Bio-Support Tofflon

BIO-SUPPORT × TOFFLON

Introduction of Tofflon Total Aseptic Filling(DP) Solution

For Korean PharmaBio Customers

Tofflon Technology × Bio-Support GMP Expertise
From Product Supply to GMP-Ready Implementation

Bio-Support, Your Trusted GMP Value Chain Integrator
Leading Value. Connecting with Trust. Realizing the Future.



2026-10-07 · Ver 01
Proposed by: Bio-Support

gmp@biosupport.co.kr

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Bio-Support: Company Overview

제약·바이오 고객의 GMP와 글로벌 기술을 연결하는 통합 실행 파트너

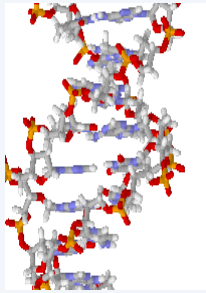
ITEM	DECSRIPTION
Name	Bio-Support Co,. Ltd
Founded	Apr. 19, 2000
CEO	Kim Kyung-min
Address	65, Dongpyeon-ro 13beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, Republic of Korea
Employee	61 Persons(GMP Consultant 50, GEP Engineer 2)(as of Aug 2026)
Main business	• [GMP & Validation Solution Consulting Biz] • [PharmaBio Value Chain Collaboration Biz] • [GMP Design & Modular Construction Biz] • [PharmaBio Knowledge & Competency Development Biz] • [Global BioTech Gateway Collaboration Biz] • GMP (Good Manufacturing Practices, pharmaceutical manufacturing management and quality control standards) for pharmaceuticals, biopharmaceuticals, ATMP, veterinary drugs, medical devices, and health functional foods
Main Certificates	• Venture Business Verification (2006~), Gov. Promising SME Certification (2008) • Technology Innovation SME (Innobiz) Verification (2008~) • Professional Research Biz. Certificate(Ministry of Science & ICT)(2007~) • ISO 9001 Quality Management System (2009~), • Ministry of Employment and Labor SME Verification (2024~)
Contact us	www.biosupport.co.kr, gmp@biosupport.co.kr



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Bio-Support: Company Overview

제약·바이오 고객의 GMP와 글로벌 기술을 연결하는 통합 실행 파트너



한 장으로 보는 바이오써포트

고객사가 GMP 프로젝트를 더 빠르고, 더 안전하게, 더 확실하게 실행하도록 지원합니다.

26년	1,306+	392+	111+	202+
GMP & Validation 컨설팅 역사	총 프로젝트 수행 건수	함께한 고객사	Turnkey 프로젝트 실적	GMP 제조소 설계 프로젝트

Bio-Support의 고객 가치

규정·기술·엔지니어링·운영을 하나의 실행체계로 연결하여
GMP 리스크를 낮추고 프로젝트 성공 가능성을 높입니다.

고객과 함께 만드는 성과

신축·개축 GMP 제조소, PQS, DI, CCS,
Qualification/Validation, 글로벌 GMP 대응까지 고객사의 목표
GMP 수준에 맞춰 수행합니다.

Global Technology × Global GMP Expertise × Integrated Realization

"Bio-Support", The Leader in GMP Solution Consulting, Our Valued 392 Customers!!



[GMP & Validation Solution Consulting Biz]

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We provide integrated, best-in-class GMP consulting solutions,
covering Conceptual Design, Qualification & Validation, and Pharmaceutical Quality Systems.


Korean Red Cross
Plasma Fractionation Center


Yuyu Pharmaceutical
Jecheon Plant


Daejeon High-tech Industry
Promotion Foundation


Chuncheon Bio Industry
Promotion Agency


Samsung Biologics
Songdo Plant


ST Pharm
Banwol Factory 1


Unimed Pharmaceutical
Osong Plant


Jinyang Pharmaceutical
Wonju Plant


Yuyoung Pharmaceutical
Jincheon Factory


Samil Pharmaceutical
Ansan Plant


Donghwa Pharmaceutical
Chungju Plant


NIBEC
Jincheon Factory


Boryeong Biopharm
Jincheon Factory


Gunil Pharmaceutical
Cheonan Plant


KGC Wonju Plant


Myeongin Pharmaceutical
Paltan Factory (Injection)


Sama Pharmaceutical
Wonju Plant


ST Pharm
Banwol Factory 2


Ildong Pharmaceutical
Anseong Factory (Sepa Anti-cancer Drug)


Myeongin Pharmaceutical
Paltan Factory (Contents)


KCDC
National Stem Cell Regeneration
Center


Samsung Seoul Hospital
ATMP GMP Facility


BC World Healthcare
Wonju Factory


BC World Pharmaceutical
Yeoju Factory


Osong Advanced Medical Industry
Promotion Foundation


DHP Korea Osong Factory


Hanmi Pharmaceutical
Paltan Plant (OSD)


Medipost
ATMP GMP Facility


Pharma Research
Gangneung Plant


NK Max
ATMP GMP Facility


Utilex
ATMP GMP Facility


Myeongsang Pharmaceutical
Hyangnam Factory


Gangstem Biotech
ATMP GMP Facility


SK Chemical
Cheongju Plant (OSD)


Hugel
Chuncheon Factory


Taejun Pharmaceutical
Yongin Factory


YONSUNG Fine Chemicals
Hwaseong Plant


Boryeong Pharmaceutical
Budget Factory


Myeongin Pharmaceutical
Balan Factory


Dasan Pharmaceutical
Asan Plant 2

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covering Conceptual Design, Qualification & Validation, and Pharmaceutical Quality Systems.


RPBIO Hwaseong Plant


AppClone
ATMP GMP Facility


Daewoong Pharmaceutical
ATMP GMP Facility


Chungbuk Techno Park
ATMP GMP Facility


Vigencell
ATMP GMP Facility

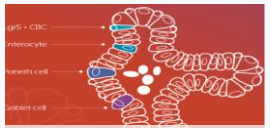

Samjin Pharmaceutical
Osong Factory

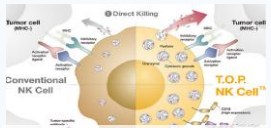

Curocell
ATMP GMP Facility


Pharma Research Bio
Gangneung Plant 2


ExocoBio Exosome Therapeutics
GMP Facility


Antrogen
ATMP GMP Facility


Organoid
ATMP GMP Facility



GICELL
ATMP GMP Facility


Ajou Pharmaceutical
Pyeongtaek Factory


Daewoong Pharmaceutical
Nabota Plant 3


Dongkwang Pharmaceutical
Pyeongtaek Plant


Coatem Chemon
ATMP GMP Facility


Merck
SKOR BioP Plant/ GMP Facility


SK Bioscience
Global R&PD Center/ GMP Facility


Daehan New Pharma
Hyangnam GMP Facility


Myeongin Pharmaceutical
GMP Facility


SK Plasam
Indonesia Plant


Dong-A ST
Cheonan Plant


Dongguk Pharmaceutical
Jincheon Factory


Seoul National University Hospital
ATMP GMP Facility


Optus Pharmaceutical
Osong Plant 2


KyungBo Pharmaceutical
ADC Factory


Korea Otsuka Pharmaceutical
Hyangnam Plant


Cheil Pharmaceutical
Baekam Factory


Korea Vaccine
Ansan Factory


ISU ABXIS
Yongin Factory


National Cancer Center
ATMP GMP Facility

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Bio-Support PharmaBio Value Chain Collaboration Biz

단순 제품 공급이 아니라 고객의 GMP 과제와 글로벌 파트너 기술을 실제 적용 솔루션으로 구현



Bio-Support 수행 역할

- GMP Requirement Review
- Application & Product Selection
- URS / Technical Specification Review
- Design & Interface Review
- Qualification Review or Execution
- Training & Lifecycle Support

고객 기대효과

- 제품 도입 목적과 GMP 요구사항 정렬
- 초기 단계에서 Spec·Interface·Validation 리스크 확인
- 공급자 기술자료와 고객 SOP·Validation 체계 연결
- 도입 후 운영·점검·Lifecycle Support 가능

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Aseptic Filling (DP) Solution for PharmaBio GMP

Tofflon Technology

- Large-scale drug project
- Vaccine project
- High toxicity, activity and sensitization project
- Suspension product project
- Blood product project
- Monoclonal antibody project
- Low temperature project
- Inert gas protection project
- Liposome project
- Microsphere project
- Easy crystallizing product project
- Adhesive product project

×

Bio-Support GMP Expertise

- GMP Requirement Review
- URS / Specification
- Design & Interface Review
- Qualification / Validation
- Training & Lifecycle Support

=

Customer Value

- Better CCS
- Faster Implementation
- Stronger GMP Evidence
- Lifecycle Support

바이오써포트는 Tofflon의 전략적 파트너이면서 한국 공식 대리점으로서
국내 GMP 환경에 적합한 제품 도입과 Qualification을 지원합니다

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BIO-SUPPORT × TOFFLON

Technology from TOFFLON. GMP Expertise from Bio-Support. One Integrated Solution for PharmaBio.

Your Partner for Aseptic Filling (DP) Solution

Global Technology × Global GMP Expertise

Thank you so much!!!

Bio-support has been growing together
with our valued customers and partners since 2000!!!.

Official Website	YouTube Channel	Bio-Support Role
https://en.tofflon.com/	https://www.youtube.com/@tofflon2954	Korean official distributor, GMP Value Chain Integrator

CONTACT US : 바이오써포트 담당임원 김지민 상무 / www.biosupport.co.kr / gmpkjm@biosupport.co.kr



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Tofflon
Since 1993

Filling line introduction

Filling line introduction

Tofflon
Bio-Support



- Part1.Filling division introduction
- Part2.Filling line introduction
- Part3. Classic case sharing

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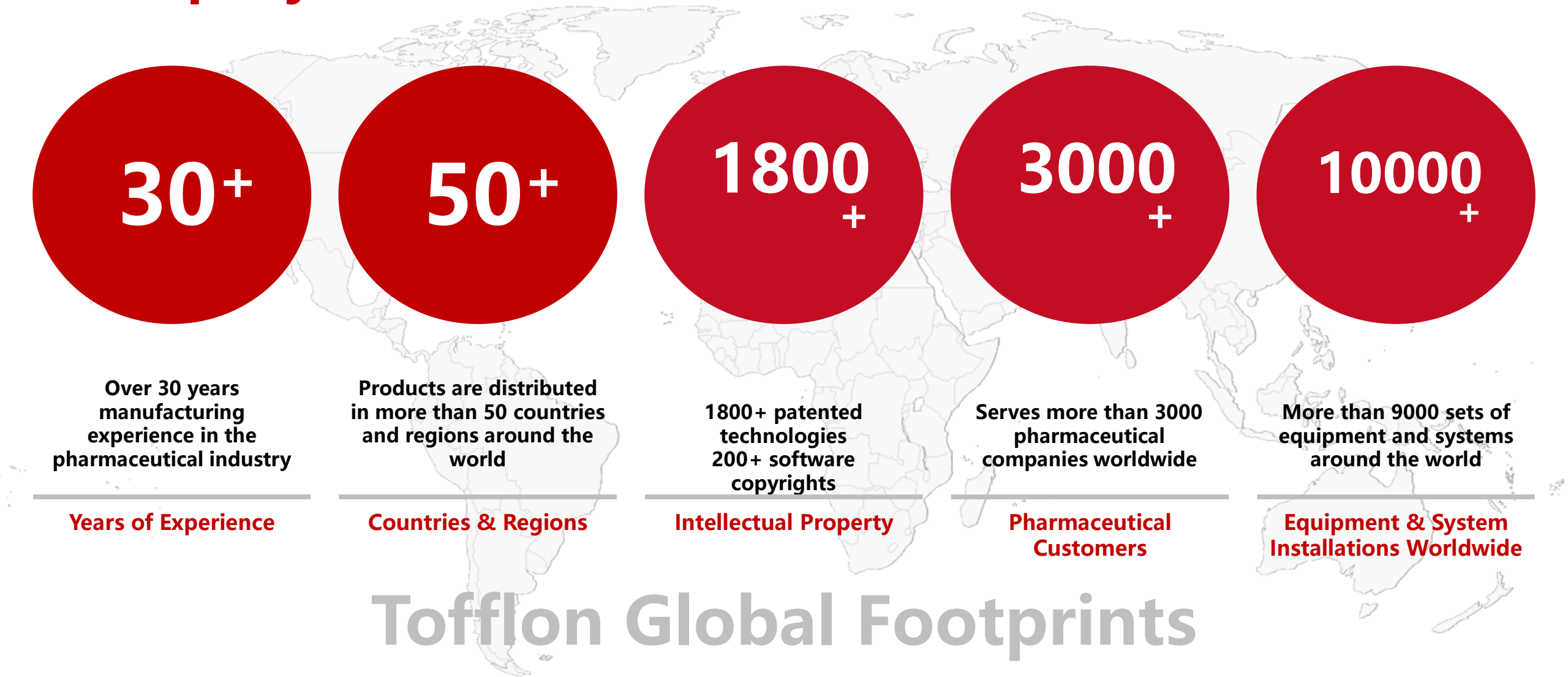
PART 1

Filling division introduction

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Company Profile

Tofflon



30+

Over 30 years manufacturing experience in the pharmaceutical industry

Years of Experience

50+

Products are distributed in more than 50 countries and regions around the world

Countries & Regions

1800+

1800+ patented technologies
200+ software copyrights

Intellectual Property

3000+

Serves more than 3000 pharmaceutical companies worldwide

Pharmaceutical Customers

10000+

More than 9000 sets of equipment and systems around the world

Equipment & System Installations Worldwide

Tofflon Global Footprints

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For services to the global pharmaceutical industry Tofflon

Bio-Support



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The regulations that Tofflon follow

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Hardware design following FDA cGMP



Computerization system following GAMP5



Debugging and qualification following Chapter 5, ISPE

cGMP

Meeting 2010 version GMP



International brand configuration for global purchasing

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Development course of Filling division

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- 2009 The filling division was founded in 2009
- 2011 Vials filling line enters the market
- 2012 Ampoules filling line enters the market
- 2013 PFS filling line was developed and enters the market
- 2015 The powder filling system solution was solved and enters the market
- 2018 Vials combine PFS was developed and enters the market
- 2019 Vials combine ampoules was developed and enters the market

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Filling division's business delivery case

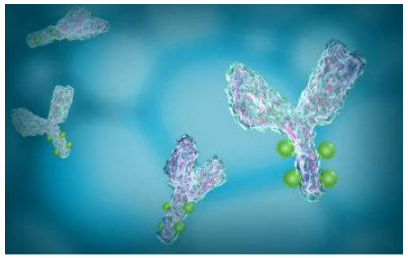
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Large-scale drug project



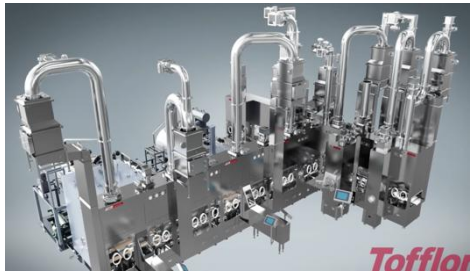
Vaccine project



High toxicity, activity and sensitization project



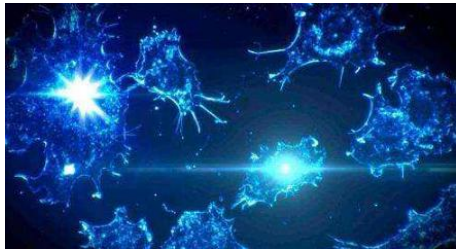
Suspension product project



Blood product project



Monoclonal antibody project



Low temperature project



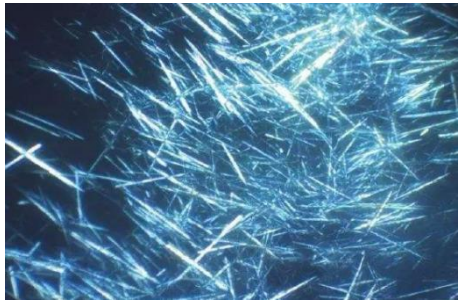
Inert gas protection project



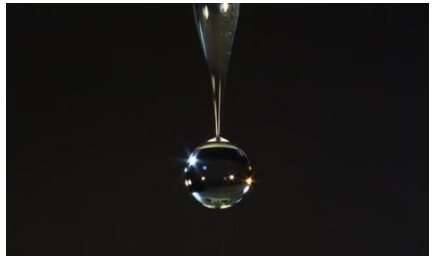
Liposome project



Microsphere project



Easy crystallizing product project



Adhesive product project

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PART 2

Filling line introduction

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Filling Division Product Family

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Vial/Ampoule





Washing Machine





Sterilizing Depyrogenation Tunnel





Filling&Stoppering /Sealing Machine





Capping Machine



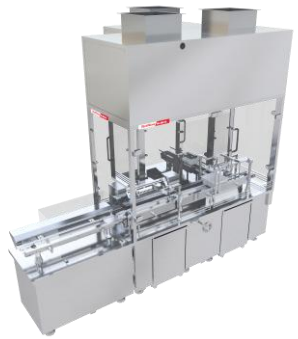
External washing machine



Cartridge/Pre-filled syringe



De-bagging machine



De-lid&liner machine



Filling&Stoppering Machine



De-nesting Machine



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2-1.PFS line that Tofflon can provide

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Bio-Support



De-bag

De-lid&liner

Filling and sealing

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2-1.PFS line that Tofflon can provide

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No.	Line Name	Line Model	Maximum Batch Capactiy	Packaging Material	Applicable stages and targets	Barrier System
1	Mini Line	PFS 1000M/2000M/5000M	10~12K	PFS&Vial&Cartridge	R&D, Pilot, Phase 1~2 clinical, CXO, Cosmetic, Biologics	ORABS & Isolator
2	Middle-Speed Line	PFS 2000/5000/10000	100~150K	PFS&Vial&Cartridge	R&D, Pilot, Phase 3 clinical, Commercial production, CXO, Cosmetic, Biologics	
3	High-Speed Line	PFS 36000	200~600K	PFS&Vial&Cartridge	Commercial production, Vaccine	
4	Smart Line	PFS 2000R/5000R/10000 R	100~150K	PFS&Vial&Cartridge	R&D, Pilot, Commercial production, CXO, Biologics	
5	100%IPC Line	PFS 6000H/12000H/18000H	100~150K	PFS&Vial&Cartridge	R&D, Pilot, Commercial production, CXO, Biologics	
6	Plastic Bulk Syringe Line	PFS 3000B/6000B/12000B/18000B	100~200K	PFS	R&D, Pilot, Commercial production, Cosmetic, Saline	
7	Dual Chamber PFS Line	DCS 3000/6000	20~50K	PFS	R&D, Pilot, Phase 1~2 clinical, CXO, Cosmetic, Biologics	
8	RTU Packaging Material Production Line	RCP 12000/18000	As needed	PFS&Vial&Cartridge	Packaging material manufacturers	
9	Nasal spray Line	NSF 2000	10~30K	Nasal spray	R&D, Pilot, Commercial production	

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2-2.Single machine of vials filling line

Tofflon
Bio-Support



FW



FT



FF



FE



FC

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2-2.1 Washing machine

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- Fit 2-100ml vials production
- Maximum stable operating speed can be achieved 550VPM@2ml
- capable of integrating ultrasonic cleaning function
- capable of integrating automatic draining and drying of piping system
- capable of integrating vapor discharging fan with bellow
- capable of integrating secondary WFI plate
- capable of integrating Automatic sampling function



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2-2.2 Sterilizing Depyrogenation Tunnel

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- Fit 2-100ml vials production
- Maximum stable operating speed can be achieved 800VPM@2ml
- Hot air quantitative diversion uniform
- capable of integrating automatic doors
- Reserve PAO detection port
- The air pressure balancing system ensures the differential pressure gradient between each cavity
- capable of integrating ultrasonic cleaning belt function
- capable of integrating SIP for cooling zone
- capable of integrating sealing door
- capable of integrating Anemograph



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2-2.3 Filling machine for liquid and lyo product

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- Fit 2-100ml vials production
- 4 types are available : MINI/Rotary/Industry/MAX/Powder filling
- capable of integrating ORABS/CRABS/ISOLATOR
- capable of integrating CIP/SIP system
- capable of integrating gassing station(gassing before and after filling)
- capable of integrating IPC function : 1.5% - 100%
- capable of integrating Piston pump/ Peristaltic pump/both piston pump and peristaltic pump for liquid filling
- capable of integrating Auger/Airflow intubation for powder filling



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MINI Filling and Stopping Machine

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MINI Filling and stopping machine is design for product development stage, clinical product production (Phase I, Phase II), small batch production of high activity/high toxic products.

The machine fit: 2-100ml filling.

Capacity : 60vpm based on filling 2ml WFI



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Industry Filling and Stopping Machine

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Industry Filling and stopping machine is design for sampling weighing during production. It can get a high speed for to finish the production.

The machine fit: 2-100ml filling.

Capacity : 550vpm based on filling 2ml WFI



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MAX Filling and Stopping Machine

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Max Filling and stopping machine is designed for 100% weighing during production. It is designed for the production of high value-added products. And it can do strict monitoring in the production during the filling process.

The machine fit: 2-100ml filling.

Capacity :330based on filling 2ml WFI



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Ampoule Filling and Sealing Machine

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- Automatic doors for zone
- Washing belt by ultrasonic device
- Anemograph
- Dual-channel temperature probe
- Cooling zone sterilization
- Sealing door



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Powder Filling and Stoppering Machine

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Powder Filling and stopping machine is design for powder filling production. The machine capable of integrating pumps to do the liquid filling.

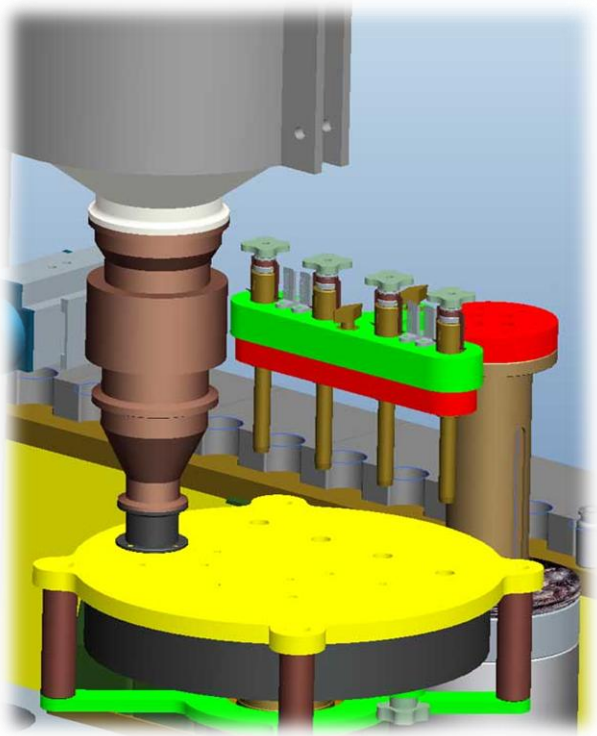
The machine fit: 2-100ml filling.

Capacity :200VPM based on filling 500mg corn powder.

Auger type



Airflow intubation type



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2-2.4 Capping machine

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◆ Fit 2-100ml vials production

◆ Maximum stable operating speed can be achieved 550VPM@2ml

◆ capable of integrating ORABS/CRABS/ISOLATOR

◆ capable of integrating downstream devices(External Washing Machine/Tray)

◆ capable of integrating Visual inspection system

◆ capable of integrating aluminum scrap extraction system

◆ capable of integrating Rejection station before capping(Based on new EU GMP)



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2-2.5 External Washing Machine

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◆ Fit 2-100ml vials production

◆ Maximum stable operating speed can be achieved 400VPM@2ml

◆ capable of integrating sound insulation/ISOLATOR

◆ capable of integrating extra drying unit



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2-3. Ampoules filling line introduction

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Bio-Support



FW



FT



FF

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Ampoules filling and sealing machine

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- Fit 1-30ml ampoules production
- Maximum stable operating speed can be achieved 600APM@2ml
- capable of integrating ORABS/CRABS/ISOLATOR
- capable of integrating gassing station(gassing before and after filling)
- capable of integrating Piston pump/ Peristaltic pump/both piston pump and peristaltic pump for liquid filling
- capable of integrating 5L/10L Jacket buffer tank for low temperature solution filling
- capable of integrating Circulation system for suspension solution filling



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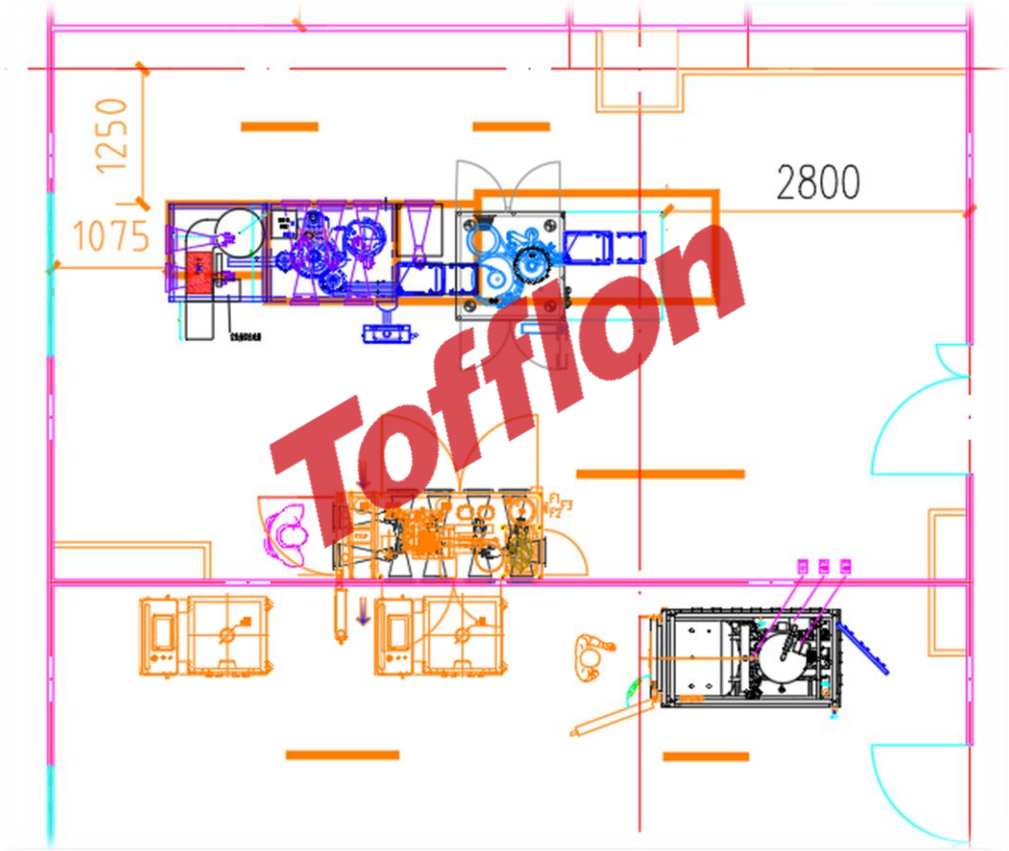
PART 3

Classic case sharing

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Customer：	NOVAPATH PHARMA
Project time：	2022
Product type：	Biochemicals
Preparation type：	Powder filling line
Regulation：	cGMP
Vial：	6R
Speed：	25VPM @6R
Main Parameter For capping machine：	1 head
Barrier system：	ORABS
Back ground：	B+A

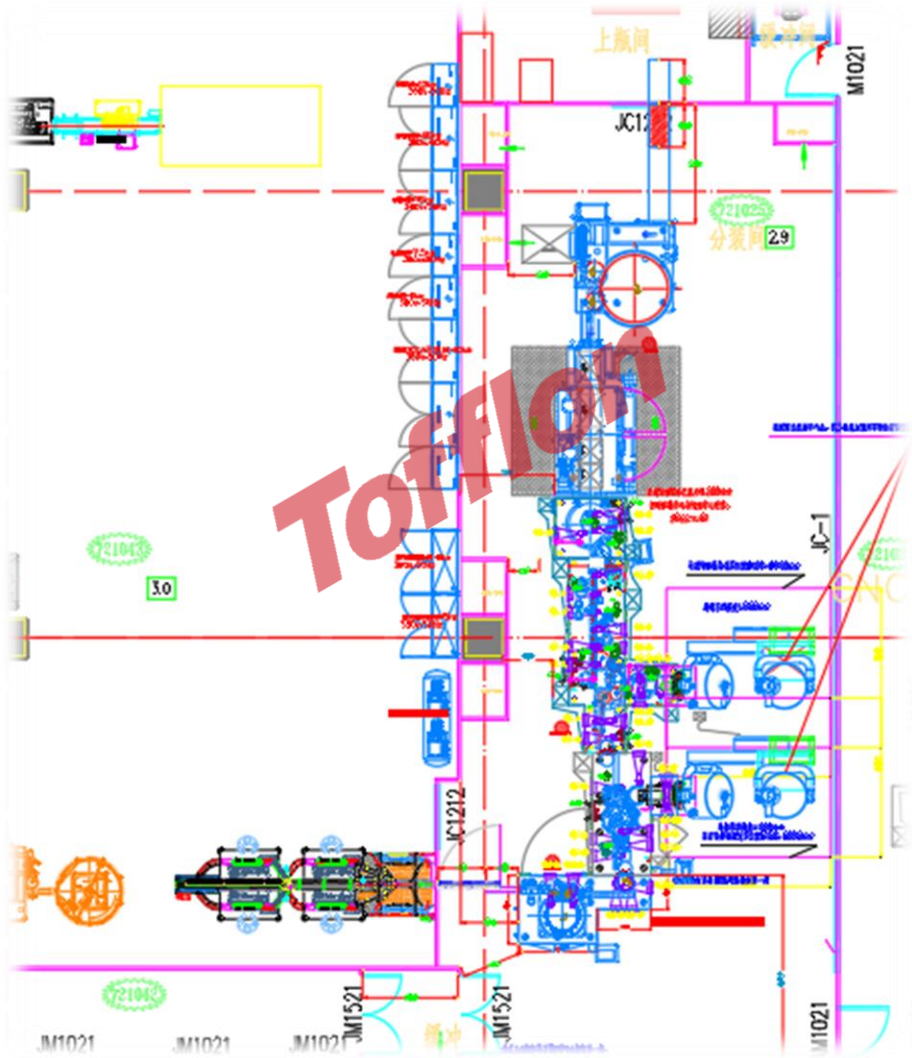


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CSPC 石药集团

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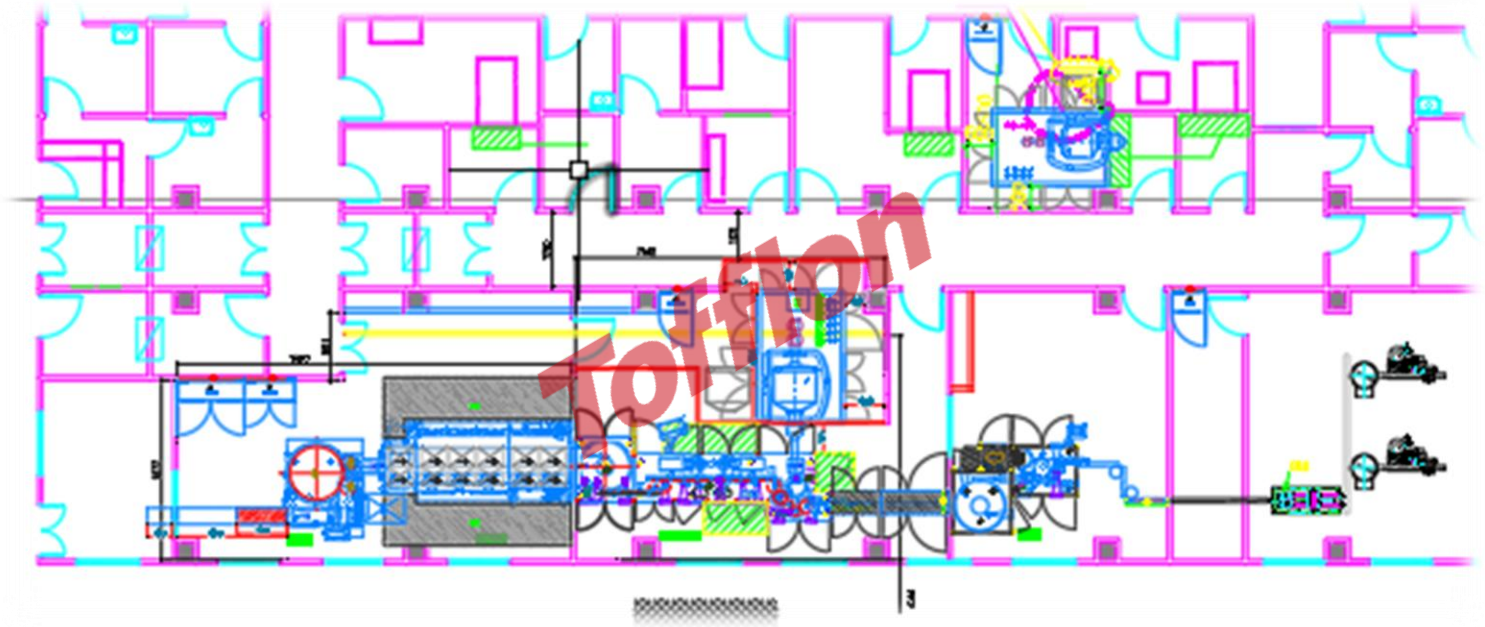
Customer：	CSPC PHARMA
Project time：	2022
Product type：	Microspheres
Preparation type：	Powder/Liquid
Regulation：	cGMP、FDA、EU-GMP
Vial：	5ml
Speed：	50VPM @5ml@44mg filling volume
Main Parameter For washing machine：	40 grippers
Main Parameter For tunnel：	400mm
Main Parameter For filling machine：	Vacuum filling of powder head, 2 filling needles 、100%IPC
Main Parameter For capping machine：	2 heads
Main Parameter For external washing：	Single station
Barrier system：	ISOLATOR
Back ground：	C+A



