

MONSTERAIR®

Product Manual Air Dryer

Efficient Air Drying User Friendly Design Less in Maintenance

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Precision Air Filter

Particle Removal Down To 0.01 Micron.



Air Cooling Refrigerated Type

Control Dew Pressure Point Under Range 2~10° C



Water Cooling Refrigerated Type

Control Dew Pressure Point Under Range 2~10° C



Desiccant Tower
Type

Control Dew Pressure Point Under Range -20° C~-40° C

The American



CERTIFICATE OF AUTHORIZATION

The named company is authorized by the American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the ASME Certification Mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with the ASME Certification Mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY:

Tri-Unity Machinery Co., Ltd. 340, North Renmin Road, Dazhong Town, Dafeng District Yancheng City, Jiangsu Province 224100 People's Republic of China

SCOPE:

Manufacture of pressure vessels at the above location only

AUTHORIZED: EXPIRES:

December 13, 2019 December 13, 2022

CERTIFICATE NUMBER: 58381

Managing Director, Conformity Assessment

Board Chair, Conformity Assessment

Society of Mechanical Engineers The American



CERTIFICATE OF AUTHORIZATION

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COMPANY:

Tri-Unity Machinery Co., Ltd. 340, North Renmin Road, Dazhong Town, Dafeng District Yancheng City, Jiangsu Province 224100 People's Republic of China

Manufacture of miniature pressure vessels at the above location only

AUTHORIZED:

December 13, 2019

EXPIRES:

December 13, 2020

CERTIFICATE NUMBER: 58382

Board Chair, Conformity Assessment

Managing Director, Conformity Assessment



Country

Contact:

Phone

FAX:

Email:

AUTHORIZATION TO MARK

8 Jingsi Road, Industrial area Xinfeng

Town, Dafeng District, Yancheng City,

This authorizes the application of the Certification Mark(s) shown below to the models described in the Product(s) Covered section when made in accordance with the conditions set forth in the Certification Agreement and Listing Report. This authorization also applies to multiple listee model(s) identified on the correlation page of the Listing

This document is the property of Intertek Testing Services and is not transferable. The certification mark(s) may be applied only at the location of the Party Authorized To Apply Mark.

YANCHENG TRI-UNITY CO., LTD Manufacturer: YANCHENG TRI-UNITY CO., LTD

8 Jingsi Road, Industrial area Xinfeng Town, Dafeng District, Yancheng City,

Mr Nie Xiu Wei

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FAX: nie@tri-unityco.com

Email:

Party Authorized To Apply Mark: Same as Manufacturer Report Issuing Office: Shanghai

Control Number: 5014605

for L. Matthew Snyder, Certification Manager



This document supersedes all previous Authorizations to Mark for the noted Report Number.

The Autocological Selection of Selection (Selection Selection Sele

Intertek Testing Services NA Inc. 545 East Algonquin Road, Arlington Heights, IL 60005 Telephone 800-345-3851 or 847-439-5667 Fax 312-283-1672

UL 1450 Issued: 2010/05/05 Ed: 4 Rev: 2013/11/01 Motor-Operated Air Compressors, Vacuum Pumps, & Painting Equipment

Motor-Operated Appliances (Household And Commercial) [CSA C22.2#68:2009 Ed.7 +U1;U2;U3]

Product: Air Compressor

Brand Name: MonsterAir"

TB55E-70G, TB55E-80G, TB75E-80G

ATM for Report 190501738SHA-001

ATM Issued: 22-Nov-2019





Air Cooling Refrigerated Air Dryer for Air Compressor

Inlet Air Temperature: ≤80°C or 176 °F **Operating Temperature**: ≤40°C or 104 °F **Freezing Medium (Refrigerant)**: R134a **Pressure Dew Point**: 2 ~ 10°C or 35.6 ~ 50 °F

Offer ISO Standard Air Quality

Type: Air Cooling

Time Proven Design:

Precise design of Copper Tube Heat Exchanger increase the heat exchange areas and efficiently drier high pressure air to standard requested low pressure dew point.

Static Condenser Design: Low Vibration, quiet operation and trouble free.

