

Water Cooled, Chiller and Condenserless SWS/SWR 1602-4802

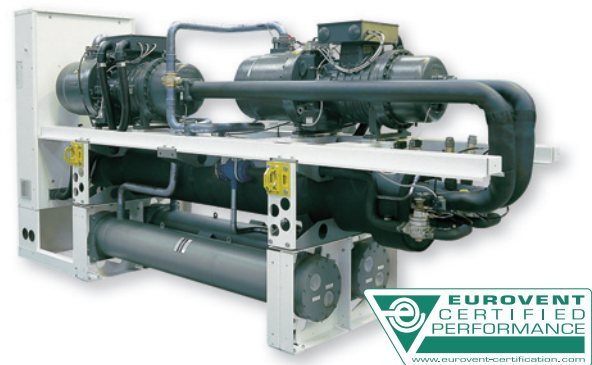
 272-1118 kW

 HFC 134a

 Screw

Technical features

- 12 sizes.
- Cooling capacity from 272 to 1.118 kW.
- 2 versions:
SWS (Cooling only);
SWR (Condenserless).
- 3 acoustic versions:
STD (Standard);
LN (Low Noise);
ELN (Extra Low Noise).
- Two refrigerant circuit.
- Screw compressors.
- Shell & Tube evaporator and condenser.



Accessories and options

- Sofstart.
- BMS interface.
- Flow switch.
- Power factor corrector capacitors.
- Water filter.
- Compressors jackets.
- Sequence phases control.
- Mechanical gauges kit.
- Compressors acoustic box (standard on LN and ELN).

Operating limit

Models		SWS		SWR	
Evaporator	Leaving water temperature	Water	°C	from +5 to +15	
		Water + glycol	°C	from -3 to +4	
	Δ T	K	from +3 to +8		
Condenser	Leaving water temperature		°C	from +30 to +60 with tower water da +15 a +30 with well water	-
	Leaving water + glycol temperature		K	from +3 to +8 with tower water 15 with well water	-

Technical feature SWS 1602-2802

Model SWS		1602	1902	2202	2212	2352	2502	2652	2802
Cooling capacity (1)	kW	271,8	362,4	440,0	529,3	564,7	600,0	639,2	678,4
Power input (1)	kW	68,0	82,1	102,0	121,0	129,0	138,0	145,0	153,0
Heat rejection (1)	kW	339,8	444,5	542,0	650,3	693,7	738,0	748,2	831,4
GROSS EER		4,00	4,41	4,28	4,36	4,35	4,34	4,38	4,41
Number of refrigerant circuits		2	2	2	2	2	2	2	2
Part load steps	%	25-50-63-75-87-100							
Refrigerant									
Type		HFC 134a							
Charge	kg	46	60	74	52	56	60	64	66
Compressor									
Type		Screw							
Qty		2							
Startup type		P/W				Y/Δ			
Evaporator									
Type		Shell & Tube							
Qty		1							
Water flow	l/s	13,0	17,3	21,0	25,3	27,0	28,7	30,5	32,4
Water pressure drop	kPa	44,4	54,4	53,7	42,2	40,5	45,7	56,3	63,4
Connection type		Victaulic							
Inlet/outlet diameter	inch	5"	6"	8"	6"	6"	6"	6"	6"
Condenser									
Type		Shell & Tube							
Qty		2							
Water flow	l/s	8,0	10,5	12,7	15,3	16,4	17,4	18,5	19,6
Water pressure drop	kPa	28,7	38,7	41,0	40,1	45,7	41,6	47,0	50,2
Connection type		Female gas threaded							
Inlet/outlet diameter	inch	2½"	3"	3"	3"	3"	3"	3"	3"
Weight STD version									
Shipping	kg	2.067	2.554	3.005	3.377	3.470	3.498	3.592	3.605
Operating	kg	2.144	2.688	3.212	3.601	3.717	3.750	3.882	3.895
Dimensions									
Length	mm	3.795	3.795	4.210	4.210	4.210	4.210	4.210	4.210
Width	mm	950	950	1.400	1.400	1.400	1.400	1.400	1.400
Height	mm	1.910	1.910	2.050	2.050	2.050	2.050	2.050	2.050
Acoustical data STD version									
Sound power level	dB(A)	94	94	95	95	95	95	95	95
Sound pressure level (2)	dB(A)	75	75	76	76	76	76	76	76
Weight LN version									
Shipping	kg	2.343	2.826	3.333	3.777	3.870	3.898	3.992	4.005
Operating	kg	2.454	3.000	3.611	4.001	4.117	4.150	4.282	4.295
Acoustical data LN version									
Sound power level	dB(A)	89	89	90	90	90	90	90	90
Sound pressure level (2)	dB(A)	70	70	71	71	71	71	71	71
Weight ELN version									
Shipping	kg	2.433	2.916	3.453	3.927	4.020	4.048	4.142	4.155
Operating	kg	2.544	3.090	3.731	4.151	4.267	4.300	4.432	4.445
Acoustical data ELN version									
Sound power level	dB(A)	81	81	82	82	82	82	82	82
Sound pressure level (2)	dB(A)	62	62	63	63	63	63	63	63

(1) Data referred to evaporator water temperature 12/7°C and condenser water temperature 30/35°C.
 (2) The sound pressure is calculated from a distance of 1 mt.

