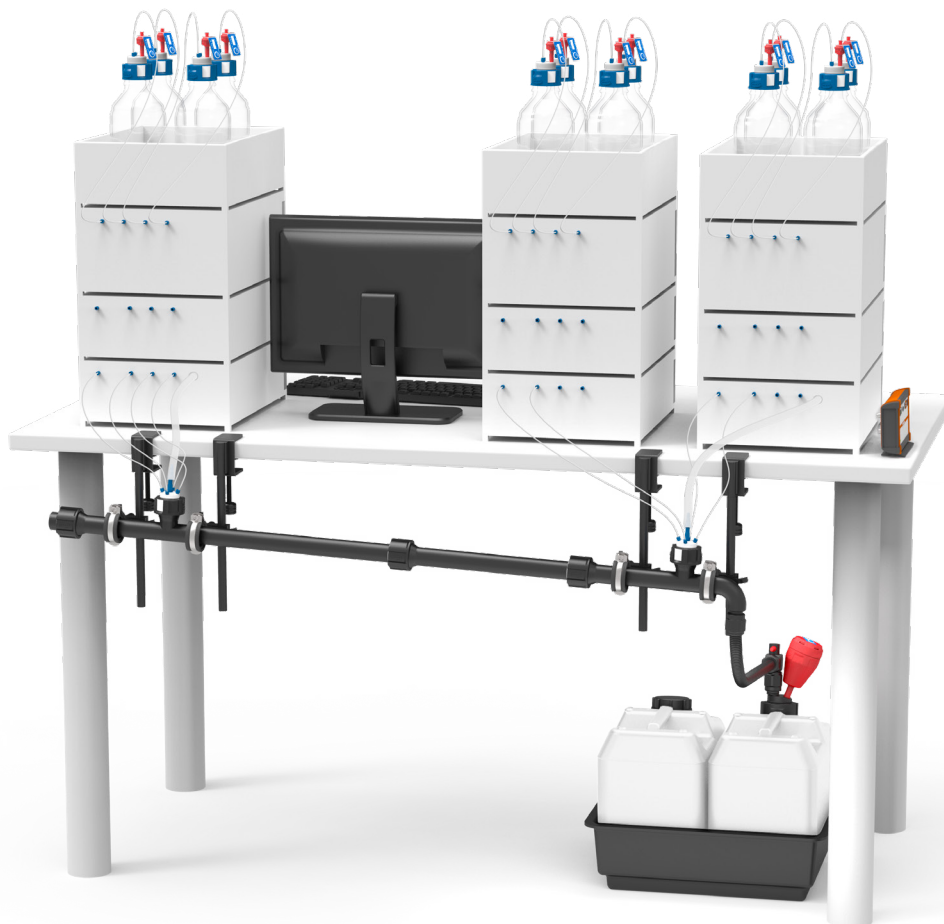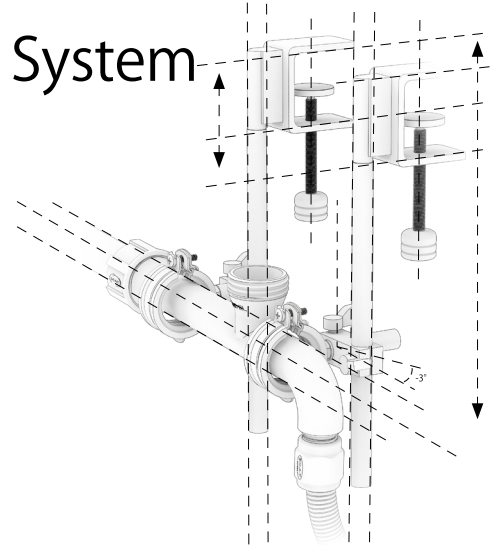# SymLine FLEX

The Flexible Waste Disposal System for HPLC Work Stations.

