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The Energy Solutions of
Withair Heat Pumps Catalogue 2017

Withair®

Take Control of Your Energy Future!

Withair offers a wide range of clean energy products and solutions to meet the needs of your projects.

- **Ongoing innovation with cutting-edge products**
- **Over 20 years of experience**
- **Production 100% Made in China**
- **Guaranteed support and spare parts**
- **Support in design**
- **Documentation for incentives**
- **Two-year guarantee**
- **Free training course**

About Withair

Withair® is one leading manufacturer in sustainable energy solutions supplying HVACR products & services for cooling, heating, hot water, ventilation, industrial refrigeration and heat recovery that reflect today's demand for sustainable construction, comfortable indoor climate and industrial cooling process application. and specialize in heating & cooling system, air quality system and new energy development and utilization,now it has three factories,manufacturing different kinds of products, and committed to providing the first-class products & system solutions for customers.

At Withair®, our aim is to support the growth, profit, and sustainability goals of our clients by delivering innovative solutions with n x value.we gain a deep understanding of our client's needs and business objectives first and foremost by gaining and leveraging our technical knowledge, innovative thinking, and vast equipment resources. from heating & cooling solutions and air quality management,to energy performance and efficiency determination,Withair® delivers the results.

Withair® operates in a strongly impacting sector in the energy field, and its primary objectives include committing resources to continuous technological research and improvement of production processes, with the aim of streamlining products and raise users' awareness on the actual soundness of ensuing energy savings.

Withair® products & solutions combine utmost efficiency with minimum energy consumption and strict respect of the environment, the idea proved to be a winning one in just a few years, Withair® became the leader in the sector !

Low energy consumption systems

Use of clean energy

Use of environmentally-friendly cooling gases

ZERO direct CO2 emissions in the environment

Ground/Water Source Heat Pumps - Each Withair® system installed, one more step towards a greener tommorrow

As we know, only two metres below the surface, the ground temperature remains a steady 10-12℃ throughout the year. By installing a ground source heat pump, you could utilise this natural geothermal energy to provide a reliable and renewable cooling, heating and hot water system for your building.When the sun shines, the heat pump's borehole/ ground source heating coil gets a chance to recover and replenish. This also increases the heat pump's service life because it can rest during much of the year.

By installing Withair® a Geothermal Heat Pump, you could utilise this natural heat energy to provide a reliable and renewable heating and hot water system for your home, you can reduce costs by up to 80 % compared to direct electricity, depending on where you live, the living area, the choice of heat pump and whether you use a cooling function or not. All this while keeping noise levels exceptionally low.

Withair® the W01R series heat pumps involve a range of 282 models, with heating and cooling capacity among 2.6kW and 3,200kW, which allow to create "customized" solution, matching the different installations requests.

Heavy Capacity Ground Source Heat Pumps(Geothermal Heat Pumps)

Heavy Capacity Ground Source Heat Pumps (Geothermal Heat Pumps)

—— Product Description ——

Withair® heavy capacity Ground (Water) Source Heat Pump is the mature products which are equipped with newly-developed semi-hermetic screw compressors and use dry type or flooded type evaporator, which result in lower noise and lower vibration, reliable long period operation, and installation feasibility on any floor of the building.The units are composed of a compressor(s), a condenser(s),a direct-expansion water cooler, a electronic expansion valve(s),and auxiliary and control equipment.Optimized system design and enhanced heat exchange efficiency makes the unit working best under both full load and partial load. Every unit is fully factory tested and gas charged in the factory before dispatch. It' s good choice for hotel, shopping mall, hospital, factory, cinema and other civil architecture air conditioning system. Stepless capacities can be customized.The units can be operated with the utmost simplicity.

—— The Key Advantages Include ——

● Using for advanced semi-enclosed screw type compressor

The international advanced double-screw semi-enclosed compressor, through slide valve achieve mmultiple-stage or sectionless of adjustment,to adapt to changes in load of smooth and compressor built-in efficient oil separator, the rate can reach 99.7%,using differential injection,no pump, oil, safe and reliable guarantee mechanism for the safe and stable operation, long service life.

