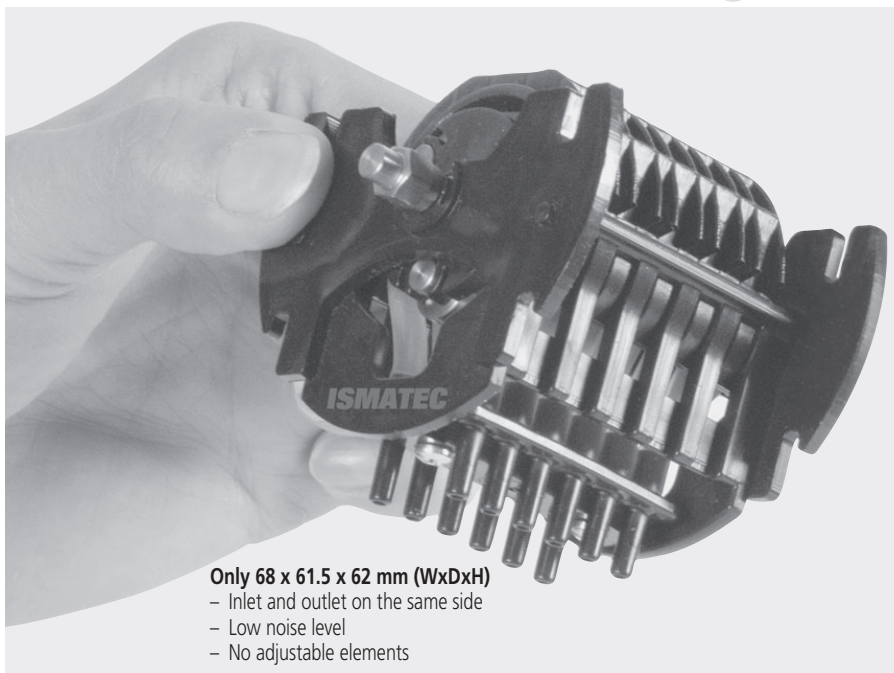


# 6-channel precision pump-head

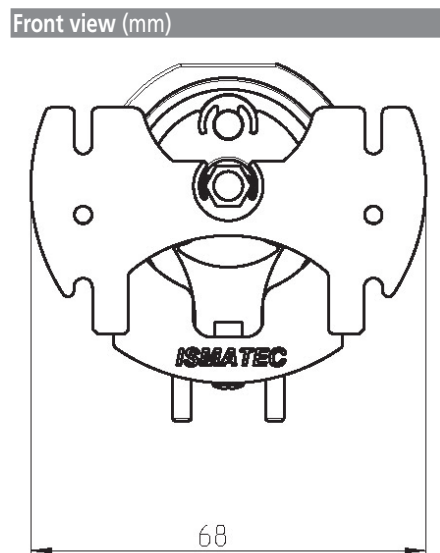
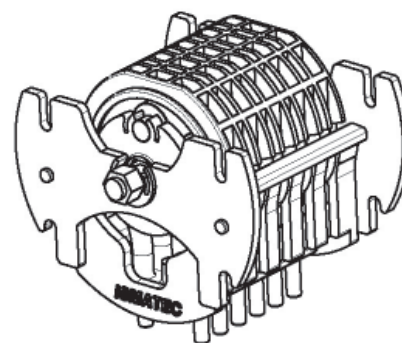
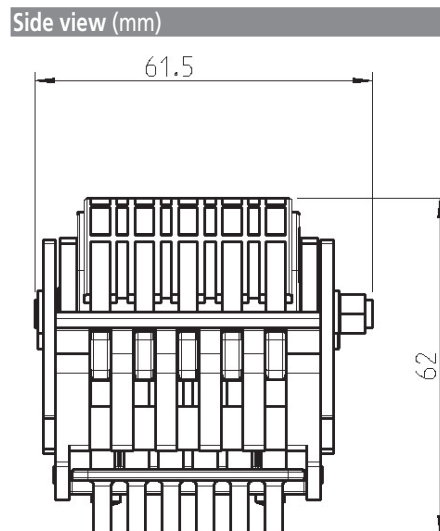
OEM



- Only 68 x 61.5 x 62 mm (WxDxH)**
- Inlet and outlet on the same side
  - Low noise level
  - No adjustable elements

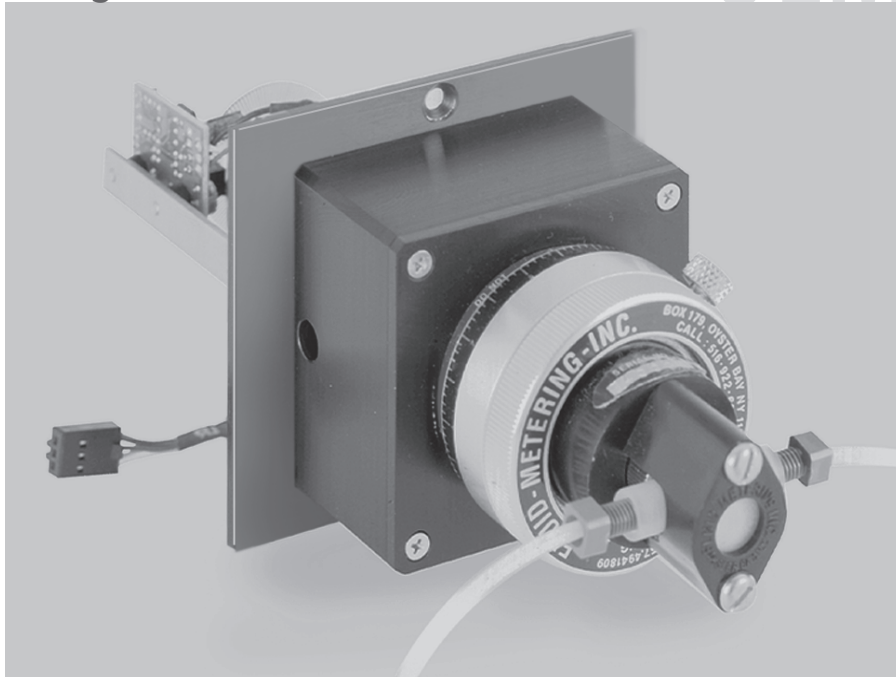
Technical specifications	
Pump model	Compact Pump
Rotation speed	up to 200 rpm
Flow rate/channel	up to 50 ml/min
Power consumption	20 W
Torque	max. 0.7 Nm (100 oz-in)
Channels	6
Pump rollers	3
Weight	200 g
Depth/width/height	68 x 61.5 x 62 mm (2.7 x 2.4 x 2.4 inch)
Tubing type	PharMed®

Specifications	
Flow rate deviation channel/channel	± 5 %
Flow rate deviation pump/pump	± 5 %
Differential pressure	1.5 bar (21 psi)
Suction vacuum	0.5 bar (7 psi)
Material	
Pump	POM-C
	stainless steel
Pump tubing in the pump	PharMed®

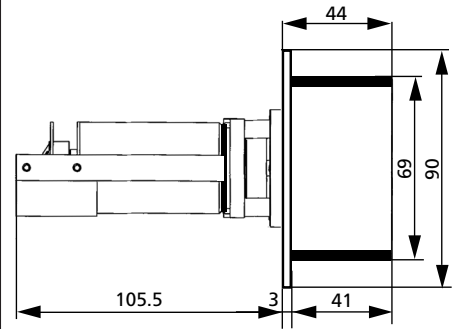


# DC motor with optical encoder and gear box

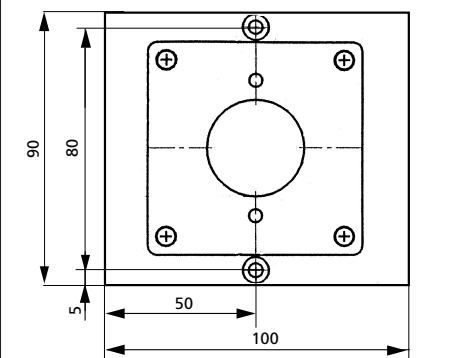
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

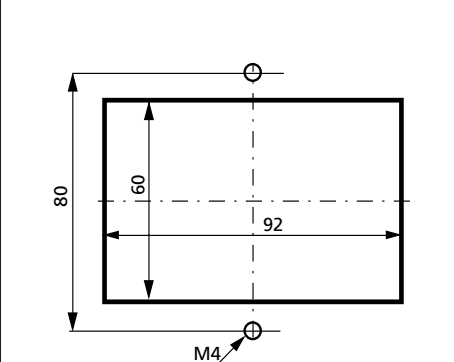
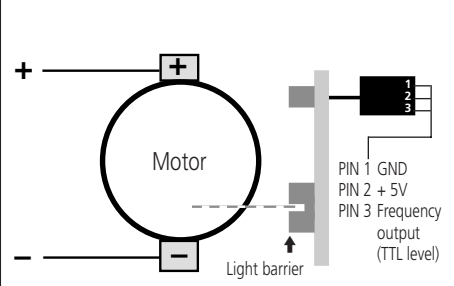


Diagram and electrical connections



## Technical specifications

Pump model	REGLO-E CPF
Motor type	DC motor with encoder
Gear ratio	2.5:1
Rotation speed*	40–1800 rpm
Flow rates*	0.1–180 ml/min
Motor control*	optional control unit
Power consumption	max. 35 W
Optical encoder	120 impulses/motor rev.
Channels	1
Stroke volume	25, 50 or 100 µl

\* see 'Please note'

## Pump-heads

Piston pump-head	Stroke <sup>1)</sup> µl per revolution	Piston material	Cylinder material
RH00.CKC-LF	2.5– 25	Ceramic	Ceramic
RH00.SKY-LF	2.5– 25	Steel	Carbon
RH0.CKC	5– 50	Ceramic	Ceramic
RH1.CKC	10–100	Ceramic	Ceramic

1) Recommended range for best reproducibility; smaller stroke settings are possible.

LF = incl. Low Flow Kit with UNF 1/4" -28 connector (female)

Differential pressure max. 6.9 bar

## Flow rates

→ Calculation example for flow rate  
 rpm x stroke (ml) = ml/min  
 1800 x 0.025 = 45

## \* Please note

Specifications valid for following ISMATEC® control unit:  
 REGLO-E CPF Digital - see data sheet 08.9

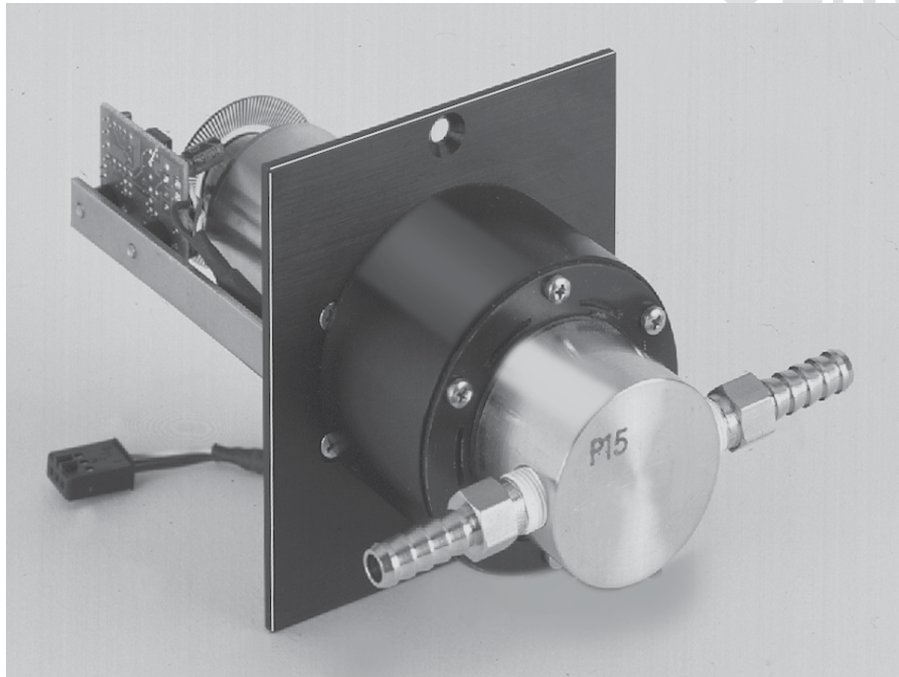
## Ordering information

Nominal voltage	Type REGLO-E CPF	Order No.
12 V <sub>DC</sub>		IS 3911

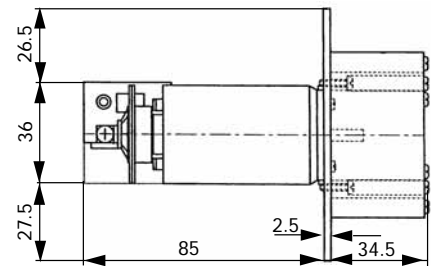
Data sheet  
 06.1  
 30.09.05

# DC-Motor mit optischem Encoder

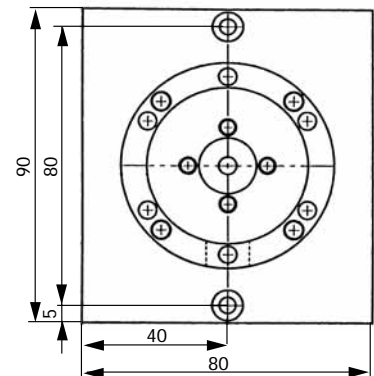
OEM



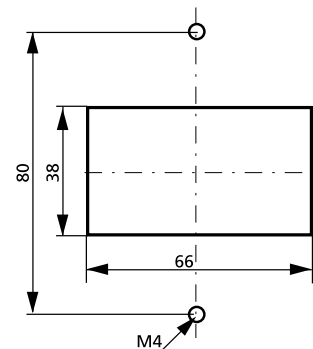
Seitenansicht (mm)



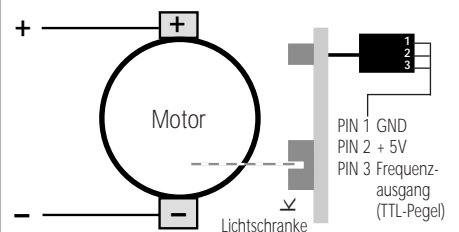
Frontansicht (mm)



Montageausschnitt (mm)



Schema und elektrische Anschlüsse



\*

Please note

Specifications valid for the following ISMATEC® control unit:

REGLO-E Z - see data sheet 08.8

Datenblatt

05.2  
30.09.05

## Technical specifications

Pump model	REGLO-E Z
Motor type	DC motor with encoder
Rotation speed*	50-5000 rpm
Flow rates*	1-3290 ml/min
Motor control*	optional control unit
Power consumption	max. 35 W
Optical encoder	120 impulses/motor rev.
Channels	1
Weight	0.5 kg
* See 'Please note'	

Please ask for data sheets with an exact description of the gear pump-head.

## Flow rates<sup>1)</sup>

Pump head	ml per revolution	Differential pressure	Gear material
186	0.016	1.4 <sup>3)</sup>	Graphit
181	0.042	2.8 <sup>3)</sup>	Graphit
183	0.084	2.8 <sup>3)</sup>	Graphit
1830	0.093	5.2 <sup>3)</sup>	PPS or PEEK
120 <sup>2)</sup>	0.658	2.0 <sup>3)</sup>	PTFE or PEEK
130 <sup>2)</sup>	0.658	2.0 <sup>3)</sup>	PPS or PEEK
140	0.658	2.0 <sup>3)</sup>	PTFE or PEEK
150	0.658	2.0 <sup>3)</sup>	PPS or PEEK

<sup>1)</sup> Water, without differential pressure

<sup>2)</sup> with bypass

<sup>3)</sup> Other values possible on request.

System pressure: max. 21 bar

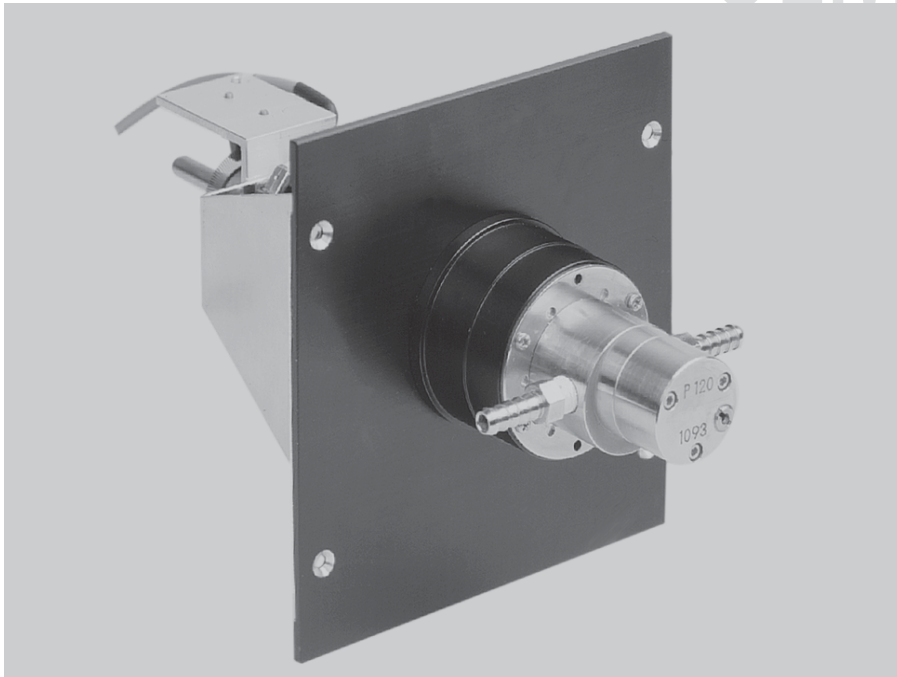
k Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 5000 x 0.658 = 3290

## Ordering information

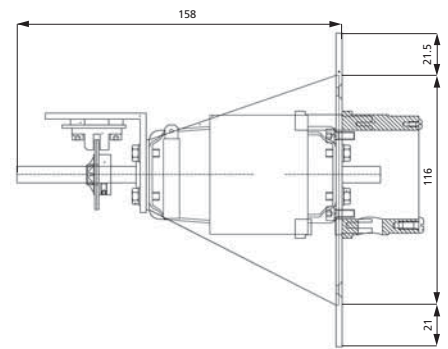
Nominal voltage	Type REGLO-E Z	Order No.
12 V <sub>DC</sub>		IS 3666
24 V <sub>DC</sub>		IS 3666A
Gear pumphead, magnet and nipples are not included.		

# DC motor with optical encoder

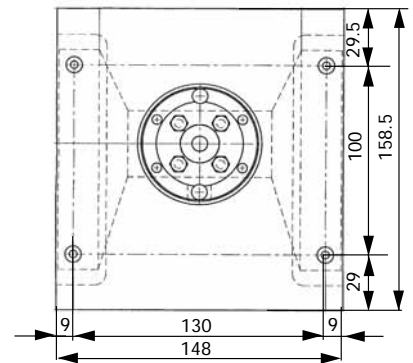
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

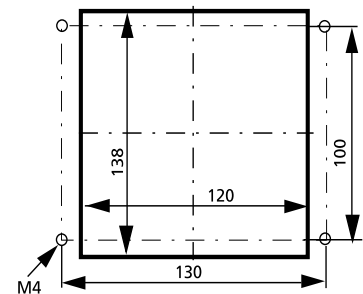
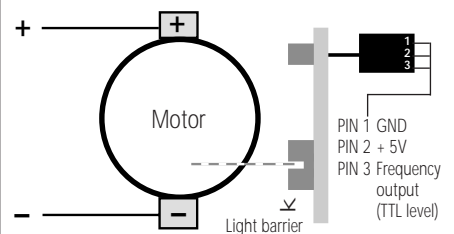


Diagram and electrical connections



\*

Please note

Specifications valid for the following ISMATEC® control units.

BVP-E Z - see data sheet 08.11  
MCP-E Z - see data sheet 08.12

## Technical specifications

Pump model	MCP-E Z
Motor type	DC motor with encoder
Rotation speed*	60-6000 rpm
Flow rates*	1-7241 ml/min
Motor control*	optional control unit
Power consumption	max. 180 W
Optical encoder	120 impulses/motor rev.
Channels	1
Weight	1.6 kg
* See 'Please note'	

Please ask for data sheets with an exact description of the gear pump-head.

Gear pumphead, magnet and nipples not included.

## Flow rates<sup>1)</sup>

Pump head	ml per revolution	Differential pressure	Gear material
186	0.016	1.4 <sup>3)</sup>	Graphite
181	0.042	2.8 <sup>3)</sup>	Graphite
183	0.084	2.8 <sup>3)</sup>	Graphite
1830	0.093	5.2 <sup>3)</sup>	PPS or PEEK
200 <sup>2)</sup>	0.584	5.2 <sup>3)</sup>	PPS or PEEK
120 <sup>2)</sup>	0.658	3.5 <sup>3)</sup>	PTFE or PEEK
130 <sup>2)</sup>	0.658	5.2 <sup>3)</sup>	PPS or PEEK
140	0.658	3.5 <sup>3)</sup>	PTFE or PEEK
150	0.658	5.2 <sup>3)</sup>	PPS or PEEK
122 <sup>2)</sup>	0.913	3.5 <sup>3)</sup>	PTFE or PEEK
142	0.913	3.5 <sup>3)</sup>	PTFE or PEEK
201 <sup>2)</sup>	1.207	3.5 <sup>3)</sup>	PPS or PEEK

<sup>1)</sup> Water, without differential pressure  
<sup>2)</sup> with bypass <sup>3)</sup> Other values possible on request  
System pressure: max. 21 bar

k Calculation example for flow rate  
rpm x ml per revolution = ml/min  
6000 x 1.207 = 7241

## Ordering information

Nominal voltage	Type MCP-E Z	Order No.
24 V <sub>DC</sub>		IS 3968
	Gear pumphead, magnet and nipples are not included.	

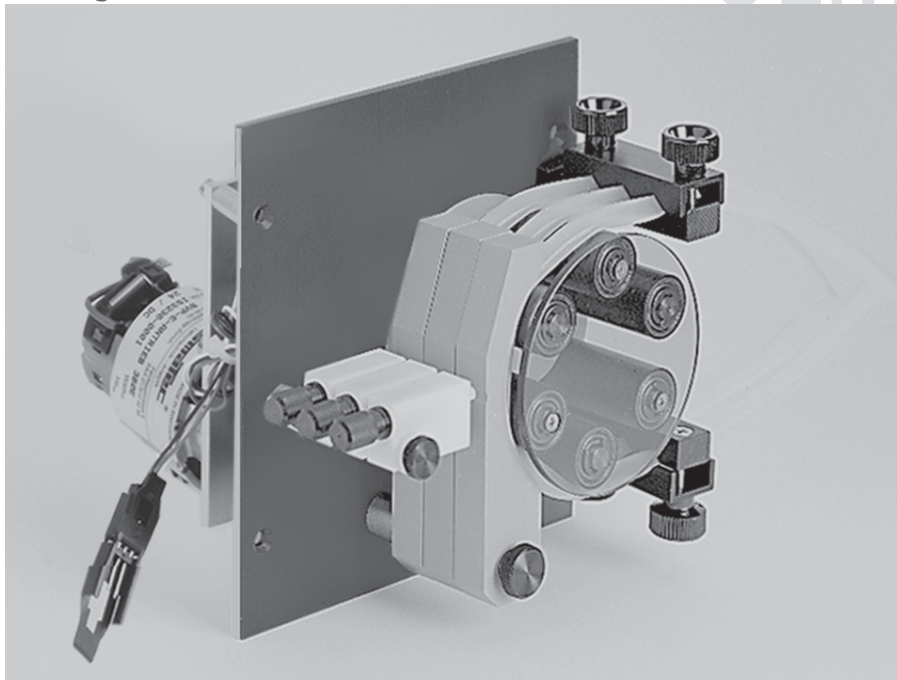
Data sheet

05.1

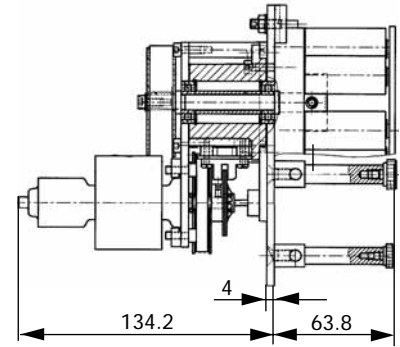
30.09.05

# DC motor with optical encoder and gear box

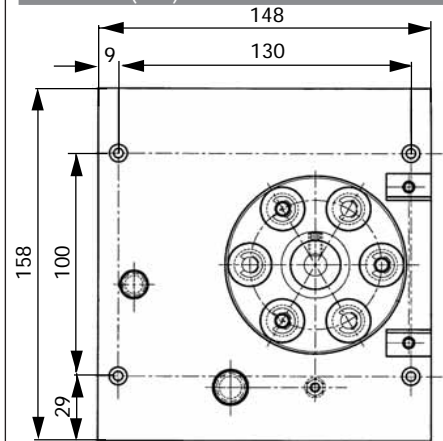
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

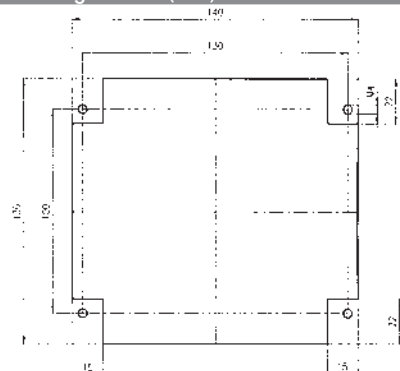
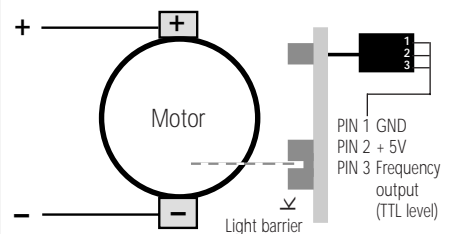


Diagram and electrical connections



\*

Please note

Specifications valid for the following ISMATEC® control units:

- a) BVP-E - see data sheet 08.3
- b) MCP-E - see data sheet 08.5

## Technical specifications

Pump model	MCP-E SB3V
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2.4–240 rpm <sup>a)</sup> 1–240 rpm <sup>b)</sup>
Flow rates*	0.09–520 ml/min
Motor control*	optional control unit
Power consumption max.	67 W
Optical encoder	120 impulses/motor rev.
Channels	3
Pump rollers	6
Weight	1.5 kg
Tubing type	Standard tubing
Tubing i.d.	0.8–4.8 mm

\*See 'Please note'

## Flow rates<sup>1)</sup>

Tubing i.d. mm	Wall thickness mm	ml per revolution
0.8	1.6	0.09
1.6	1.6	0.26
3.2	1.6	0.99
4.8	1.6	2.2

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

k Calculation example for flow rate  
rpm x ml per revolution = ml/min  
240 x 2.2 = 528

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

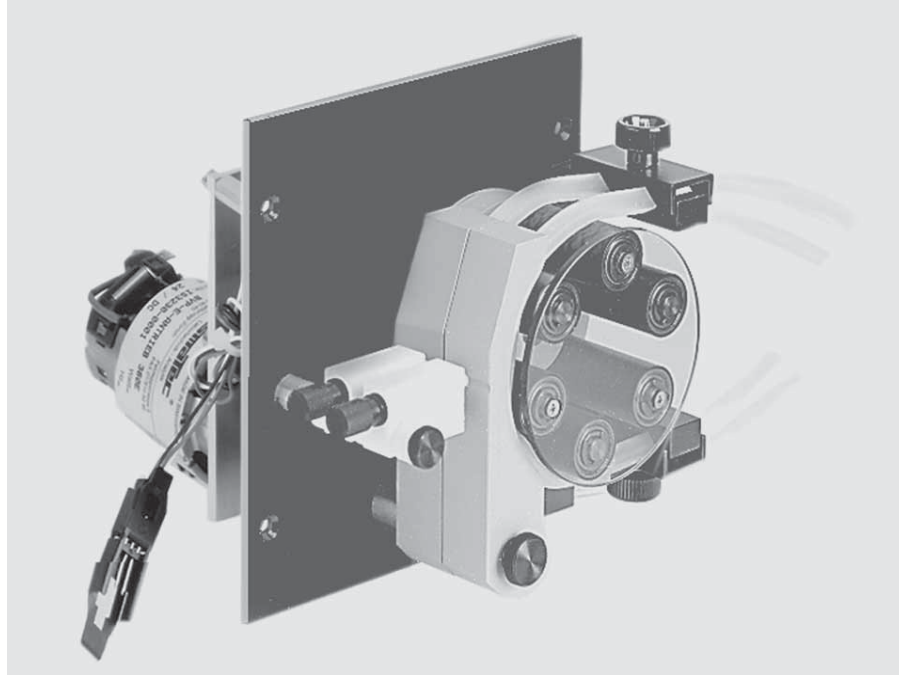
Nominal voltage	Type MCP-E SB3V	Order No.
24 V <sub>DC</sub>		IS 3202/ISM 011

Data sheet

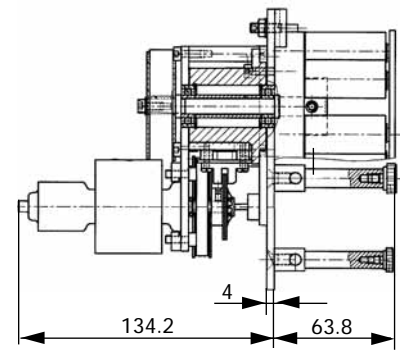
04.4  
30.09.05

# DC motor with optical encoder and gear box

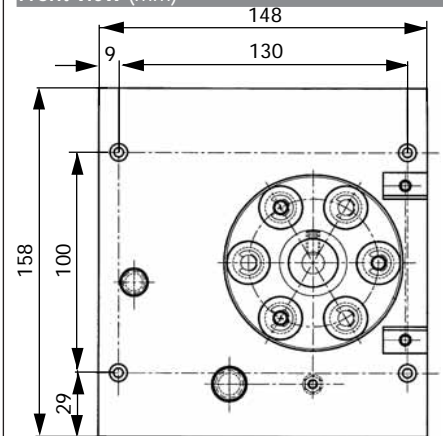
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

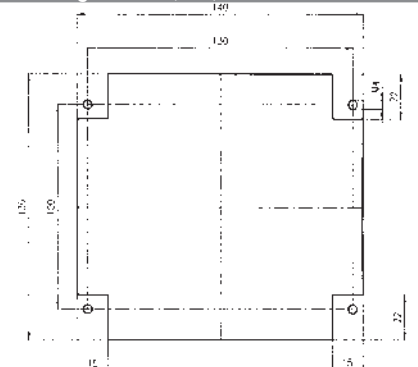
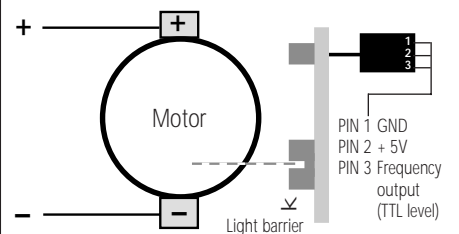


Diagram and electrical connections



Technical specifications	
Pump model	MCP-E SB2V
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2.4–240 rpm <sup>a)</sup> 1–240 rpm <sup>b)</sup>
Flow rates*	1.1–1100 ml/min
Motor control*	optional control unit
Power consumption max.	67 W
Optical encoder	120 impulses/motor rev.
Channels	2
Pump rollers	6
Weight	1.5 kg
Tubing type	Standard tubing
Tubing i.d.	3.2–8.0 mm
*See 'Please note'	

Flow rates <sup>1)</sup>		
Tubing i.d. mm	Wall thickness mm	ml per revolution
3.2	1.6	1.1
4.8	1.6	2.3
6.4	1.6	3.7
8.0	1.6	4.6

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

k Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 240 x 4.6 = 1104

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Nominal voltage	Type MCP-E SB2V	Order No.
24 V <sub>DC</sub>		IS 3202/ISM 010

**\*** Please note

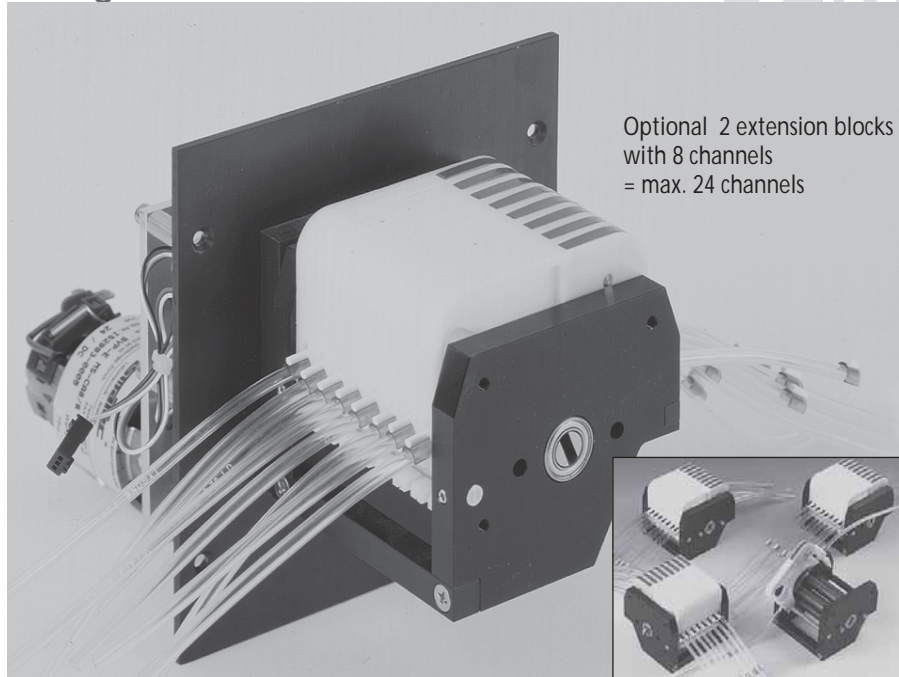
Specifications valid for the following ISMATEC® control units:

a) BVP-E - see data sheet 08.3  
 b) MCP-E - see data sheet 08.5

Data sheet  
 04.3  
 30.09.05

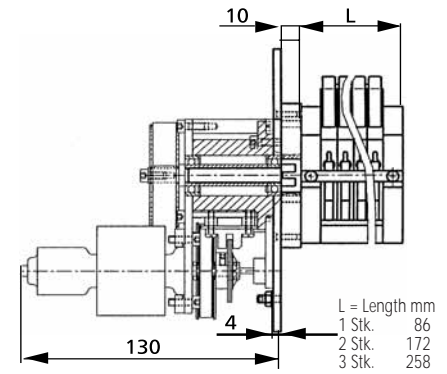
# DC motor with optical encoder and gear box

OEM

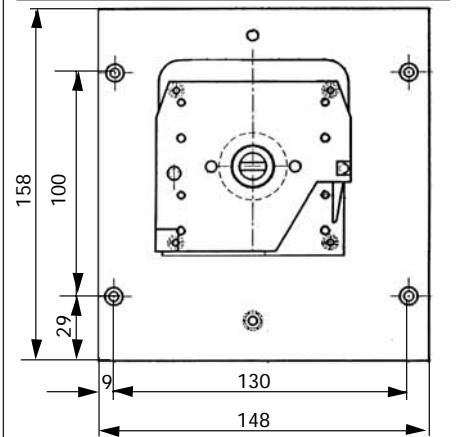


Optional 2 extension blocks with 8 channels = max. 24 channels

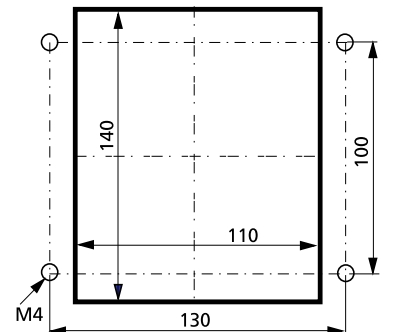
## Side view (mm)



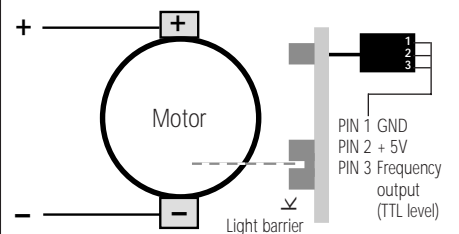
## Front view (mm)



## Mounting cut-out (mm)



## Diagram and electrical connections



## \* Please note

Specifications valid for the following ISMATEC® control units:  
 a) BVP-E - see data sheet 08.3  
 b) MCP-E - see data sheet 08.5

## Technical specifications

Pump model	MCP-E MS/CA8-8
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2.4 -240 rpm <sup>a)</sup> 1 -240 rpm <sup>b)</sup>
Flow rates	0.0011-84 ml/min
Motor control*	optional control unit
Power consumption	max. 67 W
Optical encoder	120 impulses/motor rev.
Channels	8-24
Pump rollers	8
Weight	1.7 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13-3.17 mm
Cassettes	MS/CA Click'n'go, POM

\*See 'Please note'

Cassettes (Spare part / Option)  
 IS 3510 MS/CA Click'n'go, POM-C<sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, POM-C  
 IS 3629 MS/CA Pressure lever, PVDF  
<sup>2)</sup> Standard equipment  
 k Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

k Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 240 x 0.35 = 84.0

Ask for the ISMATEC® Pump Tubing Selection Guide.

