QF5k

Quaternary Diaphragm Pumps

QUATTROFLOW™ Fluid Systems

New Multiple-Use Pump Size

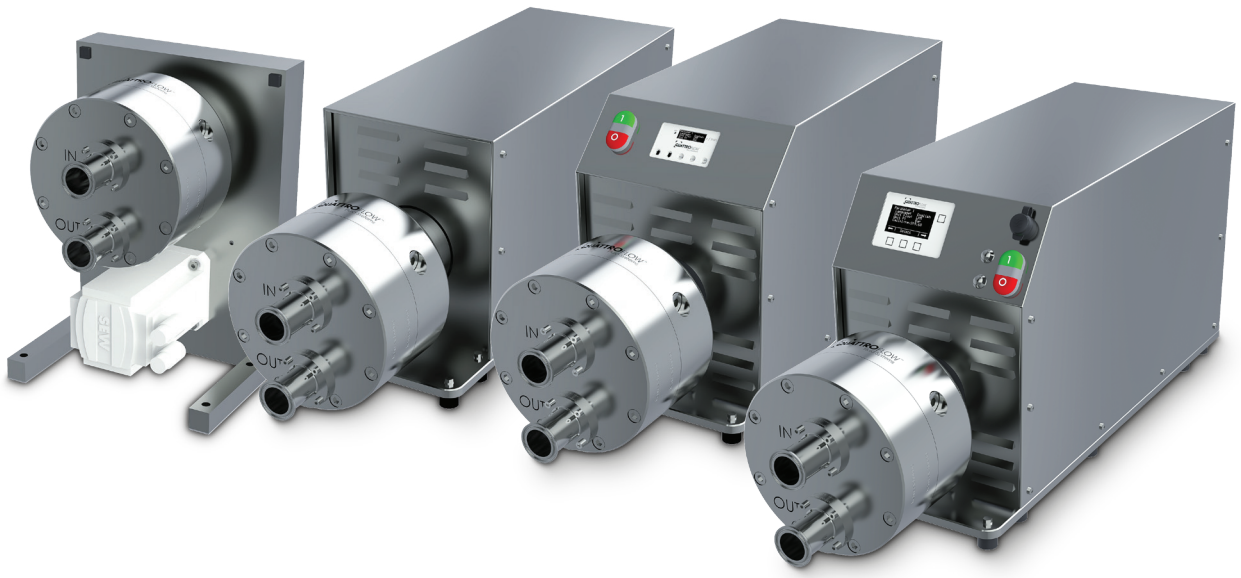
Quattroflow™ extends its next generation Quaternary (Four-Piston) Diaphragm Pumps with the new QF5k multiple-use offering, adding to the range for drainable and ventable technology.

Designed to achieve a flow rate between 50 and up to 6,000 lph, the next generation Quattroflow™ QF5k introduces improvements to critical functionality that the biopharma market demands.

Quattroflow multiple-use pumps now cover a flow capacity between 1 to 16,000 lph with multi-use pump sizes now available to meet the needs from small R&D projects to full-scale manufacturing environments.

Next generation QF5k pumps offer the following features and benefits:

