



MF250 Actuator with emergency control function for valves from the RK/RF/RD/RGD/RWG/RGDE series

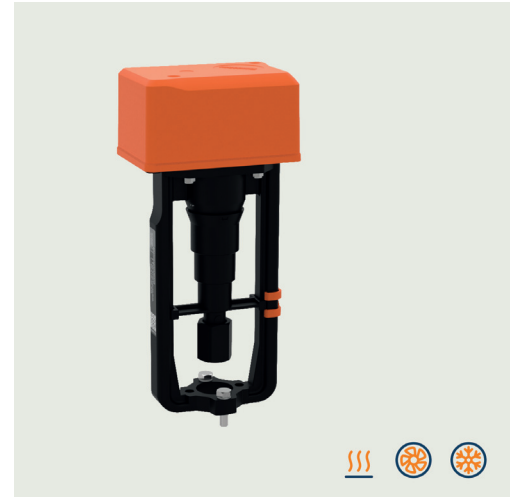
Application

The actuators MF250 with a positioning force of 2500 N are used for fine stroke adjustment of two-way and three-way valves of the types:

- RK65..100(-BF)
- RF65..100(-BF)
- RD65..100
- RGD50..100
- RWG50..100
- RGDE25..100

This is controlled with one of the following signals:

- Constant signal 0(2)..10 V DC or 0(4)..20 mA
- 3-point signal open/stop/closed or
- 2-point signal open/closed



The actuator has an emergency control function that, depending on the type of valve used, automatically closes and/or opens valves in the event of a power failure.

The requisite energy is provided with an integrated energy storage unit (battery pack).

Emergency control function: The actuator can be selected to be extended or retracted without current,

Continuously-adjustable emergency control position



HINWEIS

This document does not contain safety instructions.

You can find detailed information about handling the actuator in the operating instructions Betriebsanleitung 3.10-09.235-80 "MF100 Actuator with emergency control function Two-/three way valves from RK/RF/RD/RGD/RWG/RGDE series.

Technical Data

Nominal voltage	AC 24 V $\pm 10\%$; 50/60 Hz; DC 24 V $\pm 10\%$
Dimensioning	24 VA (AC); 12 W (DC)
Switch-on current	max. 7 A, < 1 ms, < 0.049 A ² s
Power consumption	Sleep mode: 1.6 VA (AC); 0.6 W (DC)
	3.8 s/mm: nominal: 9 VA (AC); 4.5 W (DC)
	11 s/mm: nominal: 3 VA (AC); 1.5 W (DC)
Cable cross section	min. 0.75 mm ²
Regulation	3-point signal (open/stop/closed); minimum switch-on and off time 0.6 s
	2-point signal (open/closed)
	Continuous control; adjustable via DIP switch
	- Voltage signal 0(2)..10 V DC; Re=100 k Ω ; invertible - Power signal 0(4)..20 mA; invertible
Position feedback	Adjustable via DIP switch
	- voltage signal 0(2)..10 V DC; 5 mA; invertible; approx. 12.5 V signal during fault
	- current signal 0(4)..20 mA; Ri= 0.5 k Ω ; invertible; approx. 0 mA signal during fault

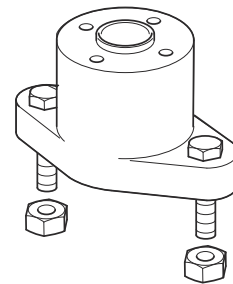


Stroke	max. 50 mm, automatic stroke adaptation
Actuating speed	Adjustable via DIP switch 3.8 s/mm (factory setting) 11 s/mm
Emergency stop speed	3.8 s/mm
Emergency control function	integrated energy storage unit Emergency control position selectable
Positioning force	Nominal 2500 N
Sound power	Approx. 38 dB(A) at 5.5 s/mm
Maintenance	Maintenance-free
Ambient temperature	0..55 °C
Ambient humidity	0..95 % r.F., non-condensing
Degree of protection	IP54 (upper semi-sphere), IP40 (lower semi-sphere)
Protection class	III in accordance with EN 60730
Installation position	360°
Weight	3.10 kg

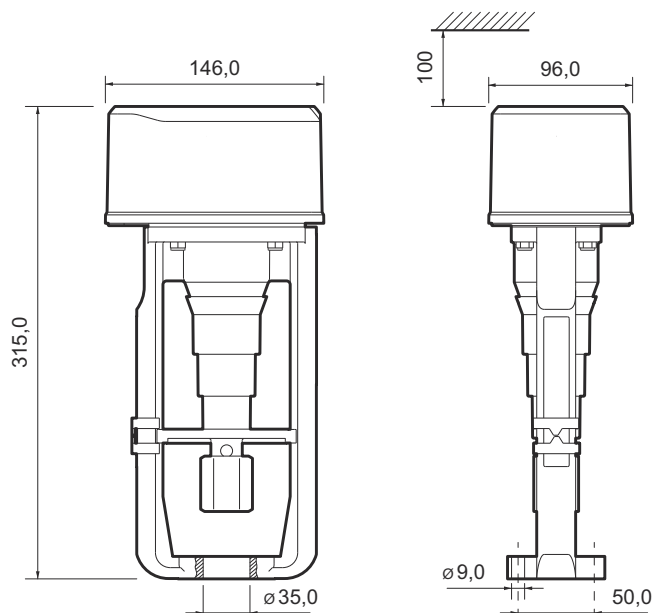
Accessories

Z193

Mounting kit for RGDE DN25 to DN100
With factory-delivered valve/drive combinations, the Z193 mounting kit is pre-fitted.
Mounting instructions 3.10-09.250-99 (included with the Z193 accessories) contains further information about the mounting process.



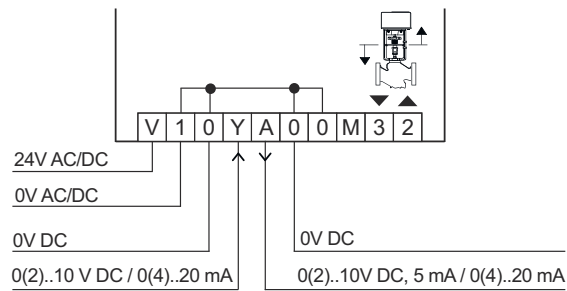
Dimensions



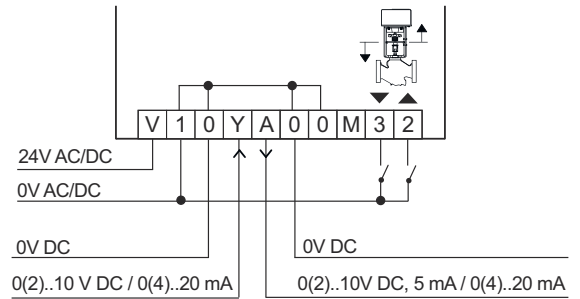


Connection

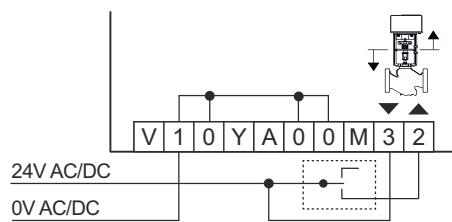
Constant operation mA/V (0..100 %)



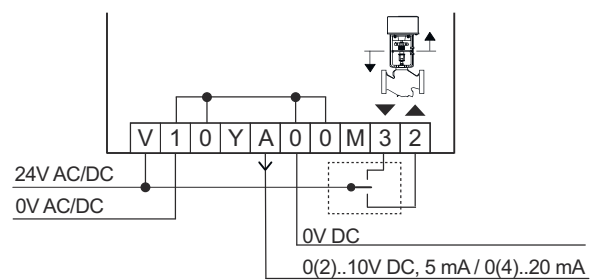
Priority switching (open/closed))



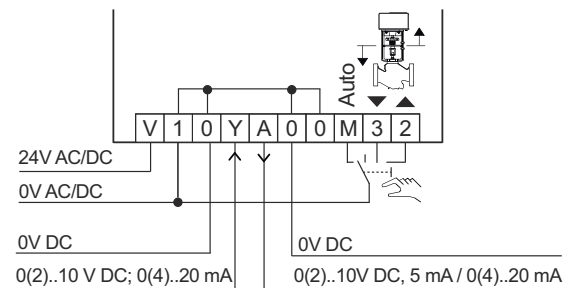
2-Point operation (open/closed)



3-point operation (open/stop/closed)



Manual operation with operating mode switch
(auto/stop/closed/open)





RK65..100(-BF) three-way/two-way valve with actuator

Application

The gray cast iron three-way valves and two-way valves with an actuator are used for mixing liquids precisely.

The valves can be used as two-way valves using the BF blank flange on gate B.

Types

RK65..100 gray cast iron three-way valve usable for MF250 actuator, for water up to 120 °C, 6 bar

Typ	DN	PN	kvs	Δp (bar)	Weight (kg)
RK65/50	65	6	50	6.0	14,7
RK65	65	6	63	6.0	14,7
RK80/80	80	6	80	4.0	22
RK80	80	6	100	4.0	22
RK100/125	100	6	125	2.4	31
RK100	100	6	160	2.4	31

RK65..100-BF gray cast iron two-way valve usable for MF250 actuator, for water up to 120 °C, 6 bar

Typ	DN	PN	kvs	Δp (bar)	Weight (kg)
RK65/50-BF	65	6	50	6.0	17,9
RK65-BF	65	6	63	6.0	17,9
RK80/80-BF	80	6	80	4.0	26,3
RK80-BF	80	6	100	4.0	26,3
RK100/125-BF	100	6	125	2.4	37,1
RK100-BF	100	6	160	2.4	37,1

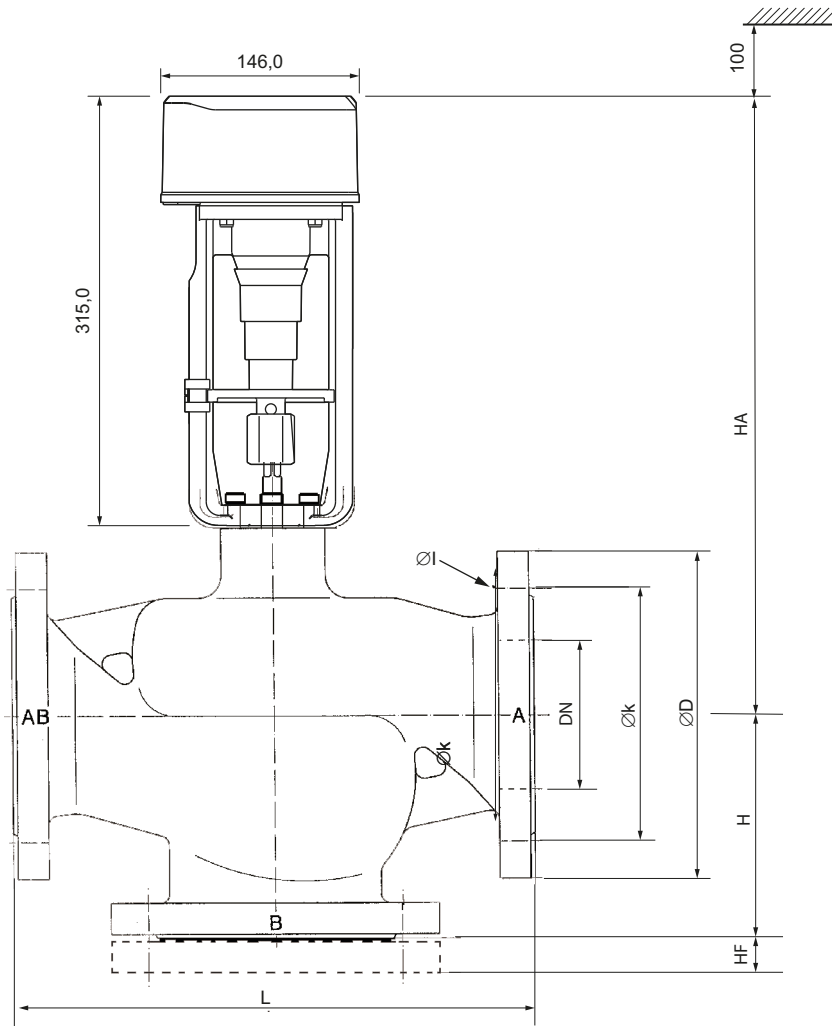


Technical Data: RK..(-BF) Valves

Nominal width	DN65..100	
Pressure rating	PN 6	
Connection	Flanges to EN 1092-2 type 21	
Characteristic curve	RK..	Ports A → AB = equal percentage Gates B → AB = linear
	RK..-BF	Ports A → AB = equal percentage
Positioning stroke	RK65..100(-BF): 30 mm	
Leak rate	In accordance with EN 1349, leakage class VI	
Medium	Water or max. 50% glycol-water mixtures (pH 6.5..10)	
Medium temperature	0..130 °C (max. 120 °C at 6 bar) As low as -10 °C only with spindle heating	
Housing	Gray cast iron EN-JL1040	
Cone	Brass CW614N	
Valve spindle	CrMo steel 1.4122	
Stem seal	O-rings EPDM, maintenance-free	



Dimensions



DN	L	H	HA	HF (RK...BF)	Ø D	Ø k	Ø I
65	290	120	422	approx. 16	160	130	4x Ø 14
80	310	130	434	approx. 18	190	150	8x Ø 18
100	350	150	441	approx. 18	210	170	8x Ø 18
Dimensions L to I in mm							



RF65..100(-BF) three-way/two-way valve with actuator

Application

The gray cast iron three-way valves and two-way valves with an actuator are used for mixing liquids precisely.

