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DDe
Electronic Centrifugal Blowers

A Regal Brand

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A Regal Brand

La Società

Il Gruppo ELCO è uno dei pochi produttori a livello mondiale che possa vantare un'esperienza di oltre 50 anni nella produzione di gruppi ventilanti nel campo del riscaldamento, ventilazione e condizionamento (HVAC).
Questa posizione di riconosciuta leadership è il risultato di uno specifico know-how nella progettazione e produzione di motori elettrici frazionari, unito all'ottima competenza sull'aeraulica, nonché di un range di prodotti in grado di soddisfare tutte le richieste del mercato.

Il recente sviluppo internazionale del Gruppo, con unità produttive dislocate su tre continenti, è la migliore premessa per offrire le "soluzioni ELCO" ad un mercato non più domestico-europeo, ma ormai "globale", sia per chi ricerca soluzioni articolate (gruppi ventilanti), sia per chi si orienta sui singoli componenti elementari.

The Company

ELCO is one of the few world-wide manufacturers with more than 50 years of experience in the production of fan deck units used in the heating, ventilation and air conditioning field (HVAC).
Its acknowledged leadership is the result of a specific know-how both in the design and in the manufacturing of fractional horsepower motors along with an excellent mastership of aeraulic techniques, as well as a range of products that satisfy all market requirements.

The recent international development of the ELCO Group, with its manufacturing plants located worldwide, represents the best preliminary condition to offer "ELCO solutions" not only to a Domestic/European market but even and above all to a "global" market both in the research of integrated solutions (e.g. fan-decks) and single basic components.

La Société

Le groupe ELCO est l'un des producteurs dans le monde qui peuvent vanter plus de 50 ans d'expérience dans la fabrication des ventilateurs dans les domaines du chauffage, de la ventilation et de la climatisation (HVAC).
La position de leadership acquise sur le marché est le résultat de l'expertise ELCO dans ce secteur spécifique.
La conception du produit, la fabrication des moteurs électriques, la maîtrise des problématiques aérauliques propres au marché et enfin une gamme de produits répondant à toutes les exigences des clientes renforcent la leadership d'ELCO.

Le récent développement international du Groupe, avec l'ouverture des sites de production sur trois continents, est une condition préalable pour pouvoir offrir les «solutions ELCO» sur le marché "global", aussi bien pour la clientèle intéressée aux ventilateurs complets, qu'à leurs composants.

Das Unternehmen

Die Unternehmensgruppe ELCO ist einer der wenigen Hersteller weltweit, der auf eine mehr als fünfzigjährige Erfahrung in der Produktion von Lüftereinheiten im Bereich Heizung, Lüftung und Klimatechnik (HLK) zurückblicken kann.
Diese anerkannte Führungsposition ist das Ergebnis eines spezifischen Know-hows bei der Entwicklung und der Herstellung von FHP-Motoren und der optimalen Kenntnis und Beherrschung der Problemstellungen der Lufttechnik sowie eines Produktangebots, das allen Anforderungen des Marktes gerecht wird.

Die in den letzten Jahren erfolgte internationale Entwicklung der Gruppe mit Produktionsstandorten auf drei Kontinenten ist die beste Voraussetzung für das Angebot der "Lösungen ELCO" nicht mehr nur auf dem europäischen Binnenmarkt, sondern auf dem globalen Markt.
Dies gilt sowohl für komplexe Lösungen (Lüftereinheiten) als auch für einzelne grundlegende Bauteile.

La Empresa

El grupo ELCO, es uno de los pocos productores a nivel mundial que cuenta con más de 50 años de experiencia en la fabricación de ventiladores para la calefacción, ventilación y acondicionamiento (HVAC).
Esta posición de liderazgo no sólo es resultado de un know-how específico en el proyecto y fabricación de motores eléctricos, sino también del excelente dominio de la aeráulica, así como de un gran abanico de productos para cumplir con todas las exigencias del mercado.

El reciente desarrollo internacional del Grupo, que cuenta con plantas en tres continentes, contribuye a ofrecer "soluciones ELCO" a un mercado no sólo nacional/europeo sino sobre todo global, tanto para la búsqueda de soluciones complejas (grupos de ventilación) como de componentes elementales.

La Progettazione

La pluridecennale esperienza di progettazione per questi particolari ventilatori è raccolta oggi in una completa banca dati che permette di proporre ai clienti un ampio ventaglio di soluzioni tecniche per ottimizzare la scelta del ventilatore più idoneo per ogni singola applicazione.

Il team tecnico si avvale di sistemi CAD, di un moderno laboratorio per prove elettriche ed aerauliche in accordo alle norme AMCA 210-99, di una camera riverberante per le prove di potenza sonora a norme UNI EN ISO 3741:2001, di camere climatiche “fredda” e “tropicale”, adatte a simulare le condizioni ambientali reali in cui si trovano ad operare i ventilatori.

La speciale sezione “Ricerca e Sviluppo” è inoltre alla costante ricerca di soluzioni innovative che spesso anticipano le richieste del mercato, come per esempio nelle problematiche di regolazione, nella ottimizzazione della efficienza energetica, nella riduzione dei livelli sonori, etc.

The Design

The multi-decade experience in the design of these particular fans is stored in a complete database from where customers can choose, among a wide range of technical solutions, the most suitable for any single application.

The technical team is provided with 3D CAD, an advanced lab for electric and aeraulic tests in compliance with AMCA 210-99 rules, a reverberation chamber for sound power tests according to UNI EN ISO 3741:2001, “cold” and “tropical” chambers suitable for the simulation of the real working environmental conditions of the fans.

The “Research and Development” department is engaged in a never ending quest for innovative solutions, often ahead of market requirements, such as air volume regulation, energy efficiency improvement, noise level reduction and so on.

Le Développement

Des décennies d'expérience dans la conception de ces ventilateurs spécifiques aux besoins clientèle, fournissent à ELCO une vaste et unique base des données permettant de sélectionner pour chaque client une solution optimale à son application.

Le département technique est équipé des systèmes de projet CAD 3D, d'un laboratoire moderne pour les tests électriques, mécaniques et aérauliques conformément à la norme AMCA 210-99. Une chambre de réverbération pour les tests de puissance acoustique est utilisée en conformité avec la norme UNI EN ISO 3741:2001, des chambres climatiques "froide" et "tropicale", pour la simulation des conditions environnementales dans lesquelles les produits sont supposés travailler.

Le département "R&D" est constamment à la recherche de solutions innovantes qui misent à anticiper les demandes du marché, avec attentions particulières concernant: l’économie d’énergie, la réduction des niveaux acoustiques, les prestations aérauliques, la régulation, etc.

Die Entwicklung

Die Erfahrungen, die über Jahrzehnte in der Entwicklung dieser speziellen Ventilatoren gesammelt wurden, befinden sich heute in einer einzigartigen und umfassenden Datenbank, mit der dem Kunden ein breiter Fächer an technischen Lösungen angeboten werden kann, um die Auswahl des geeigneten Ventilators für jede einzelne Anwendung zu optimieren.

Das technische Team verfügt über CAD-Systeme und geeignete Software für die Erstellung von 3D-Zeichnungen, ein modernes Labor für die elektrischen und lufttechnischen Tests in Übereinstimmung mit den Normen AMCA 210-99, eine Hallkammer für die Prüfungen der Schallleistung gemäß der Normen UNI EN ISO 3741:2001 sowie eine “kalte” und eine “tropische” Klimakammer für die Simulation der tatsächlichen Umgebungsbedingungen, in denen die Ventilatoren eingesetzt werden.

Der spezielle Bereich “Forschung und Entwicklung” sucht ständig nach innovativen Lösungen, die häufig die Anforderungen des Marktes vorwegnehmen, wie beispielsweise bei den Problemen der Regulierung, der Optimierung der Energieeffizienz, der Reduzierung der Geräuschemission usw.

El Proyecto

Gracias a la larga experiencia en el desarrollo de estos equipos, hoy día nuestros clientes pueden contar con un amplio conjunto de soluciones técnicas para elegir el ventilador más adecuado para cada aplicación.

El departamento técnico cuenta con sistemas CAD y sofware para la realización de dibujos tridimensionales, un moderno laboratorio para pruebas eléctricas y aeráulicas que cumplen con las directivas AMCA 210-99, una cámara reverberante para las pruebas de potencia sonora según UNI EN ISO 3741:2001, cámaras climáticas “fría” y “tropical” adecuadas para simular las condiciones medioambientales reales en que trabajan los ventiladores.

El departamento “Investigación y Desarrollo” siempre intenta encontrar soluciones innovadoras, como por ejemplo en los campos de la regulación, optimización de la eficiencia energética y reducción de los niveles de ruido.

La Produzione

La crescente domanda di soluzioni ELCO ha ispirato la completa riorganizzazione dei sistemi di produzione, che si avvalgono di diverse linee di assemblaggio automatiche che, esaltando un'elevata flessibilità, permettono di supportare la crescita del parco clienti.

Queste linee, armonizzate per ottenere una maggiore efficienza produttiva, sono dotate di sofisticate attrezzature e strumenti atti a garantire un prodotto finale altamente qualificabile nel rispetto delle richieste di mercato. Inoltre l'organizzazione dei processi produttivi viene svolta secondo le moderne metodologie "LEAN PRODUCTION" e "SIX SIGMA".

Apparati informatici implementati sulla linea produttiva permettono di visualizzare in tempo reale il processo produttivo e velocizzare le procedure, liberando risorse per ottenere valore aggiunto sulle attività in essere.

The Production

The increasing request of ELCO solutions led to a complete reorganization of production systems, by adopting high duty semi-automatic lines able to meet the constant growth of the customers.

These production lines are equipped with sophisticated instruments apt for granting selected products, computerized devices allow to display in real time the productive process and speed up the operating procedure; furthermore, the productive process is developed according to "LEAN PRODUCTION" and "SIX SIGMA" methodologies.

It tools in the assembly line show the production process in real time, increasing the efficiency of the process itself.

La Production

Le succès des ventes a imposé une réorganisation complète des systèmes de production qui emploient aujourd'hui plusieurs lignes automatiques, ce qui permet de produire avec flexibilité et suivant la volatilité du marché.

Ces lignes, conçues pour atteindre une plus grande productivité, sont équipées d'outils sophistiqués pour assurer un contrôle en ligne à 100%, et un niveau qualitatif des plus élevés selon les exigences du marché.
Les procès productifs sont conçus et mis en place en appliquant des méthodes conformes aux systèmes de contrôle «SIX SIGMA» et «LEAN PRODUCTION».

Chaque opération est surveillée par un système informatique, qui permet de vérifier le processus de production en temps réel pour une efficacité maximale. Ce contrôle permet également une utilisation optimale des ressources disponibles.

Die Produktion

Die steigenden Verkaufserfolge haben zu einer vollständigen Restrukturierung der Produktionssysteme geführt, die heute auf mehreren automatischen Anlagen basieren, mit denen Produktionsvolumina gewährleistet werden können, die weit über der derzeitigen Nachfrage des Marktes liegen, ohne dass Abstriche bei der hohen Flexibilität gemacht werden müssen.

Diese Anlagen, die für eine höhere Produktivität aufeinander abgestimmt sind, sind mit modernsten Ausrüstungen und Instrumenten ausgestattet, mit denen ein hochqualifiziertes Endprodukt entsprechend der Marktanforderungen gewährleistet werden kann. Darüber hinaus erfolgt die Organisation der Produktionsprozesse mit den modernen Methoden "LEAN PRODUCTION" und "SIX SIGMA".

Auf der Produktionsanlage implementierte Computer ermöglichen die Anzeige der Produktionsprozesse in Echtzeit sowie die Beschleunigung der Arbeitsvorgänge, und setzen damit Ressourcen für einen Mehrwert der bestehenden Tätigkeiten frei.

La Producción

Los crecientes éxitos de venta han impuesto la completa reorganización de los sistemas de producción, que hoy se sirven de varias líneas automáticas que, sin sacrificar una alta flexibilidad, permiten mantener el desarrollo de nuestros clientes.

Estas líneas, armonizadas para conseguir mayor eficiencia productiva, están equipadas de sofisticados equipos que garantizan un producto final extremamente exigente, de acuerdo a las solicitudes del mercado. Además, la organización de los proyectos de producción se lleva a cabo según las modernas metodologías "LEAN PRODUCTION" y "SIX SIGMA".

Equipos informáticos en la línea de producción permiten visualizar en tiempo real el proceso de producción y acelerar los procedimientos soltando recursos para conseguir valor añadido en las actividades vigentes.

DDe 9/7

DDe 9/9

Il Prodotto

I ventilatori centrifughi serie DDe, con ventole pala avanti accoppiate direttamente al motore, sono la soluzione ideale per le applicazioni nel campo del riscaldamento, ventilazione e condizionamento dell'aria (HVAC). La vasta gamma di prodotti e l'accoppiamento a motori a commutazione elettronica consentono di scegliere il ventilatore più idoneo alle vostre necessità.

La parte ventilante, composta da una coclea compatta in lamiera zincata, è stata appositamente progettata per fornire eccellenti prestazioni aerodinamiche, mentre la ventola pala avanti in lamiera o in materiale plastico è stata progettata per ottenere efficienze aerauliche elevate.

Il motore a commutazione elettronica a magneti permanenti è stato accoppiato per fornire nel loro insieme un range di prestazioni elevate con gradi di efficienza in grado di rispettare la Direttiva Europea 327/2011.

Inoltre la disponibilità di elettronica a bordo motore consente una regolazione continua della velocità del ventilatore, ottenendo quindi una vasta gamma di prestazioni

The Product

The DDe series centrifugal blowers, with forward-curved blades directly coupled with the motor, are the perfect solution for the application in the field of heating, ventilation and air conditioning (HVAC). The wide range of products and the coupling with the electronic commutated motors allow the choice of the most suitable blower for any need.

The ventilating part, composed of a compact housing made of galvanized steel plate has been specifically designed to supply excellent aerodynamic performances, whereas the forward-curved blade made of plate or plastics has been designed to reach high aeraulic efficiencies.

The electronic commutated motor with permanent magnet has been coupled to get, as a whole, a range of high performances with efficiency degrees able to respect the European Directive 327/2011.

Furthermore, the onboard electronic device allows a continuous control of the fan speed, getting to a wide range of performances with just only one fan deck type.

Peculiar solutions adopted for the motor

Le Produit

Les ventilateurs série DDe, avec des hélices centrifuges à action, directement accouplés au moteur, sont la solution idéale pour votre application dans le domaine de la ventilation, du chauffage et de la climatisation (HVAC). La large gamme dimensionnelle des ventilateurs et le couplage avec les moteurs BLDC à aimants permanents permettent de choisir pour chaque client une solution optimale et unique à son application.

La partie ventilant est composée d'une volute galvanisée compacte spécialement conçue pour offrir d'excellentes performances aérodynamiques, et d'une hélice centrifuge à action en tôle ou en matière plastique conçue pour obtenir des rendements aéraulique élevés.

Le moteur à commutation électronique à aimants permanents est utilisé pour fournir des hautes performances en conformité énergétique avec la Directive Européenne 327/2011.

Le contrôle électronique à bord permet un réglage continu de la vitesse du ventilateur, en obtenant une large gamme de prestations avec un seul type de ventilateur.

