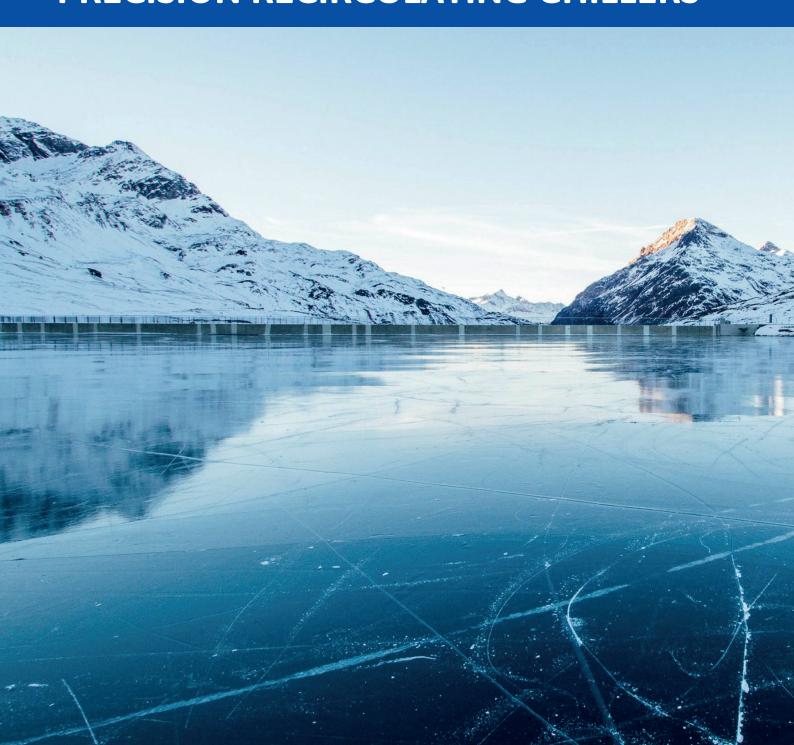


# PRECISION RECIRCULATING CHILLERS



### **WHO WE ARE**

Applied Thermal Control and Thermal Exchange, part of the Scientific Digital Imaging Group of Companies, design, build and service process cooling and temperature control equipment for industrial, medical and scientific applications.

As a company we recognise the importance of superior after sales service and are working towards providing this on a worldwide basis through a network of carefully chosen partners and distributors.

We are proud of our ISO9001:2015 and ISO14001:2015 certification, knowing that this reinforces our dedication to quality and the environment.

We are excited by the rising number of applications and are always keen to work on new projects and applications, as well as those where we have over 30 years of experience.

ATC chillers are well established in the scientific instrument support markets, semiconductor process, ophthalmic lens manufacturing equipment, machine tool, and more recently the chillers of choice for commercial digital printing and laser lithography markets worldwide.













**0.5**kW

1<sub>K</sub>W

1.75kW

KT Chillers (480 -1000W cooling capacity) are perfect for use in the laboratory. Their small footprint and almost silent function means that they are ideal when space is an issue. KT's come with a variety of control options, meaning that you only pay for functions you need.

The K1 and K3 Chillers (1.75kW and 3.2kW Cooling capacity) represent excellent cooling power in a compact and robust package.

# ATC SUPPLIES CHILLERS FOR THE MOST DEMANDING OF APPLICATIONS

ATC is a global supplier with extensive sales and customer support throughout Europe, North America, Asia and India.

#### ATC units are world renowned for their.

- » Quick and easy installation
- » Compact and robust design: Solid, reliable and energy efficient, whilst maintaining a small footprint
- » Wide variety of stainless steel pumps as standard, as well as nonstandard options
- » Huge range of options including specialized connectors, RS485 communications, deionizers, filters and many others
- » Multi-voltage and frequency models with UL and CE marking available for worldwide deployment and compatibility

We work in cooperation with equipment manufacturers to supply our users with recirculation chillers, water-water heat exchangers and air blast coolers designed to optimise performance and reliability.

ATC has a wealth of experience in a wide range of industries and applications. By offering expert advice, coupled with a friendly service, ATC work closely with our customers to ensure that all of their cooling requirements are met.

When contacting ATC you can be assured that you will find the best cooling solution for your equipment.





3.2kW

4.5kW

6kW

9kW

**14kW** 

Designed for the laboratory, but comfortable in almost any environment, the K1 and K3 are the workhorses of the ATC chiller family. The K4, K6, K9 and K12 represent a powerful and truly versatile cooling platform. With cooling capacities of 4.5, 6.0, 9.0 and 14kW respectively, these units can be modified to meet our customer and OEM specific requirements.

# **MINI**

The Mini chiller is the most sophisticated and energy efficient chiller ATC have ever produced.

Designed to augment the KT range, the Mini combines excellent cooling performance, a smaller footprint and new touchscreen controller. As all of the internals run on 24 volts, the unit is incredibly energy efficient and suitable for use all over the world. The low noise variable speed fans make the Mini whisper quiet and the perfect addition to your laboratory or workplace. The EcoMini, based on the success of the KTR, provides 500W of cooling to a factory set temperature, in stable conditions.

