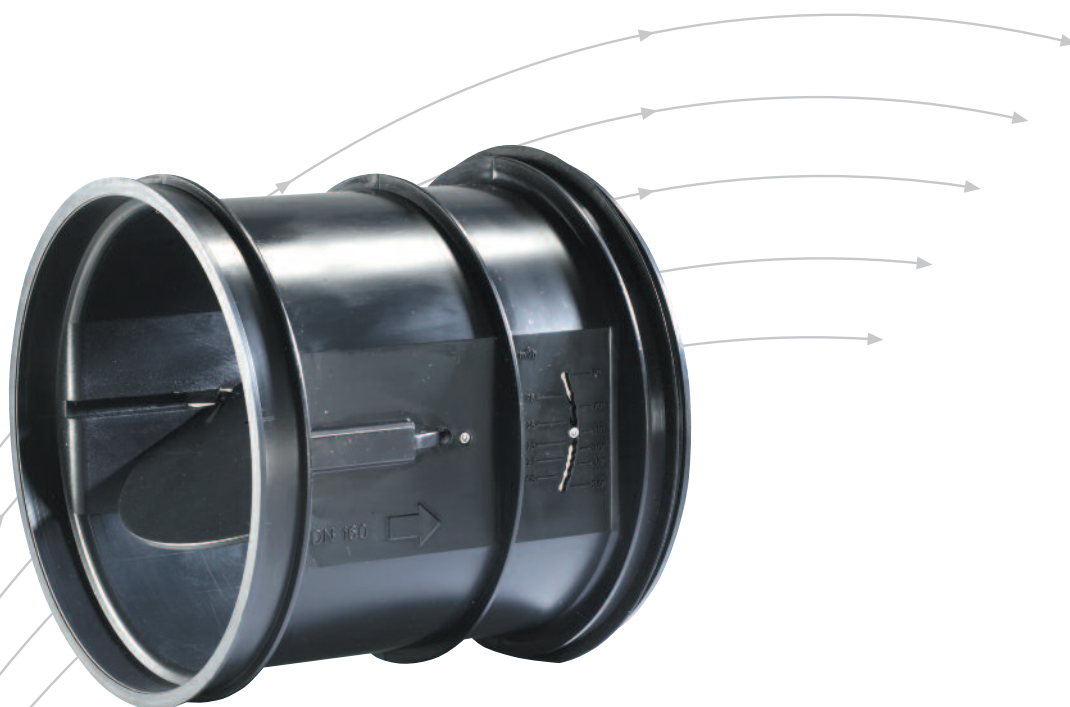


Volume Flow Limiter

Type VFL
for insertion into branch ductwork



TROX® **TECHNIK**

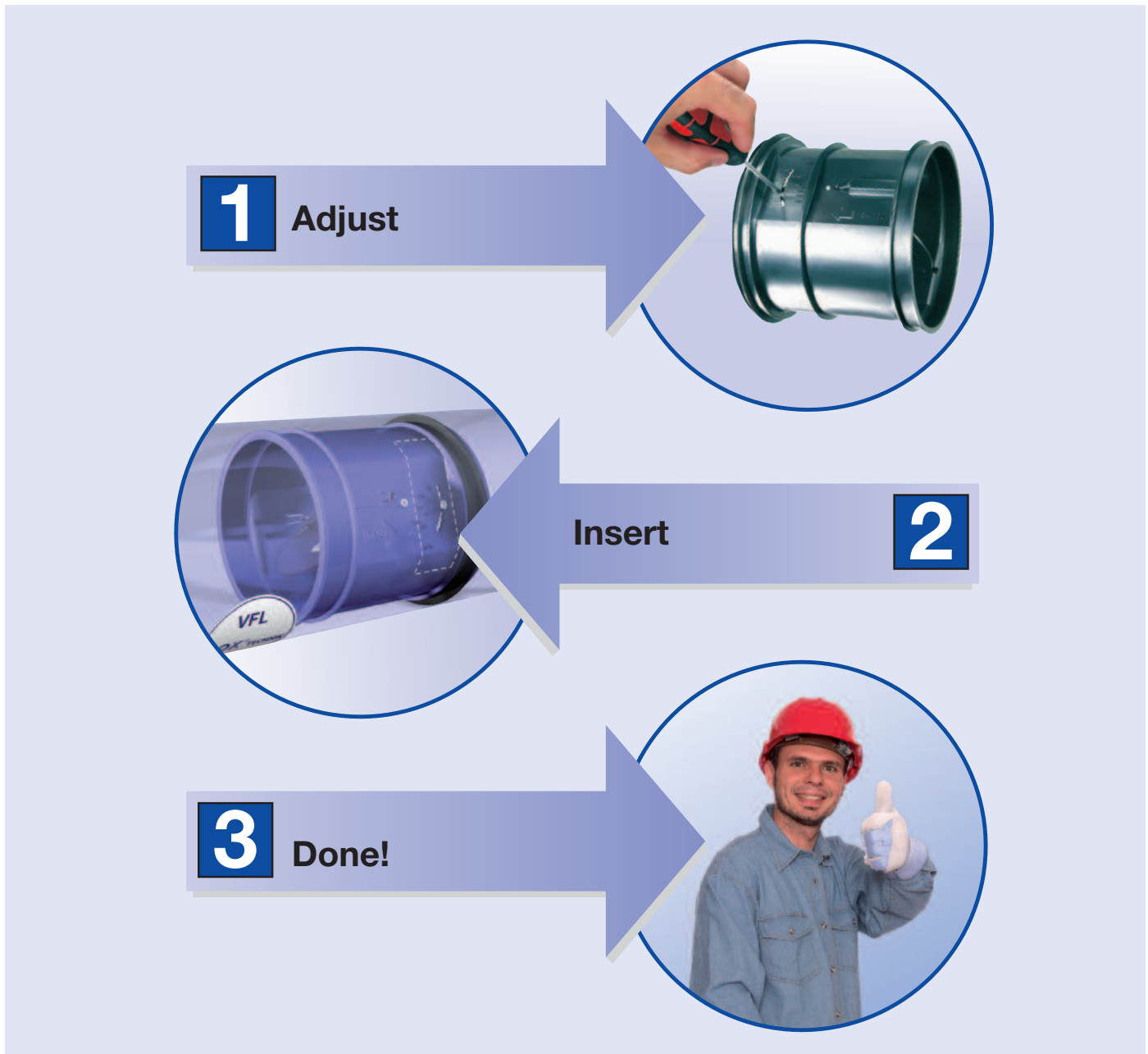
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Description · Dimensions

