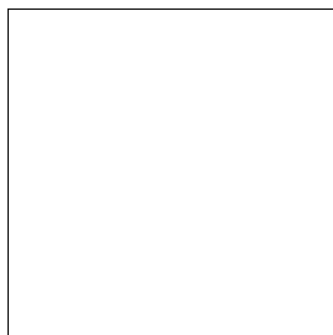




INSTALLATION AND MAINTENANCE
INSTRUCTIONS MANUAL
**COMBINATION OVEN
WITH STEAM GENERATOR
ELECTRIC - GAS**



Technical service



CONTENTS

	Page
1 • GENERAL REMINDERS	3
2 • TECHNICAL DATA	4
3 • SPECIAL REQUIREMENTS FOR THE INSTALLATION SITE	11
4 • STATUTORY REQUIREMENTS, TECHNICAL REGULATIONS AND DIRECTIVES	12
5 • POSITIONING	13
6 • ELECTRICAL CONNECTIONS AND EQUIPOTENTIAL BONDING	13
7 • POINTS TO REMEMBER WHEN MAKING THE ELECTRICAL CONNECTION	14
8 • WATER AND DRAIN CONNECTIONS	14
9 • VENTS	15
10 • GAS CONNECTION PROCEDURES	16
11 • OPERATING AT THE RATED HEAT OUTPUT	19
12 • COMMISSIONING AND TESTING	20
13 • IMPORTANT INFORMATION FOR THE USER	21
14 • INSTALLATION DIAGRAMS	22

MODELS

6 x GN 1/1	6 x GN 1/1	
10 x GN 1/1	10 x GN 1/1	CE 0085 AP 0545
10 x GN 2/1	10 x GN 2/1	
8 + 8 x GN 2/1 ⁽¹⁾	8 + 8 x GN 2/1 ⁽¹⁾	
20 x GN 1/1	20 x GN 1/1	
12 x GN 2/1	12 x GN 2/1	CE 0085 AT 0208
20 x GN 2/1	20 x GN 2/1	

(1) All versions of model 8 + 8 x GN 2/1 have two independent ovens.

VERSION

- M** Standard electromechanical devices with manual controls and humidifier.
- X** Standard electromechanical devices with manual controls, humidifier and core probe.
- D** Electronic with cooking sequences and humidifier.
- H** Electronic with cooking sequences, automatic humidity control, twin speed, core probe and lighting.
- P** Programmable electronics with control for automatic humidity, twin speed, core probe and lighting.

The manufacturer accepts no liability for any inaccuracies in this manual attributable to printing or copying errors. We reserve the right to modify our products as we deem fit, without impairing their basic features.

The reproduction or copying of any part of this manual by any means whatsoever is strictly forbidden unless authorized previously in writing by the manufacturer.

donadini & c. advertising © - 016.38.122 - 01.05.2001

1 • GENERAL REMINDERS

1.1 • The oven must be installed, commissioned and maintained only by a Lainox authorized service agent.

1.2 • Carefully read the directions given in this manual; they contain important information on safety during installation, operation and maintenance.
Keep the manual in a safe place for future consultation!

1.3 • This appliance must be put only to the use for which it is specifically intended, i.e. cooking foods; any other type of use is improper and therefore dangerous.

1.4 • Having removed the packing, check that the appliance is not damaged in any way.
If in doubt, proceed no further with installation of the appliance and contact the Lainox Customer Service or your dealer immediately.

1.5 • Packing materials are potentially dangerous, and must not be left where children can play with them.

1.6 • Packing materials must be disposed of in conformity with local regulations. This normally means that the different materials are sorted according to type and collected as urban refuse.

1.7 • Before positioning and connecting the appliance, check that the utilities (electrical power, water and gas supplies) are as indicated on the data plate.
The data plate is on the right-hand side, at the bottom.

1.8 • Example of a data plate:

					
TYP. VE 106 "X"				2000	
NR xxxxxxxxxxxx					
3N	AC	400	V	50 Hz	
		8	kW	kPa 150 - 500	
IPX 5		 - 98			

L®		
LX TYP. VG 110 "P"		TYP.
2000	NR xxxxxxxxxxxx	
AC 230 V	50 Hz	1.00 kW
		kPa 50 - 500 
	Σ Qn 20 kW	
A1 ☐	B11 ☒	B21 ☐
IT	Cat. II 2H3+ II 1a2H	P mbar 20; 28-30/37 8; 20
IPX 5		CE 0085

1.9 • The positions of the inlet and drain connections are clearly labelled. For further details, see the installation diagram attached to this manual.

1.10 • In the event of breakdown or faulty operation, switch off the oven immediately!

1.11 • During installation and/or maintenance work it is recommended you wear gloves to protect your hands.

2 • TECHNICAL DATA

TABLE 1: GENERAL DATA

Model	Versions	Supply voltage	Frequency	Total input	Amps	Oven power	Boiler power	Motor	Oil-proof connecting cable
6 x GN 1/1	M-X-H-D-P	3N AC 400 V 3 AC 230 V AC 230 V	50 Hz	8 kW	12 20 35	7.5 kW	7.5 kW	1 x 0.5 Hp	5 x 1.5 mm ² 4 x 2.5 mm ² 3 x 6 mm ² 2)
10 x GN 1/1	M-X-H-D-P	3N AC 400 V 3 AC 230 V	50 Hz	16 kW	23 40	15 kW	15 kW	1 x 1 Hp	5 x 2.5 mm ² 4 x 6 mm ²
10 x GN 2/1	M-X-H-D-P	3N AC 400 V 3 AC 230 V	50 Hz	31 kW	45 78	30 kW	22.5 kW	1 x 1 Hp	5 x 10 mm ² 3) 4 x 25 mm ²
8+8 x GN 2/1*)	M-X-H-D-P	3N AC 400 V 3 AC 230 V	50 Hz	16 +16 kW	23 + 23 40 + 40	2 x 15 kW	2 x 15 kW	1 + 1 Hp	5 x 2.5 mm ² 4 x 6 mm ²
20 x GN 1/1	M-X-H-D-P	3N AC 400 V 3 AC 230 V	50 Hz	31.8 kW	46 80	30 kW	22.5 kW	2 x 1 Hp	5 x 10 mm ² 3) 4 x 25 mm ²
12 x GN 2/1	M-X-H-D-P	3N AC 400 V 3 AC 230 V	50 Hz	31 kW	45 78	30 kW	22.5 kW	1 x 1 Hp	5 x 10 mm ² 3) 4 x 25 mm ²
20 x GN 2/1	M-X-H-D-P	3N AC 400 V 3 AC 230 V	50 Hz	61.8 kW	89 155	60 kW	60 kW	2 x 1 Hp	5 x 25 mm ² 4 x 70 mm ² 4)

*) 2 power cables – 1) min Ø 12 mm – 2) max Ø 18 mm – 3) min Ø 25 mm – 4) max Ø 44 mm

Warning: The safety device (RCD to be fitted on the power line to the appliance) must be sized for a leakage of 1 mA x kW of power installed.

TABLE 2: GENERAL DATA

Model	Versions	Supply voltage	Frequency	Electrical input	Motor	Oil-proof connecting cable	Gas power	Gas connection
6 x GN 1/1	M-X-H-D-P	AC 230 V	50 Hz	0.5 kW	1 x 0.25 Hp	3 x 1 mm ²	17 kW	1 x R 3/4"
10 x GN 1/1	M-X-H-D-P	AC 230 V	50 Hz	1 kW	1 x 1 Hp	3 x 1 mm ²	30 kW	1 x R 3/4"
10 x GN 2/1	M-X-H-D-P	AC 230 V	50 Hz	1 kW	1 x 1 Hp	3 x 1 mm ²	41 kW ⁽¹⁾	1 x R 3/4"
6 x GN 1/1 + cabinet	M-X-H-D-P	AC 230 V	50 Hz	3 kW	1 x 0.25 Hp	3 x 1 mm ²	17 kW	1 x R 3/4"
10 x GN 1/1 + cabinet	M-X-H-D-P	AC 230 V	50 Hz	3.5 kW	1 x 1 Hp	3 x 1 mm ²	30 kW	1 x R 3/4"
10 x GN 2/1 + cabinet	M-X-H-D-P	AC 230 V	50 Hz	3.5 kW	1 x 1 Hp	3 x 1 mm ²	41 kW ⁽¹⁾	1 x R 3/4"
8 + 8 GN 2/1	M-X-H-D-P	AC 230 V	50 Hz	1 + 1 kW	1 x 1 Hp	3 x 1.5 mm ²	30 + 30 kW	1 x R 3/4"
20 x GN 1/1	M-X-H-D-P	AC 230 V	50 Hz	1.8 kW	2 x 1 Hp	3 x 1.5 mm ²	42 kW ⁽¹⁾	1 x R 3/4"
12 x GN 2/1	M-X-H-D-P	AC 230 V	50 Hz	1 kW	1 x 1 Hp	3 x 1.5 mm ²	47 kW ⁽¹⁾	1 x R 3/4"
20 x GN 2/1	M-X-H-D-P	AC 230 V	50 Hz	1.8 kW	2 x 1 Hp	3 x 1.5 mm ²	77 kW ⁽²⁾	1 x R 3/4"

⁽¹⁾ The heat capacity of these ovens is reduced to 35 kW when they are supplied with town gas.

⁽²⁾ These ovens are not type test approved for town gas.

2 • TECHNICAL DATA

TABLE 3: GENERAL WATER DATA

	Model	Versions	Water pressure kPa	Max. softened water consumption l/h	Water connection
ELECTRIC	6 x GN 1/1	M-X-H-D-P	150 - 500	10	2 x R 3/4" ⁽¹⁾
	10 x GN 1/1	M-X-H-D-P	150 - 500	19	2 x R 3/4" ⁽¹⁾
	10 x GN 2/1	M-X-H-D-P	150 - 500	30	2 x R 3/4" ⁽¹⁾
	8 + 8 x GN 2/1	M-X-H-D-P	150 - 500	19 + 19	2 x R 3/4" ⁽¹⁾
	20 x GN 1/1	M-X-H-D-P	150 - 500	37	2 x R 3/4" ⁽¹⁾
	12 x GN 2/1	M-X-H-D-P	150 - 500	30	2 x R 3/4" ⁽¹⁾
	20 x GN 2/1	M-X-H-D-P	150 - 500	68	2 x R 3/4" ⁽¹⁾
GAS	6 x GN 1/1	M-X-H-D-P	150 - 500	8	2 x R 3/4" ⁽¹⁾
	10 x GN 1/1	M-X-H-D-P	150 - 500	17	2 x R 3/4" ⁽¹⁾
	10 x GN 2/1	M-X-H-D-P	150 - 500	24	2 x R 3/4" ⁽¹⁾
	8 + 8 x GN 2/1	M-X-H-D-P	150 - 500	17 + 17	2 x R 3/4" ⁽¹⁾
	20 x GN 1/1	M-X-H-D-P	150 - 500	24	2 x R 3/4" ⁽¹⁾
	12 x GN 2/1	M-X-H-D-P	150 - 500	24	2 x R 3/4" ⁽¹⁾
	20 x GN 2/1	M-X-H-D-P	150 - 500	48	2 x R 3/4" ⁽¹⁾

⁽¹⁾ The ovens are equipped with two water inlets, one for cold, non-softened water and the other for hot (max. 50 C) or softened cold water.

TABLE 4: FLUE GAS EXTRACTION DATA

Modells	6 x GN 1/1	10 x GN 1/1	10 x GN 2/1	8 + 8 x GN 2/1	20 x GN 1/1	12 x GN 2/1	20 x GN 2/1
Flue pressure				- -	- 1.2	- 1.6	- -
Volumetric mass				- -	47.3 g/sec.	52.4 g/sec.	- -
Flue gas temperature				- -	270 C	280 C	- -

2 • TECHNICAL DATA - ENGLAND - IRELAND - GREECE Category II 2H3+

TABLE 4: GAS DATA

Model	Type of gas	Natural gas		LPG liquid gas		Equipment power		Installation type	
	Gas description	2H • G 20		3+ - G30					
	Inf. calorific value	9.45 kWh/m³		12.68 kWh/kg					
	Rated pressure	20 mbar		28 - 30/37 mbar					
	Burners	Oven	Boiler	Oven	Boiler				-
6 x GN 1/1	PTN kW	11	11	11	11	-	-	17 kW	B11
	Nozzles Ø (1/100mm)	2 x 180	2 x 180	2 x 115	2 x 115	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	10	10	17	17	-	-		B21
	Primary air	Ø 23	Ø 23	Ø 23 +3 mm	Ø 23 +3 mm	-	-		
	Consumption	1.80 m³/h		1.34 kg/h		-			
10 x GN 1/1	PTN kW	20	17.5	20	17.5	-	-	30 kW	B11
	Nozzles Ø (1/100mm)	2 x 230	2 x 220	2 x 155	2 x 145	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	10	10	17	17	-	-		B21
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	-	-		
	Consumption	3.17 m³/h		2.37 kg/h		-			
10 x GN 2/1	PTN kW	27.5	25	27.5	25	-	-	41 kW	B11
	Nozzles Ø (1/100mm)	2 x 270	2 x 270	2 x 180	2 x 170	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	10	10	17	17	-	-		B21
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	-	-		
	Consumption	4.34 m³/h		3.23 kg/h		-			
20 x GN 1/1	PTN kW	30	25	30	25	-	-	42 kW	B11
	Nozzles Ø (1/100mm)	2 x 290	2 x 270	2 x 190	2 x 170	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	10	10	17	17	-	-		B21
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	-	-		
	Consumption	4.45 m³/h		3.31 kg/h		-			
12 x GN 2/1	PTN kW	34	30	34	30	-	-	47 kW	B11
	Nozzles Ø (1/100mm)	2 x 310	2 x 290	2 x 200	2 x 190	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	10	10	17	17	-	-		B21
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	-	-		
	Consumption	4.97 m³/h		3.71 kg/h		-			
20 x GN 2/1	PTN kW	50	50	50	50	-	-	77 kW	-
	Nozzles Ø (1/100mm)	2 x 380	3 x 310	2 x 240	3 x 200	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	10	10	17	17	-	-		B21
	Primary air	2 x Ø 23	3 x Ø 23	2xØ 23+12mm	3xØ 23+12mm	-	-		
	Consumption	8.15 m³/h		6.07 kg/h		-			
8 + 8 x GN 2/1 (data for one oven)	PTN kW	20	17.5	20	17.5	-	-	30 kW	-
	Nozzles Ø (1/100mm)	2 x 230	2 x 220	2 x 155	2 x 145	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	10	10	17	17	-	-		B21
	Primary air	2xØ 23+3mm	2xØ 23+3mm	2xØ 23+12mm	2xØ 23+12mm	-	-		
	Consumption	3.17 m³/h		2.37 ka/h		-			

