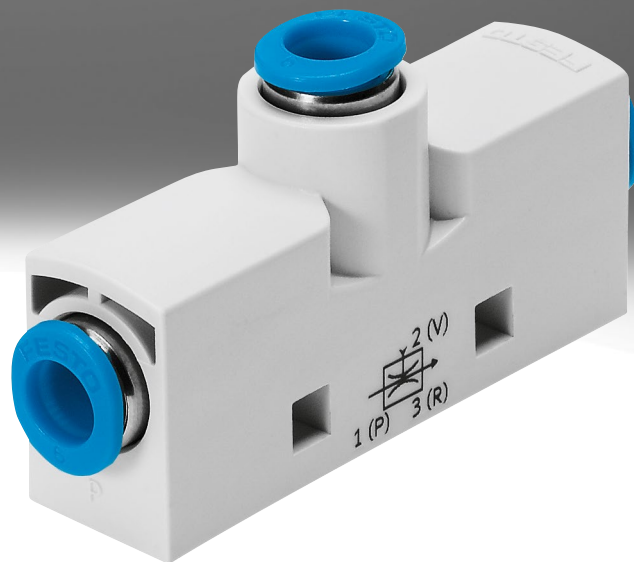


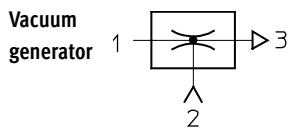
Vacuum generators VN

FESTO



Key features

Product overview



All vacuum generators from Festo have a single-stage design and operate according to the Venturi principle. The product series described below have been designed for a wide range of

applications. The different performance classes of the individual product series make it possible to select vacuum generators that are optimally

tailored to the specific requirements of each application.

Standard and inline ejectors

VN-...

→ Page 14



- Nominal width 0.45 ... 3 mm
- Max. vacuum 93%
- Temperature range 0 ... +60°C
- A range of extremely effective generators suitable for use directly in the working area
- Available in straight or T-shaped design
- Small footprint
- Cost effective
- No wearing parts
- Extremely fast evacuation time
- Optional vacuum switch
- Optional additional functions:
 - Integrated ejector pulse
 - Electrical control for vacuum ON/OFF
 - Combination of ejector pulse and actuation

VAD-.../VAK-...

Datasheets → Internet: vad



- Nominal width 0.5 ... 1.5 mm
- Max. vacuum 80%
- Temperature range -20 ... +80°C
- Range of vacuum generators with sturdy aluminium housing
- VAK-...: integrated volume, VAD-...: connection for external volume
- Maintenance-free
- VAK-...: reliable setting down of workpieces

Key features

Compact ejectors

VADM-.../VADMI-...

Datasheets → Internet: vadm



- Nominal width
0.45 ... 3 mm
- Max. vacuum
84%
- Temperature range
0 ... +60°C
- Compact design
- Minimal installation effort
- Short switching times
- Built-in solenoid valve
(on/off)
- VADMI-...: additional integrated solenoid valve for ejector pulse
- Filter with display
- Optional air-saving function
- Optional vacuum switch
- Reliable setting down of workpieces

VAD-M-.../VAD-M-I-...

Datasheets → Internet: vad-m



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

Key features

At a glance

- Vacuum generators for high vacuum up to 93%
- Laval nozzles in six nominal widths:
 - 0.45 mm
 - 0.70 mm
 - 0.95 mm
 - 1.4 mm
 - 2.0 mm
 - 3.0 mm
- Vacuum generators for high suction rates and thus particularly short evacuation times
- Small footprint
- Compact and sturdy design
- Wear- and maintenance-free
- Modular principle: large selection of different types
- Can be used directly in the work space, making them very effective
- Plastic housing
- Flexible connection options:
 - Push-in connector QS
 - Screw-in thread
 - Push-in sleeve
 - Screw-in silencer
- Easy to mount thanks to the double-sided latching function of the mounting plate
- With or without integrated vacuum switch for monitoring the vacuum with PNP output

Two housing types

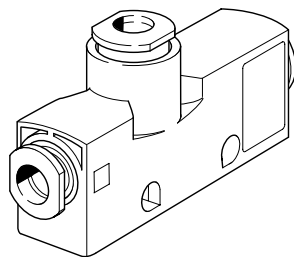
T-shape

Connection options:

- Push-in connectors QS
- Female thread
- Male thread
- Silencer

Mounting options:

- Direct mounting using screws
- Indirect mounting by snapping it onto a mounting plate. This plate is suitable for H-rail 35x7.5 to DIN EN 50022.



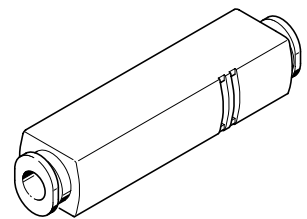
Straight shape

Connection options:

- Push-in connectors QS
- Push-in sleeve

Mounting options:

Particularly compact housing with compressed air and vacuum connection in one line and unducted exhaust air. This means this design can be installed directly in the tubing line.



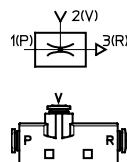
Two operating principles

Standard

- T-shaped housing

Design:

Compressed air and vacuum connection offset by 90°. The extracted volumetric flow rate is deflected by 90° from front to back.

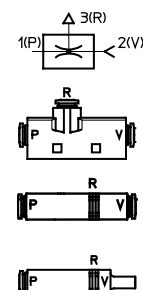


Inline

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

Design:

Compressed air and vacuum connection arranged in one line.



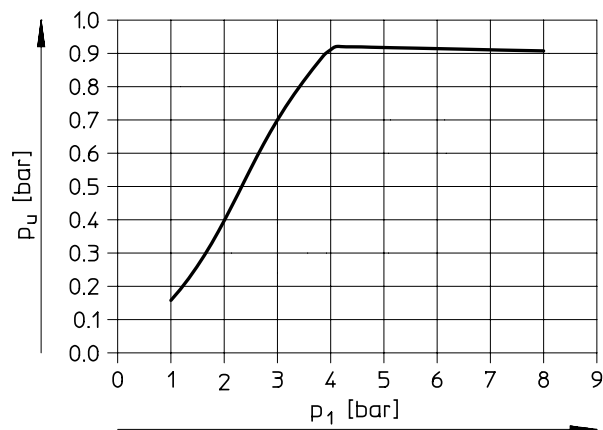
Key features

Two versions

High vacuum

up to 93%

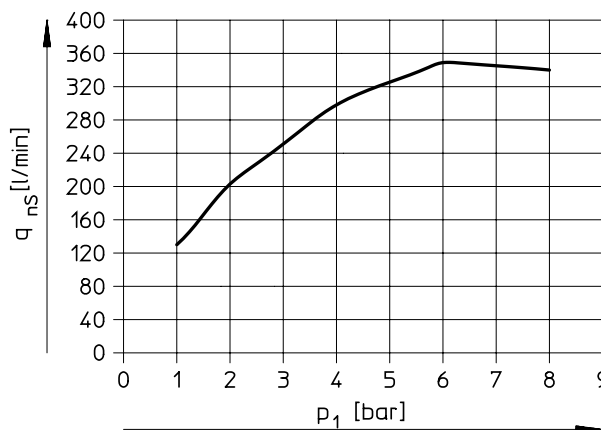
Vacuum p_u as a function of operating pressure p_1



High suction rate

up to 339 l/min, enabling particularly short evacuation times.

Suction rate q_{ns} as a function of operating pressure p_1

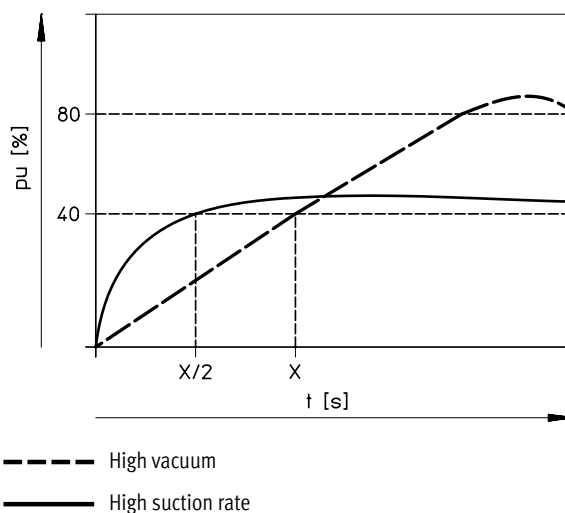


System comparison

High vacuum – high suction rate

Generators of the first type are optimised for generating a high vacuum at comparatively low suction rates.

In contrast, the second type of generator can achieve very short evacuation times because of the high suction rate at relatively low vacuum.



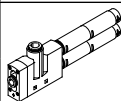
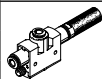
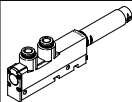
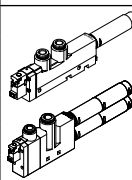
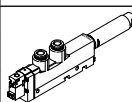
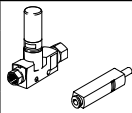
Custom material properties

[F1A] Recommended for production facilities for manufacturing lithium-ion batteries

Metals with copper, zinc or nickel as the main constituent are excluded from use.

Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils.

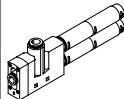
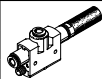
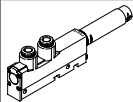
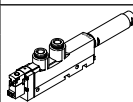
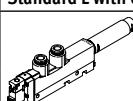
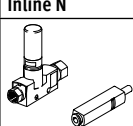
Product range overview

Function	Version	Type	Nominal width of Laval nozzle	Grid dimension									Pneumatic connection 1								
				T-shape					Straight shape			Push-in fitting PQ	Female thread PI								
				10	14	16	18	24	10	13	14.5										
			[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]										
High vacuum	Standard H																				
		VN-05-H	0.45	■	–	–	–	–	–	–	–	–	■	■							
		VN-07-H	0.7	■	–	–	–	–	–	–	–	–	■	■							
			–	■	–	–	–	–	–	–	–	–	■	■							
		VN-10-H	0.95	–	■	–	–	■	–	–	–	–	■	■							
	–	–	–	–	–	–	–	–	–	–	–	–	–								
	VN-14-H	1.4	–	–	–	■	–	–	–	–	–	■	■								
		VN-20-H	2.0	–	–	–	–	■	–	–	–	–	■	■							
		VN-30-H	3.0	–	–	–	–	■	–	–	–	–	■	■							
	Standard H with integrated vacuum switch																				
		VN-05-H-...-P	0.45	–	–	■	–	–	–	–	–	–	■	–							
		VN-07-H-...-P	0.7																		
		VN-10-H-...-P	0.95																		
	Standard H with pneumatic ejector pulse																				
		VN-05-H-...-A	0.45	–	■	–	–	–	–	–	–	–	■	■							
		VN-07-H-...-A	0.7																		
		VN-10-H-...-A	0.95																		
		VN-14-H-...-A	1.4																		
	Standard H with electric on/off valve																				
		VN-05-H-...-M	0.45	–	■	–	–	–	–	–	–	–	■	–							
		VN-07-H-...-M	0.7																		
		VN-10-H-...-M	0.95																		
		VN-14-H-...-M	1.4																		
		VN-20-H-...-M	2.0																		
		VN-30-H-...-M	3.0																		
	Standard H with electric on/off valve and pneumatic ejector pulse																				
	VN-05-H-...-B	0.45	–	■	–	–	–	–	–	–	–	■	–								
	VN-07-H-...-B	0.7																			
	VN-10-H-...-B	0.95																			
	VN-14-H-...-B	1.4																			
Inline M																					
	VN-05-M	0.45	■	–	–	–	–	–	–	–	–	■	■								
			–	■																	
			–	–										–	–	–	■	–	–	■	–
			–	–										–	–	–	–	■	–	–	■
	VN-07-M	0.7	■	–	–	–	–	–	–	–	–	■	■								
			–	■																	
VN-10-M	0.95	–	–	–	–	–	–	–	–	–	–	■	–								
		–	–	–	–	–	–	–	–	–	–	■	–								
Inline M with ejector pulse, pneumatic																					
	VN-05-M-...-A	0.45	–	–	–	–	–	–	–	■	■	–									
	VN-07-M-...-A	0.7																			

Product range overview

Type	Vacuum connection				Pneumatic connection 3			Switching function		→ Page/ Internet
	Push-in fitting VQ	Female thread VI	Male thread VA	Push-in sleeve VT	Push-in fitting RQ	Female thread RI	Silencer RO	Fixed hysteresis O1	Variable hysteresis O2	
Standard H										
VN-05-H	■	■	– ■	–	■	■	■	–	–	11
VN-07-H	■	■	– ■	–	■	■	■	–	–	
VN-10-H	■	■ –	■	–	■	■ –	■	–	–	
VN-14-H	■	■	■	–	■	■	■	–	–	
VN-20-H	■	■	■	–	–	–	■	–	–	
VN-30-H	■	■	■	–	–	–	■	–	–	
Standard H with integrated vacuum switch										
VN-05-H-...-P	■	–	–	–	–	–	–	■	■	29
VN-07-H-...-P										
VN-10-H-...-P										
Standard H with pneumatic ejector pulse										
VN-05-H-...-A	■	■	–	–	–	–	■	–	–	35
VN-07-H-...-A										
VN-10-H-...-A										
VN-14-H-...-A										
Standard H with electric on/off valve										
VN-05-H-...-M	■	–	–	–	–	–	■	–	–	35
VN-07-H-...-M										
VN-10-H-...-M										
VN-14-H-...-M										
VN-20-H-...-M										
VN-30-H-...-M										
Standard H with electric on/off valve and pneumatic ejector pulse										
VN-05-H-...-B	■	–	–	–	–	–	■	–	–	35
VN-07-H-...-B										
VN-10-H-...-B										
VN-14-H-...-B										
Inline M										
VN-05-M	■	■	–	–	■	■	■	–	–	11
	■	–	–	■	–	–	–	–	–	
VN-07-M	■	■	–	–	■	■	■	–	–	
	■	–	–	■	–	–	–	–	–	
VN-10-M	■	–	–	–	–	–	–	–	–	
	■	–	–	–	–	–	–	–	–	
Inline M with ejector pulse, pneumatic										
VN-05-M-...-A	■	–	–	–	–	–	–	–	–	35
VN-07-M-...-A										

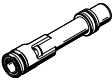
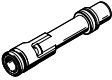
Product range overview

Function	Version	Type	Nominal width of Laval nozzle	Grid dimension							Pneumatic connection 1		
				T-shape					Straight shape			Push-in fitting PQ	Female thread PI
				10	14	16	18	24	10	13	14.5		
			[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]			
High suction rate	Standard L												
		VN-05-L	0.45	■	—	—	—	—	—	—	—	■	■
				—	■								
		VN-07-L	0.7	—	■	—	—	—	—	—	—	■	■
		VN-10-L	0.95	—	■	—	—	—	—	—	—	■	■
				—		■						—	
	VN-14-L	1.4	—	—	—	■	—	—	—	—	■	■	
		VN-20-L	2.0	—	—	—	—	■	—	—	—	■	■
		VN-30-L	3.0	—	—	—	—	■	—	—	—	■	■
	Standard L with integrated vacuum switch												
		VN-05-L-...-P	0.45	—	—	■	—	—	—	—	—	■	—
		VN-07-L-...-P	0.7										
		VN-10-L-...-P	0.95										
	Standard L with pneumatic ejector pulse												
		VN-05-L-...-A	0.45	—	■	—	—	—	—	—	—	■	■
		VN-07-L-...-A	0.7										
		VN-10-L-...-A	0.95										
		VN-14-L-...-A	1.4										
	Standard L with electric on/off valve												
		VN-05-L-...-M	0.45	—	■	—	—	—	—	—	—	■	—
		VN-07-L-...-M	0.7										
		VN-10-L-...-M	0.95										
		VN-14-L-...-M	1.4										
	Standard L with electric on/off valve and pneumatic ejector pulse												
		VN-05-L-...-B	0.45	—	■	—	—	—	—	—	—	■	—
		VN-07-L-...-B	0.7										
		VN-10-L-...-B	0.95										
		VN-14-L-...-B	1.4										
Inline N													
	VN-05-N	0.45	—	■	—	—	—	—	—	—	■	■	
			—	—	—	—	—	—	■	—	■	—	
Inline N with ejector pulse, pneumatic													
	VN-05-N-...-A	0.45	—	—	—	—	—	—	—	■	■	—	
	VN-07-N-...-A	0.7											

Product range overview

Type	Vacuum connection				Pneumatic connection 3			Switching function		→ Page/ Internet
	Push-in fitting VQ	Female thread VI	Male thread VA	Push-in sleeve VT	Push-in fitting RQ	Female thread RI	Silencer RO	Fixed hysteresis O1	Variable hysteresis O2	
Standard L										
VN-05-L	■	■	– ■	–	■	■	■	–	–	11
VN-07-L	■	■	■	–	■	■	■	–	–	
VN-10-L	■	■ –	■	–	■	■ –	■	–	–	
VN-14-L	■	■	■	–	■	■	–	–	–	
VN-20-L	■	■	■	–	–	–	■	–	–	
VN-30-L	–	■	■	–	–	–	■	–	–	
Standard L with integrated vacuum switch										
VN-05-L-...-P	■	–	–	–	–	–	–	■	■	29
VN-07-L-...-P										
VN-10-L-...-P										
Standard L with pneumatic ejector pulse										
VN-05-L-...-A	■	■	–	–	–	–	■	–	–	35
VN-07-L-...-A										
VN-10-L-...-A										
VN-14-L-...-A										
Standard L with electric on/off valve										
VN-05-L-...-M	■	–	–	–	–	–	■	–	–	35
VN-07-L-...-M										
VN-10-L-...-M										
VN-14-L-...-M										
Standard L with electric on/off valve and pneumatic ejector pulse										
VN-05-L-...-B	■	–	–	–	–	–	■	–	–	35
VN-07-L-...-B										
VN-10-L-...-B										
VN-14-L-...-B										
Inline N										
VN-05-N	■	■	–	–	■	■	■	–	–	11
	■	–	–	■	–	–	–	–	–	
Inline N with ejector pulse, pneumatic										
VN-05-N-...-A	■	–	–	–	–	–	–	–	–	35
VN-07-N-...-A										

