Medium Voltage Switchgear - PIX Easy Floor Rolling

Air Insulated Switchgear
Withdrawable Circuit Breaker Vacuum Technology

Receipt Guide

02/2019
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All pertinent state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to help ensure compliance with documented system data, only the manufacturer should perform repairs to components.

When devices are used for applications with technical safety requirements, the relevant instructions must be followed.

Failure to use Schneider Electric software or approved software with our hardware products may result in injury, harm, or improper operating results.

Failure to observe this information can result in injury or equipment damage.

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# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Information</td>
<td>5</td>
</tr>
<tr>
<td>About the Document</td>
<td>7</td>
</tr>
<tr>
<td><strong>Chapter 1</strong> General</td>
<td>9</td>
</tr>
<tr>
<td>Glossary</td>
<td>9</td>
</tr>
<tr>
<td><strong>Chapter 2</strong> Safety Provisions</td>
<td>11</td>
</tr>
<tr>
<td>Introduction</td>
<td>11</td>
</tr>
<tr>
<td><strong>Chapter 3</strong> Dimensions and Weights</td>
<td>13</td>
</tr>
<tr>
<td>Dimensions and Weights of the Cubicles without Internal Arc Accessories</td>
<td>13</td>
</tr>
<tr>
<td><strong>Chapter 4</strong> Receipt Guidelines</td>
<td>15</td>
</tr>
<tr>
<td>Shipping Units</td>
<td>16</td>
</tr>
<tr>
<td>Unloading</td>
<td>17</td>
</tr>
<tr>
<td>Receipt and Inspection</td>
<td>19</td>
</tr>
<tr>
<td>Storage</td>
<td>20</td>
</tr>
</tbody>
</table>
Important Information

NOTICE

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of this symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

---

**DANGER**

**DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury.

---

**WARNING**

**WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.

---

**CAUTION**

**CAUTION** indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

---

**NOTICE**

**NOTICE** is used to address practices not related to physical injury.

---

PLEASE NOTE

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is the one who has skills and knowledge related to the construction and operation of high voltage, alternating current, electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.
About the Document

At a Glance

Document Scope

This Receipt Guide describes air-insulated medium voltage switchgear units of the PIX Easy Floor Rolling series.

The operations described in this guide may only be performed by the qualified personnel with proven experience regarding:

- The PIX Easy Floor Rolling series
- All relevant safety provisions

This Receipt Guide is the integral part of the product and must be stored such that it is always readily accessible and can be used by persons who work on the switchgear. If the switchgear is relocated to another site, this guide must be passed on to the new operator along with the unit.

This guide does not describe every imaginable individual case or every customer-specific version of the product. Contact Schneider Electric for more information that is not included in the guide.

Validity Note

This guide is valid for PIX Easy Floor Rolling cubicle. The design provides easy rack-in/rack-out operation without the need for a separate trolley. It is an extension of the standard PIX range and delivers performances up to 17.5 kV/31.5 kA/2500 A. It is equipped with a Vacuum Circuit Breaker and has other functional trolleys like the metering device.

For product compliance and environmental information (RoHS, REACH, PEP, EOLI and so on.), go to www.schneider-electric.com/green-premium.

The technical characteristics of the devices described in this document also appear online. To access this information online:

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Go to the Schneider Electric home page <a href="http://www.schneider-electric.com">www.schneider-electric.com</a>.</td>
</tr>
<tr>
<td>2</td>
<td>In the Search box, type the name of the product range (PIX Easy Floor Rolling), select the webpage.</td>
</tr>
<tr>
<td>3</td>
<td>If you know the generic reference of the product, type the generic reference of the product in the Search box. Select the corresponding page from the result. Here you could see the Datasheet related to product reference.</td>
</tr>
<tr>
<td>4</td>
<td>If more than one product reference appears in the search results, click the reference that interests you.</td>
</tr>
<tr>
<td>5</td>
<td>You may need to scroll down to see the complete datasheet.</td>
</tr>
</tbody>
</table>

The characteristics that are presented in this guide should be the same as those characteristics that appear online. In line with our policy of constant improvement, we may revise content over time to improve clarity and accuracy. If you see a difference between the manual and online information, use the online information as your reference.

