



Offshore Air-Handling Units

AERON OFFSHORE AIR HANDLING UNITS

Cost Effective standard indoor offshore AHU

The AERON Offshore Air Handling Unit type SH01 is an indoor offshore AHU that complies with NORSOK standard H-003 and ISO 15138. The AERON standard Offshore Air Handling Unit (AHU) is a cost effective standard AHU developed for the Norwegian Continental Shelf, based on our long experience in the offshore business. We may also provide you with tailor made offshore AHU special made according to your requirements.

AERON Standard indoor offshore AHU type SHI01

Design:

AHU are designed for efficiency factor (SFP) of maximum 3,0 kW/m³/s. Units for LQ (Living Quarter) installations, SFP of maximum 2,5 kW/m³/s. Leakage rate complies with casing air leakage class L2 in section 6 of EN 1886 Ventilation for buildings – Air Handling Units – mechanical performance.

UNIT CASING

Framework:

The units are manufactured to withstand the roughest conditions. The framework is made of AISI 316L. Material thickness of minimum 1,5 mm. Fully welded construction, including corners

Panels/doors:

Double skin panels with 50 mm mineral wool infill. Inside and outside sheets in 1 mm AISI 316L.

Doors are hinged and removable with all hinges and handles in stainless steel AISI 316L. Doors shall lock against the frame with quarter turn latch cams. Joints between panels and framing complete with fire retardant gaskets.

Floors:

1.5 mm AISI 316L floor plates, insulated with 50 mm thick mineral wool. On large size AHUs where walkway is mandatory for maintenance, the floor are

reinforced for such purpose. Each section are bolted to the common base frame.

Base frame:

Fully welded construction of profiles in AISI 316L, minimum 3 mm thick and 200 mm high. The base frame forms a rigid construction with sufficient stiffness when supported at both ends to carry the operation weight of sections plus 100% additional weight. The base frame shall be fitted with two diagonally opposed earthing bosses fully welded to base, and holes for inserting pipes or hooks for lifting.

Drain

AHU bottom sections are sloped to internal drainage points. Drains from "wet sections" (air inlet, filters and cooling coils) are provided with dry type water traps AISI 316L. Water trap are designed for 150 % positive or negative pressure, and are provided with a ball to prevent air leakage/back flow. Water trap are removable and suitable for internal cleaning.