Product range overview

Function	Version	Type	Nominal width of Laval nozzle [mm]	→ Page/ Internet
High vacuum	Vacuum generator cartridge, standard H			45
		VN-05-H	0.45	
		VN-07-H	0.7	
		VN-10-H	0.95	
		VN-14-H	1.4	
		VN-20-H	2.0	
High suction rate	Vacuum generator cartridge, standard L			45
		VN-05-L	0.45	
		VN-07-L	0.7	
		VN-10-L	0.95	
		VN-14-L	1.4	
		VN-20-L	2.0	

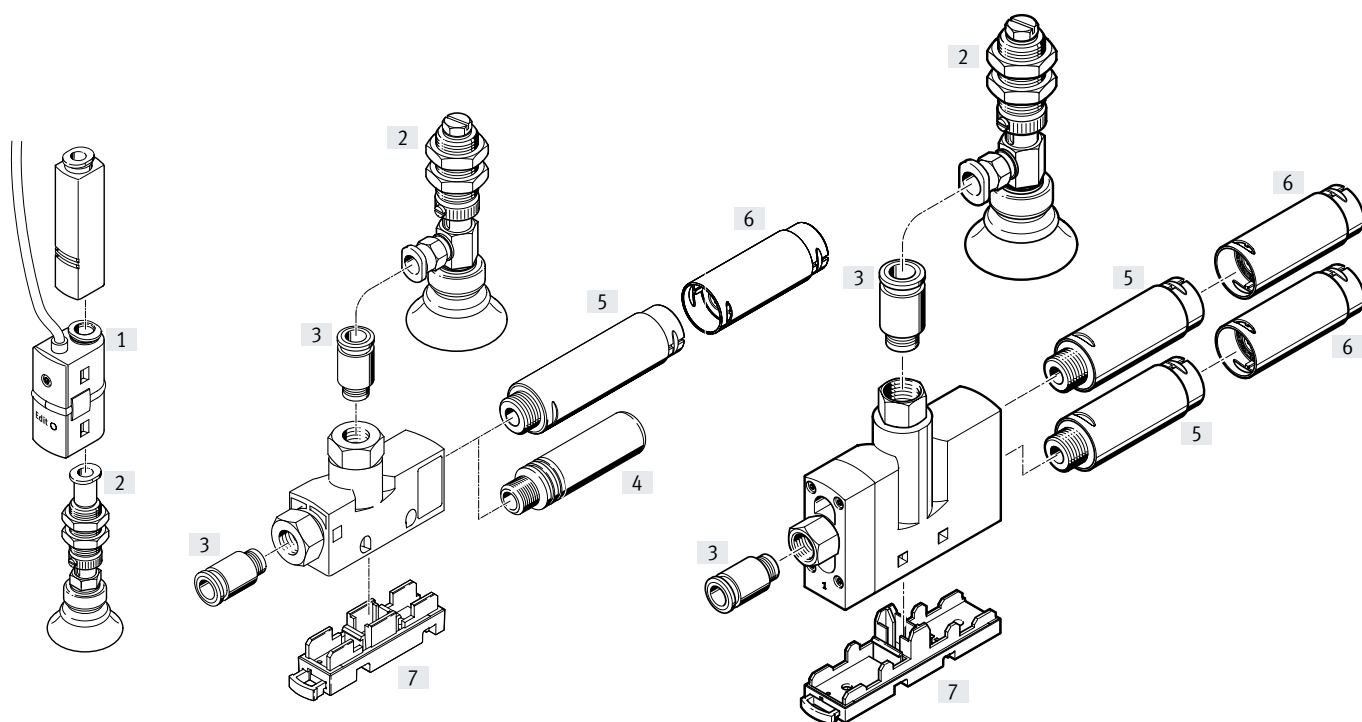
Peripherals overview

VN-05/07/10/14

VN-20/30

Straight shape

T-shape



Mounting attachments and accessories

Mounting attachments and accessories		VN-05/07/10/14					VN-20/30	→ Page/ Internet
		Straight shape		T-shape			T-shape	
		10 mm	13 mm	10 mm	14 mm	18 mm	24 mm	
[1]	Pressure switch SDE5	■		■			■	sde5
[2]	Suction gripper ESG	■		■			■	esg
[3]	Push-in fitting QS	–		■			■	qs
[4]	Silencer UO	–		■	■	■	–	49
	Silencer AMTE	–		■	■	■	–	49
[5]	Silencer UOM	–		–	–	■	■	49
[6]	Silencer extension UOMS	–		–	–	■	■	49
[7]	Mounting plate VN-...-BP-NRH	–		■			■	48
–	Suction cup holder ESH	■		■			■	esh
–	Suction cup ESS	■		■			■	ess

Type codes

VN, pneumatic

001	Series	
VN	Vacuum generator	
002	Nominal width of Laval nozzle	
05	0.45 mm	
07	0.70 mm	
10	0.95 mm	
14	1.4 mm	
20	2.0 mm	
30	3.0 mm	
003	Ejector characteristics	
H	High vacuum/standard	
L	High suction rate/standard	
M	High vacuum/inline	
N	High suction rate/inline	
004	Housing type	
I2	Straight shape, pitch 10 mm	
I3	Straight shape, pitch 13 mm	
T2	T-shape, pitch 10 mm	
T3	T-shape, pitch 14 mm	
T4	T-shape, pitch 18 mm	
T6	T-shape, pitch 24 mm	
005	Compressed air connection	
PQ1	Push-in connector 4 mm	
PQ2	Push-in connector 6 mm	
PQ3	Push-in connector 8 mm	
PQ4	Push-in connector 10 mm	
PI2	Female thread M5	
PI4	Female thread G1/8	
PI5	Female thread G1/4	

006	Vacuum connection	
VQ1	Push-in fitting QS-4	
VQ2	Push-in fitting QS-6	
VQ3	Push-in fitting QS-8	
VQ5	Push-in fitting QS-12	
VI2	Female thread M5	
VI4	Female thread G1/8	
VI5	Female thread G1/4	
VI6	Female thread G3/8	
VA4	Male thread G1/8	
VA5	Male thread G1/4	
VT1	Push-in sleeve 4 mm	
VT2	Push-in sleeve 6 mm	

007	Switching function	
01	Threshold value with fixed hysteresis, 2 teach-in points, N/O contact	
02	Threshold value with variable hysteresis, N/O contact	

008	Electrical output	
	None	
P	Switching output PNP	

009	Exhaust port	
RQ1	Push-in fitting QS-4	
RQ2	Push-in fitting QS-6	
RQ3	Push-in fitting QS-8	
RI2	Female thread M5	
RI4	Female thread G1/8	
RI5	Female thread G1/4	
RO1	Silencer UO	
RO2	Silencer UOM	

010	Integrated function	
	None	
A	Ejector pulse, pneumatic	

011	Special material properties	
F1A	Recommended for production facilities for the manufacture of lithium-ion batteries	

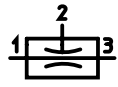
Type codes

VN, electropneumatic

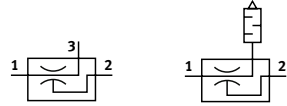
001	Series		005	Compressed air connection	
VN	Vacuum generator		PQ2	Push-in connector 6 mm	
			PQ3	Push-in connector 8 mm	
			PQ4	Push-in connector 10 mm	
002	Nominal width of Laval nozzle				
05	0.45 mm		006	Vacuum connection	
07	0.70 mm		VQ2	Push-in fitting QS-6	
10	0.95 mm		VQ3	Push-in fitting QS-8	
14	1.4 mm		VQ5	Push-in fitting QS-12	
20	2.0 mm				
30	3.0 mm		007	Exhaust port	
			R01	Silencer UO	
003	Ejector characteristics		R02	Silencer UOM	
H	High vacuum/standard				
L	High suction rate/standard		008	Integrated function	
			B	Electric on/off valve and pneumatic ejector pulse	
004	Housing type		M	Electric on/off valve	
T3	T-shape, pitch 14 mm				
T4	T-shape, pitch 18 mm				
T6	T-shape, pitch 24 mm				

Datasheet

Function
standard

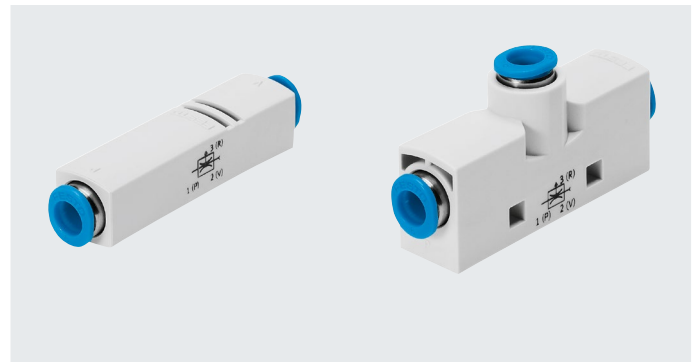


Inline



Temperature range
0 ... +60°C

Operating pressure
1 ... 8 bar



General technical data – Standard

Design		T-shape								
Type		VN-05		VN-07		VN-10		VN-14	VN-20	VN-30
Grid dimension [mm]		10	14	10	14	14	18	18	24	24
Nominal width of Laval nozzle [mm]		0.45		0.7		0.95		1.4	2.0	3.0
Ejector characteristic		High vacuum H								
		High suction rate L		–	High suction rate L					
Pneumatic connection 1	Push-in fitting	QS-4	QS-6	QS-4	QS-6	QS-6	QS-6	QS-6	QS-10	QS-10
	Female thread	M5	G1/8	M5	G1/8	G1/8	–	G1/8	G1/4	G1/4
Vacuum connection	Push-in fitting	QS-4	QS-6	QS-4	QS-6	QS-6	QS-8	QS-8	QS-12	QS-12
	Male thread	–	G1/8	–	G1/8	G1/8	G1/4	G1/4	G1/4	G1/4
	Female thread	M5	G1/8	M5	G1/8	G1/8	–	G1/4	G3/8	G3/8
Pneumatic connection 3	Push-in fitting	QS-4	QS-6	QS-4	QS-6	QS-6	QS-8	QS-8	–	–
	Female thread	M5	G1/8	M5	G1/8	G1/8	–	G1/4	–	–
	Silencer	Open	Open	Open	Open	Open	Open	Open	Open	Open
Type of mounting (max. tightening torque)		With through-hole (0.5 Nm)							With through-hole (0.8 Nm)	
		With accessories								
Mounting position		Any								

General technical data – Inline

Design		T-shape				Straight shape				
Type		VN-05		VN-07		VN-05		VN-07		VN-10
Grid dimension [mm]		10	14	10	14	10	13	10	13	13
Nominal width of Laval nozzle [mm]		0.45		0.7		0.45		0.7		0.95
Ejector characteristic		High vacuum M								
		–	High suction rate N	–		–	High suction rate N	–		–
Pneumatic connection 1	Push-in fitting	QS-4	QS-6	QS-4	QS-6	QS-4	QS-6	QS-4	QS-6	QS-6
	Female thread	M5	G1/8	M5	G1/8	–				
Vacuum connection	Push-in fitting	QS-4	QS-6	QS-4	QS-6	QS-4	QS-6	QS-4	QS-6	QS-6
	Female thread	M5	G1/8	M5	G1/8	–				
	Push-in sleeve	–				QS-4	QS-6	QS-4	QS-6	–
Pneumatic connection 3	Push-in fitting	QS-4	QS-6	QS-4	QS-6	Not ducted				
	Female thread	M5	G1/8	M5	G1/8					
	Silencer	Open	Open	Open	Open					
Type of mounting (max. tightening torque)		With through-hole (0.5 Nm)				In-line installation				
		With accessories								
Mounting position		Any								

Note: This product conforms to ISO 1179-1 and ISO 228-1.

Datasheet

Operating and environmental conditions		
Operating pressure	[bar]	1 ... 8
Nominal operating pressure	[bar]	6
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium		Lubricated operation not possible
Ambient temperature	[°C]	0 ... +60
Temperature of medium	[°C]	0 ... +60
Corrosion resistance class CRC ¹⁾		1 - Low corrosion stress (with push-in fitting)
		2 - Moderate corrosion stress (without push-in fitting, with the exception of VN-...-T3-...-R01 → CRC ¹⁾)

1) More information: www.festo.com/x/topic/crc

Performance data – High vacuum										
Ejector characteristic		Standard H						Inline M		
Nominal width of Laval nozzle	[mm]	0.45	0.7	0.95	1.4	2.0	3.0	0.45	0.7	0.95
Max. vacuum	[%]	88	88	89	88	92	93	86	86	86
Operating pressure for max. vacuum	[bar]	4.5	4.7	4.5	5.0	3.5	3.7	6.0	5.8	5.8
Max. suction rate with respect to atmosphere	[l/min]	6.2	16	25	51.6	98	186	6.1	13.5	28
Operating pressure for max. suction rate	[bar]	2.1	2.1	3.1	5.1	2.0	3.0	6.3	7.0	5.0
Pressurisation time at nominal operating pressure 6 bar (for 1 l volume) ¹⁾	[s]	4.8	1.9	1.1	0.5	0.2	0.1	4.7	2.1	0.96
Noise level at nominal operating pressure 6 bar	[dB (A)]	53	64	74 (RO1) 71 (RO2)	69	63	78	53	59	–

1) Time required to reduce the vacuum to a residual vacuum of –0.05 bar after switching off the operating pressure.

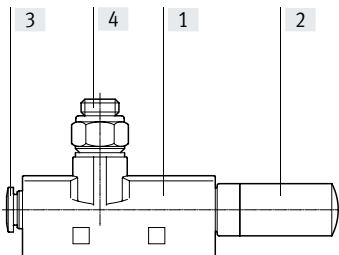
Performance data – High suction rate									
Ejector characteristic		Standard L						Inline N	
Nominal width of Laval nozzle	[mm]	0.45	0.7	0.95	1.4	2.0	3.0	0.45	
Max. suction rate with respect to atmosphere	[l/min]	15.7	38.8	62.7	90.0	188.0	339.0	12.0	
Operating pressure for max. suction rate	[bar]	5.0	6.2	4.0	8.0	3.0	6.0	6.0	
Pressurisation time at nominal operating pressure 6 bar (for 1 l volume) ¹⁾	[s]	1.7	0.5	0.46	0.25	0.15	0.1	1.57	
Noise level at nominal operating pressure 6 bar	[dB (A)]	53	66	73 (RO1) 72 (RO2)	77	60	70	48	

1) Time required to reduce the vacuum to a residual vacuum of –0.05 bar after switching off the operating pressure.

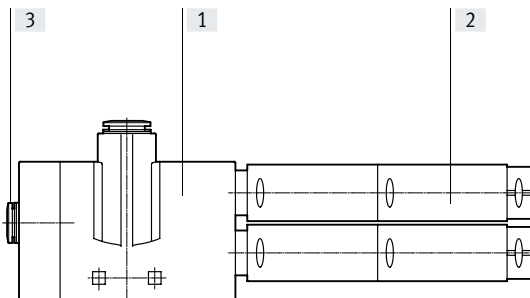
Datasheet

Materials

Sectional view



Vacuum generator VN-05/07/10/14		
[1]	Housing	Reinforced POM
[2]	Silencer	RO1 PE
		RO2 Die-cast aluminium, POM, PU foam
[3]	Push-in fitting	Nickel-plated brass
[4]	Connecting thread	VA Wrought aluminium alloy
		Pl, VI, RI Anodised wrought aluminium alloy
		T3-RO1 Nickel-plated brass
–	Jet nozzle	Wrought aluminium alloy
–	Female nozzle	POM
–	Seals	NBR
Note on materials		RoHS-compliant
LABS (PWIS) conformity		VDMA24364-B1/B2-L
	RO2	VDMA24364 zone III



Vacuum generator VN-20/30		
[1]	Housing	Reinforced POM
[2]	Silencer	Die-cast aluminium, POM, PU foam
[3]	Push-in fitting	Nickel-plated brass
–	Connecting thread	VA Wrought aluminium alloy
		Pl, VI Anodised wrought aluminium alloy
–	Jet nozzle	Wrought aluminium alloy
–	Female nozzle	POM
–	Seals	NBR
Note on materials		RoHS-compliant
LABS (PWIS) conformity		VDMA24364-B1/B2-L
	RO2	VDMA24364 zone III

Additional material specifications – products for battery production (F1A) ¹⁾

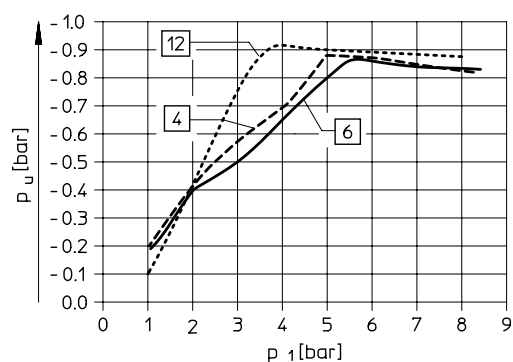
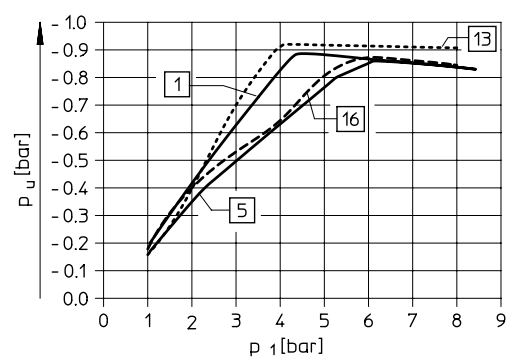
Suitable for the production of Li-ion batteries	Metals with more than 1% by mass of copper, zinc or nickel are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils.
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1) More information: www.festo.com/catalogue/vn → Support/Downloads.

Datasheet

Vacuum p_u as a function of operating pressure p_1

High vacuum



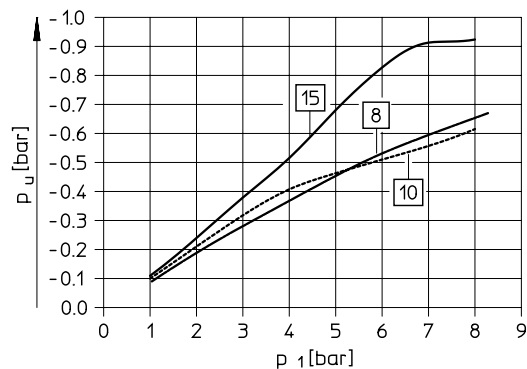
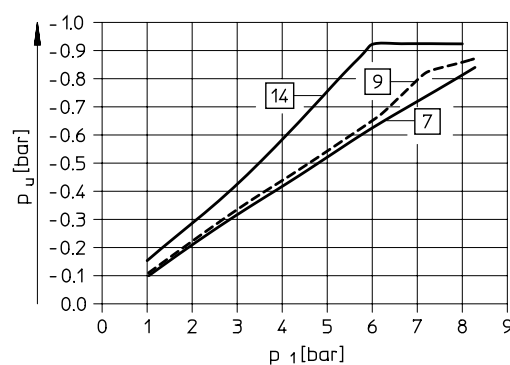
Standard:

- [1] VN-05-H-...
- VN-07-H-...
- VN-10-H-...
- [4] VN-14-H-...
- [12] VN-20-H-...
- [13] VN-30-H-...