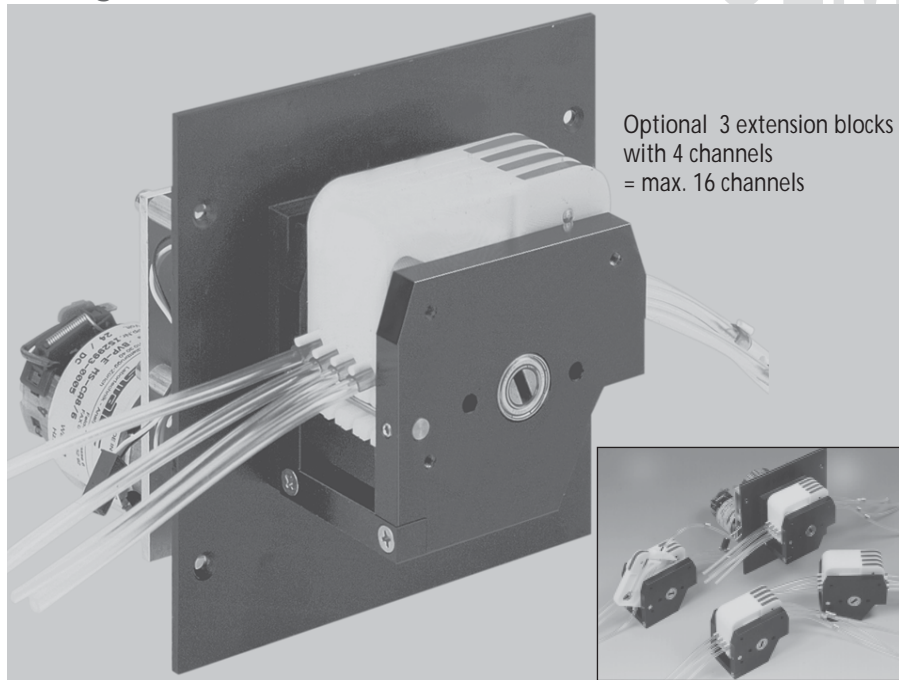
## Ordering information

Nominal voltage	Type MCP-E MS/CA8-8
	Order No.
24 V <sub>DC</sub>	1 Extension MS/CA8-8
	IS 3198
	ISM 184

Data sheet  
 04.7  
 30.09.05

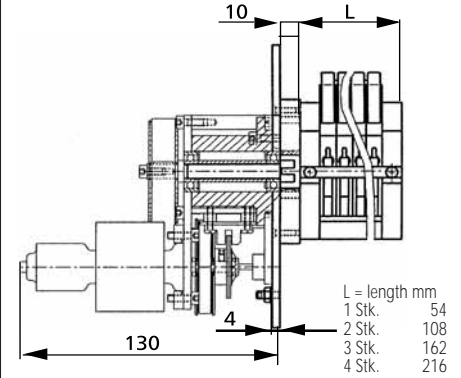
# DC motor with optical encoder and gear box

OEM

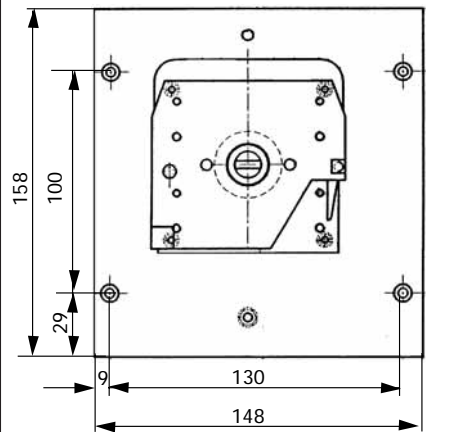


Optional 3 extension blocks with 4 channels = max. 16 channels

Side view (mm)



Front view (mm)



Mounting cut-out (mm)

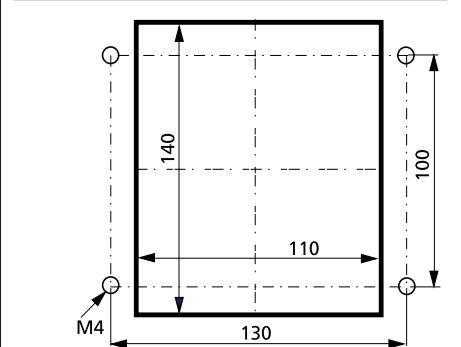
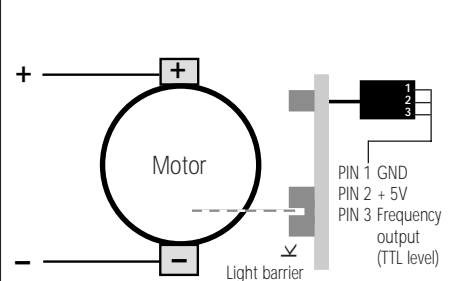


Diagram and electrical connections



**\***  
Please note  
Specifications valid for the following ISMATEC® control units:  
a) BVP-E - see data sheet 08.3  
b) MCP-E - see data sheet 08.5

## Technical specifications

Pump model	MCP-E MS/CA4-12
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2.4 -240 rpm <sup>a)</sup> 1 -240 rpm <sup>b)</sup>
Flow rates*	0.00093-57 ml/min
Motor control*	optional control unit
Power consumption	max. 67 W
Optical encoder	120 impulses/motor rev.
Channels	4-16
Pump rollers	12
Weight	1.6 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13-3.17 mm
Cassettes	MS/CA Click'n'go, POM

\*See 'Please note'

Cassettes (Spare part / Option)  
IS 3510 MS/CA Click'n'go, *POM-C*<sup>2)</sup>  
IS 0649 MS/CA Pressure lever, *POM-C*  
IS 3629 MS/CA Pressure lever, *PVDF*  
<sup>2)</sup> Standard equipment  
K Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.00093	1.14	0.067
0.19	0.0021	1.22	0.075
0.25	0.0038	1.30	0.083
0.38	0.0088	1.42	0.094
0.44	0.012	1.52	0.10
0.51	0.016	1.65	0.12
0.57	0.019	1.75	0.13
0.64	0.024	1.85	0.13
0.76	0.033	2.06	0.15
0.89	0.044	2.29	0.17
0.95	0.050	2.54	0.19
1.02	0.056	2.79	0.21
1.09	0.063	3.17	0.24

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

K Calculation example for flow rate  
rpm x ml per revolution = ml/min  
240 x 0.24 = 57.6

Ask for the ISMATEC®  
Pump Tubing Selection Guide.

## Ordering information

Nominal voltage	Type MCP-E MS/CA4-12
	Order No. 1 Extension MS/CA4-12
24 V <sub>DC</sub>	IS 3967 ISM 737

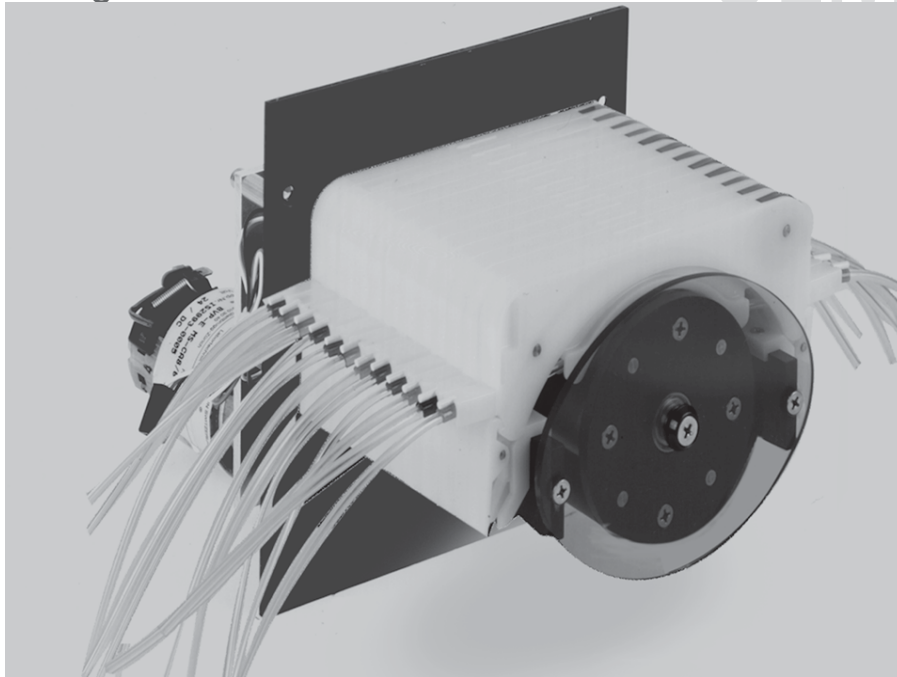
Data sheet

04.5  
30.09.05

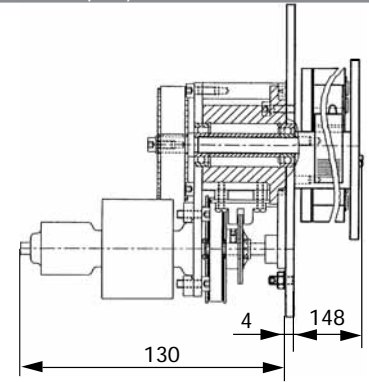


# DC motor with optical encoder and gear box

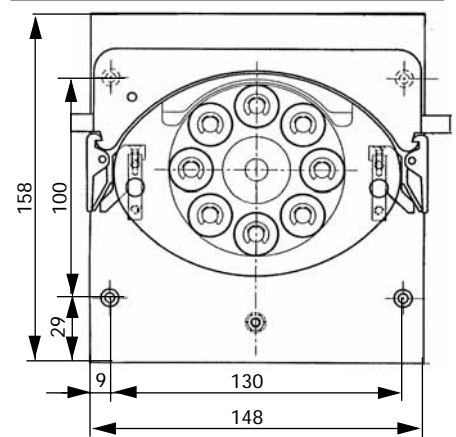
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

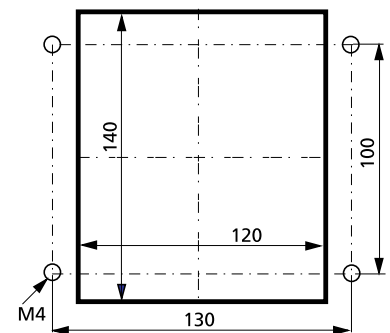
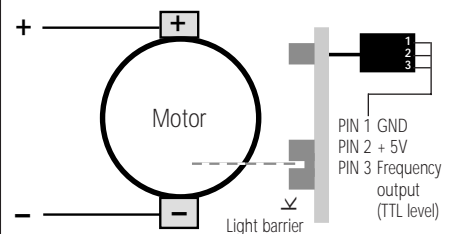


Diagram and electrical connections



## Technical specifications

Pump model	MCP-E CA12
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2.4 –240 rpm <sup>a)</sup> 1 –240 rpm <sup>b)</sup>
Flow rates*	0.002–230 ml/min
Motor control*	optional control unit
Power consumption	max. 67 W
Optical encoder	120 impulses/motor rev.
Channels	12
Pump rollers	8
Weight	1.9 kg
Tubing type	2-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	CA Click'n'go, POM

\*See 'Please note'

Cassettes (Spare part / Option)  
 IS 3710 CA Click'n'go, POM-C<sup>2)</sup>  
 IS 0122 CA Anpresshebel, POM-C  
 IS 3820 CA Anpresshebel, PVDF  
 IS 0123 Adaptor (1 pcs.), POM-C  
 IS 3861 Adaptor (1 pcs.), PVDF  
<sup>2)</sup> Standard equipment  
 K Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0013	1.14	0.16
0.19	0.0039	1.22	0.18
0.25	0.0076	1.30	0.20
0.38	0.019	1.42	0.23
0.44	0.025	1.52	0.26
0.51	0.034	1.65	0.30
0.57	0.042	1.75	0.33
0.64	0.053	1.85	0.36
0.76	0.074	2.06	0.43
0.89	0.10	2.29	0.51
0.95	0.11	2.54	0.62
1.02	0.13	2.79	0.74
1.09	0.14	3.17	0.94

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

K Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 240 x 0.94 = 225.6

Ask for the ISMATEC®  
 Pump Tubing Selection Guide.

## Ordering information

Nominal voltage	Type MCP-E CA12	Order No.
24 V <sub>DC</sub>		IS 3194

Data sheet

04.10

30.09.05

\*

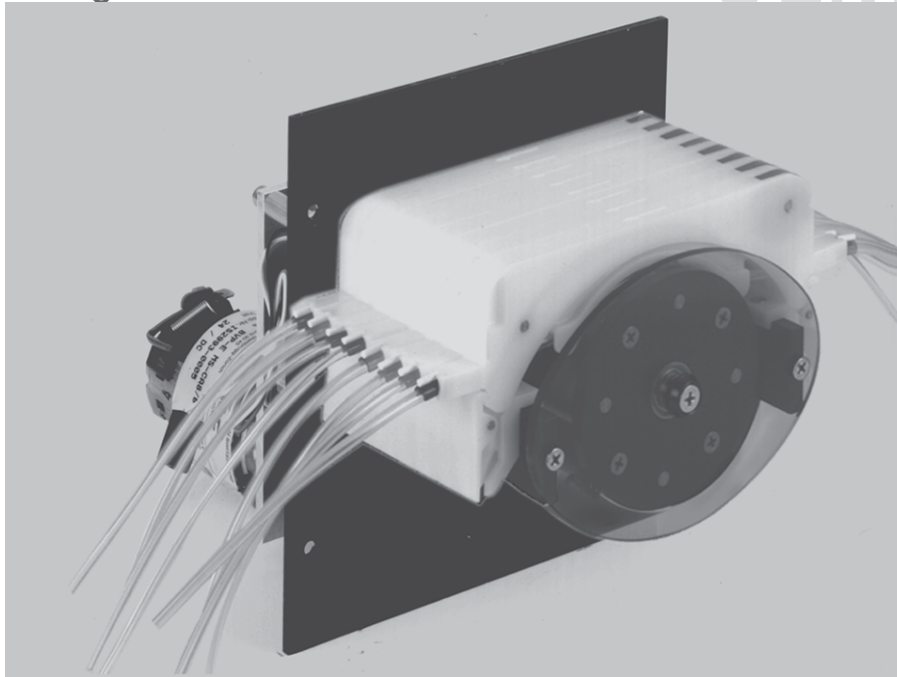
### Please note

Specifications valid for the following ISMATEC® control units:

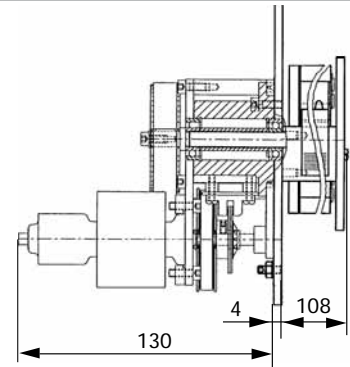
- a) BVP-E - see data sheet 08.3
- b) MCP-E - see data sheet 08.5

# DC motor with optical encoder and gear box

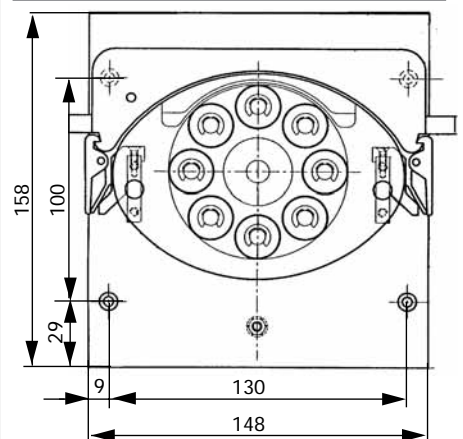
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

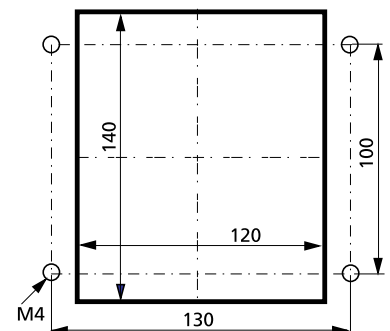
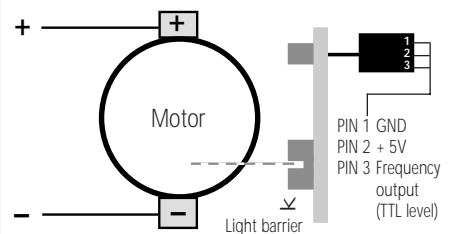


Diagram and electrical connections



## Technical specifications

Pump model	MCP-E CA8
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2.4 –240 rpm <sup>a)</sup> 1 –240 rpm <sup>b)</sup>
Flow rates*	0.002–230 ml/min
Motor control*	optional control unit
Power consumption	max. 67 W
Optical encoder	120 impulses/motor rev.
Channels	8
Pump rollers	8
Weight	1.8 kg
Tubing type	2-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	CA Click'n'go, POM

\*See 'Please note'

Cassettes (Spare part / Option)  
 IS 3710 CA Click'n'go, POM-C<sup>2)</sup>  
 IS 0122 CA Anpresshebel, POM-C  
 IS 3820 CA Anpresshebel, PVDF  
 IS 0123 Adaptor (1 pcs.), POM-C  
 IS 3861 Adaptor (1 pcs.), PVDF  
<sup>2)</sup> Standard equipment  
 K Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0013	1.14	0.16
0.19	0.0039	1.22	0.18
0.25	0.0076	1.30	0.20
0.38	0.019	1.42	0.23
0.44	0.025	1.52	0.26
0.51	0.034	1.65	0.30
0.57	0.042	1.75	0.33
0.64	0.053	1.85	0.36
0.76	0.074	2.06	0.43
0.89	0.10	2.29	0.51
0.95	0.11	2.54	0.62
1.02	0.13	2.79	0.74
1.09	0.14	3.17	0.94

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

k Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 240 x 0.94 = 225.6

Ask for the ISMATEC®  
 Pump Tubing Selection Guide.

## Ordering information

Nominal voltage	Type MCP-E CA8	Order No.
24 V <sub>DC</sub>		IS 3193

Data sheet

04.9

30.09.05

\*

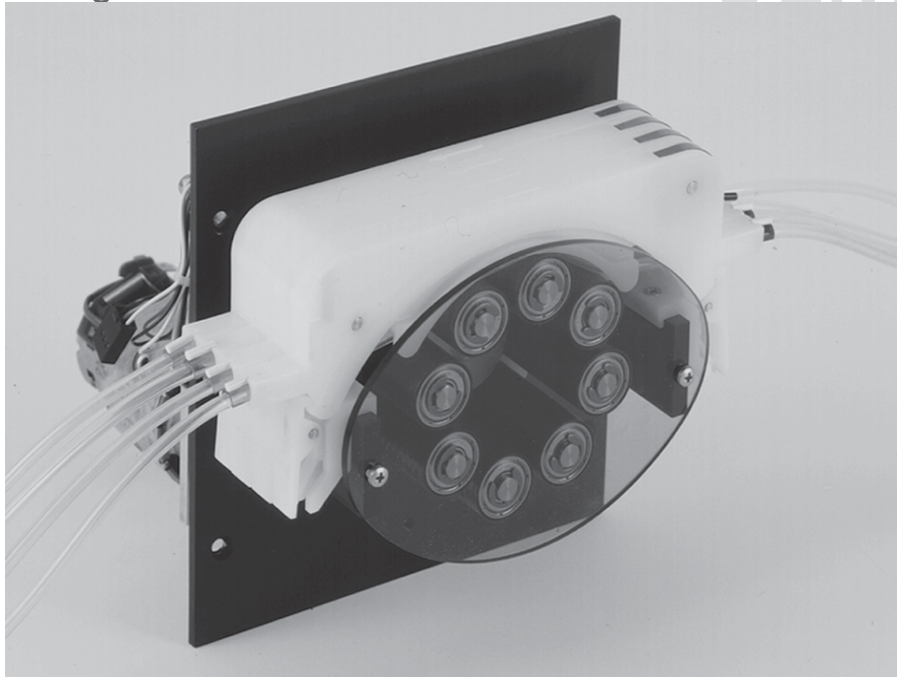
Please note

Specifications valid for the following ISMATEC® control units:

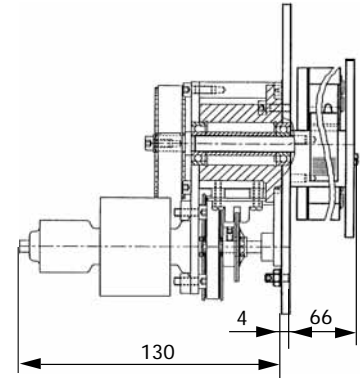
- a) BVP-E - see data sheet 08.3
- b) MCP-E - see data sheet 08.5

# DC motor with optical encoder and gear box

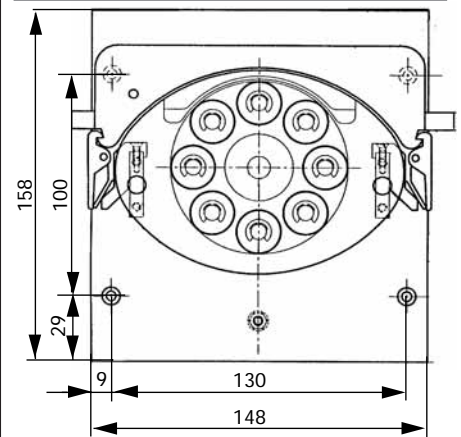
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

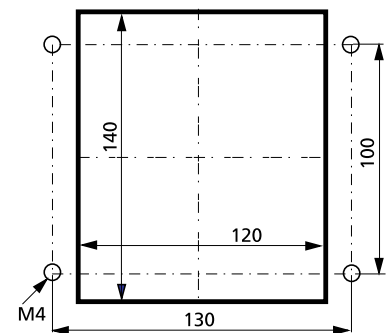
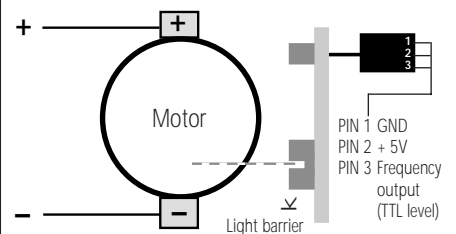


Diagram and electrical connections



## Technical specifications

Pump model	MCP-E CA4
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2.4 –240 rpm <sup>a)</sup> 1 –240 rpm <sup>b)</sup>
Flow rates*	0.002–230 ml/min
Motor control*	optional control unit
Power consumption	max. 67 W
Optical encoder	120 impulses/motor rev.
Channels	4
Pump rollers	8
Weight	1.7 kg
Tubing type	2-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	CA Click'n'go, POM

\*See 'Please note'

Cassettes (Spare part / Option)  
 IS 3710 CA Click'n'go, POM-C<sup>2)</sup>  
 IS 0122 CA Anpresshebel, POM-C  
 IS 3820 CA Anpresshebel, PVDF  
 IS 0123 Adaptor (1 pcs.), POM-C  
 IS 3861 Adaptor (1 pcs.), PVDF

<sup>2)</sup> Standard equipment

K Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0013	1.14	0.16
0.19	0.0039	1.22	0.18
0.25	0.0076	1.30	0.20
0.38	0.019	1.42	0.23
0.44	0.025	1.52	0.26
0.51	0.034	1.65	0.30
0.57	0.042	1.75	0.33
0.64	0.053	1.85	0.36
0.76	0.074	2.06	0.43
0.89	0.10	2.29	0.51
0.95	0.11	2.54	0.62
1.02	0.13	2.79	0.74
1.09	0.14	3.17	0.94

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

K Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 240 x 0.94 = 225.6

Ask for the ISMATEC®  
 Pump Tubing Selection Guide.

## Ordering information

Nominal voltage	Type MCP-E CA4	Order No.
24 V <sub>DC</sub>		IS 3192

Data sheet

04.8

30.09.05

\*

### Please note

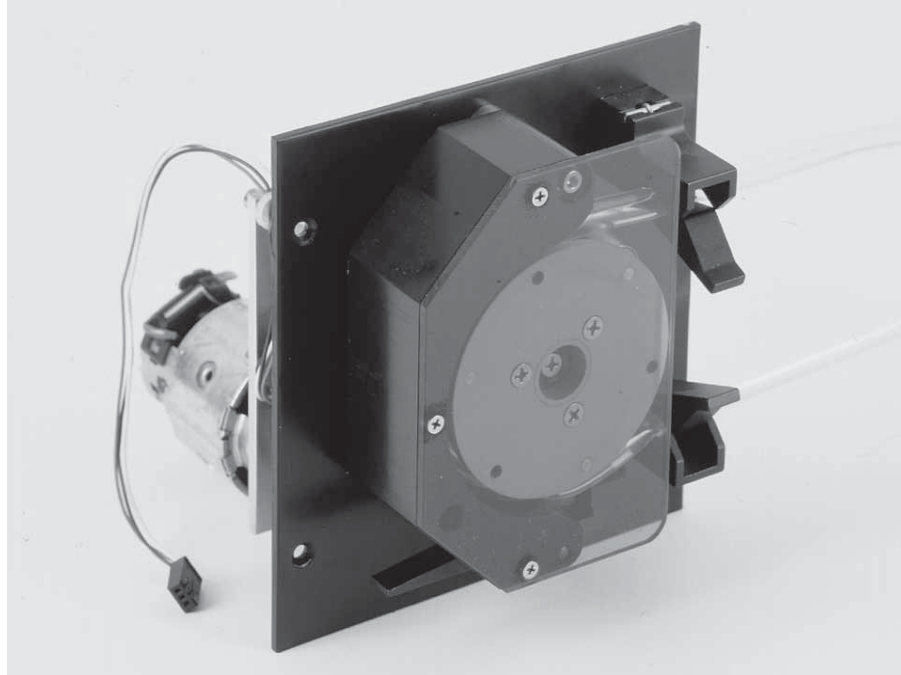
Specifications valid for the following ISMATEC® control units:

a) BVP-E - see data sheet 08.3

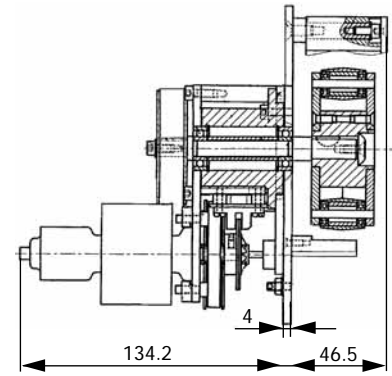
b) MCP-E - see data sheet 08.5

# DC motor with optical encoder and gear box

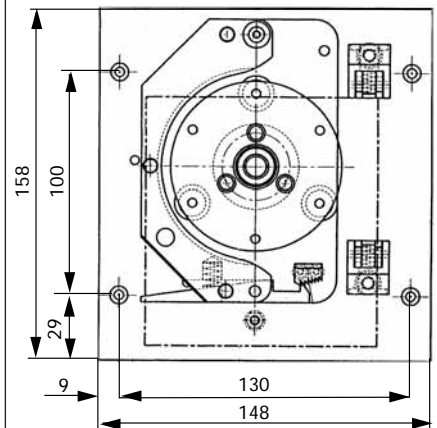
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

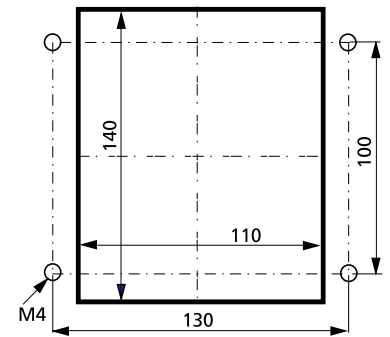
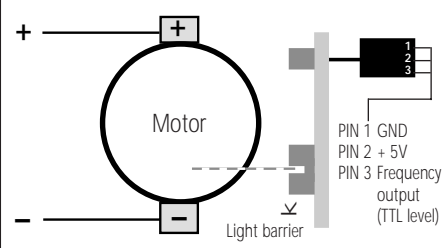


Diagram and electrical connections



Technical specifications	
Pump model	MCP-E 380
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2.4–240 rpm <sup>a)</sup> 1–240 rpm <sup>b)</sup>
Flow rates*	0.44–2800 ml/min
Motor control*	optional control unit
Power consumption	max. 67 W
Optical encoder	120 impulses/motor rev.
Channels	1
Pump rollers	3
Weight	2.0 kg
Tubing type	Standard tubing
Tubing i.d.	1.6–9.5 mm
*See 'Please note'	

Flow rates <sup>1)</sup>		
Tubing i.d. mm	Wall thickness mm	ml per revolution
1.6	1.6	0.44
3.2	1.6	1.7
4.8	1.6	3.6
6.4	1.6	6.0
8.0	1.6	8.8
9.5	1.6	12

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

k Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 240 x 12 = 2880

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Nominal voltage	Type MCP-E 380	Order No.
24 V <sub>DC</sub>		IS 3231

**\*** Please note

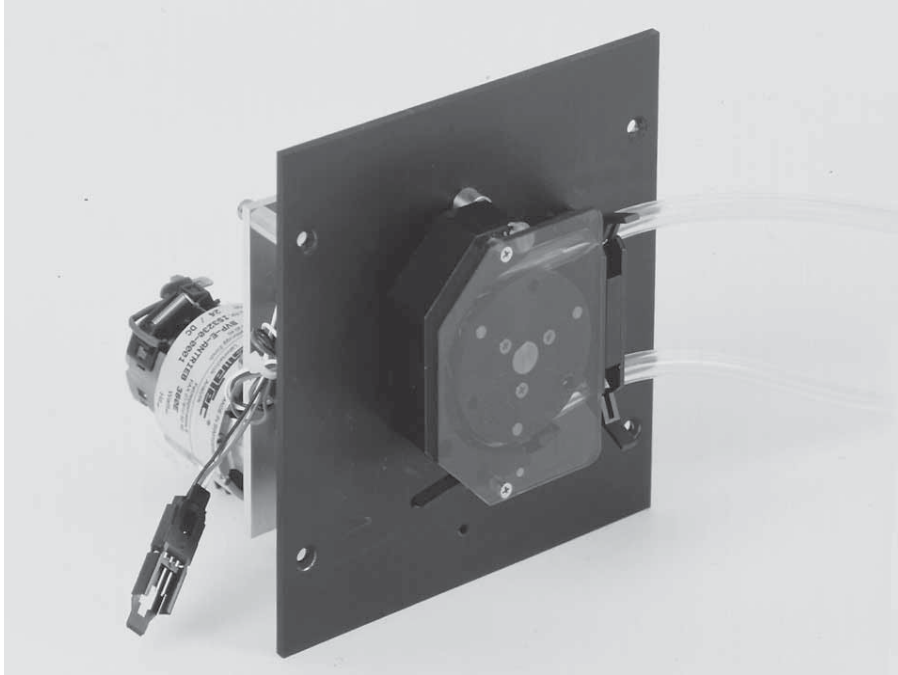
Specifications valid for the following ISMATEC® control units:

a) BVP-E - see data sheet 08.3  
 b) MCP-E - see data sheet 08.5

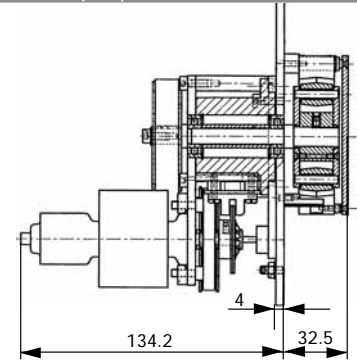
Data sheet  
04.2  
30.09.05

# DC motor with optical encoder and gear box

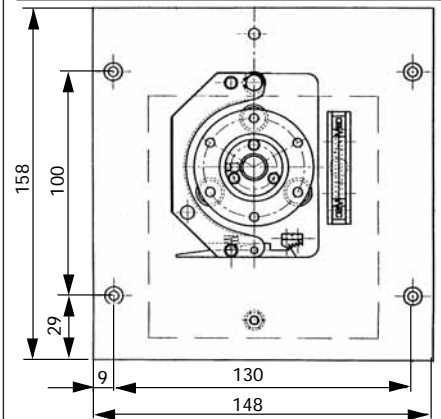
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

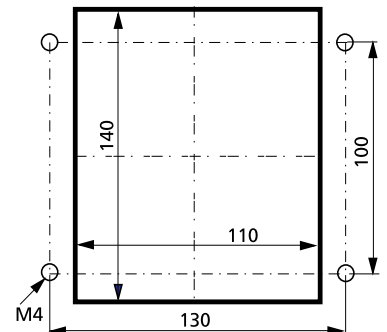
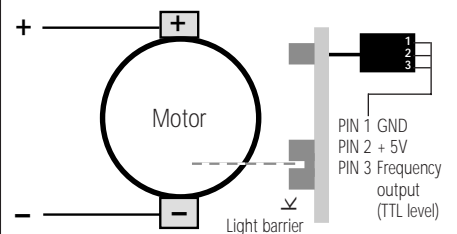


Diagram and electrical connections



Technical specifications	
Pump model	MCP-E 360
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2.4–240 rpm <sup>a)</sup> 1–240 rpm <sup>b)</sup>
Flow rates*	0.072–880 ml/min
Motor control*	optional control unit
Power consumption max.	67 W
Optical encoder	120 impulses/motor rev.
Channels	1
Pump rollers	3
Weight	1.5 kg
Tubing type	Standard tubing
Tubing i.d.	0.8–6.4 mm
*See 'Please note'	

Flow rates <sup>1)</sup>		
Tubing i.d. mm	Wall thickness mm	ml per revolution
0.8	1.6	0.072
1.6	1.6	0.26
3.2	1.6	1.0
4.8	1.6	2.2
6.4	1.6	3.7

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

k Calculation example for flow rate

rpm x ml per revolution = ml/min

240 x 3.7 = 888

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Nominal voltage	Type MCP-E 360	Order No.
24 V <sub>DC</sub>		IS 3230

**\*** Please note

Specifications valid for the following ISMATEC® control units:

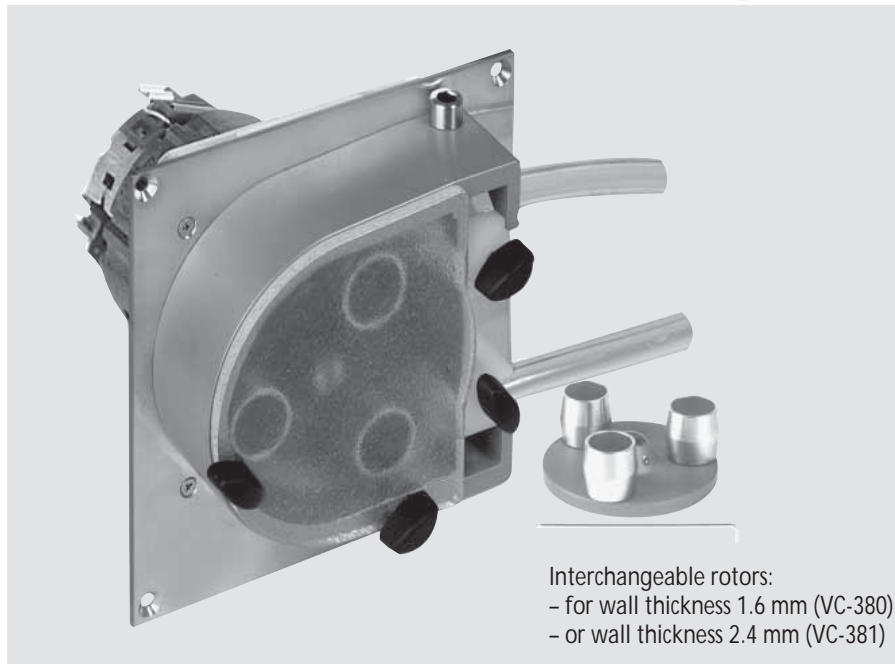
a) BVP-E - see data sheet 08.3

b) MCP-E - see data sheet 08.5

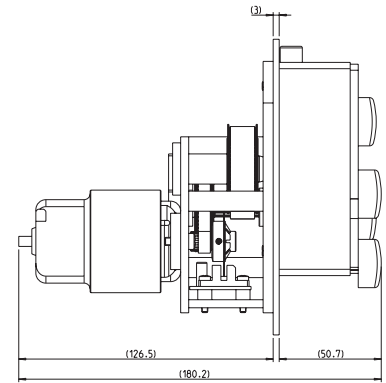
Data sheet  
04.1  
30.09.05

# DC motor with optical encoder and gear box

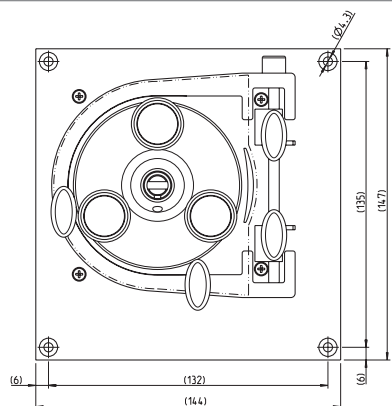
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

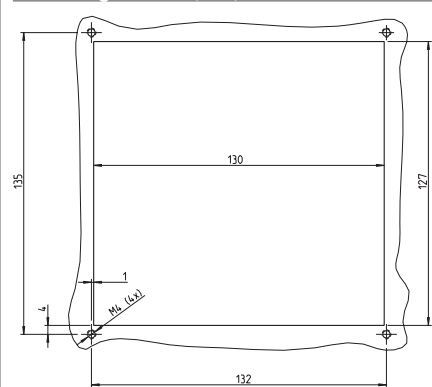
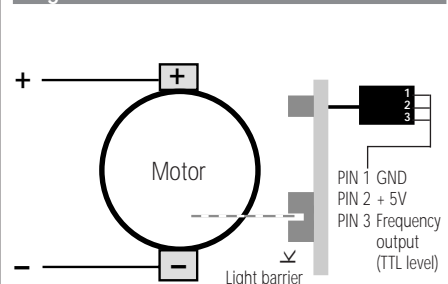


