www.revodix.co.kr

CATALYST™ by Masterflex®

ISMATEC®

Peristaltic Pumps & Tubing

Catalyst
Compact &
Economic!

ISMATEC Reglo ICC

1대로 4대의 효과를!
각 채널 독립제어!

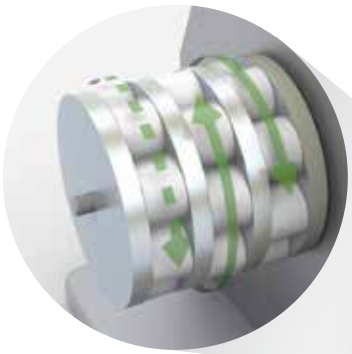
REVODIX
since 1995 레보딕스(주)

Reglo ICC

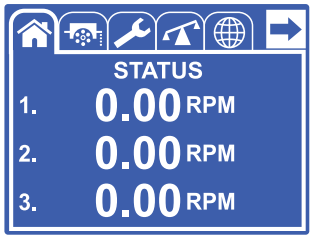
Independent Channel Control Pump

BEST

Independent
Channel Control
Reglo ICC
ISMATEC



Flow Range **0.0002 to 35 ml/min**



Reglo ICC Feature

- 각 채널별 독립적인 유량제어 가능
- 각 채널별 정방향/ 역방향 동시 컨트롤 가능
- 2, 3, 4 채널/ 6, 8, 12 롤러
- 카세트 타입으로 튜빙 교체가 편리
- Continous & Dispensing flow control
- PC Control(USB Interface) & Keypad control 가능
- Windows Software 포함

Technical Specification

Reglo Icc

Flow Range	0.0002 to 35 mL / min
Number of Channels	2, 3, 4
Differential Pressure	Max 1.0 bar (14.5 psi)
Chemical Resistance	Depends on Tubing Material
Self-Priming	Yes
Sensitive to Dry-Running	No
Syphoning Effect	No

ISMATEC pump tubing material features

평가결과 + 적합 / 1 추천하지않음 / ± 제한적으로 적합 / 10 최상 / – 비 권장

평가항목		Tygon® LFL	Tygon® LMT-55	PharMed® Ismaprene	Tygon MHSL 2001	Tygon MHLL	Tygon® HC F-4040-A	Tygon SI Silicone 3350 (Platinum)	Silicone Peroxide	Norprene® A-60-G	Fluran® Fluran® HCA F-5500-A
FDA		+	+	+	+	+	–	+	+	–	–
US Pharmacopoeia Class	VI	+	–	+	–	+	–	+	+	–	–
투명도		+	+	–	+	–	±	±	±	–	–
수명		7	1	10	3	10	2	4	4	10	3
가스투과성	CO_2	8	7	5	5	5	9	1	1	5	10
	O_2	9	9	8	9	8	10	1	1	8	10
	N_2	10	9	8	6	8	10	1	1	8	10
온도	0 °C 이상	2	2	7	1	7	2	10	10	7	9
온도	0 °C 이하	3	4	8	7	8	1	10	10	8	4
압력		9	5	1	1	1	7	1	1	1	1
흡수/흡착		6	6	9	10	9	6	1	1	9	7
Chemical Resistance											
산	10%	10	10	10	10	10	10	10	10	10	10
	30%	10	10	10	10	10	7	7	8	10	10
	95 – 98%	1	1	1	7	1	1	1	1	1	10
염기	10 – 15%	10	10	10	10	10	1	10	10	10	10
	30 – 40%	4	4	10	10	10	1	10	10	10	10
탄화수소(지방류)	1	1	1	1	1	7	1	1	1	7	
미네랄염		10	10	10	10	10	10	7	7	10	10
알코올류		1	1	10	10	10	7	7	10	10	1
케톤(아세톤)		1	1	1	7	1	1	4	1	1	1
Applications	Acids	good	good	good	excellent	excellent	limited	limited	excellent	excellent	excellent
	Alkaline solutions	good	good	good	excellent	excellent	limited	good	excellent	excellent	excellent
	Solvents	not recommended	not recommended	not recommended	good /excellent	excellent	limited	not recommended	not recommended	excellent excellent	limited limited
	Pressure	good	fair	not recommended	-	not recommended	not recommended	not recommended	not recommended	not recommended	not recommended
	Vacuum	good	good	excellent	-	good	good	good	good	good	good
	Viscous media	excellent	excellent	good	-	good	fair	fair	excellent	good	good
	Sterile Media	limited	limited	excellent	-	good	excellent	excellent	not recommended	good	fair
tubing life3	at 0 bar	800 hrs	35 hrs	1000 + hrs	75 hrs	800 + hrs	200 hrs	-	1000+ hrs	800 + hrs	150 hrs
	at 0.7 bar	700 hrs	30 hrs	1000 hrs	-	800 + hrs	100 hrs	-	1000 hrs	800 + hrs	90hrs

3-Stopper tubing for MS/CA cassettes color information

i.d. mm	Color-Code	Tygon® LFL	iΦ mm	Tygon® LMT-55	PharMed® Ismaprene		Tygon® HC F-4040-A	Tygon® MHSL 2001	Tygon® MHLL	Tygon® SL Silicone3350	Silicone Peroxid	Viton® Fluran® HCA F-5500-A
0.13 [1]	orange-black			SC0189								
0.19 [1]	orange-red			SC0049								
0.25 [1]	orange-blue	SC0397	0.27	SC0050	SC0303	SC0730*	SC0286					
0.38 [1]	orange-green	SC0398	0.38	SC0051	SC0304		SC0287	SC0802**	SC0710**			
0.44 [1]	green-yellow			SC0052								
0.51 [1]	orange-yellow	SC0399	0.48	SC0053	SC0305	SC0731	SC0288			SC0600		SC0255
0.57 [1]	white-yellow			SC0054								
0.64 [1]	orange-white	SC0400	0.64	SC0055	SC0306		SC0289	SC0804**	SC0711**	SC0601	SC0106	SC0256
0.76 [2]	black-black	SC0401	0.76	SC0056	SC0307		SC0290			SC0602	SC0107	SC0257
0.89 [2]	orange-orange	SC0402	0.89	SC0057	SC0308	SC0732	SC0291			SC0603	SC0108	SC0258
0.95 [2]	white-black			SC0058								
1.02 [2]	white-white	SC0403	1.02	SC0059	SC0309	SC0737	SC0292	SC0806**	SC0712**	SC0604	SC0109	SC0259
1.09 [2]	white-red			SC0060								
1.14 [2]	red-red	SC0404	1.14	SC0061	SC0310		SC0293			SC0605	SC0110	SC0260
1.22 [2]	red-grey			SC0062								
1.30 [2]	grey-grey	SC0405	1.25	SC0063	SC0311	SC0733*	SC0294			SC0606	SC0111	SC0261
1.42 [2]	yellow-yellow	SC0406	1.37	SC0064	SC0312		SC0295			SC0607	SC0112	SC0262
1.52 [2]	yellow-blue	SC0407	1.52	SC0065	SC0313	SC0734	SC0296	SC0808**	SC0713**	SC0608	SC0113	SC0263
1.65 [2]	blue-blue	SC0408	1.60	SC0066	SC0314		SC0297			SC0609	SC0114	SC0264
1.75 [2]	blue-green			SC0067								
1.85 [2]	green-green	SC0409	1.85	SC0068	SC0315		SC0298			SC0610	SC0115	SC0265
2.06 [2]	purple-purple	SC0410	2.06	SC0069	SC0316	SC0735	SC0299	SC0810**	SC0714**	SC0611	SC0116	SC0266
2.29 [2]	purple-black	SC0411	2.20	SC0070	SC0317		SC0300			SC0612	SC0117	SC0267
2.54 [2]	purple-orange	SC0412	2.62	SC0071	SC0318		SC0301			SC0613	SC0118	SC0268
2.79 [2]	purple-white	SC0413	2.79	SC0072	SC0319	SC0736*	SC0302	SC0812**	SC0715**	SC0614	SC0119	SC0269
3.17 [2]	black-white			SC0224								
Pack size (pces.)		12		12	6		12	6	6	6	6	12
Tube length (mm)		400		400	400		400	300	300	400	400	400

