

LIEBHERR

Design Guide 2008

Liebherr's engineering excellence in Germany provides the largest selection of freezers, refrigerators and wine refrigerators worldwide.

Liebherr-Hausgeräte consistently specializes in the manufacturing of high quality freezers and refrigerators. With more than 300 basic models, we have the widest selection in the world. Liebherr appliances feature premium quality, numerous innovative product ideas and advanced design. Liebherr freezers and refrigerators are manufactured at three modern production plants:

Liebherr Marica in Bulgaria, Liebherr-Hausgeräte Ochsenhausen GmbH in Germany and the Liebherr-Werk Lienz GmbH in Austria.

We produce more than 1.8 million quality freezers, refrigerators and wine refrigerators each year, and these are sold all over the world. Liebherr-Hausgeräte Ochsenhausen GmbH in Germany makes over 900,000 appliances a year and employs 1,900 people. The Liebherr-Werk Lienz GmbH manufactures more than 500,000 freezers and refrigerators and employs 800 people.

The appliances for the North American market are produced in Austria and in Germany.

Liebherr is committed to the protection of the environment and recognizes it as a critical priority. To guarantee an optimum and consistent implementation, all ecological aspects were observed and integrated into the quality control of Liebherr in compliance with DIN EN ISO 9001.

Liebherr's Commitment to the Environment

The components of Liebherr products can be recycled when the necessary resources are applied. A concern for the environment and a desire to protect resources has led to increased levels of recycling year after year. When Liebherr manufactures products, it is essential that the recyclable recovery rate of the materials we use constantly increases.

Recycling is a common goal among all manufacturers, municipalities and recycling companies to protect our environment. Protecting the environment and producing products which have a low impact on the environment, is one of Liebherr's core values. Whether you are replacing a unit or starting fresh, remember to dispose of your old appliance in an environmentally safe and friendly manner.

Introduction

LIEBHERR WARRANTY PLAN

FULL TWO YEAR WARRANTY - For two years from the date of original purchase, your Liebherr Warranty covers all parts and labor to repair or replace any part of the product which proves to be defective in materials or workmanship.

FULL FIVE YEAR WARRANTY - For five years from the date of original purchase, your Liebherr Warranty covers all parts and labor to repair or replace any components that prove to be defective in materials or workmanship in the sealed system. The "Sealed System" means only the compressor, condenser, evaporator, drier and all connecting tubing.

LIMITED 6TH THROUGH 12TH YEAR WARRANTY - From the 6th through 12th year from the date of original purchase, your Liebherr Warranty covers all parts that prove to be defective in materials or workmanship in the sealed system (parts only).



Customer Service

If your appliance is not working properly, or if the temperature display reads "F0" to "F5", please call the numbers listed below.

Give the **fault number displayed**, together with the **Type Designation, Service Number** and **Appliance Number (Serial Number)** from the model plate, to ensure prompt, accurate servicing. The model plate is located inside the appliance.

Leave the appliance door closed until the customer service technician arrives to minimize any further cold loss.

For Service and Parts in the U.S.: Liebherr Service Center

15545 N. 77th Street
Scottsdale, AZ 85260

Phone: (480) 998-0141
Fax: (480) 998-7877
Toll Free: **1-866-LIEBHERR or
1-866-543-2437**

www.liebherr-appliances.com

For Service and Parts in Canada: Euro-Line Appliances

2278 Speers Rd.
Oakville, Ontario, L6L 2X8

Phone: (905) 829-3980
Fax: (905) 829-3985
Toll Free: **1-888-Liebherr,
1-888-543-2437**

www.euro-parts.ca

General Remarks

General Remarks Safety Warnings

PLEASE READ AND FOLLOW THESE INSTRUCTIONS

This design guide contains Warning and Caution statements. This information is important for safe and efficient installation.

This design guide is not replacing the user care manual which contains important information on how to use Liebherr appliances.

Always read and follow all Warning and Caution statements!

WARNING

States a hazard that may cause serious injury or death if precautions are not followed.

CAUTION

Signals a situation where minor injury or product damage may occur if you do not follow instructions.

DANGER

States a hazard will cause serious injury or death if precautions are not followed.

IMPORTANT

This highlights information that is especially relevant to a problem-free installation.

Make sure incoming voltage is the same as the unit rating.

To reduce the risk of fire, electric shock, or personal injury, the installation work and electrical wiring must be done by a qualified electrician in accordance with all applicable codes and standards, including fire rated construction.

To the Installer

It is very important that the guidelines and instructions are followed in this design guide to ensure proper installation and operation of the unit. The Installation Guidelines section contains important information for making sure the installation is correct. Read and understand all the information and installation guidelines in this manual before the unit is installed.

