

# DryEnergy Hybrid

refrigeration dryers  
20 - 2000 SCFM



pure energy



Purifying your compressed air,  
increasing your efficiency.



Cooling, conditioning, purifying.

## GTS TECHNOLOGY: THE BENEFITS



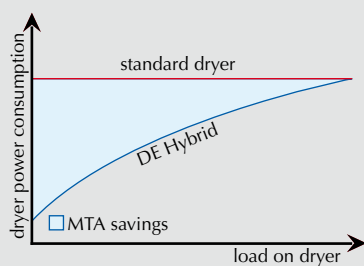
### Energy savings of up to 80%:

GTS continuously matches dryer capacity to the load, providing energy savings of up to 80% in everyday conditions:

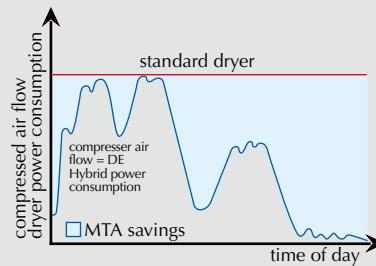
**Operational savings** – compressed air systems operate at full load capacity for only a fraction of the time; DE Hybrid’s energy consumption is automatically reduced in all partial and zero-load conditions.

**Seasonal savings** – dryers are typically selected to meet the most demanding (summer) loads, but most of the time the actual load is much lower. DE Hybrid adapts dryer operation in mid-season and winter operation.

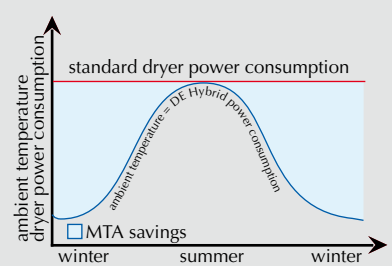
Why DE Hybrid saves energy



Operational savings



Seasonal savings



**Simple and reliable** - Like a household refrigerator, GTS’s uncomplicated cooling circuit provides long-term trouble-free operation.

**No risk of freezing** - GTS avoids the risk of freezing in winter associated with hot gas valve dryers.

**Constant dew-point** - Unlike standard dryers, GTS’s thermal storage provides instant extra capacity in the event of sudden load variations, thereby avoiding dew point spikes.

**Quick-start-up** - With GTS’s direct heat exchange there is no need for a cool down period at start-up.

**Continuous operation** - There is no need to turn the dryer off, GTS continuously monitors the load and performs accordingly.

**Long service life** - Without the need for a hot-gas bypass to control its capacity, the refrigerant compressor runs cooler and less often, thereby extending the service life of the dryer.

## Patented GTS technology: how it saves up to 80% of your energy

DE Hybrid’s patented GTS exchanger is the secret to its remarkable energy savings. Featuring the most compact thermal storage unit on the market, this extended surface heat exchanger features a pre-cooler-reheater (from DE0030) and special insulation to reduce energy loss.

The unique GTS exchanger’s compressed air and refrigerant tubes are encased in a bed of silica mass. Aluminium fins connect the air and refrigerant tubes together. Consequently heat transfers from the compressed air to the refrigerant both directly through the fins, and indirectly through the silica.

### Full load (maximum operating conditions)

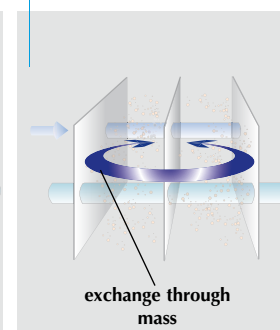
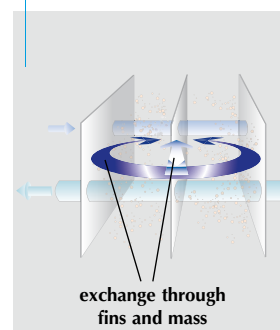
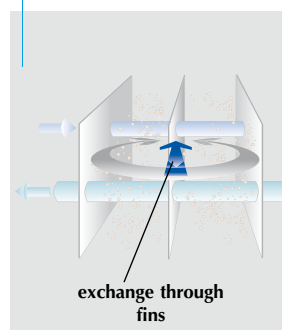
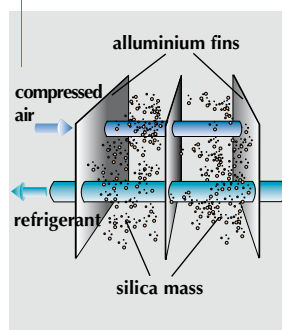
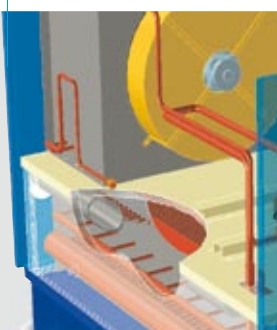
The compressed air is cooled directly through the aluminium fins. In this condition, since heat does not travel through the mass, efficiency is maximized. The silica provides insulation from ambient heat gain.