The valves can be used as two-way valves using the BF blank flange on gate B.

Types

RF65..100 gray cast iron three-way valve usable for MF250 actuator, for water up to 120 °C, 16 bar

Type	DN	PN	Kvs	Δp (bar)	Weight (kg)
RF65/50	65	16	50	6.2	18.8
RF65	65	16	63	6.2	18.8
RF80/80	80	16	80	4.0	24
RF80	80	16	100	4.0	24
RF100/125	100	16	125	2.4	36
RF100	100	16	160	2.4	36

RF65..100-BF gray cast iron two-way valve usable for MF250 actuator, for water up to 120 °C, 16 bar

Type	DN	PN	Kvs	Δp (bar)	Weight (kg)
RF65/50-BF	65	16	50	6.2	24.8
RF65-BF	65	16	63	6.2	24.8
RF80/80-BF	80	16	80	4.0	29.8
RF80-BF	80	16	100	4.0	29.8
RF100/125-BF	100	16	125	2.4	42.9
RF100-BF	100	16	160	2.4	42.9

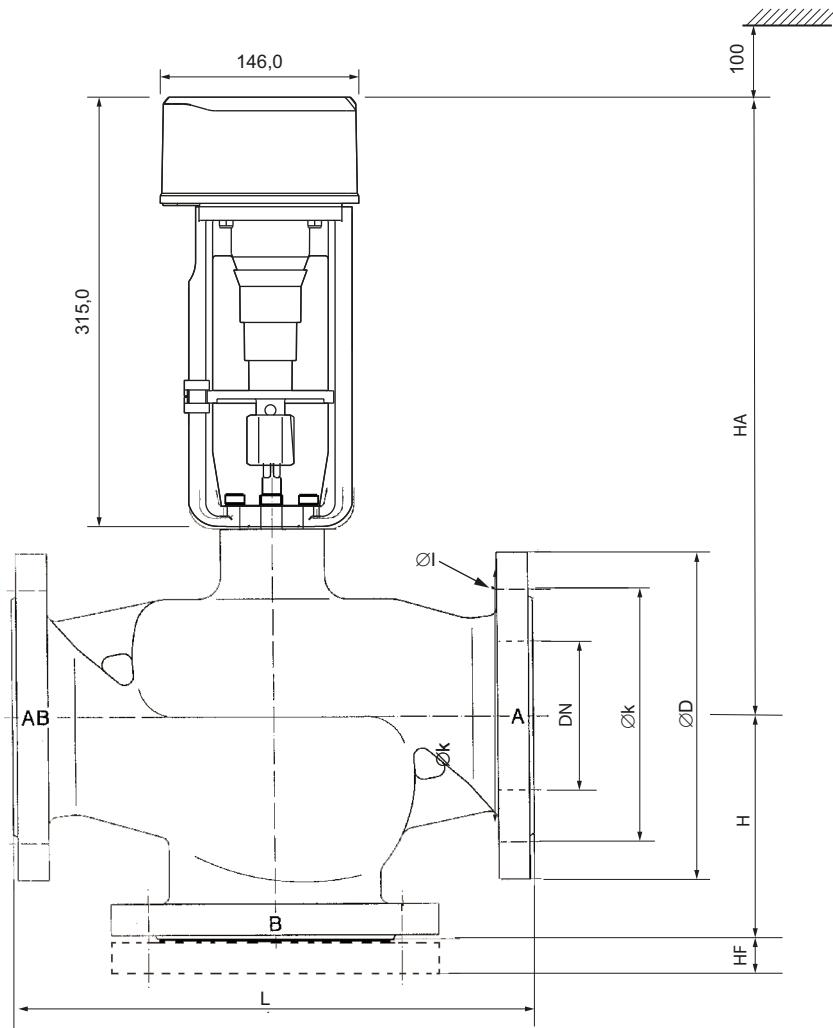


Technische Daten Ventile RF..(-BF)

