# 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 lead 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.

#### 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 sealedsystem (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

# Contents

# **General Remarks**

Safety Warnings	1
Electrical Requirements & Safety	II
IceMaker (if equipped)	III
Area Requirements	IV
Safety Regulations	V
Built In Models 24" and 48"	
24" and 48" Models: R/RI/RB/RBI 1400 and BF/BFI/WF/WFI 1051	1
Unit Dimensions	3
Cabinet Opening Dimensions	6
Ventilation Requirements	7
Custom finish RI/RBI 1400, BFI/WFI 1051, SBS 24I0/24I5 -	9
Framed and Overlay Panels Framed Panel Dimensions RI/RBI 1400	10
Framed Panel Dimensions BFI 1051	11
Framed Panel Dimensions WFI 1051	12
Handle Clearance	13
Overlay Panel Dimensions RI/RBI 1400	14
Overlay Panel Dimensions BFI 1051	15
Overlay Panel Dimensions WF/WFI 1051	16
Accessories for Framed and Overlay Panels	18
Door Swing Clearance 130° RI/RBI 1400	20
Door Swing Clearance 90° RI/RBI 1400	21
Door Swing Clearance 130° BFI/WFI 1051	22
Door Swing Clearance 90° BFI/WFI 1051	23
Stainless steel R/RB 1400, BF/WF 1051, SBS 240/245	25
Accessories	26
Door Swing Clearance 130° BF/WF 1051	27
Door Swing Clearance 90° BF/WF 1051	28
Door Swing Clearance 130° R, RB 1400	29
Door Swing Clearance 90° R, RB 1400	30

# L 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!



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



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



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.

# II. 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.

# III. 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.

# IV. 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.

# **V.** 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.

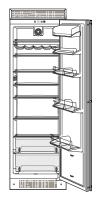
This is explained as follows:

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)
Т	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.

#### R/RI/RB/RBI 1400 and BF/BFI/WF/WFI 1051

Liebherr offers a new concept in cooling technology to the American market. The compact 24" appliances can be used as a single unit or together as a Side-by-Side. Available with stainless steel doors or for custom finish panels on the doors.



R & RI 1400

Energy Star: qualified Energy consumption p. a.: qualified

Energy Supply: 115V/60Hz/350W Total capacity: 13.5 cu ft (381 L)

Climate Rating: SN-T

Door hinges: right / reversible

• Automatic refrigerator defrosting



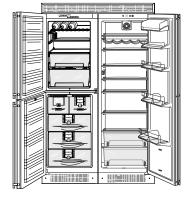
BF & BFI 1051

Energy Star: qualified Energy consumption p. a.: 431 kWh

Energy Supply: 115V/60Hz/350W
Total capacity: 8.7 cu ft (247 L)
BioFresh: 4.6 cu ft (130 L)
Freezer: 4.1 cu ft (117 L)
Ice cube capacity: 2.2 pd./24h
Ice cube stock: 3.3 pd.
Climate Rating: SN-T

Door hinges: left / reversible

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



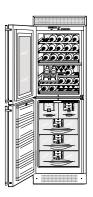
SBS 240 & 2410 (R/RI 1400 & BF/BFI 1051)

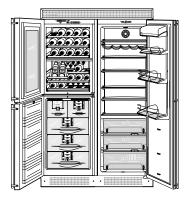
Energy Supply: 115V/60Hz/700W Total capacity: 22.2 cu ft (628 L) Refrigerator: 13.5 cu ft (381 L) BioFresh: 4.6 cu ft (130 L) Freezer: 4.1 cu ft (117 L) Ice cube capacity: 2.2 pd./24h Ice cube stock: 3.3 pd. Climate Rating: SN-T

Door hinges: left / right / reversible

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







#### **RB & RBI 1400**

Energy Star: qualified Energy consumption p. a.: 333 kWh

Energy Supply: 115V/60Hz/350W Total capacity: 11.9 cu ft (337 L) BioFresh 3.5 cu ft (100 L) Refrigerator 8.4 cu ft (237 L)

Climate Rating: SN-T

Door hinges: right / reversible

• Automatic refrigerator defrosting

#### WF & WFI 1051

**Energy Supply:** 115V/60Hz/350W Total capacity: 8.7 cu ft (247 L) Wine Storage: 4.4 cu ft (125 L) Total amount of bottles: 34 bottles 15 bottles upper rack: lower rack: 19 bottles Freezer: 4.1 cu ft (117 L) Ice cube capacity: 2.2 pd./24h 3.3 pd. Ice cube stock: SN-T Climate Rating:

Door hinges: left / reversible

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

#### SBS 245 & 24I5 (RB/RBI 1400 & WF/WFI 1051)

**Energy Supply:** 115V/60Hz/700W Total capacity: 20.6 cu ft (584 L) Refrigerator: 8.4 cu ft (237 L) BioFresh: 3.5 cu ft (100 L) Wine Storage: 4.4 cu ft (125 L) 34 bottles Total amount of bottles: 15 bottles upper rack: lower rack: 19 bottles Freezer: 4.1 cu ft (117 L) Ice cube capacity: 2.2 pd./24h Ice cube stock: 3.3 pd. SN-T

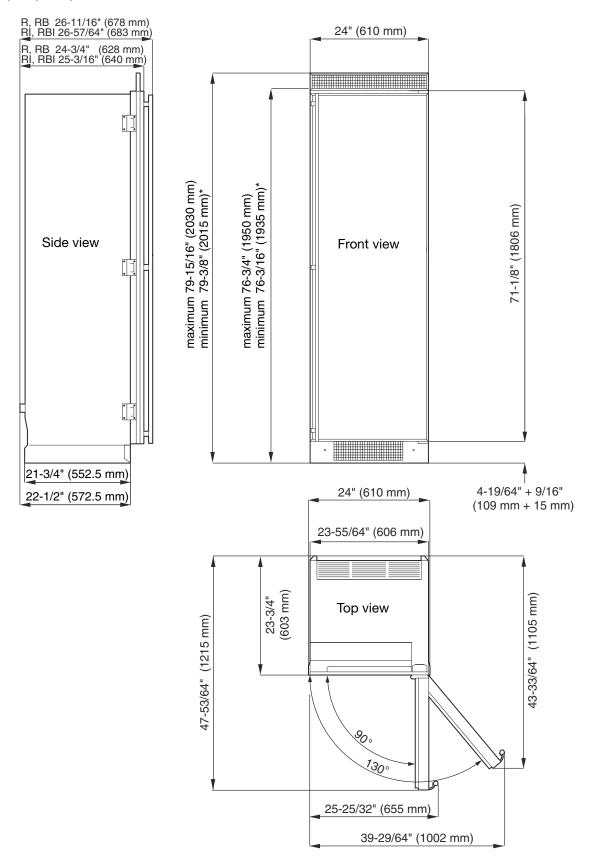
Door hinges: left / right / reversible

• Automatic refrigerator defrosting

Climate Rating:

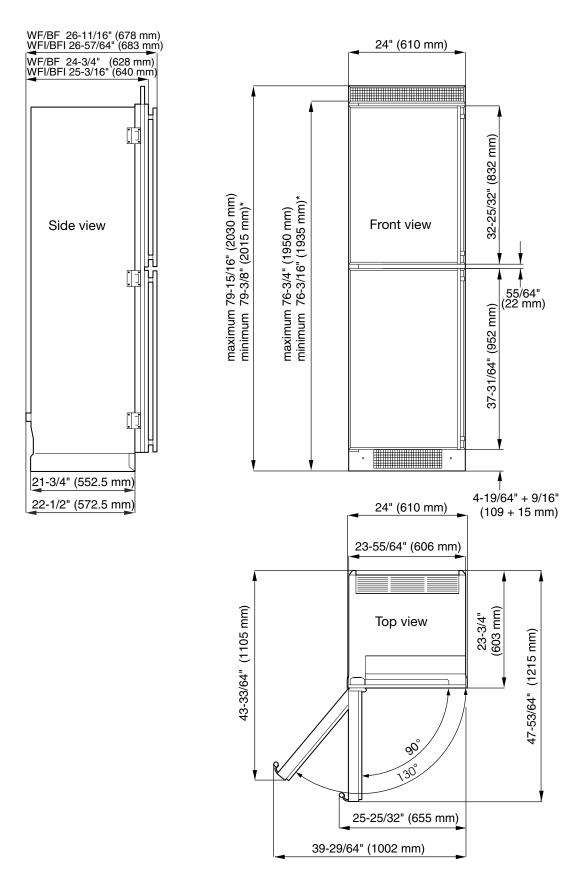
- Automatic freezer compartment defrosting
- Automatic IceMaker can be switched off

## Unit Dimensions R, RI, RB, RBI 1400



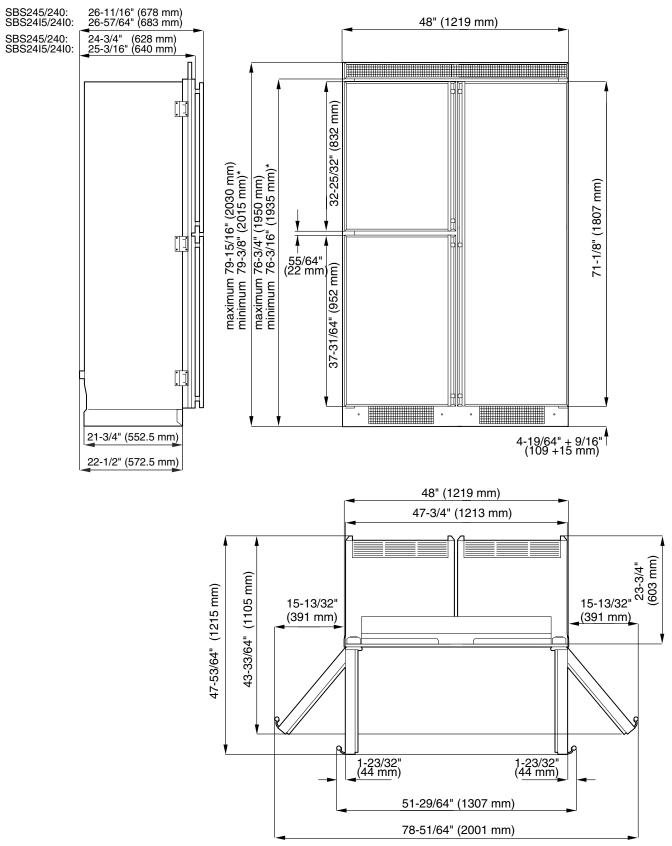
<sup>\*</sup> Height of unit can be increased by 9/16"

#### BF & BFI 1051 - WF & WFI1051



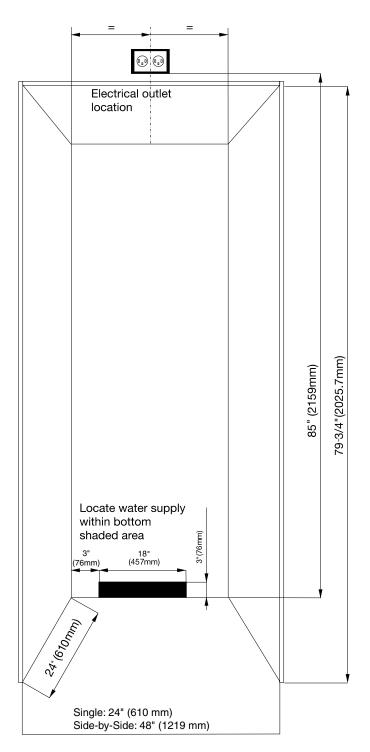
<sup>\*</sup> Height of unit can be increased by 9/16"

#### SBS 240/2410 & 245/2415



<sup>\*</sup> Overall height can be increased by 9/16"

#### **Cabinet Opening Dimensions**



All units are to open at a minimum of 90° to prevent problems removing drawers. With the door opening 90°, you may have to move drawers slightly to clear the door interior.

- •Allow for a minimum 2" (51 mm) filler, for corner installations, so the door can open to 90°. If you're using raised panels, consider using a wider filler.
- •Use the supplied filler strip when units are installed side by side.

#### **IMPORTANT**

Refer to the minimum door clearances and illustrations at the end of this section for specifics on door openings and filler size alternatives.

#### NOTE:

The given cabinet opening height dimension includes 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 is a fully integrated refrigerator-freezer which means it is fully enclosed by a kitchen cabinet. This type of cabinet must be carefully constructed using the proper dimensions and it must provide proper ventilation to ensure proper appliance operation.

