

Butterfly Valves

VKF41...C

Butterfly valves designed for fitting between counter-flanges, for integration into gas trains.

- Disk with metallically tight shutoff
- DN40...DN200
- Angle of rotation 85°
- No maintenance required
- Suited for use with gases of families I...III and air
- In connection with SQM50... actuators and ASK33.9 mounting kit
- In connection with SQM45... actuators and ASK33.4 mounting kit

The butterfly valves and this Data Sheet are intended for use by OEMs which integrate the VKF41...C in their products.

Use

- In heating, ventilation and air conditioning plant as controlling devices. For example:
- As gas control valves
 - As air control valves

Warning notes



To avoid injury to persons, damage to property or the environment, the following warning notes should be observed!

Do not interfere with or modify the butterfly valves!

- Fall or shock can adversely affect the safety functions. Such valves may not be put into operation, even if they do not exhibit any damage

Mounting notes

- Ensure that the relevant national safety regulations are complied with
- Mounting between counter-flanges conforming to DIN 2632 and DIN 2633
- ASK33.9 mounting kit is supplied complete with Mounting Instructions
- Butterfly valve, actuator and mounting kit can be straightforwardly assembled on site
- No special tools or adjustment required
- The butterfly valve can accommodate flow in either direction
- Use flange gaskets that are suited for the type of gas the valve will control

Installation notes

- Installation work must be carried out by qualified staff

Commissioning notes

- Commissioning work must be carried out by qualified staff
- The butterfly valve may only be put into operation if mounting kit and actuator are correctly fitted

Disk turns in clockwise direction	Flow increases
Disk turns in counterclockwise direction	Flow decreases

Norms and standards

- Conformity to EEC directives
 - Directive for gas appliances 90 / 396 EEC
 - Directive for pressure devices 97 / 23 EEC

Service notes

- Maintenance work must be carried out by qualified staff
- VKF41...C butterfly valves require no maintenance
- After service work has been carried out, the butterfly valve may be put into operation only if actuator and mounting kit are correctly reassembled

Disposal notes



Prior to disposal, the butterfly valve must be dismantled and separated into its various materials.

Local and currently valid legislation must be observed.

Mechanical design

Butterfly valve	Disk and spindle are made of stainless steel. The valve disk closes against an end stop.
ASK33.9 mounting kit	In all cases, an ASK33.9 mounting kit is required to assemble the SQM50... actuator and the VKF41...C butterfly valve. The mounting kit consists of console, coupling with torsion spring, position indicator and fixing accessories. The torsion spring ensures tight shutoff and allows the actuator to be switched off.
ASK33.4 mounting kit	In all cases, an ASK33.4 mounting kit is required to assemble the SQM45... actuator and the VKF41...C butterfly valve. The mounting kit consists of coupling with a preassembled mounting kit.

Type summary

Type reference	DN [mm]	Max. flow rate at $\Delta p = 10$ mbar air	Leakage rate at $\Delta p = 10$ mbar air
VKF41.40C	40	170	0.4 %
VKF41.50C	50	230	0.4 %
VKF41.65C	65	570	0.5 %
VKF41.80C	80	1070	0.5 %
VKF41.100C	100	1870	0.5 %
VKF41.125C	125	3300	0.6 %
VKF41.150C	150	5300	0.6 %
VKF41.200C	200	9200	0.7 %

Legend DN = nominal diameter

Ordering

Butterfly valve, actuator and mounting kit must be ordered as individual items.

Ordering example:

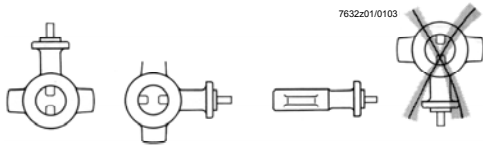
- 1 VKF41.40C butterfly valve
- 1 ASK33.9 mounting kit
- 1 SQM50.381A2 actuator

Delivery Butterfly valve, actuator and mounting kit are packed as individual items.