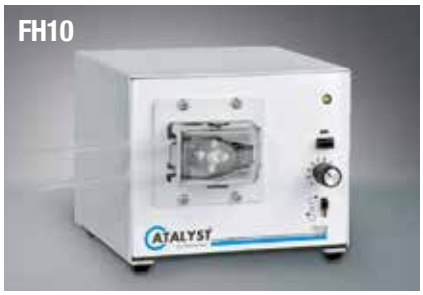
[1] Wall thickness 0.91 mm [2] Wall thickness 0.86 mm * Welded stoppers for autoclaving ** These tubes are only equipped with 2 stoppers

Compact Type Peristaltic Pump

Catalyst

FH10 | FH15 | FH30

0.002-105ml/min



- 손쉬운 튜빙 교체
- 최대 2.1bar까지 압력 변화에서도 유량 보장
- 높은 정확성 및 반복 정밀도
- Prime 기능으로 액체를 빠른시간에 Filling or Waste 가능
- 정방향, 역방향 액체 흐름 조절 및 On/Off 가능
- Compact한 디자인으로 매우 적은 공간 차지
- 여러 대를 적층하여 사용 가능함
- Remote control & Foot switch control 가능

Specifications & Ordering Information

Catalyst model	FH10			FH15	FH30
Catalog number	77720-00	77720-02	77720-04	77720-20	77720-30
Performance					
Number of channels	1	1	1	1	2
Flow capacity (mL/min)	0.002 to 1.65	0.017 to 11	0.07 to 50	0.8 to 105	0.8 to 14
rpm	1.7 to 10	13 to 80	50 to 300	20 to 100	20 to 100
Electrical					
Voltage (50/60 Hz)	90 to 130 or 160 to 260 VAC (auto selected)				
Motor type	PMDC				
Control type	PWM (pulse width modulated)				
Physical					
Operating temperature	0 to 40ºC (32 to 104ºF)				
Storage temperature	–25 to 65ºC (–13 to 149ºF)				
Housing materials	Powder-coated steel				
IP rating IP22	IP22				
Controller dimensions (L × W × H)	17.8 x 13.4 x 11.4 cm (7" × 51/4" × 41/2")				
Shipping weight	1.5kg (3.3lb)				

Single-Channel Peristaltic Pump

Catalyst
FH100 Series

FH100D / FH100DX
0.5-4000ml/min

- Digital control
- LCD 창을 통하여 모든 작동 수치 확인 가능
- 멤브레인 키패드로 손쉽게 유량 컨트롤 가능
- 최대 4.1bar까지 토출 가능
- Volume, Time, RPM 컨트롤 가능
- 프로그램 가능, Auto dispensing 가능
- Pump Open lockout sensor로
  Pump Head Open시 자동으로 멈춤

FH100 / FH100X
0.5-4000ml/min

- rpm을 LED 표시창에 표시
- 4-20mA, 0-10V analog control
- 멤브레인 키패드로 RPM조절 가능

Specifications & Ordering Information

Flow range (mL/min)	Tubing sizes accepted(mm ID)	Speed range	Speed control (repeatability)	Remote control input	Reversible motor	Power (50/60 Hz)		Catalog number
						VAC	Amps	
A. Catalyst FH100 pump accepts 1.6 mm (thin-wall) tubing								
0.5 to 3000	0.8, 1.6, 3.2, 4.8, 6.4, 8.0	4 to 400rpm	±0.25%	4 to 20mA, 0 to 10V	Yes	90 to 260	1.6 at 115 VAC, 1.9 at 230 VAC	77722-00
A. Catalyst FH100X pump accepts 2.4 mm (thick-wall) tubing								
14 to 4000	4.8, 6.4, 8.0, 9.5	4 to 400rpm	±0.25%	4 to 20mA, 0 to 10V	Yes	90 to 260	1.6 at 115 VAC, 1.9 at 230 VAC	77722-02
B. Catalyst FH100D pump accepts 1.6 mm (thin-wall) tubing								
0.5 to 3000	0.8, 1.6, 3.2, 4.8, 6.4, 8.0	4 to 400rpm	±0.25%	0 to 20mA, 4 to 20mA, 0 to 10V scalable	Yes	90 to 260	1.6 at 115 VAC, 1.9 at 230 VAC	77722-10
B. Catalyst FH100DX pump accepts 2.4 mm (thick--wall) tubing								
14 to 4000	4.8, 6.4, 8.0, 9.5	4 to 400rpm	±0.25%	0 to 20mA, 4 to 20mA, 0 to 10V scalable	Yes	90 to 260	1.6 at 115 VAC, 1.9 at 230 VAC	77722-10

