Jemaco™

TXK Series
FLEX Series
HXK Series

Refrigerated Air Dryers

Nomenclature

FLEX Series

FLX [ ] — [ ]

Model	Flow capacity (Nm³/min) PDP 10˚C *
85	2.41
110	3.11
150	4.25
240	6.80
370	10.48
450	12.74
530	15.00
800	22.64
1250	35.38
1500	42.47

* Standard rated condition (PDP 10˚C) :
50˚C inlet air temperature, 35˚C ambient air temperature,
7.0barG inlet pressure, 100% relative humidity

Options	
D	Enclosure : IP54 Double Door (without Cert.)
T	Stainless steel 304 air inlet/outlet piping & separator

HXK Series

HX [ ] K — [ ]

Model	Flow capacity (Nm³/min)
800*	24.06
1050*	31.48
1250*	37.35
1500*	45.10
2000	60.00
2500	75.00
3000	90.10
4000	120.00
5000	150.10
6000	180.30
8000	240.10
10000	300.30
12000	360.30

* Water-cooled

Options	
D	Enclosure : IP54 Double Door (without Cert.)
S	System Control Monitor II
M	Remote On/Off Control
W	Water-cooled condenser
T	Stainless steel 304 air inlet/outlet piping & separator

* Option “M” can only be applicable when option “S” is selected

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Jemaco™

Refrigerated Air Dryers

TXK · FLEX · HXK Series

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Why Do Compressed Air Systems Need Drying?

Jemaco provides compressed-air dryers and filters that remove oil, water, dirt, rust and pipe scale. Contaminants found in compressed air can adversely affect all components of an air distribution system, and can cause a malfunction of pneumatic control in the instrument air system.

Properly treated compressed air can improve work efficiency and reduces maintenance. Desiccant and refrigerated type compressed air dryers are used in the control air systems of power plants.

Refrigerated Air Dryers

TXK Series

15~50 scfm

Research indicates that many customers want reliability and dry compressed air at an affordable price. No fancy bells and whistles-just dry air, pure and simple. The TXK series non-cycling dryers were designed to meet these demands.

Feature

Static condenser with no cooling fan
- Worldwide-patented product
- No maintenance required
- Excellent quiet operation
- Lowest operating cost

Perfect application for indoor installation such as hospital and laboratory

Robust design & compact size

Unique refrigerant control system
- Air-to-refrigerant reheating system

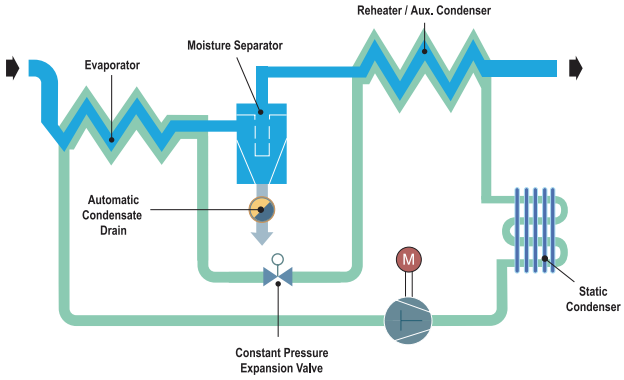
Energy saving through waste heat recovery
- No condensate on outlet pipe

Excellent dew point performance under all conditions

IT&S Korea

How it works

Warm saturated air enters the evaporator where it is cooled by refrigerant being controlled by a constant pressure expansion valve. Water vapor condenses into a liquid for removal at the moisture separator by a drain. The cold, dry air is reheated as it passes through the reheater. This prevents dryer outlet air pipeline sweating. The static condenser eliminates the need for a cooling fan and simplifies the system.



