



SFC Key Interlocks & Process Management Systems





In a hazardous area, below water, in a confined space, in a pit, where noxious fugitive emissions prevail or where valves are just simply out of reach – **Flexi-Drive™** is the answer.

Remote Cable Drive Valve Operators

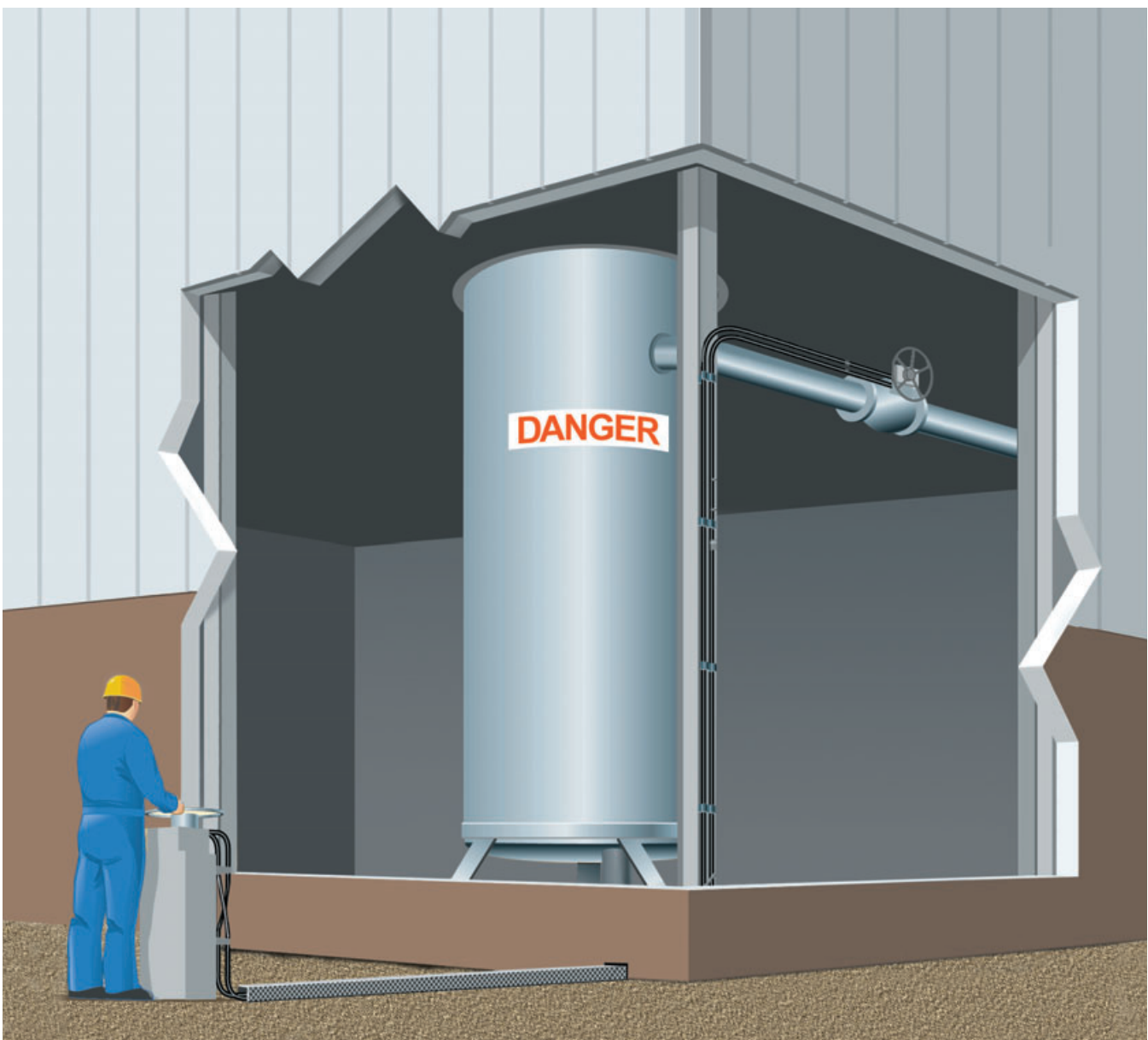
■ Description

FlexDrive™ is a very versatile product consisting of two stations, joined by a unique patented linear drive cable. This equipment enables valves and other wheel-operated devices in remote, hard-to-reach or hazardous locations to be operated easily from a conveniently located handwheel.

Developed to operate valves in inaccessible locations, **FlexDrive™** can be applied to any conventional wheel-operated valve/device, in oil, gas and chemical processing plants, or any other industrial application. It is suitable for underwater use and will function reliably in all climatic conditions.

The cable system can deliver adequate torque output for most manual valve situations and can transmit drive to a valve up to 60 metres from the operator station. The flexible cable system facilitates up to 540° of bends in the cable run.

The cable system can be passed around and through walls, bulkheads, floors and any other obstacles to reach the host valve.



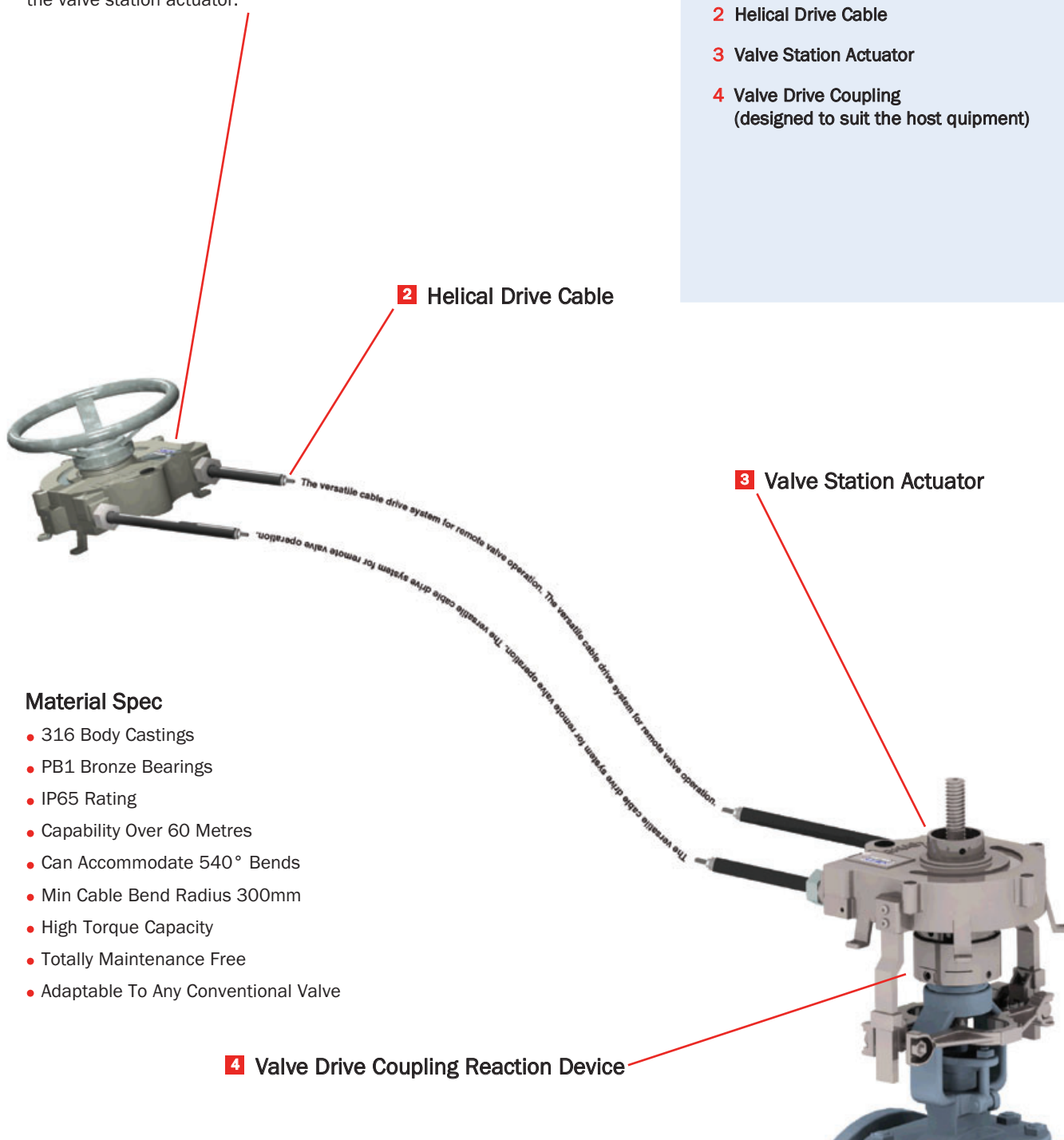
■ Operation

1 Operator Station Actuator

Operator stations are available in a variety of different gear ratios, providing a wide range of torque capabilities. A helically wound steel cable has a pitch the same as that of the cable gear. The precision gear-cable interface provides a positive force to the helix cable, which travels through the flexible conduit to the valve station actuator.

SFC **Flexi-Drive™** systems comprise of four basic elements:

- 1 Operator Station Actuator
- 2 Helical Drive Cable
- 3 Valve Station Actuator
- 4 Valve Drive Coupling (designed to suit the host quipment)