It is also very important to **know** the Safety Information.

General Remarks

Electrical Requirements & Safety

A 115 Volt, 60 Hz, 15 Amp (20 Amp for side-by-side installation) fused electrical supply is required. Connect undercounter wine cabinet to a 115 VAC, 10 amp (15 Amp for side-by-side installations) circuit that is controlled by a circuit breaker or fuse.

We recommend using a dedicated circuit for these appliances to prevent electrical overload. Comply with the National Electrical Code as well as local codes and ordinances when installing the receptacle.

The power cord is equipped with a three-prong (grounding) plug for your protection against possible shock hazards. To maintain this protection:

- Do not modify the plug by removing the round grounding prong.
- Do not use a power cord that is frayed or damaged.



Do not ground to a gas pipe. Check with a qualified electrician if you are not sure the appliance is properly grounded. Do not have a fuse in the neutral or grounding circuit.



ELECTROCUTION HAZARD

Electrical Grounding Required. This appliance is equipped with a three-prong(grounding) polarized plug for your protection against possible shock hazards.

- **DO NOT** remove the round grounding prong from the plug.
- **DO NOT** use a two-prong grounding adapter.
- **DO NOT** use an extension cord to connect power to the unit.

IceMaker (if equipped)

The icemaker is located in the freezer compartment. It must be connected to the water supply to function properly. The appliance must be level for the icemaker to function properly.

The water pressure must be between 21.8-87.0 psi (1.5-6 bar). Use a 1/4" OD copper line to connect the water supply to the solenoid valve. This is not supplied with the refrigerator.

If you have hard water, we recommend you install a water softener. Also, a filter must be installed if the water contains solids such as sand. All equipment and devices used to supply the water to the appliance must comply with the current regulations for your geographical area.

Safety Instructions and Warnings

- Do not attach the water source while the appliance is connected to an electrical outlet.
- A shut-off valve, must be installed between the hose line and the main water supply so that the water supply can be stopped if necessary. Do not install the shut-off valve behind the refrigeration unit.
- The connection to the water supply may only be made by a trained and licensed plumber.
- The water quality must comply with the drinking water regulations for the geographical area where the appliance is located.
- The icemaker is designed exclusively to make ice cubes in quantities needed by a household and may only be operated with water appropriate for this purpose.
- All repairs and work on the icemaker may only be done by customer service personnel or other trained personnel.
- The manufacturer cannot accept liability for damage caused by equipment or water lines between the solenoid valve and the water supply.

General Remarks

Area Requirements

Verify the following:

- Floors can support refrigerator's weight plus approximately 1200 pounds (544 kg) of food weight. Not all Liebherr products are designed for 1200 pounds (544 kg) of food. Some units are smaller and total weights may vary.
- Finished kitchen floor height is level. Refrigerator must be shimmed to the floor level, or levelled, to make sure, air vents are not obstructed.
- Remove anything attached to the rear or side walls that can obstruct refrigerator opening.
- Cutout dimensions are accurate.
- Electrical outlet is in correct location.

Do not install this unit next to any other refrigerator or freezer except another Liebherr model. Liebherr models are designed to allow side by side installation. They are equipped with a heating system to eliminate condensation when units are installed side by side. Installing this unit next to any other refrigerator or freezer can cause condensation or cause damage to the Liebherr unit.



To protect the refrigerator from possible damage, allow the appliance to stand 1/2 to 1 hour in place before turning the electricity on. This allows the refrigerant and system lubrication to reach equilibrium.

Blocking For Safety

The anti-tip brackets must be installed to prevent the unit from tipping after it is installed. Refer to Blocking For Safety.

Safety Regulations

The appliance complies with UL250 and CAN/CSA-C 22,2 No. 63 and is designed to cool, freeze, store food as well as make ice (if equipped). It is designed as a household appliance. If used commercially, the relevant regulations on commercial use must be observed.

The appliance is set to operate within specific ambient temperature limits according to its climate rating. These temperature limits should not be exceeded. The correct climate rating for your appliance is indicated on the model plate.

This is explained as follows:

Climate Rating	Set for Ambient Temperatures of
SN	50°F to 90°F (10°C to 32°C)
N	61°F to 90°F (16°C to 32°C)
ST	65°F to 100°F (18°C to 38°C)
T	65°F to 109°F (18°C to 43°C)
SN-T	50°F to 109°F (10°C to 43°C)

- The refrigerant circuit has been tested for leaks.

