

MATERIAL HANDLING

# TRUCK PROBES



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# TRUCK PROBES

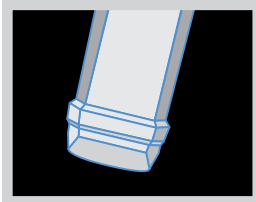
## CONSISTENT SAMPLING

InterSystems' Truck Probes provide representative and repeatable samples of grain, pellets, chips, flakes, granules and powders from trucks, rail cars, ships, tubs and other vessels. The heavy carbon steel stand, mast and boom support the double-wall steel sample probe, powered by a rugged hydraulic unit.

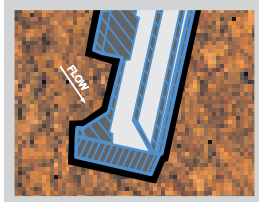
Models include 3, 5, 7.5 and 10 horsepower units with available booms extendable up to 16 ft. and compartmentalized or core type tips used to obtain samples. Compartmentalized tip probes fill the chambers by gravity. The interior cylinder rotates, closing the ports in the first chamber and allowing material to flow by gravity into the second chamber. During retraction or while the probe is still in the load, material flows to the bottom of the second chamber and is pneumatically drawn through a third chamber for delivery to a collection cabinet in the probe station. A core type sample probe extracts a vertical cylinder of material from the vessel without pulling dust or fines from the surrounding mass. The sample is then pneumatically transported to the collection point. The sample probe is mounted on a swivel stand and boom which are hydraulically powered in three axes.

InterSystems' complete Truck Probe system includes a vacuum system, collection cabinet, telescoping boom, hydraulic power unit, and controls. Probes for rail cars are available as well as mega probes which offer longer extendable booms, long-range sample delivery units and excess return systems.

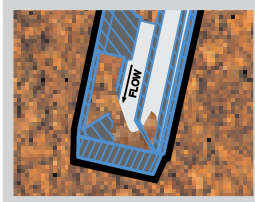
### COMPARTMENTALIZED TIP



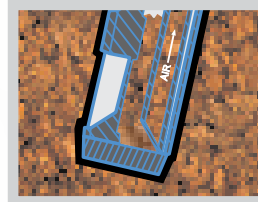
Compartmentalized Tip Illustration



3 7/8" x 7/8" material ports open, filling the compartmentalized chambers by gravity as with a hand probe

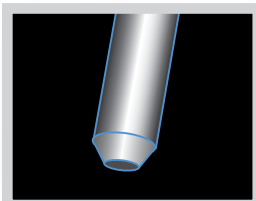


The interior cylinder rotates, closing the ports in the first chamber and allowing material to flow by gravity into the second chamber

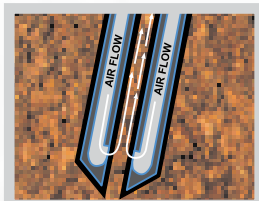


During retraction, or while the probe is still in the load, material flows to the bottom of the second chamber and is pneumatically drawn through a third chamber for delivery to a collection cabinet in the probe station

