



Atlas Copco



TCX 4-90A Process Cooling Chillers

www.atlascopco.co.uk

The dawn of a new era in industrial cooling

The Atlas Copco TCX series is a compact all-in-one water chiller with an air-cooled condenser and integrated hydro module. The TCX chillers are specially designed for cooling water (or a mixture of water and glycol) for a wide range of industrial processes, including food and beverage, machine cooling, medical, pharmaceutical, plastics, and printing.

The launch of the TCX range of process chillers fits perfectly with the company ethos of going further and deeper into core categories to better serve our customers. The TCX chillers are the first products in our new industrial cooling portfolio. We have incorporated our 145+ years of design experience in the new range. The TCX range maximizes efficiency and comes with the reliability and performance customers expect, and demand, from an Atlas Copco product. We have taken a product and put our own innovation stamp on it. You will see this when you look at the design, service features and connectivity of the chiller.

The innovative, familiar Elektronikon® MkV Touch controller comes as standard (from TCX11A) putting control at the user's fingertips. SMARTLINK 24/7 monitoring, as with all Atlas Copco equipment, is available as part of the total package. The TCX range can also be covered on a single-service contract with all other Atlas Copco mechanical equipment, including air compressors, dryers, nitrogen generation systems and low-pressure blowers.

"Complete your efficiency package with the new TCX range of industrial chillers"



TCX process cooling chillers



Reliability Guaranteed

Industrial chillers are an essential part of your process, we fully understand that downtime is not an option. The refrigeration circuit on the TCX range utilizes a hermetically sealed scroll compressor with crankcase heater, epoxy coated aluminum microchannel condensers and stainless-steel evaporator. The cooling water circuit is designed with an industry proven stainless steel circulation pump with an IE3 motor, stainless steel buffer tank, and safety flow switch.



All Way Efficiency

The TCX range complies with next generation efficiency directives to reach the highest level of energy savings. The design of the TCX state of the art microchannel condensers require 30% less refrigerant, improving environmental impact, while lowering potential maintenance costs over the life of the chiller.



Plug and Play

The new TCX packaged chiller offering provides an integrated all in one and ready to use solution for quick installation at the customer's site. The external canopy boasts an IP54 rating and the chillers can be installed both indoors and outdoors (from TCX11A). This allows you to save internal space, optimize the distribution of cooling water and also permit to work with cold winter air temperature to gain efficiency for your chiller. The integrated pump and tank design allows you to reduce footprint, installation and commissioning costs.



Simple Service

The chiller is designed for easy access of the installed components and for the simplest service experience. The refrigeration system is in the front and the cooling water circulation assembly in the back. The oversized canopy doors and thoughtful layout reduces maintenance time and allows for easy inspection, helping to prevent breakdowns. A customized service plan is available through the local Atlas Copco service team.



Connectivity

The TCX chiller offering (from TCX11A) is designed with the Elektronikon® MkV Touch screen controller to ensure control and monitoring is at your fingertips. The MkV Touch screen controller includes built in SMARTLINK remote monitoring capability. SMARTLINK collects operational data from the chiller and provides customer's machine data, in real time, in a clear format to ensure the TCX running at optimal efficiency.

Product specification

1

Stainless steel components

The storage tank and hydraulic parts of the centrifugal pumps are stainless steel and are factory installed and tested. They prevent process water contamination with rust particles and provide higher levels of reliability and temperature control.

2

State-of-art microchannel condensers

The coated simple all-aluminum microchannel design is lightweight and designed to provide long life period without corrosion. This unique design results in 30 percent less refrigerant charge compared to other standard types of heat exchangers, making them more environmentally friendly and reducing maintenance costs.

3

Fully hermetic scroll compressor

The fully hermetically sealed refrigerant compressor prevents refrigerant gas from leaking and requires zero maintenance. The phase sequence relay has no risk of compressor failure in case of changing power supply.



4

Robust and sound attenuated canopy design

The IP54 rated canopy design with galvanized steel structure is painted with epoxy-polyester powder. This allows you to use the new Atlas Copco TCX chiller indoors and outdoors, with ambient temperatures down to -50°F without any need for additional protection. The sound-attenuated canopy also reduces noise levels allowing the chiller to be installed in a normal working environment.



5

Ease of maintenance

The unit is designed for easy access of the installed components. The wide canopy doors and thoughtful layout reduces maintenance time and allows for easy inspection to prevent breakdowns.

6

Reliable cooling

The units are air cooled with cost-effective on/off regulation axial fans as part of the standard scope of supply. The fans are simple and robust for increased lifetime. Fan speed regulation (phase-cut and EC fans) options are available to allow operation in lower ambient temperatures.

7

Safety devices for the trouble-free operation

The TCX range features a wide range of safety devices, such as flow and level switches, thermal probes, pressure probes, crankcase heating and strainers allows you to operate the chiller securely. The controller, which combines all the chiller sensors into one system, issues timely warnings in case of deviation of the operating parameters from the standard values.

8

Copper brazed plate evaporator

The copper brazed plate heat exchanger has a compact design and light weight. It is highly reliable and can withstand long-term temperature loads.

9

Atlas Copco Elektronikon® MkV Touch unit controller with Smartlink®

Our Elektronikon® MkV Touch unit controller is designed with energy efficient algorithms to continuously control the chiller's parameters. It allows simple, effective integration into existing central control systems with our user friendly interface.

10

Trouble-free installation

Our chillers are fully assembled and tested in our factory and provide a ready-to-use package including easy "Plug and Play" connections for quick and trouble-free installation.

