

Air Cooled Chiller

VLS 604-1204



153-307 kW



Plate



410A



Air cooled



Scroll

Technical feature

- 7 sizes
- Cooling capacity from 153,4 to 306,9 kW
- 3 versions: STD (Standard); HT (High Temperature); HPF (High Pressure Fans)
- 3 acoustic versions: BLN (Basic Low Noise), LN (Low Noise) and ELN (Extra Low Noise)
- Two refrigerant circuits
- Scroll compressors
- Microprocessor control
- Microchannel coils (CO only version)
- Electronic expansion valve
- Inverter fans and HT
- "Brine" version for process application (on request)
- E-Coating coil treatment as standard



Accessories and options

- Automatic circuit breaker
- BMS interface
- Coils treatments
- Compressors acoustic box (standard)
- Compressors jackets
- Desuperheater and totally heat recovery VLR
- Fan speed control (-18°C)
- Hydrokit with 1 or 2 pumps with or without buffer tank (500 lt) (+1mt of length)
- Mechanical gauges
- Overload protection for compressors
- Power factor corrector capacitors
- Sequence phases control (standard)
- Sofstart
- Unit protection grilles
- Water differential pressure switch (standard)
- Water filter
- Water flow switch

Operating limit (to be confirmed following selection software issue)

VLS 604-1204			604		704		804		904		1004		1004		1204	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Leaving water temperature	Water	°C	+6 to +15													
	Water with glycol	°C	0 to +15													
	Water with Glycol (Brine version)	°C	-8 to +15													
	Δ T	K	3 to 8													
Air temperature	BLN	°C	-5 to +47 ²	-5 to +47 ²	0 to +46 ³	0 to +47 ³	0 to +46 ³	0 to +45 ³	0 to +45 ³	0 to +44 ³	0 to +42 ³	0 to +42 ³	0 to +42 ³	0 to +42 ³	0 to +42 ³	0 to +42 ³
	LN/ELN ¹	°C	-5 to +45 ²	-5 to +45 ²	0 to +44 ³	0 to +45 ³	0 to +44 ³	0 to +42 ³	0 to +42 ³	0 to +42 ³	0 to +42 ³	0 to +42 ³	0 to +42 ³	0 to +42 ³	0 to +42 ³	0 to +42 ³
	HT	°C	-18 to +49 ²	-18 to +49 ²	-18 to +48 ³	-18 to +49 ³	-18 to +48 ³	-18 to +47 ³	-18 to +47 ³	-18 to +47 ³	-18 to +47 ³	-18 to +47 ³	-18 to +47 ³	-18 to +47 ³	-18 to +47 ³	-18 to +47 ³
External static pressure	Standard fans	Pa	0													
	Inverter fans HPF	Pa	≤120													

¹ Minimum air temperature -18°C with Fan speed control (standard ELN).

² High Pressure at 40.5 ba.

Chillers suitable for operation without buffer tank for water content greater than 3 liters of water per kW of output.