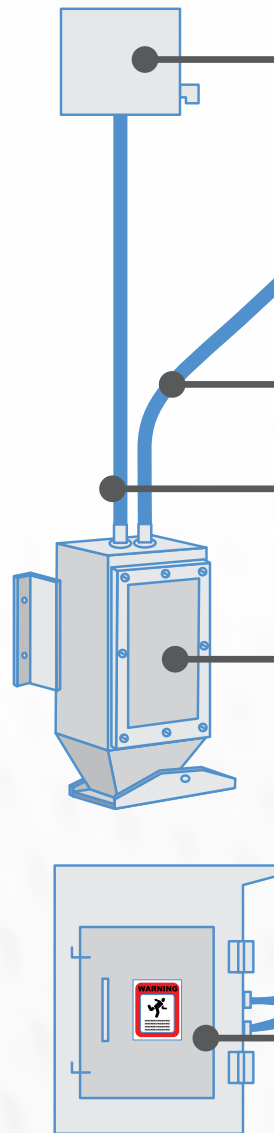
### CORE TIP



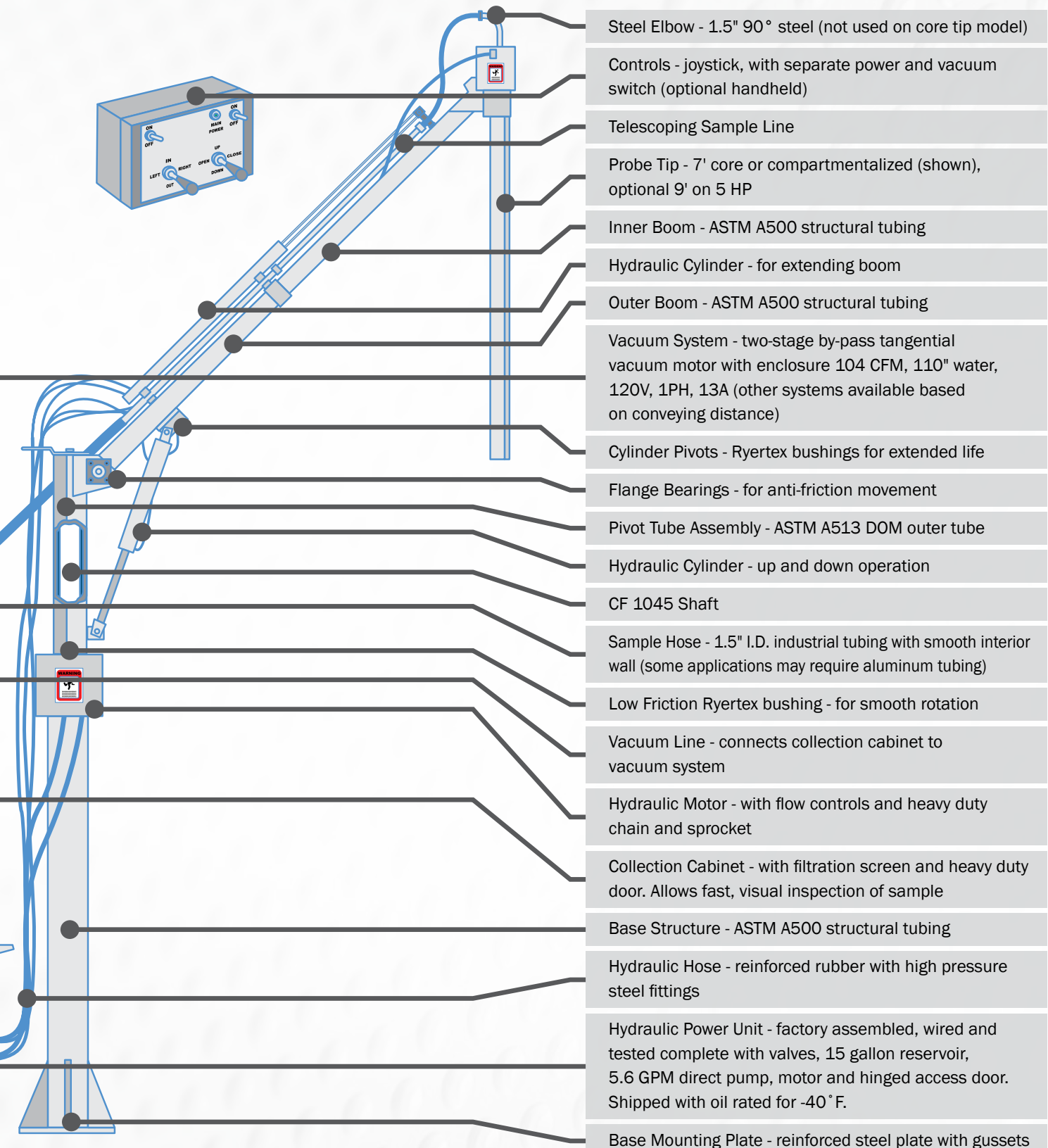
Core Tip Illustration



Air and material to sample container



# FEATURES



Steel Elbow - 1.5" 90° steel (not used on core tip model)

Controls - joystick, with separate power and vacuum switch (optional handheld)

Telescoping Sample Line

Probe Tip - 7' core or compartmentalized (shown), optional 9' on 5 HP

Inner Boom - ASTM A500 structural tubing

Hydraulic Cylinder - for extending boom

Outer Boom - ASTM A500 structural tubing

Vacuum System - two-stage by-pass tangential vacuum motor with enclosure 104 CFM, 110" water, 120V, 1PH, 13A (other systems available based on conveying distance)

