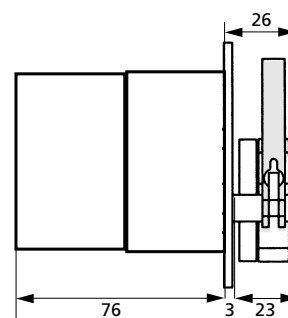


Synchronous motor with gear box

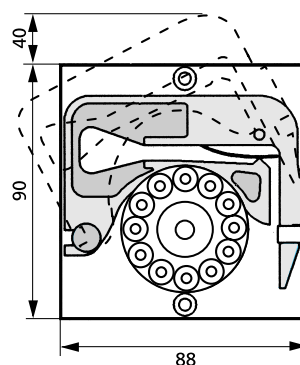
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

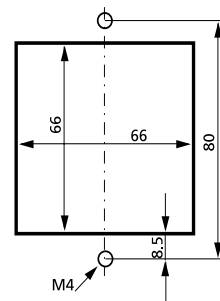
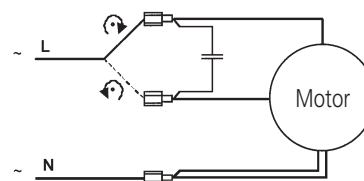


Diagram and electrical connections



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**²⁾
- IS 0649 MS/CA Pressure lever, **POM-C**
- IS 3629 MS/CA Pressure lever, **PVDF**

²⁾ Standard equipment

➔ Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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 _{AC} /50 Hz	1EB 035	1EB 036	1EB 037	1EB 038	1EB 039	1EB 040	1EB 041	
24 V _{AC} /60 Hz	1EB 042	1EB 043	1EB 044	1EB 045	1EB 046	1EB 047	1EB 048	
115 V _{AC} /50 Hz*								
115 V _{AC} /60 Hz	1EB 049	1EB 050	1EB 051	1EB 052	1EB 053	1EB 054	1EB 055	
230 V _{AC} /50 Hz	1EB 056	1EB 057	1EB 058	1EB 059	1EB 060	1EB 061	1EB 062	
230 V _{AC} /60 Hz*								
	*on request							

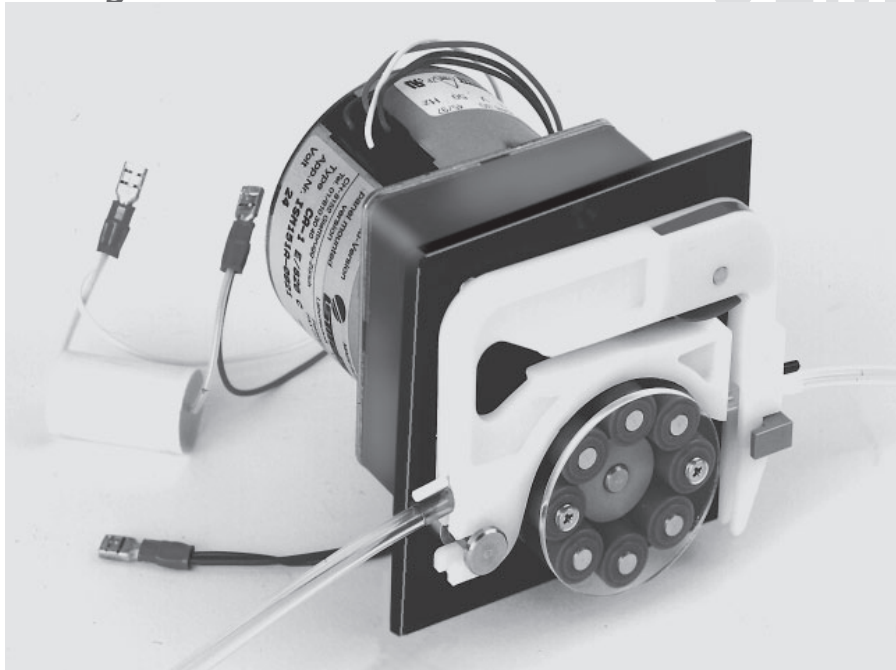
Data sheet

02.1.3

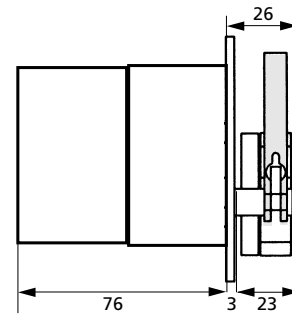
30.09.05

Synchronous motor with gear box

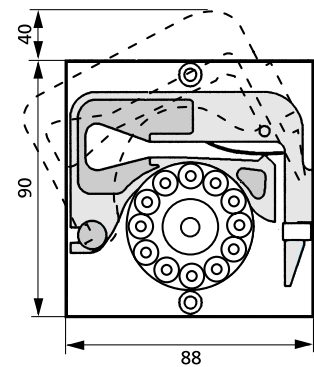
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

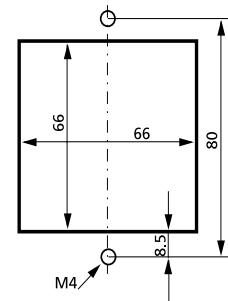
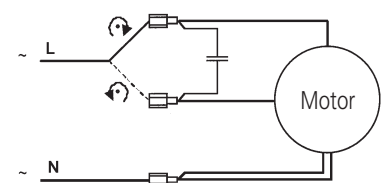


Diagram and electrical connections



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**²⁾
 IS 0649 MS/CA Pressure lever, **POM-C**
 IS 3629 MS/CA Pressure lever, **PVDF**

²⁾ Standard equipment
 ➔ Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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.

