

Ingersoll Rand

Heat-Of-Compression Air Dryers

Air Quality Solutions by Ingersoll Rand

Heat-of-compression (HOC) dryers are dual-tower, desiccant designs. The HOC dryer is the most energy-efficient dryer available. It recovers the heat that is a natural by-product of the compression process. This “free” heat is utilized in the air drying process to provide moisture-free air, while consuming virtually no energy.



Reliability

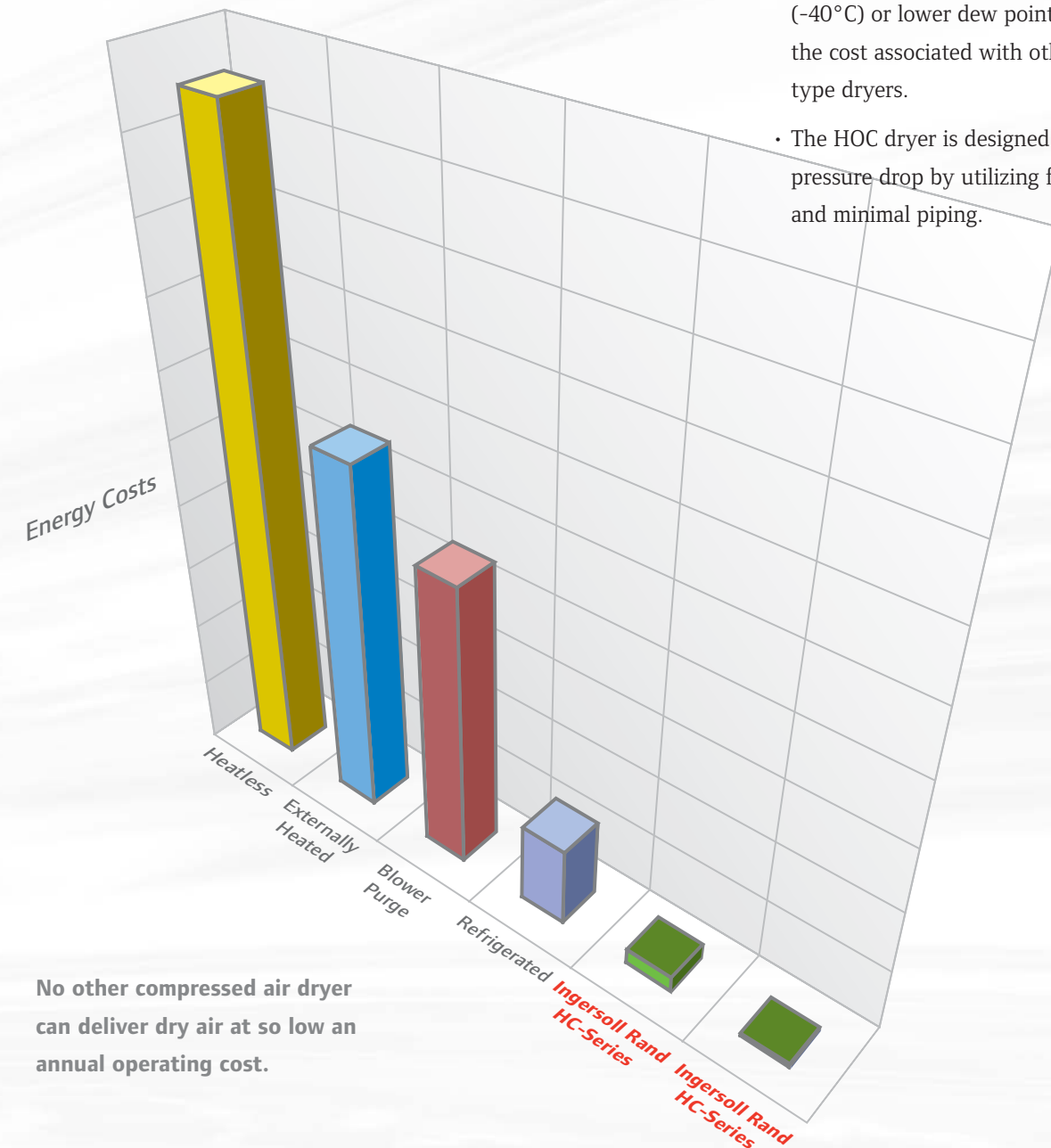
Ingersoll Rand heat-of-compression (HOC) dryers, the H-Series and HC-Series, are the world’s simplest, and most reliable, regenerative dryers. Their design innovation, coupled with unsurpassed performance, will help assure the reliability of your compressed air system.

- The Ingersoll Rand HOC dryer includes proven high-performance two-way valves, providing years of trouble-free operation.
- The unique design of the HOC dryer, with its stripping and cooling cycles, enables it to achieve year-round dew points below -40°F (-40°C).
- The HOC dryer is equipped with a microprocessor-based control system that maintains performance and monitors the health of the unit, so downtime is minimized.
- H- and HC-Series dryers can be installed with multiple compressors, allowing maximum flexibility without sacrificing the integrity of the compressed air system.

Energy Efficiency

Heat-of-compression dryers are the most cost-effective means to protect air lines, tools and expensive instrumentation. The H-Series dryer does not use any heaters or blowers. The only operating cost is for electricity needed to power the microprocessor controls—less than 24 watts, or the equivalent of a light bulb.

- The H-Series averages less than \$10 per year in total electrical cost, because there are no heaters or blowers.
- The H-Series design consumes no valuable compressed air.
- The HC-Series can constantly provide -40°F (-40°C) or lower dew points, at a fraction of the cost associated with other regenerative type dryers.
- The HOC dryer is designed to minimize pressure drop by utilizing full-flow valves and minimal piping.



No other compressed air dryer can deliver dry air at so low an annual operating cost.

Heat-Of-Compression Technology

Two Dryer Solutions to Choose From

The **H-Series** dryer provides instrument air quality – with a very low initial cost.

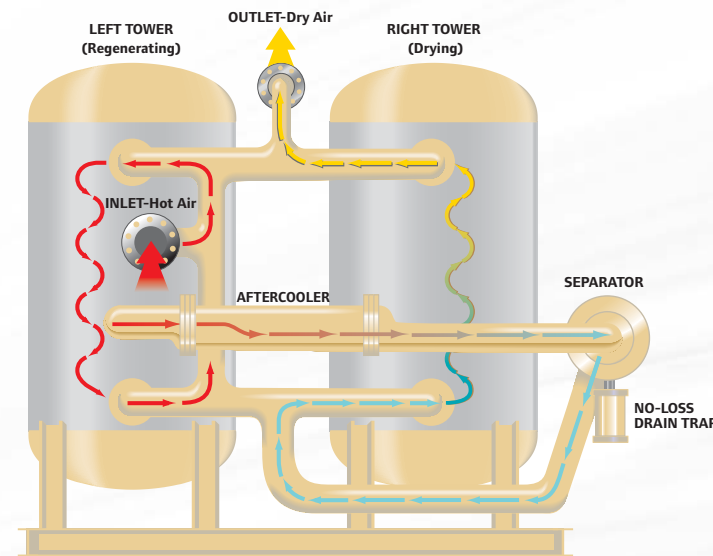
The **HC-Series** is a more sophisticated dryer, which includes a stripping and cooling cycle, delivering a constant dew point without temperature or dew point spikes.

Ingersoll Rand can equip the dryer with a dew point demand controller that switches the towers only on demand. This uses full capacity of the desiccant, reducing the number of tower shifts, and compensates for fluctuations in flow.

H-Series Operation

The H-Series design provides efficient operation by allowing air to enter the dryer directly from the compressor. It is channeled into the regenerating tower, where the heat of compression removes the moisture from the desiccant.

