Standard Flexel® for LevMixer®[1] 50 L to 1,000 L

Description

The Flexel® for LevMixer® is a single-use mixing solution using the ATMI levitated impeller and Sartorius Stedim Biotech Flexel® 3D Bag. The designed cubical mixing tank is based on the proven Palletank® technology. The easy bag installation and handling paired with the levitated impeller make the Flexel® for LevMixer® the single use mixing system of choice in the biopharmaceutical industry.

Components

1. Palletank® for LevMixer® is a stainless steel cubical container designed to perfectly fit with the Flexel® Bags for LevMixer® with its integrated impeller. It includes a railed port for coupling the mobile LevMixer® drive unit with the Flexel® Bags for LevMixer® and a clamp holder to fix the 8" top port. The hinged door allows easy installation of the bag system whereas the front bottom gate facilitates easy tubing and sensors access. Windows on lateral sides enable the user to visually control the mixing process. The cubical shape improves the mixing efficiency and offers scalability from 50 L to 1,000 L.

The Palletank® for LevMixer® is also available standard either with a heat exchange jacket and | or with integrated loadcells and weight indicator:

- The Palletank® Jacketed for LevMixer® (50 L to 1,000 L) is built according to ASME or PED directives. The heat exchange jacket and insulation system allows for efficient chilling, heating, cold or warm storage of biopharmaceutical fluids.
- The Palletank® Weighing for LevMixer® (50 L to 1,000 L) is configured with built-in load cells linked to the weighing indicator for fast and reliable volume measurement. The CAIS1 Combics 1 indicator allows strain gauge weighing and provides an easy-to-read user interface.
- The Palletank® Jacketed and Weighing for LevMixer® combines both Palletank® Jacketed and Palletank® Weighing specifications.

A draining system could also be installed into the Palletank® for LevMixer® to ensure complete drainage of the Flexel® Bags for LevMixer® without bag manipulation by the user. The draining system from 50 L to 1,000 L is composed by a slope board, a lifting device and a tubing positionner. At the end of the draining, the lifting device is activated to drive the liquid toward the bottom line and recover more than 99.9% of the initial volume.

Features and Benefits

50 L to 1,000 L Flexel® for LevMixer®	Full scalability
Levitated mixing technology	Ultra clean and low shear mixing operation
Cubical design	Easy installation, unfolding and folding during filling and draining
Impeller protection top port	Prevents film damage during packaging and transport. Open for powder transfer. Closed for sterile mixing.
Face bottom port	Easy installation and access to tubing
Standard Flexel® Bags for LevMixer®	Most designs are available from stock
Hinged door on Palletank® for LevMixer®	Easy installation
Mobile drive unit	Single drive unit can serve multiple mixing
Local or remote operation with the LevMixer® drive unit	Mixing process parameters monitoring and control
Real impeller speed reading	Process control and security
Mixing recipe management via touchscreen PLC	Process steps are executed exactly and in accordance with specified procedures
Rear and lateral windows	Visual check of correct bag installation and mixing process
Draining system	>99.9% recovery
Full compliance with ISO 11137	Highest sterility assurance level

[1] LevMixer® is a trademark or registered trademark of ATMI, inc in the United States, other countries or both and this product uses ATMI patented LevMixer® technology. using ATMI patented mixing technology

2. LevMixer® drive unit generates the levitation and rotation of the single-use magnetic impeller without surface contact. The Flexel® for LevMixer® can ideally be applied for ultra clean mixing, low shear mixing, liquid-liquid mixing, re-homogenization and re-suspension. The LevMixer® drive unit is mobile, cartmounted and designed to interface with Palletank® for LevMixer® of any types or volumes. The LevMixer® Drive Unit is capable of local or remote operation and mixing recipe management via the touchscreen PLC.

3. Flexel® Bags for LevMixer® contains an in center magnetic impeller assembly. Its cubical shape simplifies installation and facilitates the unfolding and folding of the bag during filling and draining operations. The patented protection top port provides robustness avoiding contact of the impeller with the film during transport. The large 8" diameter top port could be either opened for mixing applications with powder transfer or fully closed for sterile mixing applications.

Ultra Clean and sterile mixing operation
A patented superconductor technology is utilized to levitate and drive the single-use impeller inside sterile single-use Flexel® Bags for LevMixer®. The LevMixer® drive unit causes the impeller to levitate, lock in position and rotate. Thus it generates no friction or mechanical stress on the bag during mixing and avoids unwanted particle shedding that will affect the purity of the product.