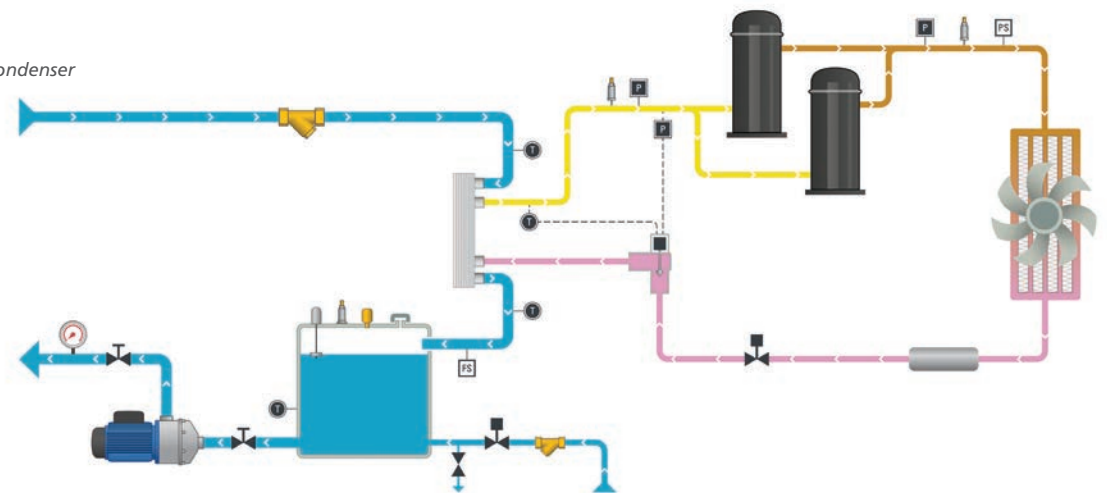
Technical specifications TCX 4-90A

Model		TCX 4A	TCX 6A	TCX 9A	TCX 11A	TCX 13A	TCX 15A	TCX 20A
Cooling capacity (1) [BTU/hr]		13.887	20.063	28.321	36.510	46.439	49.851	59.132
Total absorbed power (1) [kW]		1.30	2.04	3.13	3.75	4.73	5.04	5.70
EER (1) [kW/kW]		3.13	2.88	2.65	2.85	2.88	2.90	3.04
Cooling capacity (2) [BTU/hr]		19.279	26.956	39.956	51.830	60.463	64.967	80.561
Total absorbed power (2) [kW]		1.04	1.69	2.61	3.16	4.06	4.32	4.96
EER (2) [kW/kW]		5.43	4.67	4.49	4.81	4.36	4.41	4.76
Compressor for each circuit		1	1	1	1	1	1	1
Compressor Type		Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Refrigerant Circuits		1	1	1	1	1	1	1
Refrigerant Type/GWP		R134a/1430	R407C/1744	R407C/1744	R407C/1744	R407C/1744	R407C/1744	R407C/1744
Capacity control		0-100%	0-100%	0-100%	0-100%	0-100%	0-100%	0-100%
Axial fans nr		1	2	2	1	2	2	1
Hydraulic connection—in/out		1"	1"	1"	1"	1"	1"	1" 1/4
Dimensions [in]	W	17.6	17.6	17.6	21.0	21.0	21.0	34.0
	L	41.7	41.7	41.7	49.6	49.6	49.6	47.2
	H	48.3	48.3	48.3	53.1	53.1	53.1	66.7
IP Rating		IP20	IP20	IP20	IP54	IP54	IP54	IP54
Controller		Parametric Microprocessor						
Power supply		460V						
Auxiliary voltage								

(1) Reference condition: Ambient Air 95°F; Evaporator in 53,6°F / out 45°F without pump
 (2) Reference condition: Ambient Air 77°F; Evaporator in 68°C / out 59°C without pump

Flow diagram

- 1 Copper brazed plate evaporator
- 2 Fully hermetic scroll compressor
- 3 State-of-the-art microchannel condenser
- 4 Filter dryer
- 5 Expansion valve
- 6 Stainless steel valve
- 7 Water pump with stainless steel



TCX 25A	TCX 28A	TCX 35A	TCX 40A	TCX 55A	TCX 70A	TCX 80A	TCX 90A
76.603	104.616	120.756	138.738	176.339	231.582	298.358	326.440
7.67	10.91	15.24	18.35	24.19	29.82	34.25	45.83
2.93	2.81	2.32	2.22	2.14	2.28	2.55	2.09
106.425	144.163	162.077	169.788	229.398	310.880	396.969	441.190
6.62	10.88	13.21	15.98	21.01	26.43	30.00	39.80
4.71	3.88	3.60	3.11	3.20	3.45	3.88	3.25
1	1	1	1	1	1	1	2
Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
1	1	1	1	1	1	1	1
R407C/1744	R407C/1744	R407C/1744	R407C/1744	R407C/1744	R407C/1744	R407C/1744	R407C/1744
0-100%	0-100%	0-100%	0-100%	0-100%	0-100%	0-100%	0-50-100%
1	1	1	1	2	2	2	2
1" 1/4	2"	2"	2"	2"	2"	2"	2"
34.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0
47.2	47.2	47.2	47.2	94.6	94.6	94.6	94.6
66.7	76.2	76.2	76.2	75.9	75.9	75.9	75.9
IP54	IP54	IP54	IP54	IP54	IP54	IP54	IP54
Elektronikon™ MK5S + SMARTLINK							
V ± 10% / 3Ph + PE / 60Hz							
24Vac							

Optional Extras:	Availability
Manual external bypass	✓
Leaving water temp below 5° C	✓
Lowest ambient temp below 5° C	✓
Flange UNI PN16	✓
Castors	✓
Water strainer	✓
Remote setpoint control	✓
NPT thread water connections	✓
Sea-package	✓

Solutions portfolio

Air Compressors

Piston/Scroll



Oil Injected
Rotary Screw



Oil Free Rotary
Screw/Tooth



Centrifugal



Gas Generation | Air Treatment | Industrial Cooling

Gas Generation



Filters



Dryers



Industrial Cooling



Air Blowers

Turbo



Screw

Multi-Stage



Lobe

Rotary Screw



Vane

Claw

Liquid Ring



Service Solutions



Factory Trained
Technicians



Installation &
Piping



Customized
Service Plans



SmartLink
Remote Monitoring

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