Freestanding/Semi Built In Models

24", 30", 48" and 60" Models: CS13.., CS16.., SBS26S0, SBS32S0

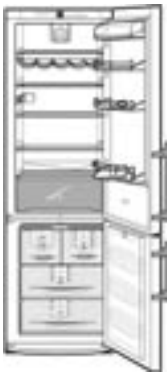
The unique design of Liebherr's freestanding models feature fully stainless steel doors, and even stainless steel side walls - a perfect combination of design and functionality. New Swing Line doors with bevelled edges are a particularly elegant feature of this combination. Practical lever handles with integrated opening mechanisms make opening the appliance almost effortless.

24" and 48" Models



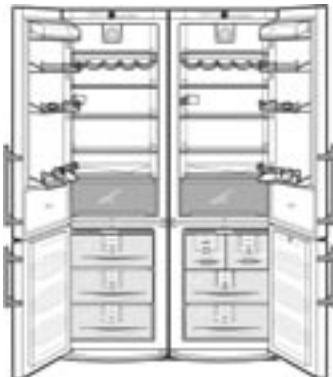
CS 1301	
Energy Star:	qualified
Energy consumption p. a.:	439 kWh
Energy Supply:	115V/60Hz/350W
Total capacity:	12.3 cu ft (348 L)
Refrigerator:	9.2 cu ft (260 L)
Freezer:	3.1 cu ft (88 L)
Climate Rating:	SN-T
Door hinges:	left/reversible

- Automatic refrigerator defrosting
- Automatic freezer compartment defrosting



CS 1350	
Energy Star:	qualified
Energy consumption p. a.:	439 kWh
Energy Supply:	115V/60Hz/350W
Total capacity:	12.1 cu ft (343 L)
Refrigerator:	9.2 cu ft (260 L)
Freezer:	2.9 cu ft (83 L)
Ice cube capacity:	2.2 pd./24h
Ice cube stock:	3.3 pd.
Climate Rating:	SN-T
Door hinges:	right/reversible

- Automatic refrigerator defrosting
- Automatic freezer compartment defrosting
- Automatic IceMaker can be switched off

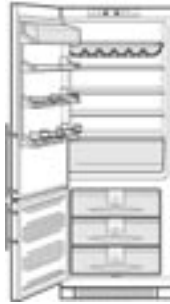


SBS 26S0 (CS 1301 & CS 1350)	
Energy Supply:	115V/60Hz/700W
Total capacity:	24.4 cu ft (691 L)
Refrigerator:	18.4 cu ft (520 L)
Freezer:	6.0 cu ft (171 L)
Ice cube capacity:	2.2 pd./24h
Ice cube stock:	3.3 pd.
Climate Rating:	SN-T
Door hinges:	left / right

- Automatic refrigerator defrosting
- Automatic freezer compartment defrosting
- Automatic IceMaker can be switched off

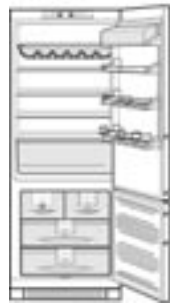
The unique design of Liebherr's freestanding models feature fully stainless steel doors, and even stainless steel side walls - a perfect combination of design and functionality. New Swing Design doors are a particularly elegant feature of this combination. Practical lever handles with integrated opening mechanisms make opening the appliance almost effortless.

30" and 60" Models



CS 1601	
Energy Star:	qualified
Energy consumption p. a.:	460 kWh
Energy Supply:	115V/60Hz/350W
Total capacity:	15.5 cu ft (438 L)
Refrigerator:	11.3 cu ft (320 L)
Freezer:	4.2 cu ft (118 L)
Climate Rating:	SN-T
Door hinges:	left / reversible

- Automatic refrigerator defrosting
- Automatic freezer compartment defrosting



CS 1650	
Energy Star:	qualified
Energy consumption p. a.:	460 kWh
Energy Supply:	115V/60Hz/350W
Total capacity:	15.4 cu ft (436 L)
Refrigerator:	11.3 cu ft (320 L)
Freezer:	4.1 cu ft (116 L)
Ice cube capacity:	2.4 pd./24h
Ice cube stock:	3.3 pd.
Climate Rating:	SN-T
Door hinges:	right / reversible

