



Simplifying Progress

Pre-Designed Solutions (PDS) Provide Simpler, Safer, Faster & Cheaper Supply Chains for SUS

The growing adoption of SUS in all process steps & applications of commercial production drives the need for reducing complexity, enhancing quality, improving assurance of supply and reducing leadtimes.

SARTORIUS

The Accelerated Adoption of SU in Commercial Production Calls for Business Simplification

SUS adopted in clinicals with massive customization & proliferation of SKU's*

- > 5.000 components from 100's of suppliers
- > 20.000 SKU's created in the last 20 years
- > 70% of SKU's are specific to one customer

SUS growing in all Process & Application Clusters (PACs) of commercial production

Need to reduce complexity at suppliers & end-users to provide

- More robust quality
- Stronger assurance of quality supply and
- More cost effective supply chain

* Stock Keeping Units

“ Commercial single-use-based manufacturing, consumes much more equipment than at pre-commercial scales” BioPlan Associates, Inc.

PDS Established by 60 Experts Reviewing 4.000 Designs from 20 Years of Experience in Designing SUS

- > 1.200 PDS created to meet all functional and quality requirements of all PACs

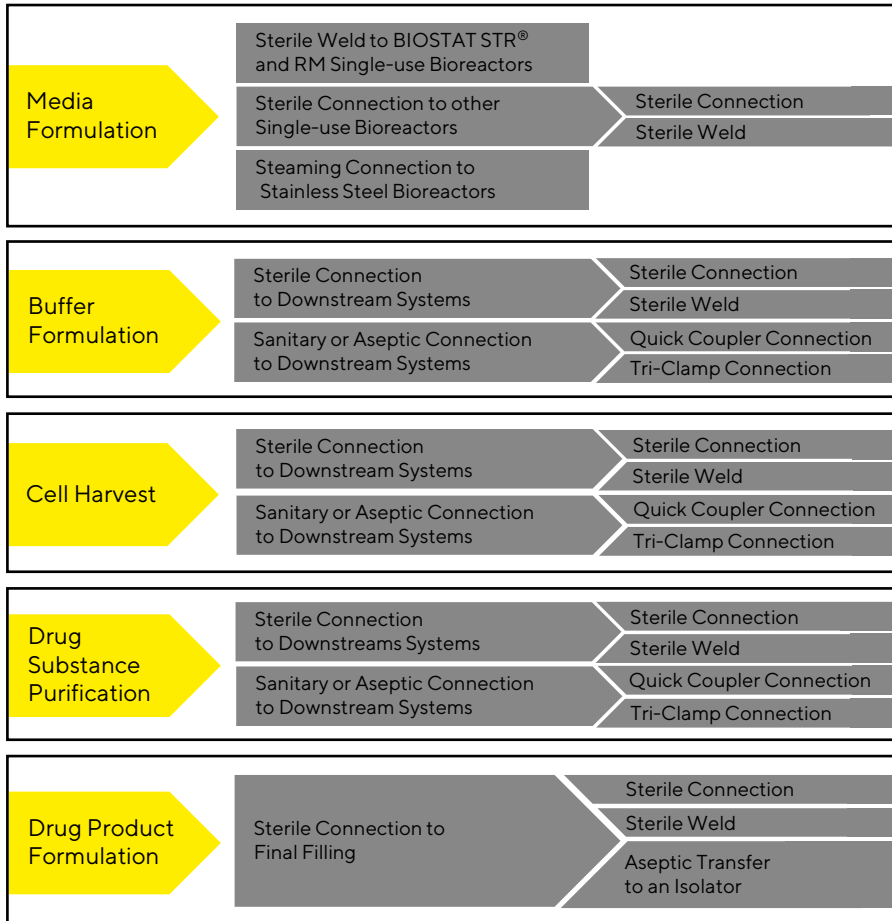
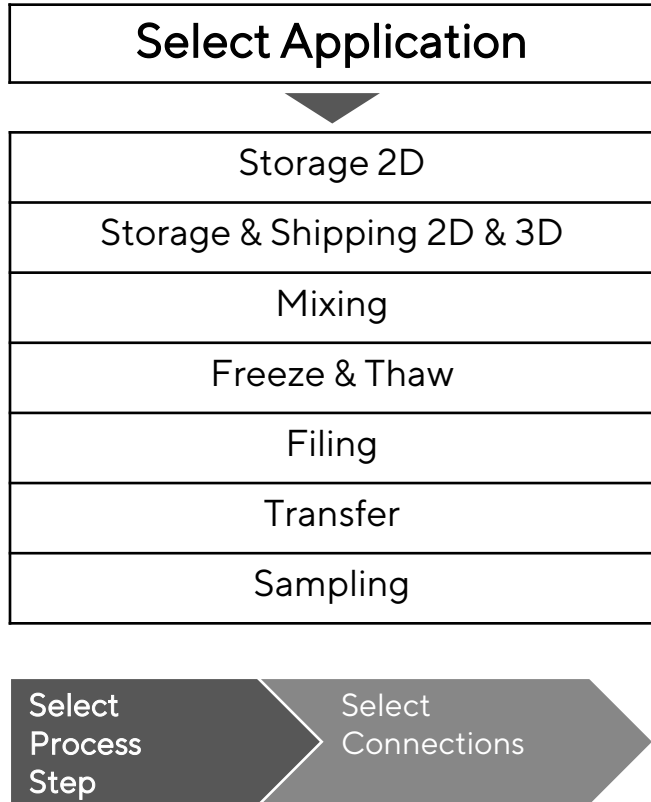
PDS performance & AOS based on the complete control of our process from the resins to the final product

