



Butterfly valves PN6, PN10, PN16

VKF46...

Butterfly valves for fitting between counter-flanges

- Nominal pressures PN6, PN10, PN16
- For fitting between PN6, PN10 or PN16 counter-flanges to ISO 7005
- Tight-closing in accordance with DIN3230, air-bubble proof
- Grey cast iron GG-25
- EPDM lining and stainless steel disc (DN40 ... DN200) or nickel-plated steel (DN250 ... DN400)
- DN40 ... DN400
- k_{vs} 50 ... 14 500 m³/h
- Angle of rotation 90°
- Actuator flange acc. to EN12116/ISO5211
- No maintenance required
- Optionally equipped with ASK46... manual adjusters
- Optionally equipped with electric actuators SQL35.00 or SQL85.00 (DN40 to DN125) or SQL36E60 and SQL36E100 (DN150 to DN400)

Application

For use as motorised or manual control or shut-off valves in heating, ventilation and air conditioning systems

- In **open** and **closed** circuits
- For 2-position control (open/closed)
- For modulating control
- For boiler sequencing circuits
- To open or close the flow to a heat exchanger
- To open or close the flow to complete plant sections

Media

Medium	Temperature
Cold water, drinking water	-15 ... 120 °C
Low temperature hot water/domestic water	
Brine	
Demineralised water (softened)	
Water with anti-freeze	
Air	

Operating pressure

Max. 1600 kPa (16 bar)

Types

Type	DN [mm]	k_{vs} value [m ³ /h]	$\Delta p_{max.}$ [kPa] ¹⁾	Actuator flange EN12116
VKF46.40	40	50	1600	F04
VKF46.50	50	85		
VKF46.65	65	215		
VKF46.80	80	420		
VKF46.100	100	800	1000	F05
VKF46.125	125	1010	800	
VKF46.150	150	2100	1200	F07
VKF46.200	200	4000	400	
VKF46.250	250	6400	1000	F10
VKF46.300	300	8500	600	
VKF46.350	350	11500	300	
VKF46.400	400	14500	200	

DN Nominal diameter

k_{vs} Nominal rate of flow in acc. with VDI 2176

$\Delta p_{max.}$ Maximum admissible pressure differential across the closed valve

¹⁾ 100 kPa = 1 bar \approx 10 m w.g.

Ordering

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

Example: 1 type VKF46.50 butterfly valve, 1 type SQL35.00 actuator and 1 type ASK35.1 mounting set

Delivery

The valve, actuator and mounting kit are packed separately.

Compatibility

The VKF46... butterfly valves are compatible with ASK46... manual adjusters and SQL35/85... and SQL36E... electric actuators from Landis & Staefa.

Valve	DN [mm]	Actuator flange EN12116	Manual adjuster ASK46...	Mounting kit ASK35...	Electric actuators		
					SQL35/85... 40 Nm	SQL36E60... 100 Nm	SQL36E100... 400 Nm
					$\Delta p_{max.}$ [kPa]		
VKF46.40	40	F04	ASK46.1	ASK35.1	1600		
VKF46.50	50						
VKF46.65	65						
VKF46.80	80	F05	ASK46.2	ASK35.2	1000		
VKF46.100	100						
VKF46.125	125						
VKF46.150	150	F07	ASK46.3			1200	
VKF46.200	200					400	
VKF46.250	250	F10	ASK46.4				1000
VKF46.300	300						600
VKF46.350	350						300
VKF46.400	400						200

Mechanical design

Butterfly valve

Ring format, cast iron housing with EPDM liner.

The valve has a swing-through disc and is suitable for air-bubble-tight closure in accordance with DIN 3230, part 3. Disc and shaft in DN40 to DN200 are made from stainless steel; as from DN250 the disc is made from nickel-plated steel. The shaft is sealed with a double O-ring. At the same time, the liner is also used to seal the flange. There is thus no contact between the medium and the valve housing.

The position of the valve disc is indicated by a notch on the front of the shaft.



Manual adjusters

ASK46.1

ASK46.2

ASK46.3

Lockable level with fixed stops at 0 and 90° as well as precision positioning in 6° increments.

