



Chicago
Pneumatic



Quality Air Solutions

People. Passion. Performance.

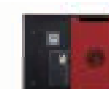
Chicago Pneumatic: full offer, global presence



Industrial screw compressors



Screw compressor with tank



Inverter compressors



Gear driven compressors



Refrigerant dryers



Filter



Care. Trust. Efficiency.

Care.

Care is what service is all about: professional service by knowledgeable people, using high-quality original parts.

Trust.

Trust is earned by delivering on our promises of reliable, uninterrupted performance and long equipment lifetime.

Efficiency.

Equipment efficiency is ensured by regular maintenance. Efficiency of the service organization is how Original Parts and Service make the difference.

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Improve your business’ productivity, quality and efficiency.



Quality air solutions will allow you to prevent corrosion, leakages, pollution and rust.

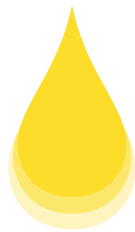
A compressor takes humidity and contamination from the intake air, during the compression process. These particles combine with the oil used in the compressor. All these impurities can cause wear and corrosion to the downstream equipments, with potential costly interruption to production, and reduction in the efficiency and service life of the equipment used. To reduce this negative impact, a whole range of Quality Air Solution products have been developed to ensure air quality, increase efficiency and productivity and lengthen the life span of your equipment and tools. In sum, with a range from dryers to filters, you can tackle several quality air problems at once, making them highly recommended components for every successful business.



Moisture



Particles



Oil



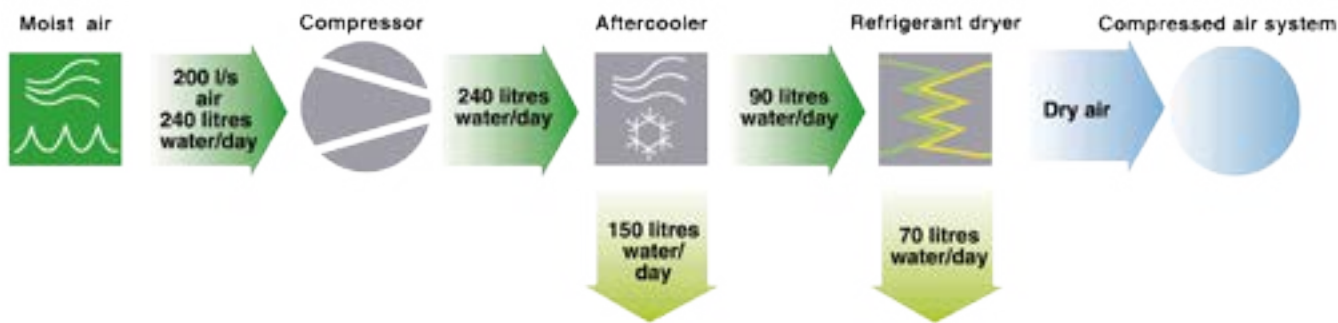
Hydrocarbons



Viruses



Bacteria



A compressor that delivers 200 litres of air per second, also supplies approx. 240 litres of water per day if working with air at 20°C. To avoid problems and disturbances due to water precipitation in the pipes and connected equipment the compressed air must be dried. This drying can be achieved by using a reliable Chicago Pneumatic CPX Refrigerant Dryer.

Top air quality for high end equipment and process

Whichever is your compressed air need, Chicago Pneumatic can successfully help you to achieve the proper air quality class.

Compressed air according to ISO 8573-1:2010

Purity Class	Solid particles			Water		Total Oil* Concentration mg/m³
	Number of particles per m³			Pressure dow point		
	0.1-0.5 µm	0.5-1.0 µm	1.0-5.0 µm	°C	°F	
0	As specified by the equipment user or supplier and more stringent					
1	≤ 20.000	≤ 400	≤ 40	≤ -70	≤ -94	≤ 0,01
2	≤ 400.000	≤ 6.000	≤ 100	≤ -40	≤ -40	≤ 0,1
3	-	≤ 90.000	≤ 1000	≤ -20	≤ -4	≤ 1
4	-	≤ 20.000	≤10.000	≤ 3	≤ 37,4	≤ 5
5	-	-	≤ 100.000	≤ 7	≤ 44,6	-
6		≤ 5 µm/m³		≤ 10	≤ 50	-

* Liquid, aerosol and vapour.

