

Being spoilt for choice

INDUSTRIALLY MADE PIZZAS COME IN DIFFERENT QUALITIES WITH FROZEN PIZZAS OFFERING MORE VARIETIES THAN CHILLED PIZZAS



+ Even in Italy – the homeland of the artisan pizza with the very thin crust prepared by hurling the yeast dough through the air – frozen pizza is gaining ground. But even worse – at least for the way Italian gourmets see themselves – an increasing part of the frozen pizzas is not from domestic production any more.

No wonder – frozen pizzas are classical industrial products which can be mass produced as cheap products or as high-value specialties. But no matter which marketing and cost concept is applied, most of the pizzas available on the market are par-baked. Unlike par-baked pizza crusts, unbaked pizza crusts are difficult to handle prior to freezing because of their instability. The application of topping can be a problem; the crust easily gets out of shape and must in general be reworked manually.

How and in which condition the pizza is par-baked, whether just as plain crust or along with the topping, is dependent on the dough

shaping process. In general, there are three ways to form a pizza crust:

- +** die-cut from a dough band
- +** pressing a dough ball into a pan with a heated stamp
- +** rolling a dough ball first into an oval shape, then turning it by 90° and rolling it into a circle.

Traditionally pizzas are often baked including sauce and topping. Pan-baked pizza crusts are baked plain without any topping. After the baking process, the crusts are removed from the pans by a suction depanner, then the topping is applied and the pizza transported to the freezing unit. Plants that make pizza crusts by die-cutting are provided by the regular suppliers of dough band machines like the Italian company Doge, the Germany company Fritsch or the Dutch company Rademaker.

Fritsch, Markt Einersheim, Germany also offers a technology for making pizza crusts

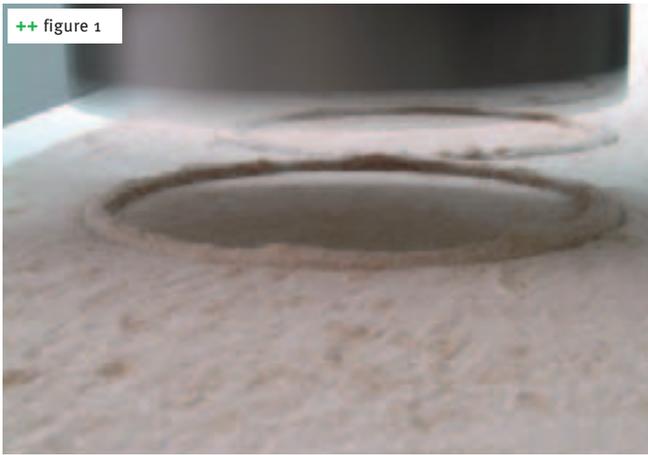
Suppliers of industrial pizza ovens

Gouet SA - France - www.gouet.com
 Bamak s.r.l. - Italy - bamak.com
 Danish Food Equipment Int. - Denmark - www.dfeas.com
 Imaforni Intl. S.p.A. - Italy - www.imaforni.it
 GBT GmbH - Germany - www.gbtgmbh.de
 Rademaker/Den Boer BV - Netherlands - www.rademaker.nl
 MCD-OSS s.r.l. - Italy - www.mcs-oss.it
 Mondial Forni S.p.A. - Italy - www.mondialforni.com
 Sveba Dahlen - Sweden - www.sveba-dahlen.se
 Van der Pol Bakery Equipment B.V. - Netherlands - www.vanderpool.nl

Italy: Proportion of industrial produced pizzas in %

	1992	1996	2003
Frozen	80	65	72
MAP	8	19	14
Pasteurized	12	13	7
Fresh	–	3	7





++ figure 1



++ figure 2

with a distinct edge. Fritsch plants, with an hourly capacity of up to 6,000 pizza crusts with a diameter of 23 cm, process doughs with a hydration of 80 % and dough resting times of up to 24 hours. The reworked dough is continuously and precisely weighed and returned to the mixing process and used as sponge dough for improving the dough quality. The shaping process is similar to the one applied in flat bread or Focaccia production and consists of relax dough processor (RDP), satellite head, cross roller and two calibration heads. Die-cutting and pressing tools are available in different shapes. For the pressing of pizza crusts with distinct edge, a two-step process developed by Fritsch is used for individual design of bottom and edge. The bottom can be really flat or have a conical shape, the edge can be made thicker, wider, higher or smaller. The pizza crust size is preset by the punching