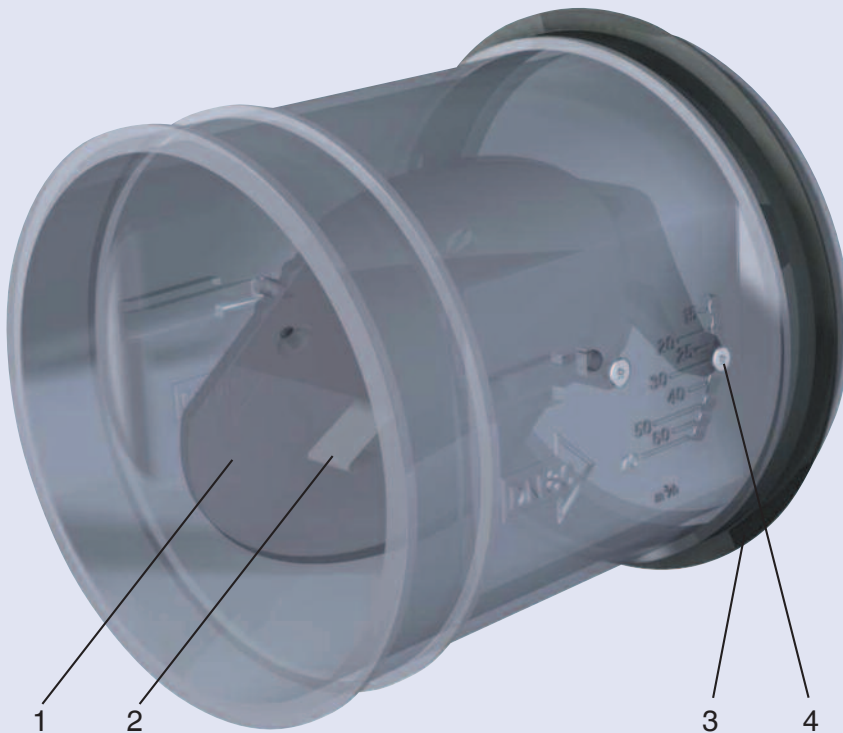
Description

The VFL volume flow limiter simply deals with what is normally the tedious and expensive process of adjusting flow rates in ventilation and air conditioning systems. Easy installation and precise operation saves precious time on site.

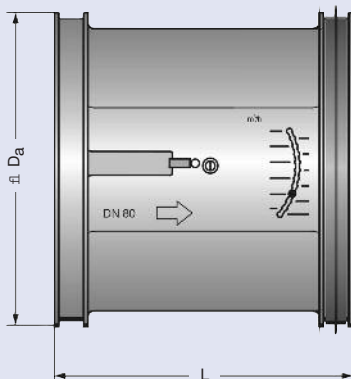
The required airflow rate can be simply set up when the VFL is fitted into the ductwork. The VFL controls to the set flow rate keeping it constant within close tolerances even when the upstream pressure changes.

Characteristics

- Very close control accuracy for the flow rate settings, to approx. $\pm 10\%$ relative to \dot{V}_{nom}
- Flow rate range $> 5 : 1$, accurately adjustable
- Mechanical system-powered
- Differential pressure range 0.12 to 1.2 in. w.g.
- Independent of orientation
- Maintenance-free
- Operating temperature range 32 to 120 °F
- Storage temperature range 0 to 140 °F
- Stainless steel leaf spring
- Low-friction oscillation damper
- High-quality plastic control damper and casing (UL 94 V1)



- 1 Control damper blade with oscillation damper
- 2 Leaf spring
- 3 Lip seal
- 4 Setpoint value adjustment



Dimensions in inches			Weight in lbs
Size	$\pm D_a$	L	Weight
100	3 $\frac{3}{4}$	4	0.3
125	4 $\frac{3}{4}$	4 $\frac{5}{8}$	0.6
150	5 $\frac{3}{4}$	5 $\frac{7}{8}$	0.9
200	7 $\frac{3}{4}$	6 $\frac{7}{8}$	1.1
250	9 $\frac{3}{4}$	8 $\frac{5}{8}$	1.5

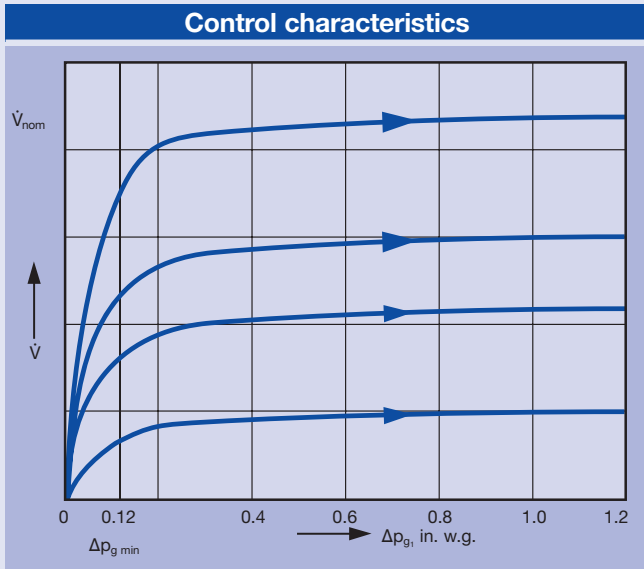
Nomenclature · Technical Data · Acoustic Data