#### 500W cooling capacity,

- With a set point of 17°C in a 20°C ambient
- -25°C to +140°C optional temperature range
  - +4°C to 35°C as standard

Touchscreen interface or factory set temperature Universal 90-260 VAC input voltage and 50/60Hz input frequency

• Suitable for use all over the world

Overhauled refrigeration system using variable speed compressor

• Continual adjustment of refrigerant mass flow rate to control duty

Variable speed compressor and fan

- More energy efficient
- · Whisper quiet operation

41% smaller than KT range

· Similar footprint to a desktop PC

#### Energy efficient

• Consumes 20% of power of previous generation (KT)

ETL marked / UL-compliant by default

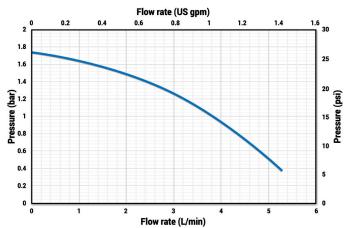
USB port for transferring system data

- Remote diagnosis of faults
- Loading software updates
- Uploading setpoint against time programs

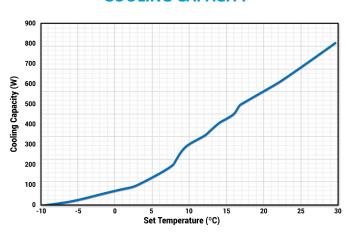
#### **APPLICATIONS**

- » Bioreactors
- » Electron Microscopes
- » Lasers
- » Automation Systems
- » Vacuum Pumps
- » Rotary Evaporators
- » Electrophoresis

### **PUMP CAPACITY**



### **COOLING CAPACITY**





Cooling capacity	Eco Mini Chiller 500W	Mini Chiller 500W
(setpoint 20°C, ambient 20°C)		
Physical attributes		
Physical dimensions (LxWxH) (mm)	435x180x380	435x180x380
Weight (kg)	Dry 20, wet 21	Dry 20, wet 21
Noise level (dB(A))	64 (optional manual adjustment)	35-64 (auto fan speed control)
Toolless access	No	No
Temperature control attributes		
Technology	Vapour compression	Vapour compression
Evaporator technology	Brazed plate heat exchanger	Brazed plate heat exchanger
Duty at +20°C ambient, Setpoint +20°C (kW)	500 350	500 350
Duty at +20°C ambient, Setpoint +15°C (kW) Refrigerant & charge	R134a, 360g	R134a, 360g
Temperature range (standard)	+4°C to +35°C (setpoint dependent on load)	+4°C to +35°C
Temperature range (extended)	-10°C to +35°C	-10°C to +65°C
Control method	None, continuous cooling	PID
Townsersture stability (with constant load)	(Low temp cutout & user settable capacity control dial) ±0.1°C	±0.1°C
Temperature stability (with constant load) Temperature resolution	N/A	N/A
Maximum THR (Total Heat Rejection)	850W	850W
Ambient air temperature range	+35°C	+35°C
Water circuit attributes		
System volume (L)	0.64	0.64
Pump type	3.5l/min Centrifugal pump	3.5l/min Centrifugal pump
Pump capability	5 l/min open flow, 1.9 Bar dead heard	5 I/min open flow, 1.9 Bar dead heard
Pressure control (settable pressure relief valve)	N/A	N/A
Standard fittings Standard chemical compatibility	Pushfit 12mm Hexid Fluid, Tap Water, Propylene Glycol, DI-water	Pushfit 12mm Hexid Fluid, Tap Water, Propylene Glycol, DI-water
	riexiu Fiulu, Tap Water, Fropylerie Glycor, Di-Water	nexiu Fidiu, Tap Water, Froppierie Giyoor, Di-Water
Electrical attributes		
Global Power Supply	Yes	Yes
Dedicated configurations	100-240Vac 50-60Hz (80-264Vac 47-63Hz)L / N / E	100-240Vac 50-60Hz (80-264Vac 47-63Hz)
	24Vdc (no internal PSU)	24Vdc (no internal PSU)
	+VE/0V/E	+VE/0V/E
Switchable configurations	N/A	N/A
Over current fault-cleared restart mode	Automatic	Automatic
Safety interlocks, protections, standards and indica		
1st party approvals	CE	CE
3rd party approvals	TBC	UL61010-1 CAN/CSA-C22.2
		FCC CFR47 Part 15 Subpart B
		IEC61000-6-4:2007 +A1:2011
		IEC61000-6-2:2005
		IEC61000-3-2:2014
Front Mild and a single days	No. Care d	IEC61000-3-3:2013
Empty fluid reservoir alarm Half-full fluid reservoir indicator	Not fitted Not fitted	Visual, Touchscreen controller GUI Visual, Touchscreen controller GUI
Full fluid reservoir indicator	Not fitted	Visual, Touchscreen controller GUI
Low fluid flow alarm	Not fitted	Optional flowmeter
Temperature out of range alarm	Not fitted	Visual, Touchscreen controller GUI
Compressor HP switch	Standard, via compressor control PCB	Standard, via compressor control PCB
Motor thermal overload	Not fitted	Fused
Emergency off Warranty options	Standard, via fuse 2 year parts, 1 year labour	Standard, via fuse 2 year parts, 1 year labour
Wallanty options	Enhanced warranty options	Enhanced warranty options
Interlock restored, restart mode	Automatic	Automatic
Options available		
Low temperature pack; SA00002	-	Available, to -10°C
High temperature pack; SA00003	-	Available, to +65°C
Non-return solenoid valve pack; SA00008	Available	Available
High temperature water circuit w/o heater; SA00009	Available	Available
Low flow alarm (KT); SA00010 Onboard RS485 data protocol; SA00011	Available -	Available Available
Standard VFC set; SA00012	Available	Available
In-line deionising cartridge and fittings; SA00013	Available	Available
Stainless non-return solenoid valve; SA00014	Available	Available
Castors to replace rubber feet; SA00015	Available	Available
CPC quick release connectors; SA00016 Installation kit; SA00017	Available; CPC quick connect 3/8" or 1/2" Available	Available; CPC quick connect 3/8" or 1/2"  Available
Particulate filter; SA00017	Available	Available
Flow meter pack; SA00022	Available, pulses per litre output on D connector	Available
Fan speed control (on/off); SA00023	-	Standard
Fan speed control (proportional); SA00024	Available, manual adjust for noise only	- Available
Flow meter pack output to RS485; SA00025 Seismic mounts; SA00026	- Available	Available Available
In-line UV decontamination; SA00027	Available	Available

# **COMPACT RECIRCULATING CHILLERS 0-1000W**

Compact robust and versatile, the KT range of chillers are a mainstay of many laboratories.

