

## GLOBAL SERVICE

Norbar is the only torque equipment manufacturer capable of offering tool and instrument calibration services to the original factory standard on four continents.

Accredited laboratories in Australia, USA, Singapore, China and India operate the same equipment and procedures as the UKAS accredited laboratory within our headquarters in the UK.



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## NORBAR PRODUCT PORTFOLIO



Torque Screwdrivers



Torque Wrenches



Electronic Torque Wrenches



Manual Torque Multipliers



Pneumatic Torque Tools



Electronic Torque Tools



Battery Torque Tools



Torque Measurement Instruments



Torque Transducers



Calibration Services

# NEW



## VALVE TESTING SYSTEM UNIVERSAL CYCLE TESTING FOR VALVES



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NORBAR'S VALVE TESTING SYSTEM HAS BEEN DESIGNED TO MONITOR AND CONTROL THE OPENING AND CLOSING OF BALL AND GATE VALVES BY MEANS OF TORQUE AND/OR ANGLE MEASUREMENT WITH OPTIONAL PROXIMITY SENSORS FOR ADDED SECURITY WHEN REQUIRED.

## TYPICAL APPLICATION

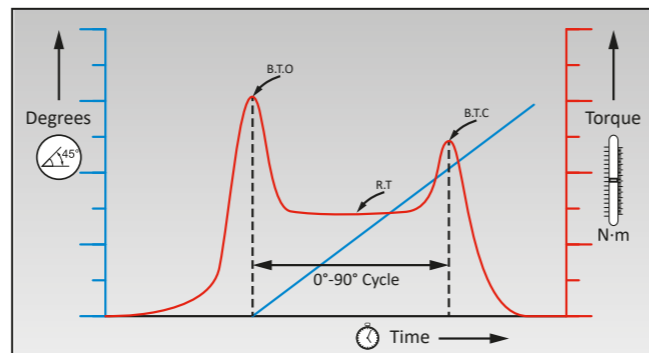
- Testing of Ball Valves requiring cyclical rotation 0 - 90° / 90 - 0°, whilst recording Torque vs Angle data
  - Testing of Gate Valves / Valve Actuators by opening and closing whilst recording Torque vs Angle / turns data
- The test must be remotely controlled from outside of the test chamber, where the test valve is pressurised

The power to rotate the valve can either be supplied via an AC Electric or Pneumatic Motor. This is connected to one of Norbar's tried and tested epicyclic gearboxes. The size of gearbox is dependant of the torque required to operate the valve.

The gearbox is fitted with an Annular Transducer which is used to measure the torque being applied to the valve, this transducer can be fitted with an optional angle encoder to allow for positional control.

Norbar's systems allow differing levels of control from manual to fully automatic with cycling ability.

The ability to monitor or record BTO and BTC as well as running torque is present across the range.



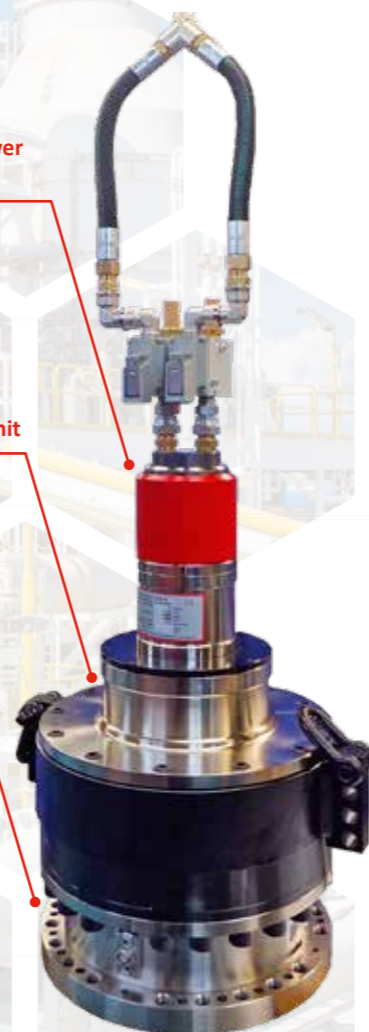
This diagram represents what we would expect to occur during a "break to open" to "break to close" cycle of a typical ball valve, with R.T. being the "run torque".