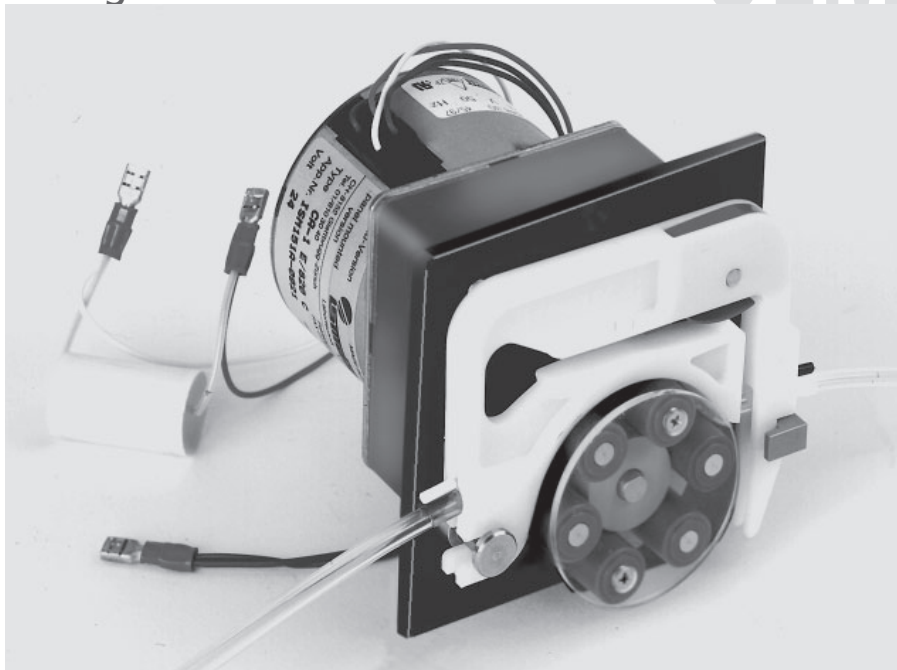
Ordering information

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

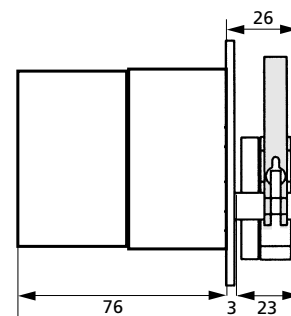
* on request

Synchronous motor with gear box

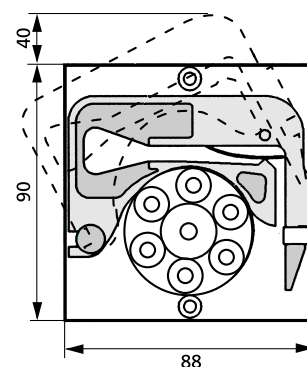
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

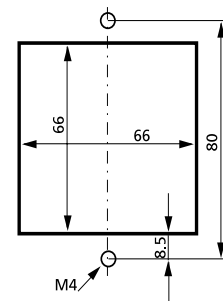
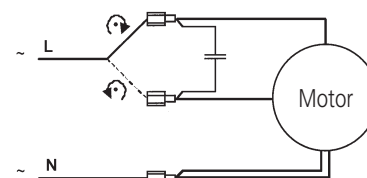


Diagram and electrical connections



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

Technical specifications

Pump model	MS/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**²⁾
- IS 0649 MS/CA Pressure lever, **POM-C**
- IS 3629 MS/CA Pressure lever, **PVDF**

²⁾ Standard equipment

➔ Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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 _{AC} /50 Hz	1EB 001	1EB 002	1EB 003	1EB 004	ISM 150	ISM 152	ISM 154	
24 V _{AC} /60 Hz	1EB 005	1EB 006	1EB 007	1EB 008	1EB 009	1EB 010	1EB 011	
115 V _{AC} /50 Hz*								
115 V _{AC} /60 Hz	1EB 012	1EB 013	1EB 014	1EB 015	ISM 448	ISM 438	ISM 460	
230 V _{AC} /50 Hz	1EB 016	1EB 017	1EB 018	1EB 019	ISM 144	ISM 146	ISM 148	
230 V _{AC} /60 Hz*								

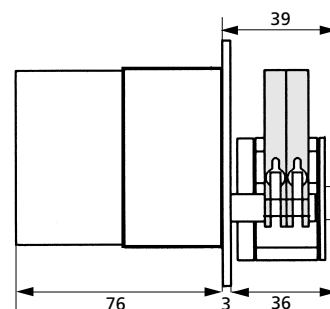
* on request

Synchronous motor with gear box

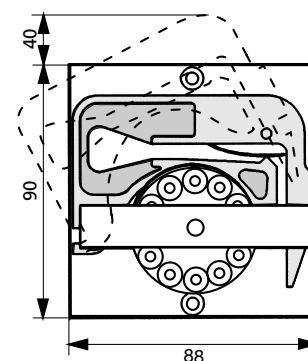
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

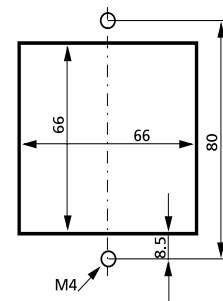
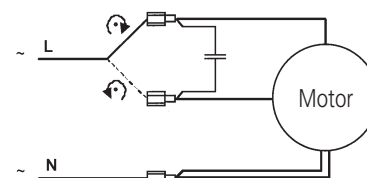


Diagram and electrical connections



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

Technical specifications

Pump model	MS/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**²⁾
- IS 0649 MS/CA Pressure lever, **POM-C**
- IS 3629 MS/CA Pressure lever, **PVDF**

²⁾ Standard equipment

➔ Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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 _{AC} /50 Hz		2EB 028	2EB 029	2EB 030	2EB 031	2EB 032	2EB 033	2EB 034
24 V _{AC} /60 Hz		2EB 035	2EB 036	2EB 037	2EB 038	2EB 039	2EB 040	2EB 041
115 V _{AC} /50 Hz*								
115 V _{AC} /60 Hz		2EB 042	2EB 043	2EB 044	2EB 045	2EB 046	2EB 047	2EB 048
230 V _{AC} /50 Hz		2EB 049	2EB 050	2EB 051	2EB 052	2EB 053	2EB 054	2EB 055
230 V _{AC} /60 Hz*								

