Vacuum generators

FESTO

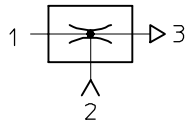
- High vacuum levels of up to 88%
- Easy connection of holders and suction cups
- Lightweight and compact design
- No wearing parts
- Long service life

Vacuum generators

Key features

Product overview

Vacuum generator



All Festo vacuum generators have a single-stage design and operate according to the venturi principle. The product families described below have been designed for a wide range of applications. The different performance classes of the individual product families make it possible to select vacuum generators tailored to suit specific requirements.

Standard and inline ejectors

VN-... ➔ 6 / 1.1-9

- Nominal size 0.45 ... 1.4 mm
- Max. vacuum 88%
- Temperature range 0 ... +60 °C
- A range of extremely effective generators suitable for use directly in the workplace
- Available as straight or T-shaped housing
- Low space requirement
- Low-cost
- No wearing parts required
- Extremely fast evacuation time

VAD-.../VAK-... ➔ 6 / 1.1-27

- Nominal size 0.5 ... 1.5 mm
- Max. vacuum 80%
- Temperature range –20 ...+80 °C
- Range of vacuum generators with sturdy aluminium casing
- VAK-...: Built-in reservoir
  VAD-...: Connection for additional external reservoir
- Maintenance-free
- VAK-...: Reliable setting down of workpieces

Vacuum generators

Key features

Compact ejectors

VADM-...VADMI-... ➔ 6 / 1.2-7

- Nominal size 0.45 ... 3 mm
- Max. vacuum 84%
- Temperature range 0 ... +60 °C
- Compact design
- Minimal installation work required
- Short response times
- Built-in solenoid valve (on/off)
- VADMI-...: Additional built-in solenoid valve for ejector pulse
- Filter with display
- Air-saving circuit (optional)
- Vacuum switch (optional)
- Reliable setting down of workpieces

VAD-M-.../VAD-M...-I-... ➔ 6 / 1.2-25

- Nominal size 0.7 ... 2 mm
- Max. vacuum 85%
- Temperature range 0 ... +40 °C
- Compact design
- Minimal installation work required
- Short response times
- Built-in solenoid valve (on/off)
- VAD-M-I-...: Additional built-in solenoid valve for ejector pulse
- Reliable setting down of workpieces

Vacuum generators VN

Features

At a glance

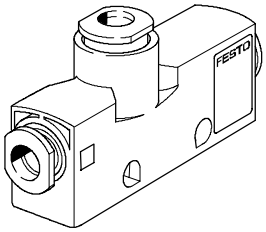
- Vacuum generators for high vacuum levels of up to 88%.
- Laval nozzles in four nominal sizes:
  - 0.45 mm
  - 0.7 mm
  - 0.95 mm
  - 1.4 mm
- Vacuum generators for high suction rates resulting in very short evacuation times
- Low space requirement
- Compact and sturdy design
- Wear-resistant and maintenance-free
- Modular system: Large selection of different types
- Can be used directly in the work-place, making them very effective
- Plastic housing
- Versatile connection options:
  - Push-in connector QS
  - Screw-in thread
  - Push-in sleeve
  - Screw-in silencer
- Easy mounting thanks to the double-sided latching function of the mounting plate

Two housing types

Standard T-type

Connection options:
- QS push-in connectors
- Female thread
- Male thread
- Silencers

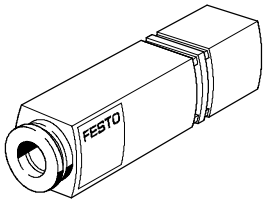
Mounting options:
- Direct mounting with screws
- Indirect mounting by latching onto a mounting plate. This plate is suitable for H-rails to DIN EN 50 022



In-line version

Connection options:
- QS push-in connectors
- Push-in sleeve

Mounting options:
Extremely compact housing with supply and vacuum port arranged in a line and with unducted exhaust air. As a result, this housing type can be installed directly into the tubing line.

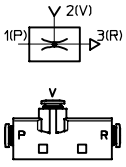


Two operating principles

Standard

- T-type housing

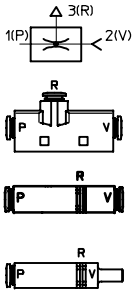
Design:
Supply port at 90° to vacuum port. The drawn-in flow is diverted 90° from V to R.



Inline

- T-type housing with exhaust port
- Straight housing without exhaust port for space-saving assembly in a tubing line or directly in the suction cup holder

Design:
Supply and vacuum ports arranged in-line.



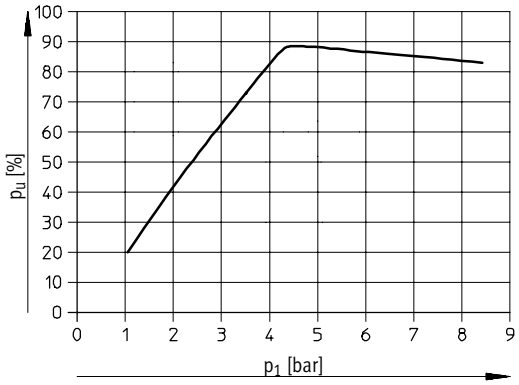
Vacuum generators VN

Features

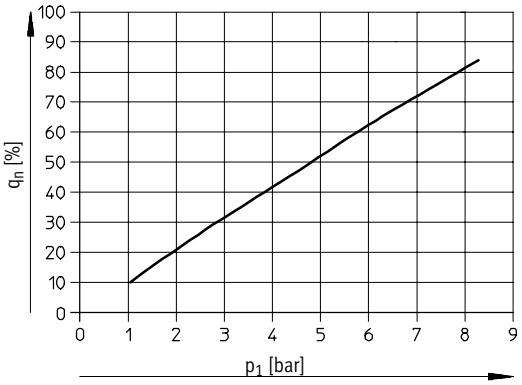
Two variants

High vacuum	High suction volume
up to 88%	up to 90 l/min which results in very short evacuation times

Vacuum p_u as a function of operating pressure p_1



Air consumption q_n as a function of operating pressure p_1

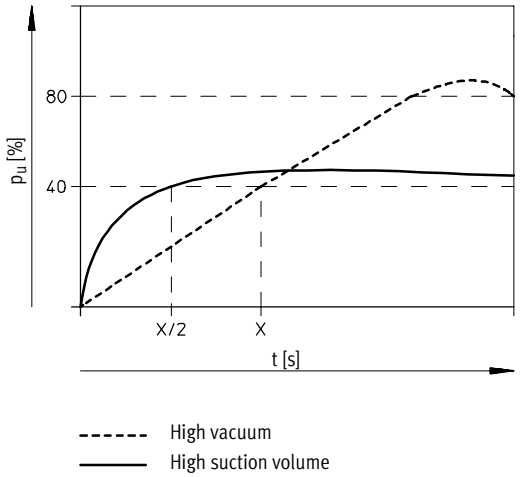


System comparison

High vacuum – high suction volume

The first type of generator has been optimised for the generation of high vacuum at comparatively lower suction flow rates.