Energy Saving Design:

Recycle cold Energy from evaporator to heat exchanger, Save power consumption.

Ease of Monitoring:

Electronic(Automatic)Drain Valve.

Safety Protection Systems for frost, overheat and Systems Alarm and Stop for Errors and Overworking. Expand Machine Life.

Best Compressor Brands: Panasonic, Copeland, Taikang.



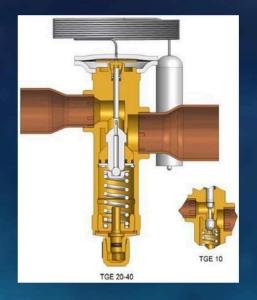


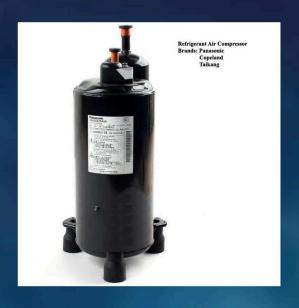


Model	Capacity	Applicable Air Compressor	Power Consumption	Air Entrance Diameter	Unit Size (mm)	Power	Weight
	(Nm^3/Min	(HP)	(KW)	Diameter	(L*W*H)		(Kg)
MAD-10AC	1	5	0.65	G1''	650*400*600	220V/50Hz	40
MAD-15AC	1.5	10	0.75	G1''	700*400*690	220V/50Hz	48
MAD-23AC	2.3	15	0.85	G1''	700*400*690	220V/50Hz	56
MAD-28AC	2.8	20	1	G1''	780*400*780	220V/50Hz	68
MAD-38AC	3.8	30	1.35	G1.5"	930*500*850	220V/50Hz	125
MAD-55AC	5.5	40	1.4	G1.5"	930*500*850	220V/50Hz	135
MAD-69AC	6.9	50	1.7	G2''	980*540*910	220V/50Hz	158
MAD-86AC	8.6	60	2.1	G2''	980*540*910	220V/50Hz	160
MAD-110AC	11	75	2.6	G2.5"	1080*600*1000	220V/50Hz	198
MAD-150AC	15	100	3.6	G3''	1220*680*1160	380V/50Hz	225
MAD-180AC	18	125	4	G3''	1220*680*1160	380V/50Hz	240
MAD-220AC	22	150	5	G3''	1400*680*1200	380V/50Hz	280
MAD-250AC	25	175	5.3	G3''	1400*680*1240	380V/50Hz	300
MAD-290AC	29	200	5.5	G4''	1600*850*1320	380V/50Hz	350
MAD-350AC	35	250	6	G4''	1600*850*1320	380V/50Hz	380
MAD-450AC	45	300	8.5	DN100	1650*900*1500	380V/50Hz	480
MAD-550AC	55	350	9.5	DN100	1700*1000*1550	380V/50Hz	610
MAD-650AC	65	400	10.5	DN125	2200*1150*1600	380V/50Hz	720

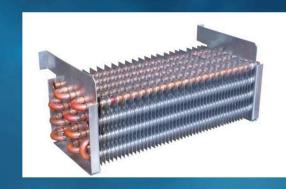
















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Water Cooling Refrigerated Air Dryer for Air Compressor

Inlet Air Temperature: ≤40°C or 104 °F **Operating Temperature**: ≤40°C or 104 °F

Operating Pressure: 0.4~1.0MPa

Pressure Loss: ≤0.02MPa

Freezing Medium (Refrigerant): R-22

Cooling Water Temperature: 2-34°C or 35.6~93.2°F

Cooling Water Pressure: 0.2~0.6MPa

Pressure Dew Point: 2 ~ 10°C or 35.6 ~ 50 °F

Time Proven Design:

Precise design of Copper Tube Heat Exchanger increase the heat exchange areas and efficiently drier high pressure air to standard requested low pressure dew point.

Static Condenser Design: Low Vibration, quiet operation and trouble free.

Energy Saving Design:

Recycle cold Energy from evaporator to heat exchanger, Save power consumption.

Ease of Monitoring:

Electronic(Automatic)Drain Valve.

Safety Protection Systems for frost, overheat and Systems Alarm and Stop for Errors and Overworking. Expand Machine Life.