Multi-Channel Peristaltic Pump

Catalyst
FH100M Series

0.002-530ml/min

- 4,8,12 채널 선택 가능
- 3,4,6,8 roller 선택 가능
- Cartridge type으로 멀티채널에서 손쉬운 튜빙교체
- 모든 채널에서 높은 반복정밀도
- Volume, Time, RPM을 digital로 표시

Specifications & Ordering Information

Catalyst model	FH100M4/6	FH100M4/8	FH100M8/3	FH100M8/4	FH100M12/6	FH100M12/8
Catalog number	**77724-00**	**77724-02**	**77724-04**	**77724-06**	**77724-08**	**77724-10**
Max number of channels	4	4	8	8	12	12
Number of rollers	6	8	3	4	6	8
Number of cartridges included						
Small	–	4	–	8	–	12
Large	2	–	4	–	6	–
Performance						
Flow capacity (mL/min)	0.21 to 280	0.013 to 67.0	0.22 to 530	0.02 to 100	0.033 to 56	0.002 to 14.0
rpm	4 to 200				0.8 to 80	
Reversible	yes				yes	
External control – input	0 to 20 mA, 4 to 20 mA, or 0 to 10V (scalable); remote/local; direction (CW/CCW); start/stop; PRIME via contact closure					
External control – output	4 to 20 mA or 0 to 10 V					
Motor running logic	N.O. or N.C. (1 A @ 24 VAC)					
Tachometer output	5V, TTL pulse					
Electrical						
Voltage (50/60 Hz)	90 to 260 VAC; auto selected					
Current	1.6A @ 115 VAC; 1.9 A @ 230 VAC					
Motor type	PMDC					
Motor size	1/10 hp (75 watts)					
Phase control	Phase controlled					
Display	Multiline LCD, displays all operational parameters					
Speed regulation (accuracy)	±0.25% full-scale					
Speed regulation (repeatability)	±0.1 rpm at 4 to 400 rpm					
Physical						
Operating temperature	0 to 40˚C (32 to 104˚F)					
Storage temperature	–25 to 65˚C (–13 to 149˚F)					
Materials of construction	Housing: ABS; Pump head: polysulfone, stainless steel, anodized,aluminum, Rulon, Buna N; Cartridge: polycarbonate, GF nylon, anodized, aluminum knob					
IP rating	IP31					
Controller dimensions	1.7 x 27.9 x 15.2 cm (12½" x 11" x 6")					
Shipping weight	7 kg (15 lb)					

Pump Tubing

SILICONE (PLATINUM-CURED)

PHARMED® BPT

NORPRENE® FOOD (A 60 F)

TYGON® E-FOOD (B-44-4X)

Tubing Coils for Catalyst FH10 Pumps

Tubing ID	0.19 mm ID	0.25 mm ID	0.89 mm ID	1.42 mm ID	2.06 mm ID	2.79 mm ID
Flow (mL/min) at 1.7 to 10 rpm	0.002 to 0.013	0.004 to 0.022	0.041 to 0.25	0.09 to 0.57	0.18 to 1.05	0.25 to 1.65
Flow (mL/min) at 13 to 80 rpm	0.017 to 0.10	0.03 to 0.18	0.33 to 2.0	0.75 to 4.5	1.4 to 8.5	1.8 to 11.0
Flow (mL/min) at 50 to 300 rpm	0.07 to 0.43	0.12 to 0.73	1.4 to 8.3	3.2 to 19	5.9 to 35.2	8.3 to 50
Silicone, platinum-cured (15 m/49.2 ft)	**–**	**–**	**97200-14**	**97200-16**	**97200-17**	**97200-18**
PharMed® BPT (30 m/98.4 ft)	**–**	**97200-33**	**97200-34**	**97200-36**	**97200-37**	**97200-38**
Tygon® E-Food (30 m/98.4 ft)	**97200-72**	**97200-73**	**97200-74**	**97200-76**	**97200-77**	**97200-78**