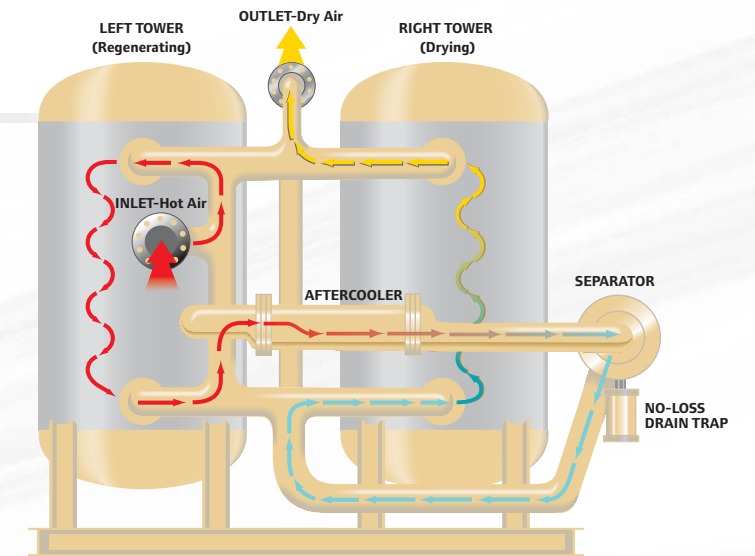
Next, the air flows into the aftercooler, then separator, and finally into the drying tower, where the air is dried to its final low dew point.



HC-Series Operation

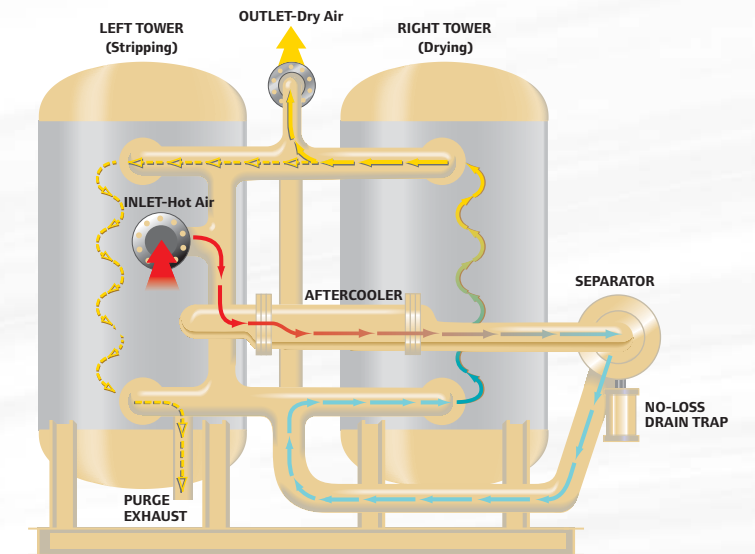
Left Tower Heating

During the heating cycle, hot air from the compressor is directed into the regeneration tower through two-way valves. There, the hot, dry air removes the bulk of the water from the desiccant. The air then enters the aftercooler, where it is cooled. Water is then removed through a moisture separator and no-loss drain trap. Finally, the air enters the drying tower, where it is dried to its final dew point.



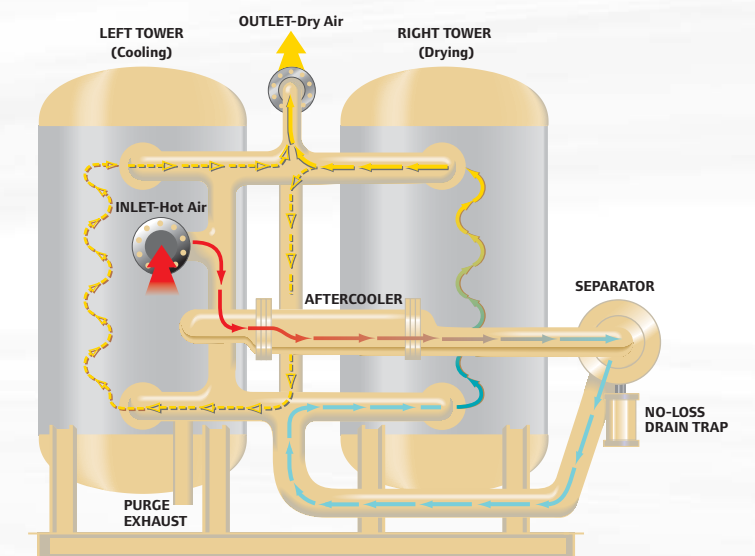
Left Tower Stripping

The stripping phase of regeneration occurs after full-flow heating and typically lasts 90 minutes. At the beginning, the regenerating tower is depressurized through a muffler. During stripping, a small amount of dry air is used to remove the residual moisture from the regenerating tower. This enables the HC-Series to provide such exceptionally low dew points.



Left Tower Cooling

At the end of stripping, the regenerating tower is repressurized and cooling begins. During cooling, a portion of dry outlet air is directed into the regenerating tower to reduce the temperature of the bed. There is no air lost during cooling. Cooling and stripping combine to provide extremely low dew points and eliminate dew point and temperature fluctuations during tower shift.



Increase Your Productivity...Safely

Productivity

The problems created by moisture contamination in a compressed air system include rust and corrosion in the air piping, inadequate air tool lubrication, and damage to labeling, packaging and the finished goods. The HOC dryer can prevent such productivity losses throughout your operation by delivering a continuously low dew point.

- The H-Series dryer can deliver points in the 0°F (-18°C) to -60°F (-51°C) range depending on the operating conditions. The H-Series dryer delivers air that is better than instrument-quality to eliminate moisture problems.
- With its patented stripping and cooling cycles, the HC-Series dryer can produce continuous year-round dew points of -40°F (-40°C) and below.
- Both the H- and HC-Series dryers prevent costly production interruptions due to moisture contamination.

Health, Safety and Environment

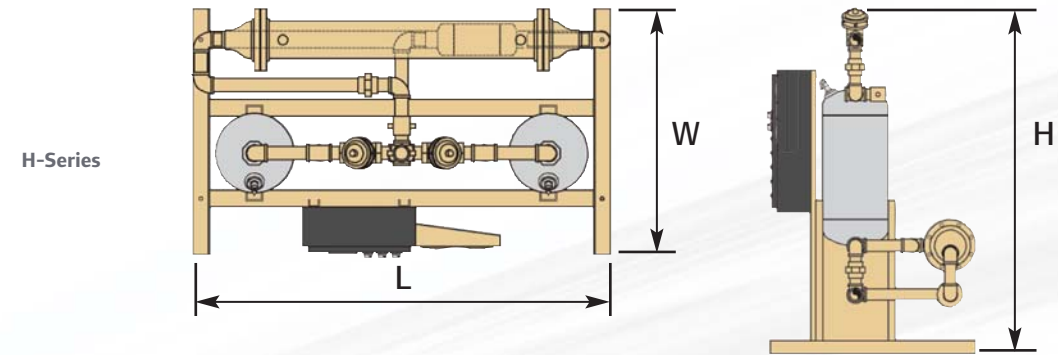
Ingersoll Rand HOC dryers are designed to protect the health and safety of the operators and the environment in which they are installed. The dryers utilize a non-acidic desiccant, no ozone-depleting refrigerants and insulated towers that protect operators from hot surfaces.

Progress is greener with Ingersoll Rand

Ingersoll Rand offers industry-leading products and solutions that enable businesses around the world to reduce energy consumption and costs and decrease harmful environmental emissions. From air compressors that reduce energy consumption to electric-powered golf cars with near-zero emissions, Ingersoll Rand provides the knowledge, experience and solutions to help our clients achieve their sustainability goals.

