



COMPRESSED AIR PURIFICATION DRYING SYSTEM



Shanghai Rotorcomp Screw Compressor Co.,Ltd

Company

Instruction

Shanghai Rotorcomp Co., Ltd. is a manufacturing company which is specialized in compressed air drying and purification equipment who's research, manufactory, sales and service. We with rich experience in the industry, the use of advanced technology and high quality components, to provide customers with high efficiency, low energy consumption, long service life of compressed air purification equipment, improve the quality of your air!

The leading product is Refrigerated Air Dryer, Desiccant Air Dryer, Compressed Air Filter, Modular Regenerative Adsorption Compressed Air Dryer, Water Chiller. We have the CE certification and could provide the ASME code dryer for customer.

We have been seeking excellence all the time. The company ushers in the Denmark, France, Japanese etc. Nations system cold and advanced technique, equipments and the original machine pieces, meanwhile taking the advanced designing concept and exquisite Production Process, following the ISO9001 quantity management system completely.

We have been improving quality by good management, seeking development by innovation, casting the brand in good faith, expanding the market in a win-win situation. Our products not only throughout the Country (for different projects, such as building, rebuilding, and re-moulding of large and medium size enterprises), but also export to Australia, South America, Southeast Asia, Middle East, Europe and more than 30 Countries.



The conditions of the qualified drying system

- Purge System Selection should be based on rated pressure of air compressor.
- Air Dryer's Model Selection should be based air inlet temperature.rated air flow.rated pressure and ambient temperature.
- Air Dryer' s Type Selection should be based on the dryness,which relate to the discretion of dew point.
- Quantities of stages of air filters and type selection should be based on the discretion of oil content index and dustiness index .
- Pipes configuration and materials of pipes' confirmation should be base on dew point,oil content and business index.
- Install the self-cleaning filter to protect the air compressor,assurance the purifying effect while working in the environment with large amount of dust.
- Compressed air purifying process is the process of drying and filtering.meanwhile it is also a process of temperature decreasing.Temperature takes a key role during the process of purifying as inlet temperature and ambient temperature directly impact the effect of drying and purifying.
- Air receiver tank also is an important part of a whole compressed air system.Air receiver tank should be installed between air compressor and air dryer,air dryer and air consumption location because air receiver tank has the effect of stabilizing air,cooling,dirt drain and air storage.
- System should add the waste oil collector,collecting the oil then drain out the water which reach environment: requirement to the river.

The damage of the unprocessed compressed air

Compressed air is an important driving force which is widely used in various industrial fields. After the air around us is compressed,a sharp rise in the number of water vapor and dust contained in unit volume.

Meanwhile the water vapor and oil mist condense liquid drops during compressing process.then mixing with dusts in high concentration.forming mostly acidic sludge.

If there is no air after treatment equipment, these acidic sludge will enter the air line. corrode pipeline material,destroy pneumatic tools, equipment, and ultimately resulting in lower-quality product, production stagnated, costs rising, health and safety at risk.

The cost will be increased because of the bad quality compressed air

If acidic sludge entering air line,the caused problem will come soon.Below are some common problems:

- Damage of pneumatic tools and equipment more frequently, life reduction.
- Finished production and other materials that will expose to air will be damaged or quality reduction.
- Corroded air line will result in air leaking,wasting of compressed air and energy.
- In fact,a leak with thickness 3 mm will cause 3.7KW energy consumption, which means there will be extra energy cost every year.

The solution of the power consumption

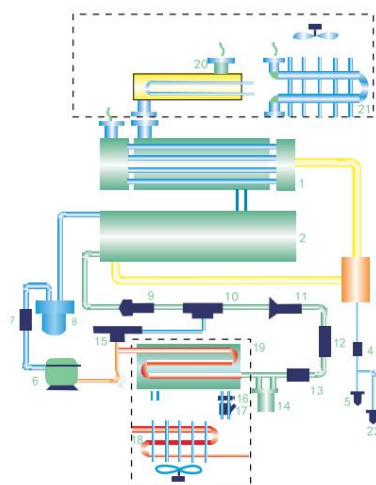
- Air dryer is a durable and low energy consumed air solution.
- Drying process on compressed air is needed in order to prevent the condensed water precipitation and the followed corrosion and equipment damage.Sunfilter series air dry can remove the water from the compressed air,which remove the biggest damage on air pipe system.
- More filters,complete the installation of equipment.
- More filters in the compressed air system will further improve the quality of air,reducing the possibility of damage of pneumatic tools and equipment,enhance the quality of finished production.

