



THE OPTIMUM INDUSTRIAL CHILLER

Reduced costs & improved productivity - TAE_{evo} offers precise water temperature control, with numerous benefits:

- Increased productivity and reduced production cycle times.
- Reduced production costs, as well as less wastages.
- Reduced maintenance times and fewer interruptions during production.

Closed circuit operation - TAE_{evo} operates in a closed circuit, offering the following advantages:

- Extremely precise water temperature control, independent of ambient conditions.
- Quick reaction to any sudden load changes, ensuring steady operating conditions.
- The same water is continuously reutilised, thereby avoiding both unwanted wastage of this precious resource and the health hazards of water born bacteria.

A chiller designed for industry - Unlike typical chillers, TAE_{evo} has been designed specifically for industry. Fruit of over 20 years in the industrial chilling market, with hundreds of thousands of refrigerating machines installed worldwide, TAE_{evo} perfectly matches the needs of a diverse range of industries. This thanks to:

- Generous operating limits, both as regards the water inlet and outlet temperature.
- A robust construction with high ambient temperature limits, allowing operation in all conditions worldwide.
- An extensive range of accessories which allows TAE_{evo} to be personalised to all individual applications.
- A fully packaged and easy to use solution, with integrated pump and tank, perfectly suited to the needs of the industrial User.

Lowest operating costs - Thanks especially to energy efficient scroll compressors, the oversized evaporator and the unique evaporator-in-tank configuration, TAE_{evo} achieves leading energy efficiency levels. This is mated to low maintenance needs, ensuring TAE_{evo} is a highly economical long-term proposition.



PURE INNOVATION, PURE SATISFACTION, PURE ENERGY

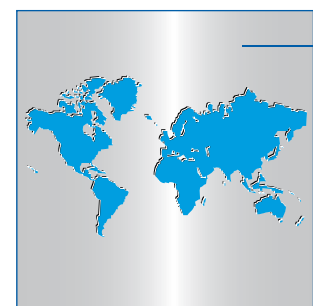
MTA was born over 25 years ago with a clear objective: improving mankind's relationship with two distinct natural resources, air and water, and optimising their transformation into energy sources. Our investment in Innovation ensures we offer the very latest technologies, whilst an expert team worldwide ensures our Customers achieve the highest levels of Satisfaction. At MTA energy is our business, and improving your relationship with your energy is our aim.



STRATEGIC DIVERSIFICATION

MTA covers three distinct market segments. As well as Industrial Process Cooling solutions, we offer a complete series of products for the Compressed Air & Gas Treatment market, as well as an extensive range of Air Conditioning products.

MTA has always been known for the innovation it has brought into each of these three sectors; in fact our strategic diversification offers our Customers unique benefits unseen in their individual fields.



FAR REACHING BUT ALWAYS CLOSE BY

MTA is officially represented in some 60 countries worldwide. 8 MTA Sales Companies cover 4 continents. Our staff and representatives boast expert knowledge and benefit from continuous training. Accurate attention to service support guarantees that our Customers can look forward to long term peace of mind and an optimized energy solution. We always remain close to our Customers, so wherever you may be, we will be near to you.

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TAE_{evo}

Industrial Chillers & Heat Pumps
(TAE_{evo} - TWE_{evo} - HAE_{evo} - TAE_{evo} Laser)



Cooling your industry,
optimising your process.



TAE_{evo}

TWE_{evo} - HAE_{evo} - TAE_{evo} laser

The application of a chiller in industrial processes offers significant productivity improvements and cost reductions. TAE_{evo}, the world's favourite industrial chiller, goes one step further, having been specifically designed for, and together with, the industrial Users. Numerous benefits are coupled with extreme flexibility to all individual needs, born from MTA's extensive industrial cooling knowledge.



Suited to all conditions

Water inlet limits of -5 to 35°C and outlet limits of -10 (0°C on M03-10) to 30°C ensure TAE_{evo} is suited to all industrial applications. IP54 protection (from 031), full frontal access, easily removable panels and a separate refrigeration compartment (from 015) facilitate ease of use.

