014
Heating (S/L/M/H) (m³/min)	294 / 414 / 552 / 684		306 / 414 / 564 / 666	318 / 426 / 600 / 840	414 / 516 / 690 / 870	666 / 744 / 912 / 990	696 / 762 / 948 / 1062
Sound Power Level							
Cooling dB(A)	54		58	60			
Heating dB(A)	53			60		59	61
Sound Pressure Level							
Cooling (S/L/H) dB(A)	19 / 25 / 41		19 / 29 / 45	21 / 30 / 45	27 / 36 / 44	30 / 37 / 46	32 / 38 / 47
Heating (S/L/H) dB(A)	20 / 26 / 39	20 / 27 / 39	20 / 27 / 39	20 / 28 / 39	21 / 31 / 43	33 / 36 / 45	34 / 37 / 46
Control Systems							
Infrared Remote Control	ARC466A86						
Wired Remote Control	BRC073A1						
Piping connections							
Liquid Pipe OD (mm)	6.40						
Gas Pipe OD (mm)	9.50				12.70		15.90
Drain OD (mm)	16						
Heat Insulation	Both liquid and gas pipes						



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Split Unit Air Conditioners



Indoor units: Ceiling Suspended

Available ceiling suspended units

Non-ATEX/Standard	CS35S	CS50S	CS60S
ATEX Zone 2	Ex-M CS35S	Ex-M CS50S	Ex-M CS60S
Compatible Outdoor Unit	(Ex-M) CS35O	(Ex-M) CS50O	(Ex-M) CS60O
Set	Ex-M CS35	Ex-M CS50	Ex-M CS60

Ceiling suspended dimensions

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

Technical specifications

Performance	Technical Specifications		
Cooling Capacity (Nom.) (kW)	3.4	5.0	5.7
Heating Capacity (Nom.) (kW)	4.0	6.0	7.2
Space Cooling			
Energy Efficiency Class	A++	A+	
Capacity Pdesign (kW)	3.4	5.0	5.7
SEER	6.24	5.92	6.08
Annual Energy Consumption (kWh/a)	191	295	328
Space Heating (Average Climate)			
Energy Efficiency Class	A+	A	
Capacity Pdesign (kW)	3.10	4.35	4.71
SCOP/A	4.43	3.86	3.87
Annual Energy Consumption (kWh/a)	979	1,577	1,704
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
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
Heating (S/L/M/H) (m³/min)			
Sound Power Level			
Cooling (dBA)	53.0	54.0	
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
Heating (L/M/H) (dBA)			
Control Systems			
Infrared Remote Control	BRC7GA53-9 / BRC7GA56		
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		
Gas Pipe (Flare Connection) OD (mm)	9.50	12.70	
Drain	VP20		

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Split Unit Air Conditioners



Indoor units: Cassette

Available cassette units

Non-ATEX/Standard	CS35C	CS50C	CS60C
ATEX Zone 2	Ex-M CS35C	Ex-M CS50C	Ex-M CS60C
Compatible Outdoor Unit	(Ex-M) CS35O	(Ex-M) CS50O	(Ex-M) CS60O
Set	Ex-M CS35	Ex-M CS50	Ex-M CS60

Cassette dimensions

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

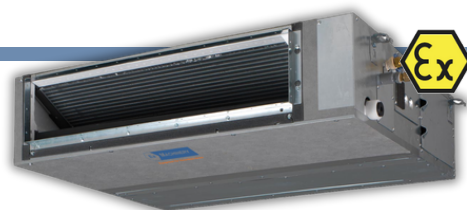
Technical specifications

Technical Specifications			
Performance			
Cooling Capacity (Nom.) (kW)	3.5	5.0	5.7
Heating Capacity (Nom.) (kW)	4.2	6.0	7.0
Space Cooling			
Energy Efficiency Class	A++		
Capacity Pdesign (kW)	3.5	5.0	5.7
SEER	6.35	6.54	6.40
Annual Energy Consumption (kWh/a)	193	268	312
Space Heating (Average Climate)			
Energy Efficiency Class	A++	A+	
Capacity Pdesign (kW)	3.32	4.36	4.71
SCOP/A	4.90	4.30	4.20
Annual Energy Consumption (kWh/a)	948	1,418	1,569
Heat Exchanger			
Inside length (mm)	2,134		
Outside length (mm)	2,181		
Rows (Qty)	2		
Face area (m²)	0.278	0.366	
Tube type	Ø5 HI-XA		
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
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
Sound Power Level			
Cooling dB(A)	49.0		51.0
Heating dB(A)			
Sound Pressure Level			
Cooling (L/M/H) dB(A)	27.0/29.0/31.0		28.0/31.0/35.0
Heating (L/M/H) dB(A)			28.0/31.0/33.0
Control Systems			
Infrared Remote Control	BRC7FA532F / BRC7FB532F / BRC7FA532FB / BRC7FB532FB		
Wired Remote Control	BRC1D528 / BRC1E53A7 / BRC1E53B7 / BRC1E53C7 / BRC1H81W/S / BRC1H51(9)W/S/K7 / BRC2E52C7 / BRC3E52C7		
Piping connections			
Sound Absorbing Insulation	Foamed polyurethane		
Liquid Pipe (Flare Connection) OD (mm)	6.35		
Gas Pipe (Flare Connection) OD (mm)	9.52	12.70	
Drain	VP25 (O.D. 32 / I.D. 25)		
Heat Insulation	Foamed Polystyrene / Foamed Polyethylene		

