VESUVIUS reserves the right to modify and/or improve the equipment as described and specified in this leaflet, at any time according to the state-of-art. CNC – patent applied for in various countries.

© copyright Vesuvius Group S.A. 2013-2015 all rights reserved. All product names in this brochure are trademarks or registered trademarks of Vesuvius plc group of companies.

For more information on this product and on our complete package of solutions please contact our local service center:
Smart Calibrated Nozzle Changer

The CNC is the most user friendly and safe nozzle change device currently available for billet, bloom and beam casters.

CNC Features
- Reduced tundish costs (refractory, manpower, energy)
- Increased casting yield
- Increased caster utilization
- Improved operational safety

Productivity
- Extends sequence length per tundish
- Less tundish changes
- Higher average casting speed

Flexibility
- Change of nozzle diameter and/or casting speed whenever requested
- Cast interruptions/insertion of individual strands on-demand
- Possibility of casting tube attachment for stream protection

Reliability
- Easy and error safe operation
- Safe nozzle exchange in < 0.2 sec
- Safe emergency shut off by stand-by blank plate or double stroke

Refractory components
- Upper nozzle plate designed to avoid exposure to steel splashes
- Refractory components available for open stream casting and alternative blank plate or double stroke

VESUVIUS CNC Calibrated Nozzle Changer

<table>
<thead>
<tr>
<th>Model</th>
<th>Bore</th>
<th>Stroke</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNC 12 to 20</td>
<td>120 to 200</td>
<td>441 x 320 x 150</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

- 2x2 individually spring loaded rockers provide constant clamping force between the plates.
- High temperature resistant springs.

User friendly tundish preparation
Fast refractory setup, easy mounting and removal from the tundish accelerate the turn around and availability of CNC mechanisms in the plant

- Off-line cassette preparation does not require tundish tilting
- Low weight cassette does not require additional handling means
- Gate fixed to the tundish by T-bolts
- Gate removed by opening into 2 parts
- Nozzle plate removal
- Upper nozzle removed with steel skull

User friendly tundish preparation
Fast refractory setup, easy mounting and removal from the tundish accelerate the turn around and availability of CNC mechanisms in the plant

- Off-line cassette preparation does not require tundish tilting
- Low weight cassette does not require additional handling means
- Gate fixed to the tundish by T-bolts
- Gate removed by opening into 2 parts
- Nozzle plate removal
- Upper nozzle removed with steel skull
Smart Calibrated Nozzle Changer

The CNC is the most user friendly and safe nozzle change device currently available for billet, bloom and beam casters.

CNC Features
- Reduced tundish costs (refractory, manpower, energy)
- Increased casting yield
- Increased caster utilization
- Improved operational safety

Productivity
- Extends sequence length per tundish
- Less tundish changes
- Higher average casting speed

Flexibility
- Change of nozzle diameter and/or casting speed whenever requested
- Cast interruptions/resume of individual strands on-demand
- Possibility of casting tube attachment for stream protection

Reliability
- Easy and error safe operation
- Safe nozzle exchange in < 0.2 sec
- Safe emergency shut off by stand-by blank plate or double stroke

VESUVIUS CNC Calibrated Nozzle Changer

<table>
<thead>
<tr>
<th>Model</th>
<th>Stroke (mm)</th>
<th>Strokes</th>
<th>Dimensions (mm)</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNC</td>
<td>12 x 20</td>
<td>130</td>
<td>441 x 320 x 150</td>
<td>17</td>
</tr>
</tbody>
</table>

Refactory components
- Upper nozzle plate designed to avoid exposure to steel splashes
- Refractory components available for open stream casting and alternative blank plate or double stroke

User friendly tundish preparation
- Fast refractory setup, easy mounting and removal from the tundish accelerate the turn around and availability of CNC mechanisms in the plant
- Off-line cassette preparation does not require tundish tilting
- Low weight cassette does not require additional handling means
- Gate fixed to the tundish by T-bolts
- Gate removed by opening into 2 parts
- Nozzle plate removal
- Upper nozzle removed with steel skull

VESUVIUS CNC Calibrated Nozzle Changer

- 2x2 individually spring loaded rockers provide constant clamping force between the plates.
- High temperature resistant springs
VESUVIUS reserves the right to modify and/or improve the equipment as described and specified in this leaflet, at any time according to the state-of-art. CNC – patent applied for in various countries.