#### **Kitchen Cabinet Airflow**

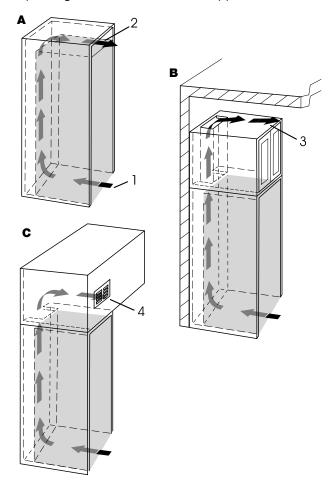
1. The following ventilation dimensions must be observed:

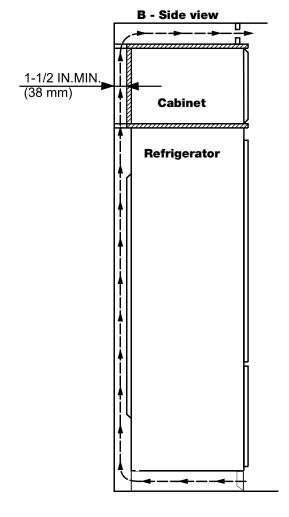
There must be a ventilation space at least 31 in.² (200 cm²) at the airflow inlet (1) and at the airflow outlet (2). The 30" and 60" models are equipped with a rolling base, which is already providing you with the bottom airflow inlet requirements.

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).

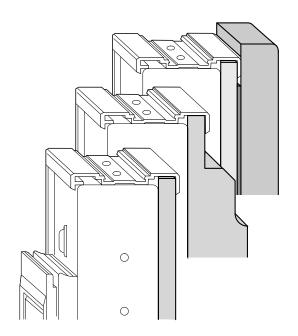




The refrigerator is designed to allow proper air flow when the appliance is installed up against the wall.

A minimum space of 1 1/2" is required when a cabinet is built above.

# Custom finish RI/RBI 1400, BFI/WFI 1051, SBS 24I0/24I5 - Framed and Overlay Panels



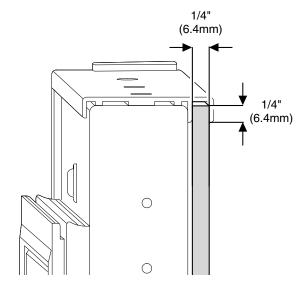
Liebherr offers numerous options for customization, allowing you to best complement the design of your dream kitchen. Decor frames make it possible to put custom panels on the built-in appliances. To match your kitchen's design, use custom finish panels, overlay or framed.

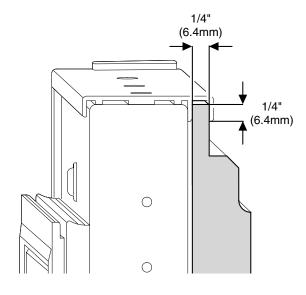
#### Framed Panel Dimensions RI/RBI 1400

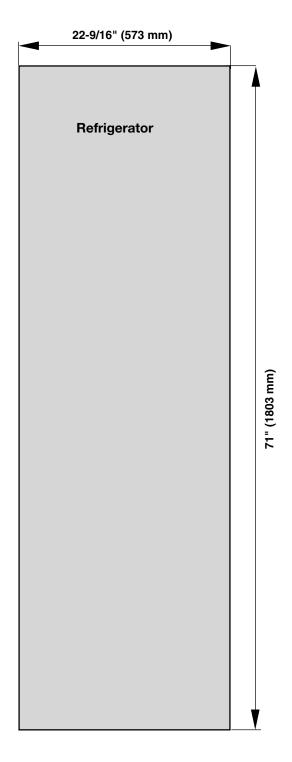
#### **Framed Panels**

If the thickness of the custom panels is less than 1/4" (6.4 mm), they must be backed up with a sheet of shim material to build the total thickness to 1/4" (6.4 mm).

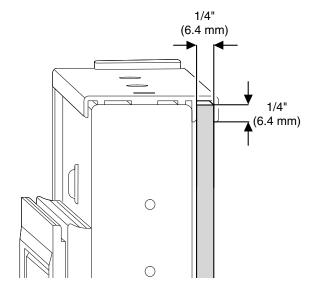
If the panel is thicker than 1/4" (6.4 mm), an edge must be routed around the panel to ensure a proper fit.

