Questionnaire for Analyzer Systems

For the technical construction of a measuring system, the information of this questionnaire is essential. Only accurate and sufficient information will result into a faultless analyser system. For each different application, a separate questionnaire has to be completed.

**Client:**
- Address, country:
- Contact person:  
- Department:
- Tel:  
- Fax:  
- Measuring point:

**Application**

1. What is the application or process? ____________________________________________________________________________________________

For fuel gas application please specify the fuel: ____________________________________________________________________________________________

2. What is the function of the system? ____________________________________________________________________________________________
   - [ ] Controlling
   - [ ] Process regulation
   - [ ] Process measurements
   - [ ] 13th BImSchV
   - [ ] 17th BImSchV

3. Components to be measured

<table>
<thead>
<tr>
<th>Components</th>
<th>Measuring ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Number of sample spots per analysing system (in case of varying process data, pls. fill in a separate questionnaire) _________ pcs.

5. Complete sample gas composition per sample point (sum of which = 100%)  
   - [ ] Mol-%
   - [ ] Vol-%
   - [ ] Weight-%
   - [ ] Vol.-ppm

<table>
<thead>
<tr>
<th>Component</th>
<th>Normal concentration</th>
<th>Minimum Concentration</th>
<th>Maximum concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Ex-category of sample gas  
   - [ ] none
   - [ ] Zone 2
   - [ ] Zone 1
   - [ ] Zone 0
   - [ ] Zone 20
   - [ ] Zone 21
   - [ ] Zone 22
Process data for the sample point(s)

7. Do you need a quotation for a gas sample probe? (In case of your own supply, pls. describe probe in detail)  □ yes  □ no  □ own supply

8. Process conditions of the sample gas

<table>
<thead>
<tr>
<th></th>
<th>normal</th>
<th>minimum</th>
<th>maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample point temperature (°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample point pressure (bar abs.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient temperature at installation point (°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water vapour (g/m³) or dew point (°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acid dew point (°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dust loading and other contaminants (g/m³) (e.g. coal dust, fly ash, particles of metal)

Grain size and distribution of the solids (%, µ)

9. Are the eventually existing dusts electroconductive?  □ yes  □ no

10. Ex-category of the ambiance at the sample point:  □ none  □ Zone 2  □ Zone 1  □ Zone 0  □ Zone 20  □ Zone 21  □ Zone 22

11. Sample gas polymerised / crystallised (specify):  □ yes  □ no

12. Sample gas with corrosive components (specify):  □ yes  □ no

13. Aggressive atmosphere at the sample point (specify):  □ yes  □ no

14. Sample gas affects:  □ SS316Ti  □ Glass  □ FPM  □ Epoxy resin

15. The atmosphere affects:  □ SS316Ti  □ Glass  □ FPM  □ Epoxy resin

16. Which material is preferred for parts...
   ...that comes in contact with the sample gas  □ SS316Ti  □ Glass  □ FPM  □ Epoxy resin
   ...that comes in contact with the atmosphere  □ SS316Ti  □ Glass  □ FPM  □ Epoxy resin

17. Particular conditions at the sample spot (e.g. concussions, vibrations, climate):

18. Gas sample probe, length of probe tube (mm) from flange:

19. □ Mounting flange DN:______PN:______  □ ANSI:_______  □ Lbs.:_______  □

20. Mounting position of the probe:  □ horizontal position  □ vertical position  □ sketch

21. Available sample quantity _____________ Nl/h

Specifications for the sample line(s)

22. Do you need a quotation for a sample line?  □ yes  □ no  □ provided by client  □_________pieces

23. Quantity/Length (m)/ dimension (e.g. 4/6, 6/8):

24. Preferred material for the sample line ...
   ...that comes in contact with the sample gas  □ SS316Ti  □ PTFE
   ...that comes in contact with the atmosphere  □ nylon braiding  □ PA-corrugated hose  □ PVC

25. Heating of the sample line  □ electrically heated  □ steam heated  □ min. temperature of heating (°C)

26. Ex-category of the ambience where the gas sample line is installed?  □ no  □ Zone 2  □ Zone 1  □ Zone 0  □ Zone 20  □ Zone 21  □ Zone 22