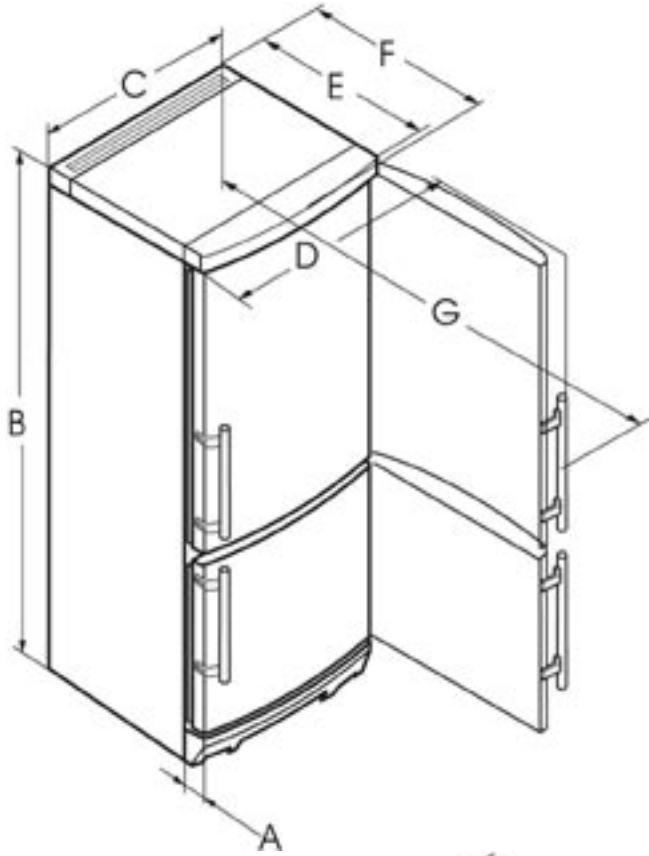
- Automatic refrigerator defrosting
- Automatic freezer compartment defrosting
- Automatic IceMaker can be switched off



SBS 32S0 (CS 1601 & CS 1650)	
Energy Supply:	115V/60Hz/700W
Total capacity:	30.9 cu ft (875 L)
Refrigerator:	22.6 cu ft (640 L)
Freezer:	8.3 cu ft (235 L)
Ice cube capacity:	2.4 pd./24h
Ice cube stock:	3.3 pd.
Climate Rating:	SN-T
Door hinges:	left / right / reversible

- Automatic refrigerator defrosting
- Automatic freezer compartment defrosting
- Automatic IceMaker can be switched off

Unit Dimensions



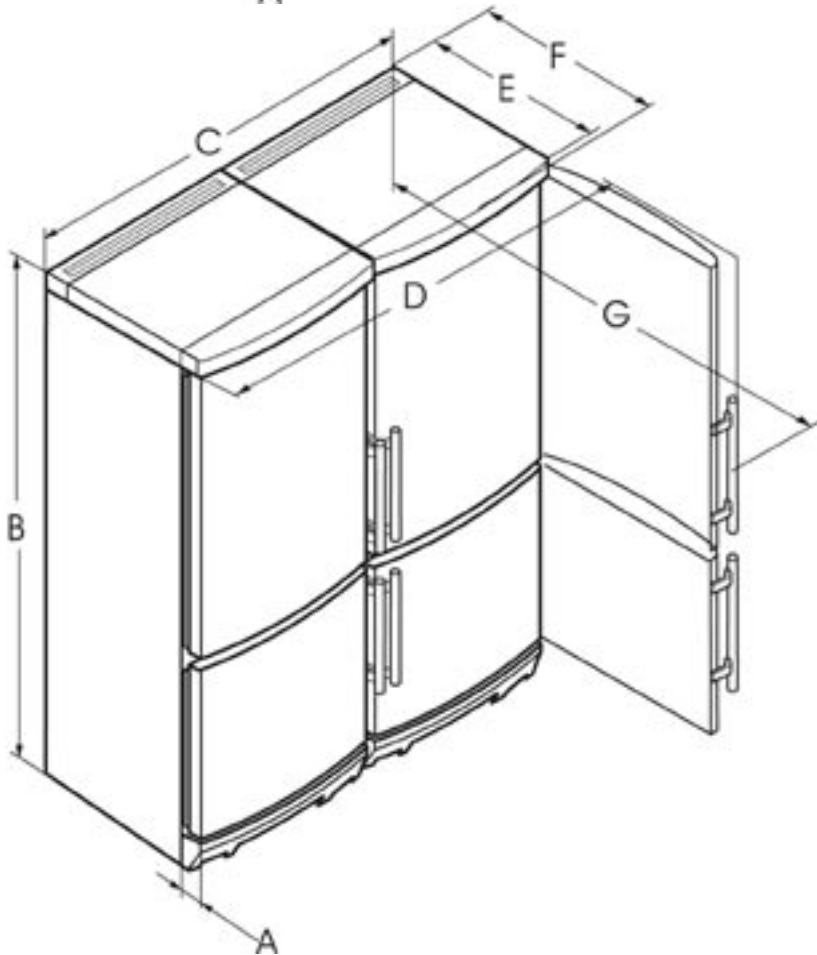
Overall height can be increased on all CS 16 units by 5/8" (16 mm) by adjusting the leveling legs.