Best Compressor Brands: Panasonic, Copeland, Taikang.



MonsterAir



Air Inlet Temperature: 45° C

Model	Capacity	Condenser Water Entrance Diameter	Power Consumption	Air Entrance Diameter	Water Cooling Capacity	Unit Size (mm)	Power
	(Nm^3/Min)		(KW)		(m^3/Hr)	(L*W*H)	
MAD-110W	11	G0.75"	2.2	G2.5"	3	1030x560x1000	220V/50HZ
MAD-150W	15	G0.75"	3.3	G3''	3	1200x750x1200	380V/50HZ
MAD-180W	18	G0.75"	3.6	G3''	3	1200x750x1200	380V/50HZ
MAD-220W	21	G1"	4.5	G3''	3.8	1250x800x1230	380V/50HZ
MAD-250W	25	G1"	5	G3"	3.8	1250x800x1230	380V/50HZ
MAD-290W	28	G1"	5.2	G4''	4.5	1400x850x1250	380V/50HZ
MAD-350W	32	G1.25"	5.6	G''	5.6	1400x850x1250	380V/50HZ
MAD-450W	42	G1.5"	8	DN100	6.7	1700x1000x1350	380V/50HZ
MAD-550W	52	G1.5"	9	DN100	7.9	1800x1000x1350	380V/50HZ
MAD-650W	62	G1.5"	10	DN125	9	2000x1000x1350	380V/50HZ
MAD-750W	72	G1.5"	11	DN125	10.6	2000x1100x1600	380V/50HZ
MAD-850W	82	G1.5"	12.5	DN125	13	2200x1100x1600	380V/50HZ
MAD-1000W	100	DN50	13.6	DN125	18	2200x1350x1650	380V/50HZ
MAD-1500W	150	DN65	18.8	DN150	22	2400x1400x1700	380V/50HZ
MAD-1900W	190	DN65	23	DN200	27	2600x1400x1800	380V/50HZ
MAD-2100W	210	DN65	26.2	DN200	30	3010x1510x2010	380V/50HZ
MAD-2600W	260	DN65	34	DN250	38	3210x1510x2010	380V/50HZ

Water Cooling Refrigerated Air Dryer(High Temperature Type)







Air Inlet Temperature: 80° C

Model	Capacity	Condenser Water Entrance Diameter	Power Consumption	Air Entrance Diameter	Water Cooling Capacity	Unit Size (mm)	Power	Weight KGs
	(Nm^3/Min)	Diameter	(KW)		(m^3/Hr)	(L*W*H)		
MAD-110WS	11	G0.75"	2.2	G2.5"	3	1080*600*1000	220V/50HZ	200
MAD-150WS	15	G0.75"	3.3	G3"	3	1220*680*1160	380V/50HZ	218
MAD-180WS	18	G0.75"	3.6	G3"	3	1220*680*1160	380V/50HZ	230
MAD-220WS	21	G1''	4.5	G3"	3.8	1400*680*1200	380V/50HZ	250
MAD-250WS	25	G1''	5	G3"	3.8	1400*680*1240	380V/50HZ	280
MAD-290WS	28	G1''	5.2	G4''	4.5	1600*850*1320	380V/50HZ	345
MAD-350WS	32	G1.25"	5.6	G"	5.6	1600*850*1320	380V/50HZ	390
MAD-450WS	42	G1.5"	8	DN100	6.7	1650*900*1500	380V/50HZ	450
MAD-550WS	52	G1.5"	9	DN100	7.9	1700*1000*1500	380V/50HZ	580
MAD-650WS	62	G1.5"	10	DN125	9	1800*1000*1600	380V/50HZ	650
MAD-750WS	72	G1.5"	11	DN125	10.6	2000*1350*1650	380V/50HZ	750
MAD-850WS	82	G1.5"	12.5	DN125	13	2200*1350*1650	380V/50HZ	1050
MAD-1000WS	100	DN50	13.6	DN125	18	2300*1400*1700	380V/50HZ	1180
MAD-1500WS	150	DN65	18.8	DN150	22	2450*1500*1800	380V/50HZ	1400
MAD-1900WS	190	DN65	23	DN200	27	2600*1430*1830	380V/50HZ	1624
MAD-2100WS	210	DN65	26.2	DN200	30	3010*1540*2040	380V/50HZ	2464
MAD-2600WS	260	DN65	34	DN250	38	3210*1540*2040	380V/50HZ	2744
MAD-3000WS	300	DN80	80	DN250	80	3610*1640*2180	380V/50HZ	3192
MAD-3500WS	350	DN80	92	DN300	92	4010*2000*2440	380V/50HZ	3696
MAD-4200WS	420	DN80	108	DN350	108	4210*2040*2550	380V/50HZ	4256





Air Cooling Refrigerated Air Dryer

*Compressor Brands: Panasonic, Copeland, Taikang

*Productive — Low Vibration — Low Noise— Stable

*Fully Hermetic Compressors

Panasonic Ecopeland

*Energy Saving Design; Eco-Friendly-R410A Refrigerant

*Safety Protection for frost, Overheat and System of Automatic Alarm and Stop for Errors; Increase Machinery Life.

More Than 10 Years of Experience in OEM and ODM Industries.







The main components of Desiccant Air Dryer are the two pressure vessels (Tower A & Tower B). They are both filled with desiccant and are alternately operated via switchover. For a drying cycle, the compressed air to be dried flows through one of the vessel where the moisture is thoroughly removed by the desiccant (adsorption process). Before the moisture is purging into the atmosphere through muffler, the moisture is stored in the desiccant in the second vessel will be removed by regeneration process. Once the desiccant in the vessel in which drying process takes place is saturated with moisture, the adsorption and regeneration functions of both vessels will be switched, that is, the drying process begin again.

We called one complete run of adsorption and regeneration in a vessel as a cycle, and the process time required to use is called cycle time. Generally, a cycle time is about 10 Minutes, 5 minutes regeneration and 5 Minutes adsorption.





Heatless Desiccant Air Dryer

Inlet Air Temperature: ≤40 °C or 104 °F **Operating Temperature**: ≤40 °C or 104 °F

Freezing Medium (Refrigerant): Aluminium Oxide, Molecular Sieve

Pressure Dew Point: $-20 \sim -40$ °C or $-68 \sim -104$ °F

Offer IS Standard Air Quality

Type: Heatless Adsorption/Desiccant

Time Proven Design:

*Rust Prevention: have been *treated against corrosion*, it does not need to be treated against corrosion and dust again within <u>10 years</u> on the promise that normal maintenance is ensured.

*Various Valves provides reliable and long service life.

*Vessels have a large filling level of desiccant bed that allows compressed air has enough time to contact with desiccant. That is, more efficient on drying process in the Adsorption Dryer.

*Generously sized silencers ensure efficient noise reduction for the escaping regeneration air.

Ease of Monitoring:

*PLC Control Panel

*Electronic(Automatic)Drain Valve.

Safety Protection Systems for overheat and Systems Alarm and Stop for Errors and Overworking. Expand Machine Life.

*Each valve is controlled individually with a time-delay, which results in overlap-free switch-over without pressure peaks between adsorption and regeneration.





