AFM®
ACTIVATED FILTER MEDIA

DRYDEN AQUA DISTRIBUTION
SUSTAINABLE WATER QUALITY

AFM® COMBI-BAG

INSTALLATION & COMMISSIONING MANUAL

FOR SMALL RESIDENTIAL POOL FILTERS

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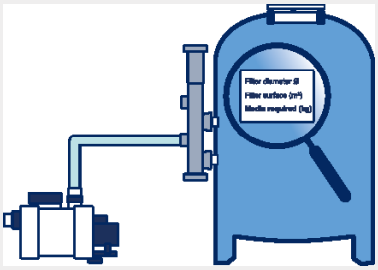
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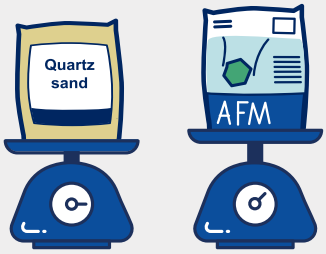
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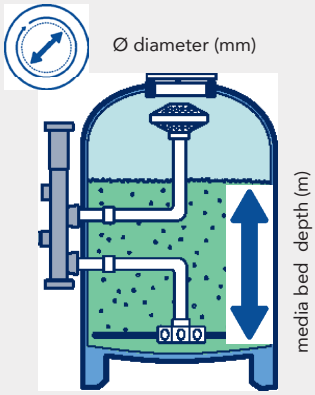
1 Before the installation, **determine the total quantity of AFM® you need**





Quantity of sand x 0.85 = Quantity of AFM®

- **Check how much sand is required for your filter according to manufacturer's instructions**
- **Determine the total quantity of AFM® you need.** AFM® has a lower bulk density than sand (1,250kg/m³) and quantities by weight should be reduced by 15%.



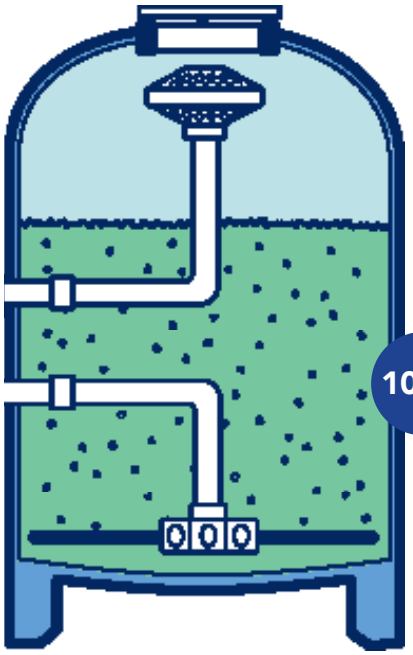
- **If no indications are given on your filter on the amount of filter media required, do the following calculations:**

1. **Calculate filter surface area (m²)** = radius (m) x radius (m) x 3,14
2. **Calculate filter media volume (m³)** = filter surface area (m²) x media bed depth (m)
3. **Calculate quantity of AFM® (kg)** = 1,250 kg/m³ x filter media volume (m³)

E.g. Filter diameter = Ø500mm. Media bed depth = 0.4m

Filter surface = 0.25 m x 0.25 m x 3.14 = 0.20 m²
Filter media volume = 0.20 m² x 0.4 m = 0.08 m³
Quantity of AFM® = 1'250 kg/m³ x 0.08 = 100 kg

2 Use the following AFM® grades

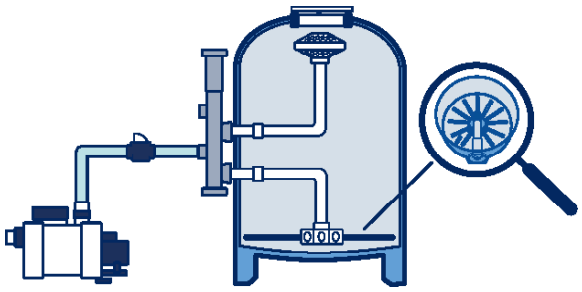


100% MIX GRADE ng
0.4 - 1.2 mm

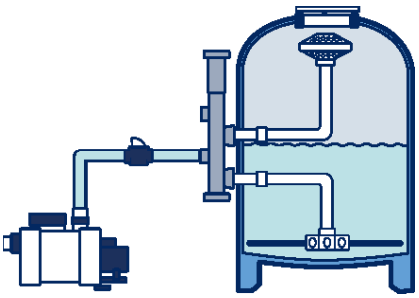
Use 100% AFM® ng Mix grade (0.4 - 1.2 mm)



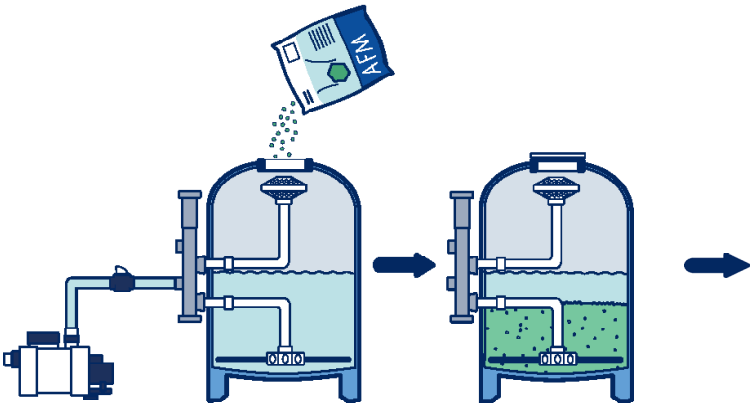
3 Filter installation



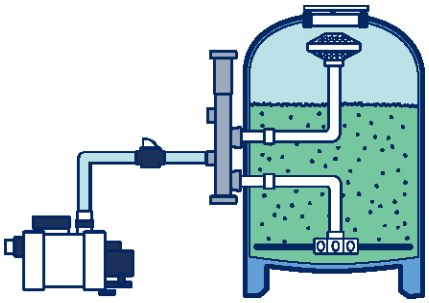
Before filling the filter with AFM®, check your filter's laterals and make sure they are not damaged.



Half fill the filter with water to protect the laterals before pouring AFM® into the filter

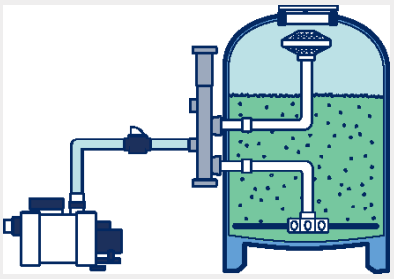


Fill up the filter with AFM® as determined in 1 and 2 above

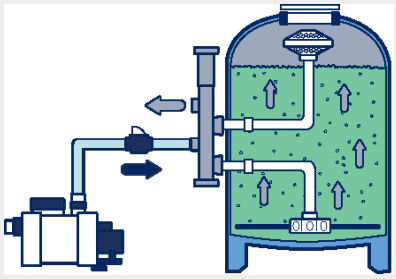


Your filter is ready!

