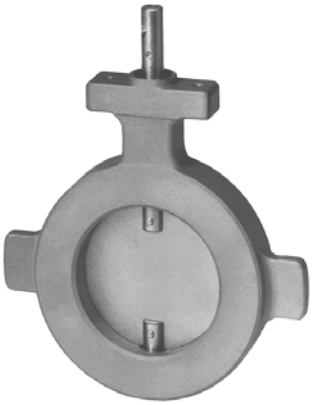


Butterfly valves, PN6, PN10, PN16

VKF41...

Butterfly valves for fitting between counter-flanges

- **Nominal pressures PN6, PN10, PN16**
- **Grey cast iron GG-25**
- **Metallic tight-closing (end-stop)**
- **DN40 ... DN200**
- **k_{VS} 50 ... 4 000 m^3/h**
- **Angle of rotation 90°**
- **No maintenance required**
- **Can be fitted with type SQK33.00 or SQL... electric actuators**

Application

For use as a control or shut-off valve in heating, ventilation and air conditioning systems for control or shut-off applications, e.g.:

– in **closed** circuits
– for 2-position control (open/closed)
– in boiler sequencing circuits
– to open or close the line to a heat exchanger
– in applications where minimal leakage through the fully closed valve is allowable

Media

Chilled water Hot water High-temperature hot water Water with refrigerant Brine	–15 ...+120°C

Recommendation — Water should be treated as specified in VDI 2035.

Operating pressure — Max. 1600 kPa (16 bar).

Types

Type	DN [mm]	k_{VS} [m^3/h]	$\Delta p_{v max.}$ [kPa]	Leakage % of k_{VS}
VKF41.40	40	50		0.22
VKF41.50	50	80		0.14
VKF41.65	65	200	500	0.09
VKF41.80	80	400		0.06
VKF41.100	100	760		0.04
VKF41.125	125	1000	300	0.04
VKF41.150	150	2100	250	0.02
VKF41.200	200	4000	150	0.01

DN = Nominal diameter
$\Delta p_V max$ = Maximum admissible pressure differential
k_{vs} = Nominal flow to VDI 2173, across the control path of the valve, in relation to the angle of rotation of 85°

Ordering

The butterfly valve, actuator and mounting kit must be ordered separately.
When ordering, please specify the quantity, product name and type code.

Example: **1 type VKF41.40 butterfly valve, 1 type SQK33.00 actuator** and **1 mounting kit, type ASK33**

Delivery — The valve, actuator and mounting kit are packed separately.

Accessories

4 centring sleeves are supplied with each butterfly valve, for fitting the valve between PN10 andPN16 flanges

Compatibility

The VKF41... butterfly valves can be used in conjunction with the following electric actuators from Landis & Staefa (see data sheet N4506):

– AC 230 V, 3-position actuators SQK33.00, SQL33.00, SQL33.03, SQL35.00
– AC 24 V, 3-position actuators SQL83.00, SQL85.00

Type	Actuators with mounting kits			Flow velocity through valve			
	SQK33.00 with **ASK33**	**SQL33.0... SQL83..00** with **ASK33**	**SQL35.00 SQL85.00** with **ASK35**	**SQK33.00 SQL33.0... SQL83.00**	**SQL35.00 SQL85.00**	**SQK33.00 SQL33.0... SQL83.00**	**SQL35.00 SQL85.00**
	Δp_{max} [kPa]			For water [m/s] 1)		For air [m/s] 1)	
VKF41.40	200	500	-	4.0	-	40	-
VKF41.50	-		-		-		-
VKF41.65	-		-		-		-
VKF41.80	-	500	-	4.0	-	40	-
VKF41.100	-		-		-		-
VKF41.125	-	300	-		-		-
VKF41.150	-	250	500	4.0	5.5	40	55
VKF41.200	-	150	300	4.0	5.5	40	55

Δp_{max} = Maximum admissible pressure differential across the closed valve
1) = Recommended maximum velocity with valve fully open

Mechanical design

Butterfly valve

Stainless steel disk and spindle. The valve disk closes against an end-stop.