Note: PTN = Nominal heat capacity
PTN regulator = Regulator setting to obtain the nominal heat capacity
PTR regulator = Regulator setting to obtain the reduced heat capacity

TABLE 5: GAS INLET PRESSURES

Rated mains pressure for the various types of gas:	Gas of family 2 – Natural Gas of family 3 – LPG	20 mbar 28-30/37 mbar
Operation permissible if pressure is between :	Gas of family 2 – Natural Gas of family 3 – LPG	from 17 to 25 mbar from 20/25 to 35/45 mbar
Operation not permissible pressure is less than:	Gas of family 2 – Natural Gas of family 3 – LPG	17 mbar 20/25 mbar
Operation not permissible pressure is greater than:	Gas of family 2 – Natural Gas of family 3 – LPG	25 mbar 35/45 mbar

2 • TECHNICAL DATA - DENMARK - SWEDEN Category II 2H3B/P; II 1a2H

TABLE 4: GAS DATA

Model	Type of gas	Natural gas		LPG liquid gas		Town gas		Equipment power	Installation type
	Gas description	2H • G 20		3B/P - G30		1a - G110			
	Inf. calorific value	9.45 kWh/m³		12.68 kWh/kg		3.87 kWh/m³			
	Rated pressure	20 mbar		28 - 30 mbar		8 mbar			
	Burners	Oven	Boiler	Oven	Boiler	Oven	Boiler		
6 x GN 1/1	PTN kW	11	11	11	11	11	11	17 kW	B11
	Nozzles Ø (1/100mm)	2 x 180	2 x 180	2 x 115	2 x 115	2 x 400	2 x 400		
	PTN regulator (mbar)	-	-	-	-	3.5	3.5		
	PTR regulator (mbar)	10	10	17	17	2.3	2.3		B21
	Primary air	Ø 23	Ø 23	Ø 23 +3 mm	Ø 23 +3 mm	Ø 23	Ø 23		
	Consumption	1.80 m³/h		1.34 kg/h		4.94 m³/h			
10 x GN 1/1	PTN kW	20	17.5	20	17.5	20	17.5	30 kW	B11
	Nozzles Ø (1/100mm)	2 x 230	2 x 220	2 x 155	2 x 145	2 x 550	2 x 520		
	PTN regulator (mbar)	-	-	-	-	3.5	3.5		
	PTR regulator (mbar)	10	10	17	17	2.3	2.3		B21
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	2 x Ø 23	2 x Ø 23		
	Consumption	3.17 m³/h		2.37 kg/h		7.75 m³/h			
10 x GN 2/1	PTN kW	27.5	25	27.5	25	23.5	23.5	41 kW	B11
	Nozzles Ø (1/100mm)	2 x 270	2 x 270	2 x 180	2 x 170	2 x 600	2 x 600		
	PTN regulator (mbar)	-	-	-	-	4.5	4.5		
	PTR regulator (mbar)	10	10	17	17	3	3		B21
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	2 x Ø 23	2 x Ø 23		
	Consumption	4.34 m³/h		3.23 kg/h		9.04 m³/h			
20 x GN 1/1	PTN kW	30	25	30	25	23.5	23.5	42 kW	B11
	Nozzles Ø (1/100mm)	2 x 290	2 x 270	2 x 190	2 x 170	2 x 600	2 x 600		
	PTN regulator (mbar)	-	-	-	-	4.5	4.5		
	PTR regulator (mbar)	10	10	17	17	3	3		B21
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	2 x Ø 23	2 x Ø 23		
	Consumption	4.45 m³/h		3.31 kg/h		9.04 m³/h			
12 x GN 2/1	PTN kW	34	30	34	30	23.5	23.5	47 kW	B11
	Nozzles Ø (1/100mm)	2 x 310	2 x 290	2 x 200	2 x 190	2 x 600	2 x 600		
	PTN regulator (mbar)	-	-	-	-	4.5	4.5		
	PTR regulator (mbar)	10	10	17	17	3	3		B21
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	2 x Ø 23	2 x Ø 23		
	Consumption	4.97 m³/h		3.71 kg/h		9.04 m³/h			
20 x GN 2/1	PTN kW	50	50	50	50	-	-	77 kW	-
	Nozzles Ø (1/100mm)	2 x 380	3 x 310	2 x 240	3 x 200	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	10	10	17	17	-	-		B21
	Primary air	2 x Ø 23	3 x Ø 23	2xØ 23+12mm	3xØ 23+12mm	-	-		
	Consumption	8.15 m³/h		6.07 kg/h		-			
8 + 8 x GN 2/1 (data for one oven)	PTN kW	20	17.5	20	17.5	20	17.5	30 kW	-
	Nozzles Ø (1/100mm)	2 x 230	2 x 220	2 x 155	2 x 145	2 x 550	2 x 520		
	PTN regulator (mbar)	-	-	-	-	4	3.5		
	PTR regulator (mbar)	10	10	17	17	2.5	2.5		B21
	Primary air	2xØ 23+3mm	2xØ 23+3mm	2xØ 23+12mm	2xØ 23+12mm	2xØ 23+3mm	2xØ 23+3mm		
	Consumption	3.17 m³/h		2.37 ka/h		7.75 m³/h			

Note: PTN = Nominal heat capacity
PTN regulator = Regulator setting to obtain the nominal heat capacity
PTR regulator = Regulator setting to obtain the reduced heat capacity

TABLE 5: GAS INLET PRESSURES

Rated mains pressure for the various types of gas:	Gas of family 1 – Town Gas of family 2 – Natural Gas of family 3 – LPG	8 mbar 20 mbar 28-30/37 mbar
Operation permissible if pressure is between :	Gas of family 1 – Town Gas of family 2 – Natural Gas of family 3 – LPG	from 6 to 15 mbar from 18 to 25 mbar from 20/25 to 35/45 mbar
Operation not permissible pressure is less than:	Gas of family 1 – Town Gas of family 2 – Natural Gas of family 3 – LPG	6 mbar 18 mbar 20/25 mbar
Operation not permissible pressure is greater than:	Gas of family 1 – Town Gas of family 2 – Natural Gas of family 3 – LPG	15 mbar 25 mbar 35/45 mbar

2 • TECHNICAL DATA - NEDERLAND Category II 2L3B/P

TABLE 4: GAS DATA

Model	Type of gas	Natural gas		LPG liquid gas		-		Equipment power	Installation type
	Gas description	2L • G 25		3B/P - G30		-			
	Inf. calorific value	8.14 kWh/m³		12.68 kWh/kg		-			
	Rated pressure	25 mbar		28 - 30 mbar		-			
	Burners	Oven	Boiler	Oven	Boiler	-	-		
6 x GN 1/1	PTN kW	11	11	11	11	-	-	17 kW	B11
	Nozzles Ø (1/100mm)	2 x 180	2 x 180	2 x 115	2 x 115	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	15	15	17	17	-	-		B21
	Primary air	Ø 23	Ø 23	Ø 23 +3 mm	Ø 23 +3 mm	-	-		
	Consumption	2.09 m³/h		1.34 kg/h		-			
10 x GN 1/1	PTN kW	20	17.5	20	17.5	-	-	30 kW	B11
	Nozzles Ø (1/100mm)	2 x 240	2 x 220	2 x 155	2 x 145	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	15	15	17	17	-	-		B21
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	-	-		
	Consumption	3.68 m³/h		2.37 kg/h		-			
10 x GN 2/1	PTN kW	27.5	25	27.5	25	-	-	41 kW	B11
	Nozzles Ø (1/100mm)	2 x 280	2 x 270	2 x 180	2 x 170	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	15	15	17	17	-	-		B21
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	-	-		
	Consumption	5.04 m³/h		3.23 kg/h		-			
20 x GN 1/1	PTN kW	30	25	30	25	-	-	42 kW	B11
	Nozzles Ø (1/100mm)	2 x 290	2 x 270	2 x 190	2 x 170	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	15	15	17	17	-	-		B21
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	-	-		
	Consumption	5.16 m³/h		3.31 kg/h		-			
12 x GN 2/1	PTN kW	34	30	34	30	-	-	47 kW	B11
	Nozzles Ø (1/100mm)	2 x 310	2 x 290	2 x 200	2 x 190	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	15	15	17	17	-	-		B21
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	-	-		
	Consumption	5.78 m³/h		3.71 kg/h		-			
20 x GN 2/1	PTN kW	50	50	50	50	-	-	77 kW	-
	Nozzles Ø (1/100mm)	2 x 400	3 x 330	2 x 240	3 x 200	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	15	15	17	17	-	-		B21
	Primary air	2 x Ø 23	3 x Ø 23+4mm	2xØ 23+12mm	3xØ 23+12mm	-	-		
	Consumption	9.47 m³/h		6.07 kg/h		-			
8 + 8 x GN 2/1 (data for one oven)	PTN kW	20	17.5	20	17.5	-	-	30 kW	-
	Nozzles Ø (1/100mm)	2 x 240	2 x 220	2 x 155	2 x 145	-	-		
	PTN regulator (mbar)	-	-	-	-	-	-		
	PTR regulator (mbar)	15	15	17	17	-	-		B21
	Primary air	2xØ 23+3mm	2xØ 23+3mm	2xØ 23+12mm	2xØ 23+12mm	-	-		
	Consumption	3.68 m³/h		2.37 ka/h		-			

Note: PTN = Nominal heat capacity
PTN regulator = Regulator setting to obtain the nominal heat capacity
PTR regulator = Regulator setting to obtain the reduced heat capacity

TABLE 5: GAS INLET PRESSURES

Rated mains pressure for the various types of gas:	Gas of family 2 – Natural Gas of family 3 – LPG	25 mbar 28-30 mbar
Operation permissible if pressure is between :	Gas of family 2 – Natural Gas of family 3 – LPG	from 20 to 30 mbar from 20 to 35 mbar
Operation not permissible pressure is less than:	Gas of family 2 – Natural Gas of family 3 – LPG	20 mbar 20 mbar
Operation not permissible pressure is greater than:	Gas of family 2 – Natural Gas of family 3 – LPG	30 mbar 35 mbar

2 • TECHNICAL DATA - NORWAY Category I 3B/P

TABLE 4: GAS DATA

Model	Type of gas	-		LPG liquid gas		-		Equipment power	Installation type	
	Gas description	-		3B/P - G30		-				
	Inf. calorific value	-		12.68 kWh/kg		-				
	Rated pressure	-		28 - 30 mbar		-				
	Burners	-	-	Oven	Boiler	-	-			
6 x GN 1/1	PTN kW	-	-	11	11	-	-	17 kW	B11	
	Nozzles Ø (1/100mm)	-	-	2 x 115	2 x 115	-	-			
	PTN regulator (mbar)	-	-	-	-	-	-			
	PTR regulator (mbar)	-	-	17	17	-	-			
	Primary air	-	-	Ø 23 +3 mm	Ø 23 +3 mm	-	-			
	Consumption	-		1.34 kg/h		-			B21	
10 x GN 1/1	PTN kW	-	-	20	17.5	-	-	30 kW		B11
	Nozzles Ø (1/100mm)	-	-	2 x 155	2 x 145	-	-			
	PTN regulator (mbar)	-	-	-	-	-	-			
	PTR regulator (mbar)	-	-	17	17	-	-			
	Primary air	-	-	2xØ 23+12mm	2xØ 23+12mm	-	-			
	Consumption	-		2.37 kg/h		-			B21	
10 x GN 2/1	PTN kW	-	-	27.5	25	-	-	41 kW		B11
	Nozzles Ø (1/100mm)	-	-	2 x 180	2 x 170	-	-			
	PTN regulator (mbar)	-	-	-	-	-	-			
	PTR regulator (mbar)	-	-	17	17	-	-			
	Primary air	-	-	2xØ 23+12mm	2xØ 23+12mm	-	-			
	Consumption	-		3.23 kg/h		-			B21	
20 x GN 1/1	PTN kW	-	-	30	25	-	-	42 kW		B11
	Nozzles Ø (1/100mm)	-	-	2 x 190	2 x 170	-	-			
	PTN regulator (mbar)	-	-	-	-	-	-			
	PTR regulator (mbar)	-	-	17	17	-	-			
	Primary air	-	-	2xØ 23+12mm	2xØ 23+12mm	-	-			
	Consumption	-		3.31 kg/h		-			B21	
12 x GN 2/1	PTN kW	-	-	34	30	-	-	47 kW		B11
	Nozzles Ø (1/100mm)	-	-	2 x 200	2 x 190	-	-			
	PTN regulator (mbar)	-	-	-	-	-	-			
	PTR regulator (mbar)	-	-	17	17	-	-			
	Primary air	-	-	2xØ 23+12mm	2xØ 23+12mm	-	-			
	Consumption	-		3.71 kg/h		-			B21	
20 x GN 2/1	PTN kW	-	-	50	50	-	-	77 kW		-
	Nozzles Ø (1/100mm)	-	-	2 x 240	3 x 200	-	-			
	PTN regulator (mbar)	-	-	-	-	-	-			
	PTR regulator (mbar)	-	-	17	17	-	-			
	Primary air	-	-	2xØ 23+12mm	3xØ 23+12mm	-	-			
	Consumption	-		6.07 kg/h		-			B21	
8 + 8 x GN 2/1 (data for one oven)	PTN kW	-	-	20	17.5	-	-	30 kW		-
	Nozzles Ø (1/100mm)	-	-	2 x 155	2 x 145	-	-			
	PTN regulator (mbar)	-	-	-	-	-	-			
	PTR regulator (mbar)	-	-	17	17	-	-			
	Primary air	-	-	2xØ 23+12mm	2xØ 23+12mm	-	-			
	Consumption	-		2.37 kg/h		-			B21	

Note: PTN = Nominal heat capacity
PTN regulator = Regulator setting to obtain the nominal heat capacity
PTR regulator = Regulator setting to obtain the reduced heat capacity

TABLE 5: GAS INLET PRESSURES

Rated mains pressure for the various types of gas:	Gas of family 3 – LPG	28-30 mbar
Operation permissible if pressure is between :	Gas of family 3 – LPG	from 20 to 35 mbar
Operation not permissible pressure is less than:	Gas of family 3 – LPG	20 mbar
Operation not permissible pressure is greater than:	Gas of family 3 – LPG	35 mbar

2 • TECHNICAL DATA - FINLAND Category II 2H3B/P

TABLE 4: GAS DATA

Model	Type of gas	Natural gas		LPG liquid gas		-		Equipment power	Installation type	
	Gas description	2H • G 20		3B/P - G30		-				
	Inf. calorific value	9.45 kWh/m³		12.68 kWh/kg		-				
	Rated pressure	20 mbar		28 - 30 mbar		-				
	Burners	Oven	Boiler	Oven	Boiler	-	-			
6 x GN 1/1	PTN kW	11	11	11	11	-	-	17 kW	B11	
	Nozzles Ø (1/100mm)	2 x 180	2 x 180	2 x 115	2 x 115	-	-			
	PTN regulator (mbar)	-	-	-	-	-	-			
	PTR regulator (mbar)	10	10	17	17	-	-			
	Primary air	Ø 23	Ø 23	Ø 23 +3 mm	Ø 23 +3 mm	-	-			
	Consumption	1.80 m³/h		1.34 kg/h		-			B21	
10 x GN 1/1	PTN kW	20	17.5	20	17.5	-	-	30 kW		B11
	Nozzles Ø (1/100mm)	2 x 230	2 x 220	2 x 155	2 x 145	-	-			
	PTN regulator (mbar)	-	-	-	-	-	-			
	PTR regulator (mbar)	10	10	17	17	-	-			
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	-	-			
	Consumption	3.17 m³/h		2.37 kg/h		-			B21	
10 x GN 2/1	PTN kW	27.5	25	27.5	25	-	-	41 kW		B11
	Nozzles Ø (1/100mm)	2 x 270	2 x 270	2 x 180	2 x 170	-	-			
	PTN regulator (mbar)	-	-	-	-	-	-			
	PTR regulator (mbar)	10	10	17	17	-	-			
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	-	-			
	Consumption	4.34 m³/h		3.23 kg/h		-			B21	
20 x GN 1/1	PTN kW	30	25	30	25	-	-	42 kW		B11
	Nozzles Ø (1/100mm)	2 x 290	2 x 270	2 x 190	2 x 170	-	-			
	PTN regulator (mbar)	-	-	-	-	-	-			
	PTR regulator (mbar)	10	10	17	17	-	-			
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	-	-			
	Consumption	4.45 m³/h		3.31 kg/h		-			B21	
12 x GN 2/1	PTN kW	34	30	34	30	-	-	47 kW		B11
	Nozzles Ø (1/100mm)	2 x 310	2 x 290	2 x 200	2 x 190	-	-			
	PTN regulator (mbar)	-	-	-	-	-	-			
	PTR regulator (mbar)	10	10	17	17	-	-			
	Primary air	2 x Ø 23	2 x Ø 23	2xØ 23+12mm	2xØ 23+12mm	-	-			
	Consumption	4.97 m³/h		3.71 kg/h		-			B21	
20 x GN 2/1	PTN kW	50	50	50	50	-	-	77 kW		-
	Nozzles Ø (1/100mm)	2 x 380	3 x 310	2 x 240	3 x 200	-	-			
	PTN regulator (mbar)	-	-	-	-	-	-			
	PTR regulator (mbar)	10	10	17	17	-	-			
	Primary air	2 x Ø 23	3 x Ø 23	2xØ 23+12mm	3xØ 23+12mm	-	-			
	Consumption	8.15 m³/h		6.07 kg/h		-			B21	
8 + 8 x GN 2/1 (data for one oven)	PTN kW	20	17.5	20	17.5	-	-	30 kW		-
	Nozzles Ø (1/100mm)	2 x 230	2 x 220	2 x 155	2 x 145	-	-			
	PTN regulator (mbar)	-	-	-	-	-	-			
	PTR regulator (mbar)	10	10	17	17	-	-			
	Primary air	2xØ 23+3mm	2xØ 23+3mm	2xØ 23+12mm	2xØ 23+12mm	-	-			
	Consumption	3.17 m³/h		2.37 ka/h		-			B21	

Note: PTN = Nominal heat capacity

PTN regulator = Regulator setting to obtain the nominal heat capacity

TABLE 5: GAS INLET PRESSURES

Rated mains pressure for the various types of gas:	Gas of family 2 – Natural Gas of family 3 – LPG	20 mbar 28-30 mbar
Operation permissible if pressure is between:	Gas of family 2 – Natural Gas of family 3 – LPG	from 17 to 25 mbar from 20 to 35 mbar
Operation not permissible pressure is less than:	Gas of family 2 – Natural Gas of family 3 – LPG	17 mbar 20 mbar
Operation not permissible pressure is greater than:	Gas of family 2 – Natural Gas of family 3 – LPG	25 mbar 35 mbar

3 • SPECIAL REQUIREMENTS FOR THE INSTALLATION SITE

- 3.1 • The room in which the oven is to operate must be well ventilated and furnished with all such openings as may be required in buildings where gas-fired systems are installed (see specific regulations).
- 3.2 • In addition, it is good policy to locate the appliance under an extractor hood so that cooking vapours can be removed rapidly and continuously.
- 3.3 • The room must have a flue gas extraction stack (appliances with installation type B11), or a suitable flue gas extraction system fitted with all relevant safety devices (appliances with installation type B21). Further details are given under the heading "*Gas connection procedures*". Check with the appropriate agency whether or not special authorization is required for the emission of flue gases into the atmosphere.
- 3.4 • Current regulations require the installation of a multiple pole switch between the oven and the electrical power supply; the switch must have a contact gap of least 3 mm on each pole.
- 3.5 • The oven requires two water supplies of which one can be softened or unsoftened, but must necessarily be cold (for condensing steam). The other supply, serving the vaporizer, must incorporate a softener with suitable flow and pressure specifications (see technical data and water connections heading). A shutoff valve must be installed on each of the water supply pipelines to the appliance.
- 3.6 • The room must have a water drain in a good position for the oven to be installed, its specifications are given under the heading "*Water and drain connections*" in this manual.
- 3.7 • The electrical isolating switch and the water shutoff valves must all be located near to the appliance, within easy reach for the user.
- 3.8 • The gas supply plumbing must be installed in accordance with current regulations, adopting pipe sections and pressures suitable for the appliance (see technical data and gas connections heading). A fast acting shutoff valve must be installed on the gas inlet line to the appliance. It is absolutely essential that this valve should be specified to current standards and type test approved.
- 3.9 • The electrical isolating switch and the water and gas shutoff valves must all be located near to the appliance, within easy reach for the user.

4 • STATUTORY REQUIREMENTS, TECHNICAL REGULATIONS AND DIRECTIVES

Throughout installation it is vital to observe the following requirements:

- 4.1 • any health and hygiene standards applicable to kitchens and eating places;
- 4.2 • local and/or territorial building regulations and fire prevention standards;
- 4.3 • current accident prevention guidelines;
- 4.4 • the regulations of the gas supply company or agency;
- 4.5 • the regulations of the electrical power supply company or agency;
- 4.6 • any other local regulations.

5 • POSITIONING

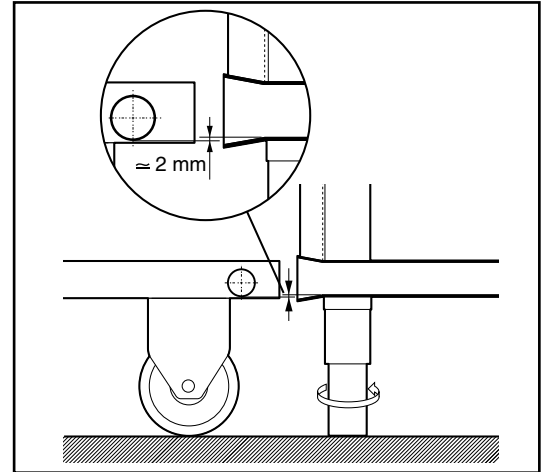
- 5.1 • To position the counter-top appliances (6 x GN 1/1, 10 x GN 1/1, 10 GN 2/1) it is recommended to use the mount offered by the manufacturer; should you choose otherwise, it is necessary to take account of the weight of the appliance.

Current fire regulations should be meticulously observed and respected. The openings and slots in the outer casing of the oven must not be blocked, as these allow heat to escape from the compartment housing the electrical components. Keep strictly to the installation diagrams.
- 5.2 • Before manoeuvring the oven into the selected position, attach the water inlet hoses and waste pipe to the relative connection points (refer to headings describing the water and drain connections).
- 5.3 • The distances from other appliances or from adjacent walls that must be left to allow access for servicing operations will be found on the installation diagram for the oven to connect. In the event of the oven being installed directly against an inflammable wall, suitable heat insulation must be provided.
- 5.4 • Once the appliance is installed, the electrical power cable must be protected, and never stretched or tugged.
- 5.5 • The appliance must be level: any difference in level or sloping of the supporting surface should be eliminated. Differences in level or sloping negatively affect oven operation.

5 • POSITIONING

- 5.6 • Remove all packing materials and peel away the protective plastic film from all external and internal surfaces of the oven.
- 5.7 • For models with trolley, the appliance needs to be levelled: small differences in level of the supporting surface can be eliminated with the adjustable feet (by screwing or unscrewing them). Significant differences in level or sloping can have a negative effect on oven operation. For models equipped with a pan trolley, it is necessary to pay special attention when levelling. **For model with trolley** models, strictly observe the guidelines and distances given in the figure shown here for the trolley to enter properly.

After positioning, remove the square-section bar screwed onto the front side between the feet.



6 • ELECTRICAL CONNECTIONS AND EQUIPOTENTIAL BONDING

- 6.1 • As this oven is a type X appliance (oven without power cable and plug), the cable and other hardware needed to make the connection to the electrical power supply must be provided by the installer. The cable must satisfy the requirements indicated in table 1 “General data”. As already mentioned, the oven must be connected to the power supply by way of a multiple pole main isolating switch ensuring a gap between open contacts of at least 3 mm on each pole.
- 6.2 • To gain access to the AC mains connection terminal board, the right hand panel of the casing must be removed by undoing the fixing screws (all models).
- Note:** For the 8 + 8 x GN 2/1 model, as the oven has two terminal blocks, it is necessary to take off both the top and bottom sides. Each cable must enter through its clamp.
- 6.3 • The cable must be fed in from beneath the clamp. The individual wires are then fastened to the corresponding terminals of the terminal board. The earth wire must be longer than the other wires, so that in the event of the cable being jerked or the clamp broken, the live wires will disconnect first. Check the efficiency of the isolating switch.
- 6.4 • The oven must also be bonded equipotentially to other equipment in the kitchen. This connection is made by wiring a conductor of nominal cross section $< 10 \text{ mm}^2$ to the corresponding terminal at the back of the oven, which is marked with the internationally recognized symbol . All appliances in the room are bonded in this way and connected to the earth system of the building.
- 6.5 • The electrical safety of this appliance can be guaranteed only when it is connected correctly to an efficient earth system, in compliance with current standards.

7 • POINTS TO REMEMBER WHEN MAKING THE ELECTRICAL CONNECTION

- 7.1** • As all ovens of the series are fitted with an alternating fan motor (clockwise and anticlockwise rotation), there is no need for the fan to rotate in any particular direction. Simply verify, when commissioning the appliance, that the fan is balanced and rotates freely.
Warning: The 8 + 8 x GN 2/1 model is equipped with two independent ovens, which both have a motor.
Warning: The 20 x GN 1/1 and 20 x GN 2/1 models have two motors.
- 7.2** • When making the electrical connection you need to take care that the neutral pin of the terminal block corresponds to the neutral wire of the supply line. If this connection is not made correctly, the burners will not be able to operate.
- 7.3** • This trouble is indicated:
On **Models** 6 x GN 1/1, 10 x GN 1/1, 10 x GN 2/1, 8 + 8 x GN 2/1, **versions M, X and D** by the burner ignition reset button, which is lit up.
On **Models** 6 x GN 1/1, 10 x GN 1/1, 10 x GN 2/1, 8 + 8 x GN 2/1, **versions H and P** and on models 20 x GN 1/1, 12 x GN 2/1, 20 x GN 2/1, **versions M, X, D, H and P**, by the LED next to the terminal block, on the ignition device, which can be seen with the sides removed.
- 7.4** • Check also that the neutral registers zero potential when tested. If not, the fault already described in point three of this section will occur. In this eventuality, consult the installer of the building's electrical system.

8 • WATER AND DRAIN CONNECTIONS

8.1 • WATER PRESSURE

The pressure of the water in the network must be between 150 and 500 kPa, as already stated under the heading "*Technical Data*". If the supply pressure is higher than this, a pressure reduction valve must be installed between the oven and the main.

8.2 • WATER CONNECTION TO SUPPLY THE BOILER AND VAPORIZER

The water supplied to the vaporizer must be either cold and softened, or hot (max 50 °C), as described below. The water connection is R 3/4". The hose for connection to the water supply must be provided by the installer. A shutoff valve must be installed on the line between the oven and the supply.

8.3 • WATER SPECIFICATIONS

The characteristics of the water must come within the limits given below, in order to prevent both corrosion, which is extremely damaging for the appliance, due to supplying water that is too softened or too aggressive, and scaling in the oven and in

the water system in the case of supplying water that is too hard.

Hardness: **between 3° and 6° fH**

PH: **higher than 7.5**

Chlorides: **under 30 ppm**

These values are important for making an adequate water treatment system!

8.4 • WATER CONNECTION FOR STEAM CONDENSATION AND BOILER WASHING (VERSIONS D, H E P)

The water used for condensing steam and washing the boiler (versions D, H and P) need not be softened, but must necessarily be cold. The water connection is R 3/4". The hose used to make the connection to the cold water supply must be provided by the installer. A shutoff valve must be installed on the line between the oven and the supply.

8 • WATER AND DRAIN CONNECTIONS

8.5 • DRAINING

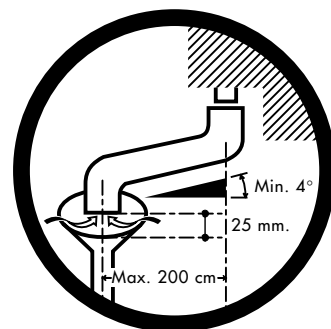
The water is drained off by gravity through a heat-resistant pipe (not flexible), maximum length 2 m, installed at an angle of no less than 4°.

The drainage piping must never be ducted away in a continuous system.

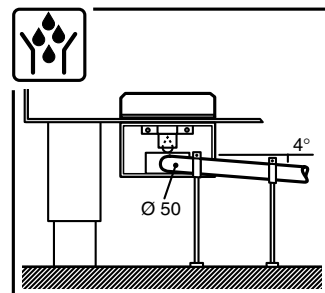
It is necessary to ensure an air gap of 25 mm, as required by current standards.

It is essential to place a funnel (see drawing) in between to ensure a free flow. Accordingly, **the diameter of the drain line must not be reduced.**

The drain line, as shown in the drawing, must be outside the perimeter of the oven.



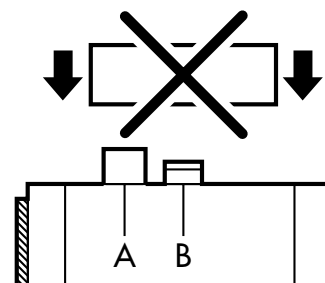
For 20 x GN 1/1, 12 x GN 2/1, 20 x GN 2/1 Models



9 • VENTS

- 9.1 • Under no circumstances must vents A and B be shut, blocked or ducted into other pipes.

A - Vent to extract vapours from the oven
B - Safety vent



10 • GAS CONNECTION PROCEDURES

10.1 • GAS CONNECTION

The section of the gas supply pipe must be chosen according to the type of gas and the consumption of the appliance to be connected. The system must be designed and installed in accordance with current regulations. **The gas connection on the oven is R 3/4", and this section must never be reduced.**

A fast acting shutoff valve must be installed on the gas inlet line to the oven. The valve must be type test approved in accordance with current regulations.

The connection to the gas main can be permanent or detachable; if flexible metal tube is used, this should be made of a stainless and corrosion resistant material (rubber hose is not recommended). If when making the connection you use any sealing materials, they must be type test approved for this purpose.

10.2 • LEAK TEST

All connections between the mains and the appliance must be tested for leakage. The recommended method is to use a proprietary leak detection spray; alternatively, a non-corrosive foamy liquid of any general description can simply be brushed onto the fittings: whichever method is used, no bubbles should appear.

Never under any circumstances test for gas leaks with a naked flame!

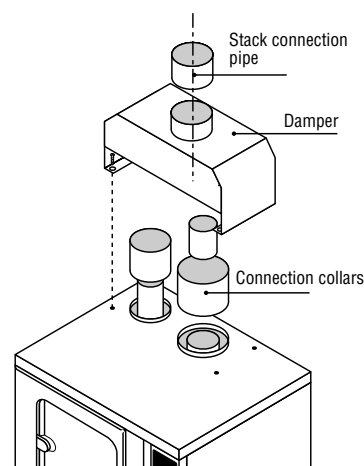
10.3 • EXHAUSTING FLUE GASES

As these ovens have a power rating of >14 kW, type B installation is required. The installer must select one of the methods described below, according to the design of the building and of the room where the appliance is sited. The diameter of the flue pipes must be as indicated in Table 4 of *"Technical data"*.

10 • GAS CONNECTION PROCEDURES

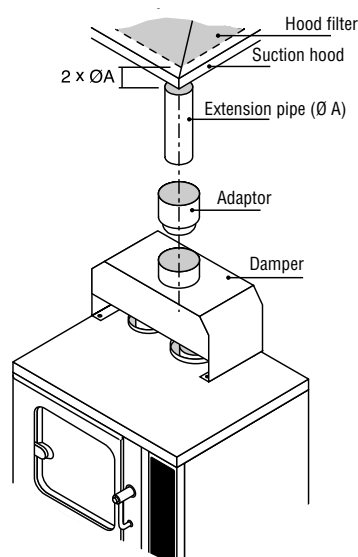
Installation type B11

Extraction with natural draught **fitted with a damper** and a heat-resistant pipe (see “Flue gas temperatures” in Table 4 under the heading “*Technical Data*”) connected to the stack. Never under any circumstances must flue gases be ducted away directly utilizing a mechanical extraction system. Selecting this type of installation the oven must be fitted with the damper, as shown in the drawing. If the oven is equipped with an adaptor collar for standard size flue pipes, fit the adaptor.



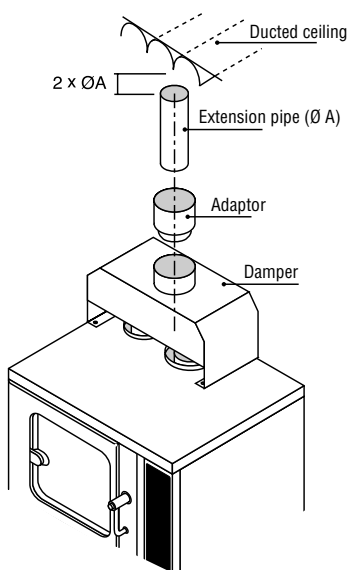
Or:

Flue gases are exhausted mechanically through a suction hood, **passing through a damper**, and either conveyed into a stack or released directly to the atmosphere together with other fumes extracted from the room. The oven must be fitted with a length of heat resistant pipe (see “Flue gas temperature” in Table 4 of “*Technical Data*”) positioned with the top end separated by a distance equivalent approximately to twice its diameter from the extractor hood filter. Selecting this type of installation the oven must be fitted with the damper, as shown in the drawing. If the oven is equipped with an adaptor collar for standard size flue pipes, fit the adaptor.



Or:

Flue gases are exhausted mechanically through a ducted ceiling, **passing through a damper**, and either conveyed into a stack or released directly to the atmosphere together with other fumes extracted from the room. The oven must be fitted with a length of heat resistant pipe (see “Flue gas temperature” in Table 4 of “*Technical Data*”) positioned with the top end separated by a distance equivalent approximately to twice its diameter from the ceiling. Selecting this type of installation the oven must be fitted with the damper, as shown in the drawing. If the oven is equipped with an adaptor collar for standard size flue pipes, fit the adaptor.



Note: The distance from the floor to the top of the flue (extension) pipe must be no less than 1.80 m.

10 • GAS CONNECTION PROCEDURES

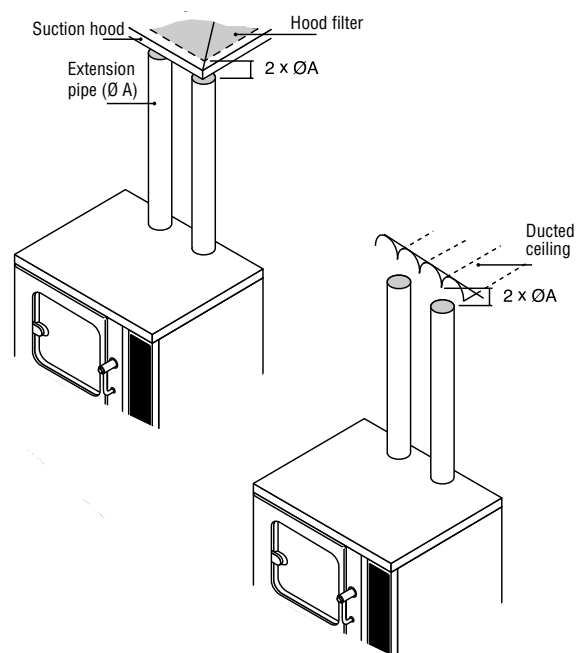
Type B21 installation

Flue gases are exhausted mechanically through a suction hood with a heat-resistant filter or a ducted ceiling, **without a damper being fitted**, and either conveyed into a stack or released directly to the atmosphere together with other fumes extracted from the room. The oven must be fitted with a length of heat resistant pipe (see “Flue gas temperature” in Table 4 of “*Technical Data*”) positioned with the top end separated by a distance equivalent approximately to twice its diameter from under the extractor hood filter, or from the ceiling.

Note: Some ovens are equipped with an adaptor collar to adapt the oven flue-gas outlet diameter to the diameters of pipes readily available on the market. Accordingly, if type B21 installation is adopted, the adaptor collar must be fitted before erecting the flue extension pipe.

Note: It is the installer's responsibility to ensure that the flue extension pipe has been correctly and securely fitted.

Where extraction systems are selected for type B11 and B21 installations, these must be properly sized and specified with at least one interlock device that will shut off the gas supply to the oven automatically in the event of the extractor system failing to operate.



It will be seen from the installation diagram that the model 8 + 8 x GN 2/1 has two independent cooking chambers. Accordingly, two pipes must be installed for the two ovens, and two pipes for the two boilers, making four in all!

After installation, the installer must update the data plate by ticking the box, corresponding to the type of installation made, with an indelible marker pen.

A1 ☐	B11 ☒	B21 ☐
-----------------------------	---	------------------------------

The manufacturer accepts no liability for any damage or malfunctioning of the appliance attributable to the absence or inadequacy of earthing systems, to the incorrect arrangement or installation of auxiliary systems, also to incorrectly made connections or to non-compliance of the building's electrical system with current regulations.

11 • OPERATING AT THE RATED HEAT OUTPUT

11.1 • All appliances, during final testing in the factory, are fitted for the type of gas shown on the sticker next to the data plate. Should the appliance fitting not correspond to the family of gases available on location, the appliance must be converted to adapt to the type of gas available. If conversion is necessary, then Lainox Customer Service must be informed.

11.2 • Commissioning of the appliance to operate at the rated heat output is dependent on: the inlet pressure and calorific value of the gas, also the burner nozzle, the pressure at the nozzle and the correct amount of primary air.

11.3 • The inlet pressure required for the appliance to operate with the various types of gas typically available will be within the limits indicated in table 5 “Gas inlet pressures” in “Technical Data”.

The appliance must not be commissioned if inlet pressure values are outside these limits. If pressures differ from those indicated in Table 5, the gas supply company or agency should be contacted, or alternatively the contractor by which the system was installed in the building.

11.4 • The lower calorific value of the gas can be checked with the supply company or agency, and should comply with the information given in table 4 “Gas Data” in “Technical Data”.

11.5 • MEASURING THE INLET PRESSURE

The inlet pressure is measured using a manometer connected to the pressure tap (3) of the gas adjustment valve. To gain access to the valve, the right-hand side casing panel has to be removed. For the 12 x GN 2/1 and 20 x GN 2/1 models, remove the left-hand

casing panel

To measure the pressure on model 8 + 8 x GN 2/1 just do it on one of the valves of either of the cooking chambers after taking off the right-hand bottom panel. Before connecting the manometer it is necessary to loosen the screw sealing the pressure tap (3). You then measure the pressure with the burner in operation. The value shown on the manometer must come within the limits given in table 5 “Inlet gas pressures” in “Technical Data”. After checking, carefully close the screw (3). The sealed screws you can see on the values must never be tampered with under any circumstances.

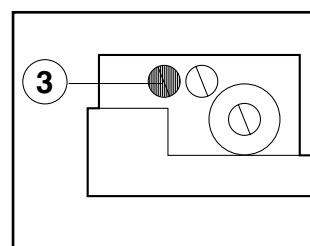
Tampering immediately invalidates warranty!

Models

6 x GN 1/1; 10 x GN 1/1; 10 x GN 2/1 and 8 + 8 x GN 2/1 version M, X and D

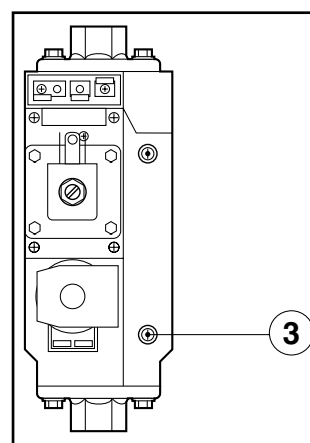
Models

6 x GN 1/1; 10 x GN 1/1; 10 x GN 2/1 and 8 + 8 x GN 2/1 version H and P



Models

20 x GN 1/1; 12 x GN 2/1 and 20 x GN 2/1 version M, X, D, H and P



Conversion: As mentioned above, every appliance is factory set to burn the type of gas specified, it may become necessary nonetheless to convert the appliance from one type of gas to another. This involves, among other things, setting the gas pressure adjustment valve, which is banned by the Manufacturer. Therefore, only personnel authorized by the company and belonging to the technical service who have the corresponding technical handbook can do this work.

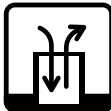
12 • COMMISSIONING AND TESTING

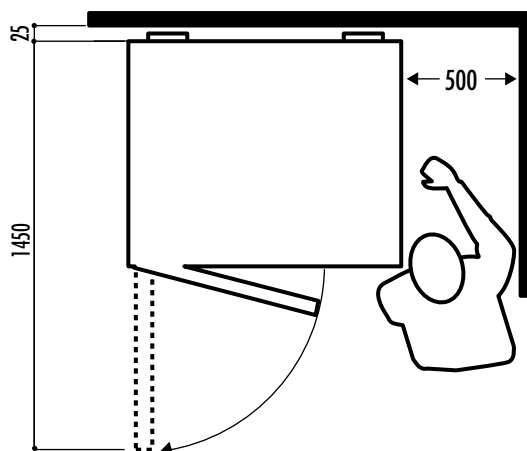
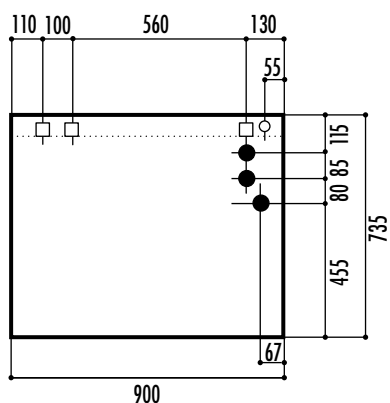
- 12.1** • Check the appliance and the entire installation straight after connecting. Check in particular:
- there are no traces of the protective film on the outside walls and the oven is empty;
 - all the vents are clear;
 - the connections are made as required and instructed in this handbook;
 - all the safety requirements of the current standards, laws and directives are met;
 - there is no leakage from the gas and water connections;
 - water drainage and flue gas extraction are clear.
- 12.2** • Now proceed to light the oven as directed in the user manual, checking the smooth ignition of the burners and the appearance of the flame. In the case of the 8 + 8 x GN 2/1 model, these checks are carried out on each of the two ovens.
- 12.3** • You should moreover check that the silicone joints and sleeves of the water circuit (oven vent, oven outlet, drip tray) do not leak.
- 12.4** • Carefully refit the right-hand side that was removed for the above work.
- 12.5** • For additional certainty that the appliance is operating correctly, carry out a volumetric measurement of the quantity of gas consumed. The meter will show how much gas has been consumed over a given period of time, and this value can be checked against the values given in Table 4 "*Gas Data*".
- 12.6** • The test report must be completed in full and submitted to the customer, who should then sign in acceptance. With effect from this moment, the appliance is covered by the manufacturer's warranty.

