

Dear #name# #surname#

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### NOSHOK Direct Connect Assembly

The **NOSHOK** Direct Connect Assembly provides an installation that keeps the meter close to the orifice taps for accurate flow measurements.

- \* Reduces traditional remote mount installation costs by eliminating tube ends, tube fittings, stainless steel tubing, pipe stands and mounting brackets
- \* Decreases leak points by reducing NPT connections
- \* Minimizes or eliminates gauge line error
- \* Can include 2-valve or 5-valve manifolds including the NOSHOK Flare Pattern™ 5-Valve Natural Gas Manifold, as well as Stabilized Connectors, Stabilized Connectors with Integral Valve, Non-Stabilized Connectors and Dielectric Kits
- \* Wide variety of adapter options including  $\Delta$  Pressure to  $\Delta$  Pressure Adaptor,  $\Delta$  Pressure to Static Pressure Plate, Static Adaptors and Horizontal to Vertical Adaptors

[More info...](#)



### Limited Time Offer - Extended

10% Additional discounts offered on the ECD complete industrial liquid analytical range of equipment. Valid for order placement from September 1 till September 30. Available to customers within our sales territory.

[Check It Now!](#)



Bellofram PCD has more than 40 years of expertise in the design and manufacture of air and gas pressure regulators, relays, servo pressure controllers, I/P's and E/P's, analogue circuit card pressure transducers and regulators, diaphragm air cylinders, FRL's and related accessories for critical OEM, HVAC and industrial applications. The direct-acting, high-performance air pressure regulators offer precision control, high-accuracy, maximum stability, large flow and exhaust capabilities to support even the most challenging environments. In addition, the pneumatic relays are designed to provide cost-effective, high-performance air regulation across a variety of applications, and in support of a variety of market requirements. All PCD products are ideal for use in environments where high-performance and accuracy are of utmost concern.

## JTL200 Series Smart Immersion Type Liquid Level Transmitter from Azbil



The smart JTL200 Series of immersion type liquid level indicator / transmitters, incorporating a compound semiconductor sensor and microcomputer, are designed to enable high-accuracy measurement of liquid levels.

The indicator can be used in water supply reservoirs, wells, dams, rivers and seawater inlets, as well as waste water tanks, pump wells, sludge storage tanks and sewage tanks in sewage treatment plants.

Parameters and settings of the liquid level indicator / transmitter (range, damping time constant, constant-current output and others) can be remote controlled from the instrument control room via the communicator.

### Standard Specifications

Item	Specifications
<b>Measuring Span</b>	JTL22□: 3 to 100 kPa (0.3 to 10 mH <sub>2</sub> O) JTL23□: 70 to 700 kPa (7 to 70 mH <sub>2</sub> O)
<b>Setting Range</b>	JTL22□: 0 ≤ URV <sup>①</sup> ≤ 100 kPa (10 mH <sub>2</sub> O), 0 ≤ LRV <sup>②</sup> ≤ 100 kPa (10 mH <sub>2</sub> O) JTL23□: 0 ≤ URV ≤ 700 kPa (70 mH <sub>2</sub> O), 0 ≤ LRV ≤ 700 kPa (70 mH <sub>2</sub> O)
<b>Output</b>	4 to 20mA DC
<b>Accuracy</b>	Percentage with respect to x (kPa, (mH <sub>2</sub> O)) that represents the URV or LRV, or span, whichever is greatest of the calibrated range. JTL22□: ±0.25% ..... When x is 12.5 kPa (1.25 mH <sub>2</sub> O) or greater. [With protective diaphragms ... ±0.5%] ±(0.05+(0.2× $\frac{12.5}{x}$ ))% ..... When x is less than 12.5 kPa (1.25 mH <sub>2</sub> O). (With damping effected) [With protective diaphragms ... ±(0.1+(0.4× $\frac{12.5}{x}$ ))%] JTL23□: ±0.25% ..... When x is 210 kPa (21 mH <sub>2</sub> O) or greater. [With protective diaphragms ... ±0.5%] ±(0.05+(0.2× $\frac{210}{x}$ ))% ..... When x is less than 210 kPa (21 mH <sub>2</sub> O). (With damping effected) [With protective diaphragms ... ±(0.1+(0.4× $\frac{210}{x}$ ))%]
<b>Supply Voltage and Load Resistance</b>	17.6 to 45V DC (See Figure 2.)
<b>Overpressure Limit</b>	JTL22□: 300 kPa (30 mH <sub>2</sub> O) max. JTL23□: 1050 kPa (105 mH <sub>2</sub> O) max.

The models usable for sludge or seawater applications are provided with protective diaphragms ( optional specification for seawater models ) on the outer circumferences of metal diaphragms for protection against seage or sludge contained in the liquids.

