

# InVue® Integrated Flow Controllers, Model NT6520

*Designed for point-of-use chemical flow control*

Entegris is solving today's flow control challenges using innovative flow control technology. The InVue® integrated flow controller (IFC) NT6520 is designed for point-of-use chemical blending and dispense of ultrapure liquid chemical, DI water, and CMP slurry. The NT6520 controller is also designed for effective control of bubble producing media and is engineered for applications requiring medium to high flow rates. It is the smallest InVue integrated flow controller available, saving valuable space in liquid handling systems.

Our IFC uses proven and reliable differential pressure flow measurement technology and advanced closed-loop process control. Visual indicators provide diagnostics for preventive maintenance, troubleshooting, and alarm conditions, enabling users to integrate more precise functionality.

## Constructed for Compatibility

The valve seat and diaphragm are designed to minimize dead volume and fluid shear, reducing the possibility of process contamination. Featuring fluorinated materials for wetted parts, InVue IFCs are ideal for protecting chemical integrity. In addition, the chemical resistant nonwetted parts perform well in harsh chemical environments.

## Advanced Technology

The InVue IFCs utilize dual PTFE valve diaphragms for fluid containment and contamination protection. Leveraging the latest motorized valve and flowmeter technology, encapsulated internal electronics control all aspects of the flow controllers. The units are activated by a setpoint signal (for example, 4 – 20 mA, 0 – 10 VDC) to maintain fluid flow at the desired setpoint.



*The IFC NT6520 has flow range capability of 2.5 L/min to 40 L/min*

## APPLICATIONS

The InVue Integrated Flow Controller, NT6520 (2.5 – 40 L/min) combines our differential pressure based flowmeter and leading-edge control valve technology to create a closed-loop flow controller ideal for:

- Critical dispense applications
- Chemical spiking and blending
- On-demand chemical mixing
- Higher flow applications such as bulk delivery or tool liquid dispense

## FEATURES & BENEFITS

<b>Integral pressure transducer</b>	Allows for simultaneous dual output - flow and pressure
<b>Robust design</b>	Provides stability and long-term reliability
<b>High repeatability and fast response performance</b>	Enables superior process control and accurate dispense rates
<b>LED status and discrete alarm output</b>	Allows for visual and electronic diagnostics
<b>Compact footprint</b>	Saves space and allows easy field installs where space is limited
<b>Horizontal or vertical orientation</b>	Provides installation flexibility

## SPECIFICATIONS

<b>Materials of construction</b>	
Wetted parts:	Body, valve diaphragms: PTFE
	Sensor interface: CTFE or PFA
	Primary O-ring: Perfrez® PXC Ultra
Nonwetted parts:	Polypropylene, PVDF, Viton®, polyurethane, and nylon (in addition to materials listed above)
<b>Operating range</b>	10 –100% of full scale flow
<b>Flow control accuracy</b>	±1% of full scale (calibrated using DI water @ 23°C [73°F])
<b>Repeatability</b>	±0.5% of full scale
<b>Pressure measurement</b>	0 to 414 kPa (0 to 60 psig)
<b>Pressure accuracy</b>	±1% of full scale
<b>Operating pressure</b>	69 to 414 kPa (10 to 60 psig)
<b>Minimum required differential pressure*</b>	10 psi, differential
<b>Output signals</b>	Two 4–20 mA electrically isolated outputs, one for flow and one for pressure
<b>Response time</b>	<3 seconds
<b>Over-pressure limit</b>	690 kPa (100 psig)
<b>Process temperature</b>	10° to 65°C (50° to 149°F)
<b>Electrical input</b>	24 VDC (±10%) @ 1.2 amps
<b>Setpoint input signal</b>	4–20 mA, 0 –10 VDC, 0 – 5 VDC
<b>Enclosure</b>	IP64
<b>Weight</b>	2.7 kg (6.0 lbs) approximate
<b>Approvals</b>	CE
<b>Software</b>	Windows-based interface for user setup, calibration, monitoring, and data collection System Requirements: Windows 7 or 10, 8GB RAM (minimum) Current software version <a href="#">InVue TechTool 1.0.1.3</a>

Minimum required differential pressure is the minimum inlet to outlet fitting differential pressure required to reach full scale flow and response time specifications.

**Note:** Specifications are subject to change without notice. Please [contact Entegris](#) for the most current information.

Fitting Size	Flow Range (L/min)				
	T5	T6	T7	T8	T9
	0-2.5	0-5	0-10	0-20	0-40
3/8"	Yes*	Yes*	-	-	-
1/2"	Yes**	Yes**	Yes*	-	-
3/4"	-	-	Yes**	Yes***	Yes

\*Flaretek and Pillar only.

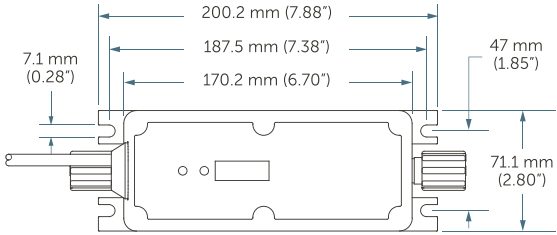
\*\*Primelock only.

\*\*\*Flaretek and PrimeLock only.

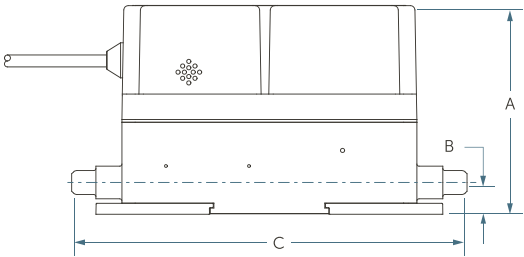
Please [contact Entegris](#) for custom flow range requirements.

**DIMENSIONS**

Top View

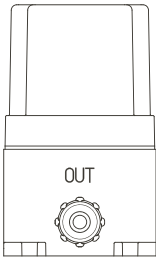


Side View



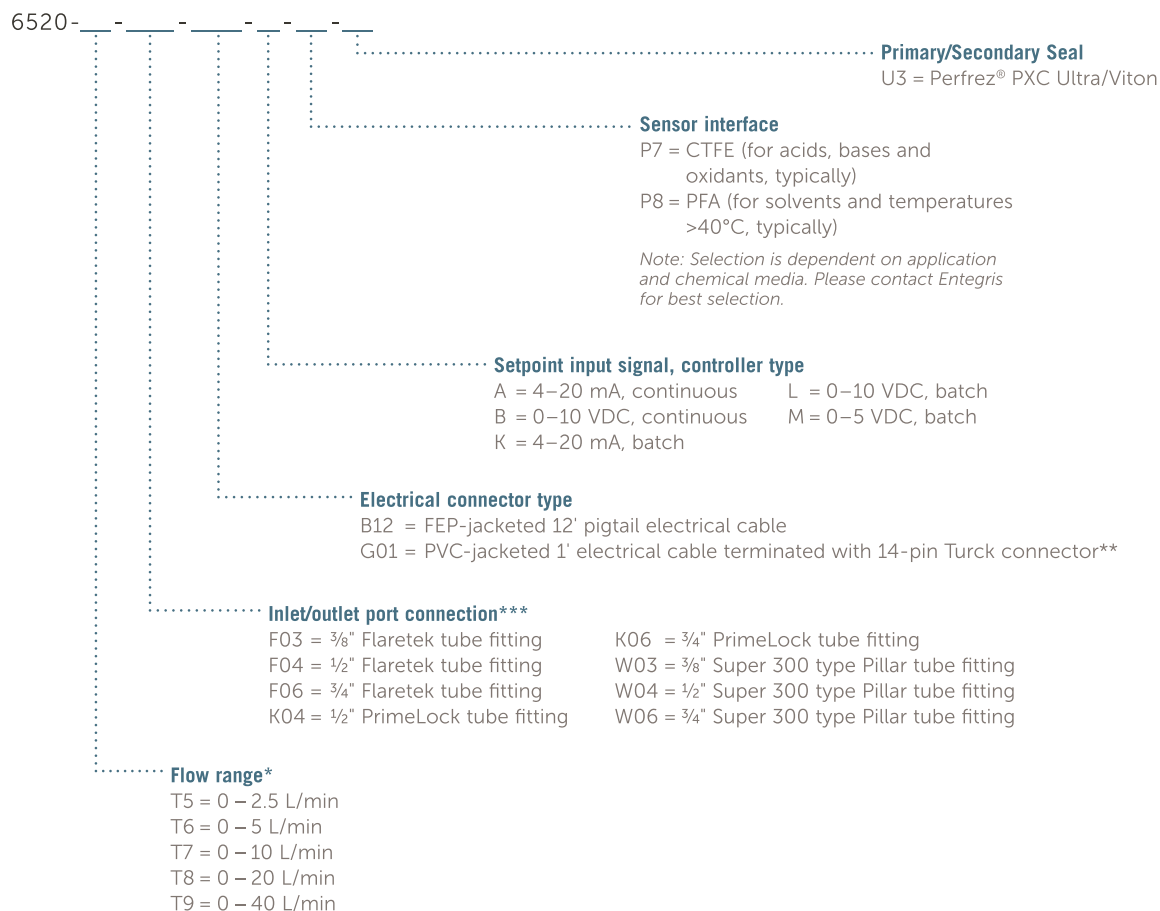
Inlet/Outlet Port Connection	A	Dimensions B	C
3/8" Flaretek® tube fitting	117.3 mm (4.62")	15.7 mm (0.62")	224.0 mm (8.82")
1/2" Flaretek tube fitting	120.9 mm (4.76")	18.3 mm (0.72")	228.0 mm (8.98")
3/4" Flaretek tube fitting	129.0 mm (5.08")	23.6 mm (0.93")	234.2 mm (9.22")
1/2" PrimeLock® tube fitting	120.9 mm (4.76")	18.3 mm (0.72")	215.4 mm (8.48")
3/4" PrimeLock tube fitting	129.0 mm (5.08")	23.6 mm (0.93")	229.1 mm (9.02")
3/8" Super 300 Type Pillar tube fitting	117.3 mm (4.62")	15.7 mm (0.62")	200.2 mm (7.88")
1/2" Super 300 Type Pillar tube fitting	120.9 mm (4.76")	18.3 mm (0.72")	205.2 mm (8.08")
3/4" Super 300 Type Pillar tube fitting	129.0 mm (5.08")	23.6 mm (0.93")	214.1 mm (8.43")

End View



## ORDERING INFORMATION

InVue Integrated Flow Controller NT6520: part number



\*Flow ranges are scaled to zero flow, measurement is from 10 – 100% of full scale flow range.

\*\*For electrical connector type G01, a 14-pin mating cable is required for installation.

\*\*\*For other options not shown here, please contact Entegris.

Product specified with a flared tube connection is packaged with two PVDF nuts.

For custom configurations and specifications, please contact Entegris.

### NT™ Flow Viscosity, Density And Temperature Correction

Use our [Flow Viscosity, Density and Temperature Correction tool](#) to calculate a full scale flow correction for media other than DI water at 23°C.

**Flow Range:** Flow ranges are scaled to zero flow, measurement is from 10-100% of full scale flow range.

**Inlet/Outlet Port Connection:** For other options not shown here, please [contact Entegris](#).

**Electrical Connector Type:** For electrical connector types G01 and G06, a 14-pin mating cable is required for installation. See accessories section for more information.

**Seals:** The primary and secondary seals are Perfrez® PXC Ultra and Viton® material, respectively.

Product specified with a flared tube connection is packaged with two PVDF nuts. For alternative nut materials, or custom configurations and specifications, please [contact Entegris](#).

For help selecting the correct model, view the Technical Note: *Materials of Construction and Chemical Compatibility for Sensing and Control Products* found in the Reference Materials at the bottom of this page.

### Software Download

Windows-based interface for alarm setup, monitoring, and data collection  
System Requirements: Windows 7 or 10; 8GB RAM (minimum)

Current software version [InVue TechTool 1.0.1.4](#)

#### FOR MORE INFORMATION

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit [entegris.com](http://entegris.com) and select the [Contact Us](#) link to find the customer service center nearest you.

#### TERMS AND CONDITIONS OF SALE

All purchases are subject to Entegris' Terms and Conditions of Sale. To view and print this information, visit [entegris.com](http://entegris.com) and select the [Terms & Conditions](#) link in the footer.



Corporate Headquarters  
129 Concord  
Billerica, MA 01821  
USA

Customer Service  
Tel +1 952 556 4181  
Fax +1 952 556 8022  
Toll Free 800 394 4083

Entegris®, the Entegris Rings Design®, and other product names are trademarks of Entegris, Inc. as listed on [entegris.com/trademarks](http://entegris.com/trademarks). All third-party product names, logos, and company names are trademarks or registered trademarks of their respective owners. Use of them does not imply any affiliation, sponsorship, or endorsement by the trademark owner.

©2014-2020 Entegris, Inc. | All rights reserved. | Printed in the USA | 3963-11987ENT-0125

[www.entegris.com](http://www.entegris.com)