Technical feature SWS 3012-4802

Model SWS		3012	3202	3412	3602	4212	4602	4802
Cooling capacity (1)	kW	716,0	784,4	841,7	898,9	962,1	1.040,2	1.118,2
Power input (1)	kW	168,0	182,0	194,0	206,0	218,7	230,5	242,3
Heat rejection (1)	kW	884,0	966,4	1.035,7	1.104,9	1.180,8	1.270,7	1.360,5
GROSS EER		4,25	4,29	4,32	4,36	4,40	4,51	4,61
EER		3,89	4,23	4,11	4,22	4,20	4,20	4,21
ESEER		4,28	4,66	4,58	4,65	4,62	4,62	4,63
Number of refrigerant circuits		2	2	2	2	2	2	2
Part load steps	%	25-50-63-75-87-100						
Refrigerant								
Type		HFC 134a						
Charge	kg	70	78	82	88	94	102	110
Compressor								
Type		Screw						
Qty		2						
Startup type		Y/Δ						
Evaporator								
Type		Shell & Tube						
Qty		1						
Water flow	l/s	34,2	37,5	40,2	42,9	46,0	49,7	53,4
Water pressure drop	kPa	70,6	52,8	60,8	65,7	75,3	88,0	101,7
Water volume	l	222	359	359	359	359	399	399
Connection type		Victaulic						
Inlet/outlet diameter	inch	6"	8"	8"	8"	8"	8"	8"
Condenser								
Type		Shell & Tube						
Qty		2						
Water flow	l/s	20,8	22,8	24,4	26,0	28,2	30,4	32,5
Water pressure drop	kPa	50,5	60,5	29,0	33,0	38,7	41,7	47,9
Water volume	l	71	71	126	126	126	133	133
Connection type		Female gas threaded	Victaulic	Victaulic	Victaulic	Victaulic	Victaulic	Victaulic
Inlet/outlet diameter	inch	3"	3"	4"	4"	4"	4"	4"
Weight STD version								
Shipping	kg	4.029	4.952	4.970	4.986	5.112	5.165	5.342
Operating	kg	4.323	5.382	5.455	5.471	5.597	5.698	5.875
Dimensions								
Length	mm	4.210	4.770	4.770	4.770	4.770	4.770	4.770
Width	mm	1.400	1.400	1.400	1.400	1.400	1.400	1.400
Height	mm	2.050	2.050	2.050	2.050	2.050	2.110	2.110
Acoustical data STD version								
Sound power level	dB(A)	95	96	96	97	98	98	98
Sound pressure level (2)	dB(A)	76	77	77	78	79	79	79
Weight LN version								
Shipping	kg	4.429	5.452	5.470	5.486	5.612	5.665	5.842
Operating	kg	4.723	5.882	5.955	5.971	6.097	6.198	6.375
Acoustical data LN version								
Sound power level	dB(A)	90	91	91	92	93	93	93
Sound pressure level (2)	dB(A)	71	72	72	73	74	74	74
Weight ELN version								
Shipping	kg	4.579	5.622	5.640	5.656	5.782	5.835	6.012
Operating	kg	4.873	6.052	6.125	6.141	6.267	6.368	6.545
Acoustical data ELN version								
Sound power level	dB(A)	82	83	83	84	85	85	85
Sound pressure level (2)	dB(A)	63	64	64	65	66	66	66

- (1) Data referred to evaporator water temperature 12/7°C and condenser water temperature 30/35°C.
(2) The sound pressure is calculated from a distance of 10 mt.

