# IQH *Pro* Range

## rotork®
## Controls

## IQH Pro – High Speed Self Locking Actuator

Based on the multi-turn IQ actuator the IQH provides a range of high output speeds while being generally irreversible and therefore provides a self-locking* ability by the actuator for the valve. Developed for diverter valves in meter prover applications, IQH provides fast operation with positive seating without backdriving.

### IQH Pro actuators offer the following powerful features:

- Multi-turn and quarter-turn
- High speed - self locking capability
- Non-intrusive set-up
- Clear user friendly controls and indication
- Simplified torque and position control for increased reliability
- Flexible and comprehensive control and indication
- On-board datalogger
- IrDA compatible for local and remote actuator analysis via PC
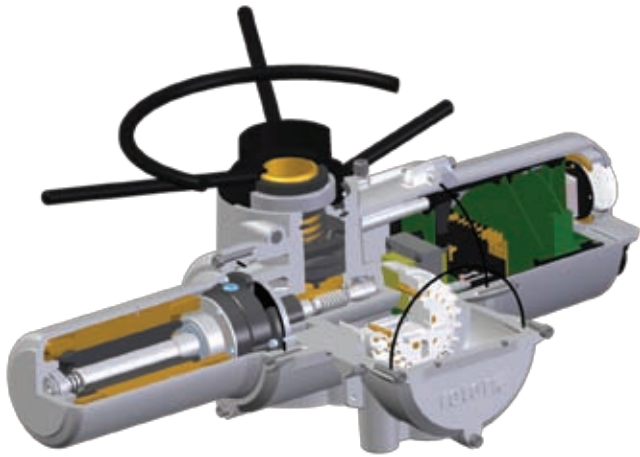- IQ insight & IQ Pocket Insight software tools for set-up, analysis, asset management and diagnostics

### Setting Tool *Pro* features:

- Stores downloaded data for analysis with InSight software on PC's.
- Fast, easy configuration of multiple actuators on site using transferrable settings feature.
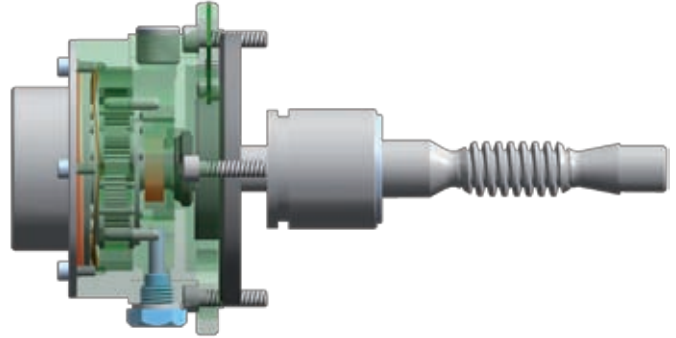- Intrinsically Safe robust construction.

## IQ *Pro*

# IQH *Pro* Range

## IQH *Pro*



## IQH *Pro* epicyclic gearbox



**\*Note:** It should be noted that a self-locking ability cannot be guaranteed for worm and wheel drives under all conditions including high loads and vibration, either under static and dynamic conditions. When handwheel operation is selected the gear train is disconnected and therefore any locking ability will be lost.

### The IQH epicyclic gearbox
Fast operation is achieved by using a 1:3 step up epicyclic gearbox between the 2-pole motor and worm gearbox. This is mature design having been implemented in the IQ design of the 1990's.

### IQH *Pro* Features
IQH *Pro* actuators use the new Rotork IQ and IQT *Pro* main board to provide the following powerful features:

- Larger clearer icon and text display.
- Customer configurable multilingual text capability.
- Datalogger valve torque signature profiling.
- Status & monitoring diagnostics.
- Retrofittable to existing IQ & IQT actuators manufactured since 2000.
- Improved data download speed x10.

### The Rotork Setting Tool *Pro* features include:
- Non-intrusive, Infra red communication.
- Intrinsically safe for use in hazardous areas.
- On site actuator configuration and data download.
- Data transfer from actuator to PC with free Rotork Insight software\*
- Capacity for 10 configuration and 4 datalogger files.
- Multiple configuration capability.
- Compatible with all IQ & IQT actuators.

### Multi Language Text and Icon Display



The IQH Pro range features a new larger and clearer multilingual text and icon display. The descriptive text can now be configured for a number of languages, with each language module downloadable from the rotork website. Once the appropriate languages have been downloaded they can be uploaded to the actuator using the Setting Tool *Pro*.

The new ergonomically designed and intrinsically safe Rotork Setting Tool Pro is compatible with all existing IQ and IQT range actuators and is safe for use in any environment / hazardous location.