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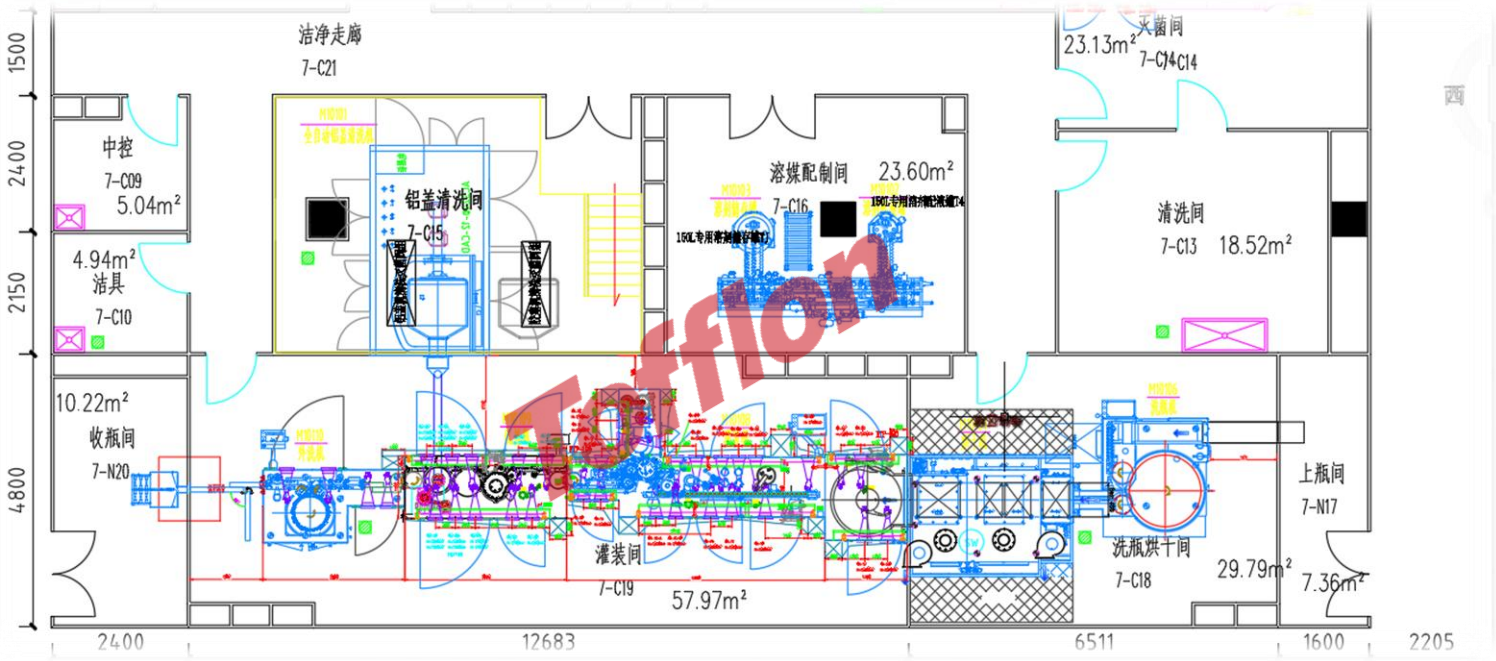
Customer：	Anhui Hongye Pharmaceutical Co., Ltd.
Project time：	2022
Product type：	Chemicals
Preparation type：	Liquid /Powder
Regulation：	cGMP、EU-GMP
Vial：	10ml
Speed：	200VPM @10ml@600mg filling volume
Main Parameter For washing machine：	60 grippers
Main Parameter For tunnel：	850mm
Main Parameter For filling machine：	Auger filling, 4 filling augers, without IPC
Main Parameter For capping machine：	9 heads
Main Parameter For external washing：	N/A
Barrier system：	ORABS
Back ground：	Washing :D+A、Filling :B+A

安徽宏业药业有限公司
Anhui Hongye Pharmaceutical Co., Ltd



Confidential

Customer：	Zhejiang Sundoc Pharmaceutical Science and Tech Co., Ltd.
Project time：	2022
Product type：	Microspheres
Preparation type：	Liquid /Powder
Regulation：	cGMP、FDA、EU-GMP
Vial：	5ml、1ml
Speed：	50-60VPM @5ml@40-50mg filling volume（powder） 250VPM @1ml@0.5-1ml filling volume（liquid）
Main Parameter For washing machine：	80 grippers
Main Parameter For tunnel：	600mm
Main Parameter For filling machine：	2 needles for powder filling（100%IPC）、8 filling needles for liquid filling（sampling weighing）
Main Parameter For capping machine：	N/A
Main Parameter For external washing：	Single station
Barrier system：	ISOLATOR
Back ground：	C+A



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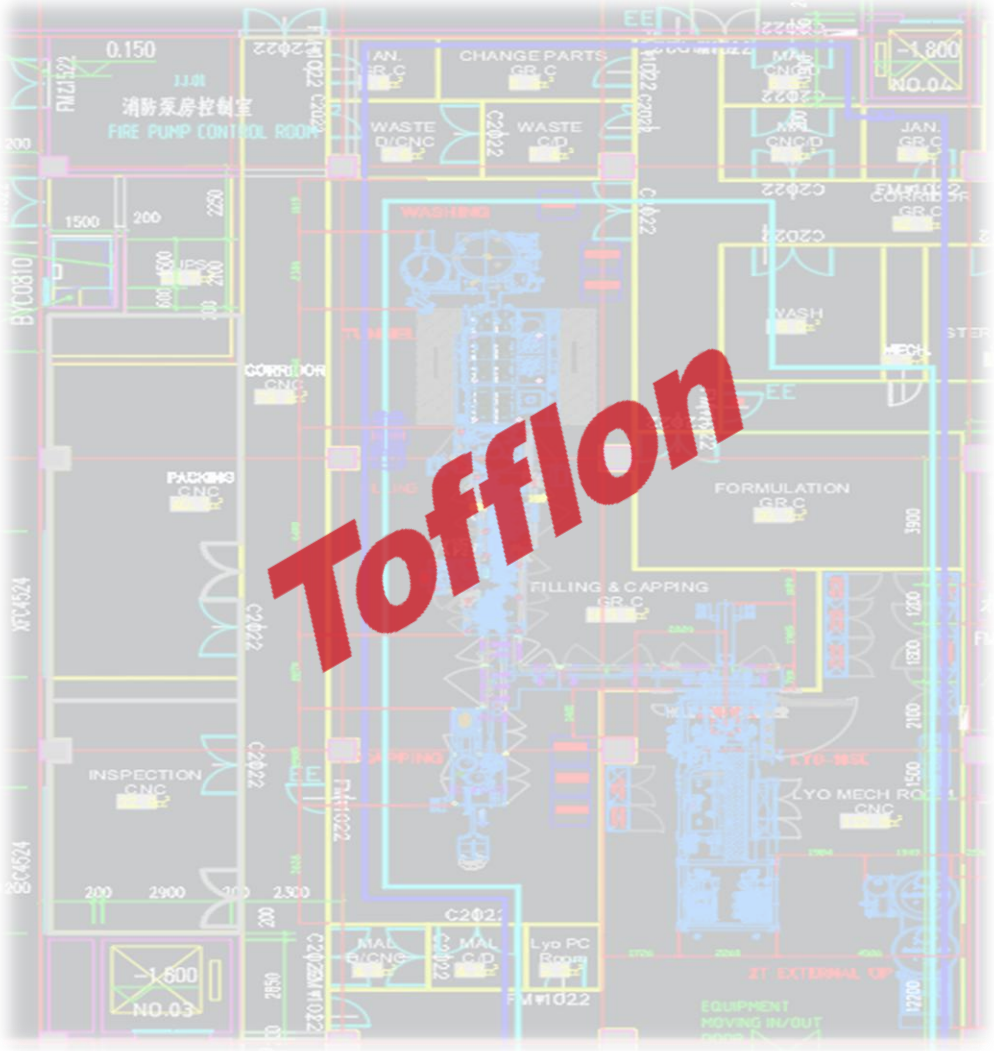
International customer classic case sharing

Tofflon
Bio-Support

Lonza (Switzerland/China)

CDMO Pharmaceutical, the world's largest biologic drug company

Bottle range	2R-100H
Capacity	100VPM based on 10R vials and 2ml room temp WFI
Background level	C，C+A
Barrier system	Filling machine: ISOLATOR Capping machine: ORABS
Tofflon scope	RBR、FW、FT、FF 、LYO、FC



Confidential

International customer classic case sharing

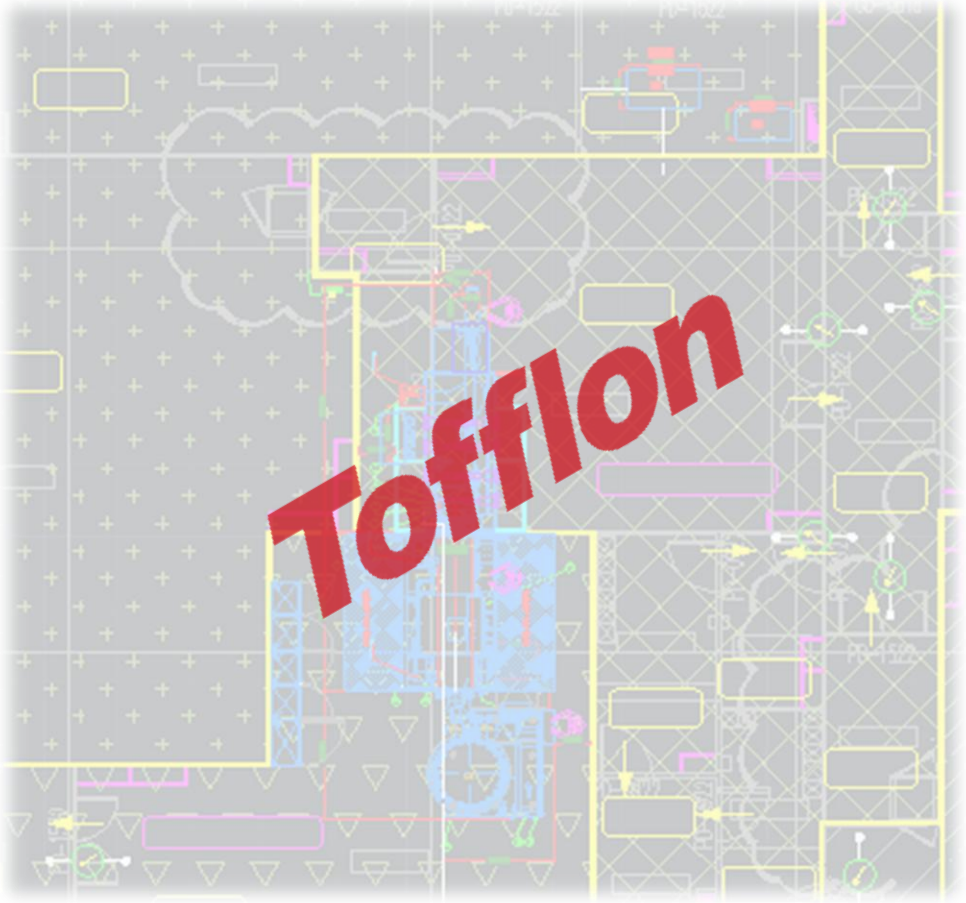
Tofflon
Bio-Support

MSD(America/China)

One of the world's largest pharmaceutical companies for vaccines and oncology

MSD

Bottle range	1ml-20ml
Capacity	250 APM based on 2ml ampoules and 2ml room temp WFI
Background level	D，B+A
Barrier system	Orabs
Tofflon scope	FW, FT, FF



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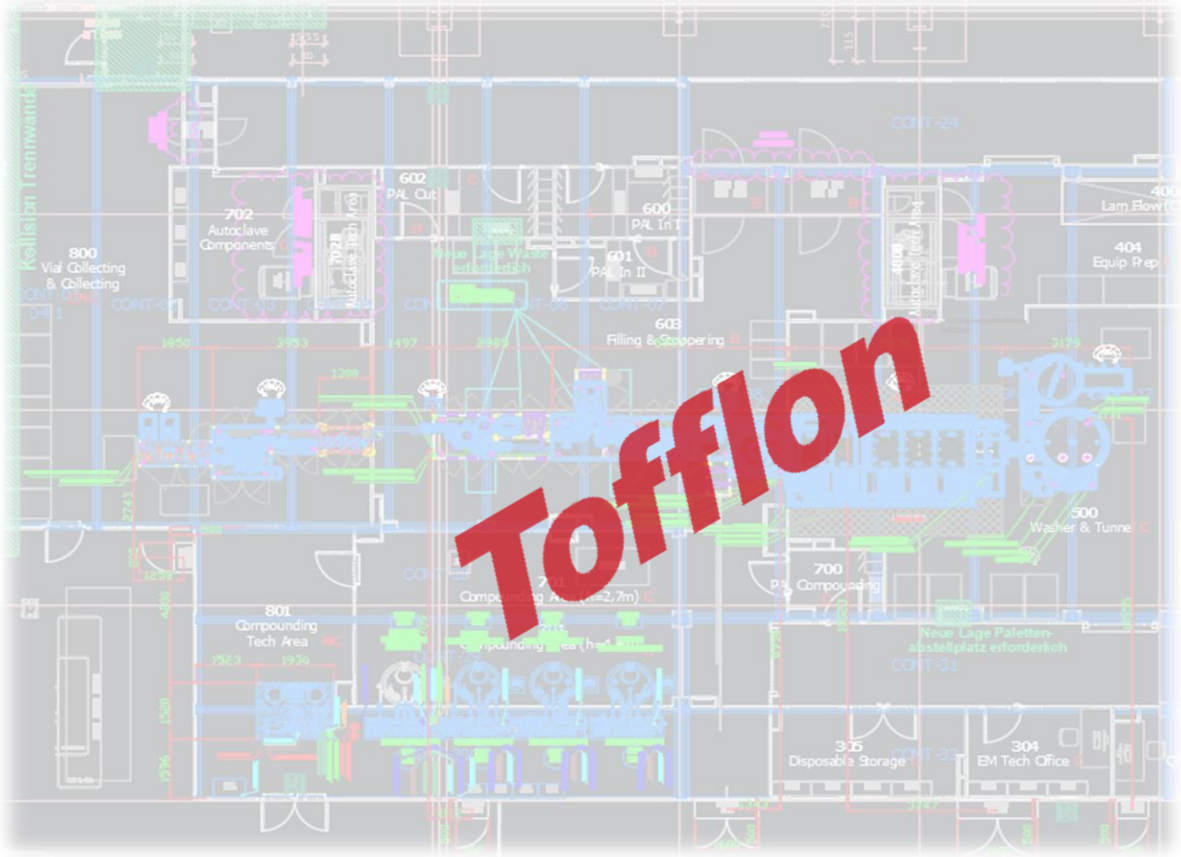
Tofflon
Bio-Support

Recipharm(France)

Swedish small molecule CDMO industry leader

Recipharm

Bottle range	2R-100H
Capacity	400VPM based on 10R vials and 6.3ml room temp WFI
Background level	B，B+A
Barrier system	ORABS
Tofflon scope	Solution preparation、RBR、FW、FT、FF 、LYO、FC



Confidential

International customer classic case sharing

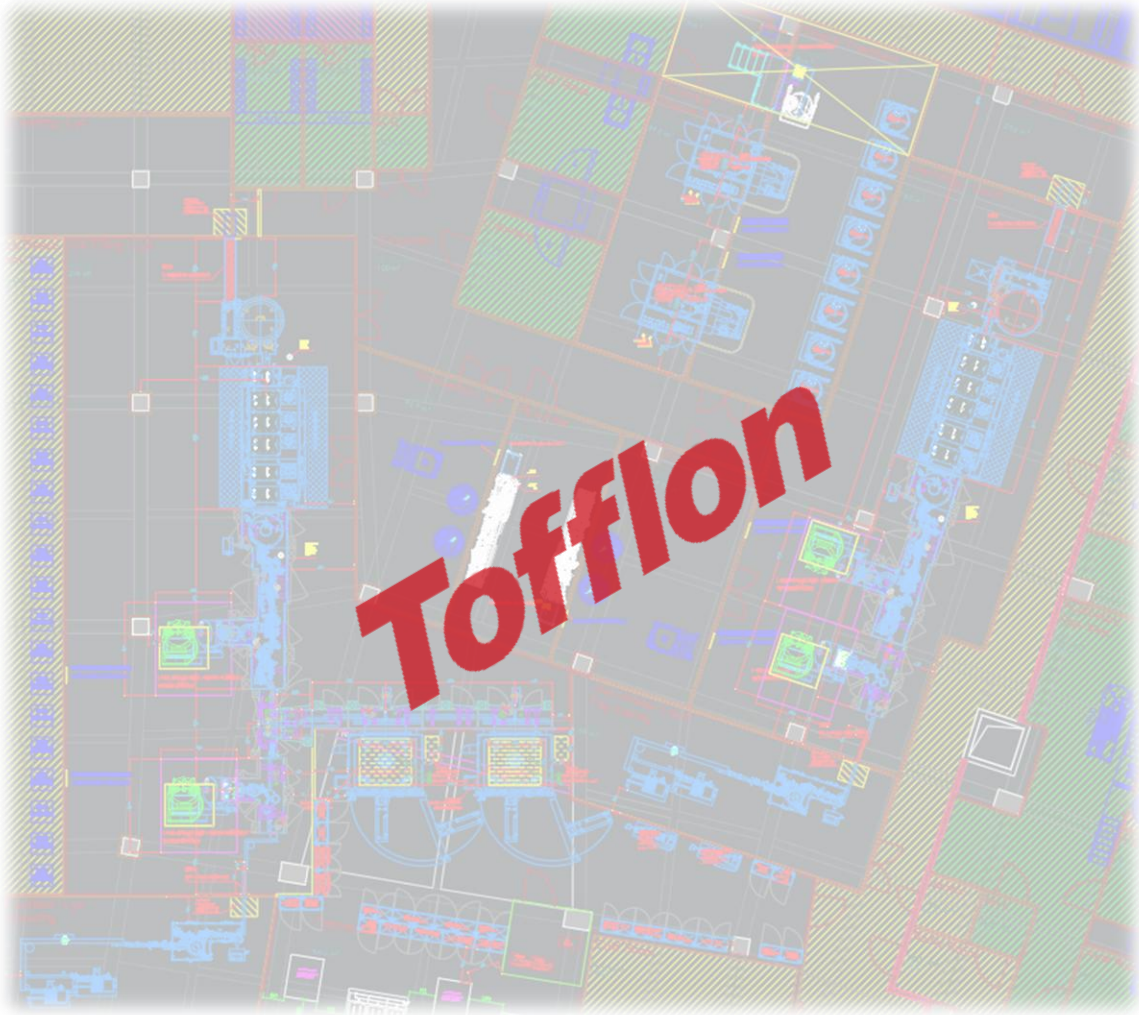
Tofflon
Bio-Support

Cheerland (China/America)

CHEERLAND 乐土生命科技

To build a precision medical industry ecology integrating CDMO, genetic testing, medical treatment and medical support bases.