✔ **Retrofit / laboratory refit**

✔ **Simple Installation**

✔ **Do-it-yourself modular system**

FLEX

SymLine®
Chemical Waste Systems

BEFORE

SymLine®
Chemical Waste Systems

AFTER

Intro

Filling Units

Pipe and Tube System
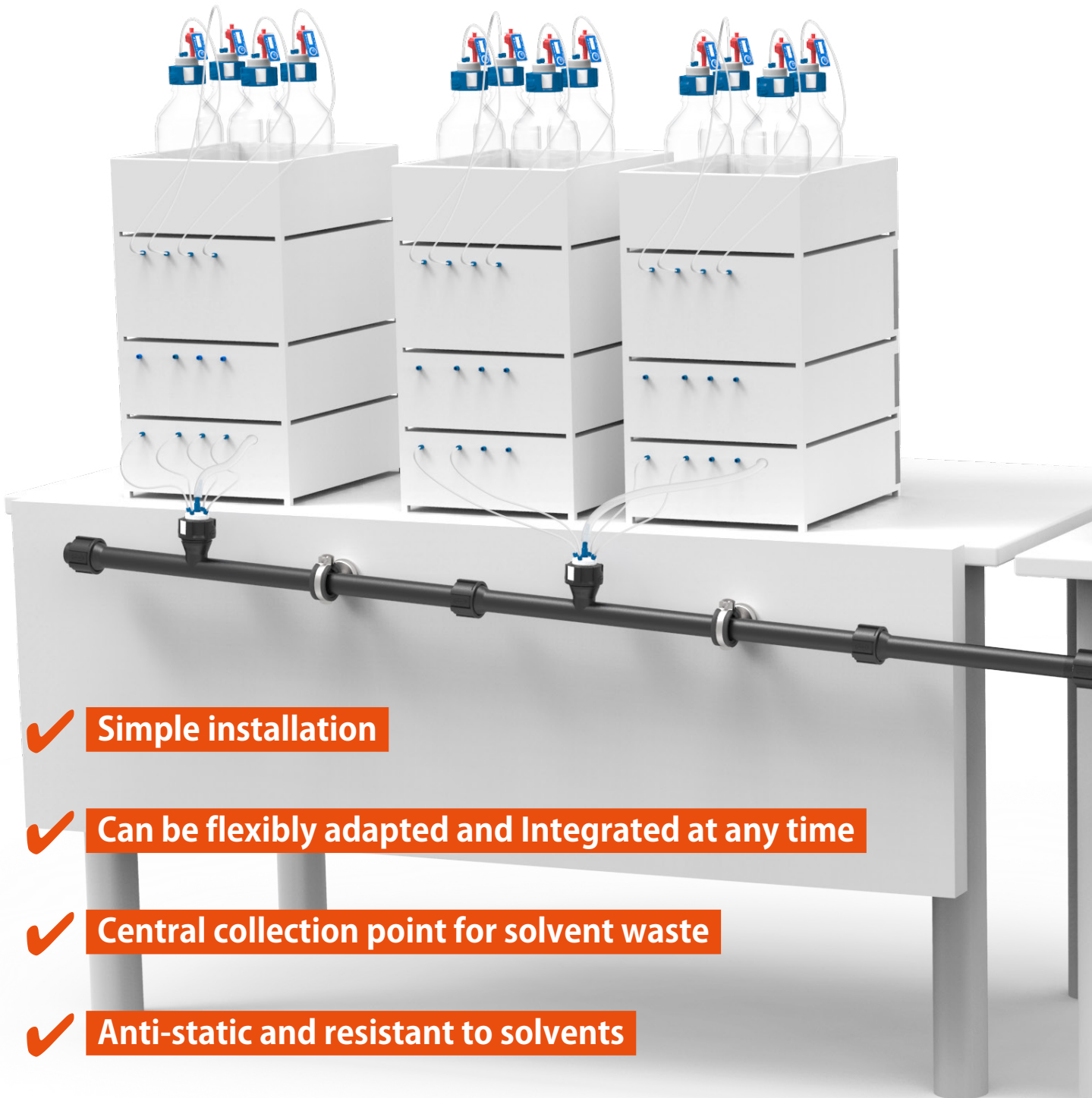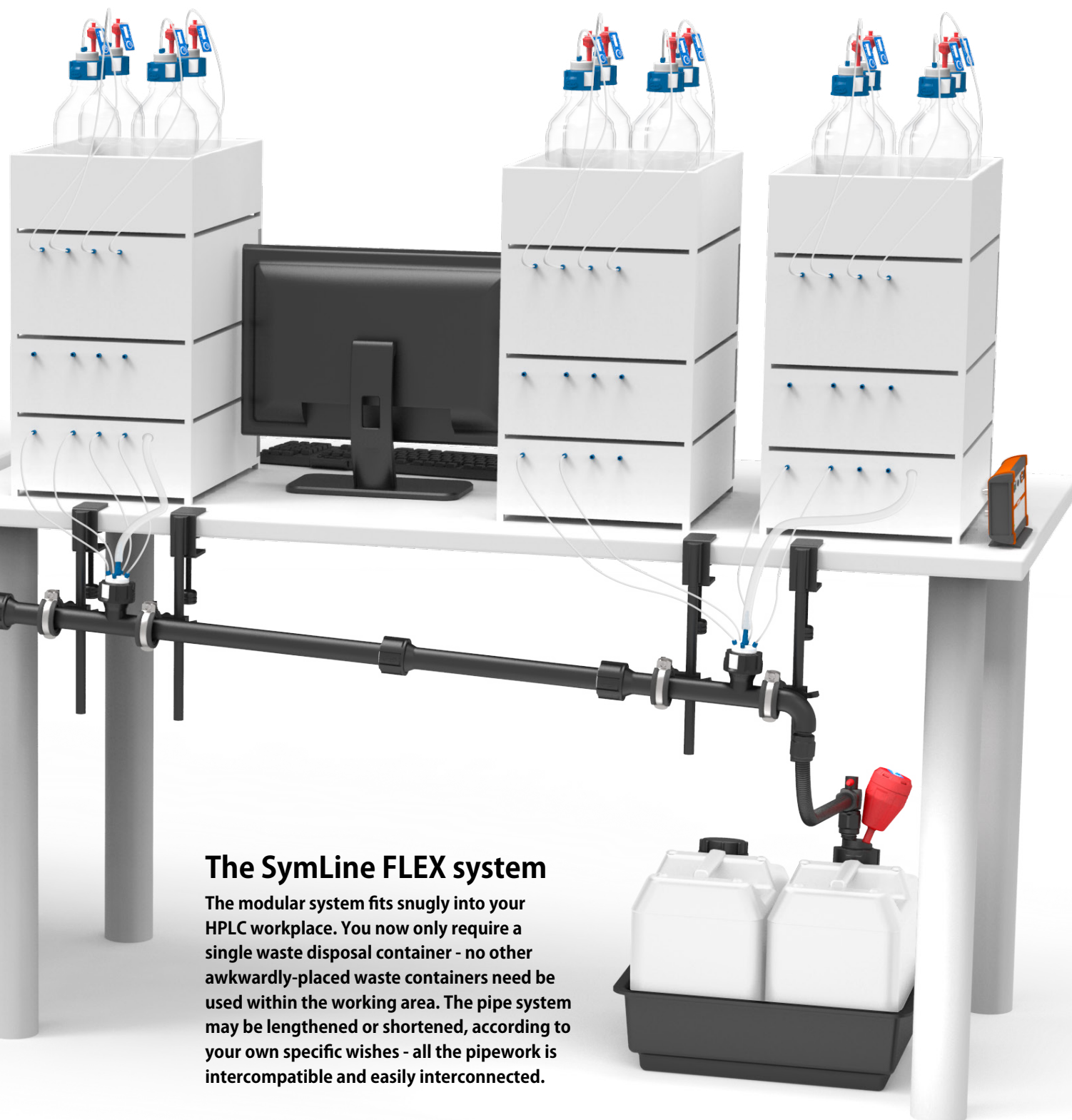
Disposal

