

Water/water chillers with single screw compressors

172 ÷ 830 kW



OMEGA V ECHOS

Water chillers

Unit frame

Structural steelwork with baked-on epoxy polyester powder coating.

Compressor

Semi-hermetic single screw compressors with continuous capacity control from 30% to 100%. Each compressor is equipped with a crankcase heater and built-in electronic protection with temperature sensors located directly in the motor windings and on the discharge line. Unit starts and stops are performed with 12% capacity control and star-delta switching of the electrical windings.

Refrigerant circuit

Independent in multiple circuit units; each circuit includes: compressor discharge shut-off valve, liquid line shut-off valve, charge connection, liquid line sight glass, filter dryer, electronic expansion valve, compressor cooling device with liquid injection, high pressure switches (the low pressure switch function is performed by the controller by means of pressure transducers), relief valve.

Evaporator

Shell and tube dry expansion type, insulated by means of a jacket in closed-cell expanded material and with freeze protection.

Condenser

Shell and tube type.

Electrical Panel

With main power switch, power and control circuits protection, and compressor contactors. Microprocessor controlled unit with function display mode.

Testing

Units are factory-tested and supplied with refrigerant charge and oil.

ACCESSORY VERSIONS

OMEGA V ECHOS/DC

Unit with condenser for 100% recovery of heat rejection, and liquid receiver.

OMEGA V ECHOS/DS

Unit with desuperheaters for partial recovery of heat rejection heat (20%).

OMEGA V ECHOS/LN

Low noise unit: compressor with sound insulating cover made of painted sheet steel clad internally with sound-absorbing matting and high acoustic impedance material.

OMEGA V ECHOS/SLN

In addition to the components of version OMEGA V ECHOS/LN, this unit features sound insulation on the compressor discharge and suction lines achieved with sound absorbing material having an intermediate layer of high acoustic impedance material.

MAIN ACCESSORIES

- Condensing pressure control valve
- Dual set point (low/high temperature) with single electronic thermostatic valve
- Liquid line solenoid valve
- RS 485 serial interface supporting Carel, Modbus, Echelon and Bacnet protocols. Compatible also with Trend and Johnson supervision systems
- Variable set point with remote signal
- Remote user terminal (in addition to the standard terminal).

OMEGA V ECHOS - R134a TECHNICAL DATA

Unit size		18.1	22.1	31.1	35.1	36.2
Nominal cooling capacity (*)	kW	172,0	210,1	298,6	334,2	346,4
Compressor						
Quantity/Refrigerant circuits	n°	1	1	1	1	2
Cooling power input (*)	kW	38,8	46,3	66,1	71,9	77,8
Capacity steps	%	Continuos	Continuos	Continuos	Continuos	Continuos
Evaporator characteristics						
Water contents evaporator	l	63	63	89,8	60,3	60,3
Water flow rate	l/s	8,2	10,01	14,24	15,94	16,52
Pressure drop	kPa	24,6	38,1	32,4	36,6	39,2
Condenser characteristics						
Water contents condenser	l	31,2	33,9	47,5	52,4	31,2
Water flow rate	l/s	10,22	12,41	17,66	19,66	20,57
Pressure drop	kPa	16,9	21,5	31,1	18,2	17,1
Noise level (**)						
Basic unit	dB(A)	68,0	65,2	71,2	75,2	71,0
LN version	dB(A)	63,2	60,4	66,4	70,4	66,2
SLN version	dB(A)	55,9	53,1	59,1	63,1	58,9
Power supply	V/ph/Hz	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50
Dimensions and weight						
Width	mm	2660	2660	3051	3082	3187
Depth	mm	1200	1200	1200	1200	1300
Height	mm	1539	1539	1592	1694	1764
Operating weight	kg	1434	1516	2206	2206	2386

Unit size		41.2	42.1	45.2	53.2	62.2
Nominal cooling capacity (*)	kW	389,2	407,0	427,1	527,3	606,6
Compressor						
Quantity/Refrigerant circuits	n°	2	1	2	2	2
Cooling power input (*)	kW	85,9	90,0	93,3	115,3	133,2
Capacity steps	%	Continuos	Continuos	Continuos	Continuos	Continuos
Evaporator characteristics						
Water contents evaporator	l	68,8	68,8	68,8	110,7	110,7
Water flow rate	l/s	18,56	19,13	20,36	25,14	28,93
Pressure drop	kPa	42,0	45,4	51,7	29,7	39,6
Condenser characteristics						
Water contents condenser	l	65,1	33,9	64,7	81,4	33,9
Water flow rate	l/s	11,479	24,06	25,23	15,55	35,81
Pressure drop	kPa	21,2	21,8	22,1	33,1	32,0
Noise level (**)						
Basic unit	dB(A)	66,9	80,2	68,2	66,9	74,2
LN version	dB(A)	62,1	75,4	63,4	62,1	69,4
SLN version	dB(A)	54,8	68,1	56,1	54,8	62,1
Power supply	V/ph/Hz	400/3~/50	400/3~/50	400/3~/50	400/3~/50	400/3~/50
Dimensions and weight						
Width	mm	3187	3061	3187	3607	3702
Depth	mm	1300	1200	1300	1310	1400
Height	mm	1764	1704	1764	1897	1950
Operating weight	kg	2508	2393	2592	3052	3226

Unit size		65.2	69.2	76.2	83.2
Nominal cooling capacity (*)	kW	641,8	671,7	753,1	830,5
Compressor					
Quantity/Refrigerant circuits	n°	2	2	2	2
Cooling power input (*)	kW	139,1	144,1	166,1	181,5
Capacity steps	%	Continuos	Continuos	Continuos	Continuos
Evaporator characteristics					
Water contents evaporator	l	131,3	131,3	177,0	177,0
Water flow rate	l/s	30,60	32,03	35,91	39,60
Pressure drop	kPa	50,7	55,6	31,0	36,7
Condenser characteristics					
Water contents condenser	l	99,9	47,5	117,1	64,7
Water flow rate	l/s	18,9	39,5	22,25	48,99
Pressure drop	kPa	35,5	18,3	23,0	22,5
Noise level (**)					
Basic unit	dB(A)	73,0	78,2	78,4	83,2
LN version	dB(A)	68,2	73,4	73,6	78,4
SLN version	dB(A)	60,9	66,1	66,3	71,1
Power supply	V/ph/Hz	400/3~/50	400/3~/50	400/3~/50	400/3~/50
Dimensions and weight					
Width	mm	3707	3814	3952	3952
Depth	mm	1400	1600	1600	1600
Height	mm	2094	2082	2099	2099
Operating weight	kg	3676	4008	4370	4456

(*) Evaporator inlet/outlet water temperature 12-7 °C; condenser inlet/outlet water temperature 30-35 °C.

(**) Sound pressure levels measured in free field conditions at 1m from the unit, according to ISO 3746.

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation