

# BVP-Z Standard

## Economical

Robust, powerful gear pump drive

2

- Variable speed (no dispensing functions)
- Pulseless pumping
- Up to 5.2 bar differential pressure

### Interfaces



- Speed control (0–5 or 0–10V, 0–20 or 4–20mA)
- Speed output (0–10V<sub>dc</sub> or 0–12 kHz)
- Start/Stop



### BVP-Z Standard

without dispensing functions

- **3-digit potentiometer** (for speed setting)
- 12 interchangeable Micropump® pump-heads

Flow rates and differential pressure depend on the pump-head mounted



BVP-Z Standard  
with interchangeable gear pump-heads  
(see Page 49)  
(material options, see Page 43)

### Specifications

Motor type	DC motor
Speed	60 – 6000 rpm
Speed setting	1–99.9%, resolution 0.1% 3-digit potentiometer
Power consumption	150 W
Mains connection	230V <sub>AC</sub> /50Hz, 115V <sub>AC</sub> /60Hz adjustable
Protection rating	IP 30
Depth/Width/Height	220 x 155 x 260 mm (without pump-head)
Weight	5.7 kg (without pump-head)

### Ordering information

The complete pump system BVP-Z Standard consists of:

Drive (magnet included)	ISM 446
Pump-head	Page 49
2 Nozzles	Page 49
<b>Accessories</b>	Page 61
– Foot switch	ISM 891
– Valve	on request

### Applications

- Single-channel delivery processes under pressure for particulate-free fluids, e.g.: addition of reagents/solvents in organic synthesis at laboratory scale.
- Pumping propylene oxide into a laboratory reactor with a dispensing precision of +/-1% and a differential pressure of up to max. 3 bar.

# MCP-Z Standard

## Multi-purpose

Saves individual application parameters!

- Microprocessor controlled
- Ideal for dispensing and filling
- Pulseless pumping
- Robust, powerful gear pump drive
- Up to 5.2 bar differential pressure



MCP-Z Standard  
with interchangeable gear pump-head  
(see Page 49)  
(material options, see Page 43)

### MCP-Z Standard

with dispensing functions

- Membrane key-pad, LED display
  - **4 program memories for saving individual application parameters**
  - 12 interchangeable Micropump® pump-heads (pre-programmed)
- Flow rates and differential pressure depend on the pump-head mounted

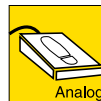


### Interfaces



PC-controllable:

- RS232



- Speed control (0–5 or 0–10V, 0–20 or 4–20mA)
- Speed output (0–10V<sub>DC</sub> or 0–12 kHz)
- Start/Stop
- Autostart



Dispensing and calibrating  
function see Page 41

### Specifications

Motor type	DC motor
Speed	60 – 6000 rpm
Speed setting	rpm, resolution 1 rpm
Flow rate setting	µl/min, ml/min, liters/min
Power consumption	150 W
Mains connection	230V <sub>AC</sub> /50Hz, 115V <sub>AC</sub> /60Hz adjustable
Protection rating	IP 30
Depth/Width/Height	220 x 155 x 260 mm (without pump-head)
Weight	6.4 kg (without pump-head)

### Ordering information

The complete pump system MCP-Z Standard consists of:

Drive (magnet included)	ISM 405
Pump-head	Page 49
2 Nozzles	Page 49
<b>Accessories</b>	Page 61
– Foot switch	IS 10039

### Applications

Single-channel delivery and dispensing processes of particulate-free fluids under pressure.

**With pump-heads GJ-N23 and GA-X21**

Pulseless dispensing under pressure of different reagents with 2 pumps in different quantity ratios via a mixing valve into a reactor.

# MCP-Z Process

## Programmable

Programs can be carried out on the spot independently of a PC! Protection rating of IP 65

2

- Suitable for industries, extremely robust gear pump drive
- For pulseless pumping (up to 5.2 bar)
- Ideal for dispensing and filling applications in a dusty, humid or corrosive environment, and in clean room areas (IP 65, dust-tight and protected against water jets)



MCP-Z Process  
with interchangeable gear pump-heads  
(material options, see Page 43)

### MCP-Z Process

- Stainless steel housing
  - Membrane key-pad with LED display
  - **4 program memories for saving individual application parameters or PC programmed command sequences**
  - pre-programmed pump-heads
  - 21 interchangeable Micropump® pump-heads
- Flow rates and differential pressure depend on the pump-head mounted

### Interfaces



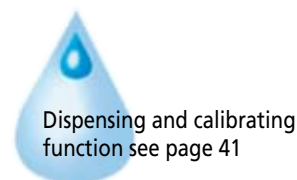
PC-controllable:  
– RS232



- Speed control (0–5 or 0–10V, 0–20 or 4–20mA)
- Speed output (0–10V<sub>DC</sub> or 0–12 kHz)
- Start/Stop
- Autostart
- 2 universal inputs
- 2 universal outputs



Software ProgEdit  
LabVIEW drivers  
Free download on [www.ismatec.com](http://www.ismatec.com)



Dispensing and calibrating  
function see page 41

### Specifications

Motor type	DC motor
Speed	60–6000 rpm
Speed setting	rpm, resolution 1 rpm
Flow rate setting	µl/min, ml/min, liters/min
Power consumption	200 W
Mains connection	100 – 230 V <sub>AC</sub> / 50 – 60 Hz
Protection rating	IP 65
Depth/Width/Height	260 x 160 x 262 mm (without pump-head)
Weight	6.9 kg (without pump-head)

### Ordering information

The complete pump system MCP-Z Process

consists of:

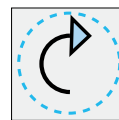
Drive (magnet included)	ISM 918
Pump-head	Page 49
2 Nozzles	Page 49
Accessories	Page 61
– Software ProgEdit	free download
– Foot switch	IS 10039

**LabVIEW** driver  
download for free: [www.ismatec.com](http://www.ismatec.com)

### Applications

- Single-channel delivery and dispensing processes under pressure, for particulate-free solutions
- Addition of various reagents in different quantity ratios via mixing valve into reactor

## Ordering Information pump-heads for BVP-Z / MCP-Z



ISMATEC gear pumps run only in the clockwise direction.