Inline:

- [5] VN-05-M-...
- [6] VN-07-M-...
- [16] VN-10-M-...

High suction rate



Standard:

- [7] VN-05-L-...
- [8] VN-07-L-...
- [9] VN-10-L-...
- [10] VN-14-L-...
- [14] VN-20-L-...
- [15] VN-30-L-...

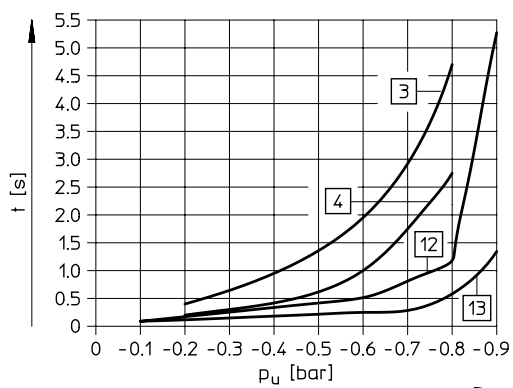
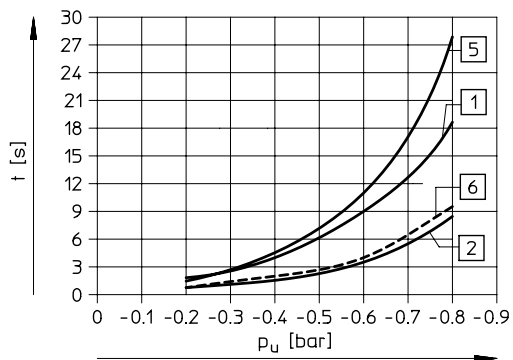
Inline:

- [8] VN-05-N-...

Datasheet

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

High vacuum



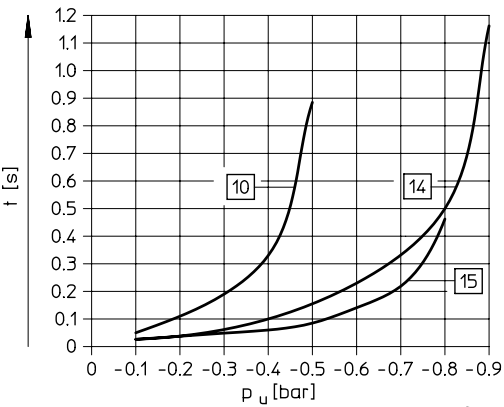
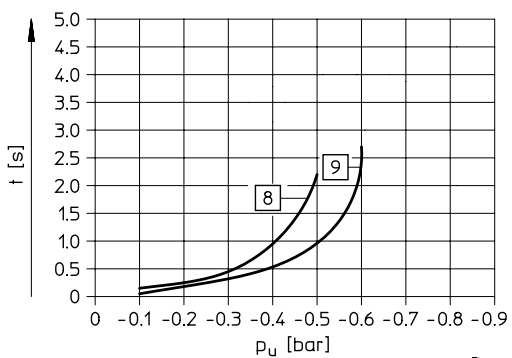
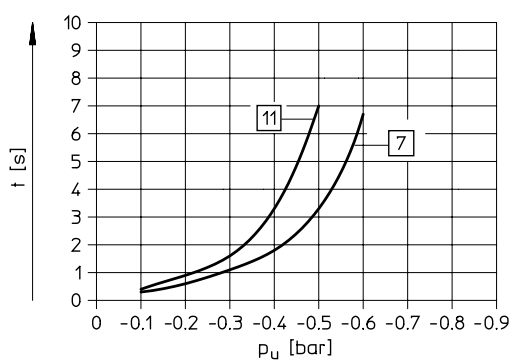
Standard:

- [1] VN-05-H...
- [2] VN-07-H...
- [3] VN-10-H...
- [4] VN-14-H...
- [12] VN-20-H...
- [13] VN-30-H...

Inline:

- [5] VN-05-M...
- [6] VN-07-M...
- [3] VN-10-M...

High suction rate



Standard:

- [7] VN-05-L...
- [8] VN-07-L...
- [9] VN-10-L...
- [10] VN-14-L...
- [14] VN-20-L...
- [15] VN-30-L...

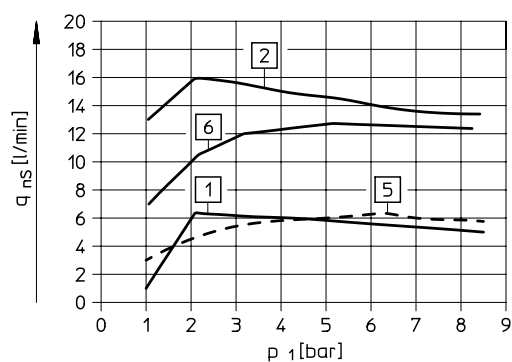
Inline:

- [11] VN-05-N...

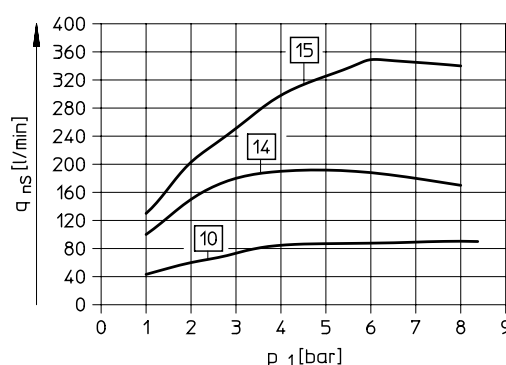
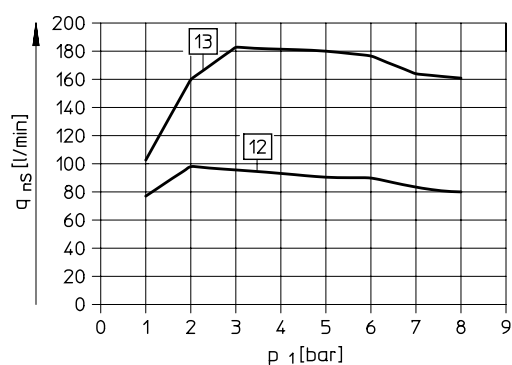
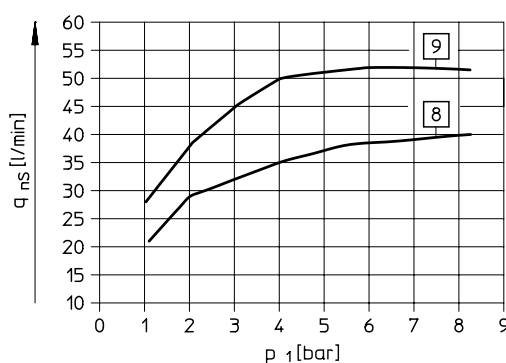
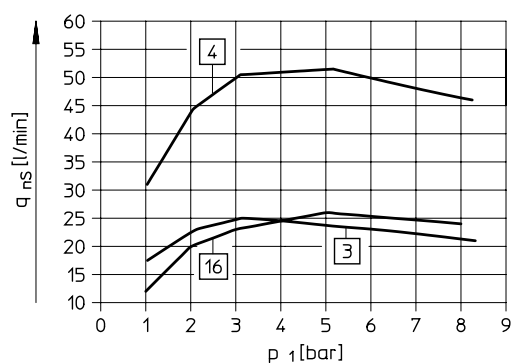
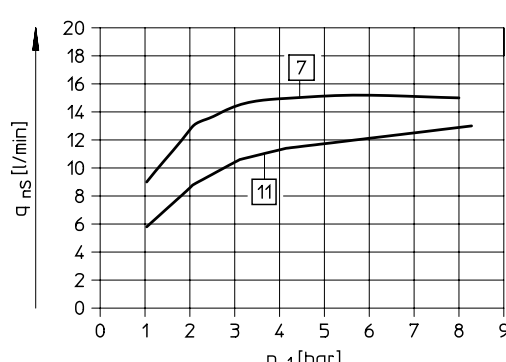
Datasheet

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

High vacuum



High suction rate



Standard:

- [1] VN-05-H...
- [2] VN-07-H...
- [3] VN-10-H...
- [4] VN-14-H...
- [12] VN-20-H...
- [13] VN-30-H...

Inline:

- [5] VN-05-M...
- [6] VN-07-M...
- [16] VN-10-M...

Standard:

- [7] VN-05-L...
- [8] VN-07-L...
- [9] VN-10-L...
- [10] VN-14-L...
- [14] VN-20-L...
- [15] VN-30-L...

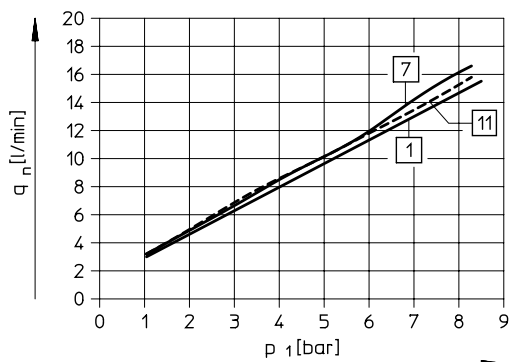
Inline:

- [11] VN-05-N...

Datasheet

Air consumption q_n as a function of operating pressure p_1

High vacuum/high suction rate



Standard:

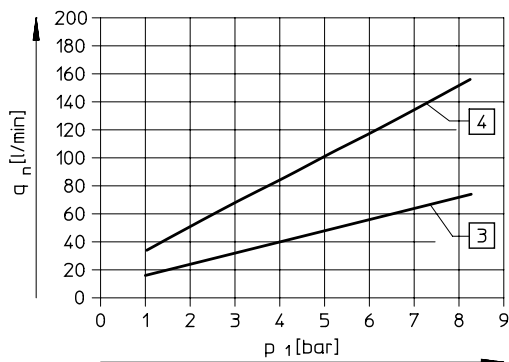
[1] VN-05-H...

[7] VN-05-L...

Inline:

[1] VN-05-M...

[11] VN-05-N...



Standard:

[3] VN-10-H...

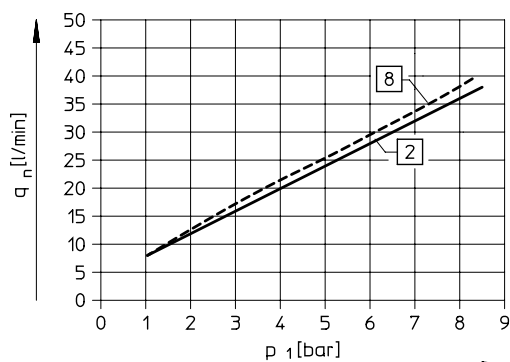
VN-10-L...

[4] VN-14-H...

VN-14-L...

Inline:

[3] VN-10-M...



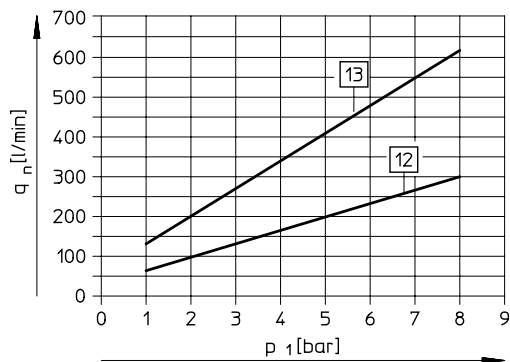
Standard:

[2] VN-07-H...

[8] VN-07-L...

Inline:

[2] VN-07-M...



Standard:

[12] VN-20-H...

VN-20-L...

[13] VN-30-H...

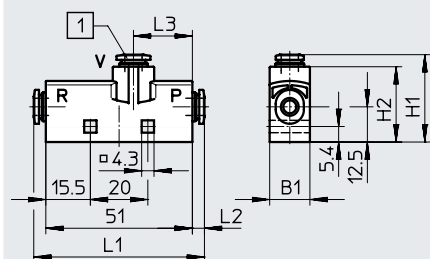
VN-30-L...

Datasheet

Dimensions – T-shape/standard, VN-05/07/10/14

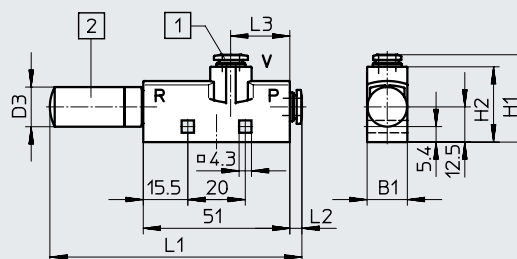
Download CAD data → www.festo.com

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



[1] Push-in fitting

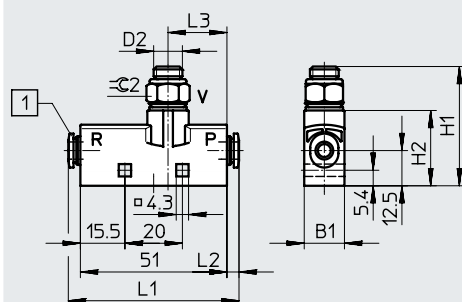
VN-...T...-PQ...-VQ...-RO...



[1] Push-in fitting

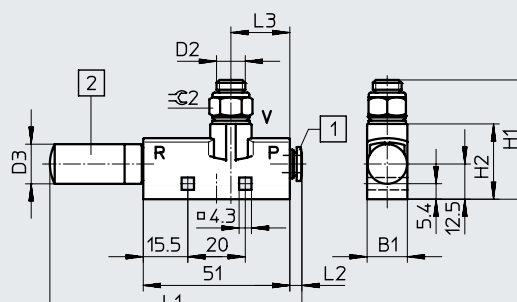
[2] Silencer

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



[1] Push-in fitting

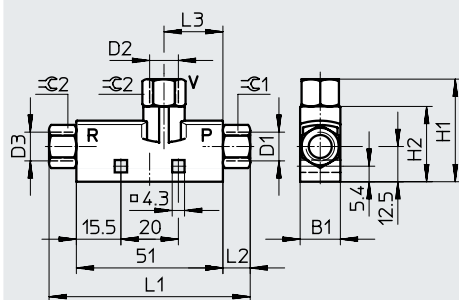
VN-...T...-PQ...-VA...-RO...



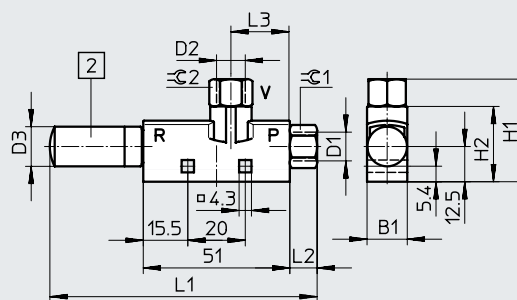
[1] Push-in fitting

[2] Silencer

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



VN-...T...-PI...-VI...-RO...



[2] Silencer

Type	B1	Connections			H1	H2	L1	L2	L3	≅1	≅2		
		P D1	V D2	R D3									
VN-...T2-PQ1-VQ1-RQ1	10	QS-4	QS-4	QS-4	31.3	27.7	58.2	3.6	24.3	-	-		
VN-...T2-PQ1-VQ1-RO1				9.8 ¹⁾			86.8						
VN-...T2-PI2-VI2-RI2		M5	M5	M5	32.7		61	5		9	9		
VN-...T2-PI2-VI2-RO1				9.8 ¹⁾			88.2						
VN-...T3-PQ2-VQ2-RQ2	14	QS-6	QS-6	QS-6	30.4	26.2	59.4	4.2	25.5	-	-		
VN-...T3-PQ2-VQ2-RO1				13.8 ¹⁾			41.5			97.6			
VN-...T3-PQ2-VA4-RQ2			G1/8	QS-6			35.7			59.4	9.5	13	13
VN-...T3-PQ2-VA4-RO1				13.8 ¹⁾						97.6			
VN-...T3-PI4-VI4-RI4		G1/8	G1/8	G1/8	35.7		70	9.5		13	13		
VN-...T3-PI4-VI4-RO1				13.8 ¹⁾			102.9						
VN-...T4-PQ2-VQ3-RQ3	18	QS-6	QS-8	QS-8	35.9	30.7	63.8	4.2	25.5	-	-		
VN-...T4-PQ2-VQ3-RO2				17.8 ¹⁾			50.5			125.5			
VN-...T4-PQ2-VA5-RQ3			G1/4	QS-8			48.15			63.8	9.5	13	17
VN-...T4-PQ2-VA5-RO2				17.8 ¹⁾						125.5			
VN-...T4-PI4-VI5-RI5		G1/8	G1/4	G1/4	48.15		81.4	9.5		13	13		
VN-...T4-PI4-VI5-RO2				17.8 ¹⁾			128.8						

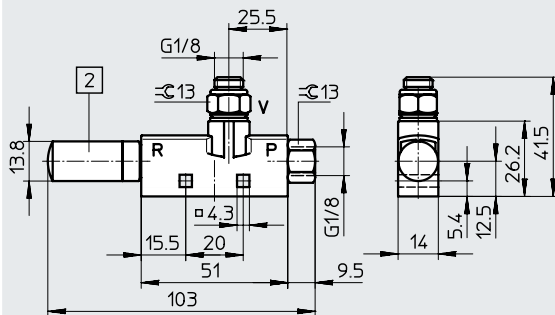
1) Diameter of silencer - Note: This product corresponds to ISO 1179-1 and ISO 228-1.

