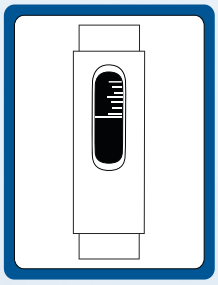
1007

FLOW CONTROLLER



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Functional description

Operating principle

The flow controller work according to the floated element measuring principle. The floated element is conducted into a cylindrical slit nozzle. Depending on the design the installation of the flow controller may be position-dependent (only floated element) or independent of position (floated element plus spring).
Outside of the flowing circuit a reed contact (protective gas contact) is installed. The reed contact is infused into a steplessly adjustable casing (switch housing) and thus protected from external influences. The inflowing medium moves floated element in the direction of the flow-through. Once the floated element with its integrated magnets has reached the position of the reed contact, the contact blades will close. When the flow rate increases, the variable area float will move farther in the flow direction, at a maximum to the end stop. The latter prevents the floated element from driving over the switching area of the reed contact (bistable property).

Application areas

Monitoring of liquids and gaseous liquids, e.g. in cooling systems and cooling circuits of welding machines, laser and piping systems, pumps, compressors, hydraulic systems etc..

Switch point and switching area

The switch point can be steplessly reset within the switching area. According to the existing flow speeds the actual flow-through may considerably exceed the maximum scale value.

Switching hysteresis

That is the distance passed through by the floated element between the switching positions of On and Off. By the selection of reed contacts with a close differential the typical hysteresis of the uplift of the variable area float lies at 2-3 mm.

Dependence on position

The device must be installed vertically, i.e. the flow-through will go from bottom to top.

Random position of installation

Due to the installation of a spring, which puts the floated element into its original position, the position of installation is random.
Due to the artificial aging and the pre-tensioning of the spring no readjustment is needed.

Compensation of viscosity

This will be accomplished through the installation of a spring in connection with a pinhole aperture.
Due to the artificial aging of the spring no readjustment is needed.

Service note

The flow controller are maintenance-free by design. Only with media that contain magnetic particles a cleaning at regular intervals should take place. These cleaning intervals may be considerably extended by the use of a filter which contains a magnet separator.

Instruction for installation:

1. Position-dependent devices

The installation of the flow controller takes place in a vertical position in the system. The flow-through takes place from bottom to top.

2. Devices irrespective of the position

The installation of the flow controller takes place randomly in the system. The flow-through takes place in the direction from the lower scale value towards the higher scale value.

3. Devices with compensation of viscosity

The installation of the flow controller takes place randomly in the system. The flow-through takes place in the direction from the lower scale value to the higher scale value.

4. Medium

The medium may not carry along solids. We recommend the installation of a dirt trap.

5. Contacts

There may be no devices equipped with contacts within the induction field.

6. Electrical maximum values

The electrical maximum values of the reed contact need to be strictly regarded.

7. Setting of the switch point

For the setting of the switch point the arrow on the switch housing needs to be adjusted to the desired switch-off amount noted on the scale of the device casing.

Design limits

Viscosity range:	30 cSt ... 600 cSt
Design pressure:	-1 bar ... 300 bar
Design temperature:	-20°C ... 160°C

Code 1

	Key 1 ... / ... - **Flow controller**		Key 2 ... / ... - **Flow controller switching range**
RVOU4	Flow controller with sight glass for water	...	Switching range
RVOU2	Flow controller with sight glass for water		(see the relevant catalog page)
RVOU1	Flow controller with sight glass for water		
RVMU4	Flow controller for water		
RVMU2	Flow controller for water		
RVMU1	Flow controller for water		
RVMUM	Flow controller for water		
DUG	Flow controller with sight glass for water		
DUM	Flow controller for water		
DUMA	Flow controller with analogue display for water		
DWG	Flow controller with sight glass for water		
DWM	Flow controller for water		
DWMA	Flow controller with analogue display for water		
RVOUL4	Flow controller with sight glass for air		
RVOUL2	Flow controller with sight glass for air		
RVOUL1	Flow controller with sight glass for air		
RVMUL4	Flow controller for air		
RVMUL2	Flow controller for air		
RVMUL1	Flow controller for air		
DWGL	Flow controller with sight glass for air		
DWML	Flow controller for air		
DWMAL	Flow controller with analogue display for air		
DKG2	Flow controller with sight glass for oil / viscosity compensated		
DKG1	Flow controller with sight glass for oil / viscosity compensated		
DKM2	Flow controller for oil / viscosity compensated		
DKM1	Flow controller for oil / viscosity compensated		
DKMA1	Flow controller with analogue display for oil / viscosity compensated		
DKME1	Flow controller for oil / viscosity compensated		
DKMEA1	Flow controller with analogue display for oil / viscosity compensated		
DP65[1]	Flow controller with analogue display for water		
SC250[1]	Flow controller with analogue display for water		
SCL250[1]	Flow controller with analogue display for air		

Code 2

	Key 1 ... - **Threaded connection**
GM	Female thread G
GN	Male thread G

Code 3

	Key 1 ... - **Threaded connection size**
...	Threaded connection size

Example

Code	1			2	3	4	5					6	7	8
Key	1	/	2	- 1	- 1	- 1	- 1	/	2	/	3	- 1	- 1	- 1
Example	RVOU1	/	30	- GM	- 1	- V	- S	/	HT	/	KV	- SOK	- NBR	- EXM

Black = not possible according to Atex / Blue = possible according to Atex Exm / Black[1] = possible according to Atex Exia

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Code 4

	Key 1 ... - **Material quality**
V	Stainless steel
ME	Brass
STPA	Steel Polyamide 11 coated (only DP65)

Code 5

	Key 1 ... / ... / ... - **Switch function**		Key 2 ... / ... / ... - **Switch function option**		Key 3 ... / ... / ... - **Electrical connection**
S	Normally open	HT	High temperature version	ASH	Connector in polyamide acc. to DIN 43650 with cable entry PG11
SS	Normally open 2 pieces				
U	Change over			KV	Connection cable grouted 2 m
UU	Change over 2 pieces				

Code 5 (only DP65 / SC250 / SCL250)

	Key 1 ... - **Switch function / Analogue output**
U	Change over
UU	Change over 2 pieces
A2[1]	Current output 4 ... 20 mA / 2-wire

Code 6

	Key 1 ... - **Scale**
SOK	Scale according to customers information

Code 7

	Key 1 ... - **Gasket (not applicable for DP65 / SC250 / SCL250)**
NBR	NBR e.g. Perbunan® / -20 ... 120°C (for water)
EPDM	EPDM e.g. Vistalon® / -20 ... 160°C (for water)
FKM	FKM e.g. Viton® / -20 ... 160°C (for oil)

Code 8

	Key 1 ... - **Approvals**
EXM	Acc. to Exm
EXIAG[1]	Acc. to Exia, atmosphere gas (only DP65 / SC250 / SCL250)

Example

Code	1			2	3	4	5					6	7	8
Key	1	/	2	-	1	-	1	-	1	-	1	/	2	/	3	-	1	-	1	-	1
Example	RVOU1	/	30	-	GM	-	1	-	V	-	S	/	HT	/	KV	-	SOK	-	NBR	-	EXM

Black = not possible according to Atex / Blue = possible according to Atex Exm / Black[1] = possible according to Atex Exia

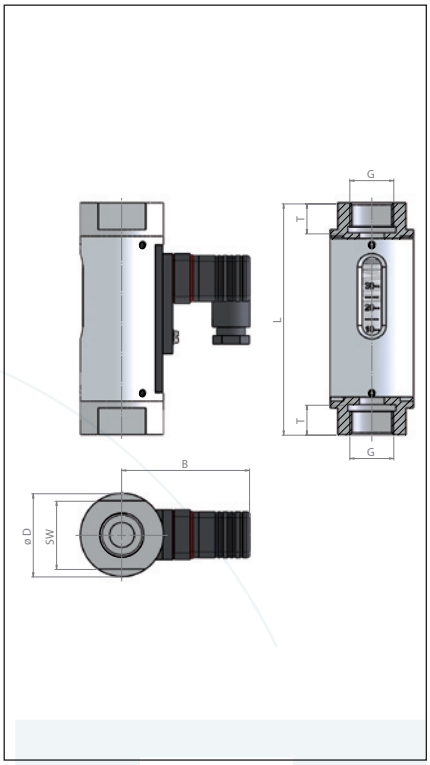
Flow Controller for water independent of position

Type **RVOU..** **for water independent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 100°C (optional 160°C)
Viscosity range:	-
Accuracy:	±10 % of full scale
Gasket:	Brass - NBR (optional FKM, EPDM) Stainless steel - FKM (optional NBR, EPDM)
Mounting position:	Independent of position
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function

Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	l/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
RVOU4/01	0,005 - 0,06	16	0,02 ... 0,2	1/4"	17	20	-	49	10	90	140	No
RVOU4/02	0,025 - 0,13											
RVOU4/03	0,06 - 0,3											
RVOU4/06	0,1 - 0,6											
RVOU4/1	0,2 - 1,2											
RVOU4/2	0,4 - 2											
RVOU4/3	0,5 - 3											
RVOU4/5	1 - 5											
RVOU2/05	0,2 - 0,5	16	0,02 - 0,3	1/2"	27	32	-	53	14	114	300	No
RVOU2/1	0,3 - 1											
RVOU2/2	0,7 - 2											
RVOU2/4	1,6 - 4											
RVOU2/8	3 - 8											
RVOU2/12	4,5 - 12											
RVOU2/15	6 - 15											
RVOU2/20	8 - 20											
RVOU2/24	9,5 - 24											
RVOU2/28	12 - 28											
RVOU1/30	8 - 30	10	0,02 - 0,4	3/4" 1"	41	50	-	77	18	139 158	800 900	Yes
RVOU1/45	15 - 45											
RVOU1/90	30 - 90											
RVOU1/150	60 - 150	10	0,02 - 0,4	1"	41	50	-	77	18	158	900	Yes

The flow controller are based on a modular design and can be conditionally arranged individually.
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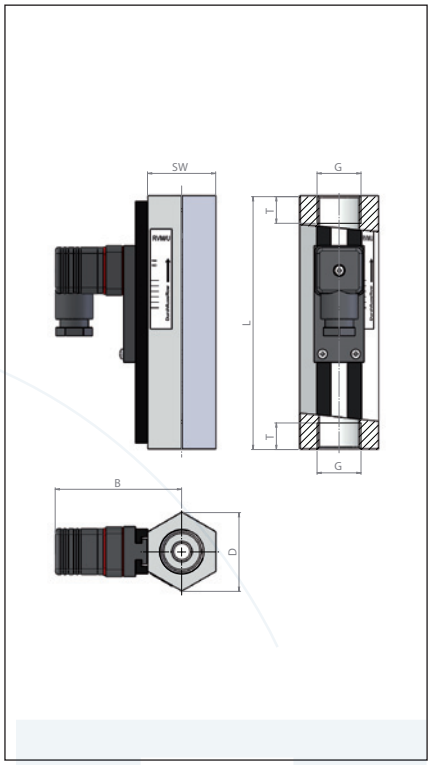
Type **RVMU..** **for water independent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 100°C (optional 160°C)
Viscosity range:	-
Accuracy:	±10 % of full scale
Gasket:	Brass - NBR (optional FKM, EPDM) Stainless steel - FKM (optional NBR, EPDM)
Mounting position:	Independent of position
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function

Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	l/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
RVMU4/01	0,005 - 0,06	300	0,02 ... 0,2	1/4"	17	17	-	47	10	65	140	No
RVMU4/02	0,04 - 0,13											
RVMU4/06	0,1 - 0,6											
RVMU4/1	0,2 - 1,2											
RVMU4/2	0,4 - 2											
RVMU4/3	0,5 - 3											
RVMU4/5	1 - 5											
RVMU2/02	0,02 - 0,2	300	0,02 - 0,3	1/2"	27	31	-	52	14	90	350	Yes
RVMU2/06	0,2 - 0,6											
RVMU2/1	0,4 - 1,8											
RVMU2/3	0,8 - 3,2											
RVMU2/7	2 - 7											
RVMU2/13	3 - 13											
RVMU2/20	4 - 20											
RVMU2/30	8 - 30											
RVMU1/30	10 - 30	250	0,02 - 0,4	3/4" 1"	41	47	-	76	21 17	152 130	1200 1050	Yes
RVMU1/45	15 - 45											
RVMU1/60	20 - 60											
RVMU1/90	30 - 90											
RVMU1/150	60 - 150	250	0,02 - 0,4	1"	41	47	-	76	17	130	1050	Yes

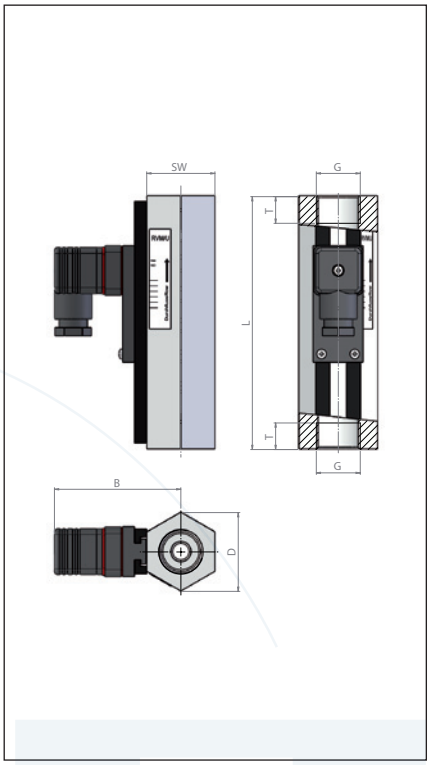
The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

Flow Controller for water independent of position

Type **RVMUM..** **for water independent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 120°C (optional 160°C)
Viscosity range:	-
Accuracy:	±10 % of full scale
Gasket:	Brass - NBR (optional FKM, EPDM) Stainless steel - FKM (optional NBR, EPDM)
Mounting position:	Independent of position
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function	
Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	l/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
RVMUM/120	0,1 - 120	250	0,02 - 2	1"	41	47	-	72	20	130	1000	Yes
Please note: Switch point (... l/min.) Please specify when ordering!												
Lowest switch point: 0,1 l/min												
Highest switch point: 30 l/min												

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

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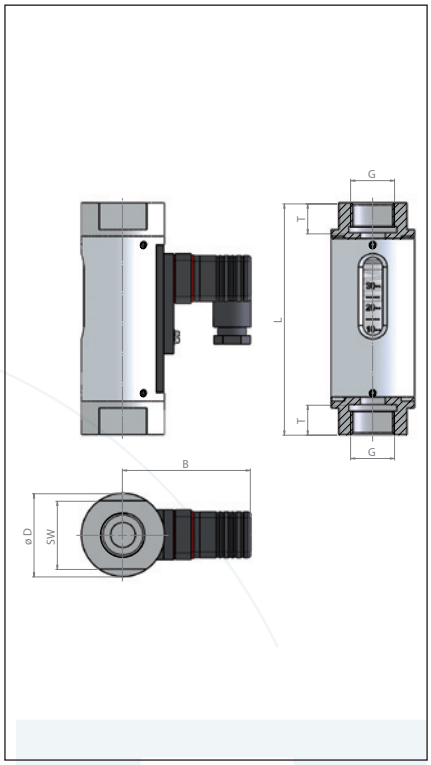
Type **DUG..** **for water independent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 100°C (optional 160°C)
Viscosity range:	-
Accuracy:	±5 % of full scale
Gasket:	Brass - NBR (optional FKM, EPDM) Stainless steel - FKM (optional NBR, EPDM)
Mounting position:	Independent of position
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function	
Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	l/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
DUG/4	0,2 - 4	10	0,02 - 0,8	1/4“ 3/8“ 1/2“	32	43	-	73	14 14 15	132 132 135	625	Yes
DUG/6	0,5 - 6											
DUG/8	0,5 - 8											
DUG/14	0,5 - 14											
DUG/22	2 - 22	10	0,02 - 0,8	1/2“	32	43	-	73	15	135	650	
DUG/28	1 - 28											
DUG/45	1 - 45	10	0,02 - 0,8	3/4“	32	43	-	73	15	135	850	
DUG/80	2 - 80	10	0,02 - 0,8	3/4“ 1“	41	50	-	76	18 19	164 184	1000	
DUG/90	6 - 90											
DUG/110	6 - 110	10	0,02 - 0,8	1“	41	50	-	76	19	184	1000	
DUG/150	15 - 150	10	0,02 - 0,8	1 1/4“	50	55	-	79	21	216	1300	
DUG/220	30 - 220	10	0,02 - 0,8	1 1/4“	55	60	-	81	21	210	1700	
DUG/250	35 - 250	10	0,02 - 0,8	1 1/4“	50	55	-	79	21	222	1400	

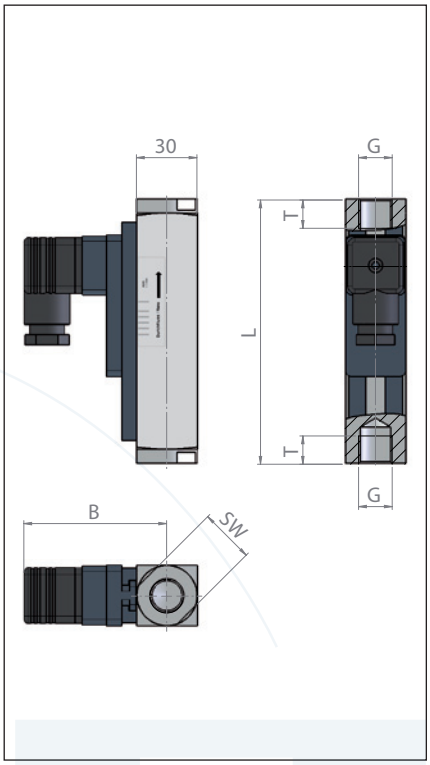
The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