Accessories

Butterfly valve VKF41...C	refer to «Type summary»
Actuator SQM50...	refer to Data Sheet 7815
Actuator SQM45...	refer to Data Sheet 7814
Mounting kit ASK33.9	refer to Data Sheet 7815 and Mounting Instructions M7815.4
- For assembly of SQM50... and VKF41...C only in connection with the AGA58.1 spindle	
Mounting kit ASK33.4	refer to Data Sheet 7814
- For assembly of SQM45... and VKF41...C butterfly valve	

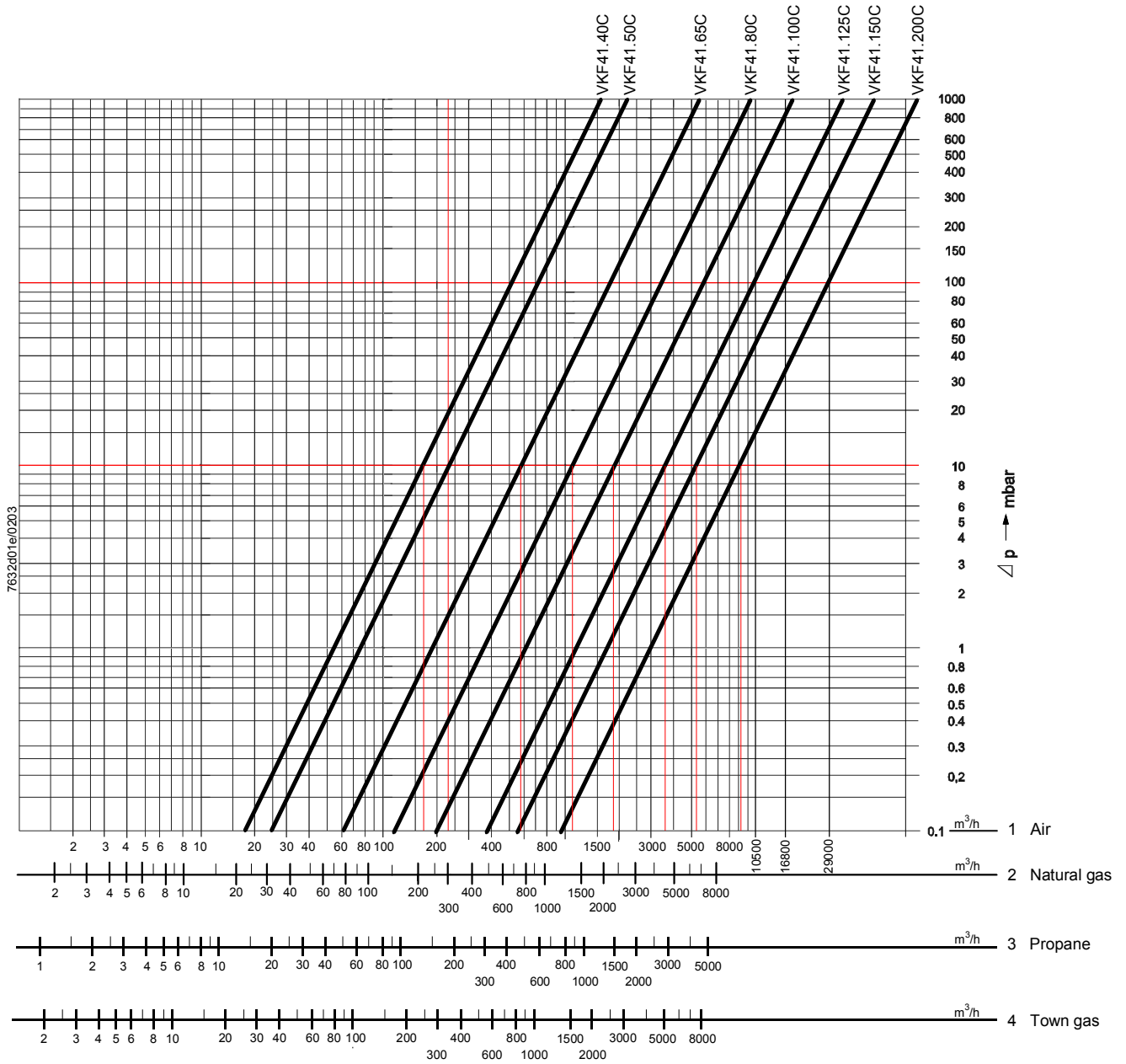
Technical data

General valve data	Media	gases of families I...III or air
	Operating pressure	max. 150 kPa (1.5 bar)
	Mounting positions	
	Characteristic	linear
	Leakage rate	refer to «Type summary»
	Angular rotation	butterfly valve 90° (with end stop)
	Materials	
	- Valve body	cast iron EN-GJL-250
	- Spindle and disk	stainless steel
	- Spindle seal	NBR-O-rings
Weight	refer to «Dimensions»	
Environmental conditions	Transport	DIN EN 60 721-3-2
	Climatic conditions	class 2K2
	Mechanical conditions	class 2M2
	Temperature range	-15...+60 °C
	Humidity	< 95 % r.h.