Cylinder Pivots - Ryertex bushings for extended life

Flange Bearings - for anti-friction movement

Pivot Tube Assembly - ASTM A513 DOM outer tube

Hydraulic Cylinder - up and down operation

CF 1045 Shaft

Sample Hose - 1.5" I.D. industrial tubing with smooth interior wall (some applications may require aluminum tubing)

Low Friction Ryertex bushing - for smooth rotation

Vacuum Line - connects collection cabinet to vacuum system

Hydraulic Motor - with flow controls and heavy duty chain and sprocket

Collection Cabinet - with filtration screen and heavy duty door. Allows fast, visual inspection of sample

Base Structure - ASTM A500 structural tubing

Hydraulic Hose - reinforced rubber with high pressure steel fittings

Hydraulic Power Unit - factory assembled, wired and tested complete with valves, 15 gallon reservoir, 5.6 GPM direct pump, motor and hinged access door. Shipped with oil rated for -40° F.

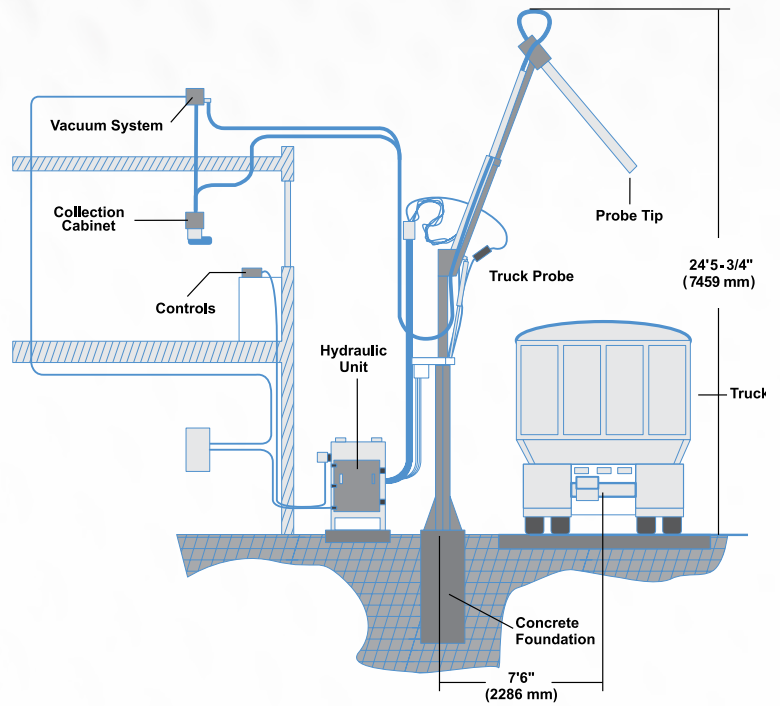
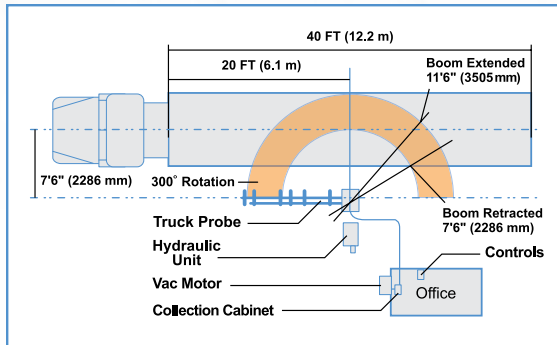
Base Mounting Plate - reinforced steel plate with gussets



# TRUCK PROBES

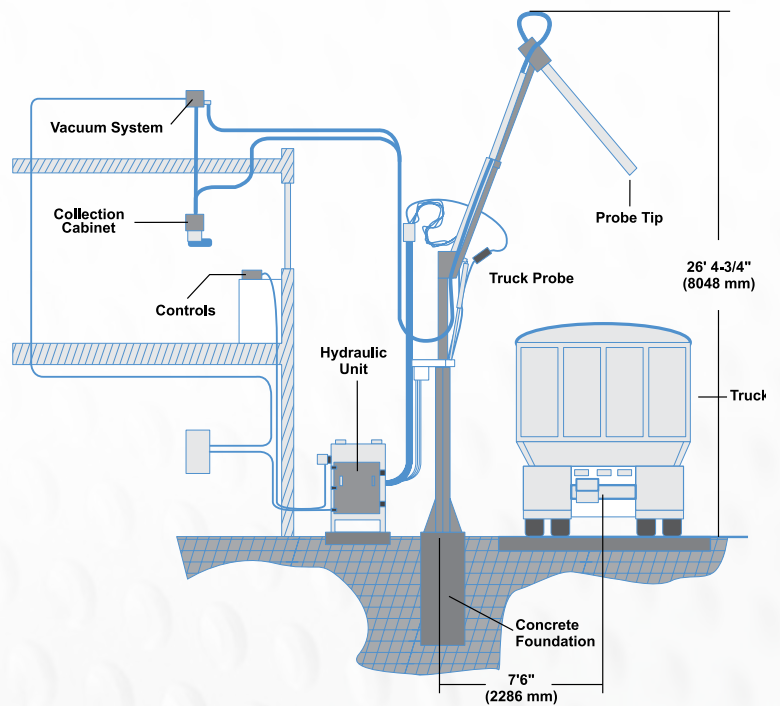
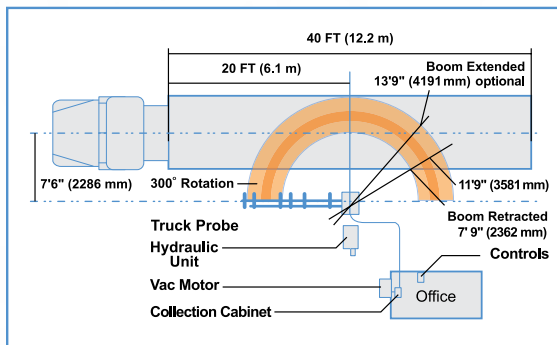
## TRUCK PROBE: 3 HP

### OPERATING RADIUS



## SUPER TRUCK PROBE: 5 HP

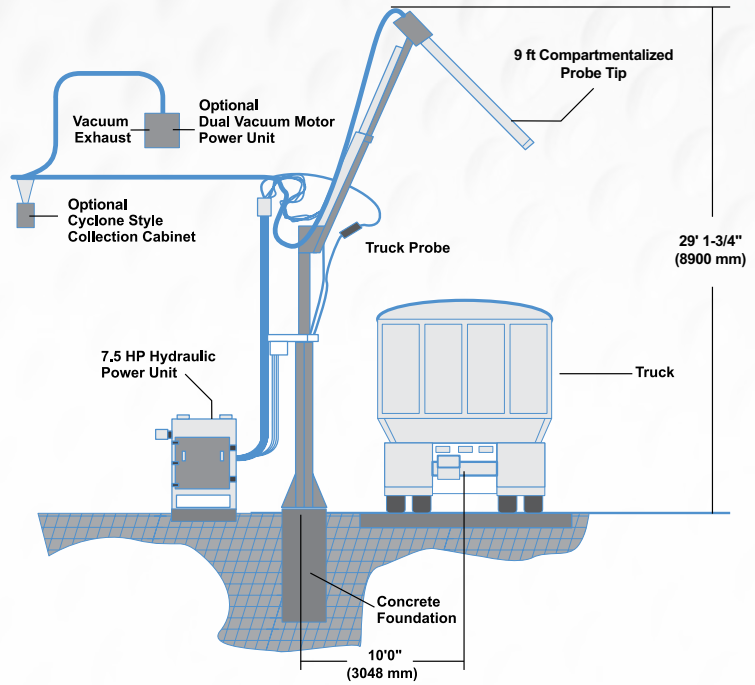
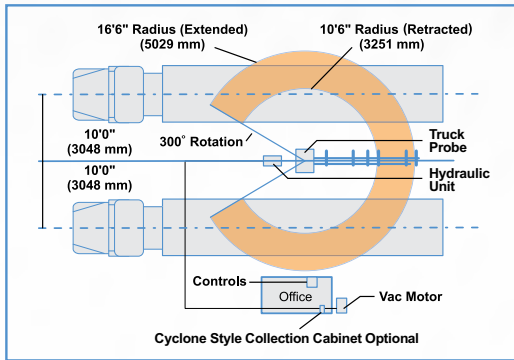
### OPERATING RADIUS