Flow Controller for water independent of position

Type **DUM..** **for water independent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 100°C (optional 160°C)
Viscosity range:	-
Accuracy:	±5 % of full scale
Gasket:	Brass - NBR (optional FKM, EPDM) Stainless steel - FKM (optional NBR, EPDM)
Mounting position:	Independent of position
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function	
Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	l/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
DUM/4	0,2 - 4	200	0,02 - 0,8	1/4“ 3/8“ 1/2“	27	30	-	71	14	131	850	Yes
DUM/5	0,6 - 5											
DUM/8	0,5 - 8											
DUM/14	1 - 14											
DUM/28	1 - 28											
DUM/40	2 - 40	200	0,02 - 0,8	1/2“ 3/4“	27 32	30 35	-	71	14 16	146 174	900	
DUM/55	4 - 55											
DUM/70	1 - 70	200	0,02 - 0,8	3/4“ 1“	34 40	40	-	76	18 19	152 156	1400 1100	
DUM/90	8 - 90											
DUM/110	5 - 110											
DUM/150	10 -150	200	0,02 - 0,8	1 1/4“	50	50	-	76	21	200	2750	
DUM/220	35 - 220	200	0,02 - 0,8	1 1/4“	50	50	-	81	21	200	3000	
DUM/250	35 - 250	200	0,02 - 0,8	1 1/2“	60	60	-	82	24	200	3800	

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

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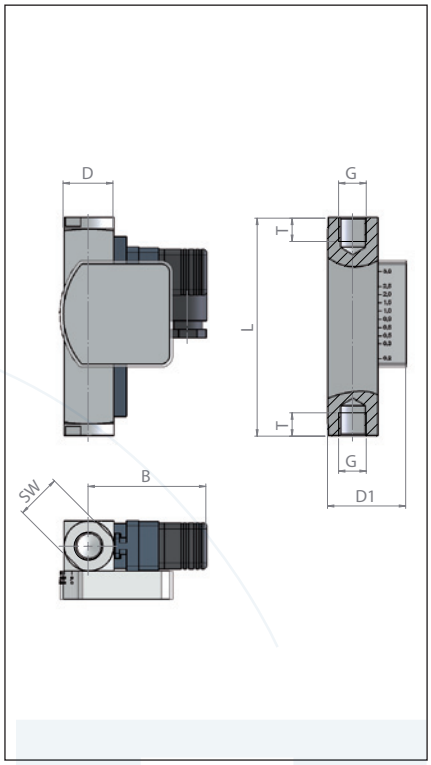
Type **DUMA..** **for water independent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 100°C (optional 160°C)
Viscosity range:	-
Accuracy:	±5 % of full scale
Gasket:	Brass - NBR (optional FKM, EPDM) Stainless steel - FKM (optional NBR, EPDM)
Mounting position:	Independent of position
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function	
Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	l/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
DUMA/4	0,2 - 4	200	0,02 - 0,8	1/4“ 3/8“ 1/2“	27	30	47	71	14	131	900	Yes
DUMA/5	0,6 - 5											
DUMA/8	0,5 - 8											
DUMA/14	1 - 14											
DUMA/28	1 - 28											
DUMA/40	2 - 40	200	0,02 - 0,8	1/2“ 3/4“	27 32	30 35	47	71	14 16	146 174	950	
DUMA/55	4 - 55											
DUMA/70	1 - 70	200	0,02 - 0,8	3/4“ 1“	34 40	40	57	76	18 19	152 156	1450 1150	
DUMA/90	8 - 90											
DUMA/110	5 - 110											
DUMA/150	10 -150	200	0,02 - 0,8	1 1/4“	50	50	57	76	21	200	2800	
DUMA/220	35 - 220	200	0,02 - 0,8	1 1/4“	50	50	67	81	21	200	3050	
DUMA/250	35 - 250	200	0,02 - 0,8	1 1/2“	60	60	77	82	24	200	3850	

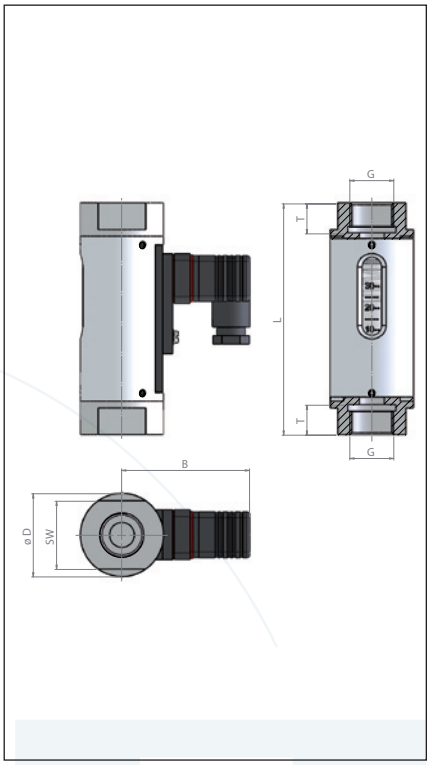
The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

Flow Controller for water dependent of position

Type **DWG..** **for water dependent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 100°C (optional 160°C)
Viscosity range:	-
Accuracy:	±5 % of full scale
Gasket:	Brass - NBR (optional FKM, EPDM) Stainless steel - FKM (optional NBR, EPDM)
Mounting position / Flow direction:	Vertical / Bottom-up
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function	
Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	l/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
DWG/1,5	0,1 - 1,5	10	0,01 - 0,2	1/4“ 3/8“ 1/2“	32	43	-	73	14 14 15	132 132 135	625	Yes
DWG/3	0,2 - 3											
DWG/8	0,3 - 8											
DWG/12	1 - 12											
DWG/18	2 - 18	10	0,01 - 0,2	1/2“ 3/4“	32	43	-	73	15 16	163 167	650	
DWG/35	3 - 35	10	0,01 - 0,2	3/4“ 1“	41	50	-	76	18 19	164 184	850 1000	
DWG/50	4 - 50											

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

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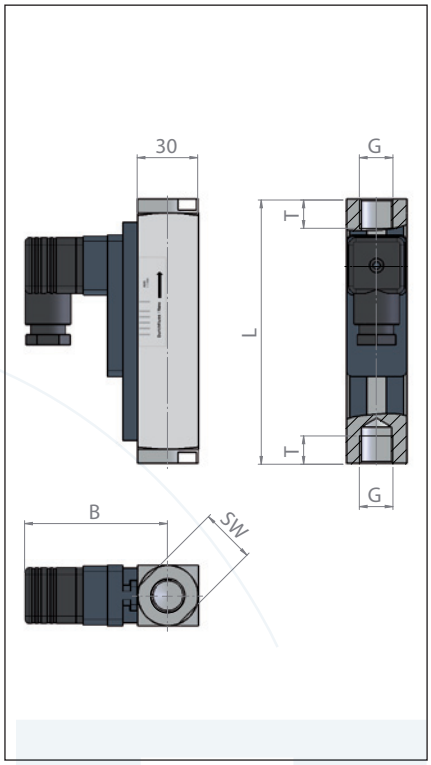
Type **DWM..** **for water dependent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 100°C (optional 160°C)
Viscosity range:	-
Accuracy:	±5 % of full scale
Gasket:	Brass - NBR (optional FKM, EPDM) Stainless steel - FKM (optional NBR, EPDM)
Mounting position / Flow direction:	Vertical / Bottom-up
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function	
Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	l/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
DWM/1,5	0,1 - 1,5	200	0,02 - 0,2	1/4“ 3/8“ 1/2“	27	30	-	71	14 19 19	131	800	Yes
DWM/3	0,2 - 3											
DWM/8	0,3 - 8											
DWM/12	1 - 12											
DWM/18	2 - 18	200	0,02 - 0,2	1/2“ 3/4“	27 32	30 35	-	71	19 17	146 174	800 960	
DWM/35	3 - 35	200	0,02 - 0,2	3/4“ 1“	34 40	40	-	76	18 19	152 156	1450	
DWM/50	4 - 50											

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

Flow Controller for water dependent of position

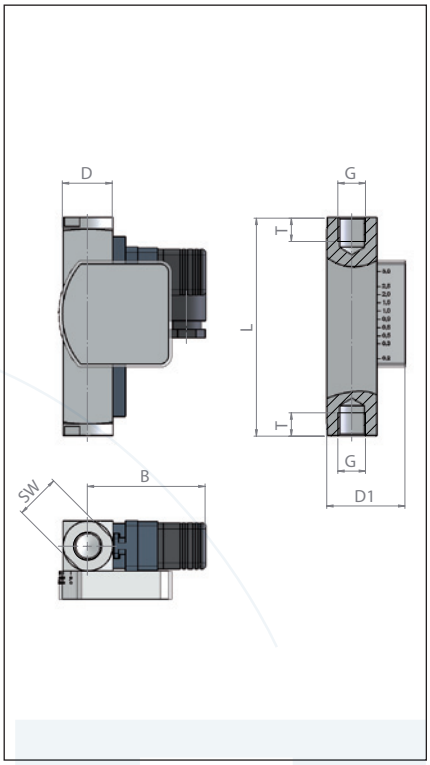
Type DWMA..

for water dependent of position

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 100°C (optional 160°C)
Viscosity range:	-
Accuracy:	±5 % of full scale
Gasket:	Brass - NBR (optional FKM, EPDM) Stainless steel - FKM (optional NBR, EPDM)
Mounting position / Flow direction:	Vertical / Bottom-up
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function

Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	l/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
DWMA/1,5	0,1 - 1,5	200	0,02 - 0,2	1/4“	27	30	47	71	14	131	850	Yes
DWMA/3	0,2 - 3			3/8“					19			
DWMA/8	0,3 - 8			1/2“					19			
DWMA/12	1 - 12											
DWMA/18	2 - 18	200	0,02 - 0,2	1/2“ 3/4“	27 32	30 35	47	71	19 17	146 174	850 1010	
DWMA/35	3 - 35	200	0,02 - 0,2	3/4“	34	40	57	76	18	152	1500	
DWMA/50	4 - 50			1“	40				19	156		

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

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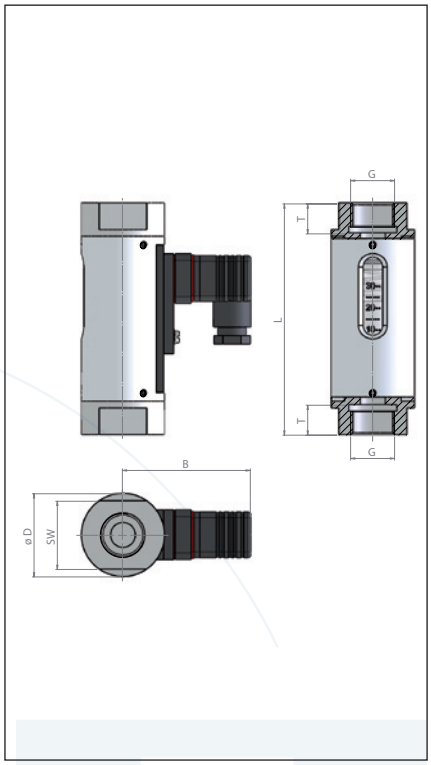
Type **RVOUL..** **for air independent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 100°C (optional 160°C)
Viscosity range:	-
Accuracy:	±10 % of full scale
Gasket:	Brass - NBR (optional FKM, EPDM) Stainless steel - FKM (optional NBR, EPDM)
Mounting position:	Independent of position
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function

Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	Nl/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
RVOUL4/0001	0,2 - 1,3	16	0,02 ... 0,2	1/4"	17	20	-	49	10	90	140	No
RVOUL4/0002	0,5 - 2											
RVOUL4/0003	0,8 - 3											
RVOUL4/0005	1,5 - 5											
RVOUL4/0008	2 - 8											
RVOUL4/0012	3 - 12											
RVOUL4/0014	3,5 - 14											
RVOUL4/0020	5,5 - 20											
RVOUL4/0024	7 - 24											
RVOUL4/0035	10 - 35											
RVOUL4/0042	10 - 42											
RVOUL2/0012	3 - 12	16	0,02 - 0,3	1/2"	27	32	-	53	14	114	300	No
RVOUL2/0030	7 - 30											
RVOUL2/0040	12 - 40											
RVOUL2/0125	28 - 125											
RVOUL2/0200	50 - 200											
RVOU2/15L	100 - 420											
RVOU2/20L	120 - 480											
RVOUL1/0080	22,5 - 80	10	0,02 - 0,4	3/4" 1"	41	50	-	77	18	139 158	800 900	Yes
RVOUL1/0130	50 - 130											
RVOUL1/0420	130 - 420											
RVOUL1/0625	200 - 625											

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

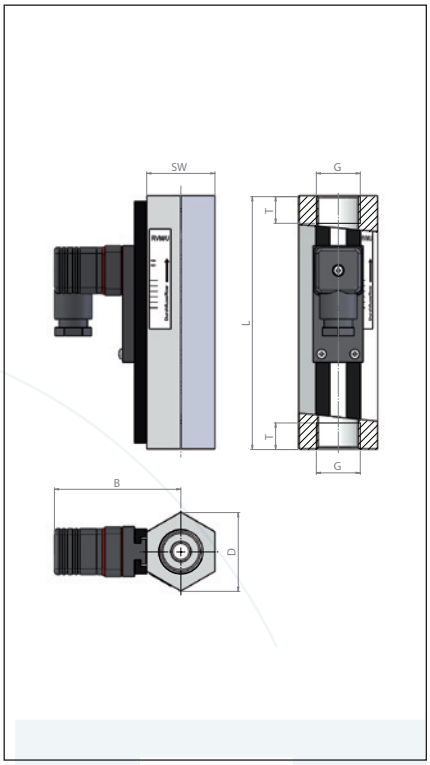
Flow Controller for air independent of position

Type **RVMUL..** **for air independent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 120°C (optional 160°C)
Viscosity range:	-
Accuracy:	±10 % of full scale
Gasket:	Brass - NBR (optional FKM, EPDM) Stainless steel - FKM (optional NBR, EPDM)
Mounting position:	Independent of position
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function

Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	Nl/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
RVMUL4/0002	0,6 - 2,2											
RVMUL4/0006	1,7 - 6											
RVMUL4/0008	2,5 - 8											
RVMUL4/0012	3 - 12											
RVMU4/06L	3 - 22	300	0,02 ... 0,2	1/4"	17	17	-	47	10	65	140	No
RVMUL4/0024	7 - 24											
RVMUL4/0034	12 - 34											
RVMU4/2L	16 - 56											
RVMU4/3L	20 - 80											
RVMUL2/0010	2,5 - 10											
RVMUL2/0020	5,5 - 20											
RVMUL2/0030	8 - 30											
RVMUL2/0035	10 - 35											
RVMU2/3L	24 - 90	300	0,02 - 0,3	1/2"	27	31	-	52	14	90	350	Yes
RVMUL2/0220	55 - 220											
RVMUL2/0240	65 - 240											
RVMUL2/0300	80 - 300											
RVMUL2/0525	140 - 525											
RVMUL1/0180	60 - 180											
RVMUL1/0300	100 - 30	250	0,02 - 0,4	3/4" 1"	41	47	-	76	21 17	152 130	1200 1050	Yes
RVMUL1/0650	200 - 65											

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

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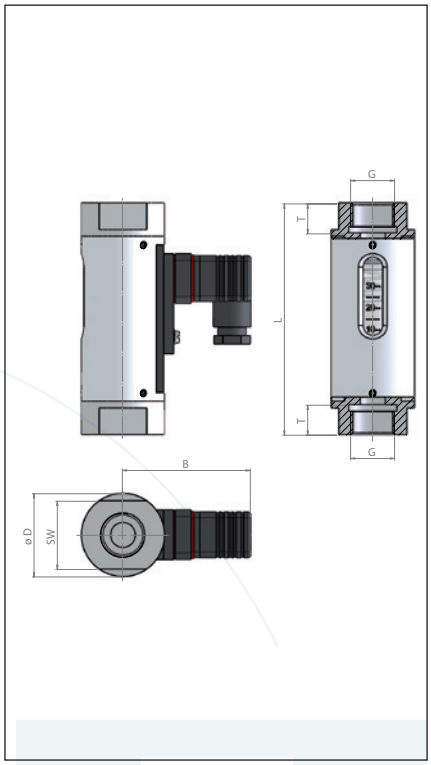
Type **DWGL..** **for air dependent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 80°C
Viscosity range:	-
Accuracy:	±10 % of full scale
Gasket:	Brass - NBR (optional FKM, EPDM) Stainless steel - FKM (optional NBR, EPDM)
Mounting position / Flow direction:	Vertical / Bottom-up
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function	
Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	Nl/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
DWGL/1,5	3 - 30	10	0,01 - 0,2	1/4“ 3/8“ 1/2“	32	43	-	73	14 14 15	132 132 135	625	Yes
DWGL/3	6 - 60											
DWGL/8	6 - 160											
DWGL/12	20 - 220											
DWGL/18	40 - 360	10	0,01 - 0,2	1/2“ 3/4“	32	43	-	73	15 16	163 167	650	
DWGL/35	60 - 700	10	0,01 - 0,2	3/4“ 1“	41	50	-	76	18 19	164 184	850 1000	
DWGL/50	60 - 825											
DWGL/100	200 - 1600	10	0,01 - 0,2	1“	41	50	-	76	19	204	1100	

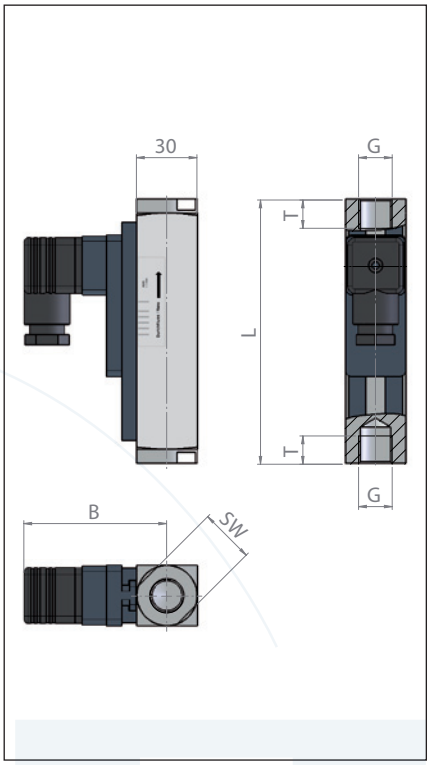
The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