Applications
The Flexel® for LevMixer® with a levitating impeller generates moderate mixing forces with an impeller speed up to 210 rpm. The Flexel® for LevMixer® can ideally be applied for ultra clean mixing, low shear mixing, liquid-liquid mixing, re-homogenization and re-suspension.
Standard applications are:
- Pool conditionning prior to Chromatography
- Product collection from chromatography columns
- Viral inactivation
- Protein refolding
- pH adjustment of intermediate bulk
- Formulation of adjuvant and final bulk

Flexibility
The LevMixer® drive unit operates independently of the Palletank® for LevMixer® so that a single drive unit can serve multiple Palletank® of any types or volumes. Standard Flexel® Bags for LevMixer® are available from stock. They may be readily customized to optimize the integration into specific processes. Expert design service is available on-site through Sartorius Stedim Biotech application engineers on a worldwide basis.

Validation
Flexel® Bags for LevMixer® have been qualified applying the most stringent and innovative test regimes. Biological, chemical and physical tests combined with extensive extractable testing provide users of Flexel® Bags for LevMixer® with data representing the widest range of process fluids in a variety of processing conditions. Full compliance with ISO11137 allows for a validated claim of sterility on all Sartorius Stedim Biotech Single-Use Products with a sterility assurance level of 10^{-6} over the shelf life. Flexel® Bags for LevMixer® are tested for compliance to:
- USP <87>: Biological reactivity tests, in Vitro
- USP <88>: Biological reactivity tests, in Vivo
- USP <661>: Containers-Physicochemical tests – Plastics
- USP <788> Particulate matter in injections
- Large-volume injections and E.P. 2.9.19: Particulate contamination-sub-visible particles
- USP<85> and EP 2.1.14: Bacterial endotoxins test
- ISO 11737: Microbiological methods - Determination of a population of microorganisms on products
- ISO 11137: Sterilization of Health care products-Radiation

Quality Assurance
Sartorius Stedim Biotech Quality Systems for single-use products follow applicable ISO and FDA regulations for Medical Devices. Design, manufacture and sterilization processes are conducted under conditions that mirror biopharmaceutical operations and meet cGMP requirements.

Security of Supply
Sartorius Stedim Biotech has established multiple manufacturing sites with consistent industrial processes. The expertise of design designing single-use solutions based on collaborative supplier management and customer demand planning assures a state-of-the-art and robust supply chain that can cope with strong market growth.

Specifications

1. LevMixer® drive unit

Footprint in mm (inches) W × L × H	Collapsed configuration: 407 × 1,118 × 915 mm (16 × 44 × 36 in.) Expanded configuration: 407 × 1,311 × 915 mm (16 × 51.6 × 36 in.)
Weight	123 lbs (56 kg)
Control box, cart & mixer enclosure material	304 L Stainless Steel
Control box, cart & mixer enclosure surface finish	At least 35 µin. Ra | 0.89 µm Ra
Control box ingress rating	IP 65
Enclosure ingress rating	IP 23
Voltage	100-230 VAC, 50|60 Hz
Input Wattage	Less than 350 W
Amperage	100 V 3.0 A; 110 V 2.5 A; 230 V 1.5 A
Voltage fluctuation	+/– 10%
Altitude rating	1,000 m (3,280 ft)
Max humidity	85%, avoid condensation
Ambient temperature	4 – 40°C
Motor horsepower	1/8hp
Power cord length	6 m (20 ft)
E-stop (present, yes|no, location)	Yes, face of control box
Min and Max impeller speed	20 to 210 RPM
Connections for remote output | control	TURCK RSFPV61, RSFPV579
Functions available from remote control panel	Motor – start, stop Speed – adjustment, indication Alarm – indication Mode of control (remote/local) – indication
Signal type(s) for remote output | control	Impeller speed out 4–20 mA, motor control in 0–10 VDC, discrete I/O signals relay contact type
Mixer charge time	35 minutes
Operator interface type	Touchscreen PLC
Method for RPM measurement	Direct measurement of impeller speed via non-contact magnetic sensor
Noise level at operator position	67 dB
Mobility	Mounted on stainless cart with four clean room wheels and push Handles 2X swivel (front), 2X stationary (rear)
Wheel material	Polyurethane
Recipe storage	Up to 10 recipes can be stored
Password protection	Operator, Supervisor, Maintenance levels
CE Mark	Compliant
UL	Compliant

2. Flexel® Bags for LevMixer® Specifications

Bag chamber	S40 Flexel® 3D Bag chamber with multi-layer film, including EVOH gas barrier layer and PE contact layer
Impeller position	Bottom centered
Impeller size (50 L - 100 L)	4.95" (126 mm)
Impeller size (200 L to 1,000 L)	6.35" (161 mm)
Tubing material	Silicone, C-Flex®, TuFlux® SIL
Number of ports	8" top port, 2 top ports, 4 front bottom ports
Outlet fittings	OPTAI®, MPC quick connect coupling, tri-clamp, needless sampling port
Volumes	50 L, 100 L, 200 L, 400 L, 650 L and 1,000 L
Nominal filling volume 50 L 100 L 200 L 400 L 650 L 1,000 L	Minimum[2] – Maximum volume 30 L – 60 L 40 L – 120 L 60 L – 230 L 120 L – 420 L 160 L – 720 L 250 L – 1,060 L
Product recovery[3]	>99.9%
Process temperatures	>0 – 50°C
Sterilization:	by Gamma irradiation

[2] Minimum volume under aseptic conditions with closed bag. Mentioned minimum volumes are lowered with open bags.