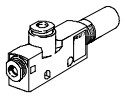
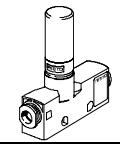
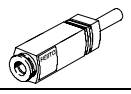
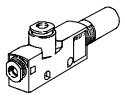
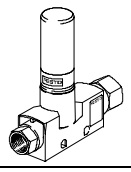
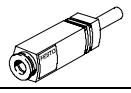
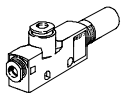
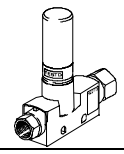
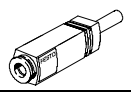
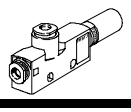
The second type of generator, on the other hand, can achieve very short evacuation times because of the high suction flow rate at relatively low vacuum.



Vacuum generators VN

Product range overview

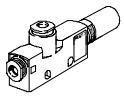
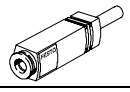
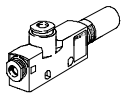
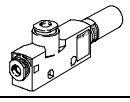
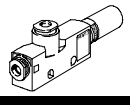
FESTO

Type	Design	Function principle	Housing width					Pneumatic connection		
			T-type			In-line		Push-in connector QS	Male thread VA	Female thread VI
			10 [mm]	14 [mm]	18 [mm]	10 [mm]	14 [mm]			
Laval nozzle Nominal size 0.5 mm	**High vacuum**									
		Standard	■	–	–	–	–	■	–	■
			–	■	–	–	–	■	■	■
		Inline	■	–	–	–	–	■	–	■
			–	■	–	–	–	■	–	■
			–	–	–	■	–	■	–	–
			–	–	–	–	■	■	–	–
	High suction rate									
		Standard	■	–	–	–	–	■	–	■
			–	■	–	–	–	■	■	■
		Inline	–	■	–	–	–	■	–	■
			–	–	–	–	■	■	–	–
Laval nozzle Nominal size 0.7 mm	**High vacuum**									
		Standard	■	–	–	–	–	■	–	■
			–	■	–	–	–	■	■	■
		Inline	■	–	–	–	–	■	–	■
			–	■	–	–	–	■	–	■
			–	–	–	■	–	■	–	–
			–	–	–	–	■	■	–	–
	High suction rate									
		Standard	–	■	–	–	–	■	■	■

Vacuum generators VN

Product range overview

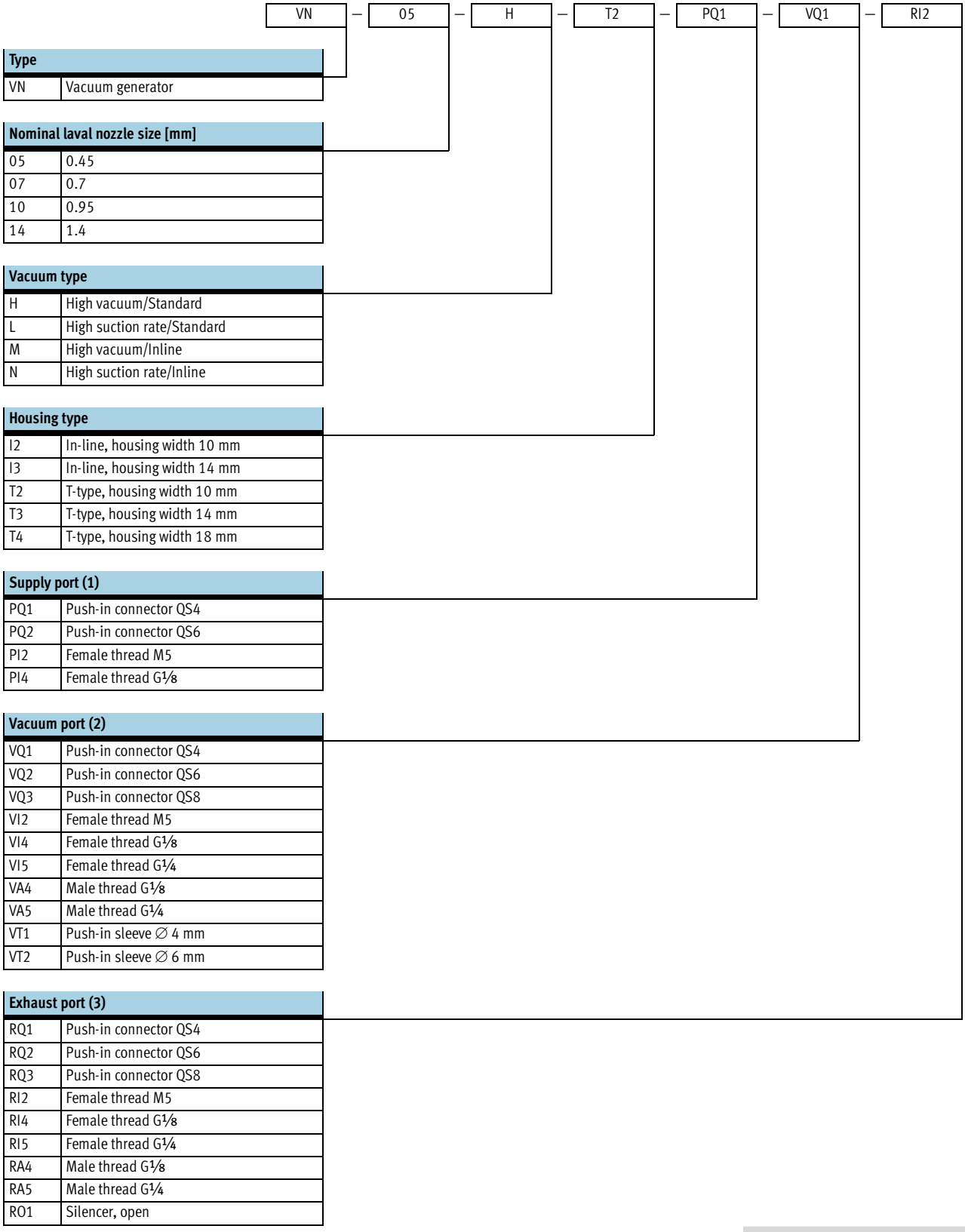
FESTO

Type	Design	Function principle	Housing width					Pneumatic connection		
			T-type			In-line		Push-in connector QS	Male thread VA	Female thread VI
			10 [mm]	14 [mm]	18 [mm]	10 [mm]	14 [mm]			
Laval nozzle Nominal size 1.0 mm	**High vacuum**									
		Standard	–	■	–	–	–	■	■	■
			–	–	■	–	–	■	■	–
		Inline	–	–	–	–	■	■	–	–
	High suction rate									
		Standard	–	■	–	–	–	■	■	■
			–	–	■	–	–	■	■	–
Laval nozzle Nominal size 1.4 mm	**High vacuum**									
		Standard	–	–	■	–	–	■	■	■
	High suction rate									
		Standard	–	–	■	–	–	■	■	■

Vacuum generators VN

Type codes

FESTO



Type	
VN	Vacuum generator

Nominal laval nozzle size [mm]	
05	0.45
07	0.7
10	0.95
14	1.4

Vacuum type	
H	High vacuum/Standard
L	High suction rate/Standard
M	High vacuum/Inline
N	High suction rate/Inline

Housing type	
I2	In-line, housing width 10 mm
I3	In-line, housing width 14 mm
T2	T-type, housing width 10 mm
T3	T-type, housing width 14 mm
T4	T-type, housing width 18 mm

Supply port (1)	
PQ1	Push-in connector QS4
PQ2	Push-in connector QS6
PI2	Female thread M5
PI4	Female thread G1⁄8

Vacuum port (2)	
VQ1	Push-in connector QS4
VQ2	Push-in connector QS6
VQ3	Push-in connector QS8
VI2	Female thread M5
VI4	Female thread G1⁄8
VI5	Female thread G1⁄4
VA4	Male thread G1⁄8
VA5	Male thread G1⁄4
VT1	Push-in sleeve ∅ 4 mm
VT2	Push-in sleeve ∅ 6 mm

Exhaust port (3)	
RQ1	Push-in connector QS4
RQ2	Push-in connector QS6
RQ3	Push-in connector QS8
RI2	Female thread M5
RI4	Female thread G1⁄8
RI5	Female thread G1⁄4
RA4	Male thread G1⁄8
RA5	Male thread G1⁄4
RO1	Silencer, open

- Note

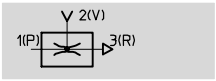
Possible combinations can be found in the ordering data.

Vacuum generators VN

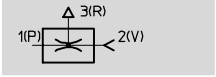
Technical data

Function

VN Standard



VN Inline



Temperature range
0 ... +60 °C

Operating pressure
1 ... 8 bar

General technical data – High vacuum							
Design		Standard (type H)				Inline (type M)	
Nominal size		05	07	10	14	05	07
Design		T-type				In-line	
Operating medium		Dry compressed air, filtered (40 µm), unlubricated					
Mounting position		Any					
Ejector features		High vacuum					
Type of mounting		Either: Via accessories, via through-hole					
Pneumatic connection		QS4					
Nominal size of laval nozzle	[mm]	0.45	0.7	0.95	1.4	0.45	0.7
Max. vacuum	[%]	88				86	
Operating pressure	[bar]	1 ... 8					
Weights	[g]	15.1	23.1	22.5	27.1	10.2	16.4

General technical data – High suction volume						
Design		Standard (type L)				Inline (type N)
Nominal size		05	07	10	14	05
Design		T-type				In-line
Operating medium		Dry compressed air, filtered (40 µm), unlubricated				
Mounting position		Any				
Ejector features		High suction rate				
Type of mounting		Either: Via accessories, via through-hole				
Pneumatic connection		QS6				
Nominal size of laval nozzle	[mm]	0.45	0.7	0.95	1.4	0.45
Max. vacuum	[%]	50				40
Operating pressure	[bar]	1 ... 8				
Weights	[g]	22	22.3	22.5	27.1	22

Ambient conditions		
Ambient temperature	[°C]	0 ... +60
Corrosion resistance	CRC[1)]	1
Note on material		Free of copper, PTFE and silicone

1) Corrosion resistance class 1 according to Festo standard 940 070
Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Vacuum generators VN

Technical data

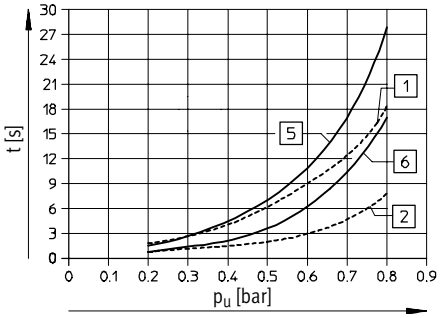
Performance data – High vacuum							
Design		Standard (type H)				Inline (type M)	
Nominal size		05	07	10	14	05	07
Vacuum p_u max.	[bar]	0.88	0.88	0.89	0.88	0.86	0.86
at operating pressure p_1	[bar]	4.5	4.7	4.5	5.0	6.0	5.8
Suction rate q_{nS} with respect to atmosphere max.	[l/min]	6.2	16	25	51.6	6.1	13.5
at operating pressure p_1	[bar]	2.1	2.1	3.1	5.1	6.3	7.0
Air supply time for 1 l volume at p_1 = 6 bar evacuated at max. vacuum	[s]	4.8	1.9	1.1	0.5 (0.6)[1)]	4.7	2.1

1) Value in brackets: Version with silencer

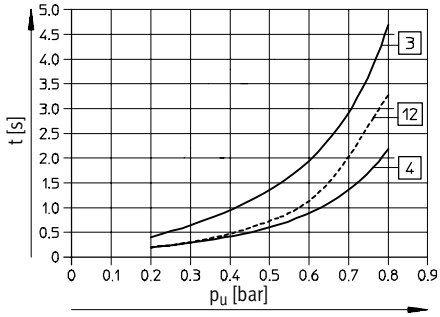
Performance data – High suction volume							
Design		Standard (type L)				Inline (type N)	
Nominal size		05	07	10	14	05	07
Max. suction rate q_{nS} with respect to atmosphere	[l/min]	15.3	38.8	52.0	88.4	12.0	–
at operating pressure p_1	[bar]	5.5	6.2	5.2	6.2	6.0	–
target vacuum p_u	[bar]	0.55	0.55	0.56	0.57	0.55	–
Air supply time for 1 l volume at p_1 = 6 bar evacuated at max. vacuum	[s]	1.7	0.5	0.46	0.25	1.57	–

Evacuation time t as a function of vacuum p_u for 1 l volume at 6 bar operating pressure