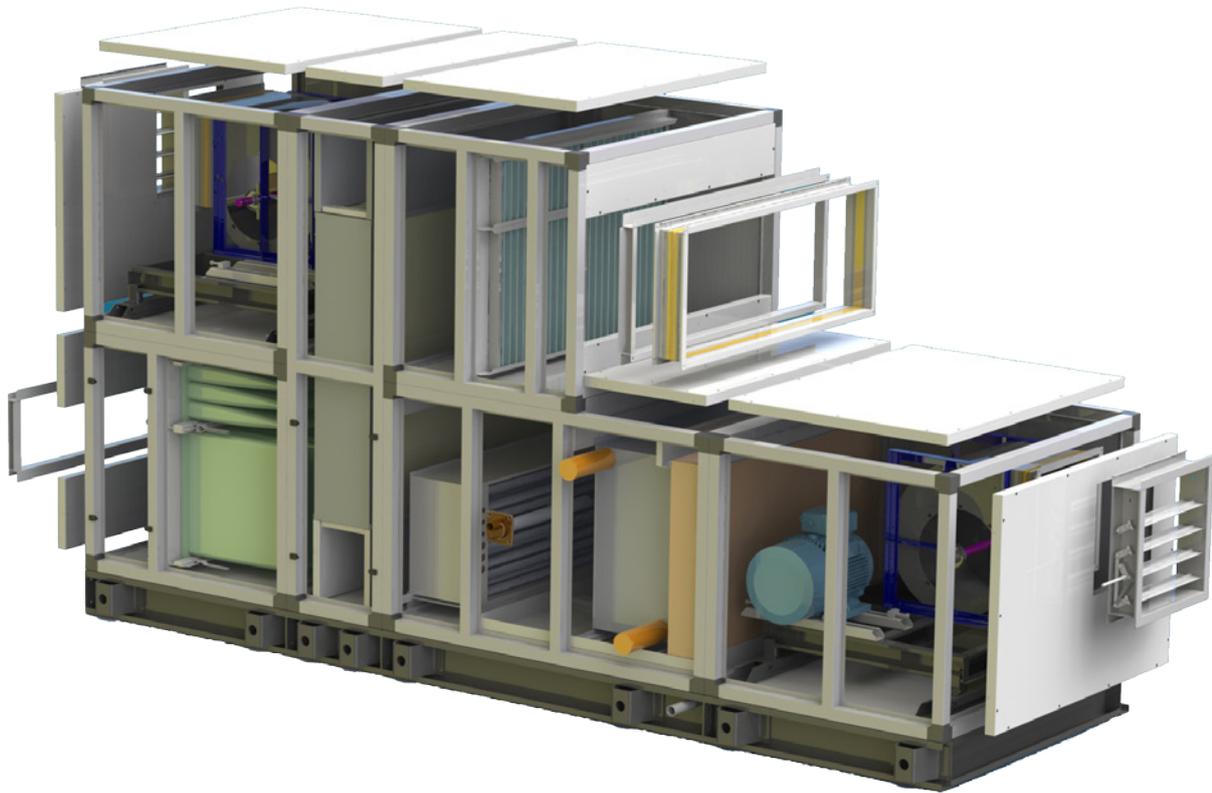
Drip tray are fully sealed welded construction with no penetrations of supporting screws, bolts etc. and fitted with drain connection(s) for external pipe hook-up. Drain pans will slope to drain outlet. Pipe connection are brought through the unit casing. There are one separate water trap for each wet section. Common drainpipe to be installed downstream water traps to one connection point.

INLET SECTION

AISI316L flange pattern according to ISO15138.

FILTER SECTION

Filter face velocity is based on max 3 m/s. Filters class EU-7 (F7) (Cam GT). Pressure Differential Indicator (PDI) are included complete with AISI316L tubing. Filters to be installed in AISI316L holding frames with gaskets. Holding mechanism are easy to operate.



Drainage are included on both upstream and downstream side of filters. Drip tray and drain arrangement are provided with dry type water traps with ball in AISI 316L. Water trap are designed for 150 % negative pressure.

**SOUND ATTENUATOR
(inlet/outlet section)**

AISI316L sheet steel housing with light-profile frames. Absorber material to be covered with fiberglass fabric and perforated plate AISI316L.

SHUT-OFF DAMPERS

Manual shut-off dampers are included as standard, but automatic shut-off dampers may also be delivered. The Frames are made in AISI 316L. The flange pattern are according to ISO 15138. Fins airfoil profile made in AISI 316L, with contra rotating blades. Shaft and manual handle are made in AISI316

The automatic pneumatic shut-off dampers has the same construction as above and includes also flowserve pneumatic actuator with open/close indicator, box micro WDB with 2 limit switches and solenoid valves.

FAN SECTION

The section are fitted with hinged access doors for inspection, maintenance and removal of fans and motors. The service door of the fan section are supplied with an inspection window.

The fans are direct driven plenum fans in spark proof design with impeller made in AISI316L or Duplex, casing in AISI316L. EI-Motors in ATEX class IIG Ex de IIB T3. Insulation class F, utilized to class B

Ingress Protection IP55. PTC thermistors in windings. PT100 sensors on bearings on request.

Emergency stop pushbutton are installed outside fan section. Surface treatment of motor are according to Norsok M-501.

When double fans are fitted the design of the AHU will ensure that it is possible to remove one fan unit for servicing whilst the other unit remains operational.

FLUID COOLING COILS

A complete choice of cooling coils are available. Cooling coils are standard equipped with droplet eliminators in AISI316L. Pipe flanges to be welded to the header and in accordance to ANSI B 16.5

The section shall be fitted with a fully welded drip tray, with slope to drain outlet from the entire tray.

