Sample Collecting Devices

Reactors Sampling Device Type RSD

- RSD-BP/VP: manual version with vacuum lift
- RSD-BP/CP: manual version with circulation pump
- RSD-BP/PC: pneumatic version with circulation pump

In-Line Sampling Valve Type SVL-FM

DN 15 - DN 150 (PN 10/16) or ANSI ½ " - 6 " (150 lbs)
Reactor Sampling Device

Manual Operation with Circulation Pump RSD-BP/CP

The manual FLOWTEF® Reactor Sampling Device with connected circulating pump allows the take-up of samples from a reactor without interruption of the ongoing process. Requirements of safety and security as well as environmental demands are closely adhered to.

The Sampling System RSD-BP/CP is designed to maintain a safe release of corrosive and dangerous liquidities from operating reactors. Besides Borosilicate-Glass all wetted parts are PTFE- or PFA-lined. Critical (gaseous) wastes can be isolated in case of necessity.

### Technical Features
- Wetted areas consist of Borosilicate Glass, Kalrez® or is PTFE-/PFA-lined
- Manual operated diaphragm valves, PFA-lined; Membranes PTFE/EPDM
- Terminals for inert gases or cleaning liquidities (i.e. Nitrogen)
- Retention of toxic or environmentally critical waste
- Return transfer of surplus sample quantities
- Supplementary measuring functions, such as pH, temperature and conductivity

### Technical Data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Pressure</td>
<td>max. 10 bar (depending on accessories)</td>
</tr>
<tr>
<td>Test Pressure</td>
<td>15 bar</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>max. 120 °C (maximum temperature for circulation pump)</td>
</tr>
<tr>
<td>Sample Volume</td>
<td>185 ml (Standard)</td>
</tr>
<tr>
<td></td>
<td>295 ml (Option)</td>
</tr>
<tr>
<td>Thread Size Sample Bottle</td>
<td>ISO GL 45 (further sizes on request)</td>
</tr>
<tr>
<td>Reactor Flange Connection</td>
<td>DN 50 PN 16, 2” ANSI 150 lbs (further sizes upon request)</td>
</tr>
</tbody>
</table>

### Options
- PFA-Lined Ball Valves or Stainless Steel Ball Valves instead of Diaphragm Valves
- Special make-up for use of fluorinated chemistries
- PTFE-Plug for Bottle Connection
Flushing and Clearance

1. Bring all valves into “closed” position
2. Attach sample bottle and bottle protector
3. To rinse the by-pass open valves V4 und V5 and release Nitrogen or suitable cleaning agent by opening valve V3. Open valve V6 and close valve V5 subsequently
4. For flushing and cleaning of the suction hose open valves V3 and V2 and close valves V4 and V6
5. Close valves V2 and V3 as next step
6. Repeated opening and closing of the valves V4 and V6 will relieve remaining pressure in the entire sample collector
7. The system is now ready for sampling

Sampling

1. Ensure all valves are in closed position. Attach sampling bottle plus bottle protector
2. Set air pressure for the circulation pump
3. Open charging valve V2 und sample return valve V1. Start circulation pump
   **Attention:**
   Reassure open charging valve V2 prior to pump start to prevent damage of the pump
4. Allow temporary circulation, then close sample return valve V1. Switch off the pump and close charging valve V2
5. Open sight glass vent valve V5 and sample release valve V6 in succession. The sample liquidity will be transferred into the sample bottle
6. Close sight glass vent valve V5 and open vent valve V4. The system gets cleaned by help of nitrogen after opening the flushing valve V3
7. Subsequent to the closing of valves V3, V4 and V6 the sample bottle may be taken off after removal of the bottle protector
8. Adjust new sampling bottle and replace the bottle protector. The system is now ready for consecutive sampling.
Reactor Sampling System Type RSD-BP/VP

The manual FLOWTEF® Reactor Sampling Device with vacuum lift allows the take-up of samples from a reactor without interruption of the ongoing process. Requirements of safety and security as well as environmental demands are closely taken into account.