CS 1301, 1350

- A. 2-7/32" (56.5 mm)
- B. 78-1/32" (1982 mm)
- C. 23-1/2" (597 mm)
- D. 25-5/8" (644 mm)
- E. 24-7/32" (614 mm)
- F. 24-13/16" (631 mm)
- G. 46-13/32" (1179 mm)

CS 1601, 1650

- A. 2-1/4" (57.5 mm)
- B. 81-11/32" (2066 mm)
- C. 29-13/32" (747 mm)
- D. 31-3/8" (797 mm)
- E. 23-1/4" (590 mm)
- F. 23-13/16" (635 mm)
- G. 51-25/32" (1315 mm)



SBS 26S0 (CS 1301 & CS 1350)

- A. 2-7/32" (56.5 mm)
- B. 78-1/32" (1982 mm)
- C. 47-1/2" (1206 mm)
- D. 50-23/32" (1288 mm)
- E. 24-7/32" (614 mm)
- F. 24-13/16" (631 mm)
- G. 46-13/32" (1179 mm)

SBS 32S0 (CS 1601 & CS 1650)

- A. 2-1/4" (57.5 mm)
- B. 81-11/32" (2066 mm)
- C. 59-7/32" (747 mm)
- D. 62-3/4" (797 mm)
- E. 23-1/4" (590 mm)
- F. 23-13/16" (605 mm)
- G. 51-25/32" (1315 mm)

Cabinet Opening Dimensions

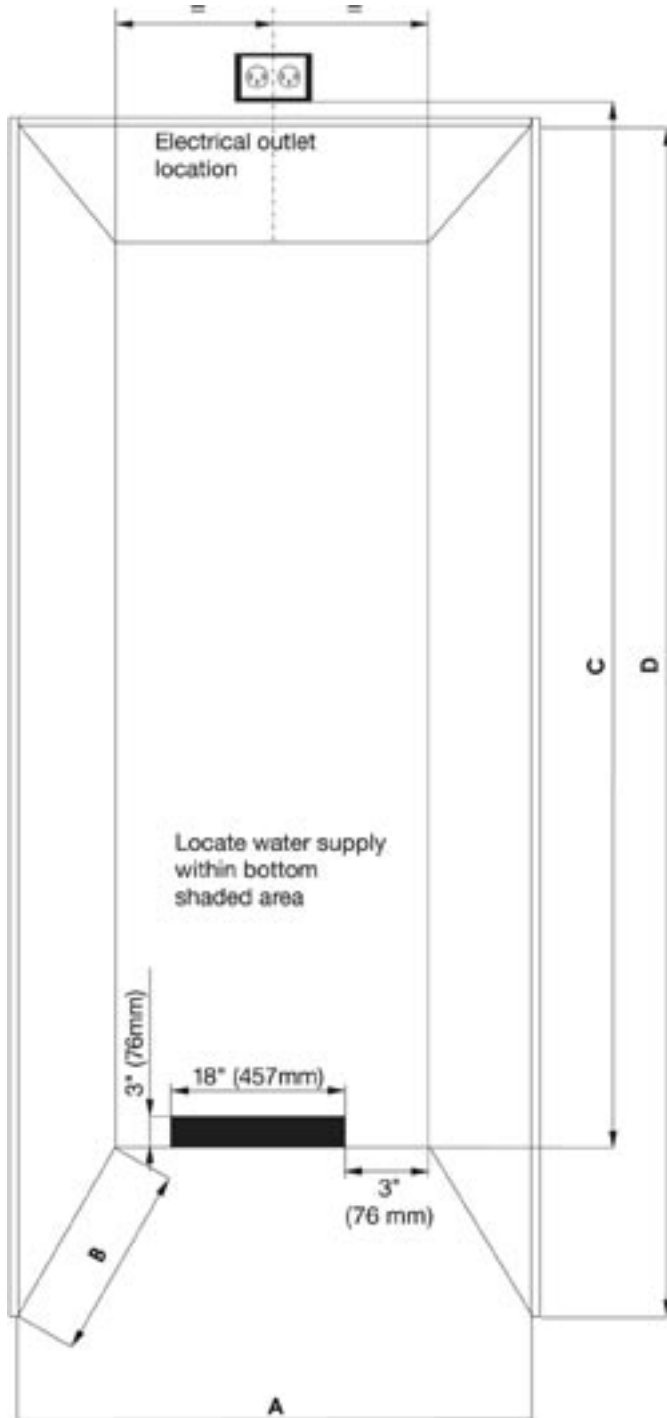
The appliance can be integrated into the kitchen units. To adapt the appliance to the height of the row of kitchen units, a suitable top cupboard can be fitted above the appliance.

Unit Venting

DO NOT restrict the air flow. An air flow of at least 2" (50mm) must be provided. The opening can either be directly over the appliance or on the back of the cabinet on top of the unit (see ventilation requirements).