### Partial Load (typical conditions)

Since the refrigeration capacity is greater than the load, the excess capacity cools the silica mass. The compressed air is then cooled by the mass, allowing simple compressor on/off cycling to closely match the load.

### Zero load (stand-by conditions)

Since there is no compressed air load, the dryer’s refrigeration system only operates to maintain the mass at design temperature. The result is near-zero power consumption with immediate restart capability.



# DryEnergy Hybrid

MTA introduces Hybrid drying technology by combining two drying processes into a single dryer, direct exchange and thermal storage operation; the result is the very lowest energy consumptions. This patented concept also offers the most reliable dryer technology, ensuring continuous operation in all conditions. Ease of use is assured: DE Hybrid switches itself off when not needed and requires absolutely no seasonal adjustments. All models feature advanced digital controls and the unique iDRAIN condensate drain. DE Hybrid: 2 dryers in 1, much more than twice the benefits.



## Easy to use

DE Hybrid requires no start-up programming, automatically adapting itself to any operating conditions. On-off operation means there is never a need to switch the dryer off. Digital controls, standard on all models, offer a user friendly interface.

## Easy to maintain

There is no need for seasonal adjustments, unlike dryers with hot gas valves or traditional drains. The simple refrigeration circuit is easy to maintain, whilst the top mounted condenser reduces fouling. The controller features a user programmable service warning.

## Operates everywhere

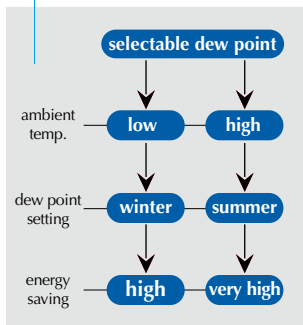
DE Hybrid operates up to class leading air inlet (158°F) and ambient (115 °F - 110 °F for DE1600/2000) temperatures, and pressures of 232 psig (740 psig also available). Refrigerant R134a offers high overload capacities. There is no hot gas valve so the risk of freezing in winter is avoided.

## Reliable quality

The simple refrigeration circuit, without a hot gas valve, notably increases reliability. The compressor runs cooler and less often, increasing its longevity. Extensive factory testing offers peace of mind, and wide air paths reduce the chance of air-side blockages.

## Highest energy savings

The GTS exchanger's cycling function and unique Hybrid operation save up to 80% of your energy. Choose between 2 dew point settings, permitting further savings when conditions permit it. The iDRAIN condensate drain notably reduces unwanted energy losses.





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## ADVANCED DIGITAL CONTROL TECHNOLOGY

DE Hybrid offers the most advanced control technology, with all models fitted with easy to use digital controls. DE0020-0250 feature the iDRY electronic controller, whilst DE0325-2000 are supplied with the TDC microprocessor.

- Digital LED display showing worded and coded messages, easy to understand even from a distance.
- Digital dew point display (numerical on DE0325-2000).
- Air inlet temperature display (DE0325-2000).
- LED informing User that the dryer is in energy saving mode.
- Full programmability of parameters, allowing personalization to User needs.
- Multiple alarms (4 on iDRY, 14 on TDC) supervise dryer operation, with alarm LED indication.
- Programmable User alarm.
- Alarm history (DE0325-2000), memorizes previous 50 alarms.
- Service warning, informing User that preventive maintenance should be carried out.
- Possibility to choose between two dew points, allowing even higher energy savings when conditions permit it (eg. summer operation).
- Condensate drain control (iDRAIN or electronic zero loss drain), including manual drain test function.
- Remote on/off function.
- General alarm volt free contact (DE0325-2000).
- RS485 serial outlet for connection to a MODBUS supervisor system (DE0325-2000).



### Lowest dew points

The stainless steel demister efficiently removes condensed moisture at all airflows (unlike centrifugal separators). The thermal storage acts as a buffer covering sudden load variations, avoiding the dew point peaks of hot gas by-pass solutions.