Two-Stop Tubing Links for Catalyst FH15 and FH30 Pumps

Tubing ID	0.8 mm ID	1.6 mm ID	3.2 mm ID	4.8 mm ID
Flow (mL/min) with FH15	0.8 to 4.0	2.8 to 14	11 to 54	21 to 105
Flow (mL/min) with FH30	0.8 to 4.0	2.8 to 14	Not recommended	
Silicone, platinum-cured (6/pk)	**97100-12**	**97100-13**	**97100-16**	**97100-17**
PharMed® BPT (12/pk)	**97100-22**	**97100-23**	**97100-26**	**97100-27**
Norprene® Food (12/pk)	**97100-42**	**97100-43**	**97100-46**	**97100-47**
Tygon® E-Food (12/pk)	**97100-62**	**97100-63**	**97100-66**	**97100-67**

Tubing Coils for Catalyst FH100, FH100X, FH100D, and FH100DX Pumps

Description	1.6mm (thin-wall) tubing for FH100 and FH100D pumps						2.4mm (thick-wall) tubing for FH100X and FH100DX pumps			
Inner diameter	0.8 mm	1.6 mm	3.2 mm	4.8 mm	6.4 mm	8.0 mm	4.8 mm	6.4 mm	8 mm	9.5 mm
Hose barb size	1/32"	1/16"	1/8"	3/16"	1/4"	5/16"	3/16"	1/4"	5/16"	3/8"
Flow (mL/min)	0.5 to 40	2.0 to 150	6.5 to 550	16 to 1200	24 to 2000	36 to 3000	14 to 1200	24 to 2000	36 to 3000	48 to 4000
Length/pk	15 m (49.2 ft)	15 m (49.2 ft)	15 m (49.2 ft)	15 m (49.2 ft)	15 m (49.2 ft)	15 m (49.2 ft)	15 m (49.2 ft)	15 m (49.2 ft)	15 m (49.2 ft)	15 m (49.2 ft)
Silicone, platinum-cured	**–**	**97000-71**	**97000-72**	**97000-73**	**97000-74**	**97000-75**	**97000-76**	**97000-77**	**97000-78**	**97000-79**
PharMed® BPT	**97000-20**	**97000-21**	**97000-22**	**97000-23**	**97000-24**	**97000-25**	**–**	**–**	**–**	**–**
Norprene® Food	**–**	**97000-41**	**97000-42**	**97000-43**	**97000-44**	**97000-45**	**–**	**–**	**–**	**–**
Tygon® E-Food	**–**	**97000-61**	**97000-62**	**97000-63**	**97000-64**	**97000-65**	**–**	**97000-67**	**97000-68**	**97000-69**

Two-Stop Tubing Links for Catalyst FH100M Pumps — for small cartridges

With pump model	Number of rollers	Flow rates (mL/min) for indicated pump model and tubing ID					
		0.19 mm ID	0.25 mm ID	0.89 mm ID	1.42 mm ID	2.06 mm ID	2.79 mm ID
FH100M 4/8	8	0.013 to 0.60	0.018 to 0.91	0.18 to 9.1	0.04 to 20.0	0.88 to 44.0	1.38 to 67.0
FH100M 8/4	4	0.02 to 0.85	0.03 to 1.0	0.26 to 13.0	0.53 to 26.0	1.14 to 57.0	2.06 to 100.0
FH100M 12/8	8	0.002 to 0.11	0.004 to 0.20	0.03 to 1.9	0.07 to 4.3	0.14 to 8.6	0.25 to 14.0
Silicone, platinum-cured (6/pk)		**97200-02**	**97200-03**	**97200-04**	**97200-06**	**97200-07**	**97200-08**
PharMed® BPT (12/pk)		**97200-22**	**97200-23**	**97200-24**	**97200-26**	**97200-27**	**97200-28**
Tygon® E-Food (12/pk)		**97200-62**	**97200-63**	**97200-64**	**97200-66**	**97200-67**	**97200-68**