A glimpse of some application areas



Conveying

By using Chicago Pneumatic air treatment products you will be able to increase the lifetime of your production plant. Avoid expensive emergency maintenance and ensure easy, fast and production chain.



Pharmaceuticals

For very sensitive applications where top air quality is indispensable, we can provide compressed air at the correct dew point and without solid contaminants giving you peace of mind regarding your production processes. Superior air treatment for superior quality products.



Metalwork

Avoiding water in compressed air and corrosion in the air network or tools is of key importance in the metal industry. Consequently, customers' air quality requirements are ever more strict. Anticipating this trend, we are close to you to always be a step ahead in the market with our innovative solutions.



Food industry

Zero risk at product contamination is a key focus in the food industry which also applies to the compressed air if it is in direct contact with the food itself. For this reason customers need to foresee a proper and complete air treatment system which allows for superior products.

How does CPX dryer work?

Refrigerant circuit

The refrigerant circuit compresses and expands the refrigerant medium in a circular system in order to efficiently transfer heat from the wet compressed air to the atmosphere. The CPX dryer refrigerant circuit is designed as a whole and only uses components of high and reliable quality, supplied by globally recognized manufacturers.

1 Refrigerant Separator

- Ensures that only refrigerant gas can enter the compressor, as liquid would cause damage.

2 Refrigerant Compressor

- Brings the gaseous refrigerant to a high pressure (two words) and a high temperature.

3 Max. Pressure Switch

- Protects by ensuring that the refrigerant gas never exceeds the maximal pressure.

4 Fan Control Pressure Switch

- Saves energy by temporarily turning of the condenser fan when the load on the dryer is low.

5 Condenser Fan

- Efficiently provides constant flow of ambient air to the air condenser. (only for air cooled)

6 Condenser

- Cools the refrigerant slightly so that it can change from gas to liquid; refrigerant is more effective in the liquid state.

7 Capillary Filter

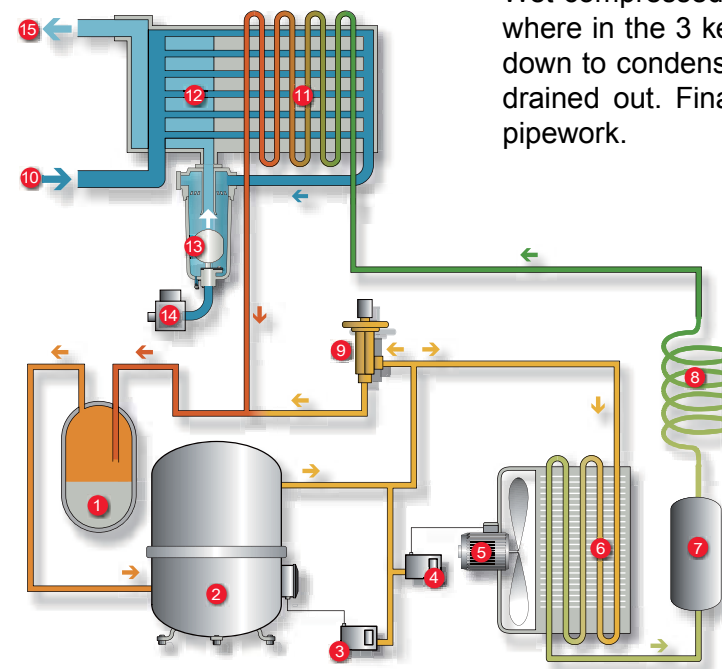
- Protects the expansion device from harmful particles.

8 Capillary Tube

- Reduces the refrigerant's pressure, thereby lowering its temperature and increasing its cooling capacity; the refrigerant is now almost all liquid, with some residual extremely reliable, and stabilize the dewpoint of the dryer.

Air circuit

Wet compressed air flows directly through the CPX dryer's internal 3-in-1 heat exchanger, where in the 3 key dryer functions are combined. Firstly the wet compressed air is cooled down to condensate the moisture, secondly this condensed moisture will be collected and drained out. Finally the dried compressed air is re-heated before it enters the factory's pipework.