High vacuum

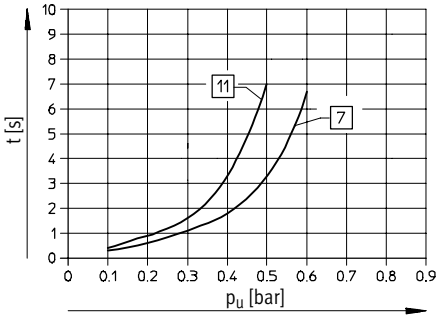


1 VN-05-H-...
2 VN-07-H-...
5 VN-05-M-...
6 VN-07-M-...

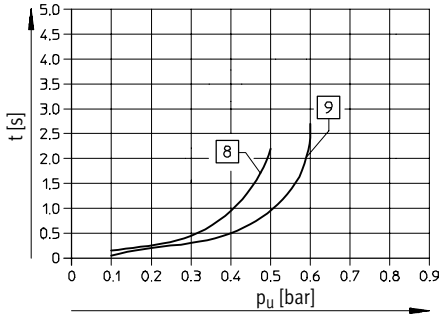


3 VN-10-H-...
4 VN-14-H-...
12 VN-14-H-...-RO1

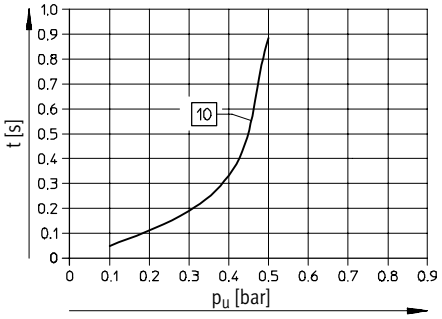
High suction volume



7 VN-05-L-...
11 VN-05-N-...



8 VN-07-L-...
9 VN-10-L-...



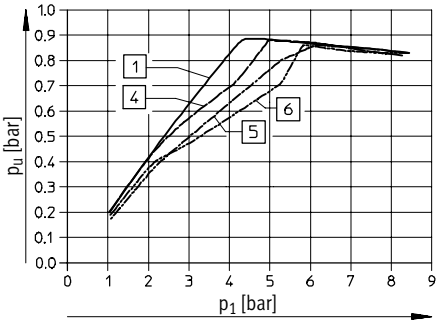
10 VN-14-L-...

Vacuum generators VN

Technical data

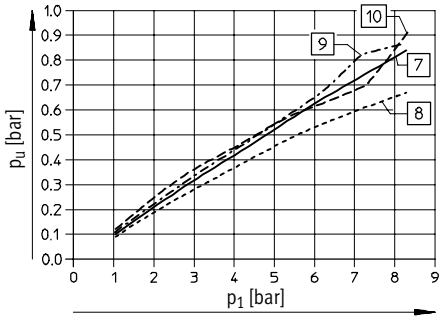
Vacuum p_u as a function of operating pressure p_1

High vacuum



1 VN-05-H-...
VN-07-H-...
VN-10-H-...
4 VN-14-H-...
5 VN-05-M-...
6 VN-07-M-...

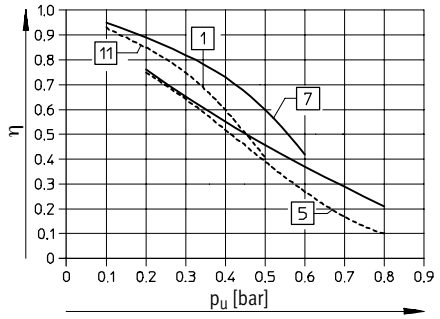
High suction volume



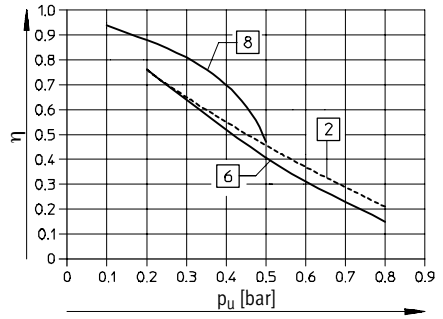
7 VN-05-L-...
8 VN-07-L-...
VN-05-N-...
9 VN-10-L-...
10 VN-14-L-...

Efficiency η as a function of vacuum p_u at 6 bar operating pressure

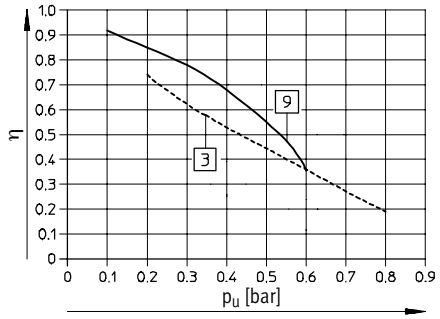
High volume/High suction volume



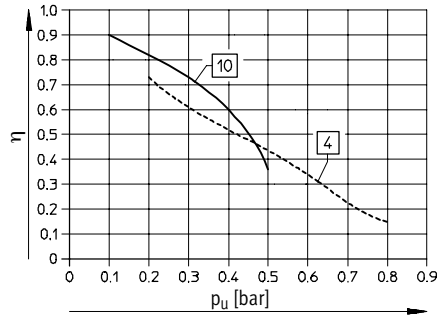
1 VN-05-H-...
5 VN-05-M-...
7 VN-05-L-...
11 VN-05-N-...



2 VN-07-H-...
6 VN-07-M-...
8 VN-07-L-...



3 VN-10-H-...
9 VN-10-L-...



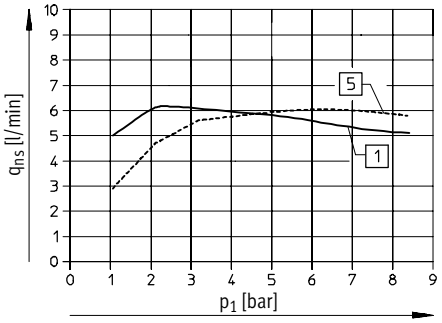
4 VN-14-H-...
10 VN-14-L-...

