**ISMATEC**®

## Pump-heads Q1 and Q2

Q1 = Stroke vol. 12.8 - 320 µl Q2 = Stroke vol. 28.8 - 720 µl

Q1 = flow rate **0.13 - 576 ml/min** Q2 = flow rate **0.29 - 1300 ml/min** 







Type Order No.	QP Q1.CSC <b>FMI 205</b>	QP Q2.CSC FMI 212	QP Q1.CSC-W FMI 320	QP Q2.CSC-W FMI 321	QP Q1.CSC-WT FMI 219	QP Q2.CSC-WT FMI 218	
Piston	Ceramic		Material and design like QP Q1.CSC and CP Q2.CSC but with isolation gland (2 extra ports 10-32 - female) 액체, 가스, 증기등의 장애조건 때문에 펌프액은 밀봉 지역이나		Material and design like QP Q1.CSC and CP Q2.CSC but with isolation gland (2 extra ports 1/8" NPT - female) and heating mantel CP Q1./Q2.CSC-W와 같은 장애조건 추가. 2 catridge heaters		
Cylinder case	316 Stainless Steel						
Cylinder liner	Ceramic						
Lip seals	Rulon® AR						
Gland washers	PTFE						
Cylinder head seal	PTFE						
Max. temperature	17	7°C	대기 상태에서 분리히	대기 상태에서 분리해야 함		(1/4" diam ×1/2" long)과 1 thermo	
Max. differential pressure	6.9 bar		슬러리, 파티클 그리고 혐기성 물질도 처리 가능		couple(1/8" diam × 1" long)은 펌프 헤드의 가열에 이용할 수 있음		
Main flow ports	1/4 NPT (female) Included: 2 stainless steel adaptors with thread 1/4 NPT(male) and fitting for tubing with 9.5 mm i.d.  Tubing Tygon®ST R-3603 9.5 mm i.d. Order No. SC0383  Accessories Low Flow Kit R 479 Order No. FMI 056		Included for barrier gland ports : 2 Polypropylene adaptors, thread 10-32 UNF and fitting for tubing with 3.2 mm i.d		Not included: Tubing adaptors for: barrier gland ports 1/8"NPT(female) main flow ports 1/4" NPT(female)		
Tubing (must be ordered separately)							

## Other materials for wetted parts for:

## Pump-heads Q1 and Q2 (see table below)

12.8 - 320 μl 28.8 - 720 μl Q1 = Stroke vol. Q2 = Stroke vol. Q1 = Flow rates Q2 = Flow rates 0.13 - 576 ml/min 0.29 - 1300 ml/min

Tubing and connections for pump-heads with the suffix -W or -WT (must be ordered separately)					
Description	Order No.				
2 stainless steel fittings for inlet/outlet, thread $1\!\!/4\text{"NPT}$ male, with fittings for tubing with 6.4 mm i.d.	FMI 060				
Tubing for inlet/outlet (Tygon ST R-3603) 6.4 mm i.d., 15m long	MF 0031				

Type/Order No. Type/Order No.		QP Q1.CKC-W/FMI 356 QP Q2.CKC-W/FMI 357		QP Q1.CSY/FMI 359 QP Q2.CSY/FMI 360	QP Q1.SKY/FMI 361 QP Q2.SKY/FMI 362	QP Q1.SSY/FMI 363 QP Q2.SSY/FMI 364	QP Q1.SAN1/FMI 365 QP Q2.SAN1/FMI 366
Piston	Ceramic	Ceramic	Ceramic	Ceramic	316 Stainless Steel	316 Stainless Steel	Ceramic
Cylinder Case	Kynar®2	Kynar®2	Kynar®2	316 Stainless Steel	Kynar®2	316 Stainless Steel	316 Stainless Steel
cylinder liner	Ceramic	Ceramic	Carbon	Carbon	Carbon	Carbon	316 Stainless Steel
Lip seals	Rulon®AR	Rulon®AR	Rulon®AR	Rulon®AR	Rulon®J	Rulon®J	PTFE
Gland washers	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE	PTFE
Cylinder head seal	none	none	none	PTFE	none	PTFE	PTFE
Max. temperature	100°C	100°C	100°C	177°C	60°C	60°C	177°C
Max. diff. pressure	4.1 bar	4.1 bar	4.1 bar	6.9 bar	4.1 bar	6.9 bar	6.9 bar
Main flow ports	For tubing up to 9.5 mm i.d.	For tubing up to 9.5 mm i.d. With isolation gland Fittings for tubing with 3.2 mm i.d.	For tubing up to 9.5 mm i.d.	1/4 NPT (female)	For tubing up to 9.5 mm i.d.	1/4 NPT (female)	PTFE tubing adaptor