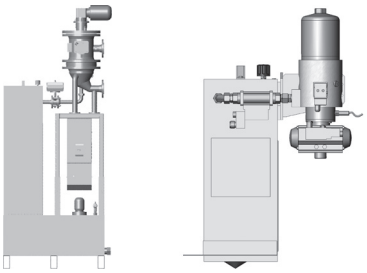
BTU Backflush Treatment Unit

32-1120 gpm
120-4235 L/min

150 psi
10 bar

The BTU unit with integral backflushing filter is a turnkey automatic filtration unit for watermiscible cooling lubricants, oils or washing water which continuously filters solid particles, such as very fine magnetic and non-magnetic metal particles, corundum, sand particles etc. It provides long-term filtration producing reduced-particle filtrate. The quality of the filtrate is dependent on the separation limit of the filter used.

BTU1 BTU3



A BTU unit generally consists of:

- Backflushing filter for the main filtration
- Process twist sieve (PTS) to treat the backflushed volume
- Buffer tank with components (only BTU1)
- Control

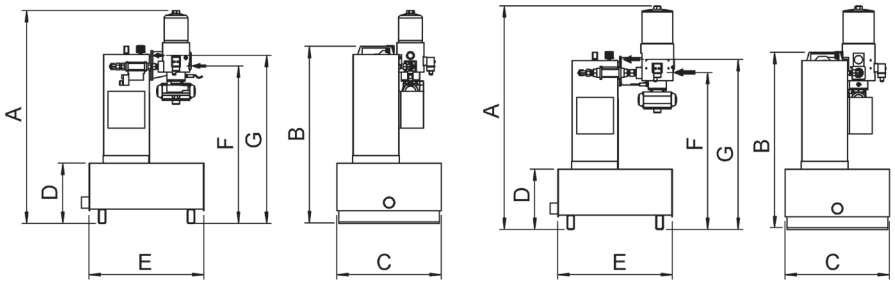
The process twist sieve (PTS) is a component which is fitted downstream from the backflushing filter to filter the backflushed volume. In this way, with the help of the twist sieve, a further filtration process is carried out via the backflushing line.

The solid particles from the backflushing volume are collected in a bag filter which is suspended under the twist sieve. When this is full, it is easy to dispose of by pulling open the drawer.

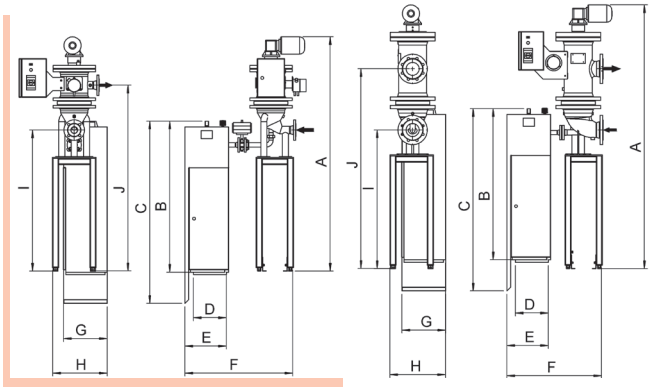
The fluid filtered by the twist sieve or the bag flows back to the buffer tank (BTU1). As soon as the fluid level in the buffer tank reaches the upper switch point of the level gauge (optional), the tank pump (optional) empties the tank.

Due to the short-term pressure shock when backflushing the automatic filter and due to the tangential inlet flow, the fluid is filtered by the wire mesh inside the twist sieve. Approx. 70 % of the backflushing volume passes through the twist sieve and is therefore already filtered when it flows into the buffer tank below the filter via the channel on one side of the twist sieve.

The remaining 30 % of fluid which is heavily contaminated with particles is forced by the centrifugal force and gravity through an opening in the floor of the twist sieve down into a bag filter. The fluid is filtered though the bag from the inside to the outside. Particles are retained and the cleaned emulsion flows into the buffer tank. The pressure shock ensures that the wire mesh (TopMesh) is flushed at every backflushing process, i.e. the twist sieve is self-cleaning and practically maintenance-free.



Type	A	B	C	D	E	F	G
BTU3 with RF3-CG	1162	972	570	330	626	860	917
BTU3 with RF3-0G	1223	972	570	330	626	860	929



Type	A	B	C	D	E	F	G	H	I	J
BTU3 with RF3-CG	1877	1210	1460	264	332	867	350	437	1130	1488
BTU3 with RF3-0G	2113	1210	1460	264	332	760	350	446	1110	1600

Backflush Treatment Unit

BTU

How to Build a Valid Model Number for a BTU:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
BTU1							

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	
BTU1	80	PP	50	EE	S	T	X	= BTU1-80-P-50-EE-S-T-X

BOX 1

Unit Type	
BTU1 =	Add-on unit
BTU3 =	Tank-top unit

BOX 2

Filtration Rating	
25 =	D25
40 =	D40
60 =	D60
80 =	D80
100 =	D100
150 =	D150

BOX 3

Bag Filter Material	
PE =	Polyester
PP =	Polypropylene
N =	Nylon

BOX 4

Bag Filter Filtration Rating	
25 =	25 µm
50 =	50 µm
100 =	100 µm
150 =	150 µm

BOX 5

Twist Sieve Housing/ Buffer Tank Material	
EE =	Housing and buffer tank: stainless steel
EN =	Housing: stainless steel; buffer tank: carbon steel
NN =	Housing and buffer tank: carbon steel
NE =	Housing: carbon steel; buffer tank: staniless steel
EEE =	Housing, buffer tank, filter frame: stainless steel

BOX 6

Control Functions	
0 =	Unit without control function
N1 =	Level monitoring of buffer tank
N2 =	Level monitoring of bag filter
N3 =	Level monitoring of buffer tank and bag filter
S =	Control complete

BOX 7

Pump	
0 =	150 psi (10 bar)
T =	Return pump in buffer tank (only possible with BTU1)

BOX 8

Modification Number	
X =	The latest version is always supplied

Filter Model Number Selection

BTU Backflush Treatment Unit

AutoFilt® Model Number Selection

How to Build a Valid Model Number for an AutoFilt® for BTU:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
A							

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	
A	E	1	E	E	E	2	L	= A-E-1-E-E-E-2-L

BOX 1

AutoFilt®	
A =	RF3-C
B =	RF3-CG
D =	RF3-0
E =	RF3-0G
F =	RF3-1
G =	RF4-1
H =	RF4-2

BOX 2

Control	
0 =	w/o
E =	EPT

BOX 3

RF3		RF4	
0 =	w/o control	M =	with control*; with solenoid valve 230 V AC
1 =	3x 400 V/N/PE, 50 Hz	N =	with control*; with solenoid valve 24 V DC
2 =	3x 400 V/X/PE, 50 Hz	O =	w/o control*; with solenoid valve 230 V AC
3 =	3x 500 V/X/PE, 50 Hz	P =	w/o control; with solenoid valve 24 V DC
4 =	3x 230 V/N/PE, 50 Hz		
5 =	3x 230 V/X/PE, 50 Hz		
6 =	3x 415 V/X/PE, 50 Hz		
7 =	3x 415 V/N/PE, 50 Hz		
8 =	3x 460 V/N/PE, 50 Hz		

BOX 4

Materials Of Housing (RF3 Only)	Materials Of Housing (RF4-1 Only)	Materials Of Housing (RF4-2 Only)
0 = Carbon steel, external primer ("N")	AA = Configuration (AAE): aluminum, aluminum, stainless steel	NN = Configuration (NNE): carbon steel, carbon steel, stainless steel
1 = Carbon steel, external primer, internal coating ("NM")	EE = Configuration (EEE): stainless steel, stainless steel, stainless steel	EE = Configuration (EEE): stainless steel, stainless steel, stainless steel
3 = Stainless steel ("E")		

BOX 5

Materials Of Backflushing Valve			
RF3		RF4	
N =	Carbon Steel	1 =	Coaxial Valve
E =	Stainless Steel	2 =	Ball Valve

BOX 6

Differential Pressure Gauge			
RF3		RF4	
1 =	Pressure Chamber Aluminum	F =	Fixed value: 0.5 bar
2 =	Pressure Chamber Stainless Steel	A =	Adjustable: 0.1 - 1.0 bar
3 =	With chemical seal/ Stainless Steel	G =	GW indicator, N/C

BOX 7

Flange Options (RF3 only)	
1 =	Filter outlet opposite filter inlet (standard) (not for RF3-C)
2 =	Filter outlet offset by 90° clockwise to standard
3 =	Filter outlet offset by 180° clockwise to standard

BOX 8

Filter Elements (RF3)	(RF4-1)	(RF4-2)
B = KD25	B = KMD25	B = KND25
C = KD40	C = KMD40	C = KND40
D = KD60	D = KMD60	D = KND60
E = KD80	E = KMD80	E = KND80
L = KS50	L = KMS50	L = KNS50
M = KS100	M = KMS100	M = KNS100
N = KS150	N = KMS150	N = KNS150

Process Twist Sieve Model Number Selection

How to Build a Valid Model Number for a Process Twist Sieve:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9
PTS								

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	
PTS	40	250	E	L	2		50		= PTS-40-250-E-L-2-50

BOX 1

Unit Type	
PTS =	Process twist sieve

BOX 2

Filtration Rating	
25 =	D25
40 =	D40
60 =	D60
80 =	D80
100 =	D100
150 =	D150

BOX 3

Diameter	
180 =	Ø 180 mm (only for RF4, without)
180/1 =	Ø 180 mm (only for RF4-1, with bracket)
180/2 =	Ø 180 mm (only for RF4-2, with bracket)
250 =	Ø 250 mm (only for RF3-C and RF3-0)
450 =	Ø 450 mm (only for RF3-1)

BOX 4

Housing Material	
N =	Carbon steel, primed
E =	Stainless steel

BOX 5

Housing Length	
K =	Short (standard for PTS-180)
L =	Long (standard for PTS-250/-450)

BOX 6

Level Switch	
0 =	Without
1 =	With level switch stainless steel (only for diameters 250 mm, 450 mm)

BOX 7

Bag Filter Material	
PE =	Polyester
PP =	Polypropylene
N =	Nylon

BOX 8

Bag Filtration Rating	
25 =	25 µm
50 =	50 µm
100 =	100 µm
150 =	150 µm

BOX 9

Modification Number	
X =	The latest version is always supplied