QBS		230V/1Ph/50Hz		230V/1Ph/60Hz		115V/1Ph/60Hz	
		QBS001	QBS002	QBS001	QBS002	QBS001	QBS002
PERFORMANCES [1]							
Cooling capacity	[kW]	0,94	1,41	1,10	1,50	1,09	1,55
	[RT]	0,27	0,40	0,31	0,43	0,31	0,44
Compressors power input	[kW]	0,25	0,42	0,28	0,56	0,29	0,58
Total power input	[kW]	0,50	0,71	0,64	0,91	0,60	0,95
Total absorbed current	[A]	3,43	4,00	3,61	5,14	6,10	9,62
Energy efficiency (pump excluded)	EER	3,09	2,77	2,99	2,35	3,31	2,28
Seasonal energy performance ratio [*]	SEPR HT	*Out of ErP scope [4]*		-	-	-	-
Water flow	[l/h]	161,06	242,58	188,56	257,87	187,31	266,85
Available pressure	[kPa]	279	224	387	330	388	32[3]
	[psig]	40,3	32,5	56,1	47,9	56,3	46,9
ELECTRICAL DATA [2]							
Maximum power input (total)	[kW]	0,8	1,0	1,0	1,2	0,9	1,3
Maximum absorbed current (total)	[A]	6,0	5,1	6,0	6,2	9,5	11,6
Starting current	[A]	18,8	21,5	18,4	28,2	35,5	46,3
Fan power	[kW]	0,05	0,09	0,08	0,08	0,04	0,09
Fan current	[A]	0,34	0,55	0,53	0,53	0,50	0,78
Number of fans	[#]	1	1	1	1	1	1
Pump power input	[kW]	0,20	0,20	0,27	0,27	0,28	0,28
Pump absorbed current	[A]	0,92	0,92	1,20	1,20	2,49	2,49
Power supply	[V/Ph/Hz]	230/1/50	230/1/50	230/1/60	230/1/60	115/1/60	115/1/60
IP protection degree	---	IP20	IP20	IP20	IP20	IP20	IP20
TECHNICAL DATA							
N° of compressors	[#]	1	1	1	1	1	1
N° of refrigerant circuits	[#]	1	1	1	1	1	1
Air flow	[m³/h]	550	720	550	720	550	720
Sound pressure level at 10 m in free field [3]	[dbA]	41	42	41	42	41	42
Water connections size	[inch]	3/8" BSP G	3/8" BSP G	3/8" BSP G	3/8" BSP G	3/8" BSP G	3/8" BSP G
Tank capacity	[dm³]	15	15	15	15	15	15
	[gal]	4	4	4	4	4	4
Width	[mm]	470	470	470	470	470	470
	[inch]	18,5	18,5	18,5	18,5	18,5	18,5
Depth	[mm]	480	480	480	480	480	480
	[inch]	18,9	18,9	18,9	18,9	18,9	18,9
Height	[mm]	610	610	610	610	610	610
	[inch]	24	24	24	24	24	24
Weight	[kg]	40	40	40	40	40	40
	[lb]	88,1	88,1	88,1	88,1	88,1	88,1

- [*] Data reported here are in accordance with European Regulation (EU) 2016/2281for eco-design requirements of cooling products
- [1] Data referred to: water temp. in/out: 20/15°C - ambient air temp. 25°C
- [2] Data related to the haviest conditions allowed by safety devices
- [3] Sound pressure level at 10 m in free field and at 1,5 m height
- [4] Data referred to water temp. out 13°C

SOME OTHER UNITS AVAILABLE IN OUR PREMIUM LINE

QBE

2 to 25kW
Air-cooled chillers
with rotary and scroll compressors

CWE/HWE

13 to 140kW
Air-cooled scroll compressor
chillers and heat pumps

CWB FC

80 to 240kW
Air-cooled chillers
with integrated freecooling

CDC

300 to 1200 kW
Drycoolers
also adiabatic system available

Архангельск (8182)63-90-72
Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Киргизия (996)312-96-26-47
Россия (495)268-04-70
Казахстан (772)734-952-31

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FRIULAIR Chillers

QBS/ACW

COMPACT/MINI LIQUID CHILLERS

1 and 2 kW

ACW

DESCRIPTION

ACW are the new air-water coolers specifically designed for welders, spindle and for all industrial application that require water cooling at a temperature not lower than the ambient one.