ASK… mounting kit

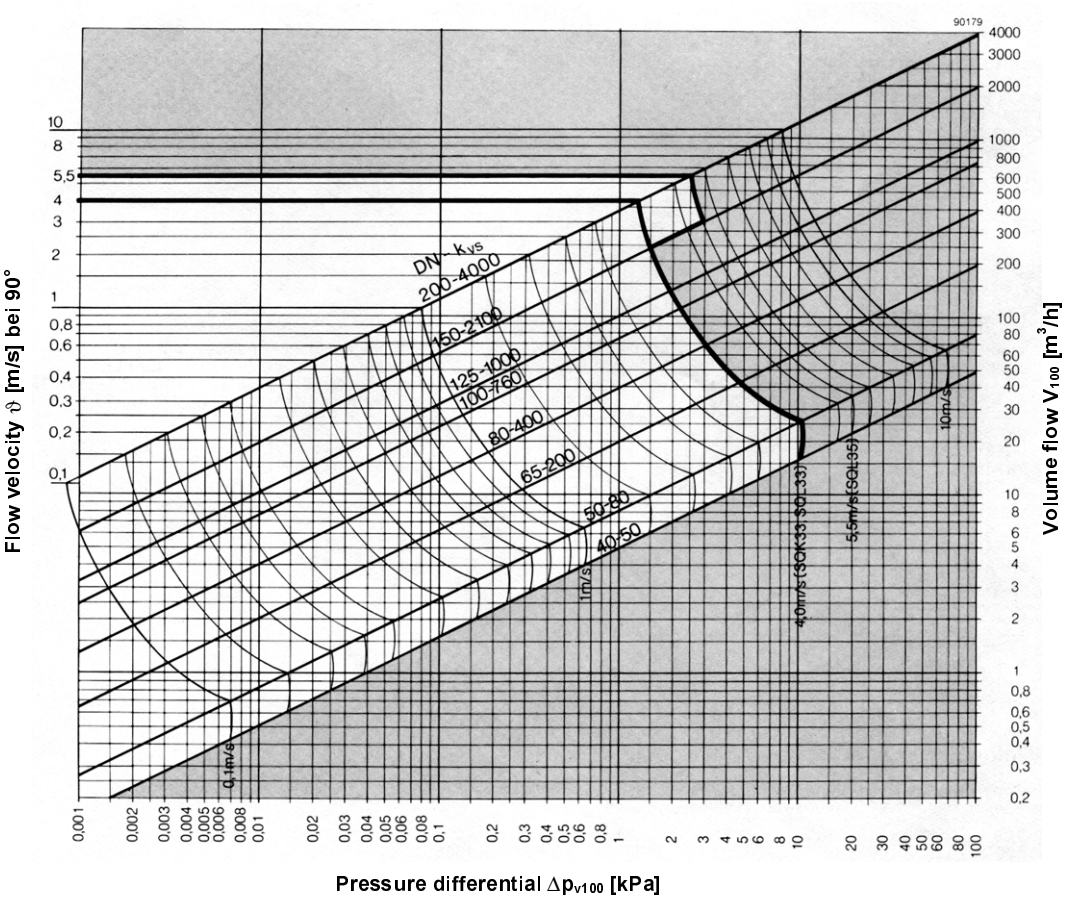
In all cases, an ASK33 mounting kit is required to assemble the SQK33.00 or SQL.. actuator on a VKF41… valve.
The mounting kit comprises a console, a connector unit with a torsion spring, a position indicator and fixing accessories. The torsion spring ensures tight closing and can be used to disable the rotary actuator.

Disposal

The valve must be dismantled and separated into its various constituent materials before disposal.

Sizing

Flow diagram



100 kPa = 1 bar ≈ 10 mWG
ϑ = Flow velocity in m/s at an angle of rotation of 90°
Δp_{max} = Maximum admissible pressure differential across the closed valve
Δp_{v100} = Pressure differential across the fully open valve at $\dot{V}_{100}$
1 m^3/h = 0.278 kg/s water at 20 °C
$\dot{V}_{100}$ = Flow rate in m^3/h

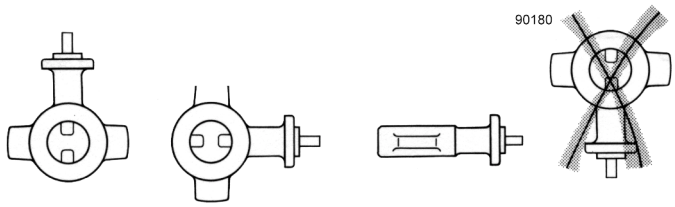
Engineering

In heating systems, the valve should preferably be installed in the return, where the seal will be exposed to lower temperatures, so extending its service life.
Water should be of the quality recommended in VDI203

Mounting

Mounting instructions are enclosed with the valve.
The valve, actuator and mounting kit are easily assembled directly on site. There is no need for special tools or calibration. The butterfly valve can accommodate flow in either direction.

Orientation



Permissible *Not permissible*

Commissioning

The actuator must be commissioned only with the mounting kit and actuator correctly assembled.

– Disk rotated clockwise: Increasing flow
– Disk rotated anti-clockwise: Decreasing flow

Maintenance

The VKF41... butterfly valve requires no maintenance.

Caution: When servicing the valve: Switch OFF the pump and power supply, close the main shut-off valve in the pipework, release pressure in the pipes and allow them to cool down completely. If necessary, disconnect electrical connections from terminals.
The actuator must be re-commissioned only with the mounting kit and actuator correctly assembled.