# LAYOUT DETAILS

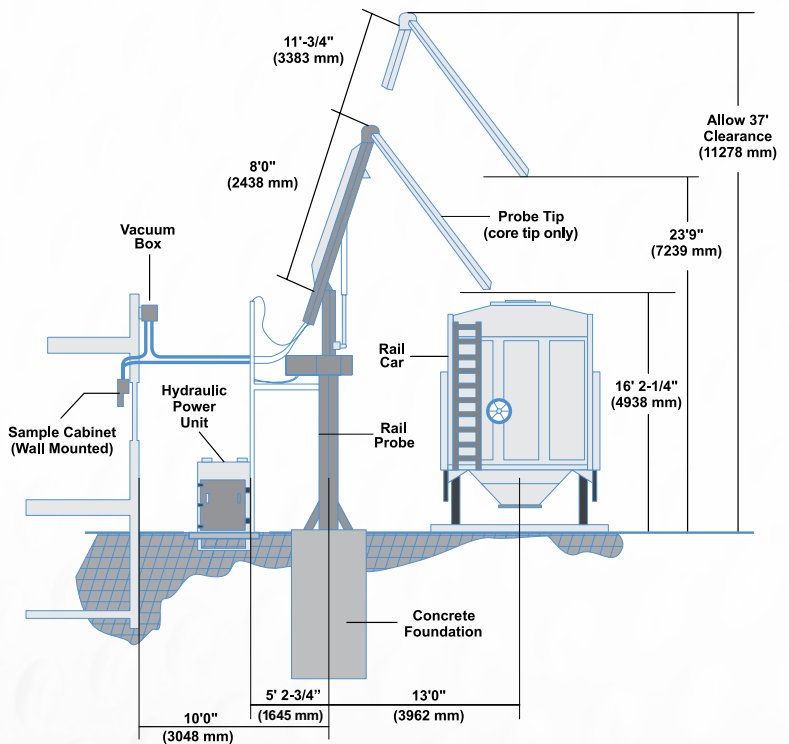
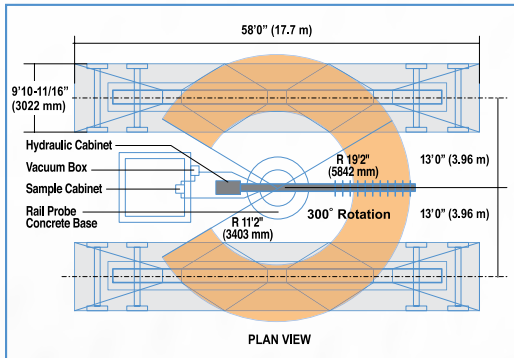
## MEGA TRUCK PROBE: 7.5 HP