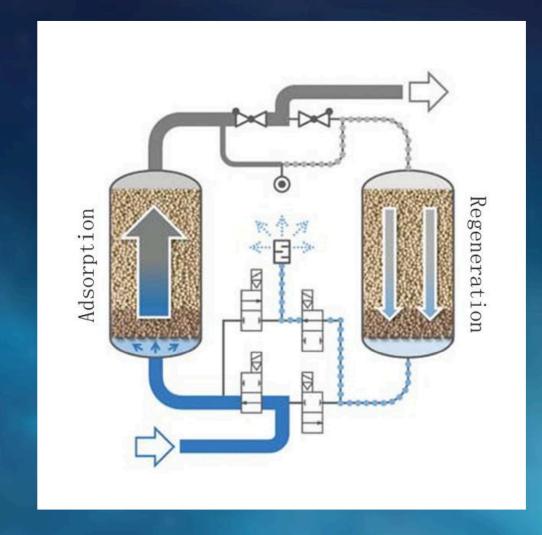
Model	Capacity	Air Entrance	Unit Size (mm)	Power	Weight
Wode	(Nm^3/Min)	Diameter	(L*W*H)	TOWE	(Kg)
MAD-10RD	1	G0.75"	600x300x1300	220V/50HZ	85
MAD-15RD	1.5	G0.75"	700x300x1350	220V/50HZ	110
MAD-25RD	2.5	G1"	800x350x1480	220V/50HZ	170
MAD-38RD	3.8	G1"	900x350x1580	220V/50HZ	220
MAD-55RD	5.5	G1"	950x350x1650	220V/50HZ	260
MAD-69RD	6.9	G1.5"	1000x400x1850	220V/50HZ	370
MAD-110RD	11	G1.5"	1100x450x2100	220V/50HZ	480
MAD-150RD	15	G2"	1200x500x2200	220V/50HZ	650
MAD-180RD	18	G2''	1300x550x2200	220V/50HZ	700
MAD-220RD	21.5	DN65	1400x600x2300	220V/50HZ	850
MAD-250RD	25	DN65	1500x650x2300	220V/50HZ	930
MAD-290RD	28.5	DN80	1600x650x2400	220V/50HZ	1050
MAD-350RD	35	DN80	1650x700x2500	220V/50HZ	1200
MAD-450RD	45	DN100	1750x750x2600	220V/50HZ	1500
MAD-550RD	55	DN100	1850x800x2800	220V/50HZ	1700
MAD-650RD	65	DN100	1900x850x2850	220V/50HZ	1950
MAD-750RD	75	DN125	2100x900x3000	220V/50HZ	2800
MAD-850RD	85	DN125	2200x1000x3100	220V/50HZ	3300
MAD-1000RD	100	DN150	2500x1150x3200	220V/50HZ	3600
MAD-1400RD	140	DN150	3010x1710x3130	220V/50HZ	4980
MAD-1600RD	160	DN200	3510x1810x3350	220V/50HZ	6250
MAD-1900RD	190	DN200	3510x1810x3350	220V/50HZ	6460
MAD-2100RD	210	DN200	3710x2010x3680	220V/50HZ	7280
MAD-2400RD	240	DN200	3710x2010x3780	220V/50HZ	8520
MAD-2600RD	260	DN200	3910x2210x3890	220V/50HZ	9360

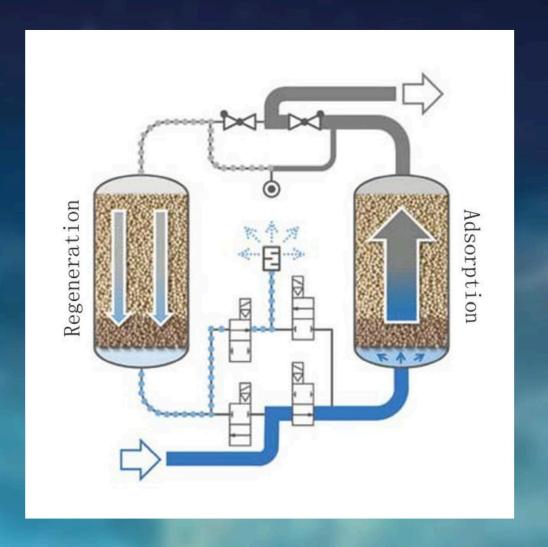


Micro-Heat Desiccant Air Dryers have similar operating processes as Heatless Air Dryer, but with one exception. Compressed dried air pass through a highefficiency external heater before entering the off-line(B) Tower to regenerate the desiccant. Because heated air holds considerably more moisture, this process reduces the amount of dry compressed air needed for regeneration. While heater-related components add to the initial capital investment, using less diverted compressed air lower operating costs.

The main components of Desiccant Air Dryer are the <u>two pressure</u> <u>vessels</u>(Tower A & Tower B). They are both filled with desiccant and *are* alternately operated via switch-over. For a drying cycle, the compressed air to be dried flows through one of the vessels where the moisture is thoroughly <u>removed by the desiccant</u>(adsorption process). Before the moisture is purging into the atmosphere through muffler, the moisture is stored in the desiccant in the second vessel <u>will be removed by regeneration process</u>. Once the desiccant in the vessel in which drying process takes place is saturated with moisture, the adsorption and regeneration functions of both vessels will be switched, that is, the drying process begins again.

