BOSCH

Candy cooling line BCK 0170 D
careful product handling – economical operation in three performance ranges

■ Fields of application: careful, gentle product cooling of filled, unfilled and highly center filled high-boiled sweets, from forming- to packaging temperature.

■ The throughput of the candy cooling line BCK 0170 D is adapted to the high performance volume of the modern Bosch candy forming line.

■ Large quantities of formed candies are cooled rapidly yet without fissures, cracks or deformation, from forming- to packaging temperature. No post-tempering necessary.

and a special transfer feature provide optimal distribution of the candies on the cooling lane.

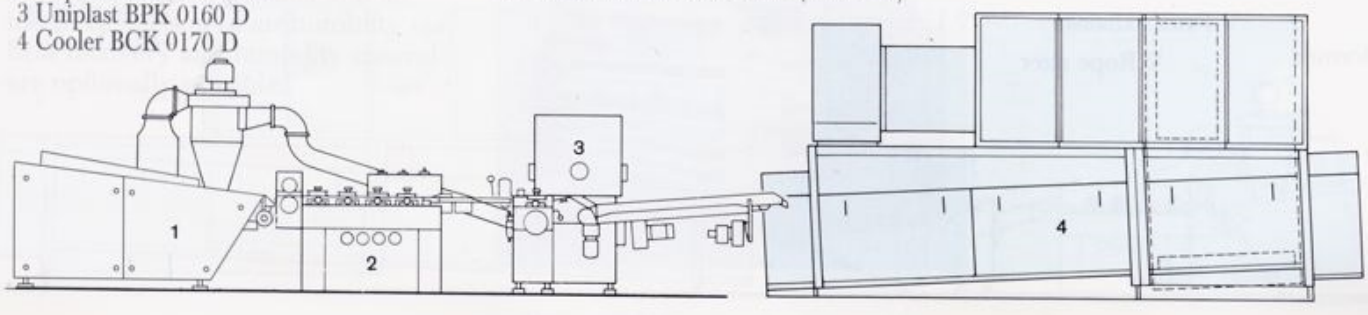
■ Combination with the Uniplast BPK 0160 D

■ In an appropriate configuration, the economical, product-protective and reliable operation of the cooling lane secures your candy production even under extreme climatic conditions.

■ The cooling air can f.i. circulate within a closed cycle (by using cooling aggregates with refrigeratory units incorporated into the closed cooling cycle).

Uniplast forming line
1 Batch former BSK 0019 L
2 Rope sizer BAK 0165 A
3 Uniplast BPK 0160 D
4 Cooler BCK 0170 D

▼ Variation II/BCK 0170 DK (170 D - 9)

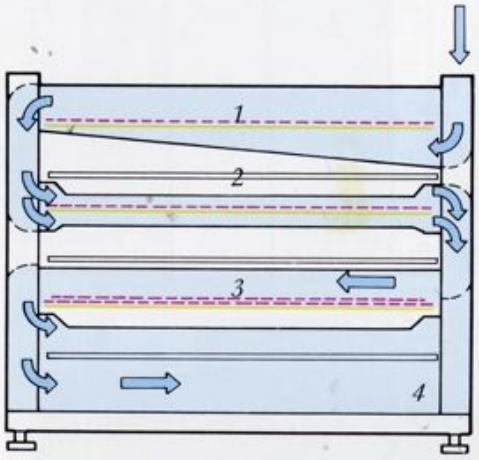


Energy-efficient operation: uniform and gentle cooling without cracking or splitting

Operating method: the oscillating outfeed device of the candy forming machine optimally spreads the candies across the entire width of the uppermost transport conveyor of the cooling line. The candies additionally run across a vibratory section, further optimizing the distribution pattern. Air is used to chill the candies from forming- to packaging temperature: a ventilator channels the cooling air throughout the length and through the individual tiers of the cooling line, cross to direction of travel of the candies, at a speed of approximately 8 to 10 m/s. Cooling air is supplied optionally from ambient climatized on-site atmosphere or as fresh air from outside. During passage on the top transport conveyor, the candies are intensively cooled by an air flow from below.

At the end of the top transport conveyor, the candies are transferred across a deviating chute to a second transport conveyor, running into the opposite direction. On that second conveyor, the candies are submitted to an upper and lower cooling air flow, i.e. the flow of air passes partly above and partly below the candies.

