**PRODUCTION PROGRAMME**

**FLAT HEADS**

- \( d_a \) = external diameter
- \( h_1 \) = straight flange
- \( h_3 \) = total internal height
- \( s \) = wall thickness
- \( r_2 = \frac{1}{30} d_a \)
- \( r_1 = d_i / (1.16) \)
- \( r_2 = d_i / 3.8 \)
- \( r_1\) = acc. to your specification
- \( h_1 = \text{acc. to your specification} \)
- \( h_3 = h_1 + h_2 \)

**CURVED DISCS**

- \( r_2 = 0.17 d_i \)
- \( h_1 = \text{acc. to your specification} \)
- \( h_2 = 0.25 d_i \)
- \( h_3 = h_1 + h_2 \)

**NORMAL CONVEX AND FLAT CONVEX BOILER ENDS**

- \( r_2 = 0.25 d_a \)
- \( h_1 = 2 x s \)
- \( h_3 = h_1 + h_2 \)

**SEMI-ELLIPICAL HEADS ACC. TO DIN 28013**

- \( r_1 = 0.8 d_a \)
- \( r_2 = 0.154 d_a \)
- \( h_1 = d_i / 3.8 \)
- \( h_2 = 0.25 d_i \)
- \( h_3 = h_1 + h_2 \)

**TORISPHERICAL HEADS ACC. TO DIN 28011**

- \( r_1 = d_i - 1.4 d_i \)
- \( r_2 = 30 \text{ mm or acc. to your specification} \)
- \( h_1 = 30 \text{ mm or acc. to your specification} \)
- \( h_2 = 0.25 d_i \)
- \( h_3 = h_1 + h_2 \)

**FLANGED DISCS**

- \( r_1\) = acc. to your specification
- \( r_2 = 0.15 d_a \)
- \( h_1 = 3.5 \text{ or acc. to your specification} \)
- \( h_2 = 0.75 d_i - 0.635 s \)
- \( h_3 = h_1 + h_2 \)

**ECCENTRIC HEADS**

- \( r_1 = d_i \)
- \( r_2 = d_i / 1.16 \)
- \( h_1 = \text{acc. to your specification} \)
- \( h_2 = d_i / 3.8 \)
- \( h_3 = h_1 + h_2 \)

**TECHNICAL EXPLANATIONS**

- \( d_a = \text{external diameter} \)
- \( d_i = \text{internal diameter} \)
- \( r_1 = \text{crown radius} \)
- \( r_2 = \text{knuckle radius} \)
- \( h_1 = \text{straight flange} \)
- \( h_2 = \text{height of crown radius} \)
- \( h_3 = \text{total internal height} \)
- \( s = \text{wall thickness} \)

Slawinski & Co. GmbH
Industriestraße 11 · D-57076 Siegen
P.O. Box 210743 · D-57031 Siegen
Phone +49-(0)271-7004-0
Fax +49-(0)271-7004124
E-mail: info@slawinski.de
http://www.slawinski.de

Vessel Technologies Ltd
Sean Ryan, Vessel Technologies Ltd
Slate Row, Hacketstown
Co. Carlow, IRELAND
Phone +353-(0)596471398
Fax +353-(0)596472911
E-mail: sean@vestec.ie

Slawinski heads and custom-pressed units are in great demand in European markets. Materials, designs and individual heads not included in the normal programme are subject of special orders.

Material specification and calculation of wall thickness is the customer’s responsibility.

Method: cold worked (dishing and flanging or pressing)

Material: ferritic, austenitic and non ferritic metals, if they can be cold worked

Dimensions: up to 5400 mm diameter depending upon thickness of material and wall thickness up to 32 mm depending upon material and diameter; custom forms and dimensions on request

Half tube spiral: either tacked or permanently welded as required

Surface treatment:
- Polishing: internally and externally to 0.2 µm surface smoothness for diameters up to 5200 mm
- Pickling: for stainless steel heads
- Blasting: sand-blasting for ferritic steels and glass granulate blasting for austenitic steels

Edge preparation: if required

Joggling: heads of 1000 mm to 2500 mm diameter with wall thickness up to 8 mm


Inspections: by TÜV or other inspection companies

Testing of materials: non-destructive or destructive with certificate

Welding of circular blanks: by means of high-tech welding plant operated by qualified staff

Slawinski & Co. GmbH
Industriestraße 11 · D-57076 Siegen
P.O. Box 210743 · D-57031 Siegen
Phone +49-(0)271-7004-0
Fax +49-(0)271-7004124
E-mail: info@slawinski.de
http://www.slawinski.de

Vessel Technologies Ltd
Sean Ryan, Vessel Technologies Ltd
Slate Row, Hacketstown
Co. Carlow, IRELAND
Phone +353-(0)596471398
Fax +353-(0)596472911
E-mail: sean@vestec.ie