Compressed Air Treatment Products
Gas Generators & Purifiers

Product Catalog

Global Standard Air & Gas

GSA
Global Standard Air & Gas

WE ARE PROUD OF LEADING THE INDUSTRIAL STANDARD OF COMPRESSED AIR AND GAS SOLUTIUONS FROM 1993 YEAR !

GSA – Global Standard Air/Gas is development and manufacturing organization producing various compressed air/gas dryers, air/gas chiller, gas generators, gas purifiers, air/gas filters, condensate drains etc.

The company was founded in Korea in 1993 and restarted as GSA in 2003. Over these years, the company has earned a reputation that has a unique combination of quality, value, trust and reliability.

GSA is a very innovative, customer oriented and technology driven company. We always strive to provide world top quality products for compressed air treatment and gas generation supporting you and your business with our solutions.

In this catalogue you will find our total techniques and products of energy saving compressed air and gas solutions to help customers focus on their production at ease.

INDEX

HYD-N

Refrigerated air dryer(Non-cycling)

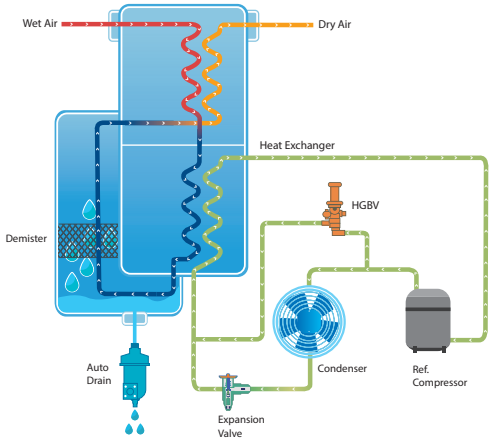
DESIGN DATA

- Fluid : Compressed Air
- Dew Point : 2~10℃ @ PDP

Inlet Pressure	7barg	Inlet Temperature	38℃
Design Pressure	14barg	Ambient Temperature	32℃

PRODUCT IMAGE

FLOW DIAGRAM



OPTION

SUS MATERIAL

HIGH PRESSUPE

Technical Specification

Model		Connection	Air compressor	Flow rate	Power consumption	Power supply	Dimension (mm)			Weight
		A	HP	㎥/min	kW	V / Ph / Hz	A	B	C	kg
HYD	5N	PT 15A	5	0.7	0.3	220 / 1 / 60	355	420	575	30
	7N	PT 15A	7	1	0.31		355	420	575	30
	10N	PT 20A	10	1.4	0.32		355	420	575	30
	15N	PT 25A	15	1.9	0.39		427	507	709	45
	20N	PT 25A	20	2.7	0.51		427	507	709	45
	30N	PT 25A	30	3.9	0.9		358	658	864	66
	50N	PT 40A	50	6.7	1.4		408	708	952	89
	75N	PT 50A	75	10.5	2.1		458	798	1045	120
	100N	PT 50A	100	14.2	2.3	380 / 3 / 60 440 / 3 / 60	458	858	1145	126
	150(W)N	PT 65A	150	21(22.5)	2.9(2.5)		565	1005	1330	172(170)
	200(W)N	FLG. 80A	200	30(32.1)	4.18(3.78)		550	1200	1447	240(230)
	250(W)N	FLG. 100A	250	39(41.7)	4.4(4)		700	1200	1580	260(250)
	300(W)N	FLG. 100A	300	47(50.3)	4.6(4.2)		700	1200	1580	270(260)
	400(W)N	FLG. 100A	400	56(59)	9.7(8.9)		900	1591	1915	600(500)
	500(W)N	FLG. 150A	500	66(70.6)	11.7(10.9)		1200	1800	1825	940(780)
	600(W)N	FLG. 150A	600	85(91)	12.7(11.9)		1200	1800	1825	1100(780)
	800(W)N	FLG. 200A	800	120	20(18.5)		1500	1900	2150	1200(950)
	900(W)N	FLG. 200A	900	140	25.45(23.2)		1800(2100)	2200	1960	1250(1,010)
	1200(W)N	FLG. 200A	1200	180	30.15(27.9)		1900(2200)	2200	1960	1400(1,300)

References

- The numbers in parentheses ( ) are specifications for water-cooled products.
- Air-cooled products over 800 N are basically external condenser type.
- The flow rate is the capacity at 60 Hz.
- Customization is possible if the electrical specifications are different.
- Custom-made over 15barg.
- Models larger than this table are also available and the specification can be changed without notice to improve quality.

FACTOR

- Inlet Pressure(barg)

Press	Factor		
4	0.77	11	1.18
5	0.86	12	1.21
6	0.93	13	1.24
7	1.00	14	1.27
8	1.05		
9	1.1		
10	1.14		

- Inlet Temperature(℃)

Temp	Factor
25	1.15
30	1.05
38	1.00
43	0.7
47	0.6
50	0.55

- Ambient Temperature(℃)

Temp	Factor
27	1.02
32	1.00
37	0.8
40	0.75
45	0.65
50	0.5

CHARACTERISTICS

- High Efficiency Aluminum Heat Exchanger
- Simple and smart controller
- Efficient separation technology of condensate
- Reliable drain trap with no compressed air loss
- Low differential pressure minimizing compressed air loss
- Maximize efficiency by using high-efficiency condenser
- Monitoring of air dryer by mobile phone (some products)

DIMENSION

HYD-EP+

Eco Pro plus+ energy saving ref, air dryer(Cycling)

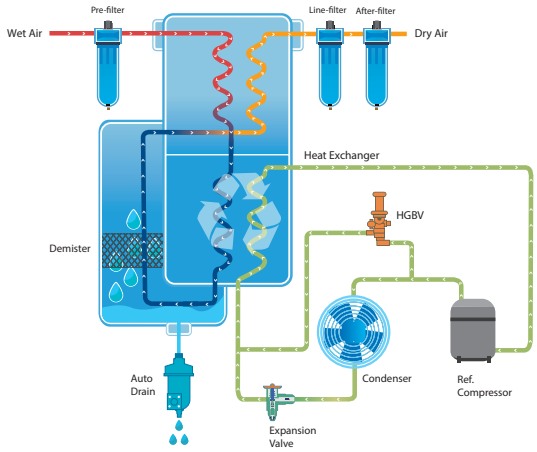
DESIGN DATA

- Fluid : Compressed Air
- Dew Point : 2~10℃ @ PDP

Inlet Pressure	7barg
Design Pressure	9barg
Inlet Temp	40℃ (Max. 60℃)
Ambient Temperature	32℃

PRODUCT IMAGE

FLOW DIAGRAM



OPTION

SUS MATERIAL

HIGH PRESSUPE

Technical Specification

	Model	Connection	Flow rate	Built-in filter		Minimum Power	Power supply	Dimension (mm)			Weight
		A	㎥/min	μm/ppm/ppm	Size	kW	V / Ph / Hz	A	B	C	kg
HYD	5EP+	PT 15A	0.7	40/1/0.1	15A	0.3	220 / 1 / 60	420	660	760	41
	7EP+	PT 15A	1	40/1/0.1	15A	0.31		420	660	760	41
	10EP+	PT 20A	1.4	40/1/0.1	20A	0.32		420	660	760	41
	15EP+	PT 25A	1.9	40/1/0.1	25A	0.39		425	825	1005	50
	20EP+	PT 25A	2.7	40/1/0.1	25A	0.51		425	825	1005	50
	30EP+	PT 25A	3.9	5/1	25A	0.9		450	870	1010	76
	50EP+	PT 40A	6.7	5/1	40A	1.4		530	1030	1135	99
	75EP+	PT 50A	10.5	5/1	40A	2.1		530	1200	1220	135
	100EP+	PT 50A	14.2	5/1	50A	2.3	380 / 3 / 60	580	1300	1365	141
	Medium to large capacity high inlet temperature dryer										
	150HT(W)	PT 65A	21	N/A		4.18 (3.78)	380, 440 / 3 / 60	550	1200	1447	220
	200HT(W)	FLG. 80A	30			4.6 (4.2)		700	1200	1580	260
	250HT(W)	FLG. 100A	39			5.5 (5.1)		800	1500	1580	340
	300HT(W)	FLG. 100A	47			5.9 (5.5)		800	1500	1580	360
	400HT(W)	FLG. 100A	56			9.7 (8.9)		1000	1900	2015	680
	500HT(W)	FLG. 150A	66			12.7 (11.9)		1200	2100	1825	980
	600HT(W)	FLG. 150A	85			14.2 (13.4)		1200	2100	1825	1200
	800HT(W)	FLG. 200A	120			25.45 (23.2)		1500	1900	2150	1250
	900HT(W)	FLG. 200A	140			30.15 (27.9)		1800(2100)	2200	1960	1320
	1200HT(W)	FLG. 200A	180			40 (37)		1900(2200)	2200	1960	1450

References

- The numbers in parentheses ( ) are specifications for water-cooled products.
- Alternative refrigerant specifications can be made.
- The flow rate is the capacity at 60 Hz.
- If the electrical specifications are different, it can be custom-made.
- Products with a pressure of 9.8 barg or higher can be custommade.
- Larger models beyond the specifications are also available.
- Specifications may be changed without notice to improve quality

FACTOR

- Inlet Pressure(barg)

Press	Factor
4	0.77
5	0.86
6	0.93
7	1.00
8	1.05
9	1.1

- EP+ Inlet Temp(℃)

Temp	Factor
35	1.05
40	1.00
45	0.7
50	0.58
55	0.48
60	0.4

- HT Inlet Temp(℃)

Temp	Factor
35	1.12
40	1.05
45	1.00
50	0.6
55	0.5
60	0.42

- Ambient Temperature(℃)

Temp	Factor
27	1.02
32	1.00
37	0.8
40	0.75
45	0.65
50	0.5

CHARACTERISTICS

- High Efficiency Aluminum Heat Exchanger
- A simple and smart controller
- Reliable drain trap with no compressed air loss
- Convenience for users
- MEPOL Pipe(Pipe made with advanced manufacturing methods)
- Low differential pressure minimizing compressed air loss
- Maximize efficiency by using high-efficiency condenser
- Monitoring of air dryer by mobile phone(some products)

DIMENSION

HYD-CH

Air & Gas chiller

OPTION

SUS MATERIAL

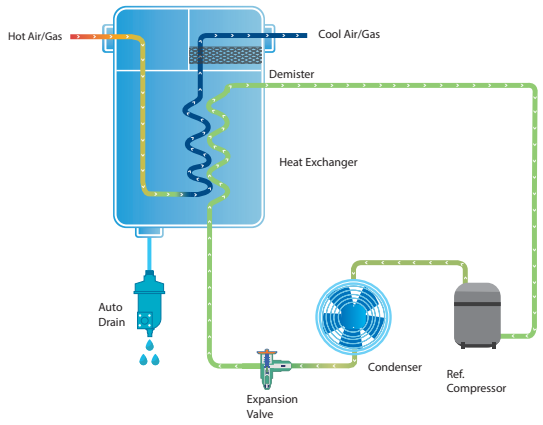
HIGH PRESSUPE

DESIGN DATA

- Fluid : Compressed Air & Gas

Inlet Pressure	7barg	Inlet Temperature	32℃
Design Pressure	14barg	Temp. Difference(⊿T)	15℃

FLOW DIAGRAM



PRODUCT IMAGE

Technical Specification

Model		Used Fluid	Connection	Flow rate	Power consumption	Power supply	Dimension (mm)			Weight
			A	㎥/min	kW	V / Ph / Hz	A	B	C	kg
HYD	5CH	Pressed Air / Nitrogen / Other Gases	PT 15A	0.5	0.32	220 / 1 / 60	245	555	755	32
	7CH		PT 15A	0.8	0.33		245	555	755	32
	10CH		PT 15A	1	0.34		245	555	755	32
	15CH		PT 25A	1.5	0.5		425	505	710	41
	20CH		PT 25A	2.6	0.58		425	505	710	41
	30CH		PT 25A	3.9	0.91		355	655	865	62
	50CH		PT 40A	6.7	1.39		405	705	955	83
	75CH		PT 50A	10.5	2.05		455	795	1045	115
	100CH		PT 50A	14.2	2.34	380 / 3 / 60 440 / 3 / 60	455	855	1145	120
	150CH		PT 65A	21.0	2.89		565	1005	1330	165
	200CH		FLG. 80A	30.0	4.18		550	1200	1450	225
	250CH		FLG. 100A	39.0	4.4		700	1200	1580	240
	300CH		FLG. 100A	47.0	4.6		700	1200	1580	245
	400CH		FLG. 100A	56.0	9.7		900	1590	1915	560

References

- It can be used to cool air and gas or for temperature control purposes(Option).
- Alternative refrigerant specifications can be made.
- The flow rate is the capacity at 60 Hz.
- If the electrical specifications are different, it can be custom-made.
- It can be custom-made with a pressure of more than 15 barg.
- Custom-made over 15barg.
- Specifications are subject to change without notice to improve quality.

FACTOR

- Inlet Pressure(barg)

Press	Factor		
4	0.77	12	1.21
5	0.86	13	1.24
6	0.93	14	1.27
7	1.00		
8	1.05		
9	1.1		
10	1.14		
11	1.18		

- Inlet Temperature(℃)

Temp	Factor
25	1.15
32	1.00
35	0.85
40	0.7
45	0.6
50	0.5

- Ambient Temperature(℃)

Temp	Factor
27	1.02
32	1.00
37	0.8
40	0.75
45	0.65
50	0.5

CHARACTERISTICS

- High Efficiency Aluminum Heat Exchanger
- A smart controller incorporating a variety of the latest technologies
- Reliable drain trap with no compressed air loss
- Outlet temperature control function(Option)
- Low differential pressure minimizing compressed air loss
- Maximize efficiency by using high-efficiency condenser
- Monitoring of air dryer by mobile phone (some products)

DIMENSION

PHL

Heatless desiccant air dryer

OPTION

DEW POINT METTER · OVER SIZE · SUS MATERIAL · HIGH PRESSUPE

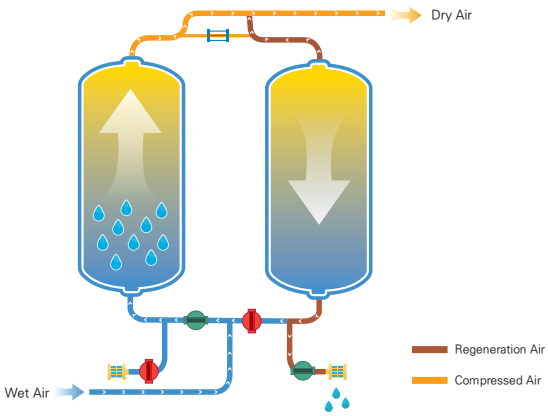
DESIGN DATA

- Fluid : Compressed Air
- Dew Point : −40℃ @ ATM
- Inlet air conditions : ISO 8573.1:2010 Class 4.4.1

Inlet Pressure	7barg
Design Pressure	9.7barg
Differential Pressure	0.2bar

Inlet Temperature	38℃
Ambient Temperature	32℃

FLOW DIAGRAM



PRODUCT IMAGE

Technical Specification

Model		Connection	Flow rate	Power consumption	Power supply	Dimension (mm)			Amount of adsorbent	Weight
		A	㎥/hr	W	V / Ph / Hz	A	B	C	Kg/2Tower	kg
SHL	5	PT 15A	10	50	220 / 1 / 60	500	225	745	3	23
	10	PT 15A	20			500	225	745	4	27
	15	PT 15A	25			500	225	745	7	36
	20	PT 15A	35			500	225	745	10	46
PHL	25	PT 20A	45			840	305	1075	15	102
	50	PT 20A	85			840	305	1600	25	136
	75	PT 20A	130			1150	435	1665	40	160
	100	PT 25A	170			1150	435	1830	50	250
	125	PT 25A	215			1150	435	1830	60	260
	150	PT 25A	255			1150	435	1830	65	272
	200	PT 40A	340			1150	485	1830	90	306
	250	PT 40A	425			1270	550	1780	125	405
	350	PT 40A	595			1270	585	1870	175	473
	500	PT 50A	870			1400	670	2160	250	650
	650	PT 50A	1110			1400	670	2380	325	720
	800	FLG. 65A	1360			1500	1100	2600	400	900
	1000	FLG. 80A	1700			1500	1100	2610	500	1125
	1200	FLG. 80A	2040			1800	940	2390	595	1305
	1400	FLG. 80A	2380			1800	940	2650	700	1575
	1600	FLG. 100A	2720			2000	1000	2830	800	1755
	1800	FLG. 100A	3060			2000	995	2830	860	2205
	2000	FLG. 100A	3400			2000	1095	2820	1000	2340

References

- Even under − 40℃ dew point units can be custom−made.
- ASME or standards other than KS can be custom−made.
- Products with a design pressure of 9.8 barg or higher are custom−made.
- Customized−engineering products without this table are also available.
- Specifications are subject to change without notice to improve product performance and quality.

FACTOR

- Inlet Pressure(barg)

Press	Factor
4	0.6
5	0.72
6	0.87
7	1.00
8	1.1
9	1.15

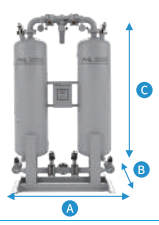
- Inlet Temperature(℃)

Temp	Factor
25	1.12
30	1.05
38	1.00
45	0.7
50	0.55

CHARACTERISTICS

- Controllers capable of controlling process time
- Easy maintenance through manual operation of controller that can control process time
- Use high−quality adsorbent with the proven performance of air filter/safety valve for control
- Use high−quality automatic valves with proven performance
- Minimize noise with high−quality silencers
- Up to −100℃ low dew point available(optional)

DIMENSION



PEH

Heated purge desiccant air dryer

OPTION

- DEW POINT METTER
- OVER SIZE
- SUS MATERIAL
- HIGH PRESSUPE

DESIGN DATA

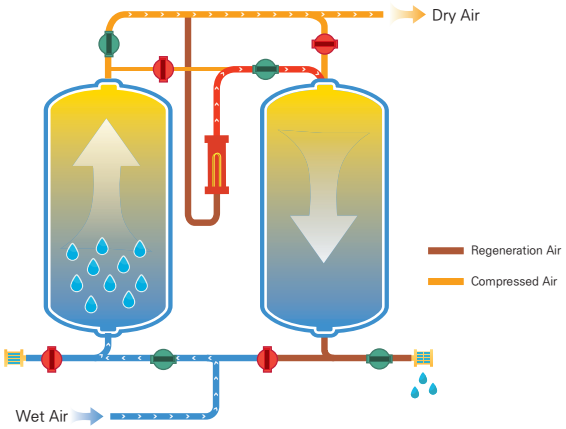
- Fluid : Compressed Air
- Dew Point : −40 ℃ @ ATM
- Inlet air conditions : ISO 8573.1:2010 Class 4.4.1

Inlet Pressure	7barg
Design Pressure	9.7 barg
Differential Pressure	0.2 bar

Inlet Temperature	38℃
Design Temperature)	250℃

PRODUCT IMAGE

FLOW DIAGRAM



Technical Specification

Model		Connection	Flow rate	Heater	Power supply	Dimension (mm)			Amount of adsorbent	Weight
		A	㎥/hr	kW	V / Ph / Hz	A	B	C	kg/2Tower	kg
PEH	100	FLG. 25A	150	3	380 / 3 / 60	870	870	1930	90	300
	150	FLG. 40A	250	3.4		970	900	1890	110	350
	200	FLG. 40A	370	4		970	900	2050	170	700
	285	FLG. 40A	495	4.5		1150	1000	2250	210	750
	350	FLG. 50A	660	6		1150	1000	2540	280	900
	430	FLG. 50A	870	9		1150	1000	2580	390	1000
	560	FLG. 65A	1050	9		1250	1100	2670	460	1300
	720	FLG. 65A	1380	10.8		1450	1100	2705	520	1500
	900	FLG. 80A	1680	13.5		1450	1100	2710	700	1800
	1100	FLG. 80A	1950	15		1600	1400	2750	860	2200
	1350	FLG. 80A	2280	18		1700	1400	2800	1000	2600
	1550	FLG. 100A	2950	28.8		1900	1400	2900	1050	3000
	2100	FLG. 100A	3700	33		2300	1400	2960	1560	4200
	2500	FLG. 125A	4550	36		2500	1600	3250	2000	4800
	3000	FLG. 150A	5400	44		2500	1600	3150	2100	5200
	4100	FLG. 150A	6600	56		3000	2000	3250	2900	6000
	4500	FLG. 150A	7500	62		3000	2000	3250	3200	6300
	5400	FLG. 150A	8500	70		3200	2000	3300	3780	6800
	6000	FLG. 200A	10500	85		3900	2300	3430	4200	7500
	7000	FLG. 200A	12000	100		4600	2130	3150	4900	9000
	9000	FLG. 250A	15000	110		5000	2500	3150	6400	10000

References

- Even under − 40℃ dew point units can be custom−made.
- ASME or standards other than KS can be custom−made.
- Products with a design pressure of 9.8 barg or higher are custom−made.
- Customized−engineering products without this table are also available.
- Specifications are subject to change without notice to improve product performance and quality.

FACTOR

- Inlet Pressure(barg)
- Inlet Temperature(℃)

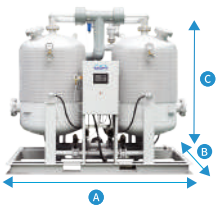
Press	Factor
4	0.60
5	0.72
6	0.87
7	1.00
8	1.1
9	1.15

Temp	Factor
25	1.12
30	1.05
38	1.00
45	0.7
50	0.55

CHARACTERISTICS

- Using the pan/dual check Valve
- Control air filter
- Minimize purge air loss
- Safety valve
- High−quality pressure gauges are applied
- PLC and touch panel
- Use of high−quality adsorbent
- Parker pneumatic solenoid valve
- High−quality silencer attachment
- Reliable automatic valve
- An electric heater
- Efficient compressed air distribution system

DIMENSION



PEHB

Heated blower purge desiccant air dryer

OPTION

DEW POINT METTER · OVER SIZE · SUS MATERIAL · HIGH PRESSUPE

DESIGN DATA

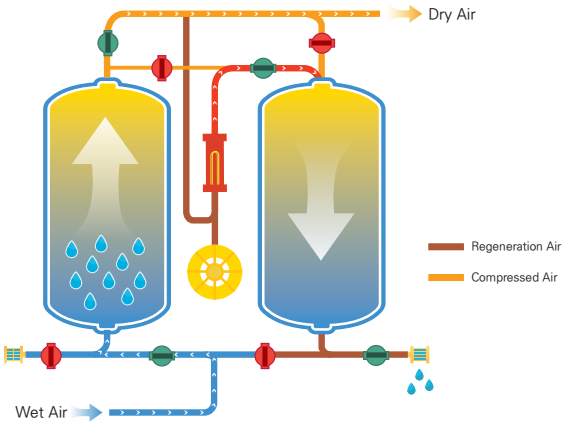
- Fluid : Compressed Air
- Dew Point : −40 ℃ @ ATM
- Inlet air conditions : ISO 8573.1:2010 Class 4.4.1

Inlet Pressure	7barg
Design Pressure	9.7barg
Differential Pressure	0.2 bar

Inlet Temperature	38℃
Design Temperature	250 ℃

PRODUCT IMAGE

FLOW DIAGRAM



Technical Specification

Model		Connection	Flow rate	Heater	Blower	Power supply	Dimension (mm)			Amount of adsorbent	Weight
		A	㎥/hr	kW	kW	V / Ph / Hz	A	B	C	kg/2Tower	kg
PEHB	150	FLG. 40A	250	3.4	1.5	380 / 3 / 60	970	1100	1890	110	500
	200	FLG. 40A	370	4	1.75		970	1100	1990	170	650
	285	FLG. 40A	495	4.5	1.75		1150	1200	2240	210	900
	350	FLG. 50A	660	7.5	1.75		1150	1200	2540	280	1000
	430	FLG. 50A	870	9	1.75		1150	1200	2570	390	1200
	560	FLG. 65A	1050	10	3		1250	1300	2670	460	1500
	720	FLG. 65A	1380	12	3		1450	1400	2700	520	1800
	900	FLG. 80A	1680	15	3		1450	1400	2705	700	2000
	1100	FLG. 80A	1950	18	6.3		1700	1600	2750	860	2400
	1350	FLG. 80A	2280	20.4	6.3		1700	1700	2850	1000	2900
	1550	FLG. 100A	2950	28.5	7.5		1900	1700	2950	1050	3400
	2100	FLG. 100A	3700	33	9		2400	1800	2990	1560	4000
	3000	FLG. 150A	5400	44	13		2500	1950	3250	2100	4800
	4100	FLG. 150A	6600	56	15		3200	2300	3250	2900	6000
	4500	FLG. 150A	7500	62	15		3200	2400	3250	3200	6500
	5400	FLG. 150A	8500	70	20		3200	2500	3300	3780	7300
	6000	FLG. 200A	10500	85	22		3400	2500	3430	4200	8100
	7000	FLG. 200A	12000	100	27		3600	2500	3430	4900	10300
	9000	FLG. 250A	15000	110	30		4000	3000	3430	6400	12300

References

- Even under − 40℃ dew point units can be custom−made.
- ASME or standards other than KS can be custom−made.
- Products with a design pressure of 9.8 barg or higherare custom−made.
- Customized−engineering products without this table are also available.
- Specifications are subject to change without notice to improve product performance and quality.

FACTOR

- Inlet Pressure(barg)

Press	Factor
4	0.6
5	0.72
6	0.87
7	1.00
8	1.1
9	1.15

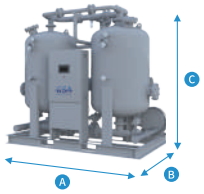
- Inlet Temperature(℃)

Temp	Factor
25	1.12
30	1.05
38	1.00
45	0.7
50	0.55

CHARACTERISTICS

- Using the pan/dual check valve
- Control air filter
- Minimize purge air loss
- Safety valve
- Use of high−quality adsorbent
- Using a high−quality pressure/ temperature gauge
- PLC and touch panel
- Electric heater
- High−quality ring blower
- High−quality silencer attachment
- Reliable automatic valve
- Efficient compressed air distribution system
- Parker pneumatic solenoid valve

DIMENSION



ZEHB

Zero purge loss desiccant air dryer

DESIGN DATA

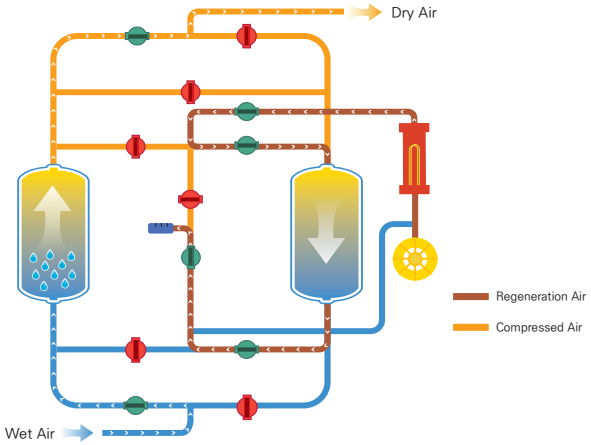
- Fluid : Compressed Air
- Dew Point : −40 ℃ @ ATM
- Inlet air conditions : ISO 8573.1:2010 Class 4.4.1

Inlet Pressure	7barg
Design Pressure	9.7 barg
Differential Pressure	0.2 bar

Inlet Temperature	38℃
Design Temperature	250℃

PRODUCT IMAGE

FLOW DIAGRAM



OPTION

DEW POINT METTER · OVER SIZE · SUS MATERIAL · HIGH PRESSUPE

Technical Specification

Model		Connection	Flow rate	Air compressor	Heater	Blower	Power supply	Dimension (mm)			Amount of absorbent	Weight
		A	㎥/hr	HP	kW	kW	V / Ph / Hz	A	B	C	kg/2Tower	kg
ZEHB	430	FLG. 40A	680	75	8.5	1.5	220V/380V 440V 1Ph 50/60Hz	1900	900	2030	324	1440
	560	FLG. 50A	890	100	11.0	1.75		2100	1000	2230	406	1700
	720	FLG. 50A	1140	130	14.0	2.55		2100	1000	2230	474	2060
	900	FLG. 65A	1430	150	17.5	2.55		2600	1250	2400	592	2200
	1100	FLG. 65A	1740	175	21.5	4.5		2600	1250	2400	755	2470
	1350	FLG. 80A	2140	200	26.5	4.5		2600	1670	2330	943	2690
	1550	FLG. 80A	2450	250	30.0	4.5		2600	1710	2330	1,022	3100
	2100	FLG. 100A	3320	300	41.0	8.6		3100	1650	2445	1,384	4090
	2600	FLG. 100A	4120	400	50.5	8.6		3400	1970	2290	1,848	4700
	3000	FLG. 125A	4750	500	58.5	12.6		3550	1970	2290	1,980	5860
	3400	FLG. 125A	5380	600	66.0	12.6		3650	2140	2530	2,272	7400
	4100	FLG. 125A	6490	700	80.0	15.3		3650	2180	2530	2,707	8200
	4500	FLG. 150A	7120	800	87.5	22.7		5700	2100	2960	3,055	9600
	5400	FLG. 150A	8550	900	105.0	22.7		5700	2100	2960	3,566	11400
	6000	FLG. 150A	9500	1000	117.0	22.7		6000	2150	3000	4,052	12300
	7000	FLG. 200A	11080	1200	136.0	25.2		7000	2200	3500	4,621	13500
	8000	FLG. 200A	12660	1300	155.5	30.6		7000	2500	3700	5,279	14700
	9000	FLG. 200A	14520	1600	175.0	37.0		7000	2500	3700	5,942	15600

References

- Even under − 40℃ dew point units can be custom−made.
- ASME or standards other than KS can be custom−made.
- Products with a design pressure of 9.8 barg or higher are custom−made.
- Customized−engineering products without this table are also available.
- Specifications are subject to change without notice to improve product performance and quality.

FACTOR

- Inlet Pressure(barg)
- Inlet Temperature(℃)

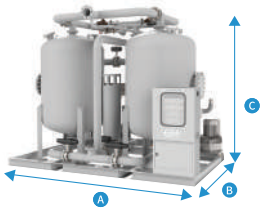
Press	Factor
4	0.60
5	0.72
6	0.87
7	1.00
8	1.1
9	1.15

Temp	Factor
25	1.12
30	1.05
38	1.00
45	0.7
50	0.55

CHARACTERISTICS

- Using the pan/dual check Valve
- Minimize purge air loss
- Safety valve
- Control air filter
- Use of high−quality adsorbent
- Using a high−quality pressure/ temperature gauge
- PLC and touch panel
- High quality ring blower
- An electric heater
- Parker Pneumatic Solenoid Valve
- High quality ring blower
- Power regulator(if applicable)
- Reliable automatic valve
- Efficient compressed air distribution System
- High−quality silencer attachment

DIMENSION



PMD

Membrane Dryer

DESIGN DATA

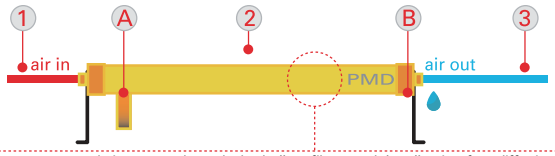
- Fluid : Compressed Air
- Dew Point : -20℃ @ ATM

Inlet Pressure	7barg
Design Pressure	9.7barg
Differential Pressure	0.2bar

Inlet Temperature	25℃ ~ 30℃
Max. Inlet Temperature	60℃
Purge Flow Rate	10% ~ 20%

PRODUCT IMAGE

FLOW DIAGRAM



Moist compressed air passes through the hollow fiber module, allowing fast diffusion and rapid passage of moisture to escape from the hollow fiber, removing moisture from the compressed air and discharging it through the silencer with purge air

Moisture – Hydrogen – Helium – Carbon dioxide – Oxygen – Argon – Carbon
Fast passing speed ← → Slow passing speed

Hollow fiber
Made of Polysulfone, a highly functional engineering plastic, with a hollow tube-shaped thin fiber made from polymers.

1. Wet compressed air is introduced through the inlet cap.
2. Dry moist compressed air as it passes through the hollow fiber module installed in the housing.
3. Drain the dried air through the outlet cap.
A. Part of the dried compressed air (approximately 20%) flows along the hole machined in the outlet cap through the exterior of the hollow installed in the housing and is discharged through the silencer along with the moisture penetrated into the surface of the hollow.
B. You can adjust the purge air volume with the needle valve installed in the outlet cap.