Technical feature

VLS STD/HPF 604-1204 BLN		604	704	804	904	1004	1104	1204
Cooling capacity ¹	kW	153,4	176,2	198,1	228,4	250,3	279,1	306,9
Power input ¹	kW	55,8	66,0	72,3	83,1	86,9	100,0	114,9
EER ¹		2,75	2,67	2,74	2,75	2,88	2,79	2,67
Energy efficiency class		C	D	C	C	C	C	D
ESEER		3,50	3,47	3,44	3,43	3,59	3,52	3,45
Part load steps	%	28-57-78-100	20-50-70-100	25-50-75-100	28-50-78-100	25-50-75-100	23-50-73-100	25-50-75-100
Refrigerant								
Type		HFC 410A						
Number of refrigerant circuits		2						
Compressor								
Qty		4						
Type		Scroll						
Evaporator								
Qty		1						
Type		Plate exchanger AISI 316						
Water flow	l/h	26.540	30.427	34.194	39.371	43.155	48.091	52.924
Connection type		Male GAS threaded						
Inlet/outlet diameter	inch	2½"	2½"	2½"	3"	3"	3"	3"
Condenser								
Qty		2						
Total coil face area per coil	mm ²	3,5	4,8	4,8	4,8	4,8	4,8	4,8
Fan								
Qty		3	3	3	4	4	4	4
Speed	rpm/min	900	900	900	900	900	900	900
Air flow	m ³ /h	63.000	68.300	68.300	85.000	80.000	75.500	75.500
Power input	kW	5,7	5,7	5,7	7,6	7,6	7,6	7,6
Power input*	kW	4,0	4,0	4,0	5,3	5,3	5,3	5,3
Static head pressure	Pa	from 0 to 120 Pa*						
Weight								
Shipping	kg	1.303	1.478	1.611	1.745	1.795	1.810	1.815
Operating	kg	1.315	1.490	1.625	1.770	1.820	1.835	1.840
Additional weights								
Versions HPF	kg	30	30	30	40	40	40	40
With desuperheater	kg	20	20	30	30	30	30	30
With one pump	kg	50	85	85	90	90	95	95
With two pumps	kg	140	200	200	205	205	215	215
With copper/copper coils	kg	380	520	520	520	700	880	880
Dimensions								
Length	mm	3.300	4.300	4.300	4.300	4.300	4.300	4.300
Width	mm	1.100	1.100	1.100	1.100	1.100	1.100	1.100
Height	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300
Acoustical data								
Sound power level ²	dB(A)	91	91	91	92	92	93	93
Sound pressure level ³	dB(A)	59	59	59	60	60	61	61

¹ Data refers to 7°C leaving chilled water temperature and 35°C condenser air temperature, according EN14511 standard.

² Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.

³ Sound pressure levels refer to ISO 3744 standard, parallelepiped shape.

* For version with High Pressure Fans (HPF).

Technical feature

VLS STD 604-1204 LN		604	704	804	904	1004	1104	1204
Cooling capacity ¹	kW	149,4	171,2	192,1	222,4	241,3	266,2	292,0
Power input ¹	kW	56,4	66,4	73,3	83,6	88,7	104,0	120,2
EER ¹		2,65	2,58	2,62	2,66	2,72	2,56	2,43
Energy efficiency class		D	D	D	D	C	D	E
ESEER		3,72	3,63	3,65	3,58	3,75	3,66	3,57
Part load steps	%	28-57-78-100	20-50-70-100	25-50-75-100	28-50-78-100	25-50-75-100	23-50-73-100	25-50-75-100
Refrigerant								
Type		HFC 410A						
Number of refrigerant circuits		2						
Compressor								
Qty		4						
Type		Scroll						
Evaporator								
Qty		1						
Type		Plate exchanger AISI 316						
Water flow	l/h	25.765	29.618	33.213	38.321	41.555	45.958	50.361
Connection type		Male GAS threaded						
Inlet/outlet diameter	inch	2½"	2½"	2½"	3"	3"	3"	3"
Condenser								
Qty		2	2	2	2	2	2	2
Total coil face area per coil	mm ²	3,5	4,8	4,8	4,8	4,8	4,8	4,8
Fan								
Qty		3	3	3	4	4	4	4
Speed	rpm/min	700	700	700	700	700	700	700
Air flow	m ³ /h	47.300	52.200	52.200	63.700	58.800	54.900	54.900
Power input	kW	3,6	3,6	3,6	4,8	4,8	4,8	4,8
Static head pressure	Pa	0						
Weight								
Shipping	kg	1.303	1.478	1.611	1.745	1.795	1.810	1.815
Operating	kg	1.315	1.490	1.625	1.770	1.820	1.835	1.840
Additional weights								
With desuperheater	kg	20	20	30	30	30	30	30
With one pump	kg	50	85	85	90	90	95	95
With two pumps	kg	140	200	200	205	205	215	215
With copper/copper coils	kg	380	520	520	520	700	880	880
Dimensions								
Length	mm	3.300	4.300	4.300	4.300	4.300	4.300	4.300
Width	mm	1.100	1.100	1.100	1.100	1.100	1.100	1.100
Height	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300
Acoustical data								
Sound power level ²	dB(A)	87	87	87	88	88	89	89
Sound pressure level ³	dB(A)	55	55	55	56	56	57	57

¹ Data refers to 7°C leaving chilled water temperature and 35°C condenser air temperature, according EN14511 standard.

² Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.

³ Sound pressure levels refer to ISO 3744 standard, parallelepiped shape.

Technical feature

VLS STD 604-1204 ELN		604	704	804	904	1004	1104	1204
Cooling capacity ¹	kW	145,4	166,3	186,2	216,5	234,4	258,2	282,1
Power input ¹	kW	57,9	68,7	76,3	86,3	91,2	106,7	124,8
EER ¹		2,51	2,42	2,44	2,51	2,57	2,42	2,26
Energy efficiency class		D	E	E	D	D	E	F
ESEER		3,62	3,52	3,53	3,59	3,68	3,58	3,47
Part load steps	%	28-57-78-100	20-50-70-100	25-50-75-100	28-50-78-100	25-50-75-100	23-50-73-100	25-50-75-100
Refrigerant								
Type		HFC 410A						
Number of refrigerant circuits		2						
Compressor								
Qty		4						
Type		Scroll						
Evaporator								
Qty		1						
Type		Plate exchanger AISI 316						
Water flow	l/h	25.112	28.758	32.129	37.272	40.368	44.513	48.658
Connection type		Male GAS threaded						
Inlet/outlet diameter	inch	2½"	2½"	2½"	3"	3"	3"	3"
Condenser								
Qty		2	2	2	2	2	2	2
Frontal surface	mm ²	3,5	4,8	4,8	4,8	4,8	4,8	4,8
Fan								
Qty		3	3	3	4	4	4	4
Speed	gir/min	550	550	550	550	550	550	550
Air flow	m ³ /h	38.500	41.800	41.800	52.000	48.900	46.200	46.200
Power input	kW	3	3	3	4	4	4	4
Static head pressure	Pa	0						
Weight								
Shipping	kg	1.338	1.513	1.646	1.780	1.835	1.850	1.855
Operating	kg	1.350	1.525	1.660	1.805	1.860	1.875	1.880
Additional weights								
With desuperheater	kg	20	20	30	30	30	30	30
With one pump	kg	50	85	85	90	90	95	95
With two pumps	kg	140	200	200	205	205	215	215
With copper/copper coils	kg	380	520	520	520	700	880	880
Dimensions								
Length	mm	3.300	4.300	4.300	4.300	4.300	4.300	4.300
Width	mm	1.100	1.100	1.100	1.100	1.100	1.100	1.100
Height	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300
Acoustical data								
Sound power level ²	dB(A)	83	83	83	84	84	85	85
Sound pressure level ³	dB(A)	51	51	51	52	52	53	53

¹ Data refers to 7°C leaving chilled water temperature and 35°C condenser air temperature, according EN14511 standard.

² Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.

³ Sound pressure levels refer to ISO 3744 standard, parallelepiped shape.