Vacuum generators VN

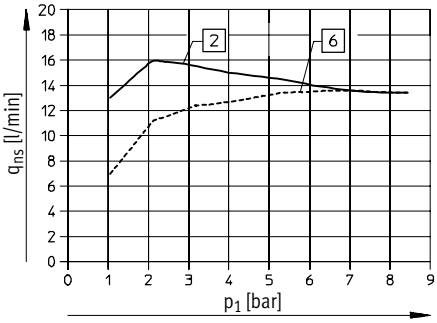
Technical data

Suction rate q_{ns} with respect to atmosphere as a function of operating pressure p_1

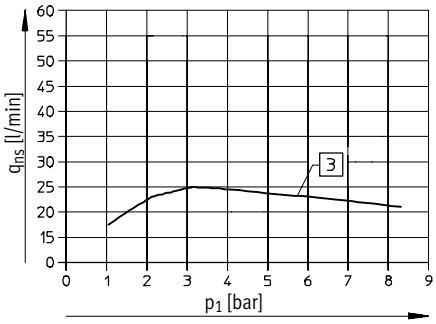
High vacuum



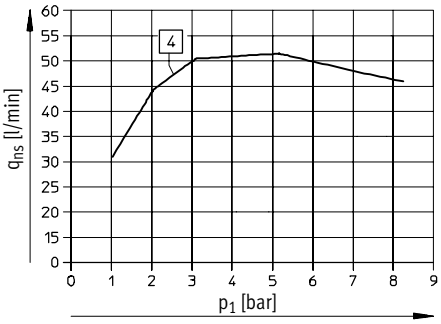
1 VN-05-H-...
5 VN-05-M-...



2 VN-07-H-...
6 VN-07-M-...

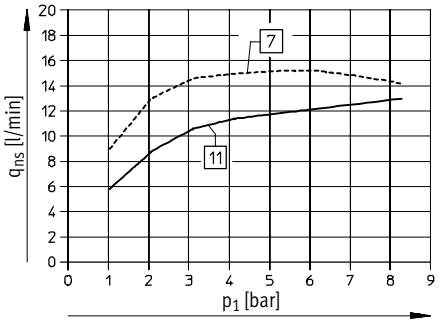


3 VN-10-H-...

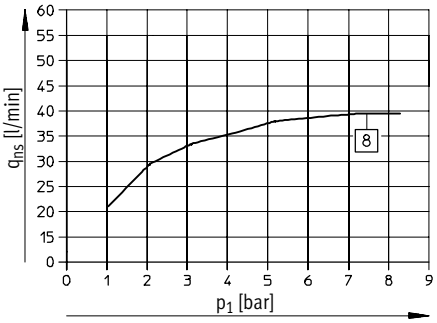


4 VN-14-H-...

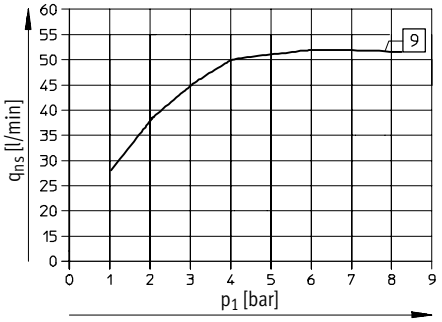
High suction volume



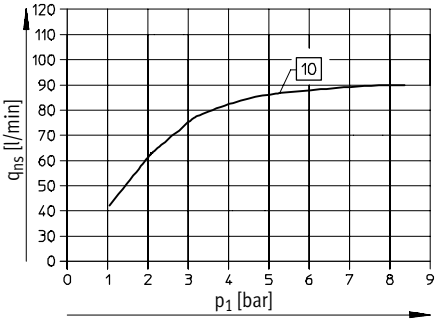
7 VN-05-L-...
11 VN-05-N-...



8 VN-07-L-...



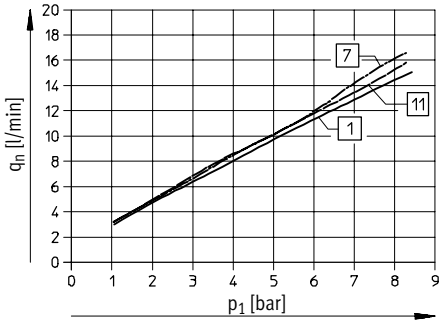
9 VN-10-L-...



10 VN-14-L-...

Air consumption q_n as a function of operating pressure p_1

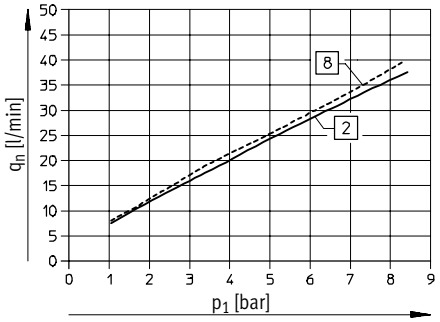
High vacuum/High suction volume



1 VN-05-H-...
VN-05-M-...

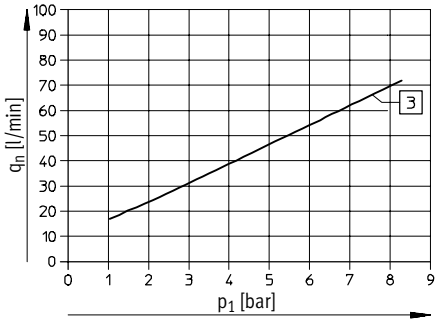
7 VN-05-L-...

11 VN-05-N-...

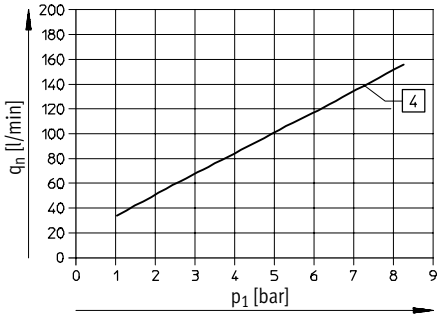


2 VN-07-H-...
VN-07-M-...

8 VN-07-L-...



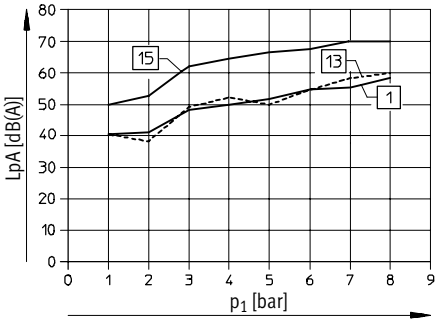
3 VN-10-H-..., VN-10-L-...



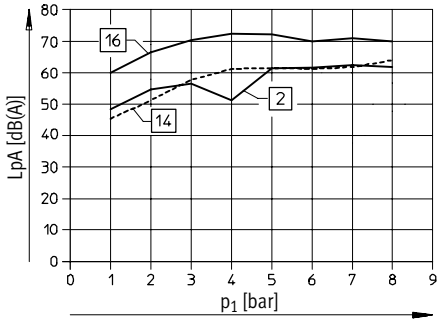
4 VN-14-H-..., VN-14-L-...

