

motor
technology
motion - flow - sensing

Fuji Techno
super metering pumps

Flow
reproduction

±0.1%
or less
throughout specified flow rate range

**Pump Drive Assembly (PDA) and
Pump Control Station (PCS) for
ATEX Applications**

Pump Drive Assembly (PDA), Pump Control Unit (PCU) and Pump Control Station (PCS) Description

In addition to the stand-alone pump heads and Fuji-Techno's own portable units, we are able to offer a wide range of solutions for laboratory and factory based applications.

Pump Drive Assembly (PDA)

The PDA comprises a HY series pump mounted on a base plate with the driving elements including a gearbox, servo motor and coupling.

The servo drive is supplied separate for integration into the local control panel.

The **PDA** can be supplied with pre-confectioned cable sets and the software commissioning tools for the servo drive.

Supply options

The drive requires a rectified 24Vdc supply for the drive logic. Current rating is ~1Amp.

The required supply for the power stage is:

- Single phase 100...230Vac mains, mains, up to HYSB-20
- Three phase 230...480Vac mains

Control options

The servo motor incorporates a resolver unit which gives speed and position data back to the servo drive.

As standard the motor/pump speed can be controlled via an analogue signal 0...10Vdc, the CANbus interface, USB and EtherNET (also via the commissioning software) or digital inputs (pre-defined speeds).

Other options include:

- ProfiBUS
- ProfiNET
- EtherCAT

Environmental options

The pump, motor, gearbox and coupling are all IP54 rated (or higher), making them suitable for exposure to low pressure, non-corrosive, liquids.

As standard, we supply the **PDA** with ATEX 3G compliant components. If required we can provide compliance to

- ATEX 2G IIB
- ATEX 2G IIC

Note: The servo drive is to be sited in the SAFE area. Optionally we can offer the servo drive mounted in an ATEX compliant enclosure.

Additional options

To aid implementation of the **PDA**:

- 24Vdc power supplies
- Low inductance cables for increased cable length between motor and drive
- ATEX junction boxes

Pump Control Unit (PCU) and Station (PCS)

The **PDA** can be supplied with the servo drive fully integrated in to our Pump Control Unit or Station (**PCU / PCS**).

Both incorporate a touch-screen panel and control electronics to allow setting the flow-rate and monitoring of the motor speed and current.

PCU options, single pump

- Control for one pump in combination with the **PDA**
- 7" touchscreen HMI on a umbilical lead, 2m
- Option for capture and display of local sensors and inputs.
- Switch over from local control (HMI) to remote control via PLC, DCS, etc.
- Data logging of pump runtime and motor speed & current, to removable SD card.
- **PCU** in purged cabinet for using in ATEX area

PCS options, multiple pumps (differences to PCU)

- Floor standing enclosure with top mounted 10" HMI for easy access.
- The **PCS** can be fitted with up to 8 drive units, depending on power ratings
- **PCS** in purged cabinet for using in ATEX area (option)

Typical applications include

- pharmaceutical and chemical processing
- urethane and other resins
- chromatography
- explosives,
- food processing
- film
- spraying and coating applications
- cosmetics
- line mixing for liquids
- in-feed for extruders
- water treatment

PDA, PCU & PCS Requirements

Control Options (PDA)

Analogue

- 0...10Vdc
- 4...20mA (via optional converter)

Serial Comms

- RS232
- RS485
- USB (max 2m)
- EtherNET

FieldBUS

- CANbus
- ProfIBUS
- ProFINET
- EtherCAT

Connections (control to drive)

Distance (m) _____

Servo Drive (ARS or BL4)

- Single phase 230Vac
- Three phase 415Vac

Connections, direct (drive to motor)

Distance (m) _____

Connections, via junction boxes (drive to motor)

Drive to JBX _____ / _____

JBX to Motor _____ / _____

Cable ends prepared at JBX

Pump Control Unit (PCU)

Control for one pump in combination with the PDA.

7" touchscreen HMI on a umbilical lead, 2m

Fully wired, tested and documented.



Pump Control Station (PCS)

Floor standing enclosure with top mounted HMI for easy access.

Servo drive, motion controller, HMI and all necessary PSUs, IO and safety circuitry integrated.

Fully wired, tested and documented. Capacity for up to 8 drives.



Options for PCU and PCS (spec to be agreed)

- Capture local sensors
- Remote operation
- Data logging

Environmental

- ATEX 3G (standard)
- ATEX 2G (IIB)
- ATEX 2G (IIC)



Additional options

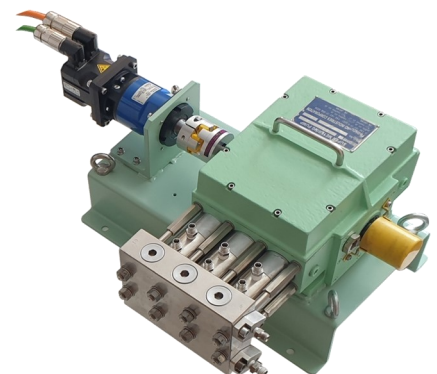
- 24Vdc power supplies
- Low inductance cables (> 30m)

HYx Pump Unit

Size _____

Flow Rate _____

Pressure _____





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