Technical feature

VLS 604-1204 HT		604	704	804	904	1004	1104	1204
Cooling capacity ¹	kW	156,1	178,6	200,9	231,7	254,2	282,4	313,3
Power input ²	kW	48,7	58,4	64,4	73,2	76,8	89,9	103,1
EER		2,79	2,74	2,82	2,80	2,93	2,83	2,77
Part load steps	%	28-57-78-100	20-50-70-100	25-50-75-100	28-50-78-100	25-50-75-100	23-50-73-100	25-50-75-100
Refrigerant								
Type		HFC 410A						
Number of refrigerant circuits		2	2	2	2	2	2	2
Compressor								
Qty		4						
Type		Scroll						
Evaporator								
Qty		1						
Type		Plate exchanger AISI 316						
Water flow	l/h	26.849	30.719	34.554	39.852	43.722	48.572	53.887
Connection type		Male GAS threaded						
Inlet/outlet diameter	inch	2½"	2½"	2½"	3"	3"	3"	3"
Condenser								
Qty		2	2	2	2	2	2	2
Total coil face area per coil	mm ²	3,5	4,8	4,8	4,8	4,8	4,8	4,8
Fan								
Qty		3	3	3	4	4	4	4
Speed	rpm/min	1.110	1.110	1.110	1.110	1.110	1.110	1.110
Air flow	m ³ /h	71.800	76.200	76.200	95.800	91.200	87.600	87.600
Power input	kW	7,2	6,9	6,9	9,6	9,9	10	10
Static head pressure	Pa	0						
Weight								
Shipping	kg	1.333	1.508	1.641	1.785	1.835	1.850	1.855
Operating	kg	1.345	1.520	1.655	1.810	1.860	1.875	1.880
Additional weights								
With desuperheater	kg	20	20	30	30	30	30	30
With one pump	kg	50	85	85	90	90	95	95
With two pumps	kg	140	200	200	205	205	215	215
With copper/copper coils	kg	380	520	520	520	700	880	880
Dimensions								
Length	mm	3.300	4.300	4.300	4.300	4.300	4.300	4.300
Width	mm	1.100	1.100	1.100	1.100	1.100	1.100	1.100
Height	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300
Acoustical data								
Sound power level ³	dB(A)	99	99	99	100	100	100	100
Sound pressure level ⁴	dB(A)	67	67	67	68	68	68	68

¹ Data refers to 7°C leaving chilled water temperature and 35°C condenser air temperature.

² Input power (only compressors).

³ Sound levels are at fully loaded conditions. Sound power level values refers to ISO 3744 standard.

⁴ Sound pressure levels refer to ISO 3744 standard, parallelepiped shape.

Technical feature

VLR 604-1204		604	704	804	904	1004	1104	1204
Cooling capacity ¹	kW	152,0	176,0	200,0	230,0	250,0	277,0	306,0
Power input ²	kW	49,0	58,5	64,5	73,5	77,0	90,0	103,0
Total heat rejection ³	kW	191,0	222,8	251,3	288,3	310,7	348,7	388,6
EER		3,10	3,01	3,10	3,13	3,25	3,08	2,97
Part load steps	%	28-57-78-100	20-50-70-100	25-50-75-100	28-50-78-100	25-50-75-100	23-50-73-100	25-50-75-100
Refrigerant								
Type		HFC 410A						
Number of refrigerant circuits		2	2	2	2	2	2	2
Compressor								
Qty		4						
Type		Scroll						
Evaporator								
Qty		1						
Type		Plate exchanger AISI 316						
Water flow	l/h	26.144	30.272	34.400	39.560	43.000	47.644	52.632
Connection type		Male GAS threaded						
Inlet/outlet diameter	inch	2½"	2½"	2½"	3"	3"	3"	3"
Condenser								
Qty		2						
Total coil face area per coil	mm ²	3,5	4,8	4,8	4,8	4,8	4,8	4,8
Heat recovery								
Qty		1						
Type		Plate exchanger AISI 316						
Water volume	l	11,5	11,5	13,3	25,2	25,2	25,2	25,2
Connection type		Male GAS threaded						
Inlet/outlet connection diameter	inch	2½"	2½"	2½"	3"	3"	3"	3"
Weight								
Shipping	kg	1.513	1.702	1.853	2.051	2.180	2.270	2.279
Operating	kg	1.536	1.725	1.880	2.101	2.230	2.320	2.329
Additional weights								
Version ELN	kg	35	35	35	35	40	40	40
Versions HPF/HT	kg	30	30	30	40	40	40	40
Dimensions								
Length	mm	3.300	4.300	4.300	4.300	4.300	4.300	4.300
Width	mm	1.100	1.100	1.100	1.100	1.100	1.100	1.100
Height	mm	2.300	2.300	2.300	2.300	2.300	2.300	2.300

¹ Data based on 7°C leaving chilled water temperature and 35°C ambient air temperature.

² Input power (only compressors).

³ Data based on 7°C leaving chilled water temperature and 45°C condenser warm water temperature.