

## Exhaust air flow control valves

**FESTO**



# Exhaust air flow control valves




Product range overview

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## Function

Exhaust air flow control valves are screwed into the exhaust controls of control valves or drives. They enable the piston speed of cylinders or rotary drives to be controlled by restricting

the air exhaust. This is done using the adjusting element. The air is exhausted via an integrated silencer which reduces the noise level.

Design	Valve function	Design	Type	Pneumatic connection 1	qn <sup>1)</sup> [l/min]	Adjusting element	→ Page/ Internet
<b>Exhaust air flow control valve</b>	Sintered metal						
	Flow control/silencer function		GRE	G1/8, G1/4, G3/8, G1/2	0 ... 3,600	Slotted head screw	3
<b>Flow control/silencer</b>	Plastic						
	Flow control/silencer function		VFFK	M5, M7, R1/8, R1/4	0 ... 420	Knurled screw	5
			GRU	G1/8, G1/4, G3/8, G1/2, G3/4	0 ... 8,000	Slotted head screw	9

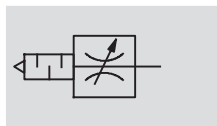
1) Standard flow rate

# Exhaust air flow control valves GRE

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Technical data

Function



Flow rate

0 ... 3,600 l/min

Temperature range

-10 ... +70 °C

Pressure

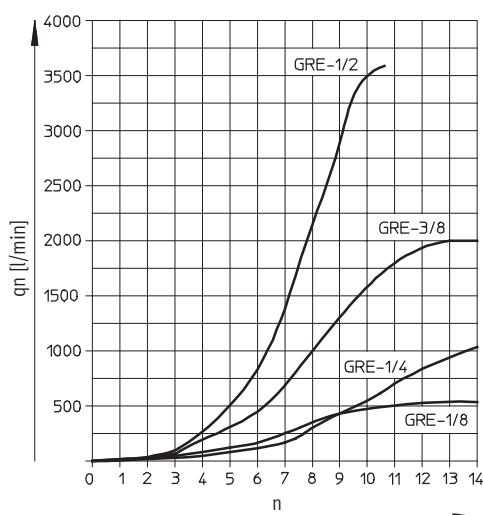
0 ... 10 bar



General technical data				
Valve function	Flow control/silencer function			
Pneumatic connection 1	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$
Adjustment component	Slotted head screw			
Type of mounting	Screw-in			
Mounting position	Any			
Max. tightening torque [Nm]	–	–	15	–

Operating and environmental conditions				
Pneumatic connection 1	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$
Operating pressure [bar]	0 ... 10			
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:-:-]	Compressed air in accordance with ISO 8573-1:2010 [7:-:-]	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]	Compressed air in accordance with ISO 8573-1:2010 [7:-:-]
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)			
Ambient temperature [°C]	-10 ... +70			
Temperature of medium [°C]	-10 ... +70			

Standard nominal flow rate  $q_{nN}$  at 6 bar → 5 bar as a function of spindle rotations  $n$



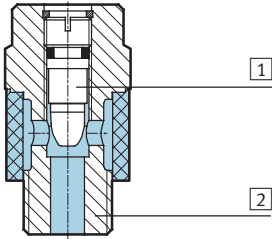
# Exhaust air flow control valves GRE

Technical data

**FESTO**

## Materials

Sectional view

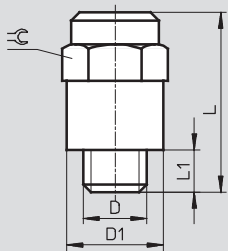


Exhaust air flow control valve

1	Adjusting screw	Brass
2	Threaded plug	Wrought aluminium alloy
–	Seals	NBR
Note on materials		RoHS-compliant

## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



Type	Connection D	D1 Ø	L	L1	≡
GRE-1/8	G1/8	15	28.5	6.5	14
GRE-1/4	G1/4	18.2	34	8	17
GRE-3/8	G3/8	25	42	8	22
GRE-1/2	G1/2	27	48	12	24