Datasheet

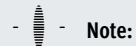
Dimensions – T-shape/standard, VN-10

Download CAD data → www.festo.com

VN-10-LT3-PI4-VA4-R01



[2] Silencer



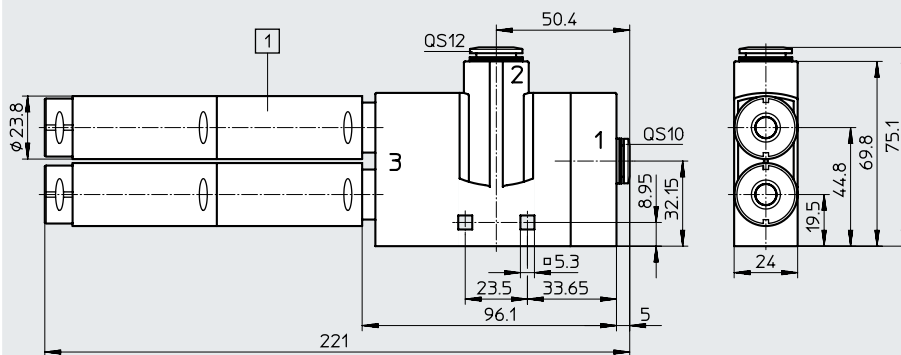
Note:

This product conforms to ISO 1179-1 and ISO 228-1.

Dimensions – T-shape/standard, VN-20/30

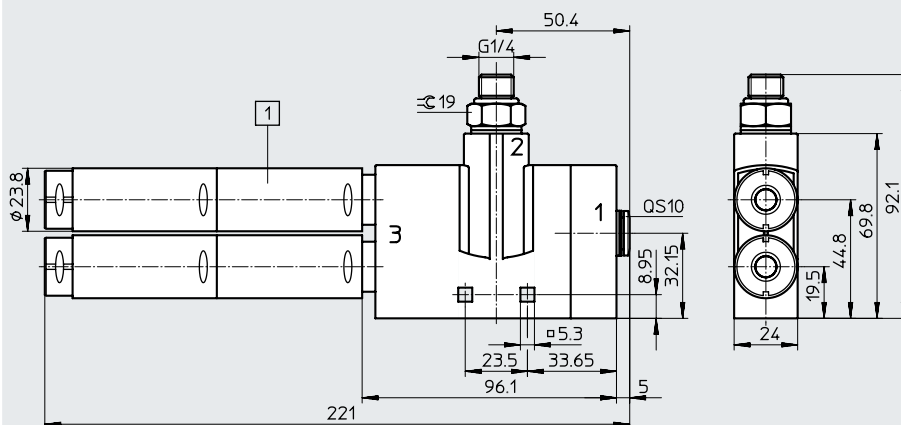
Download CAD data → www.festo.com

VN-...T6-PQ4-VQ5-R02

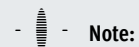


[1] Silencer

VN-...T6-PQ4-VA5-R02



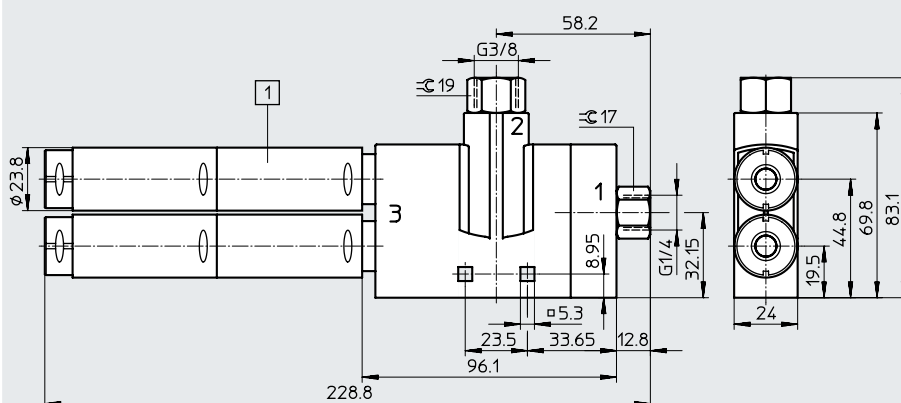
[1] Silencer



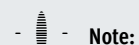
Note:

This product conforms to ISO 1179-1 and ISO 228-1.

VN-...T6-PI5-VI6-R02



[1] Silencer



Note:

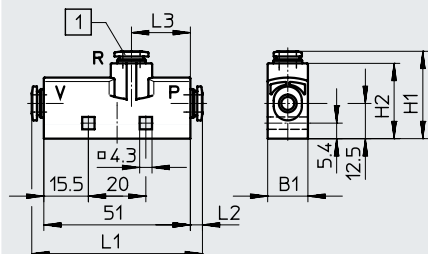
This product conforms to ISO 1179-1 and ISO 228-1.

Datasheet

Dimensions – T-shape/inline, VN-05/07

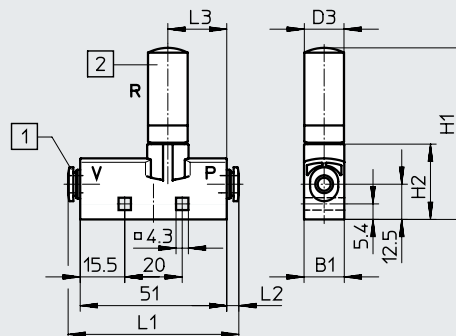
Download CAD data → www.festo.com

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



[1] Push-in fitting

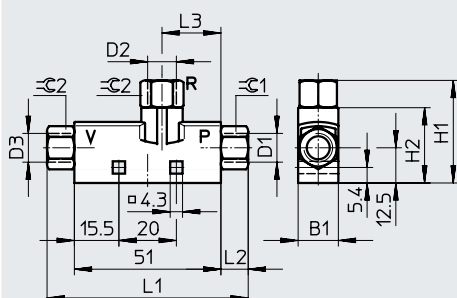
VN-...T...-PQ...-VQ...-R01



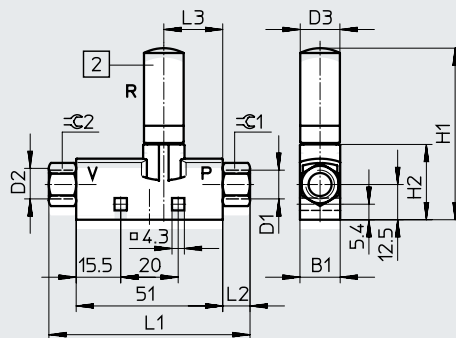
[1] Push-in fitting

[2] Silencer

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



VN-...T...-PI...-VI...-R01



[2] Silencer

Type	B1	Connections			H1	H2	L1	L2	L3	≡G1	≡G2
		P D1	V D2	R D3							
VN-....T2-PQ1-VQ1-RQ1	10	QS-4	QS-4	QS-4	31.3	27.7	58.2	3.6	24.3	—	—
VN-....T2-PQ1-VQ1-RO1				9.8 ¹⁾	59.9						
VN-....T2-PI2-VI2-RI2		M5	M5	M5	32.7		61	5		9	9
VN-....T2-PI2-VI2-RO1				9.8 ¹⁾	59.9						
VN-....T3-PQ2-VQ2-RQ2	14	QS-6	QS-6	QS-6	30.4	26.2	59.4	4.2	25.5	—	—
VN-....T3-PQ2-VQ2-RO1				13.8 ¹⁾	68.6						
VN-....T3-PI4-VI4-RI4		G1/8	G1/8	G1/8	35.7		70	9.5		13	13
VN-....T3-PI4-VI4-RO1				13.8 ¹⁾	68.6						

1) Diameter of silencer

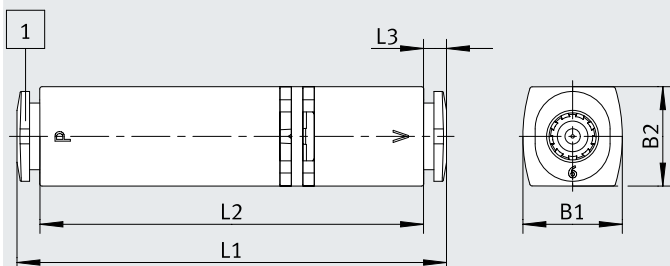
Note: This product corresponds to ISO 1179-1 and ISO 228-1.

Datasheet

Dimensions – Straight shape/inline, VN-05/07

Download CAD-Daten → www.festo.com

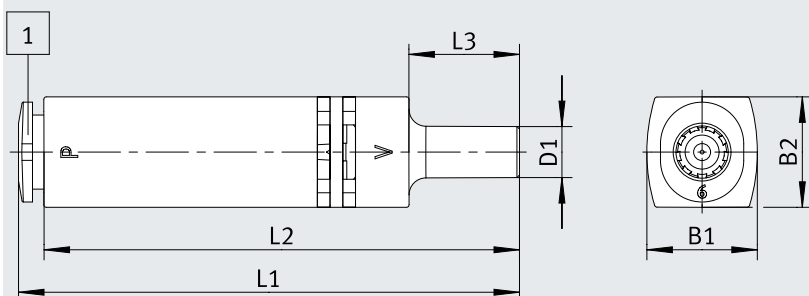
VN-05/07-...-I...-PQ...-VQ2



[1] Push-in fitting

Type	B1	B2	Connections		L1	L2	L3
			P	V			
VN-05-M-I3-PQ2-VQ2	13	13	BMS-TQ-6-B	BMS-TQ-6-B	56.2	50.3	3
VN-07-M-I3-PQ2-VQ2	13	13	BMS-TQ-6-B	BMS-TQ-6-B	56.2	50.3	3
VN-05-N-I3-PQ2-VQ2	13	13	BMS-TQ-6-B	BMS-TQ-6-B	56.2	50.3	3
VN-05-M-I2-PQ1-VQ2	10	10	BMS-TQ-4-B	BMS-TQ-4-B	55.4	50.2	2.6
VN-07-M-I2-PQ1-VQ2	10	10	BMS-TQ-4-B	BMS-TQ-4-B	55.4	50.2	2.6

VN-...-...-I3-PQ2-VQ2-...



[1] Push-in fitting

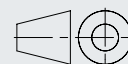
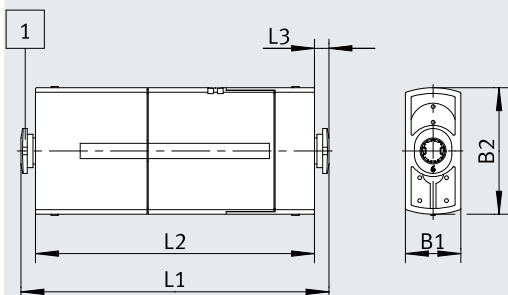
Type	B1	B2	Connections		D1 ø	L1	L2	L3
			P	V				
VN-05-M-I3-PQ2-VT2	13	13	BMS-TQ-6-B	–	6	59	56	13
VN-07-M-I3-PQ2-VT2	13	13	BMS-TQ-6-B	–	6	59	56	13
VN-05-N-I3-PQ2-VT2	13	13	BMS-TQ-6-B	–	6	59	56	13
VN-05-M-I2-PQ1-VT1	10	10	BMS-TQ-4-B	–	4	60.6	58	15
VN-07-M-I2-PQ1-VT1	10	10	BMS-TQ-4-B	–	4	60.6	58	15

Datasheet

Dimensions – Straight shape/inline, VN-05/07/10

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VN-...-I3-PQ2-VQ2-...



[1] Push-in fitting

Type	B1	B2	Connections		L1	L2	L3
			P	V			
VN-05-M-I3-PQ2-VQ2-A	14.5	33.1	BMS-TQ-6-B	BMS-TQ-6-B	80.6	73	3.8
VN-05-N-I3-PQ2-VQ2-A	14.5	33.1	BMS-TQ-6-B	BMS-TQ-6-B	80.6	73	3.8
VN-07-M-I3-PQ2-VQ2-A	14.5	33.1	BMS-TQ-6-B	BMS-TQ-6-B	96.6	89	3.8
VN-07-N-I3-PQ2-VQ2-A	14.5	33.1	BMS-TQ-6-B	BMS-TQ-6-B	96.6	89	3.8
VN-10-M-I3-PQ2-VQ2	13	22	QS-6	QS-6	66.1	57.7	4.2

Datasheet

Ordering data and weights – Standard

T-shape

Grid dimension [mm]	Nominal width of Laval nozzle [mm]	Weight [g]	High vacuum H		Weight [g]	High suction rate L	
			Part no.	Type		Part no.	Type
With push-in fitting							
14	0.95	22	193480	VN-10-H-T3-PQ2-VQ2-RQ2	–	–	–
18	1.4	–	–	–	27	193565	VN-14-L-T4-PQ2-VQ3-RQ3
With female thread							
14	0.95	22	193500	VN-10-H-T3-PI4-VI4-RI4	–	–	–
18	1.4	36	193502	VN-14-H-T4-PI4-VI5-RI5	–	–	–

Ordering data and weights – Inline

Straight shape

Grid dimension [mm]	Nominal width of Laval nozzle [mm]	Weight [g]	High vacuum M		Weight [g]	High suction rate N		
			Part no.	Type		Part no.	Type	
With push-in fitting								
13	0.7	16	193553	VN-07-M-I3-PQ2-VQ2	–	–	–	
With push-in fitting and push-in sleeve								
13	0.7	12	193556	VN-07-M-I3-PQ2-VT2	–	–	–	

Ordering data and weights – Standard

T-shape

Grid dimension [mm]	Nominal width of Laval nozzle [mm]	Weight [g]	High vacuum H		Weight [g]	High suction rate L		
			Part no.	Type		Part no.	Type	
With push-in fitting								
10	0.45	15	526100	VN-05-H-T2-PQ1-VQ1-RQ1	15	526114	VN-05-L-T2-PQ1-VQ1-RQ1	
	0.7	15	526101	VN-07-H-T2-PQ1-VQ1-RQ1		—	—	—
14	0.45	22	193478	VN-05-H-T3-PQ2-VQ2-RQ2	22	193561	VN-05-L-T3-PQ2-VQ2-RQ2	
	0.7	22	193479	VN-07-H-T3-PQ2-VQ2-RQ2	22	193562	VN-07-L-T3-PQ2-VQ2-RQ2	
	0.95	—	—	—	22	193563	VN-10-L-T3-PQ2-VQ2-RQ2	
18	0.95	27	526147	VN-10-H-T4-PQ2-VQ3-RQ3	27	526157	VN-10-L-T4-PQ2-VQ3-RQ3	
	1.4	27	193482	VN-14-H-T4-PQ2-VQ3-RQ3	—	—	—	
With push-in fitting and silencer								
10	0.45	15	193569	VN-05-H-T2-PQ1-VQ1-RO1	15	193595	VN-05-L-T2-PQ1-VQ1-RO1	
	0.7	15	193570	VN-07-H-T2-PQ1-VQ1-RO1		—	—	—
14	0.45	24	193488	VN-05-H-T3-PQ2-VQ2-RO1	24	193571	VN-05-L-T3-PQ2-VQ2-RO1	
	0.45	24	8187682	VN-05-H-T3-PQ2-VQ2-RO1-F1A ¹⁾	—	—	—	
	0.7	24	193489	VN-07-H-T3-PQ2-VQ2-RO1	24	193572	VN-07-L-T3-PQ2-VQ2-RO1	
	0.7	24	8187683	VN-07-H-T3-PQ2-VQ2-RO1-F1A ¹⁾	—	—	—	
	0.95	24	193490	VN-10-H-T3-PQ2-VQ2-RO1	24	193573	VN-10-L-T3-PQ2-VQ2-RO1	
	0.95	24	8187684	VN-10-H-T3-PQ2-VQ2-RO1-F1A ¹⁾	—	—	—	
18	0.95	36	549251	VN-10-H-T4-PQ2-VQ3-RO2	36	549253	VN-10-L-T4-PQ2-VQ3-RO2	
	1.4	36	547707	VN-14-H-T4-PQ2-VQ3-RO2	36	547710	VN-14-L-T4-PQ2-VQ3-RO2	
	1.4	36	8187685	VN-14-H-T4-PQ2-VQ3-RO2-F1A ¹⁾	—	—	—	
24	2.0	182	193495	VN-20-H-T6-PQ4-VQ5-RO2	182	193578	VN-20-L-T6-PQ4-VQ5-RO2	
	3.0	182	193497	VN-30-H-T6-PQ4-VQ5-RO2	—	—	—	

1) F1A: Products for battery production

Datasheet

Ordering data and weights – Standard

T-shape

Grid dimension [mm]	Nominal width of Laval nozzle [mm]	Weight [g]	High vacuum H		Weight [g]	High suction rate L	
			Part no.	Type		Part no.	Type
With push-in fitting, vacuum port, male thread							
14	0.45	24	193516	VN-05-H-T3-PQ2-VA4-RQ2	24	193599	VN-05-L-T3-PQ2-VA4-RQ2
	0.7	24	193517	VN-07-H-T3-PQ2-VA4-RQ2	24	193600	VN-07-L-T3-PQ2-VA4-RQ2
	0.95	24	193518	VN-10-H-T3-PQ2-VA4-RQ2	24	193601	VN-10-L-T3-PQ2-VA4-RQ2
18	0.95	33	526153	VN-10-H-T4-PQ2-VA5-RQ3	33	526163	VN-10-L-T4-PQ2-VA5-RQ3
	1.4	33	193520	VN-14-H-T4-PQ2-VA5-RQ3	33	193603	VN-14-L-T4-PQ2-VA5-RQ3
With push-in fitting, vacuum port, male thread and silencer							
14	0.45	26	193526	VN-05-H-T3-PQ2-VA4-RO1	26	193609	VN-05-L-T3-PQ2-VA4-RO1
	0.7	26	193527	VN-07-H-T3-PQ2-VA4-RO1	26	193610	VN-07-L-T3-PQ2-VA4-RO1
	0.95	26	193528	VN-10-H-T3-PQ2-VA4-RO1	26	193611	VN-10-L-T3-PQ2-VA4-RO1
18	0.95	42	549252	VN-10-H-T4-PQ2-VA5-RO2	42	549254	VN-10-L-T4-PQ2-VA5-RO2
	1.4	42	547706	VN-14-H-T4-PQ2-VA5-RO2	42	547709	VN-14-L-T4-PQ2-VA5-RO2
24	2.0	189	526145	VN-20-H-T6-PQ4-VA5-RO2	189	526135	VN-20-L-T6-PQ4-VA5-RO2
	3.0	189	526146	VN-30-H-T6-PQ4-VA5-RO2	189	526136	VN-30-L-T6-PQ4-VA5-RO2
With female thread							
10	0.45	13	526102	VN-05-H-T2-PI2-VI2-RI2	13	526116	VN-05-L-T2-PI2-VI2-RI2
	0.7	13	526103	VN-07-H-T2-PI2-VI2-RI2	–	–	–
14	0.45	22	193498	VN-05-H-T3-PI4-VI4-RI4	22	193581	VN-05-L-T3-PI4-VI4-RI4
	0.7	22	193499	VN-07-H-T3-PI4-VI4-RI4	22	193582	VN-07-L-T3-PI4-VI4-RI4
	0.95	–	–	–	22	193583	VN-10-L-T3-PI4-VI4-RI4
18	1.4	–	–	–	36	193585	VN-14-L-T4-PI4-VI5-RI5
With female thread and silencer							
10	0.45	13	526104	VN-05-H-T2-PI2-VI2-RO1	13	526118	VN-05-L-T2-PI2-VI2-RO1
	0.7	13	526105	VN-07-H-T2-PI2-VI2-RO1	–	–	–
14	0.45	24	193507	VN-05-H-T3-PI4-VI4-RO1	24	193590	VN-05-L-T3-PI4-VI4-RO1
	0.7	24	193508	VN-07-H-T3-PI4-VI4-RO1	24	193591	VN-07-L-T3-PI4-VI4-RO1
	0.95	24	193509	VN-10-H-T3-PI4-VI4-RO1	24	193592	VN-10-L-T3-PI4-VI4-RO1
18	1.4	40	547705	VN-14-H-T4-PI4-VI5-RO2	40	547708	VN-14-L-T4-PI4-VI5-RO2
24	2.0	183	526141	VN-20-H-T6-PI5-VI6-RO2	183	526131	VN-20-L-T6-PI5-VI6-RO2
	3.0	183	526142	VN-30-H-T6-PI5-VI6-RO2	183	526132	VN-30-L-T6-PI5-VI6-RO2
With female thread, vacuum port, male thread and silencer							
14	0.95	–	–	–	26	543315	VN-10-L-T3-PI4-VA4-RO1