### Setting Tool *Pro* Download & Upload



The Rotork Setting Tool *Pro* includes a feature which allows the user to extract and store IQ and IQT actuator configuration and datalogger files within the Tool. Stored files can be viewed using a PC running IQ Insight©. Using This tool, stored configuration files can also be uploaded back to IQ and IQT actuators in order to replicate a setup for multiple units (limits must be set individually).

IQ Insight is available free from www.rotork.com

*For further information on IQ Pro features, see publication E1120E.*

\* Note: Setting Tool *Pro* data transfer capability is compatible with IQ actuators supplied since 2000.

## IQH *Pro* Specification

The IQH *Pro* has the same specification as the IQ, described fully in Publication E110E.

### General

| | |
|---|---|
| Enclosure Non- hazardous | IEC - IP 68 – 7m / 72 hrs, NEMA 4, 4X & 6 |
| Enclosure Hazardous | ATEX, FM, CSA or IEC (For other specific certification, contact Rotork) |
| Temperature | –30 to +70 °C (see E110E for full ranges and certification limitations) |
| Power Supplies | 3 – Phase supplies only |
| Mounting Interface | IS0 5210, MSS - SP102 |
| Lubrication | Oil bath lubrication with sealed lubricated epicyclic gear. |
| Handwheel | Top Direct Drive, option side mounted geared handwheel |
| Conduit/cable entries | 2 x 1" & 1 x 1$^{1}$/4". ASA NPT (2 x M25 & 1 x M40) |
| Orientation | Any |
| Finish | Polyester powder coating. 2-Pak epoxy available as an option. |

### Indication

| | |
|---|---|
| Remote Indication | 4 x configurable "S" contacts Option for additional 4 contacts |
| Remote indication options | 4-20mA auto-scaling position output (CPT). Network control options include position and alarm status indication |

### Duty Cycle

| | |
|---|---|
| Duty cycle | S2, 25% -15min, 60 starts per hour at 33% of rated torque. |

### System

| | |
|---|---|
| Set–up | Non intrusive Infra-red using the Rotork Setting Tool (supplied) |
| Local Display | LCD position indication (% open) plus set up and alarm displays. |
| Limit switching | 2.5 to 100,000 turns, max resolution 7.5° |
| Torque switching | Independently adjustable open and close torque switches can be set in the range 40% to 100% rated torque. "Boost" can be set in the opening direction. |
| Datalogger | Standard: Torque, starts, statistics and event logs |

### Support Tools

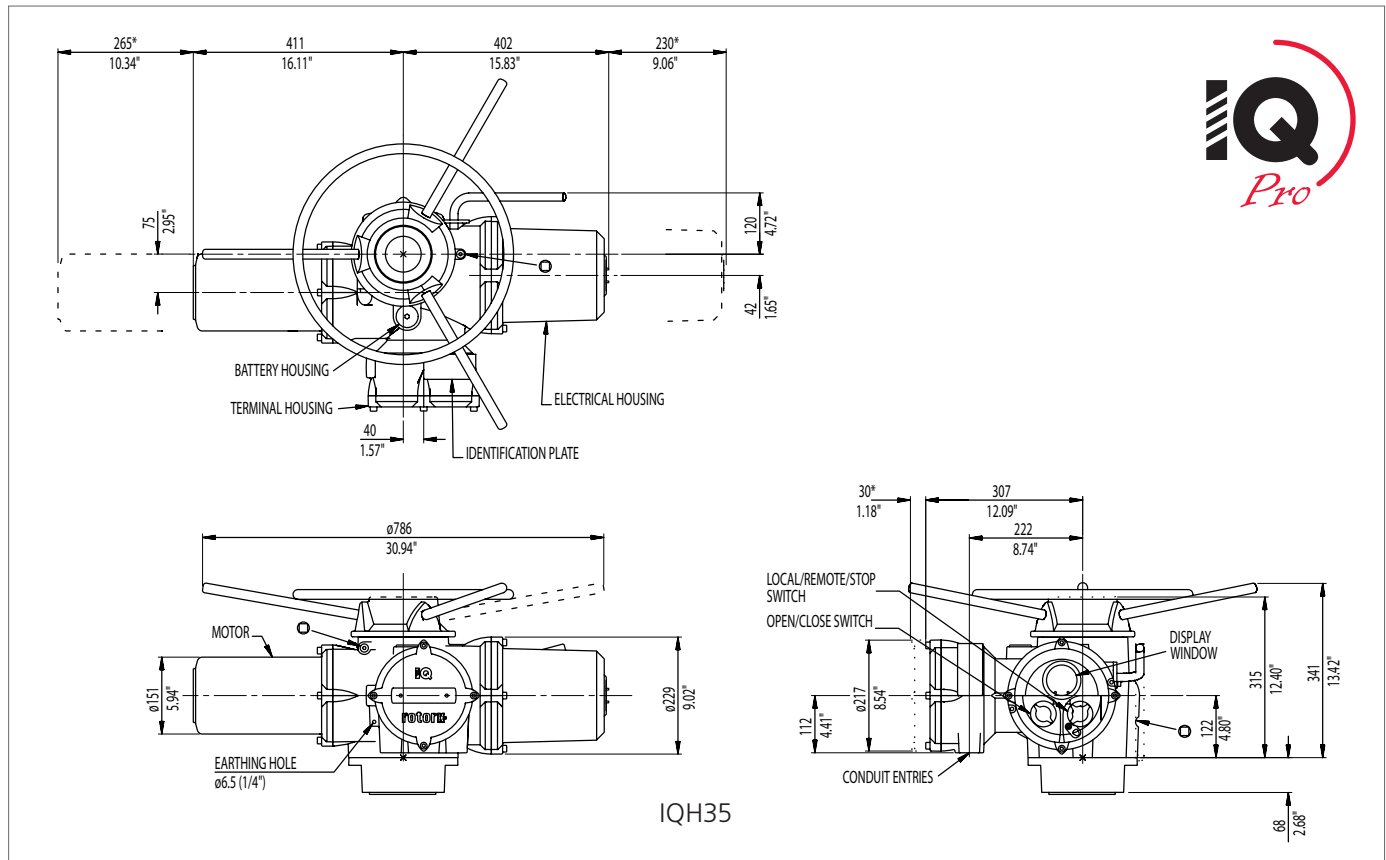| | |
|---|---|
| Support Tools | PC Software: IQ Insight<br>PDA software: IQ Pocket Insight |