Noise level LpA as a function of operating pressure p_1

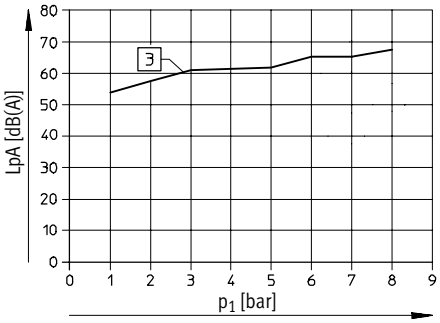
High vacuum



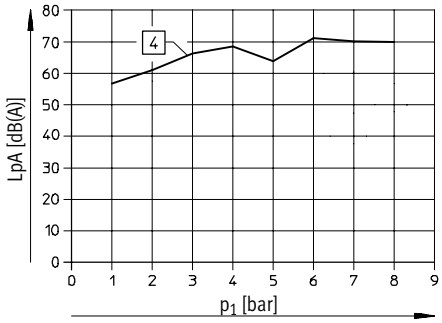
1 VN-05-H-...
15 VN-05-M-I3-...
13 VN-05-M-T3-...



2 VN-07-H-...
16 VN-07-M-I3-...
14 VN-07-M-T3-...



3 VN-10-H-...



4 VN-14-H-...

Vacuum generators VN

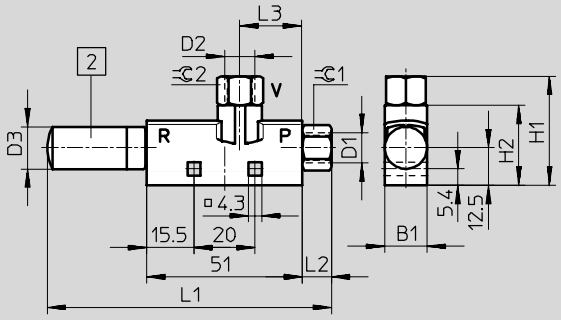
Technical data

FESTO

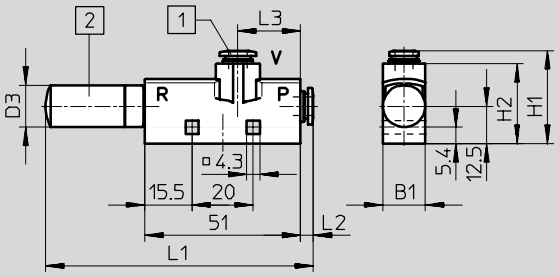
Dimensions

T-type / Standard

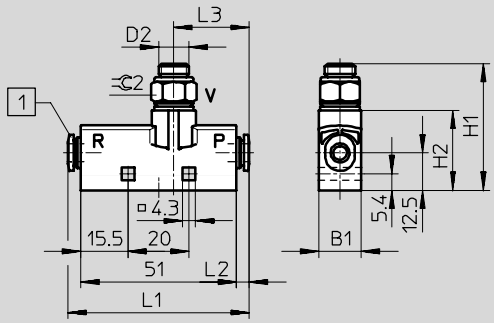
VN-...-H-T...-PI...-VI...-RO1



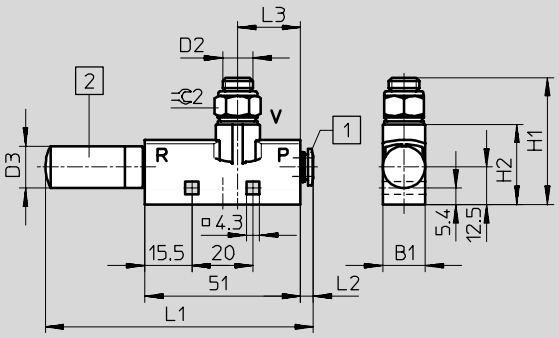
VN-...-H-T...-PQ...-VQ...-RO1



VN-...-T...-PQ...-VA...-RQ...

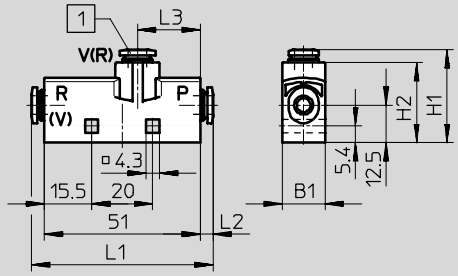


VN-...-H-T...-PQ...-VA...-RO1

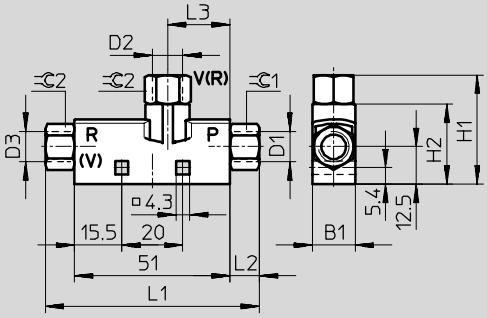


Standard/Inline

VN-...-...-T...-PQ...-VQ...-RQ...

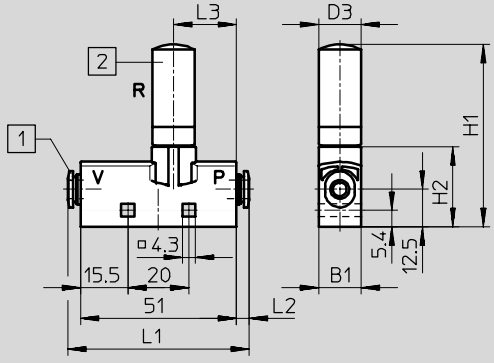


VN-...-...-T...-PI...-VI...-RI...