● Energy-saving

* Unit adopts PLC control technology, according to user load demand changes through intelligent control, multilevel energy regulation in full or part of the unit that can reach the best energy efficiency, reduce the operating cost.
* Provide multilevel (0-25% to 50% &75% - 100%) and the energy level adjustment methods for your choice.

● Intellectualized control, simple operation

* Unit adopts PLC control technology, "a key start" and automatic operation.
* In the man-machine interface screen English display, touch screen/LCD text interface for your option.
* Units with remote control functions: turbine control system with built-in WEB browser,users can pass on any computer through internet in the remote monitoring and control unit can operation conditions and parameters of the work unit, the query of the unit.

● Protection function origin

* Units provided the refrigeration system, electrical system and the water system of the complete protection function, ensure its safe operation.
* Unit Settings: unit of power of inverse phase), (high/low refrigeration system protection, oil is too low to high temperature, vent protection system to protect and water flow protection, antifreeze protection safety protection function, guarantee the safe and stable operation of the mechanism.

● Heat recovery function

* Units can be based on user needs, increase the heat recovery function, at the same time in refrigeration heat side will recycle waste heat utilization,and use side and heat side, improved the two-way unit running condition, improve the efficiency of the unit, the unit greatly reduce the operation cost.
* Partial heat recovery and total heat recovery.

● Advanced design, superior performance of high-efficiency heat exchanger

* Shell and tube evaporator within the evaporator using the latest threaded efficient heat exchange tube and tube with high heat efficiency,combined with poor casing baffle slabs of chilled water flow and circuitous increased turbulence effect, make the evaporator heat transfer coefficient has been greatly improved,and the latest flame retardant, use shell heat preservation material, energy loss and ensure the good performance of refrigeration unit.

—— Technical Data ——

Single compressor system

Model W01R2			100S1	150S1	200S1	250S1	320S1	380S1	420S1	450S1	510S1	560S1	700S1
Cooling condition	nominal cooling capacity	kW	116.3	174.5	232.4	290.5	371.9	443.1	488.1	523	592.6	649.6	813.4
	nominal cooling capacity	TR	34	50	67	83	107	127	140	150	170	187	233
	input power	kW	22.3	33.1	44.3	54.8	65.7	76.5	87.2	99.8	110.7	140.2	152.6
	chilled water flow	m3/h	20.1	30.1	40.2	50.1	60.1	70.2	80.1	90.1	100.1	128.1	140.2
	chilled water pressure	kPa	50	54	56	58	60	62	64	66	68	71	72
	cooling water flow	m3/h	10.9	16.3	21.7	27	32.4	37.8	43.2	48.8	54.1	69	75.6
	cooling water pressure	kPa	22	24	25	27	28	30	32	34	35	38	40
Heating condition	nominal heating capacity	kW	122.7	184.4	246.6	315.4	370.2	435.1	493.4	556.1	617.5	690.5	873.1
	nominal heating capacity	TR	35	53	71	91	106	125	141	159	177	230	250
	input power	kW	27.6	41.3	54.1	68.3	81.2	95.8	106.1	118.1	130.1	168.9	188.7
	chilled water flow	m3/h	10.9	16.3	21.7	27	32.4	37.8	43.2	48.8	54.1	69	75.6
	chilled water pressure	kPa	22	24	25	27	28	30	32	34	35	38	40
	cooling water flow	m3/h	20.1	30.1	40.2	50.1	60.1	70.2	80.1	90.1	100.1	128.1	140.2
	cooling water pressure	kPa	50	54	56	58	60	62	64	66	68	71	72
Starting mode			Y-△										
Energy control %			0-25-50-75-100 or Continous capacity control										
Condensor	type		shell and tube										
	pipe diameter	DN	65	65	80	80	100	100	125	125	125	150	150
Evaporator	type	DN	dry type evaporator										
	pipe diameter		65	65	80	80	100	100	125	125	125	150	150
Compressor			Screw type										
Throttle mode			thermal expansion valve										
Product size	length	mm	2500	2850	2850	2880	3150	3150	3200	3250	3350	3350	3550
	width	mm	710	710	710	870	870	950	950	950	1120	1120	1120
	height	mm	1520	1520	1520	1820	1820	1820	1940	1940	2100	2300	2300
Unit weight		kg	1150	1370	1620	1880	1880	2460	2710	2850	3040	3250	3540
Working weight		kg	1250	1480	1790	2010	2270	2650	2930	3070	3290	3550	3930