### Control

| | |
|---|---|
| Base wiring diagram | 3000-000 |
| Local Control | Non-intrusive "Local-stop-remote" and "open-close" selectors |
| Remote control | Hardwired "open", "close", "stop", "ESD" plus "open" and "close" Interlock facility. |
| Remote control options | Analogue 4-20mA - Folomatic, |
| Network control options | Pakscan 2-wire control, Modbus, Profibus, Foundation Fieldbus, DeviceNet |

## Performance data

| | Actuator output speeds | | |
|---|---|---|---|
| **rpm at 50Hz** | **108** | **144** | **216** |
| **rpm at 60Hz** | **130** | **173** | **259** |
| **Final gear ratio** | **80:1** | **60:1** | **40:1** |

| Actuator size | Torque** | Nm / Ft lbf | | |
|---|---|---|---|---|
| IQH20 | | 75 | 75 | 68 |
| | | 55 | 55 | 50 |
| IQH25 | | 108 | 98 | 83 |
| | | 80 | 72 | 61 |
| IQH35 | | 202 | 182 | 153 |
| | | 149 | 134 | 113 |
| IQH40 | | 397 | 347 | 240 |
| | | 293 | 256 | 177 |

** Torque rating is maximum torque setting in both directions.
Stall torque will be 1.4 to 2 times this value depending on speed and voltage

## IQH *Pro* Dimensional Data



Dimensional drawings with the following labels:

- 265* / 10.34"
- 411 / 16.11"
- 402 / 15.83"
- 230* / 9.06"
- 75 / 2.95"
- 120 / 4.72"
- 42 / 1.65"
- 40 / 1.57"
- BATTERY HOUSING
- TERMINAL HOUSING
- ELECTRICAL HOUSING
- IDENTIFICATION PLATE

- ø786 / 30.94"
- MOTOR
- ø151 / 5.94"
- ø229 / 9.02"
- EARTHING HOLE ø6.5 (1/4")

IQH35

- 30* / 1.18"
- 307 / 12.09"
- 222 / 8.74"
- LOCAL/REMOTE/STOP SWITCH
- OPEN/CLOSE SWITCH
- DISPLAY WINDOW
- ø217 / 8.54"
- 112 / 4.41"
- 315 / 12.40"
- 341 / 13.42"
- 122 / 4.80"
- 68 / 2.68"
- CONDUIT ENTRIES

**IQH supporting documents and software are available for download at www.rotork.com**

| | |
|---|---|
| PC Software | IQ Insight, PDA software: IQ Pocket Insight available for free download |
| E110E | IQ & IQT Catalogue |
| E120E | IQ & IQT Control and Monitoring |

| | |
|---|---|
| E135E | IQT electric motor performance data |
| E170E3 | IQT Installation & Maintenance Instructions |
| E117E | IQ Insight software |
| Dimensions | Available in PDF and DXF format in IQ range - Specifications |

**Controls**
Electric Actuators and Control Systems

**Fluid Systems**
Fluid Power Actuators and Control Systems

**Gears**
Gearboxes and Gear Operators

**Site Services**
Projects, Services and Retrofit

A full listing of our worldwide sales and service network is available on our website at: