PNEUMATIC PRODUCTS
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Legendary Internally Heated Desiccant Dryer

DEA Series

DEA Series –The Ultimate in Internally Heated 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 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.

Extraordinary Efficiency – by Design

DEA Series dryers stand apart from the ordinary. Everyone knows, heat rises. Our down flow drying process takes advantage of that principle. In regeneration mode, the stored heat of adsorption and equi-distant bed heating ensure consistent bed temperatures. Rising heat provides natural bed convection, to evacuate the water vapor. Operating at full-load, a mere 2-3% of purge gas assists this process. DEA Series dryers approach 98% efficiency, by design.

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 DEA Series dryer we build. AMLOC® energy management systems continue to generate tens-of-thousands of dollars in energy saving annuities for industry leaders. Our exclusive ceramic 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, ensures consistent dew points, and averages <1% purge gas consumption.

Patented Process Quality Valves – Engineered Simplicity

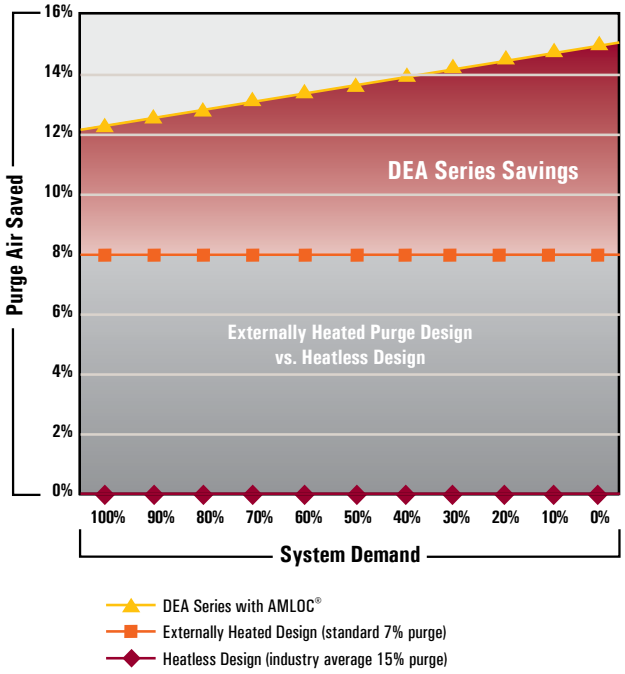
Standard off-the-shelf valves were not good enough for critical applications so we engineered our own. Tested under adverse conditions without failure in excess of 500,000 cycles, our full port, air-operated Select Series* poppet type valves feature stainless steel internals. Protected against wear, 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.

*Models 1300DEA and larger feature Century Series valves.

Annual Energy Savings

Average Air Demand		Regeneration Cost by Technology[1]		
flow	scfm	Typical Heatless Design Cost of 15% Purge	Typical Externally Heated Design Cost of 7% Purge	**DEA Series With AMLOC® Up to 3% Purge**
100%	2,000	$ 39,210	$ 18,298	**$7,842**
90	1,800	39,210	18,298	**6,352**
75	1,500	39,210	18,298	**4,705**
50	1,000	39,210	18,298	**2,941**
35	700	39,210	18,298	**961**
20	400	39,210	18,298	**314**