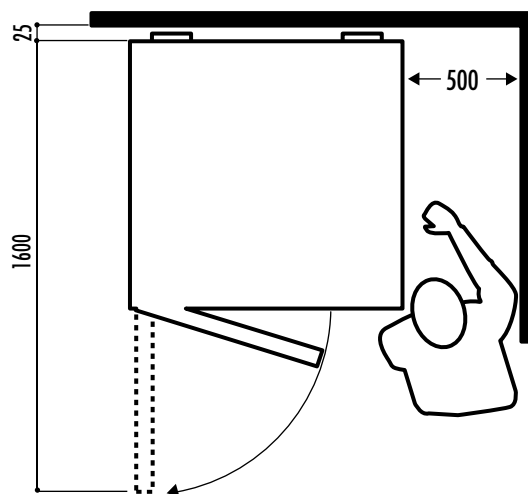
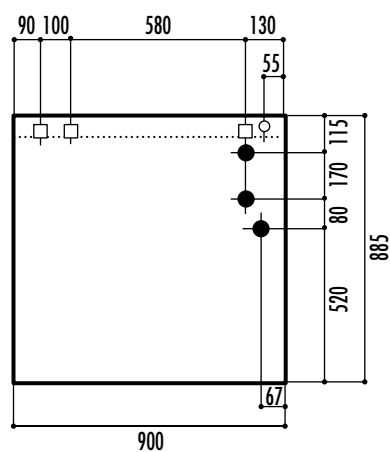
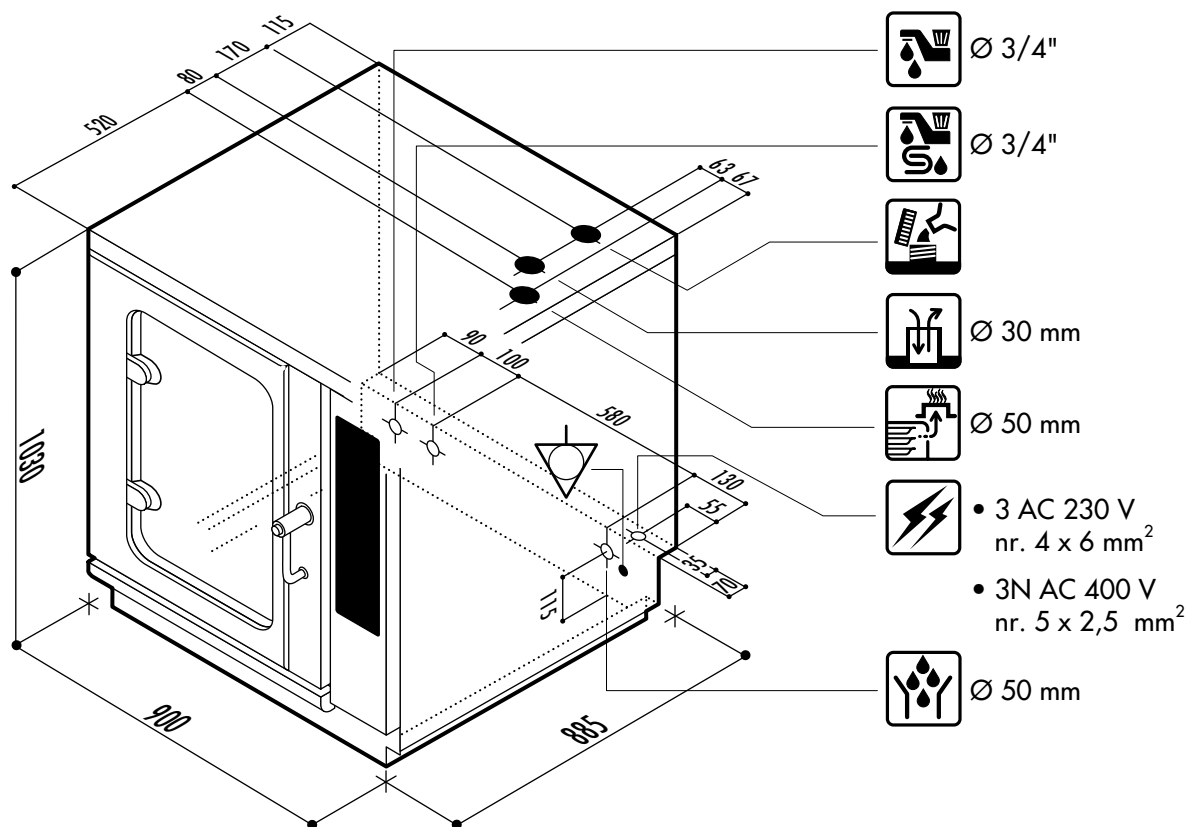
13 • IMPORTANT INFORMATION FOR THE USER

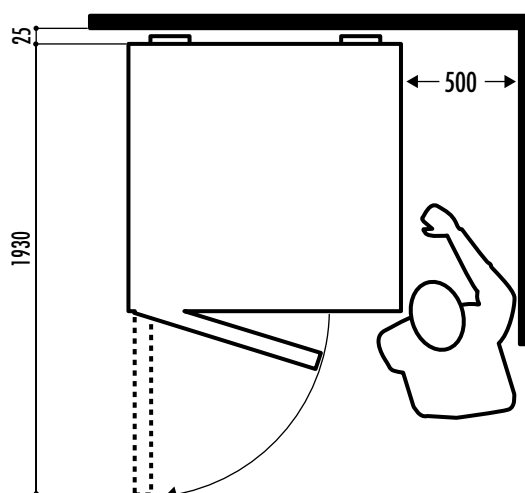
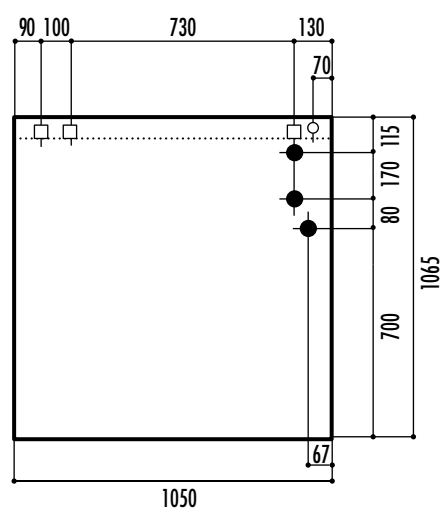
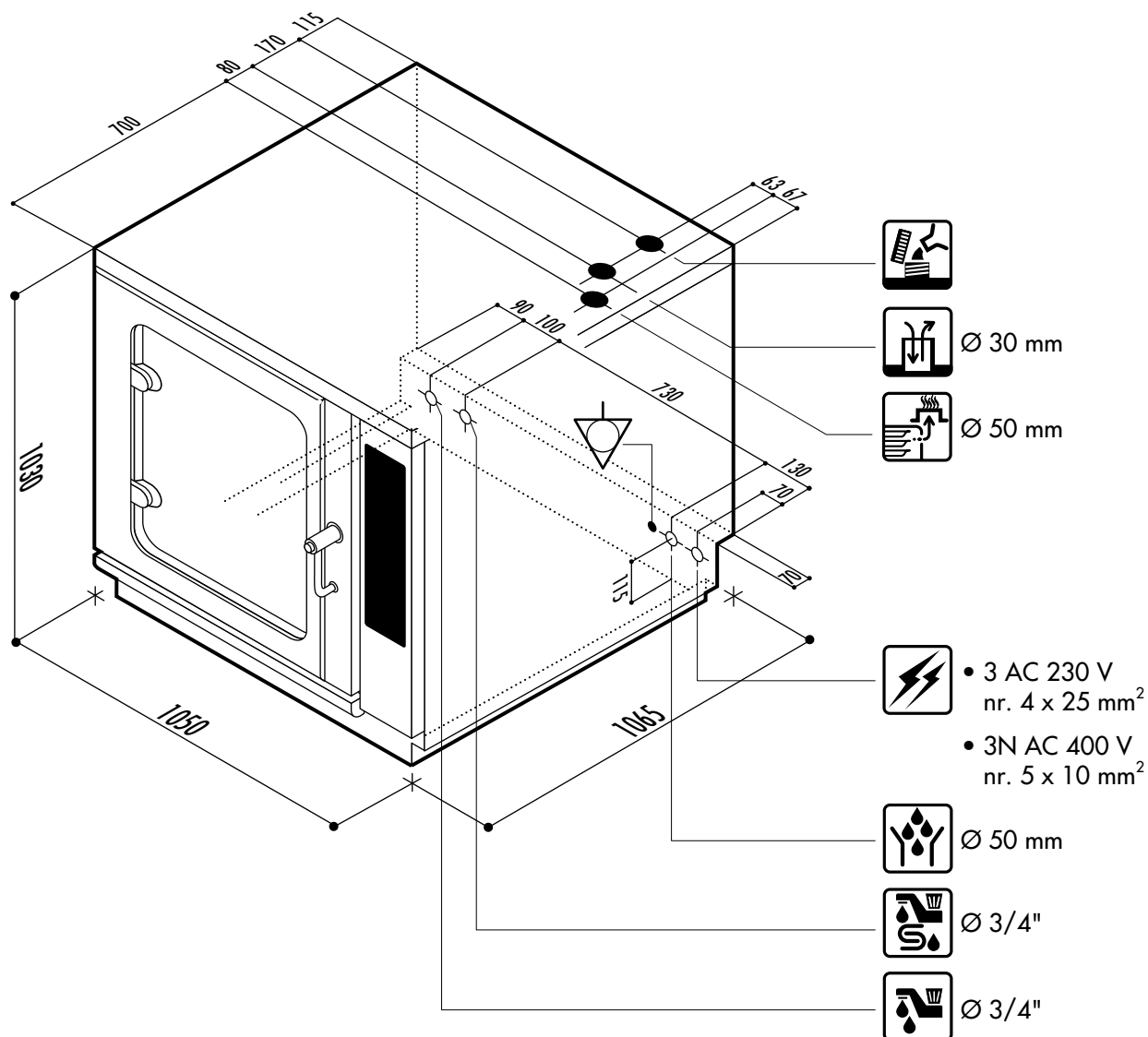
- 13.1** • With the user manual to hand, show the user the functions, safety devices, appropriate use and, above all, the time intervals for servicing the oven. Maintenance operations include cleaning the burners, inspecting the combustion chamber and cleaning the various ducts and pipes, and should be carried out at least once a year. With this in mind, customers are recommended to sign a service agreement.
- 13.2** • **Ensure the user is fully aware that such repair and/or maintenance operations as may become necessary over time must be carried out only by a Lainox authorized service agent.**
- 13.3** • Explain clearly to the user that in the event of breakdown or faulty operation, all connected utilities (water, electricity and gas) should be shut off immediately.
- 13.4** • Keep the installation manual and the wiring diagram for future reference.
Explain to the user that the user manual supplied with the oven must be kept near the oven in a place where it can be seen. It is good policy to make a note, in the user manual, of the name and contact numbers of the selected Service Agent.
- 13.5** • Explain to the user that certain faults in operation are often due to simple errors or oversights such as failure to switch on or connect utilities. Accordingly, kitchen staff should be trained in such a way that they can use the appliance confidently and understand how it operates.
Faults of a recurring or persistent nature must be investigated by an authorized Service Agent.
- 13.6** • Explain clearly that any alterations to the room or changes in ventilation may affect the operation of gas-fired appliances. In these cases, it is advisable to have the oven functions checked over.