Maximum control

The large tank and evaporator ensure steady water temperatures, even during sudden load variations. This is further enhanced by passing the water through the evaporator before entering the tank, offering a ready chilled water supply. HP, LP and water manometers (from 031) give a quick overview of status.

Assured quality

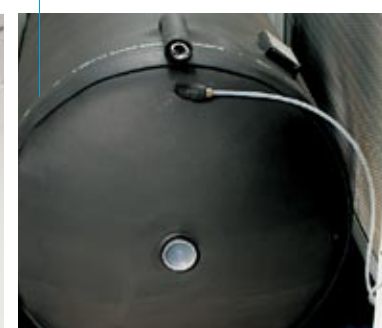
All models are individually water-side tested at nominal operating conditions, and also undergo operating tests, refrigerant charge and leakage controls, and microprocessor and safety device setting verifications. Leading brand components are used throughout, ensuring long term reliability.

Fail-safe operation

TAE_{evo} always operates in all conditions, thanks to an internal trace water by-pass, numerous safety devices, generous water temperature limits, a 46°C ambient temperature limit, antifreeze protection and an internal water level sensor. The advanced microprocessor ensures fail-safe operation at all times.



Easy frontal access



Large buffer tank



Extensively lab tested



Advanced microprocessor

TAE_{evo} is the perfect solution, whatever your application

- **Plastics & rubber** (presses, injection moulding, extrusion (sheet & profile), blow moulding, thermoforming, PET)
- **Lasers** - with a specific Laser chiller (cutting, welding, profiling, optics, medical, engraving)
- **Food & drinks** (confectionary, bakeries, distilleries, breweries, wineries, dairies, bottling, carbonation, meat & fish processing, vegetable & salad processing, storage)
- **Chemical & pharmaceutical** (jacketed vessels, polyurethane foam mixers, natural gas, industrial cleaning, laboratories, healthcare, solvents, paints)
- **Metal working** (processing & transformation of precious metals, aluminium working & processing)
- **Mechanical & Engineering** (machine tools, welding machines, rolling mills, presses, extruders, cutting, profiling, polishing, electric spark machinery, hydraulic control unit oil cooling, pneumatic transport, heat treatment)
- **Paper & related applications** (printers, cardboard, labels, plastic film)
- **Other applications** (ceramics, textiles, wood, rental, air compressor cooling, other applications)



Plastics industry



Laser industry



Chemical industry



Winery

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PERSONALIZE TAE^{evo} TO YOUR INDIVIDUAL NEEDS

As industrial applications differ, so TAE^{evo} can be adapted to each individual need thanks to numerous configurations and accessories:

Pump options – 3bar pumps are supplied as standard, 5bar pumps or no pump on request (from 015). Twin pumps are also offered (from 201).

Water circuit – A non-ferrous option (stainless steel water tank, copper/brass exchanger, stainless steel pump if not already standard) is offered on models 015-351. Alternatively models 015-351 can be supplied with a prismatic stainless steel tank and an external stainless steel plate heat exchanger (designed for open circuit operation); this configuration is also available with an evaporator flow switch which protects against water flow stoppages.

Condenser section – Electronic fan speed control is offered from model 031. Centrifugal fans (from 031) are ideal for ducted or indoor installation. Pre-treated, blygold-type treated and copper-copper condenser coils (all from 015) cater for harsh ambients.

Low ambient temperature operation – The -20°C ambient version (from 031) offers electrical panel heating, electronic fan speed control and a crankcase heater. Antifreeze heating and pump trace heating are also available (from 015).

Special voltages – 60Hz versions with or without UL approval are available.

Close Control version – The Laser version offers extremely precise temperature regulation (+/-0,5°C) thanks to the application of hot gas by-pass control.

HAE^{evo} options – Transport wheels and handles (031-161) and stainless steel panels (031-351) are available.

