

# HARIES<sup>mf</sup> tech

Air cooled multifunction units (simultaneous cooling & heating)  
with R410A featuring hermetic scroll compressors.



pure energy



Conditioning your ambient,  
maximising your comfort.



Cooling, conditioning, purifying.

# SIMULTANEOUS HOT & COLD WATER WITH HIGHEST ENERGY EFFICIENCIES



**HARIES-MF** is absolutely the simplest and most energy efficient solution for ambient cooling & heating and hot water production.

**ECOLOGICAL:** Innovative technology and advanced system control allows the excess energy from cooling to be used for heating, and vice versa, consequently HARIES-MF not only simultaneously offers both, but also does so with extreme efficiency. This is further enhanced thanks to MTA's Plurix multiscroll technology.

**THE COMPLETE SOLUTION:** HARIES-MF supplies any amount of hot and cold water instantaneously and simultaneously, continuously adapting operation to the exact system needs and during all seasons, and doing so with maximized energy efficiency.

**ECONOMICAL & RELIABLE:** HARIES-MF easily offers savings of 40% compared with traditional air conditioning plus boiler systems. It also offers simplified installation and maintenance together with increased reliability, with a single unit supplying all system needs.

## 100% HOT & 100% COLD

Within both circuits one exchanger condenses (heating) and the other evaporates (cooling), exchanging with each other. The ambient exchanger is not used, and no energy is wasted as all energy is used by the system.

## 50% HOT & 50% COLD

The operation principal is identical to 100% hot & 100% cold, but here both circuits operate in partial load. As the exchangers are consequently oversized, so energy efficiency increases even further.

## 100% HOT & 50% COLD

Within both circuits one exchanger condenses (heating). In one circuit the exchanger evaporates (cooling), whilst the excess energy in the other circuit is exchanged (to the ambient) in the ambient exchanger.

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# SUPER SILENT

Three noise levels are offered, right down to super silent. All versions feature unique aeraulic separation and continuous fan speed control as standard. Multiple low noise scroll compressors deactivate to reduce noise levels, with a night function for even quieter operation.



# PLURIX

MTA, a pioneer in multi-scroll technology, offers **Plurix**, with numerous advantages, most notably in partial load energy efficiency as compressors start and stop according to the needs. Reliability is increased, whilst maintenance costs are kept to a minimum.



# PLUG & PLAY

**HARIES-MF** offers as standard what many offer as an option. The tank and upto 2 pumps are mounted on-board, whilst optional victaulic connections facilitate installation. The unit arrives pre-programmed and ready for all heating and cooling needs.

# PEACE OF MIND

Born from industry, MTA solutions withstand the harshest conditions, with strong build, renowned components applied throughout and multiple compressor component redundancy. Extensive product testing and Eurovent certification offer further assurances.

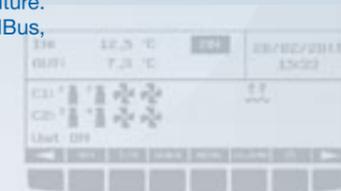


# VERSATILE

**HARIES-MF** operates anywhere and everywhere. Ambient limits range from minimum -8°C to maximum 48°C, with water available down to 0°C. The many options adapt the unit to each personal customer need.

# XDRIVE

Welcome to the most advanced microprocessor technology. Moving images and dynamic switches facilitate user interfacing, the elevated memory and processing capacities meet the needs of the future. Connectivity is via Ethernet, web, GSM, CANBus, ModBUS and LAN.

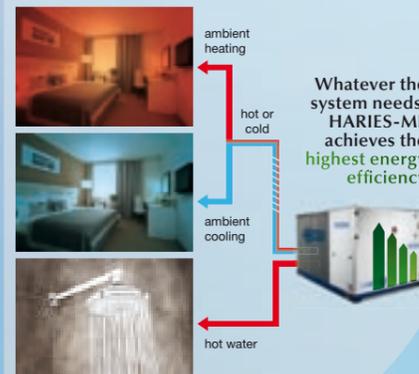


# TECHNOLOGY

**HARIES-MF** offers state-of-the-art technology, including **XDRIVE**, MTA's energy saving **EcoDefrost** function, soft starter kits and an anti-Legionella option.



## SIMULTANEOUS AND INDEPENDENT HOT WATER & AMBIENT HEATING OR COOLING



## SIMULTANEOUS AND INDEPENDENT HEATING AND COOLING



## VERSIONS

- 3 acoustic configurations: N standard; SN low noise; SSN very low noise.
- Chillers and heat pumps also available.

## STANDARD FEATURES

- 4 scroll compressors in parallel within two independent circuits.
- Single brazed "dual-circuit" stainless steel plate evaporator.
- 2<sup>nd</sup> thermostatic valve for optimised performance in all operating conditions.
- Compressor crankcase heaters.
- Axial fans with electronic fan speed control for optimised condensing pressure control, installed in two independent aeraulic sections.
- RS485 ModBus interface for connection to supervisor systems.
- Ethernet connection featuring pre-programmed HTML supervision pages, allowing local or internet based visualization and modification of the operating parameters.
- Factory tested and supplied with refrigerant charge and antifreeze oil.
- IP54 electric protection rating.
- Environmentally friendly refrigerant R410A, with zero ozone depletion potential.

## MAIN OPTIONS

- Single or twin pumps of varying head pressures, with water pressure gauge.
- Storage tank.
- Compressor shut-off valves on suction and discharge lines.
- Pre-treated condenser for aggressive atmospheres.
- Antivibration dampers.
- Anti Legionella device.
- Victaulic connections.
- Phase monitor.
- Power factor correction capacitors.
- Anti-freeze heaters on evaporator, pump and tank.
- Metal mesh filters for condenser coil protection.
- Modularity / web interconnection hub.
- Replicated remote user terminal.
- Serial connection to supervisor systems.
- MTA xWEB supervision based on internal web pages (including GSM).
- Power supplies differing from standard.
- Soft starters.

HAST-MF model		050	060	070	080	090	100	110	120	130	140	
cooling (1)	Cooling capacity	kW	116	141	165	195	206	218	249	284	306	332
	Absorbed power	kW	33	41	50	59	66	73	82	90	99	107
	EER (4)	-	3,47	3,41	3,29	3,29	3,10	2,99	3,02	3,16	3,08	3,10
heating (2)	Heating capacity	kW	124	156	179	214	230	243	276	317	339	374
	Absorbed power	kW	34	43	52	61	66	70	80	89	96	103
	COP (4)	-	3,60	3,59	3,45	3,49	3,49	3,45	3,44	3,58	3,55	3,63
cooling + heating (3) (total recovery)	Cooling capacity	kW	119	144	169	201	219	232	264	297	323	350
	Heating capacity	kW	152	191	220	260	281	300	342	385	418	452
	Absorbed power	kW	33	41	50	59	62	68	78	88	95	102
	EER (4)	-	3,56	3,50	3,38	3,41	3,53	3,41	3,38	3,38	3,40	3,43
	COP (4)	-	4,56	4,64	4,40	4,41	4,53	4,41	4,38	4,38	4,40	4,43

Power supply	V/Ph/Hz	400±10%/3/50										
No. of Circuits / Compressors	No.	2/4	2/4	2/4	2/4	2/4	2/4	2/4	2/4	2/4	2/4	2/4
Max. external air temperature	°C	48	48	48	48	46	46	46	47	47	46	46
Min. external air temperature	°C	-7	-7	-7	-7	-6	-6	-6	-8	-7	-8	-8
Sound pressure level N config.	dB(A)	64,6	64,6	64,6	63,7	64,6	64,6	65,3	64,3	64,3	64,3	64,3
Sound pressure level SN config.	dB(A)	58,0	58,0	58,0	56,7	58,0	58,0	58,2	57,3	57,3	57,3	57,3
Sound pressure level SSN config.	dB(A)	52,3	52,3	52,3	52,2	52,5	52,5	52,3	52,6	53,1	53,1	53,1
Depth	mm	3418	3418	3418	3418	3418	3418	4518	4518	4518	4518	4518
Width	mm	2188	2188	2188	2188	2188	2188	2188	2188	2188	2188	2188
Height	mm	1989	1989	1989	1989	1989	1989	1989	1989	1989	1989	1989
Installed weight	kg	1850	1875	2005	2115	2341	2377	2638	2834	3158	3365	3365

Unless specified otherwise, all data refers to the standard N configuration at the following nominal conditions:

- (1) Evaporator water inlet-outlet 12-7 °C, external air temperature 35 °C
- (2) Recovery water inlet-outlet 40-45 °C, external air temperature 7 °C
- (3) Evaporator water inlet-outlet 12-7 °C, recovery water inlet-outlet 40-45 °C
- (4) Compressors only

Sound pressure level in hemispherical field at 10 m from coil side and 1.6 m from ground. Values with tolerance ± 2 dB. Noise levels refer to unit operation at full load in nominal conditions and with the pump in circulation.



xDRIVE: the most powerful and user friendly controller available



Purix multiscroll technology offers highest energy efficiencies



Storage tank and upto 2 pumps mounted within the unit



xCONNECT: a world of connectivity solutions



[www.mta-it.com](http://www.mta-it.com)



MTA is ISO9001 certified, a sign of its commitment to complete customer satisfaction.



MTA products comply with European safety directives, as recognised by the CE symbol.

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