Product Related Information

Air-insulated medium-voltage switchgear units of the PIX Easy Floor Rolling series are designed exclusively for switching and distributing electrical power. They may only be used in the scope of the specified standards and the switchgear-specific technical data. Any other utilization constitutes improper use and may result in dangers and damage.
Chapter 1
General

Glossary

Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FU</td>
<td>Functional Unit (cubicle + mobile part)</td>
</tr>
<tr>
<td>IC</td>
<td>Incomer Cubicle</td>
</tr>
<tr>
<td>FD</td>
<td>Feeder Cubicle/Vacuum Contactor Cubicle</td>
</tr>
<tr>
<td>BC</td>
<td>Bus Coupler Cubicle</td>
</tr>
<tr>
<td>BR</td>
<td>Bus Riser Cubicle</td>
</tr>
<tr>
<td>BM</td>
<td>Bus Metering Cubicle</td>
</tr>
<tr>
<td>BE</td>
<td>Bus Earthing Cubicle</td>
</tr>
<tr>
<td>VT</td>
<td>Voltage Transformer</td>
</tr>
<tr>
<td>CT</td>
<td>Current Transformer or Current Sensor</td>
</tr>
<tr>
<td>VP</td>
<td>Voltage Presence Indicator System</td>
</tr>
<tr>
<td>LV</td>
<td>Low Voltage</td>
</tr>
<tr>
<td>MV</td>
<td>Voltage Class, Including levels 7.2 – 12 kV and 17.5 kV</td>
</tr>
<tr>
<td>ES</td>
<td>Earthing Switch</td>
</tr>
</tbody>
</table>

Mobile part

<table>
<thead>
<tr>
<th>Mobile part</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easypact EXE</td>
<td>Vacuum Circuit Breaker</td>
</tr>
<tr>
<td>MD</td>
<td>Metering Device</td>
</tr>
<tr>
<td>CVX-C</td>
<td>Vacuum Contactor with Fuses</td>
</tr>
</tbody>
</table>
Chapter 2
Safety Provisions

Introduction

Before performing work on the panel, it is essential that you comply with the following instructions:

⚠️ **DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

- Before removing covers and before performing assembly or maintenance work, make sure that you isolate the system from the high voltage and the supply voltage and that you ground it.
- Comply with the five safety rules:
  - Isolate from the power supply
  - make sure that unintentional restart (re closing) is prevented
  - verify zero voltage
  - earth and short-circuit
  - cover or cordon off adjacent live components

Failure to follow these instructions will result in death or serious injury.

⚠️ **WARNING**

**RISK OF INJURY DUE TO MOVABLE PARTS IN MECHANICAL DRIVES**

Before performing mounting and maintenance work:

- Comply with the five safety rules:
  - Isolate from the supply voltage
  - release the circuit-breaker’s energy storing device by OFF-ON-OFF operation
  - switch make-proof earthing switches ON
  - earth and short-circuit
  - Do not remove the mechanisms during maintenance work

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠️ **WARNING**

**RISK OF INJURY DUE TO SHARP-EDGED SHEET METAL AND METAL PARTS**

During installation and maintenance work:

- Comply with the five safety rules:
  - Always wear the approved protective clothing in accordance with the valid accident prevention and work regulations
  - Always cover sharp edges

Failure to follow these instructions can result in death, serious injury, or equipment damage.

**Applicable standards and regulations:**

- Metal-enclosed AC switchgear for rated voltages > 1 kV up to including 52 kV: IEC 62271-200
- The locally applicable accident prevention, operating and work instructions must be complied
- Assembly and maintenance: IEC 61936-1
- Operation of electrical equipment: EN 50110-1
  
  **NOTE:** The national standards applicable in the country where the equipment is to be installed must be compiled.

Other standards or regulations have to be checked and accessed locally.
Behaviour in case of incidents or accidents:

For the case of an internal fault, the switchgear PIX Easy Floor Rolling cubicle is equipped with pressure relief ports, which prevent the panels and the switchgear from bursting.

This Receipt guide does not include information regarding the safety of buildings in case of internal faults (pressure load of the switchgear room and necessary pressure relief ports). Pressure calculations for switchgear rooms inclusive recommendations regarding pressure relief ports can be provided on request against a fee. For further details, please contact the manufacturer.

In case of fire or of internal faults, toxic and caustic decomposition products may be produced. Comply with the locally applicable accident and safety provisions.