Level Control

High Flow Solution

FLEX

Accessory

✔ **Simple installation**

✔ **Can be flexibly adapted and Integrated at any time**

✔ **Central collection point for solvent waste**

✔ **Anti-static and resistant to solvents**

✔ **Closed system, suitable for both solvent feed and waste disposal**

SymLine FLEX I **The Flexible Waste Disposal System**

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The SymLine FLEX system

The modular system fits snugly into your HPLC workplace. You now only require a single waste disposal container - no other awkwardly-placed waste containers need be used within the working area. The pipe system may be lengthened or shortened, according to your own specific wishes - all the pipework is intercompatible and easily interconnected.

# The tubular system: safe attachment, optimum flow direction

The SymLine FLEX tube extensions have a funnel-shaped threaded sleeve at one end and a smooth tube opening at the other. In order to tightly interconnect the tubular system, the threaded sleeve, clamping ring and sealing ring are simply pushed over the smooth end of one tube, and this is then firmly screwed on to the threaded part of the following extension piece (i.e. on the other tube). When done properly (tightening torque 10 - 15 Nm), the resulting connection will withstand a tensile force of **400 N**. The system allows for optimum flow of waste liquids and prevents leakage.

Sealing ring

Clamping ring

SymLine connection pipe with welded threaded end

Threaded sleeve
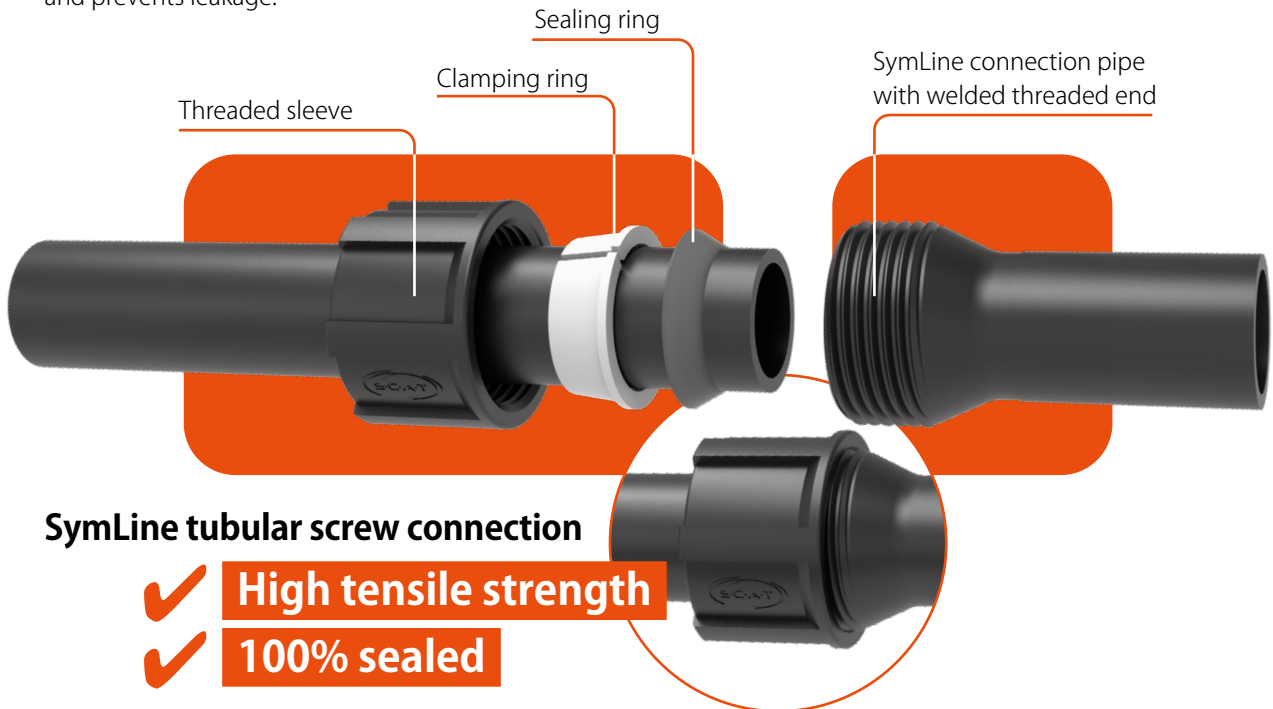
SymLine tubular screw connection

✔ **High tensile strength**

✔ **100% sealed**

SymLine construction method - optimal for waste transport

Typical construction principle - prone to leaking!