Drip tray and drain arrangement are provided with drip type water traps with ball in AISI 316L.

Water trap are designed for 150 % positive pressure.

Chilled water cooling coils

Tube material, Headers material, Fins material, Casing material will all be made in AISI 316L

Sea water cooling coils

Tube and headers material are delivered standard in Titanium. Casing and fins material in AISI 316L

FLUID HEATING COIL

Pipe flanges to be welded to the header and in accordance to ANSI B 16.5

Plugged connections for venting and draining, "BSP female thread". Drain plug on the lowest point on the coil. Drain and vent to be located outside air handling unit casing.

Fluid Heating Coils for service above 600C

Headers and tube material: Titanium

Casing and fins material: AISI 316L

Fluid Heating Coils for service below 600C

Headers and tube material: AISI 316L

Casing and fins material: AISI 316L

HEATING COIL - electric

Electric heating coils are delivered classified in EExe. The heating elements are made of stainless steel AISI316L. The maximum element surface temperature shall be $T_3 < 2000C$.

The Casing is made of sturdy construction and flanges for coils are made in AISI316L with minimum 1,5 mm thickness. The heating coil are delivered with air temperature thermostat with automatic reset (TSH)

and a temperature safety thermostat (TSHH) according to specified temperature class.

Space heater and drain plug to be installed in heater terminal box on request.

HUMIDIFIERS

Automatic steam humidifiers complete with droplet eliminators are available on living quarter units.

AHU Size	Air volume		SFP [kW/m ³ /s]	Motor [kW]	Heating	Cooling	Dimensions			Weight [kg]	Casing (1) [dB(A)]
	2,5 m/s	3,0 m/s			Capacity	Capacity	Width	Height	Lenght		
	[m ³ /h]	[m ³ /h]			[kW]	[kW]	[mm]	[mm]	[mm]		
OS11	1 750	2 100	2,405	1,1	12,5	10,2	800	800	3250	450	60
OS22	2 550	3 050	2,196	1,5	18,0	14,8	800	1000	3300	560	59
OS38	4 250	5 000	1,995	3,0	30,1	24,7	1100	1000	3400	780	60
OS52	5 900	7 000	1,967	4,0	41,5	34,5	1400	1000	3500	890	61
OS68	7 300	8 700	1,826	5,5	51,5	42,4	1400	1200	3600	1050	58
OS84	9 050	10 800	1,953	5,5	63,8	52,3	1400	1400	3600	1200	61
OS115	10 800	13 000	1,873	7,5	76,1	62,6	1400	1600	3750	1350	63
OS150	13 800	16 700	1,844	11,0	97,2	79,6	1700	1600	3850	1600	62
OS180	17 000	20 300	1,835	15,0	119,8	98,6	2000	1600	3900	1750	63
OS230	21 500	25 500	1,770	18,5	151,4	124,5	2000	1900	4000	2100	62
OS280	25 500	30 500	1,930	22,0	180,6	148,2	2000	2200	4100	2300	65
OS340	31 500	37 500	1,878	30,0	222,0	182,3	2400	2200	4300	2750	66
OS390	35 500	43 000	1,797	30,0	250,1	205,8	2700	2200	4300	3000	64
OS460	44 000	52 500	1,867	37,0	310,0	254,8	2700	2600	4400	3700	69
OS530	50 000	58 000	1,846	37,0	352,3	290,5	3000	2600	4600	4100	68
OS600	55 000	66 000	1,731	45,0	387,5	320,1	3300	2600	4750	4600	68
OS670	66 000	80 000	1,855	45,0	465,8	386,0	3900	2600	4900	5000	70
OS970	80 000	96 000	1,868	55,0	563,2	467,9	3950	3000	5000	5800	73
OS1250	105 000	125 000	1,842	75,0	740,0	627,0	4550	3300	5600	8000	76
OS1550	128 000	155 000	1,908	90,0	854,0	722,0	5100	3600	6100	9300	78