Make sure that first-aid measures are taken in case of injury to persons.
## Chapter 3

Dimensions and Weights

### Dimensions and Weights of the Cubicles without Internal Arc Accessories

**IC, FD, BC-BR, BM, BE Cubicles with 1 CT per Phase**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>IC1/ FD1</th>
<th>IC2/ FD2</th>
<th>BC1-BR1</th>
<th>BC2-BR2</th>
<th>BM1/ BE1</th>
<th>BM2/ BE2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width W (mm)</td>
<td>600</td>
<td>800</td>
<td>600 x 2</td>
<td>600</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>Height** H (mm)</td>
<td>2300</td>
<td>2300</td>
<td>2300</td>
<td>2300</td>
<td>2300</td>
<td>2300</td>
</tr>
<tr>
<td>Depth D (mm)</td>
<td>1650</td>
<td>1650</td>
<td>1650</td>
<td>1650</td>
<td>1650</td>
<td>1650</td>
</tr>
<tr>
<td>Weight* (kg)</td>
<td>800</td>
<td>1000</td>
<td>650 x 2</td>
<td>1000 x 2</td>
<td>650</td>
<td>800</td>
</tr>
<tr>
<td>Weight of VT compartment (kg)</td>
<td>120 (for IC1 only))</td>
<td>130 (for IC2 only)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Maximum fully equipped weight.

**This dimension is considering 735 mm height of LV chamber and no internal arc accessories.
IC and FD Cubicles with 2 CT per Phase

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>IC1/FD1</th>
<th>IC2/FD2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width W (mm)</td>
<td>600</td>
<td>800</td>
</tr>
<tr>
<td>Height* H (mm)</td>
<td>2300</td>
<td>2300</td>
</tr>
<tr>
<td>Depth D (mm)</td>
<td>2150</td>
<td>2650***/2150</td>
</tr>
<tr>
<td>Weight* (kg)</td>
<td>840</td>
<td>1050</td>
</tr>
<tr>
<td>Weight of VT compartment (kg)</td>
<td>120 (for IC1 only)</td>
<td>130 (for IC2 only)</td>
</tr>
</tbody>
</table>

*Maximum fully equipped weight.
** This dimension is considering 735 mm height of LV chamber and no internal arc accessories.
Chapter 4
Receipt Guidelines

What Is in This Chapter?

This chapter contains the following topics:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping Units</td>
<td>16</td>
</tr>
<tr>
<td>Unloading</td>
<td>17</td>
</tr>
<tr>
<td>Receipt and Inspection</td>
<td>19</td>
</tr>
<tr>
<td>Storage</td>
<td>20</td>
</tr>
</tbody>
</table>
Shipping Units

Overview

The following points are considered while shipping the units:

- The condition and the type of transport is stipulated in the contract details. The type of packaging depends on the type of transport and the storage conditions.
- The panels are delivered individually and fastened on the pallets.
- The trucks are delivered within the panels and are in connected positions.
- The standard accessories are included.
- The panels are delivered in upright position.

NOTE: The weight of the entire transport unit is indicated on the packaging.

Packing

The following points are considered while packing the units:

- If packed exclusively for land-based transport, the panels are delivered on a pallet with cardboard box as shown in the Figure 01.
- For sea or air transport, the units are packed in sealed aluminum foil with desiccant and in a closed wooden case with tightly closed wooden base as shown in the Figure 02.

Figure 01: Packed in cardboard box, on a pallet. Figure 02: Packed in a wooden case.
Unloading

Lifting through Overhead Crane

⚠️ WARNING

RISK OF LOAD TIPPING OVER
Transport unit must be secured sufficiently during transport to avoid slipped and tipping over.

Failure to follow these instructions can result in death, serious injury, or equipment damage.
Lifting through Fork Lift

⚠️ WARNING

RISK OF LOAD TIPPING OVER
Transport unit must be secured sufficiently during transport to avoid slipped and tipping over.

Failure to follow these instructions can result in death, serious injury, or equipment damage.
Receipt and Inspection

Handle shipped units carefully when unloading and unpacking time:
- Shipped unit must be checked upon receipt for any damage. Any damage occurred in transit must be recorded and reported to the manufacturer as soon as possible.
- Check completeness of consignment based on the transport documents. The supplier must be notified in writing without delay about any possible deviations.
- If packing box is damaged, reports to the manufacturer as soon as possible.
- Loose materials per switchboard are dispatched in a separate box.

The following images shows an example of representation:
Storage

**WARNING**

**RISK OF ACCIDENTS**
Sufficient stability and evenness of the supporting area must be ensured.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

If the panels are not installed immediately after delivery, they can be stored under the following conditions:

- Panels must be stored in vertical positions and must not be stacked.
- Indoor storage only is admissible.
- Switchgear and accessories must be stored sealed with desiccants in aluminum foil and packed in a wooden box (the storing time before installation is compliant with the warranty period in the terms and conditions).
- Pallet should not be removed until the installation.
- Storage only in packed condition. Performance will not be guaranteed if stored in open condition.
- The storage room environment should be healthy, no rodents, humidity control ≤95%/≤90% for 24 hr and 1 month respectively, and no water on the floor.