Diagram and electrical connections



Technical specifications	
Pump model	Ecoline-E VC-380/VC-381
Motor type	DC motor with encoder
Nominal voltage	24 V <sub>DC</sub>
Getriebe	16:1
Rotation speed*	3.5–350 rpm
Flow rates*	1.6–5000 ml/min (VC-380) 11.6–4200 ml/min (VC-381)
Motor control*	optional control unit
Power consumption	max. 67 W
Optical encoder	120 impulses/motor rev.
Channels	1
Pump rollers	3
Weight	1.5 kg
Tubing type	Standard tubing
Tubing i.d.	1.6–11.1 mm (VC-380) 4.8–9.5 mm (VC-381)

Rotors (Spare part / Option)			
Rollen	Farbe	WS	Bestell-Nr.
3	red	1.6 <sup>1)</sup>	IS 3763
3	black	2.4 <sup>2)</sup>	IS 3754

- 1) Standard equipment
- 2) WT 2.4 mm: for elevated differential pressure

Flow rates <sup>3)</sup>		
Tubing i.d. mm	Wall thickness mm	ml per revolution
1.6	1.6	0.455
3.2	1.6	1.68
4.8	1.6	3.72
6.4	1.6	6.48
8.0	1.6	9.67
9.5	1.6	12.5
11.1	1.6	14.3
4.8	2.4	3.32
6.4	2.4	5.78
8.0	2.4	8.77
9.5	2.4	12.0

<sup>3)</sup>Water, Tygon® tubing, without differential pressure

k Calculation example for flow rate		
rpm		x ml per revolution
on	= ml/min	
350	x 14.3	= 5005 (VC-380)
350	x 12.0	= 4200 (VC-381)

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Wall thickness	Type Ecoline-E ...	Order No.
1.6 mm	VC-380	IS 3888A
2.4 mm	VC-381	IS 3889A

Data sheet

03.02.3

30.09.05

\*

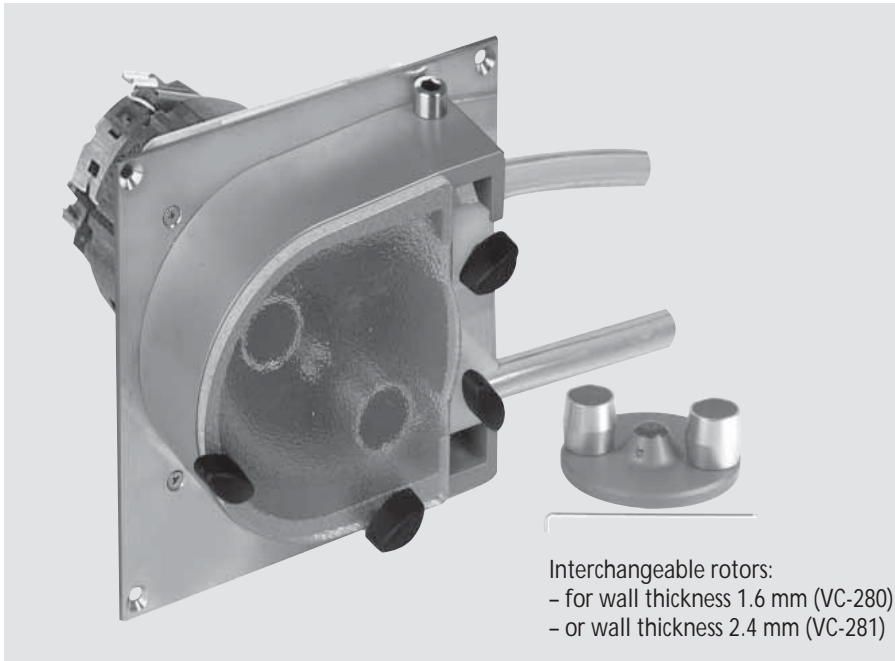
### Please note

Specifications valid for following ISMATEC® control unit:

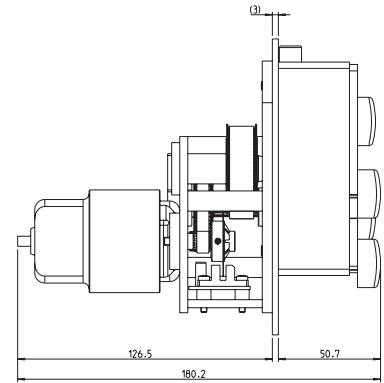
Ecoline-E - see data sheet 08.4

# DC motor with optical encoder and gear box

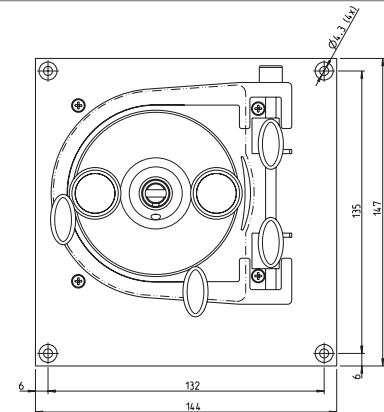
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

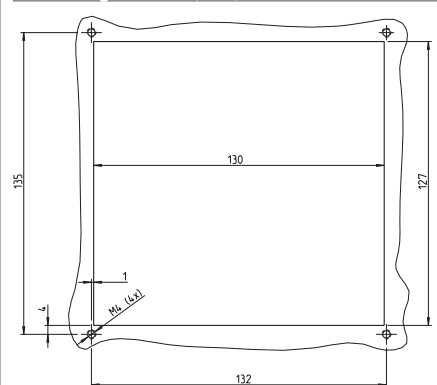
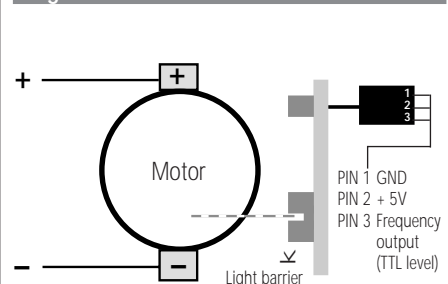


Diagram and electrical connections



Technical specifications	
Pump model	Ecoline-E VC-280/VC-281
Motor type	DC motor with encoder
Nominal voltage	24 V <sub>DC</sub>
Gear ratio	16:1
Rotation speed*	3.5–350 rpm
Flow rates*	1.7–5400 ml/min (VC-280) 12.7–4580 ml/min (VC-281)
Motor control*	optional control unit
Power consumption	max. 67 W
Optical encoder	120 impulses/motor rev.
Channels	1
Pump rollers	2
Weight	1.4 kg
Tubing type	Standard tubing
Tubing i.d.	1.6–11.1 mm (VC-280) 4.8–9.5 mm (VC-281)

Rotors (Spare part / Option)			
Rollers	Colour	WT	Order No
2	red	1.6 <sup>1)</sup>	IS 3762
2	black	2.4 <sup>2)</sup>	IS 3757

- 1) Standard equipment
- 2) WT 2.4 mm: for elevated differential pressure

Flow rates <sup>1)</sup>		
Tubing i.d. mm	Wall thickness mm	ml per revolution
1.6	1.6	0.488
3.2	1.6	1.89
4.8	1.6	4.18
6.4	1.6	7.21
8.0	1.6	10.6
9.5	1.6	13.6
11.1	1.6	15.5
4.8	2.4	3.64
6.4	2.4	6.5
8.0	2.4	9.93
9.5	2.4	13.1

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

k Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 350 x 15.5 = 5425 (VC-280)  
 350 x 13.1 = 4585 (VC-281)

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

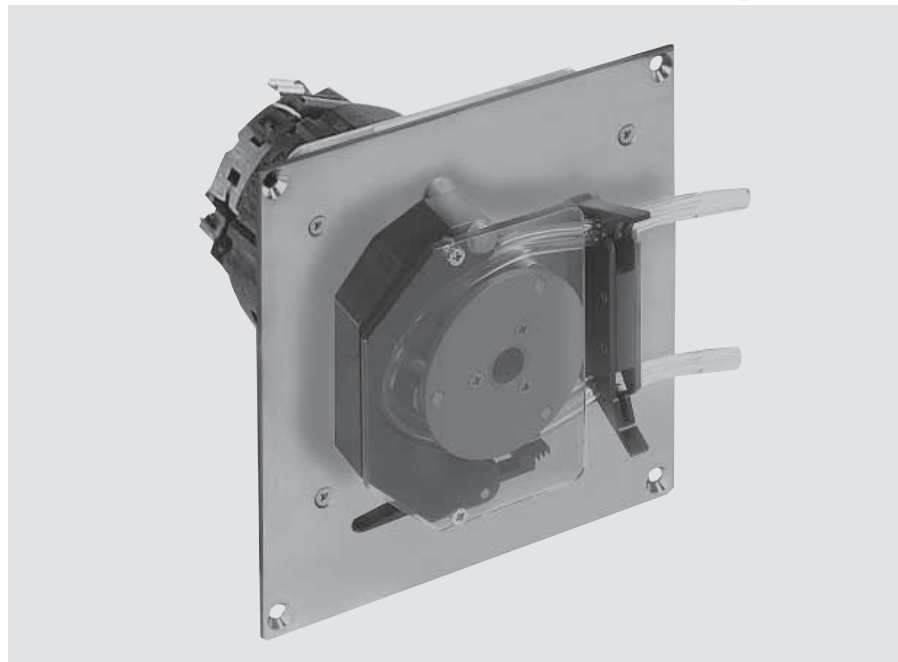
Wall thickness	Type Ecoline-E ...	Order No.
1.6 mm	VC-280	IS 3886A
2.4 mm	VC-281	IS 3887A

\* Please note  
 Specifications valid for following ISMATEC® control unit:  
 Ecoline-E - see data sheet 08.4

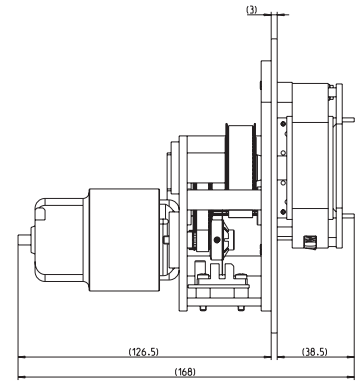
Data sheet  
03.02.2  
30.09.05

# DC motor with optical encoder and gear box

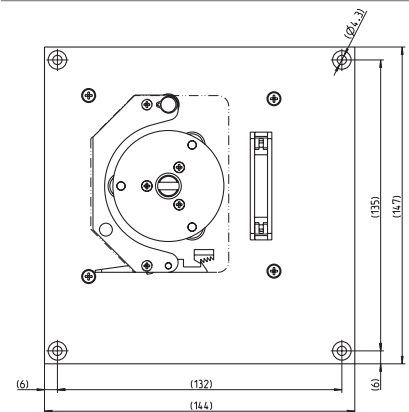
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

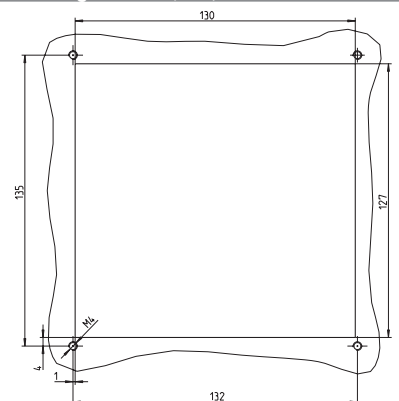
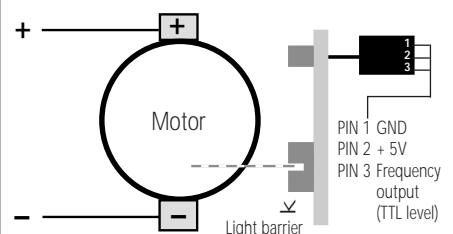


Diagram and electrical connections



Technical specifications	
Pump model	Ecoline-E VC-360
Motor type	DC motor with encoder
Gear ratio	16:1
Rotation speed*	3.5–350 rpm
Flow rates*	0.25–1300 ml/min
Motor control*	optional control unit
Power consumption	max. 67 W
Optical encoder	120 impulses/motor rev.
Channels	1
Pump rollers	3
Weight	1.0 kg
Tubing type	Standard tubing
Tubing i.d.	0.8–6.4 mm

Flow rates <sup>1)</sup>		
Tubing i.d. mm	Wall thickness mm	ml per revolution
0.8	1.6	0.0719
1.6	1.6	0.256
3.2	1.6	0.997
4.8	1.6	2.20
6.4	1.6	3.65

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

k Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 350 x 3.65 = 1277.5

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Nominal voltage	Type Ecoline-E VC-360	Order No.
24 V <sub>DC</sub>		IS 3743A

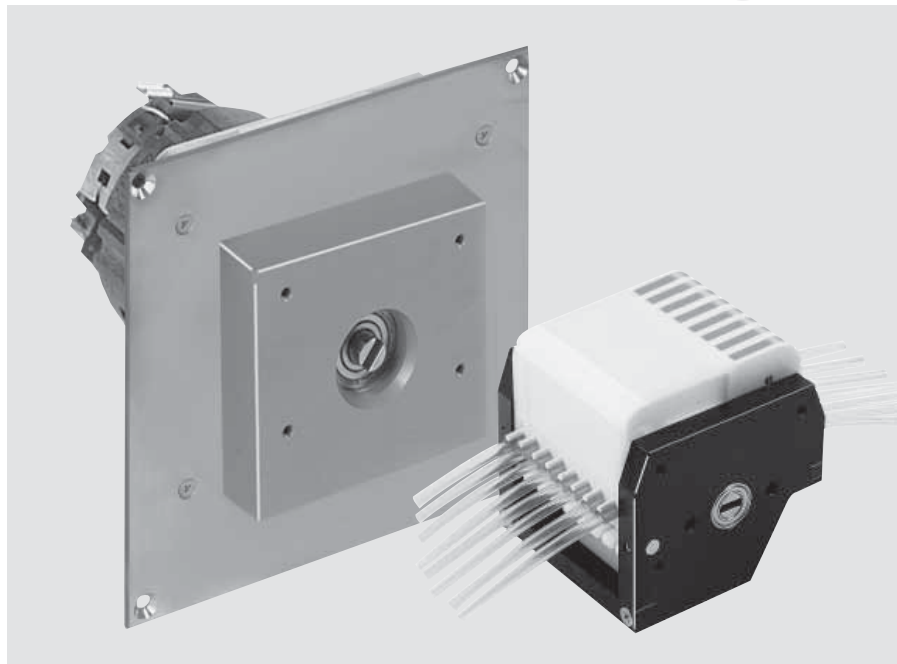
\* Please note  
 Specifications valid for following ISMATEC® control unit:  
 Ecoline-E - see data sheet 08.4

Data sheet  
 03.02.1  
 30.09.05

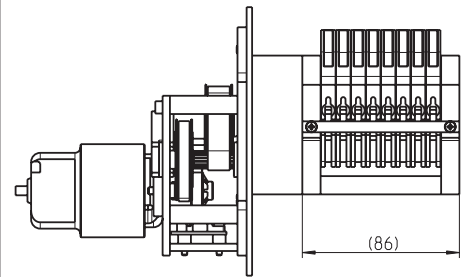


# DC motor with optical encoder and gear box

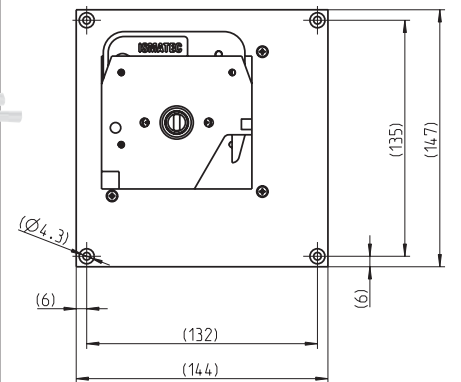
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

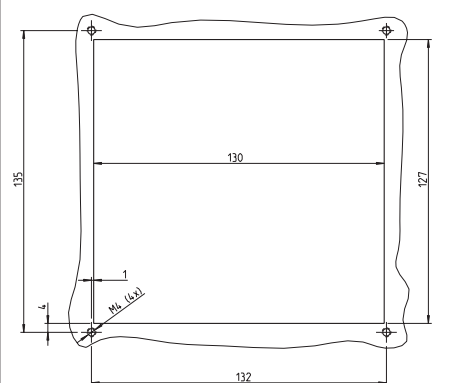
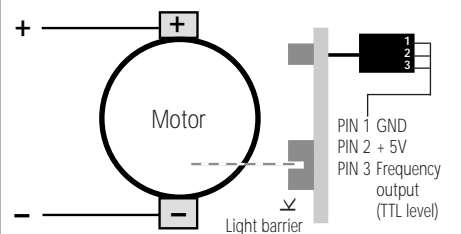


Diagram and electrical connections



Technical specifications	
Pump model	Ecoline-E VC-MS/CA8-8
Motor type	DC motor with encoder
Gear ratio	16:1
Rotation speed*	3.5–350 rpm
Flow rates*	0.004–122 ml/min
Motor control*	optional control unit
Power consumption	max. 67 W
Optical encoder	120 impulses/motor rev.
Channels	8
Pump rollers	8
Weight	1.7 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM
*See 'Please note'	
Cassettes (Spare part / Option)	
IS 3510	MS/CA Click'n'go, POM-C <sup>2)</sup>
IS 0649	MS/CA Pressure lever, POM-C
IS 3629	MS/CA Pressure lever, PVDF
<sup>2)</sup> Standard equipment	
k Please see data sheet 09.1	

Flow rates <sup>1)</sup>			
Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

k Calculation example for flow rate			
rpm x ml per revolution	=	ml/min	
350 x 0.35	=	122.5	

Ask for the ISMATEC® Pump Tubing Selection Guide

## Ordering information

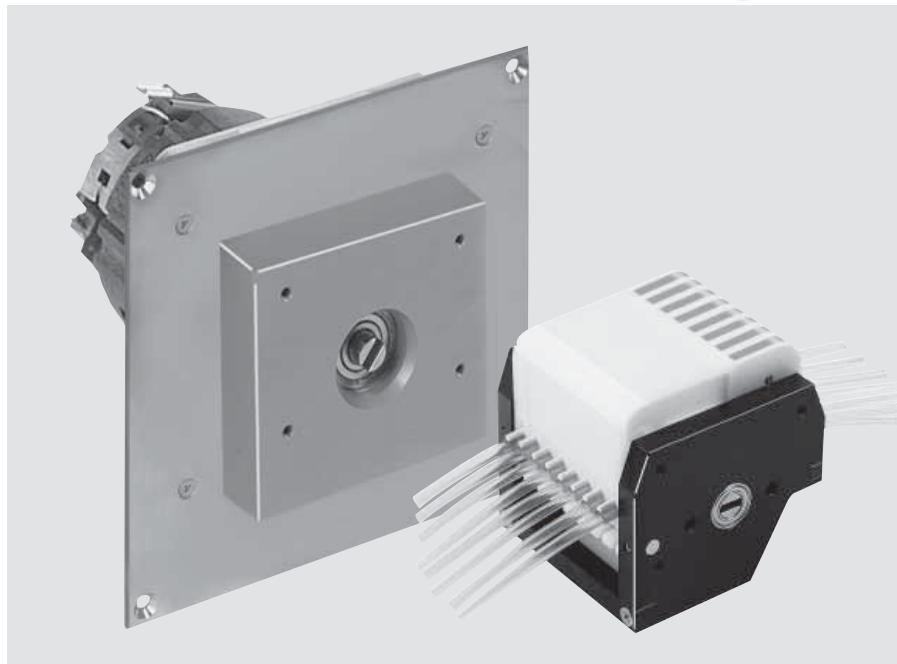
Nominal voltage	Type Ecoline-E VC-MS/CA8-8	Order No.
24 V <sub>DC</sub>		on request

\* Please note  
 Specifications valid for following ISMATEC® control unit:  
 Ecoline-E - see data sheet 08.4

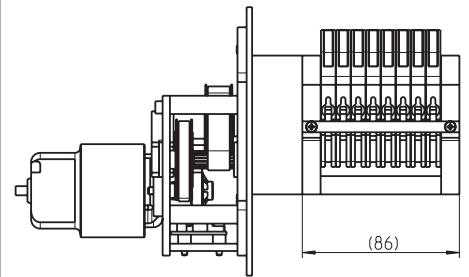
Data sheet  
 03.02.6  
 30.09.05

# DC motor with optical encoder and gear box

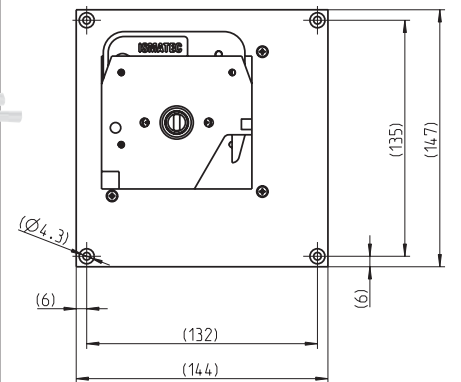
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

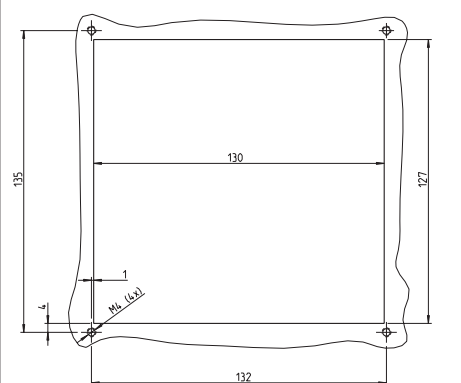
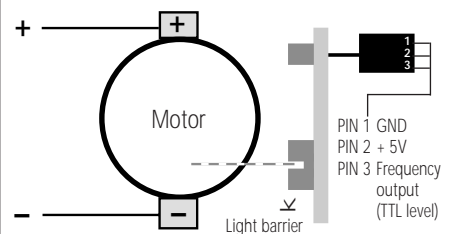


Diagram and electrical connections



Technical specifications	
Pump model	Ecoline-E VC-MS/CA8-6
Motor type	DC motor with encoder
Gear ratio	16:1
Rotation speed*	3.5–350 rpm
Flow rates*	0.005–150 ml/min
Motor control*	optional control unit
Power consumption	max. 67 W
Optical encoder	120 impulses/motor rev.
Channels	8
Pump rollers	6
Weight	1.7 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM
*See 'Please note'	
Cassettes (Spare part / Option)	
IS 3510	MS/CA Click'n'go, POM-C <sup>2)</sup>
IS 0649	MS/CA Pressure lever, POM-C
IS 3629	MS/CA Pressure lever, PVDF
<sup>2)</sup> Standard equipment	
k Please see data sheet 09.1	

Flow rates <sup>1)</sup>			
Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0014	1.14	0.09
0.19	0.0028	1.22	0.10
0.25	0.0048	1.30	0.11
0.38	0.011	1.42	0.13
0.44	0.014	1.52	0.15
0.51	0.019	1.65	0.17
0.57	0.024	1.75	0.19
0.64	0.030	1.85	0.21
0.76	0.042	2.06	0.25
0.89	0.057	2.29	0.29
0.95	0.064	2.54	0.33
1.02	0.073	2.79	0.37
1.09	0.083	3.17	0.43

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

k Calculation example for flow rate

rpm x ml per revolution = ml/min

350 x 0.43 = 150.5

Ask for the ISMATEC® Pump Tubing Selection Guide

## Ordering information

Nominal voltage	Type Ecoline-E VC-MS/CA8-6	Order No.
24 V <sub>DC</sub>		on request

**\*** Please note

Specifications valid for following ISMATEC® control unit:

Ecoline-E - see data sheet 08.4

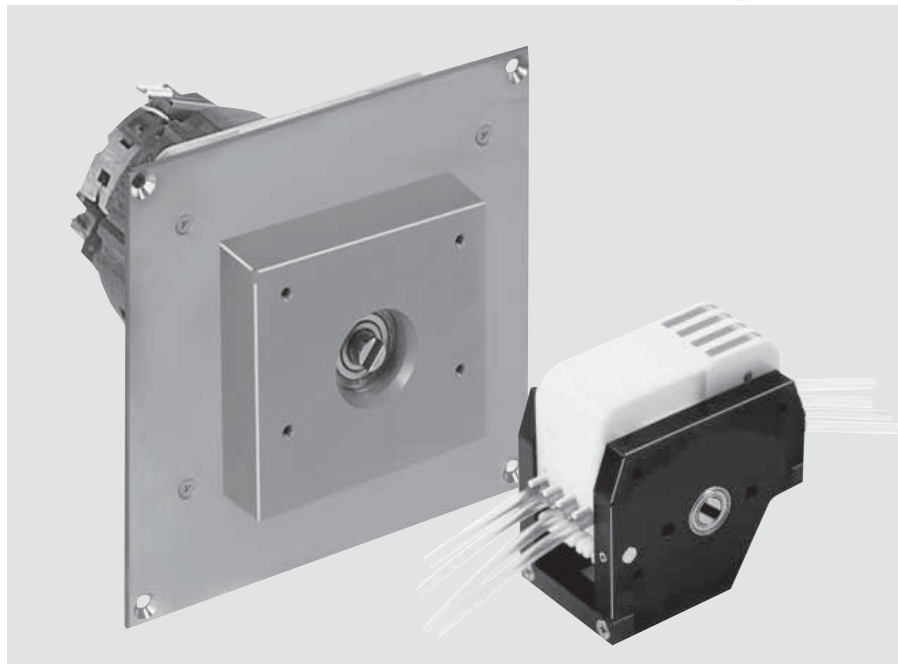
Data sheet

03.02.5

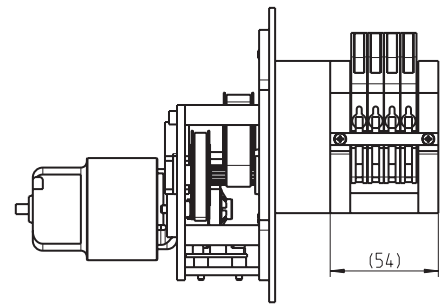
30.09.05

# DC motor with optical encoder and gear box

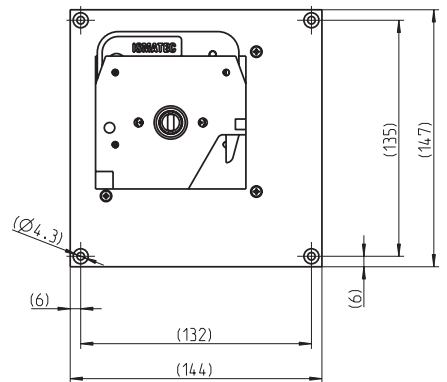
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

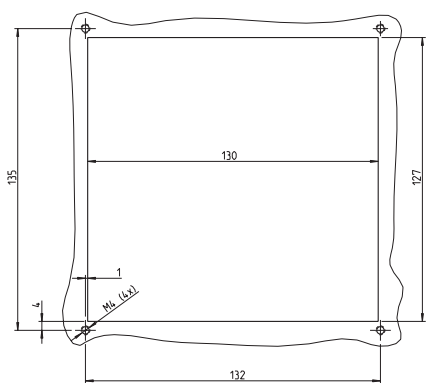
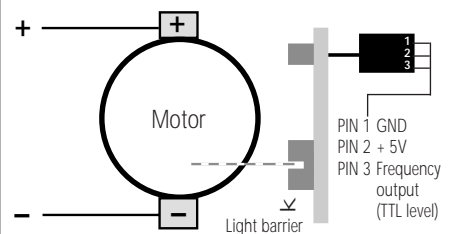


Diagram and electrical connections



Technical specifications	
Pump model	Ecoline-E VC-MS/CA4-12
Motor type	DC motor with encoder
Gear ratio	16:1
Rotation speed*	3.5-350 rpm
Flow rates*	0.003-84 ml/min
Motor control*	optional control unit
Power consumption max.	67 W
Optical encoder	120 impulses/motor rev.
Channels	4
Pump rollers	12
Weight	1.7 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13-3.17 mm
Cassettes	MS/CA Click'n'go, POM
*See 'Please note'	
Cassettes (Spare part / Option)	
IS 3510	MS/CA Click'n'go, POM-C <sup>2)</sup>
IS 0649	MS/CA Pressure lever, POM-C
IS 3629	MS/CA Pressure lever, PVDF
<sup>2)</sup> Standard equipment	
k Please see data sheet 09.1	

Flow rates <sup>1)</sup>			
Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.00093	1.14	0.067
0.19	0.0021	1.22	0.075
0.25	0.0038	1.30	0.083
0.38	0.0088	1.42	0.094
0.44	0.012	1.52	0.10
0.51	0.016	1.65	0.12
0.57	0.019	1.75	0.13
0.64	0.024	1.85	0.13
0.76	0.033	2.06	0.15
0.89	0.044	2.29	0.17
0.95	0.050	2.54	0.19
1.02	0.056	2.79	0.21
1.09	0.063	3.17	0.24

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

k Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 350 x 0.24 = 84.0

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Nominal voltage	Type Ecoline-E VC-MS/CA4-12	Order No.
24 V <sub>DC</sub>		on request

**\*** Please note

Specifications valid for following ISMATEC® control unit:

Ecoline-E - see data sheet 08.4

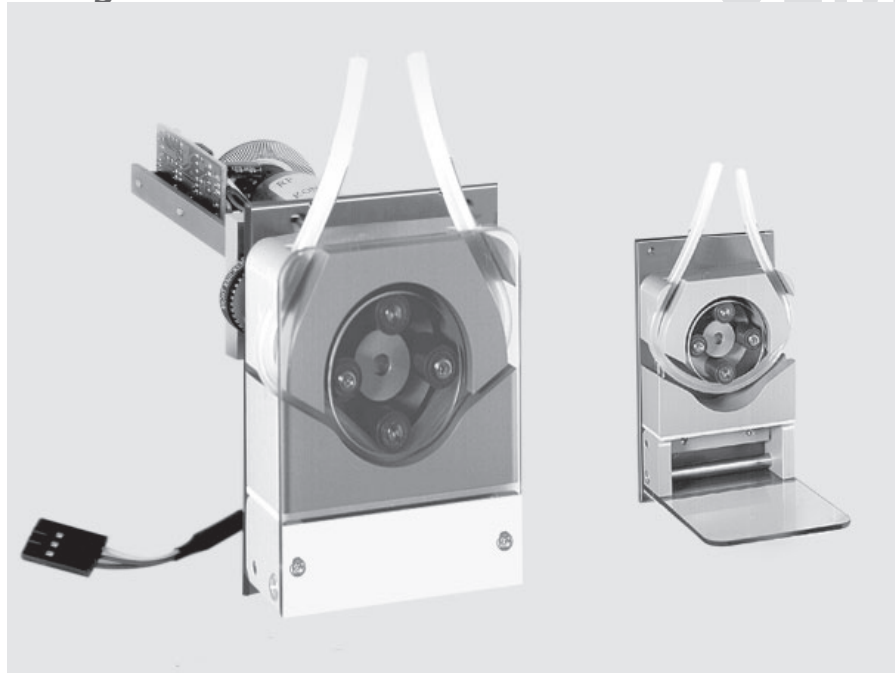
Data sheet

03.02.4

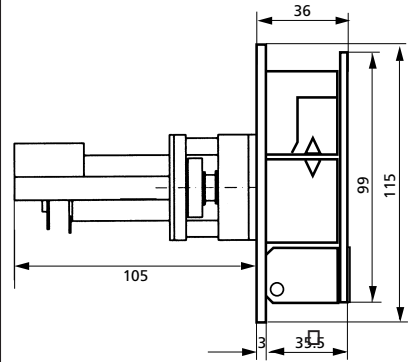
30.09.05

# DC motor with optical encoder and gear box

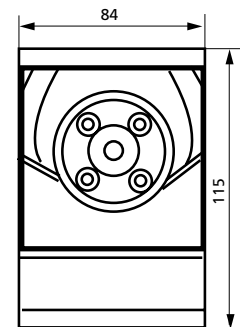
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

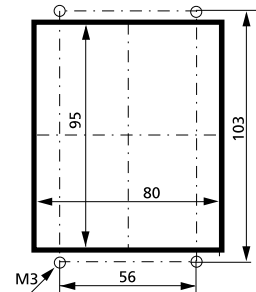
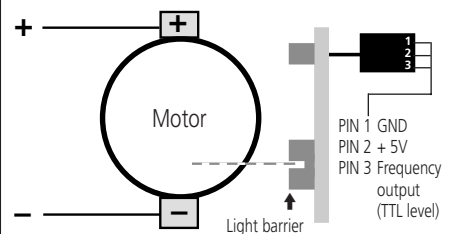


Diagram and electrical connections



**\* Please note**

Specifications valid for the following ISMATEC® control unit:  
REGLO-E Analog - see data sheet 08.1

## Technical specifications

Pump model	REGLO-E Quick
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	3.2–160 rpm
Flow rates*	2.1–230 ml/min
Motor control*	optional control unit
Power consumption max.	10 W
Optical encoder	120 impulses/motor rev.
Channels	1
Pump rollers	4
Weight	0.710 kg
Tubing type	Standard tubing
Tubing WT	1.6
Option:	Door switch with safety cutout

## Flow rates<sup>1)</sup>

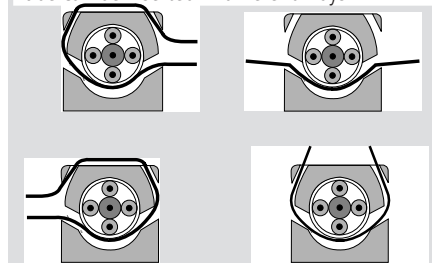
ml/min		Standard tubing	
min.	max.	WT mm	i.d. mm
2.1	103	1.6	3.2
4.6	230	1.6	4.8

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

Ask for the ISMATEC® Pump Tubing Selection Guide.

Tube-bed:  
Easily accessible tube-bed with a wide opening transparent protection cover.