All outsourced components are

- Covered by quality agreement - **consistent quality**
- Secured by long term supply contracts - **change control & business continuity**
- Available off-the-shelf - **best delivery reliability**

PDS Bags & Components	USP <87> or USP<88> Class VI	Bioburden Endotoxin Particles	TSE-BSE EMA/410/01	Biphenol A free REACH	Notification time
Flexsafe®, Flexboy® & Celsius® bags	Yes	Yes	Yes	Conform	48 months
Flexsafe® Pro Mixer	Yes	Yes	Yes	Conform	24 months
TuFlux® Transfer Sets	Yes	Yes	Yes	Conform	24 months
TuFlux® Tubes	Yes	Yes	Yes	Conform	24 months
Opta® connectors	Yes	Yes	Yes	Conform	24 months
Sartopore® filters	Yes	Yes	Yes	Conform	24 months
Fittings	Yes	Yes	Yes	Conform	24 months
Connectors	Yes	Yes	Yes	Conform	24 months

Digital Finder Help You Select the Right PDS For Your Process Steps & Applications in 3 Clics



PDS Provide Best Quality, Change Control, Business Continuity, Delivery Performance & Costs

PDS simplify your process design & provide best quality

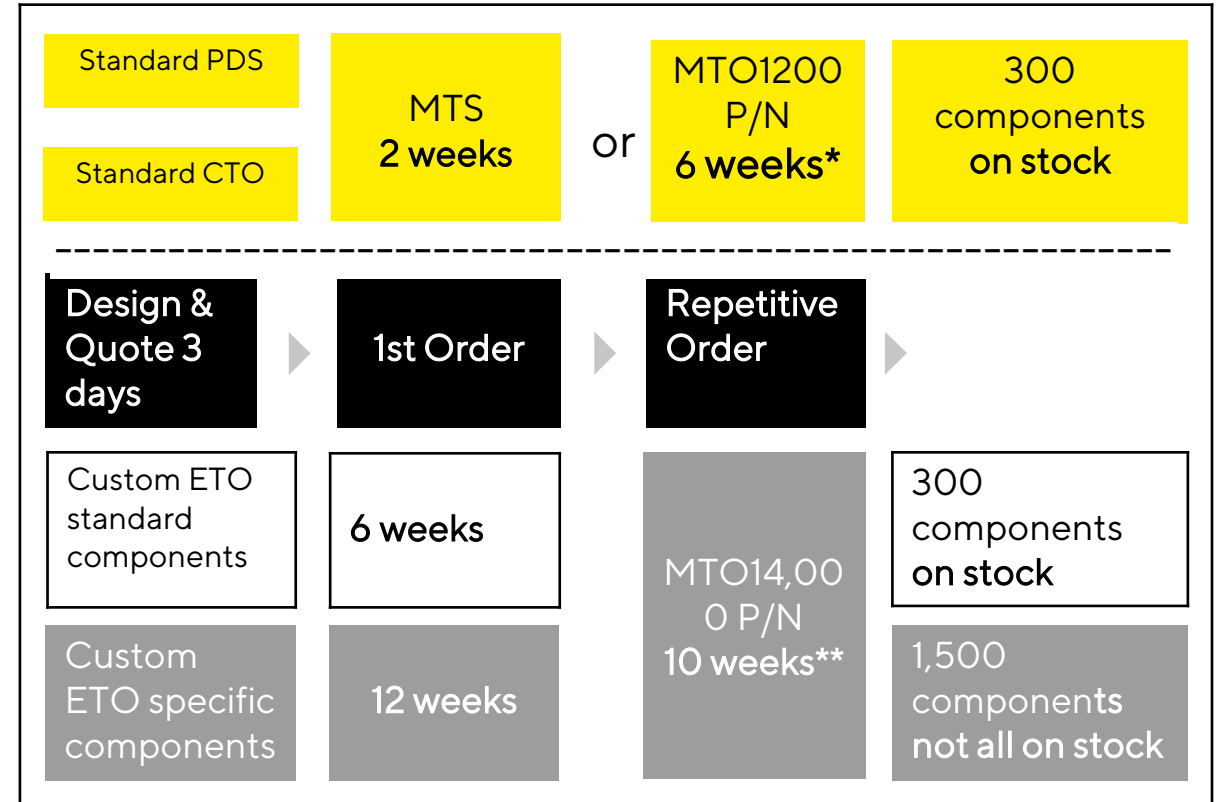
- Digital finder help select a PDS in < 5 min
- > 1,200 PDS qualified & QC tested for your PAC

PDS provide best change control & business continuity

- > 48 months change notification for bags
- > 24 months change notification for components

PDS reduce complexity, costs & leadtimes

- Reduce proliferation of your SKU's
- Optimize your inventory and costs
- Less P | N's & components on stock for best leadtimes



* currently 8 weeks | ** currently 12 weeks

PDS Offer Safer, Faster, Simpler & More Cost Effective Supply Chain for SUS

For you to fully benefit of the advantages of our SUS, we provide PDS **tailored, proven & quality controlled** for each of your PACs

With quality & supply contracts in place, we guaranty you the best level of **quality, change control & business continuity**

Using our PDS help you speed up your process design and reduce your number of SKUs, **your inventory management complexity and your costs**

PDS finally offer **best lead times** with **2 weeks** for MTS and **6 weeks** for MTO

Standard Vs Custom	AOS	PAC based QC	Lead time	Complexity & costs	Validation data
PDS	●	●	2-6 weeks	●	●
CTO	●	●	6 weeks	●	●
CUSTOM Standard	●	●	6-10 weeks	●	●
CUSTOM Specific	●	●	10 weeks	●	●

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