Hach FH950 Gauging – Field Procedures

Overview
The Hach FH950 is an electromagnetic current meter that measures the velocity of water and, paired with the depths and positional information entered in the handheld unit, can calculate stream flow.

Preparing for a stream flow gauging with the Hach FH950
Before entering the stream to undertake a gauging, the technician must first assess the safety of the stream. If it is deemed safe to undertake the gauging using the appropriate PPE (as defined Horizons' HMP 18 - Working Around Water), the technician may proceed through the following steps:

1. Put together the Hach FH950 current meter and handheld unit by following these steps:
    a. Attach the mount to the back of the handheld unit
    b. Connect the current meter to the top set wading rod
    c. Connect the current meter to the handheld unit with the attached plug
    d. Mount the handheld unit on the top set wading rod
2. Take water level reading (if possible)
3. Find suitable cross section (guidance given in 6.2)
4. Attach your tagline with the numbers increasing from the River Left to the River Right (when facing downstream)
5. Start your Hach FH950 Handheld unit and follow the steps below to carry out the gauging

Once the gauging section is selected and has been set up along with the current meter, the technician will then enter site details into the handheld unit and begin the gauging.

Carrying out the Stream flow gauging using the Hach FH950

1. Turn unit on (as per step 5 above) and press the OK button on the self-test screen once tests are completed
2. Select "Profiler"
3. Enter the Operator name (initials is fine)
4. Choose profile type
    a. "Stream" is used for normal stream flow gaugings
    b. "Conduit" can be used for culverts
5. Enter name for new stream profile (use the 3 letter site code for your site)
6. Enter stage reference (from step 2 in the "Preparing for a stream flow gauging" section)
7. Enter your Station 1 details
    a. **Edge/Obstruction** – Choose your edge (Left or Right)

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b. **Distance to vertical** – This is the reading on your tagline **at this point**
c. **Set depth** – If this is a physical edge, depth is zero, if not, set this point at the physical edge and add another edge with depth on your next station before continuing with your gauging
d. Measure Velocity – Edges will have a zero velocity, bypass this
e. Click "Next" – Do not click "Save Data and Exit, this is reserved for your final vertical ONLY

8. Proceed to next station
9. Enter details
    a. **Edge/Obstruction** – defaults to "Open water" after an edge, all non-edge stations with measured velocity should be "open water"
    b. **Distance to vertical** – As before, read from tagline **at this position**
    c. **Set Depth** – lower the current meter to the bed level and hold the wading rod vertical and the device will read the depth – press OK
    d. Measure Velocity
        i. If depth is less than 0.75m, select "One Point", if 0.75 or greater, select either 2 or 3 point
        ii. Press "OK" for "0.6" (if 2 point or 3 point, select applicable points as you progress)
        iii. Set the meter so that it matches what is specified on screen (depth will be highlighted green at this point)
        iv. Select "capture"
        v. Once the progress is 100% for the measurement, select "OK"
        vi. Click "Main"
    e. Go to "Next"
10. Repeat step 9 until reaching your final edge station
11. At your final station, repeat step 7 and its sub-steps **except part 'e'**
12. At part 'e', instead, click "Save data and Exit", this will save the completed gauging to the device.

Once the gauging is complete and saved, the technician can turn off the handheld unit before safely packing away the gauging equipment. On return to the office, the unit can be downloaded and the gauging processed by following the instructions in cd_om_6.32_Current Meter (Hach) - Data Entry.pdf