Place of possible problem
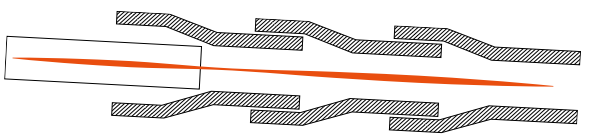
SymLine construction, with optimum liquid flow. Liquids flow continually downwards, from the smooth pipe end, into the interconnected threaded one.
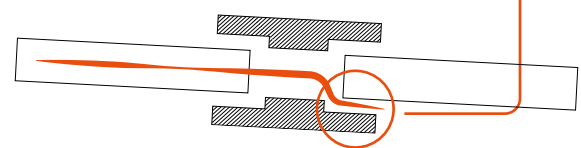
Smooth pipe ends are interconnected, using connecting sleeves. This results in increased danger of leakage.

PE-HD SymLine material properties

All components made of electrostatic conductive plastic an be earthed and are suitable for voltage equalization, as per TRGS 727. Electrically conductive PE-HD-EL displays a discharge resistance against earth of $< 10^9 \ \Omega$, as per DIN EN 61340-5-1, and is suitable for Zones 0, 1 and 2, as per the German Hazardous Substances Ordinance (GefStoffV), EN 1127-1, DIN EN 60079-10-1 and DIN EN 60079-10-2. It is resistant to chemicals, as defined in SEFA 3 and SEFA 8.

✔ • TRGS 727
• DIN EN 61340-5-1

✔ • ATEX zone 0, 1 and 2
• EN 1127-1

✔ • DIN EN 60079-10-1
• DIN EN 60079-10-2

✔ • SEFA 3
• SEFA 8

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Installation: easy, flexible and safe

The flexible table installation allows for connections to your equipment to be made at any desired place.
The resultant height then gives the required gradient - leading to a safe downward flow of liquid.

A table mounting is possible for various tabletop thicknesses, and the required attachments can be installed at the tabletop without the use of any tools.

Simple Installation
by means of flexible table attachments

Height Setting
for the correct gradient

Safety Waste Cap
for HPLC connection

Pipe System
made of electrically conductive PE-HD

www.scatlabsafety.com

G 307 909

H 317 010

I 501 113

E 106 691

J 306 498

E 106 691

D 106 689

C 106 690

N 106 688

1 m   1 m   1 m

L

Direction of Flow

2-3°

9-15 cm

min. 54 cm above the floor

For best strength and robustness,
mount at least one table attachment per meter.

A 106 699

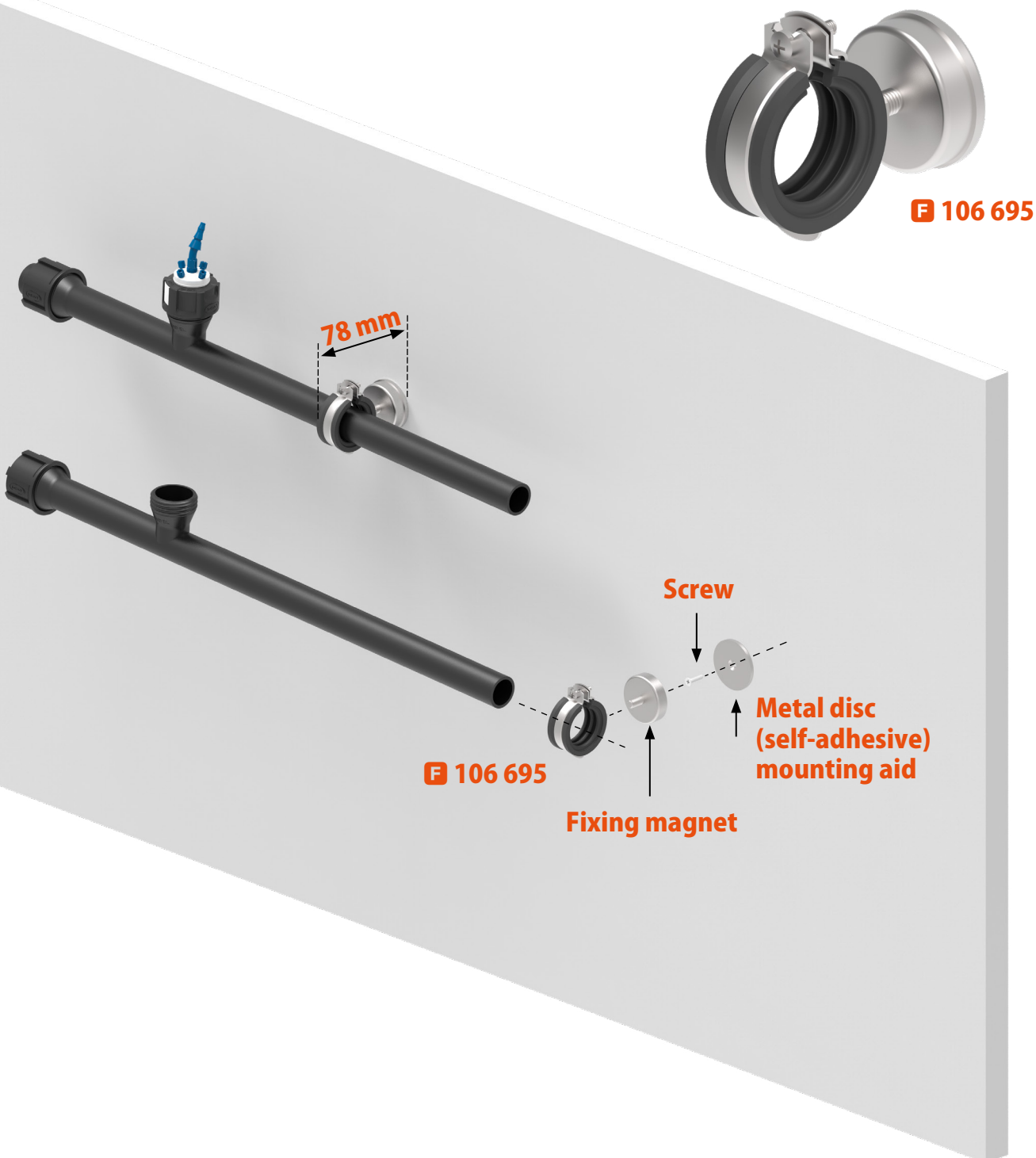| Incline (degr.)	corresponds to %	Height difference per metre	Max. length for a table height of 89 cm
2°	3,49 %	3 cm	L = 687 cm
3°	5,24 %	5 cm	L = 457 cm

Flexible wall attachment

Screw fastening: suitable for wooden and synthetic surfaces.

Self-adhesive: non-destructive, suitable for almost all surface types.
We only recommend self-adhesive variants as an aid to attachment!

Magnetic: non-destructive, suitable for metal surfaces.
The strong fixing magnet provides for a sufficiently strong attachment - without screws.

F 106 695

78 mm

Screw

Metal disc (self-adhesive) mounting aid

F 106 695

Fixing magnet

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A SET
106 699
**SymLine Flex
Starter Set US**
- 1x Safety Waste Cap
- 1x Exhaust filter
- 2x Canisters
- Collection tray
- Blind plug
- Grounding cable
- FlexTube with shut-off valve

B SET
106 701
**SymLine FLEX- E-Pack
for Starter Set**
- Safety Waste Cap S60/61 (106480)
- Signal cable (108050) lenght = 3 m
- Signalbox T1 - US model

![SymLine logo]

L2
L1
L3
L1

PE-HD

C

106 690
Extension 1
• ⌀ 32 mm pipe
• L1 = 600 mm
• Material: PE-HD EL

106 700
Extension 3
• ⌀ 32 mm pipe
• L1 = 1200 mm
• Material: PE-HD EL

D

106 689
Extension 2
• ⌀ 32 mm pipe
• L1 = 600 mm / L2 = 200 mm / L3 = 400 mm
• 1 Connection for Safety Waste Cap **J**
• Material: PE-HD EL

N
106 688
Basic 32 pipe
• ⌀ 32 mm pipe
• L1 = 310 mm
• Material: PE-HD EL
• GL45 connection

O
106 713
T-piece
• ⌀ 32 mm pipe
• Material: PE-HD EL
• GL45 connection

P
106 727
Curved element
• ⌀ 32 mm pipe
• Material: PE-HD EL
• GL45 connection

max. 45 mm

E
106 691
Table attachment
• for ⌀ 32 mm pipes
• for table tops with
  up to 45 mm height

F
106 695
Wall attachment
• for ⌀ 32 mm pipes
3 Fastening options:
• Self-adhesive (Mounting aid)
• Screw fastening
• Magnetic

i **Flexible pipe lengths**
The specific pipe lengths required can be constructed, using a suitable pipe cutter. Shorten the pipes to the desired lengths, on their smooth sides.
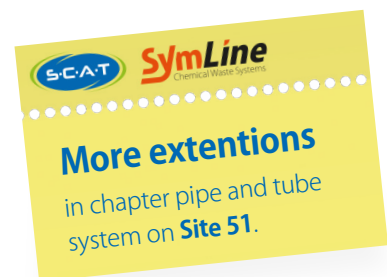
More extentions
in chapter pipe and tube system on **Site 51**.