Two-Stop Tubing Links for Catalyst FH100M Pumps — for large cartridges

With pump model	Number of rollers	Flow rates (mL/min) for indicated pump model and tubing ID				
		0.8 mm ID	1.6 mm ID	3.2 mm ID	4.8 mm ID	6.4 mm ID
FH100M 4/8	6	0.21 to 10.0	0.6 to 30.0	2.2 to 110	4.0 to 200	5.6 to 280
FH100M 8/4	3	0.22 to 11.0	0.84 to 42.0	3.2 to 160	6.8 to 340	10.6 to 530
FH100M 12/8	6	0.033 to 1.9	0.012 to 6.6	0.35 to 20.0	0.70 to 40.0	0.98 to 56.0
Silicone, platinum-cured (6/pk)		**97100-12**	**97100-13**	**97100-16**	**97100-17**	**97100-18**
PharMed® BPT (12/pk)		**97100-22**	**97100-23**	**97100-26**	**97100-27**	**97100-28**
Norprene® Food (12/pk)		**97100-42**	**97100-43**	**97100-46**	**97100-47**	**97100-48**
Tygon® E-Food (12/pk)		**97100-62**	**97100-63**	**97100-66**	**97100-67**	**97100-68**

Tubing Pump

IP&IP-N / IPC&IPC-N

0.4μL/min ~ 44mL/min(per channel)

- Dispensing Functions(IPC&IPC-N)
- 4, 8, 12, 16, 24 채널
- 8개의 Stainless steel rollers

REGLO Analog / Digital

0.001 ~ 68ml/min(per channel)

- Dispensing Functions(REGLO Digital)
- 2 or 4채널 6, 8, 12 roller 사용
- 3-stop tubing 사용

Catalyst Pump

FH10 / FH15 / FH30

0.0002 ~ 105ml/min

- 최대 2.1bar까지 압력 변화에서도 유량 보장
- 게이지로 컨트롤이 가능 - 방향 조절 가능
- 높은 정확성 및 반복 정밀도 - 설치의 효율성이 높다
- 여러대를 적재 가능

Magnetic Gear Pumps (Pulseless pumping)

REGLO-Z / REGLO-ZS

1 ~ 3290mL/min(유량별 헤드선택 가능)

- Pulse가 거의 없는 액체 이송
- Dispensing Functions (REGLO-Z, ZS Digital)
- 용도에 따라 Micropump사의 Pump heads 교환 가능

BVP / MCP-Z Standard

1 ~ 7241ml/min(per pump-head)

- 백 단위까지 Speed setting 가능(BVP-Z Standard)
- 사용하는 응용 parameter 프로그램을 4개까지 저장 가능
- 유량에 따른 12가지 종류의 펌프 헤더 교체 가능

Rotary Piston Pumps

REGLO CPF Analog / Digital

0.045 ~ 180mL/min (유량별 헤드 선택가능)

- 최대 6.9bar 까지의 Differential pressure
- Dispensing Functions (REGLO CPF Digital)
- 다양한 유량과 재질의 Ceramic piston pumps

Syringe Pumps (Lab)

Fusion Series

10pico ~ 102mL/min (유량별 시린지 선택가능)

- Infuse & Withdraw Pumps (Series별 선택가능)
- Withdraw Rack (Fusion 200)
- 단계별 유량 Control 제어가능

NanoJet

- 최대 4개의 펌프헤드 독립제어 가능
- Infuse & Withdraw Pumps
- Pump head와 Drive가 따로 분리되어 있음
- MRI 환경이나 방사성등의 환경에서 격리하여 사용 가능

Nexus 3000 / Nexus 6000

- 가장 넓은 유량범위를 가진 주사기 펌프
- 0.5ul ~ 225ml의 다양한 사이즈의 주사기 장착 가능
- 연속주입이 가능한 Push/Pull Rack 장착 가능 (Nexus 3000)
- 최대 10bar의 고압 까지 사용 가능 (Nexus 6000)

Syringe Pumps (OEM)

C-Series Syringe Pumps

50μL ~ 12.5mL Syringe volume

- C3000 and C24000 type
- MAX 192,000 Resolution 구현
- Long lift Rotary share valves

MC6000 Multi-Channel Syringe Pump

50μL ~ 5mL Syringe Volume

- 4, 6, 8 Multi-channel syringe pump
- Resolution 3000 ~ 48000 steps
- Long lift Rotary share valves

HPLC Pump

KP-22 Series

0.01~50ml/min

- Max Pressure 2MPa (20bar)
- 내화학성이 뛰어난 PTFE HEAD

레보딕스(주) 홈페이지에 오시면 더욱 다양한 펌프를 보실 수 있습니다

REVODIX since 1995 레보딕스(주)

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