### OPERATING RADIUS



## RAIL

### OPERATING RADIUS

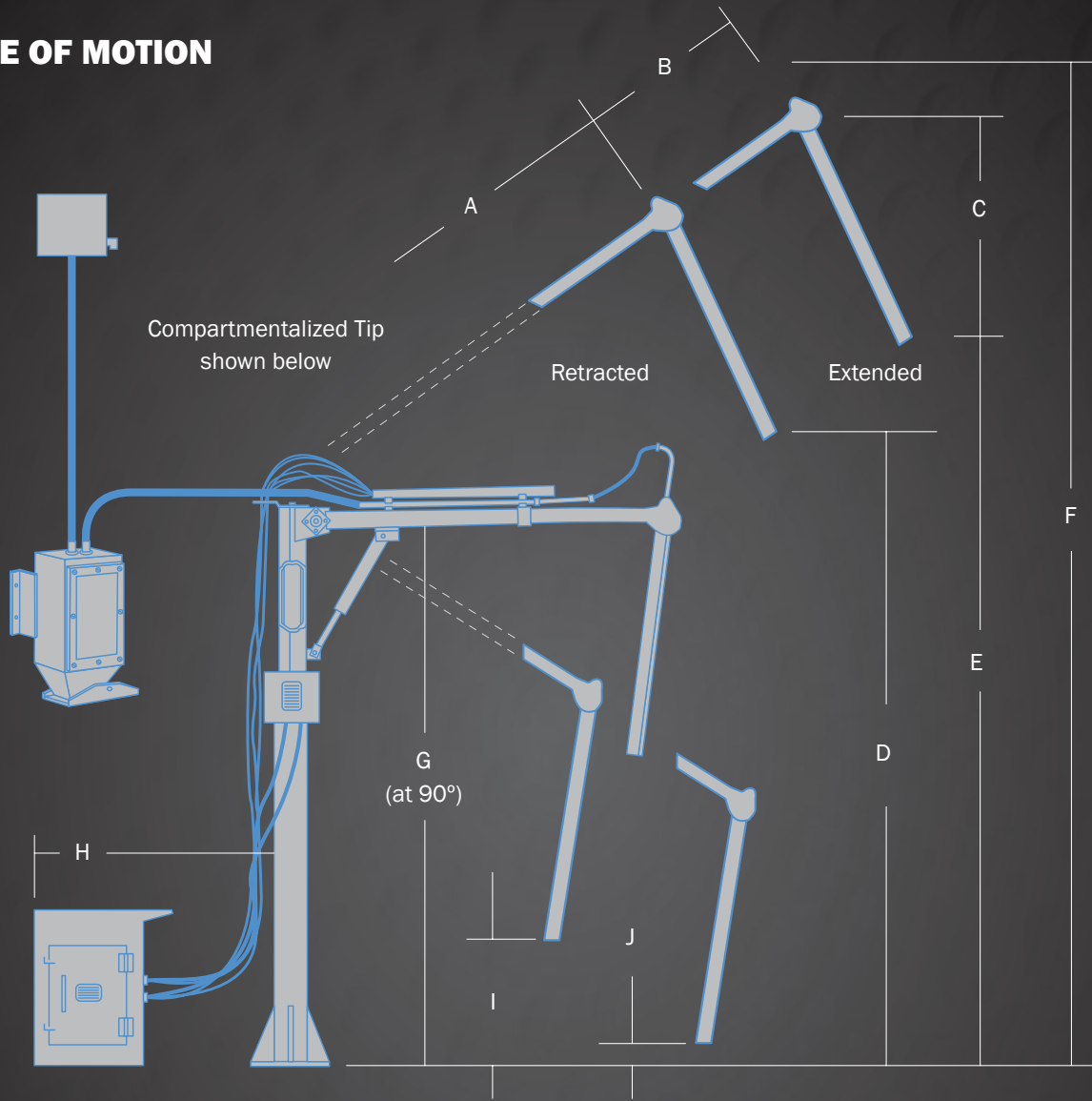


# HYDRAULICS / STRUCTURE

|                            | 3 HP PROBE  | 5 HP SUPER PROBE   | 7.5 HP MEGA PROBE  | RAIL / TRUCK PROBE  |
|----------------------------|---|--|--|---|
| <b>HYDRAULICS</b>          |   |  |  |   |
| <b>ELECTRICAL</b>          | 3HP, TEFC, 230/460V, 9.6/4.8 amp, 3PH   | 5HP, TEFC, 230/460V, 15.2/7.6 amp, 3PH   | 7.5HP, 230/460V, 22/11 amp   | 10HP, 230/460V, 28/14 amp   |
| <b>OPTIONAL</b>            | 3HP, TEFC, 115/230V, 34/17 amp, 1PH   | 5HP, TEFC, 115/230V, 56/28 amp, 1PH  | 10HP, 230V, 1PH  | None  |
| <b>POWER UNIT</b>          | Gear pump, direct drive, 750 psi, 5.6 GPM, 15 gal reservoir in a 22"x32"x53" Nema 1 enclosure | Gear pump, direct drive, 1250 psi, 5.6 GPM, 15 gal reservoir in a 22"x32"x53" Nema 1 enclosure | Gear pump, direct drive, 1800 psi, 5.6 GPM, 15 gal reservoir in a 22"x40"x55" Nema 1 enclosure | Gear pump, direct drive, 1300 psi, 11 GPM, 30 gal reservoir in a 22"x40"x52" Nema 1 enclosure |
| <b>CONTROLS</b>            | 115V, 20 AMP, 1PH<br>Dual vac: add'l 115V, 15 amp, 1PH  | 115V, 20 AMP, 1PH<br>Dual vac: add'l 115V, 15 amp, 1PH   | 115V, 20 AMP, 1PH<br>Dual vac: add'l 115V, 15 amp, 1 PH  | 115V, 20 AMP, 1PH<br>Dual vac: add'l 115V, 15 amp, 1 PH                                       |
| <b>VACUUM</b>              | Two-stage by-pass, 1PH, 104 CFM, 110" water, 13 amp   | Two-stage by-pass, 1PH, 104 CFM, 110" water, 13 amp  | Two-stage by-pass, 1PH, 104 CFM, 110" water, 13 amp  | Two-stage by-pass, 1PH, 104 CFM, 110" water, 13 amp   |
| <b>STRUCTURE</b>           |   |  |  |   |
| <b>INNER BOOM</b>          | 3.5"x3.5"x.25" wall   | 4.5"x4.5"x.375" wall   | 4.5"x4.5"x.25" wall  | 9"x7"x.25" wall   |
| <b>OUTER BOOM</b>          | 4"x4"x.1875" wall   | 5"x5"x.1875" wall  | 6"x6"x.375" wall   | 10"x8"x.375" wall   |
| <b>PIVOT TUBE</b>          | 5"O.D.x.25" wall outer tube<br>4"O.D. CF 1045 shaft   | 7.75"O.D.x.375" wall outer tube<br>5"O.D. CF 1045 shaft  | 7.75"O.D.x.375" wall outer tube<br>6"O.D. CD 1045 shaft  | 10"O.D.x.5" wall outer tube<br>8"O.D. CD 1045 shaft   |