Le fixage de la volute au moteur est étudié avec l'objectif de réduire drastiquement

Das Produkt

Die Radialventilatoren der Serie DDe mit vorwärts gekrümmten Schaufeln des Lüfterrades, die direkt an den Motor angeschlossen werden, stellen eine ideale Lösung für Ihre Anwendungen im Bereich Heizung, Lüftung und Klimatechnik (HLK) dar. Das umfangreiche Produktangebot und die Kopplung mit elektronisch kommutierten Motoren ermöglichten die Auswahl des für Ihre Anforderungen optimal geeigneten Ventilators.

Das Lüfterteil besteht aus einer kompakten Schnecke aus verzinktem Blech und liefert exzellente aerodynamische Leistungen, während das Lüfterrad mit vorwärts gekrümmten Schaufeln aus Blech oder Kunststoff eine hohe Lüftungseffizienz gewährleistet.

Die Kopplung mit dem elektronisch kommutierten PM-Motor stellt hohe Leistungsbereiche mit Wirkungsgraden bereit, die der Europäischen Richtlinie 327/2011 genügen.

Darüber hinaus ermöglicht die Bereitstellung der Elektronik auf dem Motor eine stufenlose Geschwindigkeitsregulierung des Ventilators für einen breiten Leistungsbereich mit nur einer einzigen Lüftereinheit.

El Producto

Los ventiladores centrífugos de la serie DDe, con hélices hacia adelante acopladas directamente al motor, constituyen la solución ideal para las aplicaciones en el campo de la calefacción, ventilación y acondicionamiento del aire (HVAC). La amplia gama de productos y el acomplamiento a motores con conmutación electrónica permiten elegir el ventilador más adecuado a sus necesidades.

La parte de ventilación, que se compone de coclea compacta de chapa zincada, se ha diseñado para conseguir excelentes prestaciones aerodinámicas, mientras la hélice hacia adelante de chapa o material plástico se ha realizado para lograr eficiencias aeraúlicas notables.

El motor de conmutación electrónica a imán permanente, proporciona elevadas prestaciones con grados de eficiencia que cumplen con la Directiva Europea 327/2011.

La electrónica incorporada al motor permite una regulación continúa de la velocidad el ventilador.

La fijación particular de los motores a la coclea permite reducir el nivel de vibración

DDe 10/8

DDe 10/10

Il Prodotto

con un unico tipo
di gruppo ventilante.

Particolari
accorgimenti nel
fissaggio del motore
alla coclea hanno
ottenuto lo scopo di
una drastica riduzione
del livello di vibrazione
ed un conseguente
basso livello sonoro.
Il sistema di
connessione, molto
semplice, è composto
da un cavo di potenza
ed un cavo di segnale
per la regolazione
della velocità
del tipo PWM
(o 0-10 Vdc a richiesta).

Un apposito filtro
opzionale consente
al gruppo ventilante
il rispetto della EMC
(compatibilità
elettromagnetica),
con drastiche riduzioni
delle correnti
armoniche.
Questa tipologia
di motori è in grado
di sviluppare
elevate potenze con
dimensioni contenute
e con prestazioni
di gran lunga superiori
ai motori PSC e
soprattutto incontrare
le richieste di mercato
orientate al “risparmio
energetico”, oltre
a contribuire in modo
significativo ad una
drastica riduzione
di CO_2 immesso
nell’atmosfera.

Il motore,
completamente chiuso
in lamiera verniciata,
con scheda elettronica
montata a bordo,
disegnato
per funzionare
alla tensione di rete
230/115 V
e frequenze 50/60 Hz,

The Product

fixing to the housing
got the result of an
effective reduction
of vibration and,
consequently, noise
level.
The connection system
is very simple and is
composed of a power
cable and a signal
cable type PWM
(or 0-10 Vdc upon
request) for the speed
regulation.

A specific optional
filter allows the fan
deck to respect the
EMC (electromagnetic
compatibility), with
severe reduction of
harmonic currents.
In spite of its small
dimensions, this type
of motors can develop
high power outputs
and performances
far better than PSC
motors and, above all,
it meets the market
request concerning
the “energy saving”,
besides contributing
to a drastic CO_2
reduction of
the emissions
in the atmosphere.

The motor is
completely closed,
made of varnished
steel with electronic
card on board,
designed to work at
230/115 V, 50/60Hz,
powers from
1/3 HP to 1 HP and
properly coupled
with fans in the range
from 9” to 12”.
This coupling allows a
wide range of aeraulic
performances in order
to meet the most
challenging requests.

All motors are designed
and manufactured in
compliance with the

Le Produit

le niveau des vibrations
et du bruit conséquent.
Système de connexion
très simple,
composé d'un câble
d'alimentation
et un câble de signal
pour le contrôle de
vitesse de type PWM
(ou 0-10 Vdc en option).

Un filtre spécial
optionnel permet la
mise en conformité
à la réglementation
européenne EMC,
(compatibilité
électromagnétique),
avec des réductions
drastiques des
courants harmoniques.
Ce type de moteur
BLDC est capable de
développer puissances
élevées avec des
dimensions compactes
et des performances
bien supérieures
au moteurs PSC.
Ils répondent aux
exigences du marché
en ce qui concerne
"l’économie d'énergie",
et ils contribuent de
manière significative
à une réduction
drastique des
émissions de CO_2.

Le moteur est
complètement fermé
en acier, l’électronique
montée est conçue
pour fonctionner à une
tension d'alimentation
de 230/115 V, 50/60 Hz.
Les puissances rendues
par les moteurs sont
entre 250 W et 750 W,
et sont couplées de
maniére appropriés
avec les ventilateurs
diamètre de 9” à 12”
(228 mm a 304 mm).
Ce couplage permet
une large gamme
de performances
aerauliques qui couvrent
tous les besoins.

Das Produkt

Besondere Lösungen
für die Fixierung
des Motors an der
Schnecke führen
zu einer drastischen
Reduzierung der
Vibrationen und damit
folglich zu einem
geringen
Schalldruckpegel.
Äußerst einfaches
Anschlusssystem mit
einem Leistungs- und
einem Signalkabel für
die Geschwindigkeits-
regulierung vom Typ
PWM (oder 0-10 Vdc).

Durch den Einsatz
eines entsprechenden
Filters entspricht
die Lüftereinheit den
Vorgaben der EMV,
der Richtlinie zur
elektromagnetischen
Verträglichkeit,
mit drastischer
Verringerung des
Störstroms.
Dieser Motortyp kann
bei kompakten Maßen
hohe Leistungen
und eine Performance
bereitstellen, die weit
über denen von
PSC-Motoren liegt,
und entspricht damit,
neben einem
signifikanten Beitrag
zur drastischen
Reduzierung des
CO_2-Ausstoßes
in die Umwelt,
insbesondere den
Energiesparanforde-
rungen des Marktes.

Der Motor mit
vollständig
geschlossenem
Gehäuse aus
lackiertem Blech,
mit elektronischer
Karte, ausgelegt
für den Betrieb
bei Netzspannung
230/115 V
und Frequenzen
50/60 Hz, stellt

El Producto

y por consiguiente
el nivel de ruido.
El sistema de conexión
es muy sencillo, sólo
necesita un cable
de potencia y un cable
de señal para la
regulación de la
velocidad del tipo
PWM (o 0-10 Vdc bajo
solicitud).

Un filtro opcional
apropiado permite
al grupo de ventilación
cumplir con la ECM
(compatibilidad
electromágnetica) con
drásticas reducciones
de las corrientes
armónicas.
Esta tipología de
motores puede
desarrollar elevadas
potencias con
dimensiones reducidas
y prestaciones
superiores a los
motores PSC; además
contribuyen al ahorro
energético, reduciendo
de forma significativa
el CO_2 emitido
en el medioambiente.

El motor, cerrado
en chapa zincada,
con circuito electrónico
incorporado, para
el funcionamiento
a la tensión de red
230/115 V
y frecuencias 50/60 Hz,
presenta potencias
de 1/3 HP a 1 HP,
acoplados a
ventiladores de 9” a 12”.
Este acoplamiento
permite conseguir
prestaciones aeraúlicas
que cumplen
con las solicitudes
más exigentes.

Todos los motores
se han proyectado
y construido
según las Directivas
de Baja Tensión

DDe 12/9

DDe 12/12

Il Prodotto

presenta potenze che vanno da 1/3 HP a 1 HP. I motori sono accoppiati in modo opportuno ai ventilatori nel range da 9” a 12”. Questo accoppiamento consente una vasta gamma di prestazioni aerauliche che coprono le richieste più esigenti.

Tutti i motori ELCO sono progettati e costruiti in ottemperanza alle Direttive di Bassa Tensione 2006/95/EC e di Compatibilità Elettromagnetica 2004/108/EC con riferimento alla EN 55014-1, EN 61000-3-2, EN 61000-3-3, così come alla Direttiva Macchine 2006/42/EC, ed in accordo con le Norme Standard CENELEC EN 60335-1, EN 60335-2-24, EN 60335-2-89, EN 60529, EN 60034-1.

La società ELCO-E-TRADE Srl si riserva di modificare anche senza preavviso le indicazioni tecniche contenute nel catalogo. L'utilizzatore è responsabile della corretta installazione dei componenti descritti nel catalogo rispettando le norme in vigore in ciascun Paese e dei limiti imposti nel presente catalogo. Le prestazioni indicate sono da considerarsi indicative e soggette a tolleranze. Il grado IP è garantito per montaggio con cavo rivolto verso il basso.

The Product

Low Voltage 2006/95/EC and Electromagnetic Compatibility 2004/108/EC Directives with reference to EN 55014-1, EN 61000-3-2, EN 61000-3-3, as well as the Machinery Directive 2006/42/EC, and in accordance with the Standards CENELEC EN 60335-1, EN 60335-2-24, EN 60335-2-89, EN 60529, EN 60034-1.

ELCO-E-TRADE Srl reserves itself the right to modify also without prior notice all indicated technical information. The user is responsible for the correct installation of components listed in the catalogue in compliance with existing regulations of each Country and the restrictions imposed. Performances in this catalogue are for reference only. IP rating granted with supplying cable facing down.

Le Produit

Tous les moteurs ELCO sont conçus et produits en conformité aux Directives Basse Tension 2006/95/EC et Compatibilité Electromagnétique 2004/108/EC en référence aux EN 55014-1, EN 61000-3-2, EN 61000-3-3, et aux Directives 2006/42/EC CENELEC EN 60335-1, EN 60335-2-24, EN 60335-2-89, EN 60529, EN 60034-1.

ELCO-E-TRADE Srl se réserve le droit de modifier sans préavis les spécifications techniques indiquées dans le catalogue. L'utilisateur est responsable pour la correcte utilisation et installation des produits décrits dans le catalogue en conformité avec les normes en vigueur dans chaque pays. Les performances indiquées sont à titre uniquement indicatif et sous réserve des tolérances. Le degré de protection est garanti pour un montage avec la sortie câble vers le bas.

Das Produkt

Leistungen zwischen 1/3 PS und 1 PS bereit, und wird in geeigneter Weise mit den Ventilatoren im Bereich zwischen 9” und 12” gekoppelt. Diese Kopplung ermöglicht eine breite Palette von lufttechnischen Leistungen, die auch den anspruchsvollsten Anforderungen gerecht werden.

Alle Motoren ELCO werden in Übereinstimmung mit der Niederspannungsrichtlinie 2006/95/EG, der Richtlinie zur elektromagnetischen Verträglichkeit 2004/108/EG mit Bezug auf die Normen EN 55014-1, EN 61000-3-2 und EN 61000-3-3, und der Maschinenrichtlinie 2006/42/EG, sowie den Standardnormen CENELEC EN 60335-1, EN 60335-2-24, EN 60335-2-89, EN 60529 und EN 60034-1 entwickelt und hergestellt.

Das Unternehmen ELCO-E-TRADE Srl behält sich das Recht vor, die im vorliegenden Katalog angegebenen technischen Daten jederzeit auch ohne Vorankündigung zu ändern. Der Benutzer ist für die korrekte Installation der im Katalog beschriebenen Produkte unter Einhaltung der geltenden Bestimmungen im jeweiligen Land verantwortlich. Die Leistungen sind annähernd und der Toleranz unterworfen. Schutzhart IP ist für die Montage mit Kabel nach unten gewährleistet.

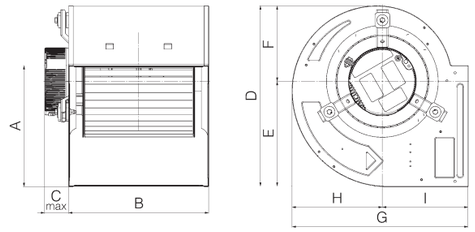
El Producto

2006/95/EC y de Compatibilidad Electromagnética 2004/108/EC con referencia a EN 55014-1, EN 61000-3-2, EN 61000-3-3, a la Directivas Máquinas 2006/42/EC y a las normas estándar CENELEC EN 60335-1, EN 60335-2-24, EN 60335-2-89, EN 60529, EN 60034-1.

La empresa ELCO-E-TRADE Srl tiene el derecho de modificar sin aviso previo las indicaciones técnicas en este catálogo. El usuario es responsable de la correcta instalación de los componentes indicados en el catálogo, cumpliendo con las normas vigentes de cada País y las limitaciones indicadas. Las prestaciones indicadas deben considerarse indicativas y sujetas a tolerancias. El grado IP se asegura con cable montado hacia abajo.