Warranty

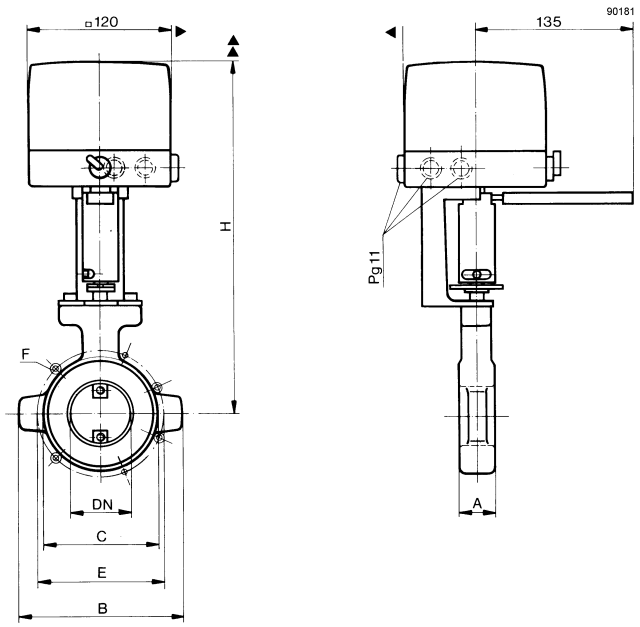
All terms of the Landis & Staefa warranty will be invalidated by the use of actuators from other manufacturers. The technical data in relation to Δp_{max}, leakage rates, noise and service-life is valid only in conjunction with the Landis & Staefa actuators SQK33.00 or SQL... listed under "Compatibility".

Technical data

Operating data	PN	PN6, PN10, PN16
	Characteristic	Linear
	Leakage	See "Types"
	Admissible pressure	1600 kPa (16 bar) to ISO7268 / EN1333
	Operating pressure	DIN4747 / DIN3158 in the range – 15 … +120 °C
	Angle of rotation	Butterfly valve 90° (to end-stop)
Materials	Valve body	Grey cast iron GG-25 to DIN EN 1561
	Spindle and disk	Stainless steel
	Spindle seal	EPDM O-rings
Dimensions / Weight	Dimensions	See "Dimensions"
	Weight	See "Dimensions"

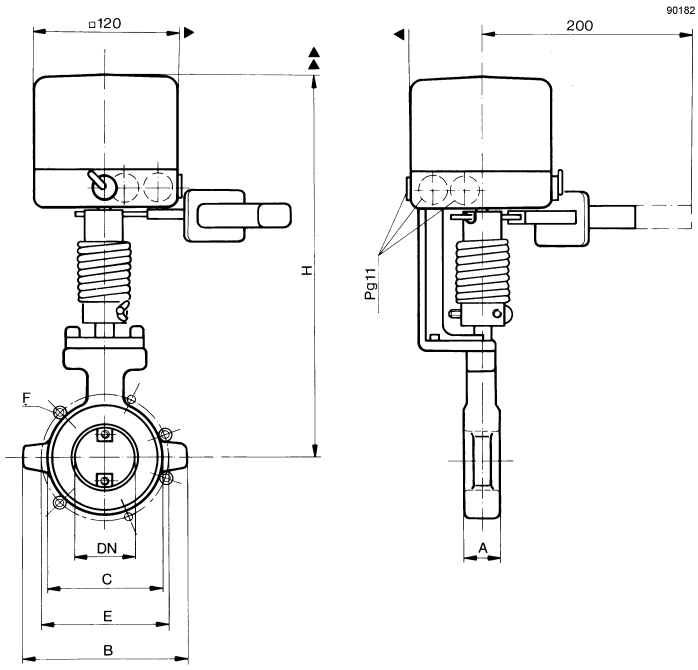
Dimensions

VKF41... with SQK33.00, SQL33.0..., SQL83.00 and ASK33



All dimensions in mm

VKF41... with SQL35.00, SQL85.00 and ASK35



When installing the valve, allow the following minimum clearance from the wall or ceiling for mounting, connection, operation, maintenance etc. :

Δ min. 100 mm

ΔΔ min. 200 mm

Wt= Valve weight in kg

H = Total height of valve with mounting kit and actuator

Type	DN [mm]	A	B ø	C ø	PN6 E	PN6 F	PN10, PN16 E	PN10, PN16 F	H SQK33	H SQL33 SQL83	H SQL35 SQL85	Wt VKF41 [kg]
VKF41.40	40	30	130	87	100	M12 (4x)	110	M16 (4x)	249	275	-	1.72
VKF41.50	50	30	140	97	110	M12 (4x)	125	M16 (4x)	-	280	-	1.94
VKF41.65	65	30	160	117	130	M12 (4x)	145	M16 (4x)	-	287.5	-	2.37
VKF41.80	80	30	175	133	150	M16 (4x)	160	M16 (8x)	-	295	-	2.63
VKF41.100	100	30	195	153	170	M16 (4x)	180	M16 (8x)	-	305	-	2.92
VKF41.125	125	40	225	183	200	M16 (8x)	210	M16 (8x)	-	325.5	-	5.25
VKF41.150	150	40	255	208	225	M16 (8x)	240	M20 (8x)	-	338	383	6.29
VKF41.200	200	40	310	263	280	M16 (8x)	295	M20 (8x) for PN10 M20 (12x) for PN16	-	363	408	8.44