▽ Cooling lane

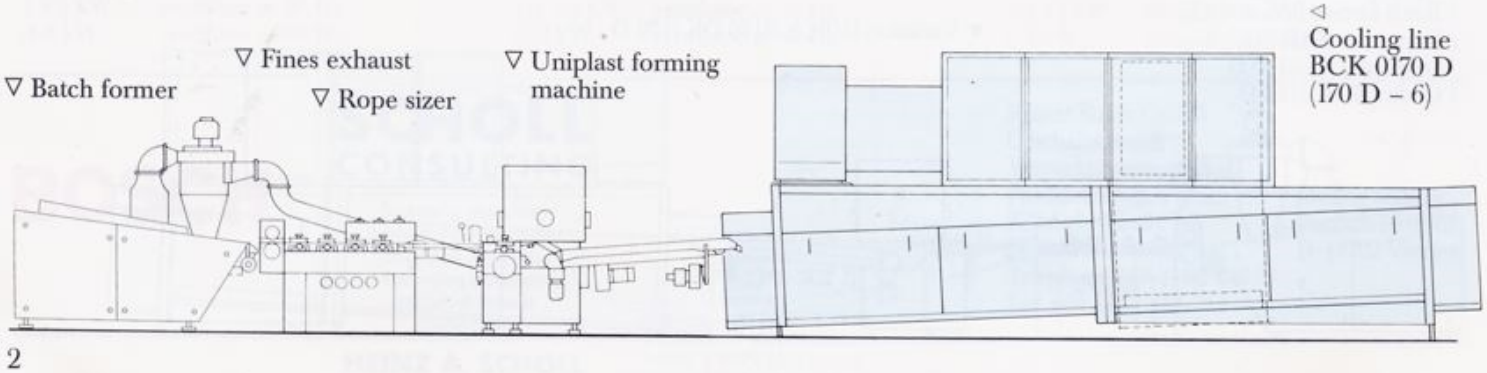


Function chart of air flow:
- Cooling air
- Transport belts (forward)
- Candies

At the end of the second, center transport conveyor, another deviating chute transfers the candies to the third and last transport conveyor. Final cooling is from the top only. The operating speed of the transport conveyors varies and is adjustable by three control gears to ensure a closely packed candy transport pattern.

The uppermost transport belt runs at the highest speed and the bottom belt at the lowest. At the exit of the third and last transport belt, the candies are chilled to packaging temperature and can be either filled into shippers or fed directly to the wrappers on transfer belts. An outfeed belt to feed the candies at work table level is an optional attachment.

Structure: the base frame of the candy cooling line BCK 0170 D is made of thick-wall rectangular tubes to carry the transport belts and air feed system. Drive elements for the three transport conveyors are in a rugged steel housing. Each of the transport conveyors is powered by one infinitely adjustable gear motor, with individually adjustable speed to accommodate the respective candy batch. With all three transport conveyors, the loaded upper side of the conveyor is actively driven, premise for perfect operation. The entire cooling lane has lateral sheet panels to form an essentially enclosed space, fully utilizing the high air circulation within this cooling area.



◁ Cooling line BCK 0170 D (170 D – 6)

– Cooling line BCK 0170 D – integrated component of the Uniplast forming line

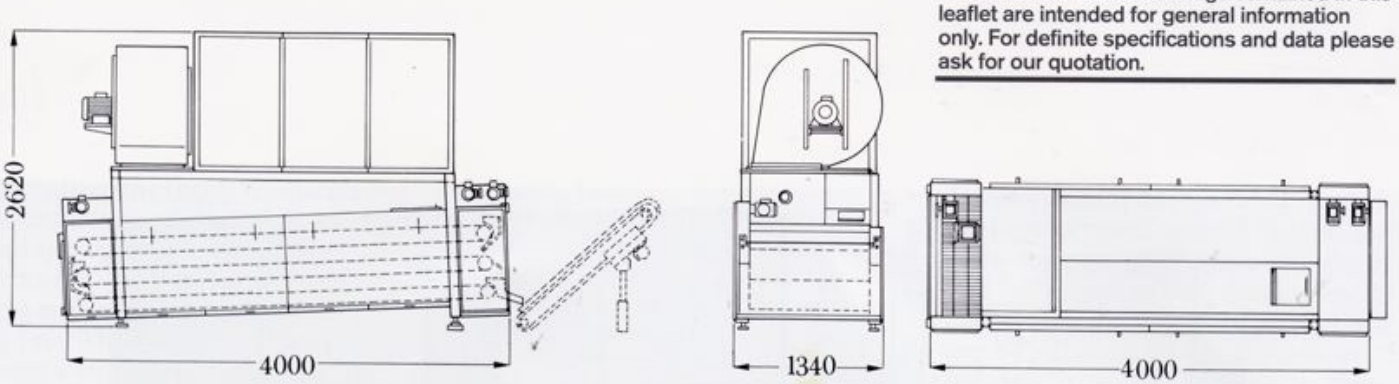
Cooling air, supplied by the ventilator, is initially fed to an accumulating channel extending across the entire length of the cooling line. From that channel, the cooling air reaches the candy transport conveyors through air inlets.
If the cooling line is equipped with two cooling units to increase cooling volume, the air intake by the ventilator initially runs through an additional air channel which is mounted above the accumulation channel, housing the evaporator and cooling aggregate, then the chilled air is pressed through the accumulation channel and air inlets. Reduction of air humidity via heat recovery and humidity control are optionally possible.