The Sampling System RSD-BP/CP is designed to maintain a safe release of corrosive and dangerous liquidities from operating reactors. Besides Borosilicate-Glass all wetted parts are PTFE- or PFA-lined. Critical (gaseous) wastes can be isolated in case of necessity.

Technical Features

- Wetted areas consist of Borosilicate Glass, Kalrez® or is PTFE-/PFA-lined
- Manual operated diaphragm valves, PFA-lined; Membranes PTFE/EPDM
- Terminals for inert gases or cleaning liquidities (i.e. Nitrogen)
- Retention of toxic or environmentally critical waste
- Return transfer of surplus sample quantities
- Supplementary measuring functions, such as pH, temperature and conductivity

Technical Data

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>Operating Pressure</td>
<td>max. 10 bar (depending on accessories)</td>
</tr>
<tr>
<td>Test Pressure</td>
<td>15 bar</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>max. 150 °C (maximum 200 °C when using of PFA-lined ball valves)</td>
</tr>
<tr>
<td>Sample Volume</td>
<td>185 ml (Standard)</td>
</tr>
<tr>
<td></td>
<td>295 ml (Option)</td>
</tr>
<tr>
<td>Thread Size Sample Bottle</td>
<td>ISO GL 45 (further sizes on request)</td>
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Options

- PFA-Lined Ball Valves or Stainless Steel Ball Valves instead of Diaphragm Valves
- Special make-up for use of fluorinated chemistries
- PTFE-Plug for Bottle Connection
Reactor Sampling Device DIN and ANSI

Legend Flow Chart

<table>
<thead>
<tr>
<th>Marking</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>Sample Return Valve</td>
</tr>
<tr>
<td>V2</td>
<td>Charging Valve</td>
</tr>
<tr>
<td>V3</td>
<td>Flushing Valve</td>
</tr>
<tr>
<td>V4</td>
<td>Vent Valve</td>
</tr>
<tr>
<td>V5</td>
<td>Sight Glass Vent Valve</td>
</tr>
<tr>
<td>V6</td>
<td>Sample Release Valve</td>
</tr>
<tr>
<td>V7</td>
<td>Vacuum Valve</td>
</tr>
<tr>
<td>PB</td>
<td>Hollow Sphere (PTFE)</td>
</tr>
<tr>
<td>CV</td>
<td>pH-Probe Connector</td>
</tr>
<tr>
<td>SG</td>
<td>Sight Glass</td>
</tr>
<tr>
<td>SB</td>
<td>Sample Bottle</td>
</tr>
<tr>
<td>SH</td>
<td>Suction Hose</td>
</tr>
<tr>
<td>BP</td>
<td>Bottle Protector</td>
</tr>
<tr>
<td>BC</td>
<td>By-pass-Collector</td>
</tr>
<tr>
<td>SC</td>
<td>Service-Connections</td>
</tr>
</tbody>
</table>

Operating Instructions RSD-BP/VP

Flushing and Clearance

1. Bring all valves into “closed” position
2. Attach sample bottle and bottle protector
3. To flush the by-pass open valves V4 und V5 and release Nitrogen or suitable cleaning agent by opening valve V3. Open valve V6 and close valve V5 subsequently
4. For flushing and cleaning of the suction hose open valves V3 and V2 and close valves V4 and V6
5. Close valves V2 and V3 afterwards
6. Repeated opening and closing of the valves V4 and V6 will relieve remaining pressure in the entire sample collector
7. The system is now ready for sampling

Sampling

1. Ensure all valves are in closed position. Attach sampling bottle plus bottle protector
2. Create vacuum inside the sampling unit by opening vacuum valve V7 and charging valve V2. Liquidity gets transported from the reactor through the suction hose into the sight glass area. The hollow sphere will float and interrupt the vacuum as soon as the hollow sphere attaches the seat of the ball check valve
3. Charging valve V2 and vacuum valve V7 are closed subsequently
4. Open sight glass vent valve V5 and sample release valve V6 in succession. The sample liquidity will be transferred into the sample bottle
5. Close sight glass vent valve V5 and open vent valve V4. The systems gets cleaned by help of nitrogen after opening the flushing valve V3
6. Subsequent to the closing of valves V3, V4 and V6 the sample bottle can be taken off after removal of the bottle protector
7. Adjust new sampling bottle and replace the bottle protector. The system is now ready for consecutive sampling.
Certificato di Conformità
Certificate of Conformity

