



SPX Air Treatment

Legendary Heat-Les™ Pressure-Swing Desiccant Dryers

CHA Series





CHA Series –The Original Heat-Les™ Drying Technology

Since 1946, the world has turned to PNEUMATIC PRODUCTS for the quality and service demanded by the most critical of applications. Global leaders of industry require durable components that deliver unquestionable reliability. Our precision engineered components and designs, deliver outstanding service life and operational longevity. Invest in our experience and gain annuities that will grow for years.

Simplicity and Versatility - Legendary Design

PNEUMATIC PRODUCTS Heat-Les™ technology is the model of simplicity and the origin of the most common design in use today. CHA Series dryers offer versatility of application as they excel in hostile environments where corrosive, toxic or explosive elements exist.

Everyone knows, heat rises. Our legendary down flow drying process takes advantage of that principle in storing the heat of adsorption. In regeneration mode, a side-stream of dried process air with an affinity for moisture, leverages the heat of adsorption to dry the off-line desiccant chamber. Exceptional dew point stability to -100°F (-73°C) is achieved.

Patented Process Quality Valves - Engineered Simplicity

Standard off-the-shelf valves were not good enough for critical applications so we engineered our own. Tested under adverse conditions without failure in excess of 500,000 cycles, our full port, air-operated Century Series poppet valves feature stainless steel internals. Protected against wear, a friction-free PTFE coating is applied to all wear surfaces. Corrosion resistant and non-lubricated, these valves were engineered to withstand elevated temperatures, clogging, and erosion caused by abrasive desiccant dust. These are the best valves in the industry - period.

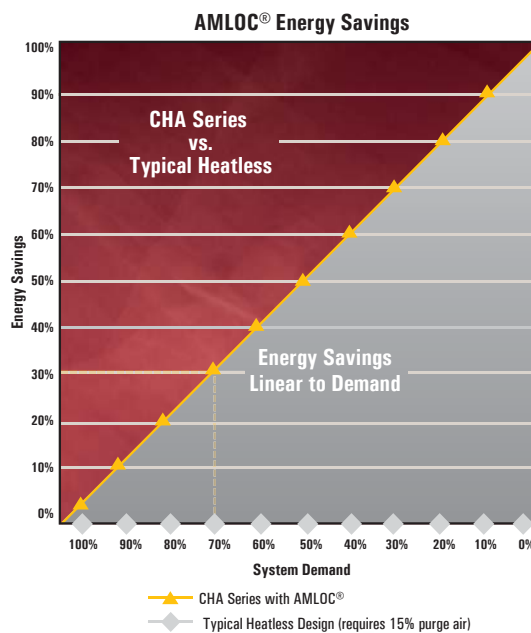
Patented Automated Moisture Load Control (AMLOC®)

Today's air system auditors know that it is rare to find a dryer that operates under full-load conditions. That is why AMLOC® is standard equipment on every CHA Series dryer we build. AMLOC® energy management systems generate tens-of-thousands of dollars in energy saving annuities for industry leaders. Our PTFE coated stainless steel capacitance probes sense the dielectric strength imparted upon the desiccant by the extracted water vapor. Capable of identifying an aging or fouled bed, the heating and purge cycles are managed with precision. AMLOC® reduces cycle frequency to extend component life and ensures consistent dew points.

Annual Energy Savings

Average Demand	Typical Heatless Design (cost of 15% purge)	CHA Series w/AMLOC® controls (cost of purge)	Energy Savings with CHA Series
100%	3600	\$70,578	–
85	3060	70,578	\$10,587
70	2520	70,578	\$21,174
50	1800	70,578	\$35,289
35	1260	70,578	\$45,876
20	720	70,578	\$56,462

Assumes 5 scfm per HP, 8760 hours of operation per year, 10 cents per kWh



CHA Series – Key Product Features



Engineered Performance
Non-lubricated Century Series valves.
The ULTIMATE in reliability

Sensory Perception
AMLOC® Probe proven in over 25,000 applications.
Lifetime Warranty. No calibration required.