Other accessories – Differing refrigerants (R134a, R22) can be supplied on request, as can NPT water connection adapters (standard on 60Hz/UL units). Crankcase heaters and a glycol fill kit (all from 015) are also offered.



Internal pump



Centrifugal fans



Stainless steel plate exchanger

evaporator-in-tank configuration

The innovative evaporator-in-tank configuration (co-axial copper coil with stainless steel tank on M03-10, finned aluminium/copper coil with carbon steel tank from 015), allows operation even with impure liquids. Unit dimensions are reduced, and a steady water temperature is ensured as the evaporator also cools the tank itself. Ambient heat gain is reduced, increasing efficiency. Choose between atmospheric pressure or (from 015) pressurised (max 6bar) operation, with matching fill kits. Bleed and drain valves and a water level sensor are fitted (from 015); the water by-pass and antifreeze warning ensure fail-safe operation. The oversized evaporator design improves efficiency and reduces pressure drops. The tank is insulated and is removable.

pumps

A 3bar pump, standard on all models, is mounted within the chiller itself. Various other pump options are available. Centrifugal pumps are fitted (from 015), models 015-251 feature a stainless steel water-side.

compressors

Piston (M03 and 015-051), rotary (M05-10) or scroll (from 081) compressors are utilised. Scroll compressors offer reduced energy consumptions, low vibrations, less moving parts and high resistance to liquid refrigerant returns.



advanced microprocessor

The microprocessor (from M05) offers icon messages and a digital water outlet temperature reading. Up to 10 alarms are offered, plus extensive programming to individual needs. An alarm history, volt free general alarm contact and protective plastic cover are standard from model 015.

condensing section

Air-cooled condensers (copper tubes / aluminium fins) are fitted on one side only, reducing space needs. A pre-filter is standard (from 031).

Water-cooled models feature a plate (015-020), co-axial (031-161) or shell & tube (201-602) configuration.

HAE^{evo} s condenser maximizes efficiency in the heat pump mode, when it inverts to an evaporator function.

multiple components

Units with 2 compressors (from 201) or 4 compressors within 2 circuits (from 402) feature compressor rotation and a compressor unloading function which improves operation in harsh conditions. Models from 402 feature multi-step fan speed control.

Whatever your need, MTA offers the solution

TAE^{evo} (M03-602)

The most popular solution, with an air-cooled condenser allowing quick and easy installation and high versatility in a multitude of applications. As per the rest of the range, the internal tank and pump offer a fully packaged solution.

TWE^{evo} (015-602)

Water-cooled models offer elevated energy efficiency (EER) levels, and are well suited to hot ambients, or those where indoor installation is required. Noise levels are also reduced notably. (separate document available)

HAE^{evo} (031-351)

Heat pumps produce chilled and hot water, offering extreme versatility. A 4-way valve allows easy cycle inversion. MTA's unique Frost Detection System offers intelligent defrosting with efficiency gains. (separate document available)

TAE^{evo} Laser (051-351)

This Laser chiller, supplied to renowned OEM accounts, features a non ferrous water circuit and close control temperature regulation via a hot gas by-pass. A 6bar pump and tank electrical heater are standard. (separate document available)

Larger chillers

MTA offers industrial air and water-cooled chillers up to 1500kW, with multiscroll, piston, screw or centrifugal compressors. Freecooling units, ideal for industrial applications, are also available. (separate documents available)

Hydraulic circuit design

In many cases the chiller forms part of a complex hydraulic network. MTA offers expert consultancy born from extensive field experience in countless applications, allowing Users to obtain the most from their chilled water network.

