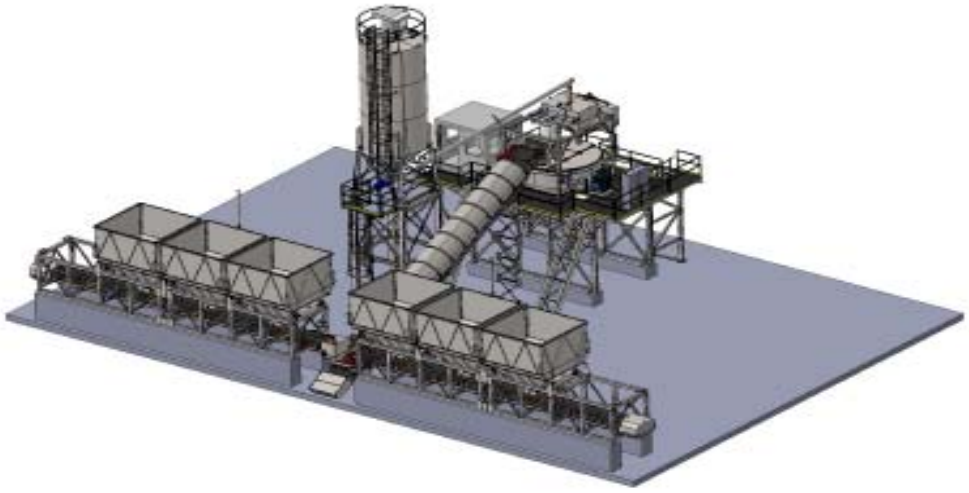
V. PAULIUS & ASSOCIATES
INCORP. 1967
DESIGN | DEVELOPMENT | CONSTRUCTION

REPORT TO THE
BOROUGH OF NORTHBOROUGH
ZONING BOARD

TEMPORARY BATCH PLANT FACILITY



May 14, 2021

54 WEST ALLENDALE AVE., ALLENDALE, NJ 07401 TELE. 201-825-1050 FAX 201-825-4691

Members of the Zoning Board:

The purpose of this communication is to provide detail in connection with the temporary batch plant that will be required during the construction of the STERIS project. As we discussed, it is critical to understand that due to the nature of the X-Ray shields, it will be necessary to provide a certain level of quality and quantity of concrete. The desired quality of concrete is not a standard commercial concrete mix. Our temporary batch plant facility consists of silos containing cement; sand and gravel hoppers, conveyors to an elevated mixing platform; water and power connections; storage containers for concrete additives; concrete truck loading bay; sand and gravel unloading areas and bins; and concrete truck washout. Additional measures are added for the purpose of managing and controlling any and all materials and prevention of them coming into contact with storm water flows.

Our concrete is composed essentially of water, cement, sand and both fine and coarse aggregate. The coarse aggregate may consist of gravel and crushed stone directly assigned in accordance with the specification of the mix design. All of these materials are delivered by tractor trailers to the site. The cement is transferred to the elevated storage silo pneumatically. The sand and coarse aggregate are transferred to the elevated bins by the front-end loader, measured and distributed via conveyor to the "pancake" mixer. Each of these materials and any other additives are combined in the mixer where the water is measured and the mix design completed. The mix is then discharged directly into the concrete truck and driven across the site to the formwork for the concrete pour.

Particulate matter, consisting primarily of cement as a "Dust" is the primary pollutant of concern. Therefore, a number of steps are taken to provide a "filtered" transfer for both cement deliveries and pneumatic/screw conveyor distribution to the mixer. Both are fitted with a fabric filter, water sprays, enclosures and hoods/curtains for central dust collection. All of these protections are built into the plant to reduce pollutants and emissions. BPMs and Construction Site Monitoring will be included in the project Storm Water Pollution Prevention Plan (SWPPP). Additionally, our temporary batch plant will be properly located and designed to prevent water quality impacts to any receiving water bodies, and the potential for storm water runoff from the site.