Originally developed to cool turbopumps, the range is compact, with a small footprint and robust in design. KT chillers are designed to run continuously and reliably. The chillers are vented on all faces and located on casters to allow for flexible use, including being effortlessly situated either on top of or underneath benches.

480W-1000W cooling capacity

- With a set point of 17°C in a 20°C ambient
- -15°C to +140°C optional temperature range
  - +4°C to 35°C as standard

Hot gas bypass as standard

- +/- 0.1°C temperature stability as standard
  - +/-0.01°C available as an option

Optional touchscreen controller

Dual readout 3 term PID controller as standard

Compact unit which is whisper quiet in operation

· Variable fan speed as an option

DI water compatible liquid circuit as standard

· Easy to maintain and replace

Pump options from 1 to 17 litres per minute

• Low and high pressure variants available

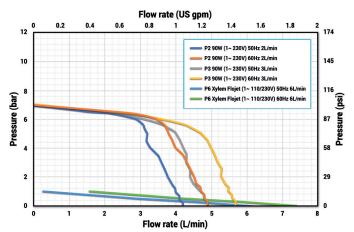
Available in CSA and UL approved variants

• Through ETL listing

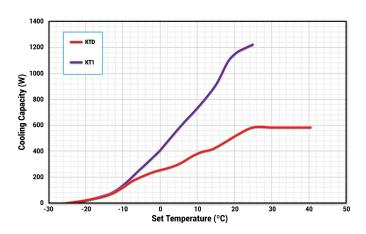
Multi-voltage and dual frequency units available, ideal for export

Easy to maintain and operate

#### **PUMP CAPACITY**



#### **COOLING CAPACITY**



#### **APPLICATIONS**

- » High Vacuum Technology
- » Turbo Vacuum Pump
- » Mass Spectrometry
- » Chemical Vapour Deposition
- » X-ray Diffractometers
- » Optical Lasers
- » Bioreactors
- » Surface Science
- » Bioreactors
- » Electron Microscopes