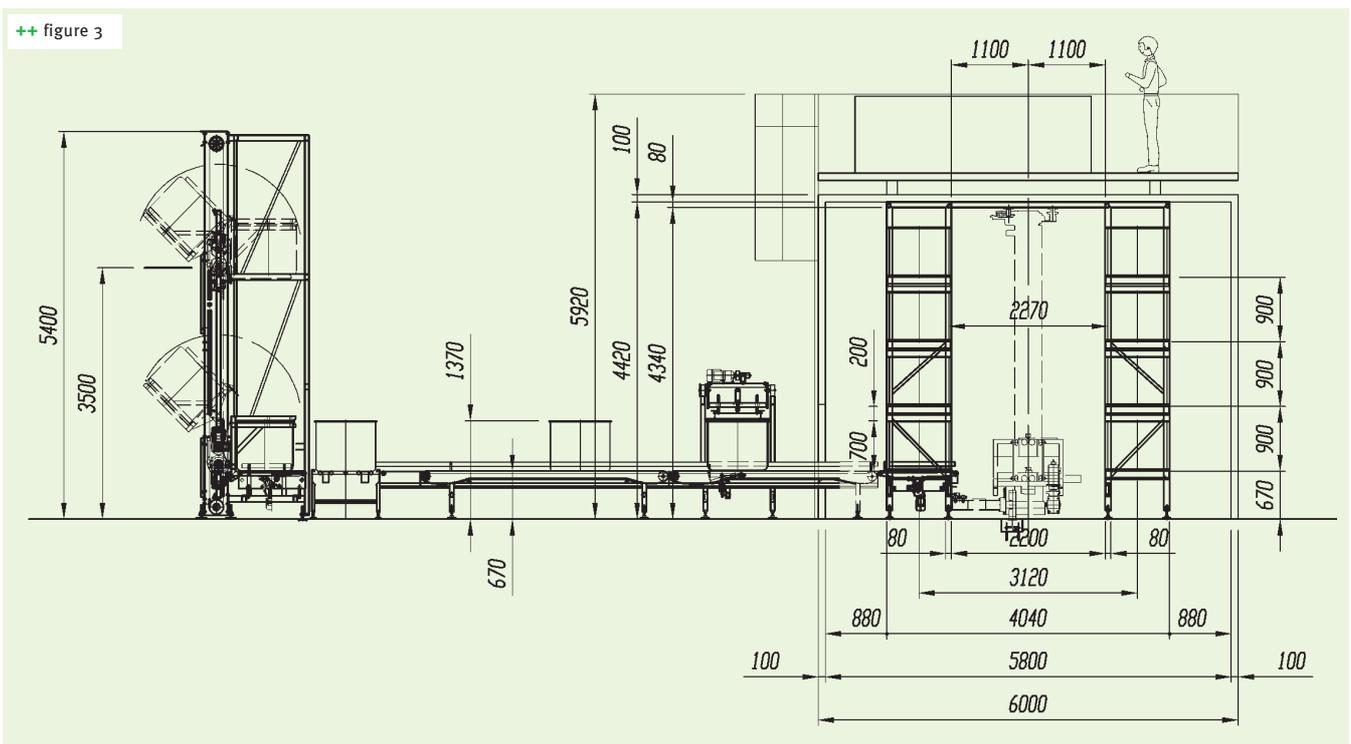
ring. The hydraulic press with optimized force compresses the middle of the dough and applies less force at the edge of the dough piece. In a second step which takes only 0.5 seconds, the pizza is die-cut from the dough band and formed.

Rademaker B.V. from Culemborg, Netherlands, also belongs to the enterprises heavily involved in the pizza business. This year alone they have dispatched more than five large industrial plants already, partly to Germany, partly to the US. The proprietary technology includes rolling plants for die-cut pizza crusts and topping stations for the application of sauces as spray, curtain or other. The line is completed by oven technology from the Rademaker-DeBoer product range including loading technology. The ovens offered can be normal temperature models or designed for ▶

++ figure 1
Pizza with edge can be formed from a dough band by die-cutting and pressing line by Fritsch

++ figure 2
Distribution of pizza sauce based on the "shower head" process by Fritsch