	Operation	DIN EN 60 721-3-3
	Climatic conditions	class 3K5
	Mechanical conditions	class 3M2
	Temperature range	-20...+60 °C
	Humidity	< 95 % r.h.



Condensation, formation of ice and ingress of water are not permitted!

Flow diagram



Note:

- In the case of burners operating with small low-fire gas volumes, select a tightly sized valve
- If the gas pressure exceeds the maximum permissible operating pressure, reduce the gas pressure with a pressure controller
- The pressure drop (maximum flow characteristic) is based on a fully open butterfly valve

Conversion of air volume to a corresponding gas volume (natural gas)

Basis of scale

Abcissa	Medium volumetric flow «QG» in m³/h	Density ratio «dv» to air	Conversion factor $f = \sqrt{\frac{1}{d_v}}$
1	Air	1	1
2	Natural gas	0.61	1.28
3	Propane	1.562	0.8
4	Town gas	0.46	1.47

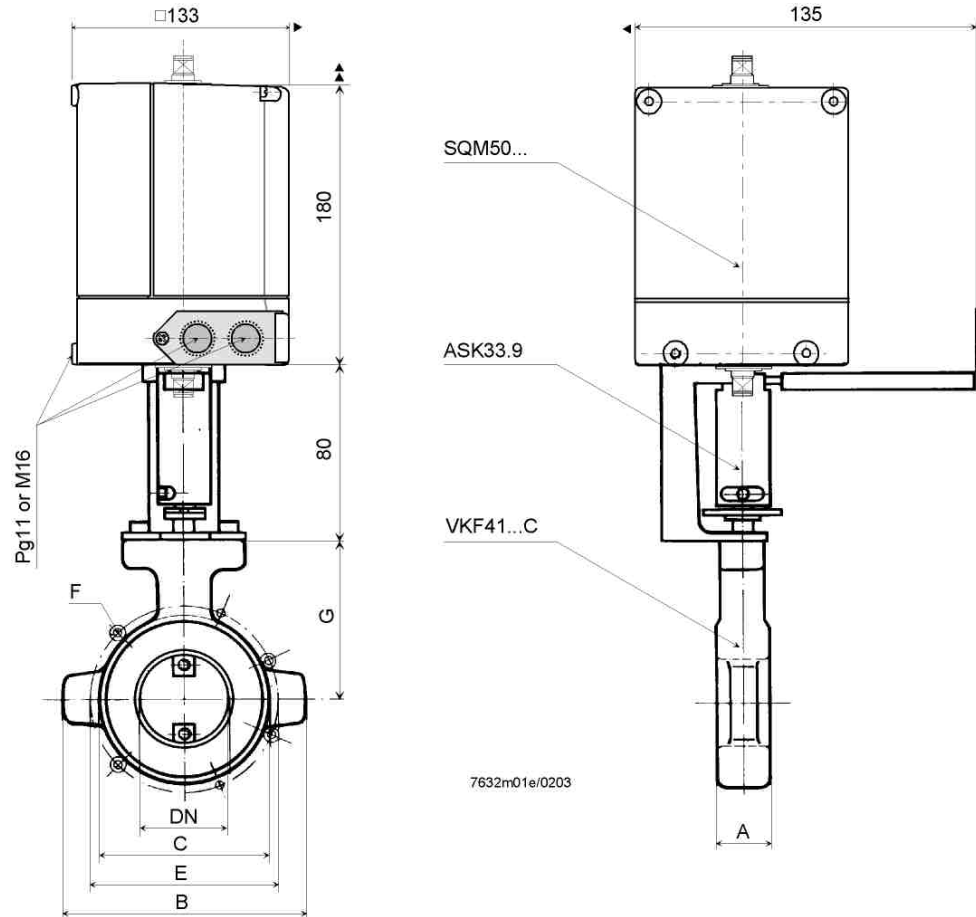
Conversion to air (m³/h) from other types of gases:

$$Q_L = \frac{Q_G}{f} \quad Q_L = \text{air volume in m}^3/\text{h that produces the same pressure drop as «QG»$$