The CS models can be installed in standard 24" deep cabinets. You will only have to make sure that the door swing clearance is enough. It is possible to push all CS models to the rear wall of the cabinet without modification.

When installing the appliance next to a wall, a distance on the hinge side of 1 27/64 inches (36 mm) minimum is required between the appliance and the wall to allow for the door handle projection when the door is open.



Minimum Cabinet Opening Dimensions:

CS 1301, 1350

- A. 23-3/4" (603 mm)
- B. 24" (610 mm)
- C. 85" (2159 mm)
- D. 80-1/4" (1988 mm)*

CS 1601, 1650

- A. 29-7/8" (759 mm)
- B. 23-3/16" (589 mm)
- C. 85" (2159 mm)
- D. 83-11/16" (2075 mm)*

SBS 26S0 (CS 1301 & CS 1350)

- A. 47-3/4" (1213 mm)
- B. 24" (610 mm)
- C. 85" (2159 mm)
- D. 80-1/4" (1988 mm)*

SBS 32S0 (CS 1601 & CS 1650)

- A. 59-1/2" (1511 mm)
- B. 23-3/16" (589 mm)
- C. 85" (2159 mm)
- D. 83-11/16" (2075 mm)*

***Note:** The given cabinet opening height dimension includes 2" for top air vent. If you choose to place the vent above the cabinet or in a soffit, you will need to adjust the height dimension accordingly.

Ventilation Requirements

This type of cabinet must be carefully constructed using the correct dimensions and it must provide suitable ventilation to ensure proper appliance operation.

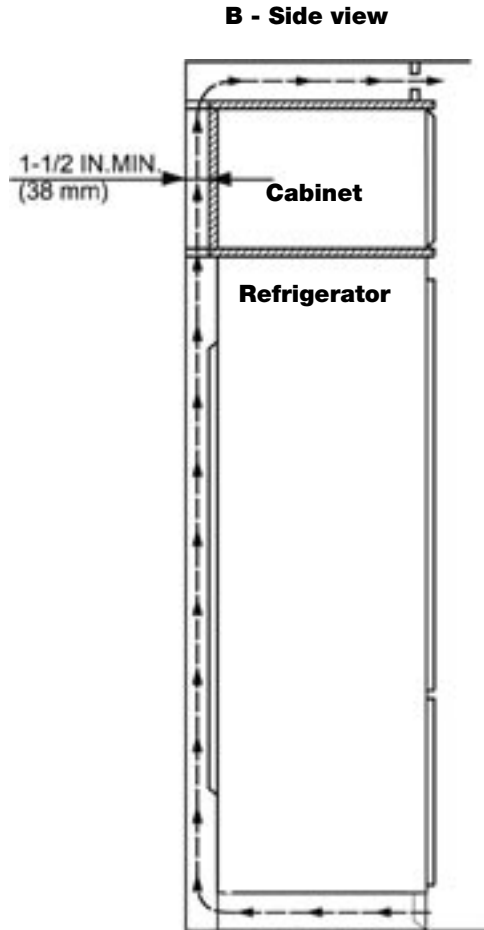
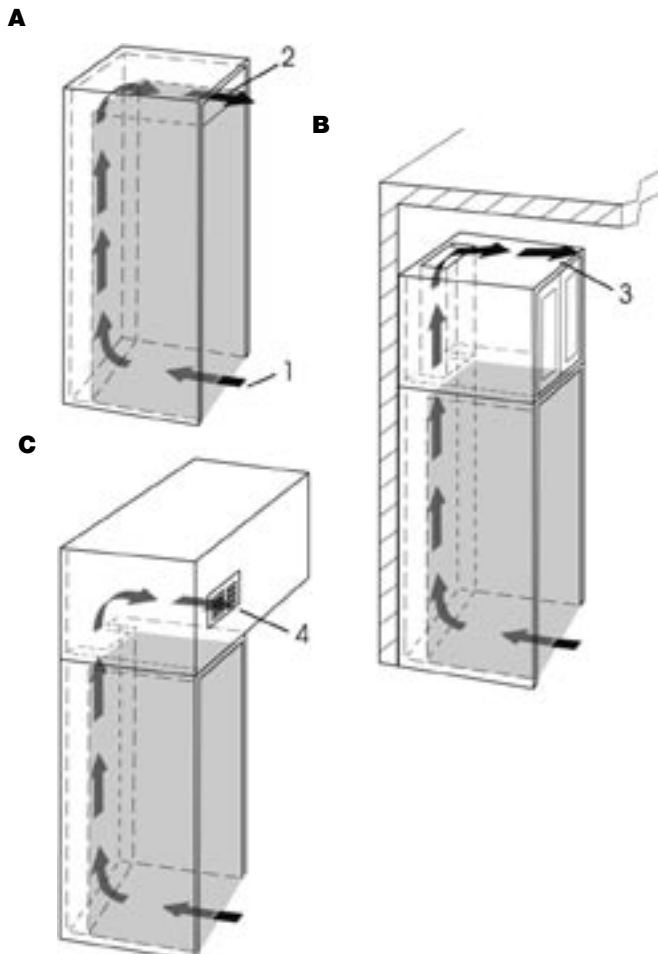
Kitchen Cabinet Airflow