				XXX	
Cooling capacity setpoint 20°C, ambient 20°C)	KTR/480W	KTC/480W	KTD/480W	KT1/1000W	
Physical attributes					
Physical dimensions (LxWxH) (mm)	330x315x515	330x315x515	330x315x515	370x450x540	
Veight (kg)	30	30	30	55	
Noise level (dB(A))	55	55	55	58	
Foolless access	No	No	No	No	
Temperature control attributes					
echnology	Vapour Compression	Vapour Compression	Vapour Compression	Vapour Compression	
ecimology emperature range (standard)	Ambient dependant	Ambient dependant	+4°C to +35°C	+4°C to +35°C	
Control method	•	•		PID	
	Ambient tracking	Ambient tracking	Ambient tracking or PID		
emperature stability (with constant load)	±0.2°C	±0.2°C	±0.1°C	±0.1°C	
emperature resolution	0.1°C	0.1°C	0.1°C	0.1°C	
Vater circuit attributes					
System volume (L)	1.5	1.5	1.5	2	
Pump type	1) 2L/min Rotary vane (PD)	1) 2L/min Rotary vane (PD)	1) 2L/min Rotary vane (PD)	1) 5L/min Rotary vane (PD)	
	2) 3L/min Rotary vane (PD)	2) 3L/min Rotary vane (PD)	2) 3L/min Rotary vane (PD)	2) 10L/min Rotary vane (PD)	
	3) 6L/min Centrifugal	3) 6L/min Centrifugal	3) 6L/min Centrifugal	3) 17L/min Rotary vane (PD)	
Pump capability	1) 6bar@2L/min	1) 6bar@2L/min	1) 6bar@2L/min	1) 6bar@5L/min	
	2) 6bar@3L/min	2) 6bar@3L/min	2) 6bar@3L/min	2) 6bar@10L/min	
	3) 1bar@1L/min, 0.33bar@4L/min	3) 1bar@1L/min, 0.33bar@4L/min	3) 1bar@1L/min, 0.33bar@4L/min	3) 6bar@17L/min	
Pressure control (settable pressure relief valve)	Internal	Internal	Internal	Internal, PRV, 20-150psi	
resource contain (Sectable presource relief varye)	*not on CF pump	*not on CF pump	*not on CF pump	1/2" BSPPF + 3/4" BSPTM	
Nandard fittings	1/4" BSPPF	1/4" BSPPF	1/4" BSPPF	3/8" + 1/2" hose barbs	
Standard fittings					
	w/ 1/4" BSPTM to 10mm barb	w/ 1/4" BSPTM to 10mm barb	w/ 1/4" BSPTM to 10mm barb	Hexid Fluid, Water, Propylene	
Standard chemical compatibility	Hexid Fluid, Water, Propylene	Hexid Fluid, Water, Propylene	Hexid Fluid, Water, Propylene Glycol	Glycol	
	Glycol	Glycol			
Electrical attributes					
230Vac, 1~, 50Hz) 0-spec	Yes, 2.5A	Yes, 2.5A	Yes, 2.5A	Yes, 7A	
115Vac, 1~, 60Hz) 1-spec	Yes, 4.5A	Yes, 4.5A	Yes, 4.5A	Yes, 10A	
Switchable 208Vac, 1~/2~, 60Hz   220Vac, 1~/2~, 60Hz					
230Vac, 1~, 50Hz) 6-spec	Yes	Yes	Yes	Yes	
Switchable 115Vac, 1~, 60Hz   220Vac, 1~/2~, 60Hz	100	100	100	100	
	Yes	Yes	Yes	Yes	
230Vac, 1~, 50Hz) 7-spec	res	res	res		
208-230Vac, 1~/2~, 50/60Hz) 9-spec	-	-	-	Yes, 7A	
Overcurrent fault-cleared restart mode	Manual	Manual	Manual	Manual	
afety and fault indicator					
mpty fluid reservoir alarm	N/A	Safety interlock	Visual and audible	Visual, lamp	
ow fluid flow alarm	N/A	N/A	N/A	Visual, lamp	
emperature out of range alarm	N/A	Visual, lamp	Visual and audible	Visual, lamp	
Compressor HP switch	Standard	Standard	Standard	Standard	
Notor thermal overload	Standard	Standard	Standard	Standard	
Emergency off	Standard, via MCB	Standard, via MCB	Standard, via MCB	Standard, via fuse	
Varranty options	2 year parts, 1 year labour	2 year parts, 1 year labour	2 year parts, 1 year labour	2 year parts, 1 year labour	
ranally options	• •			Enhanced warranty option	
ntorlook rootered rootest soods	Enhanced warranty options	Enhanced warranty options	Enhanced warranty options	, ,	
nterlock restored, restart mode	Automatic	Automatic	Automatic	Automatic	
Overcurrent restart mode	Manual	Manual	Manual	Manual	
Options available					
ow temperature pack; SA00002	-	-	Available, to -10°C	Available, to -10°C	
ligh temperature pack; SA00003	-	-	Available, to +65°C	Available, to +65°C	
Vater cooled KT; SA00004	Available	Available	Available	-	
Ion-return solenoid valve pack; SA00008	Available	Available	Available	Available	
ligh temperature water circuit w/o heater; SA00009	Available	Available	Available	Available	
ow flow alarm (KT); SA00010	Available	Available	Available	Standard	
nboard RS485 data protocol; SA00011	-	-	Available	Available	
standard VFC set; SA00012		_	Available	Available	
	Available	Available	Available	Available	
n-line deionising cartridge and fittings; SA00013					
Castors to replace rubber feet; SA00015	Available	Available	Available	Standard	
CPC quick release connectors; SA00016	Available	Available	Available	Available	
nstallation kit; SA00017	Available	Available	Available	Available	
Stainless steel pump and fittings; SA00018	Standard	Standard	Standard	Standard	
stanness steer parrip and namigo, or to so re			Available	Available	
	Available	Available	Available	Available	
CT filter kit; SA00019	Available Available	Available Available	Available	Available	
CT filter kit; SA00019 Particulate filter; SA00021 Seismic mounts; SA00026					

# LABORATORY CHILLERS AND RECIRCULATING CHILLERS 1050-3200W

The K1 and K3 were the very first chillers designed for the ATC range.

Initially designed for cooling the diffusion pumps in deposition systems, the K1 and K3 offer a versatile cooling platform for most laboratory, manufacturing and quality assurance applications. Both units are commonly preferred for their superior cooling performance combined with high output pressure and flow rates. More recently these units have become the chiller of choice in the imaging industry, cooling X-ray, electron and other high energy sources.

1050W to 3200W cooling capacity

- With a set point of 17°C in a 20°C ambient
- -15°C to +140°C optional temperature range
  - +4°C to 35°C as standard

Hot gas bypass as standard

- +/- 0.1°C temperature stability as standard
  - +/-0.01°C available as an option