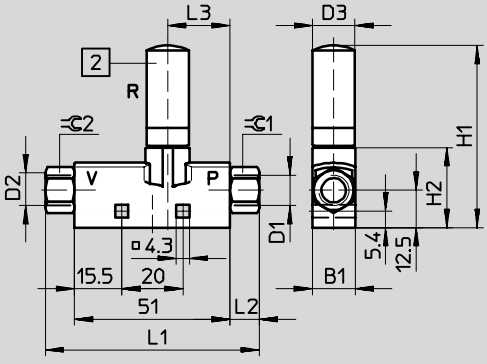


Inline

VN-...-M-T...-PQ...-VQ...-RO1



VN-...-M-T...-PI...-VI...-RO1



1 QS push-in connector
2 Silencer

Vacuum generators VN

Technical data

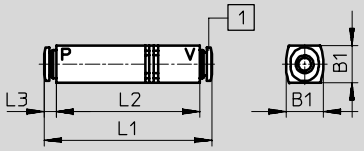
Type	B1	Ports P D1	Ports V D2	Ports R D3	H1	H2	L1	L2	L3	⫷ 1	⫷ 2
VN-...-T2-PQ1-VQ1-RQ1	10	QS4	QS4	QS4	31.3	27.7	58.2	3.6	24.3	–	–
VN-...-H(L)-T2-PQ1-VQ1-RO1				9.8[1]			86.8				
VN-...-M-T2-PQ2-VQ2-RO1					59.9		58.2				
VN-...-T2-PI2-VI2-RI2		M5	M5	M5	32.7		61	5		9	9
VN-...-H(L)-T2-PI2-VI2-RO1				9.8[1]			88.2				
VN-...-M(N)-T2-PI4-VI4-RO1					59.9		61				
VN-...-T3-PQ2-VQ2-RQ2	14	QS6	QS6	QS6	30.4	26.2	59.4	4.2	25.5	–	–
VN-...-H(L)-T3-PQ2-VQ2-RO1				13.8[1]			97.6				
VN-...-M(N)-T3-PQ2-VQ2-RO1					68.6		59.4				
VN-...-T3-PI4-VI4-RI4		G1/8	G1/8	G1/8	35.7		70	9.5		13	13
VN-...-H(L)-T3-PI4-VI4-RO1				13.8[1]			102.9				
VN-...-M(N)-T3-PI4-VI4-RO1					68.6		70				
VN-...-T3-PQ2-VA4-RQ2		QS6		QS6	41.5		59.4	4.2		–	
VN-...-T3-PQ2-VA4-RO1				13.8[1]			97.6				
VN-...-T4-PQ2-VQ3-RQ3	18	QS6	QS8	QS8	35.9	30.7	63.8	4.2	25.5	–	–
VN-...-T4-PQ2-VQ3-RO1				17.8[1]			112.4				
VN-...-T4-PI4-VI5-RI5		G1/8	G1/4	G1/4	48.15		81.4	9.5		13	17
VN-...-T4-PI4-VI5-RO1				17.8[1]			117.7				
VN-...-T4-PQ2-VA5-RQ3		QS6		QS8	50.5		63.8	4.2		–	
VN-...-T4-PQ2-VA5-RO1				17.8[1]			112.4				

1) ∅ Silencer

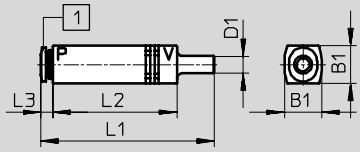
Dimensions

In-line, without exhaust port

VN-...-I2-PQ1-VQ1/VN-...-I3-PQ2-VQ2



VN-...-I2-PQ1-VT1/VN-...-I3-PQ2-VT2



1 QS push-in connector

Type	B1	Ports P	Ports V	D1 ∅	L1	L2	L3
VN-...-I2-PQ1-VQ1	10	QS4	QS4	–	57.4	50.2	3.6
VN-...-I3-PQ2-VQ2	13	QS6	QS6		58.6		4.2
VN-...-I2-PQ1-VT1	10	QS4	–	4	61.6	58	3.6
VN-...-I3-PQ2-VT2	13	QS6		6	60.2	56	4.2

Note

Accessories:

Mounting plate VN-...
suitable for top-hat rail
to DIN EN 50 022
➔ 6 / 4.1-17

Silencer UO
➔ 6 / 4.1-15

Vacuum generators VN

Technical data

FESTO

Ordering data				
High vacuum, standard				
	Pneumatic connection	Housing width [mm]	Part No.	Type
With push-in connector				
	QS4	10	526 100	VN-05-H-T2-PQ1-VQ1-RQ1
			526 101	VN-07-H-T2-PQ1-VQ1-RQ1
	QS6	14	193 478	VN-05-H-T3-PQ2-VQ2-RQ2
			193 479	VN-07-H-T3-PQ2-VQ2-RQ2
			193 480	VN-10-H-T3-PQ2-VQ2-RQ2
	QS6, QS8	18	526 147	VN-10-H-T4-PQ2-VQ3-RQ3
			193 482	VN-14-H-T4-PQ2-VQ3-RQ3
With push-in connector and silencer				
	QS4	10	193 569	VN-05-H-T2-PQ1-VQ1-RO1
			193 570	VN-07-H-T2-PQ1-VQ1-RO1
	QS6	14	193 488	VN-05-H-T3-PQ2-VQ2-RO1
			193 489	VN-07-H-T3-PQ2-VQ2-RO1
			193 490	VN-10-H-T3-PQ2-VQ2-RO1
	QS6, QS8	18	526 149	VN-10-H-T4-PQ2-VQ3-RO1
			193 492	VN-14-H-T4-PQ2-VQ3-RO1
With push-in connector, vacuum port with male thread				
	QS6, G1⁄8	14	193 516	VN-05-H-T3-PQ2-VA4-RQ2
			193 517	VN-07-H-T3-PQ2-VA4-RQ2
			193 518	VN-10-H-T3-PQ2-VA4-RQ2
	QS6, G1⁄4, QS8	18	526 153	VN-10-H-T4-PQ2-VA5-RQ3
			193 520	VN-14-H-T4-PQ2-VA5-RQ3
With push-in connector, vacuum port with male thread and silencer				
	QS6, G1⁄8	14	193 526	VN-05-H-T3-PQ2-VA4-RO1
			193 527	VN-07-H-T3-PQ2-VA4-RO1
			193 528	VN-10-H-T3-PQ2-VA4-RO1
	QS6, G1⁄4	18	526 155	VN-10-H-T4-PQ2-VA5-RO1
			193 530	VN-14-H-T4-PQ2-VA5-RO1
With female thread				
	M5	10	526 102	VN-05-H-T2-PI2-VI2-RI2
			526 103	VN-07-H-T2-PI2-VI2-RI2
	G1⁄8	14	193 498	VN-05-H-T3-PI4-VI4-RI4
			193 499	VN-07-H-T3-PI4-VI4-RI4
			193 500	VN-10-H-T3-PI4-VI4-RI4
	G1⁄8, G1⁄4	18	193 502	VN-14-H-T4-PI4-VI5-RI5
With female thread and silencer				
	M5	10	526 104	VN-05-H-T2-PI2-VI2-RO1
			526 105	VN-07-H-T2-PI2-VI2-RO1
	G1⁄8	14	193 507	VN-05-H-T3-PI4-VI4-RO1
			193 508	VN-07-H-T3-PI4-VI4-RO1
			193 509	VN-10-H-T3-PI4-VI4-RO1
	G1⁄8, G1⁄4	18	193 511	VN-14-H-T4-PI4-VI5-RO1