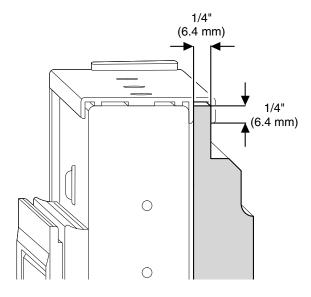


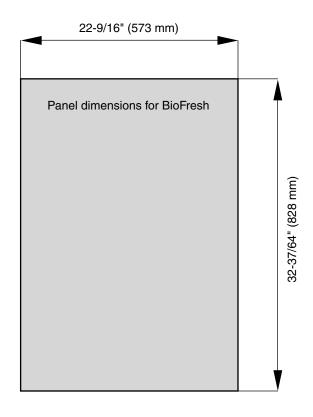


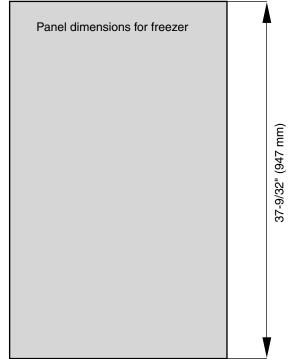


## Framed Panel Dimensions BFI 1051

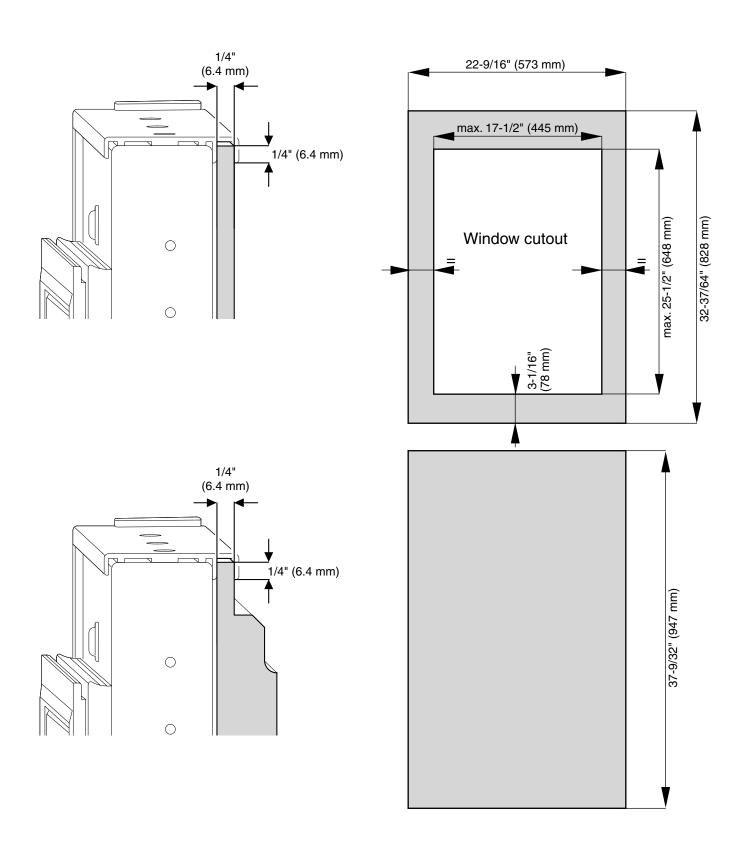








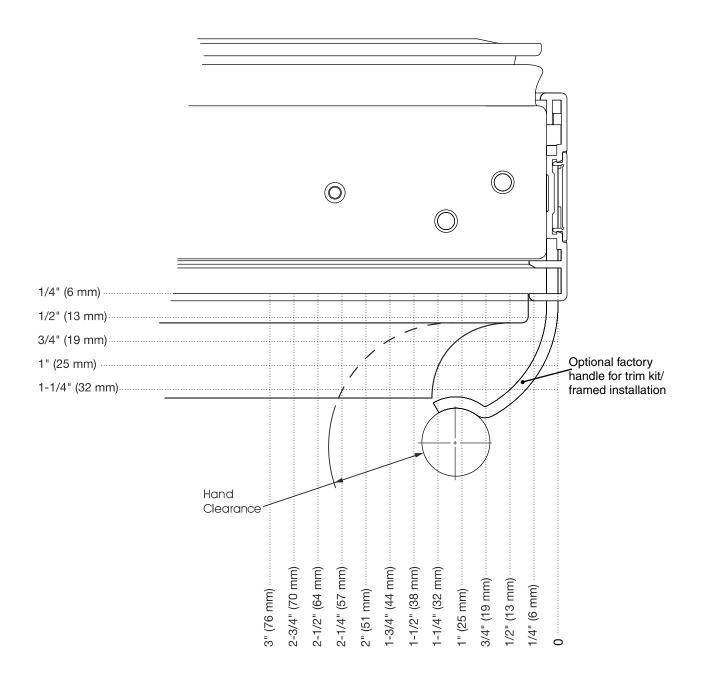
# **Framed Panel Dimensions WFI 1051**



#### **Handle Clearance**

It is important to provide adequate clearance behind the handle so that the user's hand fits easily. The clearance may not have to be the entire length of the handle, but should be designed for user's comfort.

Please note that for framed installations, the factory Liebherr handles must be ordered.



#### **Overlay Panel Dimensions RI/RBI 1400**

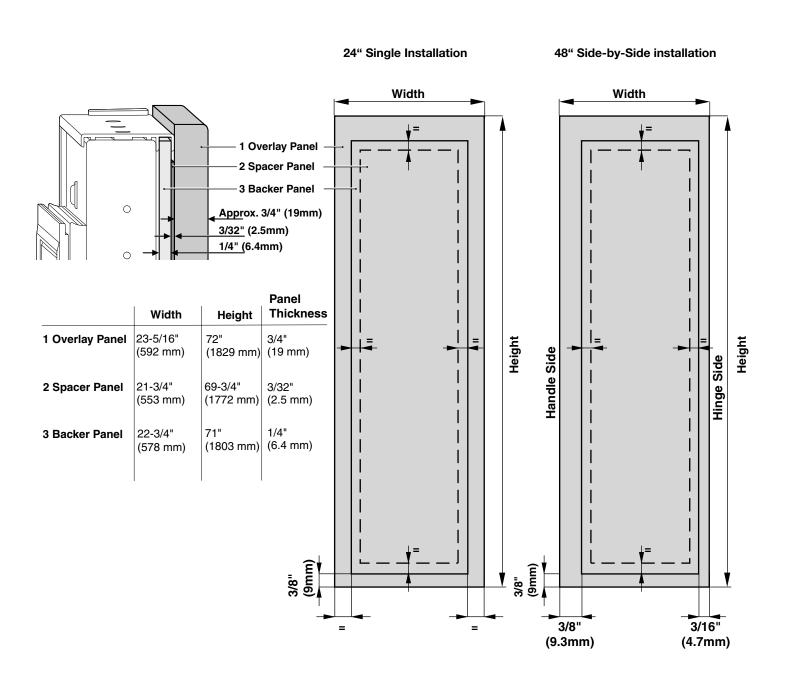
#### **Overlay Panels**

The overlay design line allows decorative panels to cover the door trim for a more seamless appearance that blends with the design of the room. The most common way to achieve this look is to work with three panels, the decorative overlay panel, a 3/32" (2.5 mm) spacer panel and a 1/4" (6.4 mm) backer panel.

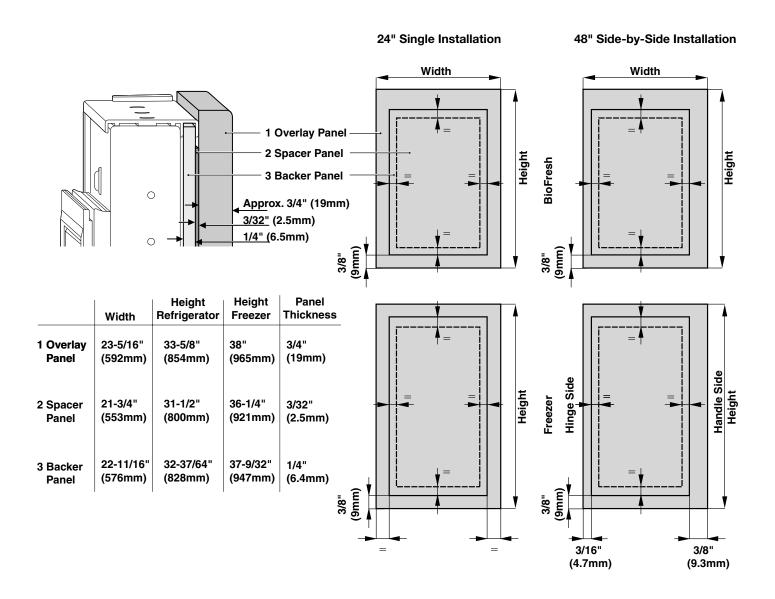
Depending on your cabinet manufacturer, this could be one panel routed for different dimensions or, morelikely, three different panels.

The door panel weight must not exceed 44 lb (20 kg) per Overlay Panel.

