Innovative Vacuum for Automation

Vacuum Components

Schmalz Compact Terminal SCTMi

Schmalz Compact Terminal SCTMi

Fully Networked and Flexible Vacuum Generation

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.

Lean

- 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

- 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

Networked

- Can be integrated in a wide range of field-bus systems
- Process and device parameters can be easily configured via IO-Link or NFC

Intelligent

- All suction circuits can be separately controlled
- Process transparency, energy consumption control and a variety of diagnostic functions for use in intelligent factories

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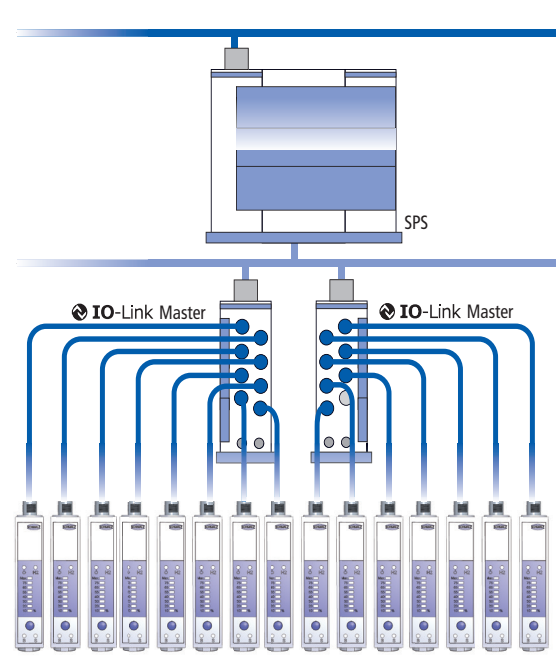
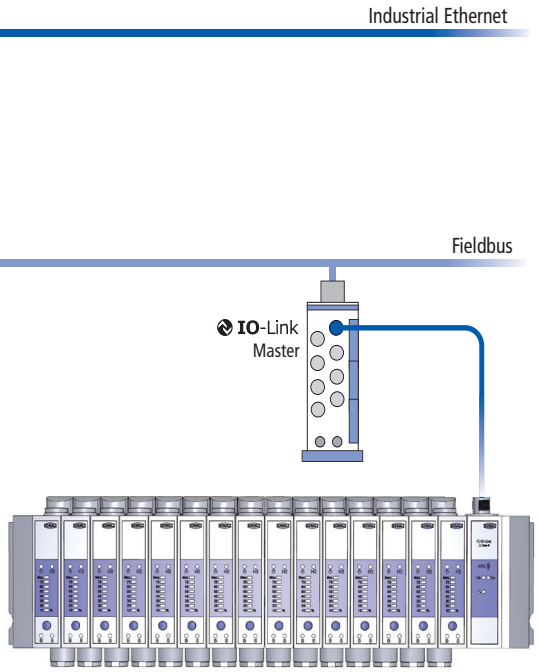
Simplified Integration Into the Control Level



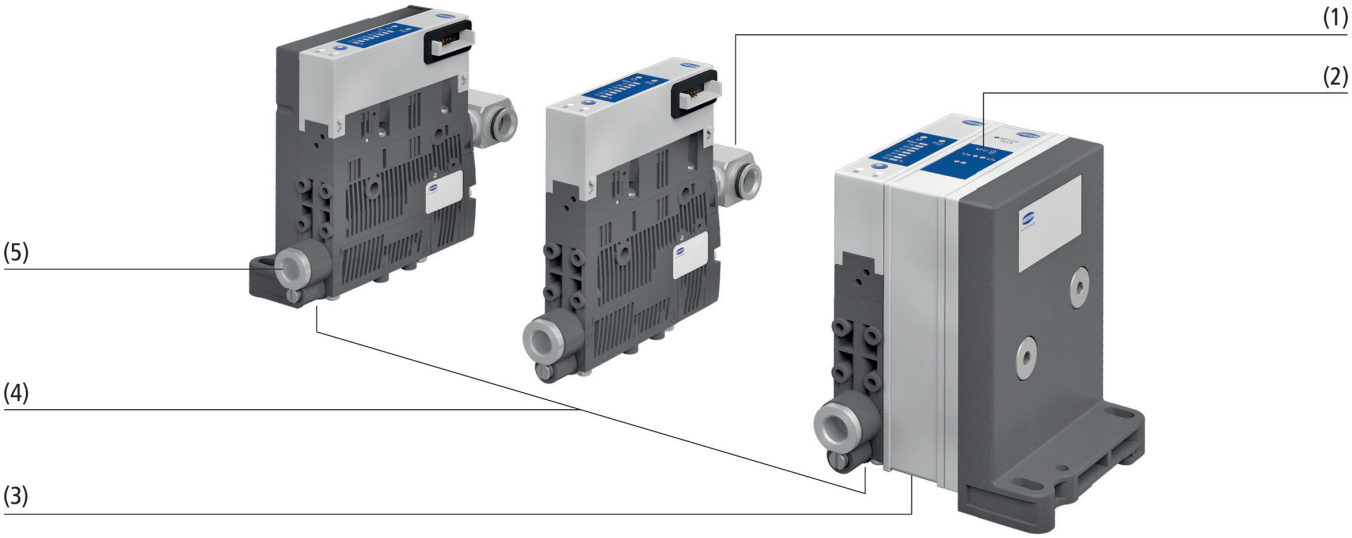
Connecting individual ejectors



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

Code	Type
SCTMi-IOL	SCTMi IO-Link main body

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

Ejectors

Code*	Type	Part no.
1	SCPSt 07 G02 NO	10.02.02.04676
2	SCPSt 10 G02 NO	10.02.02.04681
3	SCPSt 15 G02 NO	10.02.02.04675
4	SCPSt 07 G02 NC	10.02.02.04673
5	SCPSt 10 G02 NC	10.02.02.04429
6	SCPSt 15 G02 NC	10.02.02.04678

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

Abbreviated designation	Nozzle technology	Nozzle size	Connection	Idle valve position
Example: SCPSt 2-07 G02 NC	**2**	**07**	**G02**	**NC**
SCPSt	2 2-stage	07 = 0.7 mm 10 = 1.0 mm 15 = 1.5 mm 2-07 = 0.7 mm 2-09 = 0.9 mm 2-15 = 1.4 mm	G02 Connection thread 2	NC Normally closed NO Normally open

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.

2200-00000000 – P

Code*	Type	Part no.
7	SCPSt 2-07 G02 NO	10.02.02.04677
8	SCPSt 2-09 G02 NO	10.02.02.04682
9	SCPSt 2-14 G02 NO	10.02.02.04680
A	SCPSt 2-07 G02 NC	10.02.02.04674
B	SCPSt 2-09 G02 NC	10.02.02.04683
C	SCPSt 2-14 G02 NC	10.02.02.04679

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

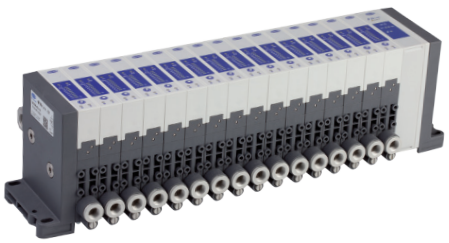
*Each digit represents an ejector position. Unoccupied positions are indicated by a 0

Collective pneumatic connection

Code	Type
P	With collective pneumatic connection
X	Without collective pneumatic connection

Example: P
Collective pneumatic connection for supplying all ejectors with one to three compressed air lines

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

Schmalz Compact Terminal SCTMi

Technical Data

Technical Data (Electronics) for Schmalz Compact Terminal SCTMi

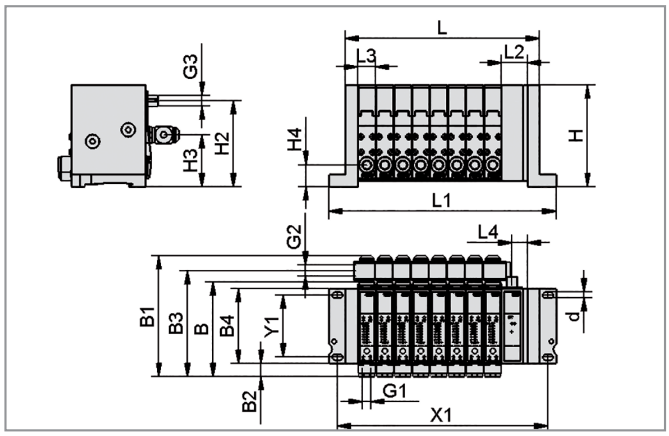
Type	Temperature [°C]	Pressure range (operating pressure) [bar]	Electrical connection	Communication
SCTMi-IOL	0 to 50	2 to 6	M12, 5-pin plug	IO-Link class B