© copyright Vesuvius Group S.A. 2013-2015 all rights reserved. All product names in this brochure are trademarks or registered trademarks of Vesuvius plc group of companies.

For more information on this product and on our complete package of solutions please contact our local service center:

VESUVIUS GROUP S.A.
Rue de Douvrain,17
7011 Ghlin, Belgium
Tel: +32 65 400 810
Fax +32 65 311 474
jg@vesuvius.com

VESUVIUS ADVANCED CERAMICS (CHINA) CO., LTD
221 Yong Ming Street
China-Singapore Suzhou Industrial Park
Suzhou 215021, Jiangsu Province
P.R. of China
Tel: +86 512 6741 2888
Fax: +86 512 6741 1700

VESUVIUS (IRELAND) LTD
Av. Brasil 69-150
Distrito Industrial de Palmares
CEP 22085-480 Campo Grande
Rio de Janeiro, Brazil
Tel: +55 21 2414 0606
Fax: +55 21 2414 0648

VESUVIUS INDIA LTD
P 104, Sebastian Road
700088 Calcutta, India
Tel: +91 33 2401 2234
Fax: +91 33 2401 1123

VESUVIUS USA CORP.
P.O. Box 4014
1404 Newton Drive
Champaign, IL 61822
USA
Tel: +1 217 351 5000
Fax: +1 217 351 5031

VESUVIUS REFRATARIOS, LTDA
Av. Brasil 69-150
Distrito Industrial de Palmares
CEP 22085-480 Campo Grande
Rio de Janeiro, Brazil
Tel: +55 21 2414 0606
Fax: +55 21 2414 0648

VESUVIUS reserves the right to modify and/or improve the equipment as described and specified in this leaflet, at any time according to the state-of-art. CNC – patent applied for in various countries.

© copyright Vesuvius Group S.A. 2013-2015 all rights reserved. All product names in this brochure are trademarks or registered trademarks of Vesuvius plc group of companies.

For more information on this product and on our complete package of solutions please contact our local service center:

VESUVIUS GROUP S.A.
Rue de Douvrain,17
7011 Ghlin, Belgium
Tel: +32 65 400 810
Fax +32 65 311 474
jg@vesuvius.com

VESUVIUS ADVANCED CERAMICS (CHINA) CO., LTD
221 Yong Ming Street
China-Singapore Suzhou Industrial Park
Suzhou 215021, Jiangsu Province
P.R. of China
Tel: +86 512 6741 2888
Fax: +86 512 6741 1700

VESUVIUS (IRELAND) LTD
Av. Brasil 69-150
Distrito Industrial de Palmares
CEP 22085-480 Campo Grande
Rio de Janeiro, Brazil
Tel: +55 21 2414 0606
Fax: +55 21 2414 0648

VESUVIUS INDIA LTD
P 104, Sebastian Road
700088 Calcutta, India
Tel: +91 33 2401 2234
Fax: +91 33 2401 1123

VESUVIUS USA CORP.
P.O. Box 4014
1404 Newton Drive
Champaign, IL 61822
USA
Tel: +1 217 351 5000
Fax: +1 217 351 5031

VESUVIUS REFRATARIOS, LTDA
Av. Brasil 69-150
Distrito Industrial de Palmares
CEP 22085-480 Campo Grande
Rio de Janeiro, Brazil
Tel: +55 21 2414 0606
Fax: +55 21 2414 0648