

Claims

1. A bore selector device comprising:
a housing defining a bore extending therethrough the bore having a main
5 longitudinal axis;
at least a first and a second actuator opposite each other, each moveable
between respective retracted and extended positions in a direction
perpendicular to the main longitudinal axis;
each actuator connected to a respective ram such that the rams are each
10 moveable between respective retracted positions and extended positions in a
direction perpendicular to the main longitudinal axis;
wherein each actuator and attached ram is moveable in the same linear
direction.
- 15 2. A bore selector device as claimed in claim 1, wherein each ram comprises a primary
ram portion and a secondary ram portion connected to the primary ram portion, the
secondary portions extending from the respective primary portions towards the
opposite actuator.
- 20 3. A bore selector device as claimed in claim 2, wherein at least one secondary portion
is a tongue.
4. A bore selector device as claimed claim 3, wherein a groove is provided in at least
one of the primary portions, into which the tongue of the opposite ram engages when
25 in the extended position.
5. A bore selector device as claimed in any one of claims 2 to 4, wherein at least one
primary ram portion comprises a portion sloping in a first downwards direction.
- 30 6. A bore selector device as claimed in any one of claims 2 to 5, wherein in the
extended position, the primary ram portions abut.
7. A bore selector device as claimed in any one of claims 2 to 6, wherein in the
extended position, the primary ram portions together form a funnel.

8. A bore selector device as claimed in any one of claims 2 to 7, wherein at least one secondary ram portion can comprise a portion sloping in a second downwards direction.
- 5 9. A bore selector device as claimed in any one of claims 2 to 8, wherein in the retracted position, at least one secondary portion is positioned in the bore.
- 10 10. A bore selector device as claimed in any one of claims 2 to 9, wherein at least one primary portion defines a through-passage towards the first downwards direction.
- 11 11. A bore selector device as claimed in any one of claims 2 to 10, wherein at least one secondary portion defines a through-passage towards the first downwards direction.
- 15 12. A bore selector device as claimed in claim 11 when dependent on claim 10, wherein in the extended position, the through-passage of the primary and secondary portions align.
- 20 13. A bore selector device as claimed in any preceding claim, wherein actuators and associated rams are independently moveable such that one actuator and associated ram is moveable to the extended position whilst the other actuator and ram is positioned in the retracted position.
- 25 14. A bore selector device as claimed in any preceding claim, wherein opposite ends of each actuator are exposed to bore pressure, thus pressure balancing the actuators.
- 30 15. A bore selector device as claimed in any preceding claim, wherein the bore selector device is less than 2 m in height, or less than 1.5 m or less than 1 m in height.
- 35 16. A bore selector device as claimed in any preceding claim, wherein the outside diameter of the bore selector is less than 2m, preferably less than 1.3m.
17. A bore selector device as claimed in any preceding claim, wherein at least one downwardly sloping channel is provided in the housing below the ram in the retracted position and leading to the bore therebelow.
18. A bore selector device as claimed in any preceding claim, wherein the bore selector device comprises a connector at each end, such as a flange connector.

19. A bore selector device as claimed in any preceding claim, wherein the rams include a shearing blade or are shaped with an integrated shearing edge.
20. A bore selector device as claimed in any preceding claim, which defines a maximum
5 of a single bore between the rams and a lower flange connector, the single bore normally being at least 7" (17.8cm) in diameter, optionally at least 9 inches (22.9cm).
21. A bore selector apparatus comprising the bore selector device as claimed in any preceding claim, connected to at least one of an attachment and a bore spacer sub.
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22. A bore selector apparatus as claimed in claim 21 when dependent on claim 20, wherein, the single bore of the bore selector device is the same diameter, or greater, than the diameter of the attachment.
- 15 23. A bore selector apparatus as claimed in claim 21 or 22, wherein the bore-spacer sub has at least two discrete bores.
24. A bore selector apparatus as claimed in any of claims 21 to 23, the bore-spacer sub includes a projection which extends into the bore of the bore selector device when
20 connected thereto.
25. A bore selector apparatus as claimed in claim 24 when dependent on claim 23, wherein the projection defines the at least two discrete bores.
- 25 26. A bore selector apparatus as claimed in any one of claims 21 to 25, wherein the attachment is a tool-string cross-over.
27. A bore selector apparatus as claimed in any one of claims 21 to 26, wherein the apparatus comprises a circulating attachment connected to the bore-spacer sub.
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28. A shearing device comprising
a housing defining a bore extending therethrough the bore having a main longitudinal axis;
a first and second actuator each moveable between respective retracted and
35 extended positions in a direction perpendicular to the main longitudinal axis;
each actuator connected to a respective ram such that the rams are moveable between a retracted position and an extended position in a direction perpendicular to the main longitudinal axis;

the rams being shear rams;

wherein each actuator and attached ram is moveable in the same linear direction.

29. Use of a bore selector apparatus as claimed in any one of claims 21 to 27 or a shearing
5 device as claimed in claim 28 to connect a mono bore riser to a multi-bore subsea
equipment.