

Questionnaire Reactions

Company: _____

Contact: _____

Address: _____

Telephone: _____

Telefax: _____

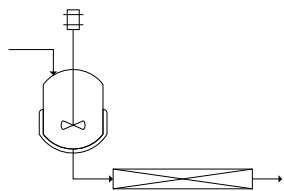
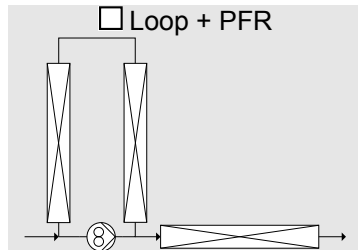

eMail: _____

Your reference: _____

Date: _____

Description of application, sketch

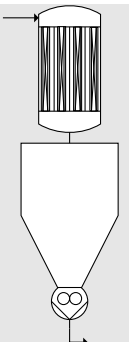
Please enter data into table on reverse side

<input type="checkbox"/> CSTR + PFR 	<input type="checkbox"/> Loop + PFR 	<input type="checkbox"/> only PFR 	<input type="checkbox"/> Others (own sketch) <div style="border: 1px solid gray; padding: 10px; text-align: center; width: 100px; height: 100px; margin: 0 auto;"> To be precised </div>
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Devolatilization

Yes No

1-step 2-step



Polymerization Characteristics

Solution	<input type="checkbox"/>	<input type="checkbox"/>	Bulk
Radical	<input type="checkbox"/>	<input type="checkbox"/>	other
One-Phase	<input type="checkbox"/>	<input type="checkbox"/>	Multi-phase
Homopolym.	<input type="checkbox"/>	<input type="checkbox"/>	Copolym. azeotropic



Sulzer India Ltd
 Sulzer House
 Baner Road, Aundh
 Pune India 411 007
 Telephone +91 020 3021 6300
 Telefax +91 020 3021 6306

Please turn over

Necessary data for preliminary design

Reaction / SMR

Basic data (compulsory for reactor design)

! Total design-flowrate through reactor	[kg/h]	
Inlet flow composition	[kg/h or %-weight of each component]	
If relevant: Number of inlet streams and positions		
Inlet temperature (oil and product per reaction zone)	[°C]	
Inlet mixture viscosity	[Pa s]	
! Function of conversion vs. time / stepwise (gel effect?!)		
Heat capacity of medium	[J/kg °C]	
Heat conductivity of medium	[W/m C]	
! Reaction enthalpy	[J/kg]	
Density	[kg/m ³]	
! Outlet temperature (oil and product per bundle)		
Desired outlet composition	[kg/h or %-weight of each component]	
Outlet mixture viscosity (at desired outlet conversion)	[Pa s]	
Function of viscosity vs. conversion		
! Required residence time		
Desired Temperature profile during reaction	[°C]	
Heat transfer per section		
Any known limitation of process parameters (e.g. strong fouling, thermal sensitivity, toxicity, ...)		

Additional data (for optimisation of the reactor design)

<p>Function of viscosity vs. temperature / shear rate Function of viscosity vs. concentration of main compound/volatile compound</p> <p>Kinetic equation(s) if available Decomposition kinetics of initiator (if relevant) Auto / Thermal initiation?</p> <p>Any physical data of product/mixture/reactants Any kinetic/viscosity/conversion relation of product or specific grade</p> <p>Experience with material of construction</p> <p>Expected design pressure and temperature Material of construction (compatibility with reaction medium?)</p>
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