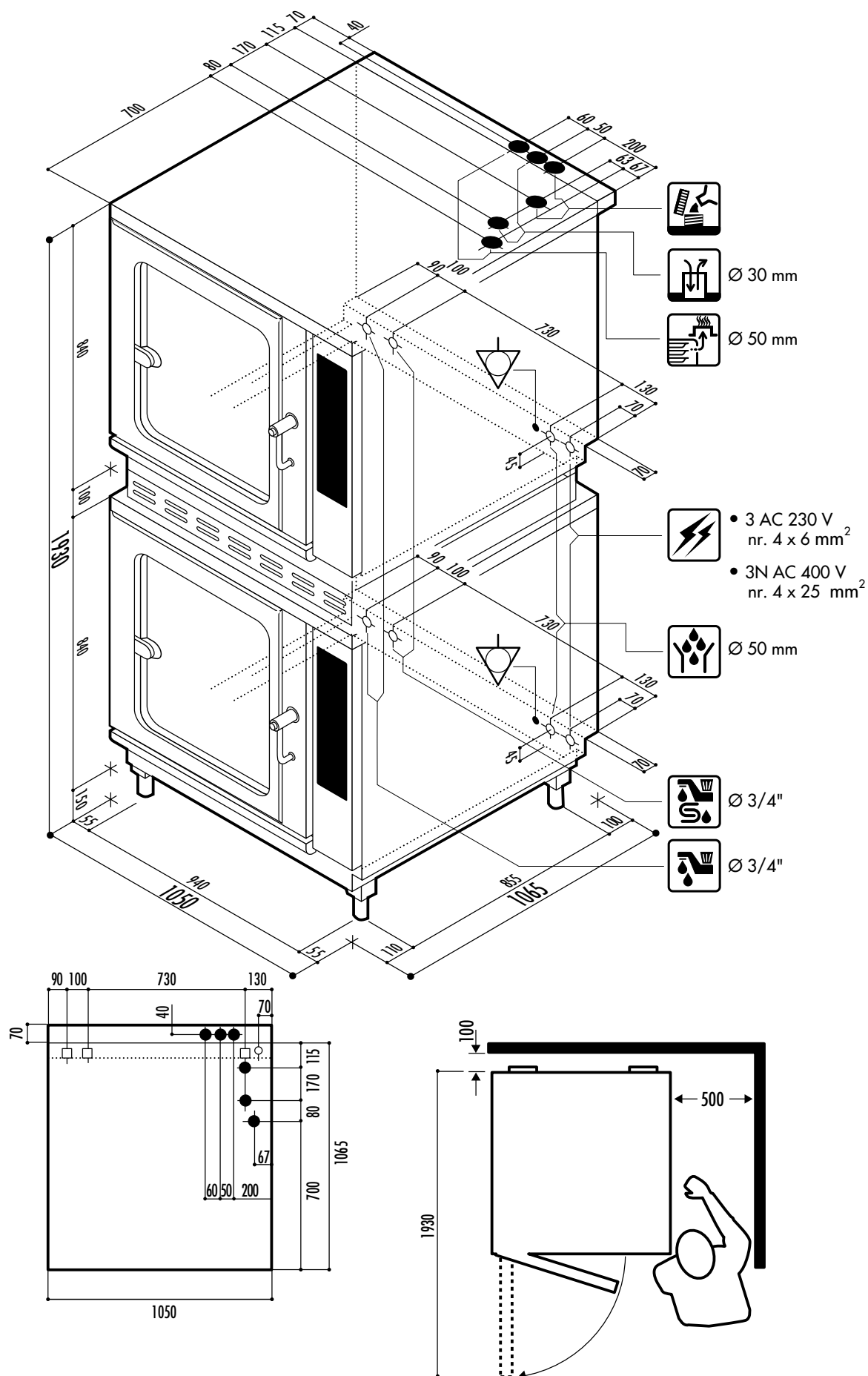
14 • INSTALLATION DIAGRAMS: KEY

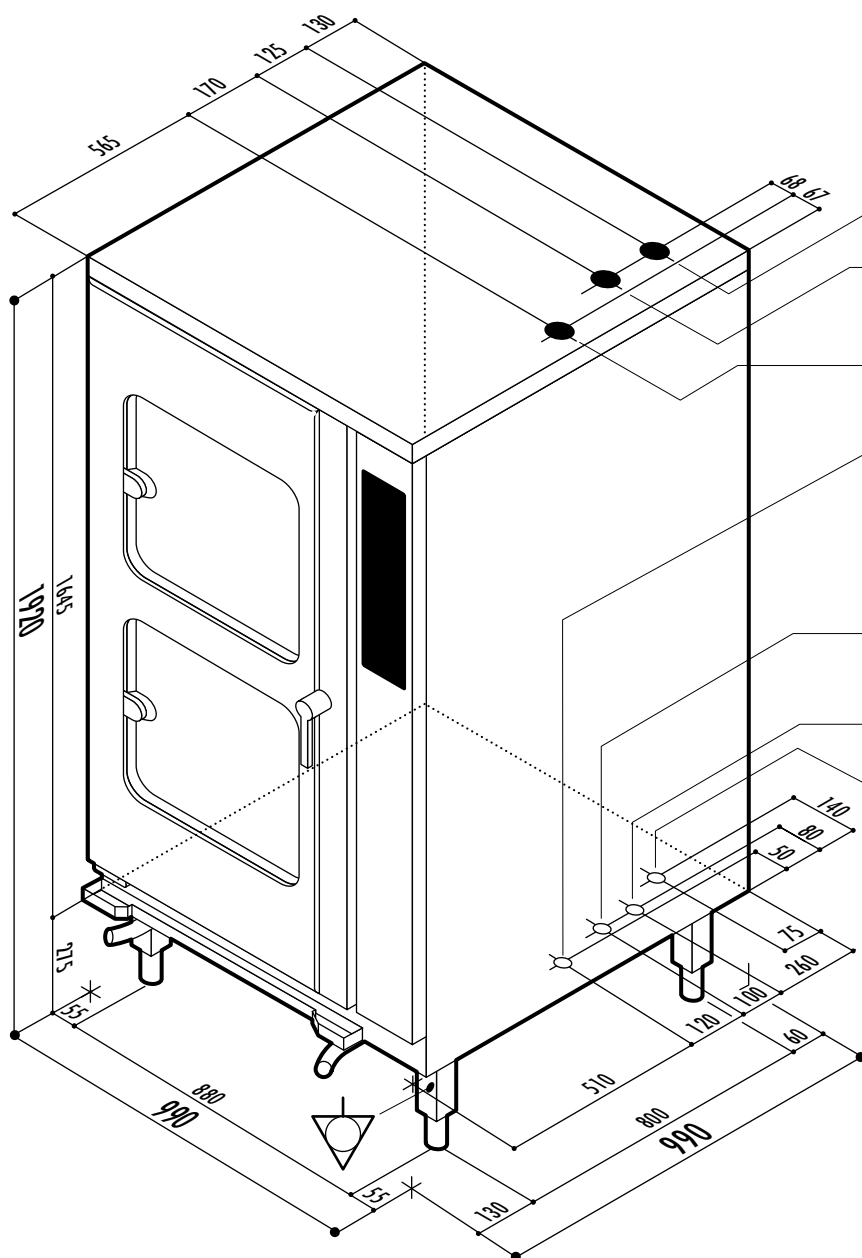
Electricity supply cable input				
Gas inlet and thread type				
	<table><tr><td>DE-AT-BE ES-FI-FR-GR IE-IT-LU-NO-NL PT-GB-SE-CH DK</td><td>ISO 7-1 ISO 228-1</td></tr></table>	DE-AT-BE ES-FI-FR-GR IE-IT-LU-NO-NL PT-GB-SE-CH DK	ISO 7-1 ISO 228-1	
DE-AT-BE ES-FI-FR-GR IE-IT-LU-NO-NL PT-GB-SE-CH DK	ISO 7-1 ISO 228-1			
Flue gas extraction				
Boiler descaling plug				
Oven safety vent		Ø mm		
Oven steam vent		Ø mm		
Ordinary water inlet		Ø		
Softened water inlet		Ø		
Liquid drain		Ø mm		











Ø 30 mm

Ø 50 mm

- 3 AC 230 V
nr. 4 x 25 mm²
- 3N AC 400 V
nr. 5 x 10 mm²



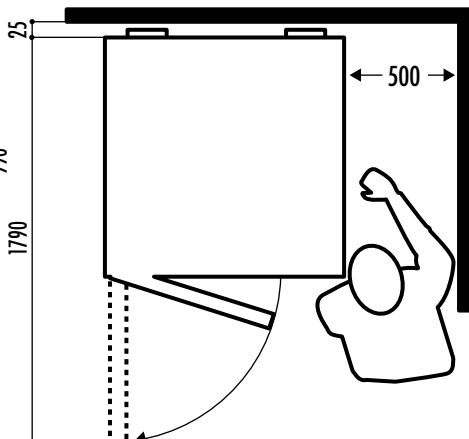
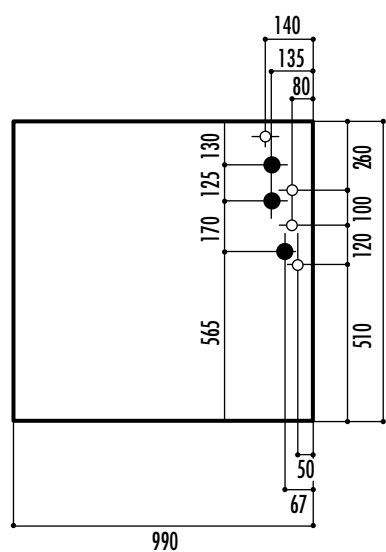
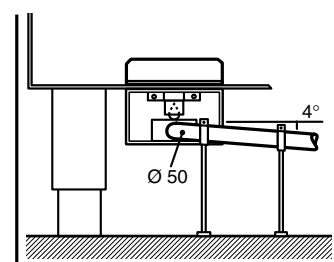
Ø 3/4"

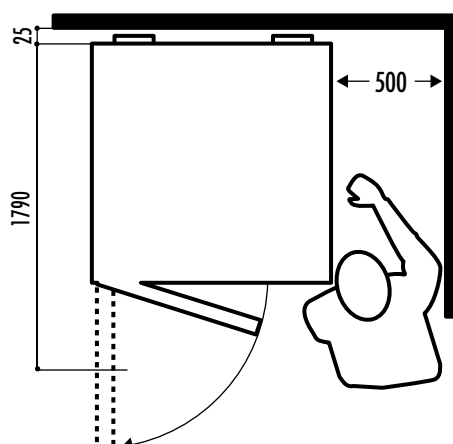
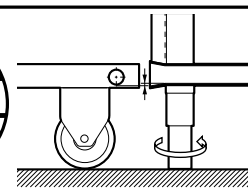


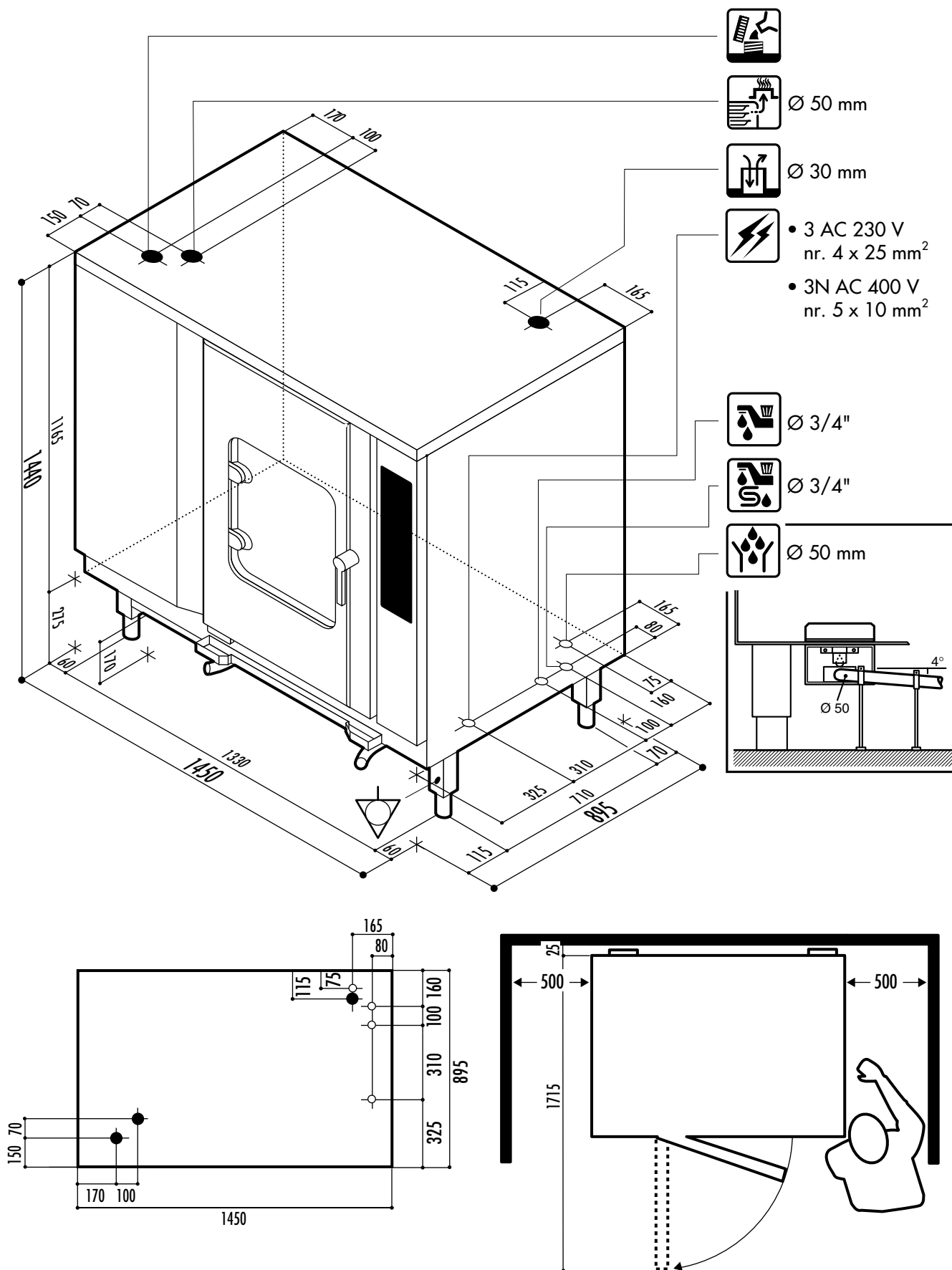
Ø 3/4"