For the reduction of atmospheric humidity, "hot" refrigerant is led across an additionally installed heat exchanger, heating air previously chilled in the evaporator below the dew point by approximately 2–3 °C. This guarantees that the circulating cooling air always ranges at approximately 5–10% below dew point.
The candy cooling line 0170 D is equipped with water- or air-cooled refrigeration aggregates in configurations starting with 500 kg/h. The cooling center (water-cooled version) is completely assembled for installation.

△ Transport belts and vibratory section

Technical specifications

▼ Cooling line BCK 0170 D (170 D - 6)



The illustrations and drawings contained in this leaflet are intended for general information only. For definite specifications and data please ask for our quotation.

Version I (conf. 6)

- ❑ BCK 0170 DA without refrigerating unit
- ❑ BCK 0170 DB with water-cooled refrigerating unit (cooling compressors, 40.5 KW refrigerating capacity), water consumption at 15°C water temperature up to 2.5 m^3/h. Max. water inlet temperature 27°C.
- ❑ BCK 0170 DD with air-cooled refrigerating unit (external condensator must be connected on site).

Additional features (optional):

- ❑ Air humidity reduction through heatregister with heat recovery.
- ❑ Air humidity control through steam-heat register and larger refrigerator units.

Throughput:

max. 6 t/8 h, i.e. 750 kg/h, depending on candy size and type as well as on climatic room conditions on site of installation.

- ❑ Air temperature control via hot gas capacity adaptation.

Processing time in minutes:

	Usable width	Distance	max.	min.
B 1	1 m	3.6	3.0	0.4
B 2	1 m	3.6	4.1	0.58
B 3	1 m	3.6	5.2	0.7
		10.80 m	12.3 min	1.68 min

Drive:

3 x 0.37 kW	adjustable gear box, infinitely variable gear motor
1 x 90 W	vibratory unit
1 x 4 kW	ventilator at 50 Hz
(4.8 kW	ventilator at 60 Hz)

Version II (conf. 9)

- ❑ BCK 0170 DJ without refrigerating unit
- ❑ BCK 0170 DK with water-cooled refrigerating unit (cooling compressors, 69 KW refrigerating capacity), water consumption at 15°C water temperature up to 4 m^3/h. Max. water inlet temperature 27°C.
- ❑ BCK 0170 DM with air-cooled refrigerating unit (external condensator must be connected on site).

Additional features (optional):

- ❑ Air humidity reduction through heatrecovery (heat exchanger charged with cooling media).
- ❑ Air humidity control through steam-heat register and larger refrigerator units.

Throughput:

max. 9 t/8 h, depending on candy size and type as well as on climatic room conditions on site of installation.

- ❑ Air temperature control via hot gas capacity adaptation.

Processing time in minutes:

	Usable width	Distance	max.	min.
B 1	1 m	5.1	4.25	0.59
B 2	1 m	5.1	5.6	0.8
B 3	1 m	5.1	7.2	1.06
		15.30 m	17.05 min	2.45 min

Drive:

3 x 0.37 kW	adjustable gear box, infinitely variable gear motor
1 x 90 W	vibratory unit
1 x 7.5 kW	ventilator at 50 Hz
(9.0 kW	ventilator at 60 Hz)

Version III (conf. 12)

- ❑ BCK 0170 DR without refrigerating unit
- ❑ BCK 0170 DS with water-cooled refrigerating unit (cooling compressors, 81 KW refrigerating capacity), water consumption at 15°C on water temperature up to 5 m^3/h. Max. water inlet temperature 27°C.
- ❑ BCK 0170 DU with air-cooled refrigerating unit (external condensator must be connected on site).

Additional features (optional):

- ❑ Air humidity reduction through heatrecovery (heat exchanger charged with cooling media).
- ❑ Air humidity control through steam-heat register and larger refrigerator units.

Throughput:

max. 12 t/8 h, depending on candy size and type as well as on climatic room conditions on site of installation.

- ❑ Air temperature control via hot gas capacity adaptation.

Processing time in minutes:

	Usable width	Distance	max.	min.
B 1	1 m	6.6	5.5	0.76
B 2	1 m	6.6	7.3	1.04
B 3	1 m	6.6	9.4	1.43
		19.80 m	22.2 min	3.23 min

Drive:

3 x 0.37 kW	adjustable gear box, infinitely variable gear motor
1 x 90 W	vibratory unit
1 x 11 kW	ventilator at 50 Hz
(13 kW	ventilator at 60 Hz)

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