Datasheet

Ordering data and weights – Inline

T-shape

Grid dimension	Nominal width of Laval nozzle	Weight	High vacuum M		Weight	High suction rate N	
[mm]	[mm]	[g]	Part no.	Type	[g]	Part no.	Type

With push-in fitting

10	0.45	15	526106	VN-05-M-T2-PQ1-VQ1-RQ1	–	–	–
	0.7	15	526107	VN-07-M-T2-PQ1-VQ1-RQ1			
14	0.45	22	193536	VN-05-M-T3-PQ2-VQ2-RQ2	22	193619	VN-05-N-T3-PQ2-VQ2-RQ2
	0.7	22	193537	VN-07-M-T3-PQ2-VQ2-RQ2	–	–	–

With push-in fitting and silencer

10	0.45	15	526108	VN-05-M-T2-PQ1-VQ1-R01	–	–	–
	0.7	15	526109	VN-07-M-T2-PQ1-VQ1-R01			
14	0.45	24	193540	VN-05-M-T3-PQ2-VQ2-R01	24	193623	VN-05-N-T3-PQ2-VQ2-R01
	0.7	24	193541	VN-07-M-T3-PQ2-VQ2-R01	–	–	–

With female thread

10	0.45	13	526110	VN-05-M-T2-PI2-VI2-RI2	–	–	–
	0.7	13	526111	VN-07-M-T2-PI2-VI2-RI2			
14	0.45	22	193544	VN-05-M-T3-PI4-VI4-RI4	22	193627	VN-05-N-T3-PI4-VI4-RI4
	0.7	22	193545	VN-07-M-T3-PI4-VI4-RI4	–	–	–

With female thread and silencer

10	0.45	13	526112	VN-05-M-T2-PI2-VI2-R01	–	–	–
	0.7	13	526113	VN-07-M-T2-PI2-VI2-R01			
14	0.45	24	193548	VN-05-M-T3-PI4-VI4-R01	24	193631	VN-05-N-T3-PI4-VI4-R01
	0.7	24	193549	VN-07-M-T3-PI4-VI4-R01	–	–	–

Ordering data and weights – Inline

Straight shape

Grid dimension	Nominal width of Laval nozzle	Weight	High vacuum M		Weight	High suction rate N	
[mm]	[mm]	[g]	Part no.	Type	[g]	Part no.	Type

With push-in fitting

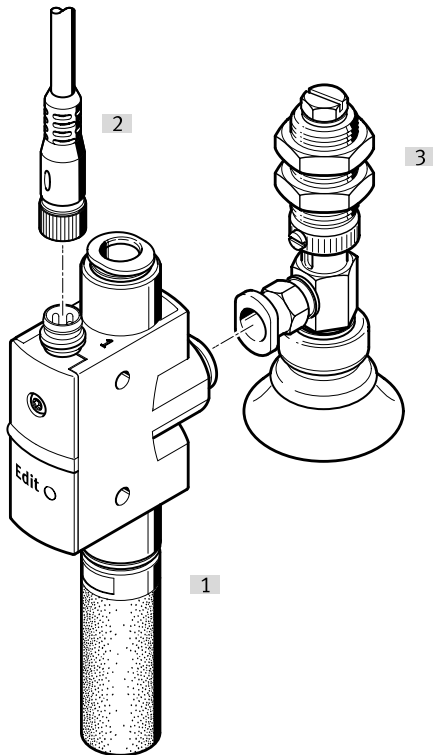
10	0.45	11	193580	VN-05-M-I2-PQ1-VQ1	–	–	–
	0.7	11	193586	VN-07-M-I2-PQ1-VQ1			
13	0.45	16	193552	VN-05-M-I3-PQ2-VQ2	16	193635	VN-05-N-I3-PQ2-VQ2
	0.95	23	193554	VN-10-M-I3-PQ2-VQ2	–	–	–

With push-in fitting and push-in sleeve

10	0.45	8	193587	VN-05-M-I2-PQ1-VT1	–	–	–
	0.7	8	193588	VN-07-M-I2-PQ1-VT1			
13	0.45	12	193555	VN-05-M-I3-PQ2-VT2	12	193637	VN-05-N-I3-PQ2-VT2

Peripherals overview

Peripherals overview

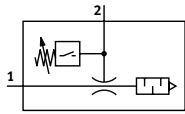


Mounting attachments and accessories

		→ Page/ Internet
[1]	Vacuum generators VN-P	29
[2]	Plug socket with cable, 3-pin NEBA-M8	50
[3]	Suction gripper ESG	esg
–	Suction cup holder ESH	esh
–	Suction cup ESS	ess

Datasheet

Function
Standard



-  - Temperature range
0 ... +60°C
-  - Operating pressure
0.1 ... 0.8 MPa



- Threshold value comparator with fixed or variable hysteresis
- Teach-in setting option for threshold value and hysteresis

General technical data				
Design		T-shape		
Type		VN-05	VN-07	VN-10
Grid dimension	[mm]	16	16	16
Nominal width of Laval nozzle	[mm]	0.45	0.7	0.95
Ejector characteristic		High vacuum/standard H		
		High suction rate/standard L		
Integrated function		Pressure sensor		
		Open silencer		
Pneumatic connection 1		QS-6		
Vacuum connection		QS-6		
Pneumatic connection 3		Open silencer		
Measured variable		Relative pressure		
Measuring principle		Piezoresistive		
Pressure measuring range	[kPa]	−100 ... 0		
	[bar]	−1 ... 0		
	[psi]	−14.5 ... 0		
Type of mounting (max. tightening torque)		With through-hole (0.6 Nm)		
Mounting position		Any ¹⁾		
Cleaning recommendation		Soapy water		
Product weight	[g]	33	36	36

1) It should not be possible for condensed water to collect in the sensor.

Operating and environmental conditions		
Operating pressure	[MPa]	0.1 ... 0.8
	[bar]	1 ... 8
	[psi]	14.5 ... 116
Nominal operating pressure	[MPa]	0.6
	[bar]	6
	[psi]	87
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]	
Note on the operating/pilot medium	Lubricated operation not possible	
Ambient temperature [°C]	0 ... +50	
Temperature of medium [°C]	0 ... +60	
Corrosion resistance class CRC ¹⁾	1 - Low corrosion stress	
CE marking (see declaration of conformity) ²⁾	To EU EMC Directive	
UKCA marking (see declaration of conformity) ²⁾	To UK EMC regulations	
Certification	RCM Mark	
KC marking	KC EMC	

1) More information: www.festo.com/x/topic/crc

2) www.festo.com/catalogue/vn → Support/Downloads.

If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

Datasheet

Performance data							
Ejector characteristic		High vacuum/standard H			High suction rate/standard L		
Nominal width of Laval nozzle	[mm]	0.45	0.7	0.95	0.45	0.7	0.95
Max. vacuum	[%]	92	92	93	–	–	–
Operating pressure for max. vacuum	[MPa]	0.49	0.44	0.35	–	–	–
	[bar]	4.9	4.4	3.5	–	–	–
	[psi]	71.05	63.8	50.75	–	–	–
Max. suction rate with respect to atmosphere	[l/min]	7.2	16.2	21.8	13.6	30.9	41.5
Operating pressure for max. suction rate	[MPa]	0.3	0.3	0.3	0.5	0.4	0.5
	[bar]	3	3	3	5	4	5
	[psi]	43.5	43.5	43.5	72.5	58	72.5
Noise level at nominal operating pressure 6 bar	[dB (A)]	62	66	70	54	63	66

Electrical data		
Operating voltage range	[V DC]	15 ... 30
Residual ripple	[%]	10
Electrical connection		M8x1, 3-pin
Switch-on/switch-off time	[ms]	≤ 4
Switching output		PNP
Max. output current	[mA]	100
Residual current	[mA]	≤ 0.3
Voltage drop	[V]	≤ 1.5
Switching element function		N/O
Setting options		Teach-in
Switching function		Threshold value comparator with fixed hysteresis
		Threshold value comparator with variable hysteresis
Threshold-value setting range	[kPa]	–100 ... 0
	[bar]	–1 ... 0
	[psi]	–14.5 ... 0
Accuracy	[% FS] ¹⁾	±1.5
Hysteresis	[% FS] ¹⁾	±2 (threshold value comparator with fixed hysteresis)
Long-term drift	[% FS] ¹⁾	max. ±0.5
Temperature coefficient of switching point	[%/K]	0.05
Display type/switching status indication		LED
Inductive protective circuit		Adapted to MZ, MY, ME coils
Short circuit current rating		Clocked
Reverse polarity protection		For all electrical connections
Overload protection		Available
Degree of protection		IP40 (to EN 60529)

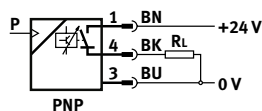
1) % FS = % of measuring range end value (full scale)

Electrical outputs¹⁾

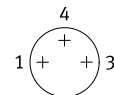
Pin allocations

1 switching output PNP

M8x1 plug



1 = +24 V
3 = 0 V
4 = Output A

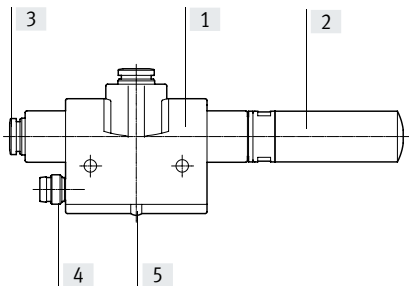


1) Wire colours as indicated apply when using plug sockets with cable NEBA-M8, 3-pin; datasheet → Internet: neba-m8*3

Datasheet

Materials

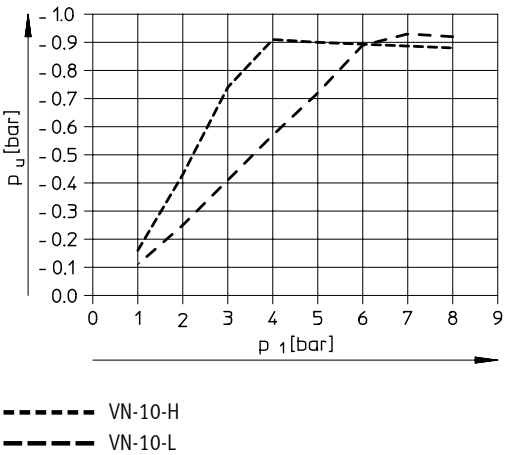
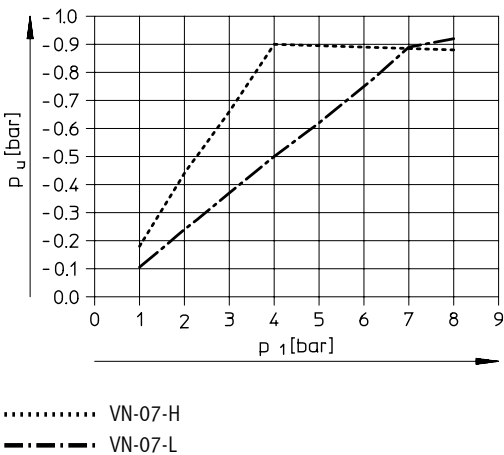
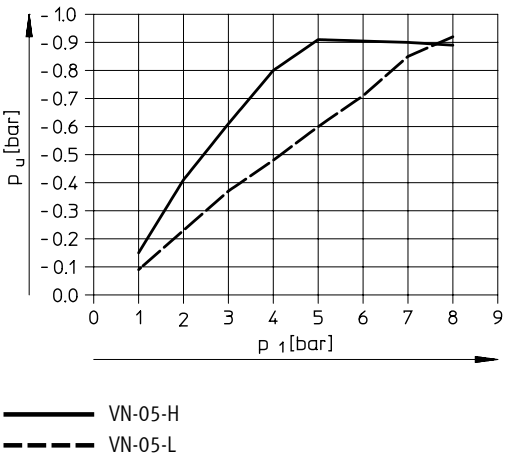
Sectional view



Vacuum generator		
[1]	Housing material	Reinforced POM
[2]	Silencer material	PE
[3]	Push-in fitting material	Nickel-plated brass
[4]	Plug housing material	PA, chrome- and nickel-plated brass
[5]	Fibre-optic cable material	PC
-	Jet nozzle material	Wrought aluminium alloy
-	Female nozzle material	POM
-	Keypad material	POM
-	Sealing material	NBR
LABS (PWIS) conformity		VDMA24364-B1/B2-L

