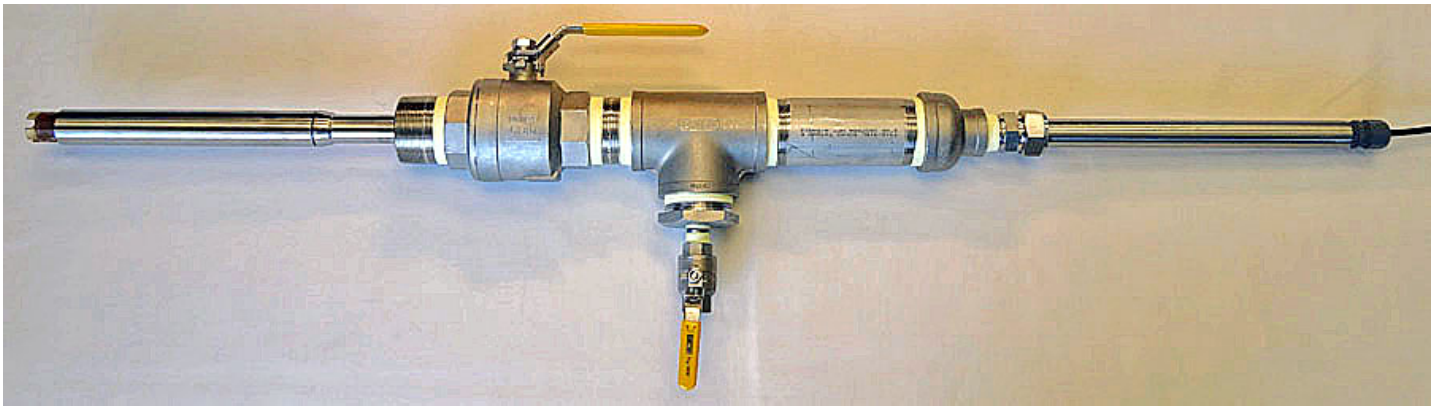
HOT-TAP Valve Retraction Assemblies

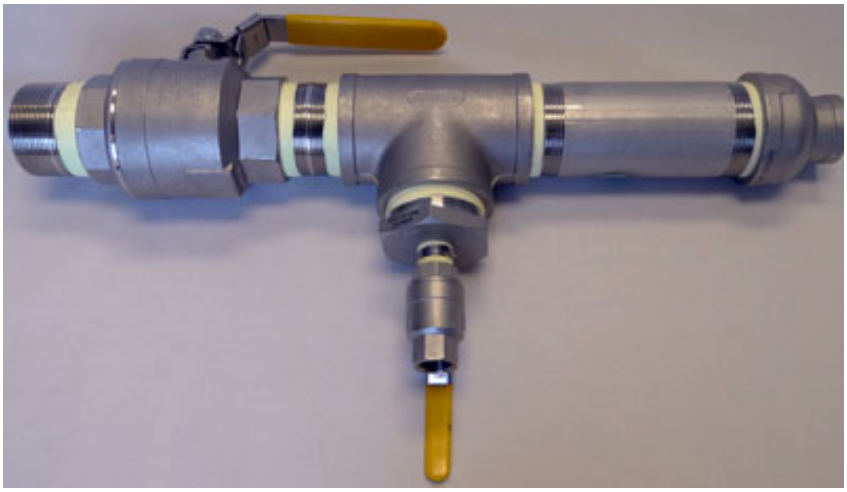
HOT-TAP Valve Retractable Assemblies, 3rd Generation (3GVR)

1½” & 2″ 316 Stainless Steel (316SS) HOT-TAP Assemblies for 5X31, 5X41, & 5X51 Series pH Sensors and ORP Sensors
Support for Insertion & Removal directly into a process tanks or pipes while process is running with support for pressures up to 100 psig