4 Filter commissioning



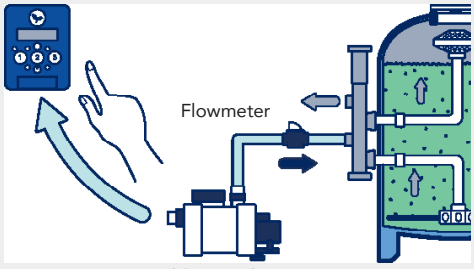




After installation, let AFM® soak to get it wet or run pool equipment on "filtration" for >24 hours to wet AFM®

Proceed to first backwash >24 hours after installation at a velocity of 40 to 50 m/h ($m^3/h/m^2$)

For the best water quality and energy savings

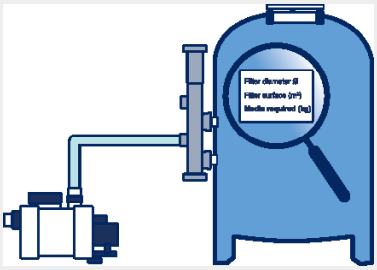


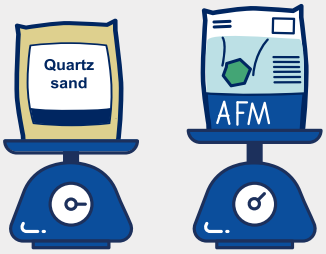
Variable speed pump

- **Use AFM®, preferably with a variable speed pump and set filtration speeds between 15 to 30 m/h :** Calculation: Filtration speed (m/h) x filter surface (m^2) = Filtration flowrate (m^3/h). Adjust flowrate (speeds n°1 & n°2) on your pump using a flowmeter.

- **Backwash filter at least once a week at a velocity of >40m/h for 3 to 5 minutes.** Calculation: Backwash speed (m/h) x filter surface (m^2) = Backwash flowrate (m^3/h). Adjust flowrate (speed n°3) on variable speed pump using a flowmeter.

1 Vor der Installation **bestimmen Sie zuerst die benötigte Gesamtmenge AFM®**

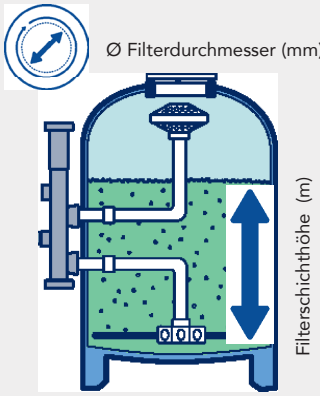




Sandmenge x 0,85 = Menge AFM®

- **Prüfen Sie, wieviel Sand gemäss den Anweisungen des Herstellers für Ihren Filter benötigt wird**

- **Bestimmen Sie nun die Gesamtmenge an AFM® welche Sie benötigen.**
  AFM® hat eine geringere Schüttdichte als Sand (1.250kg/m³) und die Menge nach Gewicht sollte daher um 15 % reduziert werden.



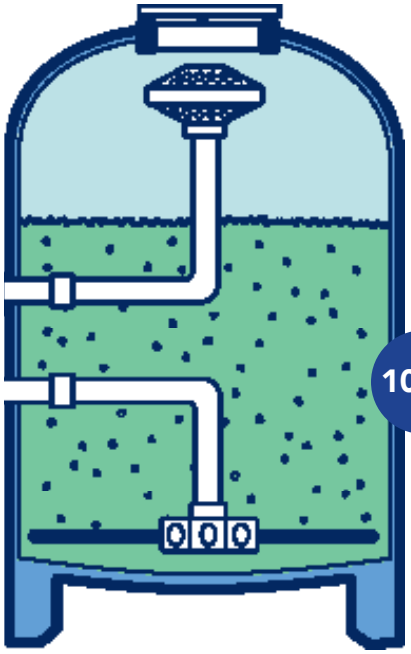
- **Wenn für Ihren Filter keine Hinweise auf die zu verwendende Menge an Filtermaterial vorhanden sind, führen Sie folgende Berechnungen durch:**

1. Filterfläche berechnen (m²) = Radius (m) x Radius (m) x 3,14
2. Filtermaterialvolumen berechnen (m³) = Filterfläche (m²) x Filterschichthöhe (m)
3. Berechnen der AFM® Menge (kg) = 1.250 kg/m³ x Filtermaterialvolumen (m³)

Beispiel: Filterdurchmesser = Ø500 mm. Filterschichthöhe = 0.4m

Filterfläche = 0.25 m x 0.25 m x 3.14 = 0.20 m²
Filtermaterialvolumen = 0.20 m² x 0.4 m = 0.08 m³
Menge AFM® = 1'250 kg/m³ x 0.08 = 100 kg

2 Verwenden Sie je die folgenden AFM® Korngrössen

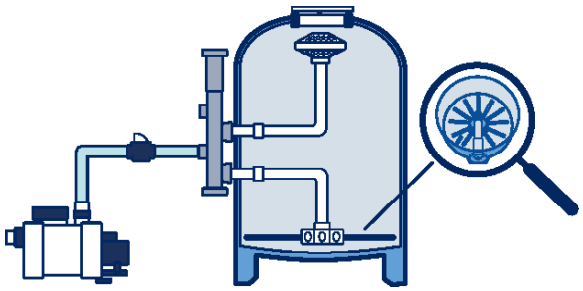


100% MIX KORN ng
0.4 - 1.2 mm

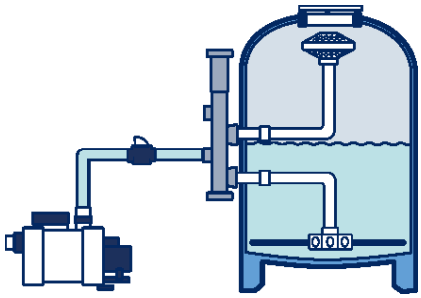


Verwenden Sie 100% AFM® ng mix korn (0.4 - 1.2 mm)

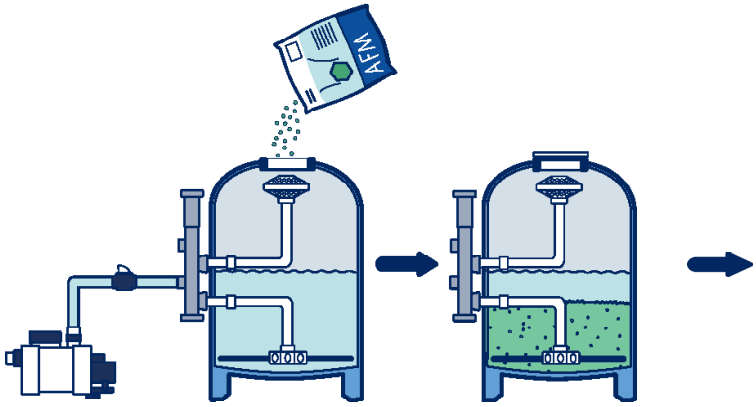
3 Filterinstallation



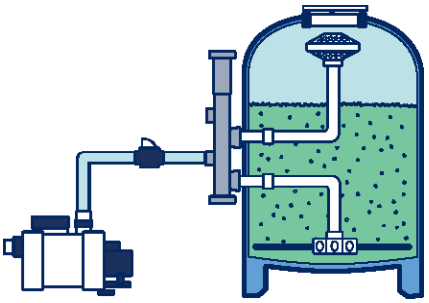
Bevor Sie den Filter mit AFM® füllen, überprüfen Sie den Filterstern/Düsenboden gründlich und stellen Sie sicher, dass dieser nicht beschädigt ist



Füllen Sie die Hälfte des Filters mit Wasser, um den Filterboden zu schützen, bevor Sie AFM® nun in den Filter füllen

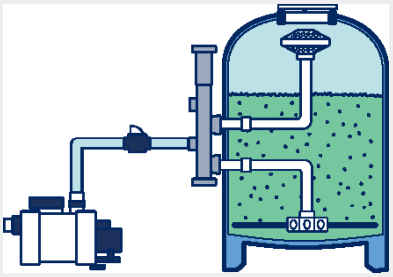


Füllen Sie den Filter mit den AFM® Mengen gemäss Berechnungen in Schritt 1 und 2 oben.