Tube can be inserted in different ways:



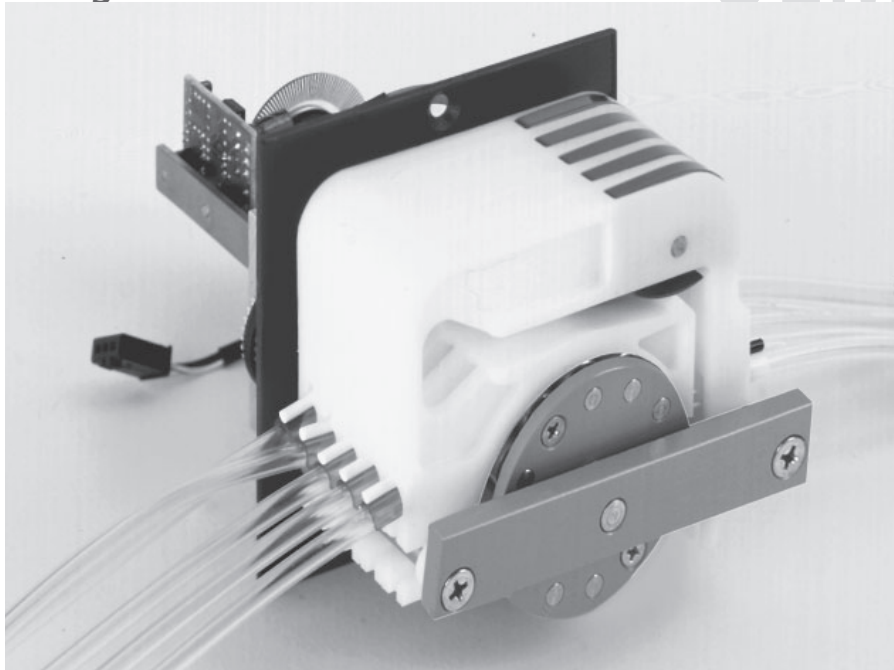
## Ordering information

Nominal voltage	Type REGLO-E Quick	Order No.
12 V <sub>DC</sub>		ISM 908
24 V <sub>DC</sub>		ISM 917
12 V <sub>DC</sub>	Door switch with safety cutout	ISM 1096

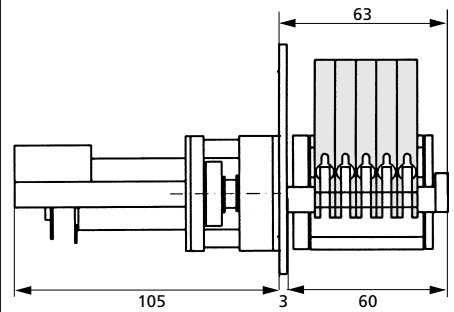
Data sheet  
02.3.1  
30.09.05

# DC motor with optical encoder and gear box

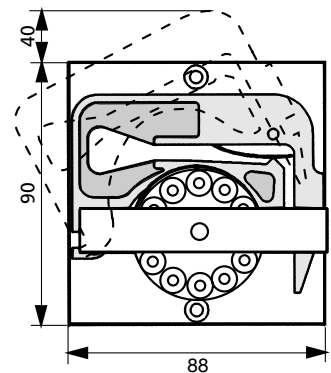
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

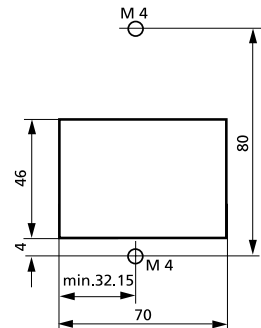
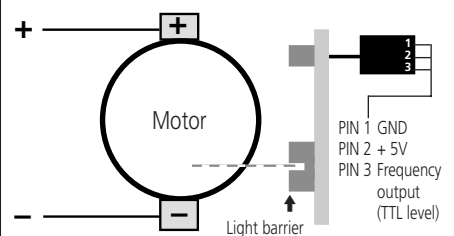


Diagram and electrical connections



## Technical specifications

Pump model	REGLO-E MS/CA5-12
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2–100 rpm <sup>a)</sup> 1–100 rpm <sup>b)</sup>
Flow rates*	0.001–24 ml/min
Motor control*	optional control unit
Power consumption max.	10 W
Optical encoder	120 impulses/motor rev.
Channels	5
Pump rollers	12
Weight	0.860 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

Cassettes (Spare part / Option)  
 IS 3510 MS/CA Click'n'go, POM-C <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, POM-C  
 IS 3629 MS/CA Pressure lever, PVDF

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.00093	1.14	0.067
0.19	0.0021	1.22	0.075
0.25	0.0038	1.30	0.083
0.38	0.0088	1.42	0.094
0.44	0.012	1.52	0.10
0.51	0.016	1.65	0.12
0.57	0.019	1.75	0.13
0.64	0.024	1.85	0.13
0.76	0.033	2.06	0.15
0.89	0.044	2.29	0.17
0.95	0.050	2.54	0.19
1.02	0.056	2.79	0.21
1.09	0.063	3.17	0.24

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 100 x 0.24 = 24

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Data sheet	Nominal voltage	Type REGLO-E MS/CA5-12	Order No.
	02.3.18 30.09.05	12 V <sub>DC</sub>	

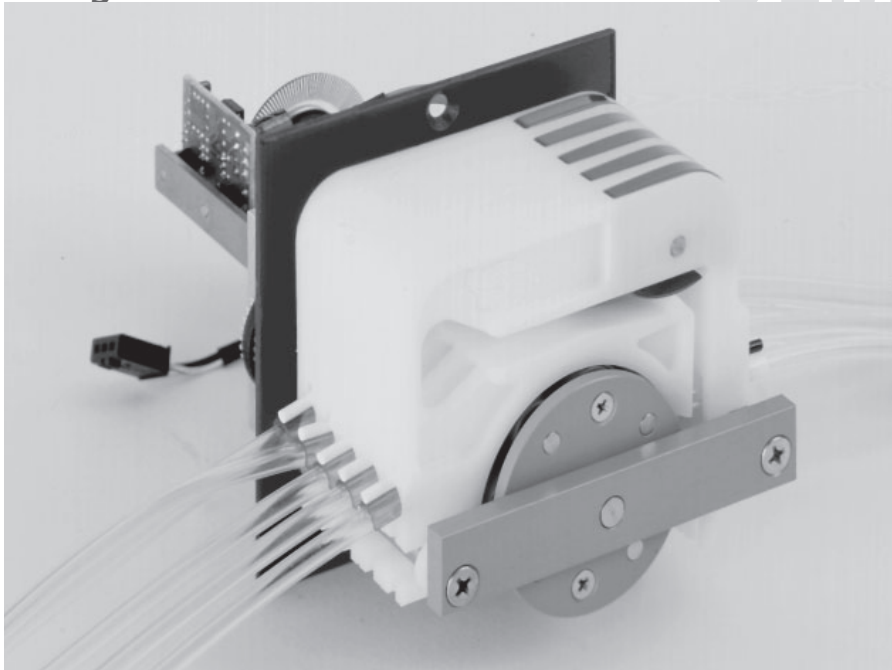
## \* Please note

Specifications valid for the following ISMATEC® control units:

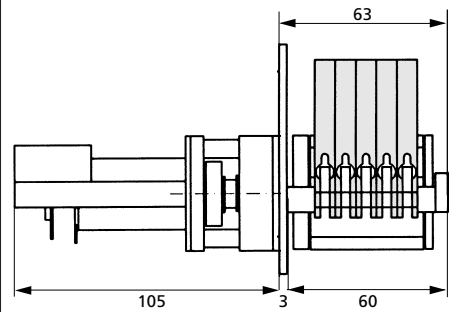
- a) REGLO-E Analog - see data sheet 08.1
- b) REGLO-E Digital - see data sheet 08.2

# DC motor with optical encoder and gear box

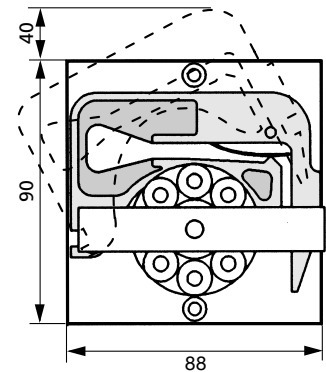
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

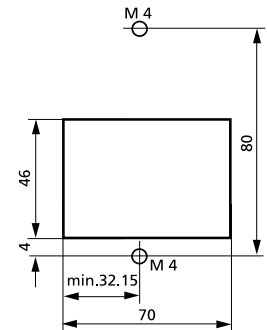
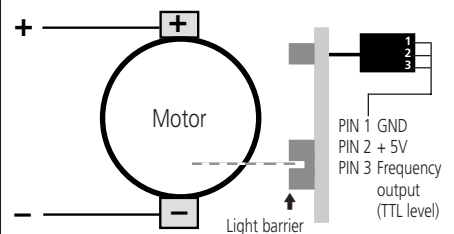


Diagram and electrical connections



Technical specifications	
Pump model	REGLO-E MS/CA5-08
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2–100 rpm <sup>a)</sup> 1–100 rpm <sup>b)</sup>
Flow rates*	0.002 – 35 ml/min
Motor control*	optional control unit
Power consumption	max. 10 W
Optical encoder	120 impulses/motor rev.
Channels	5
Pump rollers	8
Weight	0.860 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

Cassettes (Spare part / Option)	
IS 3510	MS/CA Click'n'go, POM-C <sup>2)</sup>
IS 0649	MS/CA Pressure lever, POM-C
IS 3629	MS/CA Pressure lever, PVDF

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

Flow rates <sup>1)</sup>			
Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 100 x 0.35 = 35

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

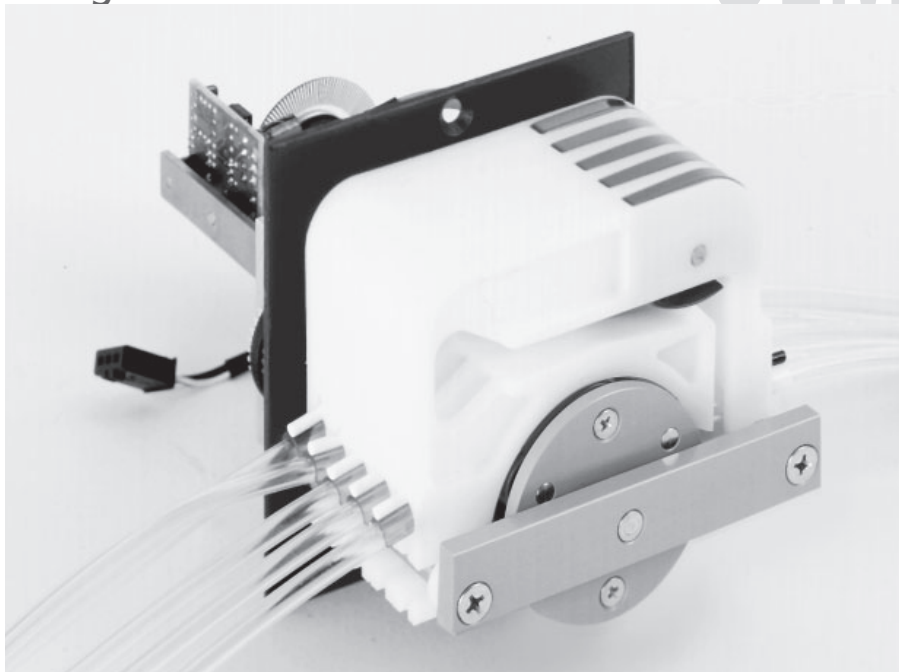
Nominal voltage	Type REGLO-E MS/CA5-08	Order No.
12 V <sub>DC</sub>		IS 3185

Data sheet  
02.3.17  
30.09.05

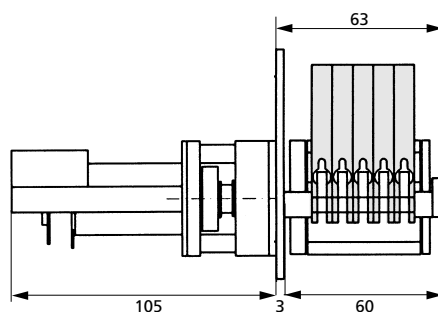
**\* Please note**  
 Specifications valid for the following ISMATEC® control units:  
<sup>a)</sup> REGLO-E Analog - see data sheet 08.1  
<sup>b)</sup> REGLO-E Digital - see data sheet 08.2

# DC motor with optical encoder and gear box

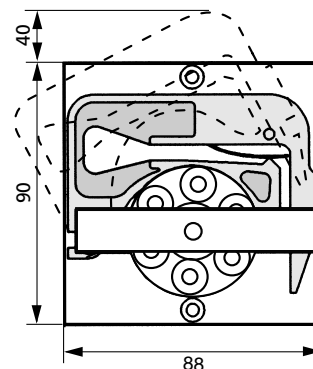
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

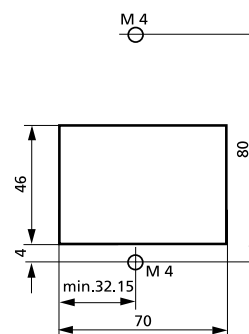
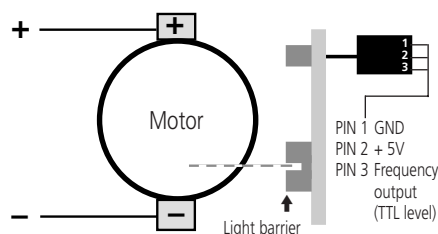


Diagram and electrical connections



**\* Please note**

Specifications valid for the following ISMATEC® control units:

- a) REGLO-E Analog - see data sheet 08.1
- b) REGLO-E Digital - see data sheet 08.2

## Technical specifications

Pump model	REGLO-E MS/CA5-06
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2–100 rpm <sup>a)</sup> 1–100 rpm <sup>b)</sup>
Flow rates*	0.002–43 ml/min
Motor control*	optional control unit
Power consumption	max. 10 W
Optical encoder	120 impulses/motor rev.
Channels	5
Pump rollers	6
Weight	0.860 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, POM-C <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, POM-C  
 IS 3629 MS/CA Pressure lever, PVDF

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0014	1.14	0.09
0.19	0.0028	1.22	0.10
0.25	0.0048	1.30	0.11
0.38	0.011	1.42	0.13
0.44	0.014	1.52	0.15
0.51	0.019	1.65	0.17
0.57	0.024	1.75	0.19
0.64	0.030	1.85	0.21
0.76	0.042	2.06	0.25
0.89	0.057	2.29	0.29
0.95	0.064	2.54	0.33
1.02	0.073	2.79	0.37
1.09	0.083	3.17	0.43

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 100 x 0.43 = 43

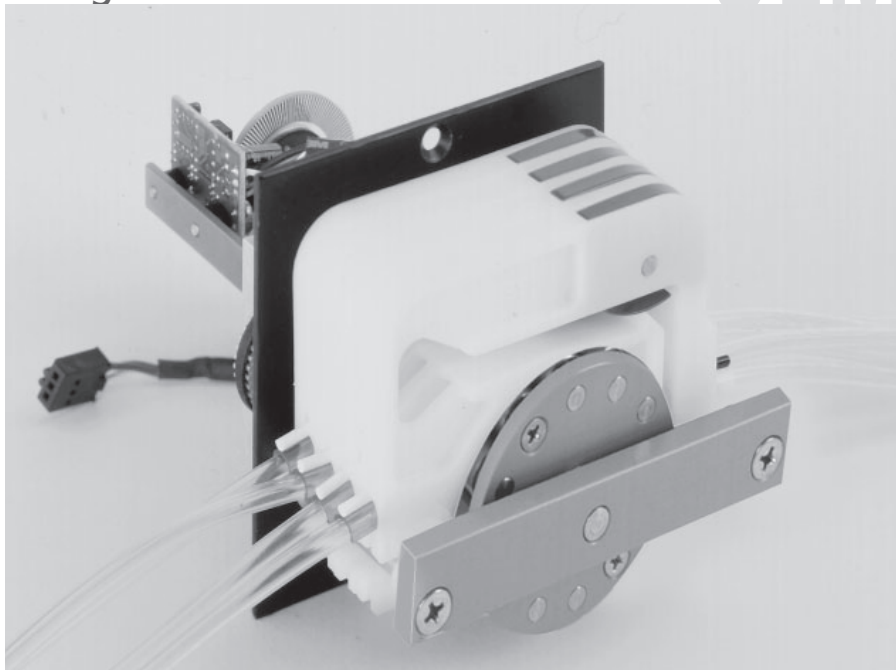
Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

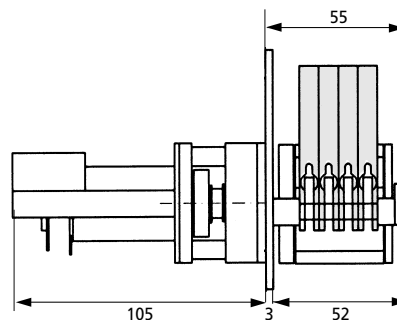
Data sheet 02.3.16 30.09.05	Nominal voltage	Type REGLO-E MS/CA5-06	Order No.
	12 V <sub>DC</sub>		IS 3184

# DC motor with optical encoder and gear box

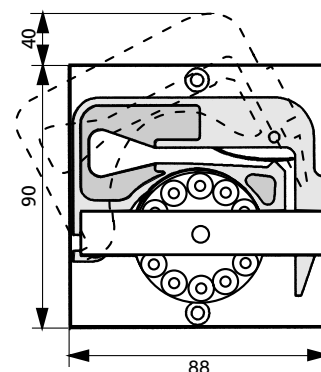
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

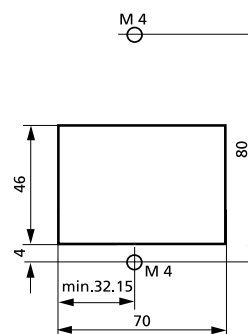
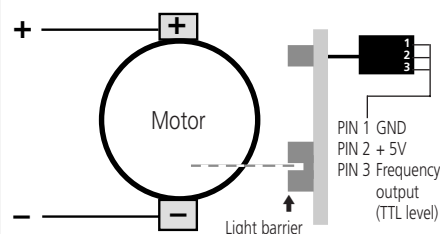


Diagram and electrical connections



**\*** Please note

Specifications valid for the following ISMATEC® control units:  
 a) REGLO-E Analog - see data sheet 08.1  
 b) REGLO-E Digital - see data sheet 08.2

## Technical specifications

Pump model	REGLO-E MS/CA4-12
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2–100 rpm <sup>a)</sup> 1–100 rpm <sup>b)</sup>
Flow rates*	0.001–24 ml/min
Motor control*	optional control unit
Power consumption max.	10 W
Optical encoder	120 impulses/motor rev.
Channels	4
Pump rollers	12
Weight	0.780 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, POM-C <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, POM-C  
 IS 3629 MS/CA Pressure lever, PVDF

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.00093	1.14	0.067
0.19	0.0021	1.22	0.075
0.25	0.0038	1.30	0.083
0.38	0.0088	1.42	0.094
0.44	0.012	1.52	0.10
0.51	0.016	1.65	0.12
0.57	0.019	1.75	0.13
0.64	0.024	1.85	0.13
0.76	0.033	2.06	0.15
0.89	0.044	2.29	0.17
0.95	0.050	2.54	0.19
1.02	0.056	2.79	0.21
1.09	0.063	3.17	0.24

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 100 x 0.24 = 24

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

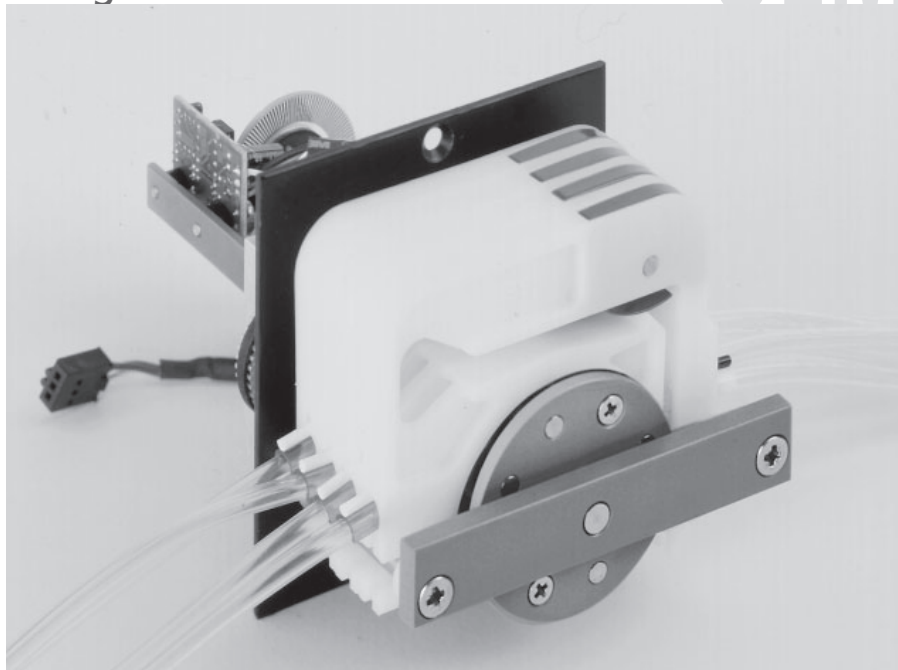
Nominal voltage	Type REGLO-E MS/CA4-12	Order No.
12 V <sub>DC</sub>		IS 3135

Data sheet  
02.3.15  
30.09.05

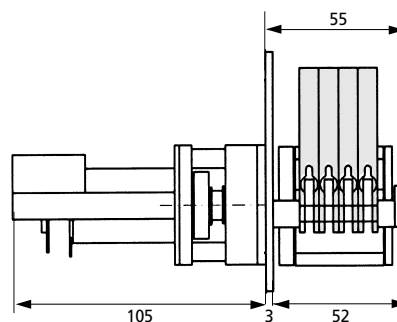


# DC motor with optical encoder and gear box

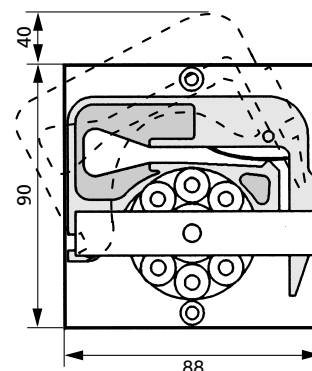
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

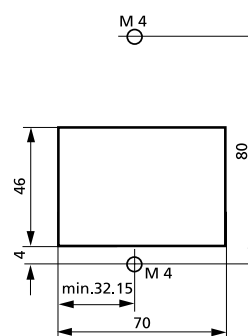
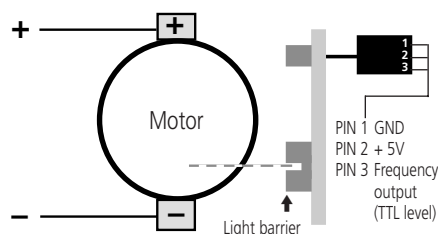


Diagram and electrical connections



**\* Please note**

Specifications valid for the following ISMATEC® control units:  
 a) REGLO-E Analog - see data sheet 08.1  
 b) REGLO-E Digital - see data sheet 08.2

## Technical specifications

Pump model	REGLO-E MS/CA4-08
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2–100 rpm <sup>a)</sup> 1–100 rpm <sup>b)</sup>
Flow rates*	0.002–35 ml/min
Motor control*	optional control unit
Power consumption max.	10 W
Optical encoder	120 impulses/motor rev.
Channels	4
Pump rollers	8
Weight	0.780 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

Cassettes (Spare part / Option)  
 IS 3510 MS/CA Click'n'go, POM-C <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, POM-C  
 IS 3629 MS/CA Pressure lever, PVDF

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 100 x 0.35 = 35

Ask for the ISMATEC® Pump Tubing Selection Guide.

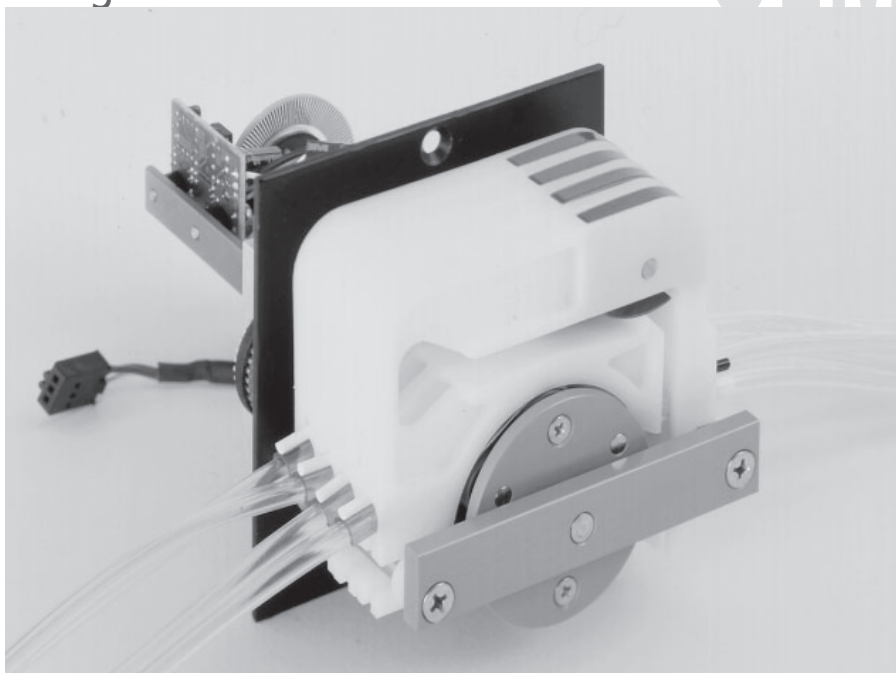
## Ordering information

Nominal voltage	Type REGLO-E MS/CA4-08	Order No.
12 V <sub>DC</sub>		IS 3183

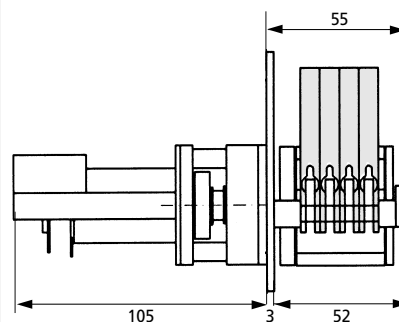
Data sheet  
 02.3.14  
 30.09.05

# DC motor with optical encoder and gear box

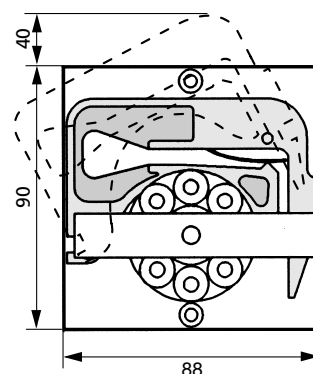
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

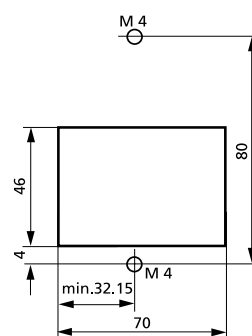
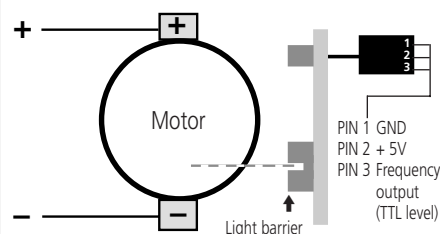


Diagram and electrical connections



**\* Please note**

Specifications valid for the following ISMATEC® control units:

- a) REGLO-E Analog - see data sheet 08.1
- b) REGLO-E Digital - see data sheet 08.2

## Technical specifications

Pump model	REGLO-E MS/CA4-06
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2–100 rpm <sup>a)</sup> 1–100 rpm <sup>b)</sup>
Flow rates*	0.002–43 ml/min
Motor control*	optional control unit
Power consumption	max. 10 W
Optical encoder	120 impulses/motor rev.
Channels	4
Pump rollers	6
Weight	0.780 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, POM-C <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, POM-C  
 IS 3629 MS/CA Pressure lever, PVDF

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0014	1.14	0.09
0.19	0.0028	1.22	0.10
0.25	0.0048	1.30	0.11
0.38	0.011	1.42	0.13
0.44	0.014	1.52	0.15
0.51	0.019	1.65	0.17
0.57	0.024	1.75	0.19
0.64	0.030	1.85	0.21
0.76	0.042	2.06	0.25
0.89	0.057	2.29	0.29
0.95	0.064	2.54	0.33
1.02	0.073	2.79	0.37
1.09	0.083	3.17	0.43

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 100 x 0.43 = 43

Ask for the ISMATEC® Pump Tubing Selection Guide.

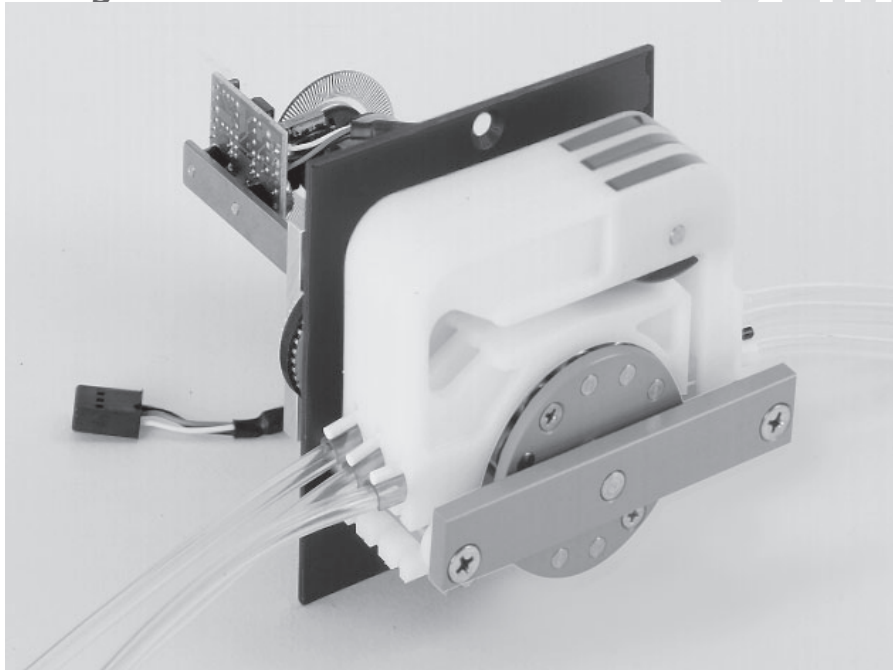
## Ordering information

Nominal voltage	Type REGLO-E MS/CA4-06	Order No.
12 V <sub>DC</sub>		IS 3182

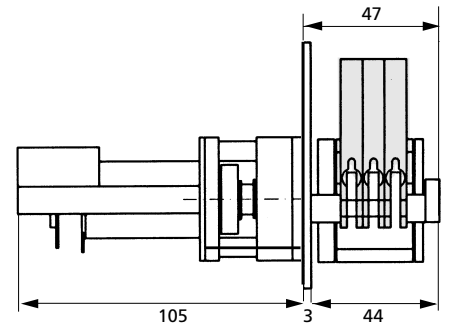
Data sheet  
 02.3.13  
 30.09.05

# DC motor with optical encoder and gear box

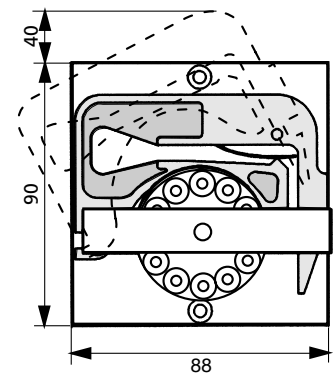
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

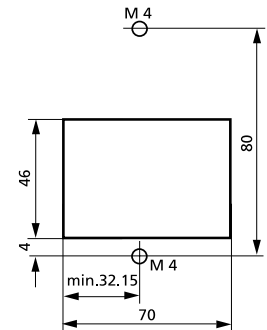
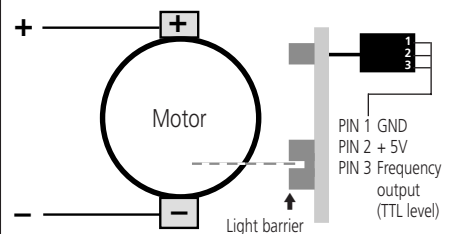


Diagram and electrical connections



## Technical specifications

Pump model	REGLO-E MS/CA3-12
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2–100 rpm <sup>a)</sup> 1–100 rpm <sup>b)</sup>
Flow rates*	0.001–24 ml/min
Motor control*	optional control unit
Power consumption	max. 10 W
Optical encoder	120 impulses/motor rev.
Channels	3
Pump rollers	12
Weight	0.700 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

Cassettes (Spare part / Option)  
 IS 3510 MS/CA Click'n'go, POM-C <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, POM-C  
 IS 3629 MS/CA Pressure lever, PVDF

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.00093	1.14	0.067
0.19	0.0021	1.22	0.075
0.25	0.0038	1.30	0.083
0.38	0.0088	1.42	0.094
0.44	0.012	1.52	0.10
0.51	0.016	1.65	0.12
0.57	0.019	1.75	0.13
0.64	0.024	1.85	0.13
0.76	0.033	2.06	0.15
0.89	0.044	2.29	0.17
0.95	0.050	2.54	0.19
1.02	0.056	2.79	0.21
1.09	0.063	3.17	0.24

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 100 x 0.24 = 24

Ask for the ISMATEC®  
 Pump Tubing Selection Guide.

## Ordering information

Nominal voltage	Type REGLO-E MS/CA3-12	Order No.
12 V <sub>DC</sub>		IS 3266

Data sheet

02.3.12  
 30.09.05

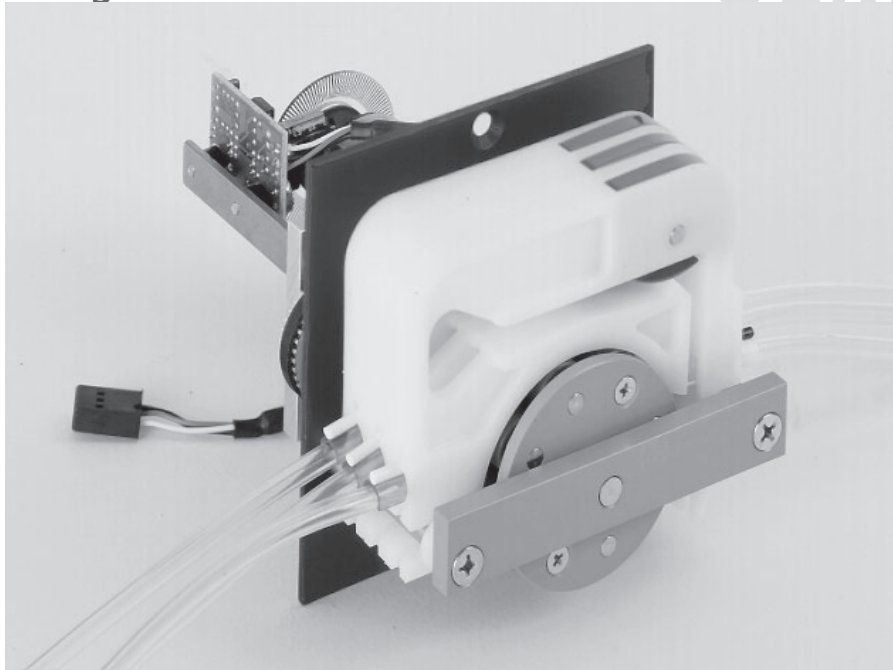
## \* Please note

Specifications valid for the following ISMATEC® control units:

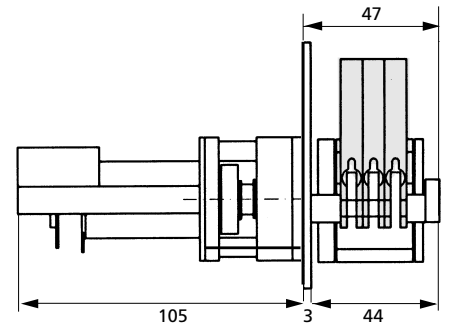
- <sup>a)</sup> REGLO-E Analog - see data sheet 08.1
- <sup>b)</sup> REGLO-E Digital - see data sheet 08.2

# DC motor with optical encoder and gear box

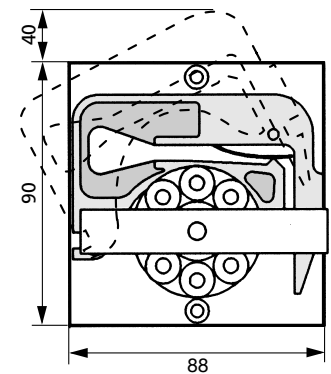
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

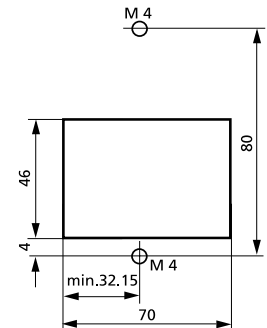
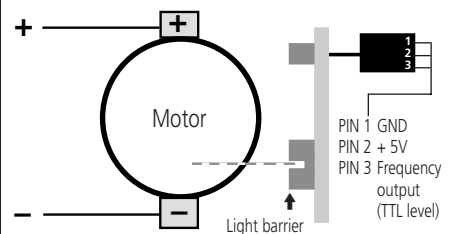


Diagram and electrical connections



## Technical specifications

Pump model	REGLO-E MS/CA3-08
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2–100 rpm <sup>a)</sup> 1–100 rpm <sup>b)</sup>
Flow rates*	0.002–35 ml/min
Motor control*	optional control unit
Power consumption max.	10 W
Optical encoder	120 impulses/motor rev.
Channels	3
Pump rollers	8
Weight	0.700 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, *POM-C* <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, *POM-C*  
 IS 3629 MS/CA Pressure lever, *PVDF*

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 100 x 0.35 = 35

Ask for the ISMATEC®  
 Pump Tubing Selection Guide.