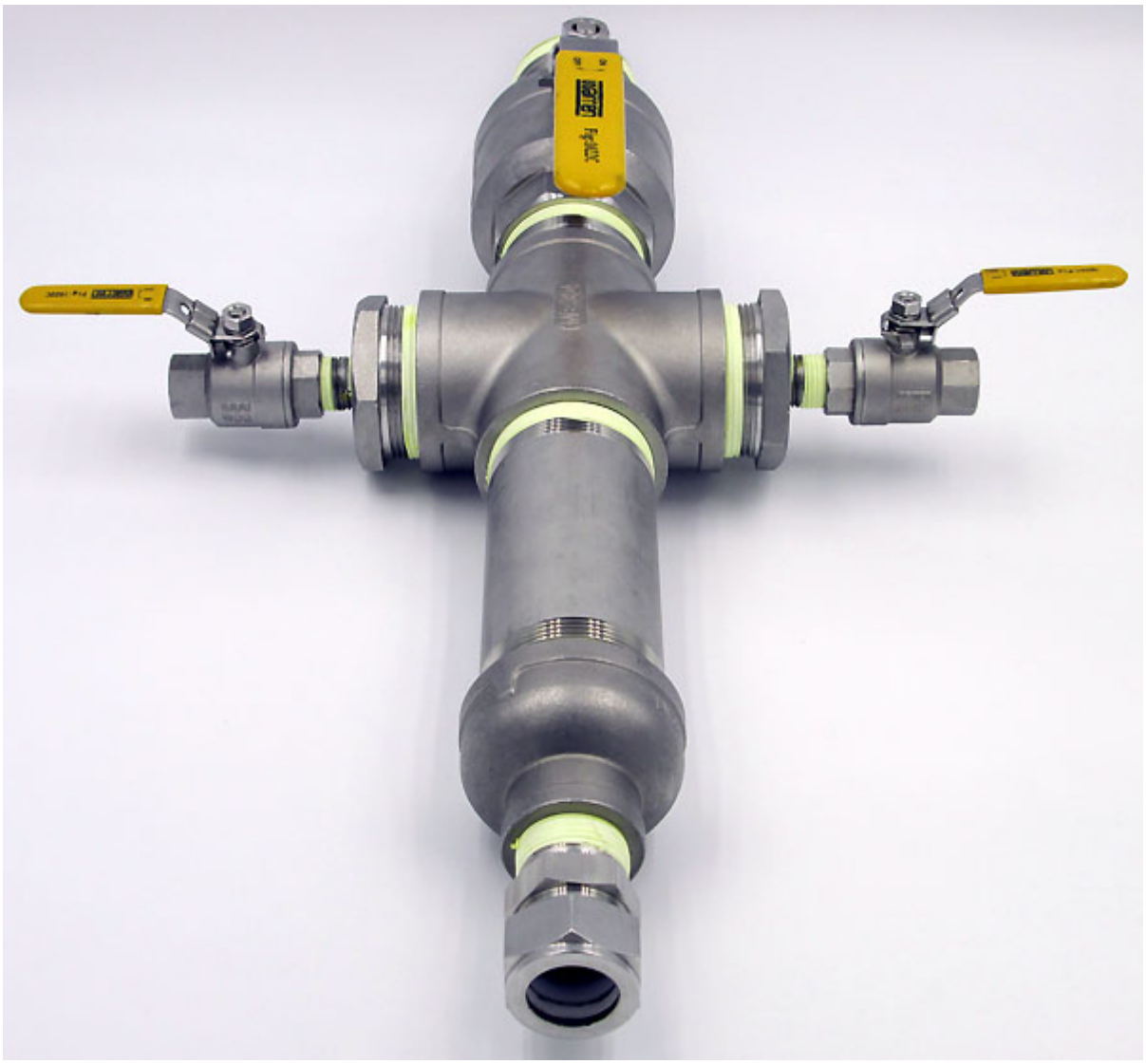


Shown above is a complete 2″ NPT HOT-TAP Valve Retractable Assembly with 316SS Sensor Holder, 36 Inch Extension Tube & 5X31 Series Sensor





2″ NPT Ball Valve Assembly Only Shown Above
(without compression fitting or insertion tube assy)



2″ NPT Ball Valve Assembly Only Shown Above in Special Dual Port Purge Flush Configuration
(without insertion tube assy back view)