[3] Draining performances when using the draining system

LevMixer® drive unit

3. Palletank® for LevMixer®

3.1 Palletank® for LevMixer® w/o weighing and w/o jacket

Main construction materials	304L stainless Steel Windows made of PC and EPDM sealing
Surface finish	Glass bead blasted and passivated
Door	50 L to 1,000 L: Front hinged door and PC windows
Port	Railed port for drive unit coupling
Bag tubing gate	Front port and bottom port for bag lines | sensor access
Mobility (50 L to 1,000 L)	Mounted on stainless cart with four clean room wheels and push handles
Volumes	50 L, 100 L, 200 L, 400 L, 650 L and 1,000 L
Dimensions (Approx.)	W × D × H
50 L	883 × 726 × 985 mm (35 × 29 × 39 in)
100 L	883 × 726 × 1,090 mm (35 × 29 × 43 in)
200 L	883 × 759 × 1,190 mm (35 × 30 × 47 in)
400 L	975 × 925 × 1,340 mm (38 × 36 × 53 in)
650 L	1,187 × 1,059 × 1,450 mm (47 × 42 × 57 in)
1,000 L	1,328 × 1,200 × 1,650 mm (52 × 47 × 65 in)
Weight (Approx.)	
50 L	42 kg (92 lb)
100 L	53 kg (117 lb)
200 L	68 kg (150 lb)
400 L	99 kg (218 lb)
650 L	126 kg (277 lb)
1,000 L	210 kg (462 lb)

Palletank® for LevMixer®

Palletank® Jacketed for LevMixer®

3.2 Palletank® Jacketed for LevMixer®

3.2.1 PED version (for Europe, Asia and NEMEA)[3]

Main construction materials	304L Stainless Steel Perlit balls (Insulation)
Surface finish	Glass bead blasted and passivated
Door	Front insulated hinged door (except 50 L and 100 L, no door)
Port	Railed port for drive unit coupling
Bag tubing gate	PTFE front bottom gate for bag lines | sensor access
Mobility	Mounted on stainless cart with four clean room wheels and push handles
Operating temperature	0 – 50°C (32°F – 122°F)
Working pressure	-1 to 6 bars (-14 to 87 psi)
Test pressure	9 bars (131 psi)
PED	Compliant
Insulated	On all sides, the bottom and the lid
Jacketed	4 sides and bottom (50 L and 100 L) 3 sides and bottom (200 L to 1,000 L)
Heat Transfer Fluid Inlet | Outlet	Manual ¾" Ball valve and ¾" Tri-Clamp connection
Heat Transfer fluid Volume in the jacket (Approx.)	
50 L	4 L
100 L	5 L
200 L	7 L
400 L	10 L
650 L	13 L
1,000 L	19 L
Volumes	50 L, 100 L, 200 L, 400 L, 650 L and 1,000 L
Dimensions (Approx.)	W × D × H
50 L	773 × 737 × 1,096 mm (30 × 29 × 43 in)
100 L	816 × 823 × 1,201 mm (32 × 32 × 47 in)
200 L	934 × 897 × 1,301 mm (35 × 37 × 51 in)
400 L	1,074 × 1,098 × 1,451 mm (42 × 43 × 57 in)
650 L	1,198 × 1,235 × 1,561 mm (47 × 49 × 61 in)
1,000 L	1,337 × 1,374 × 1,761 mm (53 × 54 × 69 in)
Weight (Approx.)	
50 L	115 kg (254 lb)
100 L	152 kg (335 lb)
200 L	210 kg (463 lb)
400 L	302 kg (666 lb)
650 L	386 kg (851 lb)
1,000 L	496 kg (1,094 lb)

[3] Applicable to FXC116199, FXC116200, FXC116201, FXC116202, FXC116203 and FXC116204.

3.2.2 ASME version (for North America and Canada)[4]

Main construction materials	304L Stainless Steel Foamglass and ceramic fiber
Surface finish	Glass bead blasted and passivated
Door	Front insulated hinged door (except 50 L and 100 L, no door)
Port	Railed port for drive unit coupling
Bag tubing gate	UHMW front bottom gate for bag lines | sensor access
Mobility	Mounted on stainless cart with four clean room wheels and push handles
Operating temperature	0 – 50°C (32°F – 122°F)
Working pressure	10 bars (150 psi)
Test pressure	13 bars (196 psi)
Heat exchanger	ASME certified and stamped per Section 8, division 1
Piping to | from heat exchanger	Designed and built under the ASME code for pressure piping, B31
Insulated	On all sides, the bottom and the lid
Jacketed	4 sides and bottom (50 L and 100 L) 3 sides and bottom (200 L to 1,000 L)
Heat transfer fluid Inlet | Outlet	Male NPT connection
Heat transfer fluid volume in the jacket (Approx.)	
50 L	4 L
100 L	5 L
200 L	7 L
400 L	10 L
650 L	13 L
1,000 L	17 L
Volumes	50 L, 100 L, 200 L, 400 L, 650 L and 1,000 L
Dimensions (Approx.)	W × D × H
50 L	775 × 733 × 1,089 mm (31 × 29 × 43 in)
100 L	818 × 819 × 1,199 mm (32 × 32 × 47 in)
200 L	904 × 939 × 1,290 mm (36 × 37 × 51 in)
400 L	1,070 × 1,105 × 1,440 mm (42 × 44 × 57 in)
650 L	1,203 × 1,239 × 1,550 mm (47 × 49 × 61 in)
1,000 L	1,377 × 1,433 × 1,750 mm (54 1/4 × 56 3/8 × 68 7/8 in)
Weight (Approx.)	
50 L	133 kg (294 lb)
100 L	193 kg (426 lb)
200 L	254 kg (560 lb)
400 L	336 kg (740 lb)
650 L	437 kg (964 lb)
1,000 L	601 kg (1,326 lb)

[4] Applicable to FXC117445, FXC117446, FXC117447, FXC117448, FXC116449 and FXC117750

3.3 Palletank® Weighing for LevMixer®

Main construction materials	304 L Stainless Steel Windows made of PC and EPDM sealing
Surface finish	Glass Bead Blasted and passivated
Door	Front hinged door and PC windows
Port	Railed port for drive unit coupling
Bag tubing gate	Front bottom gate for bag lines | sensor access
Mobility	Mounted on stainless cart with four clean room wheels and push handles

Integrated Combics 1 CAIS1 – Scale Indicator

Material of construction	Stainless steel 1.4301
IP protection rate	IP69K
Operating temperature range	–10°C to 40°C (14°F to 104°F)

Integrated Loadcells PR 6211

IP protection rate	IP68 (depth of 1.5 m for 10,000 hrs.), IP69K
Material	Stainless steel 1.4542
Vibration resistance	Acc. to IEC 68-2-6 Fc; 20 g, 100 h, 10 ... 150 Hz
Design	Low installation height
Integrated lift-off protection	

Volumes	Max weighing capacity in kg	Resolution in g	Accuracy in +/- g
50 L	75	50	100
100 L	150	50	100
200 L	250	100	200
400 L	500	200	400
650 L	800	200	400
1,000 L	1,200	500	1,000

Volumes	50 L, 100 L, 200 L, 400 L, 650 L and 1,000 L
Dimensions[5] (Approx.)	W × D × H
50 L	1,083 × 716 × 985 mm (43 × 28 × 39 in)
100 L	1,126 × 798 × 1,090 mm (44 × 31 × 43 in)
200 L	1,133 × 760 × 1,190 mm (45 × 31 × 47 in)
400 L	1,272 × 925 × 1,340 mm (50 × 36 × 53 in)
650 L	1,384 × 1,059 × 1,450 mm (54 × 42 × 57 in)
1,000 L	1,495 × 1,200 × 1,650 mm (59 × 47 × 65 in)
Weight (Approx.)	
50 L	55 kg (121 lb)
100 L	63 kg (139 lb)
200 L	80 kg (176 lb)
400 L	110 kg (242 lb)
650 L	135 kg (298 lb)
1,000 L	220 kg (485 lb)

Palletank® Weighing for LevMixer®

[5] The given dimensions include the scale indicator holder. Please refer to the technical drawings for the footprint dimensions.

3.4 Palletank® Jacketed and Weighing for LevMixer®
3.4.1 PED version (for Europe, Asia and NEMEA)[5]

Main construction materials	304L Stainless Steel Perlit balls (Insulation)
Surface finish	Glass bead blasted and passivated
Door	Front insulated hinged door (except 50 L and 100 L, no door)
Port	Railed port for drive unit coupling
Bag tubing gate	PTFE front bottom gate for bag lines | sensor access
Mobility	Mounted on stainless cart with four clean room wheels and push handles
Operating temperature	0 – 50°C (32°F – 122°F)
Working pressure	-1 to 6 bars (-14 to 87 psi)
Test pressure	9 bars (131 psi)
PED	Compliant
Insulated	On all sides, the bottom and the lid
Jacketed	4 sides and bottom (50 L and 100 L) 3 sides and bottom (200 L to 1,000 L)
Heat Transfer Fluid Inlet | Outlet	Manual ¾" Ball valve and ¾" Tri-Clamp connection
Heat Transfer fluid Volume in the jacket (Approx.)	
50 L	4 L
100 L	5 L
200 L	7 L
400 L	10 L
650 L	13 L
1,000 L	19 L
Integrated Combics 1 CAIS1 – Scale Indicator	
Material of construction	Stainless steel 1.4301
IP protection rate	IP69K
Operating temperature range	–10°C to 40°C (14°F to 104°F)
Integrated Loadcells PR 6211	
IP protection rate	IP68 (depth of 1.5 m for 10,000 hrs.), IP69K
High overload protection	
Material	Stainless steel 1.4542
Vibration resistance	Acc. to IEC 68-2-6 Fc; 20 g, 100 h, 10 … 150 Hz
Design	Low installation height

Integrated lift-off protection			
Volumes	Max weighing capacity in kg	Resolution in g	Accuracy in g
50 L	75	50	100
100 L	150	100	200
200 L	250	100	200
400 L	500	200	400
650 L	800	200	400
1,000 L	1200	500	1,000
Volumes	50 L, 100 L, 200 L, 400 L, 650 L and 1,000 L		
Dimensions (Approx.)	W × D × H		
50 L	1,200 × 770 × 1,100 mm (48 × 31 × 44 in)		
100 L	1,200 × 810 × 1,200 mm (48 × 32 × 48 in)		
200 L	1,255 × 950 × 1,300 mm (50 × 38 × 52 in)		
400 L	1,490 × 1,050 × 1,450 mm (59 × 42 × 58 in)		
650 L	1,600 × 1,260 × 1,560 mm (63 × 50 × 62 in)		
1,000 L	1,745 × 1,370 × 1,760 mm (69 × 54 × 70 in)		
Weight (Approx.)			
50 L	142 kg (313 lb)		
100 L	180 kg (397 lb)		
200 L	240 kg (529 lb)		
400 L	395 kg (871 lb)		
650 L	495 kg (1,091 lb)		
1,000 L	633 kg (1,396 lb)		

[5] Applicable to FXC122362, FXC122363, FXC122364, FXC122365, FXC122366, FXC122367

3.4.2 ASME version (for North America and Canada)[6]

Main construction materials	304L Stainless Steel Foamglass and ceramic fiber
Surface finish	Glass bead blasted and passivated
Door	Front insulated hinged door (except 50 L and 100 L, no door)
Port	Railed port for drive unit coupling
Bag tubing gate	UHMW front bottom gate for bag lines | sensor access
Mobility	Mounted on stainless cart with four clean room wheels and push handles
Operating temperature	0 – 50°C (32°F – 122°F)
Working pressure	10 bars (150 psi)
Test pressure	13 bars (196 psi)
Heat exchanger	ASME certified and stamped per Section 8, division 1
Piping to | from heat exchanger	Designed and built under the ASME code for pressure piping, B31
Insulated	On all sides, the bottom and the lid
Jacketed	4 sides and bottom (50 L and 100 L) 3 sides and bottom (200 L to 1,000 L)
Heat Transfer Fluid Inlet | Outlet	Male NPT connection
Heat Transfer fluid Volume in the jacket (Approx.)	
50 L	4 L
100 L	5 L
200 L	7 L
400 L	10 L
650 L	13 L
1,000 L	17 L

Integrated Combics 1 CAIS1 – Scale Indicator

Material of construction	Stainless steel 1.4301
IP protection rate	IP69K
Operating temperature range	–10°C to 40°C (14°F to 104°F)

Integrated Loadcells PR 6211

IP protection rate	IP68 (depth of 1.5 m for 10,000 hrs.), IP69K
High overload protection	
Material	Stainless steel 1.4542
Vibration resistance	Acc. to IEC 68-2-6 Fc; 20 g, 100 h, 10 … 150 Hz
Design	Low installation height

Integrated lift-off protection

Volumes	Max weighing capacity in kg	Resolution in g	Accuracy in g
50 L	75	50	100
100 L	150	100	200
200 L	250	100	200
400 L	500	200	400
650 L	800	200	400
1,000 L	1200	500	1,000