Notes:

1. These parameter were tested according to pure water,not include anti-freezing liquid and water pump power.
2.The unit do not provide water pump,and disposed by project demand.
3.All models, sizes, dimensions, and specifications are subject to change without prior notice, please refer to nameplates for the most accurate specifications

Twin compressors system

Model W01R2			200S2	300S2	400S2	500S2	640S2	760S2	840S2	900S2	1020S2	1120S2	1400S2
Cooling condition	nominal cooling capacity	kW	232.6	349	464.8	581	743.8	886.2	976.2	1046	1185.2	1307.6	1626.8
	nominal cooling capacity	TR	67	100	133	166	213	254	279	300	340	374	465
	input power	kW	44.6	66.2	88.6	109.6	131.4	153	174	199.6	221.4	280.4	305.2
	chilled water flow	m3/h	40.2	60.2	80.4	100.2	120.2	140.4	160.2	180.2	200.4	256.2	280.4
	chilled water pressure	kPa	51	52	53	54	56	58	60	62	64	68	70
	cooling water flow	m3/h	21.8	32.6	43.4	54	64.8	75.6	86.4	97.6	108.2	138.4	151.2
	cooling water pressure	kPa	25	28	32	34	36	38	40	42	44	47	50
Heating condition	nominal heating capacity	kW	245.4	368.8	493.2	630.8	740.4	870.2	986.8	1112.2	1235	1604.6	1746.2
	nominal heating capacity	TR	71	106	141	181	212	250	282	318	353	460	500
	input power	kW	55.2	82.6	108.2	136.6	162.4	191.6	212.2	236.2	260.2	337.8	377.4
	chilled water flow	m3/h	21.8	32.6	43.4	54	64.8	75.6	86.4	97.6	108.2	138.4	151.2
	chilled water pressure	kPa	25	28	32	34	36	38	40	42	44	47	50
	cooling water flow	m3/h	40.2	60.2	80.4	100.2	120.2	140.4	160.2	180.2	200.4	256.2	280.4
	cooling water pressure	kPa	51	52	53	54	56	58	60	62	64	68	70
Starting mode			Y-△										
Energy control %			0-25-50-75-100 or Continous capacity control										
Condensor	type		shell and tube										
	pipe diameter	DN	80	100	125	125	150	150	150	150	150	150	150
Evaporator	type	DN	dry type evaporator										
	pipe diameter		80	100	125	125	150	150	150	200	200	200	200
Compressor			Screw type										
Throttle mode			thermal expansion valve										
Product size	length	mm	3300	3400	3600	3800	4010	4010	4150	4250	4250	4250	4650
	width	mm	1100	1100	1100	1310	1310	1350	1350	1350	1500	1500	1500
	height	mm	1630	1630	1630	2010	2010	2200	2200	2200	2200	2300	2450
Unit weight		kg	2330	2650	2950	3400	3880	4170	4480	4730	5240	5850	6580
Working weight		kg	2470	2780	3160	3720	4320	4580	5010	5320	5820	6600	7570

Notes:

1. These parameter were tested according to pure water,not include anti-freezing liquid and water pump power.
2.The unit do not provide water pump,and disposed by project demand.
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Fourfold compressors system

Model W01R2			1000S4	1200S4	1400S4	1600S4	1800S4	2000S4	2240S4	2560S4	2800S4
Cooling condition	nominal cooling capacity	kW	1162	1394.4	1626.8	1859.2	2092	2334	2598.4	2974.8	3253.6
	nominal cooling capacity	TR	330	396	463	529	595	664	739	846	925
	input power	kW	219.2	262.8	306	348.8	399.2	442.8	496.4	546.6	610.4
	chilled water flow	m3/h	200.4	240.4	280.8	320.4	360.4	400.8	447.2	512.4	560.8
	chilled water pressure	kPa	54	56	58	60	62	64	66	68	70
	cooling water flow	m3/h	108	129.6	151.2	172.8	195.2	216.4	242.8	276.8	302.4
	cooling water pressure	kPa	34	36	38	40	42	44	45	47	50
Heating condition	nominal heating capacity	kW	1261.6	1480.8	1740.4	1973.6	2224.4	2470	2762	3209.2	3492.4
	nominal heating capacity	TR	360	423	497	564	636	706	789	917	998
	input power	kW	273.2	324.8	383.2	424.4	472.4	520.4	580.4	675.6	754.8
	chilled water flow	m3/h	108	129.6	151.2	172.8	195.2	216.4	242.8	276.8	302.4
	chilled water pressure	kPa	34	36	38	40	42	44	45	47	50
	cooling water flow	m3/h	200.4	240.4	280.8	320.4	360.4	400.8	447.2	512.4	560.8
	cooling water pressure	kPa	54	56	58	60	62	64	66	68	70
Starting mode			Y-△								
Energy control %			0-25-50-75-100 or Continous capacity control								
Condensor	type		shell and tube								
	pipe diameter	DN	100*4	125*4	125*4	125*4	150*4	150*4	150*4	150*4	150*4
Evaporator	type	DN	dry type evaporator								
	pipe diameter		125*2	150*2	150*2	150*2	200*2	200*2	200*2	200*2	200*2
Compressor			Screw type								
Throttle mode			thermal expansion valve								
Product size	length	mm	3800	4010	4010	4150	4250	4250	4250	4250	4650
	width	mm	2650	2650	2650	2650	2650	3100	3100	3100	3100
	height	mm	2010	2010	2200	2200	2200	2200	2200	2300	2450
Unit weight		kg	6400	7560	8170	8680	9430	10240	10740	11350	12580
Working weight		kg	7420	8540	8890	9610	10020	11420	11720	12200	14580

Notes:

1. These parameter were tested according to pure water,not include anti-freezing liquid and water pump power.
2.The unit do not provide water pump,and disposed by project demand.
3.All models, sizes, dimensions, and specifications are subject to change without prior notice, please refer to nameplates for the most accurate specifications

Ground Loop Working Condition:
1. Cooling standard working condition: User side inlet/outlet water temperature 12℃/7℃; Source side inlet/outlet water temperature 25℃/30℃;
2. Heating standard working condition: User side inlet/outlet water temperature 40℃/45℃; Source side inlet water temperature 10℃;

Ground Water Working Condition:
1. Cooling standard working condition: User side inlet/outlet water temperature 12℃/7℃; Source side inlet/outlet water temperature 18℃/29℃;
2. Heating standard working condition: User side inlet/outlet water temperature 40℃/45℃; Source side inlet water temperature 15℃;

Water Loop Working Condition:
1. Cooling standard working condition: User side inlet/outlet water temperature 12℃/7℃; Source side inlet/outlet water temperature 30℃/35℃;
2. Heating standard working condition: User side inlet/outlet water temperature 40℃/45℃; Source side inlet water temperature 20℃;

—— Delivery & Packaging ——

- 100% test before deliverying products.
- Products catalogue, installation & operation manual will be sent together.
- Tracking number will be sent to customer as soon as we ship the products.
- Item shipped in 25 working days against payment depends on the quantity.
- Four steps of pakacges, plastic film, foam, carton and plywood for stable transporation.
- Ocean shipping, railway shipment and air transportation are acceptable according to customer demand.

—— You May Like ——

Feel free to contact us to receive further information about our products and energy solutions.

Notes:

Withair, your perfect partner for successful projects.

Withair®

01/2017 - The technical data in this document are not binding.
Withair reserves the right to introduce at any time whatever modifications deemed necessary for improving the product.

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