Optional touchscreen controller

Dual readout 3 term PID controller as standard

Compact unit which is whisper quiet in operation

· Variable fan speed as an option

DI water compatible liquid circuit as standard

· Easy to maintain and replace

Pump options from 1 to 17 litres per minute

• internal pressure bypass for regulating flow as standard

Available in CSA and UL approved variants

Through ETL listing

Multi-voltage and dual frequency units available, ideal for export

Adaptable for outdoor operation

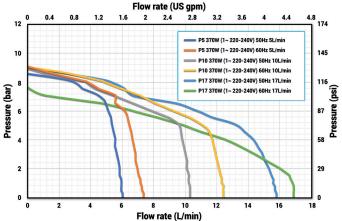
Easy to maintain and operate

Fits under the bench

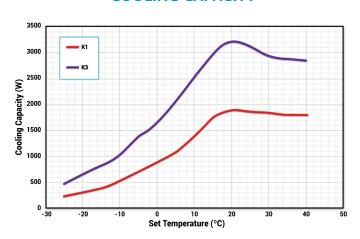
#### **APPLICATIONS**

- » Ion Beams
- » Lasers
- » XRD
- » X-ray Sources
- » CT Scanners

# PUMP CAPACITY Flow rate (US gpm)



#### **COOLING CAPACITY**





Cooling capacity	1750W/K1	3200W/K3
setpoint 20°C, ambient 20°C)		
Physical attributes	Y	
hysical dimensions (LxWxH) (mm)	545 x 420 x 575	540 x 550 x 713
Veight (kg)	66	82
loise level (dB(A))	68	68
oolless access	no	No
emperature control attributes		
echnology	Vapour Compression	Vapour Compression
emperature range (standard)	+4°C to +35°C	+4°C to +35°C
Control method	PID	PID
emperature stability (with constant load)	±0.1°C	±0.1°C
emperature resolution	0.1°C	0.1°C
Vater circuit attributes		
system volume (L)	2.5	3.5
Pump type and capability	5L/min@6bar (PD)	5L/min@6bar (PD)
urry type and supublity	10L/min@6bar (PD)	10L/min@6bar (PD)
	= ' '	- · · · · · · · · · · · · · · · · · · ·
hannes and the state of the sta	17L/min@6bar (PD)	17L/min@6bar (PD)
Pressure control (settable pressure relief valve)	Internal, PRV, 20-150psi	Internal, PRV, 20-150psi
Standard fittings	1/2" BSPPF + 3/4" BSPTM	1/2" BSPPF + 3/4" BSPTM
	3/8" + 1/2" hose barbs	3/8" + 1/2" hose barbs
tandard chemical compatibility	Hexid, DI Water, Prop Glycol	Hexid, DI Water, Prop Glycol
ilectrical attributes		
230Vac, 1~, 50Hz) 0-spec	Yes, 7.3A	Yes, 13A
115Vac, 1~, 60Hz) 1-spec	Yes, 11.5A	-
208-220Vac, 1~/2~, 60Hz) 2-spec	Yes, 8A	Yes, 13.5A
Switchable 208Vac, 1~/2~, 60Hz   220Vac, 1~/2~, 60Hz   230Vac, 1~, 50Hz) 6-spec	Yes,	Yes,
Switchable 115Vac, 1~, 60Hz   220Vac, 1~/2~, 60Hz   230Vac, 1~, 50Hz) 7-spec	Yes,	-
208-230Vac, 1~/2~, 50/60Hz) 9-spec	Yes 7.3A	Yes 13.A
Overcurrent fault-cleared restart mode	Manual	Manual
afety interlocks, protections, standards and indicators	05	05
st party approvals	CE	CE
ird party approvals	UL-OK on 9-spec	UL-OK on 9-spec
Empty fluid reservoir alarm	Visual, lamp	Visual, lamp
ow fluid flow alarm	Visual, lamp	Visual, lamp
emperature out of range alarm	Visual, lamp	Visual, lamp
Compressor HP switch	Standard	Standard
Notor thermal overload	Standard	Standard
mergency off	Standard, via MCB	Standard, via MCB
Varranty options	2 year parts, 1 year labour	2 year parts, 1 year labour
	Enhanced warranty options	Enhanced warranty options
Options available		
Remote alarm/power-off; SA00001	Available	Available
ow temperature pack; SA00002	Available, to -20°C	Available, to -20°C
ligh temperature pack; SA00003	Available, to +65°C	Available, to +65°C
		-
Vater cooled K1; SA00005	Available	-
Vater cooled K1; SA00005 Vater cooled K3; SA00007	Available -	- Available
Vater cooled K1; SA00005 Vater cooled K3; SA00007 Ion-return solenoid valve pack; SA00008	Available - Available	- Available Available
Vater cooled K1; SA00005 Vater cooled K3; SA00007 Ion-return solenoid valve pack; SA00008 Iligh temperature water circuit w/o heater; SA00009	Available - Available Available	- Available Available Available
Vater cooled K1; SA00005 Vater cooled K3; SA00007 Ion-return solenoid valve pack; SA00008 ligh temperature water circuit w/o heater; SA00009 .ow flow alarm (KT); SA00010	Available - Available Available Standard	- Available Available Available Standard
Vater cooled K1; SA00005  Vater cooled K3; SA00007  Ion-return solenoid valve pack; SA00008  Iigh temperature water circuit w/o heater; SA00009  Low flow alarm (KT); SA00010  Onboard RS485 data protocol; SA00011	Available - Available Available Standard Available	- Available Available Available Standard Available
Vater cooled K1; SA00005 Vater cooled K3; SA00007 Ion-return solenoid valve pack; SA00008 Iligh temperature water circuit w/o heater; SA00009 ow flow alarm (KT); SA00010 Inboard RS485 data protocol; SA00011 Itandard VFC set; SA00012	Available - Available Available Standard Available Available	- Available Available Available Standard Available Available
Vater cooled K1; SA00005  Vater cooled K3; SA00007  Jon-return solenoid valve pack; SA00008  Jigh temperature water circuit w/o heater; SA00009  Low flow alarm (KT); SA00010  Diboard RS485 data protocol; SA00011  Standard VFC set; SA00012  n-line deionising cartridge and fittings; SA00013	Available - Available Available Standard Available Available Available	- Available Available Available Standard Available Available Available
Vater cooled K1; SA00005  Vater cooled K3; SA00007  Jon-return solenoid valve pack; SA00008  Jigh temperature water circuit w/o heater; SA00009  Jonboard RS485 data protocol; SA00011  Standard VFC set; SA00012	Available - Available Available Standard Available Available Available Available Available	- Available Available Available Standard Available Available Available Available Available
Vater cooled K1; SA00005 Vater cooled K3; SA00007 Ion-return solenoid valve pack; SA00008 Iligh temperature water circuit w/o heater; SA00009 ow flow alarm (KT); SA00010 Inboard RS485 data protocol; SA00011 Istandard VFC set; SA00012 n-line deionising cartridge and fittings; SA00013 Istainless non-return solenoid valve; SA00014	Available - Available Available Standard Available Available Available	- Available Available Available Standard Available Available Available
Vater cooled K1; SA00005 Vater cooled K3; SA00007 Ion-return solenoid valve pack; SA00008 Iligh temperature water circuit w/o heater; SA00009 ow flow alarm (KT); SA00010 Inhoard RS485 data protocol; SA00011 Istandard VFC set; SA00012 In-line deionising cartridge and fittings; SA00013 Istanless non-return solenoid valve; SA00014 IPC quick release connectors; SA00016	Available - Available Available Standard Available Available Available Available Available	- Available Available Available Standard Available Available Available Available Available