OPTION

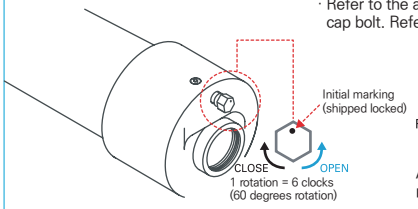
OVER SIZE

Model	Connection	Air compressor	Flow rate	Dimension (mm)		Weight
	A	HP	ℓ/min	A	B	kg
PMD-135	PT 15A	1	135	220	75	1.0
PMD-240	PT 15A	2	240	360	75	1.3
PMD-370	PT 15A	3	370	470	75	1.6
PMD-600	PT 15A	5	600	590	75	2.0

1. All specification can be changed to improve the quality without notice.
2. Exceptional models of this brochure are optional.(Package)

How to control the amount of PDM purge

· Refer to the adjustment figure and adjust the six corners of the adjustment valve by rotating them 60 degrees relative to the outlet cap bolt. Refer to the table below for purge flow rates per 60-degree rotation.



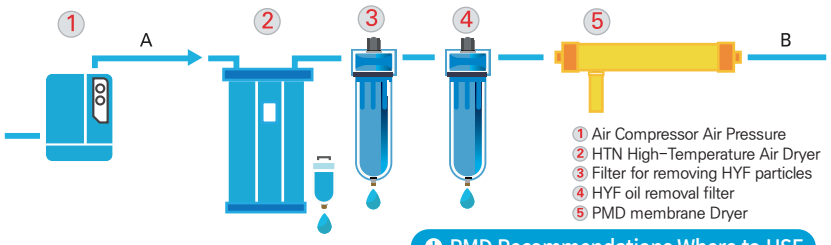
Revolution	0	1/6	2/6	3/6	4/6	5/6	1
Angle of rotation(°)	0	60	120	180	240	300	360
Purge flow rate(LPM)	22	24	26	28	30	32	34

Example) Valve adjustment by the model (20% purge standard)

MODEL	Purge flow rate(LPM)	Angle of rotation(°)
PMD-135	27	180
PMD-240	48	500
PMD-370	74	600
PMD-600	120	840

PMD Recommendation System

A Wet compressed air without removing moisture and foreign substances.
B Clean compressed air with moisture and foreign substances removed.



1. Air Compressor Air Pressure
2. HTN High-Temperature Air Dryer
3. Filter for removing HYF particles
4. HYF oil removal filter
5. PMD membrane Dryer

FACTOR

If the conditions of use are different, the change in the treatment flow rate according to the condition can be multiplied by the number below.

- Inlet Pressure(barg)

Press.	Factor
4.0	0.55
5.5	0.75
7.0	1.00
8.5	1.20
9.5	1.35

*If the PMD135 model is used, the treatment flow rate is 135l/min when the inlet pressure is 7barg, and if the inlet pressure is 8.5barg, multiply by the calibration factor of 1.2 to calculate the treatment.

PMD Recommendations Where to USE

- Low stall instrument air
- Pneumatic equipment
- Clean air for lab
- Ultra-precise measurement and analysis equipment
- Medical(Dental use)
- Prevention of Freezing
- Drying of powder
- CDA(Clean Dried Air)

PMD Features

- It operates immediately, making it easy to use
- High-clean dry air can be produced continuously
- It's environmentally friendly
- Installation location restrictions are small
- Energy consumption is low due to low electricity usage
- There is no additional maintenance other than replacing the shear filter
- The highest quality Hosing case was used

DIMENSION

Combination Air Dryer

GCBD Series

DESIGN DATA

- Fluid : Compressed Air

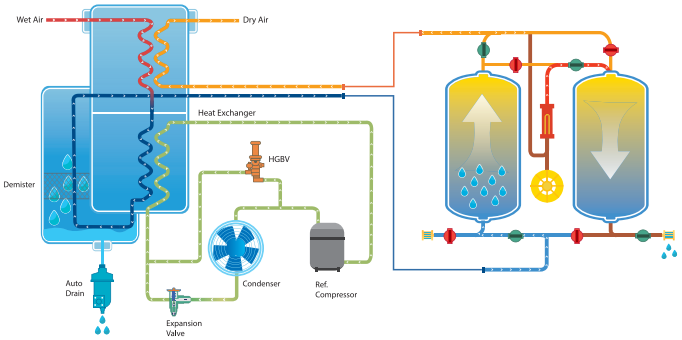
Inlet Pressure	7barg	Inlet Temperature	38℃
Design Pressure	9.7 barg	Dew Point	-40℃
Differential Pressure	0.4 bar		

OPTION

DEW POINT METTER · OVER SIZE · SUS MATERIAL · HIGH PRESSUPE

PRODUCT IMAGE

FLOW DIAGRAM



Combination Air Dryer?

Our GCBD combination air dryer is composed of a specially designed refrigerated air dryer and an adsorption air dryer effectively removing moisture contained in compressed air. It is a high-efficiency, low-cost, eco-friendly dryer that reduces operating costs by increasing product performance and efficiency by configuring the system to operate in a complementary manner rather than installing each product individually.

Technical Specification

No.	Description		Specification	Unit	Remark
1	Design Conditions	Air Flow Capacity	2,800 ~ 20,000	㎥/hr	
2		Inlet Air Pressure	7	barg	
3		Inlet Air Temperature	38	℃	
4		Total Pressure Drop	0.4	bar	
5	Combination Air Dryer Composition	Combination Ref. Air Dryer	GCRD Series	-	
		Water Separator	HYS Series	-	
		Combination Desiccant Air Dryer	GCBD Series	-	
6	Outlet Dew Point	Summer Season	4 ~ 10	℃	
		Winter Season	-40	℃	

Energy saving technology

GSA's combination air dryer can save energy by up to approximately 70% compared to using a heatless regenerative adsorption dryer alone, and up to 55% compared to a heated regenerative adsorption dryer.

- The regenerative heater of the adsorption dryer consumes less electricity, and in the case of the zero purge type, there is no regenerative air consumption, reducing operating costs.
- The adsorbent replacement cycle is long and the amount of adsorbent is small, reducing costs when replacing the adsorbent.
- Stable dew point guaranteed by combination with specially designed refrigerated dryer.

GSA's combination air dryer is the best solution for realizing carbon neutrality by saving energy and increasing efficiency.

HYF

Compressed air filter

DESIGN DATA

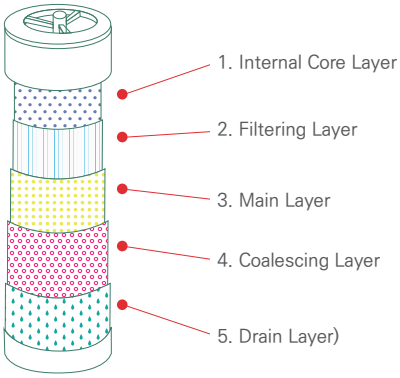
- Fluid : Compressed Air

Inlet Pressure	7barg
Design Pressure	9.7 barg
Differential Pressure	0.2 bar

Max. Inlet Temperature	60℃
Min. Inlet Temperature	5℃

PRODUCT IMAGE

FLOW DIAGRAM



OPTION

DPI, OVER SIZE, SUS MATERIAL, HIGH PRESSUPE

Filter Elements

Model		Particle removal	Oil Removal (@ 20˚C)	Max operating Temp	Differential Pressure (barg)		Differential pressure indicator (replacement of element)		Elements	
				℃	Dry	Wet	DPI Color	Month	Colour	Material
H Y E	40	40 Micron	-	65	0.05	0.15	RED	6	White	Polyethylene
	5	5 Micron	-		0.05	0.15			White	Polyethylene
	1	1 Micron	1 ppm	54	0.15	0.3			Red	Borosilicate
	0.1	1 Micron	0.1 ppm		0.15	0.3			White	Borosilicate
	0.01	1 Micron	0.01 ppm		0.15	0.3			Yellow	Borosilicate
	0.003	-	0.003 ppm		0.1	0.2			White	Activated Carbon

Filter

Model		Flow rate		Max Pressure	Connection	Quantity of element	Dimension	Weight
		㎥/min	CFM	barg	A	EA	(A x B) mm	kg
H Y F	15AN	0.8	28	13	PT 15A	1	85 x 185	0.8
	20AN	1.7	60		PT 20A	1	85 x 225	1
	25AN	3.4	120		PT 25A	1	105 x 330	1.9
	40AN	10	353		PT 40A	1	165 x 440	5.5
	50AN	14	494		PT 50A	1	165 x 540	6.5
	65A	28	989	9.7	FLG. 65A	2	550 x 1143	88
	80A	42	1483		FLG. 80A	3	550 x 1143	103
	100A	70	2472		FLG. 100A	5	600 x 1180	120
	125A	84	2966		FLG. 125A	6	700 x 1251	170
	150A	112	3955		FLG. 150A	8	700 x 1251	180
	200A	196	6922		FLG. 200A	11	1000 x 2367	300
	250A	330	11654		FLG. 250A	19	1200 x 2705	400

High-pressure filter

Model		Flow rate		Max Pressure	Connection	Quantity of element	Dimension	Weight
		㎥/min	CFM	barg	A	EA	(A x B) mm	kg
H Y F	15H	1	35	35.0	PT 15A	1	106 x 340	17
	20H	1.9	67		PT 20A	1	106 x 390	19
	25H	3.4	120		PT 25A	1	106 x 510	21
	40H	10	353		PT 40A	1	144 x 700	25
	50H	14	494		PT 50A	1	185 x 925	28

References

- Special pressure or stainless steel is custom made.
- The filter support is a standard for HYF-125A or bigger models.
- HYE - XX - 50A (bolt type) is applied to the element of HYF-65A or higher, and the quantity varies depending on the model, so please check the quantity before ordering.
- Filter nomenclature
  - Filter Model : HYF-40-15AN(filter - filtering rate - connection diameter)
  - Element Model : HYE-40-15AN(Element - filtering rate - Connection Diameter)

GS

Air Receiver Tank

DESIGN DATA

- Fluid : Compressed Air

Inlet Pressure 7barg

Design Temperature 100℃

PRODUCT IMAGE

CALCULATION FORMULA

- Air Receiver Tank Calculation Formula

V Receiver tank capacity m^3

t Interval in second to use over flowed compressed air min

Q_1 Required air volume m^3

Q_2 Compressor oulet air volume m^3

P_1 Compressor oulet pressure $kg/cm^2(a)$

P_2 Receiver tank pressure $kg/cm^2(a)$

P_3 Receiver outlet pressure $kg/cm^2(a)$

$$V = \{ P1 \times (Q1 - Q2) \times t \} / (P2 - P3)$$

OPTION

DRAIN TRAP, OVER SIZE, SUS MATERIAL, HIGH PRESSUPE

Technical Specification

	Model	Capacity	Connection	O.D.	Height (H)	Anchor Hole	Weight
		m^3	A	mm	mm	mm	kg
GS	0003A	0.3	25A	609	1,450	16	150
	0005	0.5	40A	660	1,770	16	210
	001	1	50A	916	1,908	16	400
	0015	1.5	50A	1,013	2,246	16	560
	002	2	65A	1,150	2,358	20	832
	0025	2.5	80A	1,284	2,559	20	970
	003	3	80A	1,299	2,720	20	1,300
	0042	4	100A	1,489	2,820	20	1,500
	005	5	100A	1,504	3,437	20	1,750
	0061	6	150A	1,626	3,460	22	2,500
	007	7	150A	1,626	4,078	22	2,700
	008	8	150A	1,606	4,580	22	3,000
	010	10	200A	1,878	4,287	24	3,100
	012	12	200A	1,960	4,657	24	3,800
	013	13	200A	2,134	4,300	24	4,000
	016	16	250A	2,480	4,025	24	5,000

References

- ASME specifications other than KS specifications can also be custom-made.
- High-pressure products with high design pressure can also be custom-made.
- Customized-engineering products without this table are also available.
- Specifications are subject to change without notice to improve product performance and quality.