Bottle range	2R，10R，20R
Capaity	300VPM based on 2R vials and 1ml room temp WFI
Background level	C，A
Barrier system	ISOLATOR
Tofflon scope	Solution preparation、RBR、FW、FT、FF 、LYO、FC



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International customer classic case sharing

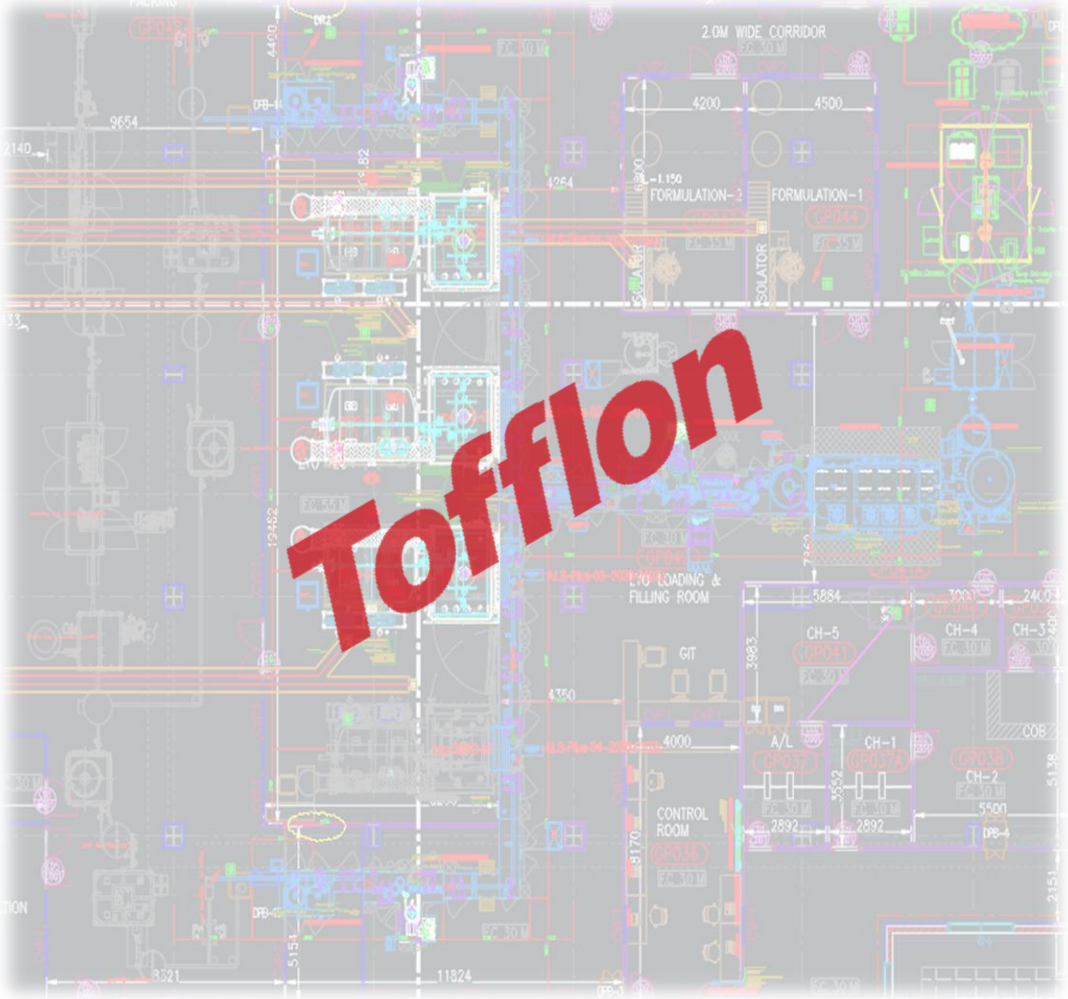
Tofflon
Bio-Support

Dr. Reddy's (India)

Dr.Reddy's

Top three generic, API, patent pharmaceutical companies in India

Bottle range	2-100ml
Capacity	300VPM based on 10ml vials and 10ml room temp WFI
Background level	C，C+A
Barrier system	ISOLATOR
Tofflon scope	RBR、FW、FT、FF 、LYO、



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International customer classic case sharing

Tofflon
Bio-Support

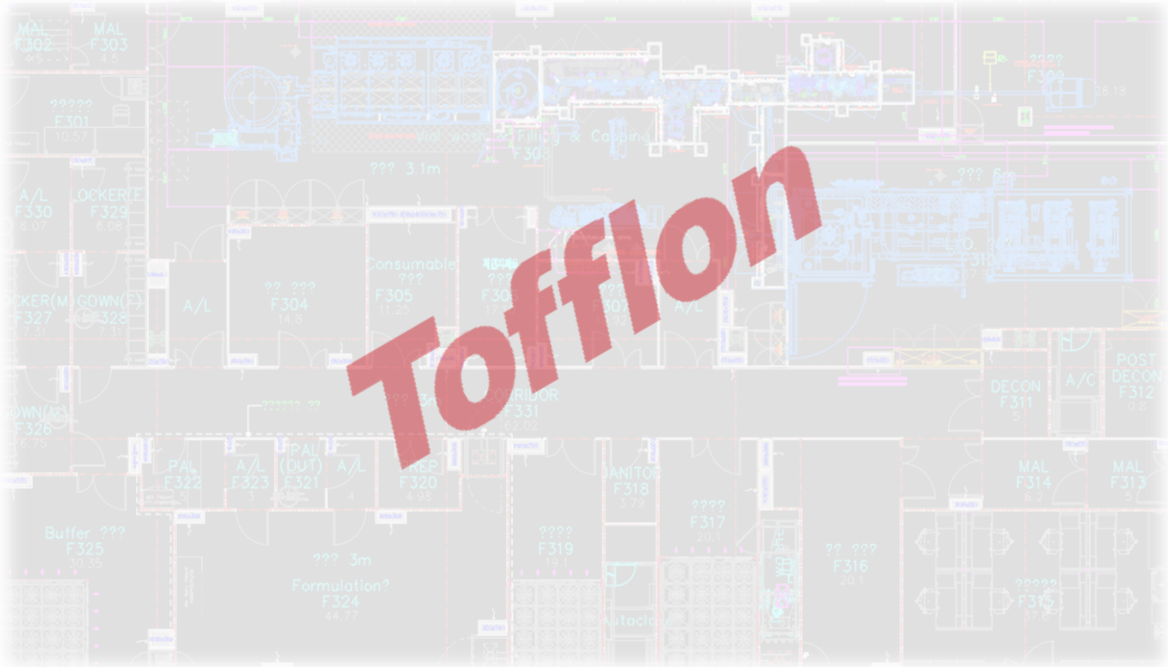
Korea Vaccine (Korea)

Top three generic vaccine product in korea

KOREAVACCINE

(주)한국백신

Bottle range	2ml-20ml
Capacity	400VPM based on 2ml vials and 0.65ml/0.90 room temp WFI
Background level	C，A
Barrier system	ISOLATOR
Tofflon scope	RBR、FW、FT、FF 、LYO、FC



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International customer classic case sharing

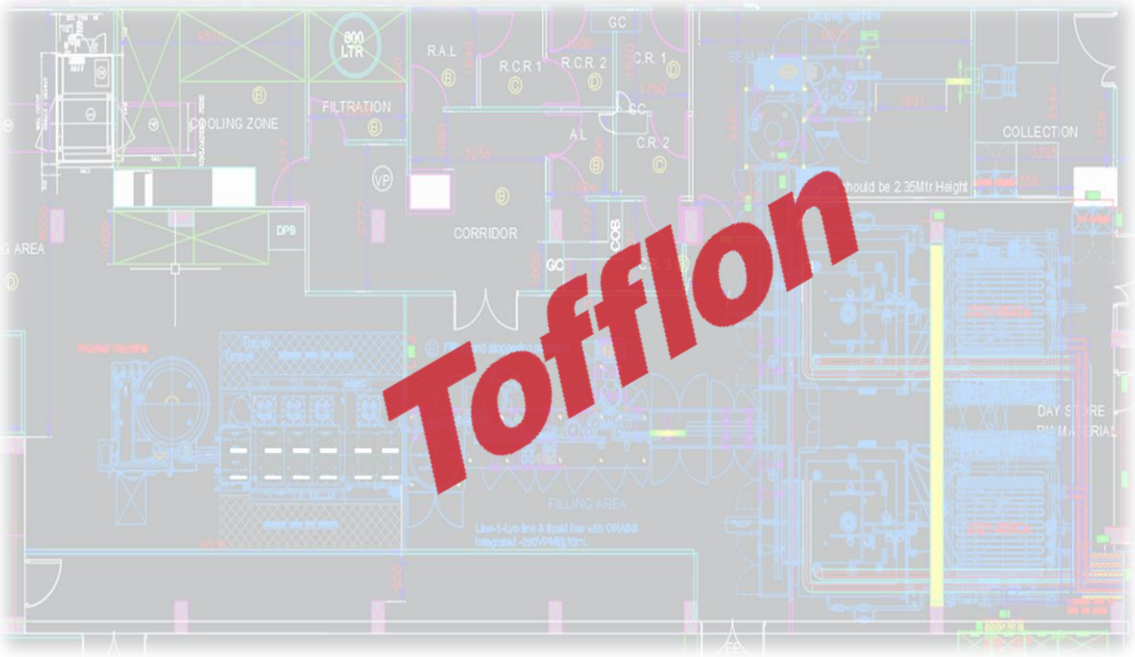
Tofflon
Bio-Support

Naprod life sciences(India)