TXK Series Specification

Model	Flow Capacity (Nm^3/min)	Unit (kW)	Power Supply	Inlet/Outlet Connections (PT)	Weight (kg)	Dimensions (H x W x D mm)	Refrigerants
TX15K	0.50	0.24	220~240V / 1PH / 50Hz	3/8"	20	382 x 320 x 320	R-134a
TX25K	1.00	0.34		3/4"	32	568 x 368 x 394	
TX35K	1.33	0.42		3/4"	32	568 x 368 x 394	
TX50K	1.67	0.58		3/4"	44	568 x 500 x 500	

- Rating Conditions : 42°C inlet temperature, 6.9barG inlet pressure, 100% inlet relative humidity, 35°C ambient temperature, 50Hz
- Maximum/minimum inlet pressure : 16barG/2barG, Maximum/minimum inlet air temperature : 60°C/4°C, Maximum/minimum ambient air temperature : 43°C/2°C

Capacity Correction Factors

Inlet Air Pressure (barG)

barG	4	5	6	7	8	9	10	11	12
Factor	0.82	0.88	0.95	1.00	1.05	1.09	1.13	1.16	1.18

Inlet Air Temperature (˚C)

˚C	30	35	40	42	45	50	55	60
Factor	1.77	1.36	1.08	1.00	0.89	0.74	0.62	0.52

Ambient Air Temperature (˚C)

˚C	20	25	30	35	40	45	50
Factor	1.20	1.13	1.07	1.00	0.94	0.85	0.74

Frequency (Hz)

Hz	50	60
Factor	1.00	1.20

Example : What is the capacity of a 1.67 Nm^3/min model when the compressed air at the inlet to the dryer is 5barG and 50˚C and ambient temperature is 40˚C?

Answer : 1.67 Nm^3/min (rated flow from Product Specification Table) x 0.88 (correction factor for inlet pressure from Table 1) x 0.74 (correction factor for inlet temperature from Table 2) x 0.94 (correction factor for ambient temperature from Table 3) = 1.02 Nm^3/min

Refrigerated Air Dryers

FLEX Series

85~1500 scfm

The FLEX series are optimized air dryers for hot and humid climate in the tropical regions. An advanced stainless steel brazed plate heat exchanger is applied, and it deters refrigeration load with great efficiency of heat-transfer. The innovative and simplified refrigeration circuit provides reliable operation, low operating cost and versatile installation.

Feature

Optimized for hot and humid climate in the tropical regions

Stainless steel brazed plate heat exchangers optimize heat transfer and service life

Separator, re-heater and evaporator combined into 1 compact efficiency unit

Improved ventilation by up-flow cooling air design

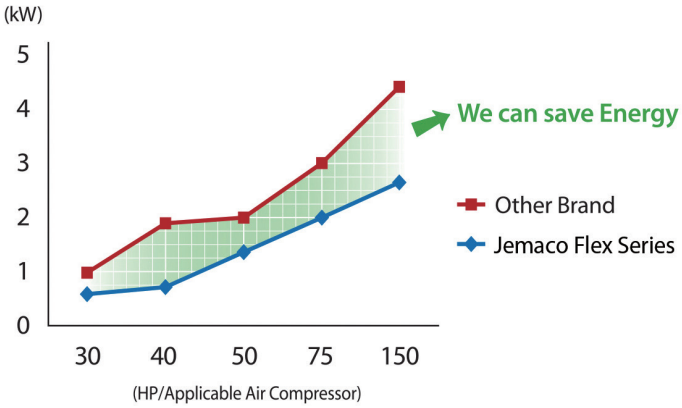
Low pressure drop reduces operating costs

Low power consumption

Easy to install package saves time and money

Environmentally friendly R-134a & R-407C refrigerants

Power Consumption Comparison



Digital Control Board - DCB II

: Dewpoint Temperature Indicator

: Compressor On Light

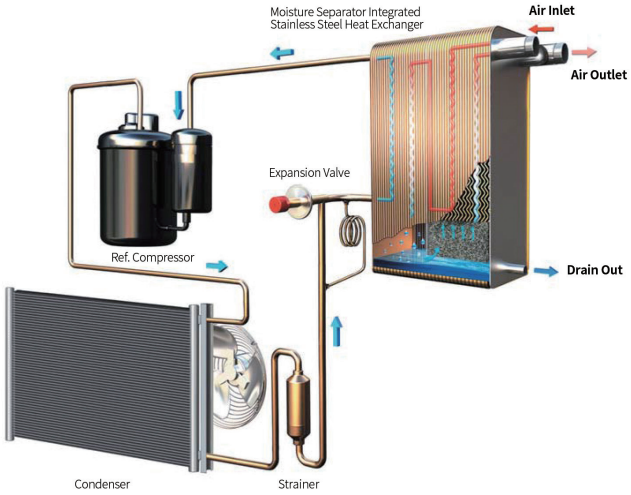
: Selection

: Drain Push-to-Test

: Condensate Draining

How it works

Warm, saturated compressed air enters the air to air heat exchanger and is cooled by exiting air. The precooled air then enters the air to refrigerant heat exchanger and is further chilled causing water vapor to condense. Condensed moisture is collected from the air stream by an integral separator with stainless steel demister. Liquid condensate is removed from the separator by an automatic timer. Cold air is then reheated in the air to air heat exchanger to eliminate sweating on the downstream pipe line. Clean, dry air exits the dryer and is now qualified for use of purpose.