Volumes	50 L, 100 L, 200 L, 400 L, 650 L and 1,000 L
Dimensions (Approx.)	W × D × H
50 L	1,200 × 770 × 1,100 mm (48 × 31 × 44 in)
100 L	1,200 × 810 × 1,200 mm (48 × 32 × 48 in)
200 L	1,255 × 950 × 1,300 mm (50 × 38 × 52 in)
400 L	1,490 × 1,050 × 1,450 mm (59 × 42 × 58 in)
650 L	1,600 × 1,260 × 1,560 mm (63 × 50 × 62 in)
1,000 L	1,745 × 1,370 × 1,760 mm (69 × 54 × 70 in)
Weight (Approx.)	
50 L	160 kg (354 lb)
100 L	225 kg (497 lb)
200 L	335 kg (740 lb)
400 L	430 kg (950 lb)
650 L	530 kg (1,171 lb)
1,000 L	700 kg (1,547 lb)

[6] Applicable to FXC122353, FXC122354, FXC122356, FXC122357, FXC122358, FXC122359

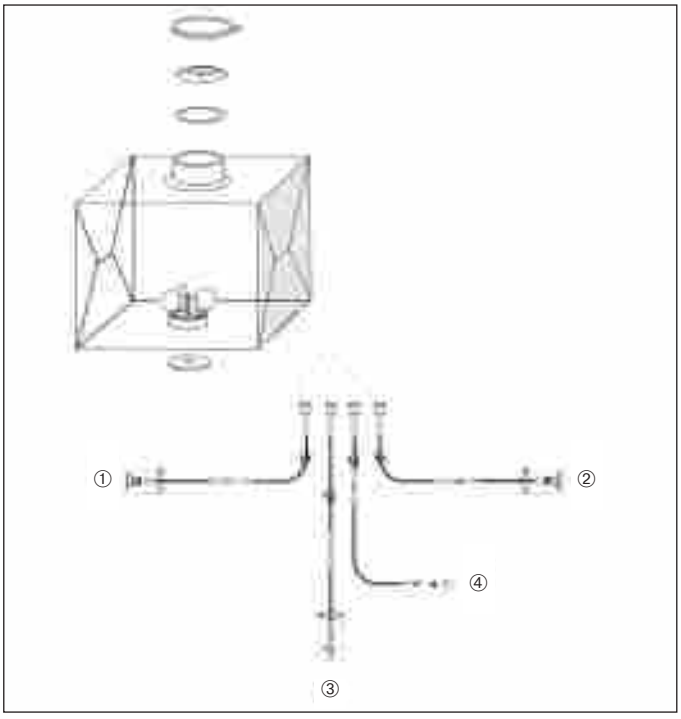
3.5 Draining system

Main construction materials	304L Stainless Steel EPDM | PVC
Surface finish	Glass bead blasted and passivated
Volumes	50 L, 100 L, 200 L, 400 L, 650 L and 1,000 L
Dimensions Slope board (Approx.)	W × D × H
50 L	400 × 386 × 50 mm (16 × 15 × 2 in)
100 L	486 × 470 × 50 mm (19 × 19 × 2 in)
200 L	607 × 590 × 50 mm (24 × 23 × 2 in)
400 L	772 × 753 × 50 mm (30 × 30 × 2 in)
650 L	906 × 885 × 50 mm (36 × 35 × 2 in)
1,000 L	1,045 × 1,006 × 60 mm (41 × 40 × 2 in)
Weight Slope board + lifting device + tubing positioner (Approx.)	
50 L	8 kg (18 lb)
100 L	10 kg (22 lb)
200 L	12 kg (26 lb)
400 L	15 kg (33 lb)
650 L	19 kg (42 lb)
1,000 L	23 kg (51 lb)
Activation of the lifting device	< 15 kg (max allowed weight)

Draining system

Ordering information

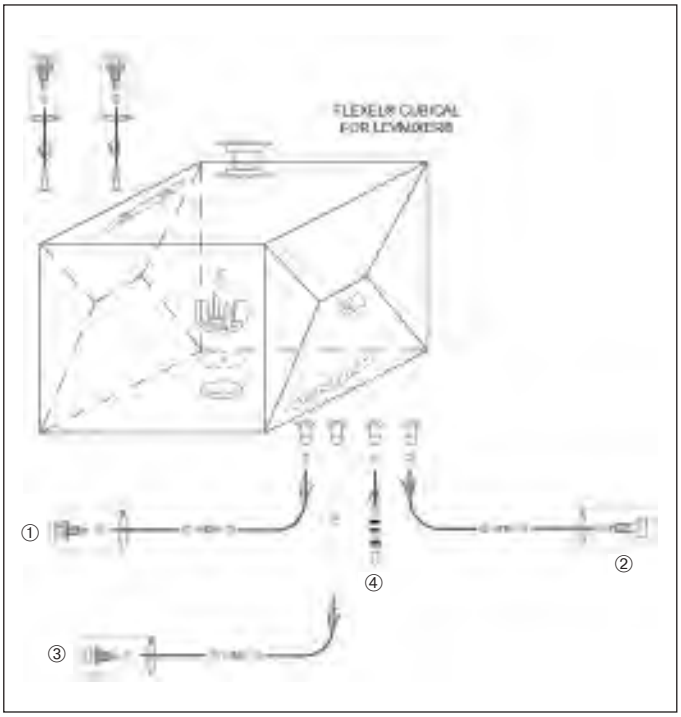
1. Flexel® Bags for LevMixer® equipped with an opened 8" top port