THE RANGE INCLUDES 2 MODELS AVAILABLE EQUIPPED WITH:

- On-off fan
- Tubes and fins heat - exchanger
- Water tank in plastic material
- Peripheral pump
- Water level indicator
- Disconnector switch

ACW		230/1/50		230/1/60		115/1/60	
		ACW001	ACW002	ACW001	ACW002	ACW001	ACW002
NOMINAL PERFORMANCES							
Cooling capacity	[kW]	0,66	1,41	0,66	1,41	0,66	1,41
Cooling capacity	[Tons]	0,19	0,40	0,19	0,40	0,19	0,40
Total power input	[kW]	0,20	0,20	0,35	0,33	0,31	0,35
Total absorbed current	[A]	1,25	1,35	1,71	1,68	2,95	3,13
Power supply	[V/ph/Hz]	230/1/50	230/1/50	230/1/60	230/1/60	115/1/60	115/1/60
IP protection degree		IP20	IP20	IP20	IP20	IP20	IP20
Width	[mm]	430	430	430	430	430	430
	[inch]	16,9	16,9	16,9	16,9	16,9	16,9
Depth	[mm]	470	470	470	470	470	470
	[inch]	18,5	18,5	18,5	18,5	18,5	18,5
Height	[mm]	460	460	460	460	460	460
	[inch]	18,1	18,1	18,1	18,1	18,1	18,1
Weight	[kg]	19,4	26	19,4	26	19,4	26
	[lb]	42,8	57,3	42,8	57,3	42,8	57,3
Tank capacity	[dm³]	2	2	2	2	2	2
	[gal]	0,53	0,53	0,53	0,53	0,53	0,53
Water connection size	[inch]	3/8" BSP G	3/8" BSP G	3/8" BSP G	3/8" BSP G	3/8" BSP G	3/8" BSP G

NOMINAL REFERENCE CONDITIONS:

- Ambient temperature: 20°C / 68°F
- Outlet Water temperature: 25°C / 77°F

WORKING LIMITS:

- Ambient temperature: +5°C/+40°C (min/max) +41°F/+104°F (min/max)
- Water temperature: +5°C/+55°C (min/max) +41°F/+131°F (min/max)

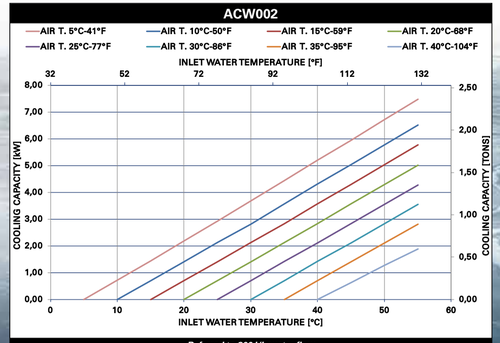
AVAILABLE OPTIONS:

- Wheels kit
- 400V/2ph/50Hz version
- Electronic controller version

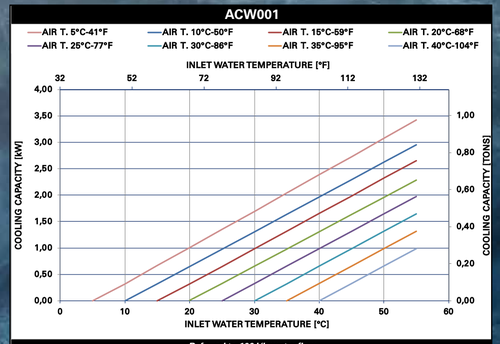
THE OUTLET WATER TEMPERATURE COULD BE CALCULATE AS FOLLOW

$$T_f = T_i - \frac{P}{m\, c_p}$$

T_f Outlet water temperature [K]
T_i Inlet water temperature [K]
P Cooling capacity [kW]
m Water flow [kg/s]
c_p Specific heat at constant pressure [kJ/kg K]

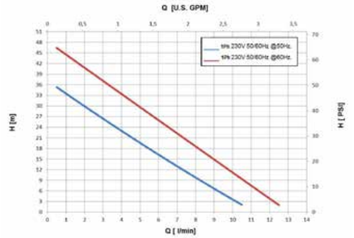


Referred to 200 l/h water flow

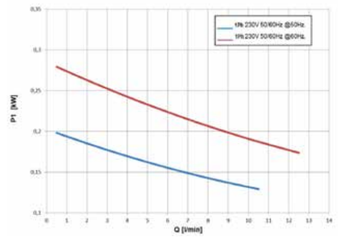


Referred to 100 l/h water flow

Pump Hydraulic Diagram



Pump Power Input Diagram



QBS

DESCRIPTION

QBS are the new small liquid chiller developed to integrate the QBE series. The range includes two models specifically designed to maximize the cooling capacity in the smallest size.

REFRIGERANT CIRCUIT

- Reciprocating compressor
- Copper tubes and fins evaporator, immersed in open tank
- Copper tubes and aluminium fins condenser
- Axial fan
- Dehydrator filter
- Capillary expansion device

THE HYDRAULIC CIRCUIT INCLUDES:

- Thermally insulated tank in stainless steel
- Peripheral pump
- Water level indicator
- Water filling

The QBS are made of steel and powder coated ral9005 making them suitable for indoor installation.
The microprocessor controller allows to reach the outlet water setpoint, runs the pump and the compressor and manages the alarms.

WORKING LIMITS:

- Outlet water temperature: +5°C/+25°C (min/max) +41°F/+77°F (min/max)
- Ambient temperature: +10°C/+40°C (min/max) +10°F/+50°F (min/max)

AVAILABLE OPTIONS:

- Wheels kit
- Auto adaptive controller