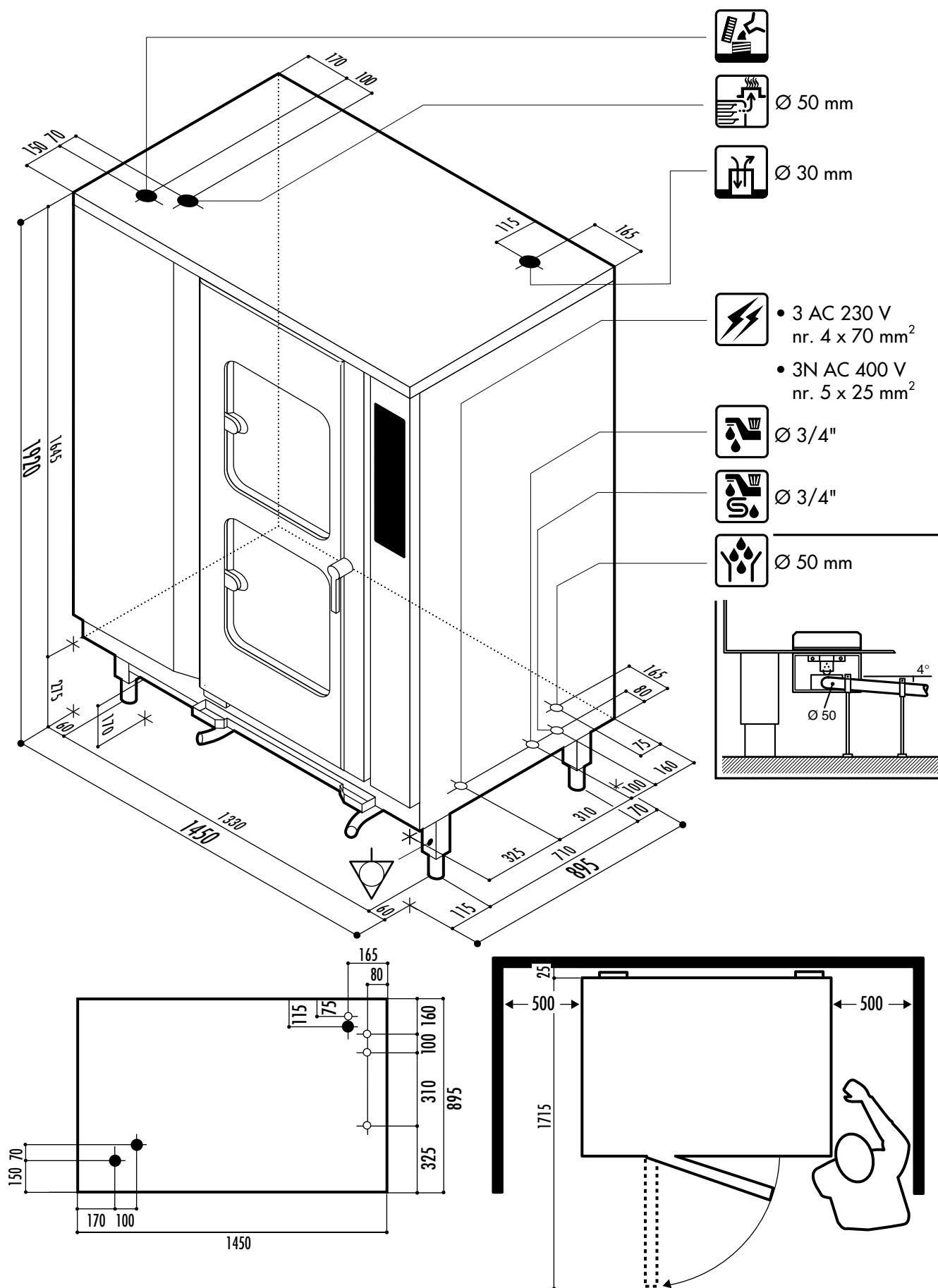
Ø 50 mm

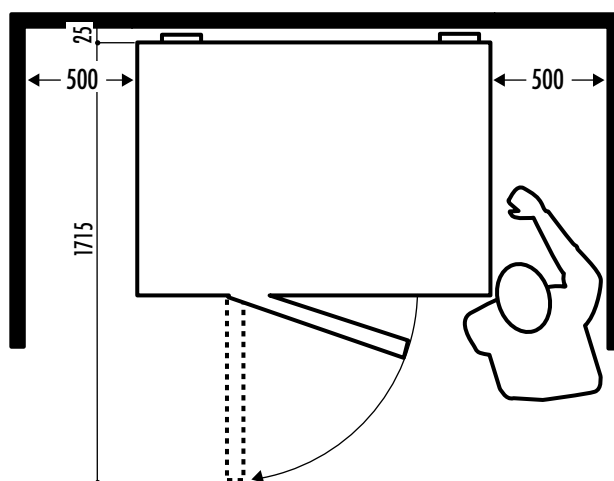
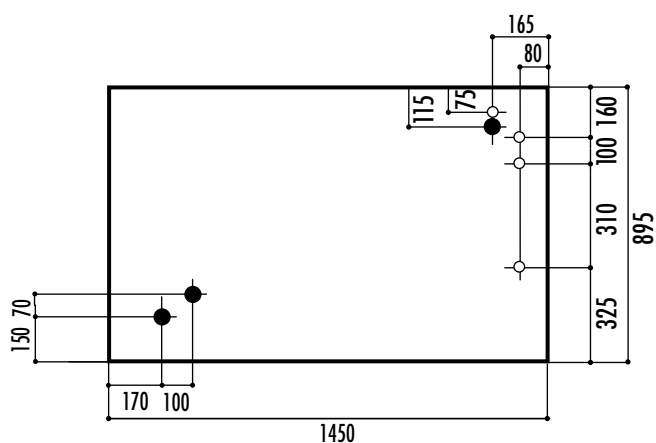


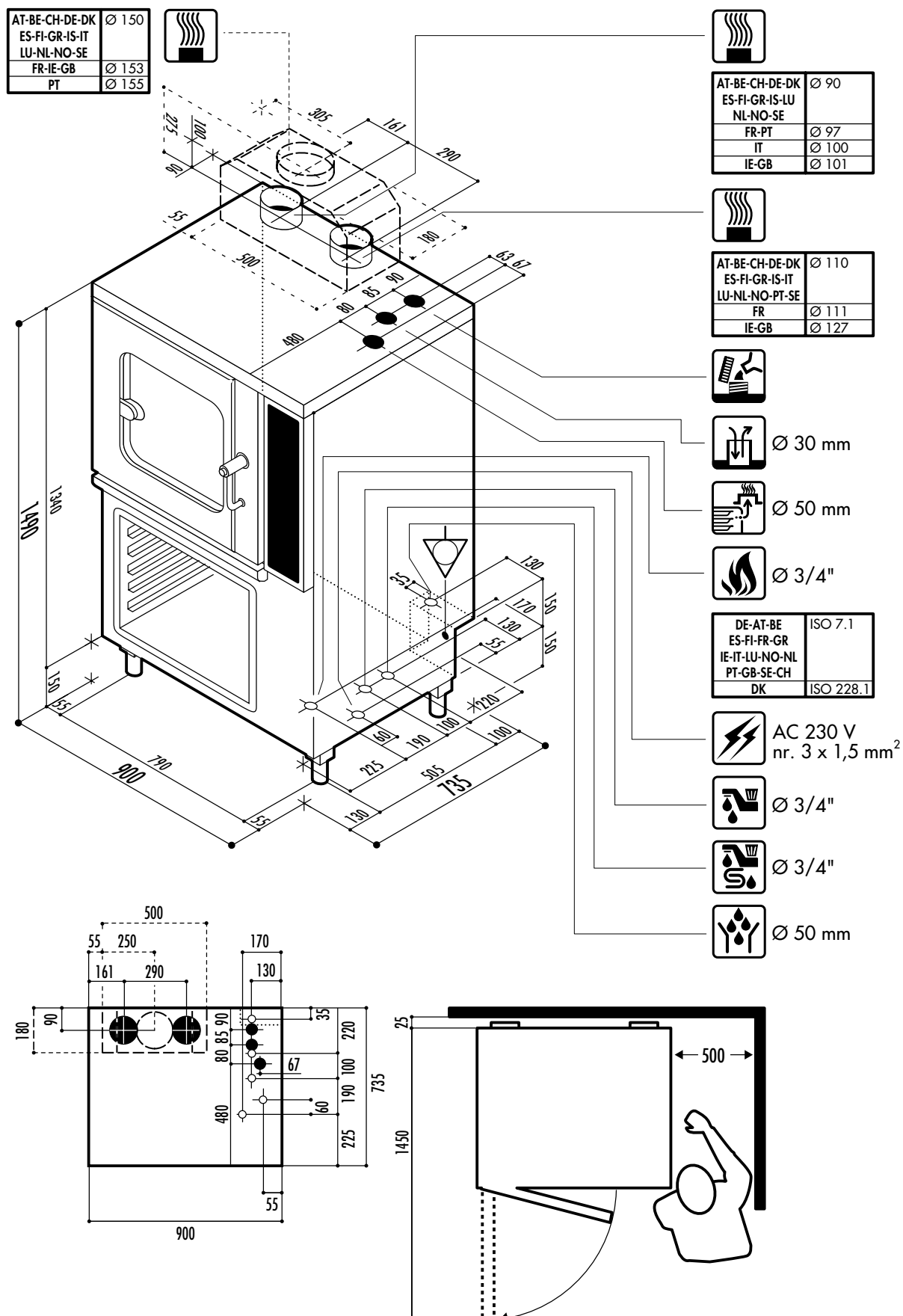




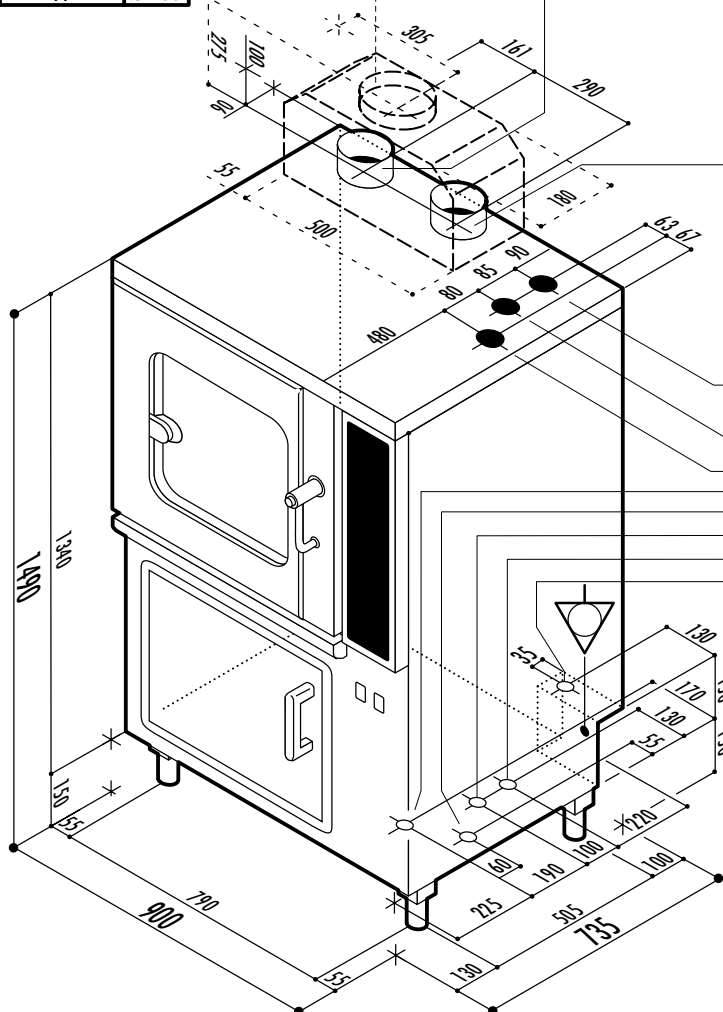








AT-BE-CH-DE-DK	Ø 150
ES-FI-GR-IS-IT	
LU-NL-NO-SE	
FR-IE-GB	Ø 153
PT	Ø 155



AT-BE-CH-DE-DK	Ø 90
ES-FI-GR-IS-LU	
NL-NO-SE	
FR-PT	Ø 97
IT	Ø 100
IE-GB	Ø 101



AT-BE-CH-DE-DK	Ø 110
ES-FI-GR-IS-IT	
LU-NL-NO-PT-SE	
FR	Ø 111
IE-GB	Ø 127



Ø 30 mm



Ø 50 mm



Ø 3/4"

DE-AT-BE	ISO 7.1
ES-FI-FR-GR	
IE-IT-LU-NO-NL	
PT-GB-SE-CH	
DK	ISO 228.1



AC 230 V
nr. 3 x 1,5 mm²



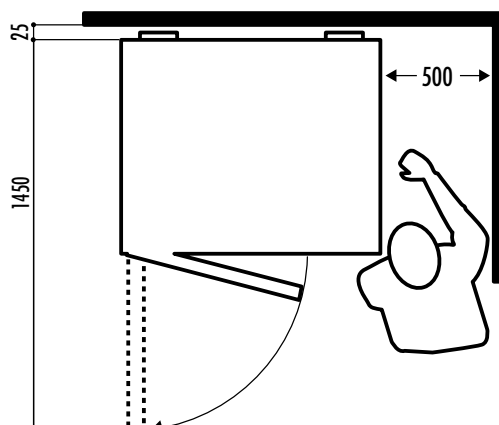
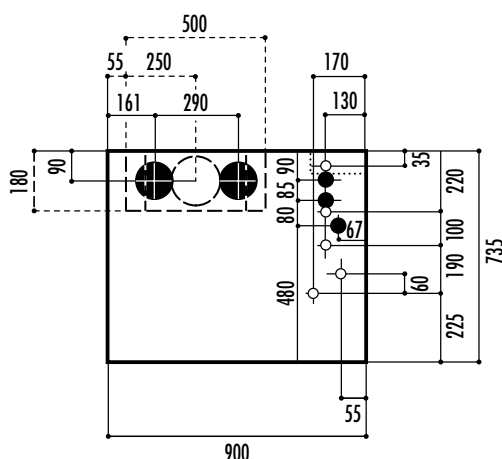
Ø 3/4"



Ø 3/4"



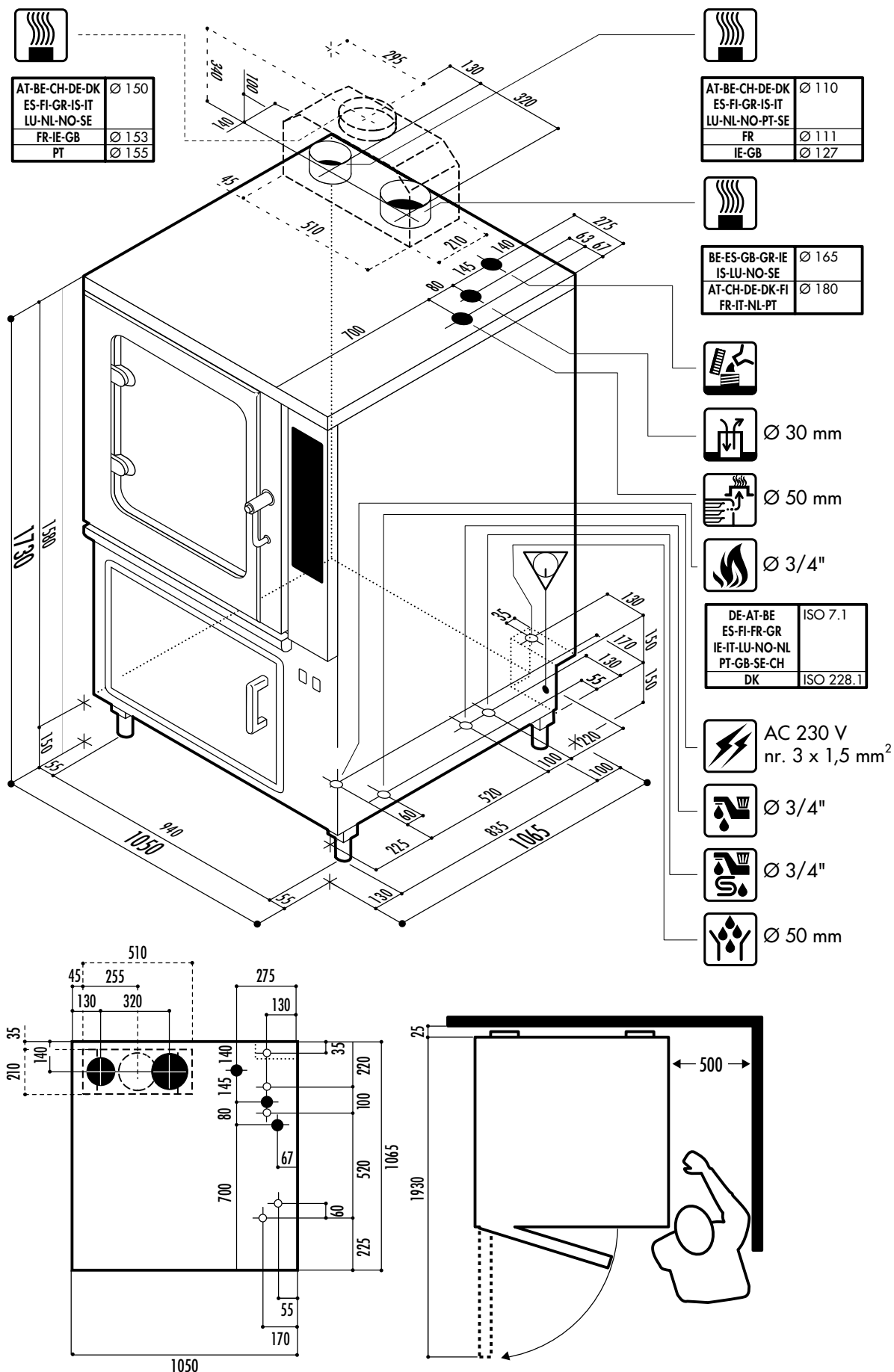
Ø 50 mm







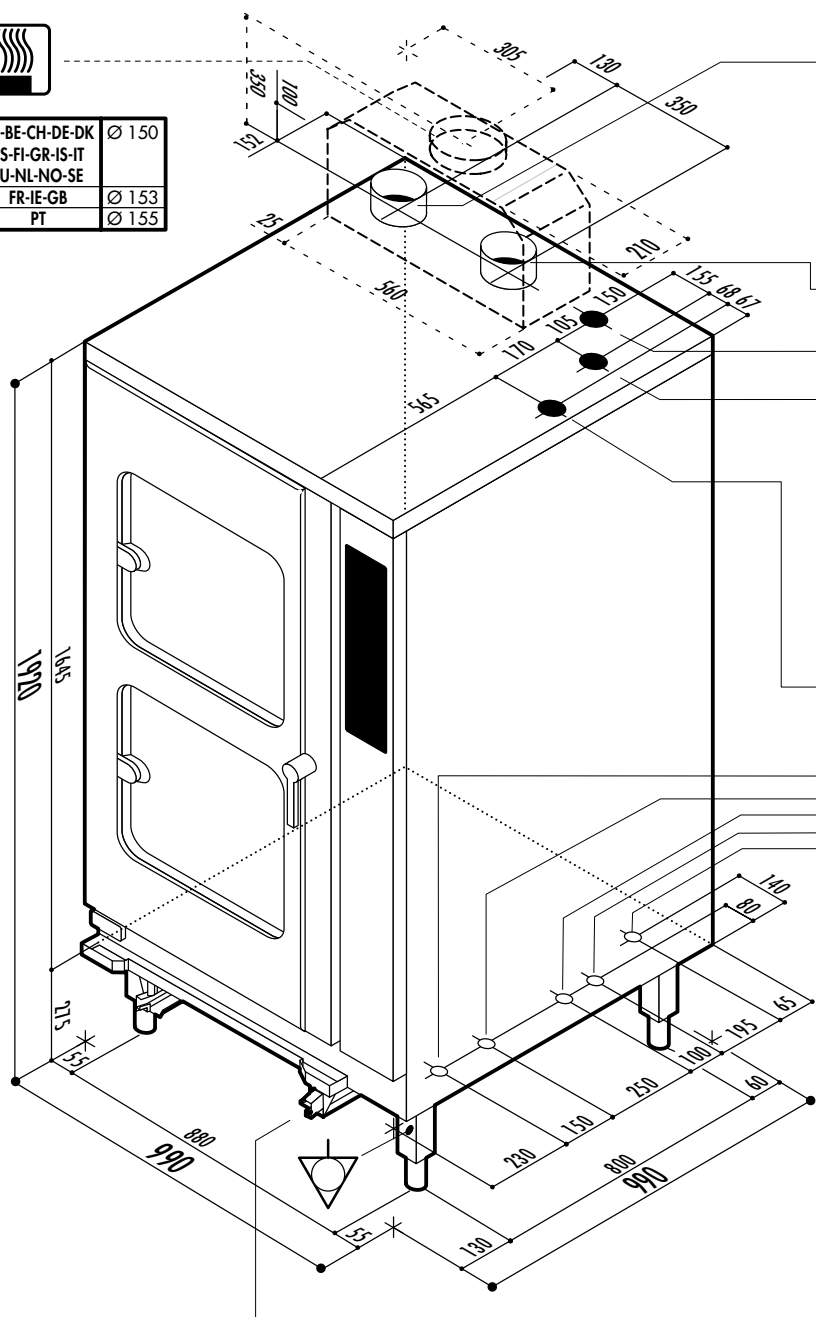








AT-BE-CH-DE-DK	Ø 150
ES-FI-GR-IS-IT	
LU-NL-NO-SE	
FR-IE-GB	Ø 153
PT	Ø 155



AT-BE-CH-DE-DK	Ø 110
ES-FI-GR-IS-IT	
LU-NL-NO-PT-SE	
FR	Ø 111
IE-GB	Ø 127



AT-BE-CH-DE-DK	Ø 150
ES-FI-GR-IS-IT	
LU-NL-NO-SE	
FR-IE-GB	Ø 153
PT	Ø 155



Ø 30 mm



Ø 50 mm



Ø 3/4"

DE-AT-BE	ISO 7.1
ES-FI-FR-GR	
IE-IT-LU-NO-NL	
PT-GB-SE-CH	
DK	ISO 228.1



AC 230 V
nr. 3 x 1,5 mm²



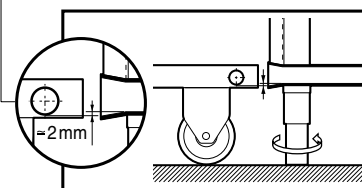
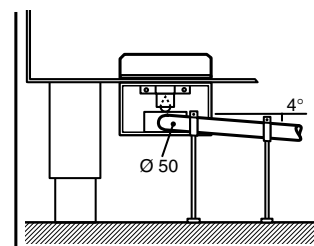
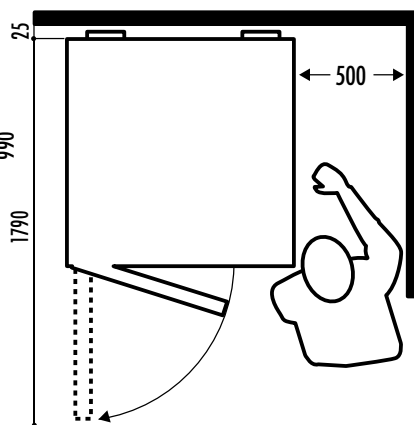
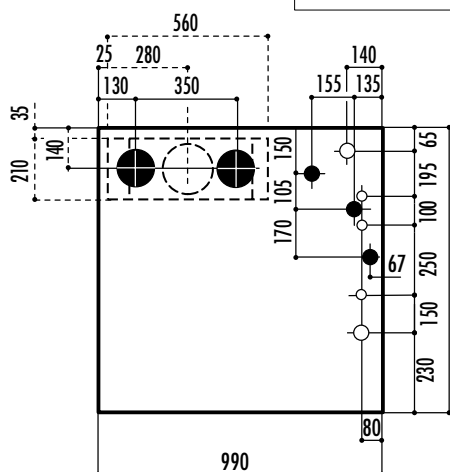
Ø 3/4"



Ø 3/4"



Ø 50 mm

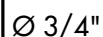


12 x GN 2/1 .

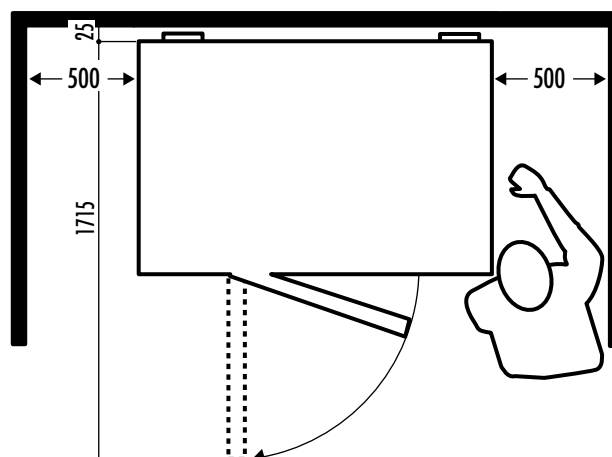
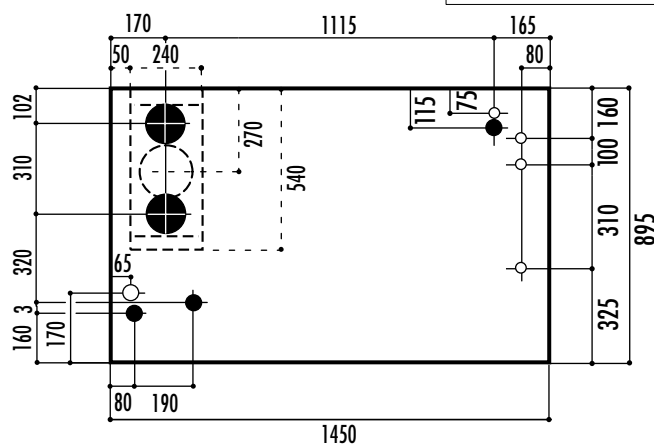
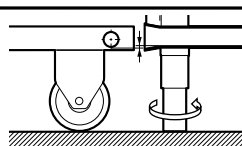
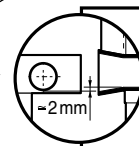
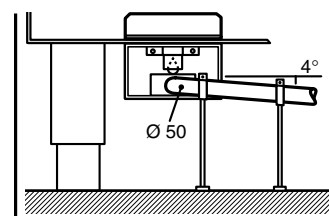
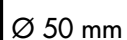
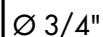
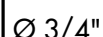
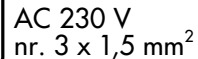


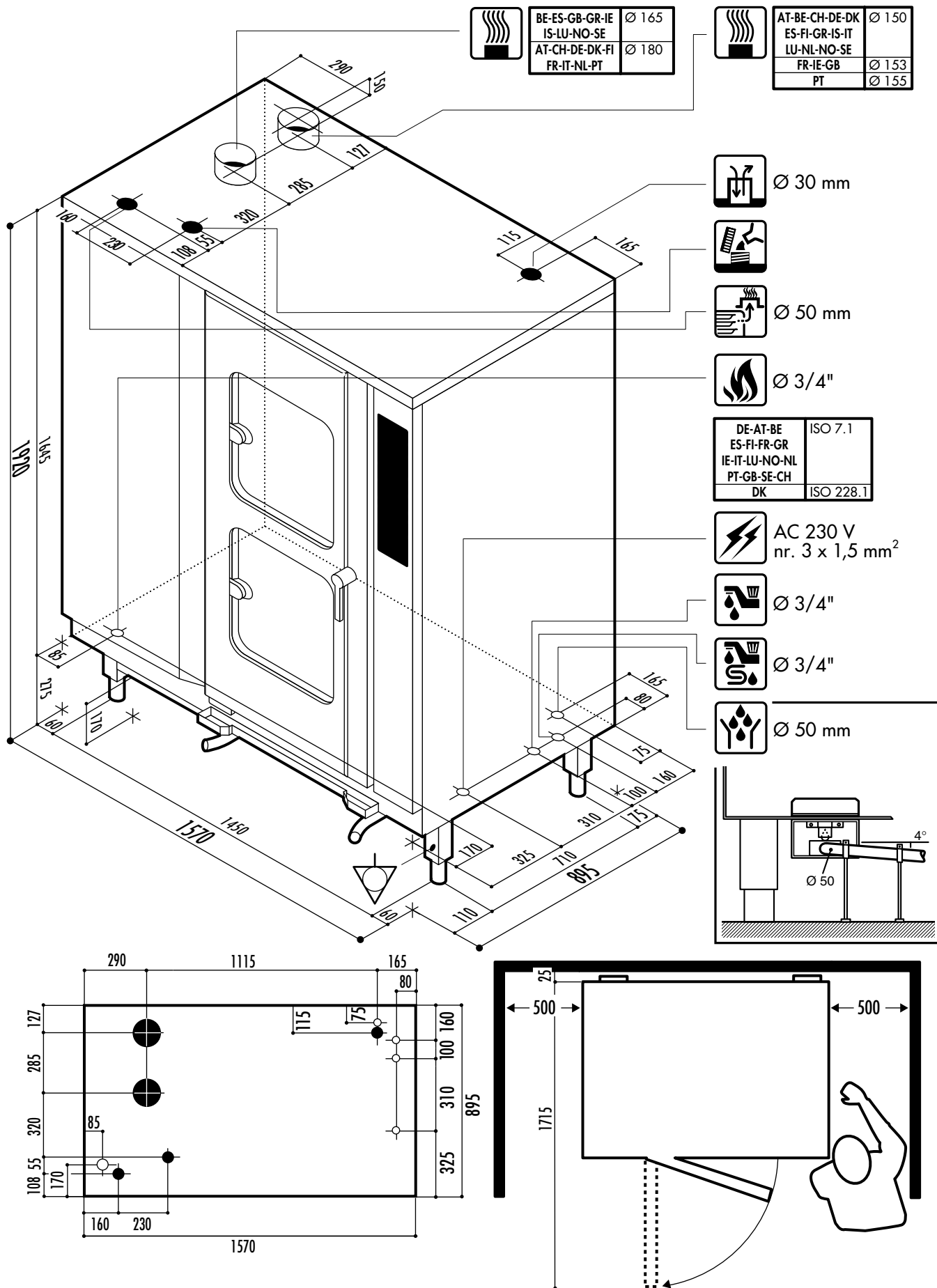
12 x GN 2/1 .

AT-BE-CH-DE-DK ES-FI-GR-IS-IT LU-NL-NO-PT-SE	Ø 110
FR	Ø 111
IE-GB	Ø 127



DE-AT-BE ES-FI-FR-GR IE-IT-LU-NO-NL PT-GB-SE-CH	ISO 7.1
DK	ISO 228 1





20 x GN 2/1 .



NOTES

NOTES

NOTE