Nomenclature

\dot{V}	CFM: Flow rate
\dot{V}_{nom}	CFM: Nominal flow rate
Δp_g	in. w.g.: Total pressure differential
$\Delta p_{g, min}$	in. w.g.: Minimum total pressure differential for duct pressure compensation
L_{DNC}	NC: Air-regenerated noise, including duct end reflection and 10 dB/Oct. room attenuation

Flow rate setpoint values												
Size	\dot{V}											\dot{V}_{nom}
	CFM	10	12	15	18	24	30	35	40	55	60	
100	m ³ /h	15	20	25	30	40	50	60	70	90	100	120
	CFM	25	30	35	40	50	60	70	80	95	110	120
125	m ³ /h	40	50	60	70	85	100	120	140	160	185	205
	CFM	30	40	50	60	70	80	95	110	120	135	155
150	m ³ /h	50	75	85	100	120	135	160	185	205	230	265
	CFM	35	50	65	90	110	135	170	205	240	285	335
200	m ³ /h	60	85	110	150	185	230	290	350	410	485	570
	CFM	75	100	130	170	220	265	325	376	440	-	530
250	m ³ /h	125	170	220	290	370	450	550	640	750	-	900

Reference flow rate



Sound pressure level $L_{p_{NC}}$ in dB(A)			
Size	\dot{V}	$\Delta p_g = 0.2$ in. w.g.	$\Delta p_g = 0.2$ in. w.g.
	CFM	NC	NC
100	10	21	27
	20	22	28
	30	23	29
	50	24	30
	70	25	31
125	25	27	31
	40	27	32
	60	28	33
	95	29	34
	120	29	35
150	30	22	30
	60	24	32
	100	26	33
	150	27	34
	200	28	35
200	35	19	27
	110	21	28
	200	22	29
	285	23	30
	335	24	30
250	75	18	27
	170	20	28
	325	22	30
	440	23	31
530	24	32	