Line	Function	Tubing material	Tubing diameters and length	End Connector
Line 1	Fill	Silicone + TPE	½" × ¾" × 1.5 m (60")	1 – ½" Tri-Clamp
Line 2	Drain	Silicone + TPE	½" × ¾" × 1.5 m (60")	1 – ½" Tri-Clamp
Line 3	Addition	Silicone + TPE	½" × ¾" × 1.5 m (60")	½" MPX male + sealing cap
Line 4	Addition Sampling	Silicone + TPE	⅛" × ¼" × 0.6 m (23.6")	LL female + needle free sampling port

Part Number	Description	Qty/Box
FXB111567	STD Flexel® Cubical Mix Bag 50 L	2
FXB111568	STD Flexel® Cubical Mix Bag 100 L	2
FXB111420	STD Flexel® Cubical Mix Bag 200 L	2
FXB111421	STD Flexel® Cubical Mix Bag 400 L	2
FXB111565	STD Flexel® Cubical Mix Bag 650 L	2
FXB111569	STD Flexel® Cubical Mix Bag 1,000 L	2

2. Flexel® Bags for LevMixer® equipped with a closed 8" top port



Line	Function	Tubing material	Tubing diameters and length	End Connector
Line 1	Fill	Tuflux® SIL + TPE	½" × ¾" × 1.5 m (60")	OPTA® female
Line 2	Drain	Tuflux® SIL + TPE	½" × ¾" × 1.5 m (60")	OPTA® male
Line 3	Addition	Tuflux® SIL + TPE	½" × ¾" × 1.5 m (60")	OPTA® female
Line 4	Addition Sampling	Tuflux® SIL	¼" × ⅜" × 0.1 m (4")	LL female + needle free sampling port
Top lines	Addition (Titration)	Tuflux® SIL	¼" × ⅜" × 0.1 m (4")	OPTA® female

Part Number	Description	Qty/Box
FMB122502	STD Flexel® Cubical for LevMixer® 50 L (TPE | OPTA® | Closed 8" top port)	2
FMB122503	STD Flexel® Cubical for LevMixer® 100 L (TPE | OPTA® | Closed 8" top port)	2
FMB122504	STD Flexel® Cubical for LevMixer® 200 L (TPE | OPTA® | Closed 8" top port)	2
FMB122505	STD Flexel® Cubical for LevMixer® 400 L (TPE | OPTA® | Closed 8" top port)	2
FMB122506	STD Flexel® Cubical for LevMixer® 650 L (TPE | OPTA® | Closed 8" top port)	2
FMB122507	STD Flexel® Cubical for LevMixer® 1,000 L (TPE | OPTA® | Closed 8" top port)	2

3. Palletank® for LevMixer®
All Palletank® for LevMixer® are delivered with adaption set and clamp holder

3.1 Palletank® for LevMixer® w/o weighing and w/o jacket

Part Number	Description
FXC110820	STD Palletank® Cubical Mix 50 L (Impeller)
FXC112230	STD Palletank® Cubical Mix 100 L (Impeller)
FXC110821	STD Palletank® Cubical Mix 200 L (Impeller)
FXC111135	STD Palletank® Cubical Mix 400 L (Impeller)
FXC110822	STD Palletank® Cubical Mix 650 L (Impeller)
FXC113384	STD Palletank® Cubical Mix 1,000 L (Impeller)

3.2 Palletank® for LevMixer® Jacketed
– PED Version (for Europe, Asia and NEMEA)

Part Number	Description
FXC116199	STD Palletank® Cubical Jacketed-Mix 50 L (Impeller | PED)
FXC116200	STD Palletank® Cubical Jacketed-Mix 100 L (Impeller | PED) i
FXC116201	STD Palletank® Cubical Jacketed-Mix 200 L (Impeller | PED)
FXC116202	STD Palletank® Cubical Jacketed-Mix 400 L (Impeller | PED)
FXC116203	STD Palletank® Cubical Jacketed-Mix 650 L (Impeller | PED)
FXC116204	STD Palletank® Cubical Jacketed-Mix 1,000 L (Impeller | PED)

– ASME Version (for North America and Canada)