Vacuum p_u as a function of operating pressure p_1

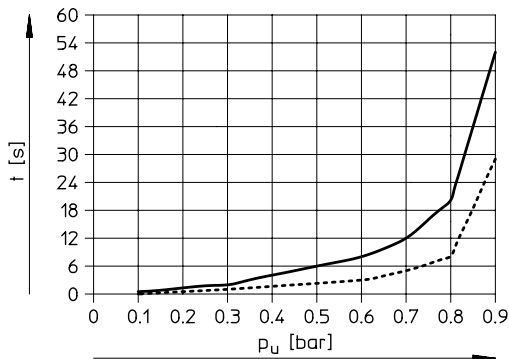
High vacuum/high suction rate



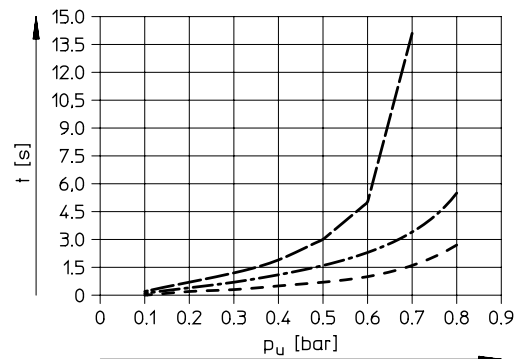
Datasheet

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

High vacuum/high suction rate



— VN-05-H
 VN-07-H

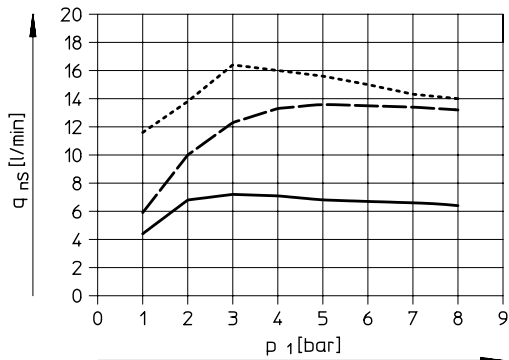


--- VN-05-L
 - · - · - VN-07-L
 VN-10-L

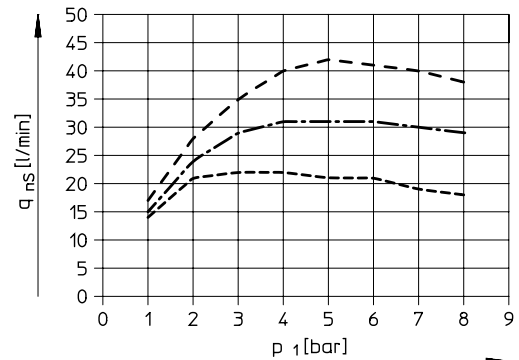
p_u = Negative pressure

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

High vacuum/high suction rate



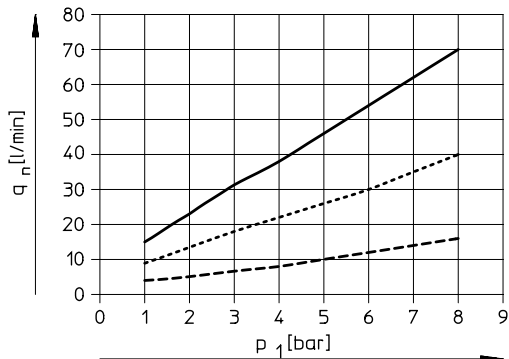
— VN-05-H
 VN-07-H



--- VN-05-L
 - · - · - VN-07-L
 VN-10-L

Air consumption q_n as a function of operating pressure p_1

High vacuum/high suction rate



--- VN-05
 VN-07
 — VN-10

Datasheet

Dimensions

Download CAD data → www.festo.com

[1] Silencer
[2] M8x1, 3-pin

Type	L1	L2
VN-05	93.6	44.2
VN-07	107	60.5
VN-10		

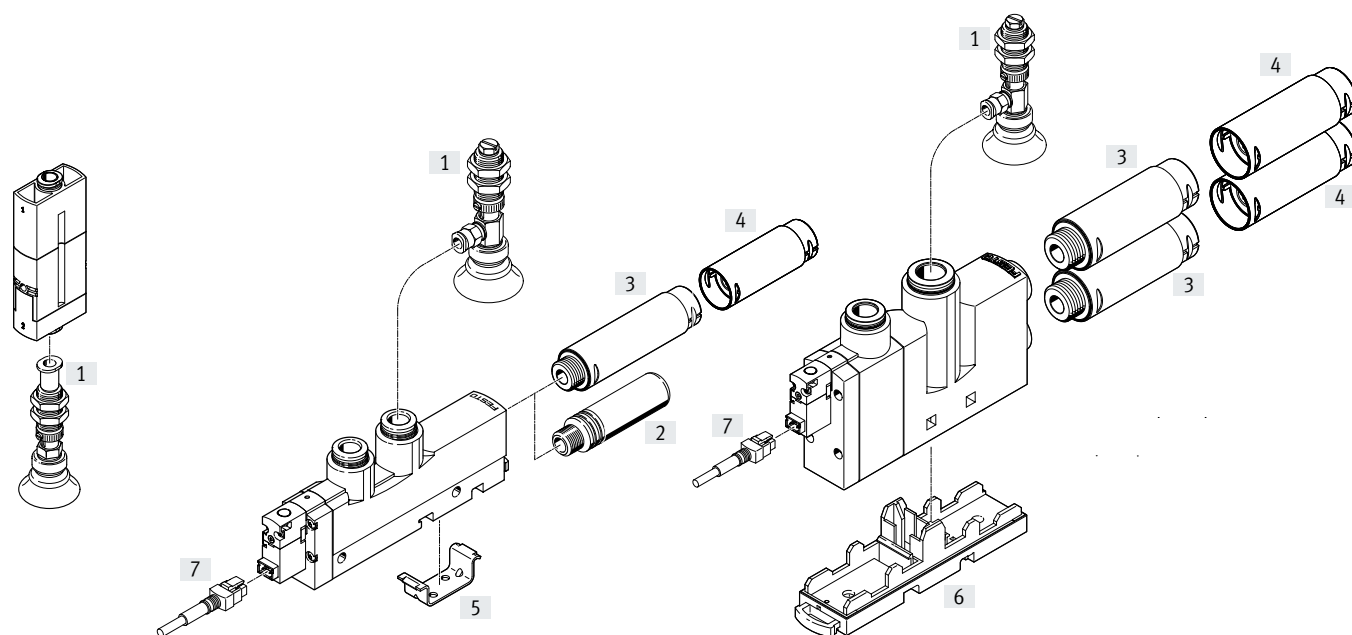
Ordering data						
With push-in fitting and silencer						
Nominal width of Laval nozzle [mm]	Switching function		High vacuum/standard H		High suction rate/standard L	
	Threshold value with fixed hysteresis	Threshold value with variable hysteresis	Part no.	Type	Part no.	Type
0.45	■	–	536796	VN-05-H-T4-PQ2-VQ2-01-P	536798	VN-05-L-T4-PQ2-VQ2-01-P
	–	■	536797	VN-05-H-T4-PQ2-VQ2-02-P	536799	VN-05-L-T4-PQ2-VQ2-02-P
0.7	■	–	536800	VN-07-H-T4-PQ2-VQ2-01-P	536802	VN-07-L-T4-PQ2-VQ2-01-P
	–	■	536801	VN-07-H-T4-PQ2-VQ2-02-P	536803	VN-07-L-T4-PQ2-VQ2-02-P
0.95	■	–	536804	VN-10-H-T4-PQ2-VQ2-01-P	536806	VN-10-L-T4-PQ2-VQ2-01-P
	–	■	536805	VN-10-H-T4-PQ2-VQ2-02-P	536807	VN-10-L-T4-PQ2-VQ2-02-P

Peripherals overview

Straight shape
VN-05/07-...-A

T-shape
VN-05/07/10/14-...-A/M/B

VN-20/30-...-M

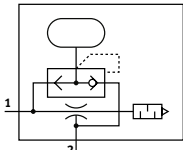


Mounting attachments and accessories

Mounting attachments and accessories		Straight shape		T-shape						→ Page/Internet		
		VN-05/07		VN-05/07/10			VN-14				VN-20/30	
		A		A	M	B	A	M	B		M	
[1]	Suction gripper ESG	■			■			■		■		esg
[2]	Silencer UO	–			■			–		–		49
[3]	Silencer UOM	–			–			■		■		49
[4]	Silencer extension UOMS	–			–			■		■		49
[5]	Mounting plate VN-T3/T4-BP	–			■			■		–		48
[6]	Mounting plate VN-T6-BP-NRH	–			–			–		■		48
[7]	Plug socket with cable, 2-pin NEBV	–		–	■	■		–	■	■		50
–	Suction cup holder ESH	■			■			■		■		esh
–	Suction cup ESS	■			■			■		■		ess

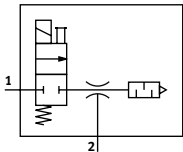
Datasheet

Function
VN-A – Standard/inline
Ejector pulse, pneumatic



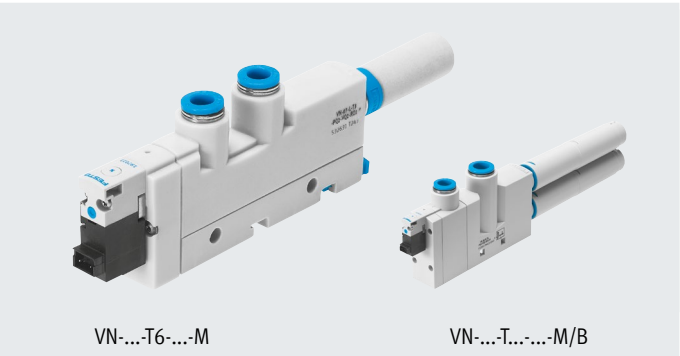
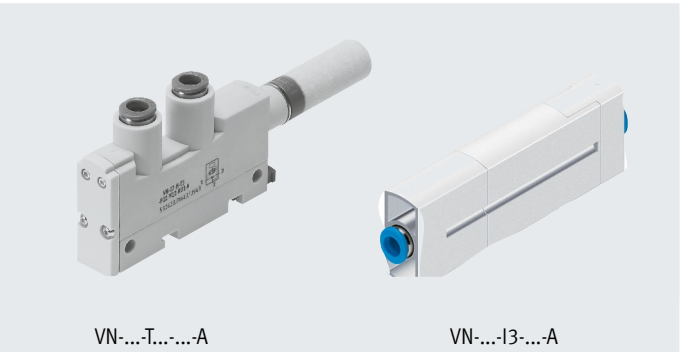
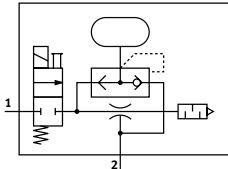
- VN-A
-  - Temperature range
0 ... +60°C
 -  - Operating pressure
1 ... 8 bar

VN-M – Standard
On/off valve, electric



- VN-M / VN-B
-  - Temperature range
0 ... +50°C
 -  - Operating pressure
2 ... 8 bar

VN-B – Standard
On/off valve, electric,
ejector pulse, pneumatic



General technical data – Standard																
Design		T-shape														
Type		VN-05			VN-07			VN-10			VN-14			VN-20	VN-30	
Grid dimension [mm]		14			14			14			18			24	24	
Integrated function		A	M	B	A	M	B	A	M	B	A	M	B	M	M	
Nominal width of Laval nozzle [mm]		0.45			0.7			0.95			1.4			2.0	3.0	
Ejector characteristic		High vacuum/standard H														
		High suction rate/standard L													–	
Pneumatic connection 1	Push-in fitting	QS-6	QS-6	QS-6	QS-6	QS-6	QS-6	QS-6	QS-6	QS-6	QS-6	QS-8	QS-8	QS-8	QS-10	QS-10
	Female thread	G1/8	–	–	G1/8	–	–	G1/8	–	–	G1/8	–	–	–	–	–
Vacuum connection	Push-in fitting	QS-6	QS-6	QS-6	QS-6	QS-6	QS-6	QS-6	QS-6	QS-6	QS-6	QS-8	QS-8	QS-8	QS-12	QS-12
	Female thread	G1/8	–	–	G1/8	–	–	G1/8	–	–	G1/8	–	–	–	–	–
Pneumatic connection 3		Open silencer														
Type of mounting (max. tightening torque)		With through-hole (0.5 Nm)													With through-hole (0.8 Nm)	
		With H-rail													–	
		With accessories														
Mounting position		Any														
Cleaning recommendation		Soapy water														

• Note: This product conforms to ISO 1179-1 and ISO 228-1.

Datasheet

General technical data – Inline		
Design	Straight shape	
Type	VN-05	VN-07
Grid dimension [mm]	14.5	14.5
Integrated function	A	A
Nominal width of Laval nozzle [mm]	0.45	0.7
Ejector characteristic	High vacuum/inline M High suction rate/inline N	
Pneumatic connection 1	QS-6	
Vacuum connection	QS-6	
Type of mounting	In-line installation	
Mounting position	Any	
Cleaning recommendation	Soapy water	

Operating and environmental conditions				
Pneumatic connection	With push-in fitting			With female thread
Integrated function	A	M	B	A
Operating pressure [bar]	1 ... 8	2 ... 8		1 ... 8
Nominal operating pressure [bar]	6			
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]			
Note on the operating/pilot medium	Lubricated operation not possible			
Ambient temperature [°C]	0 ... +60	0 ... +50		0 ... +60
Temperature of medium [°C]	0 ... +60	0 ... +50		0 ... +60
Corrosion resistance class CRC ¹⁾	1 - Low corrosion stress			2 - Moderate corrosion stress

1) More information: www.festo.com/x/topic/crc

Performance data – High vacuum															
Ejector characteristic			Standard H											Inline M	
Nominal width of Laval nozzle	[mm]	0.45		0.7		0.95		1.4		2.0		3.0	0.45	0.7	
Integrated function		A	M	B	A	M	B	A	M	B	A	M	B	A	A
Max. vacuum	[%]	92		92		93		92		92		93	93	93	93
Operating pressure for max. vacuum	[bar]	4.9		4.4		3.5		3.5		3.5		3.7	4.3	4.3	
Max. suction rate with respect to atmosphere	[l/min]	7.2		16.2		21.8		48.8		98		186	7.2	16.6	
Operating pressure for max. suction rate	[bar]	3		3		3		4		2		3	2	2	
Pressurisation time at nominal operating pressure 6 bar (for 1 l volume) ¹⁾	[s]	3.63	3.9	1.5	1.69	0.96	1.06	0.43	0.5	0.24	0.13	4.1	1.69		
Noise level at nominal operating pressure 6 bar	[dB (A)]	56		65		71		69		63		78	66	75	

1) Time required to reduce the vacuum to a residual vacuum of –0.05 bar after switching off the operating pressure.

Datasheet

Performance data – High suction rate

Ejector characteristic	Standard L												Inline N	
Nominal width of Laval nozzle [mm]	0.45			0.7			0.95			1.4			0.45	0.7
Integrated function	A	M	B	A	M	B	A	M	B	A	M	B	A	A
Max. suction rate with respect to atmosphere [l/min]	13.6			30.9			40.5			92.6			13.3	32.6
Operating pressure for max. suction rate [bar]	5			4			5			5			5	4
Pressurisation time at nominal operating pressure 6 bar (for 1 l volume) ¹⁾ [s]	1.93	1.97		0.79	0.83		0.62	0.67		0.28	0.32		2.24	0.89
Noise level at nominal operating pressure 6 bar [dB (A)]	52			64			72			69			68	78

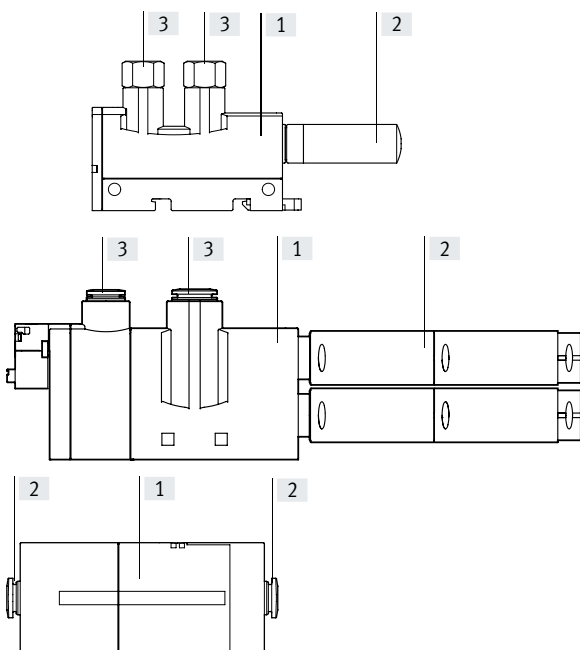
1) Time required to reduce the vacuum to a residual vacuum of –0.05 bar after switching off the operating pressure.

Technical data – On/off valve

Operating voltage range [V DC]	21.6 ... 26.4
Duty cycle [%]	100
Degree of protection	IP40 (to EN 60529)
Valve function	2/2-way valve
Manual override	Non-detenting

Materials

Sectional view



Vacuum generator VN – Standard

[1]	Housing	Reinforced PA, reinforced POM
[2]	Silencer	RO1 PE RO2 Wrought aluminium alloy, POM, PU foam
[3]	Push-in fitting	Nickel-plated brass
–	Connecting thread	Anodised wrought aluminium alloy
–	Jet nozzle	Wrought aluminium alloy
–	Female nozzle	POM
–	Screws	Steel
–	Seals	NBR
Note on materials		RoHS-compliant
LABS (PWIS) conformity		VDMA24364-B1/B2-L
		RO2 VDMA24364 zone III

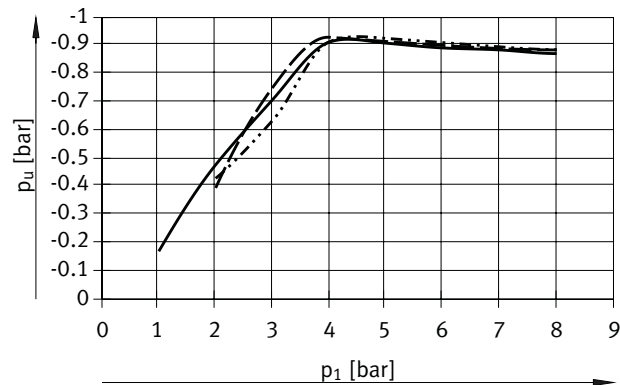
Vacuum generator VN – Inline

[1]	Housing	Reinforced PA, reinforced POM
[2]	Push-in fitting	Nickel-plated brass
–	Jet nozzle	Wrought aluminium alloy
–	Female nozzle	POM
–	Seals	NBR
Note on materials		RoHS-compliant
LABS (PWIS) conformity		VDMA24364-B1/B2-L

Datasheet

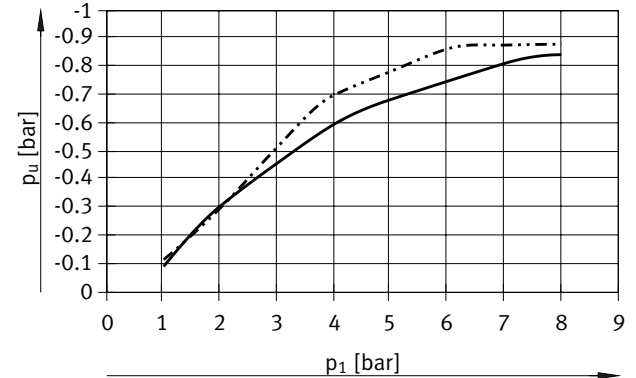
Vacuum p_u as a function of operating pressure p_1