Naprod Life Sciences
Sovereign in Oncology

Founded in 1994, is committed to cancer research pharmaceutical company

Bottle range	5ml,10ml
Capacity	250 VPM based on 10ml vials and 10ml room temp WFI
Background level	D，B
Barrier system	Orabs
Tofflon scope	FW, FT, FF,RBR,LYO,FC



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International customer classic case sharing

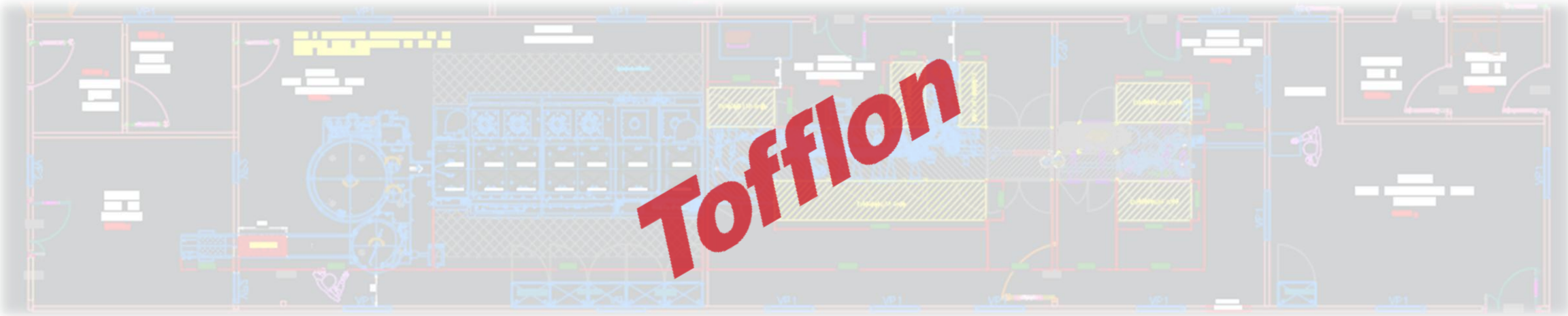
Tofflon
Bio-Support

Maiva Pharma (India)

Founded in 1996, CDMO pharmaceutical Company has obtained FDA and EU GMP certification

MAIVA PHARMA PVT LTD
Formerly Global Pharmatech

Bottle range	50ml-250ml
Capacity	50 VPM based on 100ml vials and 100ml room temp WFI
Background level	C，B
Barrier system	ORABS
Tofflon scope	FW, FT, FF,FC



Confidential

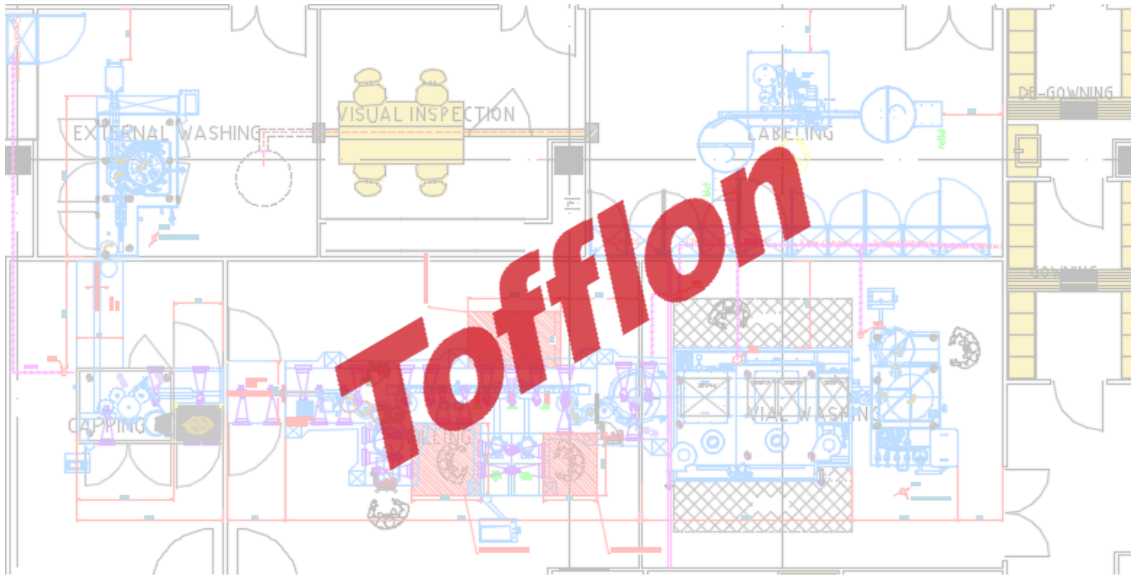
International customer classic case sharing

Tofflon
Bio-Support

SP Accure Labs(India)

Devote itself to committed to cancer research pharmaceutical company.

Bottle range	6R
Capacity	100VPM based on 6R vials and 500mg powder
Background level	B
Barrier system	ORABS,CRABS
Tofflon scope	FW、FT、FF 、FC、FE



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International customer classic case sharing

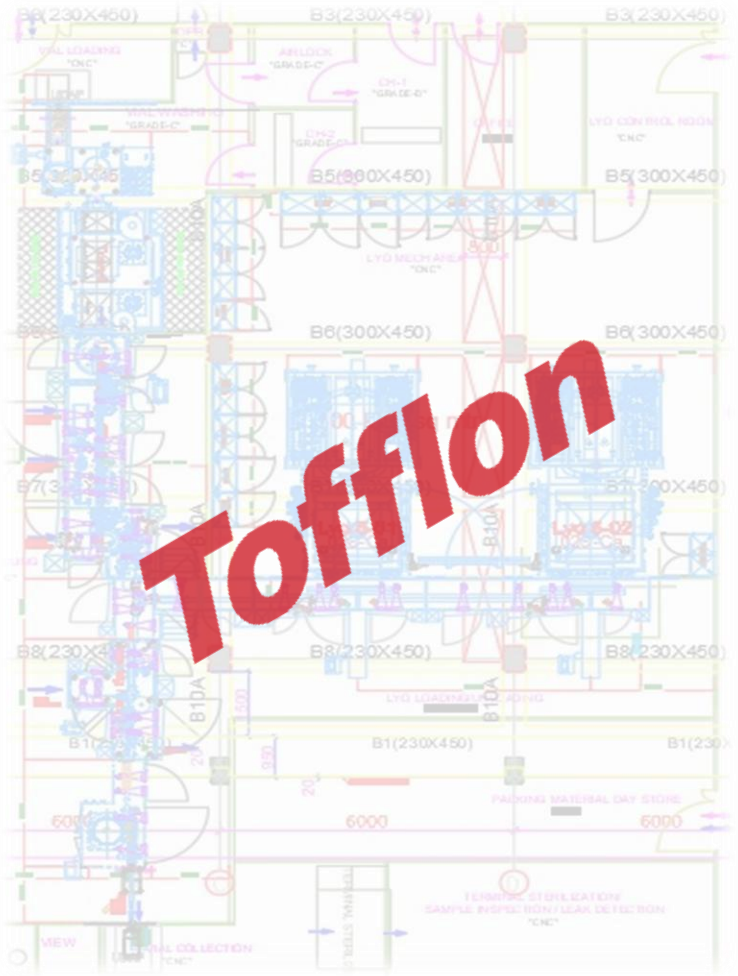
Tofflon
Bio-Support

Homa Pharmed(Iran)

Making high quality medicines accessible to patients worldwide with core competencies in Oncology.

SP ACCURE LABS
Touching Lives Globally

Bottle range	2R-100H
Capacity	100VPM based on 10ml vials and 10ml room temp WFI 50VPM based on 10ml vials and 500mg powder
Background level	C+A
Barrier system	ISOLATOR
Tofflon scope	Solution preparation、RBR、FW、FT、FF 、LYO、FC



Confidential

Tofflon
Bio-Support

All for the customer