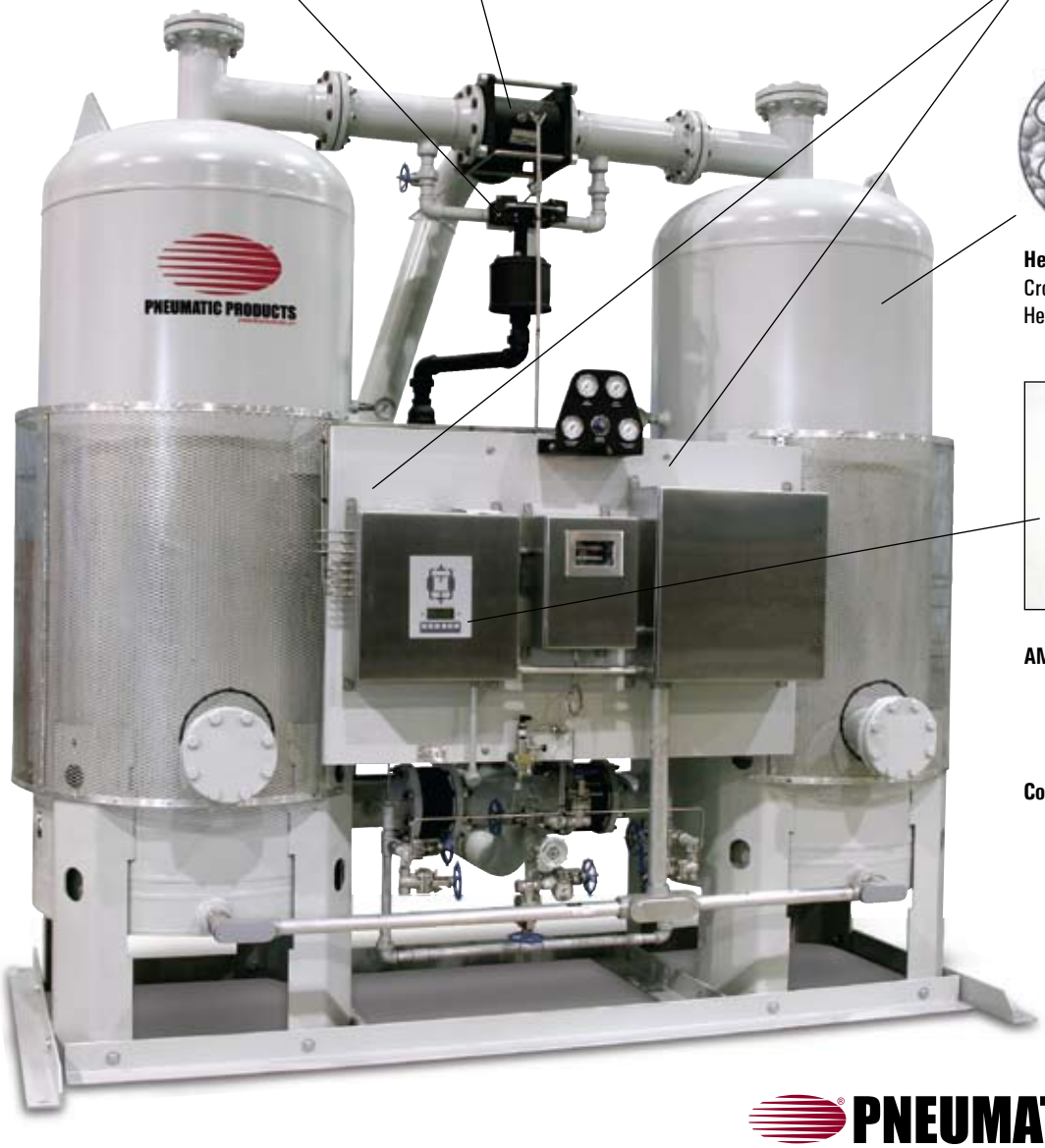
[1] Assumes 5 scfm per HP, 8760 hours of operation per year, 10 cents per kW/h

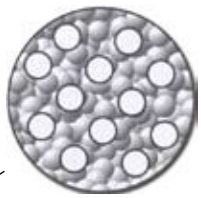


DEA Series–Key Product Features

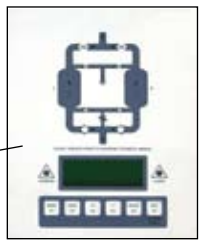
Engineered Performance
Non-lubricated Select Series and/or Century Series valves.
The ULTIMATE in reliability

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





Heat Management
Cross section illustrates equi-distant Heater Tube design



AMLOC® Energy Management

- Synoptic indication of process phases
- 4 line X 80 character information center

Communications Protocol Options

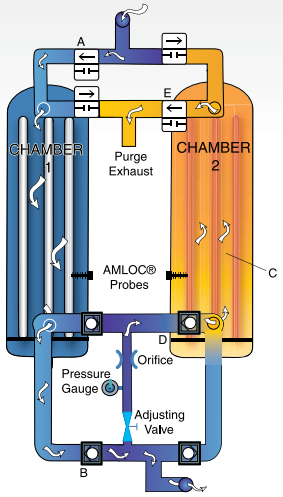
- RS-232 Standard
- RS-485 MODBUS RTU, AB DF1, etc.
- Ethernet TCI/IP MODBUS Industrial Ethernet, etc.
- Web Server and DATA Logger