Dimensions

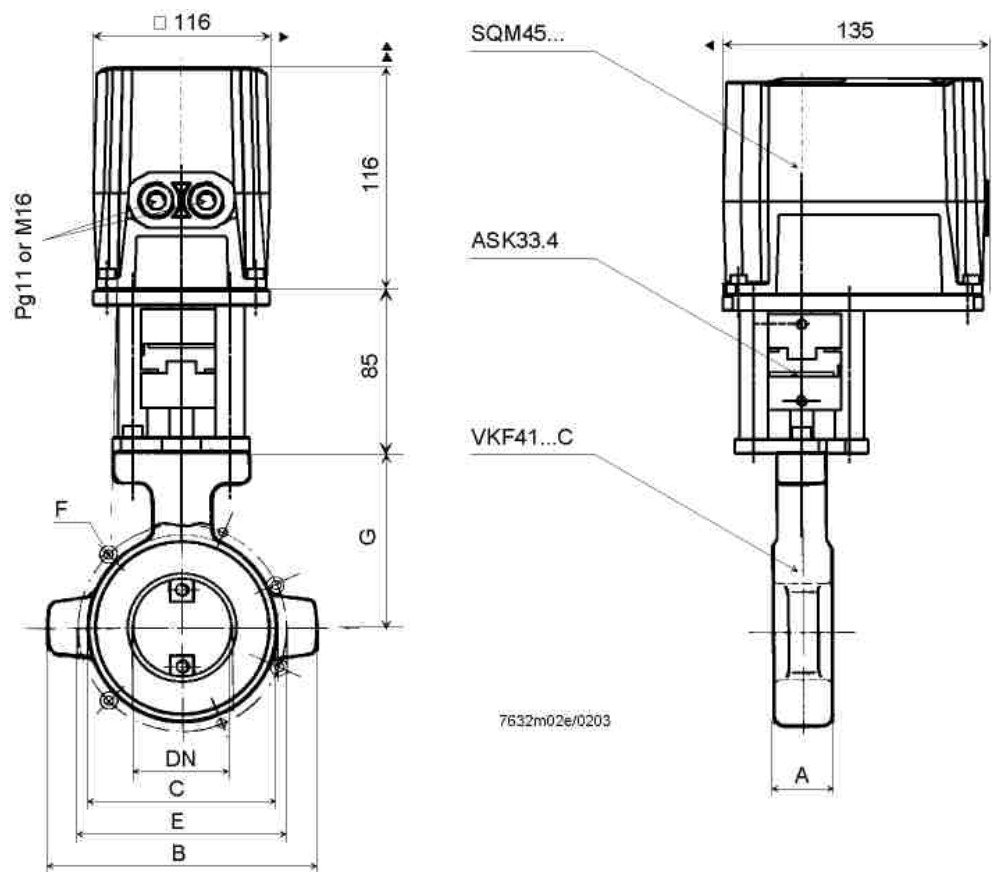
Dimensions in mm

VKF41...C with
SQM50... and ASK33.9



Type reference	A	B Ø	C Ø	E	F	G	Weight [kg]
VKF41.40C	30	130	87	100	M12 (4x)	87	1.72
VKF41.50C	30	140	97	110	M12 (4x)	92	1.94
VKF41.65C	30	160	117	130	M12 (4x)	99.5	2.37
VKF41.80C	30	175	133	150	M16 (4x)	107	2.63
VKF41.100C	30	195	153	170	M16 (4x)	117	2.92
VKF41.125C	40	225	183	200	M16 (8x)	137.5	5.25
VKF41.150C	40	225	208	225	M16 (8x)	150	6.29
VKF41.200C	40	310	263	280	M16 (8x)	175	8.44

VKF41...C with
SQM45... and ASK33.4



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