| <b>BASE</b>                | 8"x8"x.375" wall<br>Ryertex tee bushing;<br>1" pivot pin                                      | 10"x10"x.625" wall<br>Ryertex tee bushing;<br>1.25" pivot pin                                  | 10"x10"x.625" wall<br>Pivot tube sealed lower bearing;<br>1.375" pivot pin                     | 16" round Sch. 40 pipe<br>Ryertex tee bushing;<br>2" pivot pin                                |
| <b>CONCRETE FOUNDATION</b> | 24" sq. x 60" deep  | 30" sq. x 72" deep   | 36" sq. x 72" deep   | 5' dia. x 120" deep   |



### RANGE OF MOTION



| MODEL           | A     | B    | C     | D     | E      | F     | G     | H    | I    | J    |
|-----------------|-------|------|-------|-------|--------|-------|-------|------|------|------|
| 3 HP (FEET)     | 7'0"  | 4'0" | 6'11" | 11'6" | 15'2"  | 24'2" | 11'8" | 2'4" | 0.0  | 0.0  |
| 3 HP (METERS)   | 2.13  | 1.22 | 2.11  | 3.51  | 4.62   | 7.37  | 3.57  | 0.7  | 0.0  | 0.0  |
| 5 HP (FEET)     | 7'0"  | 4'0" | 7'1"  | 13'2" | 16'11" | 26'0" | 13'8" | 2'4" | 2'0" | 6"   |
| 5 HP (METERS)   | 2.13  | 1.22 | 2.16  | 4.01  | 5.16   | 7.92  | 4.18  | 0.7  | 0.61 | 1.83 |
| 7.5 HP (FEET)   | 10'6" | 6'0" | 7'6"  | 14'6" | 19'11" | 29'2" | 13'8" | 2'4" | 1'8" | 0.0  |
| 7.5 HP (METERS) | 3.2   | 1.83 | 2.29  | 4.42  | 6.07   | 8.89  | 4.18  | 0.7  | 0.52 | 0.0  |
| RAIL (FEET)     | 11'2" | 8'0" | 10'8" | 16'2" | 23'9"  | 37'0" | 16'6" | 2'4" | 3'4" | 1'9" |
| RAIL (METERS)   | 3.4   | 2.44 | 3.26  | 4.93  | 7.24   | 11.28 | 5.03  | 0.7  | 1.0  | 0.53 |



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InterSystems reaches a worldwide market and numerous industries with expertise in the manufacturing of material handling products and industrial sampling systems. Purchased by GSI in 2014, InterSystems is based in Omaha, Nebraska and operates out of a 200,000 square foot state-of-the-art manufacturing facility. InterSystems is ISO 9001 and 14001 certified.



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