*on request

Data sheet

02.1.6

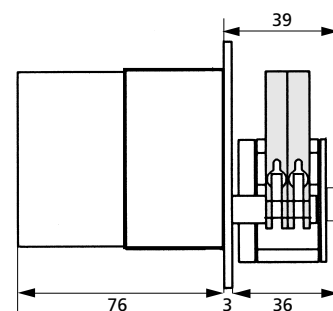
30.09.05

Synchronous motor with gear box

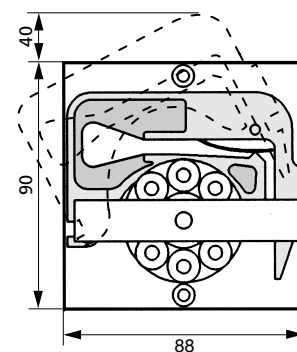
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

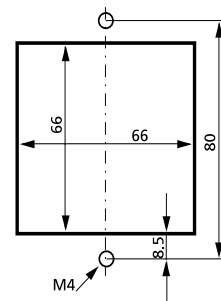
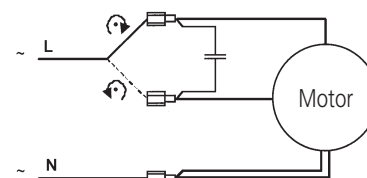


Diagram and electrical connections



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 ²⁾
- IS 0649 MS/CA Pressure lever, POM-C
- IS 3629 MS/CA Pressure lever, PVDF

²⁾ Standard equipment

➔ Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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.

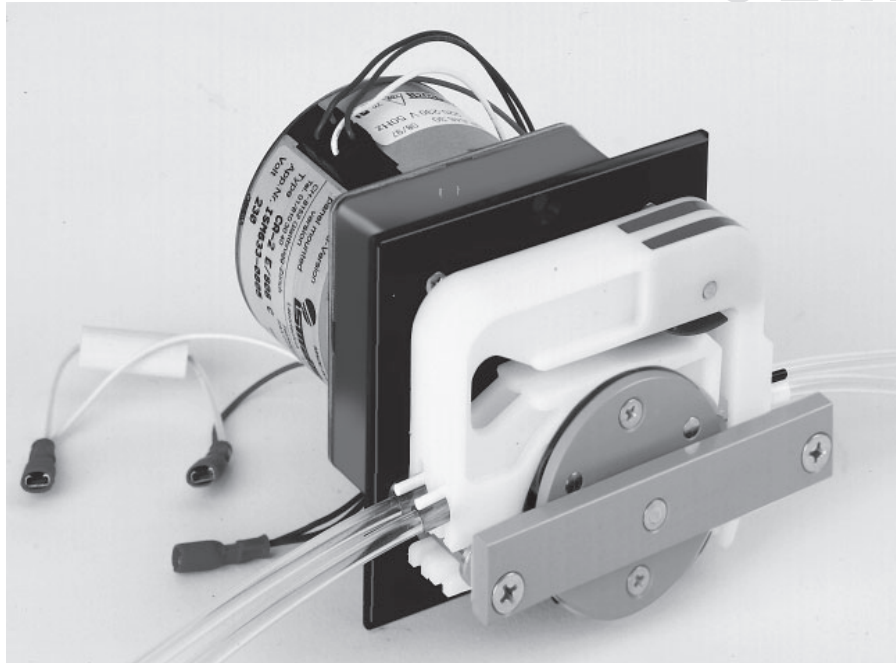
Ordering information

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

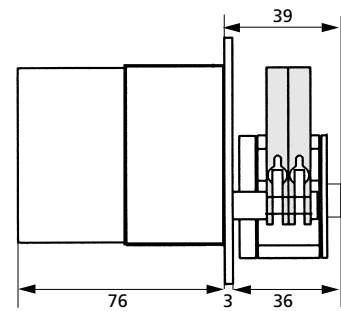
* on request

Synchronous motor with gear box

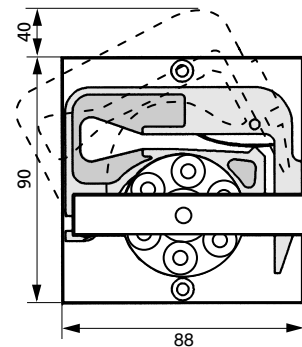
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

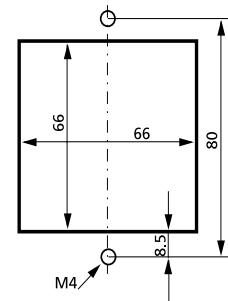
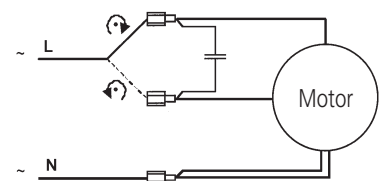


Diagram and electrical connections



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**²⁾
- IS 0649 MS/CA Pressure lever, **POM-C**
- IS 3629 MS/CA Pressure lever, **PVDF**

²⁾ Standard equipment
→ Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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.

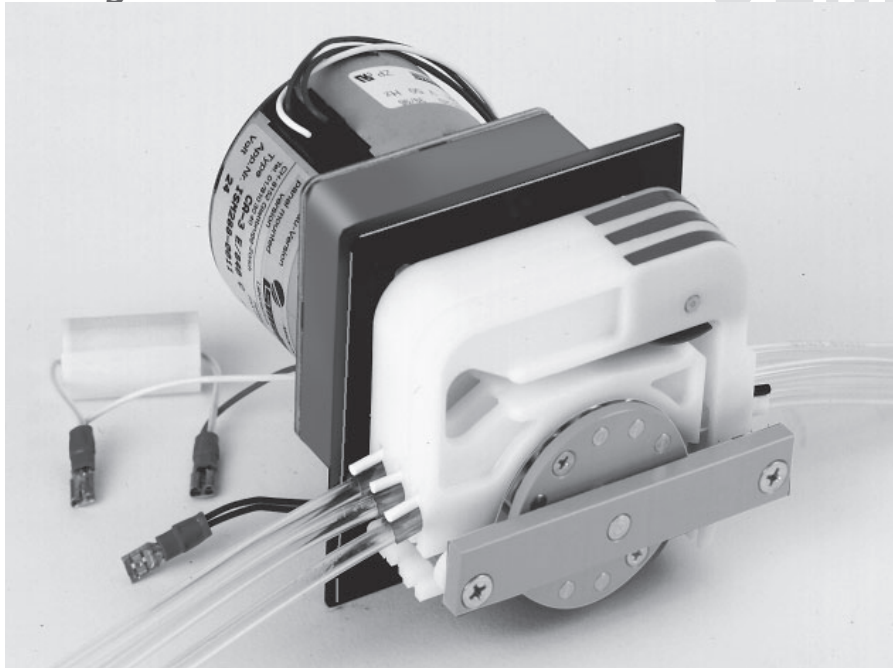
Ordering information

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

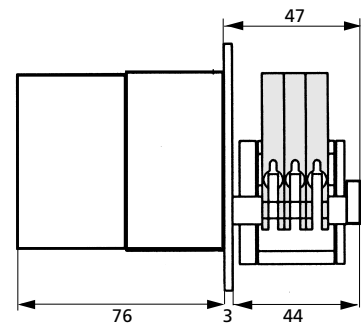
*on request

Synchronous motor with gear box

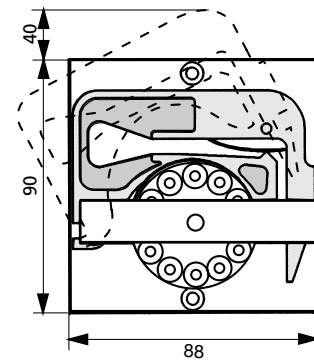
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

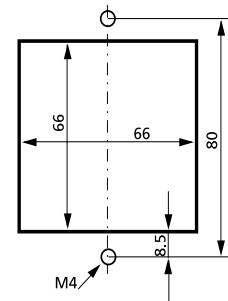
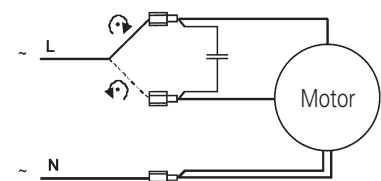


Diagram and electrical connections



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

Technical specifications

Pump model	MS/CA3-E/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**²⁾
 IS 0649 MS/CA Pressure lever, **POM-C**
 IS 3629 MS/CA Pressure lever, **PVDF**

²⁾ Standard equipment
 ➔ Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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 _{AC} /50 Hz	3EB 051	3EB 052	3EB 053	3EB 054	3EB 055	3EB 056	3EB 057	
24 V _{AC} /60 Hz	3EB 058	3EB 059	3EB 060	3EB 061	3EB 062	3EB 063	3EB 064	
115 V _{AC} /50 Hz*								
115 V _{AC} /60 Hz	3EB 065	3EB 066	3EB 067	3EB 068	3EB 069	3EB 070	3EB 071	
230 V _{AC} /50 Hz	3EB 072	3EB 073	3EB 074	3EB 075	3EB 076	3EB 077	3EB 078	
230 V _{AC} /60 Hz*								
	*on request							

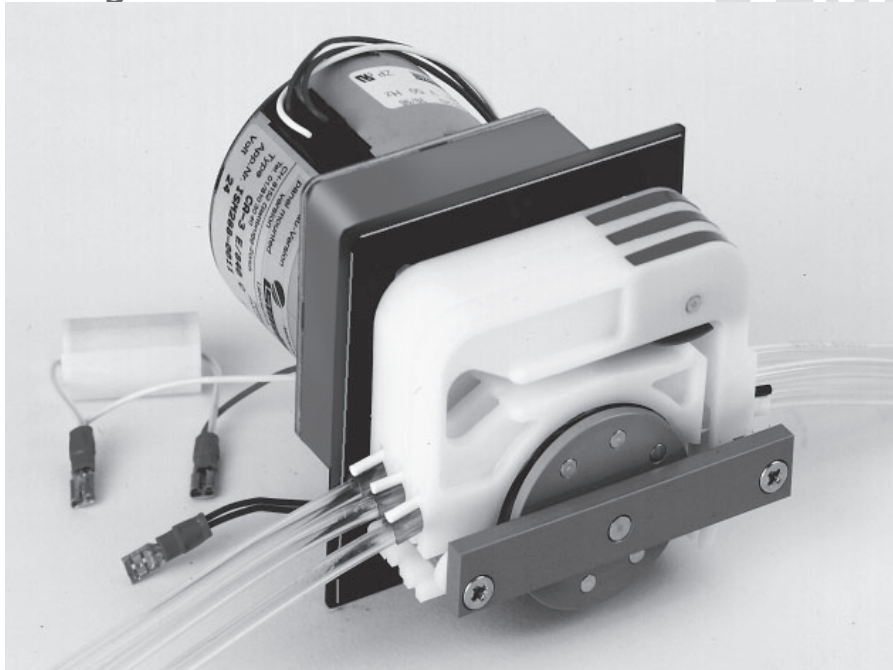
Data sheet

02.1.9

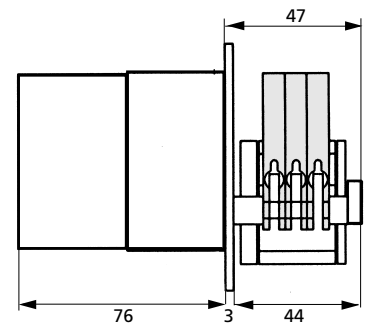
30.09.05

Synchronous motor with gear box

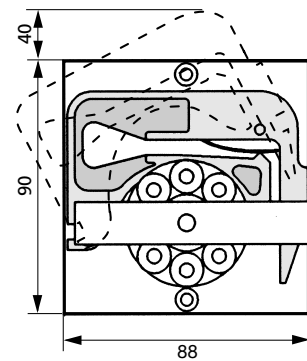
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