### Environmental & safe

DE Hybrid's high energy savings reduce its environmental impact. Environmentally friendly refrigerant R134a and non-toxic silica mass are standard on all models. There is no risk of cross contamination between the refrigerant and compressed air.



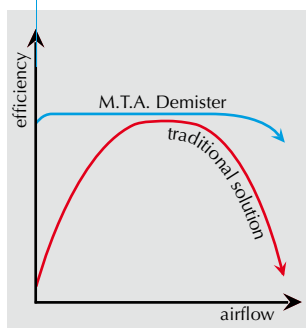
## iDRAIN CONDENSATE DRAIN

MTA's unique iDRAIN condensate drain (patent pending) automatically adapts its operation according to the load on the dryer, ensuring notable reductions in energy losses.

iDRAIN requires absolutely no programming, either at start-up or during changes of season.

Furthermore the wide drainage orifice, which permits forced condensate drainage, ensures that the chance of impurities blocking the drain (a frequent danger on typical drains) is all but eliminated, and also reduces maintenance needs.

iDRAIN is fitted as standard on every single DE Hybrid Dryer, an electronic zero-loss drain is available on request.



DE Model	Air Flow (1) SCFM	Nominal absorbed power (2) KW	Power supply V / Ph / Hz				Air connec- NPT	Overall dimensions (3) (in)				Net weight (3) Lbs
			115/1/60	230/1/60	230/3/60	460/3/60		A	B	C	D	
0020	20	0.26	X				1/2"	20.90	11.80	20.10	3.50	80
0030	30	0.26	X	•			1/2"	20.90	11.80	20.10	3.50	86
0050	50	0.36	X	•			1/2"	20.90	11.80	20.10	3.50	91
0075	75	0.50	X	•			3/4"	25.60	14.60	29.50	3.90	143
0100	100	0.64	X	X			3/4"	25.60	14.60	29.50	3.90	148
0125	125	0.97	X	X			1"	25.60	14.60	29.50	3.90	176
0150	150	0.92	X	X			1"	30.70	14.60	33.50	3.90	209
0175	175	1.11	X	X			1"	30.70	14.60	33.50	3.90	227
0200	200	1.30		X	X	X	1 1/2"	30.70	28.90	37.00	4.80	368
0250	250	1.32		X	X	X	1 1/2"	30.70	28.90	37.00	4.80	368
0325	325	2.07		X	•	X	1 1/2"	30.70	28.90	37.00	4.80	416
0425	425	2.82			X	X	2"	34.00	40.00	43.30	5.10	582
0520	520	3.28			•	X	2"	34.00	40.00	43.30	5.10	646
0600	600	3.49			•	X	2 1/2"	34.00	51.90	43.30	5.10	833
0700	700	3.64			•	X	2 1/2"	34.00	51.90	43.30	5.10	866
0800	800	4.28			•	X	2 1/2"	34.00	51.90	43.30	5.10	866
1000	1000	5.09			•	X	3"	37.90	62.60	61.70	7.10	1598
1220	1220	6.48			•	X	4"	37.90	71.30	61.70	7.10	2051
1600	1600	8.55			•	X	4"	34.10	88.00	81.70	6.30	2513
2000	2000	10.75			•	X	4"	34.10	88.00	81.70	6.30	3064

- (1) In compliance with CAGI (ADF 100) / NFPA (class H): air inlet temperature 100°F, ambient temperature 100°F, air pressure 100 psig. Pressure dew point from 33°F to 39°F.  
(2) Absorbed power at rated operating conditions and at 115/1/60 or 460/3/60 power supply.  
(3) Dimensions and weights refer to dryer with iDRAIN (values differ for zero loss drain).  
• Available on request.

Maximum inlet temperature: 158°F (DE 0020 - 1220); 149°F (DE 1600 ÷ DE 2000). Maximum ambient temperature: 115°F (DE 0020 - DE 1220); 110°F (DE 1600 - 2000).  
Minimum ambient temperature: 41°F. Maximum air pressure: 232 psig.  
For applications with higher ambient or inlet temperatures, or higher pressures, please contact our sales offices.

All models supplied with refrigerant R134a.

A model selection and energy savings calculating software is available for dryer selection in conditions differing from the above.  
The below correction factors can be used as a guide.