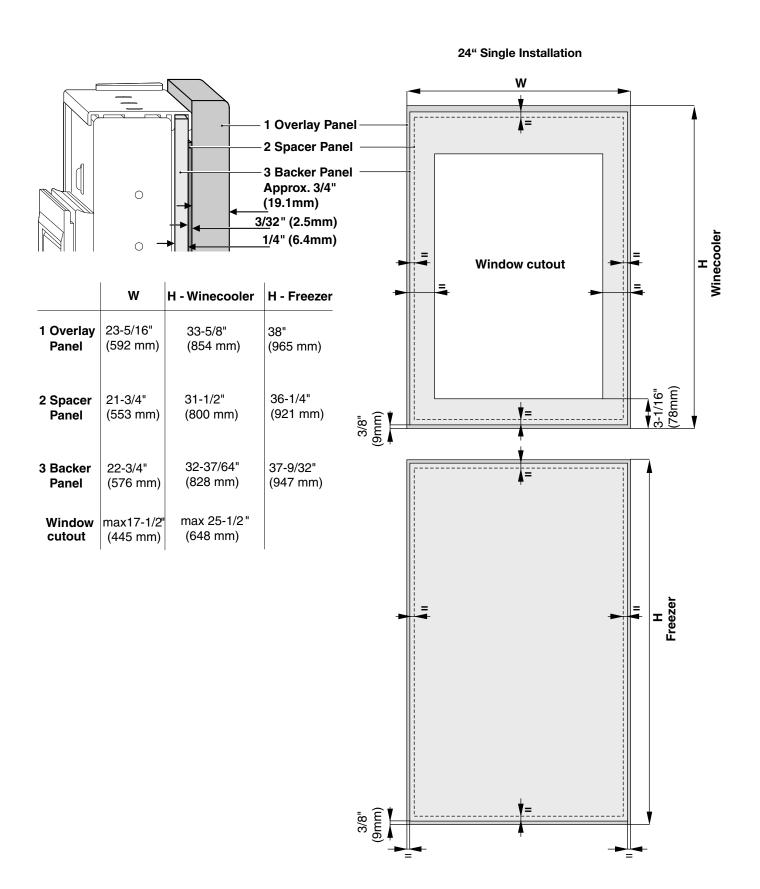
#### **OVERLAY PANEL SPECIFICATION**

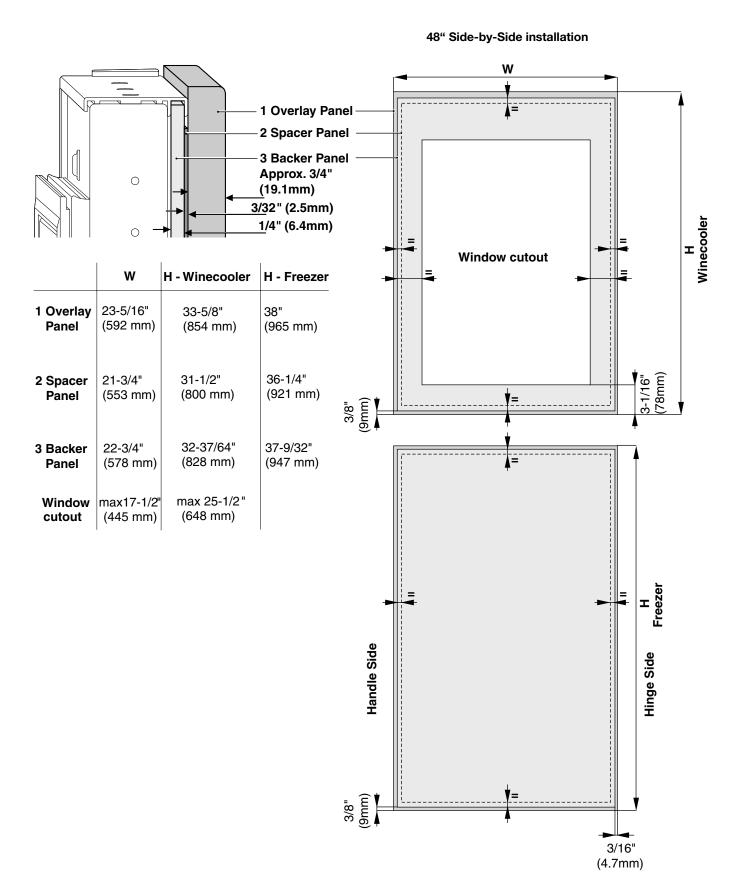


## **Overlay Panel Dimensions BFI 1051**



## **Overlay Panel Dimensions WF/WFI 1051**





#### **Accessories for Framed and Overlay Panels**

Kits may be necessary to reverse the door and hinges, complete this unit's installation or to apply it in a different manner than its original intent. If a kit is necessary, contact your Liebherr retailer or distributor.

The following kits are available:

#### For Single 24" Unit Installation RI/RBI1400, WFI 1051

Optional	installation	accessory
----------	--------------	-----------

Optional installation accessory			
	9900734	Top Ventilation Grille RI/RBI/BFI/WFI	
	9900716	Single Installation Set  Bottom ventilation grille, Installation parts	
***	9900722	Handle Trim Kit for framed panels.  Made of stainless steel Diameter: 3/4" (18 mm) Length: 71-1/8" (1806.5 mm)	
	9900728	Handle for Overlay Panel  Made of stainless steel  Diameter: 3/4" (18 mm)  Length: 28-1/2" (725 mm)	
	9900732	Handle for Overlay Panel  Made of stainless steel Diameter: 1" (25 mm) Length: 32-1/2" (825 mm)	

#### For Single 24" Unit Installation BFI/WFI 1051

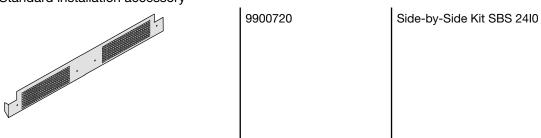
Optional installation accessory

9900734	Top Ventilation Grille RI/RBI/BFI/WFI
9900716	Single Installation Set  Bottom ventilation grille, Installation parts

******	9900724	Handles Trim Kit for framed panels.  Made of stainless steel Diameter 3/4" (18 mm) Length: 37-1/2" (952.2 mm) 32-3/4" (832.5 mm)
	9900819	Handles for Overlay Panels  Made of stainless steel Diameter: 3/4" (18 mm) Length: 13-3/4" (350 mm), both
	9900821	Handles for Overlay Panels,  Made of stainless steel Diameter: 1" (25 mm) Length: 17-3/4" (450 mm) 13-3/4" (350 mm)