++ figure 3
Proofing plant by MCS-OSS



++ figure 3



++ figure 4
Dough resting system by MCS-OSS

++ figure 5
MCS-OSS pizza oven



++ figure 6
Rademaker pizza line

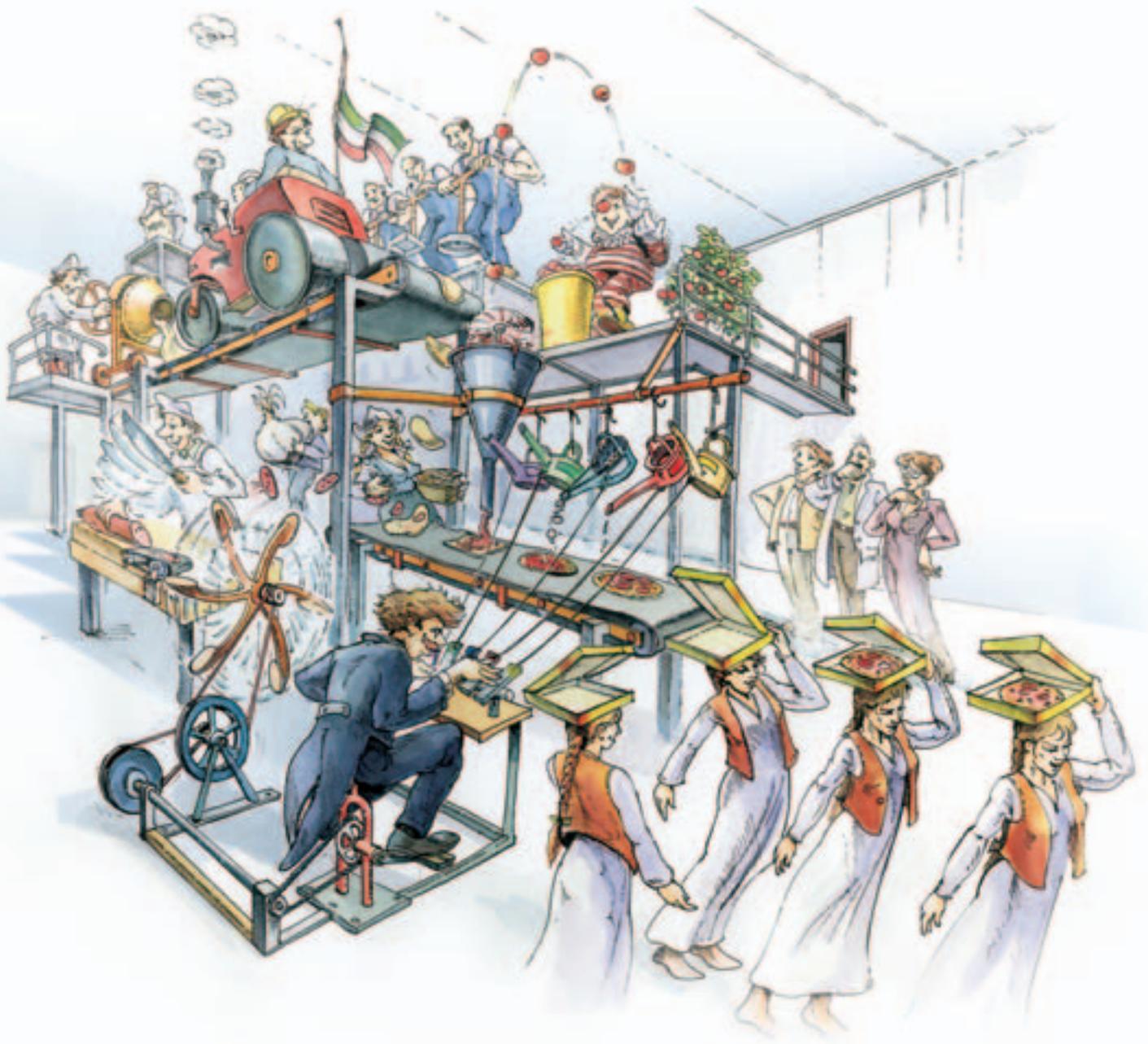


baking at high temperatures or on stone plates. Rademaker in general offers pizza lines for rolled and pressed pizza.

One main suppliers of complete pizza lines is MCS-OSS srl, Rovereto, Italy, which has just been acquired by the Dutch Kaak group. The company offers all varieties of dough forming equipment as well as the required ovens and also provides a special automatic dough ripening system in which the dough may rest for a certain amount of time in special vats under defined climatic conditions to develop its flavor. This company is considered to be a very strong supplier of equipment for making pizza crusts that are pressed from a pre-divided dough ball into a precise circle. Dough dividing and rounding is done in common dough dividers and rounders, for example made by Benier, König or WP, depending on the customer's request. After a pre-proofing time of 10 minutes, the doughs are formed and placed on trays to move for 30 minutes

through a suspended gear proofing cabinet. Then they are placed in rows of ten into an indirectly heated wire belt oven where they are stabilized and slightly browned at about 200 °C. Large MCS-OSS plants can have an hourly performance of 7,500 pizza crusts per hour.

Plants for the third variant, a cross rolled pizza – which by the way is baked at significantly higher temperatures on stone plates or wire mesh belts as all traditional pizzas to prevent the topping from drying out – are offered by MCS as well as also by König, Graz, Austria, in cooperation with Bamak, Mori, Italy. It starts with the classical König dough divider and rounder REX which divides the dough precisely and rounds it in two phases. For the rolling of the pizza crust, Bamak steps in. Usually, Bamak makes equipment for die-cut pizza crusts but here they are supplying a stress-free rolling system which flattens the dough with minimum stress in two directions. The first step is an oval dough which is then formed into the desired round pizza crust shape. A special edge forming system ensures the precise formation of different types and shapes of the pizza edge while preventing the formation of distinct bubbles in the edge which would lead to an unpleasant, burnt edge after the consumer has heated up his pizza. Topping equipment is additionally purchased by König/Bamak upon request while the high temperature stone plate oven with starting temperatures of up to 600 °C is provided by Bamak again. The radiation heat inside this oven is not only provided by the stone plate which also transports the pizza crusts but also by the additional stone plate underneath the baking oven's ceiling. +++



There must be a better way to make pizza ...

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