





## CLIMAJet®

> CLIMAJets® are systems with individual air flow systems for processes throughout the entire refinement chain – from defrosting through to cold smoking, maturing, and post-maturing. This well-engineered plant technology is equally of interest to trade and industry because it can be adapted flexibly to suit products and capacities. From the smallest to the largest post-maturing room, the products are processed in an absolutely uniform and gentle manner thanks to an intricate air recirculation system. In addition, Schröter will adapt all cold-smoking, maturing, post-maturing, and defrosting systems specifically for your building. Moreover we always find the best solution also for your new building plans.



## THE BEST CLIMATE FOR THE BEST QUALITY

IN THE MANUFACTURE OF MEAT PRODUCTS, CLIMATIC CONDITIONS PLAY A DECIDING ROLE IN THE QUALITY OF PRODUCTS. THE PROVEN CLIMAJets® ENSURE OPTIMAL TEMPERATURE AND HUMIDITY, INDEPENDENTLY OF THE OUTSIDE CLIMATIC CONDITIONS.

Schröter continuously monitors its air circulation systems for the thermal treatment of meat and sausage products and tailors them to different processes and product characteristics. The focus of process optimization is on new and more efficient system components, product-related and energy-saving control options, and different types and speeds of air conveyance to achieve a uniformly matured product. With extensive display system options, such as continuous parameter documentation, proof of batches, and operations as well as batch tracking, the plant manufacturer from eastern Westphalia offers its clients the best prerequisites to easily comply with the HACCP (Hazard Analysis and Critical Control Point)

specifications. Last but not least, Schröter has focused on high plant efficiency in the development of their innovative plant systems and places great importance achieving the best performance with low power consumption.

We work with Germany's leading salami manufacturers and with scientific institutions and professional schools in order to comply with the demands in practice. A competent team of designers, mechanical engineers, and meat technologists subsequently implements the results in well-engineered plant concepts.

01 + 02 Two-trolley climatic room with multiple-air flow duct system (MAS)

03 Multiple-airflow duct system for horizontal and vertical airflow



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## SOPHISTICATED AIR FLOW

The CLIMAJet® with a multiple-airflow duct system is particularly sophisticated. Thanks to different supply and return air options, this system provides conditioned drying air to all chamber regions. This results in optimal drying. Alternating air flow guarantees a high degree of uniformity from the first hour of maturing – irrespective of whether the goods are large or small or whether a high or low degree of drying is required. An added bonus: the air flow is gentle on the products.

Besides this, the separated inlet ducts, which are adapted to the chamber size, have proven their worth. Depending on the program, dampers provide the horizontal or the vertical inlet ducts with conditioned air. The correct ratio of horizontally to vertically conveyed air is decisive in this respect.

01 + 04 + 05 Multiple-air flow duct system for horizontal and vertical air flow

02 One-row climatic system with vertical air flow and 50-trolley capacity

03 Climatic machine aggregate with friction smoke generator





## GENTLE MATURING AND DRYING

Salami and cold-smoked ham should mature and dry gently and quickly with the lowest possible power consumption. With the innovative LIMIT process control system, based on the principle of “alternating moisture control”, the plant manufacturer is presenting a new solution.

An interval of minimum and maximum temperature and moisture values is defined and these parameters control the continuous change between continuous and on-and-off operation of the unit. During on-and-off operation, the moisture of the goods diffuses from the core to the surface, where it is delivered to the circulating air and thereby increasing the humidity in the chamber. The highest value of moisture accumulation, the upper LIMIT value, is matched to the relevant product characteristics. When this point is reached, on-and-off operation is ceased and continuous operation commences. The moisture is depleted and the air-conditioning

values are brought back to the preset lower LIMIT parameter by increasing the circulation air and the use of cooling, heating, drying, or fresh air. Then the system automatically switches to on-and-off operation again, and the climate is influenced exclusively by the moisture dissipated by the goods. The LIMIT control system also adds fresh air to the process by means of state-of-the-art enthalpy control algorithms. A “negative” maximum deviation from the set point can be set in order to prevent the product from drying out too much. If this value falls below the maximum negative deviation, the system is brought back into the regular LIMIT range by means of additional humidification.

Thanks to this, maturing errors are minimized, the service life of motors and machine parts is increased, low maintenance is achieved, and last but not least, valuable energy is saved.

01 + 03 Climatic post-maturing room

02 Example product: poultry salami

04 + 06 Climatic maturing room for cold-smoked ham on layers

05 Climatic machine aggregate for post-maturing





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CLIMAJet®



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## QUICK AND SAFE DEFROSTING

Schröter has developed the innovative CLIMAJet® AT to defrost frozen foods very gently and without loss of quality. The air-conditioning process control system and horizontal air flow guarantee uniform defrosting results with a minimum weight loss and natural freshness – even for solid blocks of frozen meat.