		M03	M05	M10	015	020	031	051	081	101	121	161	201	251	301	351	402	502	602	
TAE ^{evo}	Cooling capacity (1)	kW	1,4	2,5	4,4	7,3	9,5	13,8	20,4	28,4	38,5	52,2	59,2	67,4	80,8	88,3	100,1	126,2	146,5	175,3
	Absorbed power (1)	kW	0,5	0,73	1,32	1,9	2,1	3,6	5,0	6,3	8,5	10,3	13,0	15,3	17,3	19,4	22,7	27,0	30,3	36,0
TWE ^{evo}	Cooling capacity (2)	kW	0,9	1,8	3,2	5,0	6,6	9,9	14,4	21,0	30,8	38,5	43,6	49,8	59,2	65,7	73,5	92,6	106,6	129,3
	Absorbed power (2)	kW	0,52	0,77	1,36	1,7	2,0	3,4	4,9	6,7	9,0	10,8	13,5	16,1	18,2	20,4	23,9	28,9	32,5	38,2
HAE ^{evo}	Cooling capacity (3)	kW	-	-	-	7,0	8,5	13,0	21,2	28,7	38,6	50,6	57,8	64,9	75,5	85,8	98,6	125,5	143,2	169,8
	Absorbed power (3)	kW	-	-	-	1,7	2,1	3,3	5,2	5,9	7,5	10,1	11,5	14,3	17,0	20,2	24,8	28,7	33,7	40,2
HAE ^{evo}	Cooling capacity (4)	kW	-	-	-	5,1	6,2	10,6	15,6	21,9	30,9	39,8	44,5	52,1	60,8	67,0	75,9	96,6	112,0	133,3
	Absorbed power (4)	kW	-	-	-	1,5	1,9	3,1	4,5	5,8	7,5	10,0	11,4	13,8	16,4	19,4	24,5	28,1	32,6	38,9
HAE ^{evo}	Cooling capacity (1)	kW	-	-	-	-	-	13,4	19,7	27,7	40,0	50,2	56,5	65,0	78,3	85,4	97,0	-	-	-
	Absorbed power (1)	kW	-	-	-	-	-	3,7	5,6	6,3	8,5	10,2	12,8	15,2	17,2	19,4	22,7	-	-	-
HAE ^{evo}	Cooling capacity (2)	kW	-	-	-	-	-	9,7	14,2	20,3	29,2	36,9	42,1	48,5	57,2	63,8	71,7	-	-	-
	Absorbed power (2)	kW	-	-	-	-	-	3,4	4,9	6,7	9,0	10,8	13,5	16,0	18,2	20,4	23,9	-	-	-
HAE ^{evo}	Heating capacity (5)	kW	-	-	-	-	-	12,0	17,0	25,1	33,0	41,5	47,1	54,0	65,1	76,1	86,7	-	-	-
	Absorbed power (5)	kW	-	-	-	-	-	3,4	4,6	6,7	8,6	11,2	12,8	14,8	17,2	19,7	24,2	-	-	-

General data

		R134a	R407C		R407C																
			230±10%/1/50		400±10%/3/50																
			IP20	IP33	IP44						IP54										
Power Supply	V/Ph/Hz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Protection Class		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total installed power (6)	kW	1,03	1,64	2,06	3,19	3,83	5,96	7,85	10,78	14,46	18,37	21,17	23,62	27,00	31,16	37,27	48,35	55,11	61,02		
Compressors / Circuits	N°	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	2/1	2/1	2/1	2/1	2/1	4/2	4/2	4/2

Air-cooled models

		N°	1	1	1	1	1	1	1	2	2	2	2	2	3	3	2	2	2
N° Fans		N°	1	1	1	1	1	1	1	2	2	2	2	2	3	3	2	2	2
Nominal power (each)	kW	0,065	0,146	0,146	0,27	0,27	0,54	0,54	0,79	0,79	0,79	0,79	0,79	0,79	0,79	0,79	2,0	2,0	2,0
Total air flow	m³/h	900	2200	2100	3500	3100	6600	6200	8500	15100	13500	13500	16900	16300	22350	22350	45600	44000	42500
Noise level (7)	dB(A)	48,2	48,3	48,3	52,4	52,4	53,1	53,1	53,6	54,1	54,1	55,0	56,3	56,3	58,0	58,0	64,0	64,0	64,0
N° Fans		N°	-	-	-	-	-	1	1	2	2	2	3	3	3	3	2	2	2
Nominal power (each)	kW	-	-	-	-	-	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1	4,8	4,8	4,8	
Available head pressure	kPa	-	-	-	-	-	166	185	260	140	125	138	237	245	150	150	450	440	420
Total air flow	m³/h	-	-	-	-	-	6900	6400	9200	13600	13500	12780	18200	17600	20145	20145	40000	40000	40000
Noise level (7)	dB(A)	-	-	-	-	-	58,8	58,8	61,2	61,2	61,2	61,2	63,1	63,1	63,1	60,0	65,0	65,0	65,0