High vacuum – Standard

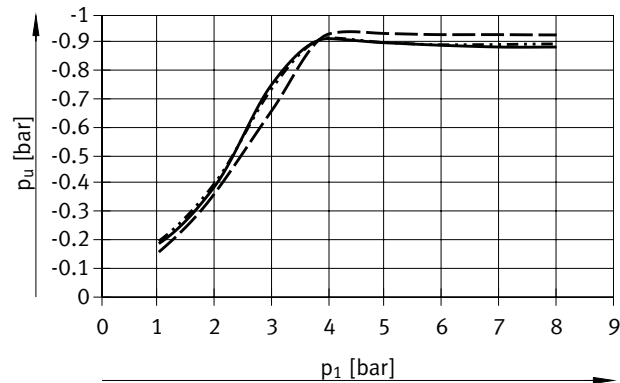


— VN-05-H
 VN-07-H
 - - - VN-10-H

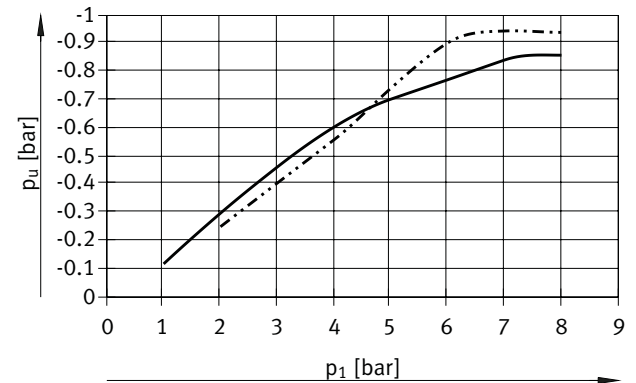
High suction rate – Standard



— VN-05-L
 VN-10-L

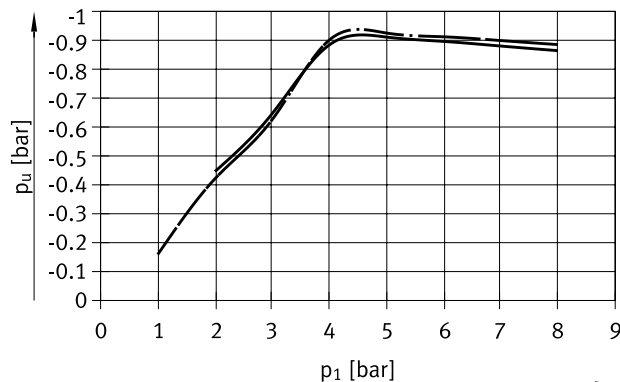


— VN-14-H
 VN-20-H
 - - - VN-30-H



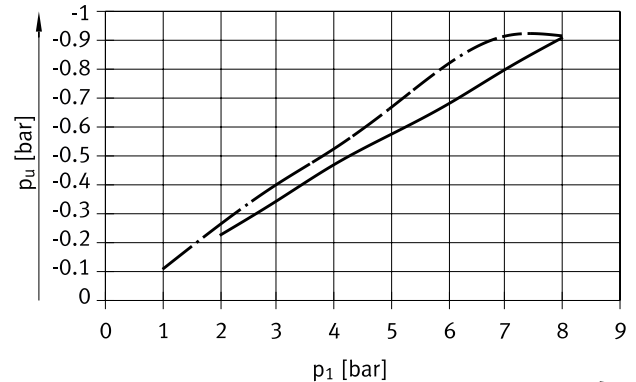
— VN-07-L
 VN-14-L

High vacuum – Inline



— VN-05-M
 VN-07-M

High suction rate – Inline

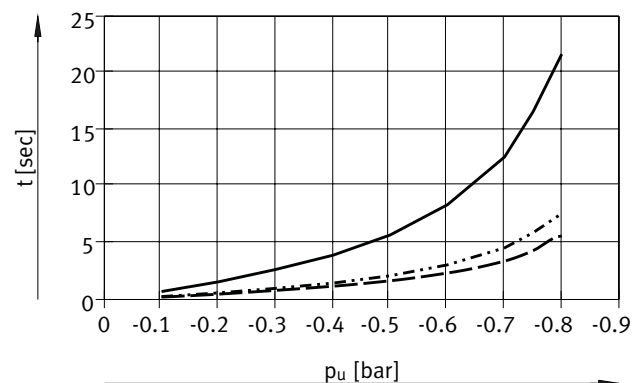


— VN-05-N
 VN-07-N

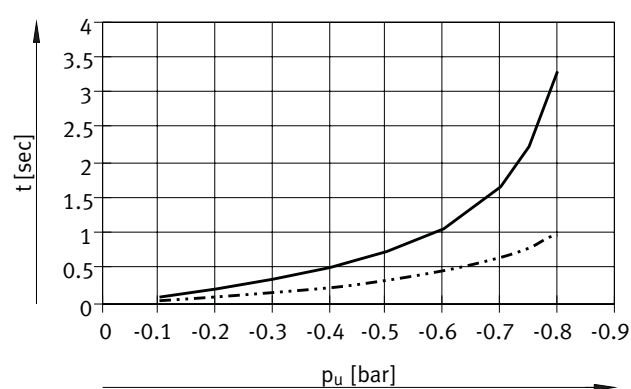
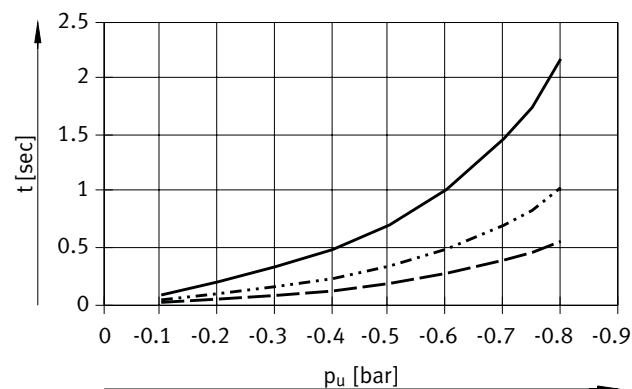
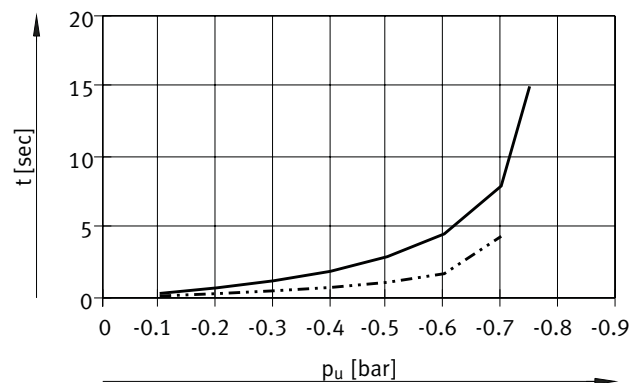
Datasheet

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

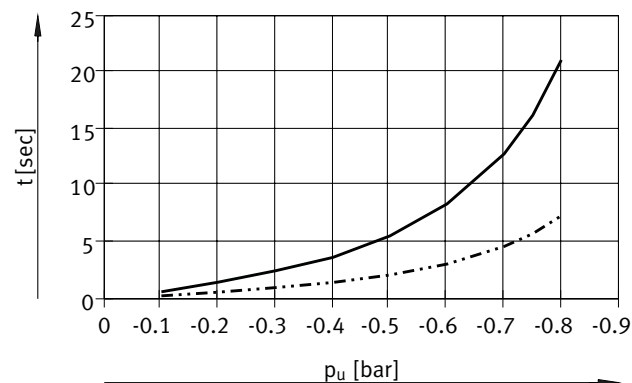
High vacuum – Standard



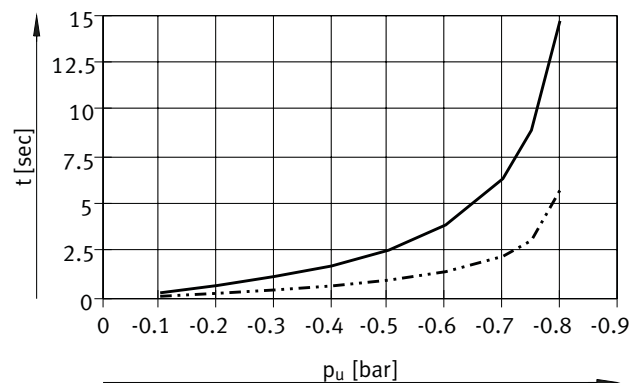
High suction rate – Standard



High vacuum – Inline



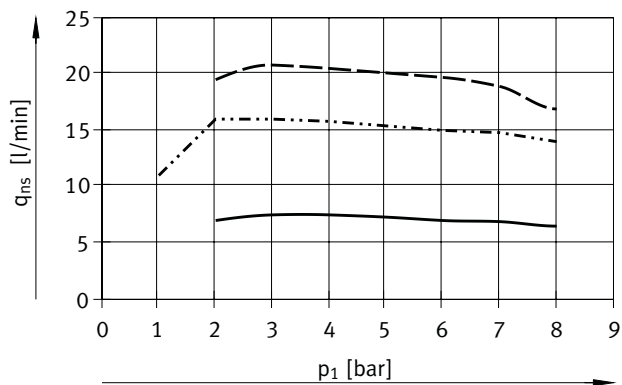
High suction rate – Inline



Datasheet

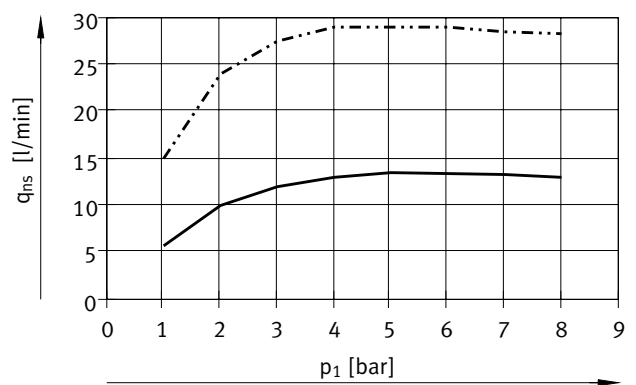
Suction rate q_{ns} (with respect to atmosphere) as a function of operating pressure p_1

High vacuum – Standard

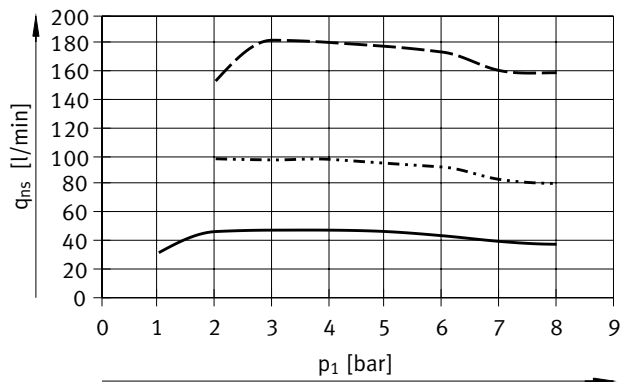


— VN-05-H
 VN-07-H
 - - - VN-10-H

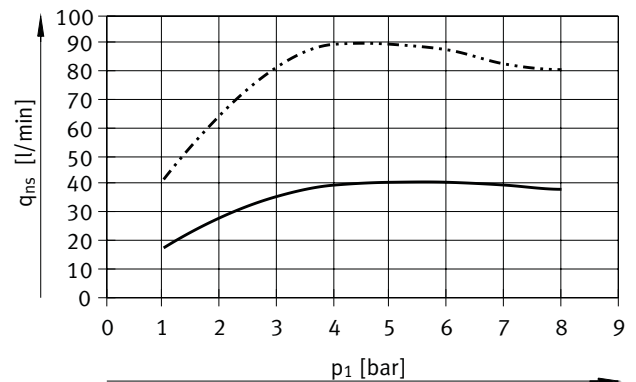
High suction rate – Standard



— VN-05-L
 VN-07-L

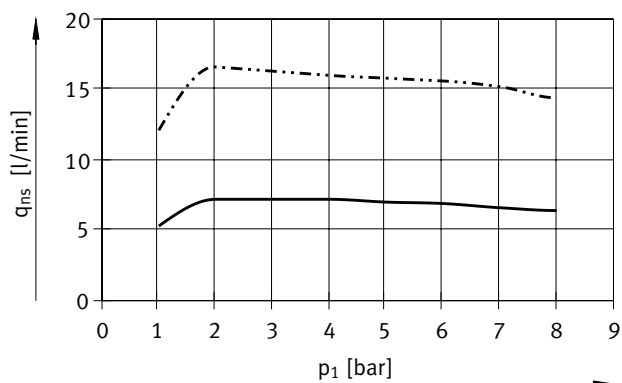


— VN-14-H
 VN-20-H
 - - - VN-30-H



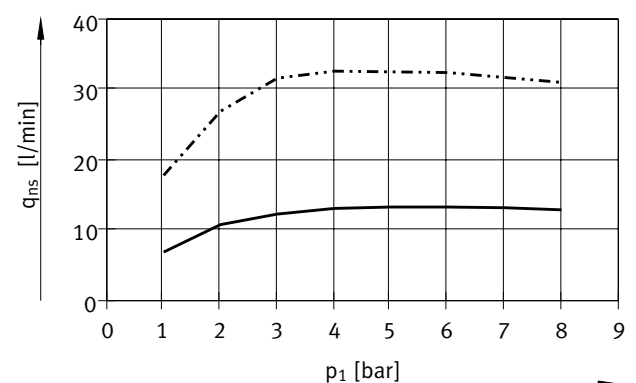
— VN-10-L
 VN-14-L

High vacuum – Inline



— VN-05-M
 VN-07-M

High suction rate – Inline

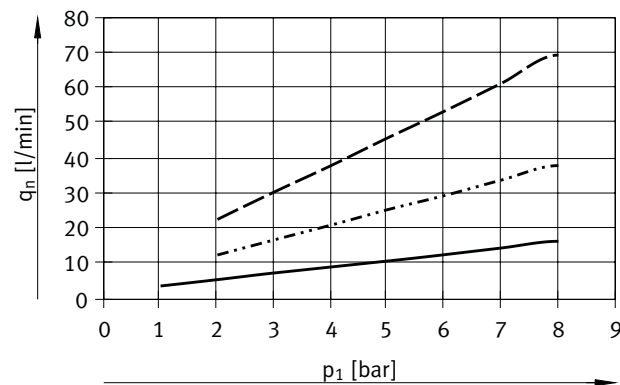


— VN-05-N
 VN-07-N

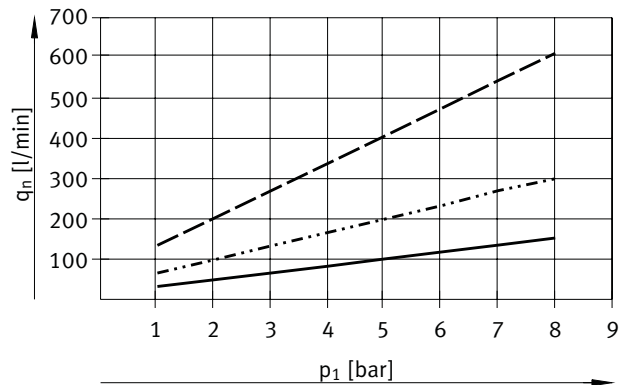
Datasheet

Air consumption q_n as a function of operating pressure p_1

High vacuum/high suction rate



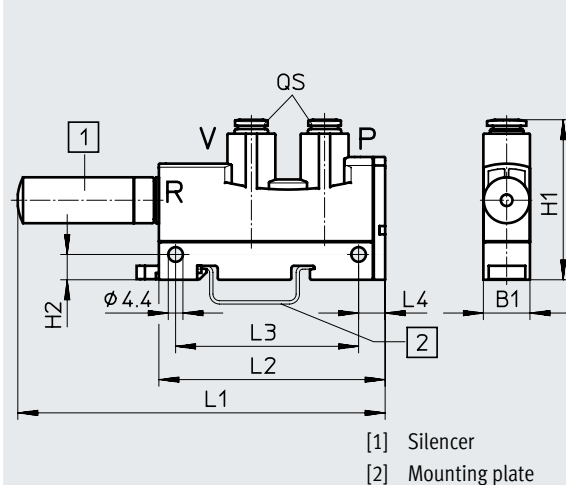
— VN-05
..... VN-07
- - - VN-10



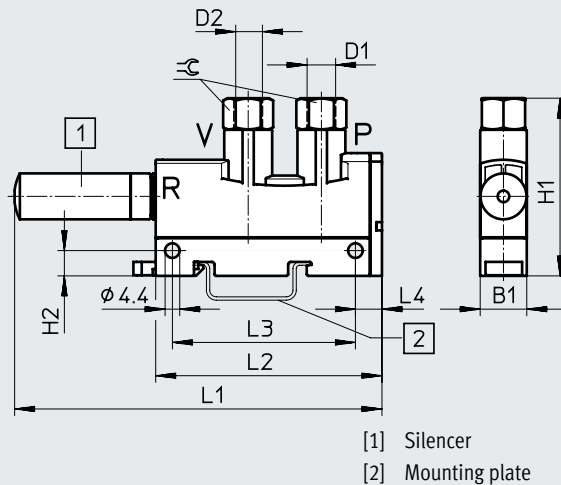
— VN-14
..... VN-20
- - - VN-30

Dimensions – T-shape/standard, VN-05/07/10/14

VN-...-T...-PQ...-VQ...-RO...-A

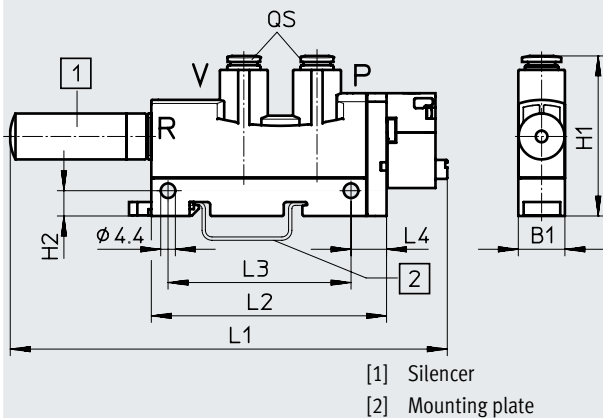


VN-...-T...-PI...-VI...-RO...-A



Download CAD data → www.festo.com

VN-...-T...-PQ...-VQ...-RO...-M/B



Datasheet

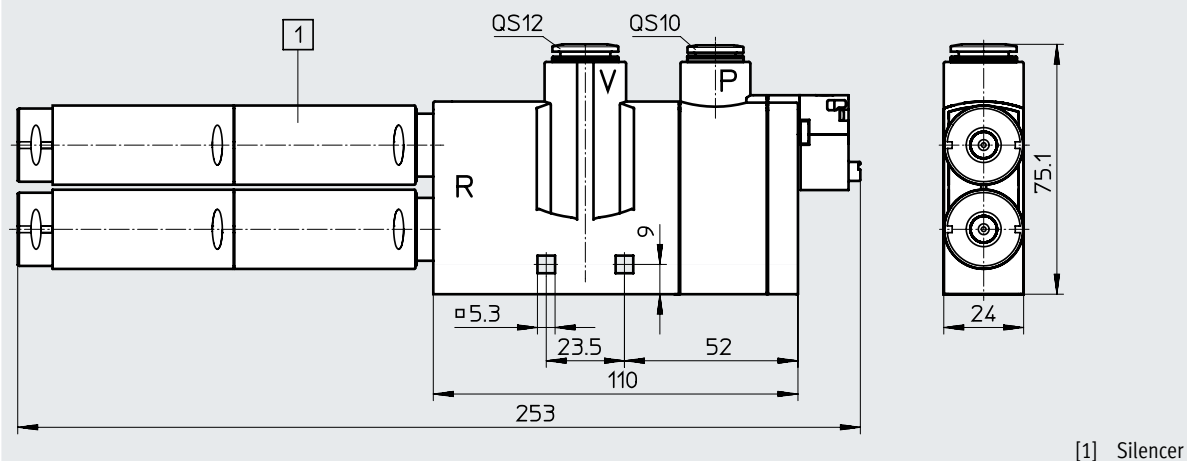
Type	B1	Connections		H1	H2	L1	L2	L3	L4	≡
		P D1	V D2							
VN-05-....T3-PQ2-VQ2-RO1-A	14	QS-6	QS-6	48	7.6	110	68	55	8	-
VN-07-....T3-PQ2-VQ2-RO1-A						119				
VN-10-....T3-PQ2-VQ2-RO1-A						110				
VN-05-....T3-PI4-VI4-RO1-A		G1/8	G1/8	53		119				13
VN-07-....T3-PI4-VI4-RO1-A										
VN-10-....T3-PI4-VI4-RO1-A										
VN-14-....T4-PQ3-VQ3-RO2-A	18	QS-8	QS-8	50	7.5	166	98	63	8.7	-
VN-14-....T4-PI5-VI5-RO2-A		G1/4	G1/4	62						17
VN-05-....T3-PQ2-VQ2-RO1-M/B	14	QS-6	QS-6	48	7.6	132	71	55	10.7	-
VN-07-....T3-PQ2-VQ2-RO1-M/B						141				
VN-10-....T3-PQ2-VQ2-RO1-M/B										
VN-14-....T4-PQ3-VQ3-RO2-M/B	18	QS-8	QS-8	50	7.5	192	106	63	16.4	-

• Note: This product conforms to ISO 1179-1 and ISO 228-1.