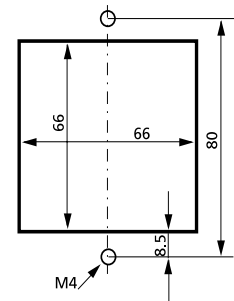
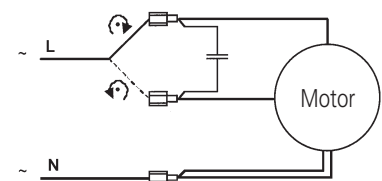


Diagram and electrical connections



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** ²⁾
 IS 0649 MS/CA Pressure lever, **POM-C**
 IS 3629 MS/CA Pressure lever, **PVDF**

²⁾ Standard equipment
 ➔ Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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 _{AC} /50 Hz	ISM 274	3EB 028	3EB 029	3EB 030	ISM 414	ISM 288	3EB 031	
24 V _{AC} /60 Hz	3EB 032	3EB 033	3EB 034	3EB 035	3EB 036	3EB 037	3EB 038	
115 V _{AC} /50 Hz*								
115 V _{AC} /60 Hz	3EB 039	3EB 040	3EB 041	3EB 042	3EB 043	3EB 044	3EB 045	
230 V _{AC} /50 Hz	ISM 710	3EB 046	3EB 047	3EB 048	3EB 049	ISM 632	3EB 050	
230 V _{AC} /60 Hz*								

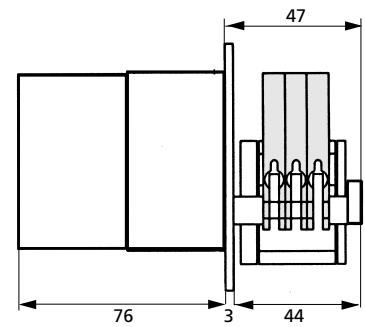
*on request

Synchronous motor with gear box

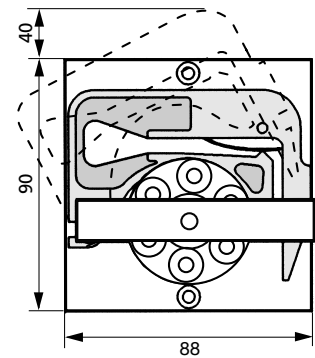
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

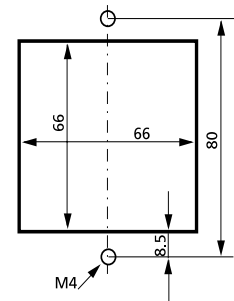
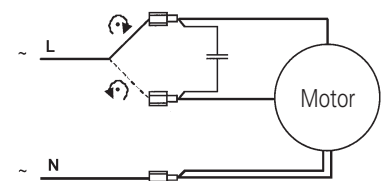


Diagram and electrical connections



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-C²⁾
 IS 0649 MS/CA Pressure lever, POM-C
 IS 3629 MS/CA Pressure lever, PVDF

²⁾ Standard equipment
 ➔ Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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 _{AC} /50 Hz	3EB 001	3EB 002	3EB 003	3EB 004	3EB 005	3EB 006	ISM 707	
24 V _{AC} /60 Hz	3EB 007	3EB 008	3EB 009	3EB 010	3EB 011	3EB 012	3EB 013	
115 V _{AC} /50 Hz*								
115 V _{AC} /60 Hz	3EB 014	3EB 015	3EB 016	3EB 017	3EB 018	3EB 019	3EB 020	
230 V _{AC} /50 Hz	3EB 021	3EB 022	3EB 023	3EB 024	3EB 025	3EB 026	3EB 027	
230 V _{AC} /60 Hz*								