12 Air-To-Air Heat Exchanger

- Cools down the air inlet whilst re-heating the outlet air.

13 Water Separator

- Collects and drains out condensate from the cooled air flow. 3-in-1 aluminum heat exchangers combine above points 11, 12 and 13 making them highly efficient and reliable.

9 Hot Gas Bypass

- Regulates the amount of refrigerant passing through the air-to-refrigerant heat exchanger, ensuring a stable pressure dewpoint, and eliminating the chance of the condensate freezing.

10 Air Inlet

- Hot saturated air enters the dryer.

11 Air-To-Refrigerant Heat Exchanger

- Transfers heat from the compressed air to the cold refrigerant, forcing water vapor in the compressed air to condense.

14 Automatic Drain

- Removes the free water collected in the water separator.

15 Air Outlet

- Re-heats the outgoing air to prevent condensation on the factory's pipework.

CPX Refrigerant Dryers 30-2500

Professional Air Quality for protection of equipment & processes

The CPX refrigerant dryers guarantee dry and qualitative compressed air which prolongues the lifetime of your equipment and ensures a superior production quality. Water vapour is eliminated, avoiding corrosion in your compressed air network and tools. All in all this lowers your maintenance costs and improves your overall production process for complete peace of mind.

Pressure Dew Point 3-7 °C

- High efficiency plate-fin heat exchanger
- Professional water removing function
- Low relative humidity in outlet air

Professional Energy efficiency

- 50% less energy consumption compared to shell-and tube type dryers
- Optimized refrigeration system

Environment Safety

- Low (GWP) global warming potential
- Low (ODP) ozone depletion potential
- Energy saving

Reliable

- Industrial grade refrigeration compressor
- Digital controller & PDP display
- Optimised piping with 3 stage leak test



Robust Structure

Reliable structure due to a robust canopy ensuring a safe installation independently of the environment.



Electronic Controller

Monitor the operations and dew point of your CPX dryer with the electronic controller.



Capacitive Drain CPX850-CPX2500

This capacity drain will allow you to save money by discharging only water.



Highly Efficient Heat Exchanger

The highly efficient heat exchanger safeguards your optimized cooling power and lowers pressure drops.



Timer Drain CPX30-CPX700

Reliable timer drain with adjustable drain interval and discharge time.

Professional Air Quality for protection of equipment & processes

Whichever is your compressed air need, Chicago Pneumatic can successfully help you to achieve the proper air quality class.

Technical table

	⚙️			🕒			👤	⏏	
Model	l/min	cfm	m³/h	Bar	V/Ph/Hz	G	kg	mm	Refrigerant
CPX 30	1000	35	60	13	230/1/50	3/4"F	30	352x430x445	R 134a
CPX 50	1500	53	90	13	230/1/50	3/4"F	32	550x370x800	R 134a
CPX 75	2100	74	126	13	230/1/50	3/4"F	36	550x370x800	R 134a
CPX 115	3300	117	198	13	230/1/50	1"F	60	520x500x800	R 410A
CPX 160	4500	159	270	13	230/1/50	1.5"F	68	550x600x980	R 410A
CPX 200	5700	201	342	13	230/1/50	1.5"F	75	550x600x980	R 410A
CPX 250	7200	254	432	13	230/1/50	2"F	85	550x600x980	R 410A
CPX 300	8400	297	504	13	230/1/50	2"F	120	900x750x1000	R 410A
CPX 380	10800	381	648	13	230/1/50	2.5"F	138	1025x660x1120	R 410A
CPX 480	13800	487	828	13	230/1/50	2.5"F	156	1025x660x1120	R 410A
CPX 600	17100	604	1026	13	230/1/50	2.5"F	168	1025x660x1120	R 410A
CPX 700	20100	710	1206	13	230/1/50	2.5"F	175	1025x660x1120	R 410A
CPX 850	24000	848	1440	13	400/3/50	3"F	325	1082x1020x1560	R 404A
CPX 1000	30000	1060	1800	13	400/3/50	3"F	335	1082x1020x1560	R 404A
CPX 1200	35000	1236	2100	13	400/3/50	3"F	350	1082x1020x1560	R 404A
CPX 1700	50000	1766	3000	13	400/3/50	DN125	550	2099x1020x1560	R 404A
CPX 2500	70000	2473	4200	13	400/3/50	DN125	600	2099x1020x1560	R 404A