## Ordering information

Data sheet	Nominal voltage	Type REGLO-E MS/CA3-08	Order No.
	12 V <sub>DC</sub>		IS 2872

02.3.11  
 30.09.05

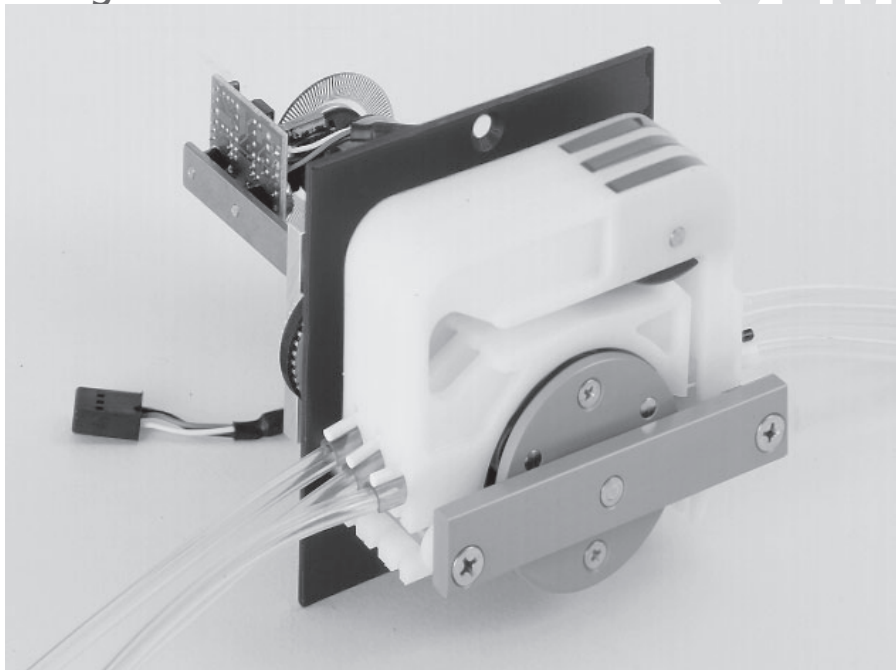
## \* Please note

Specifications valid for the following ISMATEC® control units:

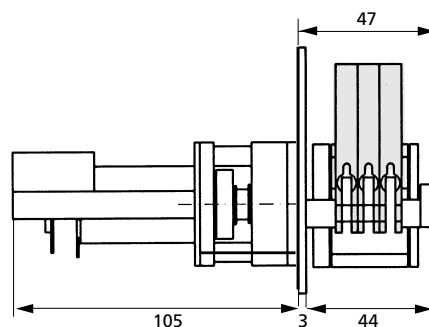
- <sup>a)</sup> REGLO-E *Analog* - see data sheet 08.1
- <sup>b)</sup> REGLO-E *Digital* - see data sheet 08.2

# DC motor with optical encoder and gear box

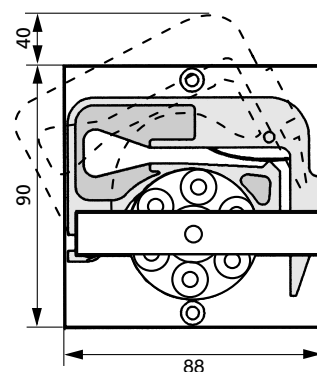
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

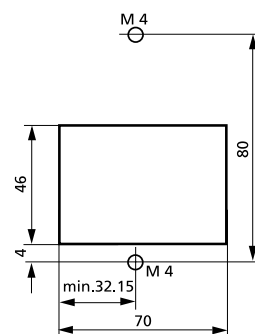
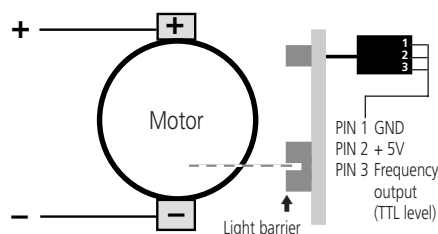


Diagram and electrical connections



**\* Please note**

Specifications valid for the following ISMATEC® control units:

- a) REGLO-E Analog - see data sheet 08.1
- b) REGLO-E Digital - see data sheet 08.2

## Technical specifications

Pump model	REGLO-E MS/CA3-06
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2–100 rpm <sup>a)</sup> 1–100 rpm <sup>b)</sup>
Flow rates*	0.002–43 ml/min
Motor control*	optional control unit
Power consumption	max. 10 W
Optical encoder	120 impulses/motor rev.
Channels	3
Pump rollers	6
Weight	0.700 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, **POM-C** <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0014	1.14	0.09
0.19	0.0028	1.22	0.10
0.25	0.0048	1.30	0.11
0.38	0.011	1.42	0.13
0.44	0.014	1.52	0.15
0.51	0.019	1.65	0.17
0.57	0.024	1.75	0.19
0.64	0.030	1.85	0.21
0.76	0.042	2.06	0.25
0.89	0.057	2.29	0.29
0.95	0.064	2.54	0.33
1.02	0.073	2.79	0.37
1.09	0.083	3.17	0.43

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 100 x 0.43 = 43

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Nominal voltage	Type REGLO-E MS/CA3-06	Order No.
12 V <sub>DC</sub>		IS 2871

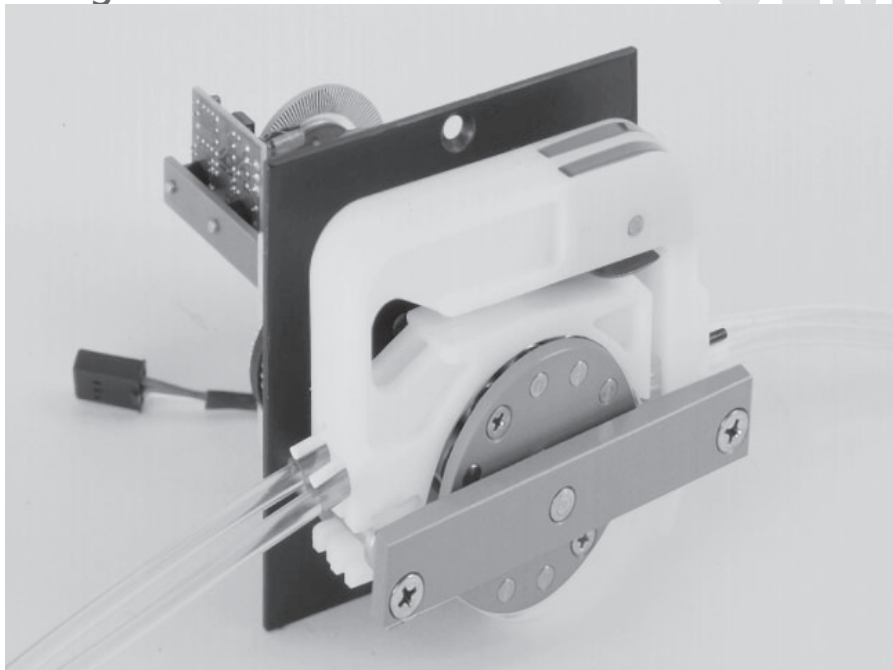
Data sheet

02.3.10

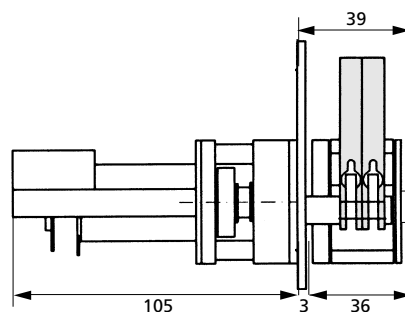
30.09.05

# DC motor with optical encoder and gear box

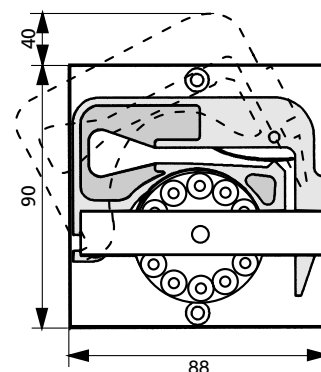
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

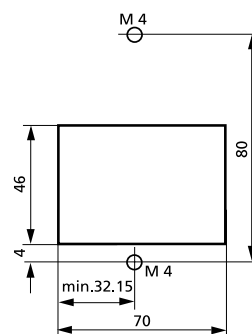
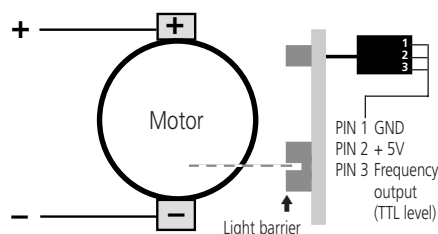


Diagram and electrical connections



**\* Please note**

Specifications valid for the following ISMATEC® control units:

- a) REGLO-E Analog - see data sheet 08.1
- b) REGLO-E Digital - see data sheet 08.2

## Technical specifications

Pump model	REGLO-E MS/CA2-12
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	3.2–160 rpm <sup>a)</sup> 1.6–160 rpm <sup>b)</sup>
Flow rates*	0.002–38.4 ml/min
Motor control*	optional control unit
Power consumption max.	10 W
Optical encoder	120 impulses/motor rev.
Channels	2
Pump rollers	12
Weight	0.620 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, **POM-C** <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.00093	1.14	0.067
0.19	0.0021	1.22	0.075
0.25	0.0038	1.30	0.083
0.38	0.0088	1.42	0.094
0.44	0.012	1.52	0.10
0.51	0.016	1.65	0.12
0.57	0.019	1.75	0.13
0.64	0.024	1.85	0.13
0.76	0.033	2.06	0.15
0.89	0.044	2.29	0.17
0.95	0.050	2.54	0.19
1.02	0.056	2.79	0.21
1.09	0.063	3.17	0.24

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 160 x 0.24 = 38.4

Ask for the ISMATEC® Pump Tubing Selection Guide.

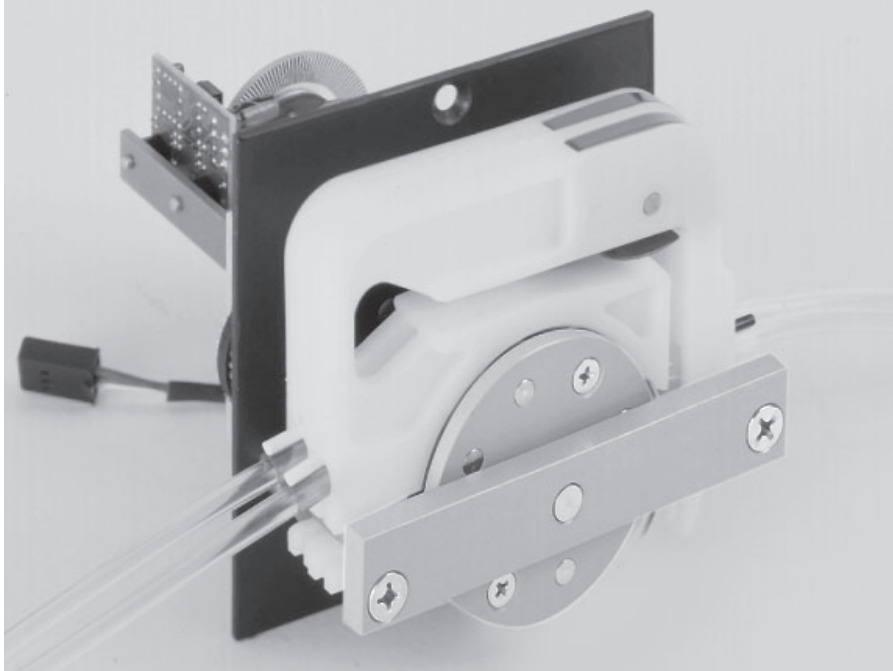
## Ordering information

Nominal voltage	Type REGLO-E MS/CA2-12	Order No.
12 V <sub>DC</sub>		IS 3124

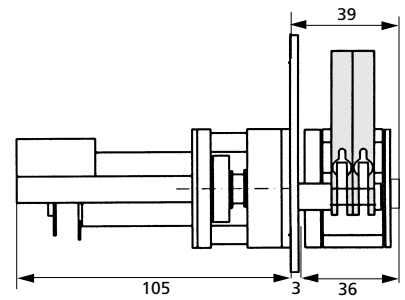
Data sheet  
 02.3.9  
 30.09.05

# DC motor with optical encoder and gear box

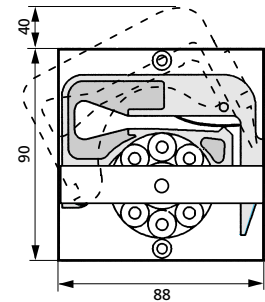
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

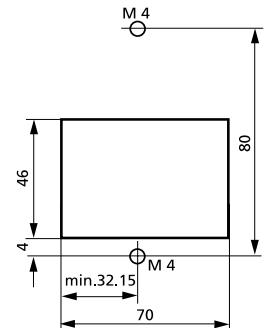
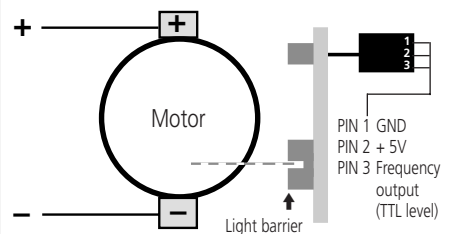


Diagram and electrical connections



Technical specifications	
Pump model	REGLO-E MS/CA2-08
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	3.2–160 rpm <sup>a)</sup> 1.6–160 rpm <sup>b)</sup>
Flow rates*	0.002–56 ml/min
Motor control*	optional control unit
Power consumption	max. 10 W
Optical encoder	120 impulses/motor rev.
Channels	2
Pump rollers	8
Weight	0.620 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM
<b>Cassettes (Spare part / Option)</b>	
IS 3510	MS/CA Click'n'go, <i>POM-C</i> <sup>2)</sup>
IS 0649	MS/CA Pressure lever, <i>POM-C</i>
IS 3629	MS/CA Pressure lever, <i>PVDF</i>
<sup>2)</sup> Standard equipment → Please see data sheet 09.1	

Flow rates <sup>1)</sup>			
Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate

rpm x ml per revolution = ml/min

160 x 0.35 = 56

Ask for the ISMATEC®  
Pump Tubing Selection Guide.

## Ordering information

Data sheet	Nominal voltage	Type REGLO-E MS/CA2-08	Order No.
	02.3.8 30.09.05	12 V <sub>DC</sub>	

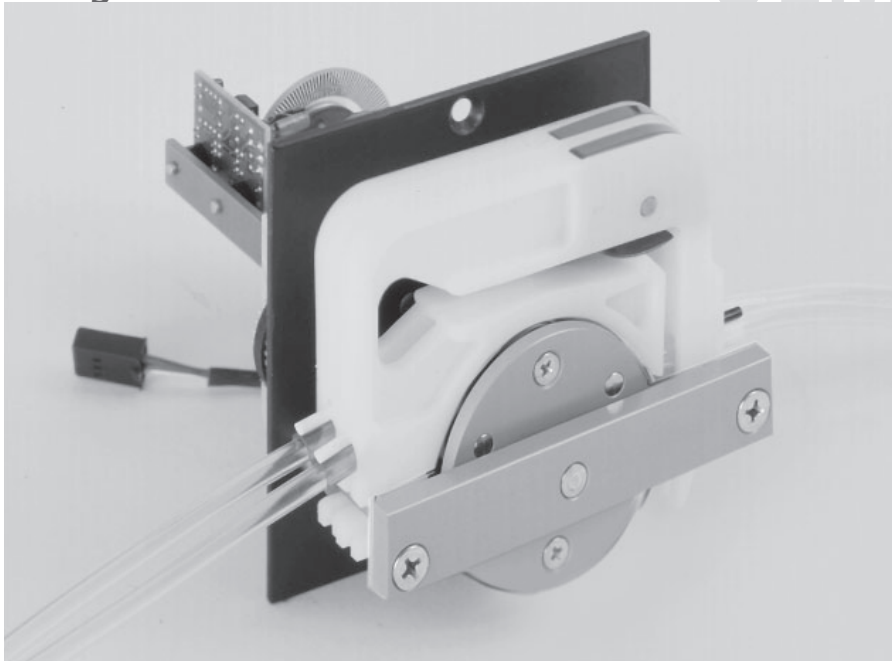
**\* Please note**

Specifications valid for the following ISMATEC® control units:

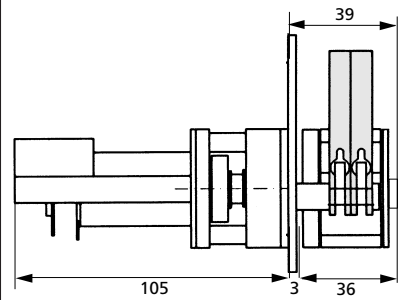
<sup>a)</sup> REGLO-E *Analog* - see data sheet 08.1  
<sup>b)</sup> REGLO-E *Digital* - see data sheet 08.2

# DC motor with optical encoder and gear box

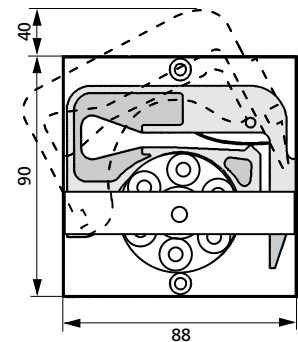
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

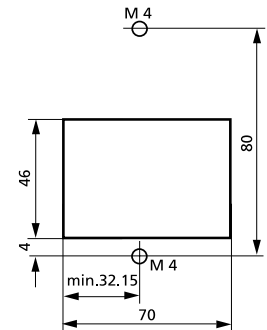
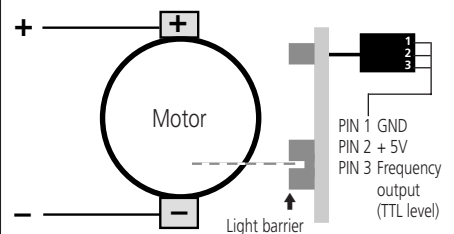


Diagram and electrical connections



Technical specifications	
Pump model	REGLO-E MS/CA2-06
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	3.2–160 rpm <sup>a)</sup> 1.6–160 rpm <sup>b)</sup>
Flow rates*	0.003–68.8 ml/min
Motor control*	optional control unit
Power consumption	max. 10 W
Optical encoder	120 impulses/motor rev.
Channels	2
Pump rollers	6
Weight	0.620 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, *POM-C* <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, *POM-C*  
 IS 3629 MS/CA Pressure lever, *PVDF*

<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

Flow rates <sup>1)</sup>			
Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0014	1.14	0.09
0.19	0.0028	1.22	0.10
0.25	0.0048	1.30	0.11
0.38	0.011	1.42	0.13
0.44	0.014	1.52	0.15
0.51	0.019	1.65	0.17
0.57	0.024	1.75	0.19
0.64	0.030	1.85	0.21
0.76	0.042	2.06	0.25
0.89	0.057	2.29	0.29
0.95	0.064	2.54	0.33
1.02	0.073	2.79	0.37
1.09	0.083	3.17	0.43

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 160 x 0.43 = 68.8

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Data sheet	Nominal voltage	Type REGLO-E MS/CA2-06	Order No.
	02.3.7 30.09.05	12 V <sub>DC</sub>	

**\* Please note**

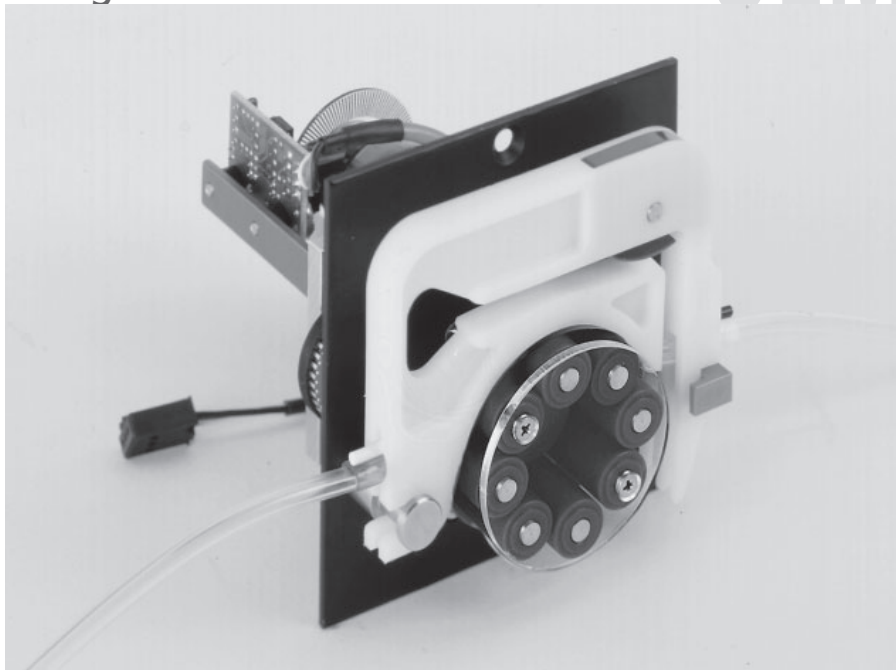
Specifications valid for the following ISMATEC® control units:

<sup>a)</sup> REGLO-E *Analog* - see data sheet 08.1  
<sup>b)</sup> REGLO-E *Digital* - see data sheet 08.2

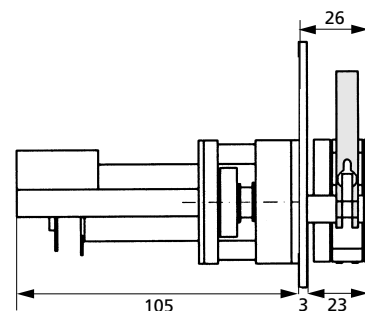


# DC motor with optical encoder and gear box

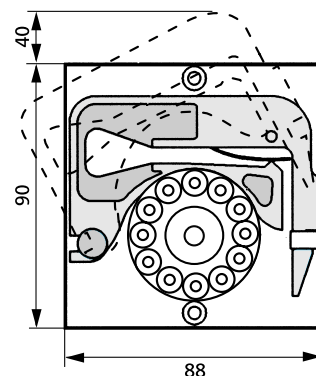
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

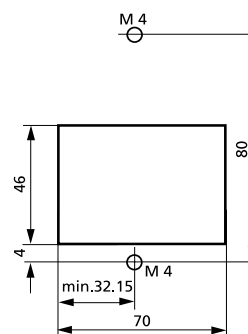
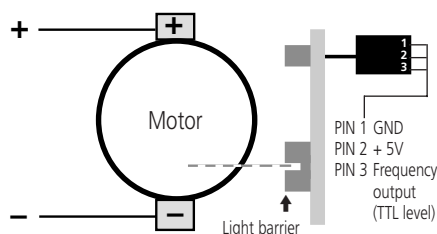


Diagram and electrical connections



**\* Please note**

Specifications valid for the following ISMATEC® control units:  
 a) REGLO-E Analog - see data sheet 08.1  
 b) REGLO-E Digital - see data sheet 08.2

## Technical specifications

Pump model	REGLO-E MS/CA1-08
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	3.2–160 rpm <sup>a)</sup> 1.6–160 rpm <sup>b)</sup>
Flow rates*	0.002–56 ml/min
Motor control*	optional control unit
Power consumption	max. 10 W
Optical encoder	120 impulses/motor rev.
Channels	1
Pump rollers	8
Weight	0.560 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, POM-C <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, POM-C  
 IS 3629 MS/CA Pressure lever, PVDF

<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 160 x 0.35 = 56

Ask for the ISMATEC® Pump Tubing Selection Guide.

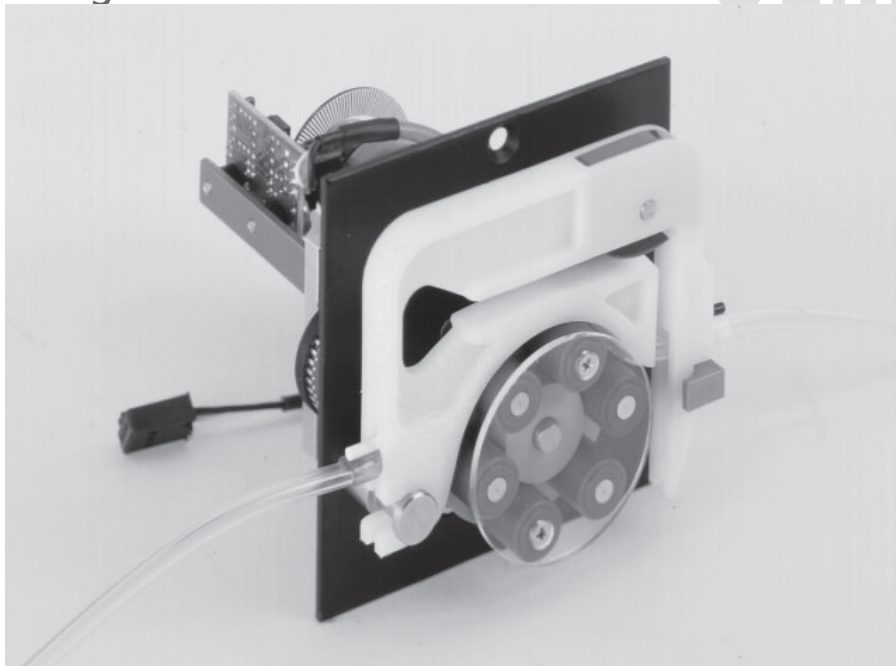
## Ordering information

Nominal voltage	Type REGLO-E MS/CA1-08	Order No.
12 V <sub>DC</sub>		IS 3206

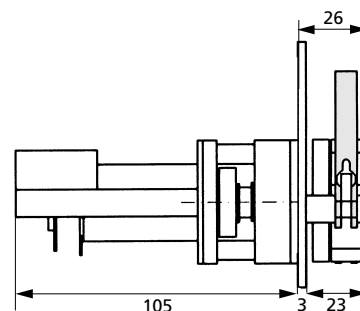
Data sheet  
 02.3.5  
 30.09.05

# DC motor with optical encoder and gear box

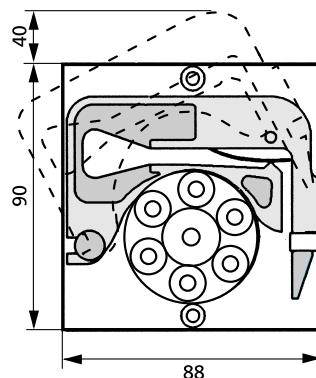
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

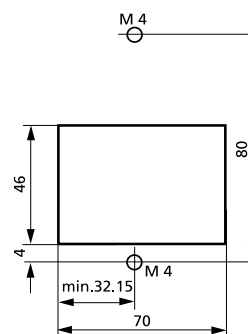
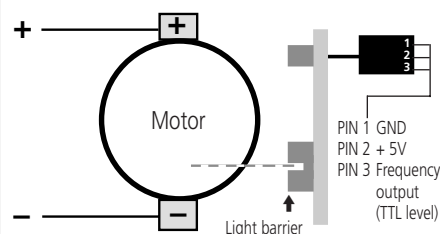


Diagram and electrical connections



**\* Please note**

Specifications valid for the following ISMATEC® control units:

- a) REGLO-E Analog - see data sheet 08.1
- b) REGLO-E Digital - see data sheet 08.2

## Technical specifications

Pump model	REGLO-E MS/CA1-06
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	3.2–160 rpm <sup>a)</sup> 1.6–160 rpm <sup>b)</sup>
Flow rates*	0.003–68.8 ml/min
Motor control*	optional control unit
Power consumption	max. 10 W
Optical encoder	120 impulses/motor rev.
Channels	1
Pump rollers	6
Weight	0.560 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, *POM-C*<sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, *POM-C*  
 IS 3629 MS/CA Pressure lever, *PVDF*

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0014	1.14	0.09
0.19	0.0028	1.22	0.10
0.25	0.0048	1.30	0.11
0.38	0.011	1.42	0.13
0.44	0.014	1.52	0.15
0.51	0.019	1.65	0.17
0.57	0.024	1.75	0.19
0.64	0.030	1.85	0.21
0.76	0.042	2.06	0.25
0.89	0.057	2.29	0.29
0.95	0.064	2.54	0.33
1.02	0.073	2.79	0.37
1.09	0.083	3.17	0.43

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 160 x 0.43 = 68.8

Ask for the ISMATEC® Pump Tubing Selection Guide.

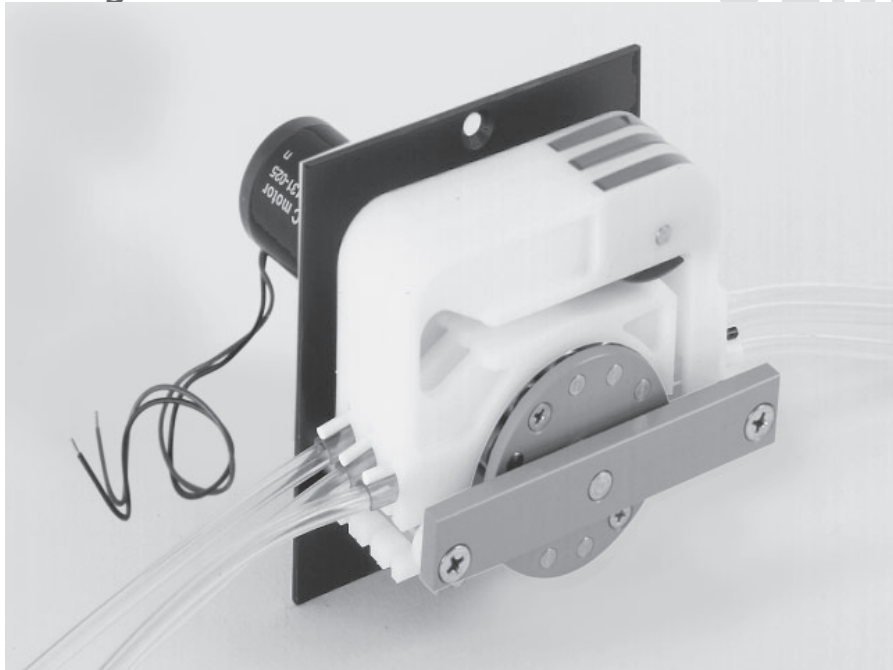
## Ordering information

Nominal voltage	Type REGLO-E MS/CA1-06	Order No.
	12 V <sub>DC</sub>	
24 V <sub>DC</sub>		IS 3205A

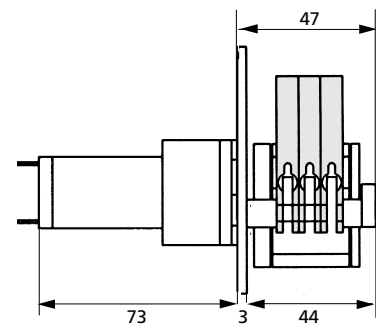
Data sheet  
02.3.4  
30.09.05

# DC motor with gear box

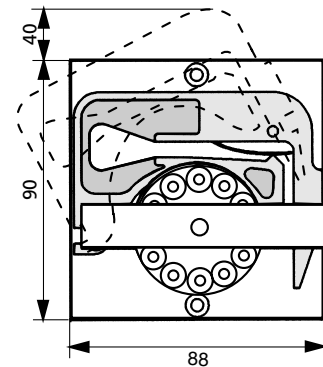
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

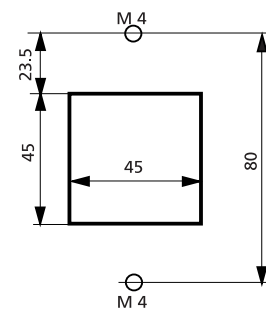
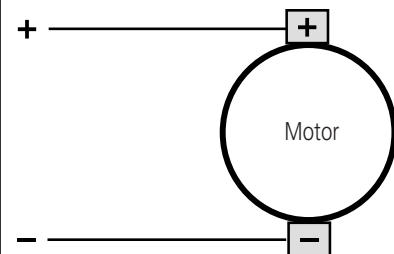


Diagram and electrical connections



Please note

The specifications depend on the **motor control** used by the customer.

## Technical specifications

Pump model	MS/CA3-E/12/DC
Motor type	DC motor
Gear ratio	100:1 60:1
Rotation speed* max.	50 80 rpm
Flow rates* max.	12 19.2 ml/min
Motor control	possible, user-dependent
Power consumption	max. 7 W
Channels	3
Pump rollers	12
Weight	0.470 kg

Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

\*The specifications depend on the **motor control** used by the customer.

Cassettes (Spare part / Option)  
 IS 3510 MS/CA Click'n'go, **POM-C**<sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.00093	1.14	0.067
0.19	0.0021	1.22	0.075
0.25	0.0038	1.30	0.083
0.38	0.0088	1.42	0.094
0.44	0.012	1.52	0.10
0.51	0.016	1.65	0.12
0.57	0.019	1.75	0.13
0.64	0.024	1.85	0.13
0.76	0.033	2.06	0.15
0.89	0.044	2.29	0.17
0.95	0.050	2.54	0.19
1.02	0.056	2.79	0.21
1.09	0.063	3.17	0.24

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 80 x 0.24 = 19.2

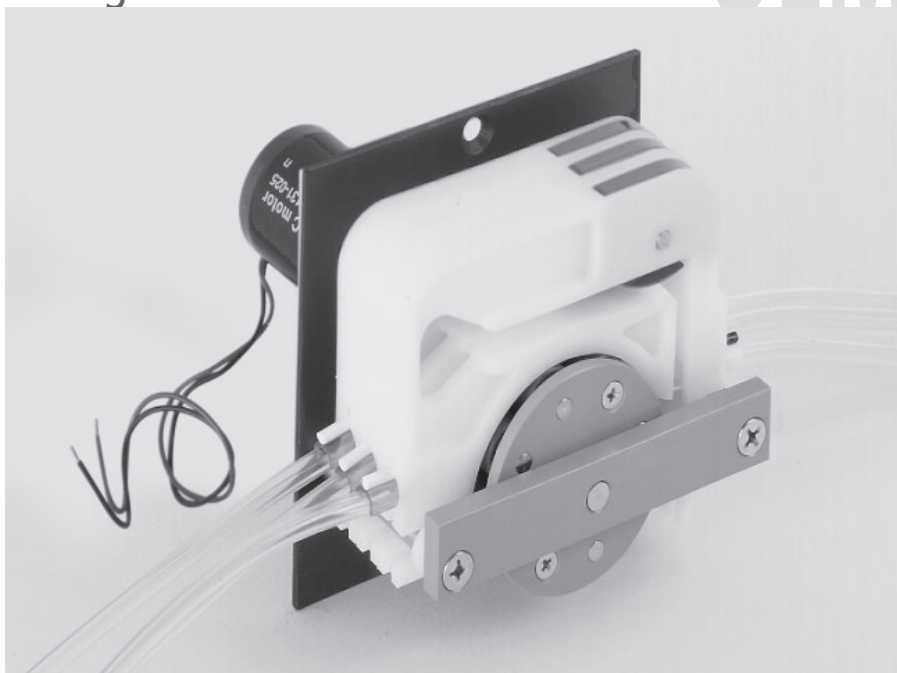
Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

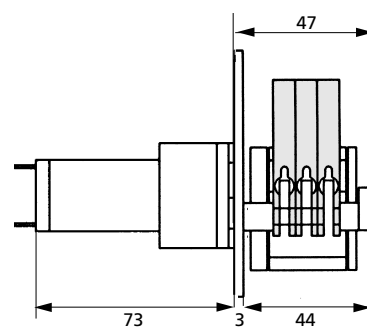
Data sheet 02.2.9 30.09.05	Nominal voltage	Type MS/CA3-E/12/DC/ . . .	100:1	60:1
		revolutions per minute (rpm) max.	50	80
	12 V <sub>DC</sub>		ISM 624	3EB 208
	24 V <sub>DC</sub>		3EB 207	3EB 209

# DC motor with gear box

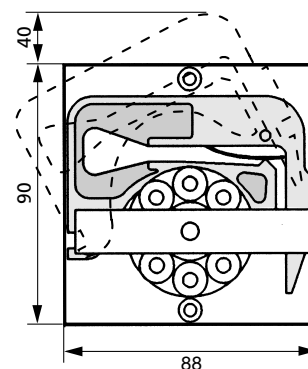
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

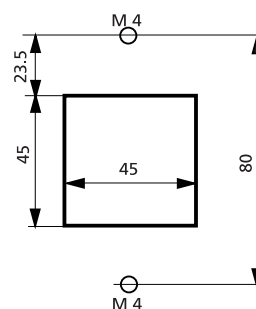
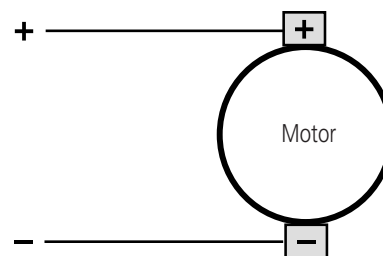


Diagram and electrical connections



Please note

The specifications depend on the **motor control** used by the customer.

## Technical specifications

Pump model	MS/CA3-E/08/DC	
Motor type	DC motor	
Gear ratio	100:1	60:1
Rotation speed* max.	50	80 rpm
Flow rates* max.	17.5	28 ml/min
Motor control	possible, user-dependent	
Power consumption	max. 7 W	
Channels	3	
Pump rollers	8	
Weight	0.470 kg	

Tubing type	3-stop collared tubing	
Tubing i.d.	0.13–3.17 mm	
Cassettes	MS/CA Click'n'go, POM	

\*The specifications depend on the **motor control** used by the customer.

### Cassettes (Spare part / Option)

- IS 3510 MS/CA Click'n'go, **POM-C** <sup>2)</sup>
- IS 0649 MS/CA Pressure lever, **POM-C**
- IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment

➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 80 x 0.35 = 28

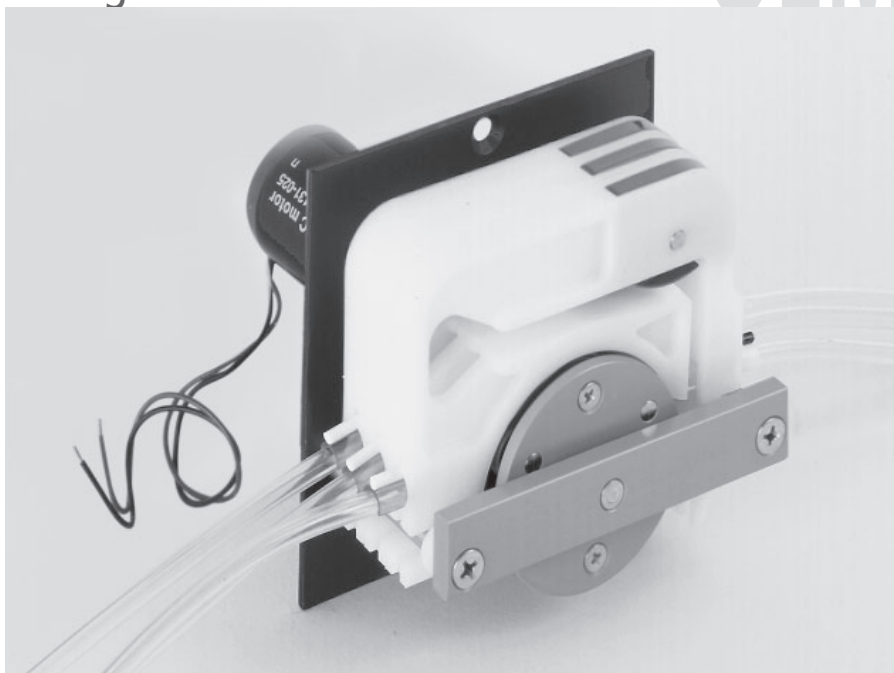
Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

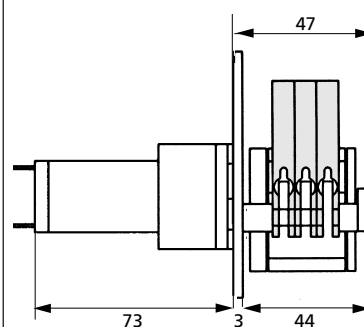
Data sheet 02.2.8 30.09.05	Nominal voltage	Type MS/CA3-E/08/DC/. . .	100:1	60:1
		Revolutions per minute (rpm) max.	50	80
	12 V <sub>DC</sub>		ISM 606	3EB 205
	24 V <sub>DC</sub>		3EB 204	3EB 206

# DC motor with gear box

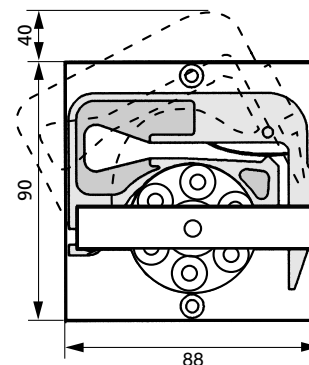
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

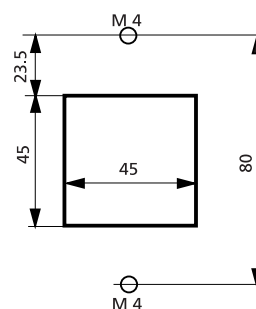
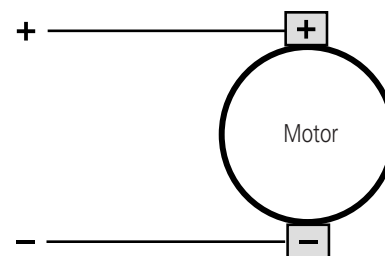


Diagram and electrical connections



Please note

The specifications depend on the **motor control** used by the customer.

