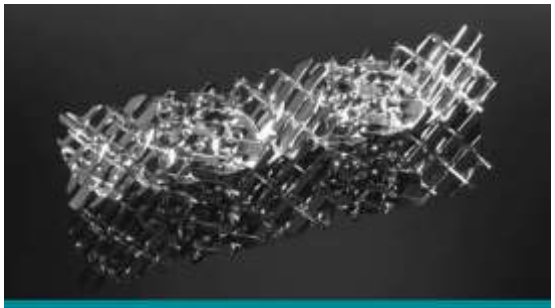
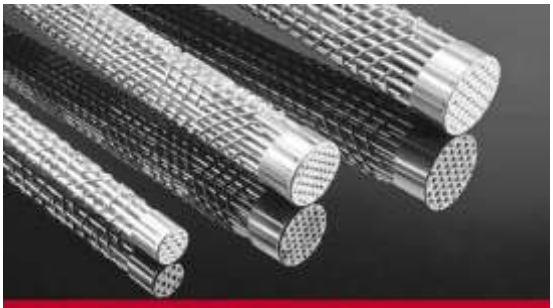
fluitec
mixing + reaction solutions

In-line Reaction Technology



Static Mixing



Mixing / Heat Transfer

In-line Reaction Technology

Systems

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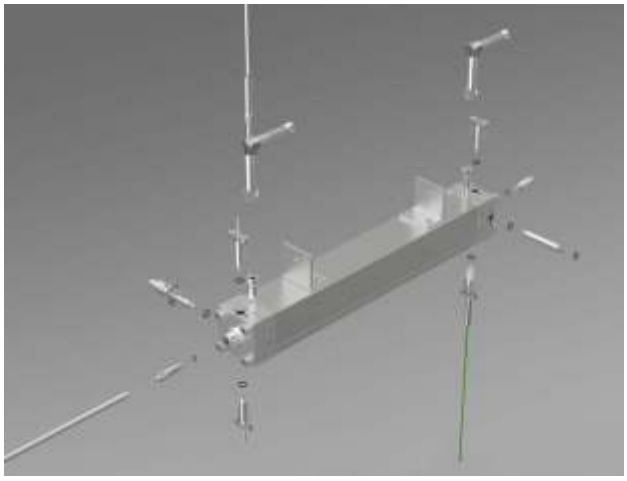
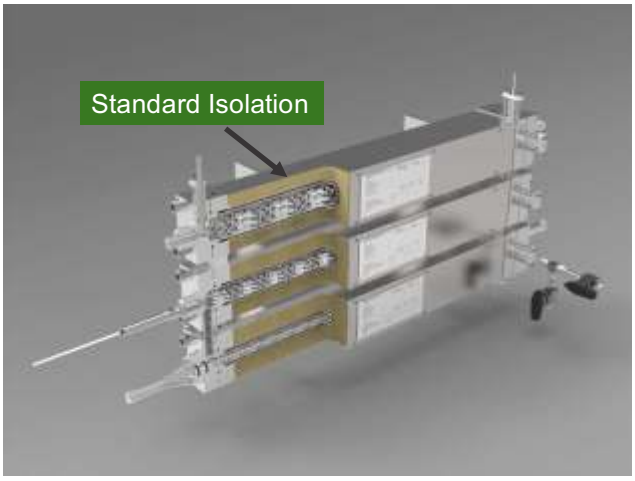
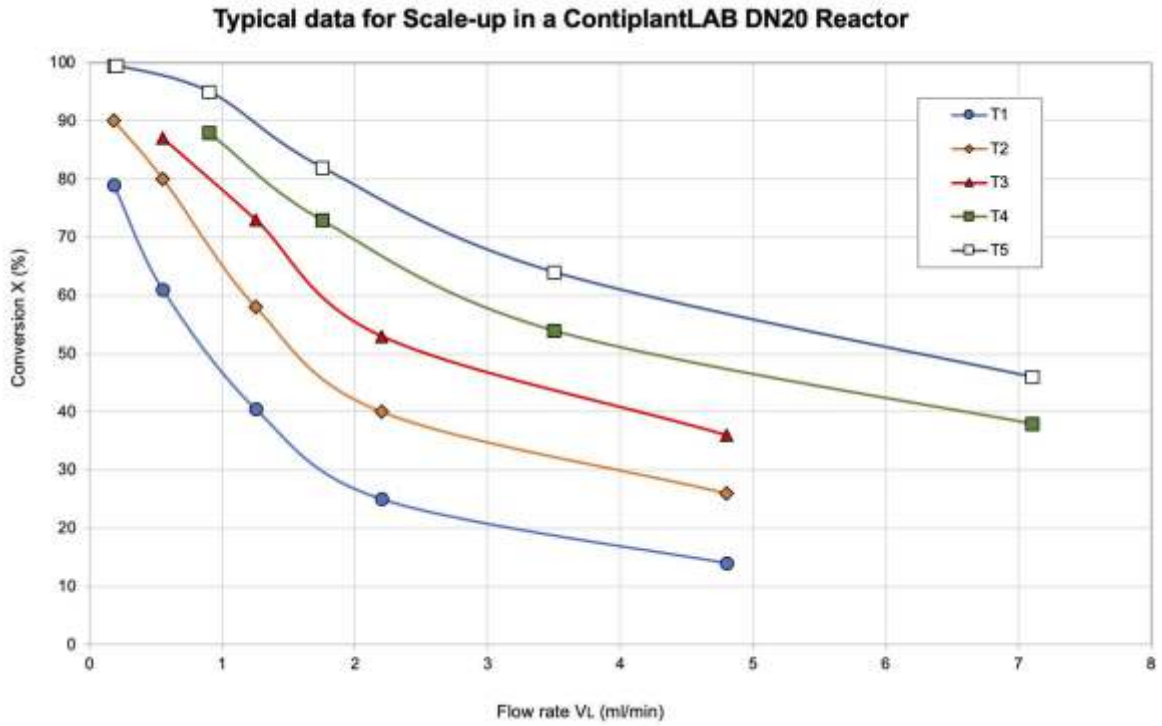
Contiplant Plug and Play System