Nominal width	DN65..100	
Pressure rating	PN 16	
CE marking	CE marking, notified body: 0045	
Connection	Flanges to EN 1092-2 type 21	
Characteristic curve	RF..	Ports A → AB = equal percentage Gates B → AB = linearl
	RF..-BF	Ports A → AB = equal percentage
Positioning stroke	RF65..100(-BF): 30 mm	
Leak rate	In accordance with EN 1349, leakage class VI G1 (tight-sealing)	
Medium	Water or max. 50% glycol-water mixtures (pH 6.5..10)	
Medium temperature	0..130 °C (max. 120 °C at 16 bar) As low as -10 °C only with spindle heating	
Housing	Gray cast GG25/ EN-JL1040	
Cone	Brass CW614N	
Valve spindle	CrMo steel 1.4122	
Stem seal	O-rings EPDM, maintenance-free	



Dimensions



DN	L	H	HA	HF (RK...BF)	Ø D	Ø k	Ø I
65	290	120	422	approx. 20	185	145	4x Ø 18
80	310	130	434	approx. 22	200	160	8x Ø 18
100	350	150	441	approx. 22	220	180	8x Ø 18
Dimensions L to I in mm							



RD65..100 two-way valve with actuator

Application

The nodular iron two-way valves with an actuator are used for precisely regulating liquid and vapor flow rates.

Types

RD65..100 spheroidal cast iron two-way valve for MF250 actuator, for water up to 120 °C, 16 bar as well as for hot water and steam up to 200 °C, 13 bar.

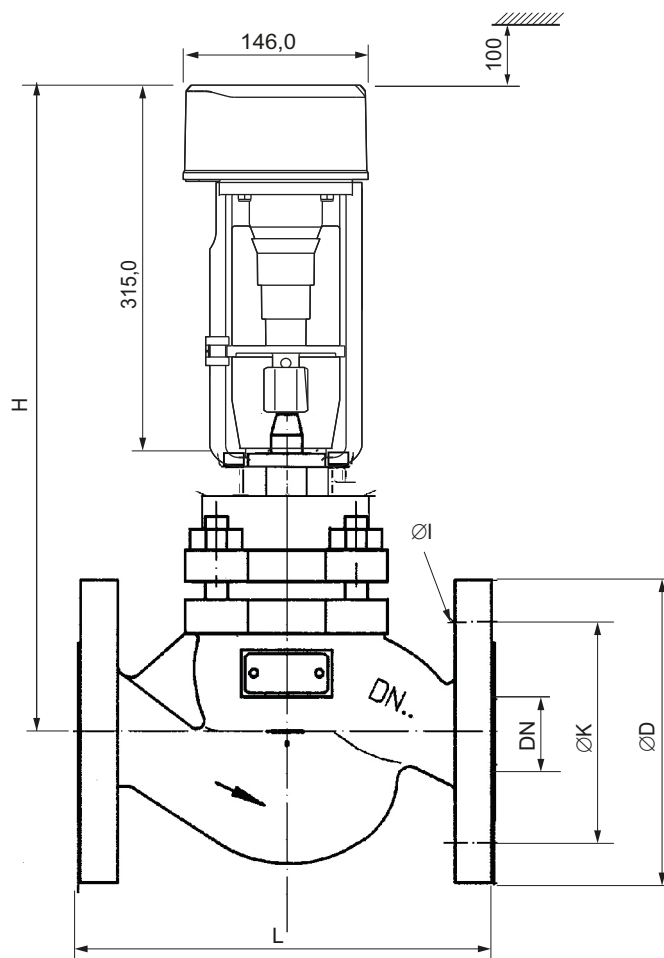
Type	DN	PN	Kvs	Δp (bar)	Weight (kg)
RD65	65	16	63	7.0	16.5
RD100	100	16	160	2.9	32.6



Technical Data: RD.. Valves

Nominal width	DN65..100
Pressure rating	PN16
CE marking	CE marking, notified body: 0045
Connection	Flange in accordance with DIN, PN16
Characteristic curve	Equal percentage
Positioning stroke	30 mm
Leak rate	In accordance with EN 1349, leakage class IV
Medium	Water up to 120 °C; 16 bar max. 50% glycol/water mixtures (pH 6.5..10) up to 120 °C; 16 bar Hot water and steam up to 200 °C; 13 bar
Medium temperature	0..200 °C As low as -10 °C only with spindle heating
Housing	Spheroidal cast iron GGG-40.3
Valve seat	Stainless steel 1.4021
Cone	Stainless steel 1.4021
Valve spindle	Stainless steel 1.4021
Stem seal	Chevron seals, Univerdit with PTFE bushing

Dimensions



DN	L	H	Ø D	Ø K	Ø I
65	290	437,5	185	145	4x Ø 18
100	350	472	220	180	8x Ø 18
Dimensions L to I in mm					



RGD50..100 two-way valve with actuator

Application

The nodular iron two-way valves with an actuator are used for precisely regulating liquid and vapor flow rates.

Types

RGD50..100 spheroidal cast iron two-way valve for MF250 actuator, for water up to 120 °C, 25 bar as well as for hot water and steam up to 200 °C, 20 bar.

Type	DN	PN	Kvs	Δp (bar)	Weight (kg)
RGD50	50	25	40	11.7	11.2
RGD65	65	25	63	6.9	15.5
RGD80	80	25	100	4.5	21.5
RGD100	100	25	160	2.9	35

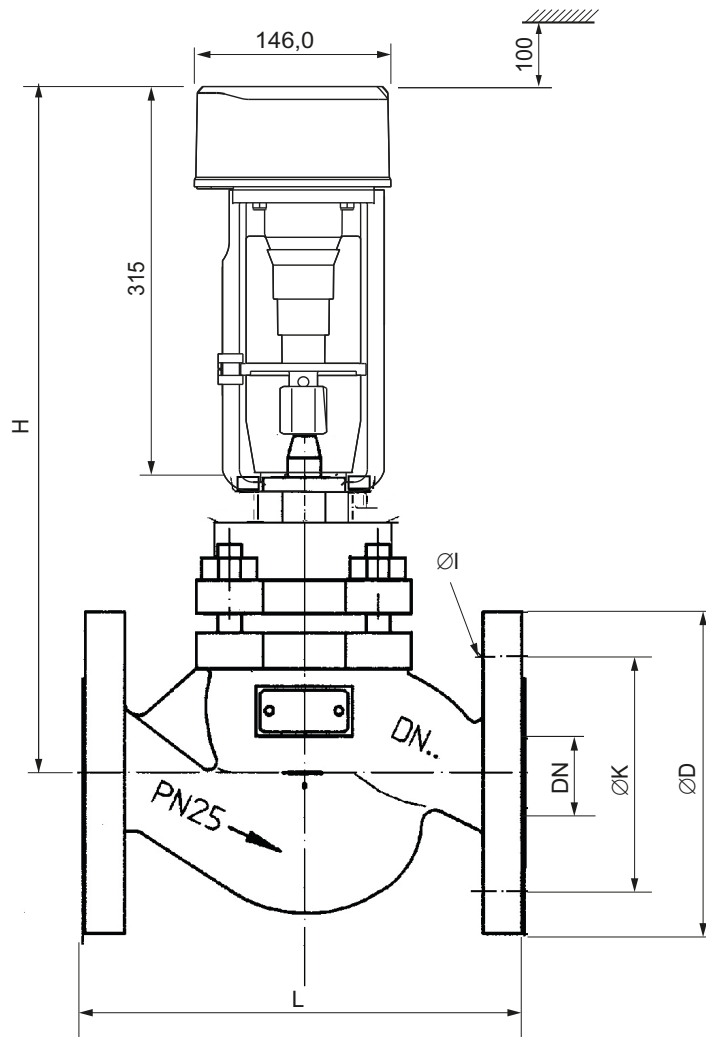


Technical Data: RGD.. Valves

Nominal width	DN65..100
Pressure rating	PN 25
CE designation	CE marking from DN32, notified body: 0525
Connection	Flange in accordance with DIN, PN25
Characteristic curve	Equal percentage
Positioning stroke	30 mm
Leak rate	In accordance with EN 1349, leakage class VI
Medium	Water up to 120 °C; 25 bar max. 50% glycol/water mixtures (pH 6.5..10) up to 120 °C; 25 bar Hot water and steam up to 200 °C; 20 bar
Medium temperature	0..200 °C As low as -10 °C only with spindle heating
Housing	Spheroidal cast iron GGG-40.3
Valve seat	Stainless steel 1.4021
Cone	Stainless steel 1.4571
Valve spindle	Stainless steel 1.4571
Stem seal	Chevron seals, Univerdit with PTFE bushing



Dimensions



DN	L	H	Ø D	Ø K	Ø I
50	230	422	165	125	4xØ18
65	290	437,5	185	145	8xØ18
80	310	453,5	200	160	8xØ18
100	350	472	235	190	8xØ22
Masse L bis I in mm					



RWG50..100 Dreiwegeventil mit Stellantrieb

Application

The nodular iron three-way valves with actuator are used for precisely regulating liquid and vapor flow rates.