## Technical specifications

Pump model	MS/CA3-E/06/DC
Motor type	DC motor
Gear ratio	100:1 60:1
Rotation speed* max.	50 80 rpm
Flow rates* max.	21.5 34.4 ml/min
Motor control	possible, user-dependent
Power consumption	max. 7 W
Channels	3
Pump rollers	6
Weight	0.470 kg

Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

\*The specifications depend on the **motor control** used by the customer.

### Cassettes (Spare part / Option)

- IS 3510 MS/CA Click'n'go, **POM-C** <sup>2)</sup>
- IS 0649 MS/CA Pressure lever, **POM-C**
- IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment

→ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0014	1.14	0.09
0.19	0.0028	1.22	0.10
0.25	0.0048	1.30	0.11
0.38	0.011	1.42	0.13
0.44	0.014	1.52	0.15
0.51	0.019	1.65	0.17
0.57	0.024	1.75	0.19
0.64	0.030	1.85	0.21
0.76	0.042	2.06	0.25
0.89	0.057	2.29	0.29
0.95	0.064	2.54	0.33
1.02	0.073	2.79	0.37
1.09	0.083	3.17	0.43

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 80 x 0.43 = 34.4

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Nominal voltage	Type MS/CA3-E/06/DC/ . . .	100:1	60:1
	Revolutions per minute (rpm) max.	50	80
12 V <sub>DC</sub>		3EB 200	3EB 202
24 V <sub>DC</sub>		3EB 201	3EB 203

Data sheet

02.2.7

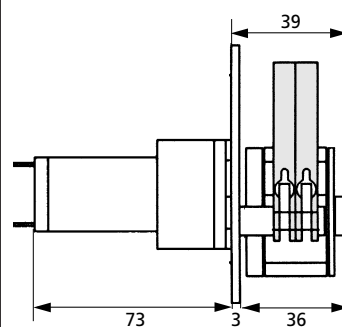
30.09.05

# DC motor with gear box

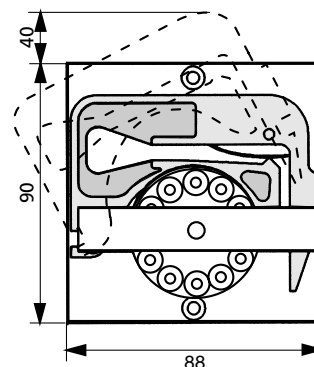
OEM



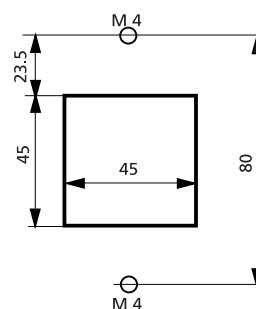
### Side view (mm)



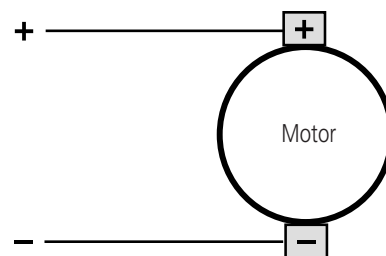
### Front view (mm)



### Mounting cut-out (mm)



### Diagram and electrical connections



### Please note

The specifications depend on the **motor control** used by the customer.

## Technical specifications

Pump model	MS/CA2-E/12/DC
Motor type	DC motor
Gear ratio	100:1 60:1
Rotation speed* max.	50 80 rpm
Flow rates* max.	12 19.2 ml/min
Motor control	possible, user-dependent
Power consumption	max. 7 W
Channels	2
Pump rollers	12
Weight	0.410 kg

Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

\*The specifications depend on the **motor control** used by the customer.

Cassettes (Spare part / Option)  
 IS 3510 MS/CA Click'n'go, **POM-C**<sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**<sup>2)</sup>  
 IS 3629 MS/CA Pressure lever, **PVDF**<sup>2)</sup>

<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.00093	1.14	0.067
0.19	0.0021	1.22	0.075
0.25	0.0038	1.30	0.083
0.38	0.0088	1.42	0.094
0.44	0.012	1.52	0.10
0.51	0.016	1.65	0.12
0.57	0.019	1.75	0.13
0.64	0.024	1.85	0.13
0.76	0.033	2.06	0.15
0.89	0.044	2.29	0.17
0.95	0.050	2.54	0.19
1.02	0.056	2.79	0.21
1.09	0.063	3.17	0.24

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 80 x 0.24 = 19.2

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

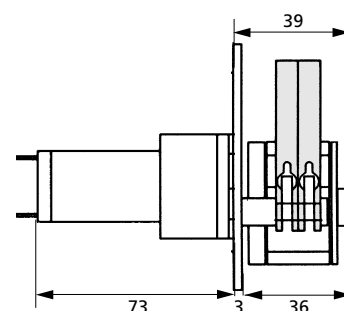
Data sheet 02.2.6 30.09.05	Nominal voltage	Type MS/CA2-E/12/DC/ . . .	100:1	60:1
		Revolutions per minute (rpm) max.	50	80
	12 V <sub>DC</sub>		ISM 623	2EB 201
	24 V <sub>DC</sub>		2EB 200	2EB 202

# DC motor with gear box

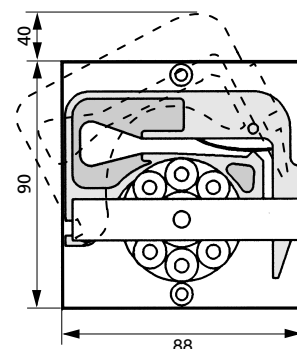
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

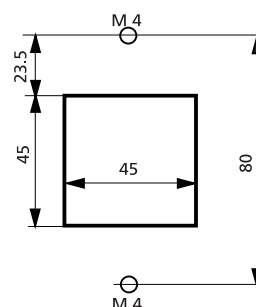
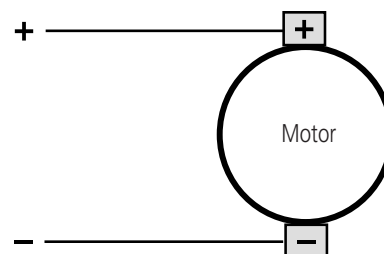


Diagram and electrical connections



Please note

The specifications depend on the **motor control** used by the customer.

## Technical specifications

Pump model	MS/CA2-E/08/DC
Motor type	DC motor
Gear ratio	100:1 60:1
Rotation speed* max.	50 80 rpm
Flow rates* max.	17.5 28 ml/min
Motor control	possible, user-dependent
Power consumption	max. 7 W
Channels	2
Pump rollers	8
Weight	0.410 kg

Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

\*The specifications depend on the **motor control** used by the customer.

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, **POM-C**<sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**  
<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 80 x 0.35 = 28

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Nominal voltage	Type MS/CA2-E/08/DC/ . . .	100:1	60:1
	Revolutions per minute (rpm) max.	50	80
12 V <sub>DC</sub>		ISM 1009	ISM 306
24 V <sub>DC</sub>		ISM 312	ISM 340

Data sheet

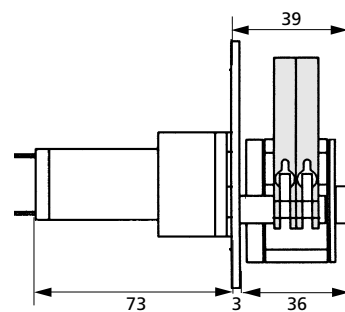
02.2.5  
30.09.05

# DC motor with gear box

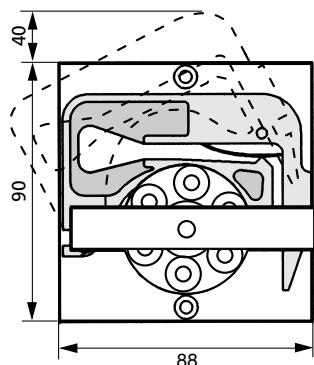
OEM



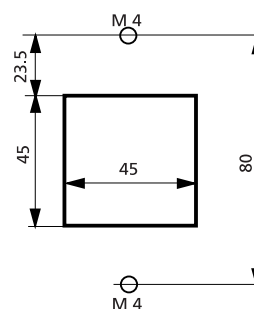
### Side view (mm)



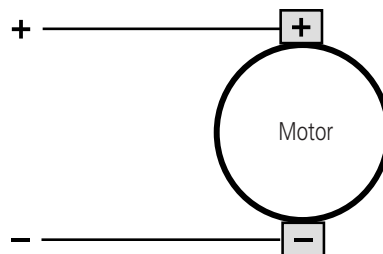
### Front view (mm)



### Mounting cut-out (mm)



### Diagram and electrical connections



### Please note

The specifications depend on the **motor control** used by the customer.

## Technical specifications

Pump model	MS/CA2-E/06/DC
Motor type	DC motor
Gear ratio	100:1 60:1
Rotation speed* max.	50 80 rpm
Flow rates* max.	21.5 34.4 ml/min
Motor control	possible, user-dependent
Power consumption	max. 7 W
Channels	2
Pump rollers	6
Weight	0.410 kg

Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

\*The specifications depend on the **motor control** used by the customer.

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, **POM-C**<sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**  
<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0014	1.14	0.09
0.19	0.0028	1.22	0.10
0.25	0.0048	1.30	0.11
0.38	0.011	1.42	0.13
0.44	0.014	1.52	0.15
0.51	0.019	1.65	0.17
0.57	0.024	1.75	0.19
0.64	0.030	1.85	0.21
0.76	0.042	2.06	0.25
0.89	0.057	2.29	0.29
0.95	0.064	2.54	0.33
1.02	0.073	2.79	0.37
1.09	0.083	3.17	0.43

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 80 x 0.43 = 34.4

Ask for the ISMATEC® Pump Tubing Selection Guide.

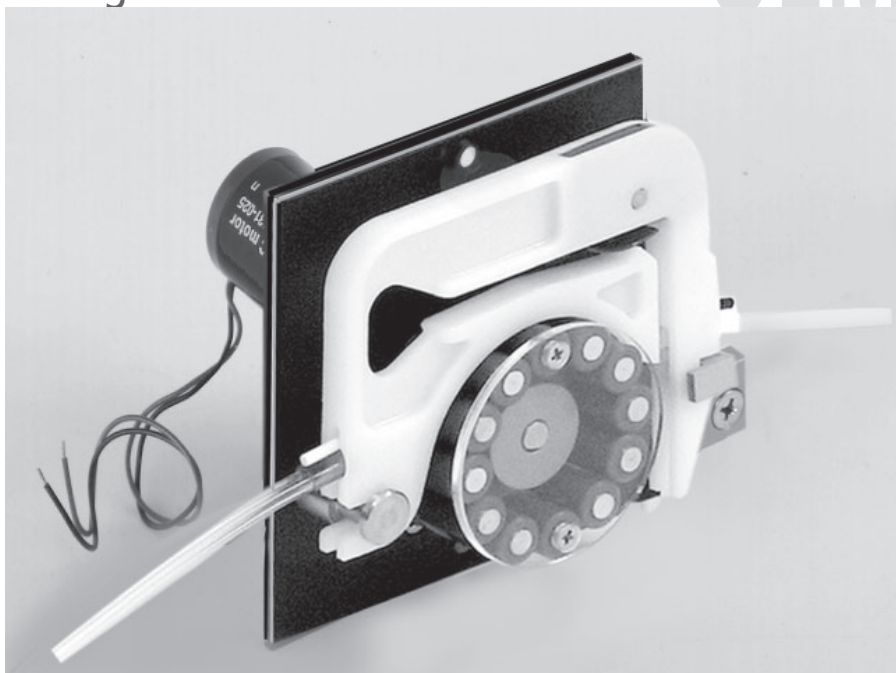
## Ordering information

Data sheet 02.2.4 30.09.05	Nominal voltage	Type MS/CA2-E/06/DC/ . . .	100:1	60:1
		Revolutions per minute (rpm) max.	50	80
	12 V <sub>DC</sub>		ISM 357	ISM 309
	24 V <sub>DC</sub>		ISM 311	ISM 339

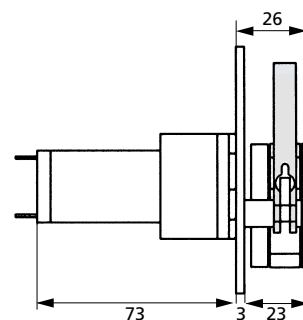


# DC motor with gear box

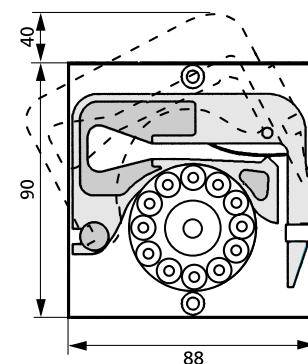
# OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

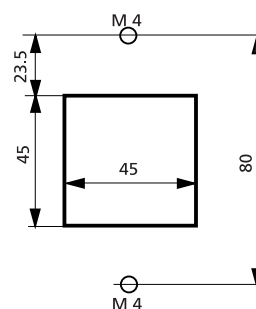
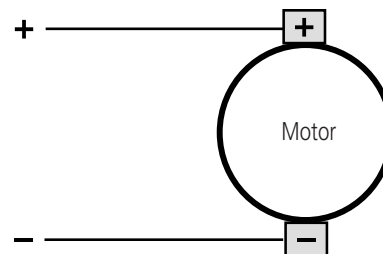


Diagram and electrical connections



## Technical specifications

Pump model	MS/CA1-E/12/DC		
Motor type	DC motor		
Gear ratio	100:1	60:1	
Rotation speed* max.	50	80	rpm
Flow rates* max.	12	19.2	ml/min
Motor control	possible, user-dependent		
Power consumption	max. 7 W		
Channels	1		
Pump rollers	12		
Weight	0.350 kg		

Tubing type	3-stop collared tubing		
Tubing i.d.	0.13–3.17 mm		
Cassettes	MS/CA Click'n'go, POM		

\*The specifications depend on the **motor control** used by the customer.

Cassettes (Spare part / Option)  
 IS 3510 MS/CA Click'n'go, **POM-C** <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.00093	1.14	0.067
0.19	0.0021	1.22	0.075
0.25	0.0038	1.30	0.083
0.38	0.0088	1.42	0.094
0.44	0.012	1.52	0.10
0.51	0.016	1.65	0.12
0.57	0.019	1.75	0.13
0.64	0.024	1.85	0.13
0.76	0.033	2.06	0.15
0.89	0.044	2.29	0.17
0.95	0.050	2.54	0.19
1.02	0.056	2.79	0.21
1.09	0.063	3.17	0.24

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 80 x 0.24 = 19.2

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

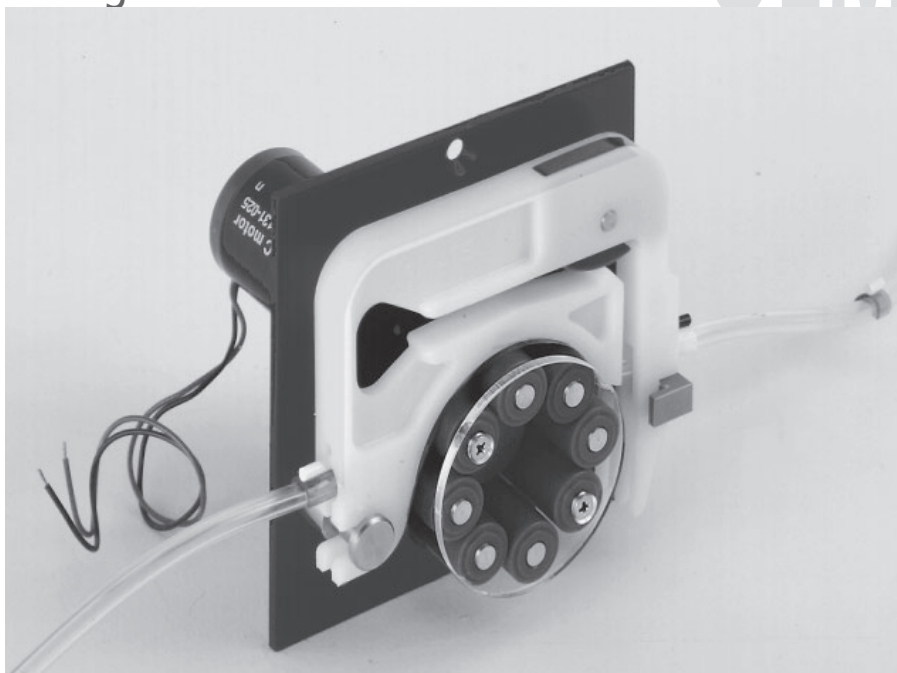
Data sheet 02.2.3 30.09.05	Nominal voltage	Type MS/CA1-E/12/DC/ . . .	100:1	60:1
		Revolutions per minute (rpm) max.	50	80
	12 V <sub>DC</sub>		1EB 901	1EB 902
	24 V <sub>DC</sub>		1EB 903	1EB 904

## Please note

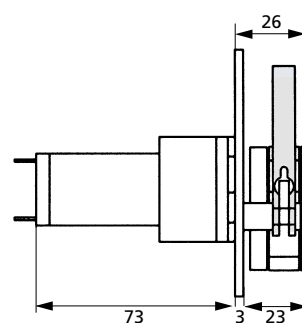
The specifications depend on the **motor control** used by the customer.

# DC motor with gear box

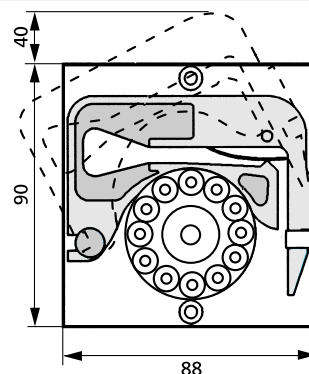
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

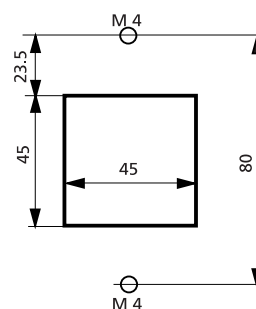
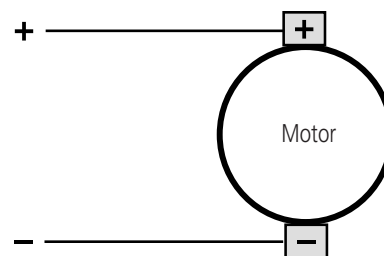


Diagram and electrical connections



Please note

The specifications depend on the **motor control** used by the customer.

### Technical specifications

Pump model	MS/CA1-E/08/DC
Motor type	DC motor
Gear ratio	100:1 60:1
Rotation speed* max.	50 80 rpm
Flow rates* max.	17.5 28 ml/min
Motor control	possible, user-dependent
Power consumption	max. 7 W
Channels	1
Pump rollers	8
Weight	0.350 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

\*The specifications depend on the **motor control** used by the customer.

- Cassettes (Spare part / Option)
- IS 3510 MS/CA Click'n'go, **POM-C** <sup>2)</sup>
  - IS 0649 MS/CA Pressure lever, **POM-C**
  - IS 3629 MS/CA Pressure lever, **PVDF**
- <sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

### Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 80 x 0.35 = 28

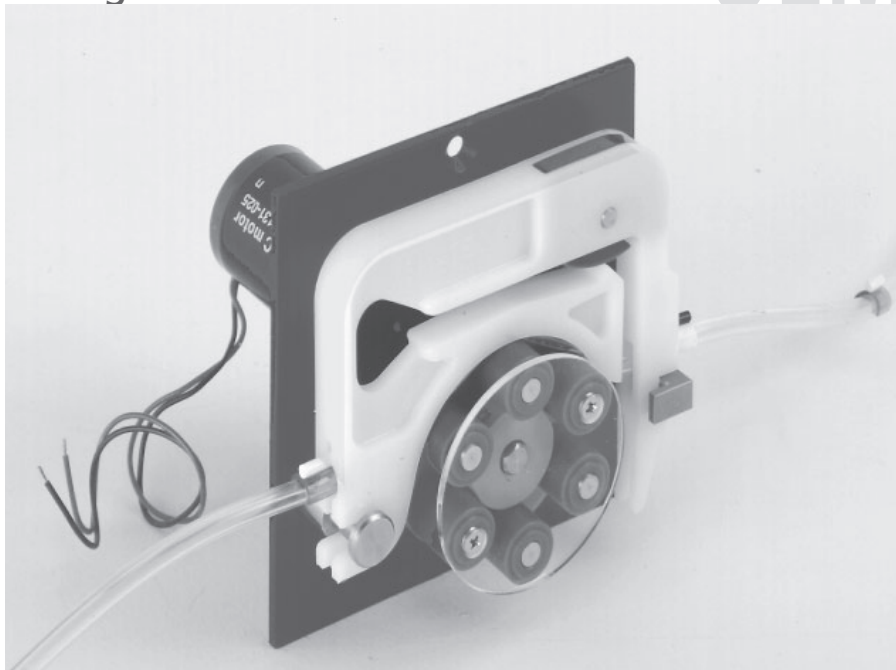
Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

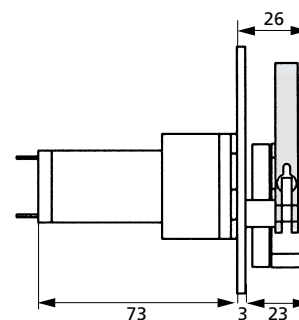
Data sheet 02.2.2 30.09.05	Nominal voltage	Type MS/CA1-E/08/DC/ . . .	100:1	60:1
		Revolutions per minute (rpm) max.	50	80
	12 V <sub>DC</sub>		ISM 302	ISM 301
	24 V <sub>DC</sub>		ISM 303	ISM 243

# DC motor with gear box

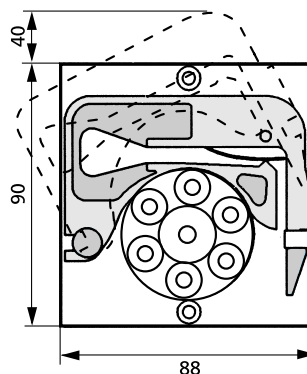
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

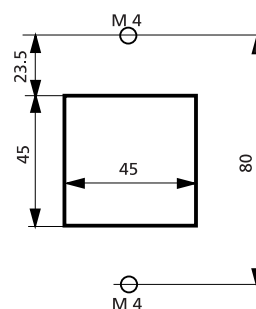
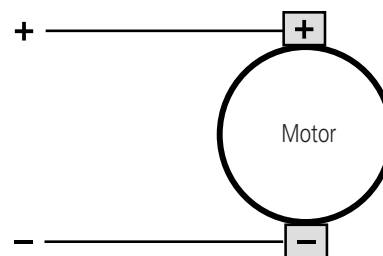


Diagram and electrical connections



Please note

The specifications depend on the **motor control** used by the customer.

## Technical specifications

Pump model	MS/CA1-E/06/DC	
Motor type	DC motor	
Gear ratio	100:1	60:1
Rotation speed* max.	50	80 rpm
Flow rates* max.	21.5	34.4 ml/min
Motor control	possible, user-dependent	
Power consumption	max. 7 W	
Channels	1	
Pump rollers	6	
Weight	0.350 kg	

Tubing type	3-stop collared tubing	
Tubing i.d.	0.13–3.17 mm	
Cassettes	MS/CA Click'n'go, POM	

\*The specifications depend on the **motor control** used by the customer.

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, **POM-C**<sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**  
<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0014	1.14	0.09
0.19	0.0028	1.22	0.10
0.25	0.0048	1.30	0.11
0.38	0.011	1.42	0.13
0.44	0.014	1.52	0.15
0.51	0.019	1.65	0.17
0.57	0.024	1.75	0.19
0.64	0.030	1.85	0.21
0.76	0.042	2.06	0.25
0.89	0.057	2.29	0.29
0.95	0.064	2.54	0.33
1.02	0.073	2.79	0.37
1.09	0.083	3.17	0.43

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 80 x 0.43 = 34.4

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Data sheet

02.2.1  
30.09.05

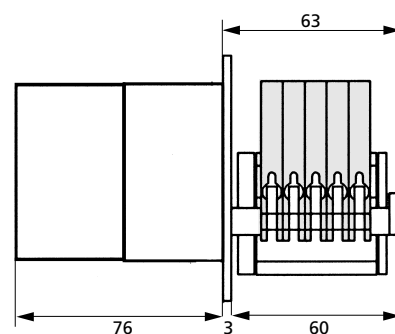
Nominal voltage	Type MS/CA1-E/06/DC/ . . .	100:1	60:1
	Revolutions per minute (rpm) max.	50	80
12 V <sub>DC</sub>		ISM 246	ISM 245
24 V <sub>DC</sub>		ISM 382	ISM 251

# Synchronous motor with gear box

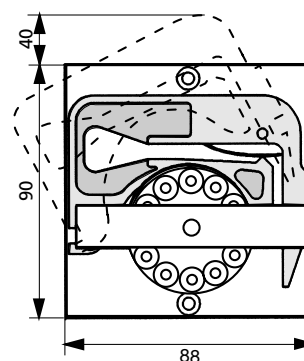
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

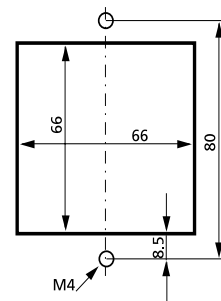
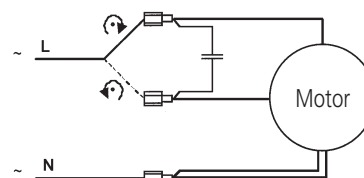


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA5-E/12/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 (rpm)
Flow rates	0.006–4.8 ml/min
Power consumption	8 W
Channels	5
Pump rollers	12
Weight	1.150 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

### Cassettes (Spare part / Option)

- IS 3510 MS/CA Click'n'go, **POM-C**<sup>2)</sup>
- IS 0649 MS/CA Pressure lever, **POM-C**
- IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment

➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.00093	1.14	0.067
0.19	0.0021	1.22	0.075
0.25	0.0038	1.30	0.083
0.38	0.0088	1.42	0.094
0.44	0.012	1.52	0.10
0.51	0.016	1.65	0.12
0.57	0.019	1.75	0.13
0.64	0.024	1.85	0.13
0.76	0.033	2.06	0.15
0.89	0.044	2.29	0.17
0.95	0.050	2.54	0.19
1.02	0.056	2.79	0.21
1.09	0.063	3.17	0.24

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
rpm x ml per revolution = ml/min  
40 x 0.24 = 9.6

Ask for the ISMATEC® Pump Tubing Selection Guide.

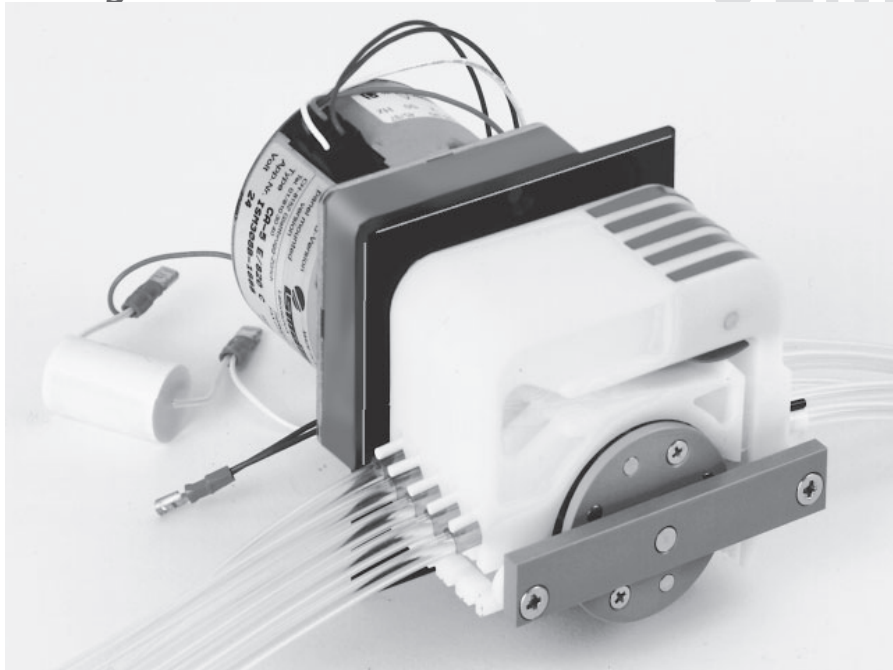
## Ordering information

Voltage and frequency	Type MS/CA5-E/12/Synchro/. .						
	Revolutions per minute (rpm)						
	6	8	10	12	20	40	
24 V <sub>AC</sub> /50 Hz	5EB 045	5EB 046	5EB 047	5EB 048	5EB 049	5EB 050	
24 V <sub>AC</sub> /60 Hz	5EB 052	5EB 053	5EB 054	5EB 055	5EB 056	5EB 057	
115 V <sub>AC</sub> /50 Hz*							
115 V <sub>AC</sub> /60 Hz	5EB 059	5EB 060	5EB 061	5EB 062	5EB 063	5EB 064	
230 V <sub>AC</sub> /50 Hz	5EB 066	5EB 067	5EB 068	5EB 069	5EB 070	5EB 071	
230 V <sub>AC</sub> /60 Hz*							

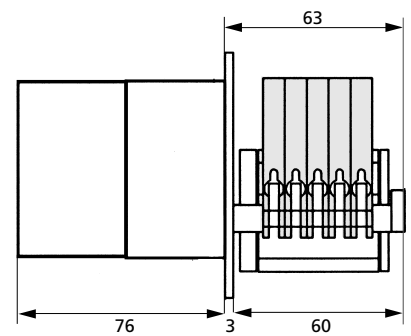
\*on request

# Synchronous motor with gear box

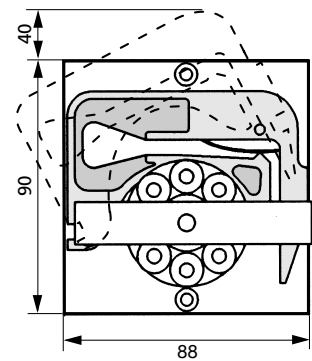
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

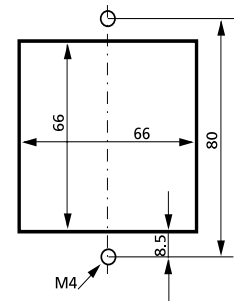
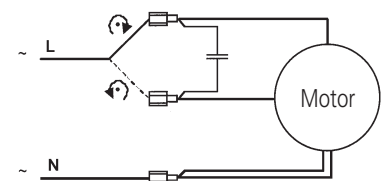


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA5-E/08/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 (rpm)
Flow rates	0.007–14 ml/min
Power consumption	8 W
Channels	5
Pump rollers	8
Weight	1.150 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, **POM-C** <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 40 x 0.35 = 14

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Voltage and frequency	Type MS/CA5-E/08/Synchro/. .						
	Revolutions per minute (rpm)	6	8	10	12	20	40
24 V <sub>AC</sub> /50 Hz		5EB 024	5EB 025	ISM 705	5EB 026	ISM 308	ISM 443
24 V <sub>AC</sub> /60 Hz		5EB 028	5EB 029	ISM 794	5EB 030	ISM 402	5EB 031
115 V <sub>AC</sub> /50 Hz*							
115 V <sub>AC</sub> /60 Hz		5EB 033	5EB 034	5EB 035	5EB 036	ISM 442	5EB 037
230 V <sub>AC</sub> /50 Hz		5EB 039	5EB 040	5EB 041	5EB 042	ISM 431	5EB 043
230 V <sub>AC</sub> /60 Hz*							

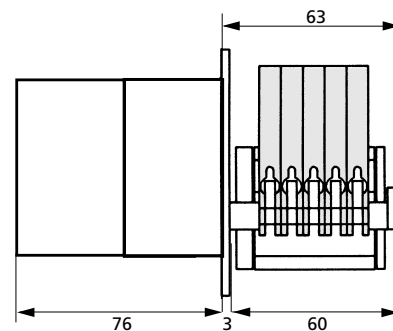
\*on request

# Synchronous motor with gear box

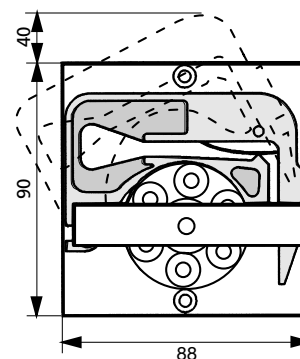
# OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

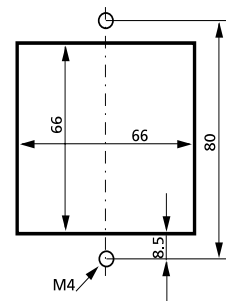
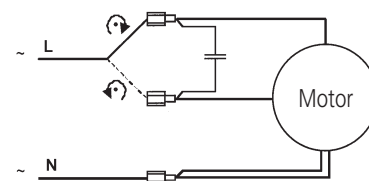


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA5-E/06/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 (rpm)
Flow rates	0.009–8.6 ml/min
Power consumption	8 W
Channels	5
Pump rollers	6
Weight	1.150 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, **POM-C** <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0014	1.14	0.09
0.19	0.0028	1.22	0.10
0.25	0.0048	1.30	0.11
0.38	0.011	1.42	0.13
0.44	0.014	1.52	0.15
0.51	0.019	1.65	0.17
0.57	0.024	1.75	0.19
0.64	0.030	1.85	0.21
0.76	0.042	2.06	0.25
0.89	0.057	2.29	0.29
0.95	0.064	2.54	0.33
1.02	0.073	2.79	0.37
1.09	0.083	3.17	0.43

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 40 x 0.43 = 17.6

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Voltage and frequency	Type MS/CA5-E/06/Synchro/. .					
	Revolutions per minute (rpm)					
	6	8	10	12	20	40
24 V <sub>AC</sub> /50 Hz	5EB 001	5EB 002	5EB 003	5EB 004	ISM 429	5EB 005
24 V <sub>AC</sub> /60 Hz	5EB 007	5EB 008	5EB 009	5EB 010	ISM 430	5EB 011
115 V <sub>AC</sub> /50 Hz*						
115 V <sub>AC</sub> /60 Hz	5EB 013	5EB 014	5 EB 015	5EB 016	ISM 452	5EB 017
230 V <sub>AC</sub> /50 Hz	5EB 019	5EB 020	ISM 271	5EB 021	ISM 428	5EB 022
230 V <sub>AC</sub> /60 Hz*						

\*on request

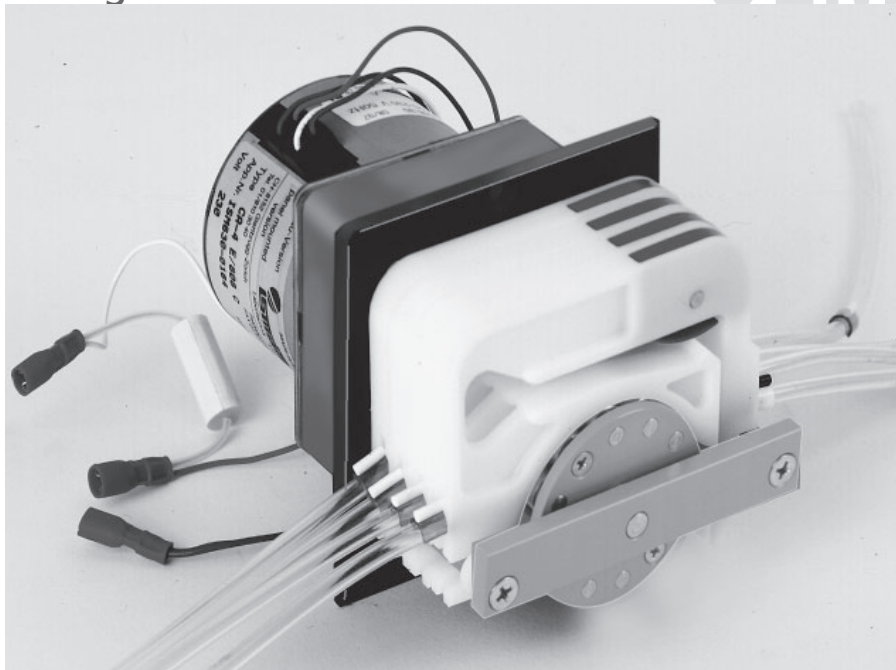
Data sheet

02.1.13

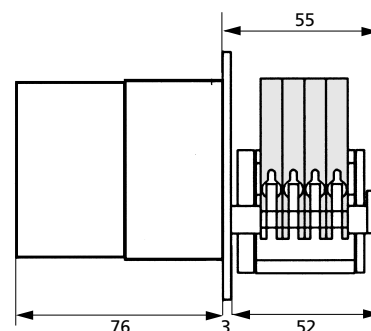
30.09.05

# Synchronous motor with gear box

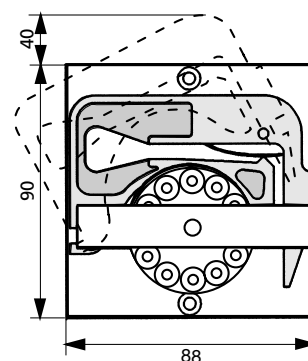
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

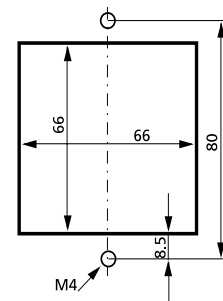
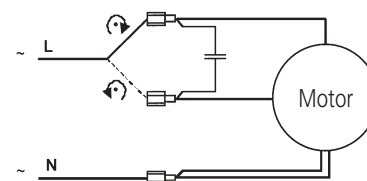