FLEX Series Specification

Model	Flow Capacity (Nm³/min) PDP 10˚C *	Unit (kW)	Power Supply	Inlet/Outlet Connections (PT)	Weight (kg)	Dimensions (H x W x D mm)	Refrigerants
FLX 85	2.41	0.52	220~240V 1PH / 50Hz	1"	50	641 x 363 x 881	R-134a
FLX 110	3.11	0.59		1"	52	641 x 363 x 881	
FLX 150	4.25	0.71		2"	67	761 x 443 x 931	R-407C
FLX 240	6.80	1.36		2"	77	761 x 443 x 1,031	
FLX 370	10.48	2.00		2"	97	811 x 493 x 1,111	
FLX 450	12.74	2.38		2"	100	811 x 493 x 1,111	
FLX 530	15.00	2.66		2"	128	811 x 553 x 1,211	
FLX 800	22.64	5.80	380V / 3PH / 50Hz 415V / 3PH / 50Hz	FLG 3"	285	1,622 x 720 x 1,150	
FLX 1250	35.38	7.30		FLG 4"	340	1,622 x 720 x 1,200	
FLX 1500	42.47	7.10		FLG 4"	400	1,622 x 800 x 1,280	

* Standard rated condition (PDP 10˚C) : 50˚C inlet air temperature, 35˚C ambient air temperature, 7.0barG inlet pressure, 100% inlet relative humidity
* Max./Min. inlet pressure : 16barG/3barG * Max./Min. inlet air temperature : 65°C/4°C * Max./Min. ambient air temperature : 50°C/4°C
* Electronic Drain valve is standard

Capacity Correction Factors

Inlet Air Pressure (barG)

barG	4	5	6	7	8	9	10	13	16
Factor	0.75	0.84	0.92	1.00	1.03	1.07	1.09	1.18	1.23

Inlet Air Temperature (˚C)

˚C	40	45	50	55	60	65
Factor	1.15	1.08	1.00	0.83	0.70	0.60

Ambient Air Temperature (˚C)

˚C	25	30	35	40	43	50
Factor	1.20	1.06	1.00	0.75	0.60	0.45

Pressure Dew Point (˚C)

˚C	3	5	7	10
Factor	0.71	0.79	0.86	1.00

Free Air Delivery

Standard	Nm³/min	ISO1217	JIS	icfm
Factor	1.00	1.07	1.15	1.18

Refrigerated Air Dryers

HXK Series

2000~12000 scfm

The HXK series, built-in with our highly advance stainless steel plate heat exchanger, deters refrigeration load with great efficiency of heat-exchanging. Saving in electrical power and convenient in maintenance are its unique feature

Feature

Stainless steel brazed plate heat exchanger
- No rust water and corrosion
- One-pass structure : Heat exchanger and re-heater

Automatically adapts to system needs

Fully automatic operation saves money

Every unit comes pre-assembled with quality components

User-friendly controller
- Power-on LED, Compressor-on LED, On/Off rocker switch and dew point bar graph LED display

Reliable timed electric drain with push-to-test button on the front panel

Electro-galvanized steel cabinet with two part epoxy coating
- Providing long term corrosion resistance

Environmentally friendly R-407C refrigerant

No Loss drain valve(optional)

Optional/SCMII (System Control MonitorII)

