

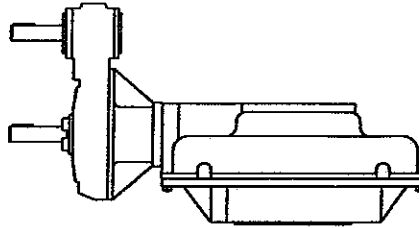
## SPECIFICATION AND OPTIONS FOR EXEEO BEVEL GEAR OPERATORS

### Specification:

- Output torque range available up to 10850Nm (manual) and 8150Nm (motorised).
- Thrust range available up to 1557kN.
- Valve spindle acceptances up to Ø120mm (bored and keywayed) and Ø150mm ( threaded).
- Basic gear ratios from 1:1 to 8:1.
- Compatible with auxiliary spur gear attachment AS type giving total ratios up to 120:1.

### Options:

- Auxiliary spurs may be fitted with 'twin input' shafts to give high and low speed operation.

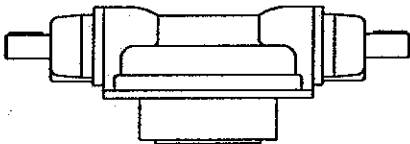


**IB/AS Combination Bevel/Auxiliary Spur Gearbox**

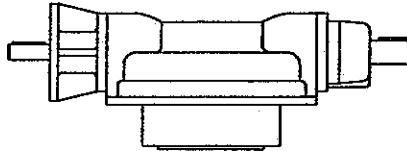
- Form B non thrust taking units are available.

- Through input shafts are available for operation of secondary gearboxes on twin spindle applications. Input options include:-

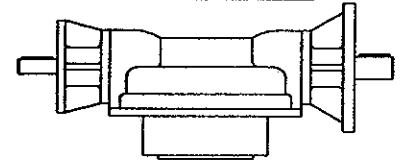
**Manual both ends**



**Motorised / Manual**



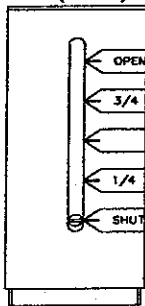
**Motorised both ends**



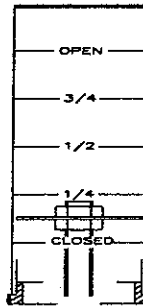
- Valve spindle cover tubes are available in steel and clear polycarbonate.

- Valve position indication is available via several types of gearbox mounted indicator including:-

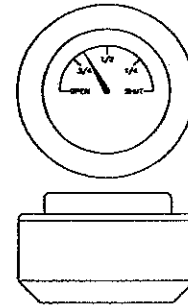
**Rising indicators**  
**For rising and non-rising stems**  
**(steel)**



**Rising indicators**  
**(polycarbonate)**

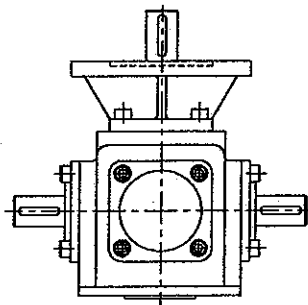


**Dial type indicators**  
**for rising and non-rising stems**



- Steel indicators are available with limit switches for end of travel indication.

- Middle gearboxes MB type are available with two or three shafts to drive further gearboxes at various angles.



### Other options available:

- Standard rotation is clockwise output for clockwise input. Anti-clockwise output for clockwise input is available.
- Buried duty, Submersible duty, Marinised duty, Raw Sewage duty, Nuclear duty, High and low Temperature duty.
- Lockable hand wheels and flanges, Temperature and Thrust Compensators

Standard rising spindle cover tubes are available in 200mm increments (100mm increments up to 1 metre long). Alternative lengths are available on request. Customer specific covers available include:-

- a) Aramco
- b) drilled / tapped holes in end plates
- c) NPT thread forms.

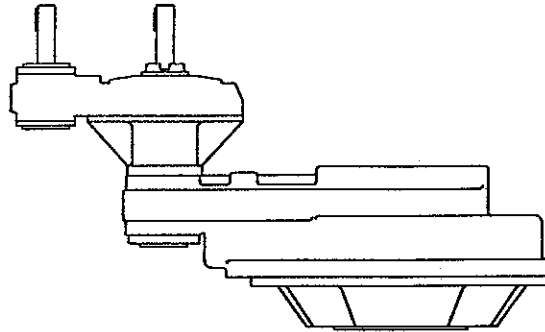
# SPECIFICATION AND OPTIONS FOR EXEEO SPUR GEAR OPERATORS

**Specification:**

- Torque range available up to 46100Nm (manual) and 43400Nm (motorised).
- Thrust range available up to 3350kN.
- Valve spindle acceptances up to Ø200mm (bored and keywayed) and Ø225mm (screw cut).
- Basic gear ratios from 1:1 to 24:1.
- Compatible with auxiliary spur gear attachment AS type giving total ratios up to 360:1.

**Options:**

- Auxiliary spurs may be fitted with 'twin input' shafts to give high and low speed operation.



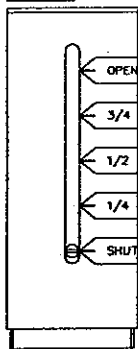
**IS/AS Combination Spur/Auxiliary Spur Gearbox**

-Form B non-thrust taking units are available.

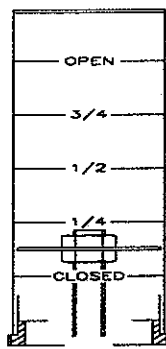
- Valve spindle cover tubes are available in steel and clear polycarbonate.

- Valve position indication is available via several types of gearbox mounted indicator including:

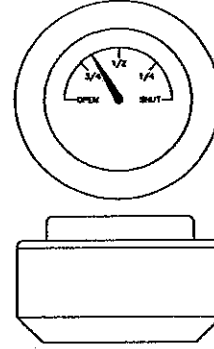
**Rising indicators (Steel)**



**Rising indicators (Polycarbonate)**

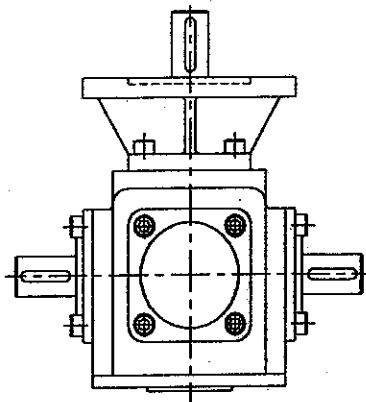


**Dial type indicators (for rising and no-rising stem)**



- Steel indicators are available with limit switches for end of travel indication.

- Middle gearboxes MB type are available with two or three pinions to drive further gearboxes at various angles.



**Other options available:**

- Standard rotation is clockwise output for clockwise input. Anti-clockwise output for clockwise input is available.
- Buried duty, Submersible duty, Marinised duty, Raw Sewage duty, Nuclear duty, High and Low Temperature duty.
- Padlockable Hand Wheels and Flanges, Temperature and thrust compensators.
- Extended input shafts are available for manual operation of gearboxes fitted with rising spindle cover tubes.
- Standard rising spindle cover tubes are available in 200mm increments (100mm increments up to 1 metre long). Alternative lengths are available on request. Customer specific covers available include:-
  - a) Aramco b) drilled / tapped holes in end plates c) NPT thread forms.