# For Side-by-Side 48" Unit Installation SBS 2410, 2415

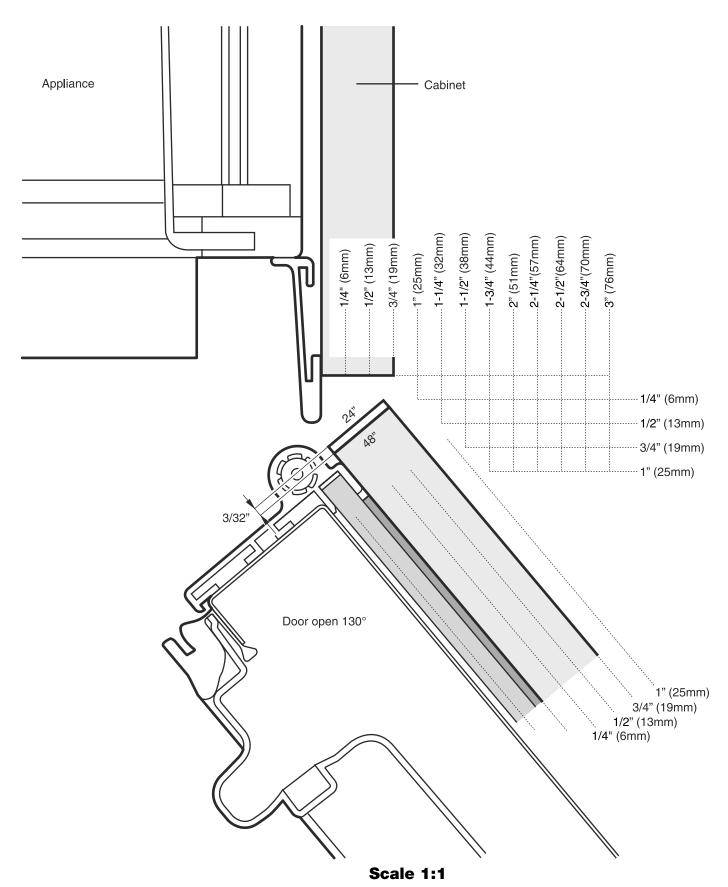
Standard installation accessory



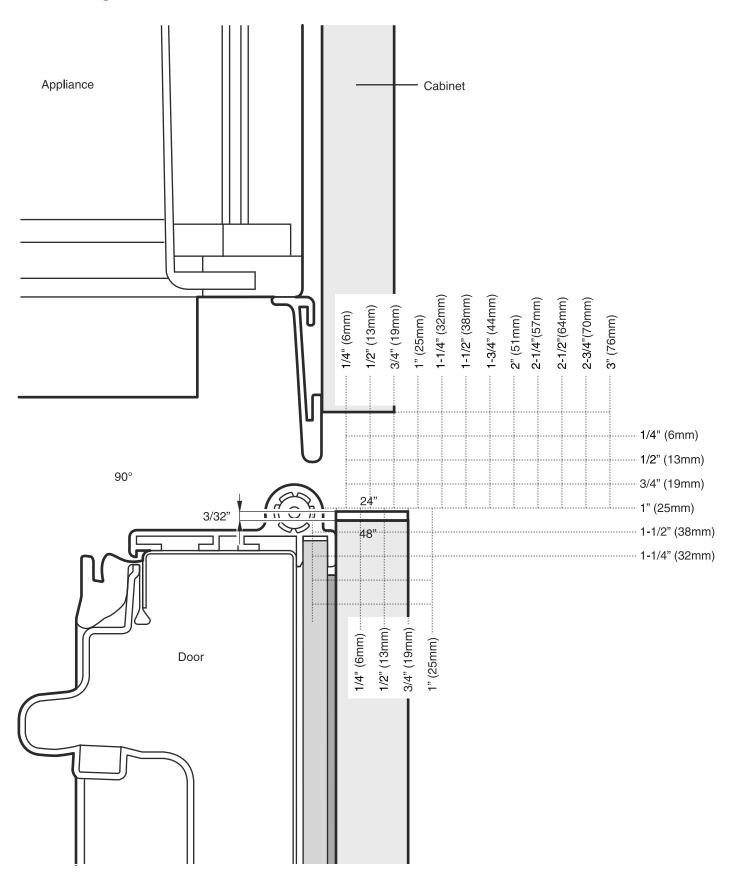
#### Optional installation accessory

9900736	Top Ventilation Grille SBS 24I0, 24I5
9900724 and 9900722	Handles Trim Kit for framed panels. Made of stainless steel Diameter: 3/4" (18mm) Length: 37-1/2" (952.2 mm) 32-3/4" (832.5 mm) 71-1/8" (1806.5 mm)
9900819 and 9900728	Handles for Overlay Panels.  Made of stainless steel.  Diameter: 3/4"  Length: 2 handles 13-3/4" (350 mm)  1 handle 28-1/2" (725 mm)
9900821 and 9900732	Handles for Overlay Panels. Made of stainless steel Diameter: 1" Length: 17-3/4" (450 mm) 13-3/4" (350 mm) 32-1/2" (825 mm)

