SMF Filter & GPD Grid Protection Disk for SMN Injection Moulding Mixing Nozzle

The StaMixCo SMN Injection Moulding Mixing Nozzle contains eight (8) very efficient static mixing elements that homogenize the polymer melt during injection. Our Research & Development activities have resulted in new auxiliary products that provide great value to an end user and can easily be combined with the existing SMN static mixing elements:

- SMF Filter
- GPD Grid Protection Disk.

BENEFITS of these two devices are as follows:

• **SMF Filter:**
- **Protects** nozzle tip, hot runner system and tooling when processing regrind material by filtering unwanted solids (e.g. aluminium metal parts, pebbles, etc.) in the polymer melt that a magnetic separator does not catch and thus avoids clogging and/or damage to downstream equipment.
- **Holds back** partially melted pellets until melted

• **GPD Grid Protection Disk:**
- **Protects** the SMN static mixing elements from possible damage during a "Cold Start" when a slug of unmelted polymer under high pressure can strike the face of the mixing elements and damage them. The GPD is extremely strong and prevents unmelted polymer from striking the mixing elements.

• SMF and GPD devices are **easily retrofit** into existing SMN Mixing Nozzles::
- O.D. of SMF Filter and GPD Grid Protection Disk = O.D. of mixing elements
- Length of SMF Filter = Length of two mixing elements
- Length of GPD (Grid Protection Disk) = Length of one mixing element

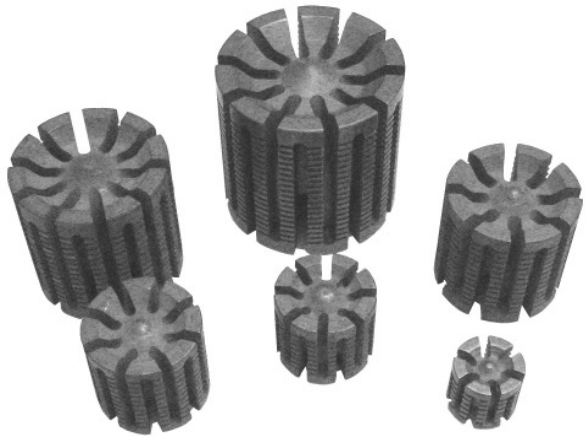


Figure #1: SMF Filter Family: SMF-12 to SMF-40

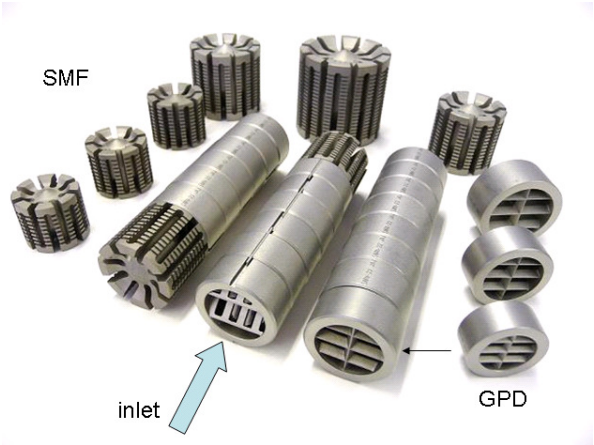
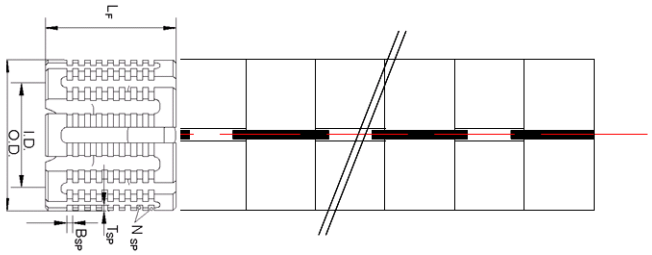


Figure #2: Combination of SMN static mixing elements with SMF filter or GPD Grid Protection Disk.

Figure #1shows the STAMIXCO SMF Filter family. For dimensions, please refer to Table #1 below. Figure #2 shows different installation combinations. On the left side, the SMF filter is installed on feed side (inlet) of the SMN static mixing elements; in the center, the SMF Filter is placed at the outlet of the static mixing elements; and on the right side, the first static mixing element has been replaced by the corresponding GPD Grid Protection Disk.

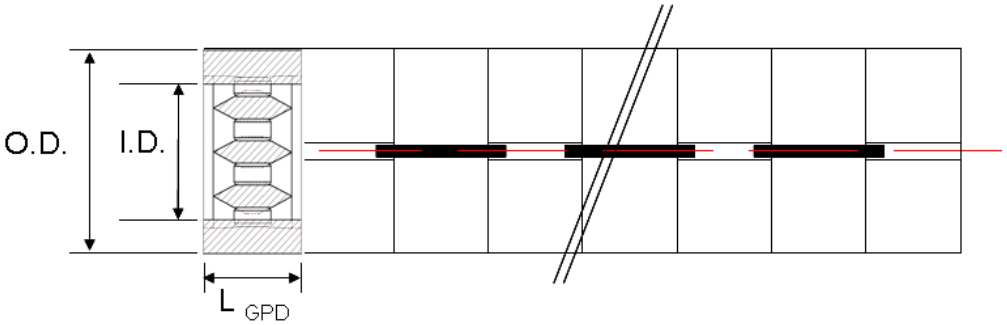
SMF Filter Design – INSTALLATION AND CHARACTERISTICS



L_F :	LENGTH OF FILTER
L_{ME}:	LENGTH OF MIXING ELEMENT
I.D.:	INSIDE DIAMETER
O.D.:	OUTSIDE DIAMETER
B_{SP}:	WIDTH OF SLOTS OF FILTER
T_{SP} :	DEPTH OF SLOTS OF FILTER
N_{SP} :	NUMBER OF SLOTS IN PARALLEL

View of SMF-Filter showing main dimensions – $L_F = 2 \times L_{ME}$

GPD – Grid Protection Disk – INSTALLATION AND CHARACTERISTICS



View of GPD showing the installation – $L_{GPD} = L_{ME}$

Type	I.D. mm	O.D. mm	N_{SP} (B_{SP}* = 1 mm)	$L_{F/GPD}$ mm	L_F / L_{ME}	fits to mixing nozzle
SMF-12	12	18	6	16.0	2 **	SMN-12
SMF-18	18	26	8	22.5	2	SMN-18
SMF-22	22	30	11	27.0	2	SMN-22
SMF-27	27	35	13	33.0	2	SMN-27
SMF-33	33	42	15	40.0	2	SMN-33
SMF-40	40	50	19	48.0	2	SMN-40
GPD-18	18	26	-	11.25	-	SMN-18
GPD-22	22	30	-	13.5	-	SMN-22
GPD-27	27	35	-	16.5	-	SMN-27

Table #1: SMF and GPD dimension - Tolerances of OD and $L_{F/GPD}$ equal to those of the corresponding SMN size

* Upon request, B_{SP} can be adjusted to 0.7 to 1.5 mm** Upon request, SMF-12 can be delivered with $L_F/L_{ME} = 3$ (minimum purchase of 5 pieces required)

Additional Information Regarding the SMF Filter and GPD Grid Protection Disk:

- Material:
  SMF: DIN 1.2344 (X40CrMoV51), Nitrided
  GPD: 17-4PH (1.4542/A630) heat treated stainless steel
- Flow direction: any direction
- Availability: stock item

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