Rilasciato a
Awarded to

ITALPROTEC SAS
Di Cotogni C. & C.
Via 1° Maggio, 11
20040 CAVENAGO BRIANZA - MI - IT

Bureau Veritas Quality International Italia Srl
certifica che il Sistema Qualità della sopra menzionata organizzazione è stato
valutato e giudicato conforme ai requisiti della normativa sotto citata
Bureau Veritas Quality International certify that the Quality Management System of the above organisation has
been assessed and found to be in accordance with the requirements of the quality standards detailed below

Normativa
Quality Standard

ISO 9001 : 2000
in relazione alle seguenti attività
with respect to the following scope of supply

Progettazione, produzione e vendita di tubazioni, tubi flessibili, valvole, raccorderia ed
apparecchiature in acciaio e acciaio rivestito in materiale plastico per l'industria chimica,
farmaceutica ed alimentare.

Design, production and sales of piping, flexible hoses, valves, fittings and devices in steel and plastic lined
steel for chemical, pharmaceutical and food industry.

Settore/i EA di attività:
EA sector/s activity: 17, 18

Data prima approvazione:
Original approval date: 04/04/2003

Soggetto al mantenimento continuo e conforme del sistema qualità dell'organizzazione,
the present certificate is valid for;
Subject to the continued satisfactory operation of the organisation's Quality Management System,
this certificate is valid from:

04/04/2003

Per verificare la validità del presente certificato consultare il sito web:
To check the certificate validity please refer to website:
www.bvqi.com

Ulteriori chiarimenti riguardanti lo scopo di questo certificato e l'applicabilità dei requisiti ISO 9001:2000 possono essere acquisiti
Consulting the organisation’s quality manual:
consultando il manuale qualità dell'organizzazione.

Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2000 requirements may be obtained by consulting the
organisation's quality manual.

Data
Date 07/04/2003

Certificato N° 126564
Certificate of Approval

Awarded to
ITALPROTEC SAS
Di Cotogni C. & C.
Via 1° Maggio, 11
20040 CAVENAGO BRIANZA - MI - IT

BVQI certify that the
Quality Management System of the above organisation
has been assessed and found to be in accordance
with the requirements of the quality
standards detailed below

QUALITY STANDARDS

ISO 9001:2000

SCOPE OF SUPPLY

Progettazione, produzione e vendita di tubazioni, tubi flessibili, valvole, raccorderia ed apparecchiature in acciaio e acciaio rivestito in materiale plastico per l'industria chimica, farmaceutica ed alimentare.

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Original approval date: 04/04/2003

Subject to the continued satisfactory operation of the organisation's Quality Management System, this Certificate is valid from:

To check this certificate validity please call Managing Office [02-270911]

04/04/2003

Further clarifications regarding the scope of this certificate and the applicability of ISO 9001-2000 requirements may be obtained by consulting the organisation.

Date: 07/04/2003

For Bureau Veritas Quality International

Certificate No: 126564
Certificate of Approval
Awarded to
ITALPROTEC SAS
Di Cotogni C. & C.
Via 1° Maggio, 11
20040 CAVENAGO BRIANZA - MI - IT

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04/04/2003

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Date: 01/05/2003

Managing Office:
BVQI Italia Srl
Viale Monza, 261
20126 Milano
ITALIA

For Bureau Veritas Quality
International (Holding) S.A.,
2nd Floor, Tower Bridge Court
224-226 Tower Bridge Road
London SE1 2TX

Certificate No: 126564

BVQI (Holding) S.A. using UKAS accreditation covered by the accreditation certificate number 008