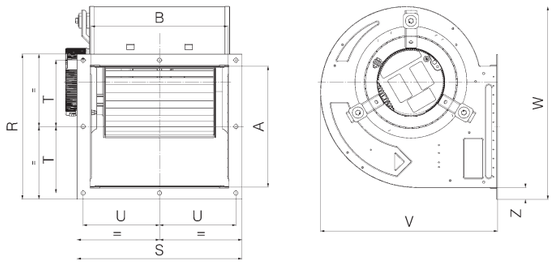
ELECTRONIC CENTRIFUGAL BLOWERS
DDe

Overall Dimensions without accessories



Model	A	B	C	D	E	F	G	H	I
9/7	260	233	60	388	226	162	378	194	184
9/9	260	301	60	388	226	162	378	194	184
10/8	289.6	265	60	443	249.5	193.5	424.5	221.5	203
10/10	289.6	331	60	443	249.5	193.5	424.5	221.5	203
12/9	342	309	60	521	294.5	226.5	490.5	260.5	230
12/12	342	395	60	521	294.5	226.5	490.5	260.5	230

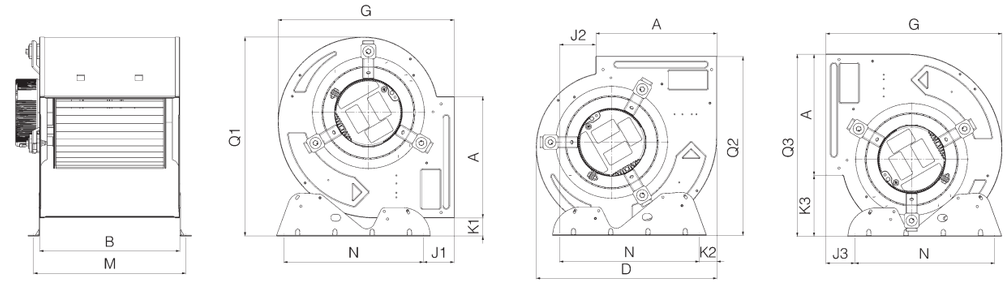
Overall Dimensions with fixing flange



Model	R	S	T	U	V	W	Z
9/7	311	288	142.5	131	380	413.5	25.5
9/9	311	354	142.5	164	380	413.5	25.5
10/8	340	321	157	147.5	427.5	427.5	25.5
10/10	340	387	157	180.5	427.5	427.5	25.5
12/9	390	365	182	169.5	493.5	545.5	24.5
12/12	390	451	182	212.5	493.5	545.5	24.5

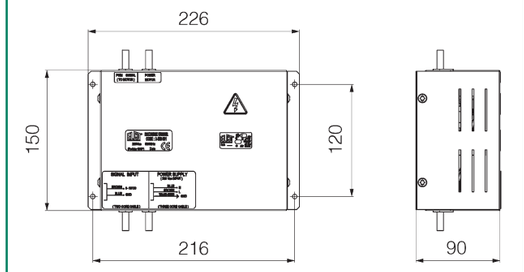
ELECTRONIC CENTRIFUGAL BLOWERS
DDe

Overall Dimensions with support feet



Model	A	B	G	J1	J2	J3	K1	K2	K3	M	N	Q1	Q2	Q3
9/7	260	233	378	66	78	62	39	38	131	259	300	427	386	391
9/9	260	301	378	66	78	62	39	38	131	327	300	427	386	391
10/8	289.6	265	424,5	67	92	68	38	42	158	291	340	481	430	448
10/10	289.6	331	424,5	67	92	68	38	42	158	357	340	481	430	448
12/9	342	309	490,5	69	106	69	38	40	185	335	408	559	496	527
12/12	342	395	490,5	69	106	69	38	40	185	421	408	559	496	527

PFC+EMI Filters Box PWM - 0/10V Converter



GUIDE CHARTS BLOWER'S SELECTION

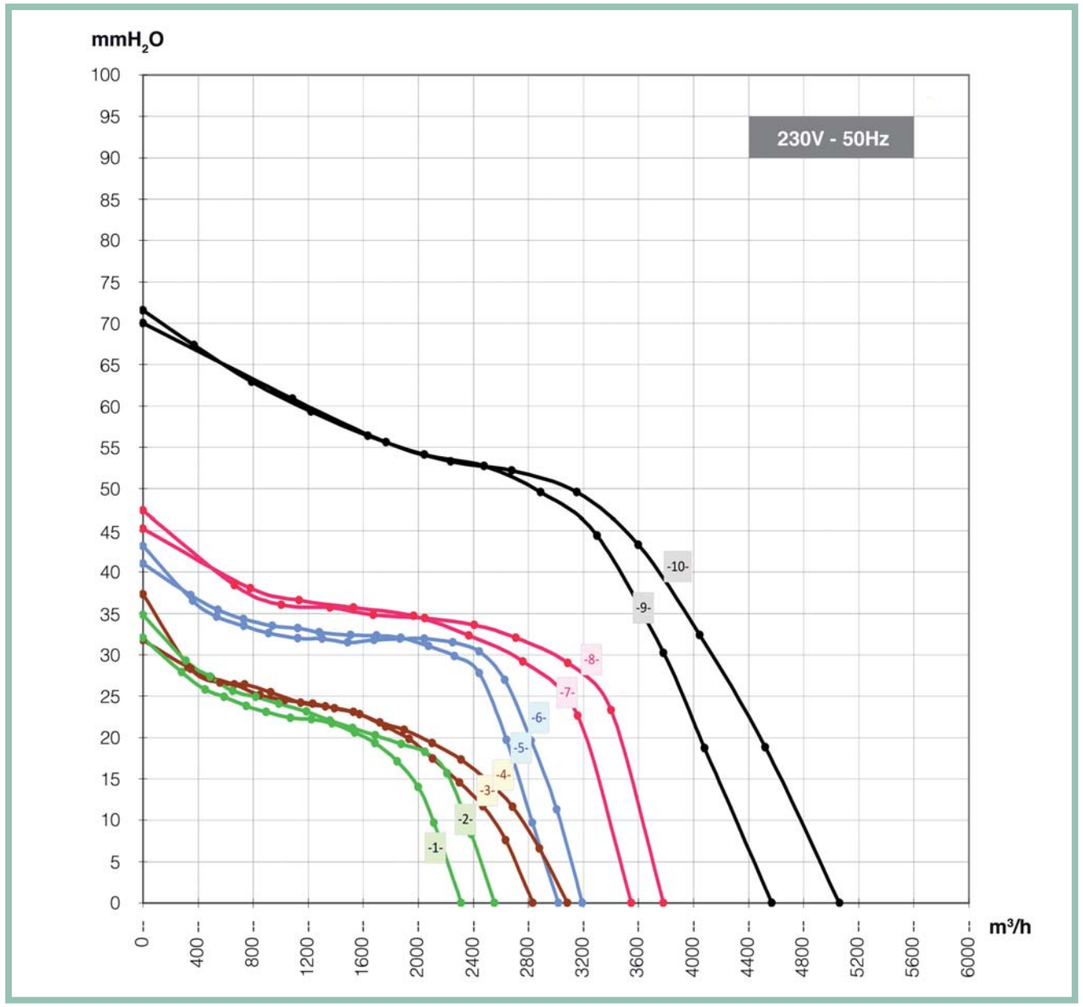
N.	Model	W_nom
1	**DDe 9/7**	1/3 HP
2	**DDe 9/9**	1/3 HP
3	**DDe 9/7**	1/2 HP
4	**DDe 9/9**	1/2 HP
5	**DDe 10/8**	1/2 HP
6	**DDe 10/10**	1/2 HP
7	**DDe 10/8**	3/4 HP
8	**DDe 10/10**	3/4 HP
9	**DDe 12/9**	1 HP
10	**DDe 12/12**	1 HP

Air Flow m^3/h Max - Min (10 Vdc) (1 Vdc)	Pressure mmH_2O Max (1 Vdc)	Test	ErP
2300 - 700	32	PDDe_0007	2015
2550 - 750	32	PDDe_0010	2015
2800 - 850	35	PDDe_0006	2015
3050 - 900	37	PDDe_0004	2015
3000 - 950	41	PDDe_0013	2015
3200 - 1000	44	PDDe_0012	2015
3550 - 1200	45	PDDe_0019	2015
4000 - 1250	48	PDDe_0022	2015
4550 - 1500	70	PDDe_0018	2015
5050 - 1600	72	PDDe_0015	2015

LOW SPEED

ErP 2015

All following tests shown are performed with the PWM - 0/10V Converter. Refer to page 15 for details.



GUIDE CHARTS BLOWER'S SELECTION

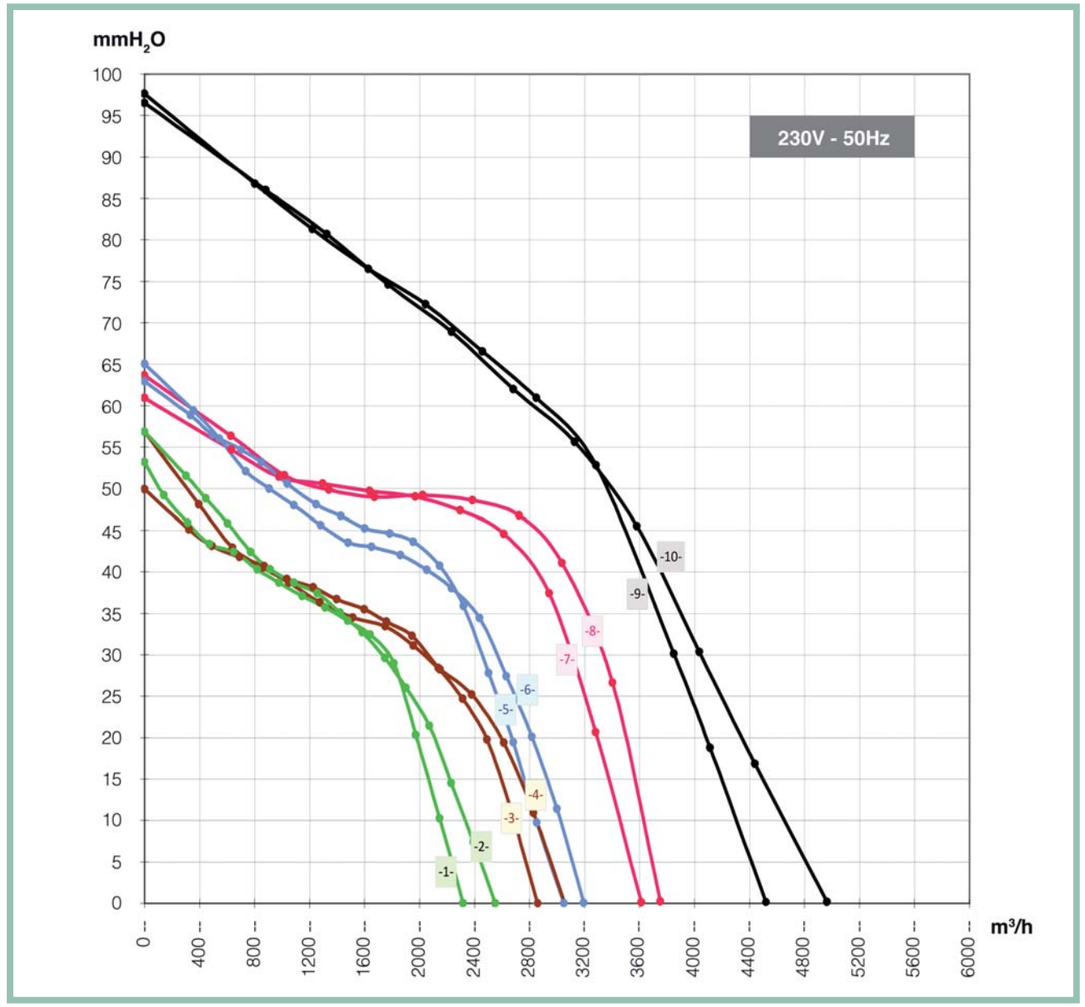
N.	Model	W_nom
1	**DDe 9/7**	1/3 HP
2	**DDe 9/9**	1/3 HP
3	**DDe 9/7**	1/2 HP
4	**DDe 9/9**	1/2 HP
5	**DDe 10/8**	1/2 HP
6	**DDe 10/10**	1/2 HP
7	**DDe 10/8**	3/4 HP
8	**DDe 10/10**	3/4 HP
9	**DDe 12/9**	1 HP
10	**DDe 12/12**	1 HP

Air Flow m^3/h Max - Min (10 Vdc) (1 Vdc)	Pressure mmH_2O Max (1 Vdc)	Test	ErP
2300 - 700	50	PDDe_0008	2015
2550 - 750	54	PDDe_0009	2015
2850 - 850	57	PDDe_0005	2015
3050 - 900	57	PDDe_0003	2015
3000 - 950	61	PDDe_0014	2015
3200 - 1000	63	PDDe_0011	2015
3600 - 1150	64	PDDe_0020	2015
3750 - 1300	65	PDDe_0021	2015
4500 - 1450	97	PDDe_0017	2015
5000 - 1650	98	PDDe_0016	2015

HIGH SPEED

ErP 2015

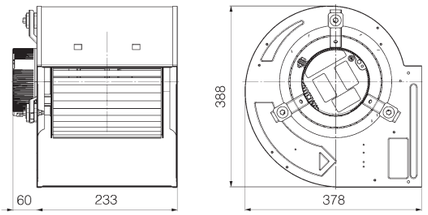
All following tests shown are performed with the PWM - 0/10V Converter. Refer to page 15 for details.



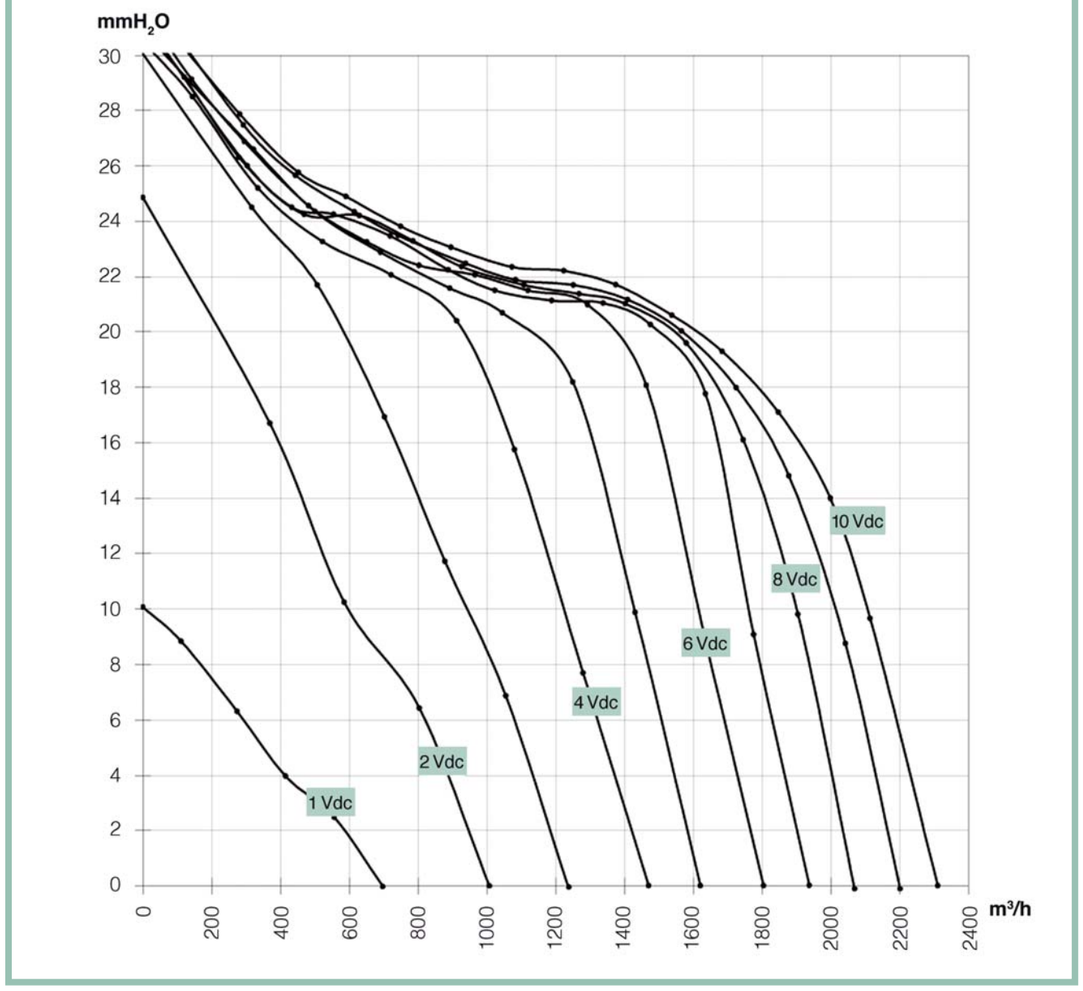
PERFORMANCE CURVES

DDe 9/7 - 1/3 HP LOW SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1/3 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 9/7**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-007