Vater cooled K1; SA00005 Vater cooled K3; SA00007 Ion-return solenoid valve pack; SA00008 Iligh temperature water circuit w/o heater; SA00009 ow flow alarm (KT); SA00010 Inhoard RS485 data protocol; SA00011 Istandard VFC set; SA00012 In-line deionising cartridge and fittings; SA00013 Istainless non-return solenoid valve; SA00014 IPC quick release connectors; SA00016 Installation kit; SA00017	Available - Available Available Standard Available Available Available Available Available Available Available	- Available Available Available Standard Available Available Available Available Available Available Available
Vater cooled K1; SA00005  Vater cooled K3; SA00007  Ion-return solenoid valve pack; SA00008  Iligh temperature water circuit w/o heater; SA00009  ow flow alarm (KT); SA00010  Inboard RS485 data protocol; SA00011  Istandard VFC set; SA00012  In-line deionising cartridge and fittings; SA00013  Istainless non-return solenoid valve; SA00014  IPC quick release connectors; SA00016  Installation kit; SA00017  Istainless steel pump and fittings; SA00018	Available - Available Available Standard Available Available Available Available Available Available Available Available Available	- Available Available Available Standard Available Available Available Available Available Available Available Available Available
Vater cooled K1; SA00005  Vater cooled K3; SA00007  Jon-return solenoid valve pack; SA00008  Jigh temperature water circuit w/o heater; SA00009  Low flow alarm (KT); SA00010  Diboard RS485 data protocol; SA00011  Standard VFC set; SA00012  n-line deionising cartridge and fittings; SA00013	Available - Available Available Standard Available Available Available Available Available Available Standard	Available Available Available Standard Available Available Available Available Available Available Available Available Standard
Vater cooled K1; SA00005  Vater cooled K3; SA00007  Ion-return solenoid valve pack; SA00008  Iligh temperature water circuit w/o heater; SA00009  ow flow alarm (KT); SA00010  Ionboard RS485 data protocol; SA00011  Istandard VFC set; SA00012  In-line deionising cartridge and fittings; SA00013  Istainless non-return solenoid valve; SA00014  IPC quick release connectors; SA00016  Installation kit; SA00017  Istainless steel pump and fittings; SA00018  Identification valve; SA00020  Installation valve; SA00020  Installation valve; SA00021	Available - Available Available Standard Available Standard Available, to IP54	Available Available Available Standard Available Standard Available, to IP54
Vater cooled K1; SA00005  Vater cooled K3; SA00007  Jon-return solenoid valve pack; SA00008  Jigh temperature water circuit w/o heater; SA00009  Johoard RS485 data protocol; SA00011  Standard VFC set; SA00012  In-line deionising cartridge and fittings; SA00013  Stainless non-return solenoid valve; SA00014  EPC quick release connectors; SA00016  Installation kit; SA00017  Stainless steel pump and fittings; SA00018  Joho for outdoor use; SA00020  Particulate filter; SA00021  Flow meter pack; SA00022	Available - Available Available Standard Available Standard Available, to IP54 Available	Available Available Available Standard Available Standard Available, to IP54 Available
Vater cooled K1; SA00005  Vater cooled K3; SA00007  Jon-return solenoid valve pack; SA00008  Jigh temperature water circuit w/o heater; SA00009  Johoard RS485 data protocol; SA00011  Standard VFC set; SA00012  In-line deionising cartridge and fittings; SA00013  Stainless non-return solenoid valve; SA00014  EPC quick release connectors; SA00016  Installation kit; SA00017  Stainless steel pump and fittings; SA00018  Jod for outdoor use; SA00020  Particulate filter; SA00021  Jow meter pack; SA00022  Jon speed control (on/off); SA00023	Available - Available Available Standard Available Standard Available, to IP54 Available Available	Available Available Available Standard Available Standard Available, to IP54 Available Available
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Vater cooled K1; SA00005  Vater cooled K3; SA00007  Jon-return solenoid valve pack; SA00008  Jigh temperature water circuit w/o heater; SA00009  Jonovard RS485 data protocol; SA00011  Standard VFC set; SA00012  In-line deionising cartridge and fittings; SA00013  Stainless non-return solenoid valve; SA00014  CPC quick release connectors; SA00016  Installation kit; SA00017  Stainless steel pump and fittings; SA00018  And for outdoor use; SA00020  Particulate filter; SA00021  Flow meter pack; SA00022  Fan speed control (on/off); SA00024  Flow meter pack output to RS485; SA00025  Seismic mounts; SA00026	Available - Available Available Standard Available Available Available Available Available Available Available Available Available Standard Available, to IP54 Available	Available Available Available Standard Available Available Available Available Available Available Available Available Available Standard Available, to IP54 Available
Vater cooled K1; SA00005  Vater cooled K3; SA00007  John-return solenoid valve pack; SA00008  Jigh temperature water circuit w/o heater; SA00009  Johoard RS485 data protocol; SA00011  Standard VFC set; SA00012  In-line deionising cartridge and fittings; SA00013  Stainless non-return solenoid valve; SA00014  EPC quick release connectors; SA00016  Installation kit; SA00017  Stainless steel pump and fittings; SA00018  Jod for outdoor use; SA00020  Particulate filter; SA00021  John SA00022  John SA00023  John SA00024  John SA00024  John SA00024  John SA00025	Available - Available Available Standard Available Available Available Available Available Available Available Available Available Standard Available, to IP54 Available	Available Available Available Standard Available Standard Available, to IP54 Available Available Available Available Available Available Available Available Available