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA4-E/12/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 60 (rpm)
Flow rates	0.006–14.4 ml/min
Power consumption	8 W
Channels	4
Pump rollers	12
Weight	1.080 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

### Cassettes (Spare part / Option)

- IS 3510 MS/CA Click'n'go, **POM-C**<sup>2)</sup>
- IS 0649 MS/CA Pressure lever, **POM-V**
- IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment

➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.00093	1.14	0.067
0.19	0.0021	1.22	0.075
0.25	0.0038	1.30	0.083
0.38	0.0088	1.42	0.094
0.44	0.012	1.52	0.10
0.51	0.016	1.65	0.12
0.57	0.019	1.75	0.13
0.64	0.024	1.85	0.13
0.76	0.033	2.06	0.15
0.89	0.044	2.29	0.17
0.95	0.050	2.54	0.19
1.02	0.056	2.79	0.21
1.09	0.063	3.17	0.24

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 60 x 0.24 = 14.4

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Voltage and frequency	Type MS/CA4-E/12/Synchro/ . .						
	Revolutions per minute (rpm)						
	6	8	10	12	20	40	60
24 V <sub>AC</sub> /50 Hz	4EB 027	4EB 028	4EB 029	4EB 030	4EB 031	4EB 032	4EB 033
24 V <sub>AC</sub> /60 Hz	4EB 034	4EB 035	4EB 036	4EB 037	4EB 038	4EB 039	4EB 040
115 V <sub>AC</sub> /50 Hz*							
115 V <sub>AC</sub> /60 Hz	4EB 041	4EB 042	4EB 043	4EB 044	4EB 045	4EB 046	4EB 047
230 V <sub>AC</sub> /50 Hz	4EB 048	4EB 049	4EB 050	4EB 051	4EB 052	4EB 053	4EB 054
230 V <sub>AC</sub> /60 Hz*							

\*on request

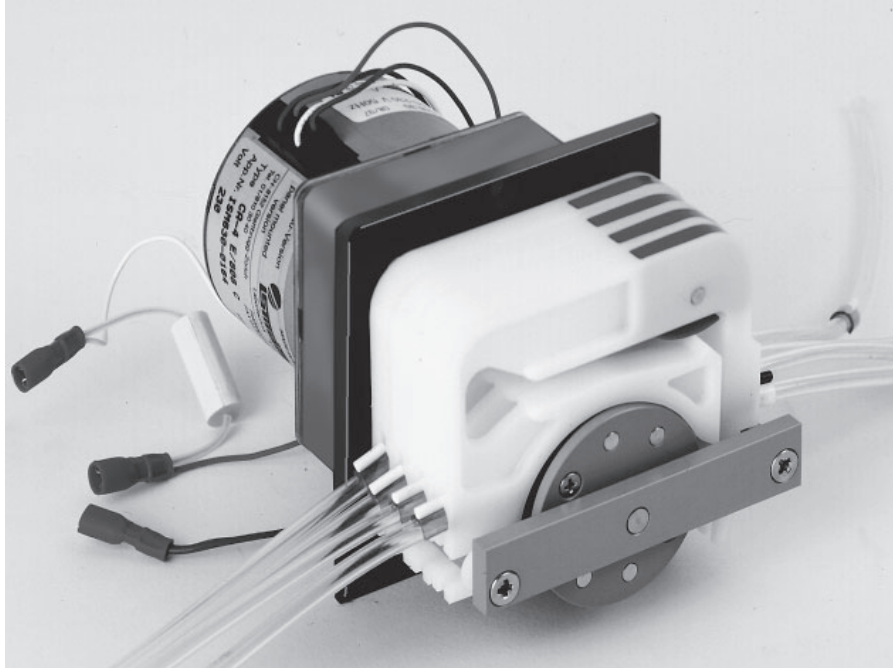
Data sheet

02.1.12

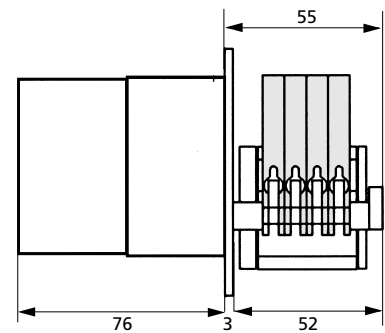
30.09.05

# Synchronous motor with gear box

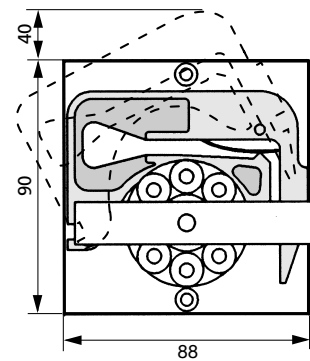
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

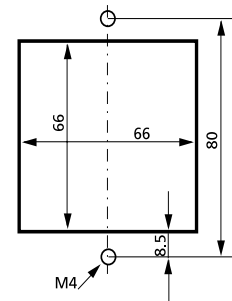
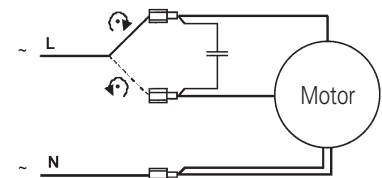


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA4-E/08/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 60 (rpm)
Flow rates	0.007–21 ml/min
Power consumption	8 W
Channels	4
Pump rollers	8
Weight	1.080 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, **POM-C** <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 60 x 0.35 = 21

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

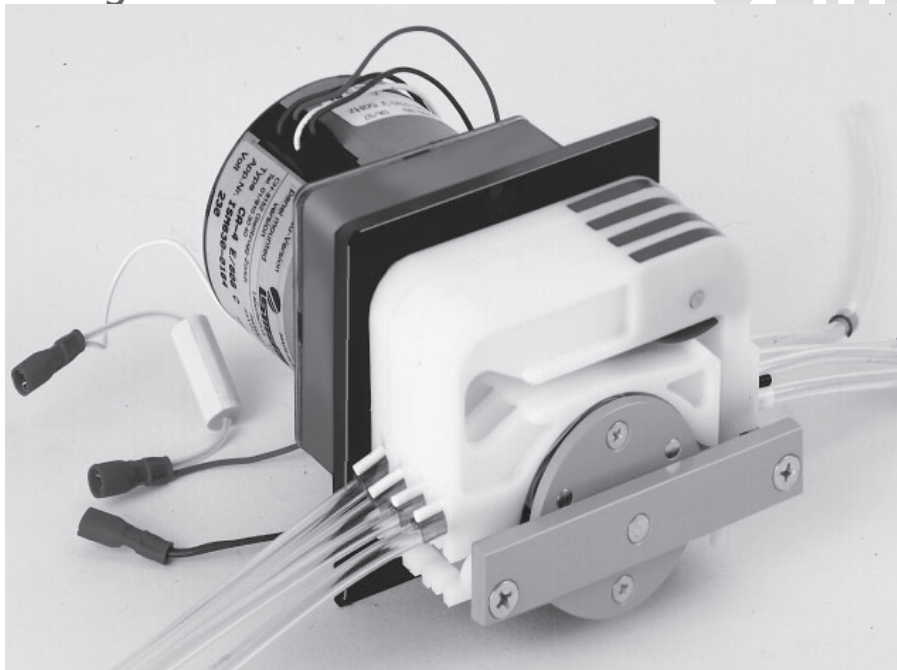
Voltage and frequency	Type MS/CA4-E/08/Synchro/. .						
	Revolutions per minute (rpm)						
	6	8	10	12	20	40	60
24 V <sub>AC</sub> /50 Hz	ISM 456	4EB 017	ISM 731	ISM 639	ISM 407	ISM 425	4EB 018
24 V <sub>AC</sub> /60 Hz	4EB 019	4EB 020	ISM 747	4EB 021	ISM 406	ISM 427	4EB 022
115 V <sub>AC</sub> /50 Hz*			ISM 609				
115 V <sub>AC</sub> /60 Hz	4EB 023	ISM 635	4EB 024	4EB 025	ISM 439	ISM 441	ISM 445
230 V <sub>AC</sub> /50 Hz	ISM 131	ISM 630	ISM 715	4EB 026	ISM 307	ISM 424	ISM 433
230 V <sub>AC</sub> /60 Hz*		ISM 638					

\*on request

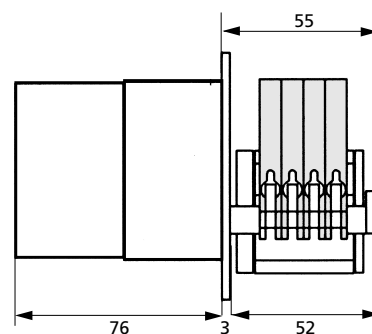


# Synchronous motor with gear box

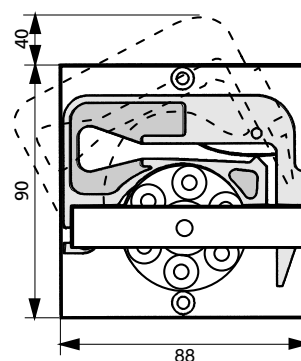
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

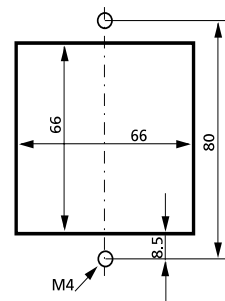
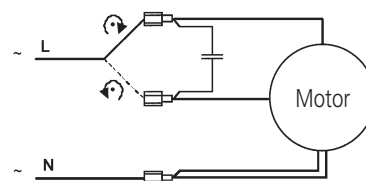


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA4-E/06/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 60 (rpm)
Flow rates	0.009–25.8 ml/min
Power consumption	8 W
Channels	4
Pump rollers	6
Weight	1.180 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, **POM-C**<sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0014	1.14	0.09
0.19	0.0028	1.22	0.10
0.25	0.0048	1.30	0.11
0.38	0.011	1.42	0.13
0.44	0.014	1.52	0.15
0.51	0.019	1.65	0.17
0.57	0.024	1.75	0.19
0.64	0.030	1.85	0.21
0.76	0.042	2.06	0.25
0.89	0.057	2.29	0.29
0.95	0.064	2.54	0.33
1.02	0.073	2.79	0.37
1.09	0.083	3.17	0.43

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 60 x 0.43 = 25.8

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Voltage and frequency	Type MS/CA4-E/06/Synchro/. .							
	Revolutions per minute (rpm)							
	6	8	10	12	20	40	60	
24 V <sub>AC</sub> /50 Hz	4EB 001	4EB 002	4EB 003	4EB 004	ISM 420	ISM 421	ISM 449	
24 V <sub>AC</sub> /60 Hz	4EB 005	4EB 006	4EB 007	4EB 008	ISM 422	ISM 423	ISM 453	
115 V <sub>AC</sub> /50 Hz*								
115 V <sub>AC</sub> /60 Hz	4EB 009	4EB 010	4EB 011	4EB 012	ISM 491	ISM 489	ISM 426	
230 V <sub>AC</sub> /50 Hz	4EB 013	4EB 014	4EB 015	4EB 016	ISM 304	ISM 305	ISM 141	
230 V <sub>AC</sub> /60 Hz*								

\*on request

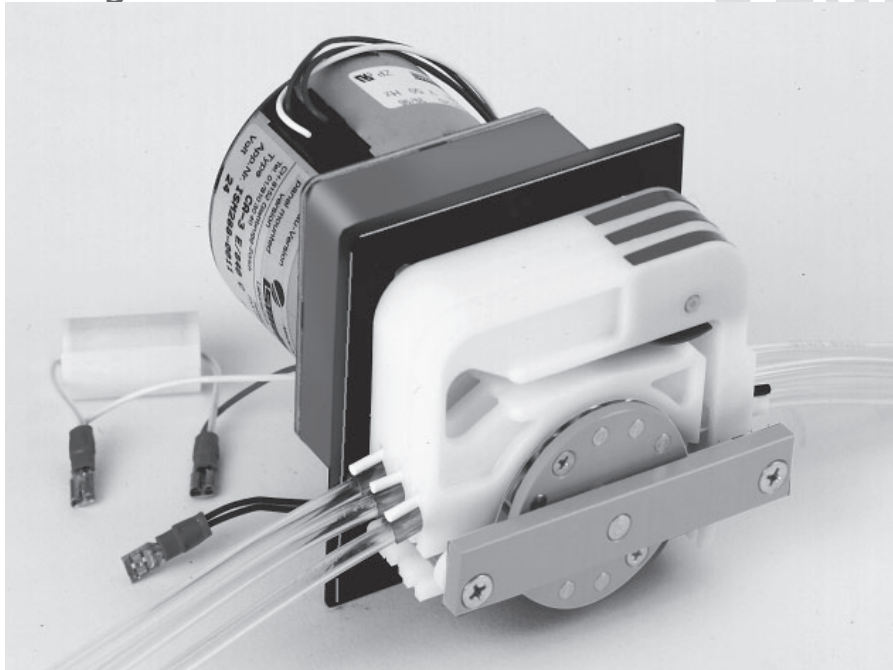
Data sheet

02.1.10

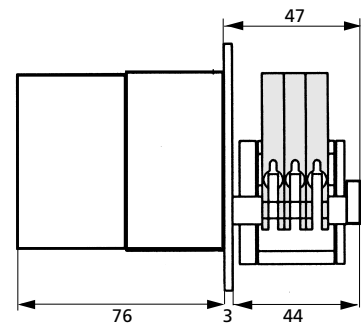
30.09.05

# Synchronous motor with gear box

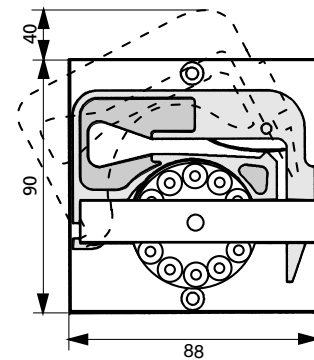
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

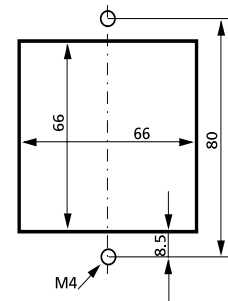
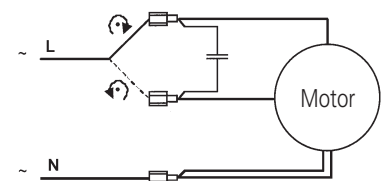


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA3-E/12/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 60 (rpm)
Flow rates	0.006–14.4 ml/min
Power consumption	8 W
Channels	3
Pump rollers	12
Weight	1.040 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, **POM-C**<sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.00093	1.14	0.067
0.19	0.0021	1.22	0.075
0.25	0.0038	1.30	0.083
0.38	0.0088	1.42	0.094
0.44	0.012	1.52	0.10
0.51	0.016	1.65	0.12
0.57	0.019	1.75	0.13
0.64	0.024	1.85	0.13
0.76	0.033	2.06	0.15
0.89	0.044	2.29	0.17
0.95	0.050	2.54	0.19
1.02	0.056	2.79	0.21
1.09	0.063	3.17	0.24

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 60 x 0.24 = 14.4

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Voltage and frequency	Type MS/CA3-E/12/Synchro/. .							
	Revolutions per minute (rpm)							
	6	8	10	12	20	40	60	
24 V <sub>AC</sub> /50 Hz	3EB 051	3EB 052	3EB 053	3EB 054	3EB 055	3EB 056	3EB 057	
24 V <sub>AC</sub> /60 Hz	3EB 058	3EB 059	3EB 060	3EB 061	3EB 062	3EB 063	3EB 064	
115 V <sub>AC</sub> /50 Hz*								
115 V <sub>AC</sub> /60 Hz	3EB 065	3EB 066	3EB 067	3EB 068	3EB 069	3EB 070	3EB 071	
230 V <sub>AC</sub> /50 Hz	3EB 072	3EB 073	3EB 074	3EB 075	3EB 076	3EB 077	3EB 078	
230 V <sub>AC</sub> /60 Hz*								

\*on request

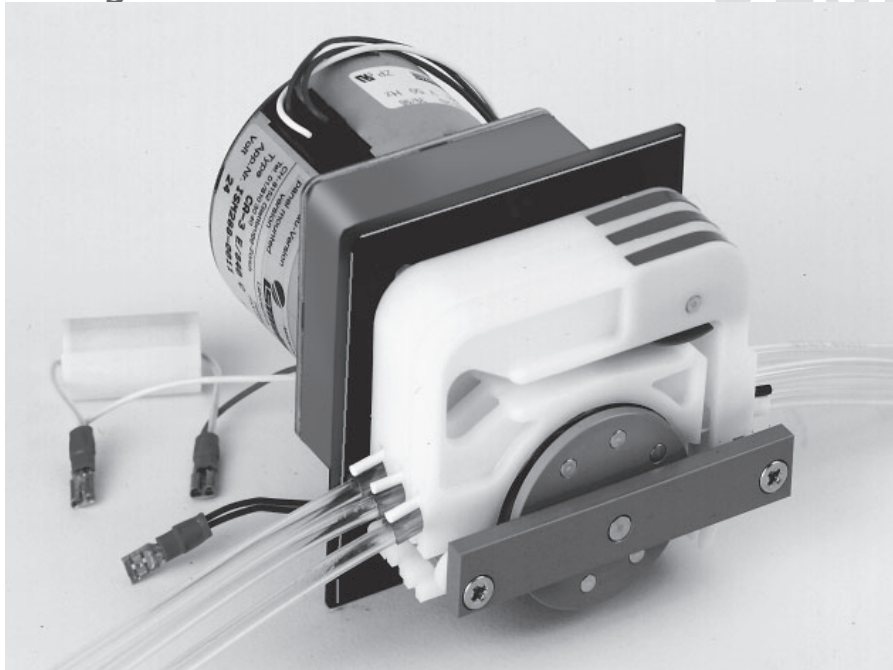
Data sheet

02.1.9

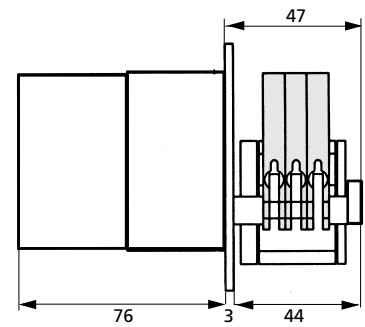
30.09.05

# Synchronous motor with gear box

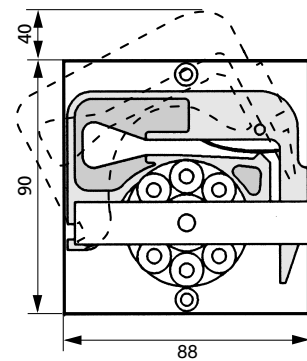
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

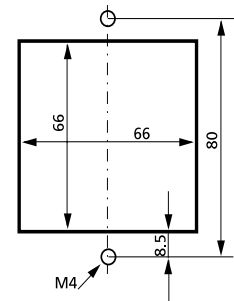
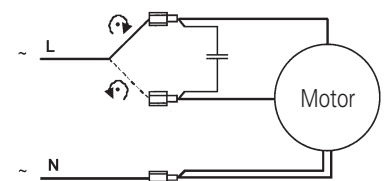


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA3-E/08/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 60 (rpm)
Flow rates	0.007-21 ml/min
Power consumption	8 W
Channels	3
Pump rollers	8
Weight	1.040 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13-3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, **POM-C** <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 60 x 0.35 = 21

Ask for the ISMATEC® Pump Tubing Selection Guide.

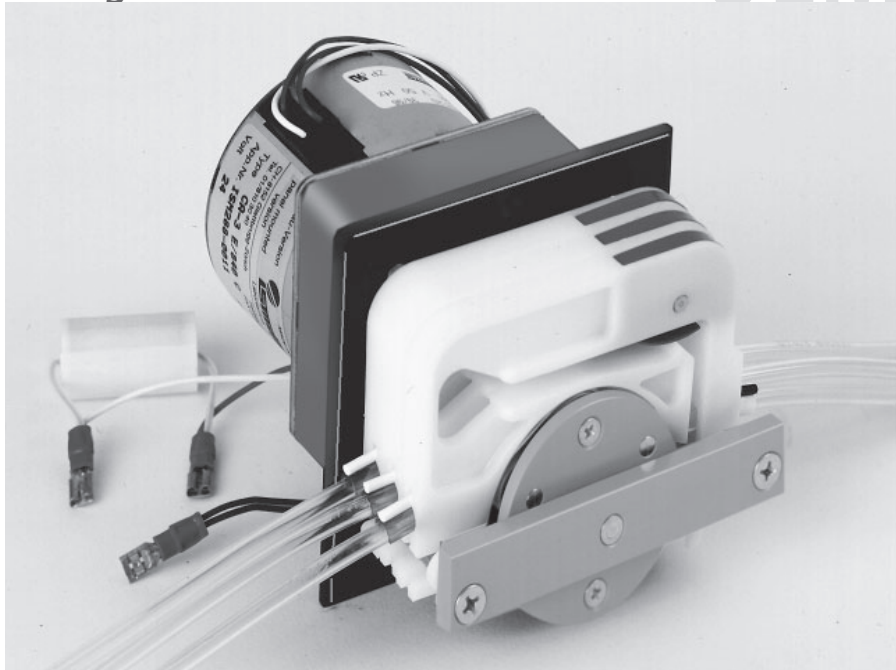
## Ordering information

Voltage and frequency	Type MS/CA3-E/08/Synchro/. .							
	Revolutions per minute (rpm)							
	6	8	10	12	20	40	60	
24 V <sub>AC</sub> /50 Hz	ISM 274	3EB 028	3EB 029	3EB 030	ISM 414	ISM 288	3EB 031	
24 V <sub>AC</sub> /60 Hz	3EB 032	3EB 033	3EB 034	3EB 035	3EB 036	3EB 037	3EB 038	
115 V <sub>AC</sub> /50 Hz*								
115 V <sub>AC</sub> /60 Hz	3EB 039	3EB 040	3EB 041	3EB 042	3EB 043	3EB 044	3EB 045	
230 V <sub>AC</sub> /50 Hz	ISM 710	3EB 046	3EB 047	3EB 048	3EB 049	ISM 632	3EB 050	
230 V <sub>AC</sub> /60 Hz*								

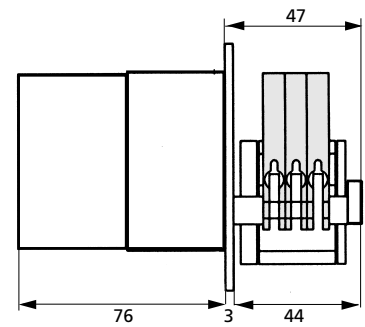
\*on request

# Synchronous motor with gear box

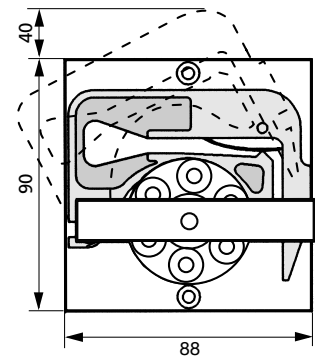
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

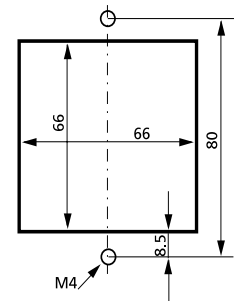
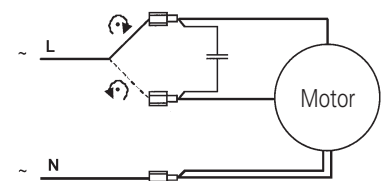


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA3-E/06/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 60 (rpm)
Flow rates	0.009–25.8 ml/min
Power consumption	8 W
Channels	3
Pump rollers	6
Weight	1.040 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, POM-C<sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, POM-C  
 IS 3629 MS/CA Pressure lever, PVDF

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0014	1.14	0.09
0.19	0.0028	1.22	0.10
0.25	0.0048	1.30	0.11
0.38	0.011	1.42	0.13
0.44	0.014	1.52	0.15
0.51	0.019	1.65	0.17
0.57	0.024	1.75	0.19
0.64	0.030	1.85	0.21
0.76	0.042	2.06	0.25
0.89	0.057	2.29	0.29
0.95	0.064	2.54	0.33
1.02	0.073	2.79	0.37
1.09	0.083	3.17	0.43

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 60 x 0.43 = 25.8

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Voltage and frequency	Type MS/CA3-E/06/Synchro/. .							
	Revolutions per minute (rpm)							
	6	8	10	12	20	40	60	
24 V <sub>AC</sub> /50 Hz	3EB 001	3EB 002	3EB 003	3EB 004	3EB 005	3EB 006	ISM 707	
24 V <sub>AC</sub> /60 Hz	3EB 007	3EB 008	3EB 009	3EB 010	3EB 011	3EB 012	3EB 013	
115 V <sub>AC</sub> /50 Hz*								
115 V <sub>AC</sub> /60 Hz	3EB 014	3EB 015	3EB 016	3EB 017	3EB 018	3EB 019	3EB 020	
230 V <sub>AC</sub> /50 Hz	3EB 021	3EB 022	3EB 023	3EB 024	3EB 025	3EB 026	3EB 027	
230 V <sub>AC</sub> /60 Hz*								

\*on request

Data sheet

02.1.7

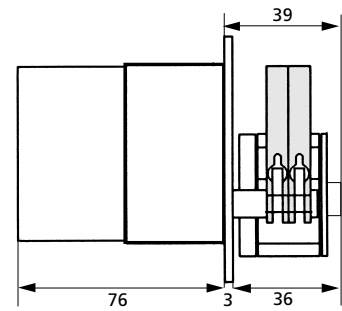
30.09.05

# Synchronous motor with gear box

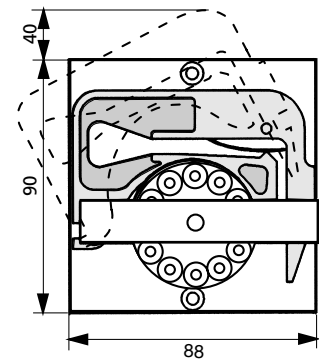
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

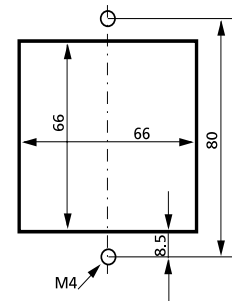
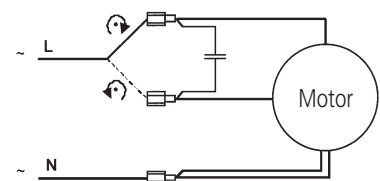


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA2-E/12/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 60 (rpm)
Flow rates	0.006–14.4 ml/min
Power consumption	8 W
Channels	2
Pump rollers	12
Weight	0.960 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, **POM-C**<sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.00093	1.14	0.067
0.19	0.0021	1.22	0.075
0.25	0.0038	1.30	0.083
0.38	0.0088	1.42	0.094
0.44	0.012	1.52	0.10
0.51	0.016	1.65	0.12
0.57	0.019	1.75	0.13
0.64	0.024	1.85	0.13
0.76	0.033	2.06	0.15
0.89	0.044	2.29	0.17
0.95	0.050	2.54	0.19
1.02	0.056	2.79	0.21
1.09	0.063	3.17	0.24

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 60 x 0.24 = 14.4

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Voltage and frequency	Type MS/CA2-E/12/Synchro/. .							
	Revolutions per minute (rpm)	6	8	10	12	20	40	60
24 V <sub>AC</sub> /50 Hz		2EB 028	2EB 029	2EB 030	2EB 031	2EB 032	2EB 033	2EB 034
24 V <sub>AC</sub> /60 Hz		2EB 035	2EB 036	2EB 037	2EB 038	2EB 039	2EB 040	2EB 041
115 V <sub>AC</sub> /50 Hz*								
115 V <sub>AC</sub> /60 Hz		2EB 042	2EB 043	2EB 044	2EB 045	2EB 046	2EB 047	2EB 048
230 V <sub>AC</sub> /50 Hz		2EB 049	2EB 050	2EB 051	2EB 052	2EB 053	2EB 054	2EB 055
230 V <sub>AC</sub> /60 Hz*								

\*on request

Data sheet

02.1.6

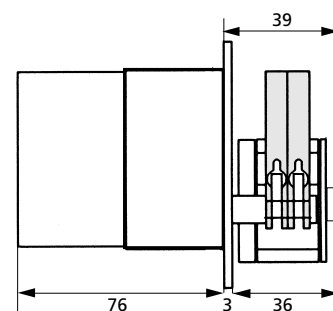
30.09.05

# Synchronous motor with gear box

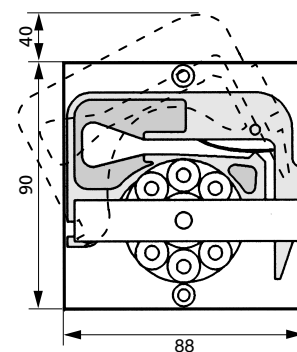
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

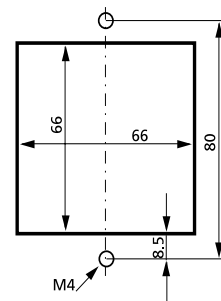
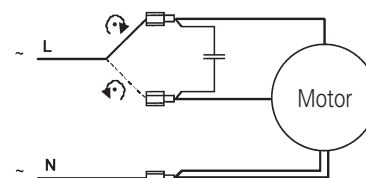


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA2-E/08/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 60 (rpm)
Flow rates	0.007–21 ml/min
Power consumption	8 W
Channels	2
Pump rollers	8
Weight	0.960 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, POM-C <sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, POM-C  
 IS 3629 MS/CA Pressure lever, PVDF

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 60 x 0.35 = 21

Ask for the ISMATEC®  
 Pump Tubing Selection Guide.

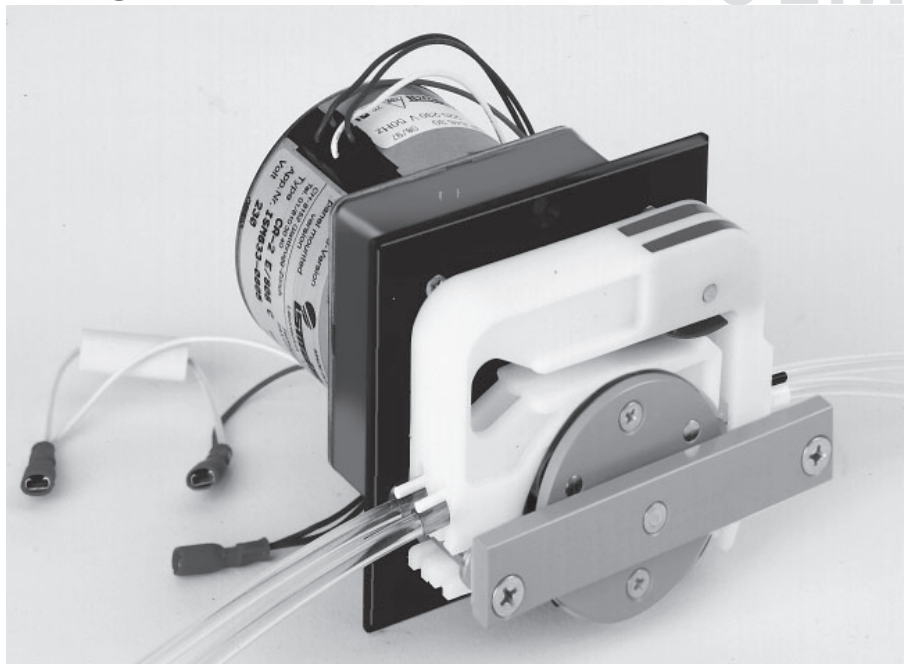
## Ordering information

Voltage and frequency	Type MS/CA2-E/08/Synchro/. .								
	Revolutions per minute (rpm)		6	8	10	12	20	40	60
24 V <sub>AC</sub> /50 Hz			ISM 037	2EB 017	2EB 018	2EB 019	ISM 136	ISM138	ISM 140
24 V <sub>AC</sub> /60 Hz			2EB 020	2EB 021	2EB 022	2EB 023	ISM 379	ISM 380	ISM 381
115 V <sub>AC</sub> /50 Hz*			ISM 608						
115 V <sub>AC</sub> /60 Hz			ISM 036	ISM 634	2EB 024	2EB 025	ISM 203	ISM 466	ISM 467
230 V <sub>AC</sub> /50 Hz			ISM 035	ISM 633	2EB 026	2EB 027	ISM 047	ISM 048	ISM 049
230 V <sub>AC</sub> /60 Hz*			ISM 637						

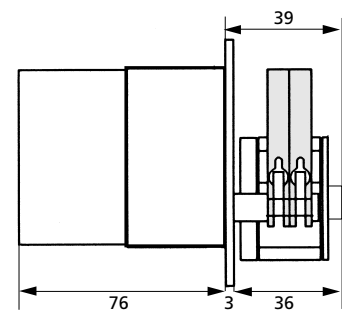
\* on request

# Synchronous motor with gear box

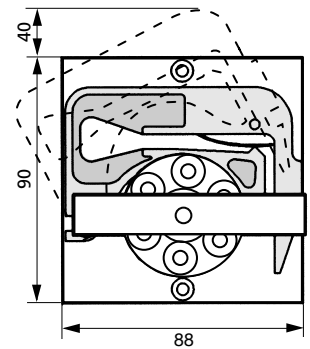
# OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

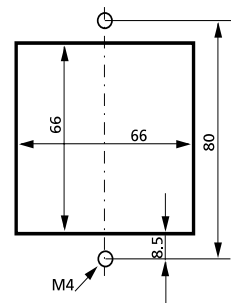
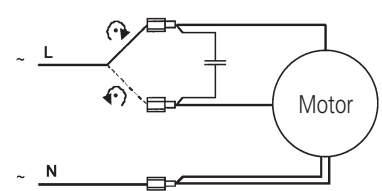


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA2-E/06/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 60 (rpm)
Flow rates	0.009–25.8 ml/min
Power consumption	8 W
Channels	2
Pump rollers	6
Weight	0.960 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, **POM-C**<sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment  
 → Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0014	1.14	0.09
0.19	0.0028	1.22	0.10
0.25	0.0048	1.30	0.11
0.38	0.011	1.42	0.13
0.44	0.014	1.52	0.15
0.51	0.019	1.65	0.17
0.57	0.024	1.75	0.19
0.64	0.030	1.85	0.21
0.76	0.042	2.06	0.25
0.89	0.057	2.29	0.29
0.95	0.064	2.54	0.33
1.02	0.073	2.79	0.37
1.09	0.083	3.17	0.43

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 60 x 0.43 = 25.8

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

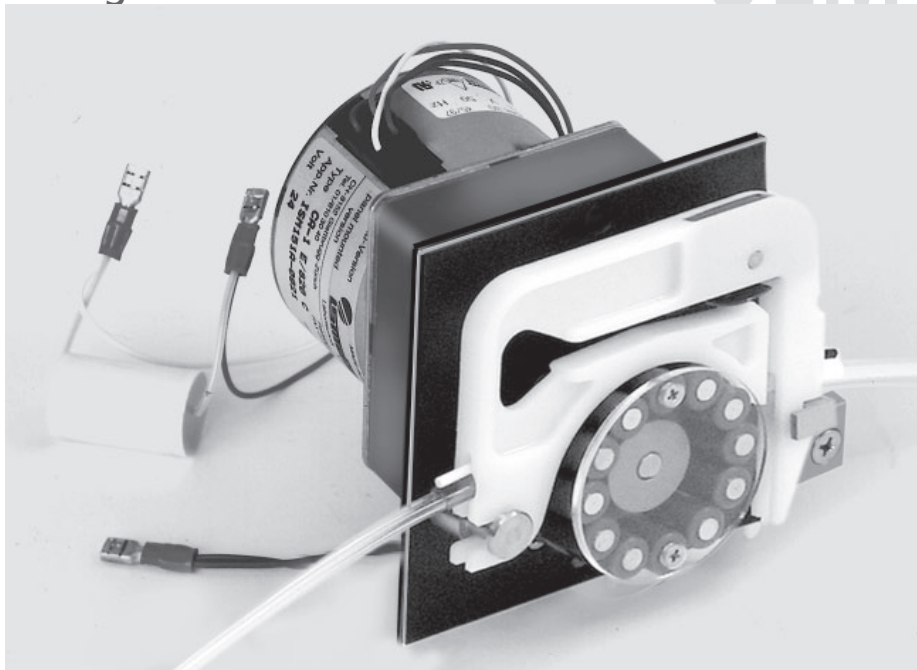
Voltage and frequency	Type MS/CA2-E/06/Synchro/. .							
	Revolutions per minute (rpm)							
	6	8	10	12	20	40	60	
24 V <sub>AC</sub> /50 Hz	2EB 001	2EB 002	2EB 003	2EB 004	2EB 005	ISM 137	ISM 139	
24 V <sub>AC</sub> /60 Hz	ISM 142	2EB 006	2EB 007	2EB 008	ISM 376	ISM 377	ISM 378	
115 V <sub>AC</sub> /50 Hz*								
115 V <sub>AC</sub> /60 Hz	2EB 009	2EB 010	2EB 011	2EB 012	ISM 461	ISM 463	ISM 464	
230 V <sub>AC</sub> /50 Hz	2EB 013	2EB 014	2EB 015	2EB 016	ISM 044	ISM 045	ISM 046	
230 V <sub>AC</sub> /60 Hz*								