Operating limits

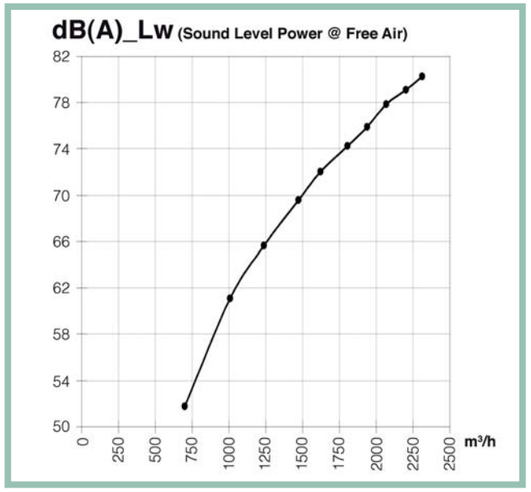
Win:	Min 15 - Max 400 (W)
Ampere:	Min 0.15 - Max 2.5 (A)
Static Pressure:	Min 0 - Max 35 (mmH_2O)

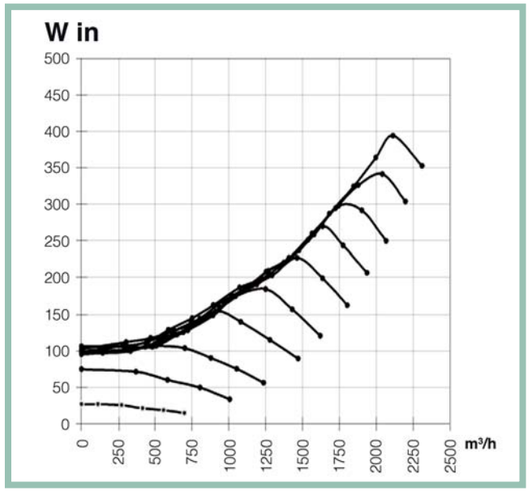
Measurement Category - A -
Free Inlet - Free Outlet

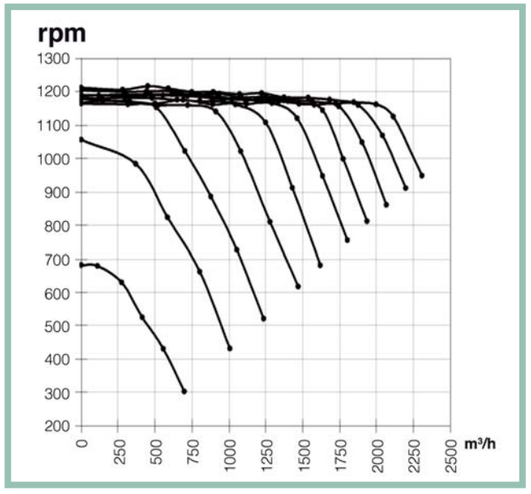
Value @ max.efficiency

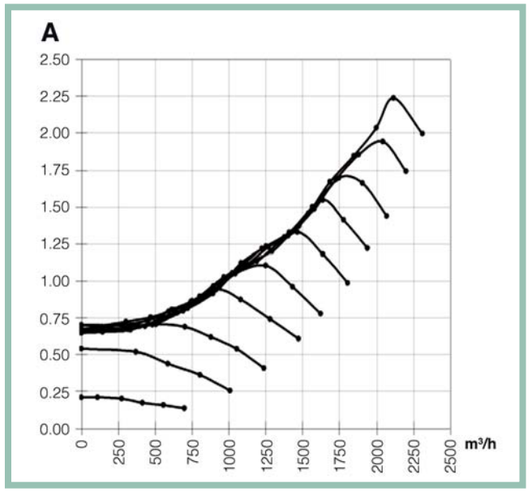
Air Flow:	1224 (m^3/h)
Static Pressure:	22.2 (mmH_2O)
Rpm:	1195 (min-1)
Power Input:	199 (W)

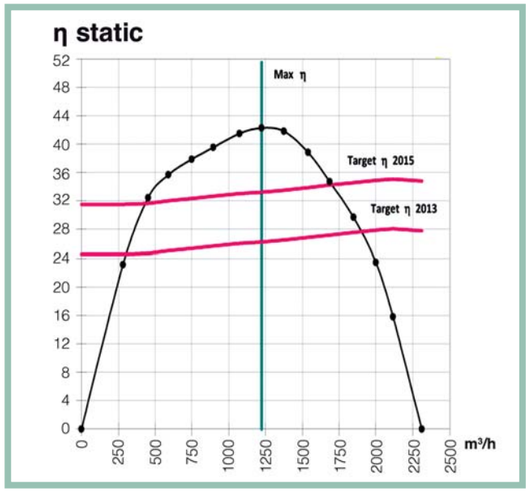
Overall efficiency (η): 42.3
Grade efficiency (N): 53.0







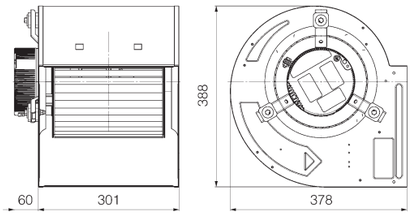




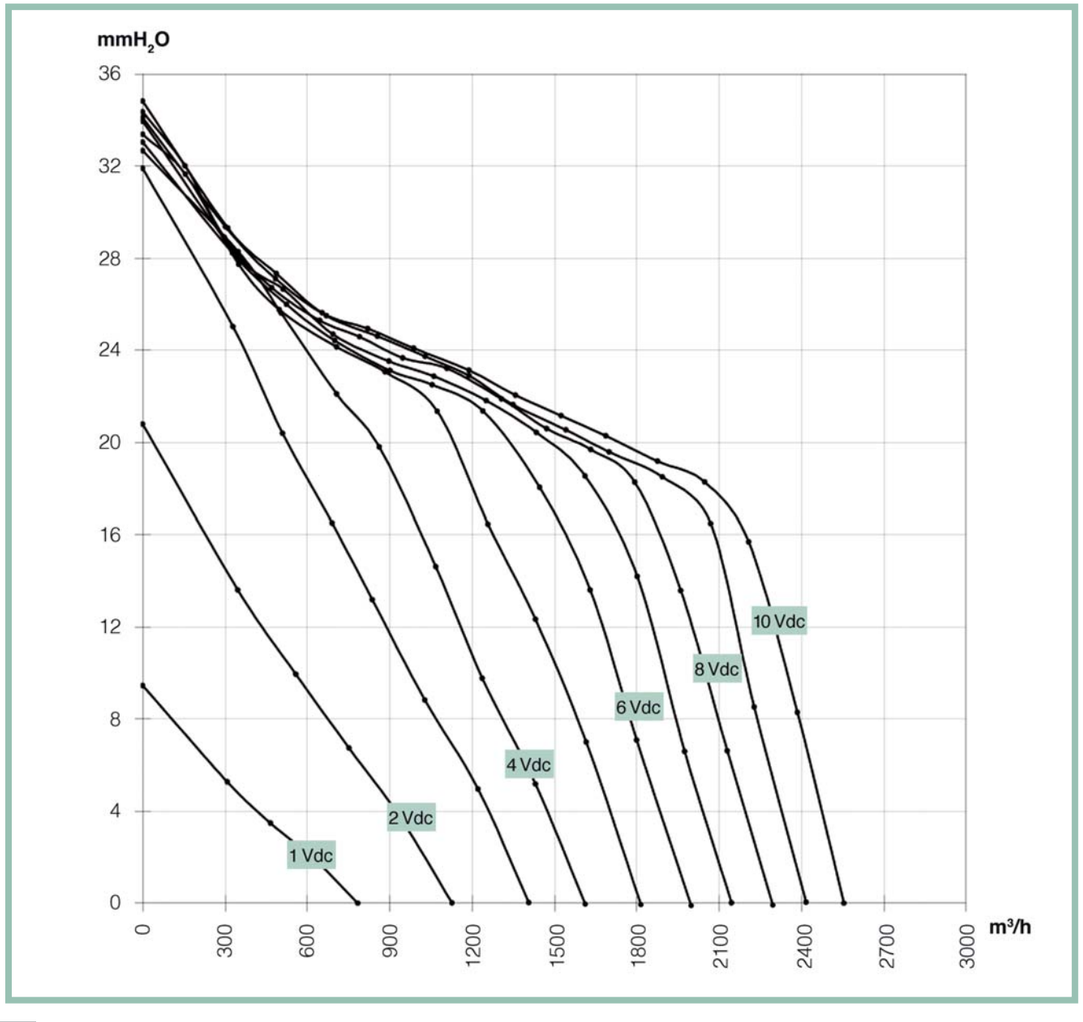
PERFORMANCE CURVES

DDe 9/9 - 1/3 HP LOW SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1/3 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 9/9**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-010

Operating limits

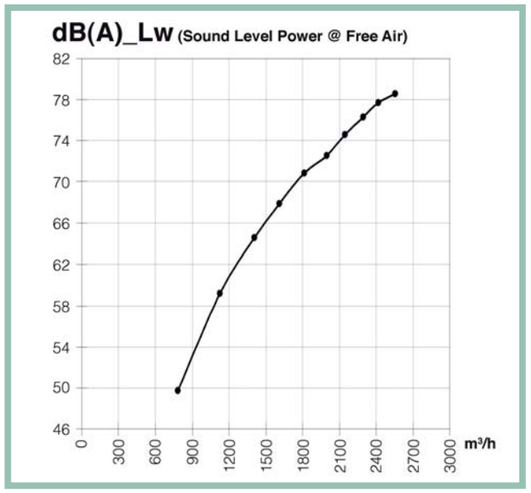
Win:	Min 15 - Max 400 (W)
Ampere:	Min 0.15 - Max 2.5 (A)
Static Pressure:	Min 0 - Max 35 (mmH_2O)

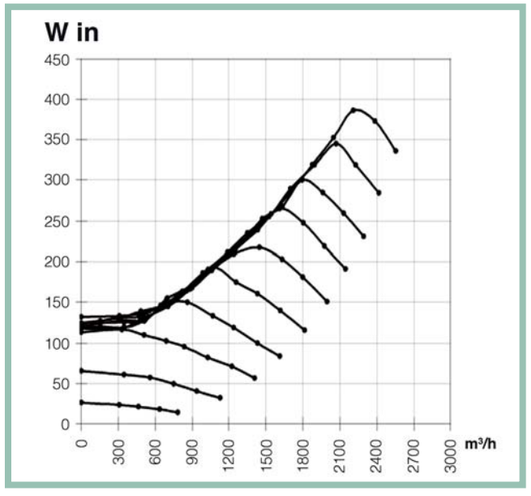
Measurement Category - A -
Free Inlet - Free Outlet

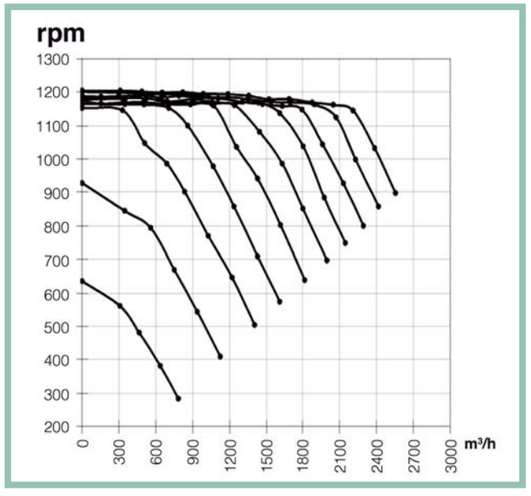
Value @ max.efficiency

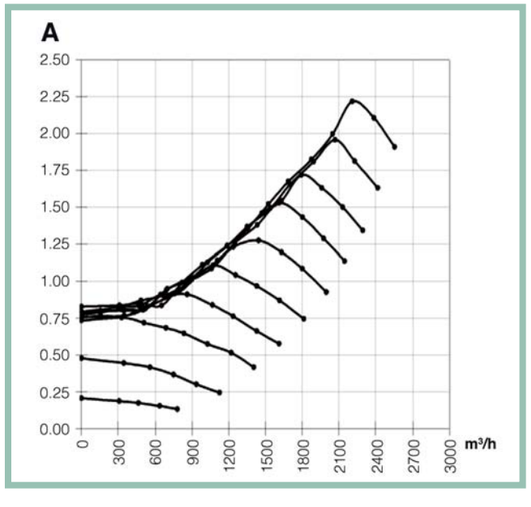
Air Flow:	1189 (m^3/h)
Static Pressure:	23.1 (mmH_2O)
Rpm:	1193 (min-1)
Power Input:	210.2 (W)

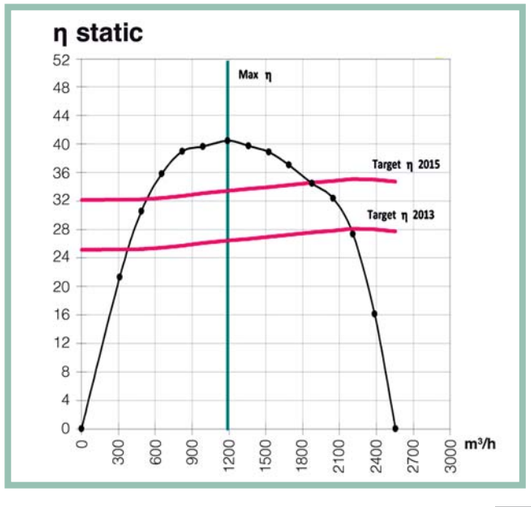
Overall efficiency (η): 40.4
Grade efficiency (N): 51.0







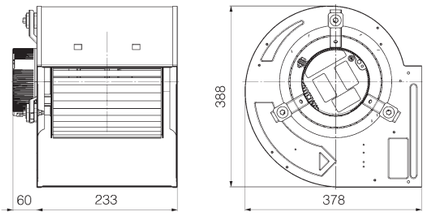




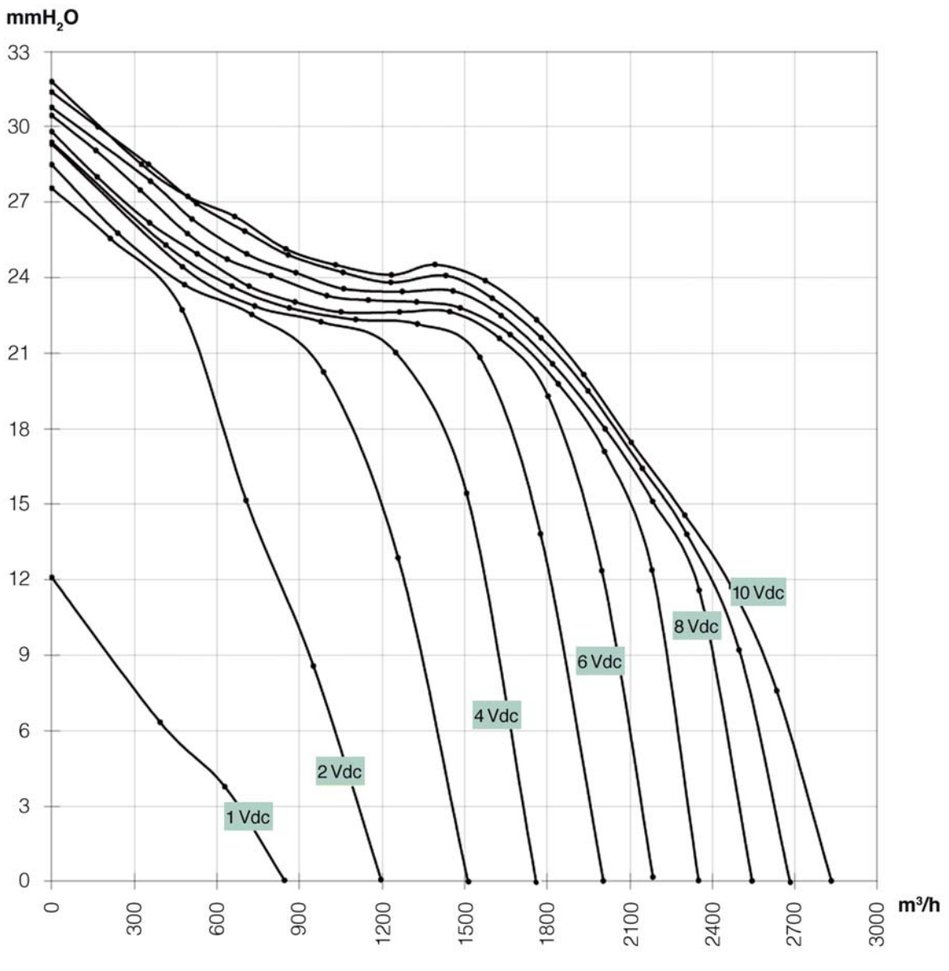
PERFORMANCE CURVES

DDe 9/7 - 1/2 HP LOW SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1/2 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 9/7**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-006

