

COMPARISON TABLE:

KNAUER BlueShadow Pump 40P, 10 ml/min



The BlueShadow Pump 40P was designed to provide exceptionally precise and reliable solvent delivery for a wide range of HPLC and dosing applications

Exchangeable pump heads with maximum flow rates of 10 and 50 ml/min cover a wide range of high-pressure dosing tasks. Practically pulse-free flow is achieved by our enhanced smart drive control which actively prevents pressure ripple instead of just dampening it. The improved design ensures a low dead volume, and the inline filter protects your column from clogging and pressure build-up.

Pump heads for high-temperature applications enable solvent delivery at up to 120 °C. Minimize temperature gradients by adding a pump head heater and insulation sleeve.

For more information on this pump range contact us on info@rubiconscience.com.au

BlueShadow Pump 40P 10 ml/min	Stainless steel pump head P/N APC40EA	Stainless steel pump head for liquid temperatures up to 120°C P/N APC40EE	Stainless steel pump head for liquid temperatures up to 120°C, with piston backflushing P/N APC40EI	Ceramic pump head P/N APC60EB
Max. flow rate	10 ml/min	10 ml/min	10 ml/min	10 ml/min
Flow rate range	0.001 - 10 ml/min	0.001 - 10 ml/min	0.001 - 10 ml/min	0.001 - 10 ml/min
Flow rate increment	0.001 ml/min	0.001 ml/min	0.001 ml/min	0.001 ml/min
Maximum delivery pressure [psi]	9430 psi	9430 psi	9430 psi	5800 psi
Maximum delivery pressure [MPa]	65 Mpa	65 Mpa	65 Mpa	40 MPa
Maximum delivery pressure [bar]	650 bar	650 bar	650 bar	400 bar
Pump head materials	Stainless steel	Stainless steel	Stainless steel	Ceramic
Maximum viscosity	100 cp, 100 mPa·s	100 cp, 100 mPa·s	100 cp, 100 mPa·s	100 cp, 100 mPa·s
Liquid temperature range	4–60 °C	4–120 °C	4–120 °C	4–60 °C
Gradient	Isocratic	Isocratic	Isocratic	Isocratic
Leak management	No	No	No	No
Wetted materials	GFP (graphite fiber reinforced PTFE), sapphire, ruby, stainless steel, Zirconium oxide	GFP (graphite fiber reinforced PTFE), sapphire, ruby, stainless steel, Zirconium oxide	GFP (graphite fiber reinforced PTFE), sapphire, ruby, stainless steel, Zirconium oxide	GFP (graphite fibre reinforced PTFE), sapphire, ruby, PEEK, ceramic
Pump Features	Piston seal wash, Purge valve (manual), RFID for automatic pump head detection, Standalone control and programming, Integrated pressure sensor, Active pulsation compensation	Piston seal wash, Purge valve (manual), RFID for automatic pump head detection, Standalone control and programming, Integrated pressure sensor, Active pulsation compensation	Piston seal wash, Purge valve (manual), RFID for automatic pump head detection, Standalone control and programming, Integrated pressure sensor, Active pulsation compensation	Piston seal wash, Purge valve (manual), RFID for automatic pump head detection, Standalone control and programming, Integrated pressure sensor, Active pulsation compensation
DETAILED INFORMATION				
Best working conditions	0.1–8.0 ml/min	0.1–8.0 ml/min	0.1–8.0 ml/min	0.1–8.0 ml/min
Continuous working conditions	0.1 – 4.0 ml/min	0.1–4.0 ml/min	0.1–4.0 ml/min	0.1–4.0 ml/min
Flow rate accuracy	± 1 %	± 1 %	± 1 %	± 1 %
Flow rate accuracy conditions (using ethanol/water 10:90)	5 - 80% of flow range	5 - 80% of flow range	5 - 80% of flow range	5 - 80% of flow range
Flow rate precision (measured at 1 ml/min using ethanol/water 10:90)	≤ 0.1 % RSD	≤ 0.1 % RSD	≤ 0.1 % RSD	< 0.1% RSD
Pulsation compensation - Yes	< 2 % amplitude (typically < 1.3 %) or < 0.3 MPa (3 bar), whatever is greater, at 1 mL/min ethanol, at all pressures > 1 MPa (10 bar, 147 psi)	< 2 % amplitude (typically < 1.3 %) or < 0.3 MPa (3 bar), whatever is greater, at 1 mL/min ethanol, at all pressures > 1 MPa (10 bar, 147 psi)	< 2 % amplitude (typically < 1.3 %) or < 0.3 MPa (3 bar), whatever is greater, at 1 mL/min ethanol, at all pressures > 1 MPa (10 bar, 147 psi)	< 2 % amplitude (typically < 1.3 %) or < 0.3 MPa (3 bar), whatever is greater, at 1 mL/min ethanol, at all pressures > 1 MPa (10 bar, 147 psi)
Active piston seal washing	Yes	Yes	Yes	Yes
System protection	soft start, Pmin and Pmax are programmable	soft start, Pmin and Pmax are programmable	soft start, Pmin and Pmax are programmable	soft start, Pmin and Pmax are programmable
Pump head inlet (standard)	1/4"-28 UNF (flat bottom)	1/4"-28 UNF (flat bottom)	1/4"-28 UNF (flat bottom)	1/4"-28 UNF (flat bottom)
Pump head outlet (standard)	10–32 UNF (coned)	10–32 UNF (coned)	10–32 UNF (coned)	10–32 UNF (coned)
COMMUNICATION				
Interfaces	LAN, Pin header connectors (Analog IN, Start In, Error IN), LCD Display	LAN, Pin header connectors (Analog IN, Start In, Error IN), LCD Display	LAN, Pin header connectors (Analog IN, Start In, Error IN), LCD Display	LAN, Pin header connectors (Analog IN, Start In, Error IN), LCD Display
Control	LAN, Analog and event control	LAN, Analog and event control	LAN, Analog and event control	LAN, Analog and event control
Analogue inputs	Flow rate, 0 - 10 V via pin header connectors	Flow rate, 0 - 10 V via pin header connectors	Flow rate, 0 - 10 V via pin header connectors	Flow rate, 0 - 10 V via pin header connectors
Analogue outputs	8 event outputs (TTL, OC, Relais) & 24V	8 event outputs (TTL, OC, Relais) & 24V	8 event outputs (TTL, OC, Relais) & 24V	8 event outputs (TTL, OC, Relais) & 24V
GENERAL				
Power supply	100 - 240 V; 50 - 60 Hz	100–240 V; 50–60 Hz	100–240 V; 50–60 Hz	100–240 V; 50–60 Hz
Dimensions	242 x 165 x 399 mm (W x H x D)	242 x 165 x 399 mm (W x H x D)	242 x 165 x 399 mm (W x H x D)	121 x 129 x 220 mm
Weight	5.1 kg	5.1 kg	5.1 kg	5.1 kg
Leak sensor	No	No	No	No
Ambient Conditions air humidity below 90 % humidity (non-condensing)	4–40 °C Air humidity: below 90 % humidity, non- condensing	4–40 °C Air humidity: below 90 % humidity, non- condensing	4–40 °C Air humidity: below 90 % humidity, non- condensing	4–40 °C Air humidity: below 90 % humidity, non- condensing