www.scatlabsafety.com

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Safety Cap

Proven SCAT safety technology provides for optimum protection, both during the supply, and during the disposal, of solvents. Solvent vapors are blocked and filtered out. The system is therefore independent of other extraction systems within the laboratory.
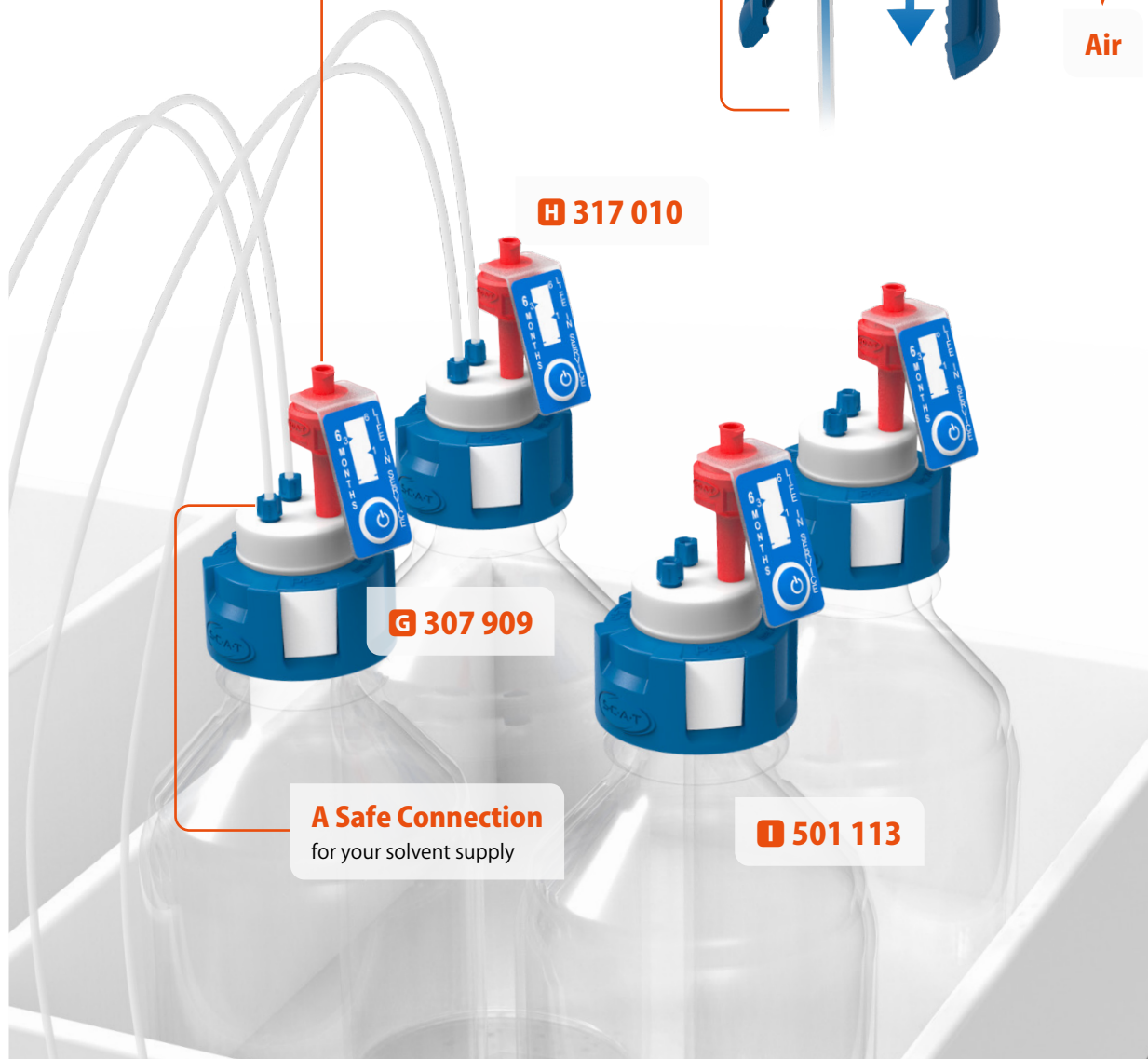
SCAT Safety Caps ensure that your solvents are kept clean and remain stable. They protect users and the environment from the effects of solvent vapors, and enable a continual smooth operation of the HPLC facility.

Solvent

Air

Safety Caps
with air ventilation valve

H 317 010

G 307 909

A Safe Connection
for your solvent supply

I 501 113

Safety Waste Cap

The integrated exhaust filter allows for optimum safety at the point of collection. It provides for a safe equalization of pressure within the container, and solvent fumes are filtered out. The liquid level control ensures that containers cannot overfill, without it being noticed.

Filtered

Air

Exhaust Filter
with three types
of active carbon

3. layer - binds acids
2. layer - binds alkalis
1. layer - adsorbs solvent vapors

Vapors

Shut-Off Valve
for safe container exchange
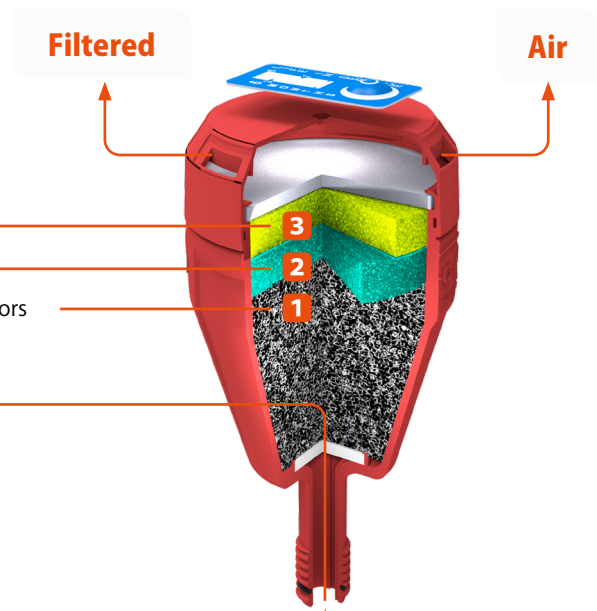
K 490 336

Collection Container
constructed of electrically conductive PE-HD, thereby preventing the buildup of static charge
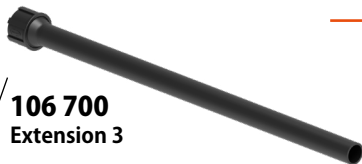
Collection Tray

SymLine®
Chemical Waste Systems

A SET
106 699
SymLine Flex
Starter Set US

B SET
106 701
SymLine FLEX- E-Pack
for Starter Set

C
106 690 / **106 700**
Extension 1 / Extension 3

D
106 689
Extension 2

N
106 688
Basic 32 pipe

O
106 713
T-piece

P
106 727
Curved element

E
106 691
Table attachment

F
106 695
Wall attachment
3 Fastening options:
• Self-adhesive (Mounting aid)
• Screw fastening
• Magnetic