Water-cooled models

Water flow	m³/h	-	-	-	0,25/1,2	0,3/1,6	1,0/5,0	1,0/5,0	1,3/6,0	1,6/8,0	1,9/10,0	2,5/15,0	3,3/14,0	3,3/14,0	4,0/16,6	4,0/16,6	3,3/14,0	3,3/14,0	4,0/16,6
Condenser water connections	In	-	-	-	3/4"	3/4"	1 1/4"	1 1/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	2"	2"	2"	2"	2 1/2"	2 1/2"	2 1/2"

Pump section

			0,24/0,34	0,43/1,2	0,76/1,2	1,3/4,8	1,6/4,8	2,4/6	3,5/6	4,9/9,6	7,2/9,6	9,0/18	10,2/18	11,6/18	13,9/18	15,2/27	17,2/27	21,7/48	25,2/48	30,1/48
Water Flow (nom. with ΔT 5°C / MAX)	m³/h		0,24/0,34	0,43/1,2	0,76/1,2	1,3/4,8	1,6/4,8	2,4/6	3,5/6	4,9/9,6	7,2/9,6	9,0/18	10,2/18	11,6/18	13,9/18	15,2/27	17,2/27	21,7/48	25,2/48	30,1/48
Available head pressure (nom./min.)	bar		1,18/0,54	2,78/0,46	2,78/0,46	2,9/1,4	2,8/1,4	2,8/1,5	2,6/1,4	2,5/1,3	2,1/1,5	2,6/1,6	2,5/1,7	2,5/2,0	2,4/2,0	2,6/0,9	2,4/0,8	3,4/1,5	3,2/1,5	2,9/1,5
Nominal Power	kW		0,25	0,33	0,33	0,55	0,55	0,75	0,75	0,9	0,9	1,85	1,85	1,85	1,85	2,2	2,2	4	4	4
Water Flow (nom. with ΔT 5°C / MAX)	m³/h		-	-	-	1,3/4,8	1,6/4,8	2,4/4,8	3,5/4,8	4,9/13	7,2/13	9,0/13	10,2/13	11,6/30	13,9/30	15,2/30	17,2/30	21,7/48	25,2/48	30,1/48
Available head pressure (nom./min.)	bar		-	-	-	5,2/2,9	5,1/2,9	4,9/3,1	4,2/3,2	4,9/2,8	4,6/3,1	4,2/3,1	4,0/3,2	4,6/1,8	4,4/1,8	4,3/1,9	4,0/1,8	5,1/3,0	4,9/3,0	4,6/3,0
Nominal Power	kW		-	-	-	1,1	1,1	1,1	1,1	2,2	2,2	2,2	2,2	4	4	4	4	7,5	7,5	7,5

Dimensions (8)

		mm	325	575	575	560	560	660	660	760	760	760	760	866	866	866	866	1255	1255	1255
Width	mm		325	575	575	560	560	660	660	760	760	760	760	866	866	866	866	1255	1255	1255
Depth	mm		728	652	652	1266	1266	1310	1310	1860	1860	1860	1860	2240	2240	2240	2240	3294	3294	3294
Height	mm		540	805	805	810	810	1400	1400	1447	1447	1447	1447	2064	2064	2064	2064	2140	2140	2140
Operating weight (with P3 pump)	kg		63	106	113	188	193	316	336	474	644	663	674	916	1008	1118	1134	1812	1847	1911
Tank volume	l		8	25	25	60	60	115	115	140	255	255	350	350	350	3				