– Dew point blocking

Simple installation

With instructions

Material: Plastic (ASK46.1 and ASK46.2)

Die-cast aluminium (ASK46.3)



ASK46.4

Manually operated worm gear, allows infinitely variable adjustment between 0 and 90°.

– Self locking

– Position indication

– Dew point blocking

Simple installation

With instructions

Material: Die-cast aluminium

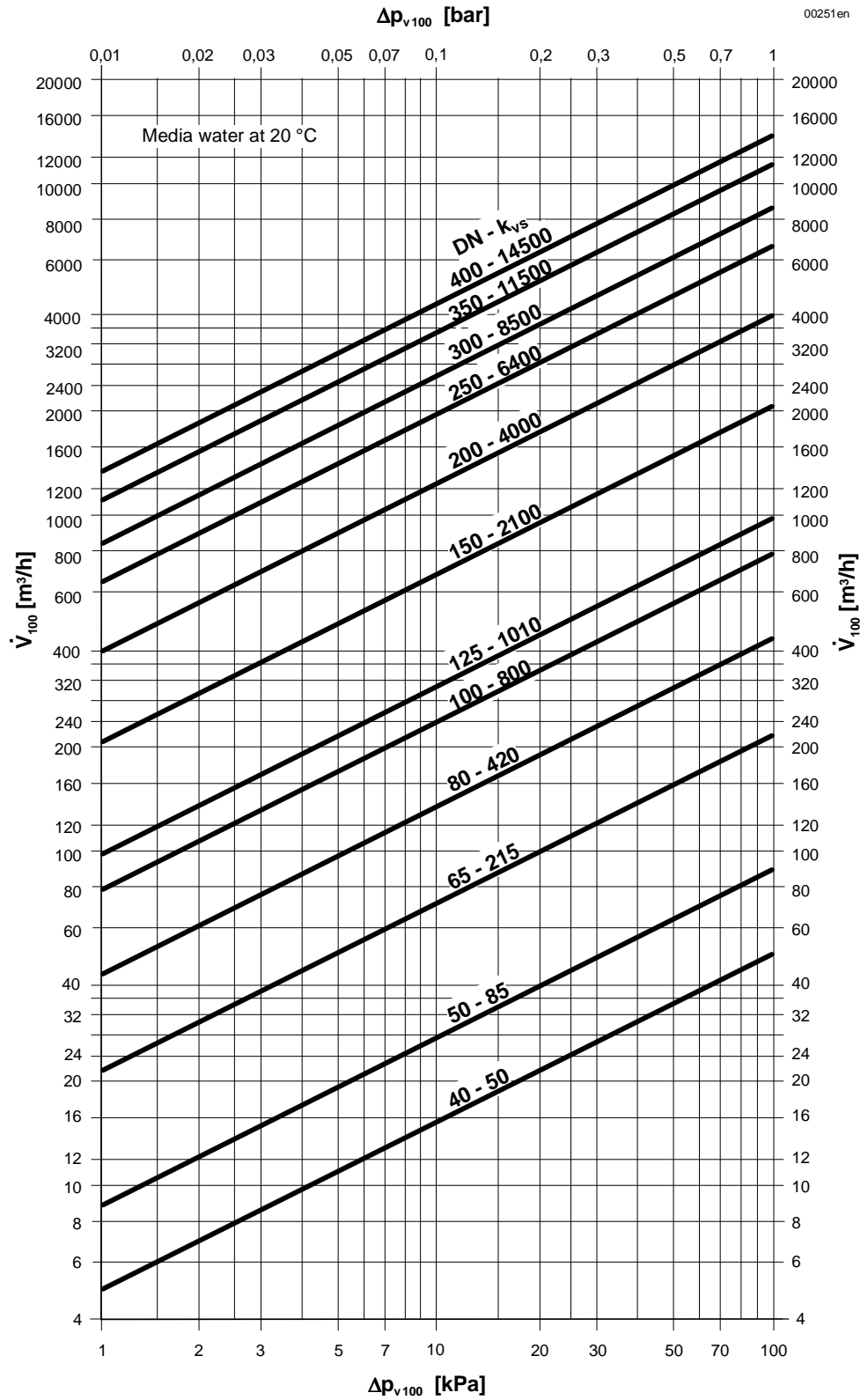


Disposal

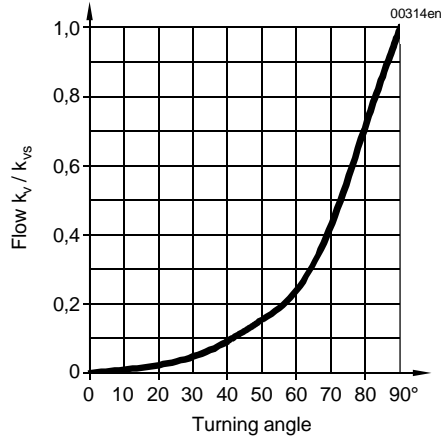
Before disposal the valve must be dismantled and separated into its various constituent materials.

Sizing

Flow diagram



Flow characteristic



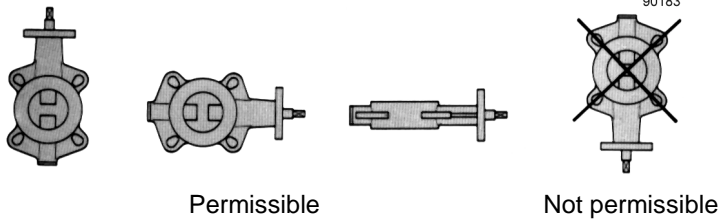
Engineering

The VKF46... butterfly valves can accommodate flow in either direction.

Mounting

Mounting instructions are enclosed with the valve, the manual adjuster or the electric actuator.