Washout for the concrete trucks will be conducted in a designated area in accordance with required controls. The entire area including loading areas will be stabilized and water treated. Stock piles will be enclosed with perimeter sediment barriers for the purposes of stockpile management.

General Process

The general process for concrete batching includes the following:

Aggregate feeding
Cement feeding
Water
Conveyance
Controls

The process will begin with us loading the aggregates into the individual bins. These aggregates will be weighed individually as per the design set in the control panel. After weighing, they will be transferred into the mixing unit. Above the mixing unit are the weigh hoppers for cement and additive water. The job of the weigh Hopper is to weigh and then transfer the contents into the mixing unit. Cement is transferred into the weigh Hopper by means of a screw conveyor. Water is pumped into the weigh Hopper. After mixing for a specific time as set in the mixing unit, the mixer will discharge the contents into the transit mixer.

All of the above processes are carried out carefully and systematically. Each process is carried out for a specific timeframe. The timeframe starting from the weighing of the aggregates to the discharge is approximately 2-1/2 minutes per 5 cubic yards. Each truck carries 10 cubic yards requiring approximately 5 minutes of batch time, or two batches per truckload. We have calculated that the shields will require approximately 20,000 $yd.^3$ of concrete. At 10 $yd.^3$ per load, that proposes approximately 2,000 truckloads of concrete mixers not being on the Northborough roadways. Moreover, since some loads are rejected for unit weight and quality, we expect dozens of those truckloads to require return trips. In comparison, the raw materials to the site will be equivalent in nature. However, we will have total control over the timing to avoid difficulties with

traffic safety. In other words, we will ensure that all deliveries are not during premium hours to control traffic and safety.

Timing

Historically, we have found that the safest approach for running the batch plant is to begin larger concrete pour operations at 4 AM. That provides protection in two important areas, traffic safety and heat control. When we begin operations at that time during large concrete pours (approximately 300 yards or more), we typically can be fully completed by no later than 12 noon. Notwithstanding that, the smaller concrete pours will begin at 7 AM.

Additionally, it should be noted that each shield will require 14 separate concrete pours of varied volume. Since we are building two shields, the number will be 28 days of actual concrete manufacturing for the shields. With that, there are other days that we are doing smaller things, such as driveways, parking lots, etc., but it should be made clear that the plant itself will run less than 50 times during the yearlong project. All of those other days are for the formwork, rebar installation and general building.

Video

Attached below is a link that will provide you with an aerial flyby of the existing plant in Chester, NY. During the meeting, I had indicated that I would try to provide a video of an actual pour. Unfortunately, due to the time constraint of submitting this report, we did not have any day of operation to do so. Accordingly, the following video will give you the full picture, followed by a description of the entire plant.

https://www.dropbox.com/s/86wn2bq4cio5pg1/Concrete%20Plant%20Video.mov?dl=0

Photos of Our Chester Plant


KOMATSU


A320


GRADALL


LOWE'S

We thank you for your kind attention to this matter and hopes this answers any questions you may have. Please feel free to contact my office at 201-825-1050 should you require any additional information.

Lawrence Kip Kramer
Senior Vice President/General Counsel

Appendix

WAM Dust Collector EPA Sheet

WAMFLO Brochure

DEPARTMENT of ENVIRONMENTAL PROTECTION
BUREAU of NEW SOURCE REVIEW
CONTROL DATA SHEET
DUST COLLECTOR

MANUFACTURER AND MODEL __WAM, SILO TOP R03

SPECIFY ____BAGHOUSE
_*X*_CARTRIDGE
____OTHER (Explain) _____

NUMBER OF BAGS OR CARTRIDGES___*7*_____
SIZE OF BAGS OR CARTRIDGES_*16.7L X 2W X 36.8H (INCHES)*

TOTAL BAG OR CARTRIDGE AREA (ft2) _____*264*_____
MAXIMUM CAPACITY (ACFM) _____*1500*_____

BAG OR CARTRIDGE FABRIC__*SPUN BOUND POLYESTER*_____
FABRIC WEIGHT (oz) ____*8*_____
WEAVE_____*10 MICRON*_____
FINISH_____*COATED*_____
MAXIMUM FABRIC TEMPERATURE (*F) _____*175 DEG. F*_____

EFFICIENCY (%) _____*98%-99%*_____
AIR TO CLOTH RATIO_____*6:1*_____

METHOD OF CLEANING ___REVERSE AIR _*X*_ PULSE JET ___SHAKER

OPERATING PRESSURE DROP (INCHES OF WATER) MIN__*4*__ MAX__*8*__

PARTICULATE GRAIN LOADING (grain/scf) INLET_*30*___ OUTLET__*.01 CEMENT*_

FAN REQUIREMENTS HP____ SCFM____ VENTING___*X*_

WAMFLO®

Flanged Round Dust Collectors

Geflanschte Rundfilter

Filtres Ronds Bridés

Filtri Tondi Flangiati

WAMGROUP

WAM®

Bulk Solids Handling Equipment Bulk Solids Handling Equipment Bulk Solids Handling Equipment Bulk Solids Handling Equipment

The WAMFLO® Dust Collector range has been developed to control the emission of any kind of dust in virtually all industrial sectors.
Dust is separated from the contaminated air flow by either pleated (cartridges or POLYPLEAT® type by WAM®) or plain filtering elements (cylindrical or elliptical bags).
The automatic reverse air jet filter cleaning system makes WAMFLO® Dust Collectors suitable for continuous operation.

WAMFLO® Filter dienen zur Emissionskontrolle von Stäuben jeglicher Art in allen industriellen Anwendungen.
Der Staub wird durch innovative, von WAM®selbst hergestellte Filterelemente (Patronen, POLYPLEAT®, Schläuche oder Minitaschen) vom kontaminierten Luftstrom getrennt.
Dank der automatischen, pneumatischen Abreinigung sind WAMFLO® Filter für einen Dauerbetrieb geeignet.

"Full Immersion" solenoid valves incorporated in air tank to minimize flow resistance

"Full Immersion" - Elektromagnetventile im Druckbehälter eingelassen zur Minimierung der Strömungsverluste

Electrovannes « full immersion » intégrées au distributeur d'air comprimé pour réduire au minimum les pertes de charge

Elettrovalvole "full immersion" inserite all'interno del serbatoio per ridurre al minimo le perdite di carico

Aluminium air tank (corrosion-resistant)

Alu-Druckluftbehälter (korrosionsgeschützt)

Distributeur d'air comprimé en aluminium (anticorrosion)