27. Special lines or particularities (specify):  "__________"
Specifications for the analyse system

28. Construction of the analyse system: 
- Mounting plate, material:___________________________
- GfK cabinet with ___________________________
- stainless steel cabinet with _______________________
- frame 19” ______ frame 19” ______ frame 19” ______
- Socle 100mm ______ 200mm, ______
- cabinet with special construction (description/sketch) ______
- System with several cabinets ______
- cabinet with window ______
- glass ______
- synthetic material ______
- execution on wheels ______
- portable execution (max. weight ______kg), door stop ______
- any ______
- right side ______
- left side, ______
- special version or equipment (specify) ______

29. Max. dimensions (mm): H __________________________ x B ______________________ x T ______________________

30. Colour: 
- RAL 7032 pepple grey ______
- RAL 7035 ______
- special colour: ______________________

31. Installation area: 
- out door, temp. from __________°C to __________°C ______
- direct insolation ______
- protected against wind ______
- indoor, temp. from __________°C to __________°C ______

32. Preferred materials for components that...
- ...come in contact with the sample gas ______
- SS316Ti, ______
- glass, ______
- FPM, ______
- Epoxy resin, ______
- ...come in contact with the atmosphere ______
- lacquered steel plate ______
- SS316Ti, ______
- GfK, ______

33. Line inlets (position): 
- cable gland ______
- any ______
- top ______
- bottom ______
- left side ______
- right side ______
- back side ______
- sample line ______
- any ______
- top ______
- bottom ______
- left side ______
- right side ______
- back side ______

34. Line inlets (dimension): 
- cable gland cables diameter (mm) ____________________________
- bulkhead stuffing box for tube/pipe size (mm) ______________________

35. Ex-zone of the installation area of the analyse system? 
- none ______
- Zone 2 ______
- Zone 1 ______
- Zone 0 ______
- Zone 20 ______
- Zone 21 ______
- Zone 22 ______

36. Distance between analyser system and non-hazardous area? ______m / Is it possible to install components in the non-hazardous area? (e.g. safety cut out, electronic controller) specify, sketch if possible ______

37. Electrical auxiliary power: 
- 230V/50Hz ______
- 115V/60Hz ______
- 24V/DC ______
- ______V ______Hz ______
- internal safety transformer ______

38. Type if network: 
- TN-S (Standard L1, L2, L3, N, PE) ______
- TN-C ______
- TN-C-S ______
- TT ______
- IT ______

39. Other auxiliary power: 
- instrument's air oil-/water free _______bar ______
- steam _______bar ______
- cooling water ______°C ______

40. output signal: 
- 0-20mA ______
- 4-20mA ______
- _______mV ______
- potential free ______
- Ex i ______

41. Further treatment of the output signal at installation place as: 
- indication ______
- registration ______
- controller connection ______
- computer connection ______
- PLS ______
- audio/video indication of limiting value ______
- HI / LO Alarm ______

42. T90-time required: 
- not important ______
- _____________minutes ______

43. Hight above NN: _____________m ______

44. Material of the internal gas lines: 
- PVC-tube ______
- PTFE-tube ______
- _______tube ______
- SS316Ti tube ______
- _______pipe ______
- PVDF-fittings ______
- SS316Ti fittings ______
- other ______

45. Dimensions of internal gas lines: 
- 4/6 ______
- 6/8 ______
- 8/10 ______
- 10/12 ______
- _______inch ______
- other ______

46. Sample gas outlet: 
- to atmosphere ______
- back to process, pressure _______bar abs. ______

47. Heating (type): ______

48. Ventilation/climatic equipment (type): ______

49. Lighting (Art): ______

50. Terminal box (type): ______
51. Special guide lines, (e.g. factory standards, product requirements etc., pls. specify in detail and provide complete documents)

52. Production drawings are to be presented before production is started:    ☐ yes    ☐ no

53. Documentation quantity and language: ____________ pieces    ☐ german    ☐ english    ☐ other___________________________

54. ☐ Acceptance at manufacturer's works desired    ☐ initial starting desired    ☐ mounting on the job

55. Specialities (e.g. measuring point change over switch, autocal etc.) ______________________________

Sketches and informations concerning special details

Residence, Date:_______________________________________________

Signature purchaser:__________________________________________

Signature M&C official in charge:_________________________________