Dimensions – T-shape/standard, VN-20/30

Download CAD data → www.festo.com

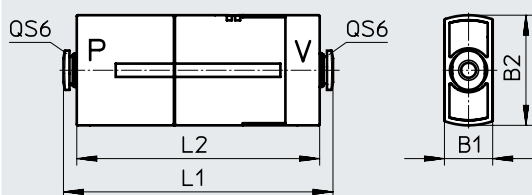
VN-...-T6-PQ4-VQ5-R02-M



Dimensions – Straight shape/inline, VN-05/07

Download CAD data → www.festo.com

VN-05/07-...-I3-PQ2-VQ2-A



Type	B1	Connections		B2	L1	L2
		P	V			
VN-05-...-I3-PQ2-VQ2-A	14.5	QS-6	QS-6	33.1	81	73
VN-07-...-I3-PQ2-VQ2-A					97	89

Datasheet

Ordering data and weights – Standard

T-shape						
Nominal width of Laval nozzle [mm]	Weight [g]	High vacuum H		Weight [g]	High suction rate L	
		Part no.	Type		Part no.	Type
With electric on/off valve, pneumatic ejector pulse, push-in fitting and silencer						
0.95	–	–	–	63	532641	VN-10-L-T3-PQ2-VQ2-R01-B
1.4	–	–	–	100	532649	VN-14-L-T4-PQ3-VQ3-R02-B

Ordering data and weights – Standard

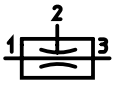
T-shape						
Nominal width of Laval nozzle [mm]	Weight [g]	High vacuum H		Weight [g]	High suction rate L	
		Part no.	Type		Part no.	Type
With pneumatic ejector pulse, push-in fitting and silencer						
0.45	49	532620	VN-05-H-T3-PQ2-VQ2-R01-A	49	532621	VN-05-L-T3-PQ2-VQ2-R01-A
0.7	50	532628	VN-07-H-T3-PQ2-VQ2-R01-A	50	532629	VN-07-L-T3-PQ2-VQ2-R01-A
0.95	50	532638	VN-10-H-T3-PQ2-VQ2-R01-A	50	532639	VN-10-L-T3-PQ2-VQ2-R01-A
1.4	85	532646	VN-14-H-T4-PQ3-VQ3-R02-A	85	532647	VN-14-L-T4-PQ3-VQ3-R02-A
With pneumatic ejector pulse, female thread and silencer						
0.45	49	537225	VN-05-H-T3-PI4-VI4-R01-A	49	537226	VN-05-L-T3-PI4-VI4-R01-A
0.7	50	532632	VN-07-H-T3-PI4-VI4-R01-A	50	532633	VN-07-L-T3-PI4-VI4-R01-A
0.95	50	532642	VN-10-H-T3-PI4-VI4-R01-A	50	532643	VN-10-L-T3-PI4-VI4-R01-A
1.4	94	532719	VN-14-H-T4-PI5-VI5-R02-A	94	532720	VN-14-L-T4-PI5-VI5-R02-A
With electric on/off valve, push-in fitting and silencer						
0.45	60	532618	VN-05-H-T3-PQ2-VQ2-R01-M	60	532619	VN-05-L-T3-PQ2-VQ2-R01-M
0.7	61	532626	VN-07-H-T3-PQ2-VQ2-R01-M	61	532627	VN-07-L-T3-PQ2-VQ2-R01-M
0.95	61	532636	VN-10-H-T3-PQ2-VQ2-R01-M	61	532637	VN-10-L-T3-PQ2-VQ2-R01-M
1.4	98	532644	VN-14-H-T4-PQ3-VQ3-R02-M	98	532645	VN-14-L-T4-PQ3-VQ3-R02-M
2.0	215	532656	VN-20-H-T6-PQ4-VQ5-R02-M	—	—	—
3.0	215	532662	VN-30-H-T6-PQ4-VQ5-R02-M	—	—	—
With electric on/off valve, pneumatic ejector pulse, push-in fitting and silencer						
0.45	62	532622	VN-05-H-T3-PQ2-VQ2-R01-B	62	532623	VN-05-L-T3-PQ2-VQ2-R01-B
0.7	63	532630	VN-07-H-T3-PQ2-VQ2-R01-B	63	532631	VN-07-L-T3-PQ2-VQ2-R01-B
0.95	63	532640	VN-10-H-T3-PQ2-VQ2-R01-B	—	—	—
1.4	100	532648	VN-14-H-T4-PQ3-VQ3-R02-B	—	—	—

Ordering data and weights – Inline

Straight shape						
Nominal width of Laval nozzle [mm]	Weight [g]	High vacuum M		Weight [g]	High suction rate N	
		Part no.	Type		Part no.	Type
With pneumatic ejector pulse and push-in connector						
0.45	38	532624	VN-05-M-I3-PQ2-VQ2-A	38	532625	VN-05-N-I3-PQ2-VQ2-A
0.7	41	532634	VN-07-M-I3-PQ2-VQ2-A	41	532635	VN-07-N-I3-PQ2-VQ2-A

Datasheet

Function



-  - Temperature range
0 ... +60°C
-  - Operating pressure
1 ... 8 bar



General technical data

Type	VN-05	VN-07	VN-10	VN-14	VN-20
Nominal width of Laval nozzle [mm]	0.45	0.7	0.95	1.4	2.0
Ejector characteristic	High vacuum/standard H				
	High suction rate/standard L				
Mounting position	Any				

Operating and environmental conditions

Operating pressure [bar]	1 ... 8
Nominal operating pressure [bar]	6
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium	Lubricated operation not possible
Ambient temperature [°C]	0 ... +60
Temperature of medium [°C]	0 ... +60
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress

1) More information: www.festo.com/x/topic/crc

Performance data – High vacuum

Ejector characteristic	Standard H				
Nominal width of Laval nozzle [mm]	0.45	0.7	0.95	1.4	2.0
Max. vacuum [%]	92	92	93	92	92
Operating pressure for max. vacuum [bar]	4.9	4.4	3.5	3.5	3.5
Max. suction rate with respect to atmosphere [l/min]	7.2	16.2	21.8	48.8	98
Operating pressure for max. suction rate [bar]	3	3	3	2	2
Pressurisation time at nominal operating pressure 6 bar (for 1 l volume) [s]	4.43	1.67	1.02	0.48	0.23

Datasheet

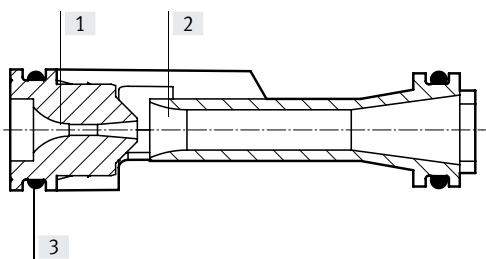
Performance data – High suction rate						
Ejector characteristic		Standard L				
Nominal width of Laval nozzle	[mm]	0.45	0.7	0.95	1.4	2.0
Max. suction rate with respect to atmosphere	[l/min]	13.6	30.9	41.5	92.6	184.4
Operating pressure for max. suction rate	[bar]	5	4	5	5	5
Pressurisation time at nominal operating pressure 6 bar (for 1 l volume)	[s]	2.04	0.82	0.66	0.31	0.17

 **Note**

Connecting two vacuum generator cartridges in parallel doubles the suction rate. This corresponds to the next higher power level.
Example:
2x20-H corresponds to 1x30-H

Materials

Sectional view



Vacuum generator cartridge VN-05/07/10/14/20		
[1]	Jet nozzle	Wrought aluminium alloy
[2]	Female nozzle	POM
[3]	Seals	NBR
LABS (PWIS) conformity		VDMA24364-B1/B2-L

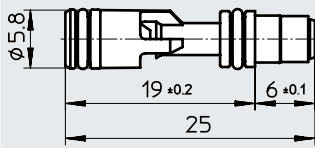
 **Note**

The graphs for the technical data of the vacuum generator cartridge match those for vacuum generator VN-A/B/M.
→ from page 39.

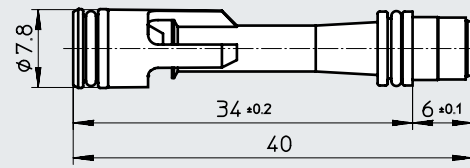
Datasheet

Dimensions

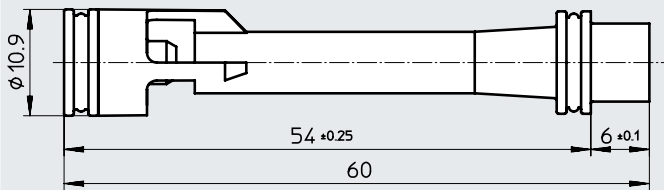
VN-05



VN-07/10



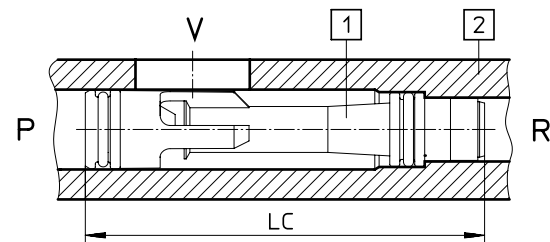
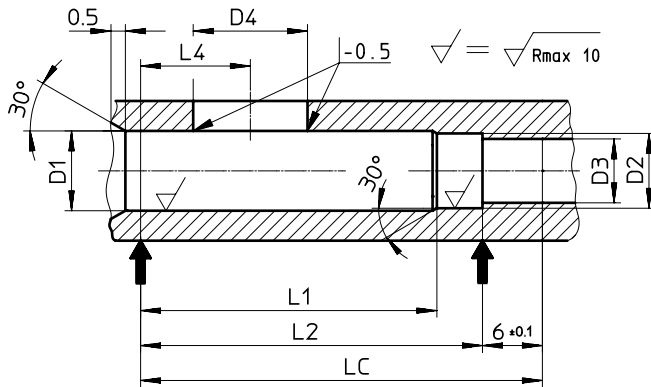
VN-14/20



Locating hole for the vacuum generator cartridge

Dimensions

Installing the vacuum generator cartridge



- [1] Vacuum generator cartridge
[2] Customer-specific housing

Type	Dimensions of the locating hole						Vacuum connection		
	D1 ¹⁾ +0.05	D2	D3	L1	L2 ±0.2	LC ²⁾	L4 ±0.2	D4 min. Ø ³⁾	D4 max. Ø
VN-05	6	5.7 ^{+0.05}	4.9 ^{+0.1}	14	19	25	9.5	3.0	3.5
VN-07	8	7.5 ^{+0.05}	6.5 ^{+0.1}	29	34	40	11	6.0	7.5
VN-10									
VN-14	11.1	10.7 ^{-0.05}	9.4 ± 0.1	49	54	60	13	12.8	15.6
VN-20									

- 1) For D1 with diameter of 11.1: for a threaded connection G1/4, choose the core diameter 11.8^{+0.1}
2) Length of the vacuum generator cartridge
3) Minimum cross section, Festo recommends the largest cross section possible

Ordering data and weight

Nominal width of Laval nozzle [mm]	Weight [g]	High vacuum H		Weight [g]	High suction rate L	
		Part no.	Type		Part no.	Type
0.45	0.65	547693	VN-05-H	0.65	547694	VN-05-L
0.7	1.65	547695	VN-07-H	1.65	547696	VN-07-L
0.95	1.65	547697	VN-10-H	1.65	547698	VN-10-L
1.4	3.75	547699	VN-14-H	3.75	547700	VN-14-L
2.0	3.75	547701	VN-20-H	3.75	547702	VN-20-L

Accessories

Mounting plate VN-...-BP-NRH

For vacuum generator VN
For mounting on H-rail or via through-hole

Ambient temperature: 0°... +60°C

Material:

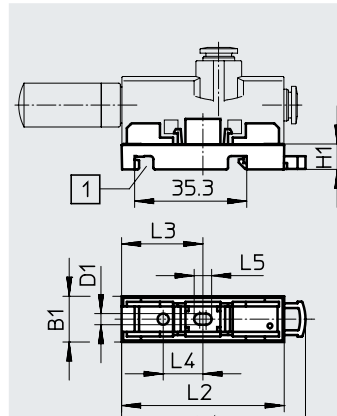
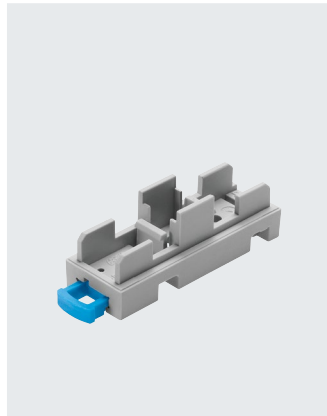
Plate VN-T2/T3/T4: Reinforced POM

Plate VN-T6: Reinforced PA

Slide: POM

LABS (PWIS) conformity:

VDMA24364-B1/B2-L



Note

Horizontal wall mounting is not permitted with mounting plate VN-T6-BP-NRH.

1) Suitable for H-rail 35x7.5 to DIN EN 50022

Dimensions and ordering data

For grid dimension [mm]	B1	D1	H1	L1	L2	L3	L4	L5	CRC ¹⁾	Weight [g]	Part no.	Type
10	10.4	3.5	8	56.5	51	25.5	12.5	5.5	2	3.5	196951	VN-T2-BP-NRH
14	14.4	3.5	8	57.9	51.2	25.6	12.5	5.5	2	4.5	193641	VN-T3-BP-NRH
18	18.4									5.5	195279	VN-T4-BP-NRH
24	24	4.3	7.3	98	91	45.5	32.5	6.3	2	12.4	196956	VN-T6-BP-NRH

1) More information: www.festo.com/x/topic/crc

Mounting plate VN-...-BP

For vacuum generator VN-A/B/M
For wall mounting via through-hole for housing type T3/T4

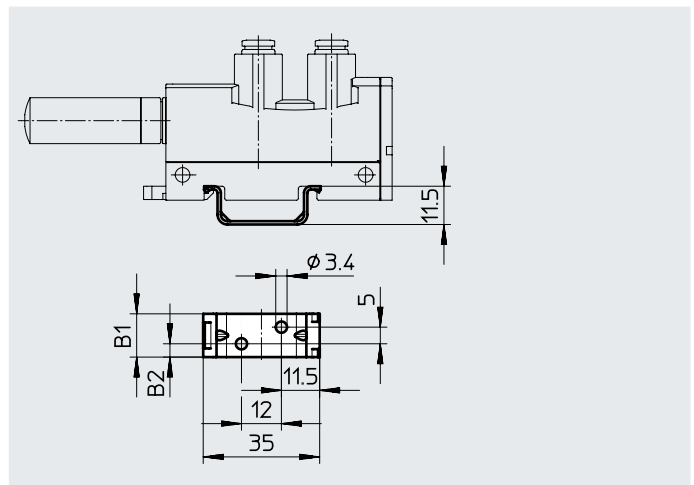
Material:

Plate: Galvanised steel

Note on materials: RoHS-compliant

LABS (PWIS) conformity:

VDMA24364-B1/B2-L



Note

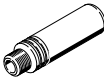
Mounting plate VN-T6-BP-NRH should be used for housing type T6.

Dimensions and ordering data

For grid dimension [mm]	B1	B2	CRC ¹⁾	Weight [g]	Part no.	Type
14	13	4	2 - Moderate corrosion stress	4.8	547436	VN-T3-BP
18	17	6		6.4	547437	VN-T4-BP

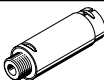
1) More information: www.festo.com/catalogue/...

Accessories

Ordering data – Silencer UO				Datasheets → Internet: uo
	For grid dimension [mm]	Pneumatic connection	Part no.	Type
	10 (VN-...T2-...-R01 only)	M7	197582	UO-M7
	14	G1/8	197583	UO-1/8
	18	G1/4	197584	UO-1/4

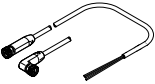
Ordering data – Silencer AMTE				Datasheets → Internet: amte	
	For grid dimension [mm]	Pneumatic connection	Part no.	Type	PU ¹⁾
Short version					
	10	M5	1206621	AMTE-M-H-M5	20
	14	G1/8	1206622	AMTE-M-H-G18	20
	18	G1/4	1206623	AMTE-M-H-G14	20
Long version					
	10	M5	1205858	AMTE-M-LH-M5	20
	14	G1/8	1205860	AMTE-M-LH-G18	20
	18	G1/4	1205861	AMTE-M-LH-G14	20

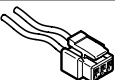
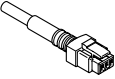
1) Packaging unit

Ordering data – Silencer UOM				Datasheets → Internet: uom
	For grid dimension [mm]	Pneumatic connection	Part no.	Type
	18	G1/4	538432	UOM-1/4
	24	G3/8	538433	UOM-3/8

Ordering data – Silencer extension UOMS				Datasheets → Internet: uoms
	For grid dimension [mm]	Pneumatic connection	Part no.	Type
	18	–	538436	UOMS-1/4
	24	–	538437	UOMS-3/8

Accessories

Ordering data – Connecting cable NEBA-M8					Datasheets → Internet: neba
	Electrical connection	Number of wires	Cable length [m]	Part no.	Type
	M8x1, straight socket	3	2.5	8078223	NEBA-M8G3-U-2.5-N-LE3
			5	8078224	NEBA-M8G3-U-5-N-LE3
	M8x1, angled socket	3	2.5	8078230	NEBA-M8W3-U-2.5-N-LE3
			5	8078231	NEBA-M8W3-U-5-N-LE3

Ordering data – Plug socket with cable NEBV					Datasheets → Internet: nebv
	Cable composition	Product weight [g]	Cable length [m]	Part no.	Type
	2 individual cables	4	0.5	566654	NEBV-H1G2-KN-0.5-N-LE2
		7	1	566655	NEBV-H1G2-KN-1-N-LE2
		17	2.5	566656	NEBV-H1G2-KN-2.5-N-LE2
		31	5	566657	NEBV-H1G2-KN-5-N-LE2
	Cable, 2-wire	8	0.5	566658	NEBV-H1G2-P-0.5-N-LE2
		16	1	566659	NEBV-H1G2-P-1-N-LE2
		35	2.5	566660	NEBV-H1G2-P-2.5-N-LE2
		70	5	566661	NEBV-H1G2-P-5-N-LE2