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:** .....
- **Applicant:** ..... • **Department:** .....
- **Tel.:** ..... • **Fax:** .....
- **Project:** .....

Application

1. What is the application or process? .....

For fuel gas application please specify the fuel: .....

2. What is the function of the system? .....

❑ Alarming ❑ Process controlling ❑ Process measurements ❑ Others: .....

Components to be measured

3. Components to be measured

Components	Required measuring range

4. Sample gas composition ❑ Mol.-% ❑ Vol.-% ❑ Weight-% ❑ Vol.-ppm

Component	Normal concentration	Minimum concentration	Maximum concentration

Process data

5. Process conditions	normal	minimum	maximum
Sample point temperature (°C)			
Sample point pressure (bar abs.)			
Ambient temperature at installation point (°C)			
Water vapour (g/m³) or dew point (°C)			
Acid dew point (°C)			
Dust loading and other contaminants (g/m³) (e.g. coal dust, fly ash, particles of metal)			
Grain size and distribution of the solids (%, µ)			

6. ❑ **Sample gas polymerised / crystallised** (specify): .....

7. ❑ **Sample gas with corrosive components** (specify): .....

8. ❑ **Sample gas affects:** ❑ **SS 316Ti** ❑ **Glass** ❑ **FPM** ❑ **Epoxy resin** ❑ .....

9. ❑ **Recommended material** (specify): .....

10. ❑ **Sample gas vent to atmosphere** ❑ **Back to process, pressure (bar abs.):** .....

11. ❑ **Particular climate conditions** (specify): .....

12. ❑ **Elevation (m):** .....

13. ❑ **Aggressive atmosphere at installation point** (specify): .....

14. ❑ **Vibration at installation point** (specify): .....

Sampling Specification(s)

15. ❑ **Sample probe, sample tube length (from flange):** .....
    ❑ **Mounting flange DN:** ..... **PN:** ..... ❑ **ASA:** ..... ❑ **Lbs.:** ..... ❑ .....
    ❑ **horizontal mounting position** ❑ **vertical mounting position** ❑ .....

16. ❑ **Sample line provided with the system** ❑ **electrically heated** ❑ **steam heated** ❑ **temperature min. (°C):** .....

17. **Distance between sample point and analyser system (m):** .....
    Sample line diameter i/o: ❑ **4/6 mm** ❑ **6/8 mm** ❑ ..... **mm**

18. **Available sample flow rate (Nl/h):** .....

19. ❑ **Required response time of the system T_{90} (sec):** .....

20. **Mains power supply:** ❑ **230V 50Hz** ❑ **115V 60Hz** ❑ ..... **V** ..... **Hz**
    ❑ **Dry and oil free instrument air (bar)** ..... ❑ **Steam (bar)** ..... ❑ **Cooling water (°C)** .....

21. **Required output signal:** ❑ **0-20mA** ❑ **4-20mA** ❑ ..... **mV** ❑ **galvanic insulated** ❑ **Ex i**

22. **Processing of the output signal from the system as**
    ❑ **Indication** ❑ **Recording** ❑ **Controlling** ❑ **Calculating**
    Alarm signal ❑ **acoustic /** ❑ **optical** ❑ **High alarm** ❑ **Low alarm**

23. ❑ **Sample gas is explosive at process conditions**

24. ❑ **Sample gas is explosive in contact with air**

25. ❑ **Installation in hazardous area**

26. ❑ **Explosion proofed analyser system, classification:** .....
    ❑ **Purge system sufficient**

27. ❑ **Components can be installed in a non hazardous area** (indicators, recorders, switch and controlling units)**. Specify:** .....
    .....

28. ❑ **Distance between analyser system and non hazardous area (m):** .....

29. **Assembly of analyser system:** ❑ **Single components** ❑ **Mounting plate** ❑ **Polyester cabinet** ❑ **Steel cabinet**
    ❑ **Special construction cabinet** ❑ **Installation with several cabinets** ❑ **Cabinet base with 100 / 200 mm frame**
    ❑ **Cabinet with window** ❑ **Portable system** ❑ **Others:** .....

30. ❑ **Maximum dimensions (mm)** ..... **(W),** ..... **(D),** ..... **(H)**

31. ❑ Colour RAL 7032 grey ❑ Special colour: .....

32. Installation area: ❑ Outdoor ❑ Indoor ❑ ground floor ❑ ..... floor
❑ Accessibility for installation by staircase or elevator ❑ Max. weight or dimensions (kg/mm):.....

33. Gas connections in cabinet preferred: ❑ top ❑ bottom ❑ left ❑ right ❑ back side

34. Cable glands in cabinet preferred: ❑ top ❑ bottom ❑ left ❑ right ❑ back side
Position of cabinet door hinge preferred: ❑ left ❑ right

35. Sample gas tube fittings, tube sizes: ❑ 6 mm ❑ 8 mm ❑ 10 mm ❑ 12 mm ❑ ..... inches
❑ External tube connectors M&C-Standard ❑ Type: .....
Connector and tube material:
❑ stainless steel 316Ti ❑ PVDF ❑ PTFE ❑ FPM ❑ ..... ❑ copper free
❑ Internal tube connectors M&C-Standard ❑ Type: .....
Connector and tube material:
❑ stainless steel 316Ti ❑ PVDF ❑ PTFE ❑ FPM ❑ PVC ❑ ..... ❑ copper free

36. ❑ Heater (Type): .....

37. ❑ Ventilation (Type): .....

38. ❑ Air conditioning (Type): .....

39. ❑ Lighting (Type): .....

40. ❑ Junction boxes (Type): .....

41. ❑ Mains power supply L1, N, PE ❑ L1, L2 (double pool fuse.) ❑ .....
❑ Protection transformer internal ❑ external

42. ❑ Special instructions for electrical connections: .....

43. ❑ Special factory specifications: .....

44. ❑ Type specifications for auxiliary tools: .....

45. ❑ Technical documentation (construction-, piping- and wiring plans) must be given approval before building of the system starts

46. Documentation quantity: ..... numbers of prints, ... numbers of manuals

Language: ❑ German ❑ English ❑ .....

47. ❑ Final inspection required ❑ Commissioning required

48. ❑ Multi point sample stream system, number of sample points: .....

In case of deviations concerning process specifications, please provide a new questionnaire for each different sample stream.
For additional remarks and drawings please add another questionnaire.

49. Multi sample point controlling: ❑ Automatic selection by solenoid valves ❑ Manual selection by hand valves

50. ❑ Measuring signal memory required

Sketches and informations concerning special details

- **Residence, Date:** .....
- **Signature purchaser:** .....
- **Signature official in charge:** .....