How to scale a continuous hydrogenation?



With these data a hydrodynamic scaling is possible, if the liquid holdup is known at operating conditions.

Dosing Systems

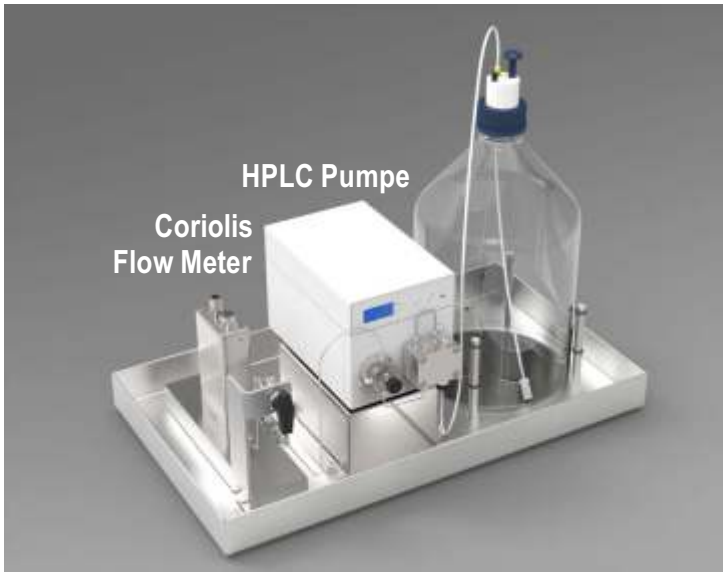
USE OF SUITABLE DOSING TECHNOLOGY:

Fluitec Dosing System Type DKPC10
Flow rate: 1 to 10 ml min^{-1}

Fluitec Dosing System Type DKPC40
Flow rate: 5 to 40 ml min^{-1}

Material: Stainless steel 316L
Viscosity range: 0.3 to 10mPas

Nominal pressure: PN400
Operating temperature: 20°C to 60°C
Operating pressure: max. 150 bar
(max. pressure 100 bar secured)



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USE OF SUITABLE DOSING TECHNOLOGY:

Fluitec Dosing System Type DKPC40

Flow rate:
Article-No. (40 ml/min): 62139
Article-No. (40 ml/min): 62264
Material : Stainless steel 316L
option Hastelloy

Nominal pressure: PN100
Permissible temperature:-15 to 250°C
Permissible pressure: 1 to 60 bar

Viscosity range: 0.3 to 10mPas
Operating temperature: 20°C to 60°C
Operating pressure: max. 150 bar
(max. pressure 100 bar secured)

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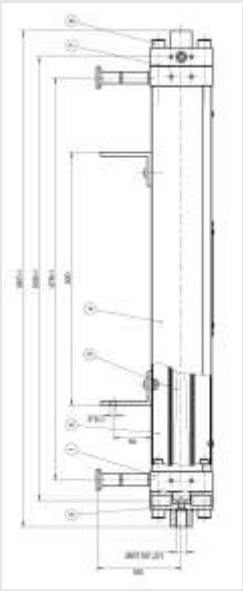
A scalable Contiplant LAB Reactor

USE OF SUITABLE DOSING TECHNOLOGY:

Nominal pressure : Pn100
Permissible temperature:--15 to 250°C
Permissible pressure : 1 to 60 bar
Material : Stainless steel 316L
or Hastelloy C-276 / C22
Gaskets : Viton or FFPM-250

Options for the packed bed
Al2 O3 precise spheres
Static mixers



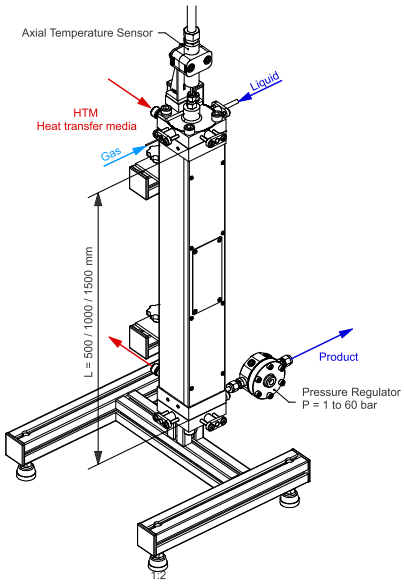
ContiplantLAB Reaktor (316L / 316 Ti):

- ReactorDN 20
- **Al_2O_3 precise spheres; =1 mm**
- Length ¡ (Z) 525 mm (standard, option: 1000, 1500 mm)

Operating conditions:

- Superficial gas velocity $w_{\text{"}}$: <0.3ms $^{-1}$
- Superficial liquid mass velocity L: 0.42 -4.1 kg m^{-2} s^{-1}
- Superficial liquid velocity $w_{\#}$: <0. 005 ms $^{-1}$
- Superficial gas mass velocity G: 0.0066 -4 kg m^{-2} s^{-1}
- Reactor pressure $P_{\$}$: 1- 60bara
- Temperature T: -15 °C to 250°C(300°C)

High Performance Milli Reactor
contiplantLAB Realtor



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Reaction Calorimeter

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Thermodynamic properties, such as the specific heat of reaction (Q_r) are required for the design of a chemical process and are a prerequisite for high product qualities and a high safety of the plant. In P. Filipponi / B. Guélat *et al.* [1] it was shown that the Q_r determined in batch-like heat flow calorimeters (HFC) can differ greatly from the actual Q_r in the tubular reactor. For this reason, it makes sense to determine the specific heat of reaction directly in the selected reaction system, on a smaller and controlled scale.