Part Number	Description
FXC117745	STD Palletank® Cubical Jacketed-Mix 50 L (Impeller | ASME)
FXC117746	STD Palletank® Cubical Jacketed-Mix 100 L (Impeller | ASME)
FXC117747	STD Palletank® Cubical Jacketed-Mix 200 L (Impeller | ASME)
FXC117748	STD Palletank® Cubical Jacketed-Mix 400 L (Impeller | ASME)
FXC117749	STD Palletank® Cubical Jacketed-Mix 650 L (Impeller | ASME)
FXC117750	STD Palletank® Cubical Jacketed-Mix 1,000 L (Impeller | ASME)

3.3 Palletank® for LevMixer® Weighing

Part Number	Description
FXC114153	STD Palletank® Cubical Mix 50 L (Impeller | Weighing)
FXC114154	STD Palletank® Cubical Mix 100 L (Impeller | Weighing)
FXC114155	STD Palletank® Cubical Mix 200 L (Impeller | Weighing)
FXC114156	STD Palletank® Cubical Mix 400 L (Impeller | Weighing)
FXC114157	STD Palletank® Cubical Mix 650 L (Impeller | Weighing)
FXC114158	STD Palletank® Cubical Mix 1,000 L (Impeller | Weighing)

3.4 Palletank® Jacketed and Weighing for LevMixer®

– PED Version (for Europe, Asia and NEMEA)

Part Number	Description
FXC122362	STD Palletank® Cubical Jacketed-Weighing-Mix 50 L (Impeller | PED)
FXC122363	STD Palletank® Cubical Jacketed-Weighing-Mix 100 L (Impeller | PED)
FXC122364	STD Palletank® Cubical Jacketed-Weighing-Mix 200 L (Impeller | PED)
FXC122365	STD Palletank® Cubical Jacketed-Weighing-Mix 400 L (Impeller | PED)
FXC122366	STD Palletank® Cubical Jacketed-Weighing-Mix 650 L (Impeller | PED)
FXC122367	STD Palletank® Cubical Jacketed-Weighing-Mix 1,000 L (Impeller | PED)

– ASME Version (for North America and Canada)

Part Number	Description
FXC122353	STD Palletank® Cubical Jacketed-Weighing-Mix 50 L (Impeller | ASME)
FXC122354	STD Palletank® Cubical Jacketed-Weighing-Mix 100 L (Impeller | ASME)
FXC122356	STD Palletank® Cubical Jacketed-Weighing-Mix 200 L (Impeller | ASME)
FXC122357	STD Palletank® Cubical Jacketed-Weighing-Mix 400 L (Impeller | ASME)
FXC122358	STD Palletank® Cubical Jacketed-Weighing-Mix 650 L (Impeller | ASME)
FXC122359	STD Palletank® Cubical Jacketed-Weighing-Mix 1,000 L (Impeller | ASME)

3.5 Accessories for Palletank® for LevMixer®

Part Number	Description
FXA122376	STD Palletank® Cubical Accessory Draining System 50 L
FXA122377	STD Palletank® Cubical Accessory Draining System 100 L
FXA122378	STD Palletank® Cubical Accessory Draining System 200 L
FXA122379	STD Palletank® Cubical Accessory Draining System 400 L
FXA122380	STD Palletank® Cubical Accessory Draining System 650 L
FXA122381	STD Palletank® Cubical Accessory Draining System 1,000 L

4. LevMixer® Drive Unit and accessories
4.1 LevMixer® Drive Unit

Part Number	Description
LT-DBTL300	Superconducting drive machine on cart with universal latch for 8", 15" and 23" ports. Control panel (100–230 V) and lifting mechanism on handle and welded body. 304 L Stainless Steel with 35 µin. Ra | 0.89 µm Ra surface finish. Includes tool box with accessories.

4.2 Accessories for LevMixer® Drive Unit

Part Number	Description
LT-SVSP402	Remote control cable – Analog I|O Cable, 6 m (20 ft.)
LT-SVSP403	Remote control cable – Digital I|O Cable, 6 m (20 ft.)

5. Spare Parts for Palletank® for LevMixer®

Part Number	Description
FXA112074	STD Palletank® Spare Part Adaption Set
FXA112559	STD Palletank® Cubical Spare Part Clamp Holder 50 L
FXA112560	STD Palletank® Cubical Spare Part Clamp Holder 100 L
FXA112083	STD Palletank® Cubical Spare Part Clamp Holder 200 L
FXA112086	STD Palletank® Cubical Spare Part Clamp Holder 400 L
FXA112085	STD Palletank® Cubical Spare Part Clamp Holder 650 L
FXA113527	STD Palletank® Cubical Spare Part Clamp Holder 1,000 L

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