Operating limits

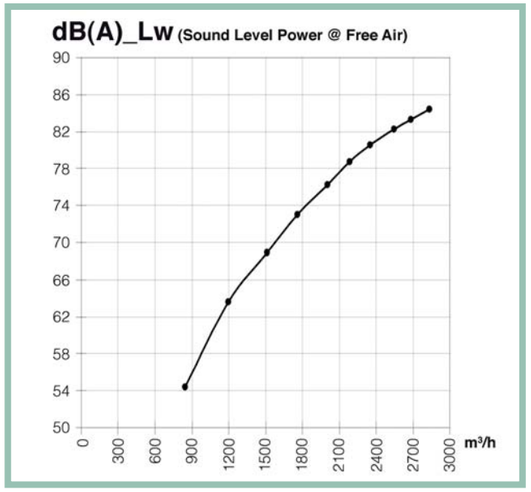
Win:	Min 20 - Max 550 (W)
Ampere:	Min 0.15 - Max 3.5 (A)
Static Pressure:	Min 0 - Max 32 (mmH_2O)

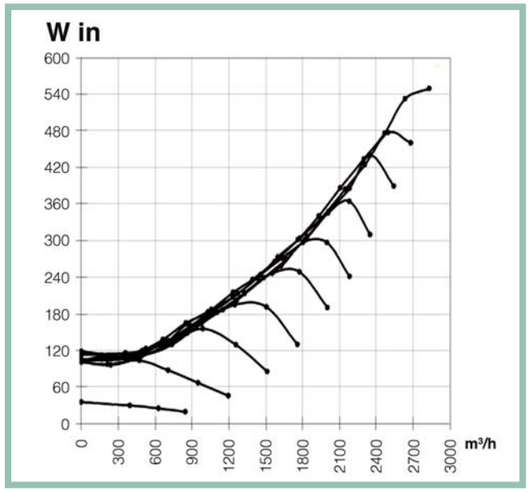
Measurement Category - A -
Free Inlet - Free Outlet

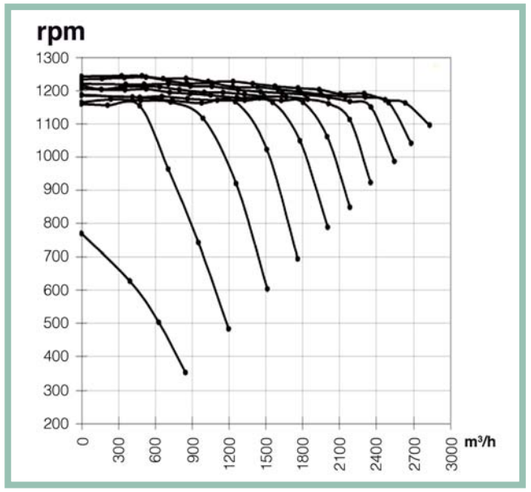
Value @ max.efficiency

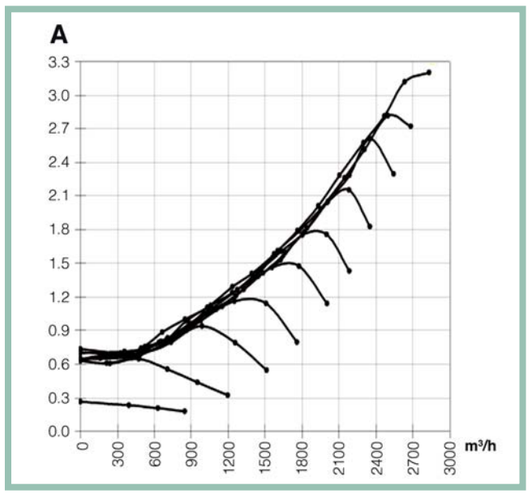
Air Flow:	1393 (m^3/h)
Static Pressure:	24.7 (mmH_2O)
Rpm:	1220 (min-1)
Power Input:	236.6 (W)

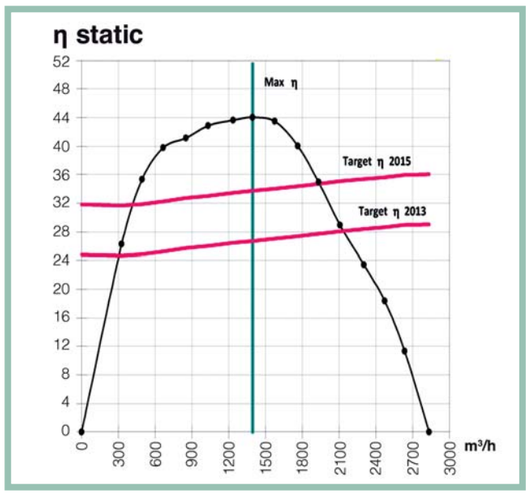
Overall efficiency (η): 44.8
Grade efficiency (N): 55.1







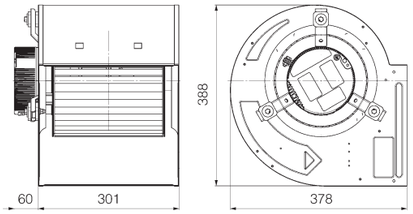




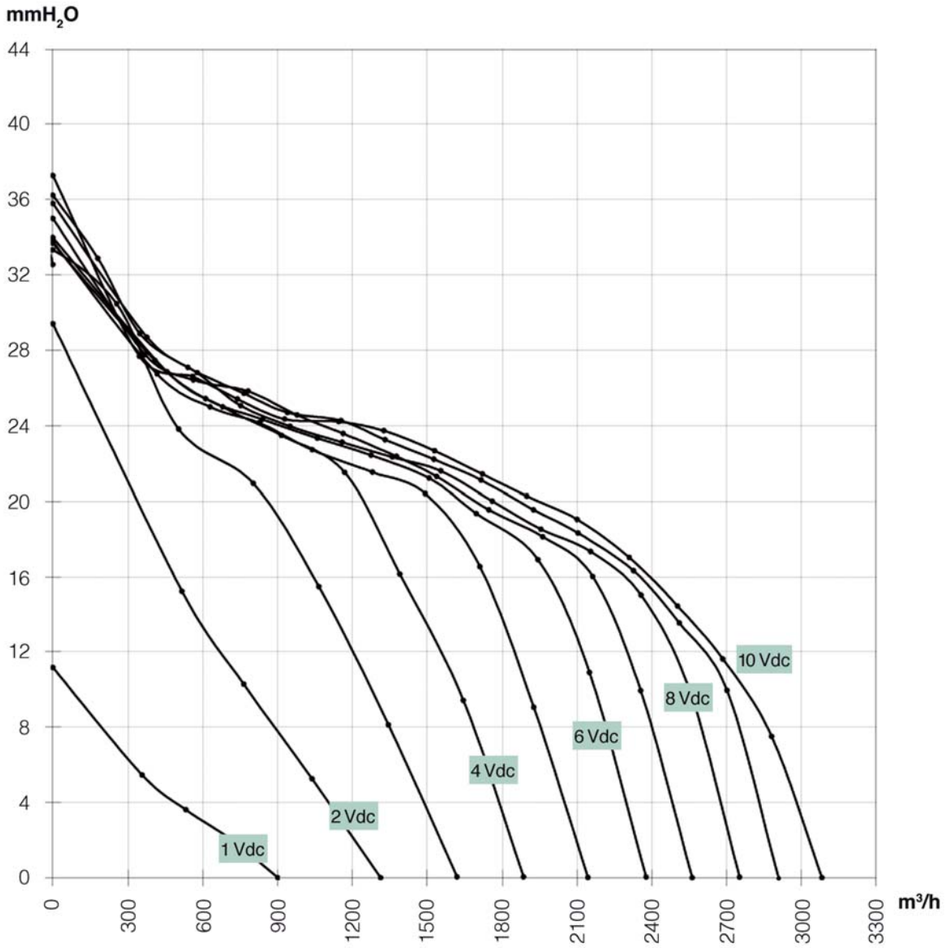
PERFORMANCE CURVES

DDe 9/9 - 1/2 HP LOW SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1/2 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 9/9**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-004

Operating limits

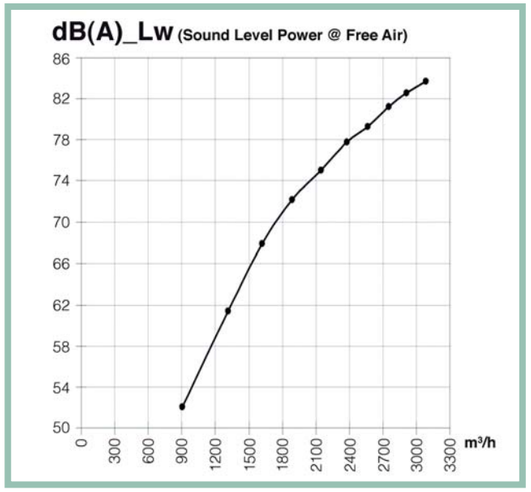
Win:	Min 20 - Max 550 (W)
Ampere:	Min 0.15 - Max 3.5 (A)
Static Pressure:	Min 0 - Max 38 (mmH_2O)

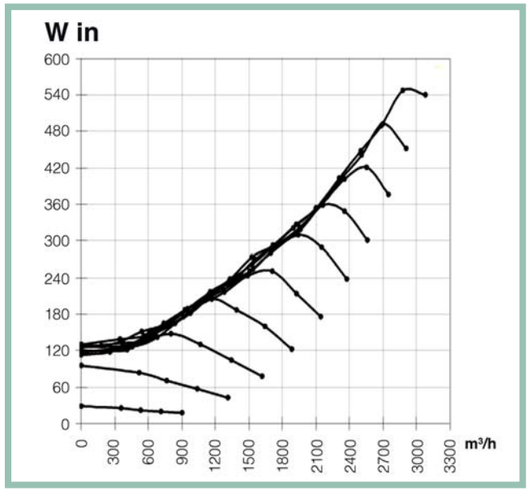
Measurement Category - A -
Free Inlet - Free Outlet

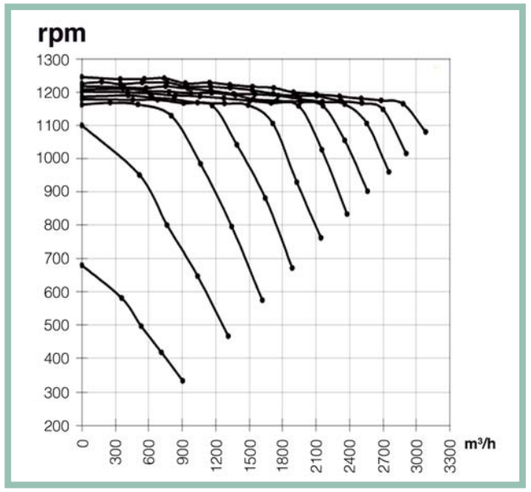
Value @ max.efficiency

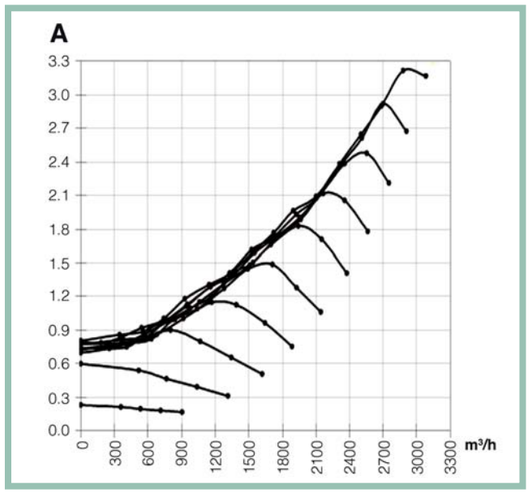
Air Flow:	1530 (m^3/h)
Static Pressure:	23.1 (mmH_2O)
Rpm:	1215 (min^{-1})
Power Input:	262 (W)

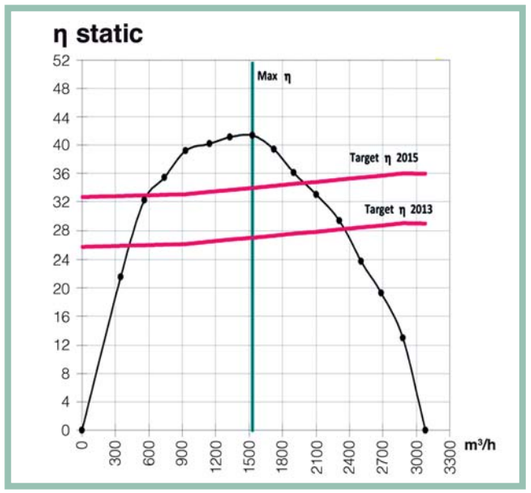
Overall efficiency (η): 41.4
Grade efficiency (N): 51.4