Core Range

Vacuum generators VN

Technical data

Ordering data				
High vacuum, inline				
	Pneumatic connection	Housing width [mm]	Part No.	Type
With push-in connector				
	QS4	10	**526 106**	**VN-05-M-T2-PQ1-VQ1-RQ1**
			526 107	**VN-07-M-T2-PQ1-VQ1-RQ1**
	QS6	14	**193 536**	**VN-05-M-T3-PQ2-VQ2-RQ2**
			193 537	**VN-07-M-T3-PQ2-VQ2-RQ2**
With push-in connector and silencer				
	QS4	10	**526 108**	**VN-05-M-T2-PQ1-VQ1-RO1**
			526 109	**VN-07-M-T2-PQ1-VQ1-RO1**
	QS6	14	**193 540**	**VN-05-M-T3-PQ2-VQ2-RO1**
			193 541	**VN-07-M-T3-PQ2-VQ2-RO1**
With female thread				
	M5	10	**526 110**	**VN-05-M-T2-PI2-VI2-RI2**
			526 111	**VN-07-M-T2-PI2-VI2-RI2**
	G⅛	14	**193 544**	**VN-05-M-T3-PI4-VI4-RI4**
			193 545	**VN-07-M-T3-PI4-VI4-RI4**
With female thread and silencer				
	M5	10	**526 112**	**VN-05-M-T2-PI2-VI2-RO1**
			526 113	**VN-07-M-T2-PI2-VI2-RO1**
	G⅛	14	**193 548**	**VN-05-M-T3-PI4-VI4-RO1**
			193 549	**VN-07-M-T3-PI4-VI4-RO1**

Ordering data				
High vacuum, in-line, without exhaust port				
	Pneumatic connection	Housing width [mm]	Part No.	Type
With push-in connector				
	QS4	10	**193 580**	**VN-05-M-I2-PQ1-VQ1**
			193 586	**VN-07-M-I2-PQ1-VQ1**
	QS6	14	**193 552**	**VN-05-M-I3-PQ2-VQ2**
			193 553	**VN-07-M-I3-PQ2-VQ2**
			193 554	**VN-10-M-I3-PQ2-VQ2**
With push-in connector and barbed connector				
	QS4	10	**193 587**	**VN-05-M-I2-PQ1-VT1**
			193 588	**VN-07-M-I2-PQ1-VT1**
	QS6	14	**193 555**	**VN-05-M-I3-PQ2-VT2**
			193 556	**VN-07-M-I3-PQ2-VT2**

Core Range

Vacuum generators VN

Technical data

FESTO

Ordering data

High suction rate, standard

	Pneumatic connection	Housing width [mm]	Part No.	Type
With push-in connector				
	QS4	10	**526 114**	**VN-05-L-T2-PQ1-VQ1-RQ1**
	QS6	14	**193 561**	**VN-05-L-T3-PQ2-VQ2-RQ2**
			193 562	**VN-07-L-T3-PQ2-VQ2-RQ2**
			193 563	**VN-10-L-T3-PQ2-VQ2-RQ2**
	QS6, QS8	18	**526 157**	**VN-10-L-T4-PQ2-VQ3-RQ3**
			193 565	**VN-14-L-T4-PQ2-VQ3-RQ3**
With push-in connector and silencer				
	QS4	10	**193 595**	**VN-05-L-T2-PQ1-VQ1-RO1**
	QS6	14	**193 571**	**VN-05-L-T3-PQ2-VQ2-RO1**
			193 572	**VN-07-L-T3-PQ2-VQ2-RO1**
			193 573	**VN-10-L-T3-PQ2-VQ2-RO1**
	QS6, QS8	18	**526 159**	**VN-10-L-T4-PQ2-VQ3-RO1**
With push-in connector, vacuum port with male thread				
	QS6, G1⁄8	14	**193 599**	**VN-05-L-T3-PQ2-VA4-RQ2**
			193 600	**VN-07-L-T3-PQ2-VA4-RQ2**
			193 601	**VN-10-L-T3-PQ2-VA4-RQ2**
	QS6, G1⁄4, QS8	18	**526 163**	**VN-10-L-T4-PQ2-VA5-RQ3**
			193 603	**VN-14-L-T4-PQ2-VA5-RQ3**
With push-in connector, vacuum port with male thread and silencer				
	QS6, G1⁄8	14	**193 609**	**VN-05-L-T3-PQ2-VA4-RO1**
			193 610	**VN-07-L-T3-PQ2-VA4-RO1**
			193 611	**VN-10-L-T3-PQ2-VA4-RO1**
	QS6, G1⁄4	18	**526 165**	**VN-10-L-T4-PQ2-VA5-RO1**
With female thread				
	M5	10	**526 116**	**VN-05-L-T2-PI2-VI2-RI2**
	G1⁄8	14	**193 581**	**VN-05-L-T3-PI4-VI4-RI4**
			193 582	**VN-07-L-T3-PI4-VI4-RI4**
			193 583	**VN-10-L-T3-PI4-VI4-RI4**
	G1⁄8, G1⁄4	18	**193 585**	**VN-14-L-T4-PI4-VI5-RI5**
With female thread and silencer				
	M5	10	**526 118**	**VN-05-L-T2-PI2-VI2-RO1**
	G1⁄8	14	**193 590**	**VN-05-L-T3-PI4-VI4-RO1**
			193 591	**VN-07-L-T3-PI4-VI4-RO1**
			193 592	**VN-10-L-T3-PI4-VI4-RO1**

Vacuum generators VN

Technical data

FESTO

Ordering data				
High suction rate, inline				
	Pneumatic connection	Housing width [mm]	Part No.	Type
With push-in connector				
	QS6	14	**193 619**	**VN-05-N-T3-PQ2-VQ2-RQ2**
With push-in connector and silencer				
	QS6	14	**193 623**	**VN-05-N-T3-PQ2-VQ2-RO1**
With female thread				
	G1⁄8	14	**193 627**	**VN-05-N-T3-PI4-VI4-RI4**
With female thread and silencer				
	G1⁄8	14	**193 631**	**VN-05-N-T3-PI4-VI4-RO1**

Ordering data				
High suction rate, in-line, without exhaust port				
	Pneumatic connection	Housing width [mm]	Part No.	Type
With push-in connector				
	QS6	14	**193 635**	**VN-05-N-I3-PQ2-VQ2**
With push-in connector and barbed connector				
	QS6	14	**193 637**	**VN-05-N-I3-PQ2-VT2**