Orientation



Maintenance

The VKF46... butterfly valve requires no maintenance.

Caution

Before performing any service work on the valve, actuator and/or mounting kit: Switch off the pump and power supply, close the main shut-off valves in the pipework, release pressure in the pipes and allow them to cool down completely. If necessary, disconnect electrical connections from terminals. The valve must be re-commissioned only with the manual adjuster or the actuator correctly assembled.

Warranty

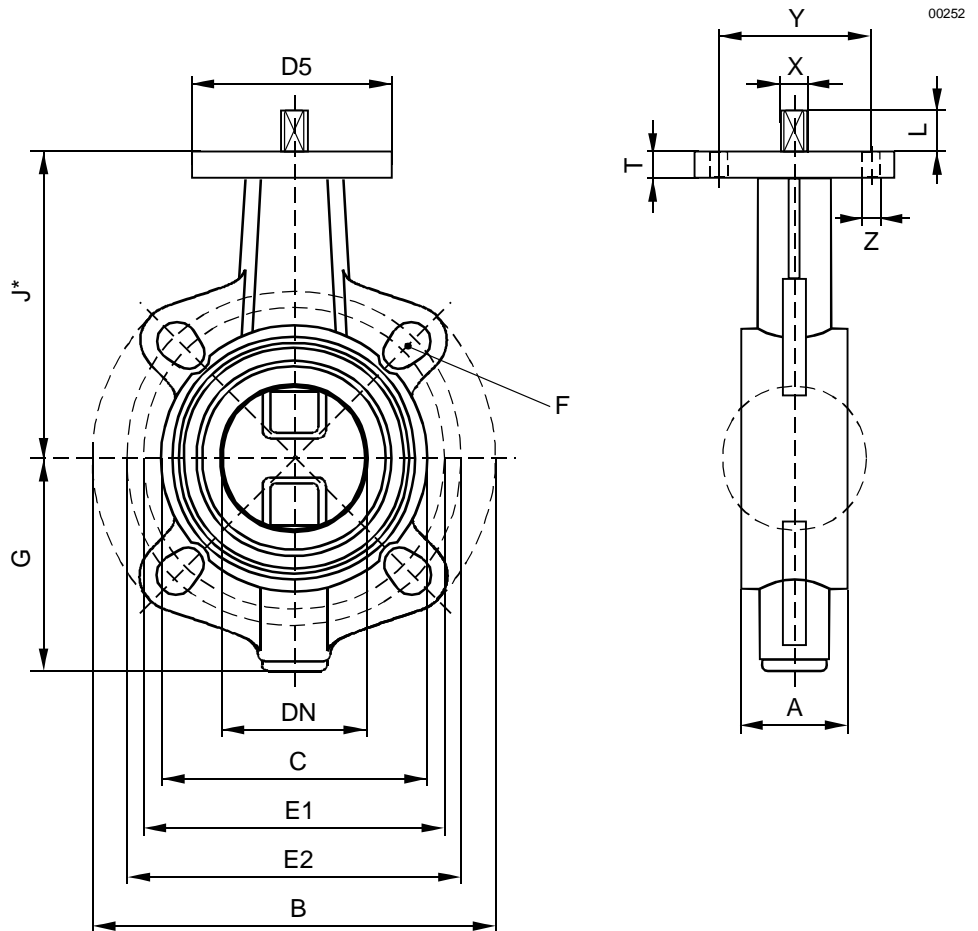
All terms of the Landis & Staefa warranty will be invalidated by the use of actuators from other manufacturers. The technical data in relation to Δp_{max} , leakage rates, noise and service-life are valid only in conjunction with the Landis & Staefa type SQL... actuators listed under "Compatibility".