Flow Controller for air dependent of position

Type **DWML..** **for air dependent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 80°C
Viscosity range:	-
Accuracy:	±10 % of full scale
Gasket:	Brass - NBR (optional FKM, EPDM) Stainless steel - FKM (optional NBR, EPDM)
Mounting position / Flow direction:	Vertical / Bottom-up
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function	
Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	Nl/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
DWML/1,5	1 - 28	200	0,02 - 0,4	1/4“	27	30	-	71	14	131	800	Yes
DWML/3	4 - 60			3/8“					19			
DWML/8	6 - 160			1/2“					19			
DWML/12	20 - 240											
DWML/18	40 - 360	200	0,02 - 0,4	1/2“ 3/4“	27 32	30 35	-	71	19 17	146 174	850 960	
DWML/50	60 - 700	200	0,02 - 0,4	3/4“ 1“	34 40	40	-	76	18 19	152 156	1350 1050	
DWML/100	200 - 1450	200	0,02 - 0,4	1“	50	50	-	81	20	200	2750	

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

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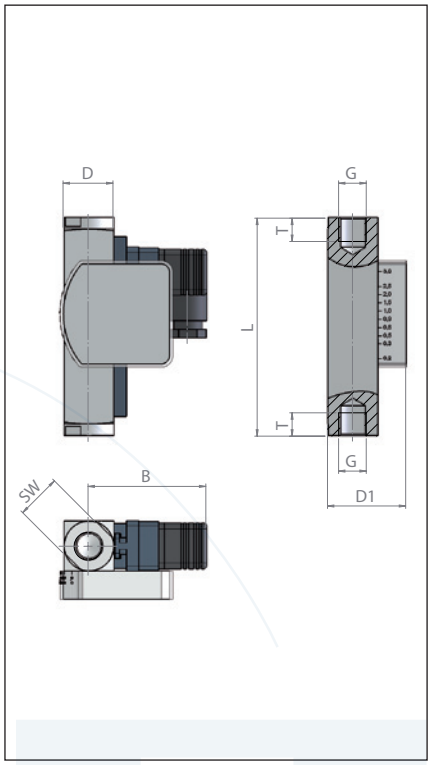
Type **DWMAL..** **for air dependent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 80°C
Viscosity range:	-
Accuracy:	±10 % of full scale
Gasket:	Brass - NBR (optional FKM, EPDM) Stainless steel - FKM (optional NBR, EPDM)
Mounting position / Flow direction:	Vertical / Bottom-up
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function	
Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	Nl/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
DWMAL/1,5	1 - 28	200	0,02 - 0,4	1/4“ 3/8“ 1/2“	27	30	47	71	14 19 19	131	850	Yes
DWMAL/3	4 - 60											
DWMAL/8	6 - 160											
DWMAL/12	20 - 240											
DWMAL/18	40 - 360	200	0,02 - 0,4	1/2“ 3/4“	27 32	30 35	47	71	19 17	146 174	900 1010	
DWMAL/50	60 - 700	200	0,02 - 0,4	3/4“ 1“	34 40	40	57	76	18 19	152 156	1400 1100	
DWMAL/100	200 - 1450	200	0,02 - 0,4	1“	50	50	67	81	20	200	2800	

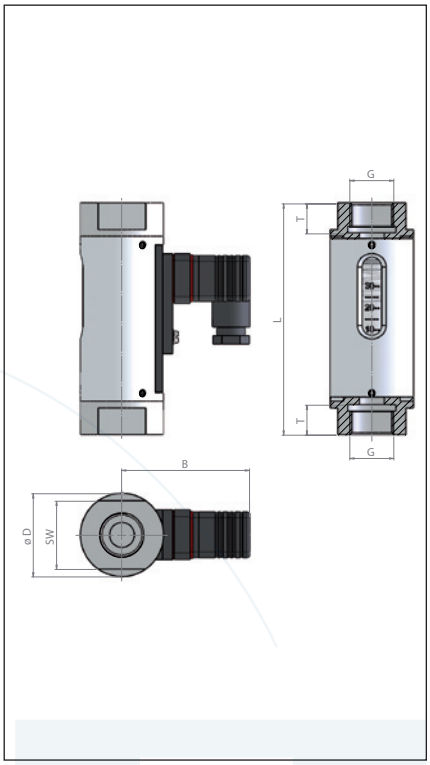
The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

Flow Controller for oil independent of position

Type **DKG..** **for oil independent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 120°C (optional 160°C)
Viscosity range:	30 cSt ... 600 cSt
Accuracy:	±10 % of full scale
Gasket:	Brass - FKM Stainless steel - FKM
Mounting position:	Independent of position
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function	
Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	l/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
DKG2/2	0,5 - 1,7	16	0,02 - 0,2	1/2“	27	32	-	54	14	114	300	No
DKG2/3	0,8 - 2,5											
DKG2/4	1,3 - 4,0											
DKG2/8	2,5 - 8,0											
DKG1/1	0,1 - 0,8	10	0,02 - 0,4	1/4“	41	50	-	74	10	144,5	850	Yes
DKG1/2	0,5 - 1,5			1/2“					14	144,5		
DKG1/4	1 - 4			3/4“ 1“					15 17	138,5 158,5		
DKG1/8	2 - 8	10	0,02 - 0,4	1/2“	41	50	-	74	14	144,5	850	Yes
DKG1/10	3 - 10			3/4“					15	138,5		
DKG1/15	5 - 15			1“					17	158,5		
DKG1/24	8 - 24											
DKG1/30	10 - 30	10	0,02 - 0,4	3/4“	41	50	-	74	15	138,5	850	Yes
DKG1/45	15 - 45			1“					17	158,5		
DKG1/60	20 - 60											
DKG1/90	30 - 90											

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

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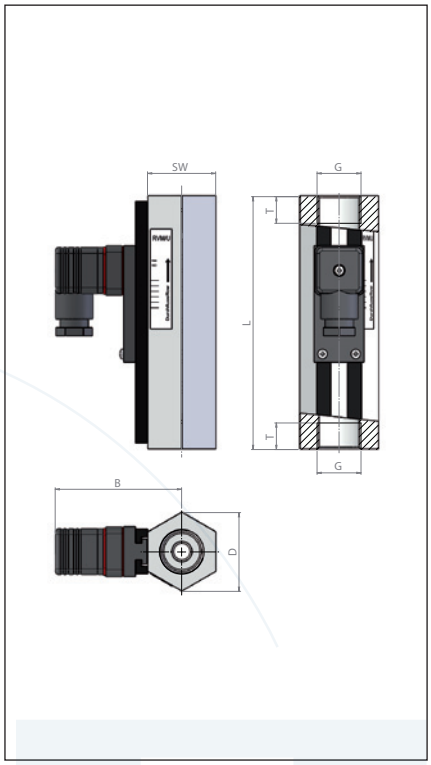
Type **DKM..** **for oil independent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 120°C (optional 160°C)
Viscosity range:	30 cSt ... 600 cSt
Accuracy:	±10 % of full scale
Gasket:	Brass - FKM Stainless steel - FKM
Mounting position:	Independent of position
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function

Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	l/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
DKM2/2	0,5 - 1,6	300	0,02 - 0,2	1/4“ 3/8“ 1/2“	24 24 27	31	-	52	10 11 14	90	400 450 350	Yes
DKM2/3	0,8 - 3	300	0,02 - 0,2	1/2“	27	31	-	52	14	90	350	
DKM2/7	2 - 7											
DKM1/2	0,5 - 1,5	250	0,02 - 0,4	1/4“ 1/2“ 3/4“ 1“	34 34 34 40	40	-	73	10 14 15 17	152 152 152 130	1500 1425 1340 1160	
DKM1/4	1 - 4											
DKM1/8	2 - 8	250	0,02 - 0,4	1/2“ 3/4“ 1“	34 34 40	40	-	73	14 15 17	152 152 130	1425 1340 1160	
DKM1/10	3 - 10											
DKM1/15	5 - 15											
DKM1/24	8 - 24											
DKM1/30	10 - 30	250	0,02 - 0,4	3/4“ 1“	34 40	40	-	73	15 17	152 130	1340 1160	
DKM1/45	15 - 45											
DKM1/60	20 - 60											
DKM1/90	30 - 90	250	0,02 - 0,4	1“	40	40	-	73	17	130	1160	
DKM1/110	35 - 110											

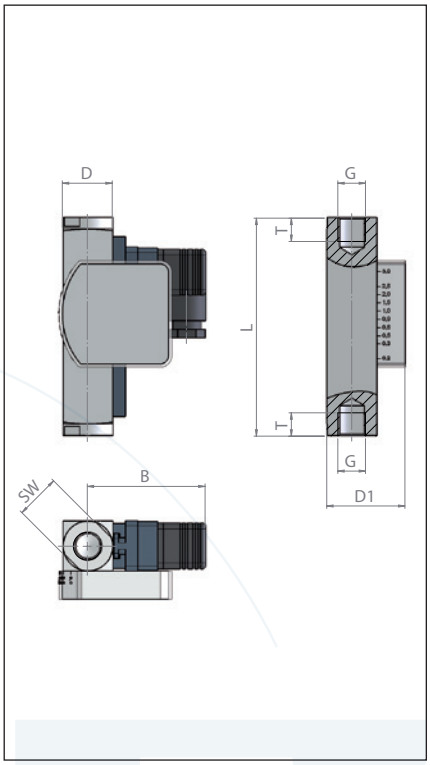
The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