Types

RWG50..100 spheroidal cast iron three-way valve for MF250 actuator, for water up to 120° C, 25 bar, as well as for hot water up to 200° C, 20 bar

Type	DN	PN	Kvs	Δp (bar)	Weight (kg)
RWG50	50	25	40	11.7	16.8
RWG65	65	25	63	6.9	23.5
RWG80	80	25	100	4.5	30.6
RWG100	100	25	160	2.9	47

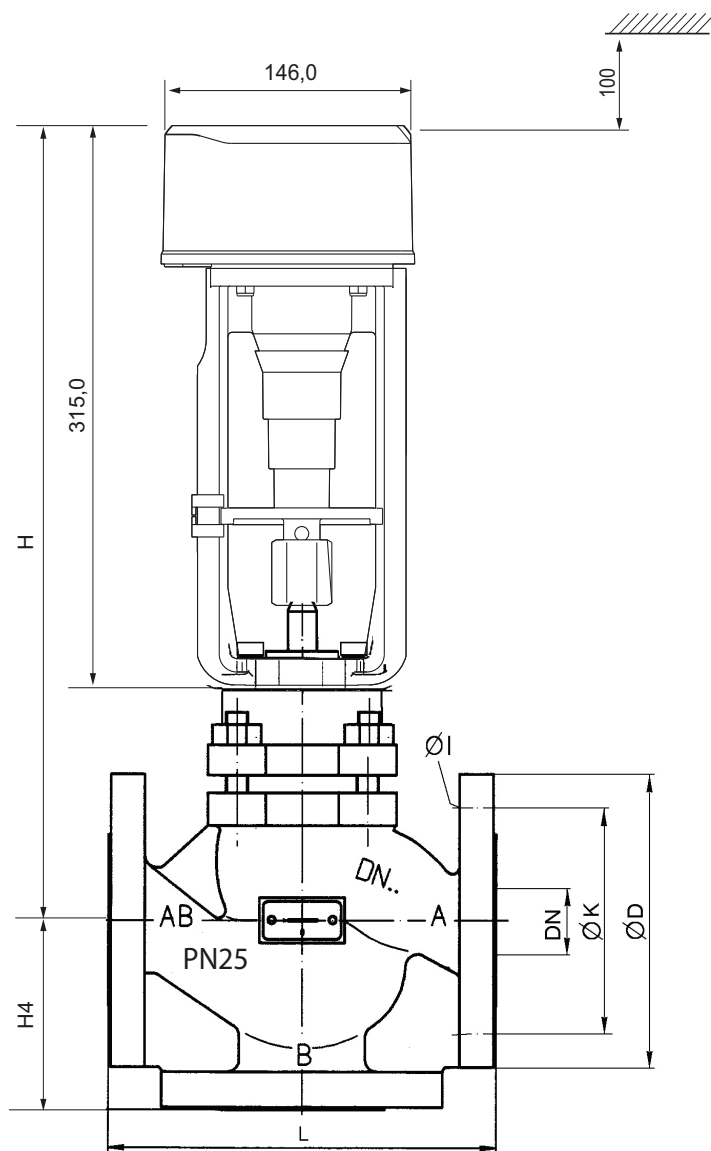


Technical Data for RWG Valves

Nominal width	DN50..100
Pressure rating	PN 25
CE marking	CE marking, notified body: 0045
Connection	Flange in accordance with DIN, PN25
Characteristic curve	Ports A → AB = equal percentage
	Gates B → AB = linear
Positioning stroke	30 mm
Leak rate	In accordance with EN 1349, leakage class VI
Medium	Water up to 120 °C; 25 bar max. 50% glycol/water mixtures (pH 6.5..10) up to 120 °C; 25 bar Hot water and steam up to 200 °C; 20 bar
Medium temperature	0..200 °C
	As low as -10 °C only with spindle heating
Housing	Spheroidal cast iron GGG-40.3
Valve seat	Stainless steel 1.4021
Cone	CrNi steel 1.4021
Valve spindle	Stainless steel 1.4571
Stem seal	Chevron sleeves Univerdit with PTFE bushing (maintenance-free)



Dimensions



DN	L	H	H4	Ø D	Ø K	Ø I
50	230	442,5	100	165	125	4 x Ø18
65	290	481	120	185	145	8 x Ø18
80	310	497	130	200	160	8 x Ø18
100	350	515,5	150	235	190	8 x Ø22
Dimensions L to I in mm						



RGDE25..100 two-way valve with actuator

Application

The nodular iron two-way valves with pressure-relief cone and with actuator are used for precisely regulating liquid, gas and vapor flow rates.