*on request

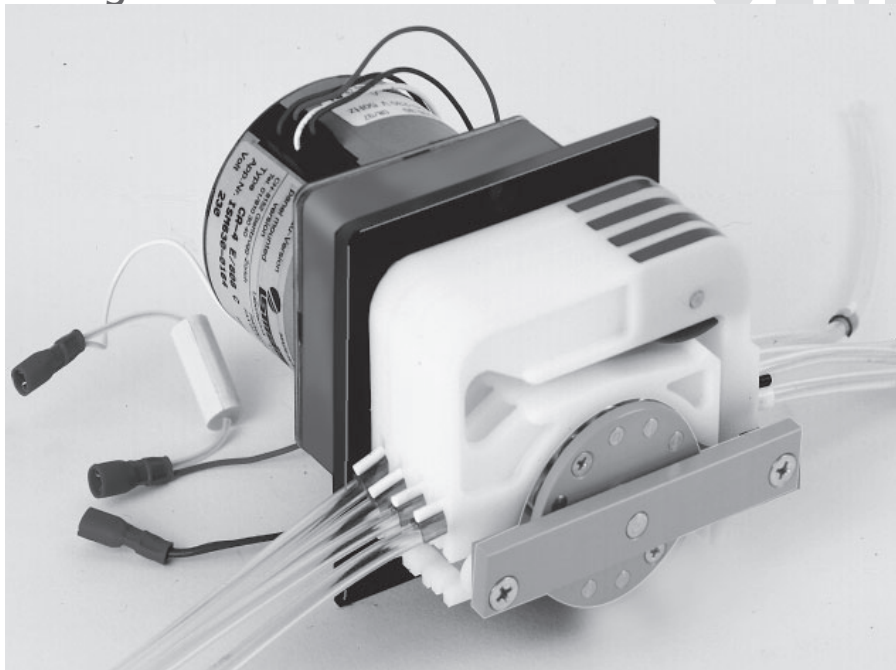
Data sheet

02.1.7

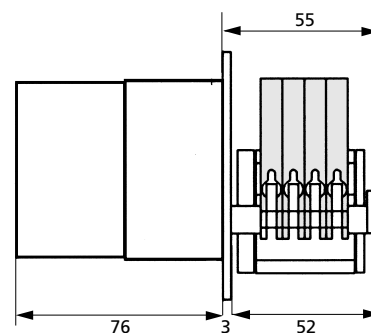
30.09.05

Synchronous motor with gear box

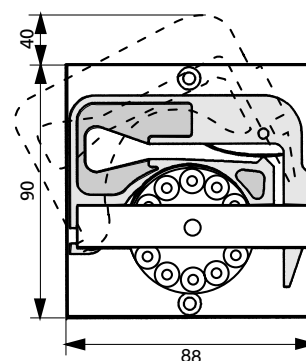
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

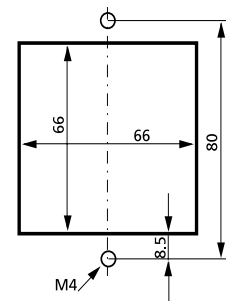
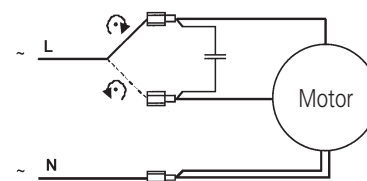


Diagram and electrical connections



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

Technical specifications

Pump model	MS/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**²⁾
- IS 0649 MS/CA Pressure lever, **POM-V**
- IS 3629 MS/CA Pressure lever, **PVDF**

²⁾ Standard equipment

➔ Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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.

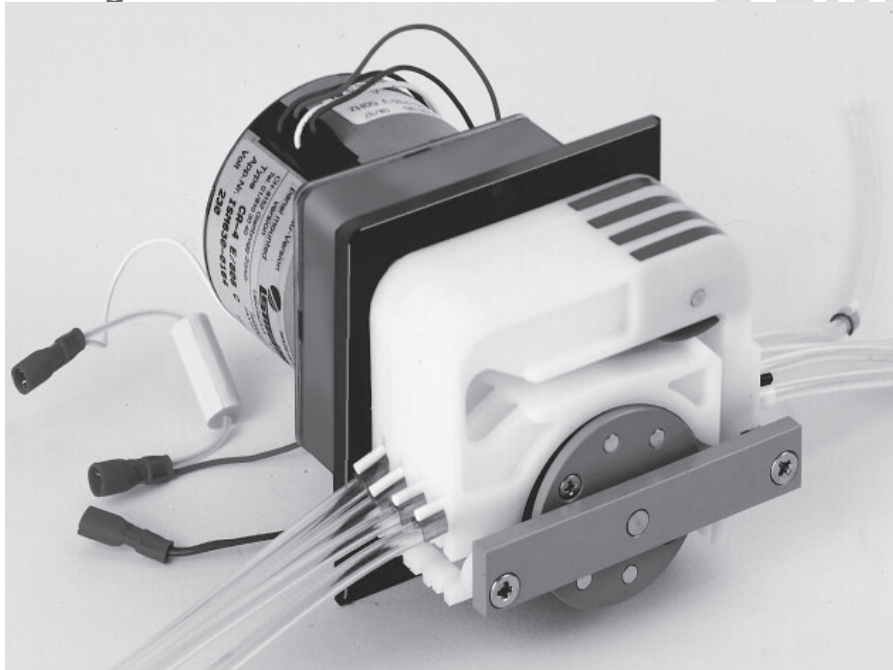
Ordering information

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

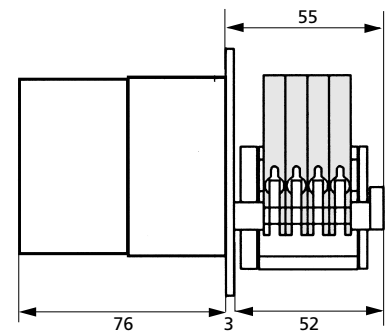
*on request

Synchronous motor with gear box

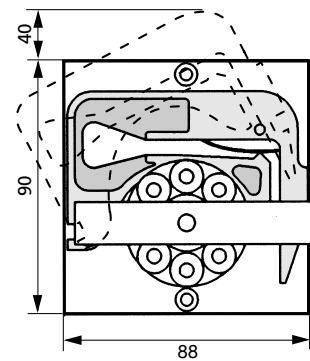
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

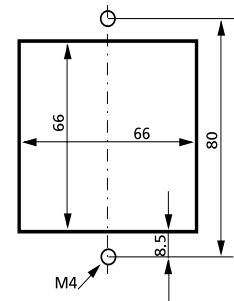
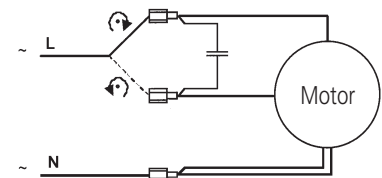


Diagram and electrical connections



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

Technical specifications

Pump model	MS/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** ²⁾
 IS 0649 MS/CA Pressure lever, **POM-C**
 IS 3629 MS/CA Pressure lever, **PVDF**

²⁾ Standard equipment
 → Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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.

