



WRH

0151 - 1202

UNIT DESCRIPTION

This series of chillers, with condensation by cooling tower or well water, are suitable for use in medium/large size air conditioning or process cooling. Especially noteworthy is the possibility, in models with heat recovery, of having hot water during operation as chiller. They are particularly compact units with all their components easily accessible. They are built for indoor application.

STANDARD UNIT COMPOSITION

- Supporting structure made of galvanized epoxy powder coated steel with high thickness.
- Reciprocating semi-hermetic compressors.
- Thermally insulated shell and tube type evaporator.
- Shell and tube type condenser, accessible for inspection. (In the WRHH version the condenser is thermally insulated).
- Thermally insulated shell and tube type desuperheater (WRHD).
- Thermally insulated double shell and tube type condenser (WRHR).
- Expansion valves. Dryer filters. Sight glass.
- Electrical power and control panel complying with EN 60204-1/IEC 204-1 standards and interlock door mains isolator.
- Microprocessor control system.
- Non-freezing oil charge and refrigerant charge.
- General testing and operational test carried out in the factory in accordance with European Standard EN 12055.

MODELS

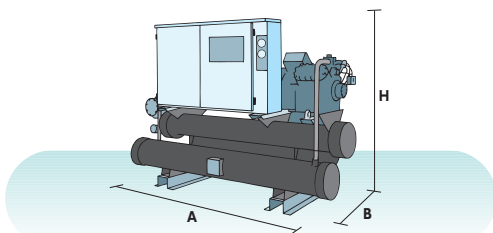
- WRH** This range of units features cooling only.
- WRHH** Water/water heat pump with reverse cycle on the water circuit.
- WRHD** Water cooled liquid chillers with partial heat recovery.
- WRHR** Water cooled liquid chillers with total heat recovery.



GENERAL TECHNICAL DATA

R22

MODELS		0151	0201	0251	0301	0302	0351	0401	0402	0501	0502	0601	0602	0702	0802	1002	1202	
WRH / WRHH / WRHR																		
Cooling capacity	① kW	46	51	66	76	93	95	120	108	136	129	162	154	189	231	272	328	
Power input	① kW	11	12	16	19	21	24	29	25	34	32	41	39	49	58	68	83	
Heating capacity	① kW	56	63	81	94	113	118	147	131	168	160	200	190	234	285	336	405	
WRHH / WRHR																		
Cooling capacity	② kW	42	47	60	69	84	86	107	98	124	117	147	139	170	208	247	297	
Power input	② kW	13	14	19	22	25	28	34	29	39	37	47	44	56	66	78	95	
Heating capacity	② kW	54	60	77	90	107	113	139	125	160	152	191	181	223	270	320	386	
WRHD																		
Cooling capacity	③ kW	48	53	68	79	96	99	124	112	141	134	168	160	196	240	282	340	
Power input	③ kW	10	12	16	19	21	24	28	24	33	31	40	37	47	56	65	80	
Heating capacity	③ kW	10	11	14	17	19	22	26	22	30	29	37	35	43	51	60	74	
OPERATING WEIGHT																		
WRH / WRHH	Kg.	462	488	501	519	794	615	653	913	757	935	772	971	1046	1140	1406	1492	
WRHD	Kg.	468	547	595	660	900	781	874	946	1018	1032	1052	1162	1280	1330	1575	1750	
WRHR	Kg.	477	506	540	556	834	704	740	959	869	1023	884	1045	1234	1314	1640	1726	
DIMENSIONS																		
WRH/H	A	④ mm	1645	1645	1645	1645	1850	1710	1710	1850	1960	1850	1960	1850	1935	2170	2175	2675
WRHR	A	④ mm	1645	1645	1645	1645	1850	1710	1710	1850	1975	1965	1975	1965	1880	2170	2175	2675
WRHD	A	④ mm	1645	1645	1645	1645	1850	1710	1710	1850	1960	1850	1960	1850	1935	2170	2175	2675
WRH/H	B	④ mm	800	800	800	800	970	800	800	970	860	970	860	970	970	970	970	970
WRHR	B	④ mm	800	800	800	800	970	800	800	970	860	970	860	970	1000	1000	1000	1000
WRHD	B	④ mm	800	800	800	800	970	800	800	970	860	970	860	970	970	970	970	970
WRH/H	H	mm	1070	1070	1070	1070	1245	1145	1145	1270	1145	1270	1145	1270	1270	1270	1325	1325
WRHR	H	mm	1070	1070	1070	1070	1245	1270	1270	1270	1270	1270	1270	1270	1360	1360	1410	1410
WRHD	H	mm	1310	1310	1310	1310	1360	1360	1360	1360	1330	1360	1330	1360	1360	1410	1410	1410



① Data referred to: Chilled water 12/7 °C Condenser water 30/35 °C	④ Free areas required: Condensing coil side minimum 450 mm Water conn. condenser side 900/2200 mm Opposite side to condens water connection minimum 600 mm Electrical panel side minimum 650 mm
② Data referred to: Chilled water 12/7 °C Hot water (recovery) 40/45 °C	
③ Data referred to: Chilled water 12/7 °C Hot water (desuperheater) 40/45 °C Condenser water 30/35 °C	

MAIN FUNCTIONS OF THE CVM CONTROLS

	20	300	300	20	
Voltage and frequency supply control	-	•	•	•	Compressor working-hours control and display
Missing external consens led signal	•	•	•	•	Compressor working hours balance system
Remote on/off by external volt-free contact	Opt.	Opt.	•	•	Part-winding compressor start
Cumulative fault warning alarm	•	•	•	•	Led display of interface board correct operation
Evaporator inlet/outlet water temperature display	•	•	•	•	Auto-diagnostic of the electrical part
Recuperator inlet/outlet water temperature display	-	•	Par.	-	CVM-Master connection
Compressor/circuit failure signal	•	•	Par.	-	CVM-Interface connection
Unit general-alarm signal	•	•	Opt.	-	Landis Staefa communication gateway
Print-out of the temperature and pressure values (if any)	•	•	Par.	-	Johnson Controls communication gateway
Configuration parameters print-out	•	•	•	-	Communication protocol
Historical alarms and events memory and print-out	25	200			
Propor. regulating algorithm on the inlet water temp.	•	•			
Proportional+Integral regulating algorithm	Par.	Par.			
Compressors start sequence at unit start-up	-	Par.			
Delayed compressor start	•	•			
Compressor start per hour and restarting time control	•	•			

WRH / D / R with CVM 20; WRHH with CVM 300

•: standard

-: not available

Opt.: available upon request

Par.: available modifying a value of the configuration parameters