Technical Data for Compact Ejectors SCPSt

Type	Nozzle size [mm]	Degree of evacuation [%]*	Max. suction rate [m³/h]*	Max. suction rate [l/min]*	Air consumption for pick up [m³/h]*	Air consumption for blow off [m³/h]*	Sound level* when open [dB(A)]**	Sound level* during gripping [dB(A)]**
SCPSt 07...	07	85	0.98	16.0	1.35	7.25	63	58
SCPSt 10...	10	85	2.21	36.0	2.85	7.25	73	60
SCPSt 15...	15	85	4.03	65.5	6.03	7.25	73	65
SCPSt 2-07...	2-07	85	2.28	37.0	1.35	7.25	63	58
SCPSt 2-09...	2-09	85	3.05	49.5	2.49	7.25	73	60
SCPSt 2-14...	2-14	85	4.40	71.5	5.04	7.25	75	65

*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 ...

Type*	Dimensions [mm]																				**
	L	L1	L2	L3	L4	B	B1	B2	B3	B4	H	H2	H3	H4	d	X1	Y1	G1***	G2***	G3***	m (g)
SCTMi-IOL(2)	89.2	123.2	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	108	64	G1/8"-F	G1/4"-F	M12x1-M	700
SCTMi-IOL(3)	107.7	141.7	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	125	64	G1/8"-F	G1/4"-F	M12x1-M	910
SCTMi-IOL(4)	126.2	160.2	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	143	64	G1/8"-F	G1/4"-F	M12x1-M	1120
SCTMi-IOL(5)	144.7	178.7	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	162	64	G1/8"-F	G1/4"-F	M12x1-M	1330
SCTMi-IOL(6)	163.2	197.2	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	180	64	G1/8"-F	G1/4"-F	M12x1-M	1540
SCTMi-IOL(7)	181.7	215.7	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	199	64	G1/8"-F	G1/4"-F	M12x1-M	1750
SCTMi-IOL(8)	200.2	234.2	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	217	64	G1/8"-F	G1/4"-F	M12x1-M	1960
SCTMi-IOL(9)	218.7	252.7	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	236	64	G1/8"-F	G1/4"-F	M12x1-M	2170
SCTMi-IOL(10)	237.2	271.2	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	254	64	G1/8" -F	G1/4"-F	M12x1-M	2380
SCTMi-IOL(11)	255.7	289.7	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	273	64	G1/8" -F	G1/4"-F	M12x1-M	2590
SCTMi-IOL(12)	274.2	308.2	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	291	64	G1/8"-F	G1/4"-F	M12x1-M	2800
SCTMi-IOL(13)	292.7	326.7	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	310	64	G1/8"-F	G1/4"-F	M12x1-M	3010
SCTMi-IOL(14)	311.2	345.2	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	328	64	G1/8" -F	G1/4"-F	M12x1-M	3220
SCTMi-IOL(15)	329.7	363.7	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	347	64	G1/8" -F	G1/4"-F	M12x1-M	3430
SCTMi-IOL(16)	348.2	382.2	27	18.5	16	97.5	125	13.5	109	77	105	89	54	22.5	5.5	365	64	G1/8" -F	G1/4"-F	M12x1-M	3640

*(2...16) Numbers corresponding to the number built ejectors
**With compressed air distributor
***F = female; M = male

Schmalz Compact Terminal SCTMi

Ideal for use in the Smart Production Lines of the Future

Highlights of the Schmalz Compact Terminal SCTMi

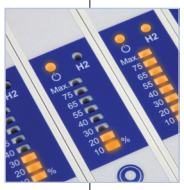
The Schmalz Compact Terminal SCTMi offers an enormous range of innovative energy-saving technologies and networking options for use in intelligent factories. This page introduces you to the most important features.

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 %

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

Eco nozzle technology

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

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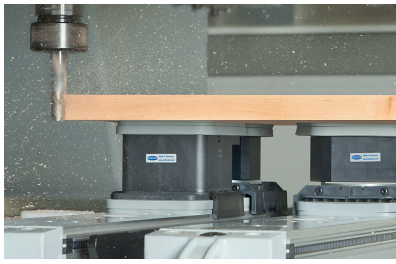

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