Flow Controller for oil independent of position

Type **DKMA..** **for oil independent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 120°C (optional 160°C)
Viscosity range:	30 cSt ... 600 cSt
Accuracy:	±10 % of full scale
Gasket:	Brass - FKM Stainless steel - FKM
Mounting position:	Independent of position
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function	
Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	l/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
DKMA1/2	0,5 - 1,5	250	0,02 - 0,4	1/4“ 1/2“	34 34	40	57	73	10 14	152 152	1590 1515	Yes
DKMA1/4	1 - 4			3/4“ 1“	34 40				15 17	152 130	1430 1250	
DKMA1/8	2 - 8	250	0,02 - 0,4	1/2“ 3/4“ 1“	34 34 40	40	57	73	14 15 17	152 152 130	1515 1430 1250	
DKMA1/10	3 - 10											
DKMA1/15	5 - 15											
DKMA1/24	8 - 24											
DKMA1/30	10 - 30	250	0,02 - 0,4	3/4“ 1“	34 40	40	57	73	15 17	152 130	1430 1250	
DKMA1/45	15 - 45											
DKMA1/60	20 - 60											
DKMA1/90	30 - 90	250	0,02 - 0,4	1“	40	40	57	73	17	130	1250	
DKMA1/110	35 - 110											

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

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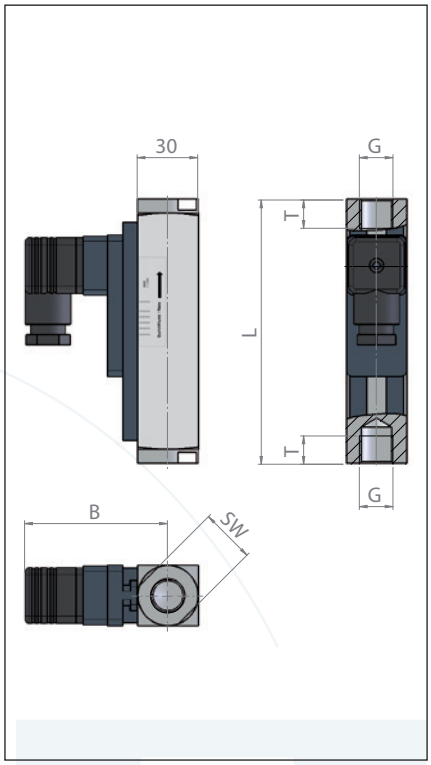
Type **DKME..** **for oil independent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 120°C (optional 160°C)
Viscosity range:	30 cSt ... 600 cSt
Accuracy:	±10 % of full scale
Gasket:	Brass - FKM Stainless steel - FKM
Mounting position:	Independent of position
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function

Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	l/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
DKME1/20	1 - 20	250	0,02 - 0,4	1/2“	34	40	-	73	14	152	1425	Yes
				3/4“	34				15	152	1340	
DKME1/40	4 - 40			1“	40				17	130	1160	
DKME1/50	5 - 50	250	0,02 - 0,4	3/4“	34	40	-	73	15	152	1340	
DKME1/60	8 - 60			1“	40				17	130	1160	
DKME1/70	12 - 70	250	0,02 - 0,4	1“	40	40	-	73	17	130	1160	
DKME1/80	15 - 80											

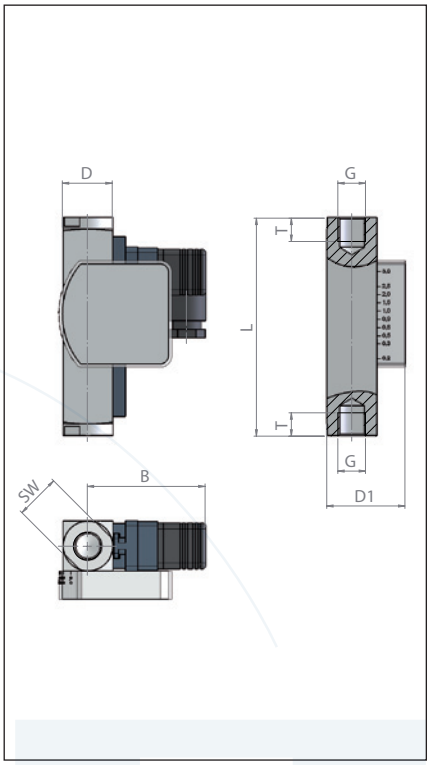
The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

Flow Controller for oil independent of position

Type **DKMEA..** **for oil independent of position**

Material quality:	Brass nickel plated Stainless steel 1.4571
Electrical connection / Ingress protection class:	Connector DIN 43650 / IP 65 ATEX - 2 m PVC connection cable / IP 67
Process connection:	Female thread G
Display:	Sight glass Duran® 50
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 120°C (optional 160°C)
Viscosity range:	30 cSt ... 600 cSt
Accuracy:	±10 % of full scale
Gasket:	Brass - FKM Stainless steel - FKM
Mounting position:	Independent of position
Approvals:	ATEX II 2 G Ex mb II T6 - T5 ATEX II 2 D Ex tD A21 IP67 T80°C - T100°C

Flow switch function	
Function:	Normally open / S
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)
	Optional
Function:	Change over / U
Switching capacity:	Page 175
Switching capacity / ATEX Exmb:	Page 175
Maximal number of contacts:	1 piece (optional 2 pieces)



Type		Max. Design pressure	Pressure drop	G	SW	D	D1	B	T	L	Weight	ATEX Approvals
	l/min	bar	bar	mm	mm	mm	mm	mm	mm	mm	g	
DKMEA1/20	1 - 20	250	0,02 - 0,4	1/2“	34	40	57	73	14	152	1425	Yes
				3/4“	34				15	152	1340	
DKMEA1/40	4 - 40			1“	40				17	130	1160	
DKMEA1/50	5 - 50	250	0,02 - 0,4	3/4“	34	40	57	73	15	152	1340	
DKMEA1/60	8 - 60			1“	40				17	130	1160	
DKMEA1/70	12 - 70	250	0,02 - 0,4	1“	40	40	57	73	17	130	1160	
DKMEA1/80	15 - 80											

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

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Electrical switching capacity of the contacts

Type			ATEX Ex mb	ATEX Ex mb
	Normally open	Change over	Normally open	Change over
RVOU4/..	200 V / 1 A / 20VA	200 V / 1 A / 20 VA		
RVOU2/..	230 V / 3 A / 60 VA	230 V / 1,5 A / 50 VA		
RVOU1/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
RVMU4/..	200 V / 1 A / 20 VA	200 V / 1 A / 20 VA		
RVMU2/..	230 V / 3 A / 60 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
RVMU1/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
RVMUM/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DUG/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DUM/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DUMA/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DWG/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DWM/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DWMA/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
RVOUL4/..	200 V / 1 A / 20VA	200 V / 1 A / 20 VA		
RVOUL2/..	230 V / 3 A / 60 VA	230 V / 1,5 A / 50 VA		
RVOUL1/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
RVMUL4/..	200 V / 1 A / 20VA	200 V / 1 A / 20 VA		
RVMUL2/..	230 V / 3 A / 60 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
RVMUL1/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DWGL/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DWML/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DWMAL/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DKG2/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA		
DKG1/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DKM2/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DKM1/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DKMA/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DKME1/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA
DKMEA1/..	230 V / 3 A / 100 VA	230 V / 1,5 A / 50 VA	230 V / 2 A / 60 VA	230 V / 1 A / 30 VA

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

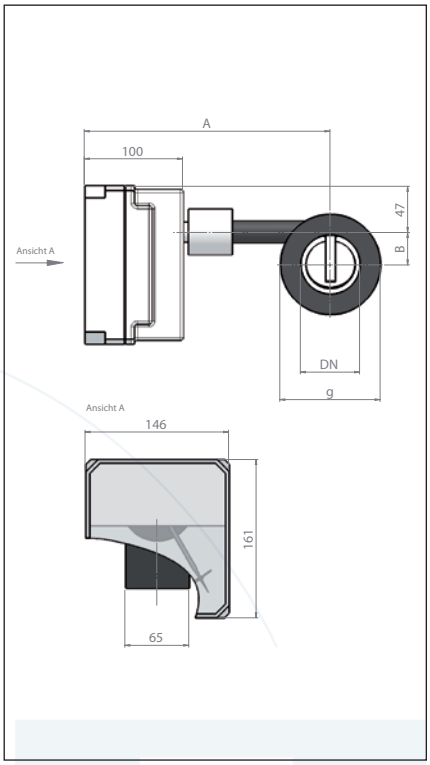
Flow Controller for water independent of position

Type **DP65..** **for water independent of position**

Material quality:	Steel Polyamide 11 coated
Electrical connection / Ingress protection class:	Aluminium / IP 65
Process connection:	Sandwich mounting
Display:	Analogue display
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 130°C
Viscosity range:	380 cP
Accuracy:	±2,5 % of full scale
Gasket:	-
Mounting position:	Independent of position*
Approvals:	ATEX Ex ia IIC T4 (only measuring transducer)

Monitoring functions

Function:	Change over / U
Switching capacity:	230 V / 1 A / 50 VA
Maximal number of contacts:	1 piece (optional 2 pieces)
Ambient temperature:	-25°C ... 70°C
	Alternative with measuring transducer
Power supply:	12 ... 24 VDC
Analogue output :	4 ... 20 mA
Totalizer:	9 digits, size 4,5 mm
Ambient temperature:	-5°C ... 70°C / ATEX -5°C ... 40°C



Type		Max. Design pressure	Pressure drop	Process connection	g	B	A	Weight	ATEX Approvals
	m³/h	bar	bar		mm	mm	mm	kg	
DP65/406	0,8 - 4/6	40	gering	DN 40	88	28	250	5	
DP65/408	1 - 8								
DP65/4010	2 - 10								
DP65/4016	3 - 16								
DP65/506	0,8 - 6	40	gering	DN 50	102	33	250	6	
DP65/5010	2 - 10								
DP65/5016	3 - 16								
DP65/5025	3 - 25								
DP65/6510	2 - 10	40	gering	DN 65	122	40	250	7	
DP65/6516	3 - 16								
DP65/6525	3 - 25								
DP65/6530	4 - 30								
DP65/8016	2 - 16	40	gering	DN 80	138	50	250	8	
DP65/8025	3 - 25								
DP65/8040	5 - 40								
DP65/8060	10 - 60								
DP65/10040	5 - 40	16	gering	DN 100	158	60	250	10	
DP65/10060	8 - 60								
DP65/10080	10 - 80								
DP65/10090	12 - 90								

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

* By ordering please specify the mounting position (vertical or horizontal) and the flow direction.

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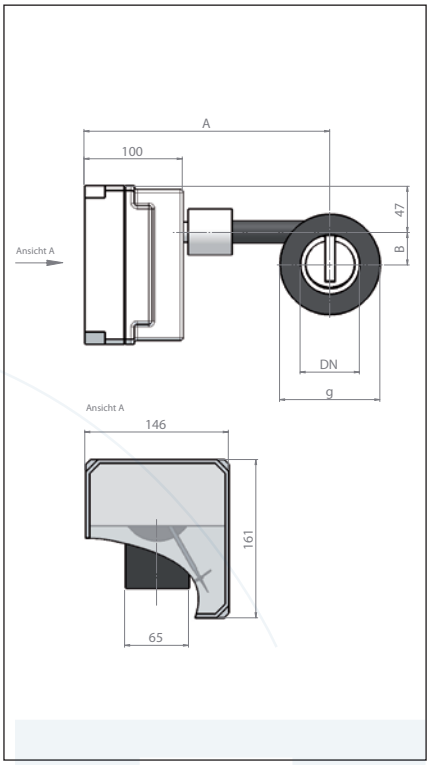
Type **DP65..** **for water independent of position**

Material quality:	Steel Polyamide 11 coated
Electrical connection / Ingress protection class:	Aluminium / IP 65
Process connection:	Sandwich mounting
Display:	Analogue display
Design pressure:	0 bar ... see table
Design temperature:	-20°C ... 130°C
Viscosity range:	380 cP
Accuracy:	±2,5 % of full scale
Gasket:	-
Mounting position:	Independent of position*
Approvals:	ATEX Ex ia IIC T4 (only measuring transducer)

Monitoring functions

Function:	Change over / U
Switching capacity:	230 V / 1 A / 50 VA
Maximal number of contacts:	1 piece (optional 2 pieces)
Ambient temperature:	-25°C ... 70°C
	Alternative with measuring transducer
Power supply:	12 ... 24 VDC
Analogue output :	4 … 20 mA
Totalizer:	9 digits, size 4,5 mm
Ambient temperature:	-5°C ... 70°C / ATEX -5°C ... 40°C



Type		Max. Design pressure	Pressure drop	Process connection	g	B	A	Weight	ATEX Approvals
	m³/h	bar	bar		mm	mm	mm	kg	
DP65/12560	8 - 60	16	gering	DN 125	188	70	280	12	
DP65/125100	15 - 100								
DP65/125120	15 - 120								
DP65/125135	20 - 135								
DP65/150100	15 - 100	16	gering	DN 150	212	78	280	14	
DP65/150160	20 - 160								
DP65/150200	25 - 200								
DP65/150220	40 - 220								
DP65/200160	20 - 160	16	gering	DN 200	268	90	320	20	
DP65/200250	30 - 250								
DP65/200350	40 - 350								
DP65/250200	25 - 200	10	gering	DN 250	320	102	350	29	
DP65/250400	50 - 400								
DP65/250500	60 - 500								
DP65/250600	80 - 600								
DP65/300250	30 - 250	10	gering	DN 300	370	115	370	35	
DP65/300400	50 - 400								
DP65/300600	80 - 600								
DP65/300800	100 - 800								

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

* By ordering please specify the mounting position (vertical or horizontal) and the flow direction.

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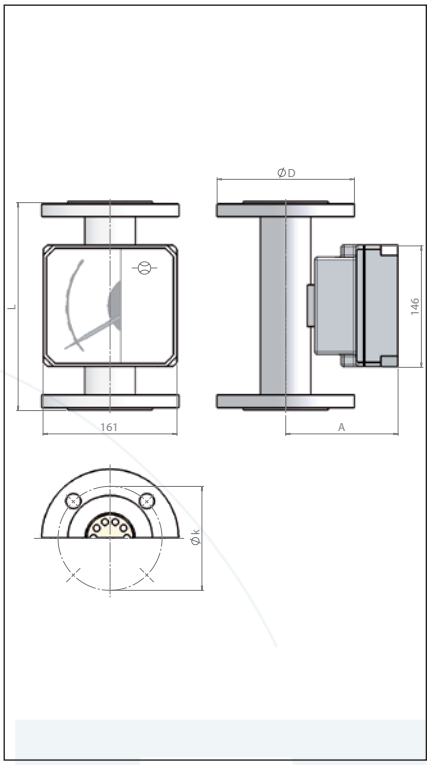
Flow Controller for water dependent of position

Type **SC250..** **for water dependent of position**

Material quality:	Stainless steel
Electrical connection / Ingress protection class:	Aluminium / IP 65
Process connection:	Flange
Display:	Analogue display
Design pressure:	0 bar ... see table
Design temperature:	-50°C ... 200°C
Viscosity range:	10 cP
Accuracy:	±2,5 % of full scale
Gasket:	-
Mounting position / Flow direction:	Vertical / Bottom-up
Approvals:	ATEX Ex ia IIC T4 (only measuring transducer)

Monitoring functions

Function:	Change over / U
Switching capacity:	230 V / 1 A / 50 VA
Maximal number of contacts:	1 piece (optional 2 pieces)
Ambient temperature:	-25°C ... 70°C
	Alternative with measuring transducer
Power supply:	12 ... 24 VDC
Analogue output :	4 ... 20 mA
Totalizer:	9 digits, size 4,5 mm
Ambient temperature:	-5°C ... 70°C / ATEX -5°C ... 40°C



Type		Max. Design pressure	Pressure drop	Process connection	D	k	A	L	Weight	ATEX Approvals
	l/min	bar	mm H_2O		mm	mm	mm	mm	kg	
SC250/15025	2,5- 25	40	400	DN 15	95	65	133	250	3,5	
SC250/15040	4 - 40	40	400							
SC250/15060	6 - 60	40	400							
SC250/15100	10 - 100	40	400							
SC250/15160	16 - 160	40	500							
SC250/15250	25 - 250	40	500							
SC250/15400	40 - 400	40	500							
SC250/15600	60 - 600	40	500							
SC250/25100	100 - 1000	40	600	DN 25	115	85	146	250	4,5	
SC250/25160	160 - 1600	40	700							
SC250/25250	250 - 2500	40	900							
SC250/25400	400 - 4000	40	1100							
SC250/40400	400 - 4000	40	450	DN 40	150	110	154	250	7,3	
SC250/40600	500 - 6300	40	550							
SC250/40800	800 - 8000	40	900							
SC250/50800	800 - 8000	40	700	DN 50	165	125	167	250	8,3	
SC250/50100	1000 - 10000	40	900							
SC250/50150	1500 - 15000	40	1000							

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

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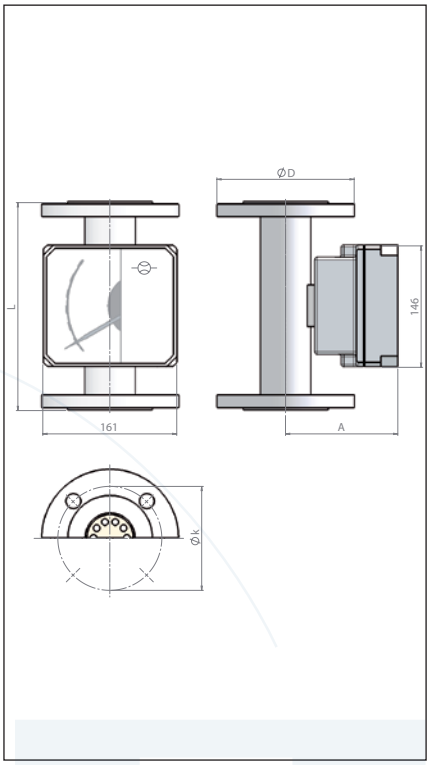
Type **SC250..** **for water independent of position**

Material quality:	Stainless steel
Electrical connection / Ingress protection class:	Aluminium / IP 65
Process connection:	Flange
Display:	Analogue display
Design pressure:	0 bar ... see table
Design temperature:	-50°C ... 200°C
Viscosity range:	10 cP
Accuracy:	±2,5 % of full scale
Gasket:	-
Mounting position / Flow direction:	Vertical / Bottom-up
Approvals:	ATEX Ex ia IIC T4 (only measuring transducer)

Monitoring functions

Function:	Change over / U
Switching capacity:	230 V / 1 A / 50 VA
Maximal number of contacts:	1 piece (optional 2 pieces)
Ambient temperature:	-25°C ... 70°C
	Alternative with measuring transducer
Power supply:	12 ... 24 VDC
Analogue output :	4 ... 20 mA
Totalizer:	9 digits, size 4,5 mm
Ambient temperature:	-5°C ... 70°C / ATEX -5°C ... 40°C



Type		Max. Design pressure	Pressure drop	Process connection	D	k	A	L	Weight	ATEX Approvals
	l/min	bar	mm H_2O		mm	mm	mm	mm	kg	
SC250/65150	1500 - 15000	16	700	DN 65	185	145	176	250	10	
SC250/65200	2000 - 20000	16	1000							
SC250/80020	2000 - 20000	16	800	DN 80	200	160	192	250	12	
SC250/80025	2500 - 25000	16	1000							
SC250/80030	3000 - 30000	16	1200							
SC250/81040	4000 - 40000	16	1000	DN 100	220	180	211	250	15	
SC250/81050	5000 - 50000	16	1200							
SC250/81060	6000 - 60000	16	1500							
SC250/82080	8000 - 80000	16	1200	DN 125	250	210	236	250	20	
SC250/82100	10000 - 100000	16	1500							
SC250/82120	12000 - 120000	16	1800							
SC250/83150	15000 - 150000	16	2200	DN 150	285	240	262	300	32	
SC250/83180	18000 - 180000	16	2200							

The flow controller are based on a modular design and can be conditionally arranged individually.
Type key page 154 - 155

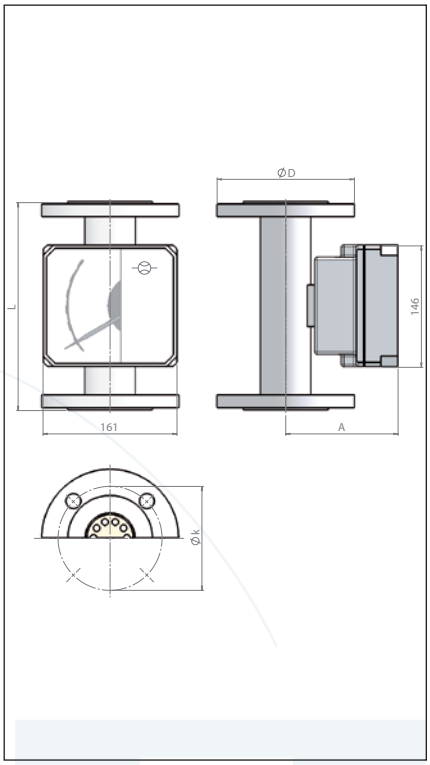
Flow Controller for air dependent of position

Type **SCL250..** **for air dependent of position**

Material quality:	Stainless steel
Electrical connection / Ingress protection class:	Aluminium / IP 65
Process connection:	Flange
Display:	Analogue display
Design pressure:	0 bar ... see table
Design temperature:	-50°C ... 200°C
Viscosity range:	10 cP
Accuracy:	±2,5 % of full scale
Gasket:	-
Mounting position / Flow direction:	Vertical / Bottom-up
Approvals:	ATEX Ex ia IIC T4 (only measuring transducer)

Monitoring functions

Function:	Change over / U
Switching capacity:	230 V / 1 A / 50 VA
Maximal number of contacts:	1 piece (optional 2 pieces)
Ambient temperature:	-25°C ... 70°C
	Alternative with measuring transducer
Power supply:	12 ... 24 VDC
Analogue output :	4 ... 20 mA
Totalizer:	9 digits, size 4,5 mm
Ambient temperature:	-5°C ... 70°C / ATEX -5°C ... 40°C



Type		Max. Design pressure	Pressure drop	Process connection	D	k	A	L	Weight	ATEX Approvals
	Nl/min	bar	mm H_2O		mm	mm	mm	mm	kg	
SCL250/15025	0,07 - 0,7	40	400	DN 15	95	65	133	250	3,5	
SCL250/15040	0,12 - 1,2	40	400							
SCL250/15060	0,18 - 1,8	40	400							
SCL250/15100	0,3 - 3	40	400							
SCL250/15160	0,5 - 5	40	500							
SCL250/15250	0,7 - 7,5	40	500							
SCL250/15400	1,2 - 12	40	500							
SCL250/15600	1,8 - 18	40	500							
SCL250/25100	3 - 30	40	600	DN 25	115	85	146	250	4,5	
SCL250/25160	5 - 50	40	700							
SCL250/25250	7 - 75	40	900							
SCL250/25400	12 - 120	40	1100							
SCL250/40400	12 - 120	40	450	DN 40	150	110	154	250	7,3	
SCL250/40600	15 - 180	40	550							
SCL250/40800	24 - 240	40	900							
SCL250/50800	24 - 240	40	700	DN 50	165	125	167	250	8,3	
SCL250/50100	30 - 300	40	900							
SCL250/50150	45 - 450	40	1000							

The flow controller are based on a modular design and can be conditionally arranged individually.
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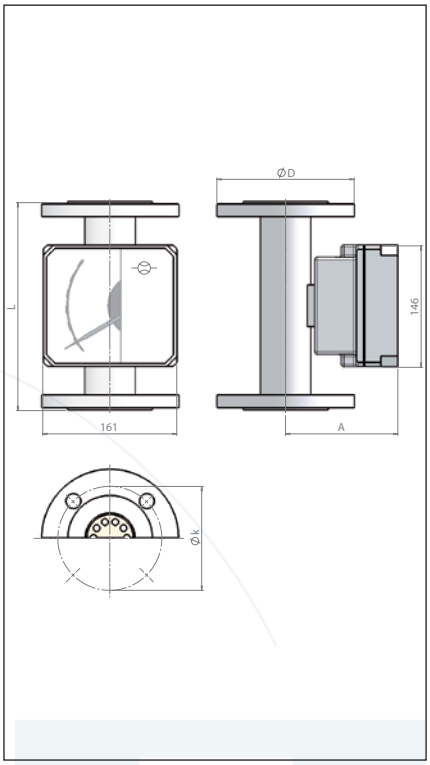
Type **SCL250..** **for air independent of position**

Material quality:	Stainless steel
Electrical connection / Ingress protection class:	Aluminium / IP 65
Process connection:	Flange
Display:	Analogue display
Design pressure:	0 bar ... see table
Design temperature:	-50°C ... 200°C
Viscosity range:	10 cP
Accuracy:	±2,5 % of full scale
Gasket:	-
Mounting position / Flow direction:	Vertical / Bottom-up
Approvals:	ATEX Ex ia IIC T4 (only measuring transducer)

Monitoring functions

Function:	Change over / U
Switching capacity:	230 V / 1 A / 50 VA
Maximal number of contacts:	1 piece (optional 2 pieces)
Ambient temperature:	-25°C ... 70°C
	Alternative with measuring transducer
Power supply:	12 ... 24 VDC
Analogue output :	4 ... 20 mA
Totalizer:	9 digits, size 4,5 mm
Ambient temperature:	-5°C ... 70°C / ATEX -5°C ... 40°C



Type		Max. Design pressure	Pressure drop	Process connection	D	k	A	L	Weight	ATEX Approvals
	Nl/min	bar	mm H_2O		mm	mm	mm	mm	kg	
SCL250/65150	45 - 450	16	700	DN 65	185	145	176	250	10	
SCL250/65200	60 - 600	16	1000							
SCL250/80020	60 - 600	16	800	DN 80	200	160	192	250	12	
SCL250/80025	75 - 750	16	1000							
SCL250/80030	90 - 900	16	1200							
SCL250/81040	120 - 1200	16	1000	DN 100	220	180	211	250	15	
SCL250/81050	150 - 1500	16	1200							
SCL250/81060	180 - 1800	16	1500							
SCL250/82080	240 - 2400	16	1200	DN 125	250	210	236	250	20	
SCL250/82100	300 - 3000	16	1500							
SCL250/82120	360 - 3600	16	1800							
SCL250/83150	450 - 4500	16	2200	DN 150	285	240	262	300	32	
SCL250/83180	500 - 5400	16	2200							

The flow controller are based on a modular design and can be conditionally arranged individually.
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