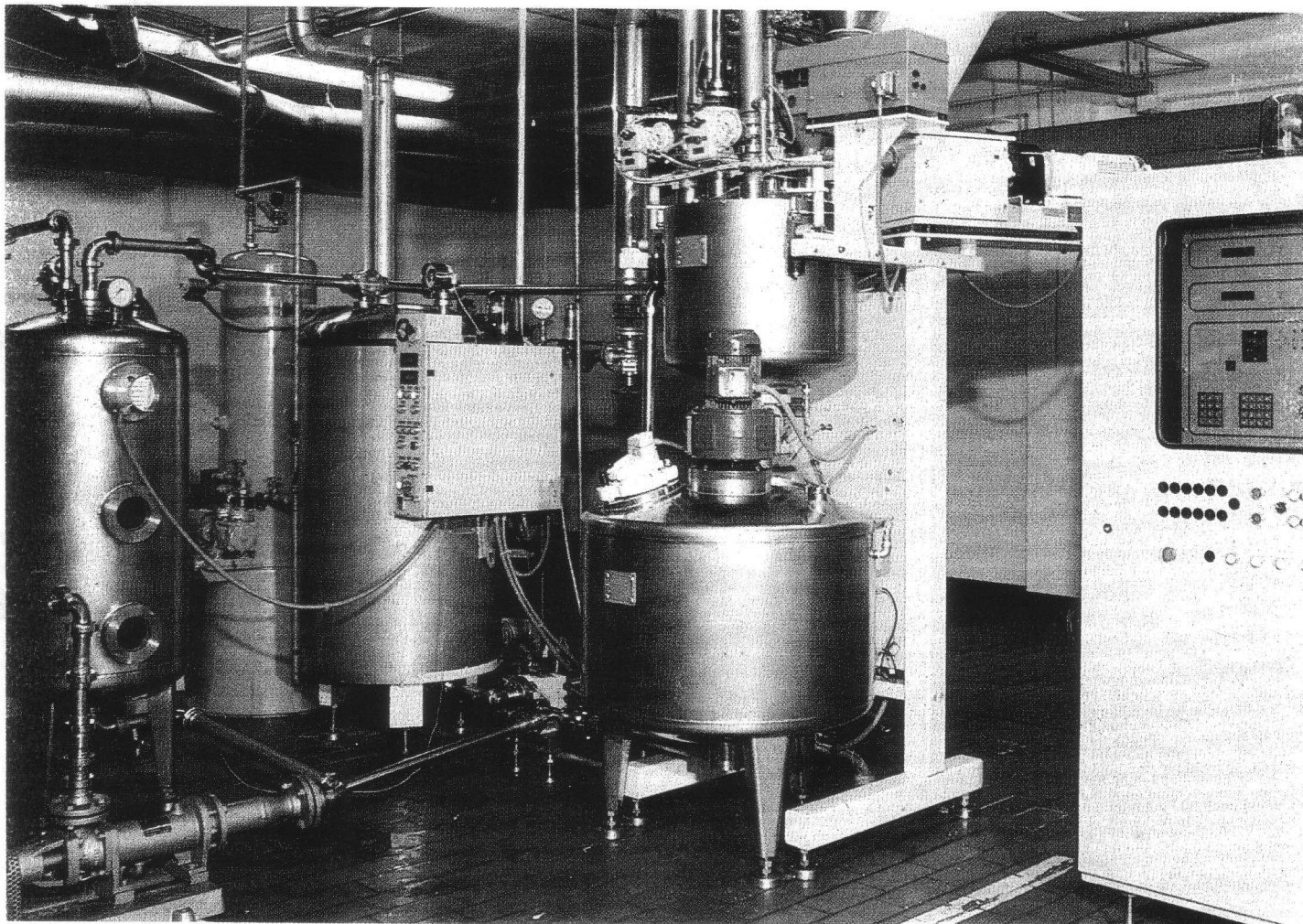


116A  
1987  
GRAVOMAT  
CANDY COOKING

### Production Line Example:

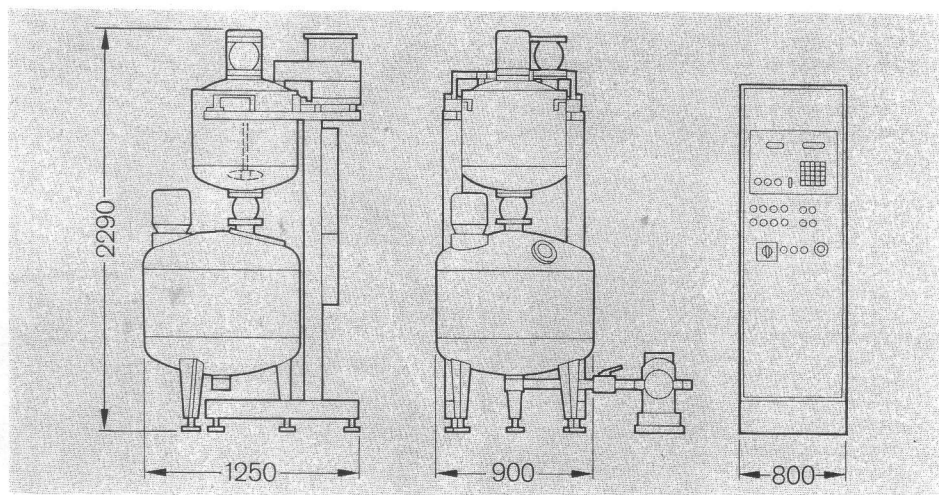
#### Manufacture of deposit masses

Gravomat 116 EM (with microcomputer control).  
Mass pump with infinitely variable drive. Pressure  
dissolver 118 vacuum chamber with vacuum pump  
and discharge pump with infinitely variable drive.



### Technical Data:

Output: 1 weigh pan up to 3000 kg/h,  
Sugar-Glucose-Water mix.  
Drive: Stirrer in weigh pan: 1.5 kW, 1500 r.p.m.  
Stirrer in storage tank: 0.75 kW,  
1500 r.p.m. Mass pump: 2.2 kW, 1500 r.p.m.  
Glucose connection: 80  $\phi$  mm I.D.  
Water connection: 3/4"  
Sugar connection: Vibrator tray 200  $\phi$  mm.  
Electr. connection: 7.5 kVA  
Contents weigh pan: 130 ltr.  
Contents storage tank: Standard 350 ltr.  
Machine dimensions:  
Gravomat with storage tank  
900 x 1250 x 2290 (W x D x H)  
Control cabinet: 800 x 600 x 2000 (W x D x H)  
Weight: Approx. 1000 kg. net without cabinet



Subject to change without notice

### Robert Bosch GmbH

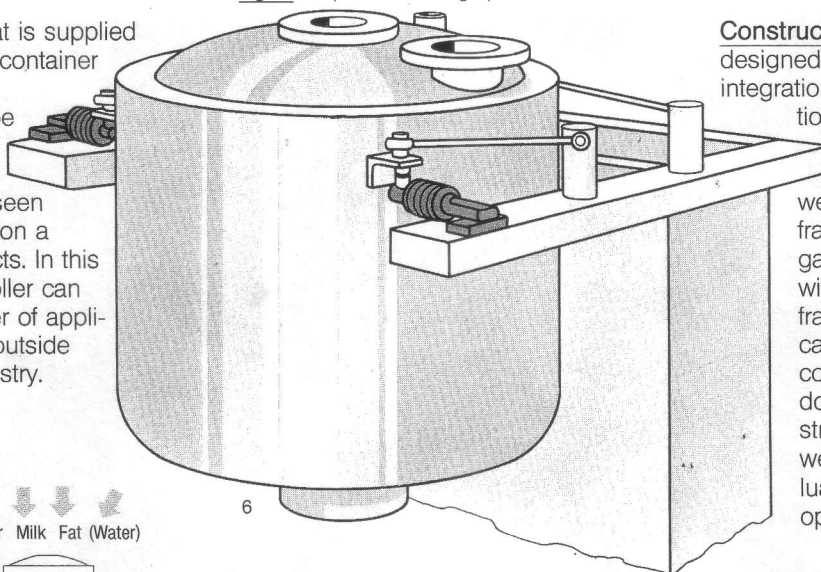
Produktbereich Hamac-Höller  
Kölnische Straße 1-3  
D-4060 Viersen 1  
Telephone: (0 21 62) 24 81  
Telex: 8 518 839 hhv d

# BOSCH



Normally the Gravomat is supplied fitted with the storage container below the weigh pan. However, it can also be supplied without this container. The Gravomat should be seen as a base for production a large variety of products. In this connection Hamac-Höller can demonstrate a number of application samples, also outside the confectionery industry.

Fig. 6: Suspension of weigh pan



**Construction:** The Gravomat was designed for a flexible and problem free integration into new and existing production lines. This is especially advantageous if used as a central dosing and mixing station. The weigh pan is suspended from a frame on 3 strain gauges. Each gauge is sealed off to the outside with metal bellows. The machine frame is of the balcony design and can be used for the mounting of connection elements for additional dosing units. The signal from the strain gauges is transmitted to the weigh electronics where it is evaluated for the control of all dosing operations.