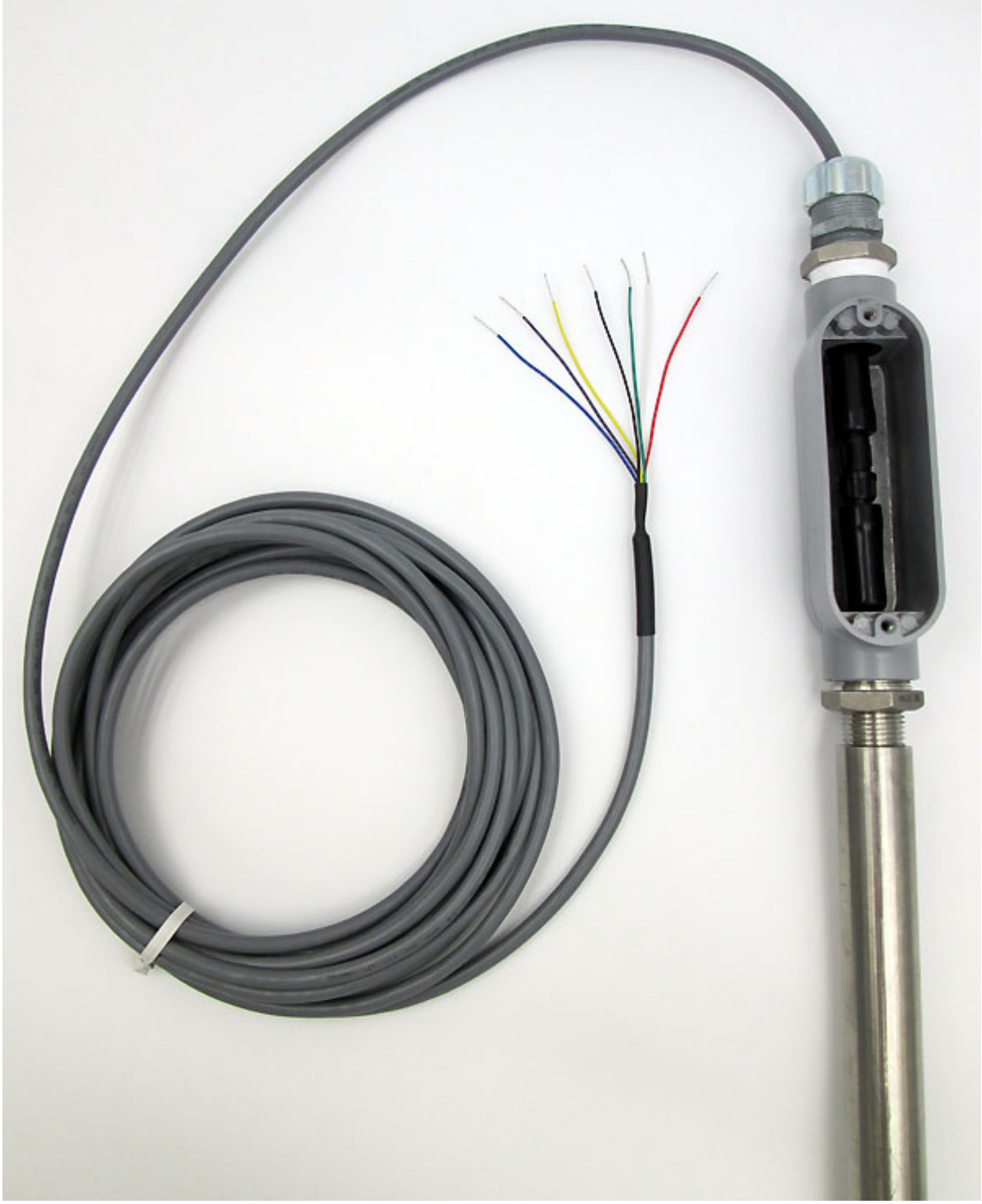




Complete HOT-TAP Valve Retractable Assembly Shown Above, Various Views



Details on just the 316SS sensor holder (on left) fitted with the short 12 inch extension tube (on right). These two parts fitted together constitute and insertion tube assembly. Also shown is the 5X31 series sensor (far left) as well as the 1″MNPT X 1.00″O.D. compression fitting and sealing cable glands. For use with the HOT-TAP valve retractable style the extension tube would be longer 36, 48 or 60 inch length as necessary for the given installation.



Integral bridge box installed on extension tube for easy quick disconnect sensor maintenance with Q7M/Q7F snap connector system for analog pH/ORP/ISE/DO sensors with integral preamplifiers or HiQ4M/HiQ4F snap connector system for smart digital sensors (not shown)

Download the Complete Printable Single & Double Ball Valve Retraction Product Brochure

Specifications
HOT-TAP Valve Retractable Assemblies, 3rd Generation (3GVR)



1½” & 2″ 316 Stainless Steel (316SS) HOT-TAP Assemblies for 5X31, 5X41 & 5X51 pH Sensors & ORP Sensors
Secure Insertion & Removal directly into tank or pipe while process is running at pressures up to 100 psig

- Fast & Easy Insertion & Removal of robust 5X31, 5X41 & 5X51 series pH sensors and ORP sensors for superior lifetime and performance in HOT-TAP valve retractable installations
- Side Purge Port and Vent Valve Included for pressure relief of high pressure or dissolved gas containing process media
- Sturdy 1.25″X1.00″ step between sensor holder and extension tube ensures complete blow-out protection for safe operation up to 100 psig

Specification	Value
Temperature Range	-30 to 150 Degrees Celsius (-22 to 302 Degrees Fahrenheit) *NOTE: Do not use any sensor past its recommended Temperature Rating*
Pressure Range	1 to 100 psig (6.9 to 690 kPag absolute) *NOTE: Do not use any sensor past its recommended Pressure Rating*
Operating pH range	-0.5 to 14.5 max range *NOTE: Do not use any sensor past its recommended pH Rating*

Dissolved Gasses Resistant	Chlorine, Chlorine Dioxide, NOx, Ozone, Hydrogen Sulfide, Hydrogen Cyanide (standard) Inquire about other gasses
Process Connection	316 SS: 1 ½” or 2″ MNPT
Ball Valve For Process Isolation	Full Port 316 SS with Teflon Seats & Ferrules; 1 ½” & 2″ FNPT
Connecting Nipple with purge port and vent valve	316 SS: 1 ½” & 2″ MNPT X 6″ Pipe Tee with ½” MNPT Ball Valve for Pressure Relief (Purge Port & Vent Valve)
1 ½”-1″, 2″-1″ Reducer & 1″ Compression Fitting	316 SS
Compression Fitting Ferrule	Teflon standard; Application Specific Ferrules available, Inquire to ASTI
Gas/Pressure Seal	O-Ring, Viton # 214 standard; Application Specific O-Rings such available, Inquire to ASTI
Back End Blowout Protection *(Optional Wire Rope Lanyard Not Shown in Photos – Not Required for Most Installations)*	Flats on 1/2″MNPT cable glands stop-out against compression fitting to prevent accidental slippage into process
Front End Blowout Protection	1.25″X1.00″ step between sensor holder and extension tube ensures rugged blow-out protection for safe insertion and removal at pressures to 100 psig
Insertion Depth past Process Connection	18 inches (~46 cm) with 36 inch extension tube 30 inches (~76 cm) with 48 inch extension tube 42 inches (~107 cm) with 60 inch extension tube
Overall Length of Double Ball Valve Assembly Only	22 inches Maximum (~ 56 cm)

Schematics
HOT-TAP Valve Retractable Assemblies, 3rd Generation (3GVR)



1½” & 2″ 316 Stainless Steel (316SS) HOT-TAP Assemblies for 5X31, 5X41 & 5X51 pH Sensors & ORP Sensors
Secure Insertion & Removal directly into tank or pipe while process is running at pressures up to 100 psig

- The schematics linked below provide all dimensional details necessary to ensure that the assembly will interface suitably with your process connections
- Please note that all HOT-TAP assemblies must be installed with at least 15 degrees downward angle for the sensor installation to ensure proper operation
- Always contact ASTI factory for specific recommendations for your planned process installation prior to specifying parts or purchase