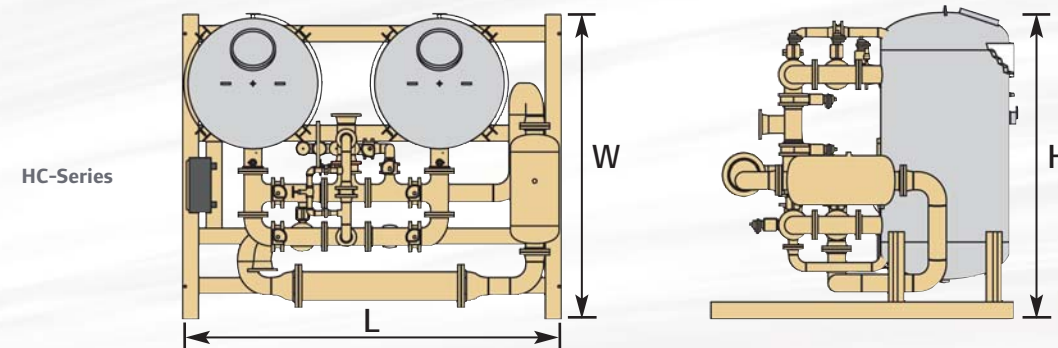


Technical Specifications



Model	Capacity*		Inlet/Outlet		Dimension (inches/mm - approx.)					Weight - approx.		
	scfm	m ³ /hr	FLG (inches)	DIN (mm)	Length	Width	Height	lbs	kgs			
H-8	741	1191	3	75	88	2,235	62	1,575	84	2,134	4,050	1,837
H-10	938	1,508	3	75	90	2,286	62	1,575	84	2,134	4,375	1,984
H-13	1,158	1,862	3	75	113	2,870	67	1,702	86	2,184	4,750	2,154
H-19	1,667	2,680	3	75	108	2,743	72	1,829	86	2,184	5,050	2,290
H-30	2,604	4,187	4	100	120	3,048	72	1,829	89	2,261	6,900	3,129
H-43	3,750	6,029	6	150	156	3,962	90	2,286	94	2,388	12,400	5,624
H-58	5,105	8,208	6	150	164	4,166	95	2,413	97	2,464	12,800	5,805
H-75	6,667	10,719	8	200	182	4,623	113	2,870	98	2,489	17,400	7,891
H-95	8,438	13,566	8	200	210	5,334	120	3,048	105	2,667	22,300	10,113
H-118	10,418	16,749	8	200	216	5,486	121	3,073	106	2,692	23,950	10,862
H-142	12,606	20,267	10	250	237	6,020	134	3,404	107	2,718	26,100	11,837
H-170	15,002	24,119	10	250	243	6,172	142	3,607	116	2,946	33,100	15,011

*Capacity based on 100 psig/7 barg operating pressure, 225°F/107°C compressor discharge temperature and 85°F/29°C cooling water temperature



Model	Capacity*		Inlet/Outlet		Dimension (inches/mm - approx.)					Weight - approx.		
	scfm	m ³ /hr	FLG (inches)	DIN (mm)	Length	Width	Height	lbs	kgs			
HC-7	677	1,088	2	50	80	2,032	58	1,473	99	2,515	4,650	2,109
HC-9	836	1,344	3	75	96	2,438	61	1,549	100	2,540	5,150	2,336
HC-14	1,204	1,936	3	75	109	2,769	70	1,778	101	2,565	6,000	2,721
HC-21	1,880	3,023	4	100	111	2,819	78	1,981	105	2,667	9,900	4,490
HC-30	2,708	4,354	4	100	126	3,200	104	2,642	109	2,769	10,075	4,569
HC-41	3,500	5,926	6	150	131	3,327	108	2,743	112	2,845	12,200	5,533
HC-54	4,814	7,740	6	150	140	3,556	112	2,845	115	2,921	17,300	7,846
HC-69	6,093	9,796	6	150	174	4,420	118	2,997	118	2,997	20,275	9,195
HC-85	7,522	12,093	8	200	196	4,978	148	3,759	127	3,226	23,300	10,567
HC-103	9,101	14,632	8	200	193	4,902	156	3,962	130	3,302	29,500	13,379
HC-122	10,832	17,415	8	200	215	5,461	160	4,064	134	3,404	33,300	15,102
HC-143	12,712	20,438	8	200	218	5,537	166	4,216	134	3,404	37,300	16,916
HC-166	14,743	23,703	10	250	242	6,147	172	4,369	140	3,556	42,800	19,410

*Capacity based on 100 psig/7 barg operating pressure, 225°F/107°C compressor discharge temperature and 85°F/29°C cooling water temperature



Ingersoll Rand Industrial Technologies provides products, services and solutions that enhance our customers' energy efficiency, productivity and operations. Our diverse and innovative products range from complete compressed air systems, tools and pumps to material and fluid handling systems and environmentally friendly microturbines. We also enhance productivity through solutions created by Club Car®, the global leader in golf and utility vehicles for businesses and individuals.

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