Technical feature SWR 1602-2802

Model SWR		1602	1902	2202	2212	2352	2502	2652	2802
Cooling capacity (1)	kW	271,8	362,4	440,0	529,3	564,7	600,0	639,2	678,4
Power input (1)	kW	63,1	76,3	92,3	112,6	120,4	128,1	135,4	142,8
Heat rejection (1)	kW	334,9	438,7	532,4	641,9	685,0	728,1	774,7	821,2
GROSS EER		4,3	4,7	4,8	4,7	4,7	4,7	4,7	4,7
Number of refrigerant circuits		2	2	2	2	2	2	2	2
Part load steps	%	25-50-63-75-87-100							
Refrigerant									
Type		HFC 134a							
Compressor									
Type		Screw							
Qty		2							
Startup type		P/W				Y/Δ			
Evaporator									
Type		Shell & Tube							
Qty		1							
Water flow	l/s	13,0	17,3	21,0	25,3	27,0	28,7	30,5	32,4
Water pressure drop	kPa	44,4	54,4	53,7	42,2	40,5	45,7	56,3	63,4
Water volume	l	80,2	124,7	221,7	162	184	184	222	222
Connection type		Victaulic							
Inlet/outlet diameter	inch	5"	6"	8"	6"	6"	6"	6"	6"
Weight STD version									
Shipping	kg	1.765	2.065	2.453	2.895	2.985	2.995	3.085	3.095
Operating	kg	1.845	2.190	2.675	3.057	3.169	3.179	3.307	3.317
Dimensions									
Length	mm	3.795	3.795	4.210	4.210	4.210	4.210	4.210	4.210
Width	mm	950	950	1.400	1.400	1.400	1.400	1.400	1.400
Height	mm	1.910	1.910	2.050	2.050	2.050	2.050	2.050	2.050
Acoustical data STD version									
Sound power level	dB(A)	94	94	95	95	95	95	95	95
Sound pressure level (2)	dB(A)	75	75	76	76	76	76	76	76
Weight LN version									
Shipping	kg	2.075	2.375	2.853	3.295	3.385	3.395	3.485	3.495
Operating	kg	2.155	2.500	3.075	3.457	3.569	3.579	3.707	3.717
Acoustical data LN version									
Sound power level	dB(A)	89	89	90	90	90	90	90	90
Sound pressure level (2)	dB(A)	70	70	71	71	71	71	71	71
Weight ELN version									
Shipping	kg	2.165	2.465	2.973	3.445	3.535	3.545	3.635	3.645
Operating	kg	2.245	2.590	3.195	3.607	3.719	3.729	3.857	3.867
Acoustical data ELN version									
Sound power level	dB(A)	81	81	82	82	82	82	82	82
Sound pressure level (2)	dB(A)	62	62	63	63	63	63	63	63

(1) Data referred to evaporator water temperature 12/7°C and condensing temperature 38°C.

(2) The sound pressure is calculated from a distance of 1 mt.

Technical feature SWR 3012-4802

Model SWR		3012	3202	3412	3602	4212	4602	4802
Cooling capacity (1)	kW	716,0	784,4	841,7	898,9	962,1	1.040,2	1.118,2
Power input (1)	kW	156,2	169,7	180,5	191,4	218,7	230,5	242,3
Heat rejection (1)	kW	872,2	954,2	1.022,2	1.090,2	1.180,8	1.270,7	1.360,5
GROSS EER		4,6	4,6	4,7	4,7	4,4	4,5	4,6
Number of refrigerant circuits		2	2	2	2	2	2	2
Part load steps	%	25-50-63-75-87-100						
Refrigerant								
Type		HFC 134a						
Compressor								
Type		Screw						
Qty		2						
Startup type		Y/Δ						
Evaporator								
Type		Shell & Tube						
Qty		1						
Water flow	l/s	34,2	37,5	40,2	42,9	46,0	49,7	53,4
Water pressure drop	kPa	70,6	52,8	60,8	65,7	75,3	88,0	101,7
Water volume	l	222	359	359	359	359	399	399
Connection type		Victaulic						
Inlet/outlet diameter	inch	6"	8"	8"	8"	8"	8"	8"
Weight STD version								
Shipping	kg	3.505	4.421	4.431	4.441	4.561	4.581	4.753
Operating	kg	3.727	4.780	4.790	4.800	4.920	4.980	5.153
Dimensions								
Length	mm	4.210	4.770	4.770	4.770	4.770	4.770	4.770
Width	mm	1.400	1.400	1.400	1.400	1.400	1.400	1.400
Height	mm	2.050	2.050	2.050	2.050	2.050	2.110	2.110
Acoustical data STD version								
Sound power level	dB(A)	95	96	96	97	98	98	98
Sound pressure level (2)	dB(A)	76	77	77	78	79	79	79
Weight LN version								
Shipping	kg	3.905	4.921	4.931	4.941	5.061	5.081	5.253
Operating	kg	4.127	5.280	5.290	5.300	5.420	5.480	5.653
Acoustical data LN version								
Sound power level	dB(A)	90	91	91	92	93	93	93
Sound pressure level (2)	dB(A)	71	72	72	73	74	74	74
Weight ELN version								
Shipping	kg	4.055	5.091	5.101	5.111	5.231	5.251	5.423
Operating	kg	4.277	5.450	5.460	5.470	5.590	5.650	5.823
Acoustical data ELN version								
Sound power level	dB(A)	82	83	83	84	85	85	85
Sound pressure level (2)	dB(A)	63	64	64	65	66	66	66

(1) Data referred to evaporator water temperature 12/7°C and condensing temperature 38°C.

(2) The sound pressure is calculated from a distance of 1 mt.