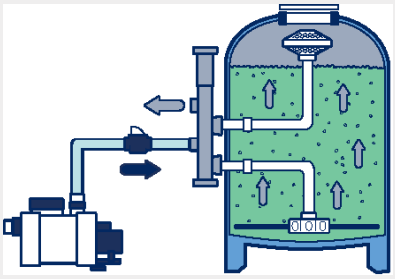
Ihr Filter ist bereit!

4 Filterinbetriebnahme



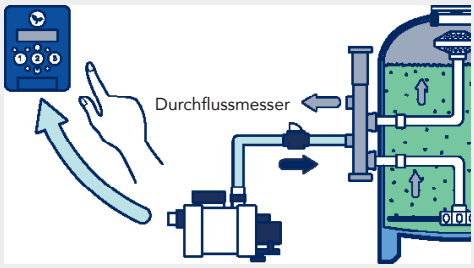
Nach der Installation lassen Sie AFM® entweder für 24 Stunden im Filter ruhen um richtig nass zu werden, oder Sie gehen direkt auf Filtration ohne vorherige Rückspülung.





Fahren Sie mit der ersten Rückspülung frühestens 24 Stunden nach der Installation mit einer Geschwindigkeit von 40 bis 50 m/h ($m^3/h/m^2$) fort.

Für beste Wasserqualität und Energieeinsparungen

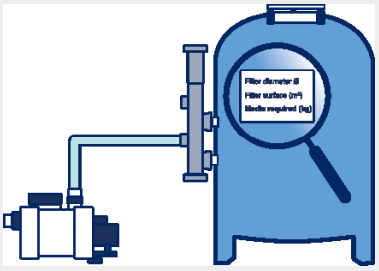


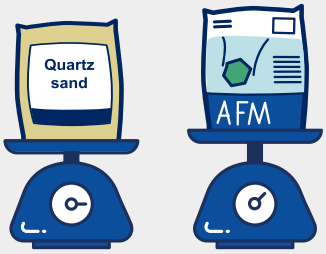
Drehzahlregulierte Pumpe

- **AFM® sollte vorzugsweise mit einer Pumpe mit variabler Drehzahl und einer Filtrationsgeschwindigkeit von 15 und 30m/h eingesetzt werden:** Berechnung: Filtrationsgeschwindigkeit (m/h) x Filterfläche (m^2) = Filterleistung (m^3/h). Passen Sie die Filterleistung (Geschwindigkeiten Nr.1 & Nr.2) an Ihrer Pumpe mit einem Durchflussmesser an.

- **Rückspülung Ihres Filters mindestens einmal pro Woche mit einer Geschwindigkeit von >40m/h für 3 bis 5 Minuten.** Berechnung: Rückspülgeschwindigkeit (m/h) x Filterfläche (m^2) = Spülleistung (m^3/h). Passen Sie die Spülleistung (Geschwindigkeit Nr.3) an der Pumpe mit variabler Drehzahl mit einem Durchflussmesser an.

1 Avant l'installation, **déterminez la quantité totale d'AFM® dont vous avez besoin**

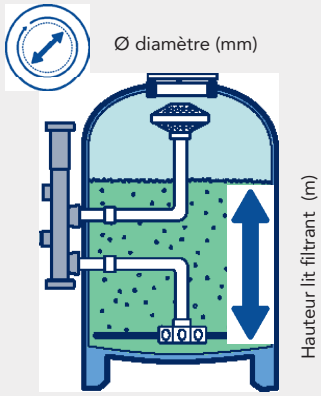




Quantité de sable x 0.85 = Quantité d'AFM®

- **Vérifiez la quantité de sable requise pour votre filtre selon les recommandations du fabricant.**

- **Déterminez la quantité totale d'AFM® dont vous avez besoin**
  Les quantités en poids doivent être réduites de 15% car l'AFM® a une densité inférieure au sable (1.250kg/m³)



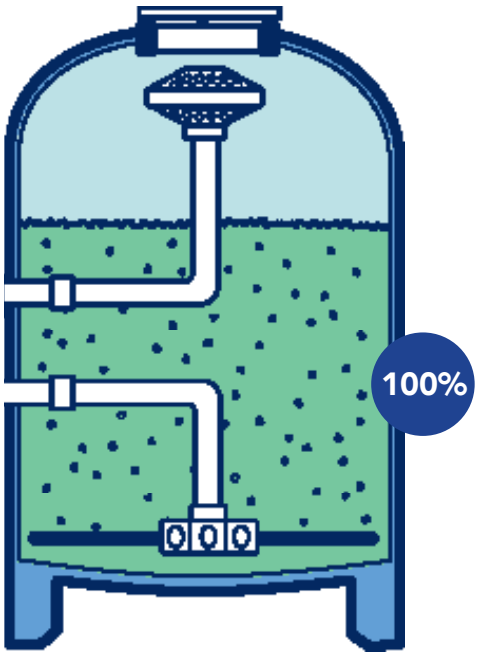
- **Si aucunes indications ne figurent sur votre filtre concernant la quantité de média filtrant à utiliser, faites le calcul suivant:**

1. Calculez la surface filtrante (m²) = rayon (m) x rayon (m) x 3,14
2. Calculez le volume de média filtrant (m³) = Surface filtrante (m²) x hauteur lit filtrant (m)
3. Calculez la quantité d'AFM® (kg) = 1'250 kg x volume média filtrant (m³)

Ex. Diamètre filtre = Ø500 mm. Hauteur lit filtrant = 0.4 m

Surface filtrante = 0.25 m x 0.25 m x 3.14 = 0.20 m²
Volume média filtrant = 0.20 m² x 0.4 m = 0.08 m³
Quantité d'AFM® à utiliser = 1'250 kg/m³ x 0.08 = 100 kg

2 Utilisez les granulométries d'AFM® suivantes

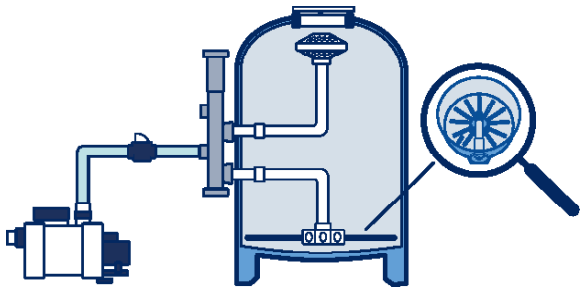


100% GRADE MIXTE ng
0.4 - 1.2 mm

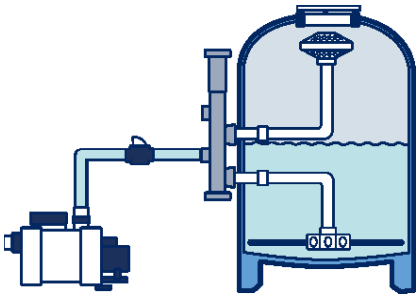


Utilisez 100% d'AFM® ng Grade mixte (0.4 - 1.2 mm)

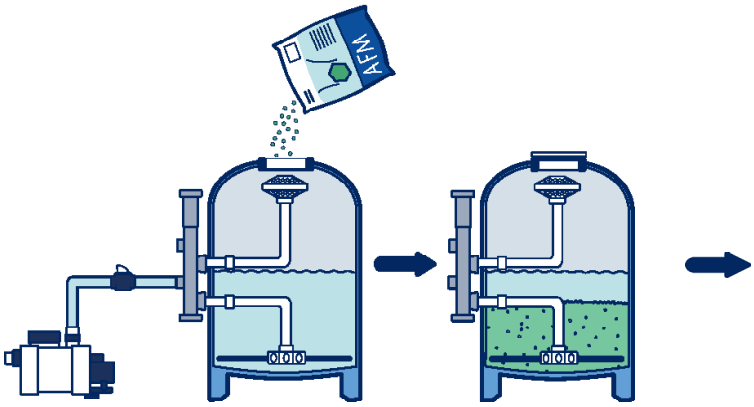
3 Installation de l'AFM®



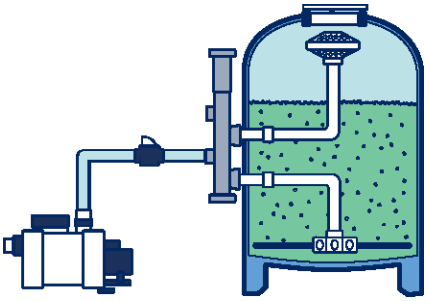
Avant de remplir le filtre, vérifiez l'état des crépines et assurez-vous qu'elles ne sont pas endommagées