HDR Series

Refrigerated Compressed Air Dryer

Technical Flow

1. Heat exchanger
2. Evaporator
3. Gas/liquid separator
4. Jam-prevent drain filter
5. Manual draining valve
6. Refrigerated compressor
7. Aspirating filter
8. Vaporization
9. Separator
10. Gas/liquid mixer
11. Thermal expansion valve
12. View monitor
13. Dry filter
14. Tank
15. Hot gas by-pass valve
16. Water adjustable valve
17. Water filter
18. Condenser(Air-cooling)
19. Condenser(Water-cooling)
20. Per-cooler(Water-cooling)
21. Per-cooler(Air-cooling)
22. Auto-drainer



Working Condition And Technical Data

Capacity: 1.2~400 m³/min
 Working pressure: ≤1.3Mpa (13bar)
 Max. inlet temperature: 80°C
 Max. ambient temperature: 40°C
 Min. ambient temperature: 5°C
 Cooling type: Air-cooling or Water-cooling
 Refrigerant: R22
 PDP: 2~10°C

Technical Specification of HDR Air-cooling Refrigerated Dryer

Model	Capacity	Nominal Power	Power Supply	Air Connections	Dimensions(mm)			Weight
	Nm ³ /min	Kw	V/Ph/Hz		L	W	H	kg
HDR-10HP	1,2	0.85	220/1/50	Rc1"	630	450	640	50
HDR-20HP	2,4	1	220/1/50	Rc1"	700	450	830	80
HDR-30HP	3,8	1.25	220/1/50	Rc1.5"	850	500	920	105
HDR-50HP	6,5	1.5	220/1/50	Rc1.5"	880	550	1020	150
HDR-60HP	8,5	1.8	220/1/50	Rc1.5"	880	550	1020	160
HDR-75HP	10,7	2.5	380/3/50	Rc2"	1180	670	1080	240
HDR-100HP	13,5	2.5	380/3/50	Rc2"	1180	670	1080	260
HDR-125HP	18	3	380/3/50	DN65	1360	710	1220	310
HDR-150HP	25	4	380/3/50	DN80	1360	710	1220	400
HDR-200HP	28	4.5	380/3/50	DN80	1650	750	1290	450
HDR-300HP	35	6.5	380/3/50	DN100	1670	750	1575	780
HDR-350HP	45	8.8	380/3/50	DN100	2000	950	1740	820
HDR-400HP	55	10.2	380/3/50	DN125	2350	1050	1910	900
HDR-450HP	65	13	380/3/50	DN125	2550	1100	1940	1100

Technical Specification of HDR Water-cooling Refrigerated Dryer

Model	Capacity	Nominal Power	Power Supply	Air Connections	Dimensions(mm)			Weight
	Nm ³ /min	Kw	V/Ph/Hz		L	W	H	kg
HDR-75W	10.7	2.5	380/3/50	Rc2"	1180	670	1080	240
HDR-150W	25	4.0	380/3/50	DN80	1360	710	1220	400
HDR-300W	35	6.1	380/3/50	DN100	1670	750	1575	780
HDR-350W	45	8.0	380/3/50	DN100	1850	850	1630	980
HDR-400W	55	9.0	380/3/50	DN125	2100	920	1645	1150
HDR-450W	65	11.3	380/3/50	DN125	2280	1300	1880	1250
HDR-500W	85	16	380/3/50	DN150	2420	1340	1900	1600
HDR-600W	110	19	380/3/50	DN150	2750	1350	2004	2200

HDR- SH Series

Refrigerated Compressed Air Dryer

Features

- 1.SH series with stainless steel plate heat exchanger and air connection pipe.
- 2.High efficiency plate heat exchanger with counter-flow on both air-to-air and air-to-refrigerant sides for efficient heat transfer. As the outgoing air is reheated, it protects the outlet piping against pipe sweating.
- 3.SH series dryer have passed latest CE safety certification with multiple overload protection devices configured.