### The following models apply:

**JTL220/230** are suitable for clean water

**JTL221/231** are suitable for sludge or waste water

**JTL222/232** are suitable for seawater

## What is Viscosity?

**Viscosity is the resistance of a fluid to flow and measures the “thickness” of the liquid.**

It measures the friction between individual fluid particles or between the fluid particles and the surfaces that the fluid moves over. High viscosity liquids such as oil and honey are thick and hard to pour, requiring more power to pump; low viscosity liquids like water and alcohol are thin and easily pumped. Temperature affects viscosity for most fluids. Oils will decrease in viscosity, i.e. becomes thinner, as the temperature increases. The presence of water in a fluid will tend to reduce the viscosity. Some fluids will become more viscous as the shear rate increases, while some become less viscous. An example of a liquid becoming less viscous with agitation would be quicksand - the movie cliché of greater struggling causing people to sink faster has some basis in truth. Liquids that contain small insoluble droplets of another liquid are known as emulsions and decrease viscosity with increased flow and greater shear. Ink, as an example, can be a complex medium to meter as it is composed of solvents, pigments, resins, lubricants, solubilizers, surfactants, particulate matter, fluorescents, and other materials that will affect viscosity and flow in unpredictable ways.

Have a look at this diagram below that illustrates the relationship of a liquid’s viscosity and shear rate.

### Units of Viscosity

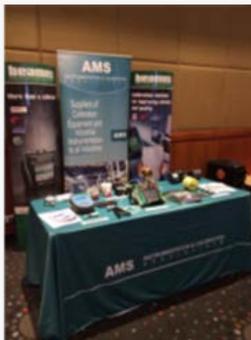
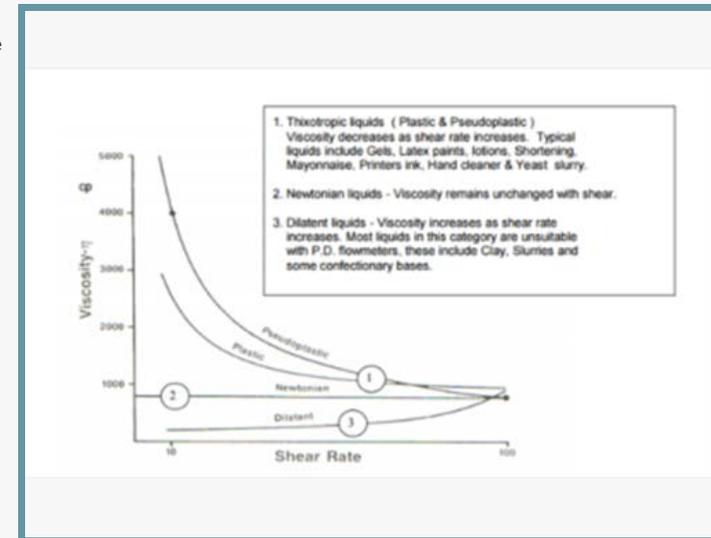
AMS generally use centiPoise as the unit for viscosity. centiPoise (cP)

A **centipoise** is one one-hundredth of a poise, and one millipascal-second (mPa·s) in SI units. ( $1 \text{ cP} = 10^{-2} \text{ P} = 10^{-3} \text{ Pa}\cdot\text{s} = 1 \text{ mPa}\cdot\text{s}$ )

The **centipoise** is properly abbreviated cP, but the alternative abbreviations cps, cp, and cPs are also commonly seen.

$1 \text{ cP} = 10^{-2} \text{ P} = 10^{-3} \text{ Pa}\cdot\text{s} = 1 \text{ mPa}\cdot\text{s}$

Other Units: 1 Stokes = 1 cm<sup>2</sup>/s CentiStokes = CentiPoise / density of liquid



### AMS News

Welcome to the August AMS newsletter.

Several TechExpo's occurred during the last month and the feedback was that they were well attended with several good enquiries resulting. It is always important to show case our **False assumption:** Aluminium oxide sensors require a lot of maintenance which is expensive.



### Popular misconceptions about ceramic moisture sensors

products and inform our customers of any new products. This is particularly important in the more remote areas of our country and AMS will ensure participation in these areas. Above a picture of the AMS stand of the TechExpo held in Townsville.

After a slowish start to the financial year August certainly made up with several major orders received for Beamex, Azbil and McCrometer. Several of these orders have been a long time in the pipeline and our staff did a great job persevering in getting the orders. At the moment I am travelling in the USA visiting several states in the north east of the country attempting to get further inspiration to move forward with AMS and grow our business further. Sometimes there is nothing better to get away from it all to get more inspiration and get your thoughts together again.

**The truth:** Any sensitive equipment on a manufacturing process will need regular service and maintenance to ensure continued quality of the end product. For many moisture technologies, service and maintenance may involve bringing in specialist engineers or sending parts away for work. While ceramic moisture sensors do need annual re-calibration, removing the sensor for exchange is simple and can be carried out by any competent engineer.

**Michell Instruments' sensor exchange programme for their ceramic sensors makes maintenance and service even easier.**

[More info...](#)

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