Types

RGDE25..100 spheroidal cast iron two-way valve for MF250 actuator, for water up to 120 °C, 25 bar as well as for hot water and steam up to 200 °C, 20 bar

Type	DN	PN	Kvs	Δp (bar)	Weight (kg)
RGDE25	25	25	10	20.0	7
RGDE32	32	25	16	20.0	9
RGDE40	40	25	25	20.0	12
RGDE50	50	25	40	17.5	15
RGDE65	65	25	63	17.5	25
RGDE80	80	25	100	16.5	34.5
RGDE100	100	25	160	12.3	48



NOTE

Z193 mounting kit required (see accessories page).

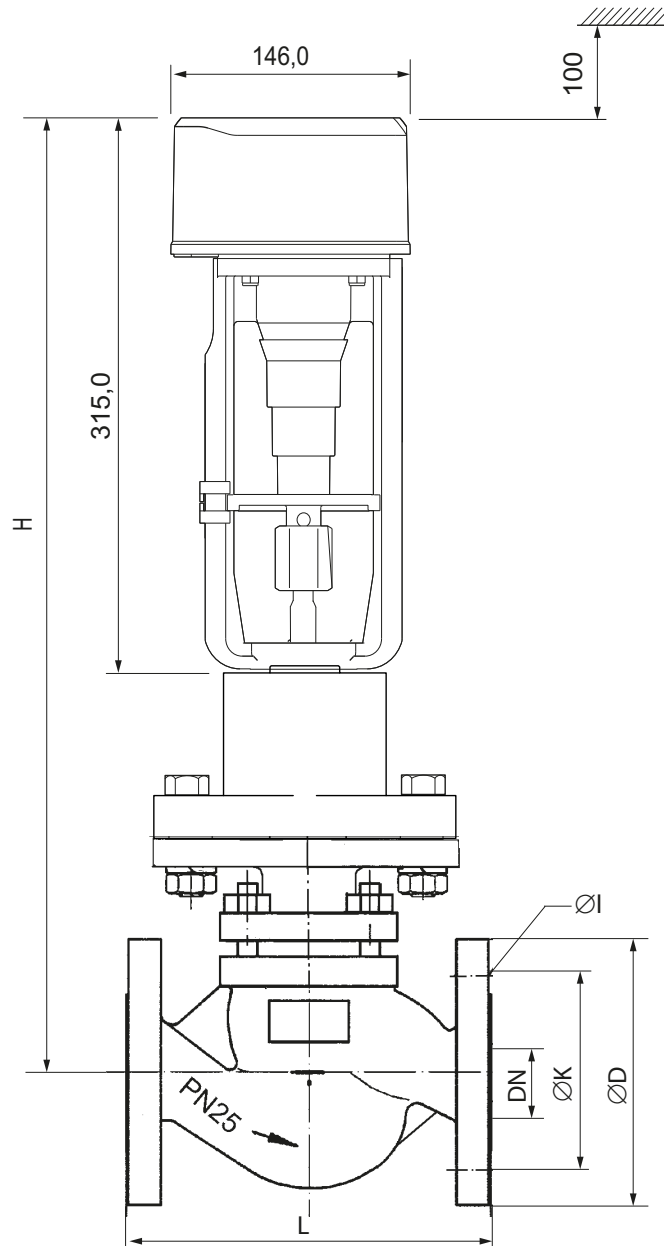
When valve/actuator combinations are delivered from the factory, the Z193 mounting kit is preassembled.

Technical Data for RGDE Valves

Nominal width	DN50..100
Pressure rating	PN 25
CE marking	CE marking, notified body: 0045
Connection	Flange in accordance with DIN, PN25
Characteristic curve	equal percentage
Positioning stroke	30 mm
Leak rate	In accordance with EN 1349, leakage class VI
Medium	Water up to 120 °C; 25 bar max. 50% glycol/water mixtures (pH 6.5..10) up to 120 °C; 25 bar Hot water and steam up to 200 °C; 20 bar
Medium temperature	0..200 °C As low as -10 °C only with spindle heating
Housing	Spheroidal cast iron GGG-40.3
Valve seat	Stainless steel 1.4021
Cone	CrNi steel 1.4021
Valve spindle	Stainless steel 1.4571
Stem seal	Chevron sleeves Univerdit with PTFE bushing (maintenance-free)



Dimensions



DN	L	H	Ø K	Ø D	Ø I
25	160	500.5	85	115	4 x Ø14
32	180	500.5	100	140	4 x Ø18
40	200	507.5	110	150	4 x Ø18
50	230	513.5	125	165	4 x Ø18
65	290	526.5	145	185	8 x Ø18
80	310	542.0	160	200	8 x Ø18
100	350	561.6	190	235	8 x Ø22
Measurements L to I in mm					