Need for receiver tanks

- Reduce management costs of air compressors by reducing the load and no load cycles of air compressors.
- By temporarily storing hot air discharged from the air compressor and naturally cooling the compressed air, condensate is discharged and the load on the rear end facility is reduced.
- Minimize pressure fluctuations that affect the production process or quality.
- Securing the stability of the production process according to emergency situations.

HAD

Condensate Drain and others

Condensate discharge device(Drain)

A Condensate discharge device is essential apparatus designed to prevent system failure, extend the life of the equipment and prevent a product defect by periodically discharging condensate which is produced during dehumidification of compressed air.

HAD-30

TECHNICAL DATA	
Operating Temp	2~60°C
Operating Press	0.5~16barg
Type	Ball
Inlet Connection	PT 15A
Outlet Connection	PT 6A
Dimension(D x H, mm)	81Φ x 132
Weight	0.5 kg

HAD-100

TECHNICAL DATA	
Operating Temp	2~60°C
Operating Press	0.5~16barg
Type	Disk
Inlet Connection	PT 15A
Outlet Connection	PT 15A
Dimension(D x H, mm)	86Φ x 175
Weight	0.8 kg

EDV-15T / 40T

TECHNICAL DATA	
Operating Temp	2~60°C
Operating Press	0~15barg
Type	Elec. Timer
Inlet Connection	PT 15A
Outlet Connection	PT 15A
Dimension(D x L x H, mm)	95 x 90 x 102
Weight	0.6 kg

DM Series

TECHNICAL DATA	
Operating Temp	2~80°C
Operating Press	0.8~16barg
Type	Level Sensing
Inlet Connection	PT 15A
Outlet Connection	PT 10A
Dimension(D x L x H, mm)	165 x 80 x 155
Weight	1.3 kg

Differential Pressure Gauge

Indicate differential pressure by detecting pressure at the inlet and outlet of the filter and allows a user to check when a filter element should be replaced.

HDI30

TECHNICAL DATA	
Operating Temp	2 ~ 60 °C
Operating Press	Max. 16 barg
Green Area	0 ~ 0.6 bar
Red Area	0.6 ~ 0.9 bar
Mounting Bolt	M5
Dimension(D x L x H , mm)	40 x 40 x 35
Weight	0.03 kg

Desiccant

A desiccant used includes carbon molecular sieve (CMS) and zeolite molecular sieve (ZMS) for nitrogen and oxygen production, including activated alumina needed to dehumidify compressed air.

Activated Alumina

PACKING	
Desiccant Size [mm]	4 ~ 6
Small Packing	20 kg
Large Packing	1000 kg

Carbon Molecular Sieve

PACKING	
Desiccant Size [mm]	Pellet
Small Packing	40 kg
Large Packing	137 kg

Zeolite Molecular Sieve

PACKING	
Desiccant Size [mm]	3A/4A/5A/13X
Small Packing	40 kg
Large Packing	120 kg

N_2 PSA

Nitrogen Generator

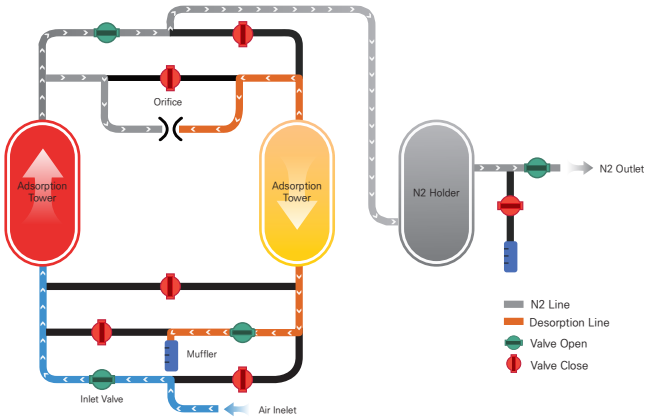
DESIGN DATA

● Fluid : Compressed Air

Inlet Pressure	7barg	Inlet Temperature	5℃ ~ 45℃
Design Pressure	9.7barg	Ambient Temperature	20℃
Comp. Air Quality	ISO8573-1 class 1-4-1		
Performance	±5%		

PRODUCT IMAGE

FLOW DIAGRAM



OPTION

FLOW METER · TOUCH SCREEN · O2 ANALYSOR · HIGH PRESSUPE

Technical Specification

Nitrogen Capacity (m^3/h)														
95% (1.5N)	9.3	16.2	23.6	37.9	55.0	67.4	82.7	100.4	145.8	228.5	301.5	409.3	479.8	648.3
97% (1.7N)	8.6	14.9	21.7	34.9	50.7	62.1	76.1	92.5	134.2	210.4	277.5	376.8	441.7	596.8
98% (1.8N)	8.1	14.2	20.7	33.2	48.3	59.1	72.4	88.0	127.6	200.14	264.0	358.4	420.1	567.7
99% (2N)	7.4	12.9	18.8	30.2	43.9	53.7	65.9	80.0	116.1	182.0	240.1	326.0	382.1	516.3
99.50% (2.5N)	6.7	11.7	17.1	27.5	40.0	48.9	60.0	72.9	105.8	165.8	218.7	297.0	348.1	470.4
99.90% (3N)	5.4	9.5	13.8	22.1	32.2	39.4	48.4	58.7	85.2	133.6	176.3	239.4	280.6	379.1
99.95% (3.5N)	4.6	8.0	11.6	18.6	27.0	33.1	40.6	49.3	71.5	112.2	147.9	200.9	235.5	318.2
99.99% (4N)	3.8	6.7	9.7	15.6	22.7	27.7	34.0	41.3	60.0	94.1	124.1	168.5	197.5	266.8
99.999% (5N)	2.6	4.6	6.7	10.8	15.7	19.2	23.5	28.6	41.5	65.1	85.9	116.6	136.7	184.7

Dimensions (mm)														
L	2,200	2,600	2,800	3,000	3,500	3,600	3,700	3,800	4,100	4,900	5,300	6,000	6,200	6,400
W	1,300	1,450	1,750	2,100	2,300	2,450	2,450	2,550	2,700	3,300	3,600	4,100	4,400	4,600
H	2,050	2,050	2,050	2,100	2,100	2,100	2,300	2,350	2,650	2,700	2,800	3,200	3,250	3,300

Required Compressed Air (m^3/h)														
Capa.	19	33	48	77	112	137	168	204	296	464	612	831	974	1,316

References

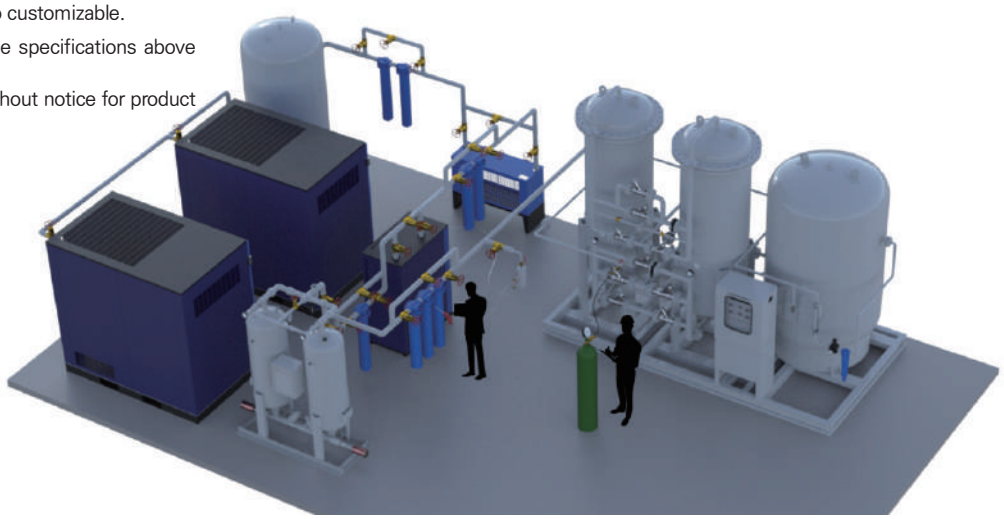
- Models under membrane type as well as PSA are also customizable.
- Models under ASME in addition to KS are also customizable.
- Large models bigger than those stated in the specifications above are also customizable.
- The Specifications are subject to changes without notice for product improvement.

Nomenclature

GNG – XX – XXX

Purity

Product Flow Rate



O_2 PSA

Oxygen Generators

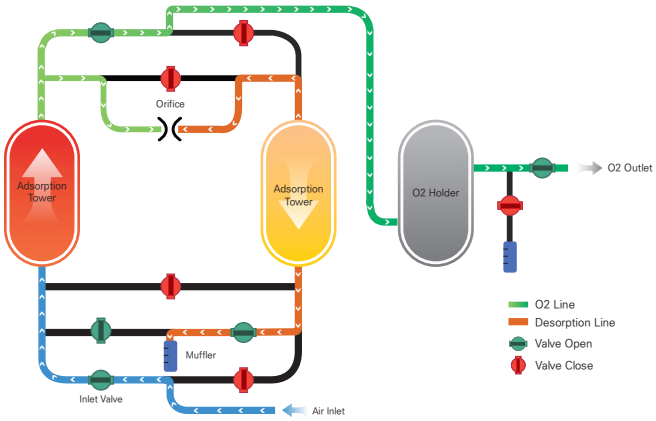
DESIGN DATA

- Fluid : Compressed Air

Inlet Pressure	7barg	Inlet Temperature	5℃ ~ 45 ℃
Design Pressure	9.7barg	Ambient Temperature	20℃
Comp. Air Quality	ISO8573-1 class 1-4-1		
Performance	±5%		

PRODUCT IMAGE

FLOW DIAGRAM



OPTION

FLOW METER · TOUCH SCREEN · O2 ANALYSOR · HIGH PRESSUPE

Technical Specification

Oxygen Capacity (m³/h)														
90%	1.7	2.9	4.3	6.8	9.9	12.1	14.9	18.1	26.2	41.1	54.2	73.7	86.3	116.6
93%	1.5	2.7	3.9	6.3	9.1	11.1	13.6	16.6	24.0	37.7	49.7	67.5	79.1	106.9
95%	1.4	2.5	3.6	5.8	8.4	10.3	12.6	15.3	22.2	34.8	46.0	62.4	73.2	98.9

Dimensions (mm)														
L	2,100	2,400	2,650	2,850	3,300	3,400	3,550	3,650	4,000	4,700	5,100	5,800	6,000	6,200
W	1,200	1,350	1,600	1,950	2,150	2,350	2,400	2,500	2,600	3,100	3,500	4,000	4,250	4,500
H	2,000	2,050	2,100	2,100	2,100	2,100	2,200	2,230	2,540	2,600	2,700	3,000	3,150	3,300

Required Compressed Air (m³/h)														
Capa.	19	33	48	77	112	137	168	204	296	464	612	831	974	1,316

Components

Power consumption (kW)														
Air Comp.	4	5.5	7.5	11	15	18	22	27	37	55	75	90	110	150
Ref. Dryer	0.46	0.62	0.68	0.72	1.3	1.3	1.6	1.6	2.1	2.3	3.0	4.6	5.1	8.5
Oxy. Gener.	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Total	5.46	7.12	9.18	12.72	17.3	20.3	24.6	29.6	40.1	58.3	79.0	95.6	116.1	159.5

References

- Models under VSA as well as PSA are also customizable.
- Models under ASME in addition to KS are also customizable.
- Large models bigger than those stated in the specification above are also customizable.
- The specifications are subject to changes without notice for product improvement.

Nomenclature

GOG – XX – XXX

- XX: Purity
- XXX: Product Flow Rate

H_2 Dryer

Hydrogen dryer/DEOXO equipment

DESIGN DATA

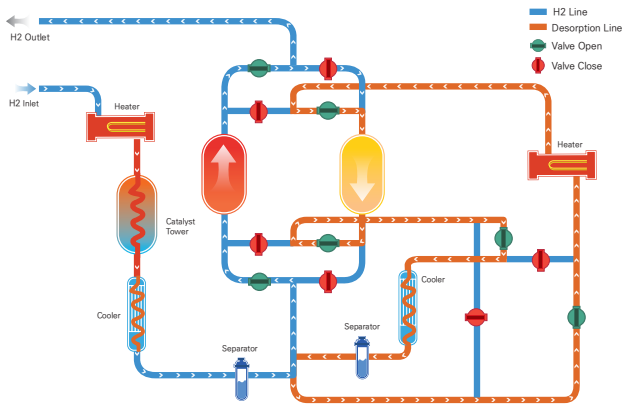
- Fluid : Hydrogen

Inlet Pressure	7barg	Inlet Temperature	40℃
Design Pressure	9.7barg	Design Temperature	250℃
Max.Pressure Drop	0.4bar		

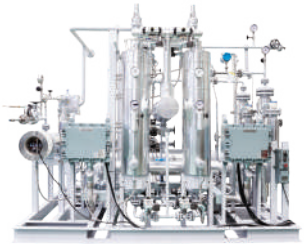
OPTION

FLOW METER, TOUCH SCREEN, DETEC TOR, HIGH PRESSUPE

FLOW DIAGRAM

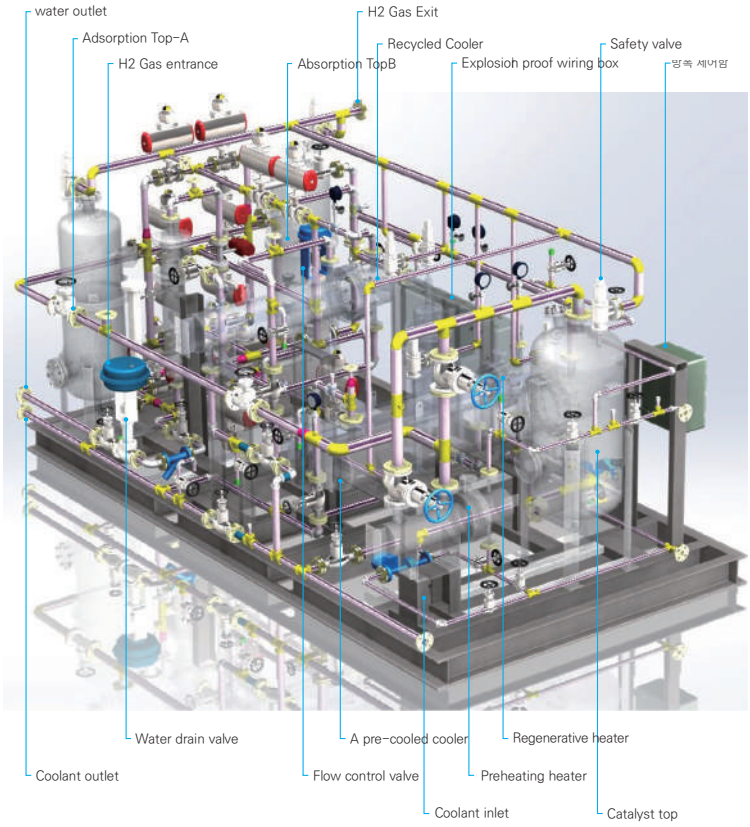


PRODUCT IMAGE



Utilization and Installation of Hydrogen Dryer

As interest and demand for eco-friendly energy resources are gradually increasing due to greenhouse gas problems such as carbon dioxide and climate change, hydrogen is attracting attention as a new energy resource to replace fossil fuels.
Hydrogen is the ultimate eco-friendly energy source and is a clean and infinite resource that does not generate any byproducts other than water, and its application fields have recently been expanding, including hydrogen fuel cells and automobiles.As hydrogen is attracting attention as an alternative energy source, interest in how to produce hydrogen is also growing. The most commonly used methods of hydrogen production include the use of by-product hydrogen separately generated by petrochemical processes, and the natural gas reforming method that decomposes natural gas into high-temperature/high-pressure water vapor to produce hydrogen. The natural gas reforming method is the most widely used method and has the advantage of producing hydrogen at a low cost. Finally, there is a water electrolysis method that electrolyzes water to get hydrogen.Since the purity of hydrogen has a significant impact on the performance of fuel cells, refining techniques for obtaining high purity hydrogen are very important. A hydrogen dryer is a device that purifies hydrogen by removing oxygen in hydrogen in the form of moisture using a Pd (palladium) catalyst and an adsorbent.



Utilization and Installation of Hydrogen Dryer

- Purification of hydrogen produced from hydrogen PSA.
- Purification of hydrogen produced by water electrolysis facilities.
- Onsite hydrogen supply line to purify hydrogen gas.
- Requires supply of cooling water and hot steam.
- Alternative design for explosion-proof electric heaters instead of hot steam.

Characteristics of GSA Hydrogen Dryer

- Use of high-quality adsorbents and catalysts.
- Excellent operating performance using reliable valves and instruments.
- Specially designed explosion-proof electric heaters are available (system configuration is possible without the supply of preheating heaters and steam used in regenerative heaters)
- Water is discharged smoothly by using a level switch consisting of five stages and hydrogen leakage is prevented due to failure, etc.
- Accurate system control through various instruments such as Control Valve and Flow Meter.
- Design various design codes (other than KS/ASME/GOST/DOSH)
- High-efficiency heat exchangers are applied to pre-coolers and regeneration coolers.
- Designed to meet user needs.

CO_2 Removal System

Carbon dioxide removal equipment

OPTION

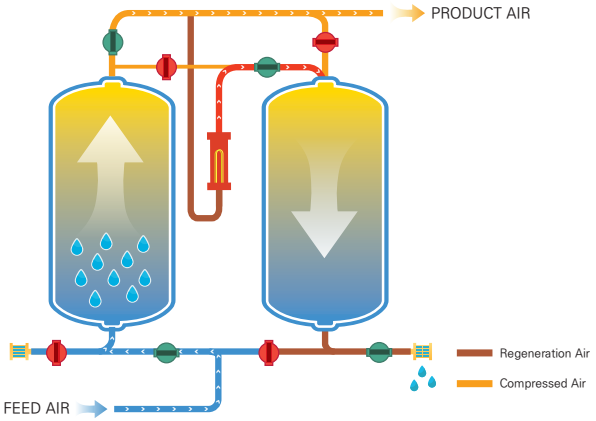
FLOW METER · TOUCH SCREEN · CO_2 ANALYZER · HIGH PRESSUPE

DESIGN DATA

● Fluid : Compressed Air

Inlet Pressure	7barg	Inlet Temperature	38℃
Design Press	9.7barg	Design Temperature	250℃
Differential Pressure	0.2bar		

FLOW DIAGRAM



PRODUCT IMAGE

Technical Specification

No.	Description		Specification	Unit
1	Inlet Conditions	Air Flow Capacity	160 ~ 15,000	m^3/h
2		Feed Air Pressure	5 ~ 8.5	barg
3		Feed Air Temperature	≤ 38	℃
4		Feed Air CO_2 Purity	≤ 450	ppm
5	Outlet Conditions	Product Air Dew Point	≤ −65	℃
6		Product Air CO_2 Purity	≤ 5	ppm
7	Standard Process Time	Adsorption	4	hr
		Heating Regeneration	2.5	hr
		Cooling Regeneration	1.5	hr
8	Regeneration Conditions	Temperature	180 ~ 230	℃
		Pressure	0.2 ~ 0.3	barg
9	Differential Pressure		0.2	bar

CO_2 Removal equipment necessity

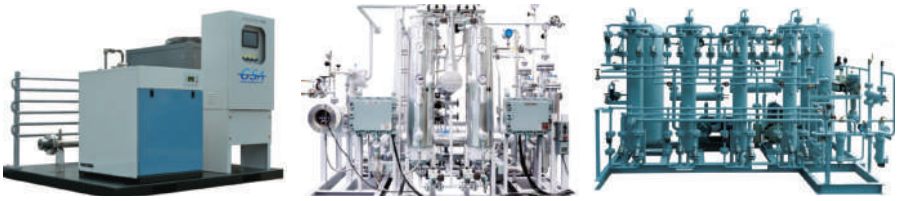
Compressed air contains nitrogen, oxygen, moisture, and CO_2. This facility is intended to remove moisture and CO_2 contained in compressed air and can be used in various industrial fields, including semiconductors and fuel cells. The adsorption tower of this facility contains activated alumina to remove moisture in the compressed air, and the upper part is filled with Molecular Sieves to adsorb a small amount of moisture and CO_2 to effectively remove moisture and CO_2 in the compressed air. Normally, dew points below −65℃ and CO_2 below 5 ppm are removed. Commonly used compressed air is not a big problem even if it contains CO_2 components. However, some processes require ultra-dry air without CO_2. If moisture or CO_2 components are not removed, it will cause serious quality problems in the process or in the final product.

Principle of operation of CO_2 removal system

Operation of the CO_2 removal unit is performed automatically according to the sequence of PLCs or mycoms. Compressed air containing moisture and CO_2 flows into the lower part of the two adsorption towers under the adsorption process and then through the adsorbate layer and into the upper part. In the process of moving up, the difference in diffusion rate due to the pores of the adsorbent separates moisture and CO_2 from compressed air and supplies dry compressed air from which CO_2 has been removed. While one of the two adsorption towers is undergoing the adsorption process, the other is subjected to a regenerative process. The regeneration process consists of a heating process and a cooling process, and the heating process uses high-temperature air heated by an electric heater to adsorbate moisture and CO_2 components adsorbed on the adsorbent and then release them to the atmosphere. The cooling process is a regenerative process that cools the heated adsorbent to achieve good adsorption. When the heating and cooling regeneration processes are completed, a dynamic pressure process is performed to raise the regeneration tower to the same pressure as the supply pressure. After the dynamic pressure process is completed, the two adsorption towers are switched and the adsorption tower that has undergone the adsorption process is subjected to a regeneration process, and the adsorption tower that has undergone the regeneration process is subjected to an adsorption process. This series of processes proceed automatically in a given sequence and continues to supply dry air with CO_2 removed.

Gas Equipment

Gas purifier and gas separation facilities



High purity gas and ultra purity gas

High purity gas is used in various fields such as the semiconductor industry, petrochemical, metal industry, experiments and research. In particular, high-purity gases in the production sector, including semiconductors and displays, are critical to maintaining the properties and quality of products.
General industrial gases are not completely removed from the manufacturing process and may be contaminated by impurities during transportation or storage.

The Necessity of High-Purity Purification Equipment

It is necessary to refine low-purity gases to provide the desired purity gas in various fields requiring high purity gas.
Continuous use of high-purity gas is economical enough because it does not cause problems due to insufficient supply or delayed delivery as well as the purchase cost spent.

N_2 Purifier

Supplies high-purity nitrogen whose impurity concentration(10ppm or above)

- High-pressure nitrogen refining facilities
- A low-pressure nitrogen refining facility

O_2 Purifier

Supply of high purity oxygen by removing CO_2, CO components, etc. to stored oxygen by using Pd catalyst and adsorbent to reduce the impurity concentration of 10 ppm or less to 10 ppm or less.

- High-pressure oxygen refining facilities
- Low-pressure oxygen refining facilities

CH_4 Purifier

Refining facilities for the use of methane as fuel by removing large amounts of impurities, such as nitrogen and carbon dioxide, from natural gas, which is a major source of methane.

CO_2 Removal system

Equipment for removing CO_2 gas from compressed air.

H_2 Purifier

Hydrogen gas with an impurity concentration of 10 ppm or more is purified and supplied with high purity hydrogen of 10 ppm or less using an adsorbent and heating getter.

- Hydrogen Refining Facilities Using Heating Getter
- Hydrogen temperature refining facility

He Low temperature purifier

Refine helium gas with an impurity concentration of 10 ppm or more with high purity helium of 10 ppb or less using liquefied nitrogen gas and supply it.

Ar Recovery & Purification System

After pre-treating the recovered argon, remove nitrogen, oxygen, and moisture using an adsorbent to supply it.

Ar Purifier

Supply of high purity argon by removing N_2, O_2, CO_2, and CO components in stored argon using Pd catalyst and adsorbent to reduce the impurity concentration of 10 ppm or less to 10 ppb or less.

- High-pressure argon refining equipment
- Low-pressure argon refining facilities

Carbon dioxide(CO_2) purification and liquefaction Equipment

Carbon dioxide produced by increased demand for energy and various causes accounts for 80% of greenhouse gases, but is used in various fields Carbon dioxide (CO_2) purification and liquefaction facility for removing impurities from collected carbon dioxide and liquefaction.

Customer satisfaction Realization

Customer satisfaction is the best value pursued by GSA.
We provide the best products and services in a timely manner and listen to your voice.
All our executives and employees are trusted by our customers through their passionate and unremitting efforts.

The Best Quality

GSA provides only the highest quality products to ensure that customers are always in optimal production at the lowest cost. To maintain the best quality, all our products are manufactured according to international standards and standards. Our company produces only the highest quality products by periodically checking the quality problems that occur in various places and constantly correcting and supplementing the quality programs and processes.

Reliability

The GSA is challenging the zero defect rate 365 days a year. Because the defect is caused by errors in the production process and production activities, we are making the best effort to find and implement a perfect solution to completely eliminate those errors. The company's efforts toward perfection have resulted in customer trust in the market.

Flexibility

GSA offers maximum flexibility in production as well as design. For example, if a customer can save on shipping or shipping costs, we strive from the customer's point of view by reducing the height or width of the product so that it can be placed in a regular or HQ container rather than a Flat Rack container.

The fast delivery

GSA optimally manages the production load by applying the integrated production management system to the production line to meet the delivery date and shipment deadline that the customer wants. At the same time, for urgent orders from customers, customer-oriented production flexibility is used to meet the delivery date.

Reasonable Price

GSA provides high-quality products at a reasonable level as a result of significant cost savings without compromising quality through mass ordering of materials and simplificationof manufacturing processes.

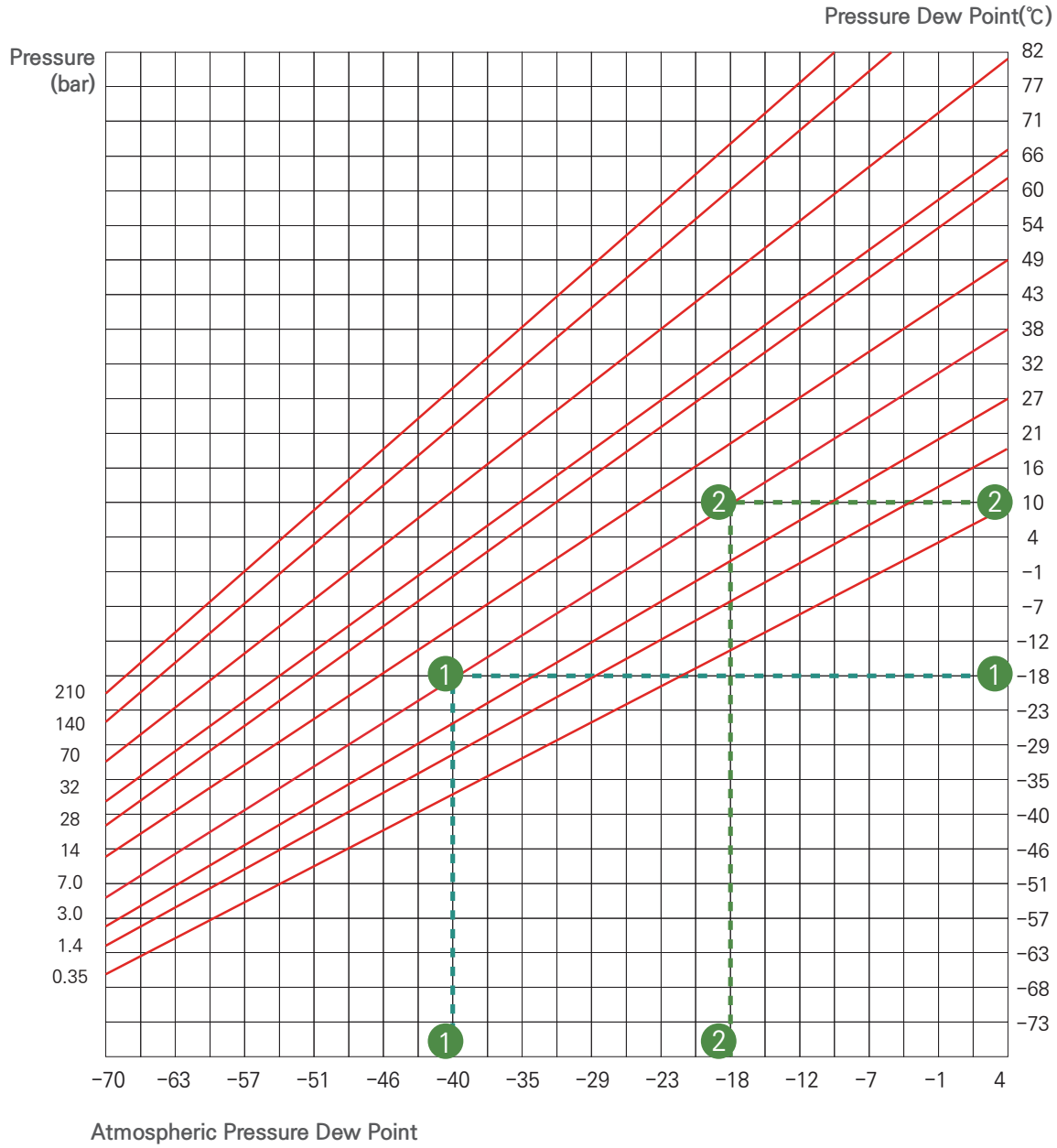
Dew point conversion table

Dew Point conversion method

Dew Point measured at Atmospheric pressure condition differs from at system pressure condition.
Each Dew Point can be converted by using the following chart.

At 7.0 bar, pressure dew point -18℃, what is the atmospheric pressure dew point?

Locate the pressure dew point −18℃ on the right side of the chart, draw a horizontal line to the left, and go down vertically from the point where the pressure intersects the pressure line at 7.0 bar to obtain the pressure dew point −40℃.
(Pressure 7.0 bar, Pressure Dew Point −18℃ can be converted to atomic Dew Point −40℃ by following the line 1) What is the pressure dew point at the pressure 7.0 bar at −18℃?
Locate the atmospheric pressure dew point −18℃ at the bottom of the chart and draw a vertical line and follow it horizontally at the point where it intersects the pressure line at 7.0 bar to obtain the atmospheric pressure dew point of 10℃.
(Atmospheric Pressure, Dew Point −18℃ can be converted to 7.0bar Pressure Dew Point 10℃ by following the line ②)