# PRECISION INDUSTRIAL CHILLERS 3250W-14KW

The largest, and most powerful chillers in the K-series range from ATC.

The K4, K6, K9 and K12 provide maximum cooling power whilst still maintaining a small footprint and excellent temperature stability of +/-0.1°C. Designed to cool the larger diffusion pumps which came to the market, the K4-12 range of units later found a niche in the digital printing market. Perfect for cooling cryo-compressors, these units have become popular in the laboratory as well as the optics and semi-conductor industry.

With space inside for a variety of pump options, including centrifugal and positive displacement these systems provide an excellent platform for almost any application.

3250W to 1450W cooling capacity

- · With a set point of 17°C in a 20°C ambient
- -25°C to +140°C optional temperature range
  - +4°C to 35°C as standard

Hot gas bypass as standard

- +/- 0.1°C temperature stability as standard
  - +/-0.01°C available as an option

Optional touchscreen controller

Dual readout 3 term PID controller as standard

Low footprint and quiet in operation

Variable fan speed as an option

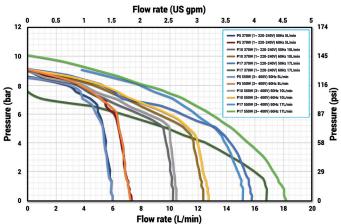
DI water compatible liquid circuit as standard

• Easy to maintain and replace

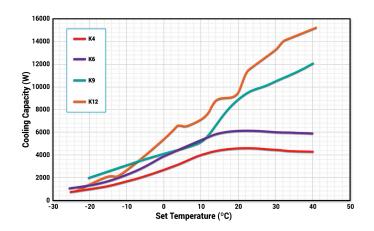
Pump options from 1 to 200 litres per minute

- Low and high pressure variants available
- High pressure water circuits include a bypass for regulation as standard





#### **COOLING CAPACITY**



#### **APPLICATIONS**

- » Ion Beam Systems
- » Cryocompressors
- » Vacuum Pumps
- » High Speed Spindles
- » Swarf Management
- » Opthalmic Lens Production
- » Semi-conductor Manufacturer
- » Laser Systems
- » Electron Beam Systems