Never use a gear pump for media containing particulates.

### Pump-heads »Suction shoe«

- Enhanced pumping performance at elevated differential pressures
- Suited for elevated temperature ranges
- Not recommended for applications requiring a suction lift

Suction Shoe	Pump-head No.	Order No.	Flow rate (ml/min)		Differential pressure max. bar	Gear material	Seals	Stainless steel housing	System pressure, max. (bar)	Temperature range °C	Internal Bypass
			min.	max.							
	GA-X21.CFS.B	MI0006	1	99	1.4	Graphite	PTFE	SS316	21	-46 – +177	–
	GA-X21.JFS.B	MI0312	1	99	2.3	PEEK™	PTFE	SS316	21	-46 – +177	–
	GA-V21.CFS.B	MI0007	3	252	2.8	Graphite	PTFE	SS316	21	-46 – +177	–
	GA-V23.CFS.B	MI0008	5	504	2.8	Graphite	PTFE	SS316	21	-46 – +177	–
	GA-V23.PFS.B	MI0131	6	560	5.2	PPS	PTFE	SS316	21	-46 – +177	–
	GA-V23.JFS.B	MI0280	6	560	5.2	PEEK	PTFE	SS316	21	-46 – +177	–
	GB-P25.PVS.B	MI0022	35	3509	3.5	PPS	Viton	SS316	21	-29 – +177	✓
	GB-P25.JVS.B	MI0306	35	3480	3.5	PEEK	Viton	SS316	21	-29 – +177	✓
	GB-P35.PVS.B	MI0023	70	7020	3.5	PPS	Viton	SS316	21	-29 – +177	✓
Organic solvents	GB-P35.JKS.B	MI0378	73	7241	3.5	PEEK	Kalrez®	SS316	21	-29 – +177	✓
For corrosive media	GA-X21.CFC.B	MI0309	1	99	1.4	Graphite	PTFE	Hastelloy®-C276	21	-46 – +177	–
	GA-V23.CFC.B	MI0310	5	504	2.8	Graphite	PTFE	Hastelloy-C276	21	-46 – +177	–

- Ports (internal thread) 1/8"-27NPT
- Flow rates without differential pressure
- Operating temperature: with other seals up to 99°C possible



### Service Kits

contain the wearing parts (bushings, seals, gears)

### Pump-heads »Cavity style«

- Can be used for viscous media and applications requiring a certain suction lift
- Excellent chemical resistance
- Smooth and precise flow

Cavity Style	Pump-head No.	Order No.	Flow rate (ml/min)		Differential pressure max. bar	Gear material	Seals	Stainless steel housing	System pressure, max. (bar)	Temperature range °C	Internal Bypass
			min.	max.							
	GJ-N23.FFS.B.B1	MI0013	40	3950	3.5	PTFE	PTFE	SS316	21	-46 – +54	✓
	GJ-N23.FFS.B	MI0016	40	3950	3.5	PTFE	PTFE	SS316	21	-46 – +54	–
	GJ-N23.JFS.B	MI0313	40	3950	5.6	PEEK	PTFE	SS316	21	-46 – +54	–
	GJ-N25.FFS.B	MI0018	55	5460	3.5	PTFE	PTFE	SS316	21	-46 – +54	–
	GJ-N23.JFS.B.B1	MI0019	40	3950	5.2	PPS	PTFE	SS316	21	-46 – +54	✓
	GJ-N23.JFS.B	MI0020	40	3950	5.2	PPS	PTFE	SS316	22	-46 – +54	–
For corrosive media	GJ-N23.FFC.B	MI0284	40	3950	3.5	PTFE	PTFE	Hastelloy-C276	21	-46 – +54	–
	GJ-N25.FFC.B	MI0311	55	5480	3.5	PTFE	PTFE	Hastelloy-C276	21	-46 – +54	–
For abrasive media	GJ-N23.9FD.B	MI0265	40	3950	5.2	NiC	PTFE	Surface hardened	21	-46 – +54	–

- Ports (internal thread) 1/8"-27NPT
- Flow rates without differential pressure
- Operating temperature: with other seals up to 99°C possible



Delivery pump  
BVP-Z Standard  
ISM 446



Dosing pump  
MCP-Z Standard  
ISM 405



Programmed dosing  
MCP-Z Process IP65  
ISM 918

### Tubing adaptors for gear pump-heads

Threaded stainless steel connectors

Order No.	External Tubing thread adaptor	Tubing i.d. mm
AR0001	1/8" NPT Tube nozzle	6
AR0002	1/8" NPT Tube nozzle	3
AR0004	3/8" NPT Tube nozzle	12
AR0008	1/8" NPT Tube nozzle	8
AR0009	1/8" NPT Tube nozzle	9.5
AR0024	1/8" NPT Pipe connection	6 (outside)

Threaded connectors in Hastelloy-C

AR0001-HC	1/8" NPT Tube nozzle	6
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