Correction Factor • for conditions differeing from the project K = A x B x C

Room Temperature (A)					
Environment Temperature (°C)	25	30	35	40	45
Correction Factor CPX 30 - 700	1	1	0.91	0.81	0.72
Correction Factor CPX 850 - 2500	1	0.91	0.81	0.72	0.62

Correction Factor for Pressure Dew Points

Outlet Pressure Dew Point	3	7	10
Correction Factor CPX30-CPX700	0.8	1	1.1
Correction Factor CPX850-CPX2500	1	1.1	1.15

Operating Temperature (B)					
Inlet Temperature (°C)	35	40	45	50	55
Correction Factor CPX 30 - 700	1	1	0.82	0.69	0.58
Correction Factor CPX 850 - 2500	1	0.82	0.69	0.58	0.49

Notes:		
Reference Conditions:	CPX30-CPX700	CPX850-CPX2500
Operating Pressure:	7 bar(100psi)	7 bar(100psi)
Operating Temperature :	40°C	35°C
Room Temperature:	30°C	25°C

Operating Pressure (C)									
Inlet Pressure (bar)	5	6	7	8	9	10	11	12	13
Correction Factor CPX 30 - 700	0.90	0.96	1.00	1.03	1.06	1.08	1.10	1.12	1.13
Correction Factor CPX 850 - 2500	0.90	0.97	1.00	1.03	1.05	1.07	1.09	1.11	1.12

Limit Conditions:	CPX30-CPX2500
Max Operating Pressure:	13 bar(188psi)
Max Operating Temperature :	55°C
Min/Max Room Temperature:	5°C/45°C



Thorough filtration for complete peace of mind

An unique combination of robustness and efficiency allows our high performance filters to purify your compressed air for complete peace of mind. Whichever your required purity, CP filters come in 6 variants offering a tailored solution for each situation.



CP Filters

Six filter types to cover all purity requirements

- G** Coalescing filters for general purpose protection, removing solid particles, liquid water and oil aerosol. Total Mass Efficiency: 99%.

For optimum filtration, a G filter should be preceded by a water separator.
- S** Particulate filters for dust protection. Count Efficiency: 99,81% at Most Penetrating Particle Size (MPPS = 0,1 micron).

An S filter should be preceded by a dryer at all times.
- C** High-efficiency coalescing filters, removing solid particles, liquid water and oil aerosol. Total Mass Efficiency: 99,9 %.

For optimum filtration, a C filter should be preceded by a G filter at all times.
- D** High-efficiency particulate filters for dust protection. Count Efficiency: 99,97 % at Most Penetrating Particle Size (MPPS = 0,06 micron).

A D filter should be preceded by an S filter at all times and is commonly fitted after an adsorption dryer.
- V** Activated carbon filter for removal of oil vapour and hydrocarbon odors with a maximum remaining oil content of 0,003 mg/m³ (0,003 ppm). 1000 hour lifetime.
- P** Coalescing and particulate general purpose pre-filter. Removes solid particles, dust, liquid and oil aerosol. Total Mass Efficiency: 90%.

Several options to tailor the filtration to your needs



- Pressure gauge
- Dry contact mounted on the differential pressure gauge to give remote indication of the cartridge replacement

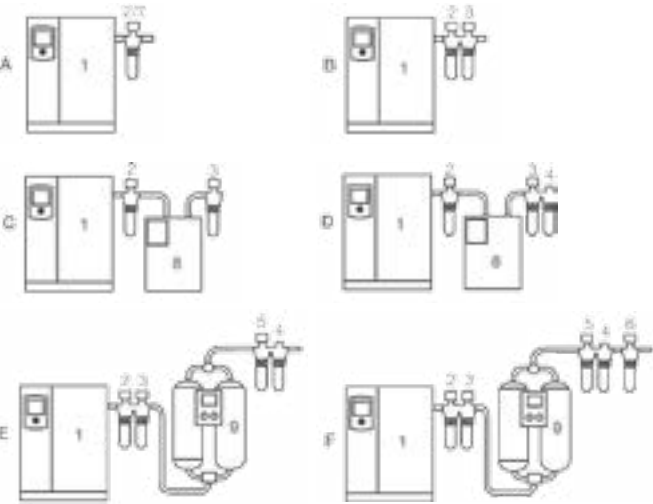


- Pressure indicator
- Serial Connection Kit allows easy mounting on filters in series
- Wall mounting kit to simplify the installation



