Modular design with individually adapted vacuum generation
Vacuum Area Gripping Systems FXP/FMP

Innovative Vacuum for Automation
Vacuum Components
Schmalz Compact Terminal SCTMi
An increasing range of variants, the optimization of production processes and continuous energy and process control represent the challenges of the future. In order to meet these demands, extremely powerful, flexible and energy-efficient handling systems are required. The answer to these challenges is the Schmalz Compact Terminal SCTMi, a compact unit comprising several vacuum generators for simultaneously and independently handling different parts with one single vacuum system.

- Central compressed air and energy supply for up to 16 ejectors with just one connection each
- Compact design and low weight make it suitable for a wide range of applications
- Modular design means various vacuum circuits can be installed to handle different parts with ease
- Individual ejectors can be selected based on nozzle size, NO, NC or nozzle type
- Can be integrated in a wide range of field-bus systems
- Process and device parameters can be easily configured via IO-Link or NFC
- All suction circuits can be separately controlled
- Process transparency, energy consumption control and a variety of diagnostic functions for use in intelligent factories
Schmalz Compact Terminal SCTMi

Fully Networked and Flexible Vacuum Generation

Simplified Integration Into the Control Level

- Industrial Ethernet
- Fieldbus
- Connecting individual ejectors
- Connecting the SCTMi

Design

- Sleek and central compressed air supply (1)
- NFC chip (2) for reading and writing process information
- Central energy supply and IO-Link connection M12, 5-pin via the control module (3)
- Threaded vacuum connections (5)
- Compact vacuum terminal consisting of up to 16 block-mounted compact ejectors (4)

System design of the Schmalz Compact Terminal SCTMi
## Schmalz Compact Terminal SCTMi

Configuration Code — Selection and Ordering Aid for the SCTMi

### SCTMi-IOL – 1111

**SCTMi main body**

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCTMi-IOL</td>
<td>SCTMi IO-Link main body</td>
</tr>
</tbody>
</table>

Example: SCTMi-IOL  
Main body and IO-Link master element with IO-Link electrical connection with M12, 5-pin plug

### Ejectors

<table>
<thead>
<tr>
<th>Code*</th>
<th>Type</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SCPSt 07 G02 NO</td>
<td>10.02.02.04676</td>
</tr>
<tr>
<td>2</td>
<td>SCPSt 10 G02 NO</td>
<td>10.02.02.04681</td>
</tr>
<tr>
<td>3</td>
<td>SCPSt 15 G02 NO</td>
<td>10.02.02.04675</td>
</tr>
<tr>
<td>4</td>
<td>SCPSt 07 G02 NC</td>
<td>10.02.02.04673</td>
</tr>
<tr>
<td>5</td>
<td>SCPSt 10 G02 NC</td>
<td>10.02.02.04429</td>
</tr>
<tr>
<td>6</td>
<td>SCPSt 15 G02 NC</td>
<td>10.02.02.04678</td>
</tr>
</tbody>
</table>

Example: 11112200-00000000  
4 ejectors of type SCPSt 07 G02 NO (10.02.02.04676) and 2 ejectors of type SCPSt 10 G02 NO (10.02.02.04681)

### Designation Code for Compact Ejectors SCPSt

<table>
<thead>
<tr>
<th>Abbreviated designation</th>
<th>Nozzle technology</th>
<th>Nozzle size</th>
<th>Connection</th>
<th>Idle valve position</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCPSt</td>
<td>2</td>
<td>07</td>
<td>G02</td>
<td>NC</td>
</tr>
<tr>
<td>Example: SCPSt 2-07 G02 NC</td>
<td>2-stage</td>
<td>07 = 0.7 mm</td>
<td>G02 Connection thread 2</td>
<td>NC Normally closed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 = 1.0 mm</td>
<td></td>
<td>NO Normally open</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 = 1.5 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2-07 = 0.7 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2-09 = 0.9 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2-15 = 1.4 mm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Schmalz Compact Terminal SCTMi was developed to connect multiple ejectors. Use the following code to configure a Compact Terminal SCTMi to match your application.

**Collective pneumatic connection**

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>SCPS 2-07 G02 NO</td>
<td>10.02.02.04677</td>
</tr>
<tr>
<td>8</td>
<td>SCPS 2-09 G02 NO</td>
<td>10.02.02.04682</td>
</tr>
<tr>
<td>9</td>
<td>SCPS 2-14 G02 NO</td>
<td>10.02.02.04680</td>
</tr>
<tr>
<td>A</td>
<td>SCPS 2-07 G02 NC</td>
<td>10.02.02.04674</td>
</tr>
<tr>
<td>B</td>
<td>SCPS 2-09 G02 NC</td>
<td>10.02.02.04683</td>
</tr>
<tr>
<td>C</td>
<td>SCPS 2-14 G02 NC</td>
<td>10.02.02.04679</td>
</tr>
</tbody>
</table>

**Note:**
2 to 16 ejectors can be configured. A third compressed air supply is required for 9 or more ejectors.

*Each digit represents an ejector position. Unoccupied positions are indicated by a 0.