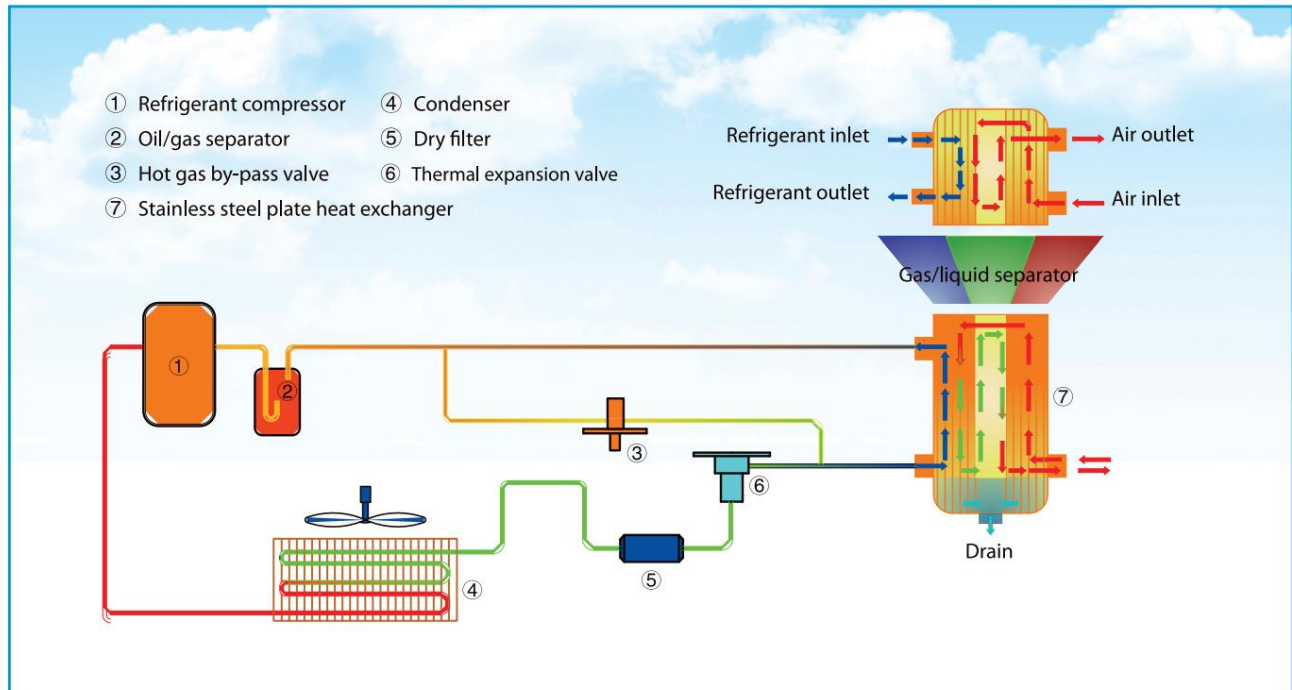


Working Condition And Technical Data

Capacity: 0.6~25.0 m³/min
Working pressure: ≤1.6Mpa (16bar)
Max.inlet temperature: 60°C
Max.ambient temperature: 50°C
Cooling type: Air-cooling
Refrigerant: R134A(06~24) \ R410A(38~135)
R407C(180~250)
PDP: 3~8°C



Technical Flow



Technical Specification of SH Refrigerated Air Dryer

Model	Capacity	Nominal Power	Power Supply	Air Connections	Dimensions (mm)			Weight
	Nm ³ /min	HP	V/P/H		L	W	H	kg
HDR SH-06	0.6	1/4	220/1/50	1/2	500	300	525	27
HDR SH-14	1.4	1/3		1/2	500	300	525	31
HDR SH-18	1.8	1/3		3/4	520	440	780	52
HDR SH-24	2.4	1/2		3/4	520	440	780	54
HDR SH-38	3.8	1 1/4		1	680	490	830	72
HDR SH-65	6.5	1 1/2		1 1/2	680	490	830	84
HDR SH-80	8	1 1/2		1 1/2	680	490	830	89
HDR SH-107	10.7	3	380/3/50	1 1/2	950	580	900	130
HDR SH-135	13.5	3		1 1/2	950	580	900	142
HDR SH-180	18	3 1/2		2	1250	800	1050	160
HDR - SH-250	25	4		2 1/2	1250	800	1050	200