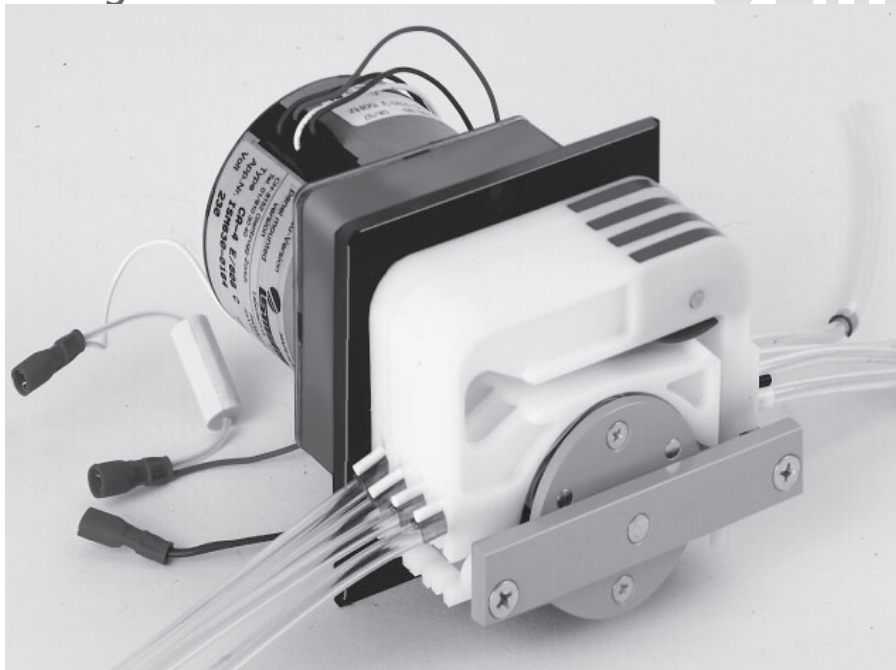
Ordering information

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

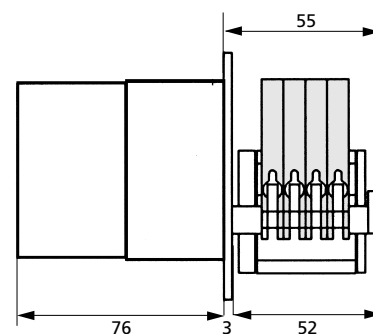
*on request

Synchronous motor with gear box

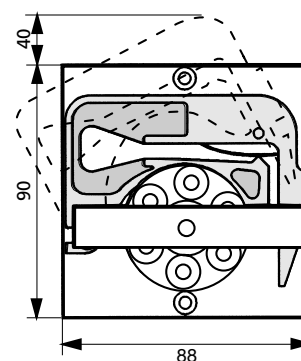
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

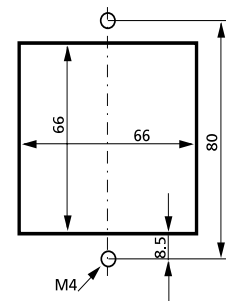
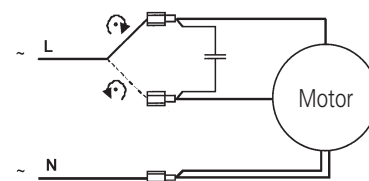


Diagram and electrical connections



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** ²⁾
 IS 0649 MS/CA Pressure lever, **POM-C**
 IS 3629 MS/CA Pressure lever, **PVDF**

²⁾ Standard equipment
 → Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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 _{AC} /50 Hz	4EB 001	4EB 002	4EB 003	4EB 004	ISM 420	ISM 421	ISM 449	
24 V _{AC} /60 Hz	4EB 005	4EB 006	4EB 007	4EB 008	ISM 422	ISM 423	ISM 453	
115 V _{AC} /50 Hz*								
115 V _{AC} /60 Hz	4EB 009	4EB 010	4EB 011	4EB 012	ISM 491	ISM 489	ISM 426	
230 V _{AC} /50 Hz	4EB 013	4EB 014	4EB 015	4EB 016	ISM 304	ISM 305	ISM 141	
230 V _{AC} /60 Hz*								

*on request

Data sheet

02.1.10

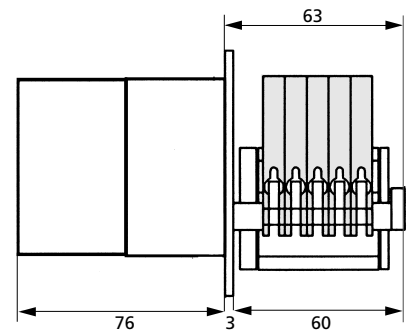
30.09.05

Synchronous motor with gear box

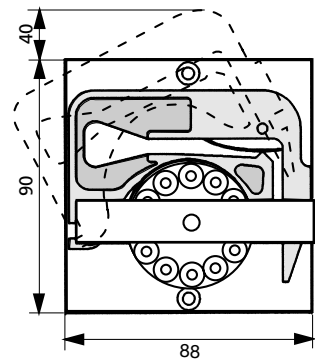
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

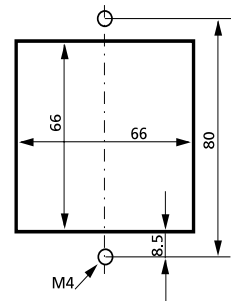
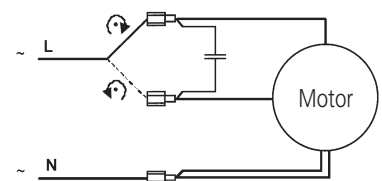


Diagram and electrical connections



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

Technical specifications

Pump model	MS/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**²⁾
- IS 0649 MS/CA Pressure lever, **POM-C**
- IS 3629 MS/CA Pressure lever, **PVDF**

²⁾ Standard equipment

➔ Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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.