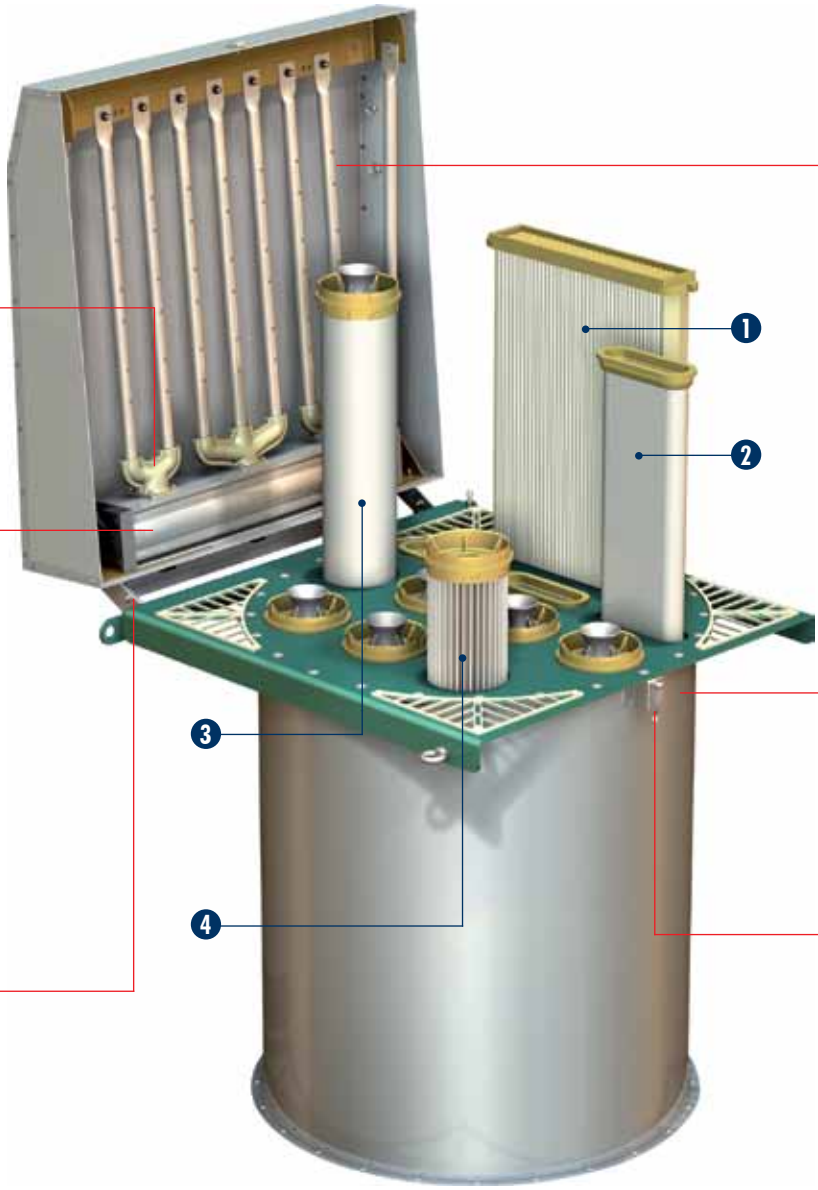
Serbatoio aria compressa in alluminio (anticorrosione)

Weather protection cover "Autolock" hinges self-locking when open

Bei Öffnung automatisch arretierende "Autolock" Wetterhaubenscharniere

Les charnières « Autolock » du capot se bloquent automatiquement à l'ouverture pour prévenir tout risque d'accident

Cerniere "Autolock" del coperchio che si bloccano automaticamente in fase di apertura



Features - *Merkmale - Caractéristiques - Caratteristiche*

Standard 304 Stainless Steel Body
Gehäuse serienmäßig aus Edelstahl 1.4301
Corps standard en acier inox 304
Corpo di serie in AISI 304

Push-Fit Filter Element Assembly
Filterelemente von Hand einpressbar
Montage manuel des éléments filtrants
Elementi filtranti ad incastro a mano

High-Efficiency Cleaning System
Hoch effizientes Abreinigungssystem
Système de nettoyage haute performance
Sistema di pulizia ad elevata efficienza

Wide Range of Filter Elements
Breites Filterelementeprogramm
Large gamme d'éléments filtrants
Vasta gamma di elementi filtranti

Function - *Funktion - Fonction - Funzione*

Weatherproof Finish (Can be Easily Turned into Food-Grade)
Wetterschutzfinish (auf Wunsch problemlos in nahrungsmitteltaugliche Version wandelbar)
Résistance aux intemperies (qualité alimentaire sur demande)
Resistenza alle intemperie (alimentare su richiesta)

No Tools, No Hardware Required
Weder Werkzeug, noch Schraubenmaterial erforderlich
Aucun outil nécessaire
Nessun bisogno di utensili e bulloneria

Minimized Pressure Loss
Minimierter Druckverlust
Réduction des pertes de charge internes
Minimizza perdite di pressione

Large Number of Dust Collector Options / High Degree of Interchangeability
Vielzahl an Geräteoptionen / Hoher Grad an Austauschbarkeit
Nombreuses options machines possibles / Haut degré d'interchangeabilité
Gran numero di opzioni di filtri / Alto grado di intercambiabilità

WAMFLO® *est un filtre de forme cylindrique qui a été développé pour le traitement et le contrôle des émissions de poussières de n'importe quelle origine dans tous les secteurs industriels.*
La poussière est séparée du flux d'air contaminé par les éléments filtrants WAM® *novateurs plissés (cartouches et* POLYPLEAT®*) ou lisses (manches cylindriques ou elliptiques).*
Grâce au système automatique de nettoyage à air comprimé les flitres WAMFLO® *sont les plus indiqués pour l'utilisation en service continu.*

WAMFLO® *è un filtro circolare sviluppato per il trattamento ed il controllo delle emissioni di polveri di qualsiasi natura in tutti i settori industriali.*
La polvere è separata dal flusso d'aria contaminata attraverso gli innovativi elementi filtranti WAM® *plissettati (cartucce e* POLYPLEAT®*) o lisci (manica tonda e manica ellittica).*
Grazie al sistema automatico di pulizia ad aria compressa i flitri WAMFLO® *sono i più idonei all'utilizzo in continuo*

Maintenance-free air jet cleaning unit integrated inside weather protection cover

In die Wetterhaube integrierte, wartungsfreie Abblaseinheit

Groupe de soufflage intégré au capot de protection pour une maintenance plus simple

Gruppo di sparo, che non necessita di manutenzione, inserito all'interno del coperchio

Robust 304 stainless steel body with bottom flange

Robustes Gehäuse aus Edelsta Flanschverbindung

Corps filtre en acier inox 304 avec bride inférieure à boulons

Corpo filtro robusto in AISI 304 con connessione flangiata

CERTIFIED
P_{red} = 1 bar

Weather protection cover with lockable snap hook

Wetterhaube mit abschließbarem Schnellverschluß

Ouverture rapide du capot avec crochet verrouillable

Rapida apertura del coperchio tramite gancio lochettabile

Benefits - *Vorteile - Avantages - Vantaggi*

Reduced Maintenance Costs Due to Increased Durability
Geringere Wartungskosten dank höherer Lebensdauer
Coûts de maintenance réduits grâce à une durée de vie importante
Costi di manutenzione più bassi grazie ad una durata più lunga

Reduced Maintenance Costs
Geringere Wartungskosten
Coûts de maintenance réduits
Costi di manutenzione più bassi

Lower Operating Costs
Geringere Betriebskosten
Coûts d'exploitation inférieurs
Costi di esercizio più bassi

Individual Problem Solving
Individuell abgestimmte Problemlösungen
Grande adaptation à l'installation
Soluzioni individuali mirate

Options and Accessories - Optionen und Zubehör - Options et Accessoires - Opzioni e Accessori

Standard 304 Stainless Steel Body (316 on request)

Standard-Filtergehäuse aus Edelstahl 1.4301 (optional 1.4401)

Corps standard en inox 304 (316 sur demande)

Corpo standard in AISI 304 (316 su richiesta)