**PNEUMATIC POWER UNIT**  
The source of power for the system

**GEARBOX**  
Increases torque from the power unit

**TRANSDUCER**  
Measuring the applied torque of the valve  
Transducer is connected either to a display instrument (for real-time reading of torque) or a control panel (for torque reading and control features)



For full details and configuration options, please contact Norbar via email at [technical@norbar.com](mailto:technical@norbar.com) or by telephone on +44 (0)1295 753600

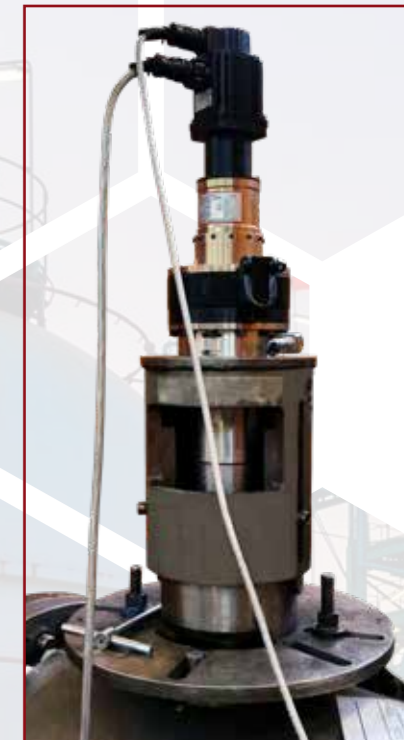
The brake is a non-standard add on but very important for butterfly valve testing

Powerful brushless AC motor is quiet and maintenance free

Tried and tested Norbar gearbox - various capacities available

Torque & Angle Transducer - various capacities available

AC motor designed to directly replace the pneumatic air motor drive on PneuTorque® tools



**HAND CONTROL**  
For connection of Remote Hand Pendant

**RS-232**  
For connection of ancillary device, such as printer

**SOLENOIDS CONTROL OUTPUT**

**MOTOR**  
For connection of Power Lead for AC servo motor

**ENCODER**  
For connection of Signal Lead for AC servo motor

**TORQUE**  
For connection of mV/V torque transducer

**PRESSURE**  
For connection of mV/V pressure transducer assembly

**TEMPERATURE**  
For connection of K Type thermocouple temperature probe

**PROXIMITY 1 & 2**  
For connection of proximity switch (Switch to control clockwise or counter-clockwise tool rotation)

Emergency Stop Button

USB Memory Output

**Tool Controller with Hand Pendant from Valve Testing Control Kit**  
Optional Control Pendant can be used to control valve testing, if required

## KEY FEATURES OF THE TOOL CONTROLLER

- 10" touchscreen HMI & PLC housed in painted steel enclosure for indoor / workshop use
- Test data capture and output in CSV format onto external USB drive, time and date stamped
- Generate customer test reports and produce graphs
- Real time Torque & Angle or Torque & Turns Data streaming via RS-232 serial port
- Precision controlled low noise AC servo drive
- Operates pneumatic (via solenoid valves), or AC servo drive tools
- Dedicated input ports for pressure, temperature and proximity sensors
- Controller available as separate component to upgrade existing valve testing kits
- Automatic recognition of Smart transducers
- Forward / reverse cycling - user programmable number of cycles, variable up to 32,000 sweeps
- Emergency stop button and torque overload limit function
- Torque Range: 100 - 300,000 N-m (capacities up to 500,000 N-m available on application)
- Option of applying a brake to hold the angular position of the valve
- High sample rate for positional data capture accuracy

Versions with additional ports and features can be supplied via Norbar's Engineer to Order Service