1. The following ventilation dimensions must be observed:

There must be a ventilation space at least 31 in.² (200 cm²) at the airflow inlet (1) and at the airflow outlet (2). The 30" and 60" models are equipped with a rolling base, which is already providing you with the bottom airflow inlet requirements.

The top ventilation space can be directed in one of the following ways:

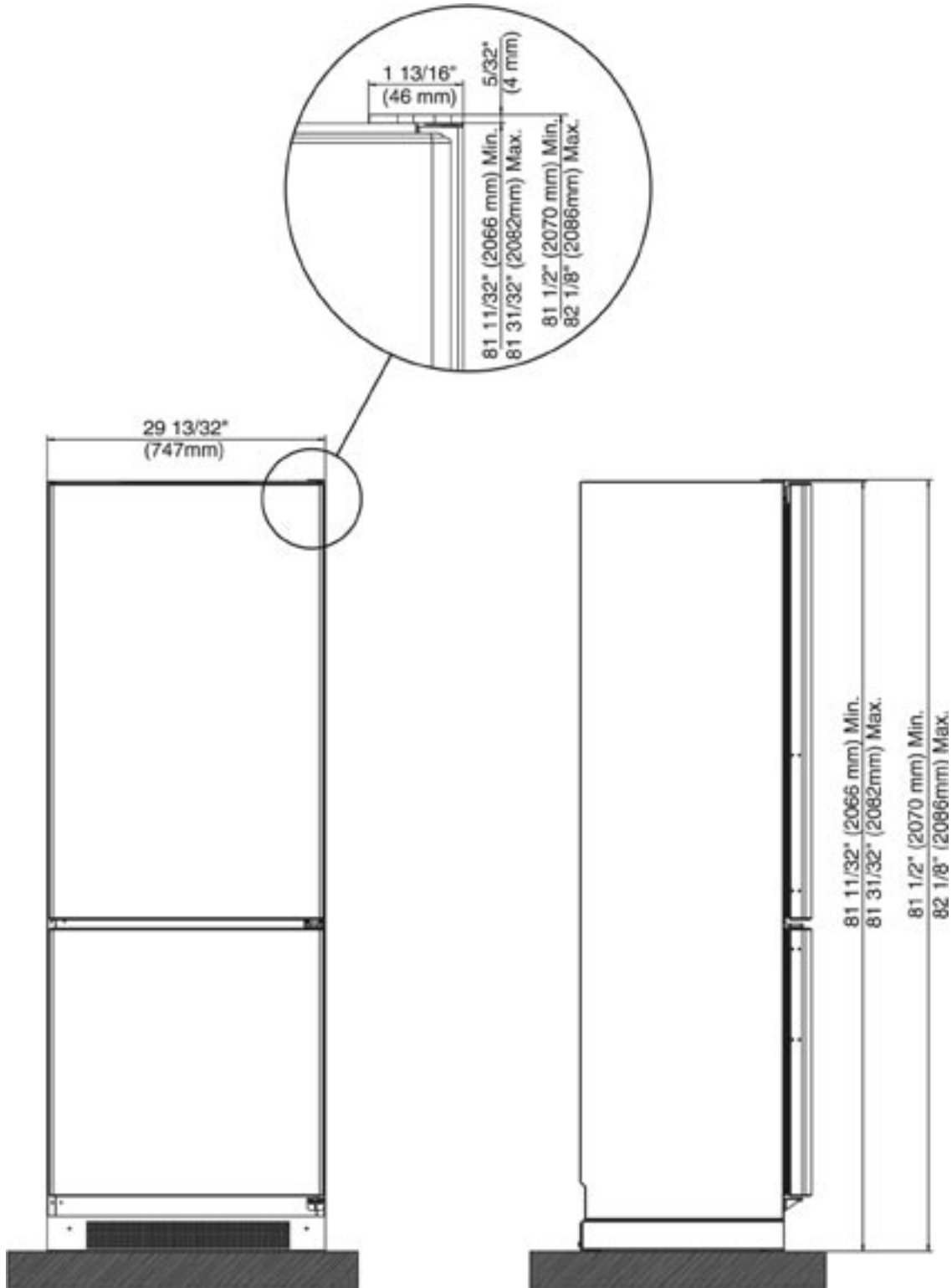
- A) Directly over the appliance (2) with either an optional factory air vent or custom made one using the template supplied with the unit.
- B) Above the cabinet and below the ceiling (3).
- C) Through a vent installed in a soffit (4).