Technical data

Operating data	PN	PN6, PN10, PN16	
	Characteristic	Equal percentage	
	Leakage	Air-bubble tight to DIN3230, sheet 3, class 1	
	Flanged connection for pipes	PN6, PN10, PN16 to ISO7005	
	Overall length	EN558, series 20	
	Mounting flange for electric or manual adjuster	EN12116 / ISO5211	
	Angle of rotation	90°	
Materials	Body	Grey cast iron GG-25	
	Shaft	Stainless steel	
	Valve disc	DN40 ... DN200 DN250 ... DN400	Stainless steel Nickel-plated steel
	Manual adjuster	Plastic / die-cast aluminium	
	Liner	EPDM (Ethylene Propylene Dien Rubber)	
Dimensions / Weight	Dimensions	See table under «Dimensions»	
	Weight	See table under «Dimensions»	

Dimensions

All dimensions in mm



Type	DN [mm]	A	B ∅	C ∅	G	J*	T	D5	L	PN6 ∅E1 F	PN10 ∅E2 F	PN16 ∅E2 F	X	Y	Z	Wt [kg]			
VKF46.40	40	33	140	82	64.5	113	10	54	11.5	100	M12 (4x)	110	M16 (4x)	110	M16 (4x)	11	42	6	1.8
VKF46.50	50	43	157	95	83	126	10	54	11.5	110	M12 (4x)	125	M16 (4x)	125	M16 (4x)	11	42	6	2.2
VKF46.65	65	46	177	115	91.5	134.5	10	54	11.5	130	M12 (4x)	145	M16 (4x)	145	M16 (4x)	11	42	6	2.9
VKF46.80	80	46	192	138	102.5	157	10	65	15.5	150	M16 (4x)	160	M16 (8x)	160	M16 (8x)	14	50	7	4.0
VKF46.100	100	52	221	158	113.5	167.5	10	65	15.5	170	M16 (4x)	180	M16 (8x)	180	M16 (8x)	14	50	7	4.8
VKF46.125	125	56	256	188	126	180	10	65	15.5	200	M16 (8x)	210	M16 (8x)	210	M16 (8x)	14	50	7	6.5
VKF46.150	150	56	281	212	149	203	12	90	18.5	225	M16 (8x)	240	M16 (8x)	240	M20 (8x)	17	70	9	8.4
VKF46.200	200	60	320	268	174.5	228.5	12	90	18.5	280	M16 (8x)	295	M20 (8x)	295	M20(12x)	17	70	9	10.7
VKF46.250	250	68	403	320	210	266	15	125	23.5	335	M16(12x)	350	M20(12x)	355	M24(12x)	22	102	11	20.0
VKF46.300	300	78	478	370	235	290.5	15	125	23.5	395	M20(12x)	400	M20(12x)	410	M24(12x)	22	102	11	24.5
VKF46.350	350	78	522	408	259	332	20	125	28.5	445	M20(12x)	460	M20(16x)	470	M24(16x)	22	102	11	39.4
VKF46.400	400	102	596	470	303	363	20	125	28.5	495	M20(16x)	515	M24(16x)	525	M27(16x)	22	102	11	58.7