Frozen meat must be defrosted from –24 degrees Celsius to about –1/0 degree Celsius before it can be processed. Up to now, this has been done using a water bath. The disadvantage here is the high water consumption and compromised meat quality due to leaching. Thanks to a new defrosting procedure with steam, the plants from Schröter not only decrease losses from defrosting but also reduce power

consumption to one tenth. The deep-frozen meat blocks are stored in mobile frames in several layers for this purpose. Steam is blown in and heats the defrosting room to the required set point and ensures a uniform distribution of heat. Fans ensure that optimal heat distribution is guaranteed through horizontal air flow. Insertion sensors directly underneath the surface of the product and at the core of the product control the uniformity of the defrosting process. The system always operates within the optimum range such that excess temperatures and germ growth in the defrosting goods can be prevented.

01 Defrosting room example

02 + 03 Frozen and defrosted pieces of meat before further processing

04 Fillet of fish during the defrosting process



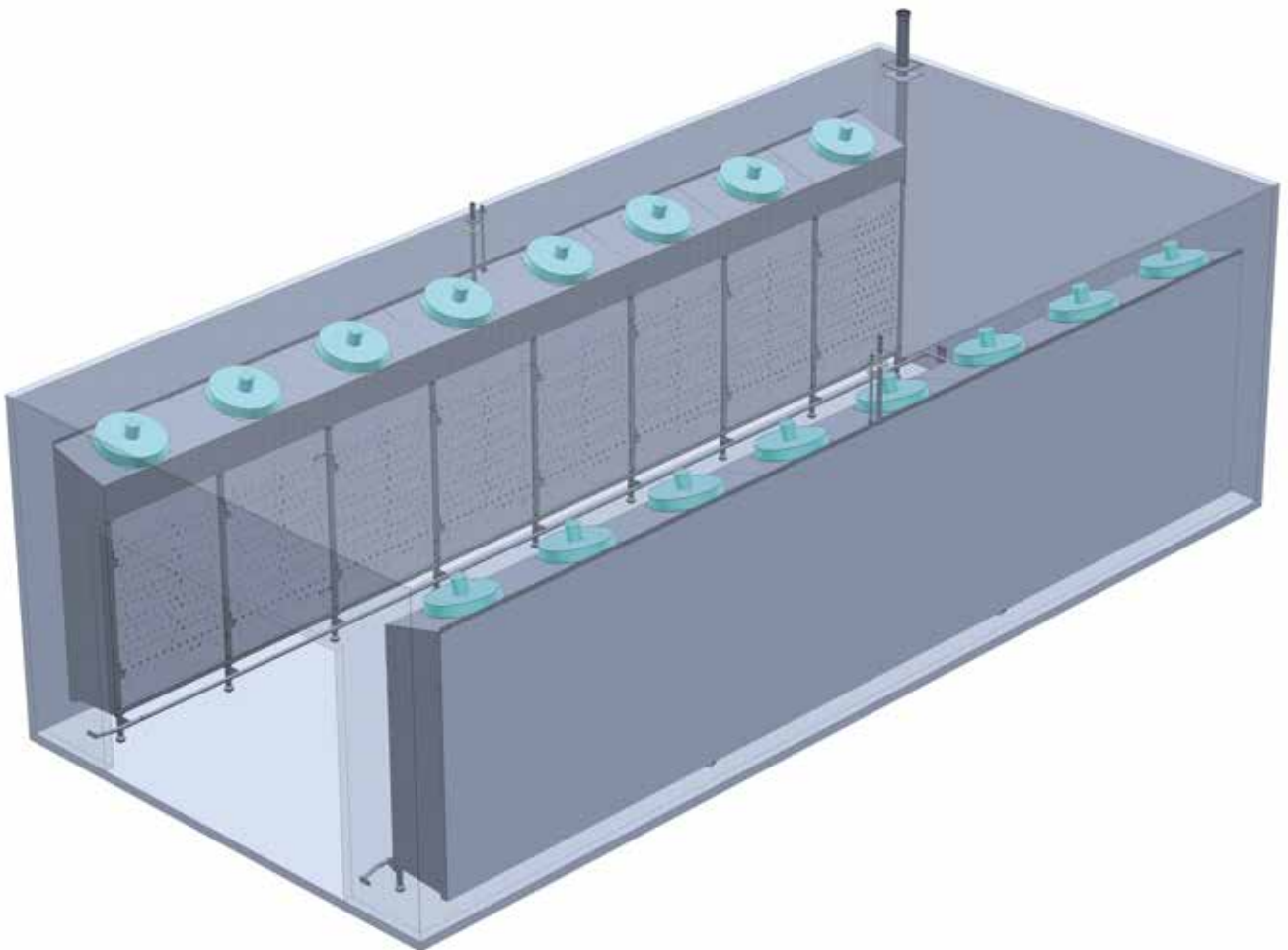


## AN OVERVIEW OF CLIMAJet®

CLIMAJets® ARE SYSTEMS WITH INDIVIDUAL AIR FLOW SYSTEMS THAT ENSURE EVEN AND GENTLE PROCESSES THROUGHOUT THE ENTIRE REFINEMENT CHAIN.

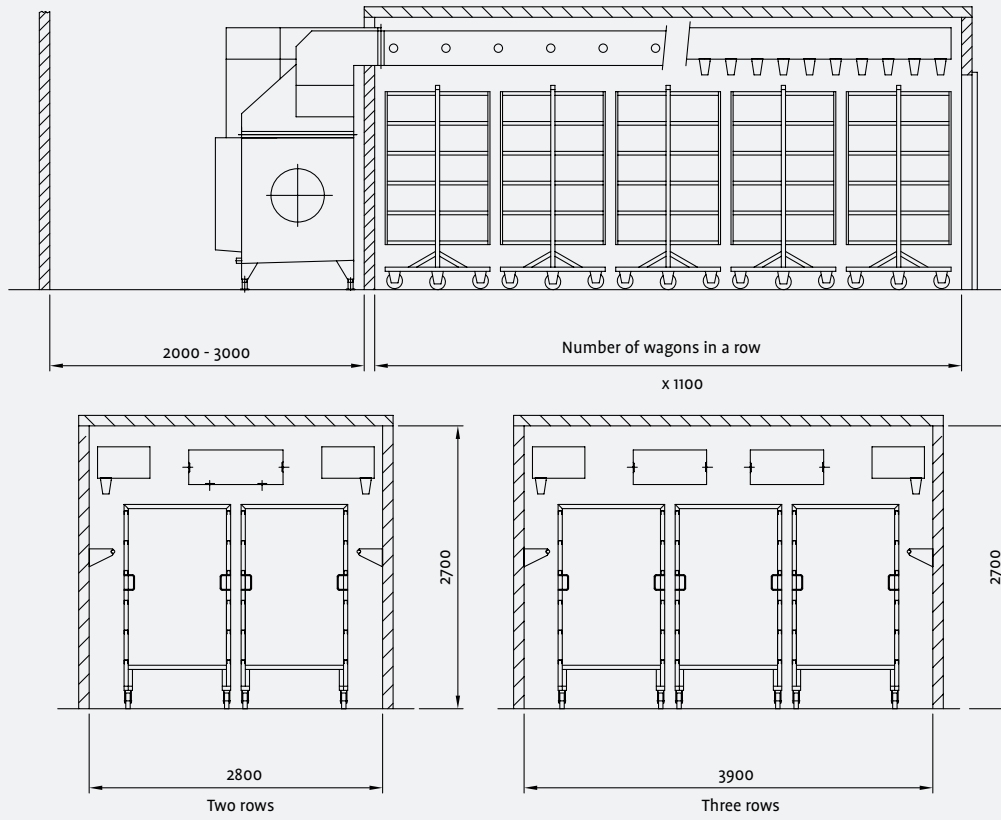
### 3-D VISUALIZATION: CLIMAJet® AT

The dimensions and connected loads can be found in the Technical Details chapter on page 94.