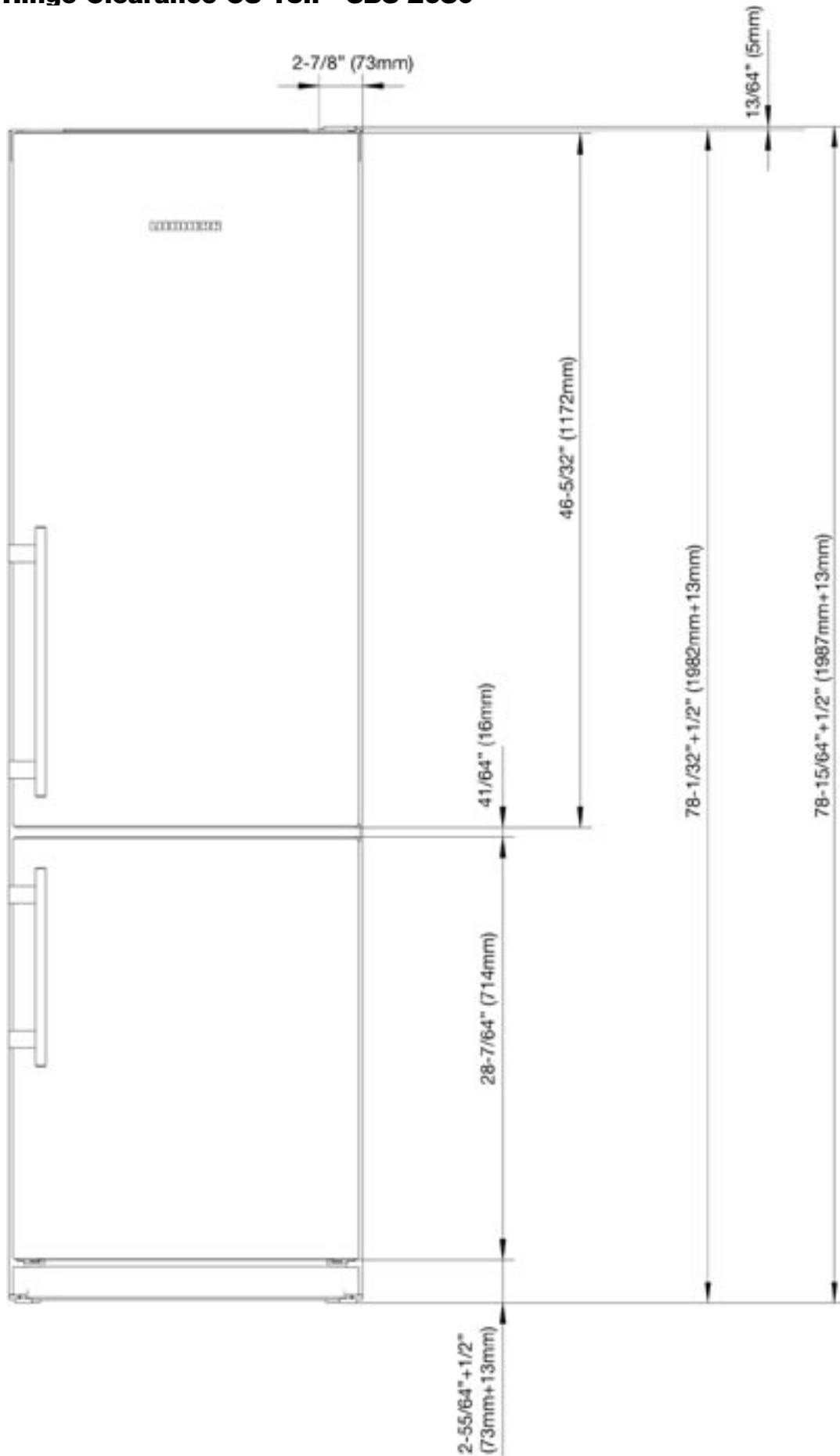
The refrigerator is designed to allow proper air flow when the appliance is installed up against the wall. A minimum space of 1 1/2" is required when a cabinet is built above.

Top Door Hinge Clearance CS 16.. - SBS 32S0

When installing CS units into a row of cabinets or wall units; use these dimensions to achieve a custom look with the cabinetry while providing the necessary clearance for the top door hinge.



Top Door Hinge Clearance CS 13.. - SBS 26S0



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