# Door Swing Clearance 130° RI/RBI 1400

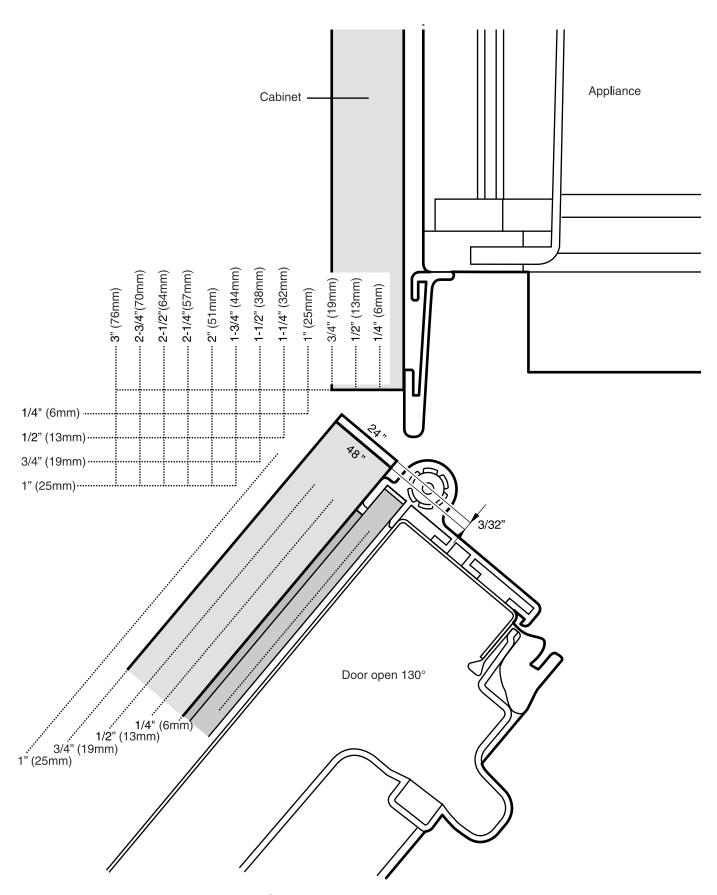


# **Door Swing Clearance 90° RI/RBI 1400**



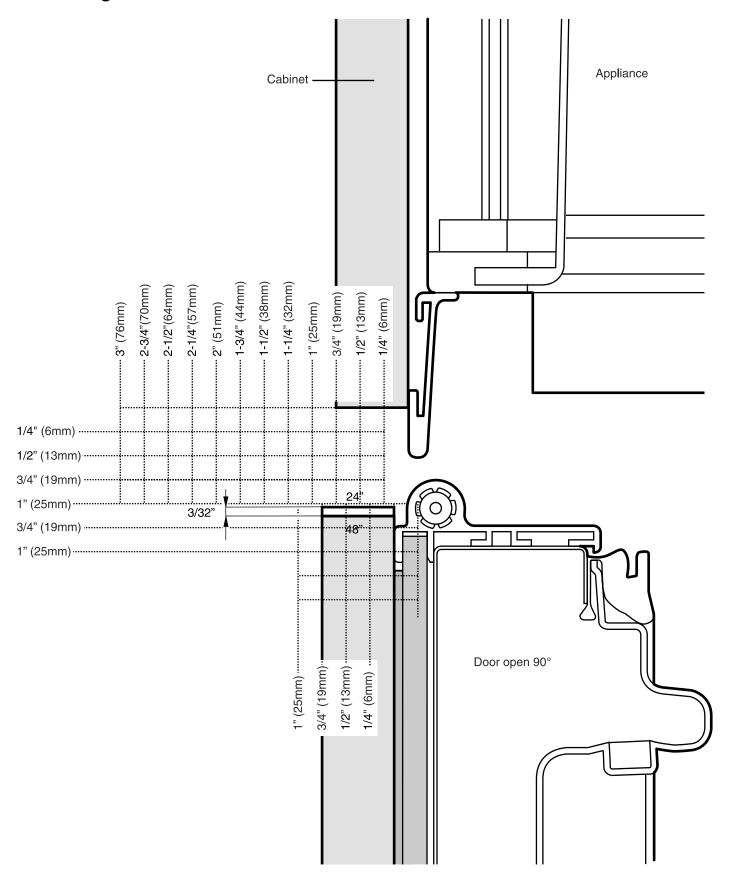
Scale 1:1

# Door Swing Clearance 130° BFI/WFI 1051



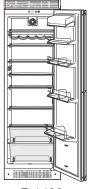
Scale 1:1

# **Door Swing Clearance 90° BFI/WFI 1051**

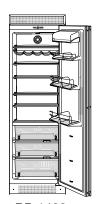


Scale 1:1

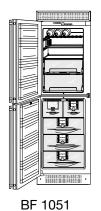
# Stainless steel R/RB 1400, BF/WF 1051, SBS 240/245



R 1400



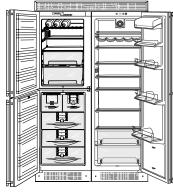
RB 1400



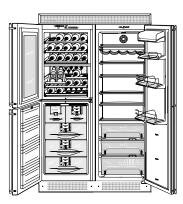
The Liebherr refrigerator-freezer with stainless steel doors can be easily integrated into any kitchen layout. The stainless steel gives a more professional style and it is easily cleaned. No panels are required.



WF 1051



SBS 240



SBS 245

#### **Accessories**

Kits may be necessary to reverse the door and hinges, complete this unit's installation or to apply it in a different manner than its original intent. If a kit is necessary, contact your Liebherr retailer or distributor.

The following kits are available:

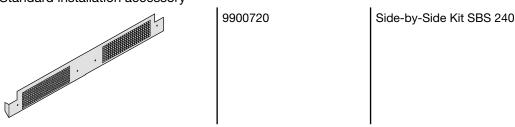
#### For Single 24" Installation R, RB 1400 and BF, WF 1051

Optional	installation	accessorv
----------	--------------	-----------

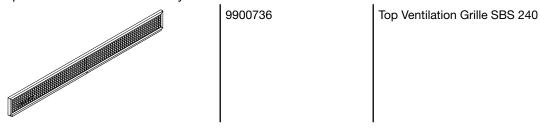
9900734	Top Ventilation Grille RI/R/RBI/RB/BF/BFI/WF/WFI
9900716	Single Installation Set

