



Water-Cooled/Condenserless Liquid Chillers with Integrated Hydronic Module

PRO-DIALOG Plus

AQUASNAP™



Quality Management System Approval

30RW/30RWA

Nominal cooling capacity 20-310 kW

- The new generation of 30RW/30RWA Aquasnap liquid chillers features the latest technological innovations: scroll compressors, digital auto-adaptive Pro-Dialog control and ozone-friendly refrigerant HFC-407C. Aquasnap can be supplied with hydronic evaporator and condenser modules as standard, limiting the installation to simple operations such as the entering and leaving water piping connection. An auto-adaptive control algorithm intelligently controls condenser water pump speed and the operation of the glycol cooler fans (30RW) or of the air-cooled condenser fans (30RWA) to ensure reliable and economical operation under any climate conditions.

"Plug and Play" installation

- Integrated hydronic modules: they minimise site installation complexity and reduce the required space for the chiller installation.

Evaporator hydronic module

This consists of a removable screen filter, single or twin-head water pump, expansion tank, water flow switch, safety valve, pressure gauge, and purge valve. A control valve permits adjustment of the flow rate to the water system characteristics. All components are isolated to prevent condensation.

Condenser hydronic module

This consists of a removable screen filter, single or twin-head (from size 060 upwards) variable-speed water pump, expansion tank, safety valve, pressure gauge, and purge valve. The variable-speed pump controls the chiller condensing pressure and makes the installation of a three-way mixing valve on the condenser water circuit unnecessary.

- Fan control: Pro-Dialog also controls the fans of the glycol cooler or remote air-cooled condenser. There are two methods: up to 8 stages maximum with balancing of fan operation times (30RW/RWA), or continuous speed variation (30RWA).
- Quick electrical connections: Aquasnap is equipped with a general disconnect switch and a 24 V control circuit supply transformer as standard. A single power supply entry (three-phase without neutral) supplies the chiller.

Economical operation

- The condensing pressure is optimised by a patented auto-adaptive algorithm. At part load or moderate outside temperature an algorithm intelligently controls the condenser water pump speed and the operation of the glycol cooler (30RW) or the condenser (30RWA) fans to maintain the condensing pressure at its lowest possible value. The standard 30RW chiller can operate down to -20°C outside temperature.

Physical data

30RW/RWA		020	025	030	040	045	060	070	080	090	110	120	135	150	160	185	210	245	275	300	
Nominal cooling capacity 30RW*	kW	20.2	25.9	29.9	39.7	45.3	56	70	80	91	108	123	139	149	162	183	216	247	284	310	
Nominal cooling capacity 30RWA**	kW	19	24.4	28.2	37.8	43.5	54	67	76	87	102	117	134	143	148	170	198	226	264	291	
Operating weight																					
30RW without hydronic module	kg	316	335	338	367	387	683	713	755	781	864	937	956	977	1079	1144	1357	1471	1421	1491	
30RWA without hydronic module	kg	325	339	339	361	375	627	648	682	703	777	840	849	859	953	1000	1318	1318	1361	1371	
Extra weight																					
Evaporator with single-pump hydronic kit	kg	25	25	25	27	27	14	14	14	14	15	15	15	15	75	75	75	75	60	63	
Condenser with single-pump hydronic kit	kg	35	35	35	37	37	20	20	20	20	80	80	80	80	80	80	95	95	97	101	
Evaporator with twin-head pump hydronic kit	kg	-	-	-	-	-	104	104	104	104	130	130	130	130	130	130	188	188	-	-	
Condenser with twin-head pump hydronic kit	kg	-	-	-	-	-	114	114	114	114	140	140	140	140	140	140	198	198	-	-	
Casing, if hydronic option is used	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	170	170	170	170	-	-	
Refrigerant 30RW***																					
		R-407C																			
Circuit A	kg	3.2	3.3	3.3	4.2	6.2	7.5	9.6	11	12.4	14	16.4	18.5	19.3	15	17	19	19	24	24	
Circuit B	kg	-	-	-	-	-	-	-	-	-	-	-	-	-	15	17	19	19	24	24	
Compressors 30RW/30RWA		Hermetic scroll, 48.3 r/s																			
Circuit A		1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Circuit B		-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	
Number of capacity steps		1	1	1	1	1	2	2	2	2	2	2	2	2	4	4	4	4	4	4	
Minimum capacity	%	100	100	100	100	100	46	43	50	50	42	50	46	50	25	25	21	25	23	25	
Control		PRO-DIALOG Plus																			
Condensers (30RW)		Welded plate heat exchangers																			
Water volume	l	2	2.91	2.91	3.8	4.8	6.1	7.8	9	9.7	12.2	13.7	15.8	17.9	26.5	26.5	34.9	34.9	46.6	46.6	
Max. water-side operating pressure, without hydronic module	kPa	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
Max. water-side operating pressure, with hydronic module	kPa	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
Condenser hydronic module (30RW)		Single or twin-head composite centrifugal pump, as per option used, variable speed by frequency converter (48.3 r/s)																			
Condenser pump		8 8 8 8 8 12 12 12 12 25 25 25 25 25 35 35 35 35 50 50 50																			
Expansion tank volume, condenser loop	l	8 8 8 8 8 12 12 12 12 25 25 25 25 25 35 35 35 35 50 50 50																			
Evaporator (30RW/30RWA)		Welded direct-expansion plate heat exchanger																			
Water volume	l	2	2.91	2.91	3.8	4.8	6.1	7.8	9	9.7	12.2	13.7	15.8	17.9	26.5	26.5	34.9	34.9	46.6	46.6	
Max. water-side operating pressure, without hydronic module	kPa	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
Max. water-side operating pressure, with hydronic module	kPa	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
Evaporator hydronic module (30RW/30RWA)		Single or twin-head composite centrifugal pump, as per option used (48.3 r/s)																			
Evaporator pump		8 8 8 8 8 12 12 12 12 25 25 25 25 25 35 35 35 35 50 50 50																			
Expansion tank volume, evaporator loop	l	8 8 8 8 8 12 12 12 12 25 25 25 25 25 35 35 35 35 50 50 50																			
Water connections (30RW/30RWA)		Victaulic† (30RW 020-045 without hydronic module: threaded gas connections)																			
Standard field connection diameter, Victaulic	inch	2	2	2	2	2	2	2	2	2	3 OD	3 OD	3 OD	3 OD	3	3	3	3	3	3	
Welded field connection diameter	mm	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	60.3	76.1	76.1	76.1	76.1	88.9	88.9	88.9	88.9	88.9	88.9	
Field refrigerant connections (30RWA)		Welded copper tube																			
Outside discharge piping diameter	inch	7/8	7/8	7/8	7/8	1-1/8	1-1/8	1-1/8	1-1/8	1-3/8	1-3/8	1-3/8	1-3/8	1-3/8	1-1/8	1-3/8	1-3/8	1-3/8	1-3/8	1-3/8	
Circuit A		-	-	-	-	-	-	-	-	-	-	-	-	-	1-1/8	1-3/8	1-3/8	1-3/8	1-3/8	1-3/8	
Circuit B		-	-	-	-	-	-	-	-	-	-	-	-	-	1-1/8	1-3/8	1-3/8	1-3/8	1-3/8	1-3/8	
Outside liquid refrigerant return piping diameter	inch	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	1-1/8	1-1/8	1-1/8	1-1/8	7/8	7/8	7/8	7/8	1-1/8	1-1/8	
Circuit A		-	-	-	-	-	-	-	-	-	-	-	-	-	7/8	7/8	7/8	7/8	1-1/8	1-1/8	
Circuit B		-	-	-	-	-	-	-	-	-	-	-	-	-	7/8	7/8	7/8	7/8	1-1/8	1-1/8	

* Standard EUROVENT conditions: evaporator entering/leaving water temperature = 12°C/7°C, condenser entering/leaving water temperature = 30°C/35°C.

** Standard EUROVENT conditions: evaporator entering/leaving water temperature = 12°C/7°C, saturated bubble point condensing temperature = 45°C, subcooling = 5 K.

*** The RWA units only have a nitrogen holding charge

† With tubular sleeve, supplied with the unit, consisting of a Victaulic connection at one end and a plain section at the other end.