LCD main window displays
- Dryer run, Auto drain valve on, Fan motor on, Alarm

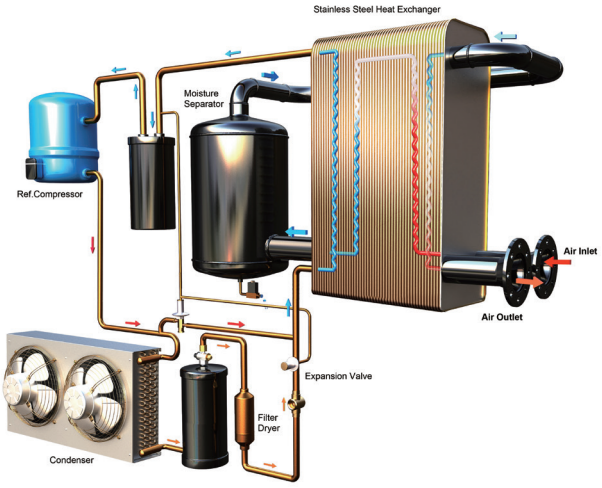
LCD monitor displays
- Inlet, Ambient/Cooling water, Chiller inlet & discharge refrigerant temperatures, Discharger refrigerant temperatures

Membrane touch panel

Programmable timer drain settings

How it works

Saturated incoming compressed air is quickly chilled in the air-to-air heat exchanger by the cold compressed air as it exits the air-to-refrigerant(evaporator). Here, the cold, dry air is reheated to prevent pipeline sweating and reduce compressor energy before exiting the dryer. In the evaporator, the air temperature is reduced to that of the cold refrigerant. A moisture separator lowers the velocity and mechanically separates the condensate from the air stream. An automatic drain removes the condensate. The air-to-air heat exchanger re-heats the air and clean, dry compressed air exits the dryer.



HXK Series Specification

Model	Flow Capacity (Nm^3/min)	Unit (kW)	Power Supply	Inlet/Outlet Connections (FLG)	Weight (kg)	Dimensions (H x W x D mm)	Refrigerants
HX800K*	24.06	4.3	380V/3PH/50Hz, 415V/3PH/50Hz	3"	385	1,470 x 750 x 1,400	N/A
HX1050K*	31.48	5.7		4"	400	1,470 x 750 x 1,400	
HX1250K*	37.35	7.2		4"	440	1,470 x 750 x 1,400	
HX1500K*	45.10	8.2		4"	850	1,582 x 860 x 1,600	
HX2000K	60.00	9.5		6"	1,000	1,628 x 1,050 x 1,800	R-407C
HX2500K	75.00	10.3		6"	1,050	1,628 x 1,050 x 1,800	
HX3000K	90.10	11.8		6"	1,100	1,628 x 1,050 x 1,800	
HX4001K	120.00	15.1		8"	1,150	1,618 x 1,514 x 1,900	
HX5000K	150.10	20.8		8"	2,300	2,140 x 1,500 x 2,550	
HX6000K	180.30	25.7		8"	2,500	2,140 x 1,500 x 2,550	
HX8000K	240.10	38.5		8"	3,500	2,320 x 1,500 x 3,800	
HX10000K	300.30	46.6		10"	4,800	2,400 x 1,600 x 4,800	
HX12000K	360.30	52.7		10"	5,000	2,400 x 1,600 x 4,800	

- Rating Conditions : 35°C inlet temperature, 6.9barG inlet pressure, 100% inlet relative humidity, 25°C ambient temperature, 50Hz.
- Maximum/minimum inlet pressure : 12.1barG/3barG, Maximum/minimum inlet air temperature : 49°C/4°C, Maximum/minimum ambient air temperature : 43°C/4°C
- Dimension is for air-cooled condenser type. Water-cooled condenser type is available, consult factory.
- Models for the high temperature condition are optional, consult factory.

* Water-cooled

Capacity Correction Factors

Inlet Air Pressure (barG)

barG	4	5	6	7	8	9	10	11	12
Factor	0.87	0.92	0.96	1.00	1.03	1.07	1.10	1.12	1.14

Inlet Air Temperature (˚C)

˚C	30	35	40	45	49
Factor	1.22	1.00	0.84	0.71	0.60

Ambient Air Temperature (˚C)

˚C	20	25	30	35	40	43
Factor	1.06	1.00	0.92	0.85	0.78	0.72

Frequency (Hz)

Hz	50	60
Factor	1.00	1.20

Example : What is the capacity of a 180.3 Nm^3/min model when the compressed air at the inlet to the dryer is 5barG and 45˚C and ambient temperature is 35˚C?

Answer : 180.3 Nm^3/min (rated flow from Product Specification Table) x 0.92 (correction factor for inlet pressure) x 0.71 (correction factor for inlet temperature) x 0.85 (correction factor for ambient temperature) = 100.1 Nm^3/min