Fig.	Part No.	Description
A	106 699	SymLine Flex Starter Set US: FlexTube with shut-off valve,1x Safety Waste Cap,1x Exhaust filter, 2x Canisters, Collection tray, Grounding cable, Blind plug
B	106 701	SymLine FLEX- E-Pack for Starter Set: Safety Waste Cap S60/61, Signalbox T1 - US model, Signal cable lenght = 3 m
C	106 690	SymLine FLEX Extension 1, ∅ 32 mm pipe, PE-HD-EL, length 600 mm
C	106 700	SymLine FLEX Extension 3, ∅ 32 mm pipe, PE-HD-EL, length 1200 mm
D	106 689	SymLine FLEX Extension 2, ∅ 32 mm pipe, PE-HD-EL, length 600 mm, 1x connection for Safety Waste Cap **J**
N	106 691	SymLine FLEX Basic 32 pipe, ∅ 32 mm pipe, PE-HD-EL, lenght 310 mm, GL45 connection
O	106 713	SymLine FLEX T-piece, ∅ 32 mm pipe, PE-HD-EL, GL45 connection
P	106 727	SymLine FLEX Curved element, ∅ 32 mm pipe, PE-HD-EL, GL45 connection
E	106 691	SymLine FLEX Table attachment, for ∅ 32 mm pipes, for table tops with up to 45 mm height
F	106 695	SymLine FLEX Wall attachment, for ∅ 32 mm pipes

G

307 909
SCAT SafetyCap II
- For HPLC solvent supply
- With air ventilation valve
- 2 connections for
  ⌀ 3.2 mm OD capillaries
- GL45 thread

H

317 010
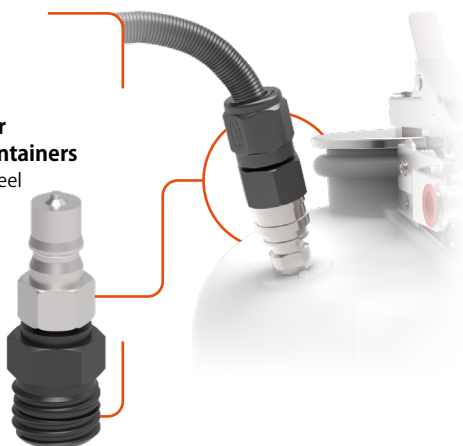**SCAT Air Ventilation Valve (V2.0)**
- For SCAT Safety Caps
- Lifetime: 6 months

J

160 529
Adapter for Justrite Containers
- stainless steel
- PE-HD-EL
- GL25

K

306 498
SCAT Safety Waste Cap
- For HPLC waste tubes
- 4 Connections
  for ⌀ 2.3 / 3.2 mm OD capillaries
- 1 Connection
  for ⌀ 5.0 - 11.5 mm ID tube
- Includes blind plugs for unused connections
- Includes fittings and tube connections
- GL45 thread

I

501 113
Supply bottle
- 1 litre, clear glass
- GL45 thread

L

490 336
SCAT Exhaust Filter
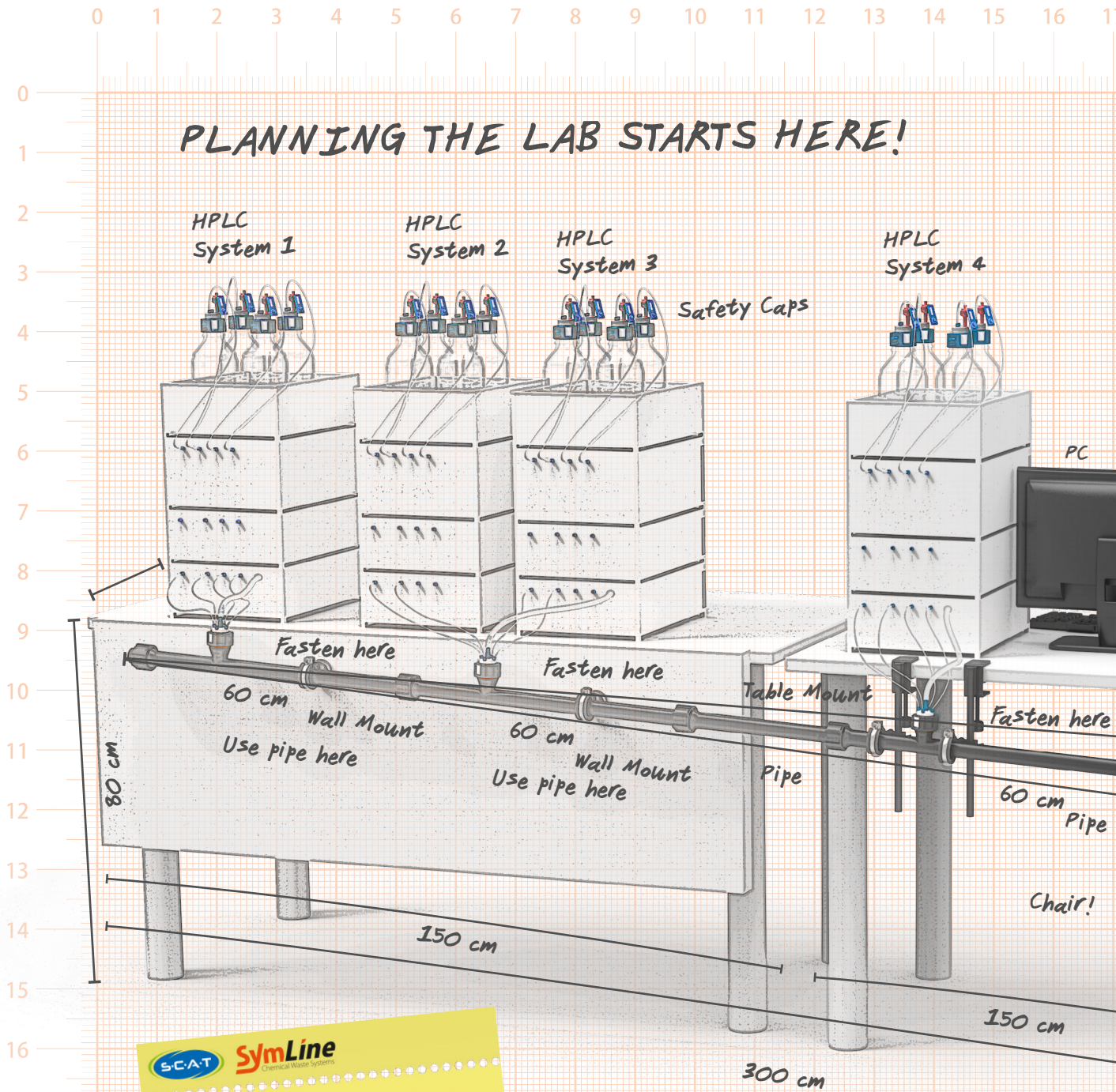- For the collection unit
- 3 layers of active carbon