A Corresponds to overall length acc. to EN558, series 20

H Overall height of valve from centre of pipe

* Dimension for actuator connection from centre of pipe

Overall height of valve
and actuator

= Valve installation height (J*) from middle of pipe

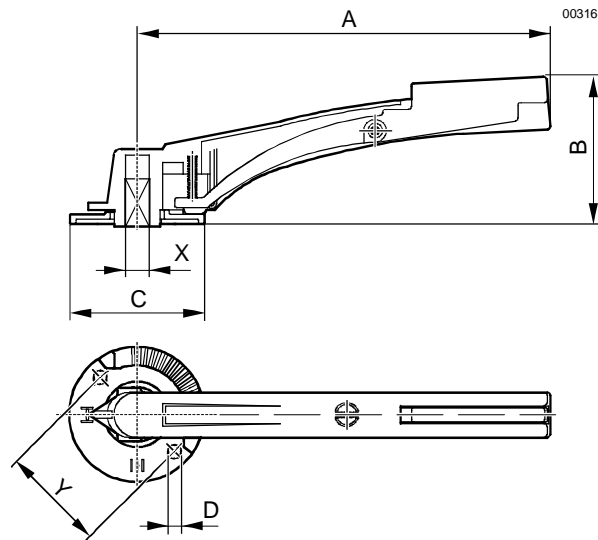
+ Installation height of SQL35/85... actuator incl. ASK35... mounting kit = 168 mm (DN40 ... DN125)

+ Installation height of SQL36E60... actuator = 158 mm (DN150 ... DN200)

+ Installation height of SQL36E100... actuator = 228 mm (DN250 ... DN400)

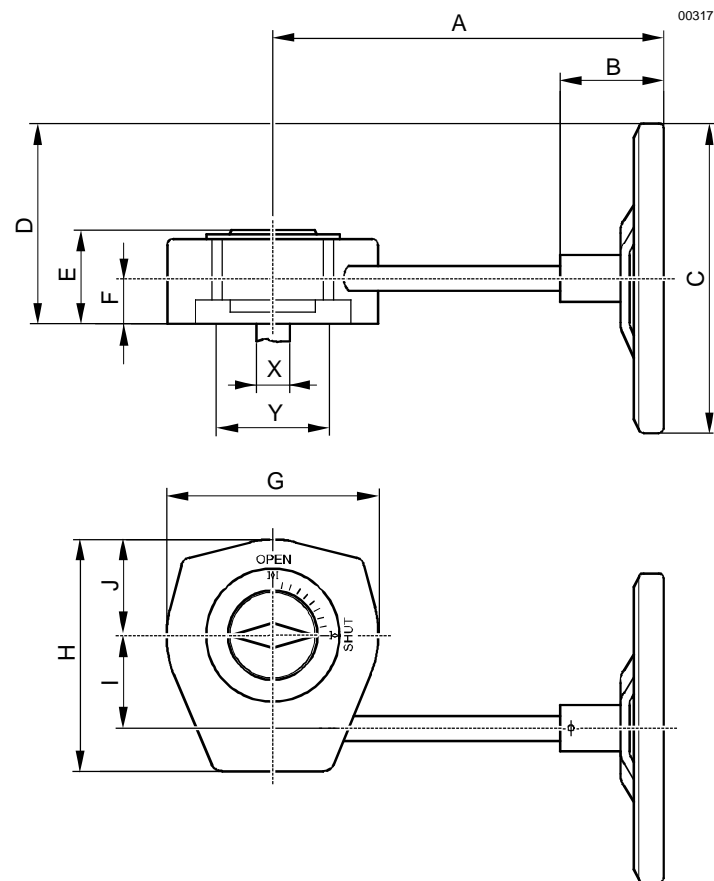
+ Minimum clearance (> 200 mm) from ceiling or wall for mounting, connection, operation, service etc.

ASK46.1
 ASK46.2
 ASK46.3



Type	DN [mm]	A	B	C	D ø	X	Y	Wt [kg]
ASK46.1	40 ... 65	155	68,5	67,5	5,5	11	42	0.11
ASK46.2	80 ... 125	195	79,5	72,5	6,5	14	50	0.16
ASK46.3	150 ... 200	276	98	90	9,0	17	70	0.50

ASK46.4



Type	DN [mm]	A	B	C ø	D	E	F	G	H	I	J	X	Z	Wt [kg]
ASK46.4	250 ... 400	252	67	200	129	60	29	137	150	60	62	22	100	3.38