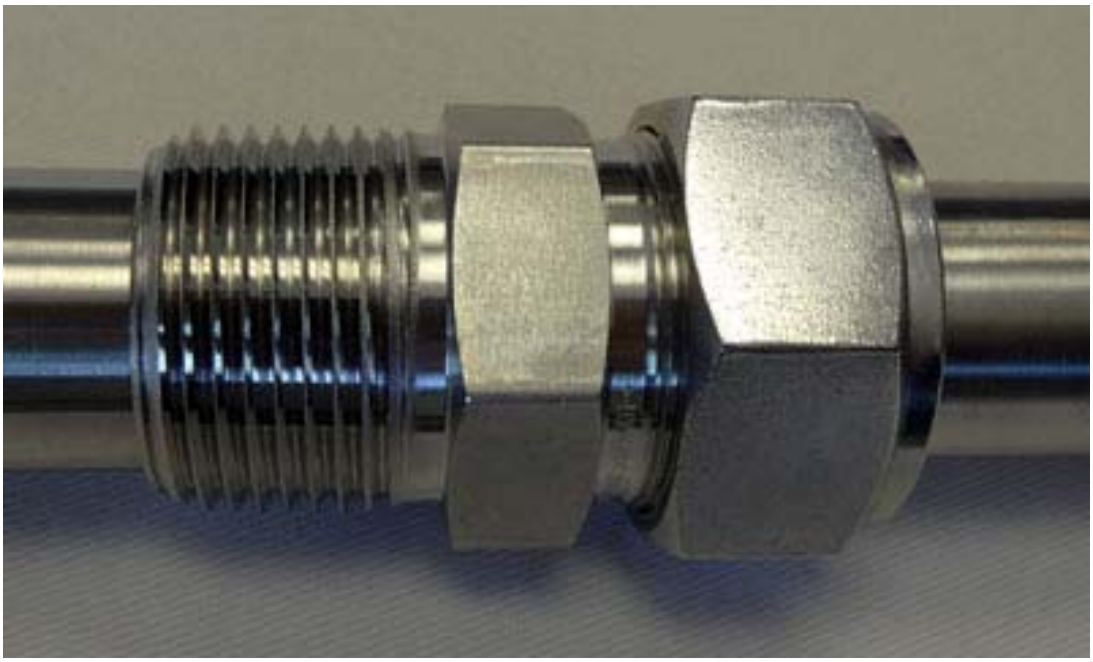
Supporting Literature	**Hotlink for Document**
Complete HOT-TAP Cross-Sectional Installation Schematic	**Complete HOT-TAP Assembly Cross-Sectional Drawing and Installation Schematics**
Details of Sensor Holder & Extension Tube Parts (together called the insertion tube assembly)	**Cross Sectional & Isometric Details of Sensor Holder & Extension Tube Parts**
Written installation procedures for insertion & removal of assembly from process	**Double Ball Valve Installation and Operations Instructions**

Various close-up images are below for better visualization of the HOT-TAP assembly features:









Documentation
HOT-TAP Valve Retractable Assemblies, 3rd Generation (3GVR)

Complete HOT-TAP Assembly Cross-Sectional Drawing and Installation Schematics
Cross Sectional & Isometric Details of Sensor Holder & Extension Tube Parts
Double Ball Valve Installation and Operations Instructions
HOT-TAP Valve Retractable Sensor Dimensional Drawing
HOT-TAP Valve Retractable Installation Procedure into 316SS Holder

Download the Complete Printable Product Brochure (PDF)

HOT-TAP pH/ORP Sensors
pH Sensors & ORP Sensors for HOT-TAP Valve Retractable Hardware, 3rd generation (3GVR)

Description of pH/ORP Sensor Series *KYNAR Junction for all 5XX1 Sensors*	**Sensor Body Housing RADEL® Poly-Phenyl-Sulfone, PPSU**	**Sensor Body Housing KETASPIRE® Poly-Ether-Ether-Ketone, PEEK**	**Sensor Body Housing RYTON® Poly-Phenylene-Sulfone, PPS**
General Purpose	**5031**	**5041**	**5051**
High Temperature Resistant	**5131**	**5141**	**5151**
Ultra High Temperature Resistant	**5231**	**5241**	N/A
Slurry & Viscous Material Resistant	**5331**	**5341**	**5351**
Acid, Fluoride & HF Resistant	**5431**	**5441**	**5451**
Paper & Pulp Resistant	**5531**	**5541**	**5551**
Sulfide Resistant	**5631**	**5641**	**5651**
Aggressive Dissolved Gas & Volatile Organic Solvent Resistant	**5731**	**5741**	N/A
Oxidation Reduction Potential a.k.a. ORP	**5831**	**5841**	**5851**

Saturated Sodium (Brine) Resistant	**5931**	**5941**	**5951**

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