Fan

Ventilator

Ventilateur

Aspiratore

Fan Choke with Round Flange or Rain Cover

Ventilatordrossel mit Rundflansch oder Regenschutzdach

Volet de réglage avec bride ou parapluie

Valvola parzializzatrice con flangia tonda o parapioggia

Electronic Control Panel with Integrated Pressure Differential Meter

Elektronische Steuerung mit integriertem Druckdifferenzmesser

Carte électronique avec mesure de pression différentielle integrée

Scheda elettronica con misuratore differenziale di pressione integrato

Hopper with Diffuser

Trichter mit Diffusor

Trémie avec diffuseur

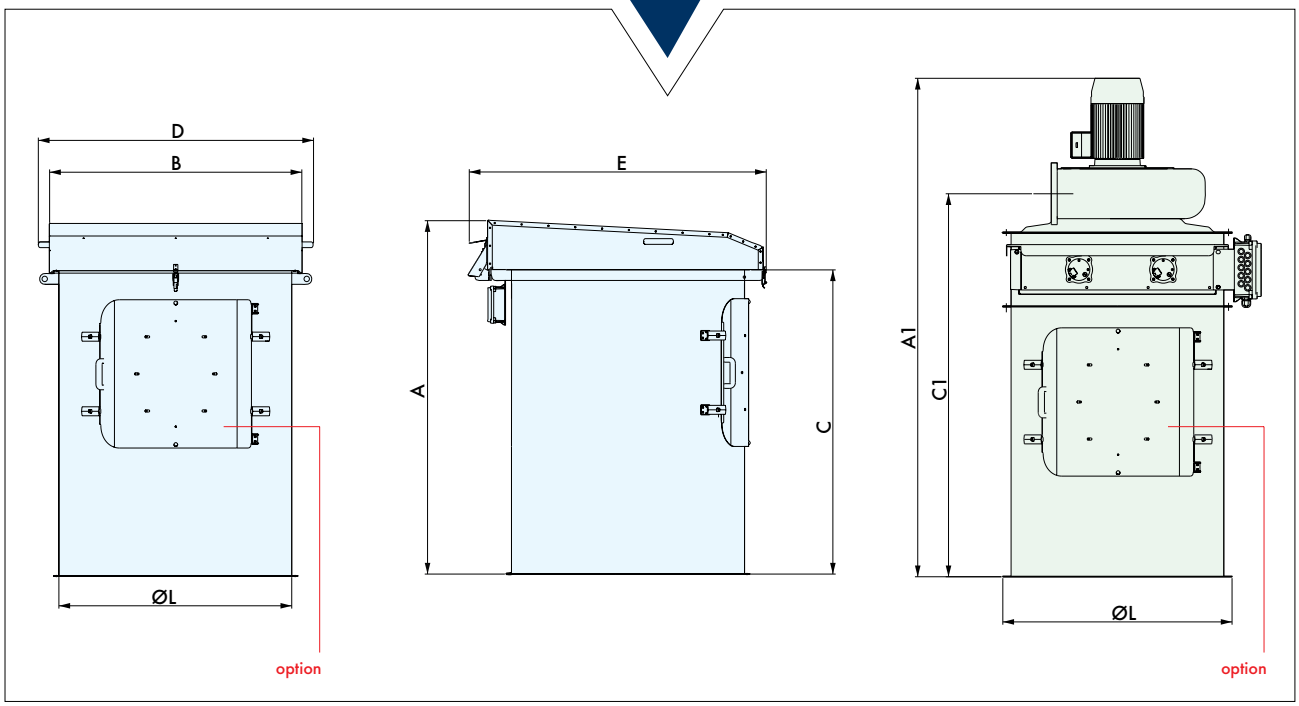
Tramoggia con diffusore

POLYPLEAT®

Elliptical Bag
Minitasche
Manche elliptique
Manica ellittica

Roud Bag
Schlauch
Manche
Manica

Cartridge
Patrone
Cartouche
Cartuccia



Filter Surface *Filterfläche* Surface filtrante *Superficie filtrante* (m^2)				Ø L	A	B	C	D	E	A1	C1
FNW ❶	FNE ❷	FNM / FNB ❸	FNC / FNS ❹								
-	-	-	2-4	400	746	495	520	580	635	1.197	879
-	-	-	3-5	400	996	495	770	580	635	1.447	1.129
-	-	1	6	400	1.146	495	920	580	635	1.597	1.279
-	-	2	-	400	1.586	495	1.360	580	635	2.037	1.719
-	-	3	-	400	2.066	495	1.840	580	635	2.517	2.199
7	2	-	7	600	746	690	520	775	880	1.325	913
11	-	-	10	600	996	690	770	775	880	1.575	1.163
14	4	3	12	600	1.146	690	920	775	880	1.725	1.313
-	7	5	-	600	1.586	690	1.360	775	880	2.165	1.753
-	9	6	-	600	2.066	690	1.840	775	880	2.645	2.233
13	4	-	12	800	746	875	520	960	1.010	1.430	943
20	-	-	18	800	996	875	770	960	1.010	1.680	1.193
24	7	5	22	800	1.146	875	920	960	1.010	1.830	1.343
-	10	8	-	800	1.586	875	1.360	960	1.010	2.270	1.783
-	13	11	-	800	2.066	875	1.840	960	1.010	2.750	2.263
27	6	-	24	1.000	746	1.125	520	1.210	1.325	1.455	963
40	-	-	36	1.000	996	1.125	770	1.210	1.325	1.705	1.213
48	12	11	44	1.000	1.146	1.125	920	1.210	1.325	1.855	1.363
-	18	16	-	1.000	1.586	1.125	1.360	1.210	1.325	2.295	1.803
-	24	21	-	1.000	2.066	1.125	1.840	1.210	1.325	2.775	2.283

