



Welcome to the presentation of **Lytzen**



The heat treatment specialist!



Lytzen History

**Danish company in 1947,
Specialized in ovens in the fifties,
Specialized in pharmaceutical ovens in
the seventies,
Was the first company to comply to the
FDA class 100**



Lytzen Philosophy

Never to compromise on our high level of quality in every detail.

Lytzen customers

**Pharmaceutical industries all over the world, like Pfizer, GSK,
Merck, Novartis, Astra Zeneca, Hoffmann LaRoche.**



Products

**Dry Heat Sterilizers ISO Class 5 & ISO Class 7
Granulate Dryer / Tray Dryer**



Warsaw, 7-9/11/12

AR Pharma

Helmut Müller



Dry Heat Sterilizer application area

**Batch oven, working temperature 250° C or
Empty vials, ampoules, injection bottles, af
Closed bottles with low aqueous liquids or powder medicin,
Other sterilisationpurposes, e.g. clean room furnitures,
Small- mid size scale production, R&D, Biotech, large hospital pharmacies.**





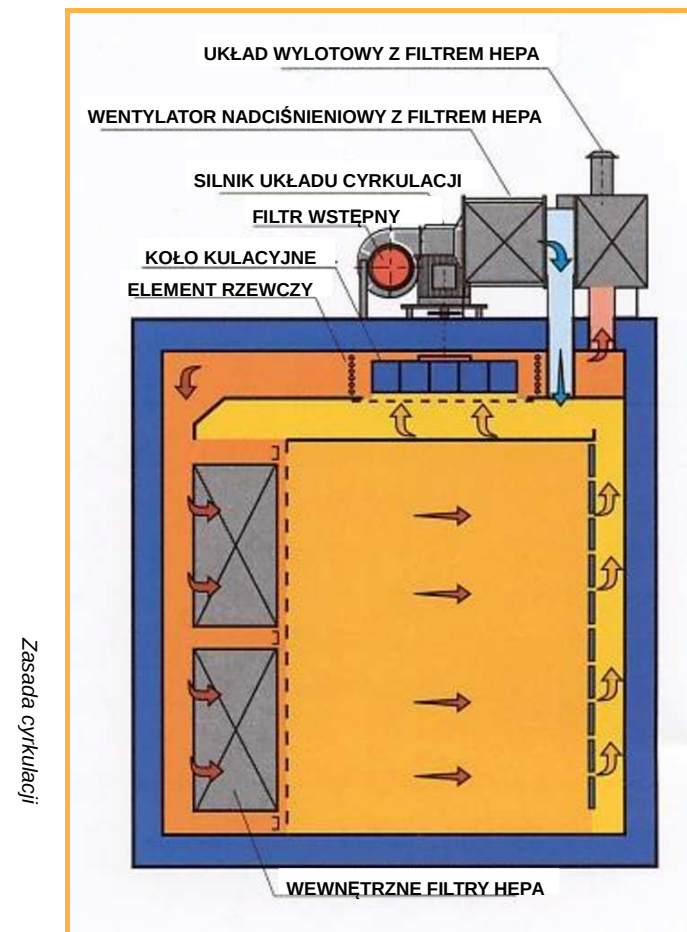
Principle of Dry Heat Sterilizer

Forced convection principle with heat transmission to load.

Cheap and enviromental friendly process.

Recirculation air / Damper on outlet.

Saving energy during cycle.





Lytzen fulfils the ISO Class 5 standard during the entire cycle

ISO Class 5= 3520 part./m³, size 0.5µm (100 part./cubic foot)

Particle number is far below acceptance criteria – inclusive the critical heating and cooling phases.