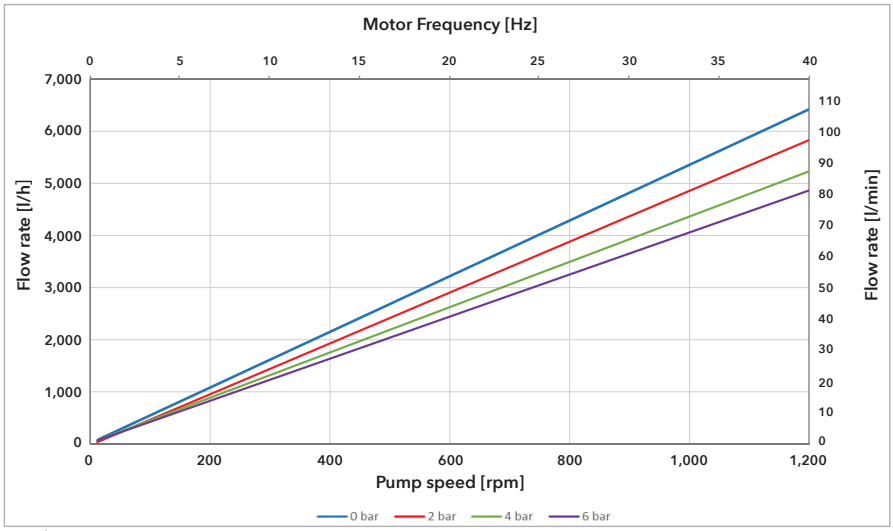
- Increased max. flow rate of 6,000 lph with most drives
- Clean-In-Place/Steaming-In-Place (CIP/SIP) and autoclavability
- Self-draining design to minimize non-recoverable product
- Enhanced venting to reduce the minimum flow rate required to remove entrapped air during priming
- Patented valve plate design to achieve self-draining and venting
- Up to 120:1 turndown ratio
- Improved linear flow performance
- High flow stability across entire flow range
- Available in several drive versions:
  - **AC version:** With 3 phase asynchronous motor
  - **Compact drive:** Minimal footprint due to "pump next to motor" design
  - **HT drive:** Plug-and-play version with integrated motor controller and keypad
  - **Q-Control:** Integrated pump controller with direct sensor connection
- Diaphragm monitoring available as option
- Motor flange design to reduce pump noise and simplify coupling alignment
- Typical applications include: Chromatography, TFF, virus filtration, sterile filtration, depth filtration



Technical Data QF5kMU

Description	Unit	QF5k	QF5k-HT	QF5k QCon	QF5kCD (compact design)
Flow Rate (5° cam)					
max.	l/h	6,000			5,000
min.	l/h	200	50		
Max. Discharge Pressure (depending on media temperature)					
< 40°C	bar	6 (4 continuously)			
> 40°C	bar	4			
Max. Media Temperature					
Process	°C	80 (short-term)			
CIP	°C	90 (short-term)			
SIP	°C	130			
Autoclave	°C	130			
Pump Speed Range	RPM	30-1,200	13-1,200		13-1,050
Dry Suction Lift					
Height	m	2 at 1,000 RPM			
Volume Specifications					
Approximated Volume per Revolution at Free Output	ml	91			
Approximated Filling Volume Without Connectors	ml	~788			
Product Wetted Materials (standard):					
Pump Chamber		1.4435 (316L)			
Valve Plate		1.4435 (316L)			
Diaphragms		TPE			
Valves		EPDM			
O-Rings		EPDM			
Connection Specification (standard)					
Connectors	inch	1.5" TC			
Position of Connectors		Front			

Description	Unit	QF5k	QF5k-HT		QF5k QCon		QF5kCD (compact design)	
Pump Dimension with Motor and Housing:								
Length	mm	872	851		950		261	
Width	mm	257	281		281		320	
Height	mm	333	385		405		410	
Pump Weight with Motor and Housing	kg	95	110		115		70	
IP-Protection Class (total pump)	IP	55	54		54		55	
Operating Temperature	°C	-20 to 40	10 to 30					
Certificates/Proofs (Optional)								
Elastomers (product wetted)		USP <87>, USP<88> Cl. VI; FDA21CFR177; BSE/TSE Safe						
Stainless Steel Parts (product wetted)		3.1; Surface Roughness; Ferrite Content						
Motor:								
Type		AC	Servo					
Frequency Inverter		Not Included (optional)	Integrated				Not Included (optional)	
Rated Speed	RPM	1,435 (50 Hz)	3,000				3,000	
Voltage	V	230/400	230	400	230	400	230	400
Current	A	7.7/4.4	23.5	13.4	23.5	13.4	13.1	7.5
Pump Controls								
Keypad/Controls		Not Included	HT-Panel		Q-Control		Not Included	
Manual Speed Setting		■	■		■		■	
Direct Sensor Connection		■	■		■		■	
PID Control		■	■		■		■	
Alarm Function		■	■		■		■	
Analog Input		Over Frequency Inverter	4-20 mA (standard) 0- 10 V (optional)		4-20 mA 0- 10 V		Over Frequency Inverter	



Data from QF5k-HT or QF5k-QCon drive respectively

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QUATTROFLOW™ Fluid Systems

PSG Germany GmbH
Hochstraße 150-152
47228 Duisburg, Germany
Tel: +49 (2065) 89205-0 • Fax: +49 (2065) 89205-40
psg-germany@psgdover.com
quattroflow.com

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