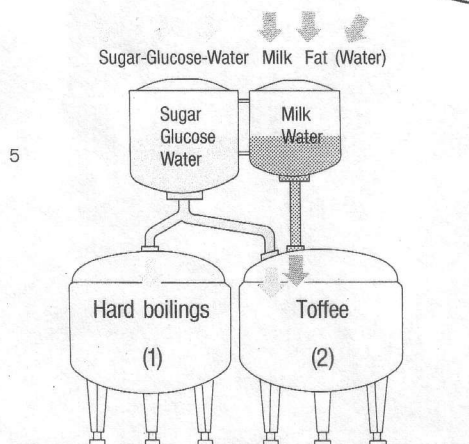
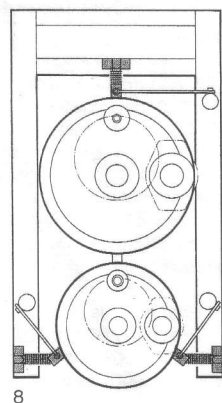


Fig. 5: Production/Dosing sample, Gravomat with double weigh pan

Fig. 8: Suspension of double weigh pan



Production/Dosing sample: (Fig. 5)  
Gravomat 116 EM with double weigh pan  
The Gravomat with double weigh pan is employed for:

- Recipes where the product residues are incompatible.
- Production of different products at the same time, such as hard boiling and toffee.

- (1) 80 kg Sugar, 50 kg Glucose  
(2) Up to 70 kg Sugar, up to 60 kg Glucose, 20 kg Milk, 10 kg Fat.

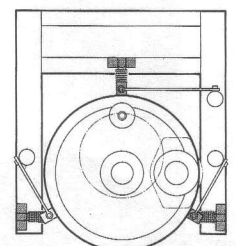


Fig. 7: Weigh pan suspension in standard execution.

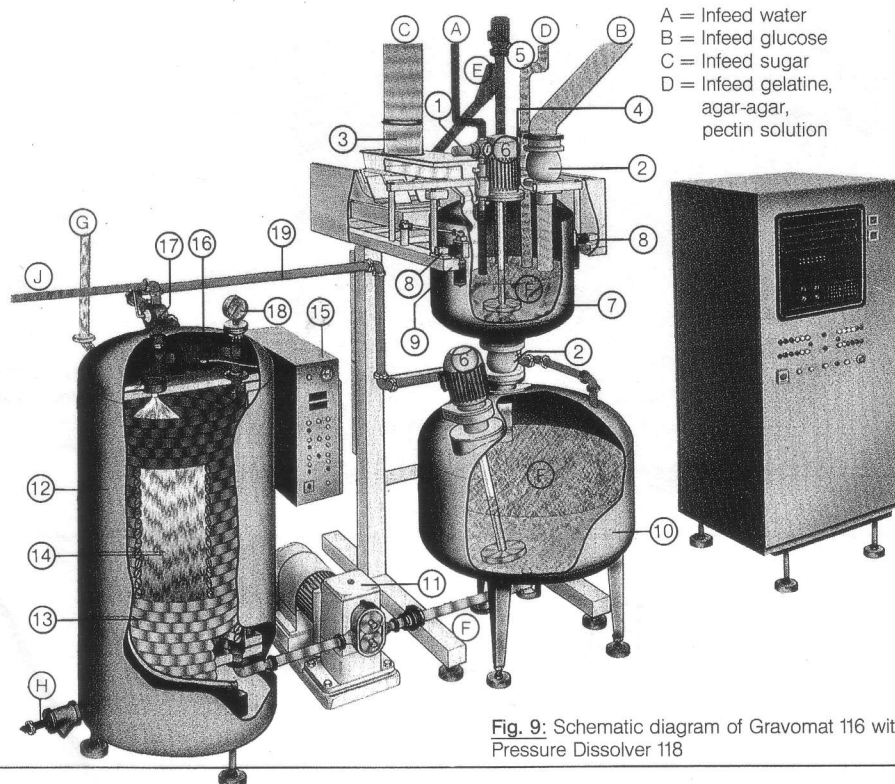


Fig. 9: Schematic diagram of Gravomat 116 with Pressure Dissolver 118

A = Infeed water  
B = Infeed glucose  
C = Infeed sugar  
D = Infeed gelatine, agar-agar, pectin solution

E = Infeed starch, dextrose powder  
F = Complete base mixture  
G = Steam  
H = Condensate  
J = Dissolved mass