## Ordering data

	Pneumatic connection 1	Standard nominal flow rate qnN at 6 bar → 5 bar in direction of flow control [l/min]	Standard flow rate qn at 6 bar → 0 bar in direction of flow control [l/min]	Weight [g]	Part No.	Type
	G1/8	520	0 ... 520	15	10351	GRE-1/8
	G1/4	996	0 ... 996	25	10352	GRE-1/4
	G3/8	2,000	3 ... 2,000	50	35310	GRE-3/8
	G1/2	3,600	0 ... 3,600	75	10353	GRE-1/2

## Flow control/silencers VFFK

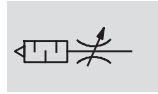
Type codes

		VFFK	-	C	-	K	-	M7	-	P
<b>Type</b>										
VFFK	Flow control/silencer									
<b>Design</b>										
C	Inline									
<b>Adjusting element</b>										
K	Knurled screw									
<b>Pneumatic connection 1</b>										
M5	Thread M5									
M7	Thread M7									
R18	Thread R1/8									
R14	Thread R1/4									
<b>Additional feature</b>										
P	Polymer silencer									

## Flow control/silencers VFFK

Technical data

Function



-M- Flow rate  
0 ... 420 l/min  
Temperature range  
0 ... +60 °C  
Pressure  
0 ... 10 bar



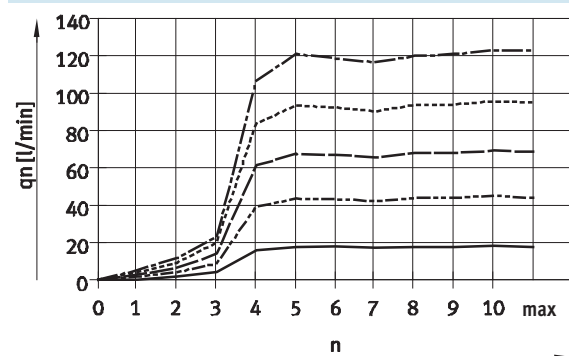
General technical data				
Valve function	Flow control/silencer function			
Pneumatic connection 1	M5	M7	R1/8	R1/4
Adjusting element	Knurled screw			
Type of mounting	Screw-in			
Mounting position	Any			
Type of seal on threaded plug	Sealing ring			Coating
Nominal tightening torque [Nm]	1.4 ±20%	3.8 ±20%	–	

Operating and environmental conditions	
Operating pressure [bar]	0 ... 10
Operating medium	Compressed air according to ISO 8573-1:2010 [7:4:4]
Note about the operating/pilot medium	Lubricated operation possible
Ambient temperature [°C]	0 ... +60
Temperature of medium [°C]	0 ... +60
Storage temperature [°C]	0 ... +60

Materials		
Type	VFFK-C-K-M...-P	VFFK-C-K-R...-P
Silencer insert	PE	
Threaded plug	Nickel-plated brass	
Regulating screw	Nickel-plated brass	
Knurled nut	Aluminium	
Seals	NBR	–
Note on materials	RoHS-compliant	

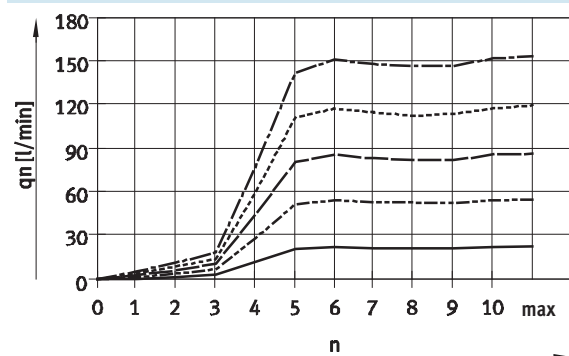
### Standard flow rate $q_n$ [l/min] as a function of turns of the adjusting screw $n$

VFFK-C-K-M5-P



— P1 = 1 bar  
 - - - P1 = 3 bar  
 - · - P1 = 5 bar  
 - - - P1 = 7 bar  
 —·— P1 = 9 bar

VFFK-C-K-M7-P



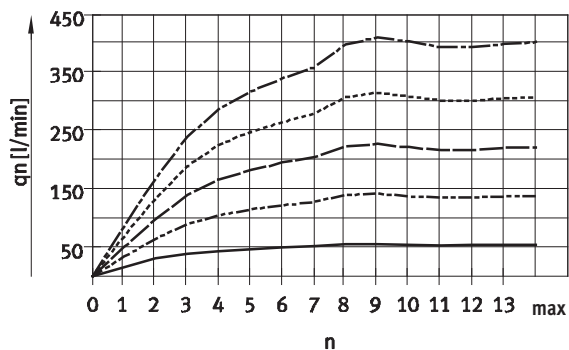
Flow rate tolerance: ±20%

# Flow control/silencers VFFK

Technical data

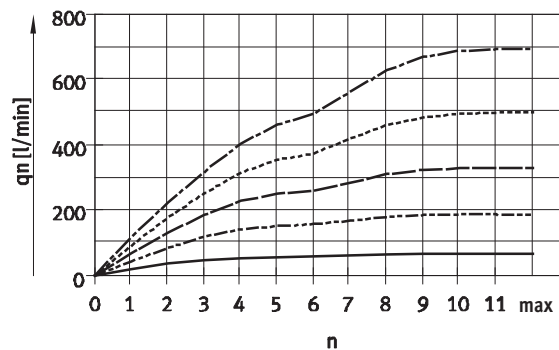
## Standard flow rate $q_n$ [l/min] as a function of turns of the adjusting screw $n$

VFFK-C-K-R18-P



— P1 = 1 bar  
 - - - P1 = 3 bar  
 - · - P1 = 5 bar  
 · · · P1 = 7 bar

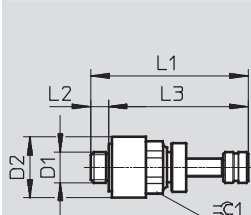
VFFK-C-K-R14-P


 Flow rate tolerance:  $\pm 20\%$ 

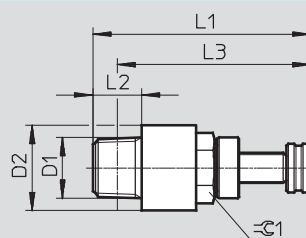
## Dimensions

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VFFK-C-K-M...-P




VFFK-C-K-R...-P



Type	Connection D1	D2 Ø	L1		L2	L3		1/8 1
			min.	max.		min.	max.	
VFFK-C-K-M5-P	M5x0.8	10	22.2	25.8	2.9	19.3	22.9	8
VFFK-C-K-M7-P	M7x1	10	25	28.3	5.5	19.2	22.8	8
VFFK-C-K-R18-P	R1/8	14	29.1	35.8	8	25.1	31.8	10
VFFK-C-K-R14-P	R1/4	18	31.1	37	10.8	25.1	31	14

## Ordering data

	Pneumatic connection 1	Standard flow rate $q_n$ at 6 bar → 0 bar [l/min]	Weight [g]	Part No.	Type
	M5	0 ... 80	4.5	133140	VFFK-C-K-M5-P
	M7	0 ... 100	6.1	133141	VFFK-C-K-M7-P
	R1/8	0 ... 270	13.5	133142	VFFK-C-K-R18-P
	R1/4	0 ... 420	25	133143	VFFK-C-K-R14-P

# Flow control/silencers GRU



Type codes

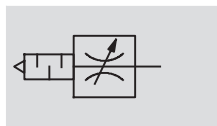
		GRU	-	1/4	-	B
<b>Type</b>						
GRU	Flow control/silencer					
<b>Pneumatic connection 1</b>						
1/8	Thread G1/8					
1/4	Thread G1/4					
3/8	Thread G3/8					
1/2	Thread G1/2					
3/4	Thread G3/4					
<b>Generation</b>						
B	B series					