Remplissez le filtre à moitié d'eau pour protéger les crépines avant de verser l'AFM® à l'intérieur du filtre

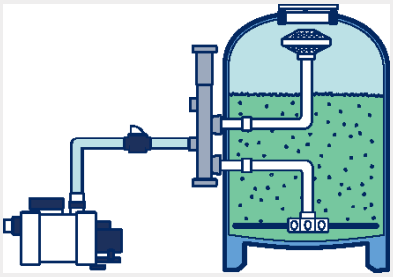


Remplissez le filtre avec l'AFM® selon les points 1 et 2

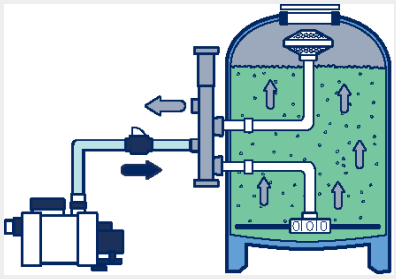


Votre filtre est prêt!

4 Mise en service du filtre



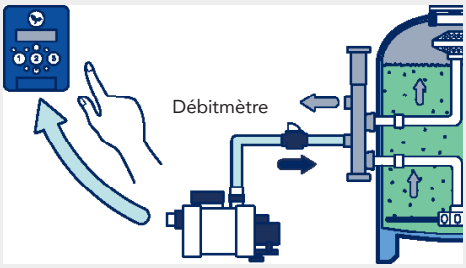




Après avoir rempli le filtre, laissez l'AFM® tremper ou faites tourner votre système en mode "filtration" pendant >24 heures pour mouiller l'AFM®

Procédez au premier contre-lavage >24 heures après l'installation à une vitesse de 40 à 50 m/h ($m^3/h/m^2$)

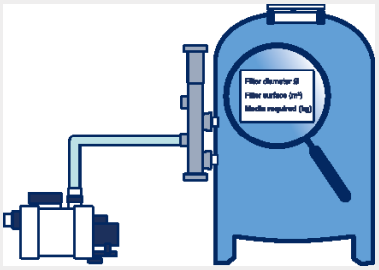
Pour obtenir la meilleure qualité d'eau et optimiser les économies d'énergie

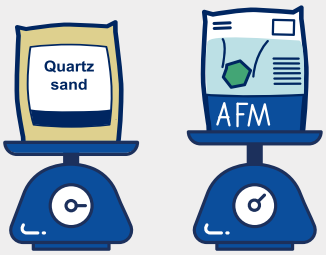


Pompe à vitesse variable

- **Utilisez idéalement l'AFM® avec une pompe à vitesse variable et réglez vos vitesses de filtration entre 15 et 30 m/h.** Calcul: Vitesse filtration (m/h) x surface filtrante (m^2) = Débit de filtration (m^3/h). Ajustez le débit (vitesses n°1 & n°2) sur votre pompe à l'aide d'un débitmètre.
- **Procédez à un contre-lavage au moins une fois par semaine à une vitesse de >40m/h pendant 3 à 5 minutes.** Calcul: Vitesse contre-lavage (m/h) x surface filtrante (m^2) = Débit de contre-lavage (m^3/h). Ajustez le débit (vitesse n°3) sur votre pompe à vitesse variable à l'aide d'un débitmètre.

1 Prima dell'installazione, **determinare la quantità totale necessaria di AFM®**

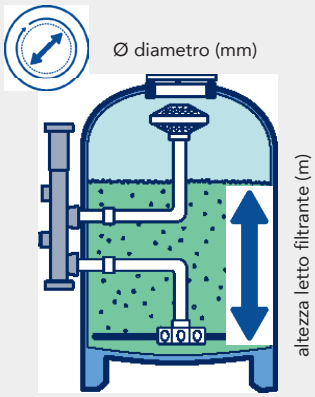




Quantità di sabbia x 0.85 = Quantità di AFM®

- **Controlla quanta sabbia è necessaria per il tuo filtro secondo le istruzioni del produttore.**

- **Determina la quantità totale di AFM® di cui hai bisogno.**
  AFM® ha una densità apparente inferiore rispetto alla sabbia (1,250 kg/m³) e le quantità in peso dovrebbero essere ridotte del 15%.
  25kg di sabbia = 21kg di AFM®



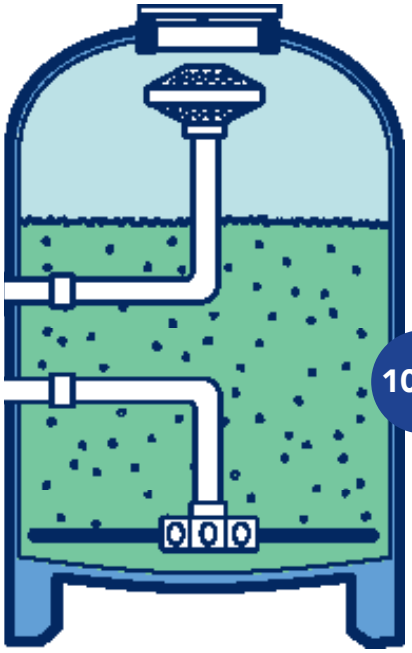
- **Se non vengono fornite indicazioni sulla quantità di materiale filtrante richiesto, eseguire i seguenti calcoli:**

1. Calcolare l'area della superficie filtrante (m^2) = raggio (m) x raggio (m) x 3,14
2. Calcolare il volume della superficie filtrante (m^3) = area di superficie filtrante (m^2) x altezza letto filtrante (m)
3. Calcolare la quantità di AFM® (kg) = 1,250 kg/m^3 x volume della superficie filtrante (m^3)

Esempio: Filtro con diametro = Ø500mm. Altezza letto filtrante = 0.4m

Area della superficie filtrante = 0.25 m x 0.25 m x 3.14 = 0.20 m^2
Volume della superficie filtrante = 0.20 m^2 x 0.4 m = 0.08 m^3
Quantità di AFM® = 1'250 kg/m^3 x 0.08 = 100 kg

2 Utilizzare le seguenti granulometrie di AFM®

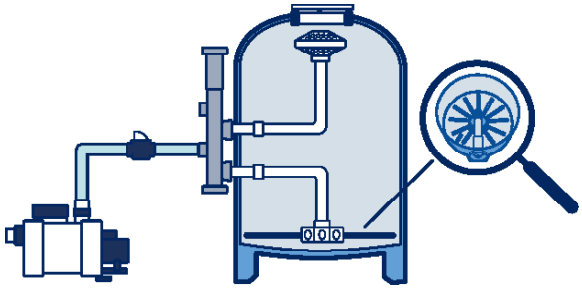


100% GRADO MIX ng
0.4 - 1.2 mm

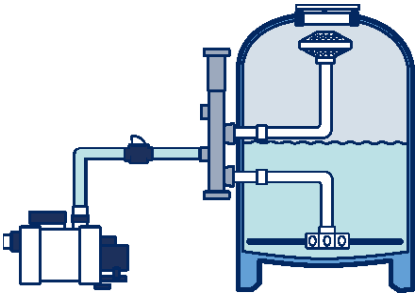


Usare 100% di AFM® ng Grado mix (0.4 - 1.2 mm)

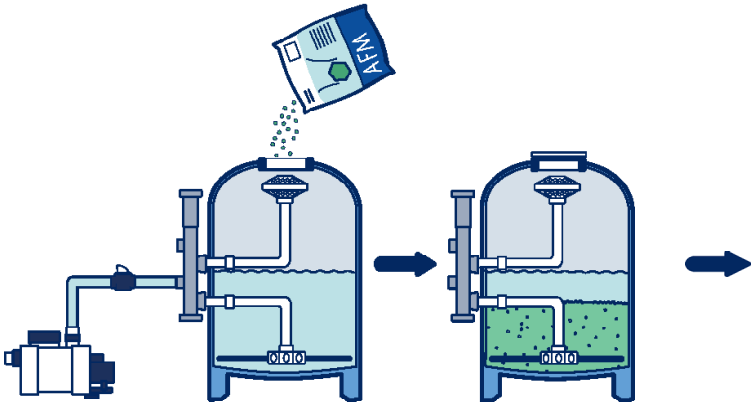
3 Installazione del filtro



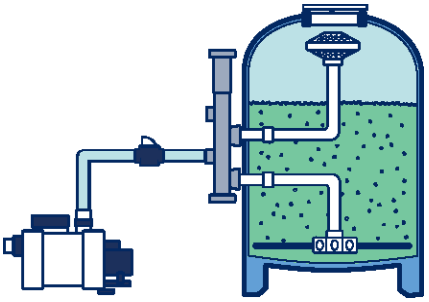
Prima di riempire il filtro con AFM®, controlla i raccordi interni (diffusori) e le candelette del filtro e assicurati che non siano danneggiati.



Riempire a metà il filtro con acqua per proteggere i raccordi interni prima di versare l'AFM®

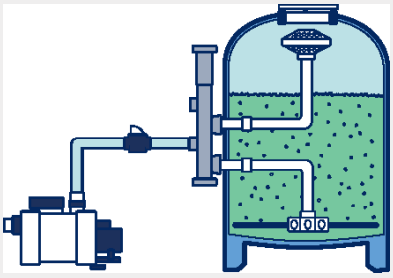


Riempire il filtro con AFM® come indicato nei capitoli precedenti.

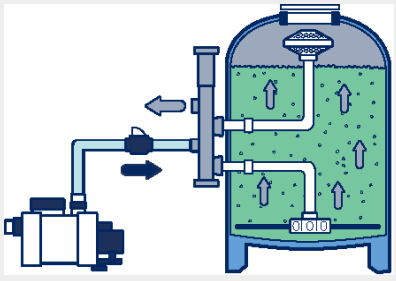


Il tuo filtro è pronto!

4 Avviamento



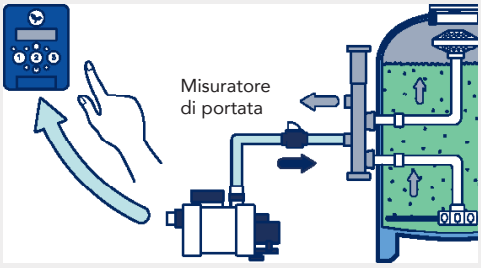




Dopo l'installazione, lasciare AFM® in ammollo con filtrazione attiva per almeno 24h

Procedere al primo controlavaggio dopo almeno 24h con una velocità compresa tra 40 e 50 m/h

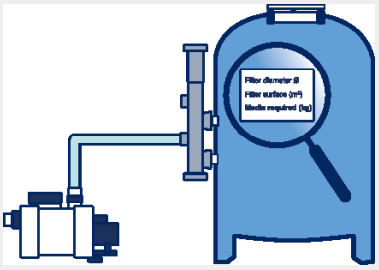
Per una migliore qualità dell'acqua e per il risparmio energetico

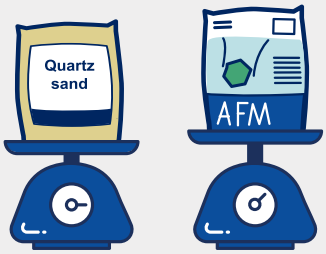


Pompa a velocità variabile

- **Utilizzare AFM® preferibilmente con una pompa a velocità variabile e impostare le velocità di filtrazione tra 15 e 30 m/h.** Calcolo: Velocità di filtrazione (m/h) x Superficie del filtro (m^2) = Portata (flusso) di filtrazione (m^3/h). Regolare le portate (velocità n°1 & n°2) della pompa utilizzando un misuratore di portata.
- **Controlavaggio del filtro almeno una volta alla settimana con una velocità di almeno 40 m/h da 3 a 5 minuti.** Calcolo: Velocità di controlavaggio (m/h) x Superficie del filtro (m^2) = Portata di controlavaggio (m^3/h). Regolare la portata (velocità n°3) della pompa utilizzando un misuratore di portata.

1 Antes de la instalación, **determine la cantidad total de AFM® que necesita**

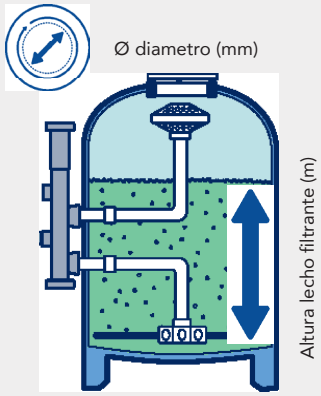




Cantidad de arena x 0.85 = Cantidad de AFM®

- **Compruebe la cantidad de arena necesaria para su filtro de acuerdo con las instrucciones del fabricante.**

- **Determine la cantidad total de AFM® que necesita**
  AFM® tiene una densidad menor que la arena (1,250kg/m³) y las cantidades en peso deben reducirse un 15%.
  25kg de arena = 21kg de AFM®



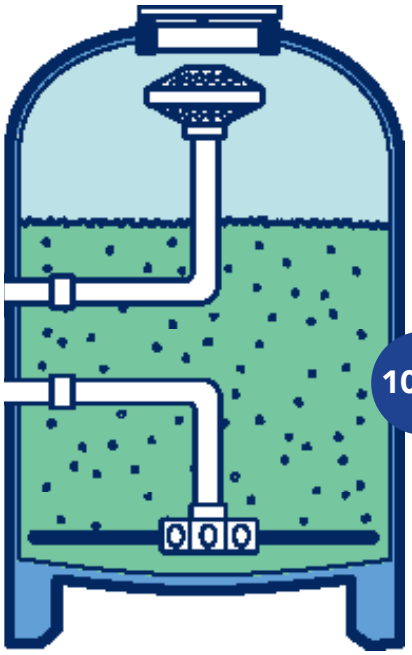
- **Si no hay indicaciones en su filtro en relación con la cantidad de medio filtrante, realice los siguientes cálculos:**

1. Calcule la superficie del filtro (m²) = radio (m) x radio (m) x 3,14
2. Calcule el volumen del medio filtrante (m³) = superficie del filtro (m²) x altura del lecho del medio filtrante (m)
3. Calcule la cantidad de AFM® (kg) = 1'250 kg x volumen de medio filtrante (m³)

Ej. Diàmetro del filtro= Ø500mm. Altura lecho filtrante= 0.4m

Superficie filtro = 0.25 m x 0.25 m x 3.14 = 0.20 m²
Volumen medio filtrante = 0.20 m² x 0.4 m = 0.08 m³
Cantidad de AFM® = 1'250 kg/m³ x 0.08 = 100 kg

2 Utilice los siguiente grados de AFM®

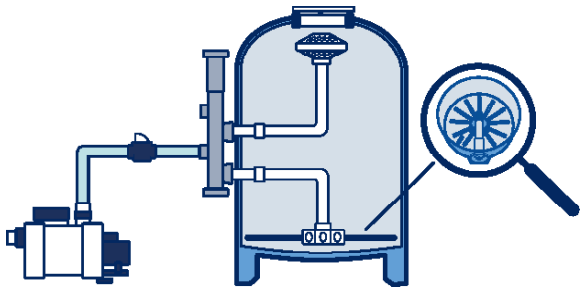


100% GRADO MIX ng
0.4 - 1.2 mm

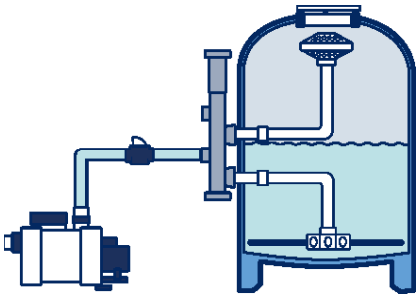
Use 100% de AFM® ng Grado mix (0.4 - 1.2 mm)



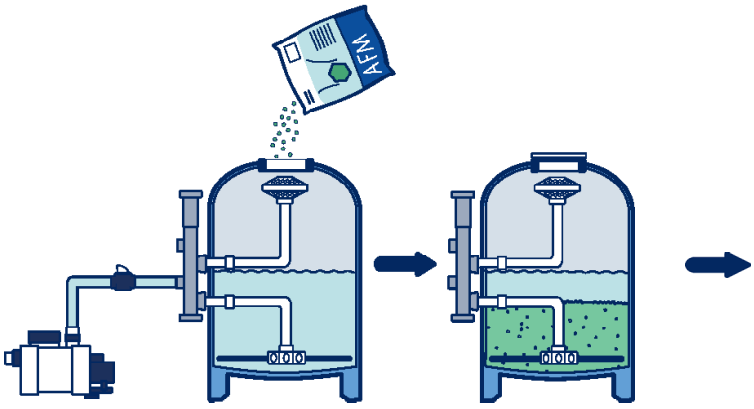
3 Instalación del filtro



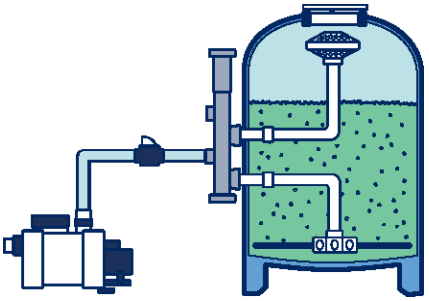
Antes de llenar el filtro con AFM®, revise los laterales de su filtro y asegúrese de que no estén dañados.



Llene la mitad del filtro con agua para proteger los laterales antes de introducir AFM® en el filtro

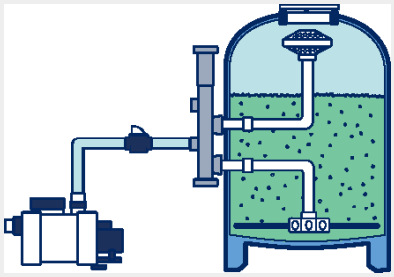


Llene el filtro con AFM® según el punto 1 y 2

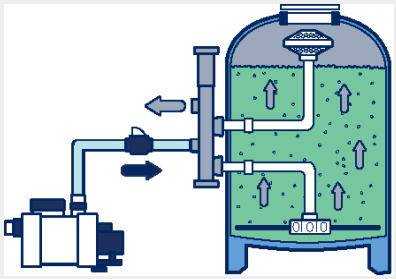


¡Su filtro está preparado!

4 Puesta en marcha del filtro



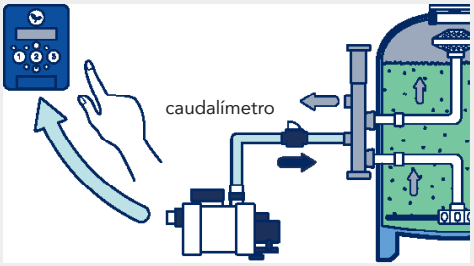




Después de la instalación, deje que AFM® se empape o haga funcionar el equipo de la piscina en "filtración" durante 24 horas para humedecer el AFM®

Proceda al primer contra-lavado >24 horas después de la instalación a una velocidad de 40 a 50 m/h ($m^3/h/m^2$)

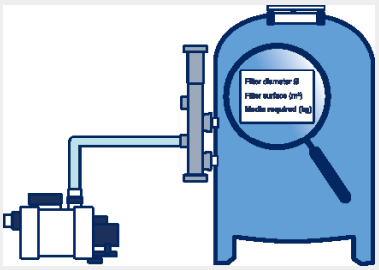
Para la mejor calidad de agua y ahorros energéticos

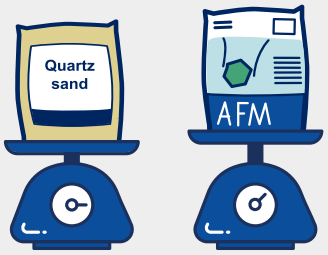


bomba de velocidad variable

- **Utilice preferiblemente AFM® con una bomba de velocidad variable y establezca velocidades de filtración entre 15 y 30 m / h:** Cálculo: Velocidad de filtración (m/h) x superficie del filtro (m^2) = Caudal de filtración (m^3/h). Ajuste el caudal (velocidades n°1 y n°2) en su bomba usando un caudalímetro.
- **Lavar el filtro al menos una vez a la semana a una velocidad de >40 m/h durante 3 a 5 minutos.** Cálculo: Velocidad de contra-lavado (m/h) x superficie del filtro (m^2) = Caudal de contra-lavado (m^3/h). Ajuste el caudal (velocidad n°3) en la bomba de velocidad variable con un caudalímetro.

1 Vooraf aan installatie, **bepaal de totaal benodigde hoeveelheid AFM®**

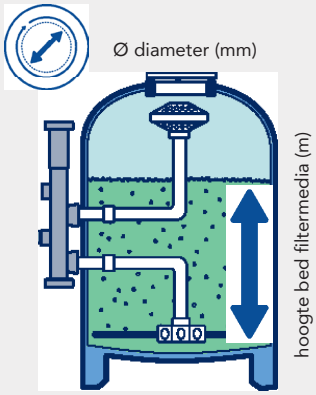




Hoeveelheid zand x 0.85 = Hoeveelheid AFM®

- **Controleer volgens specificaties van de fabrikant hoeveel zand nodig is voor het filter.**

- **Bepaal de totaal benodigde hoeveelheid AFM®**
  AFM® heeft tov zand een lagere bulkbeddichtheid (1.250kg/m³), hoeveelheden per gewicht moeten verminderd worden met 15%. **25kg zand = 21kg AFM®**



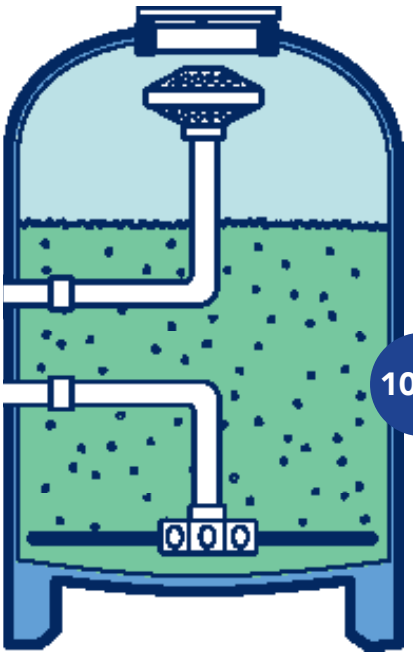
- **Indien op het filter geen gegevens vermeld staan van de benodigde hoeveelheid filtermedia, houd de volgende berekening aan :**

1. Bereken filteroppervlak (m²) = radius (m) x radius (m) x 3,14
2. Bereken inhoud filtermedia (m³) = filteroppervlak (m²) x hoogte bed filtermedia (m)
3. Bereken hoeveelheid AFM® (kg) = 1,250 kg/m³ x filter media volume (m³)

Bv. filterdiameter = Ø500mm. Hoogte filterbed = 0,4 meter

Filteroppervlak = 0.25 m x 0.25 m x 3.14 = 0.20 m²
Filtermedia inhoud = 0.20 m² x 0.4 m = 0.08 m³
Hoeveelheid AFM® = 1'250 kg/m³ x 0.08 = 100 kg

2 Gebruik de volgende AFM® korrelgroottes toe

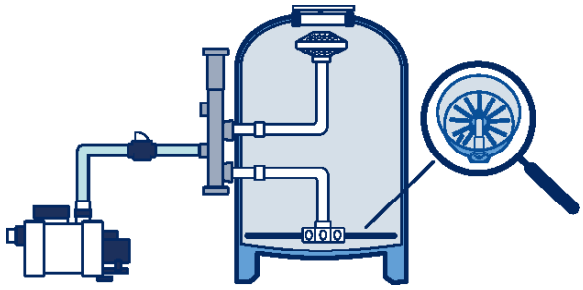


100% AFM MIX ng
0.4 - 1.2 mm

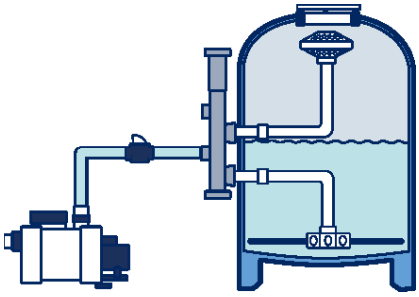


Gebruik 100% AFM® ng mix (0.4 - 1.2 mm)

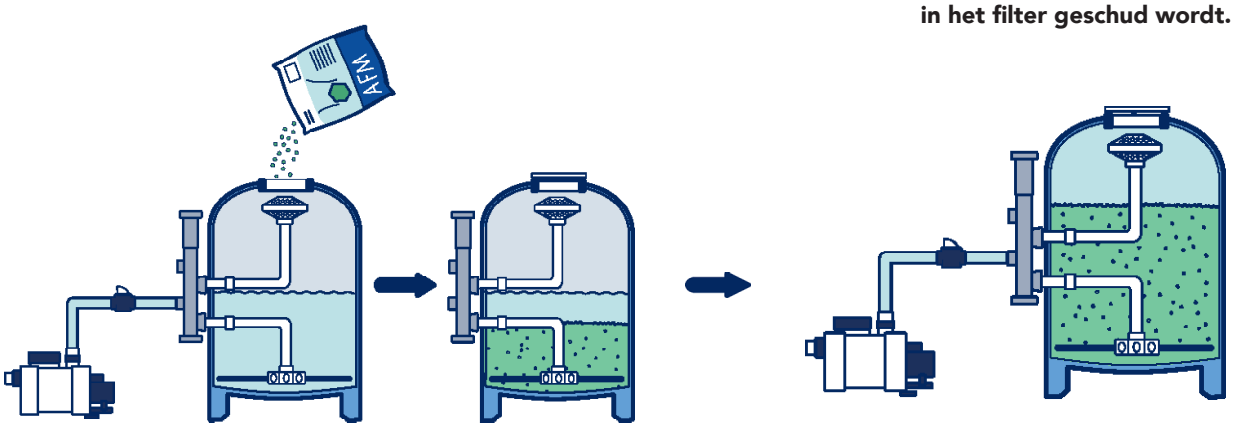
3 Filter installeren



Controleer voordat het filter met AFM® gevuld wordt alle filterpijpjes op eventuele beschadigingen.



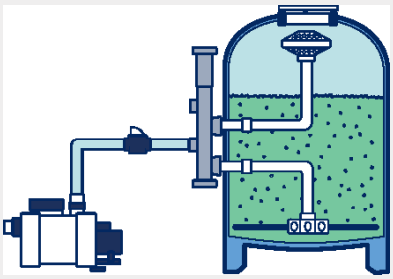
Vul het filter tot de helft met water om de filterpijpjes te beschermen als AFM® in het filter geschud wordt.



Vul het filter met de AFM® samenstelling zoals berekend en aangegeven bij 1 en 2

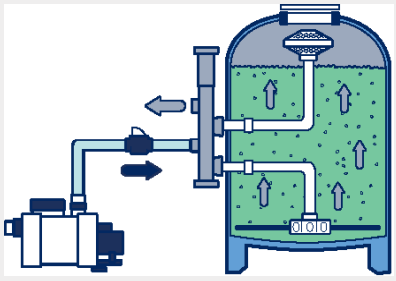
Het vullen van het filter is nu klaar!

4 Filter in bedrijf name



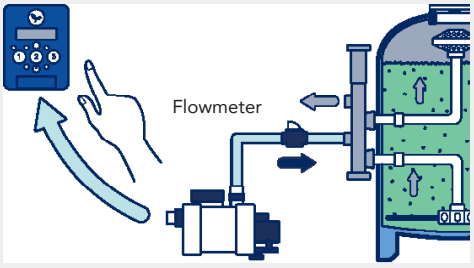
Laat het AFM® weken of laat de installatie 24 uur "filteren" om het AFM® goed nat te maken.





Spoel het filter na 24 uur voor een eerste keer terug bij een snelheid van snelheid van 40 tot 50 m/h ($m^3/h/m^2$).

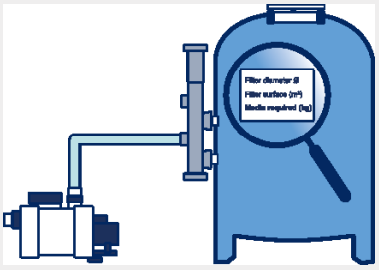
Voor de beste waterkwaliteit en energiebesparing

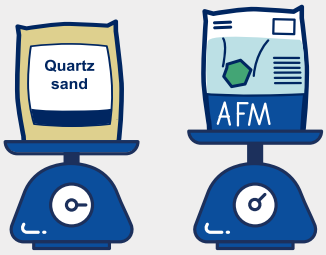


Variabele snelheid pomp

- **Pas AFM® bij voorkeur toe icm een variabele snelheid pomp en stel de filtersnelheden in tussen 15 tot 30 m/h :**
  Berekening: Filtersnelheid (m/h) x filter oppervlak (m^2) = Filtercapaciteit (m^3/h).
  Bepaal de snelheden (1 & 2) op de pomp met behulp van een flowmeter.
- **Spoel het filter minimaal 1x per week terug bij een snelheid >40m/h gedurende 3 tot 5 minuten.**
  Berekening: Terugspoelsnelheid (m/h) x filteroppervlak (m^2) = Terugspoelcapaciteit (m^3/h). Pas de snelheid (3) eventueel aan op de pomp met behulp van een flowmeter.