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Split Unit Air Conditioners



Indoor units: Ducted

Available ducted units

Non-ATEX/Standard	CS35D	CS50D	CS60D
ATEX Zone 2	Ex-M CS35D	Ex-M CS50D	Ex-M CS60D
Compatible Outdoor Unit	(Ex-M) CS35O	(Ex-M) CS50O	(Ex-M) CS60O
Set	Ex-M CS35	Ex-M CS50	Ex-M CS60

Ducted unit dimensions

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

Technical specifications

Technical specifications			
Performance			
Cooling Capacity (Nom.) kW	3.4	5.0	5.7
Heating Capacity (Nom.) kW	4.0	5.5	7.0
Space Cooling			
Energy Efficiency Class	A++		A+
Capacity Pdesign (kW)	3.4	5.0	5.7
SEER	6.23	6.27	5.91
Annual Energy Consumption (kWh/a)	191	279	337
Space Heating (Average Climate)			
Energy Efficiency Class	A+		
Capacity Pdesign (kW)	2.9	4.4	4.6
SCOP/A	4.07	4.06	4.01
Annual Energy Consumption (kWh/a)	996	1,517	1,607
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
Air Flow Rate Heating (L/M/H) (m³/min)			
External static pressure (Nom.)	30 Pa		
Sound Power Level			
Cooling dB(A)	60.0		56.0
Sound Pressure Level			
Cooling (L/M/H) dB(A)	29/32/35		25/28/30
Heating (L/M/H) dB(A)	29/34/37		25/28/31
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		
Gas - Type	Flare connection		
Gas OD (mm)	9.52	12.70	
Drain	VP20 (I.D. 20/O.D. 26)		
Heat Insulation	Foamed polystyrene / Foamed polyethylene		

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Split Unit Air Conditioners



Equipment for Hazardous Areas



Outdoor units

Available outdoor units

Non-ATEX/Standard	CS200	CS250	CS350	CS420	CS500	CS600	CS710
ATEX Zone 2	Ex-M CS200	Ex-M CS250	Ex-M CS350	Ex-M CS420	Ex-M CS500	Ex-M CS600	Ex-M CS710

Outdoor unit dimensions

HxWxD (mm)	610x923x367				734x954x401		
Shipping HxWxD (mm)	675x1,007x450				401x820x1,050		
Unit Weight (kg)	36			40	49		55
Shipping Weight (kg)	40			43	53		60

Technical specifications

Performance							
Cooling Capacity (kW)	2.0	2.5	3.4/3.5	4.2	5.0	5.7/6.0	7.1
Heating Capacity (kW)	2.5	2.8	4.0/4.2	5.4	5.5/5.8/6.0	7.0/7.2	8.2
Operation Range							
Cooling	-10~50℃						-10~46℃
Heating	-21~18℃						-15~18℃
Casing material	Painted galvanized (DZ140) steel (DX54) plate						
Heat Exchanger							
Length (mm)	869				920		
Rows (Qty)	2						
Fin pitch (mm)	1.4						
Passes (Qty)	4.3				2.2		
Stages (Qty)	26				32		
Tube type	ø7 Hi-XD						
Tube material	Copper					-	
Fin type	Waffle fin (PE)						
Fin treatment	Anti-corrosion treatment (PE)						
Fan							
Type	Propeller						
Air flow rate - Cooling (S/L/M/N/H) (m³/min)	26.4/26.4/36.5/38.5/39.1	26.4/26.4/36.5/39.1/39.1	26.4/26.4/38.5/40.1/40.1	36.6/56.3/56.3/58/58	-/-/46.6/-	-/-/49/-/	
Air flow rate - Heating (L/M/N/H) (m³/min)	16.3/21.3/35.0/39.1	16.3/21.3/38.0/39.1	26.4/35.0/38.0/40.1	36.6/36.6/54.7/54.7	-/-/44.1/-	-/46.2/-/	
Sound Power level							
Cooling (dBA)	58	58	61	62	63	66	
Heating (dBA)		60			60	71	
Sound Pressure Level							
Cooling - high (dBA)	46	47	48				47
Heating - high (dBA)	47	49					48
Refrigerant							
Type	R32 (R140a optional)						
Charge (kg)	0.95				1.10	1.15	
Power Supply	1~/50/220-240 V						
Piping connections							
Liquid (OD, mm)	6.4					6	
Gas (OD, mm)	9.5				12.7		15.9
Drain (OD, mm)	16						18
Piping length (OU - IU, m)	Min. 1.5, Max. 20			Min. 1.5, Max. 30	Min. 3, Max. 30	Max. 30	
Level difference (OU - IU, m)	Max. 15			Max. 20			
Heat insulation	Both liquid and gas pipes						

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Split Unit Air Conditioners



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)