\*on request

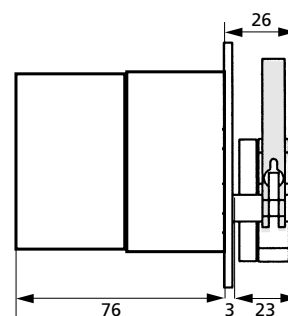
Data sheet 02.1.4 30.09.05

# Synchronous motor with gear box

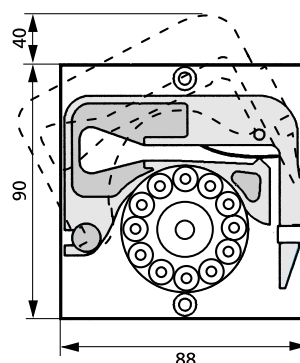
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

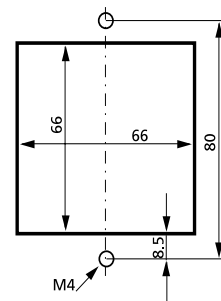
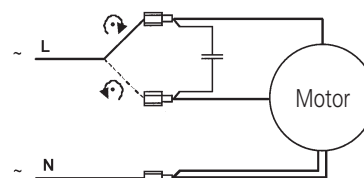


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA1-E/12/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 60 (rpm)
Flow rates	0.006–14.4 ml/min
Power consumption	8 W
Channels	1
Pump rollers	12
Weight	0.890 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

### Cassettes (Spare part / Option)

- IS 3510 MS/CA Click'n'go, **POM-C**<sup>2)</sup>
- IS 0649 MS/CA Pressure lever, **POM-C**
- IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment

➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.00093	1.14	0.067
0.19	0.0021	1.22	0.075
0.25	0.0038	1.30	0.083
0.38	0.0088	1.42	0.094
0.44	0.012	1.52	0.10
0.51	0.016	1.65	0.12
0.57	0.019	1.75	0.13
0.64	0.024	1.85	0.13
0.76	0.033	2.06	0.15
0.89	0.044	2.29	0.17
0.95	0.050	2.54	0.19
1.02	0.056	2.79	0.21
1.09	0.063	3.17	0.24

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
rpm x ml per revolution = ml/min  
60 x 0.24 = 14.4

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Voltage and frequency	Type MS/CA1-E/12/Synchro/ . .							
	Revolutions per minute (rpm)							
	6	8	10	12	20	40	60	
24 V <sub>AC</sub> /50 Hz	1EB 035	1EB 036	1EB 037	1EB 038	1EB 039	1EB 040	1EB 041	
24 V <sub>AC</sub> /60 Hz	1EB 042	1EB 043	1EB 044	1EB 045	1EB 046	1EB 047	1EB 048	
115 V <sub>AC</sub> /50 Hz*								
115 V <sub>AC</sub> /60 Hz	1EB 049	1EB 050	1EB 051	1EB 052	1EB 053	1EB 054	1EB 055	
230 V <sub>AC</sub> /50 Hz	1EB 056	1EB 057	1EB 058	1EB 059	1EB 060	1EB 061	1EB 062	
230 V <sub>AC</sub> /60 Hz*								
	*on request							

Data sheet

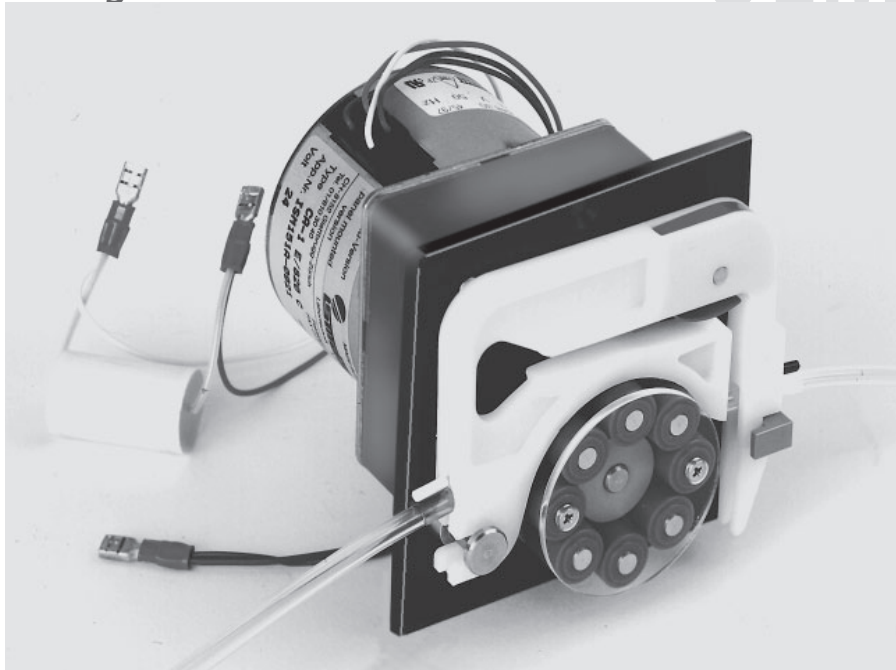
02.1.3

30.09.05

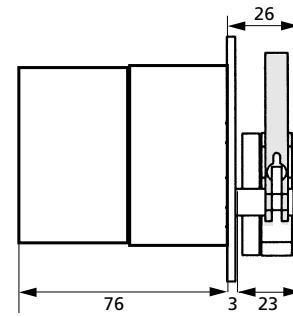


# Synchronous motor with gear box

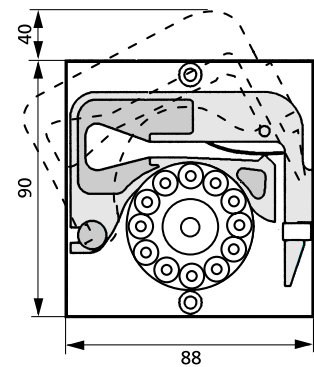
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

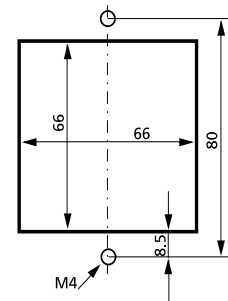
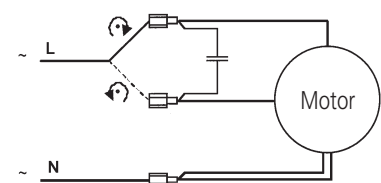


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA1-E/08/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 60 (rpm)
Flow rates	0.007–21 ml/min
Power consumption	8 W
Channels	1
Pump rollers	8
Weight	0.890 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

**Cassettes (Spare part / Option)**  
 IS 3510 MS/CA Click'n'go, **POM-C**<sup>2)</sup>  
 IS 0649 MS/CA Pressure lever, **POM-C**  
 IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment  
 ➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0011	1.14	0.078
0.19	0.0023	1.22	0.088
0.25	0.0041	1.30	0.098
0.38	0.0094	1.42	0.11
0.44	0.013	1.52	0.13
0.51	0.017	1.65	0.15
0.57	0.021	1.75	0.16
0.64	0.026	1.85	0.17
0.76	0.036	2.06	0.20
0.89	0.049	2.29	0.24
0.95	0.056	2.54	0.27
1.02	0.063	2.79	0.31
1.09	0.072	3.17	0.35

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 60 x 0.35 = 21

Ask for the ISMATEC® Pump Tubing Selection Guide.

## Ordering information

Voltage and frequency	Type MS/CA1-E/08/Synchro/. .								
	Revolutions per minute (rpm)		6	8	10	12	20	40	60
24 V <sub>AC</sub> /50 Hz			ISM 706	1EB 020	1EB 021	ISM 289	ISM 151	ISM 153	ISM 155
24 V <sub>AC</sub> /60 Hz			1EB 022	1EB 023	1EB 024	1EB 025	ISM 373	1EB 026	1EB 027
115 V <sub>AC</sub> /50 Hz*									
115 V <sub>AC</sub> /60 Hz			1EB 028	1EB 029	1EB 030	1EB 031	ISM 454	ISM 455	ISM 458
230 V <sub>AC</sub> /50 Hz			ISM 702	1EB 032	1EB 033	1EB 034	ISM 145	ISM 147	ISM 149
230 V <sub>AC</sub> /60 Hz*									

\* on request

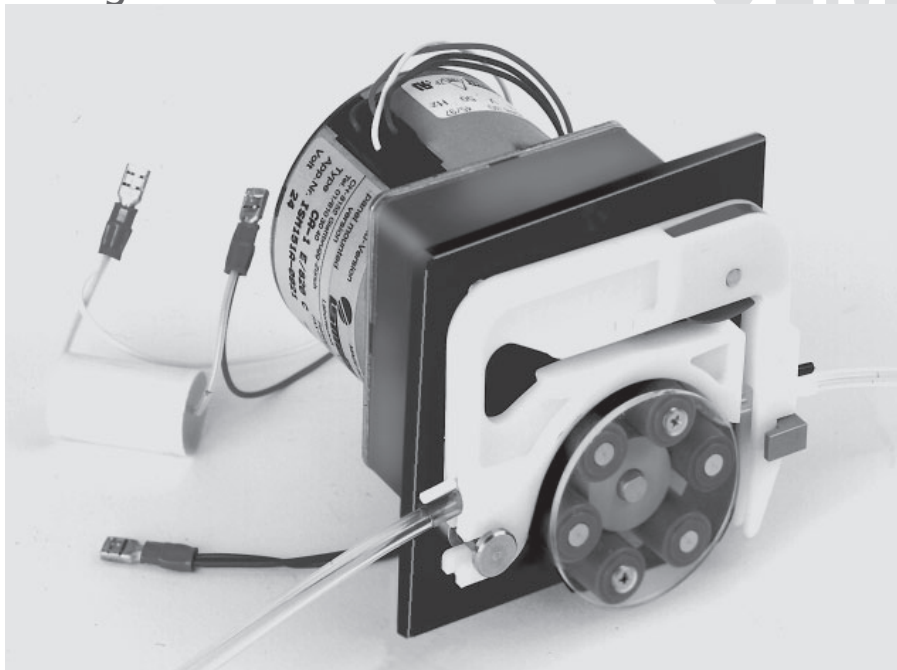
Data sheet

02.1.2

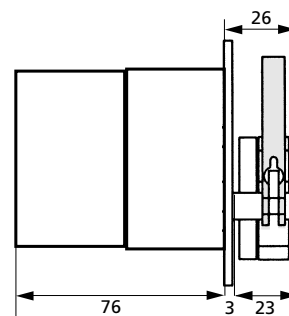
30.09.05

# Synchronous motor with gear box

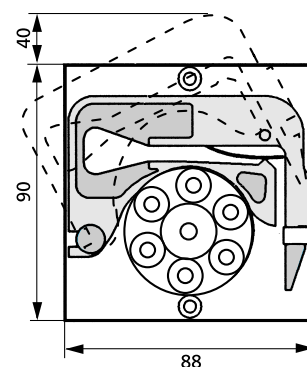
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

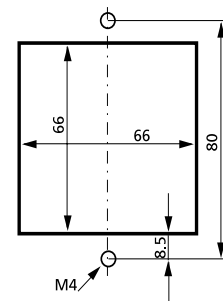
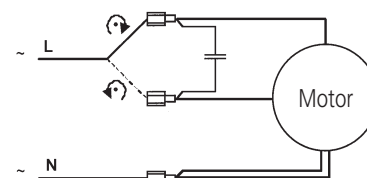


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MS/CA1-E/06/Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 60 (rpm)
Flow rates	0.009–25.8 ml/min
Power consumption	8 W
Channels	1
Pump rollers	6
Weight	0.890 kg
Tubing type	3-stop collared tubing
Tubing i.d.	0.13–3.17 mm
Cassettes	MS/CA Click'n'go, POM

### Cassettes (Spare part / Option)

- IS 3510 MS/CA Click'n'go, **POM-C**<sup>2)</sup>
- IS 0649 MS/CA Pressure lever, **POM-C**
- IS 3629 MS/CA Pressure lever, **PVDF**

<sup>2)</sup> Standard equipment

➔ Please see data sheet 09.1

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0014	1.14	0.09
0.19	0.0028	1.22	0.10
0.25	0.0048	1.30	0.11
0.38	0.011	1.42	0.13
0.44	0.014	1.52	0.15
0.51	0.019	1.65	0.17
0.57	0.024	1.75	0.19
0.64	0.030	1.85	0.21
0.76	0.042	2.06	0.25
0.89	0.057	2.29	0.29
0.95	0.064	2.54	0.33
1.02	0.073	2.79	0.37
1.09	0.083	3.17	0.43

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
rpm x ml per revolution = ml/min  
60 x 0.43 = 25.8

Ask for the ISMATEC® Pump Tubing Selection Guide.

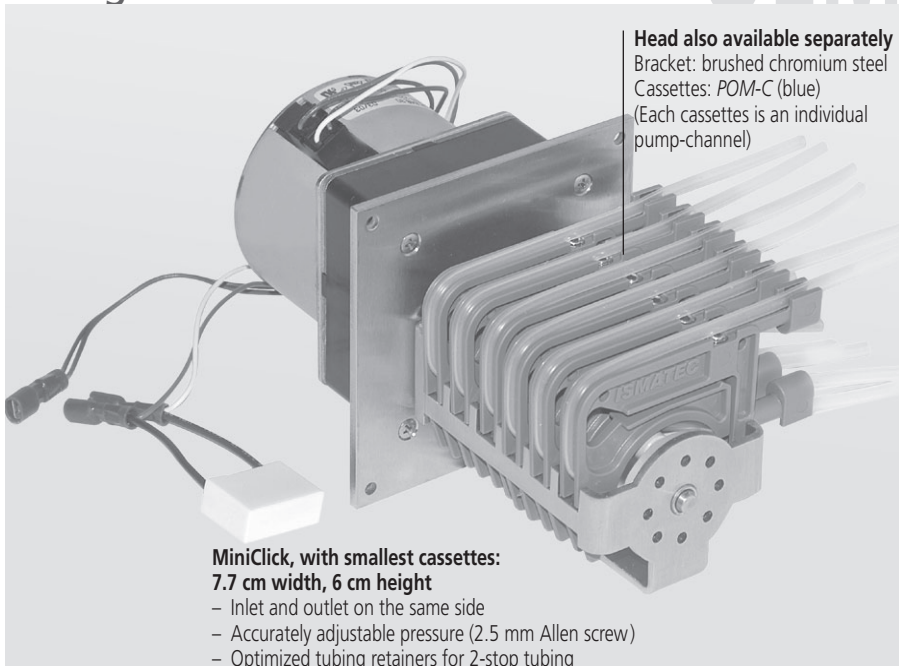
## Ordering information

Voltage and frequency	Type MS/CA1-E/06/Synchro/. .							
	Revolutions per minute (rpm)							
	6	8	10	12	20	40	60	
24 V <sub>AC</sub> /50 Hz	1EB 001	1EB 002	1EB 003	1EB 004	ISM 150	ISM 152	ISM 154	
24 V <sub>AC</sub> /60 Hz	1EB 005	1EB 006	1EB 007	1EB 008	1EB 009	1EB 010	1EB 011	
115 V <sub>AC</sub> /50 Hz*								
115 V <sub>AC</sub> /60 Hz	1EB 012	1EB 013	1EB 014	1EB 015	ISM 448	ISM 438	ISM 460	
230 V <sub>AC</sub> /50 Hz	1EB 016	1EB 017	1EB 018	1EB 019	ISM 144	ISM 146	ISM 148	
230 V <sub>AC</sub> /60 Hz*								

\* on request

# Synchronous motor with gear box

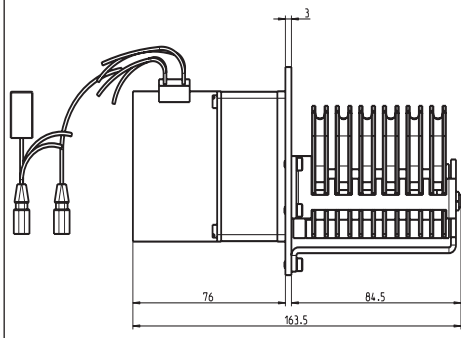
# OEM



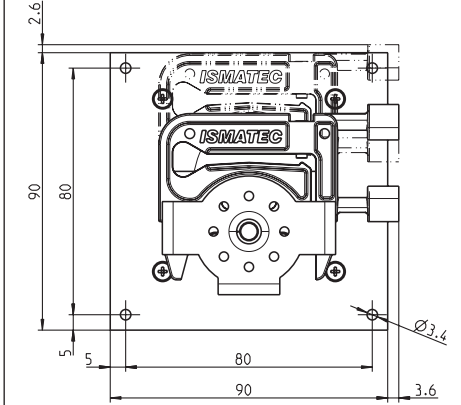
Head also available separately  
 Bracket: brushed chromium steel  
 Cassettes: POM-C (blue)  
 (Each cassettes is an individual pump-channel)

- MiniClick, with smallest cassettes:**  
 7.7 cm width, 6 cm height
- Inlet and outlet on the same side
  - Accurately adjustable pressure (2.5 mm Allen screw)
  - Optimized tubing retainers for 2-stop tubing

Side view (mm)



Front view (mm)



Mounting cut-out (mm)

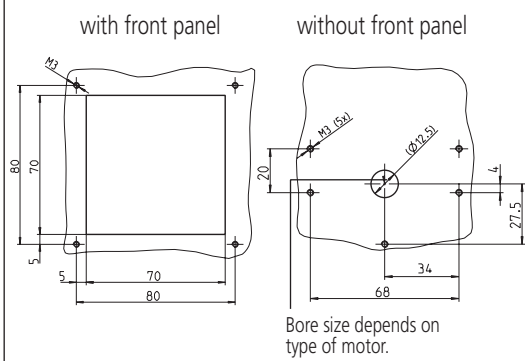
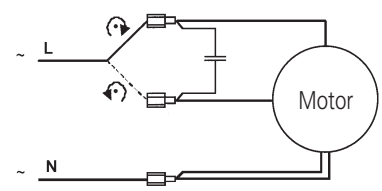


Diagram and electrical connections



The polarity of L and N has no effect on the rotation direction.

## Technical specifications

Pump model	MiniClick6-E/5 Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 (rpm)
Flow rates	0.008 – 5.2 ml/min
Power consumption	8 W
Channels	1–6
Pump rollers	5
Weight	1.2 kg
Tubing type	2-stop collared tubing
Tubing i.d.	0.13–2.79 mm
Cassettes	MiniClick POM-C (blue) ONr.: IS 10365 (Spare part)

- ➔ Available also with DC motor with optical encoder and gear box
- Speed: 1 – 100 rpm
- Flow rate: 0.001–26 ml/min
- ➔ Ask for the separate data sheet

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0013	1.14	0.060
0.19	0.0023	1.22	0.068
0.25	0.0036	1.30	0.077
0.38	0.0076	1.42	0.090
0.44	0.010	1.52	0.10
0.51	0.013	1.65	0.12
0.57	0.016	1.75	0.13
0.64	0.020	1.85	0.14
0.76	0.028	2.06	0.17
0.89	0.038	2.29	0.20
0.95	0.043	2.54	0.23
1.02	0.049	2.79	0.26
1.09	0.056		

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 20 x 0.26 = 5.2  
 Ask for the Pump Tubing Selection Guide

For highly aggressive solvents:  
 2-stop tubing Tygon® MHLL

## Ordering information

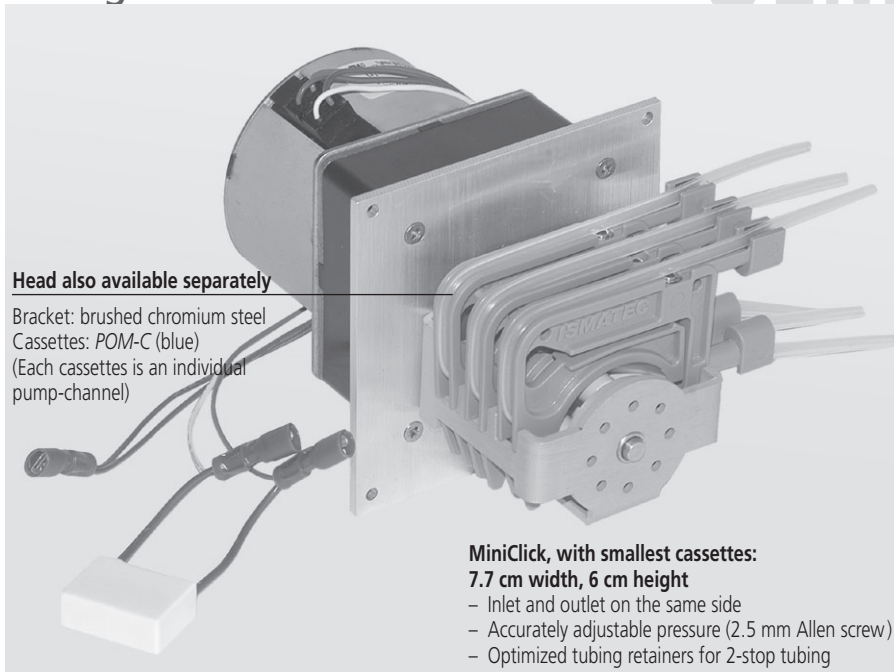
Voltage and frequency	Type MiniClick6-E/5 Synchro					
	Revolutions per minute (rpm)	6	8	10	12	20
24 V <sub>AC</sub> /50 Hz						ISM 1130
24 V <sub>AC</sub> /60 Hz						
115 V <sub>AC</sub> /50 Hz*						
115 V <sub>AC</sub> /60 Hz						ISM 1127
230 V <sub>AC</sub> /50 Hz						ISM 1124
230 V <sub>AC</sub> /60 Hz*						

\*on request

Data sheet  
02.0.1  
30.09.05

# Synchronous motor with gear box

OEM



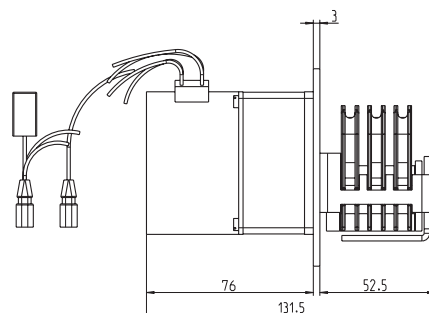
**Head also available separately**

Bracket: brushed chromium steel  
Cassettes: POM-C (blue)  
(Each cassettes is an individual pump-channel)

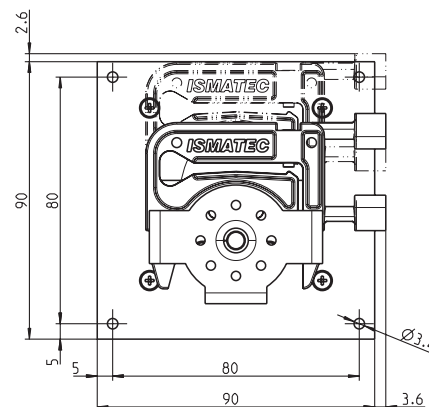
**MiniClick, with smallest cassettes:**

- 7.7 cm width, 6 cm height
- Inlet and outlet on the same side
- Accurately adjustable pressure (2.5 mm Allen screw)
- Optimized tubing retainers for 2-stop tubing

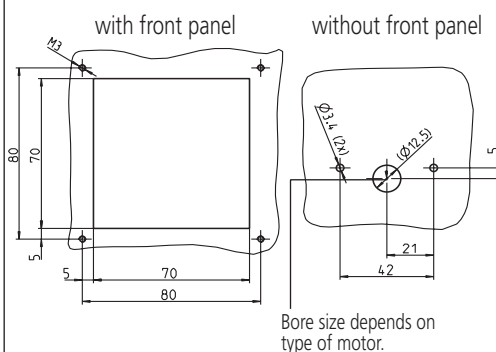
**Side view (mm)**



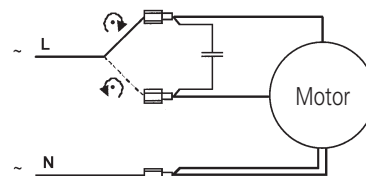
**Front view (mm)**



**Mounting cut-out (mm)**



**Diagram and electrical connections**



The polarity of L and N has no effect on the rotation direction.

**Technical specifications**

Pump model	MiniClick3-E/5 Synchro
Motor type	Synchronous motor with reversible rotation
Rotation speed	fixed, available with: 6 8 10 12 20 40 60 (rpm)
Flow rates	0.008 – 15.6 ml/min
Power consumption	8 W
Channels	1–3
Pump rollers	5
Weight	0.9 kg
Tubing type	2- or 3-stop collared tubing
Tubing i.d.	0.13–2.79 mm
Cassettes	MiniClick POM-C (blue) ONr.: IS 10365 (Spare part)
<p>➔ Available on request: MiniClick-E with DC motor with optical encoder and gear box. Speed: 1 – 100 rpm Flow rate: 0.001–26 ml/min</p>	

**Flow rates<sup>1)</sup>**

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0013	1.14	0.060
0.19	0.0023	1.22	0.068
0.25	0.0036	1.30	0.077
0.38	0.0076	1.42	0.090
0.44	0.010	1.52	0.10
0.51	0.013	1.65	0.12
0.57	0.016	1.75	0.13
0.64	0.020	1.85	0.14
0.76	0.028	2.06	0.17
0.89	0.038	2.29	0.20
0.95	0.043	2.54	0.23
1.02	0.049	2.79	0.26
1.09	0.056		

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

➔ Calculation example for flow rate  
rpm x ml per revolution = ml/min  
60 x 0.26 = 15.6

Ask for the Pump Tubing Selection Guide

For highly aggressive solvents:  
2-stop tubing Tygon® MHL

**Ordering information**

Voltage and frequency	Type MiniClick3-E/5 Synchro						
	Revolutions per minute (rpm)						
	6	8	10	12	20	40	60
24 V <sub>AC</sub> /50 Hz					ISM 1121		
24 V <sub>AC</sub> /60 Hz							
115 V <sub>AC</sub> /50 Hz*							
115 V <sub>AC</sub> /60 Hz					ISM 1118		
230 V <sub>AC</sub> /50 Hz					ISM 1115		ISM 1117
230 V <sub>AC</sub> /60 Hz*							
	*on request						

Data sheet

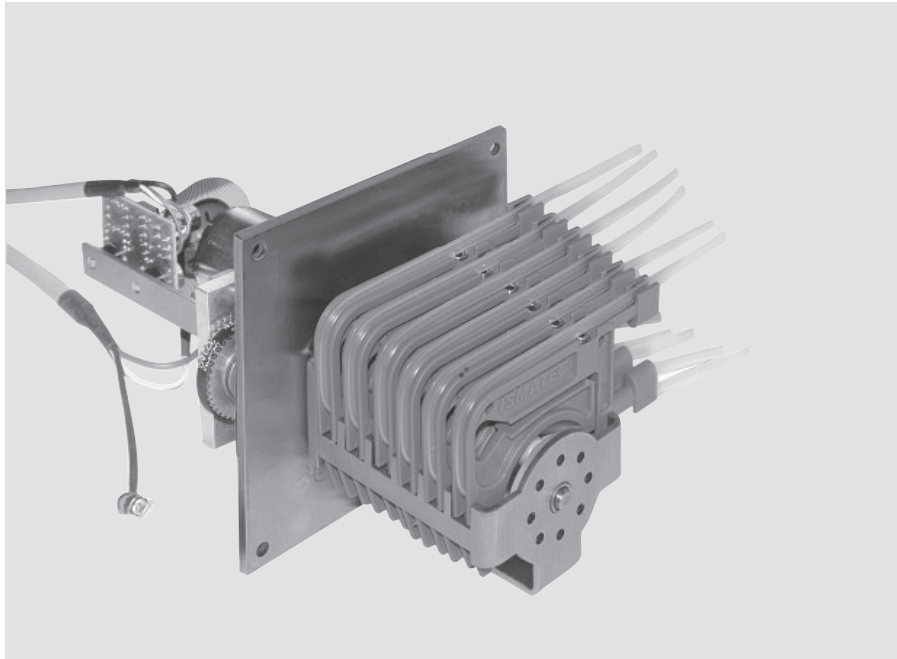
02.0.1  
30.09.05

6  
channels5  
rollers

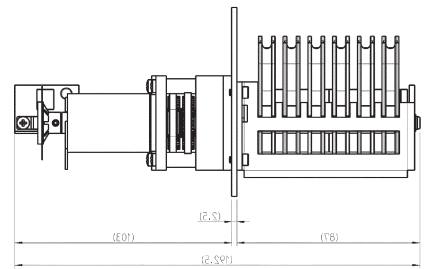
ca. 0.001–26 ml/min

# DC motor with optical encoder and gear box

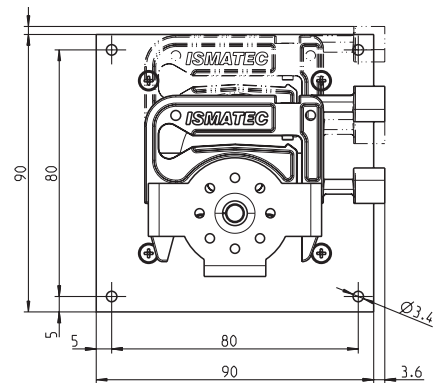
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

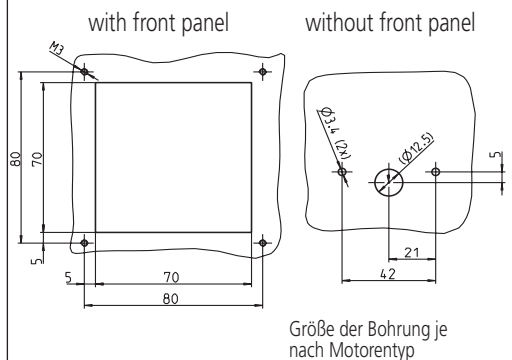
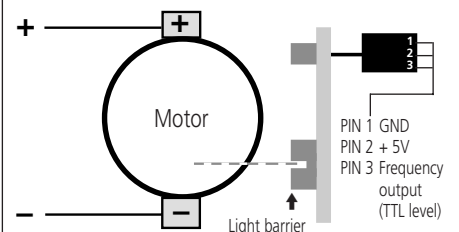


Diagram and electrical connections



### Please note

Specifications valid for the following ISMATEC® control units:

- a) REGLO-E Analog - see data sheet 08.1
- b) REGLO-E Digital - see data sheet 08.2

## Technical specifications

Pump model	MiniClick6_-E/5 DC
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2–100 rpm <sup>a)</sup> 1–100 rpm <sup>b)</sup>
Flow rates*	0.001–26 ml/min
Motor control*	optional control unit
Power consumption	max. 10 W
Optical encoder	120 impulses/motor rev.
Channels	5
Pump rollers	6
Weight	0.860 kg
Tubing type	2-stop collared tubing
Tubing i.d.	0.13–2.79 mm
Cassettes	MiniClick POM-C

### Cassettes (Spare part)

IS 10365 MiniClick POM-C

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0013	1.14	0.060
0.19	0.0023	1.22	0.068
0.25	0.0036	1.30	0.077
0.38	0.0076	1.42	0.090
0.44	0.010	1.52	0.10
0.51	0.013	1.65	0.12
0.57	0.016	1.75	0.13
0.64	0.020	1.85	0.14
0.76	0.028	2.06	0.17
0.89	0.038	2.29	0.20
0.95	0.043	2.54	0.23
1.02	0.049	2.79	0.26
1.09	0.056		

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
rpm x ml per revolution = ml/min  
100 x 0.26 = 26

Ask for the Pump Tubing Selection Guide

For highly aggressive solvents:  
2-stop tubing Tygon® MHLL

## Ordering information

Nominal voltage	Type MiniClick6_-E/5 DC	Order No.
12 V <sub>DC</sub>		ISM 1126
24 V <sub>DC</sub>		ISM 1129

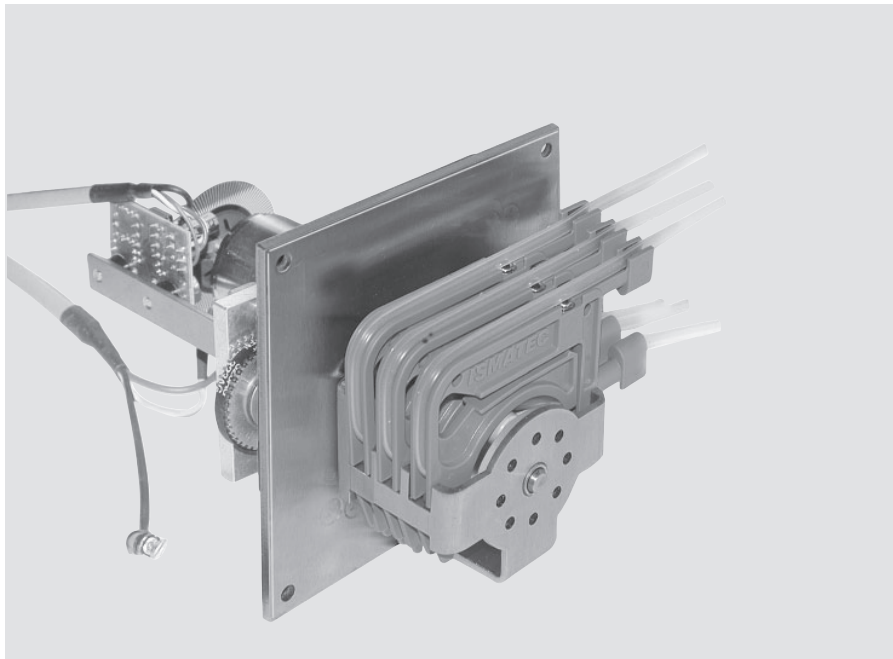
Data sheet

02.3.3

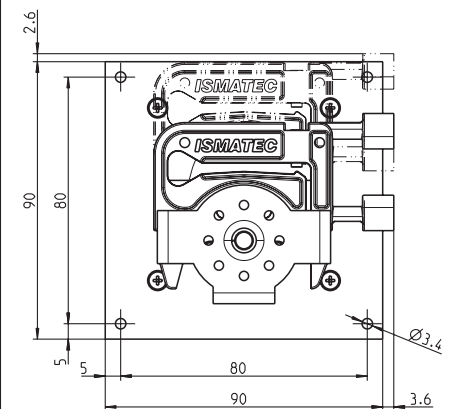
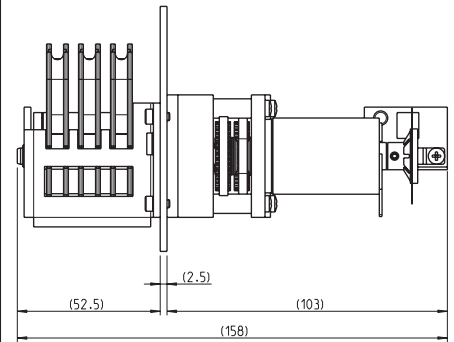
30.09.05

# DC motor with optical encoder and gear box

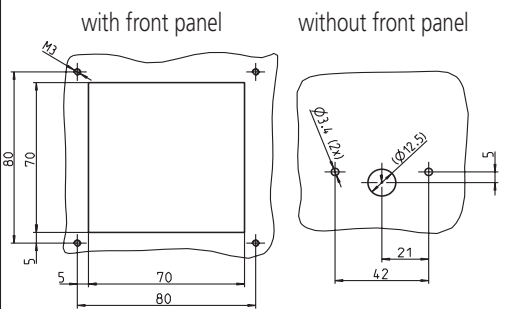
OEM



## Side view (mm)

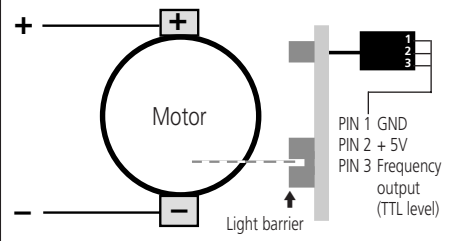


## Mounting cut-out (mm)



Größe der Bohrung je nach Motortyp

## Diagram and electrical connections



## \* Please note

Specifications valid for the following ISMATEC® control units:  
 a) REGLO-E Analog - see data sheet 08.1  
 b) REGLO-E Digital - see data sheet 08.2

Pump model	MiniClick3_-E/5 DC
Motor type	DC motor with encoder
Gear ratio	25:1
Rotation speed*	2–100 rpm <sup>a)</sup> 1–100 rpm <sup>b)</sup>
Flow rates*	0.001–26 ml/min
Motor control*	optional control unit
Power consumption	max. 10 W
Optical encoder	120 impulses/motor rev.
Channels	3
Pump rollers	5
Weight	0.700 kg
Tubing type	2- or 3-stop collared tubing
Tubing i.d.	0.13–2.79 mm
Cassettes	MiniClick POM-C

Cassettes (Spare part)  
 IS 10365 MiniClick POM-C

## Flow rates<sup>1)</sup>

Tubing i.d. mm	ml per revolution	Tubing i.d. mm	ml per revolution
0.13	0.0013	1.14	0.060
0.19	0.0023	1.22	0.068
0.25	0.0036	1.30	0.077
0.38	0.0076	1.42	0.090
0.44	0.010	1.52	0.10
0.51	0.013	1.65	0.12
0.57	0.016	1.75	0.13
0.64	0.020	1.85	0.14
0.76	0.028	2.06	0.17
0.89	0.038	2.29	0.20
0.95	0.043	2.54	0.23
1.02	0.049	2.79	0.26
1.09	0.056		

<sup>1)</sup> Water, Tygon® tubing, without differential pressure

→ Calculation example for flow rate  
 rpm x ml per revolution = ml/min  
 100 x 0.26 = 26

Ask for the Pump Tubing Selection Guide

For highly aggressive solvents:  
 2-stop tubing Tygon® MHLL

## Ordering information

Nominal voltage	Type MiniClick3_-E/5 DC	Order No.
	12 V <sub>DC</sub>	
24 V <sub>DC</sub>		ISM 1133

Data sheet  
02.3.2  
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