Functions, Features and Specifications

How it Works

Moist, filtered compressed air enters downflow drying Chamber 1 through valve (A). Water vapor is adsorbed onto the desiccant and dry compressed air exits through valve (B) where, abrasive desiccant dust is captured by a high-temperature afterfilter. In regeneration mode, balanced heat distribution in Chamber 2 comes from natural heat-of-adsorption and the Equi-distant heater tube system (C) to release the water vapor. A mere 2-3% of dry process air (D) directs the water vapor evacuation through valve (E) and a muffler. Once desorbed, the heater turns off and cool dry purge air continues to pass to cool the bed. Then, valve (E) 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 as 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 and minimal thermal stress yields longer desiccant and valve life. Serious performance, reliability and energy savings result as energy consumption mirrors plant air usage.



Product Features

Internal Heater	AMLOC® Probe	Desiccant	Moisture Indicator	ADC Control System w/ AMLOC® Intelligence						Information Center			Alarm Protection Parameters			
Equi-Distant, Low-Watt Density, SST Heater Tubes	Patented Ceramic Coated, Stainless Steel Capacitance Sensor	Silica Gel/ Molecular Sieve- Premier Dehydration	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 Trouble-Shooting	Synoptic Display With Active Flow Path 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, Thermocouple, Heater Over-Temperature,	Warning: AMLOC® Failure, High Humidity	Warning: Heater Burnout	Service Reminders: Valves, Desiccant, Filters
S	S	S	S	S	S	S	S	S	O	S	S	S	S	S	O	S

S = Standard O = Option

Engineering Data

Model	Inlet Flow [1] @ 100 psig, 100°F -40°F scfm	Heater qty per Chamber	Kw per Chamber 460v	Avg Kw per day 460v	System [2] Dimensions inches H	W	D	Approx. Weight lbs.	Inlet/Outlet Connections inches	Mounted Filtration Prefilter	Afterfilter
100DEA	100	3	2.5	32	115	49	40	950	1" NPT	PCS12001SU	PCS12001HT
175DEA	175	6	5	65	115	52	40	1,150	1" NPT	PCS12001SU	PCS12001HT
300DEA	300	6	5	65	117	56	40	1,350	1½" NPT	PCS13401SU	PCS13401HT
400DEA	400	9	7.4	97	120	62	46	1,625	1½" NPT	PCS15001SU	PCS15001HT
500DEA	500	12	10	130	121	64	48	1,950	1½" NPT	PCS15001SU	PCS15001HT
600DEA	600	15	12.4	162	121	66	46	2,275	2" NPT	PCS16001SU	PCS16001HT
800DEA	800	18	14.9	195	121	76	55	2,425	2" NPT	PCS18001SU	PCS18001HT
1000DEA	1,000	21	17.3	227	123	78	55	3,125	3" FLG	PCC112001SU	PCC112001HT
1300DEA	1,300	24	19.8	345	130	88	78	4,340	3" FLG	PCC114003SU	PCC114003HT
1500DEA	1,500	30	24.8	476	131	88½	78	5,650	4" FLG	PCC118003SU	PCC118003HT
1800DEA	1,800	33	27.2	476	131	90	82	5,585	4" FLG	PCC118003SU	PCC118003HT
2000DEA	2,000	39	32.2	563	131	96	82	6,085	4" FLG	PCC124004SU	PCC124004HT
2500DEA	2,500	45	37.1	648	131	106	91	6,675	6" FLG	PCC136003SU	PCC136003HT
3600DEA	3,600	51	51	820	138	117	96	10,250	6" FLG	PCC136003SU	PCC136003HT
4900DEA	4,900	66	66	1,060	143	133	99	13,925	6" FLG	PCC148004SU	PCC148004HT

[1] 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.

[2] Dimensions, Weights & Inlet/Outlet Connections based on F-01 pre-piped filter options

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-129_f

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