We called one complete run of adsorption and regeneration in a vessel as a cycle, and the process time required to use is called cycle time. Generally, a cycle time is about 10 mins, 5 mins regeneration and 5 mins adsorption.







Micro-Heat Desiccant Air Dryer

Inlet Air Temperature: ≤40 °C or 104 °F **Operating Temperature**: ≤40 °C or 104 °F

Freezing Medium (Refrigerant): Aluminium Oxide, Molecular Sieve

Gas Consumption: 6%~8%

Pressure Dew Point: $-20 \sim -40$ °C or $-68 \sim -104$ °F

Offer IS Standard Air Quality

Type: Micro-Heat Adsorption/Desiccant

Time Proven Design:

*Rust Prevention: have been *treated against corrosion*, it does not need to be treated against corrosion and dust again within *10 years* on the promise that normal maintenance is ensured.

*Various Valves provides reliable and long service life.

*Vessels have a large filling level of desiccant bed that allows compressed air has enough time to contact with desiccant. That is, more efficient on drying process in the Adsorption Dryer.

*Generously sized silencers ensure efficient noise reduction for the escaping regeneration air.

Ease of Monitoring:

*PLC Control Panel

*Electronic(Automatic)Drain Valve.

Safety Protection Systems for overheat and Systems Alarm and Stop for Errors and Overworking. Expand Machine Life. *Each valve is controlled individually with a time-delay, which results in overlap-free switch-over without pressure peaks between adsorption and regeneration.





Model	Capacity	Air Entrance	Unit Size (mm)	Power	Weight
Wiodei	(Nm ³ /Min)	Diameter	(L*W*H)	1 ower	(Kg)
MAD-10WRD	1	G0.75"	700x400x1300	220V/50HZ	150
MAD-15WRD	1.5	G0.75"	700x500x1400	220V/50HZ	180
MAD-25WRD	2.5	G1"	800x500x1500	220V/50HZ	210
MAD-38WRD	3.8	G1"	920x530x1500	220V/50HZ	245
MAD-55WRD	5.5	G1"	950x550x1500	220V/50HZ	270
MAD-69WRD	6.9	G1.5"	1000x550x1900	220V/50HZ	400
MAD-110WRD	11	G1.5"	1100x600x2100	220V/50HZ	550
MAD-150WRD	15	G2"	1200x650x2200	380V/50HZ	680
MAD-180WRD	18	G2"	1350x650x2250	380V/50HZ	730
MAD-220WRD	21.5	DN65	1400x780x2300	380V/50HZ	950
MAD-250WRD	25	DN65	1550x820x2300	380V/50HZ	1020
MAD-290WRD	28.5	DN80	1650x880x2500	380V/50HZ	1200
MAD-350WRD	35	DN80	1700x900x2500	380V/50HZ	1450
MAD-450WRD	45	DN100	1800x950x2650	380V/50HZ	1800
MAD-550WRD	55	DN100	1850x1000x2850	380V/50HZ	1950
MAD-650WRD	65	DN100	1960x1060x2850	380V/50HZ	2350
MAD-750WRD	75	DN125	2170x1140x2960	380V/50HZ	3160
MAD-850WRD	85	DN125	2250x1230x3140	380V/50HZ	3500
MAD-1000WRD	100	DN150	2550x1320x3200	380V/50HZ	3900
MAD-1400WRD	140	DN150	3010x1710x3185	380V/50HZ	5060
MAD-1600WRD	160	DN200	3510x1810x3350	380V/50HZ	6350
MAD-1900WRD	190	DN200	3510x1810x3350	380V/50HZ	6560
MAD-2100WRD	210	DN200	3710x2010x3570	380V/50HZ	7400
MAD-2400WRD	240	DN200	3710x2010x3780	380V/50HZ	8640
MAD-2600WRD	260	DN200	3910x2210x3780	380V/50HZ	9510