**Sample SCTMi Configuration**

- **SCTMi-IOL** – **88BB 88BB-88BB 88BB** – **P**

Main body and IO-Link master element connected via IO-Link

| 8 ejectors of type SCPS 2-09 G02 NO (10.02.02.04682) and 8 ejectors of type SCPS 2-09 G02 NC (10.02.02.04683) | Collective pneumatic connection |

Collective pneumatic connection for supplying all ejectors with one to three compressed air lines.
# Schmalz Compact Terminal SCTMi

## Technical Data

### Technical Data (Electronics) for Schmalz Compact Terminal SCTMi

<table>
<thead>
<tr>
<th>Type</th>
<th>Temperature [°C]</th>
<th>Pressure range (operating pressure) [bar]</th>
<th>Electrical connection</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCTMi-IOL</td>
<td>0 to 50</td>
<td>2 to 6</td>
<td>M12, 5-pin plug</td>
<td>IO-Link class B</td>
</tr>
</tbody>
</table>

### Technical Data for Compact Ejectors SCPSt

<table>
<thead>
<tr>
<th>Type</th>
<th>Nozzle size [mm]</th>
<th>Degree of evacuation [%]</th>
<th>Max. suction rate [m³/h]</th>
<th>Max. suction rate [l/min]</th>
<th>Air consumption for pick up [m³/h]</th>
<th>Air consumption for blow off [m³/h]</th>
<th>Sound level* when open (dB(A))**</th>
<th>Sound level* during gripping (dB(A))**</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCPSt 07...</td>
<td>07</td>
<td>85</td>
<td>0.98</td>
<td>16.0</td>
<td>1.35</td>
<td>7.25</td>
<td>63</td>
<td>58</td>
</tr>
<tr>
<td>SCPSt 10...</td>
<td>10</td>
<td>85</td>
<td>2.21</td>
<td>36.0</td>
<td>2.85</td>
<td>7.25</td>
<td>73</td>
<td>65</td>
</tr>
<tr>
<td>SCPSt 15...</td>
<td>15</td>
<td>85</td>
<td>4.03</td>
<td>65.5</td>
<td>6.03</td>
<td>7.25</td>
<td>73</td>
<td>65</td>
</tr>
<tr>
<td>SCPSt 2-07...</td>
<td>2-07</td>
<td>85</td>
<td>2.28</td>
<td>37.0</td>
<td>1.35</td>
<td>7.25</td>
<td>63</td>
<td>58</td>
</tr>
<tr>
<td>SCPSt 2-09...</td>
<td>2-09</td>
<td>85</td>
<td>3.05</td>
<td>49.5</td>
<td>2.40</td>
<td>7.25</td>
<td>73</td>
<td>65</td>
</tr>
<tr>
<td>SCPSt 2-14...</td>
<td>2-14</td>
<td>85</td>
<td>4.40</td>
<td>71.5</td>
<td>5.04</td>
<td>7.25</td>
<td>75</td>
<td>65</td>
</tr>
</tbody>
</table>

*At optimal operating pressure (4 bar)
**The sound does not increase linearly with the number of ejectors

---

### Design Data for Schmalz Compact Terminal SCTMi

#### SCTMi-IOL...
Schmalz Compact Terminal SCTMi
Ideal for use in the Smart Production Lines of the Future

Highlights of the Schmalz Compact Terminal SCTMi

The Schmalz Compact Terminal SCTMi offers an enormous range of innovative energy-saving technologies and networking options for use in intelligent factories. This page introduces you to the most important features.

Near-field communication (NFC)
- Reliable communication via an energy-neutral point-to-point connection
- Visible data – Both statistical data (such as the serial number) and dynamic process data (such as switching points) can be read out
- Parameterization option – An app can be used to parameterize the SCTMi directly from a smartphone

Networking in Industry 4.0 systems
- The IO-Link connection means that recorded data can be viewed and used all the way up to the control level, which allows for bidirectional parameterization and diagnostics in all conventional field-bus systems
- Condition monitoring increases system availability by providing detailed analyses of the system’s condition and early detection of faults
- Predictive maintenance improves the performance of gripping systems
- Energy monitoring optimizes the vacuum system’s energy consumption

Automatic air saving function
- Switches off the suction function once a safe vacuum value has been reached until the next cycle or until the vacuum falls below the safe vacuum value
- Various setting values and air saving settings can be programmed separately for each ejector
- Reduction of compressed air consumption by up to 80%

Eco nozzle technology
- The new eco nozzle technology provides a considerably higher suction rate with minimal compressed air consumption, permitting energy-efficient vacuum generation

Integrated electronic sub-bus system
- Electronic control can be implemented with just a single cable
- Comprehensive data communication via IO-Link and near-field communication (NFC)
- All ejectors can be separately programmed and controlled
Modular design with individually adapted vacuum generation
Vacuum Area Gripping Systems FXP/FMP

J. Schmalz GmbH
Aacher Strasse 29
72293 Glatten, Germany
Tel. +49 7443 2403-0
Fax +49 7443 2403-259
schmalz@schmalz.de
www.schmalz.com

© Schmalz, 09/16  I  Part no. 29.01.03.01030   I  Subject to technical changes without notice

Schmalz Worldwide

China
Schmalz (Shanghai) Co. Ltd.
Shanghai

Germany
J. Schmalz GmbH
Glatten

Finland
Oy Schmalz Ab
Vantaa

France
Schmalz S.A.S.
Champs-sur-Marne

India
Schmalz India Pvt. Ltd.
Pune

Italy
Schmalz S.r.l. a Socio Unico
Novara

Japan
Schmalz K.K.
Yokohama

Canada
Schmalz Vacuum
Technology Ltd.
Mississauga

Mexico
Schmalz S. de R.L. de C.V.
Querétaro

The Netherlands
Schmalz B.V.
Hengelo

Poland
Schmalz Sp. z o.o.
Suchy Las (Posen)

Russia
Schmalz Representation
Moscow

Switzerland
Schmalz GmbH
Nürensdorf

Spain
Schmalz S.A.
Erandio (Vizcaya)

South Korea
Schmalz Co. Ltd.
Goyang

Turkey
Schmalz Vakum
San. ve Tic. Ltd. Şti.
Istanbul

USA
Schmalz Inc.
Raleigh (NC)

Find your local sales partner by visiting
www.schmalz.com/salesnetwork