

### 2IN1 FREEZE DRYER & VACUUM OVEN



BUDDY 7

#### TWO PROCESSES - ONE MACHINE

The **hegatec BUDDY** can be used as freeze dryer or as vacuum oven.

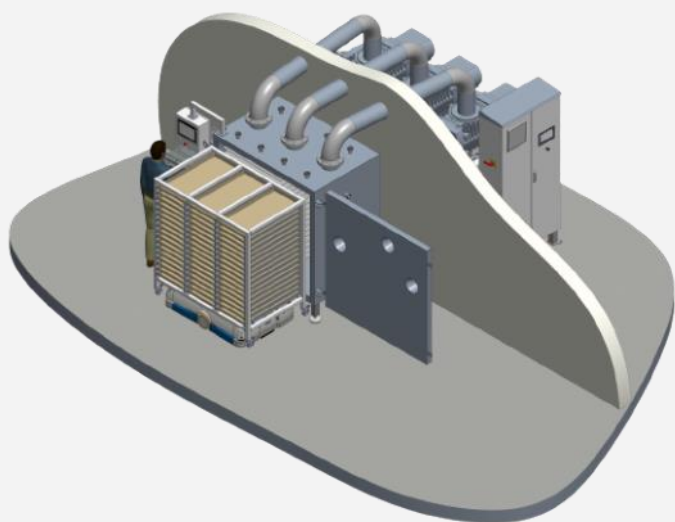
The **hegatec BUDDY** covers a wide vacuum range and is suitable for freeze drying at 0.1 mbar and vacuum drying at 8 mbar or higher. Hegatec balances between short drying time and energy-efficient drying.

**Freeze drying** is well suited to gently dry deep frozen products. The dehydration process at a low temperature, sublime ice crystals directly into the gaseous state without the intermediate appearance of a liquid phase. The products can also be frozen in the dryer before the drying process begins. After drying, the products retains much of its original qualities.

**Vacuum drying** is well suited for heat-sensitive products. The thermal separation process at low temperatures remove moisture in wet solids, liquids or pasty products, by using vacuum pressure.

BUDDY Series	BUDDY 1.4	Buddy 3	BUDDY 7	BUDDY 14	BUDDY 25	BUDDY 50
drying surface / number of trays	1.4 m <sup>2</sup> / 8 trays	3 m <sup>2</sup> / 6 trays	7 m <sup>2</sup> / 14 trays	14 m <sup>2</sup> / 28 trays	25.5 m <sup>2</sup> / 51 trays	51 m <sup>2</sup> / 102 trays
number of levels x trays per level tray size L x W (m)	4 x 2 trays / GN 1/1 0.53 x 0.325	6 x 1 tray 0.98 x 0.48	7 x 2 trays 0.98 x 0.48	14 x 2 trays 0.98 x 0.48	17 x 3 trays 0.98 x 0.48	2 x 17 x 3 trays 0.98 x 0.48
size heating plate per level L x W (m)	0.6 x 0.6	0.5 x 1.0	1.0 x 1.0	1.0 x 1.0	1.5 x 1.0	1.5 x 1.0
max. load per batch	50 l/batch	105 l/batch	250 l/batch	500 l/batch	750 l/batch	1800 l/batch
power supply 400 V, 50 Hz	9 kW fuse 3x 16 A	15 kW fuse 3x 32 A	25 kW fuse 3x 50 A	45 kW fuse 3x 80 A	75 kW fuse 3x 160 A	145 kW fuse 3x 315 A
dimensions dryer housing L x W x H (m)	1.6 x 1.0 x 2.3	2.3 x 1.0 x 2.3	2.4 x 1.4 x 2.4	1.2 x 1.3 x 2.0	1.9 x 1.3 x 2.0	1.9 x 2.2 x 2.2
dimensions utility skid L x W x H (m)	included at dryer housing	included at dryer housing	included at dryer housing	1.5 x 1.2 x 1.5	2.0 x 3.0 x 2.0	2x (2.0 x 3.0 x 2.0)

### low costs - HIGH CAPACITY



BUDDY 25

#### Features

- controlled vacuum 0.1...30 mbar and temperature 20...120 °C
- system is mounted on skids, ready to use
- high energy efficiency with the hegatec energy saver system
- vacuum system without refrigerants
- without ice condenser, no energy and time loss for defrosting
- pressurized water heating system
- high filling height of the trays; large distance between the heating plates
- 316L stainless steel cabinet and frame
- trolley for fast loading and unloading
- fully automated process with recipe management, data logging and remote control via iPhone or Android app

### Real Process Data

BUDDY Series	BUDDY 1.4	Buddy 3	BUDDY 7	BUDDY 14	BUDDY 25	BUDDY 50
<b>Freeze Drying <sup>(1)</sup></b>						
ice sublimation max. @1 mbar	0.9 kg/h	3.25 kg/h	6.4 kg/h	8.6 kg/h	19 kg/h	38 kg/h
operating power @1 mbar (average) <sup>(2)</sup>	3.45 kW	8.35 kW	14.8 kW	21.5 kW	38.4 kW	76.8 kW
operating power @0.5 mbar (max.) <sup>(2)</sup>	3.2 kW	7.35 kW	10.4 kW	16.1 kW	27.7 kW	55 kW
theoretically calculated value (related to machine)	3.83 kW/kg x H <sub>2</sub> O	2.56 kW/kg x H <sub>2</sub> O	2.30 kW/kg x H <sub>2</sub> O	2.50 kW/kg x H <sub>2</sub> O	1.98 kW/kg x H <sub>2</sub> O	1.98 kW/kg x H <sub>2</sub> O
real drying data: apples 4.5 kg/tray drying time: 19 hours @60 °C; 1.5...0.1 mbar	5,77 kW/kg x H <sub>2</sub> O	5.69 kW/kg x H <sub>2</sub> O	4,36 kW/kg x H <sub>2</sub> O	3.51 kW/kg x H <sub>2</sub> O	3.15 kW/kg x H <sub>2</sub> O	3.15 kW/kg x H <sub>2</sub> O
sample with apple slices (3 kg/tray) drying time: 10 hours @60 °C; 1.5...0.1 mbar	3.45 kW/kg x H <sub>2</sub> O	4.46 kW/kg x H <sub>2</sub> O	3.63 kW/kg x H <sub>2</sub> O	2.96 kW/kg x H <sub>2</sub> O	2.68 kW/kg x H <sub>2</sub> O	2.68 kW/kg x H <sub>2</sub> O
saving possibilities with hegatec energy saver	25.5 %	19 %	24.3 %	29.1%	30.6 %	30.6 %
<b>Vacuum Drying <sup>(1)</sup></b>						
water evaporation max. / average (used for calculation) @10 mbar	5.3 kg/h 1.4 kg/h	10 kg/h 3 kg/h	24 kg/h 7 kg/h	28 kg/h 14 kg/h	58 kg/h 25 kg/h	116 kg/h 50 kg/h
operation power at average evaporation	5.5 kW	9.75 kW	18 kW	28.5 kW	49 kW	98 kW

(1) data without heat recovery system

(2) including energy for sublimation

**suitable for:** fruits, vegetables, spices, hemp, milk products, meat, coffee, lactic acid bacteria, enzymes, extracts, aroma and specials like truffles, ginseng, honey, durian, seafood and many more