- 1 = Dosing - solenoid valve  
2 = Dosing - compression valve  
3 = Vibratory feeder  
4 = Heated butterfly valve  
5 = Auger feed  
6 = Stirrer  
7 = Heated weigh pan Gravomat 116  
8 = strain gauge  
9 = Support frame  
10 = Heatable storage tank  
11 = Circular piston pump  
12 = Pressure dissolver 116  
13 = Coils with turbulence baffles  
14 = Steam area  
15 = Operating panel with digital display  
16 = Pressure valve  
17 = Three way valve  
18 = Display: Pressure in coil  
19 = Product return



### Economical production of high quality products

In combination with the pressure dissolver type 118 the Gravomat forms a complete feed, metering, dissolving and pre-cooking system. Its high technical standard fully meets all the requirements of rational, economic and top quality production for applications such as:

- High and low boilings
- Gum deposits based on gelatine and/or starch as well as gum arabic
- Jelly deposits, pectin and agar-agar based, also with starch or gelatine additions
- Liquorice articles
- Fondant ● Grained sugar
- Foam articles

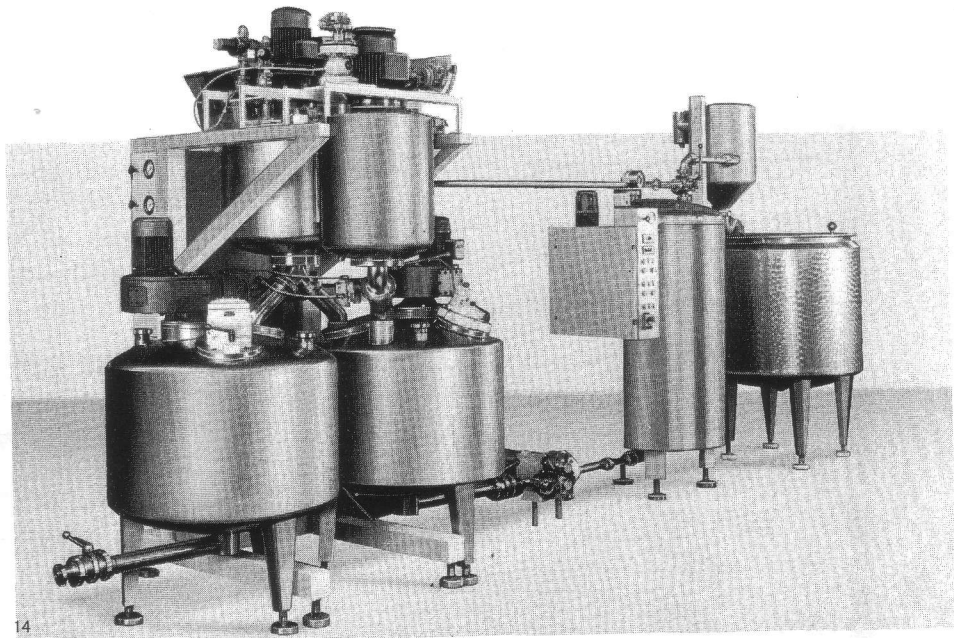


Fig. 14: Gravomat 116 EM with double weigh pan, two storage containers, pressure dissolver 118 and vapour separation.

Fig. 15: Control cabinet for microcomputer controlled double Gravomat 116 EM with printer.

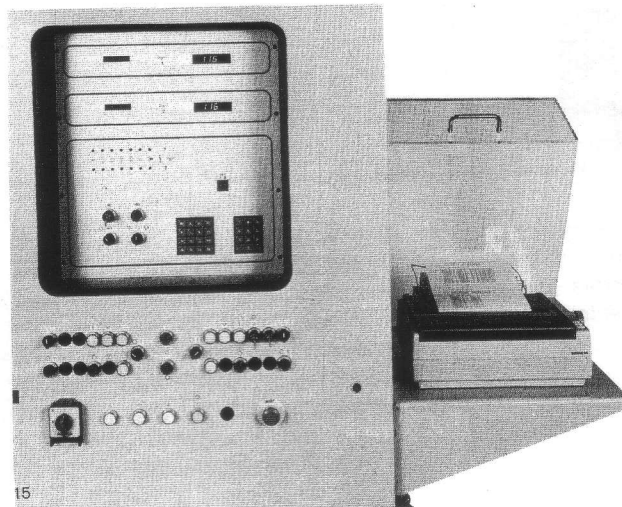


Fig. 16: Double Gravomat 116 EM with two storage containers and pressure dissolver 118.

#### Production possibilities:

- ① Continuous production (i. e. hard boilings)  
Infeed to cooker 156 D+K
- ② Batch production (toffee)  
Infeed to stirrer unit 110 E