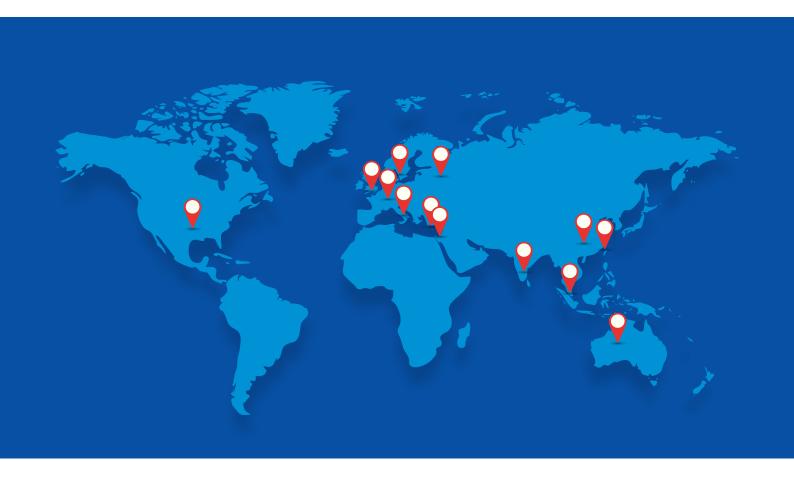
Cooling capacity	4500W/K4	6000W/K6	9000W/ K9	14000W/ K12
(setpoint 20°C, ambient 20°C)	43000/14	6000W/K6	3000W/ K3	14000W/ KIZ
Physical attributes			YYY	
Physical dimensions (LxWxH) (mm)	775 x 510 x 850	775 x 510 x 850	775 x 510 x 850	775 x 510 x 1130
Weight (kg)	125	125	125	135
Noise level (dB(A))	68	68	85	85
Toolless access	Yes	Yes	Yes	Yes
Temperature control attributes				
Technology	Vapour Compression	Vapour Compression	Vapour Compression	Vapour Compression
Temperature range (standard)	+4°C to +35°C	+4°C to +35°C	+4°C to +35°C	+4°C to +35°C
Control method	PID	PID	PID	PID
Temperature stability (with constant load)	±0.1°C	±0.1°C	±0.1°C	±0.2°C
Femperature resolution	0.1°C	0.1°C	0.1°C	0.1°C
Water circuit attributes				
System volume (L)	5	5	5.25	5.5
Pump type and capability	5L/min@6bar (PD)	5L/min@6bar (PD)	5L/min@6bar (PD)	5L/min@6bar (PD)
	10L/min@6bar (PD)	10L/min@6bar (PD)	10L/min@6bar (PD)	10L/min@6bar (PD)
	17L/min@6bar (PD)	17L/min@6bar (PD)	17L/min@6bar (PD)	17L/min@6bar (PD)
	25L/min@4bar (centrif)	25L/min@4bar (centrif)	25L/min@4bar (centrif)	25L/min@4bar (centrif)
Pressure control (settable pressure relief valve)	Internal, PRV, 20-150psi	Internal, PRV, 20-150psi	Internal, PRV, 20-150psi	Internal, PRV, 20-150psi
	*not on CF pump	*not on CF pump	*not on CF pump	*not on CF pump
Standard fittings	1/2" BSPPF + 3/4" BSPTM	1/2" BSPPF + 3/4" BSPTM	1/2" BSPPF + 3/4" BSPTM	1/2" BSPPF + 3/4" BSPTM
	3/8" + 1/2" hose barbs	3/8" + 1/2" hose barbs	3/8" + 1/2" hose barbs	3/8" + 1/2" hose barbs
Standard chemical compatibility	Hexid, DI Water, Prop Glycol	Hexid, DI Water, Prop Glycol	Hexid, DI Water, Prop Glycol	Hexid, DI Water, Prop Glycol
Electrical attributes				
230Vac, 1~, 50Hz) 0-spec	Yes, 13A	Yes, 13A	Yes, 20A	-
208-220Vac, 1~/2~, 60Hz) 2-spec	Yes, 13.5A	Yes, 11A		-
(400Vac, 3~, 50Hz) 3-spec	Yes, 6.5A	Yes, 5A	Yes, 10A	Yes, 12A
Switchable 208Vac, 1~/2~, 60Hz   220Vac, 1~/2~, 60Hz				
230Vac, 1~, 50Hz) 6-spec	Yes,	Yes,	-	-
208Vac, 3~, 60Hz) 8-spec	-	Yes, 7.5A	Yes, 17.5A	Yes, 17A
Overcurrent fault-cleared restart mode	Manual by default.	Manual by default.	Manual by default.	Manual by default.
	Specify automatic with 'A' suffix	Specify automatic with 'A' suffix	Specify automatic with 'A'	Specify automatic with 'A' suff
	on model number	on model number	suffix on model number	on model number
Safety interlocks, protections, standards and				
indicators				
1st party approvals	CE	CE	CE	CE
Brd party approvals	UL-OK on 9, 8 or 3-spec	UL-OK on 9, 8 or 3-spec	UL-OK on 9, 8 or 3-spec	UL-OK on 9, 8 or 3-spec
Empty fluid reservoir alarm	Safety interlock	Safety interlock	Safety interlock	Safety interlock
ow fluid flow alarm	N/A	N/A	N/A	N/A
remperature out of range alarm	N/A	N/A	N/A	N/A
Compressor HP switch	Standard	Standard	Standard	Standard
Motor thermal overload	Standard	Standard	Standard	Standard
Emergency off	Standard, via contactor	Standard, via contactor	Standard, via contactor	Standard, via contactor
Varranty options	2 year parts, 1 year labour	2 year parts, 1 year labour	2 year parts, 1 year labour	2 year parts, 1 year labour
	Enhanced warranty options	Enhanced warranty options	Enhanced warranty options	Enhanced warranty options
Options available				
Remote alarm/power-off; SA00001	Available	Available	Available	Available
Low temperature pack; SA00002	Available, to -20°C	Available, to -20°C	Available, to -20°C	Available, to -20°C
High temperature pack; SA00003	Available, to +65°C	Available, to +65°C	Available, to +65°C	Available, to +65°C
Nater cooled K4/K6/K9/K12; SA00006	Available	Available	Available	Available, to +05 C
Non-return solenoid valve pack; SA00000	Available	Available	Available	Available
High temperature water circuit w/o heater; SA00009	Available	Available	Available	Available
Low flow alarm (KT); SA00010	Available	Available	Available	Available
Onboard RS485 data protocol; SA00011	Available	Available	Available	Available
Standard VFC set; SA00012	Available	Available	Available	Available
n-line deionising cartridge and fittings; SA00013	Available	Available	Available	Available
Stainless non-return solenoid valve; SA00014	Available	Available	Available	Available
CPC quick release connectors; SA00016	Available	Available	Available	Available
nstallation kit; SA00017	Available	Available	Available	Available
Stainless steel pump and fittings; SA00018	Standard	Standard	Standard	Standard
Mod for outdoor use; SA00020	Available, to IP54	Available, to IP54	Available, to IP54	Available, to IP54
Particulate filter; SA00021	Available	Available	Available	Available Available
Flow meter pack; SA00022	Available	Available	Available	Available
1011 THORES PROBLEM	, wallable	Available	Available	Available
Fan eneed control (on/off): SADDD22	Δvailable		Availabic	Available
	Available Available		Available	Available
Fan speed control (proportional); SA00024	Available	Available	Available	Available Available
Fan speed control (on/off); SA00023 Fan speed control (proportional); SA00024 Flow meter pack output to RS485; SA00025	Available Available	Available Available	Available	Available
Fan speed control (proportional); SA00024 Flow meter pack output to RS485; SA00025 Seismic mounts; SA00026	Available Available Available	Available Available Available	Available Available	Available Available
Fan speed control (proportional); SA00024 Flow meter pack output to RS485; SA00025 Seismic mounts; SA00026 n-line UV decontamination; SA00027	Available Available Available Available	Available Available Available Available	Available Available Available	Available Available Available
Fan speed control (proportional); SA00024 Flow meter pack output to RS485; SA00025 Seismic mounts; SA00026	Available Available Available	Available Available Available	Available Available	Available Available

# **GLOBAL NETWORK AND DISTRIBUTORS**

As a company we recognise the importance of superior after sales service and are working towards providing this on a worldwide basis through a network of carefully chosen partners and distributors. We are able to offer a combination of on site, telephone and return to base after sales support 24 hours a day.

We are proud of our ISO9001:2015 and ISO14001:2015 certification, knowing that this reinforces our dedication to quality and the environment. We are excited by the rising number of applications in which we can invest our expertise, and look forward to continued growth over the coming years.

It is because of our attention to quality and openness to cooperation that makes ATC the manufacturer of choice for our customer base around the world.



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