# Flow control/silencers GRU

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Technical data

Function



Flow rate

0 ... 8,000 l/min

Temperature range

-10 ... +70 °C

Pressure

0 ... 10 bar



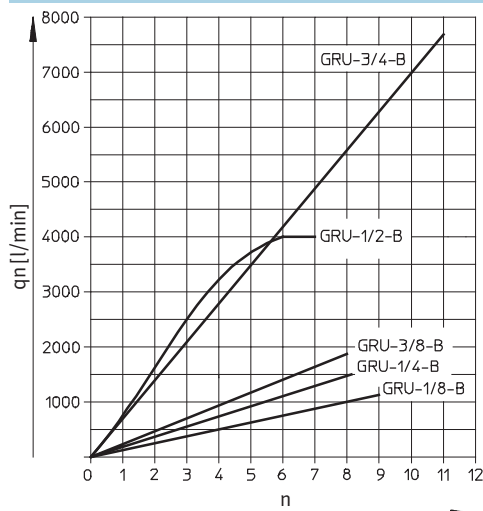
## General technical data

Valve function		Flow control/silencer function			
Pneumatic connection 1	G1/8	G1/4	G3/8	G1/2	G3/4
Adjustment component	Slotted head screw				
Type of mounting	Screw-in				
Mounting position	Any				

## Operating and environmental conditions

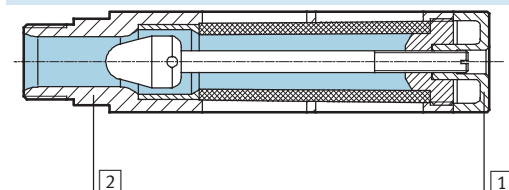
Operating pressure [bar]	0 ... 10
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:-:-]
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)
Ambient temperature [°C]	-10 ... +70
Temperature of medium [°C]	-10 ... +70

## Standard nominal flow rate qnN at 6 bar → 5 bar as a function of spindle rotations n



## Materials

Sectional view



## Flow control/silencer

1	Adjusting screw	PA
2	Housing, threaded plug	Die-cast aluminium
Note on materials		RoHS-compliant (GRU-3/8/GRU-3/4 only)

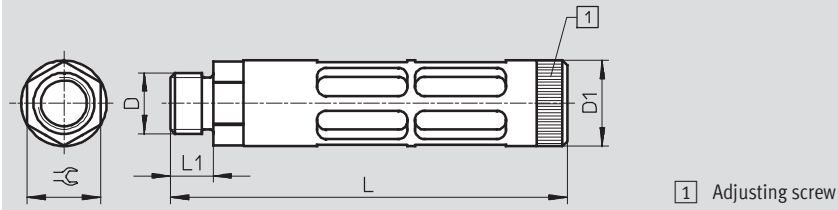
# Flow control/silencers GRU

Technical data

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## Dimensions

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Type	Connection D	D1 Ø	L	L1	↗
GRU-1/8	G1/8	16	46	5.4	14
GRU-1/4	G1/4	19.5	63.3	6.4	17
GRU-3/8	G3/8	25	95.3	7.5	19
GRU-1/2	G1/2	28	130	14	24
GRU-3/4	G3/4	38	157	16	32

## Ordering data

	Pneumatic connection 1	Standard nominal flow rate q <sub>nN</sub> at 6 bar → 5 bar in direction of flow control [l/min]	Standard flow rate q <sub>n</sub> at 6 bar → 0 bar in direction of flow control [l/min]	Weight [g]	Part No.	Type
	G1/8	1,000	0 ... 1,000	10	<b>9516</b>	<b>GRU-1/8-B</b>
	G1/4	1,500	0 ... 1,500	25	<b>9517</b>	<b>GRU-1/4-B</b>
	G3/8	1,700	0 ... 1,700	55	<b>9518</b>	<b>GRU-3/8-B</b>
	G1/2	4,000	0 ... 4,000	100	<b>9519</b>	<b>GRU-1/2-B</b>
	G3/4	8,000	0 ... 8,000	170	<b>9520</b>	<b>GRU-3/4-B</b>