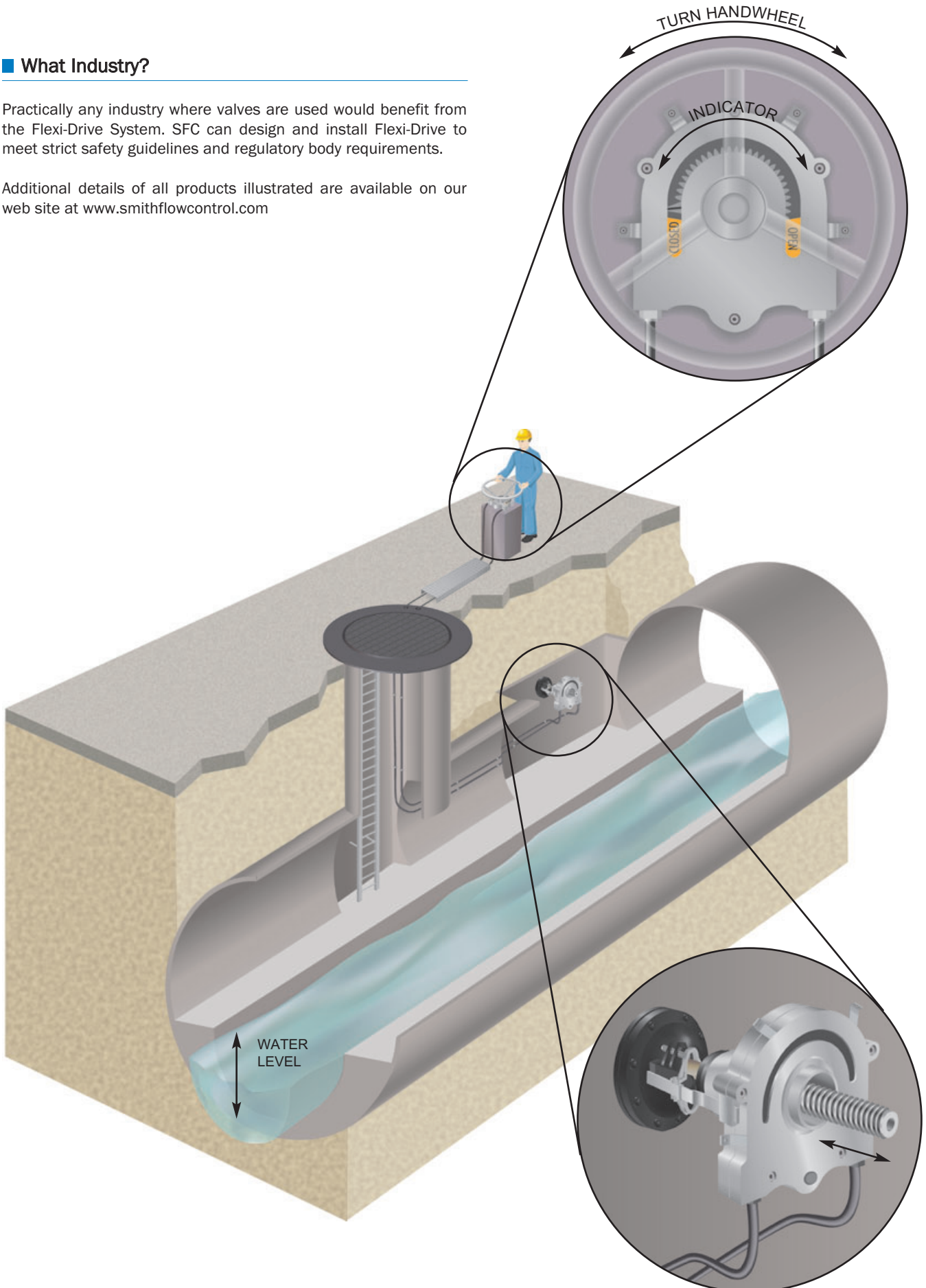


Remote Cable Drive Valve Operators

■ What Industry?

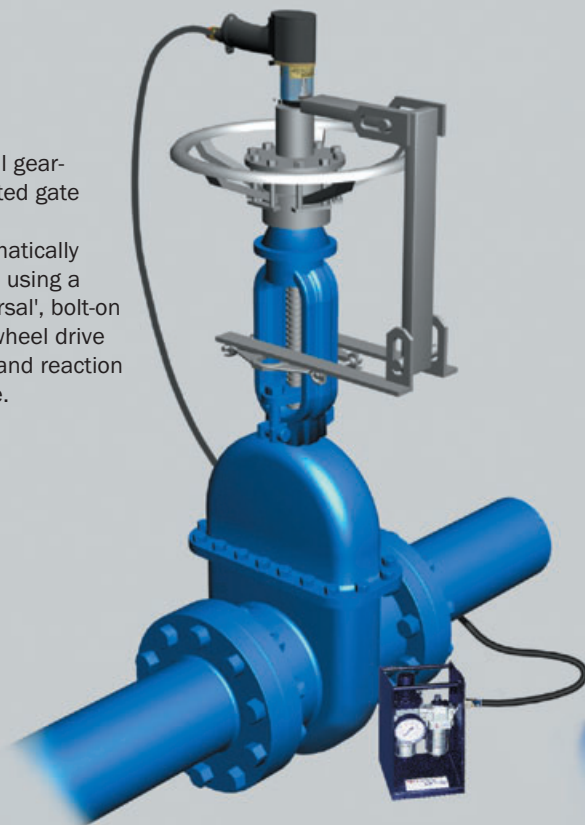
Practically any industry where valves are used would benefit from the Flexi-Drive System. SFC can design and install Flexi-Drive to meet strict safety guidelines and regulatory body requirements.

Additional details of all products illustrated are available on our web site at www.smithflowcontrol.com



Easi-Drive

Typical gear-operated gate valve, pneumatically driven using a 'universal', bolt-on handwheel drive plate and reaction device.



Typical gear-operated ball valve, pneumatically driven using a universal 'bolt-on' handwheel drive plate and bespoke (custom made) reaction device.



Easi-Drive

- Low cost alternative to permanent dedicated actuators.
- No requirement for dedicated power supply.
- Operates from adjacent plant air or single-phase electrical supply.
- Suitable for use in all Hazardous Areas.
- Ideal for minimum facilities installations.
- Suitable for all climatic conditions.
- Wide band torque capability with variable torque adjustment as standard.
- Ideal for moving tight or partially-seized valves.
- Adaptable to any size/type of valve.
- Eliminates operator fatigue and greatly reduces the risk of injury.
- Reduces work crew tasks to one-man operation.
- Fully portable - can manage banks of valves with a single drive tool.

Three simple steps to easi-drive installation and use:

1 Decide if you want to retain the option of manual valve operation via the handwheel.

2 Install the relevant easi-drive equipment.

3 Connect drive gun to power supply (pneumatic, electric or hydraulic).



Standard equipment and basic specifications:

- Pneumatic, electric and hydraulic 'drive guns' available.
- 'Local' pistol grip type tools available.
- Barrel type tools.
- Customised valve drive adaptors.
- Standard hose length supplied: 3 meters.
- Air supply recommendations: 840 l/m (30cfm) @ 5.5 bar (80psi).
- Guns available with a range of torque outputs: 100 Nm (74 lbf ft) to 100,000 Nm (73, 700 lbf ft).
- Torque safety cut out facility.
- Continuous run and 'dead mans handle' options.
- Calibration certificates supplied.

Portable Valve Actuators



■ Pneumatic Tool

Easi-Drive is an efficient and cost-effective alternative to a dedicated actuator. Wherever you have manually-operated valves that have high operating torques, hundreds of handwheel turns to open/close or are just difficult to operate then Easi-Drive is your solution.

■ Product Features

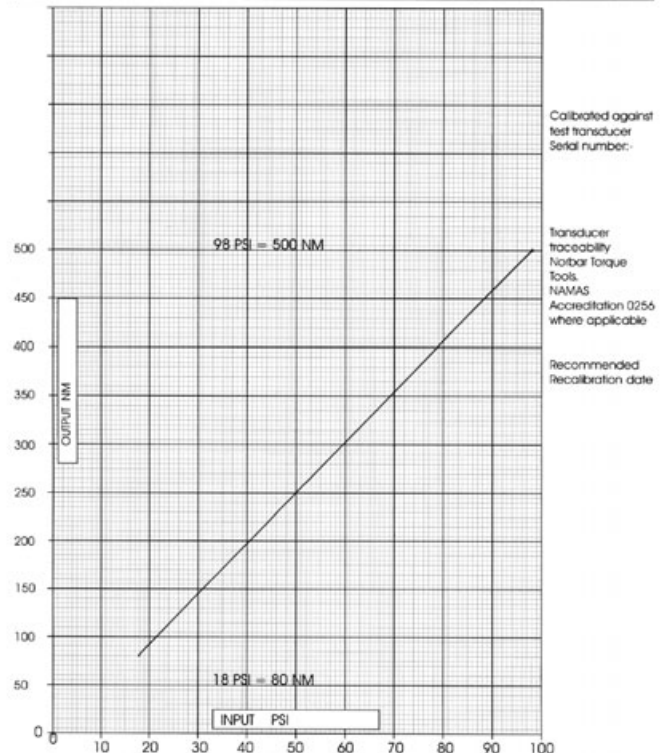
Each drive tool has a unique serial number and is supplied with its corresponding certificate of calibration.

The example provided shows the relationship between the input air supply pressure, via the SFC air filter, regulator and lubro (FRL) pack and the output torque that the drive tool can produce.

By adjusting the air pressure you can easily restrict the torque output of the drive tool for your precise requirements.

■ Certificate of Calibration

ISSUED TO:	DATE:
DESCRIPTION:	SERIAL No.:



■ Options



Smith Flow Control can also supply an electrical version of the Easi-Drive with features including:

- Pistol grip.
- Range of voltages.
- Customised valve drive adaptors
- Switchable maximum torque level feature
- LCD display indicates direction of drive and current maximum torque
- Output +1- feature buttons to adjust torque
- CE and EMC certified
- Calibration certificate

Also available is a range of hydraulic Easi-Drive operators, features include:

- Powerful continuous rotation.
- Air and electric powered hydraulic pumps available.
- Can be used subsea via umbilicals and ROV's.
- Customised valve drive adaptors.
- Calibration certificate.



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