Heatless Purge

Desiccant Air Dryer

- Purge air: $\leq 12 \sim 15\%$
- Working pressure: $0.6 \sim 1.0\text{Mpa}$
- Inlet oil content: $\leq 0.01\text{ppm}$
- Pressure dew point: $-20^{\circ}\text{C} \sim -40^{\circ}\text{C}$
- Desiccant: Activated aluminum or Molecular sieze
- Working periods: $T = 4 \sim 20$ Minutes
- Inlet temperature: $0^{\circ}\text{C} \sim 45^{\circ}\text{C}$



Type	Items	Capacity (Nm ³ /min)	Air inlet/outlet pipe diameter	Dimensions(mm)			Weight(kg)
				L	W	H	
HDR-10XF		1.2	ZG1	800	400	1376	120
HDR-20XF		2.4	ZG1	800	400	1476	180
HDR-30XF		3.8	ZG1.5	1000	450	1600	270
HDR-50XF		5.5	ZG1.5	1000	450	1890	300
HDR-60XF		6.5	ZG1.5	1200	500	1950	400
HDR-75XF		8.5	ZG1.5	1400	600	2000	510
HDR-100XF		10.7	ZG2	1400	600	2090	700
HDR-150XF		13.5	ZG2	1400	600	2140	740
HDR-200XF		18	DN65	1400	600	2200	780
HDR-250XF		25	DN80	1670	650	2435	1180
HDR-300XF		35	DN100	1670	650	2566	1760
HDR-350XF		45	DN100	1750	750	2700	2200
HDR-400XF		55	DN125	1800	750	2755	2600
HDR-450XF		65	DN125	1900	700	3070	3100
HDR-500XF		85	DN150	2620	1120	3070	4100
HDR-550XF		110	DN150	3100	1650	3200	5200
HDR-600XF		160	DN200	3240	1770	3190	6000

Externally Heated

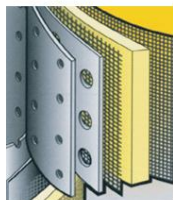
Purge Desiccant Air Dryer

- Purge air: $\leq 4 \sim 6\%$
- Working pressure: $0.4 \sim 1.0\text{Mpa}$
- Inlet oil content: $\leq 0.01\text{ppm}$
- Pressure dew point: $-20^{\circ}\text{C} \sim -70^{\circ}\text{C}$
- Power: 380V 50HZ
- Desiccant: Activated aluminum or Molecular sieze
- Working periods): $T = 60 \sim 180$ Minutes
- Inlet temperature: $0^{\circ}\text{C} \sim 45^{\circ}\text{C}$



Type	Items	Capacity (Nm ³ /min)	Heater power (kw)	Air inlet/outlet pipe diameter	Dimensions(mm)			Weight(kg)
					L	W	H	
HDR-10HXF		1.2	1.5	ZG1	800	480	1420	145
HDR-20HXF		2.4	1.5	ZG1	800	480	1520	200
HDR-30HXF		3.8	1.5	ZG1.5	1000	525	1600	330
HDR-50HXF		5.5	1.5	ZG1.5	1000	525	1890	350
HDR-60HXF		6.5	3	ZG1.5	1200	550	1950	430
HDR-75HXF		8.5	3	ZG1.5	1400	600	2000	550
HDR-100HXF		10.7	4.5	ZG2	1400	600	2090	750
HDR-150HXF		13.5	4.5	ZG2	1400	600	2140	790
HDR-200HXF		18	4.5	DN65	1400	650	2200	830
HDR-250HXF		25	6	DN80	1670	725	2435	1250
HDR-300HXF		35	8	DN100	1670	725	2566	1480
HDR-350HXF		45	8	DN100	1750	775	2700	1740
HDR-400HXF		55	15	DN125	1800	775	2755	2260
HDR-450HXF		65	15	DN125	1900	800	3070	2600
HDR-500HXF		85	20	DN150	2620	1120	3073	3380
HDR-550HXF		110	30	DN150	3100	1650	3200	4390
HDR-600HXF		160	50	DN200	3240	1770	3190	5800

Specifications

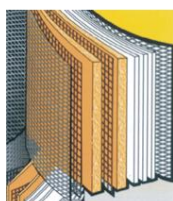


Separator filter (Q)

For bulk liquid removal plus a 3 micron coalescer (5ppm w/w maximum remaining oil content).

Two-stage filtration

- ◆ First stage—two stainless steel orifice tubes provide 10 micron mechanical separation.
- ◆ Second stage—in-depth fiber media captures solid and liquid particles to 3 micron.