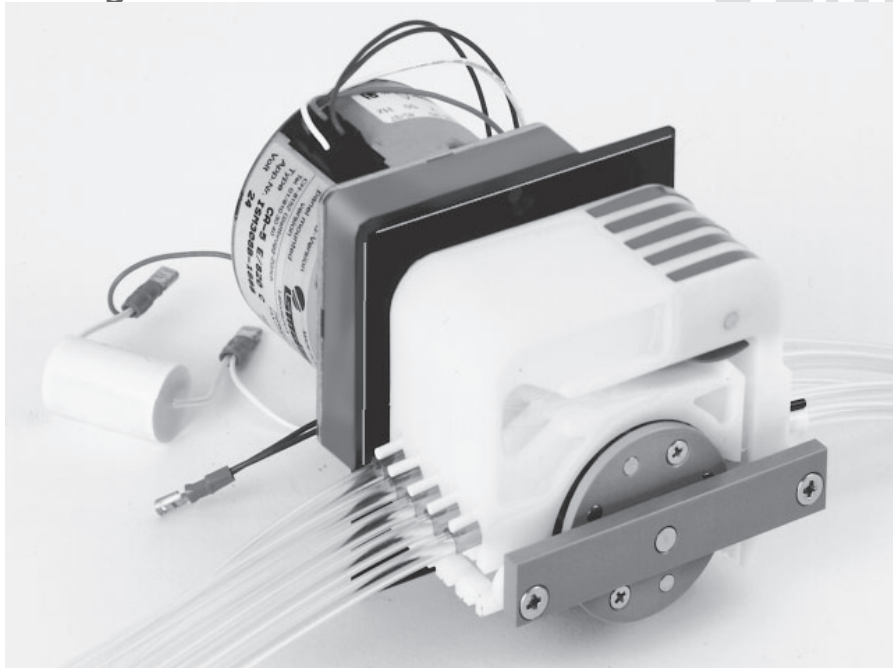
Ordering information

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

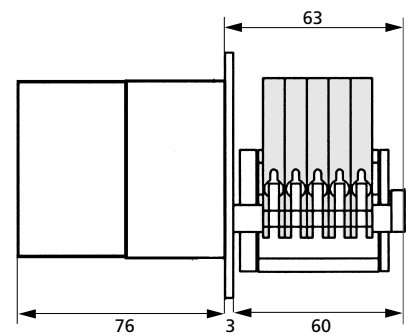
*on request

Synchronous motor with gear box

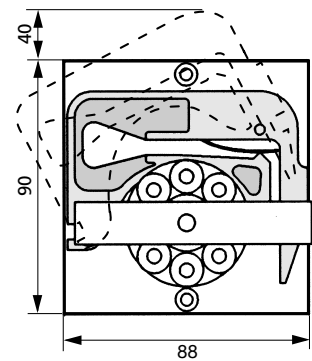
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

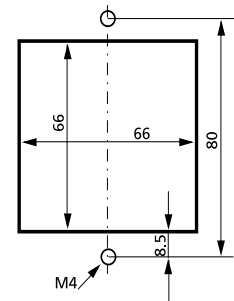
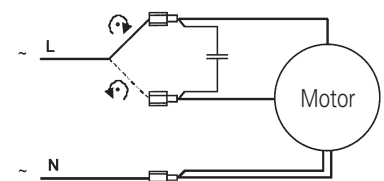


Diagram and electrical connections



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** ²⁾
 IS 0649 MS/CA Pressure lever, **POM-C**
 IS 3629 MS/CA Pressure lever, **PVDF**

²⁾ Standard equipment
 ➔ Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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 _{AC} /50 Hz		5EB 024	5EB 025	ISM 705	5EB 026	ISM 308	ISM 443
24 V _{AC} /60 Hz		5EB 028	5EB 029	ISM 794	5EB 030	ISM 402	5EB 031
115 V _{AC} /50 Hz*							
115 V _{AC} /60 Hz		5EB 033	5EB 034	5EB 035	5EB 036	ISM 442	5EB 037
230 V _{AC} /50 Hz		5EB 039	5EB 040	5EB 041	5EB 042	ISM 431	5EB 043
230 V _{AC} /60 Hz*							

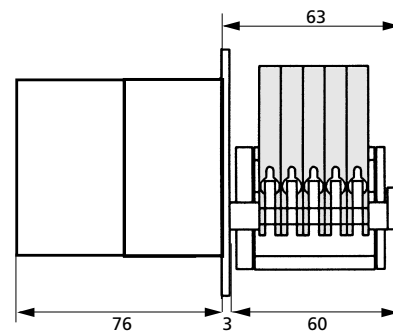
*on request

Synchronous motor with gear box

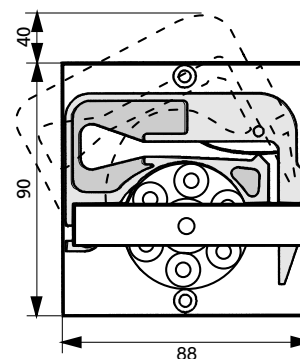
OEM



Side view (mm)



Front view (mm)



Mounting cut-out (mm)

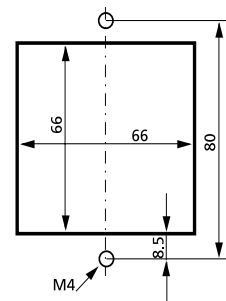
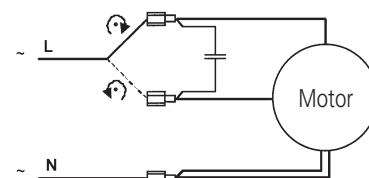


Diagram and electrical connections



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** ²⁾
 IS 0649 MS/CA Pressure lever, **POM-C**
 IS 3629 MS/CA Pressure lever, **PVDF**

²⁾ Standard equipment
 → Please see data sheet 09.1

Flow rates¹⁾

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

¹⁾ 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 _{AC} /50 Hz	5EB 001	5EB 002	5EB 003	5EB 004	ISM 429	5EB 005
24 V _{AC} /60 Hz	5EB 007	5EB 008	5EB 009	5EB 010	ISM 430	5EB 011
115 V _{AC} /50 Hz*						
115 V _{AC} /60 Hz	5EB 013	5EB 014	5 EB 015	5EB 016	ISM 452	5EB 017
230 V _{AC} /50 Hz	5EB 019	5EB 020	ISM 271	5EB 021	ISM 428	5EB 022
230 V _{AC} /60 Hz*						

*on request

Data sheet

02.1.13

30.09.05