SUPERIOR CHAMBER SEALING

Lytzen developed filter-suspension system,

Fully welded chamber,

Air seal for fan shaft,

Double door gasket,

HEPA - Filter Air inlet and outlet

LYTZEN		TEST REPORT		DATE : 05.12.15	
				SIGN.: HAB /	
P A R T I C L E C O U N T					
CUSTOMER :					
ORDER NO. : A051120		(a)		MACHINE TYPE : H1F/1650	
MEASURING EQUIPMENT					
TYPE : ROYCO PORTABLE		SERIAL NO:9109P510		VALID:Apr2006	
CRITERIA					
ISO 14644-1					
METHOD STATEMENT					
EACH MEASUREMENT IS COLLECTED DURING A SAMPLETIME OF 5 MINUTES WITH A TOTAL FLOW OF 1 CUBICFOOT (CuFt)					
TEMPERATURE READINGS ARE ONLY GUIDANCE VALUES.					
MEASURING RESULTS					
TIME		°C	0.5 µM	TIME	
D 16:12	52	2		C 17:39	272
H 16:18	143	0		C 17:44	272
16:23	177	1		17:49	268
16:28	212	0		17:54	248
16:33	242	0		18:00	205
16:38	258	0		18:05	166
16:43	263	2		18:10	142
16:48	266	10		18:15	116
16:53	268	2		18:20	98
16:58	268	0		18:25	92
17:03	269	0		18:30	77
17:09	269	0		18:35	66
S 17:14	271	0		18:40	57
17:19	271	0		18:45	60
17:24	271	1		E 18:51	53
17:29	272	4		18:56	48
17:34	272	0			
AVERAGE COUNTS					
PARTICLE SIZE		0.5 µM =		1.8 [PARTICLES/SAMPLE]	
INDEXES					
D=DRYING		H=HEATING		S=STERILIZING	
		C=COOLING		E=END	
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7.2.05

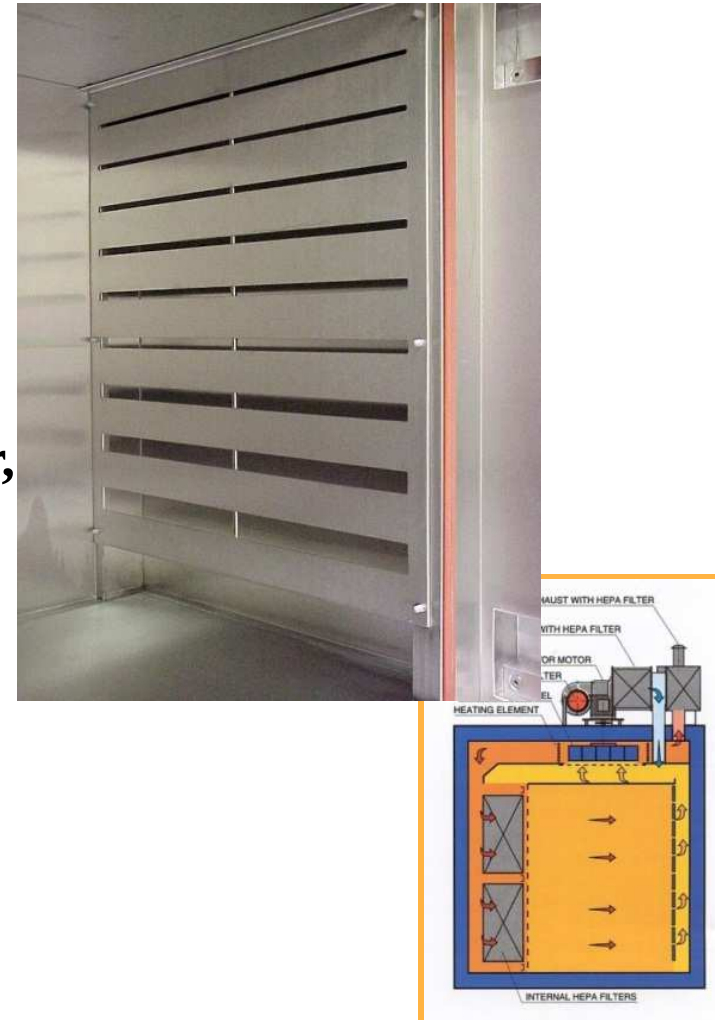


Customized chamber sizes

size depends on customers demands

Homogene temperature distribution

**Lytzen Standard: Max $\Delta 5^{\circ}\text{C}$ inside chamber,
Fixed temperature distribution plate, no
baffles needed,
Easy and fast validation.**





Thank you for your attention!

**Questions? Please visit us at ARPHARMA Stand for more
information**