- Quick coupling for easy connection to fix an intelligent drain with no loss of compressed air

Typical Installations



1. Compressor with after-cooler

2. G filter

3. C filter

4. V filter
5. S filter

6. D filter

7. P filter

8. Refrigerant dryer

9. Adsorption dryer
- A. General purpose protection**
(air purity to ISO 8573-1: G filter class 2:-3 & P filter class 4:-3)

B. General purpose protection and reduced oil concentration
(air purity to ISO 8573-1: class 1:-2)

C. High quality air with reduced dew point
(air purity to ISO 8573-1: class 1:4:2)

D. High quality air with reduced dew point and oil concentration
(air purity to ISO 8573-1: class 1:4:1)

E. High quality air with extremely low dew point
(air purity to ISO 8573-1: class 2:2:1)

F. High quality air with extremely low dew point
(air purity to ISO 8573-1: class 1:2:1)

Filter type	Nominal Capacity*			Maximum pressure		Connections/ port thread	Dimensions			Free space for cartridge replacement	Weight
	l/min	m³/h	cfm	bar	psi		A	B	C		
						G	mm	mm	mm	D	kg
FILTER 45	720	43	25	16	232	3/8"	90	21	228	75	1
FILTER 90	1500	90	53	16	232	1/2"	90	21	228	75	1,1
FILTER 125	2100	126	74	16	232	1/2"	90	21	283	75	1,3
FILTER 180	3000	180	106	16	232	3/4"	110	27,5	303	75	1,9
FILTER 180	3000	180	106	16	232	1"	110	27,5	303	75	1,9
FILTER 290	4800	288	170	16	232	1"	110	27,5	343	75	2,1
FILTER 505	8400	504	297	16	232	1 1/2"	140	34	449	100	4,2
FILTER 685	11400	684	403	16	232	1 1/2"	140	34	532	100	4,5
FILTER 935	15600	936	551	16	232	1 1/2"	140	34	532	100	4,6
FILTER 1295	21600	1296	763	16	232	2"	179	50	618	150	6,9
FILTER 1295	21600	1296	763	16	232	2 1/2"	179	50	618	150	6,9
FILTER 1890	31500	1890	1112	16	232	3"	210	57	720	200	11,0
FILTER 2430	40500	2430	1430	16	232	3"	210	57	890	200	12,6

* Reference condition: pressure 7 bar (102 psi). Maximum operating temperature of 66°C, and 35°C, only for V series. Minimum operating temperature of 1°C. For partnumbers please contact your local customer center



Condensate Removal & Treatment



Automatic drains

Model	Inlet	Outlet	Max Pressure	Min Temp	Max Temp	Nominal Discharge	Capacity
CFD85	1/2"	6mm	16bar	1.5°C	85°C	22ml	84L/Hr
CZD100	1/2"	1/2"	16bar	1.5°C	85°C	90ml	800L/Hr



Oil water separator

Model	Inlet	Outlet	Max Pressure	Min Temp	Max Temp	Voltage
CED320	1/2"	6mm	15bar	1.5°C	55°C	230V/1P/50-60Hz

Supply with 1.2 meter lead



Complete compressor room solutions

Model	Nominal Flow			Inlet	Outlet	Dimension
	l/min	m3/h	cfm	"	mm	LxWxH(mm)
OSD 20	2000	120	71	1/4"	10	140x140x240
OSD 35	3500	210	124	1/2"	20	215x257x500
OSD 105	10500	630	371	1/2"	20	345x282x654
OSD 255	25500	1530	901	1/2"	20	432x495x989
OSD 365	36500	2190	1289	1/2"	20	432x495x989
OSD 510	51000	3060	1801	1/2"	20	990x520x989
OSD 710	71000	4260	2507	1/2"	20	990x520x989

COMPRESSOR

AIR TANK

PRE-FILTER

DRYER

POST FILTER



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