Amount of Saturated Water Vapor Table

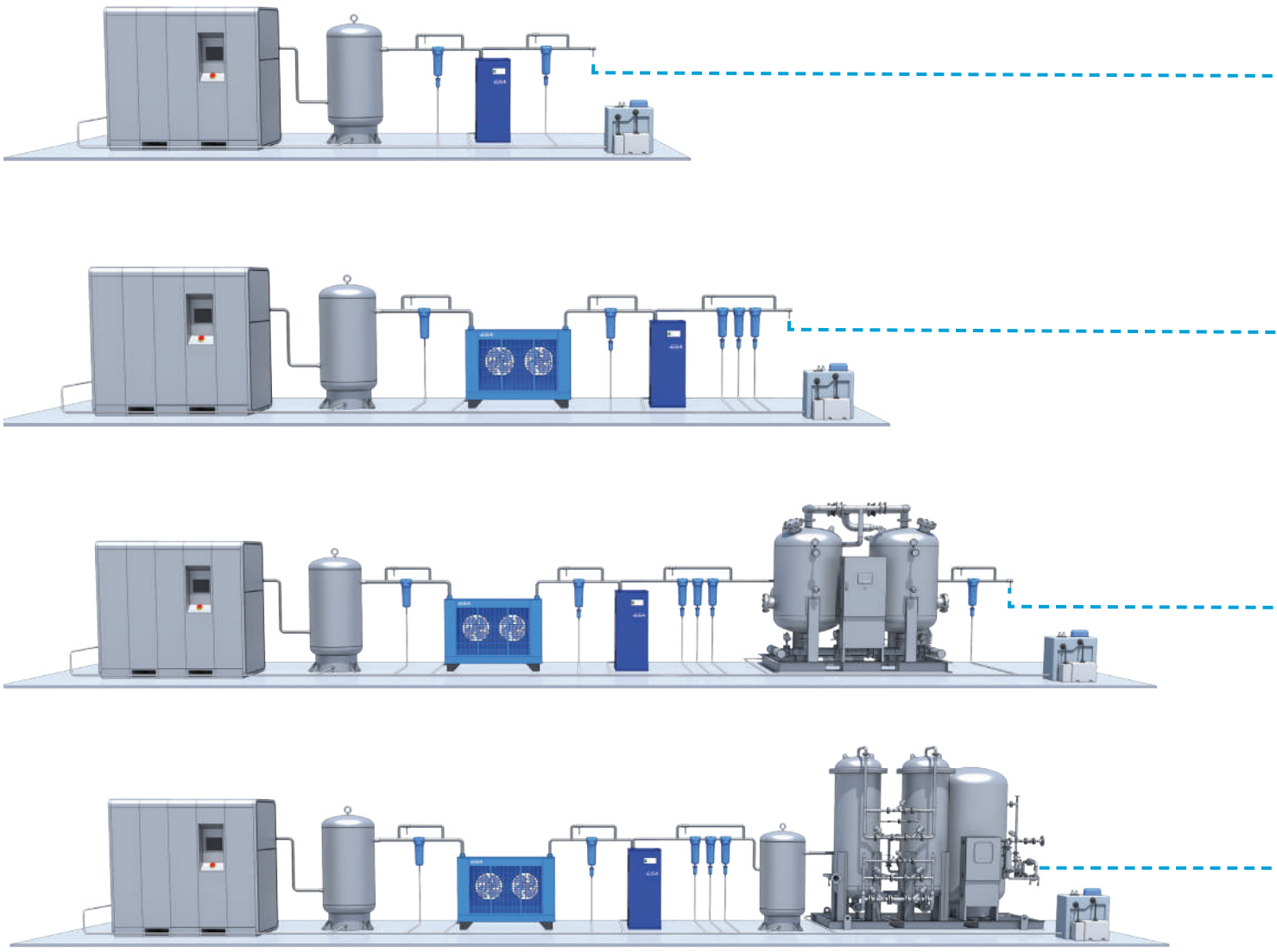
RH 100% : g/m^3

60℃	129.7200	28℃	27.2210	-4℃	3.5199	-37℃	0.1642
59℃	124.2100	27℃	25.7600	-5℃	3.2444	-38℃	0.1476
58℃	118.8900	26℃	24.3660	-6℃	2.9888	-39℃	0.1326
57℃	113.7700	25℃	23.0380	-7℃	2.7516	-40℃	0.1189
56℃	108.8300	24℃	21.7730	-8℃	2.5314	-41℃	0.1066
55℃	104.0800	23℃	20.5680	-9℃	2.3267	-42℃	0.0954
54℃	99.4920	22℃	19.4210	-10℃	2.1379	-43℃	0.0854
53℃	95.0840	21℃	18.3290	-11℃	1.9632	-44℃	0.0763
52℃	90.8360	20℃	17.2910	-12℃	1.8014	-45℃	0.0682
51℃	86.7550	19℃	15.5620	-13℃	1.6517	-46℃	0.0608
50℃	82.8230	18℃	15.3660	-14℃	1.5133	-47℃	0.0542
49℃	79.0420	17℃	14.4750	-15℃	1.3856	-48℃	0.0482
48℃	75.4140	16℃	13.6290	-16℃	1.2679	-49℃	0.0429
47℃	71.9250	15℃	12.8270	-17℃	1.1596	-50℃	0.0381
46℃	68.5700	14℃	12.0650	-18℃	1.0595	-51℃	0.0338
45℃	65.3500	13℃	11.3430	-19℃	0.9673	-52℃	0.0299
44℃	62.2590	12℃	10.6590	-20℃	0.8821	-53℃	0.0265
43℃	59.2930	11℃	10.0110	-21℃	0.8044	-54℃	0.0234
42℃	56.4480	10℃	9.3977	-22℃	0.7328	-55℃	0.0207
41℃	53.7180	9℃	8.8171	-23℃	0.6670	-56℃	0.0183
40℃	51.1020	8℃	8.2686	-24℃	0.6067	-57℃	0.0161
39℃	48.5950	7℃	7.7494	-25℃	0.5514	-58℃	0.0142
38℃	46.1930	6℃	7.2589	-26℃	0.5008	-59℃	0.0125
37℃	43.8930	5℃	6.7958	-27℃	0.4544	-60℃	0.0109
36℃	41.6910	4℃	6.3588	-28℃	0.4120	-62℃	0.00840
35℃	39.5830	3℃	5.9466	-29℃	0.3733	-63℃	0.00734
34℃	37.5680	2℃	5.5579	-30℃	0.3379	-65℃	0.00560
33℃	35.6410	1.7℃	5.4458	-31℃	0.3056	-68℃	0.00369
32℃	33.7990	1℃	5.1917	-32℃	0.2762	-70℃	0.00277
31℃	32.0390	0℃	4.8467	-33℃	0.2493	-73℃	0.00179
30℃	30.3580	-1℃	4.4777	-34℃	0.2249	-75℃	0.00133
29℃	28.7560	-2℃	4.1352	-35℃	0.2027	-78℃	0.000836
28℃	27.2210	-3℃	3.8167	-36℃	0.1826	-80℃	0.000610

Air & Gas Treatment System Example

When air in the atmosphere is inhaled and pressurized by air compressor, the system life of production line and various pneumatic devices and the deterioration of function are critical. Therefore, pollution control shall be preceded by economical reliability, maintenance, and so on.

Compressed air is saturated with water. Since the compressed air is heated during the compression, aftercooler is then used to remove the heat of compression. During this stage, when ambient air is compressed, a significant quantity of condensate is made.
This condenstate, if not removed, will cause erosion, damage to pneumatic equipment and instruments. Filtering and drying processes remove particles, moisture, microbes, and chemicals from compressed air. Clean, dry air protects the air system reduces maintenance costs and incrases finished product yields.

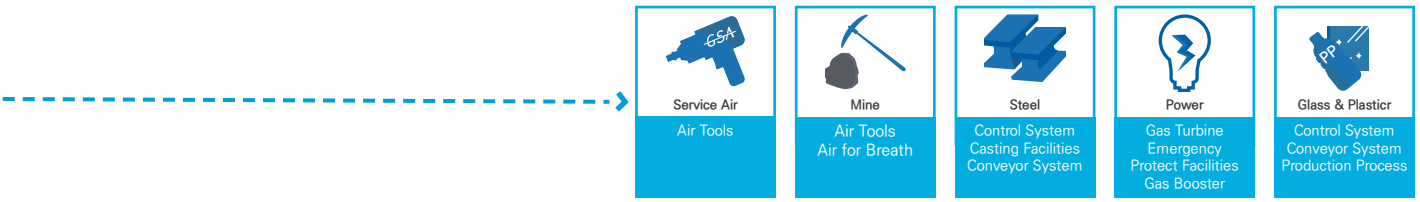


COMPRESSED AIR QUALITY CLASS ISO8573.1:2010

ISO8573-1:2010 CLASS	Maximum number of particles per m^3			Vapour Pressure Dew Point(℃) @ 7 barg	Total Oil mg/m^3
	0.1 ~ 0.5 micron	0.5 ~ 1.0 micron	1.0 ~ 5.0 micron		
1	20,000	400	10	-70	0.01
2	400,000	6,000	100	-40	0.10
3	-	90,000	1,000	-20	1.00
4	-	-	10,000	+3	5.00
5	-	-	100,000	+7	-
6	-	-		+10	-

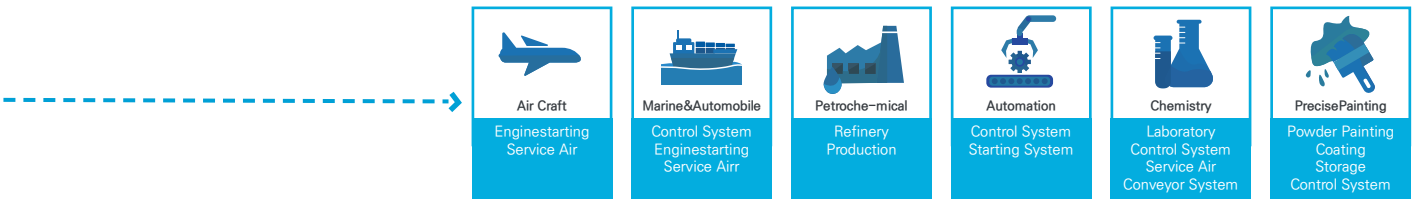
- Air Quality Class Description ISO8573.1:2010 Class(Particle, Water, Oil)
- Example SO8573.1:2010 Class 1.2.1
  - Particle 1 : 0.1 ~ 0.5 micron/m^3(Particle Max 100ea) 0.5 ~ 1.0 micron/m^3 Particle Max 1ea 1.0 ~ 5.0 micron/m^3(Particle 0) 1.0 ~ 5.0 micron/m^3(Particle 0))
  - Water 2 : -40℃(Pressure Dew Point -40℃)
  - Oil : 0.01mg/m^3(Total Oil 0.01mg/m^3)

Dew Point 4℃ | Total Oil 1 ppm | Particle 1 μm

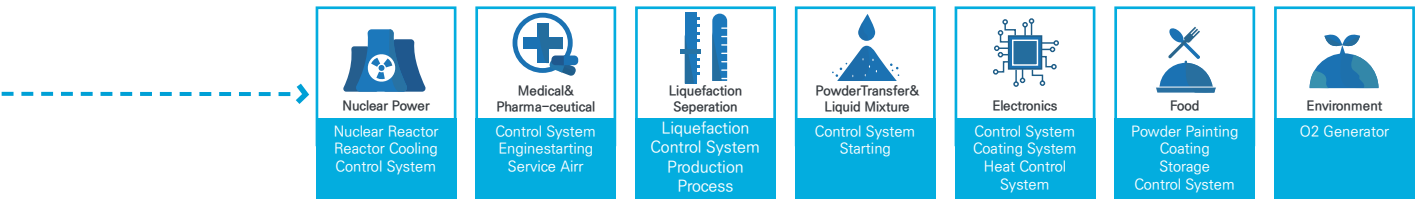


Dew Point 4℃ | Total Oil 0.1 ppm | Particle 1 μm

Dew Point -40℃ | Total Oil 0.01 ppm | Particle1 μm

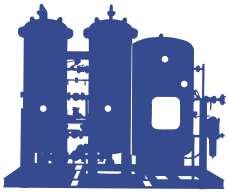


Dew Point -70℃ | Total Oil 0.003 ppm | Particle 1 μm



Air/Gas Dryer

GSA leads the compressed air processing equipment industry. The following items are designed and manufactured by us: Refrigerated dryers (cycling, noncycling, high temperature, filter-in), adsorption dryers (non-heating, heating, compression heat, zero purge gas type), membrane dryers, natural gas dryers, and breathing dryers are customized and manufactured according to customers' orders.



Gas Generator/Purifier

GSA leads the gas generators and refineries industry. The following items are designed and manufactured by us: PSA-type nitrogen generators, oxygen generators, hydrogen purifiers, argon/carbon monoxide/carbon/methane recovery purification plants, and other various gas separation and purification plants are custom-made.

Air/Gas chiller

GSA designs and manufactures special purpose air/gas chiller. GSA's air-cooled and water-cooled chiller boasts excellent efficiency and convenient control by employing the latest heat exchanger, solder evaporator, and microchannel type condenser. It's also easy to install, so you can experience significant savings over traditional chiller.

GSA
Global Standard Air & Gas

Intertek

DAS Certification ISO 9001:2000 Approval

www.gsadryer.com