AMLOC® Energy Optimizer
Synoptic indication of process phases
RS-232 Communications
capable via PLC,
computer or modem.
4 line X 80 character
information center

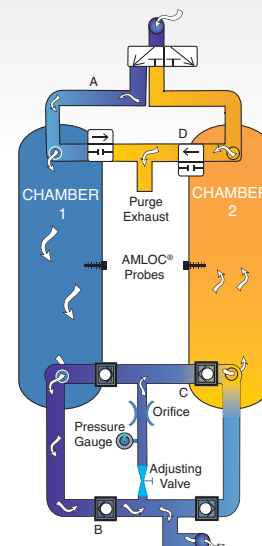


Functions, Features, and Specifications

How it Works

Moist, filtered compressed air enters down flow drying Chamber 1 via valve (A). Water vapor is adsorbed onto the desiccant and dry compressed air exits through valve (B) where, abrasive desiccant dust is captured by an afterfilter. In regeneration mode, a side-stream of dried process air (C) with an affinity for moisture, leverages the heat of adsorption to desorb off-line desiccant Chamber 2. Water vapor releases from the desiccant and evacuates through valve (D) where our spring loaded flow restrictor controls the rate of depressurization to prevent bed fluidization. Once desorbed, valve (D) closes and Chamber 2 is repressurized. No further energy will be consumed until AMLOC® determines the on-line bed is fully utilized, whereupon, operations will switch and Chamber 1 will be regenerated.

AMLOC® governs this process with precision. Patented capacitance probes sense the dielectric strength water vapor imparts on the desiccant. Low moisture loads extend the drying cycle while eliminating energy use. Fewer flow reversals yields longer desiccant and valve life. Serious performance, reliability, and energy savings result as energy consumption mirrors plant air usage.



Product Features

AMLOC® Probe	Desiccant	Moisture Indicator	ADC Control System w/ AMLOC® Intelligence				Information Center			Alarm Protection Parameters				
Patented PTFE coated, stainless steel capacitance sensor	Premium grade/ activated alumina	Aquadex® Visual, Color Change	Energy Management System - Automatic Savings	Extended drying cycles - long component life	RS-232 port- communications capable	Operational History log stores 20 events - simplifies troubleshooting	Synoptic display with active path flow illumination LEDs	Class 1, Groups C & D, Division II	Back-lit LCD visual clarity in diverse lighting conditions	4 categories: Dryer Status, Service, History, Configuration	Warning & Alarm Lights	Alarm Failures: Depressurization, Repressurization, On-line Pressure,	Warning: AMLOC® Failure, High Humidity	Service Reminders: Valves, Desiccant, Filters
S	S	S	S	S	S	S	S	O	S	S	S	S	S	S

S=Standard O=Option

Engineering Data

Model	Inlet Flow @ 100 psig, 100°F		Dimensions (inches)			Approx. Weight (lbs.)	Inlet/Outlet Connections (inches)	Mounted Filtration	
	-40°F scfm	-100°F scfm	W	D	H			Prefilter	Afterfilter
2000CHA	2,000	1,200	79	44	136	4,700	3" FLG	PCC124004SU	PCC124004AF
2500CHA	2,970	1,470	92	50	140	6,500	4" FLG	PCC136003SU	PCC136003AF
3000CHA	2,970	1,770	89	50	135	6,600	4" FLG	PCC136003SU	PCC136003AF
3600CHA	4,270	2,505	105	56	145	9,500	4" FLG	PCC148004SU	PCC148004AF
4900CHA	5,810	3,480	125	62	159	15,500	6" FLG	PCC160005SU	PCC160005AF
6400CHA	7,600	4,560	143	68	162	17,200	6" FLG	PCC172006SU	PCC172006AF
8100CHA	9,680	5,820	154	82	178	24,000	8" FLG	PCC196008SU	PCC196008AF
10000CHA	11,940	7,164	CF	CF	CF	CF	8" FLG	PCC11600015SU	PCC11600015AF
12100CHA	14,450	8,670	CF	CF	CF	CF	10" FLG	PCC11600015SU	PCC11600015AF

Performance data per CAGI Standard ADF 200 for Dual-Tower Regenerative Desiccant Compressed Air Dryer. Rating conditions are 100°F (37.8°C) inlet 100 psig (6.9 bar) inlet pressure, 100% relative humidity, 100°F (37.8°C) ambient temperature. Consult factory for sizing assistance. Larger models available.

SPX PNEUMATIC PRODUCTS

Improvements and research are continuous at SPX Pneumatic Products. Specifications may change without notice.

Bulletin PIS-131_d

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