1 Перед установкой **определите общее количество необходимого вам** AFM®

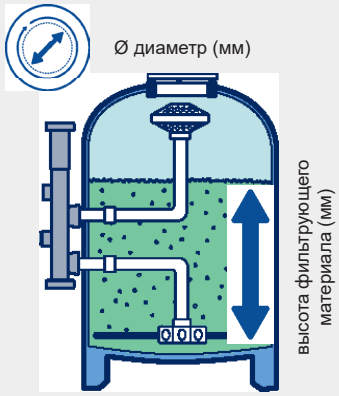




Количество песка x 0.85 = количество AFM®

- **Проверьте, сколько песка требуется вашему фильтру согласно инструкции от производителя**

- **Определите общее количество необходимого вам AFM®.** AFM® имеет меньшую объемную плотность, чем песок (1,250кг/м³), и эквивалентный вес должен быть уменьшен на 15%. **25кг песка = 21кг AFM®**

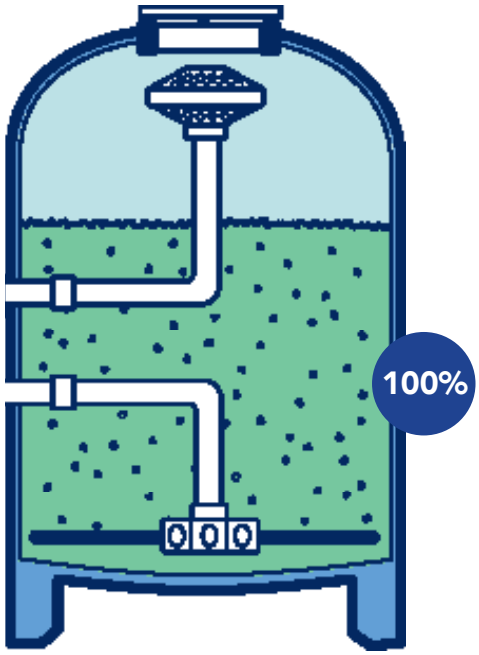


- **Если на вашем фильтре не указаны рекомендации по количеству фильтрующего материала, воспользуйтесь следующими расчетами:**
  1. рассчитайте фильтрующую поверхность (м²) = радиус (м) x радиус (м) x 3,14
  2. рассчитайте объем фильтрующего материала (м³) = фильтрующая поверхность (м²) x высота фильтрующего слоя (м)
  3. рассчитайте количество AFM® (кг) = 1’250 кг x объем фильтрующего материала (м³)

Например: диаметр фильтра = Ø500мм. Высота фильтрующего слоя = 0.4м

Фильтрующая поверхность = 0.25 м x 025 м x 3.14 = 2.00 м²
Объем фильтрующего материала = 0.20 м² x 0.4 м = 0.08 м³
Количество AFM® = 1’250 кг x 0.08 = 100 кг

2 используйте следующие фракции AFM®

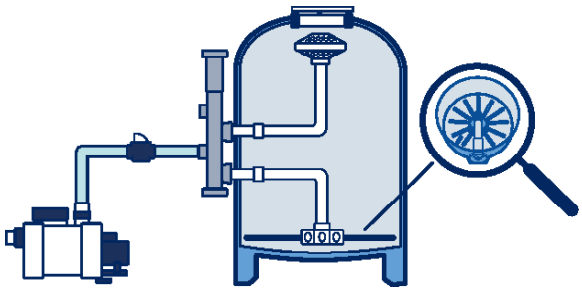


смешанный
Фракция ng
0.4 - 1.2 мм

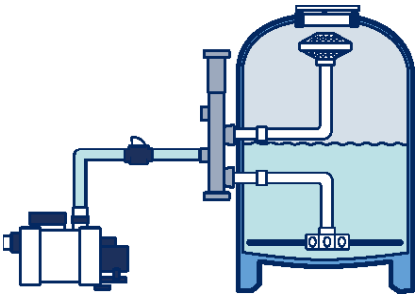


используйте 100% of AFM® ng 0.4 - 1.2 мм

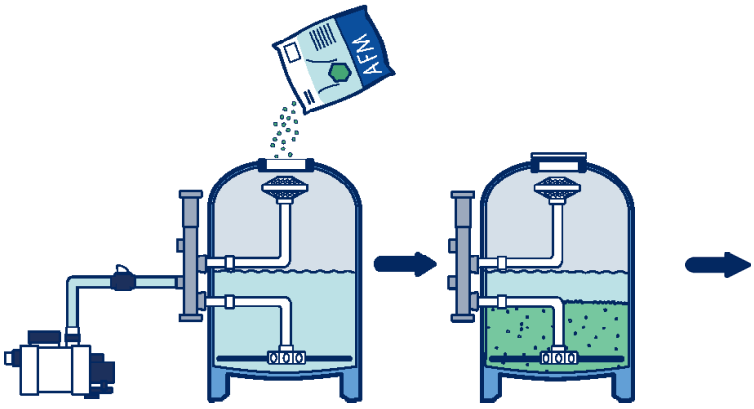
3 Установка фильтра



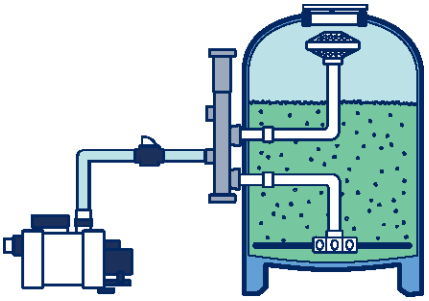
Перед засыпкой AFM® проверьте отводы фильтра и убедитесь, что они не повреждены.



Заполните фильтр водой наполовину для защиты отводов перед засыпкой AFM®

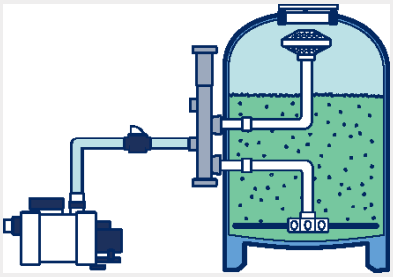


Заполните фильтр AFM® согласно пунктам 1 и 2



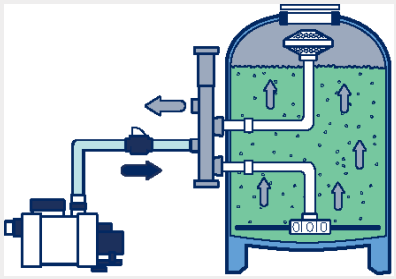
Ваш фильтр готов!

4 Запуск фильтра



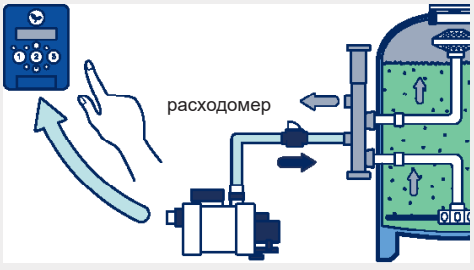
После установки дайте AFM® намокнуть или включите оборудование бассейна на режим фильтрации на >24 часа





Начните первую обратную промывку через >24 после установки на скорости 40 - 50 м/ч (м³/ч/м²)

Для лучшего качества воды и экономии энергии



насос с регулируемой скоростью

- **Используйте AFM® с насосом с регулируемой скоростью и установите скорость в диапазоне от 15 до 30 м/ч.** Расчет: скорость фильтрации (м/ч) x поверхность фильтра (м²) = расход фильтрации (м³/ч). Установите расход (скорости n°1 и n°2) на насосе, используя расходомер.
- **Проводите обратную промывку фильтра как минимум раз в неделю на скорости >40м/ч в течение 3 - 5 минут.** Расчет: скорость обратной промывки (м/ч) x поверхность фильтра (м²) = расход обратной промывки (м³/ч). Установите расход (скорость n°3) на насосе с регулируемой скоростью, используя расходомер.

DRYDEN AQUA

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Dr. Dryden is a marine biologist specialising in swimming pool water treatment. His mission is to eliminate toxic disinfection by-products and provide the best air and water quality on the market. For over 35 years, Dr. Dryden has been working with chlorinated systems for Dolphins and other aquatic mammals before successfully introducing his technology to the pool industry. Today, as a testament to the performance, safety and benefits of his water treatment solutions, over 500'000 swimming pools worlwide are using Dryden Aqua products.