Installation

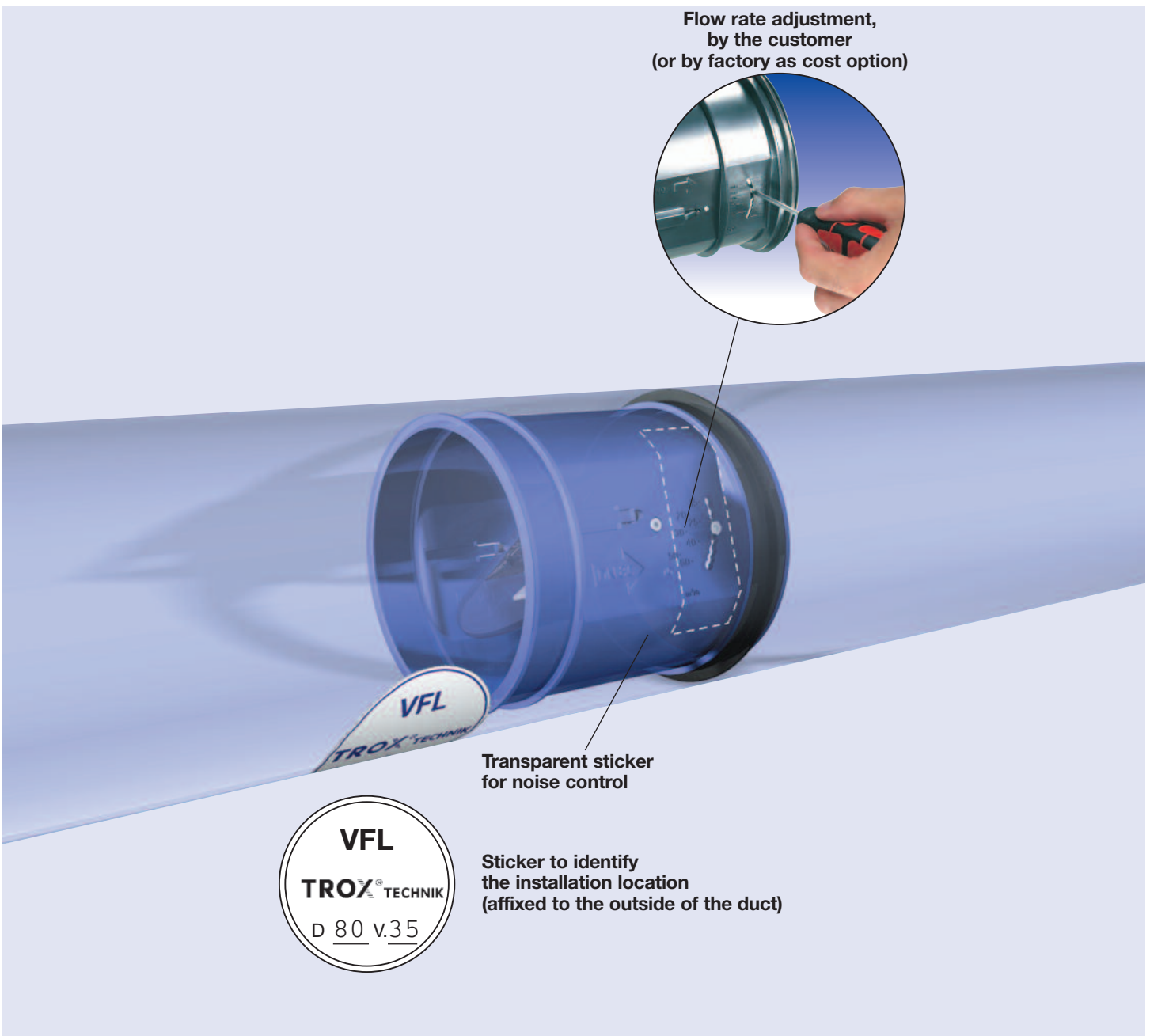
The required flow rate is simply set on site at the point of installation. The slot must then be closed with a sticker supplied to ensure best acoustic performance. The limiter can now be slid into the duct.

The minimum straight upstream duct should be at least 1 D.

Identification of the installation location

Stickers are supplied for identifying the flow volume limiters once installed. These may be filled in by hand and affixed to the outside of the duct in an easily visible location.

Flow rate adjustment,
by the customer
(or by factory as cost option)



Transparent sticker
for noise control

Sticker to identify
the installation location
(affixed to the outside of the duct)



Order Details

Specification text

Circular volume flow limiter Type VFL in 5 nominal sizes, manufactured from high quality plastic (UL 94 V1) for constant flow rate control, for use in air conditioning and ventilation systems, consists of a regulator with set point adjustment, the regulation mechanism with leaf spring and low friction, silicone free oscillation damper.

Special characteristics:

- Mechanical system-powered with a control damper
- Very close control accuracy of approx. $\pm 10\%$, relative to \dot{V}_{nom} in the pressure range between 0.12 and 1.2 in. w.g.
- Independent of orientation and maintenance-free

Easy installation into circular ducting; snug fit ensured by a lip seal.

Tested for function and set at its reference flow rate in the factory. Field adjustment of airflow rate is by others (optionally, specified airflow rates can be factory set).

Order code

Type	VFL	/	100	
Size	Nominal Diameter	Reference flow rate \dot{V}^1		
		CFM	m ³ /h	
100	4"	40	70	
125	5"	60	100	
150	6"	80	135	
200	8"	170	290	
250	10"	265	450	

1) Factory setting of different airflow rate setpoint values is offered at extra costs.

See table on page 4 for range of values available as a function of size.