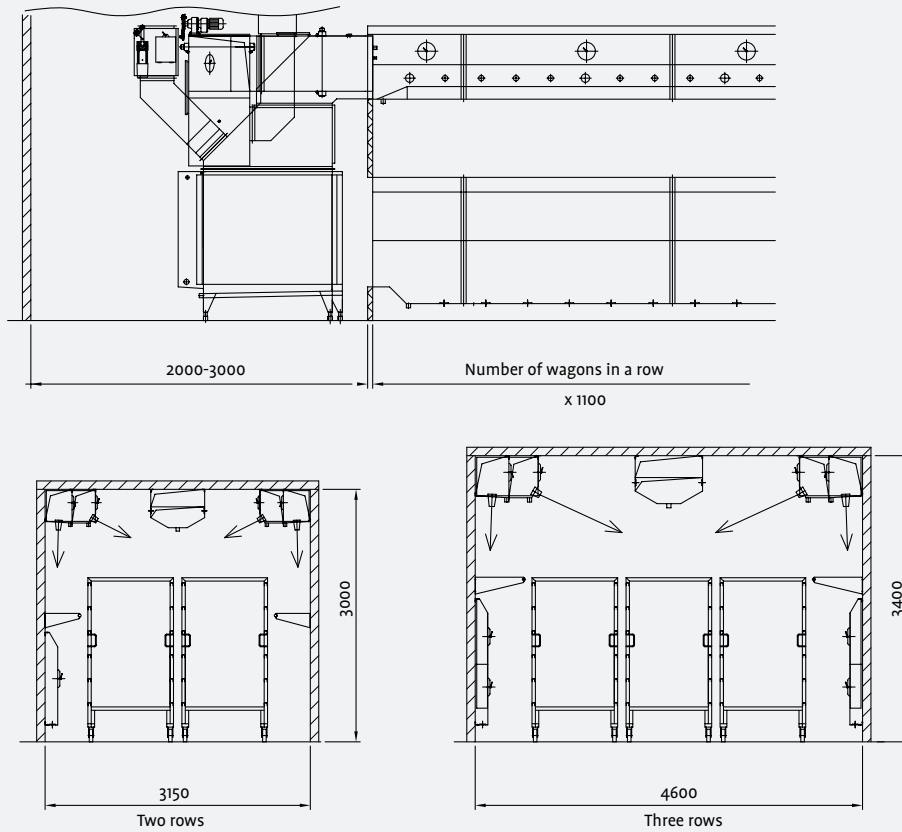
**2-D VISUALIZATION: CLIMAJet® KR (STANDARD)**

The dimensions and connected loads can be found in the Technical Details chapter on page 94.



**2-D VISUALIZATION: CLIMAJet® KR (MAS)**

The dimensions and connected loads can be found in the Technical Details chapter on page 94.









## TECHNICAL DETAILS

> Sophisticated Schröter systems feature exceptional details and first-class workmanship and are manufactured using high-quality materials. We adapt every system and its equipment down to the smallest component to meet the customer's individual requirements. Even accessories such as smoking, cooking, and baking trolleys and frames for material-handling equipment are customized in line with your specific needs. The following pages contain all the dimensions and connected loads of our systems (hot smoking, cooking, baking, intensive chilling, smoke, climatic cold-smoking and climatic post-maturing, as well as cooking kettles and exhaust purification systems).



## CLIMAJet® KR AND CLIMAJet® NR: CLIMATIC SYSTEMS

CLIMATIC COLD-SMOKING SYSTEMS			
CONNECTED LOADS			
Wagons	Electricity kW	Heating kW	Chilling kW
4	3	9	7
6	4	12	10
8	6	15	12
10	6	18	14
12	6	22	18
14	8	26	20
16	8	30	22
18	10	34	25
21	10	40	30
24	12	45	34
27	12	52	39
30	16	55	42
33	16	63	47
36	19	65	50
39	19	74	54
42	19	78	58
45	23	84	62
51	23	95	70
60	30	110	85

CLIMATIC POST-MATURING SYSTEMS			
CONNECTED LOADS			
Room size qm	Electricity kW	Heating kW	Chilling kW
20	2	5	7
40	3	10	14
60	3	14	20
80	4	18	25
100	8	20	30
125	8	28	40
150	10	32	45
175	11	40	55
200	15	45	60
250	15	55	75
300	19	65	90
350	22	75	105
400	30	85	120
450	30	95	135
500	37	105	150
550	37	115	165
600	37	125	180
700	55	145	210
800	55	170	240

## SMOKjet® RH/RS, RF: GLOW AND FRICTION SMOKE GENERATORS

SMOKjet® RH/RS (GLOW SMOKE GENERATORS)		
CONNECTED LOADS		
Electricity	230/400 V, 50 Hz	1.5 kW
Heating	Electricity	0.5 kW
Extinguisher	Cold water   DN 10   3 bar	10 l/min
Cleaning	Cold water   DN 25	60 l/min
Control	Compressed air   DN 10   6 bar	5 l/min
Ambient air	Taken from room	100 m³/h
Consumption	Chip size 2-16	5.5 kg/h

SMOKjet® RF (FRICTION SMOKE GENERATORS)		
CONNECTED LOADS		
Electricity	230/400 V, 50 Hz	9.5 kW
Extinguisher	Cold water   DN 10   3 bar	
Cleaning	Cold water   DN 10	
Control	Compressed air   DN 10   6 bar	15 l/min
Consumption	100 x 100 x 980 mm	75 cm/h
Friction wheel service life		300-500 h
Smoke process	30 s friction, 20 s break	