**Correction Factors (indicative values): AIR FLOW (scfm) = RATED VALUE x K1 x K2 x K3 x K4.**

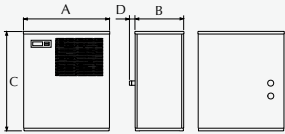
air pressure	psi	50	75	100	125	150	232
correction factor	K1	0.77	0.90	1.00	1.07	1.12	1.23

pressure dew point	°F	38	40	45	50
correction factor	K2	1.00	1.05	1.21	1.36

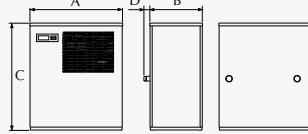
air inlet temperature	°F	90	100	110	120	130	149	158
correction factor	K3	1.23	1.00	0.81	0.68	0.61	0.49	0.44

ambient temperature	°F	90	100	110	115
correction factor	K4	1.07	1.00	0.93	0.88

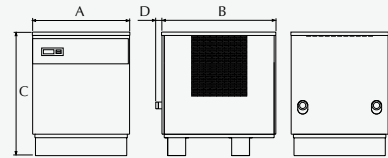
DE 0020



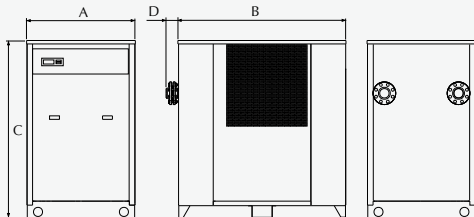
DE 0030 - 0175



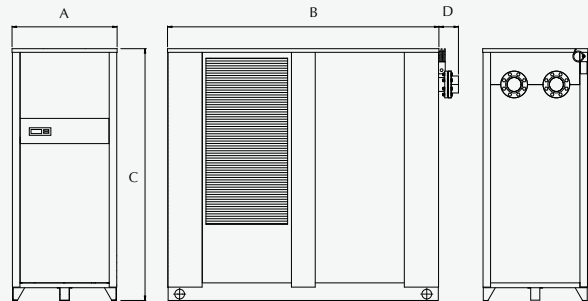
DE 0200 - 0800



DE 1000 - 1220



DE 1600 - 2000



Complete your compressed air treatment system with M.T.A. aftercoolers, separators, filters, dessicant dryers, drains, oil-water separators and chillers.





## 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 Compressed Air & Gas Treatment solutions, we offer a complete series of products for the Industrial Process Cooling 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.

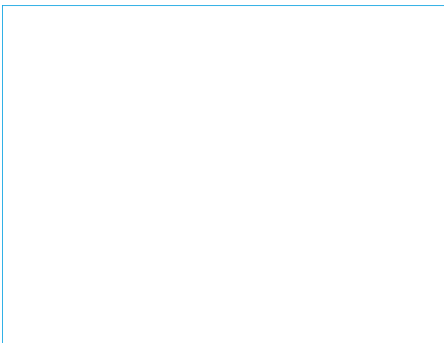


## FAR REACHING BUT ALWAYS CLOSE BY

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



### M.T.A. S.p.A.

Viale Spagna, 8 - ZI  
35020 Tribano (PD) - Italy  
Tel. +39 049 9588611  
[info@mta-it.com](mailto:info@mta-it.com)

#### Air conditioning:

Fax +39 049 9588604  
[comfortsales@mta-it.com](mailto:comfortsales@mta-it.com)

#### Process cooling:

Fax +39 049 9588661  
[chillersales@mta-it.com](mailto:chillersales@mta-it.com)

#### Compressed air treatment:

Fax +39 049 9588612  
[dryersales@mta-it.com](mailto:dryersales@mta-it.com)

### MTA USA, LLC

180 Wales Ave. Suite 180  
Tonawanda, New York 14150  
Tel. +1 716 693 8651  
Fax. +1 716 693 8654  
[www.mta-usa.com](http://www.mta-usa.com)

### MTA Australasia

+61 3 9702 4348  
[www.mta-au.com](http://www.mta-au.com)

### MTA China

+86 21 5417 1080  
[www.mta-it.com.cn](http://www.mta-it.com.cn)

### MTA Deutschland

+49 2163 5796-0  
[www.mta.de](http://www.mta.de)

### MTA France

+33 04 7249 8989  
[www.mtafrance.fr](http://www.mtafrance.fr)

### MTA Rumania

+40 368 457 004  
[www.mta-it.ro](http://www.mta-it.ro)

### MTA Spain

+34 938 281 790  
[www.novair.es](http://www.novair.es)