## Product Range and Company Overview

### A Complete Suite of Automation Services

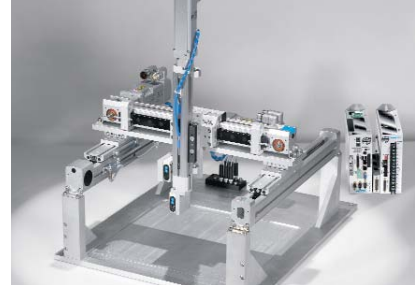
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# Festo North America

## Festo Regional Contact Center

5300 Explorer Drive  
Mississauga, Ontario L4W 5G4  
Canada

### USA Customers:

For ordering assistance,

**Call:** 1.800.99.FESTO (1.800.993.3786)

**Fax:** 1.800.96.FESTO (1.800.963.3786)

**Email:** [customer.service@us.festo.com](mailto:customer.service@us.festo.com)

For technical support,

**Call:** 1.866.GO.FESTO (1.866.463.3786)

**Fax:** 1.800.96.FESTO (1.800.963.3786)

**Email:** [product.support@us.festo.com](mailto:product.support@us.festo.com)

### Canadian Customers:

**Call:** 1.877.GO.FESTO (1.877.463.3786)

**Fax:** 1.877.FX.FESTO (1.877.393.3786)

**Email:** [festo.canada@ca.festo.com](mailto:festo.canada@ca.festo.com)

## USA Headquarters

Festo Corporation  
395 Moreland Road  
P.O. Box 18023  
Hauppauge, NY 11788, USA  
[www.festo.com/us](http://www.festo.com/us)

## USA Sales Offices

### Appleton

North 922 Tower View Drive, Suite N  
Greenville, WI 54942, USA

### Boston

120 Presidential Way, Suite 330  
Woburn, MA 01801, USA

### Chicago

1441 East Business Center Drive  
Mt. Prospect, IL 60056, USA

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1825 Lakeway Drive, Suite 600  
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### Detroit – Automotive Engineering Center

2601 Cambridge Court, Suite 320  
Auburn Hills, MI 48326, USA

### New York

395 Moreland Road  
Hauppauge, NY 11788, USA

### Silicon Valley

4935 Southfront Road, Suite F  
Livermore, CA 94550, USA

## United States



**USA Headquarters, East:** Festo Corp., 395 Moreland Road, Hauppauge, NY 11788

Phone: 1.631.435.0800; Fax: 1.631.435.8026;

Email: [info@festo-usa.com](mailto:info@festo-usa.com)

[www.festo.com/us](http://www.festo.com/us)

## Canada



**Headquarters:** Festo Inc., 5300 Explorer Drive, Mississauga, Ontario L4W 5G4

Phone: 1.905.624.9000; Fax: 1.905.624.9001;

Email: [festo.canada@ca.festo.com](mailto:festo.canada@ca.festo.com)

[www.festo.ca](http://www.festo.ca)

## Mexico



**Headquarters:** Festo Pneumatic, S.A., Av. Ceylán 3, Col. Tequesquahuac,  
54020 Tlalneapantla, Edo. de México

Phone: 011 52 [55] 53 21 66 00; Fax: 011 52 [55] 53 21 66 65;

Email: [festo.mexico@mx.festo.com](mailto:festo.mexico@mx.festo.com)

[www.festo.com/mx](http://www.festo.com/mx)

## Central USA

Festo Corporation  
1441 East Business  
Center Drive  
Mt. Prospect, IL 60056, USA  
Phone: 1.847.759.2600  
Fax: 1.847.768.9480



## Western USA

Festo Corporation  
4935 Southfront Road,  
Suite F  
Livermore, CA 94550, USA  
Phone: 1.925.371.1099  
Fax: 1.925.245.1286



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