M

399 202
HPLC Starter Kit 3
- For HPLC solvent supply
- 4x SafetyCap III
  with air ventilation valve
- Each with 3 connections for
  ⌀ 1.6 / 2.3 / 3.2 mm OD capillaries
- Includes blind plugs for unused connections
- GL45 thread

Fig.	Part No.	Description
G	307 909	SCAT Safety Cap with Air Ventilation Valve and exchange indicator
H	317 010	SCAT Air Ventilation Valve with exchange indicator
I	501 113	Supply bottle for solvents, 1 litre, clear glass, round
J	160 529	Adapter for Justrite Containers, PE-HD electrostatic conductive, GL25 (m) to stainless steel
K	306 498	SCAT Safety Waste Cap
L	490 336	SCAT Exhaust Filter V3.0 reserve pack, with exchange indicator, Lifetime: 2x 6 months
M	399 202	HPLC Starter Kit 3

PLANNING THE LAB STARTS HERE!

HPLC
System 1

HPLC
System 2

HPLC
System 3

HPLC
System 4

Safety Caps

PC

Fasten here

Fasten here

Table Mount

Fasten here

60 cm

Wall Mount

60 cm

60 cm

Use pipe here

Wall Mount

Pipe

Pipe
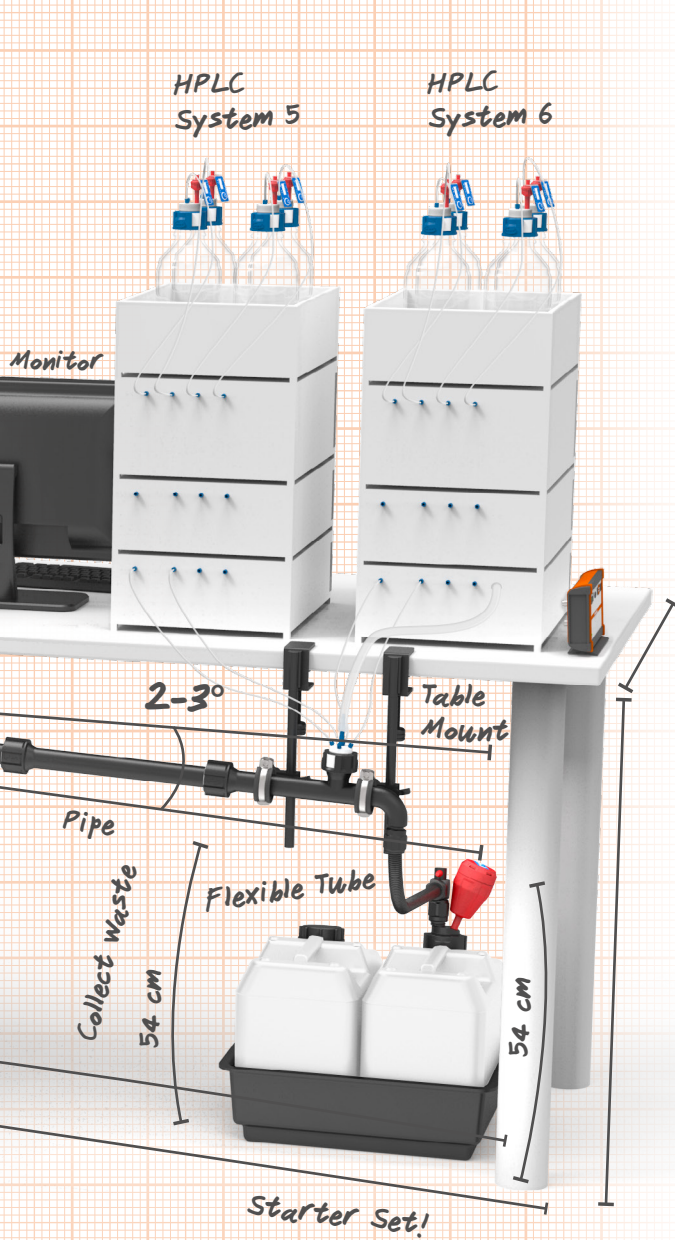
80 cm

Use pipe here

Chair!

150 cm

150 cm

300 cm

We provide BIM data!

Building Information Modeling (BIM).
We provide BIM data for your
technical department. Contact our
SymLine team for a download link.

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SymLine
Chemical Waste Systems

17 18 19 20 21 22 23 24 25 26

HPLC
System 5

HPLC
System 6

Monitor

2-3°

Table
Mount

Pipe

Collect Waste

54 cm

Flexible Tube

54 cm

Starter Set!

You are in the planning phase?
We are ready to assist you!

Ask your lab furniture manufacturer, lab planner or the
SymLine planning team.

S·C·A·T **SymLine**
Chemical Waste Systems

1-800-454-1326
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www.scatlabsafety.com