Air line filter (P)

For removal of liquid water and oil; removes solid particles to 1 micron (1.0 ppm w/w maximum remaining oil content)

Corrosion resistant inner and outer cores.Two-stage filtration

- ◆ First stage:captures larger particles with alternate layers of fiber media and media screen.
- ◆ Second stage:coalesces aerosols and captures solid particles with multiple layers of epoxy bonded, blended fiber media.



High efficiency oil removal filter (S)

For coalescing fine water and oil aerosols; removes solid particles to 0.01 micron (0.01 ppm w/w maximum remaining oil content).

Corrosion resistant inner and outer cores.Two stage filtration

- ◆ First stage:multiple layers of bonded, blended fiber media for fine coalescence.
- ◆ Second stage:multiple layers of bonded, blended fiber media for fine coalescence.

Outer coated, closed cell foam sleeve.



Ultra high efficiency oil removal filter (T)

For coalescing ultra-fine oil aerosols; removes solid particles to 0.01 micron (0.001 ppm w/w maximum remaining oil content).

Corrosion resistant inner and outer cores.Two stage filtration

- ◆ First stage—coated, closed cell foam sleeve acts as pre-filter and flow disperser.
- ◆ Second stage—multiple layers of matrix blended fiber media for ultra-fine coalescence.

Outer coated, closed cell foam sleeve.



Oil vapor removal filter (C)

For removal of oil and hydrocarbon vapors normally absorbable by activated carbon; removes solid particles to 0.01 micron (0.003 ppm w/w maximum remaining oil content)

Corrosion resistant inner and outer cores.Two stage filtration

- ◆ First stage—a stabilized bed of finely divided carbon particles removes the majority of the oil vapor
 - ◆ Second stage—multiple layers of fiber media with bonded micro fine carbon particles removes the remaining oil vapor
- Multiple layers of fine media prevent particle migration Outer coated, closed cell foam sleeve prevents fiber migration
Designed for 1000 hour life at rated conditions.



ROTORCOMP



Precision Compressor Air Filter

Features

- ◆ Easy replacement;
- ◆ Stainless steel for added structural integrity low resistance to flow seam welded for extra strength.
- ◆ Piston type elements to housing seal keeps unfiltered air from by-passing element.

Product introduction

Technical Parameter

Max. working pressure: 1.6 MPa

Max. working temperature: 80 °C

Service life of filter elements: 8000 hour

Differential pressure: 0.007MPa



Specification Parameter List

Model	Nominal Volume Flow	Air Connections	Dimensions(mm)			Weight(kg)
	Nm ³ /min		L	W	H	
HDR-004	0,4	G1 / 2 "	105	76	250	2
HDR-007	0,7	G1 / 2 "	105	76	250	2
HDR-015	1,5	G3 / 4 "	105	76	250	2
HDR-024	2,4	G1 "	105	76	250	2
HDR-035	3.5	G1-1 / 2 "	105	76	310	3
HDR-060	6.0	G1-1 / 2 "	137	99	400	4
HDR-090	9.0	G1-1 / 2 "	137	99	425	5
HDR-120	12.0	G2 "	137	99	620	10
HDR-150	15.0	G2 "	135	108	750	12
HDR-240	24.0	G2-1 / 2 "	148	125	920	15
HDR-360	36.0	DN150	475	135	1113	137
HDR-450	45.0	DN150	475	135	1265	140
HDR-600	60.0	DN150	520	157	1315	180
HDR-900	90.0	DN200	590	157	1315	200
HDR-1200	120.0	DN250	660	157	1350	250
HDR-1500	150.0	DN300	700	189	1350	265
HDR-1800	180.0	DN350	980	235	1350	300

HDR K Series

Compressed Air Filters

Features

1. Air filter with differential pressure indicator and sight glass.
2. Filter housing internal with anti-corrosion treatment.

Technical Data

Max. working temperature: $\leq 80^{\circ}\text{C}$

Service life of filter element: 8000 hour

Differential pressure: 0.007Mpa

Max. working pressure:

Model	Max. Working Pressure (Mpa)
001-013	1.3Mpa
015-025	1.3Mpa
030-200	1.0Mpa



Technical Specification of Air Filter

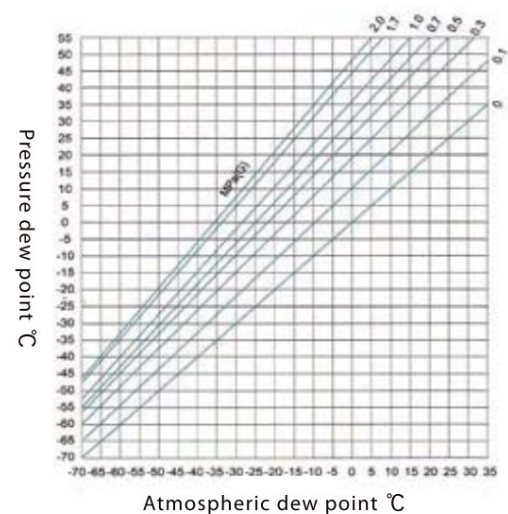
Model	Capacity	Air Connections	Dimensions (mm)			Weight (kg)
	(Nm ³ /min)		L	W	H	
HDR-K-10	1.2	ZG1	105	76	250	2
HDR-K-20	2.4	ZG1	105	78	310	3
HDR-K-30	3.8	ZG1.5	137	99	400	4
HDR-K-50	6.5	ZG1.5	137	99	425	5
HDR-K-60	8	ZG1.5	137	99	620	5
HDR-K-75	10.7	ZG2	137	99	620	5
HDR-K-75F	10.7	DN50	310	133	860	25
HDR-K-100	14	ZG2	135	108	750	10
HDR-K-100F	14	DN50	310	133	860	25
HDR-K-125	18	ZG2.5	148	125	920	13
HDR-K-125F	18	DN65	310	133	860	25
HDR-K-150	22	ZG2.5	148	125	920	14
HDR-K-200	25	DN80	379	133	1040	44
HDR-K-250	28	DN80	379	133	1140	52
HDR-K-300	35	DN100	465	219	1060	65
HDR-K-350	45	DN100	470	219	1060	68
HDR-K-400	55	DN125	513	273	1215	96
HDR-K-450	65	DN125	513	273	1215	96
HDR-K-500	85	DN150	615	325	1395	140
HDR-K-600	110	DN150	615	377	1300	145
HDR-K-650	130	DN150	615	416	1395	210
HDR-K-700	150	DN200	615	462	1470	220
HDR-K-750	180	DN200	615	462	1470	235
HDR-K-800	200	DN200	615	516	1504	240



Atmospheric Dew-Water Content Relation Table

Dew Point (°C)	Water (g/m³)	Dew Point (°C)	Water (g/m³)	Dew Point (°C)	Water (g/m³)	Dew Point (°C)	Water (g/m³)	Dew Point (°C)	Water (g/m³)
33	35.7	14	12.07	-5	3.407	-24	0.7678	-43	0.1298
32	33.8	13	11.35	-6	3.169	-25	0.7074	-44	0.1172
31	32.1	12	10.66	-7	2.946	-26	0.6463	-45	0.1055
30	30.3	11	10.01	-8	2.737	-27	0.5922	-46	0.09501
29	28.8	10	9.309	-9	2.541	-28	0.5422	-47	0.08544
28	27.2	9	8.819	-10	2.358	-29	0.496	-48	0.07675
27	25.8	8	8.27	-11	2.186	-30	0.4534	-49	0.06886
26	25.4	7	7.75	-12	2.206	-31	0.4141	-50	0.06171
25	23.1	6	7.26	-13	1.876	-32	0.3779	-51.1	0.054
24	21.8	5	6.797	-14	1.736	-33	0.3445	-53.9	0.04
23	20.6	4	6.36	-15	1.605	-34	0.3138	-56.7	0.029
22	19.4	3	5.947	-16	1.483	-35	0.2856	-59.4	0.021
21	18.3	2	5.559	-17	1.369	-36	0.2597	-62.2	0.014
20	17.3	1	5.192	-18	1.261	-37	0.2359	-65	0.011
19	16.3	0	4.847	-19	1.165	-38	0.2141	-67.8	0.008
18	15.4	-1	4.523	-20	1.074	-39	0.194	-70.6	0.005
17	14.5	-2	4.217	-21	0.9884	-40	0.1757	-73.3	0.003
16	13.6	-3	3.93	-22	0.9093	-41	0.159		
15	12.8	-4	3.66	-23	0.8359	-42	0.1438		

Conversion Chart Of Pressure Dew Point And Atmospheric Dew Point



COOPERATIVE PARTNERS



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