Dimensions in mm

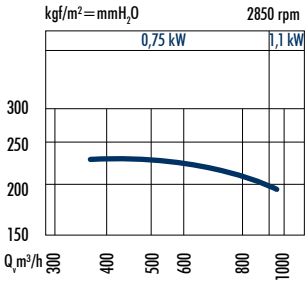
- "S" Type: BASIC filter units for pressure or suction type pneumatic conveying systems
- "I" Type: INSERTABLE filter units for pressure or suction type pneumatic conveying systems
- "D" Type: NEGATIVE PRESSURE filter units
- "E" Type: INSERTABLE NEGATIVE PRESSURE filter units

- "S" Typ: BASIS-Filtermmodell für pneumatische Druck- und Saugfördersysteme
- "I" Typ: EINHANGFILTER für pneumatische Druck- und Saugfördersysteme
- "D" Typ: UNTERDRUCKFILTER
- "E" Typ: UNTERDRUCK-EINHANGFILTER

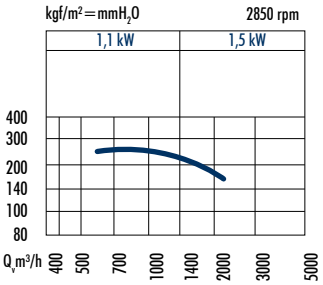
- "S" type: Filtres de BASE pour systèmes de transports pneumatiques en pression et en aspiration
- "I" type: Filtres ENCASTRABLES pour systèmes de transports pneumatiques en pression et en aspiration
- "D" type: Filtres pour applications en DEPRESSION
- "E" type: Filtres ENCASTRABLES pour applications en DEPRESSION

- "S" type: Filtri BASE per sistemi di trasporto pneumatico in pressione e in aspirazione
- "I" type: Filtri INSERIBILI per sistemi di trasporto pneumatico in pressione e in aspirazione
- "D" type: Filtri per applicazioni in DEPRESSIONE
- "E" type: Filtri INSERIBILI per applicazioni in DEPRESSIONE

Fan Performance - Ventilator-Leistungskurven - Performances des Ventilateurs - Prestazioni Aspiratori



Type "A"



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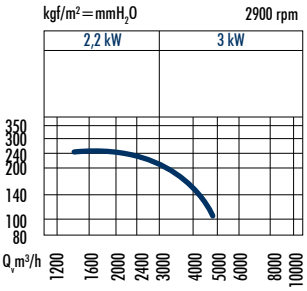

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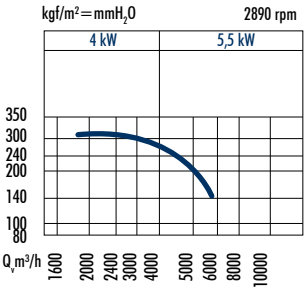

Type "D"

SILO VENTING

DUST EXTRACTION

063001521 September 2012

Further Products - Weitere Produkte - Autre production - Altra produzione

063001481

063002249

063001519

063001436

063001487

063001505

063001508

Bulk Solids Handling Equipment Bulk Solids Handling Equipment Bulk Solids Handling Equipment Bulk Solids Handling Equipment

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Certified Company

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