#### For Side-by-Side 48" Unit Installation SBS 240, 245

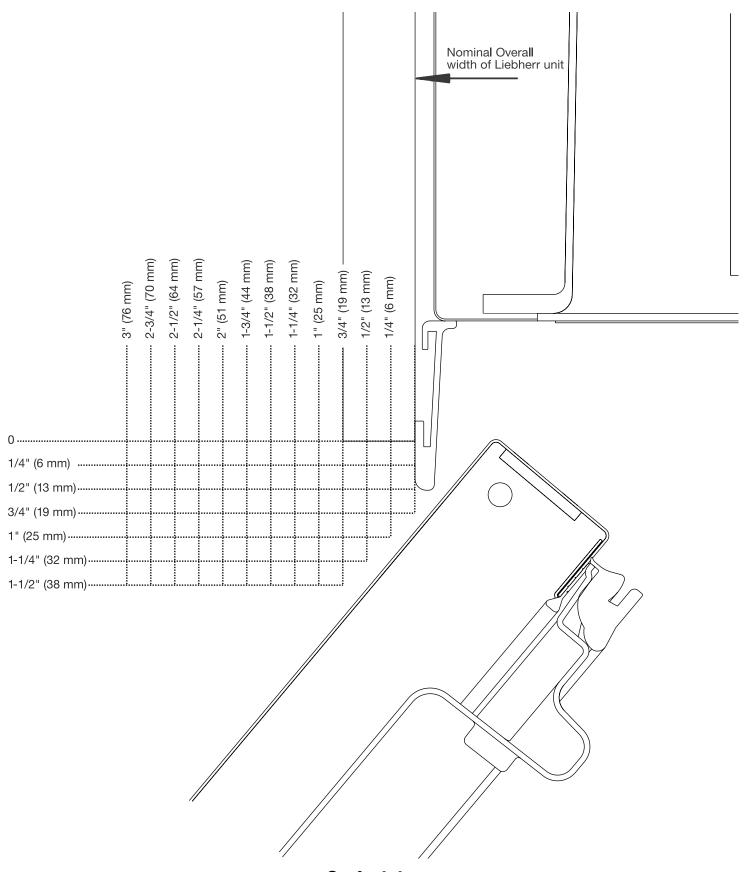
#### Standard installation accessory



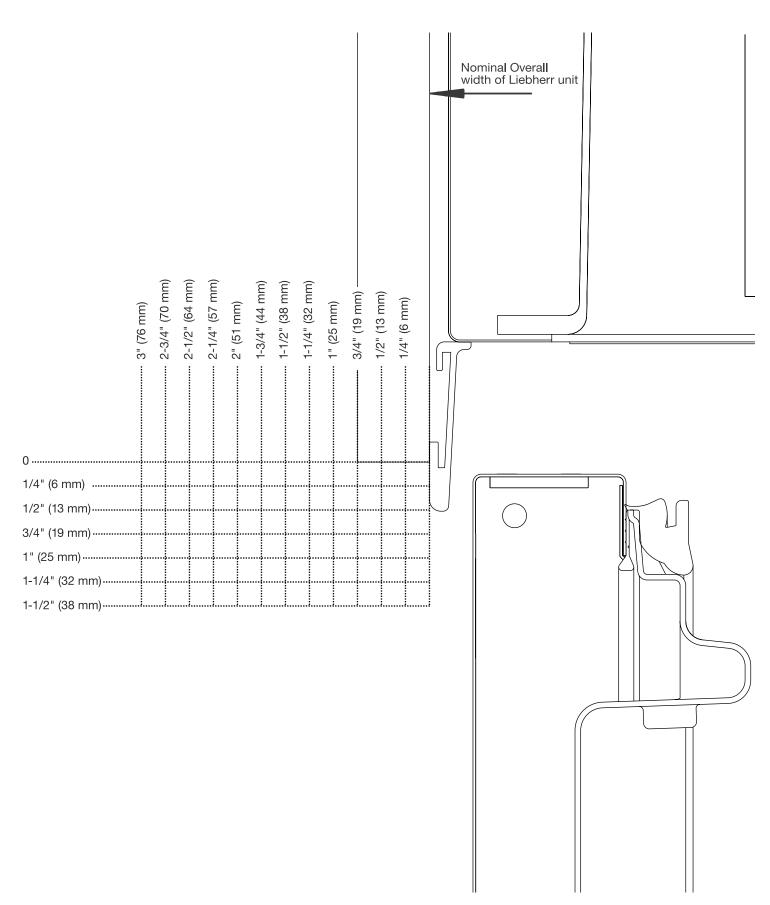
#### Optional installation accessory



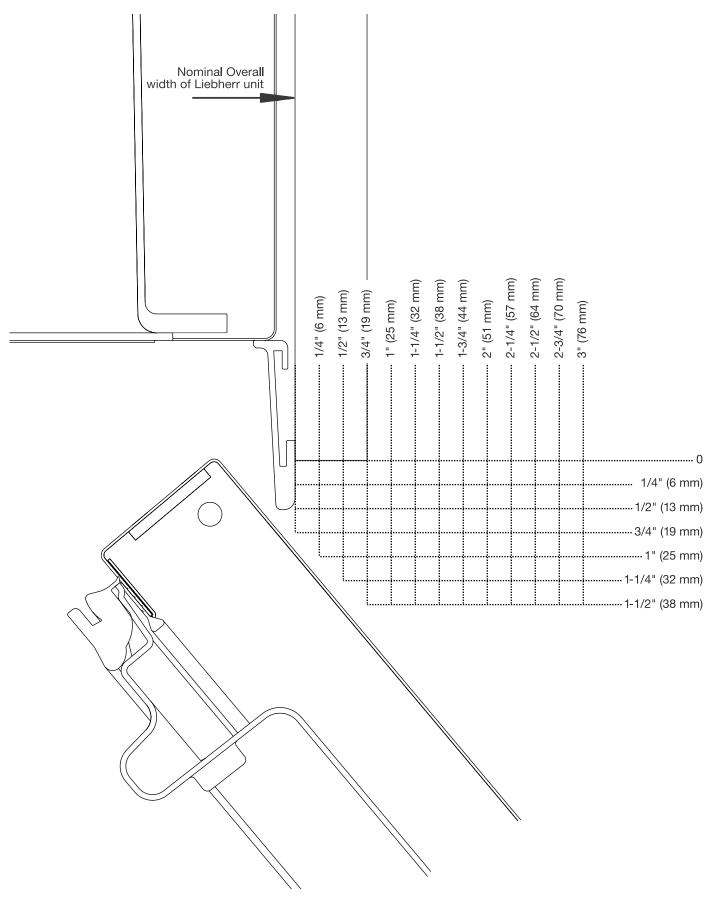
# Door Swing Clearance 130° BF/WF 1051



# Door Swing Clearance 90° BF/WF 1051

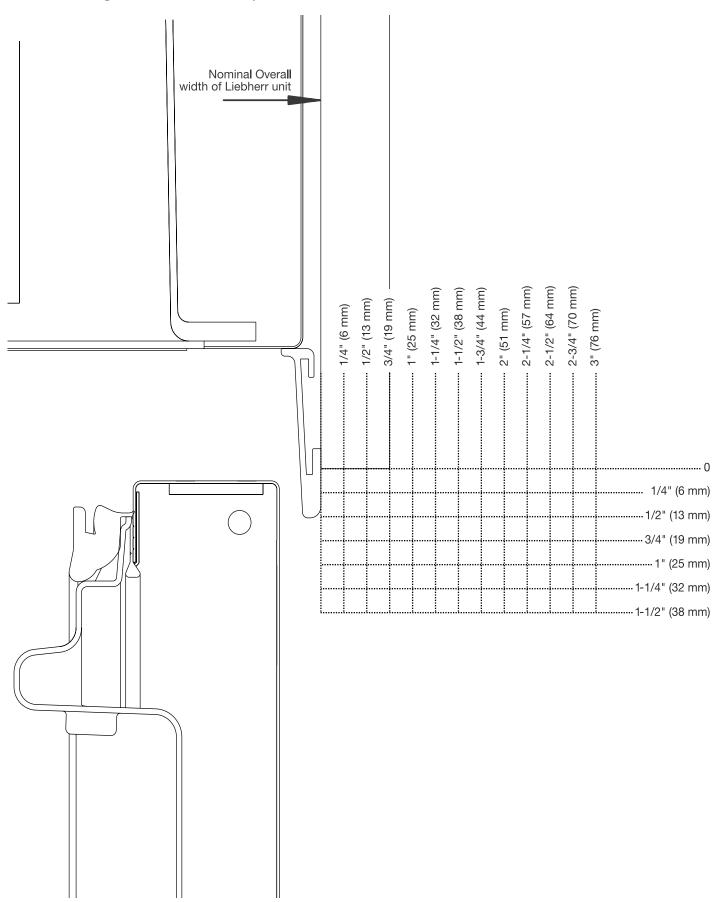


# Door Swing Clearance 130° R, RB 1400



Scale 1:1

# Door Swing Clearance 90° R, RB 1400



Scale 1:1

# LIEBHERR

**Design Guide 2008**