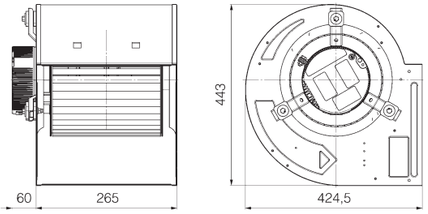




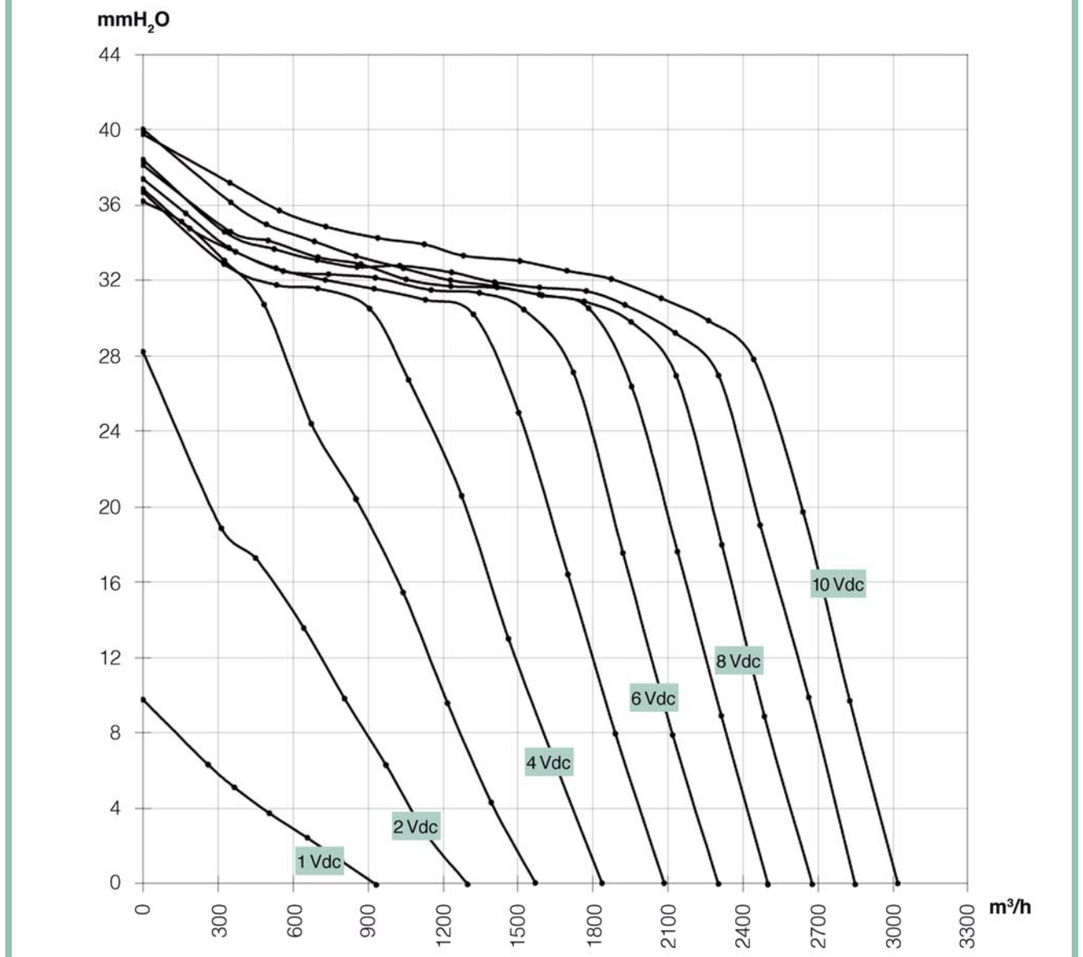
PERFORMANCE CURVES

DDe 10/8 - 1/2 HP LOW SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1/2 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 10/8**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-013

Operating limits

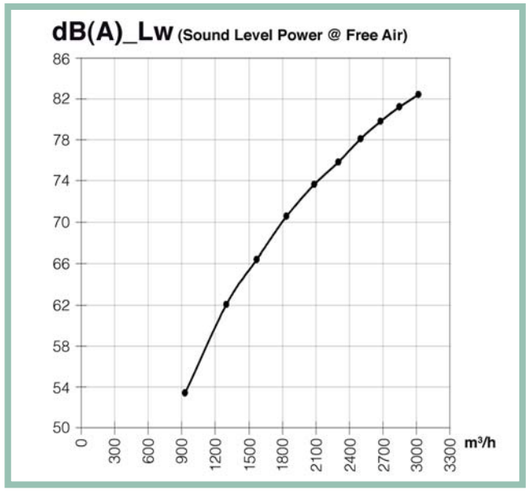
Win:	Min 15 - Max 580 (W)
Ampere:	Min 0.15 - Max 3.5 (A)
Static Pressure:	Min 0 - Max 40 (mmH_2O)

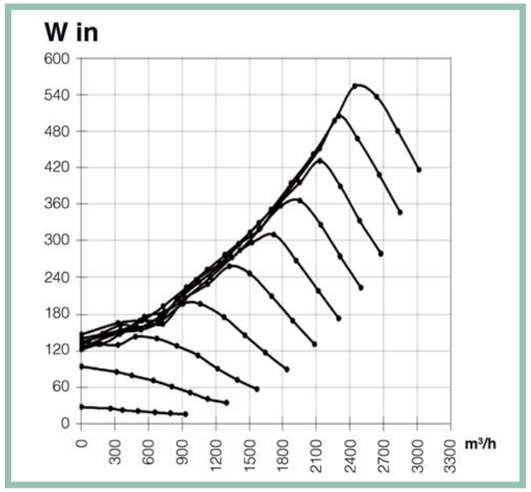
Measurement Category - A -
Free Inlet - Free Outlet

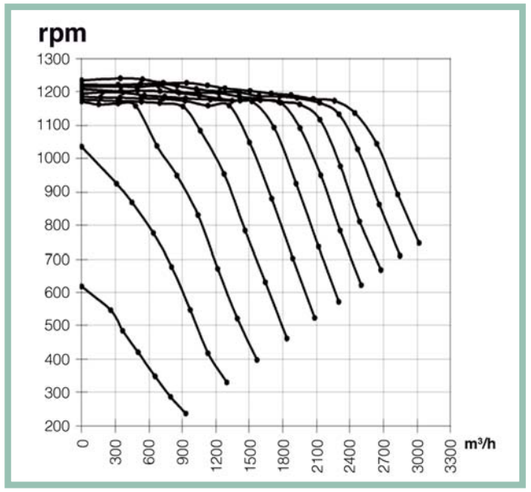
Value @ max.efficiency

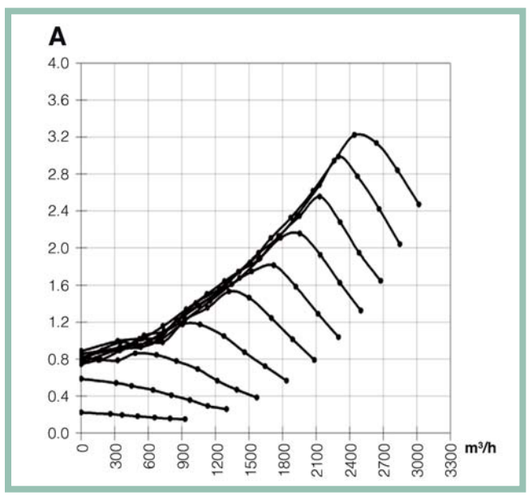
Air Flow:	1508 (m^3/h)
Static Pressure:	33.0 (mmH_2O)
Rpm:	1202 (min^{-1})
Power Input:	313.5 (W)

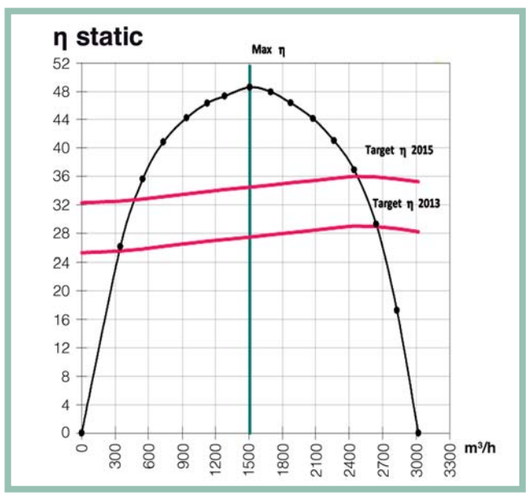
Overall efficiency (η): 48.6
Grade efficiency (N): 58.1







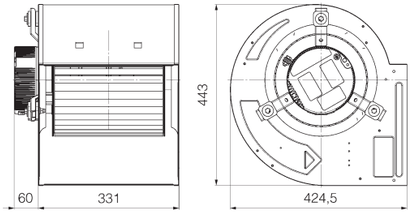




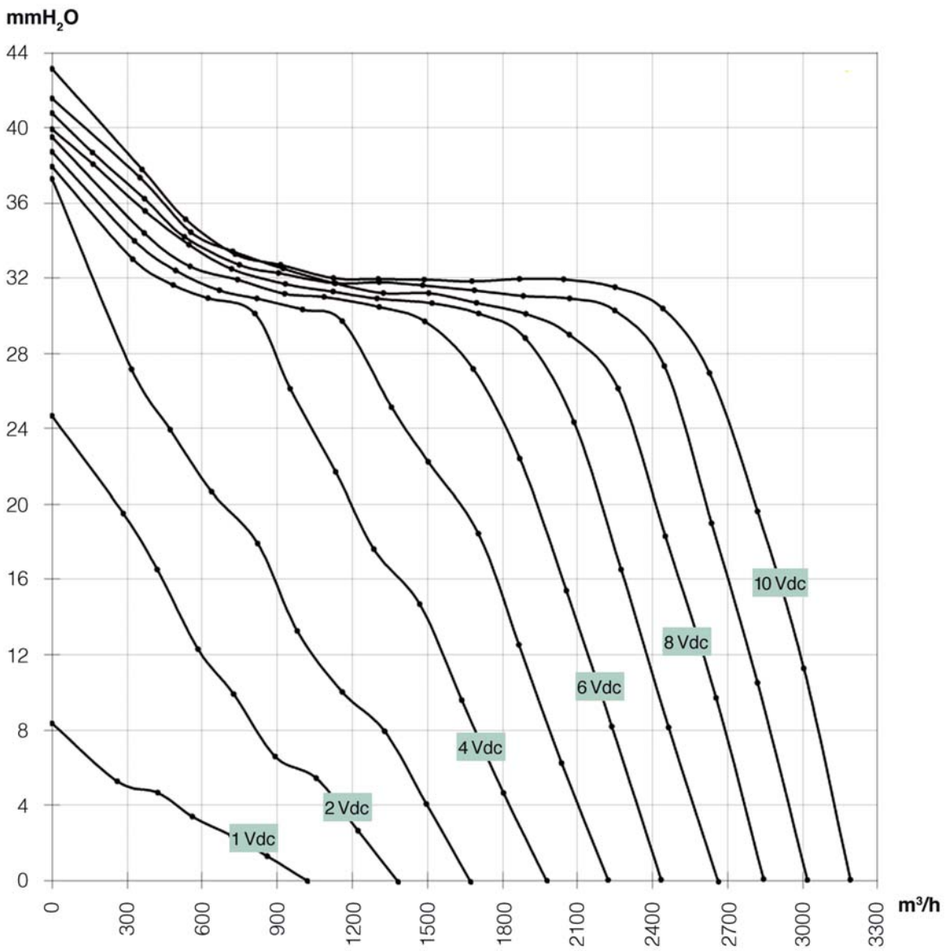
PERFORMANCE CURVES

DDe 10/10 - 1/2 HP LOW SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1/2 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 10/10**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-012

Operating limits

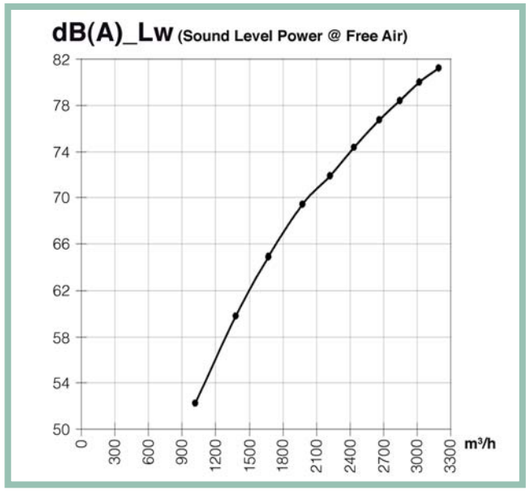
Win:	Min 15 - Max 580 (W)
Ampere:	Min 0.15 - Max 3.5 (A)
Static Pressure:	Min 0 - Max 44 (mmH_2O)

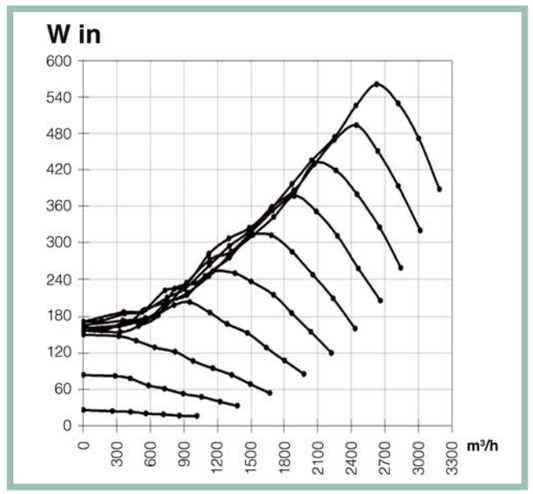
Measurement Category - A -
Free Inlet - Free Outlet

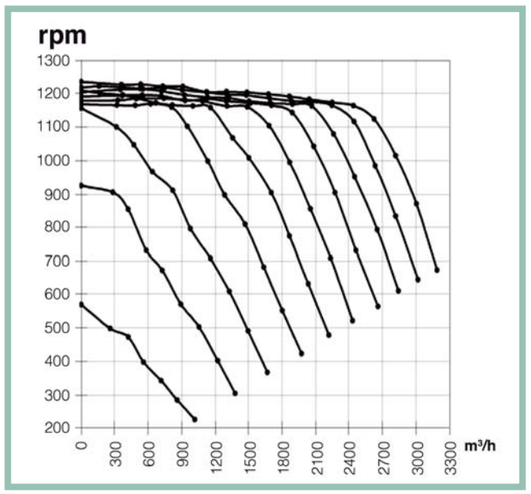
Value @ max.efficiency

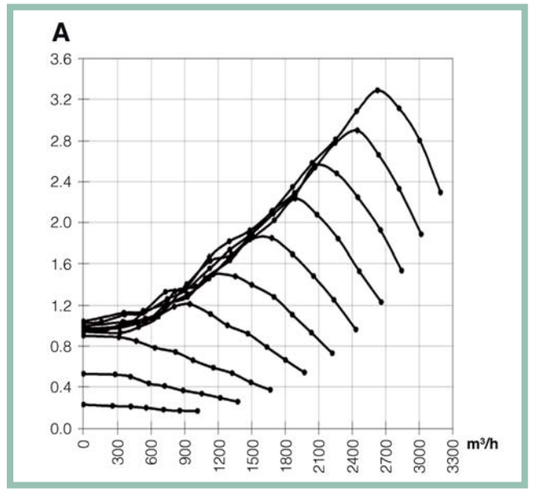
Air Flow:	1869 (m^3/h)
Static Pressure:	32.0 (mmH_2O)
Rpm:	1191 (min-1)
Power Input:	396.2 (W)

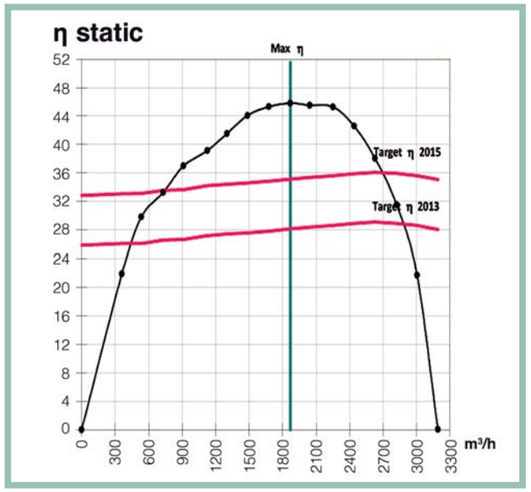
Overall efficiency (η): 45.8
Grade efficiency (N): 54.7







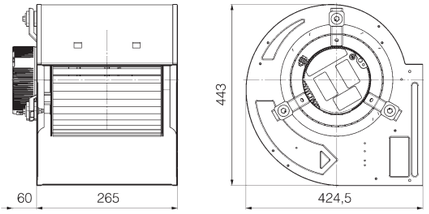




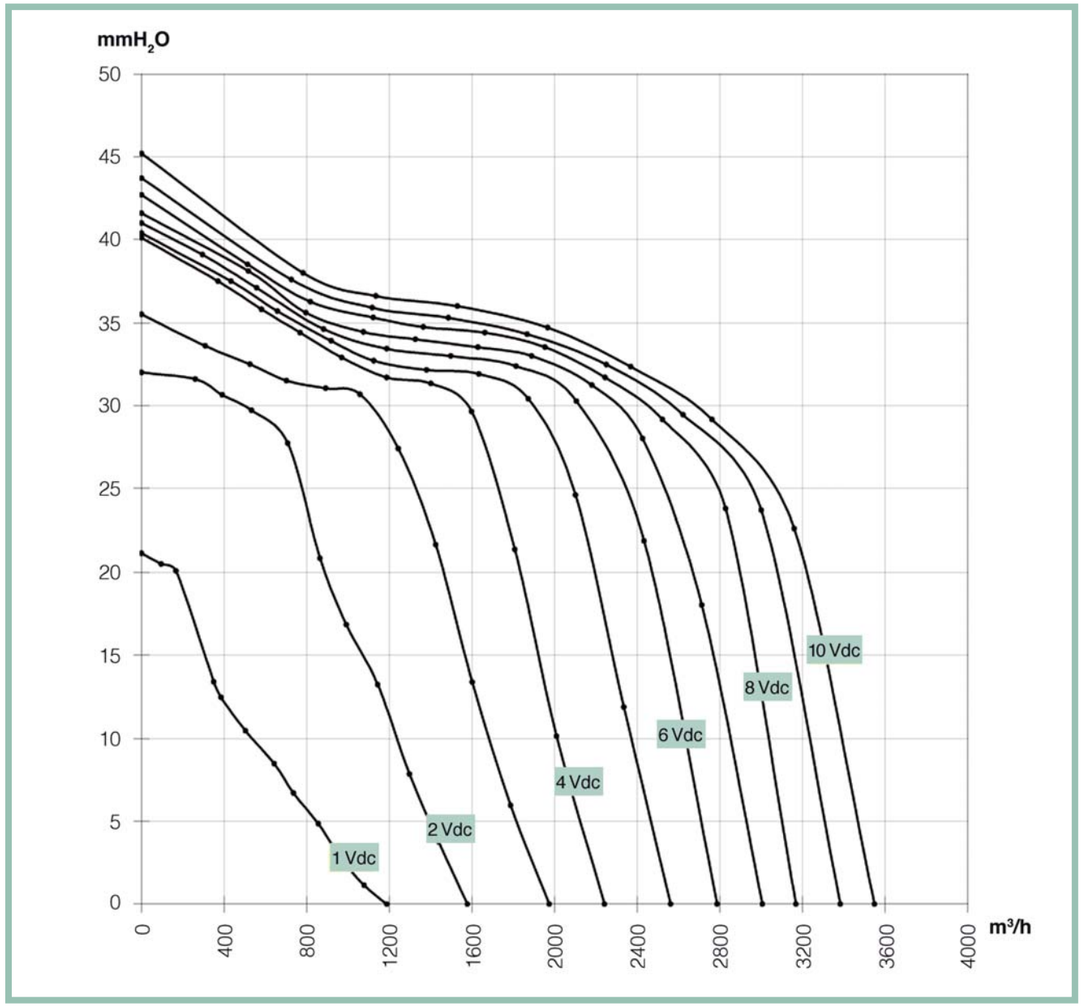
PERFORMANCE CURVES

DDe 10/8 - 3/4 HP LOW SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	3/4 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 10/8**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-019

Operating limits

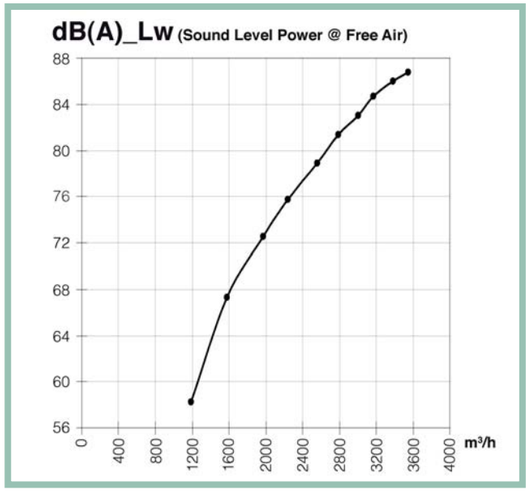
Win:	Min 25 - Max 800 (W)
Ampere:	Min 0.15 - Max 4.0 (A)
Static Pressure:	Min 0 - Max 45 (mmH_2O)

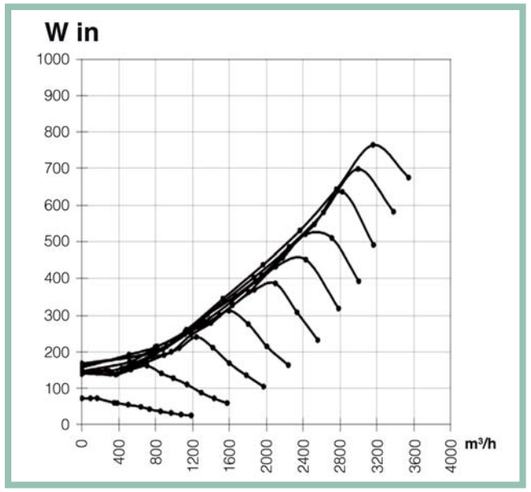
Measurement Category - A -
Free Inlet - Free Outlet

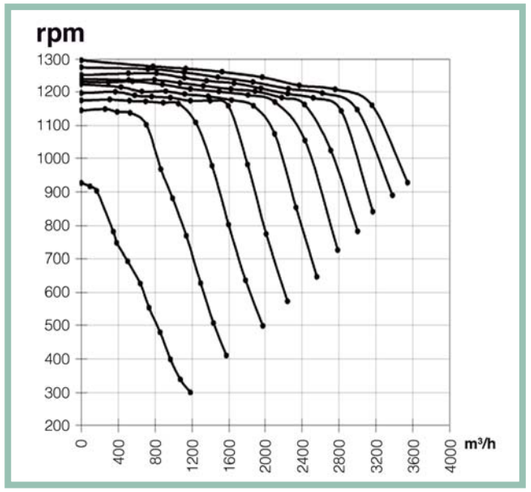
Value @ max.efficiency

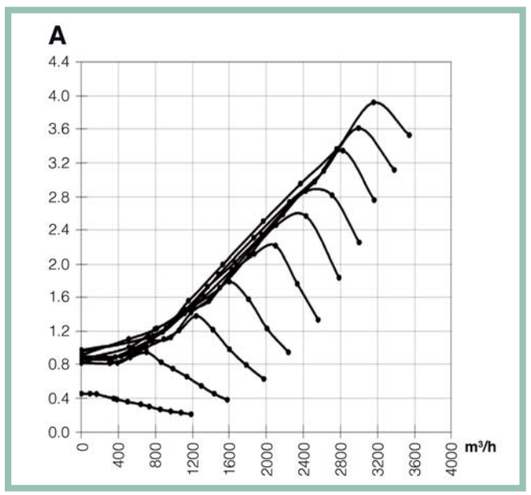
Air Flow:	1135 (m^3/h)
Static Pressure:	36.6 (mmH_2O)
Rpm:	1270 (min^{-1})
Power Input:	260 (W)

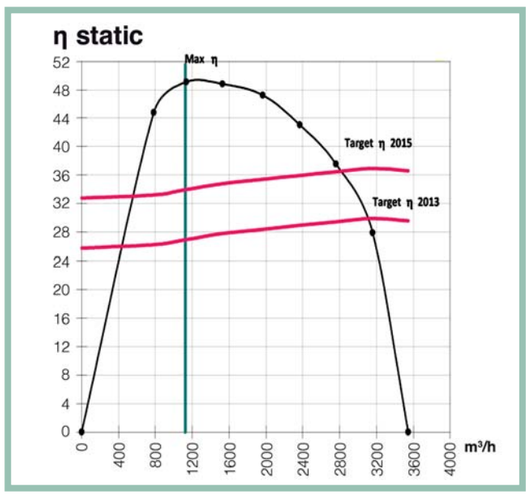
Overall efficiency (η): 49.1
Grade efficiency (N): 59.1







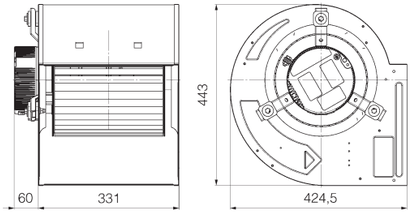




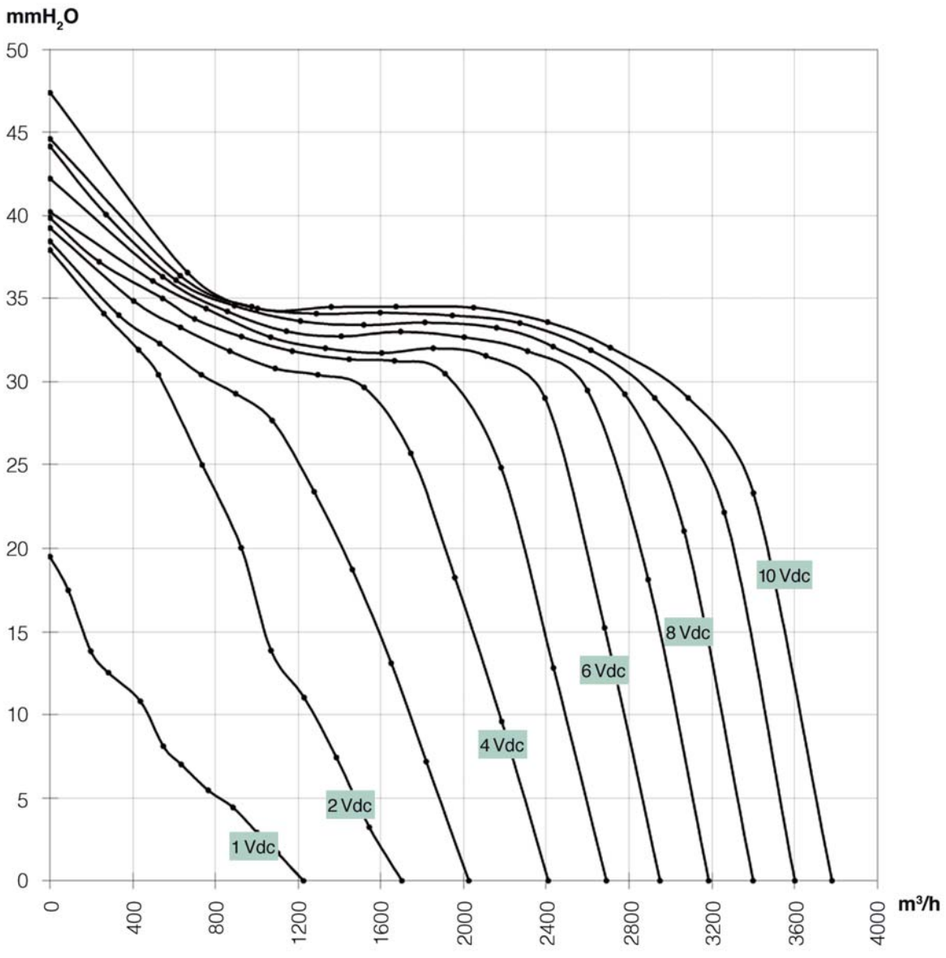
PERFORMANCE CURVES

DDe 10/10 - 3/4 HP LOW SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	3/4 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 10/10**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-022

Operating limits

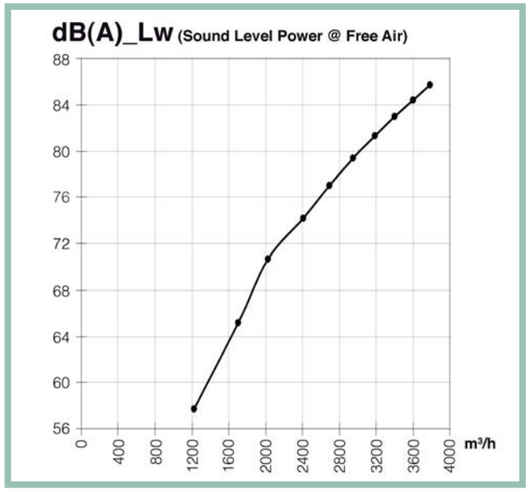
Win:	Min 25 - Max 800 (W)
Ampere:	Min 0.15 - Max 4.2 (A)
Static Pressure:	Min 0 - Max 48 (mmH_2O)

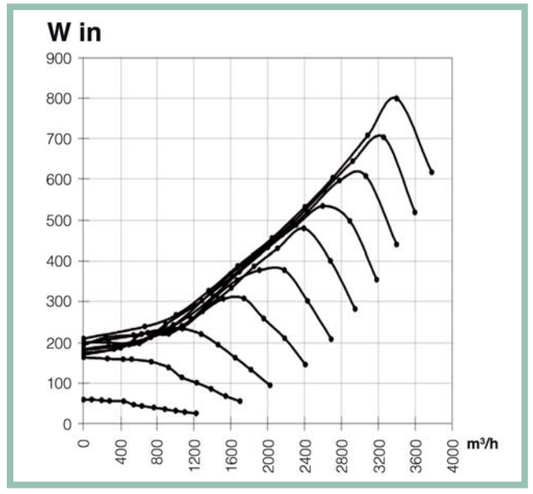
Measurement Category - A -
Free Inlet - Free Outlet

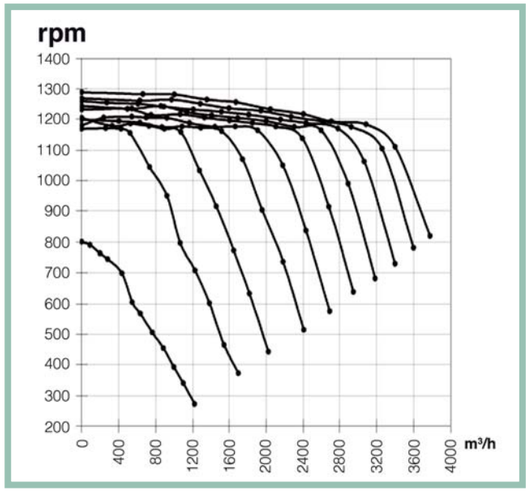
Value @ max.efficiency

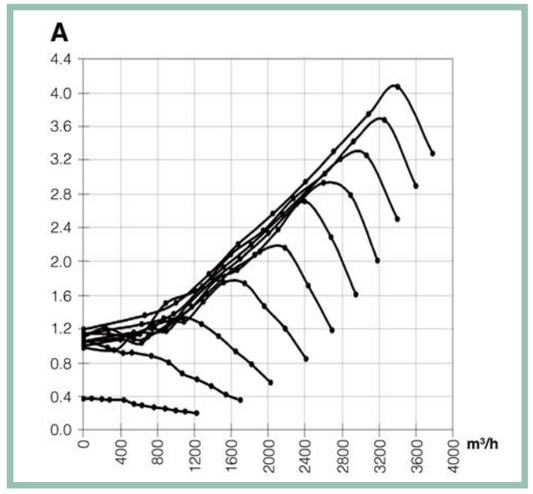
Air Flow:	2049 (m^3/h)
Static Pressure:	34.4 (mmH_2O)
Rpm:	1233 (min^{-1})
Power Input:	455 (W)

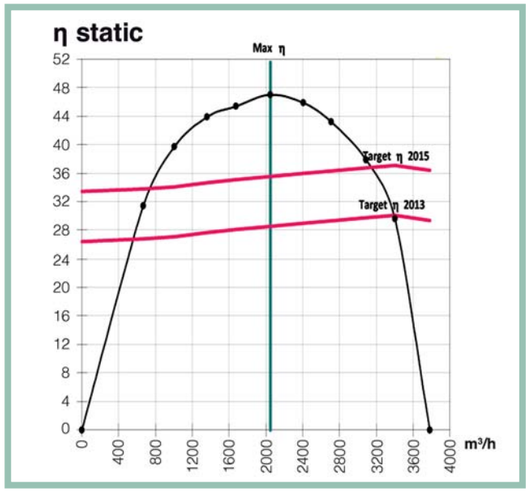
Overall efficiency (η): 47.0
Grade efficiency (N): 55.4







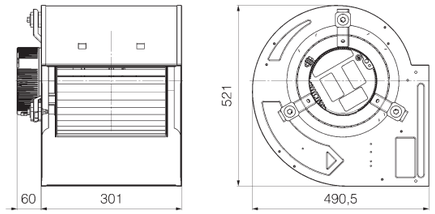




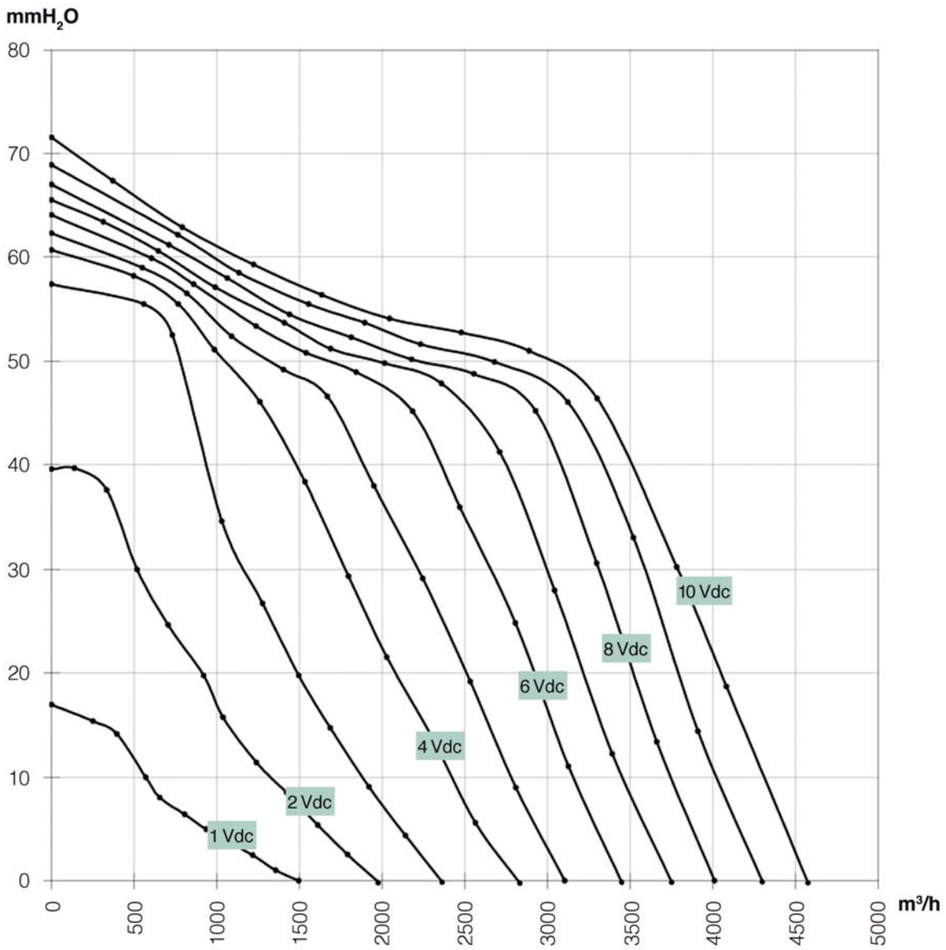
PERFORMANCE CURVES

DDe 12/9 - 1 HP LOW SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 12/9**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-018

Operating limits

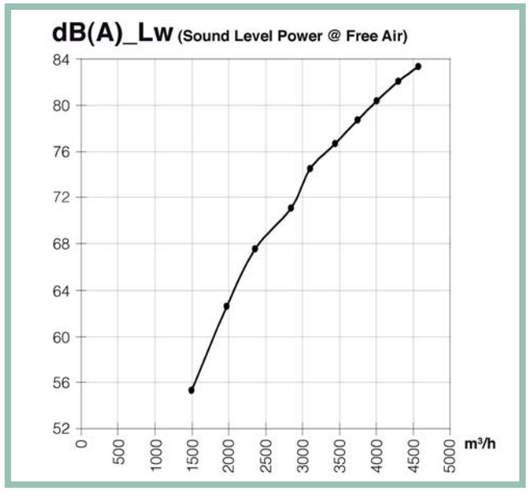
Win:	Min 25 - Max 1100 (W)
Ampere:	Min 0.2 - Max 5.5 (A)
Static Pressure:	Min 0 - Max 71 (mmH_2O)

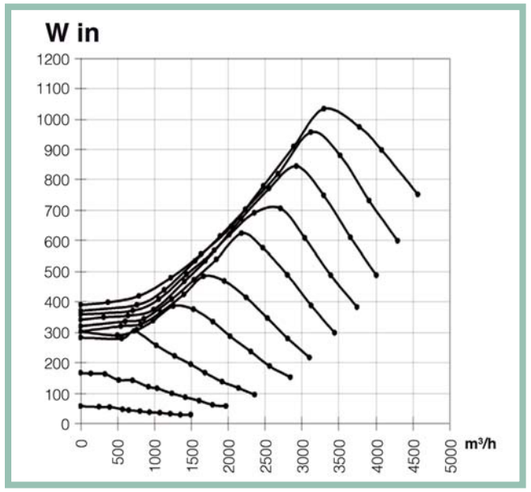
Measurement Category - A -
Free Inlet - Free Outlet

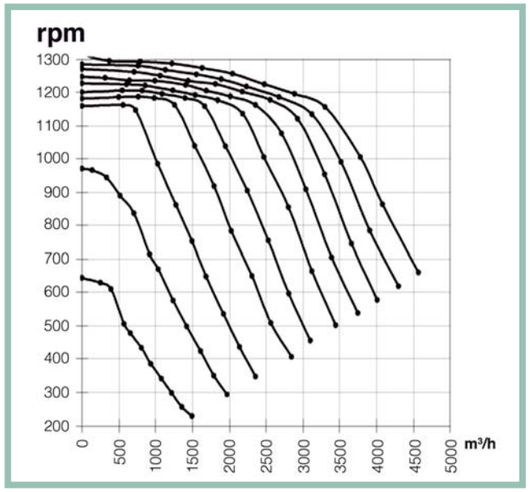
Value @ max.efficiency

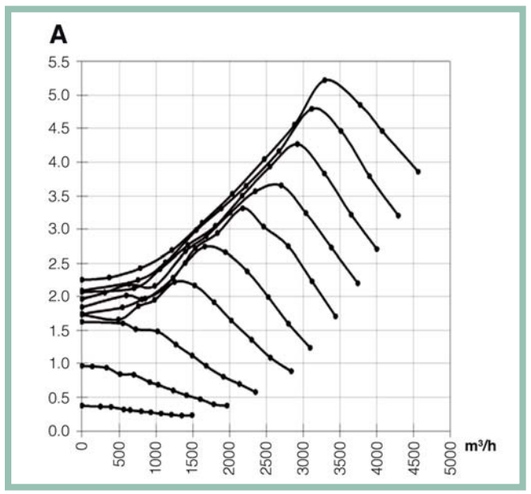
Air Flow:	2044 (m^3/h)
Static Pressure:	54.1 (mmH_2O)
Rpm:	1245 (min^{-1})
Power Input:	648 (W)

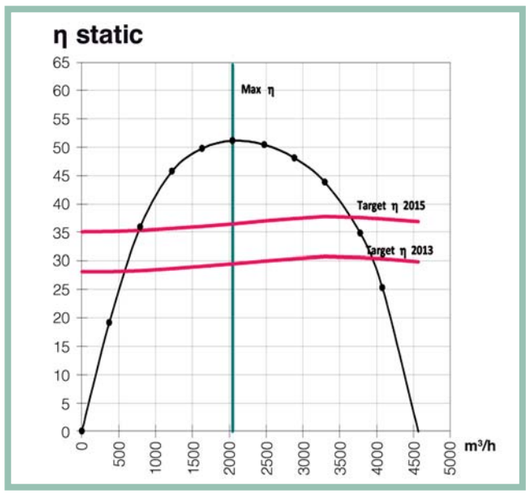
Overall efficiency (η): 51.2
Grade efficiency (N): 58.7







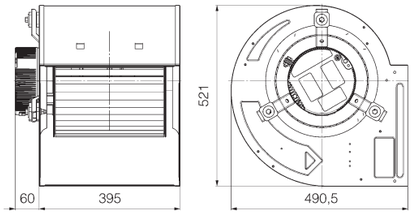




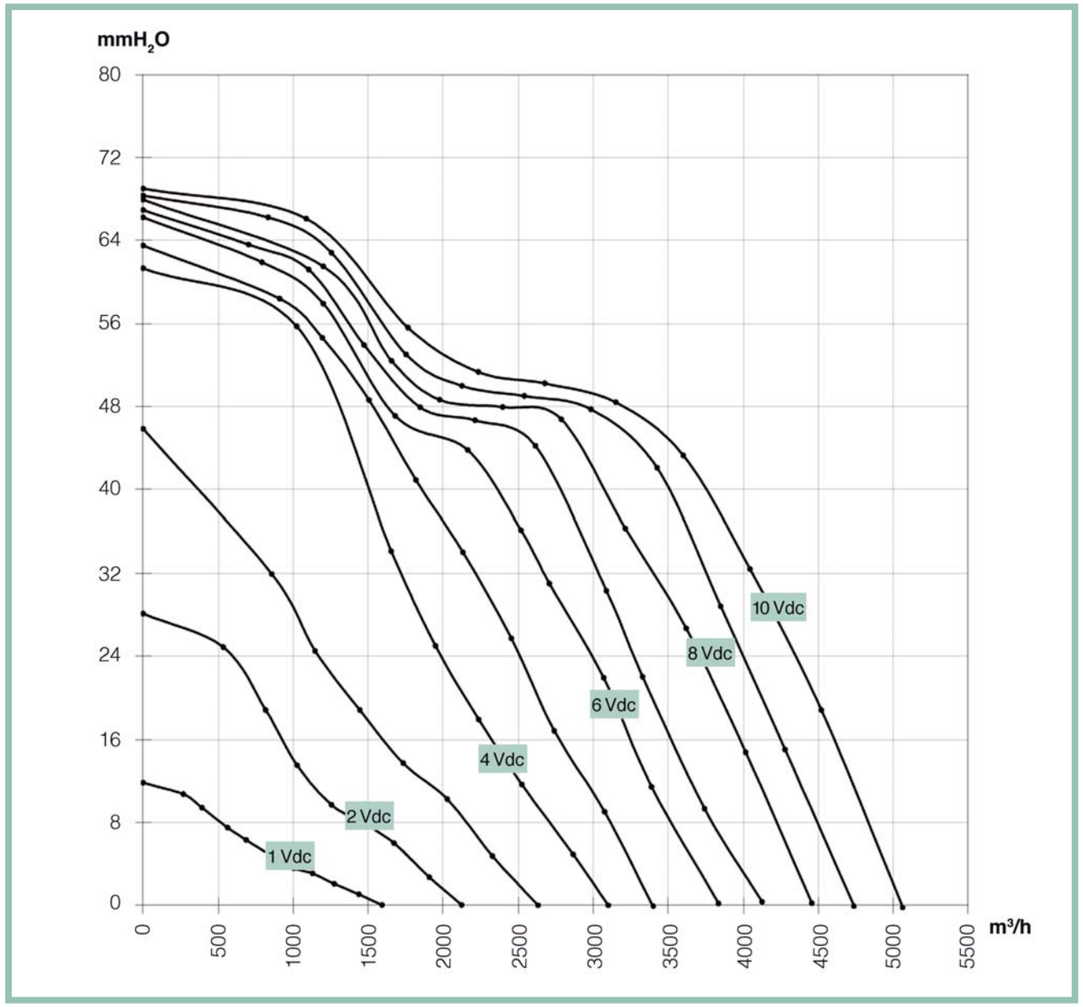
PERFORMANCE CURVES

DDe 12/12 - 1 HP LOW SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 12/12**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-015

Operating limits

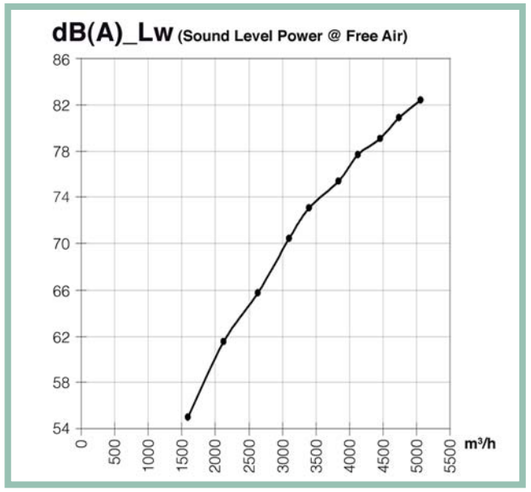
Win:	Min 25 - Max 1100 (W)
Ampere:	Min 0.2 - Max 5.5 (A)
Static Pressure:	Min 0 - Max 71 (mmH_2O)

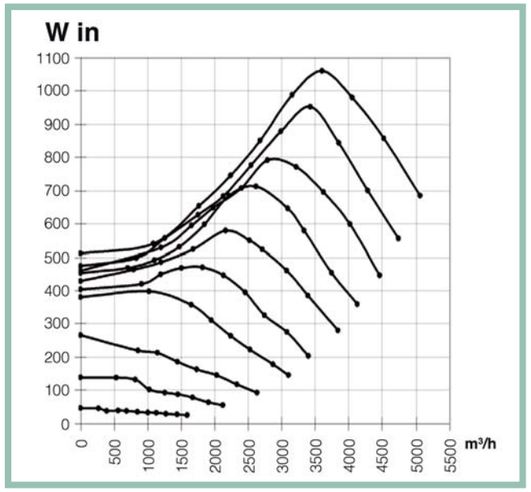
Measurement Category - A -
Free Inlet - Free Outlet

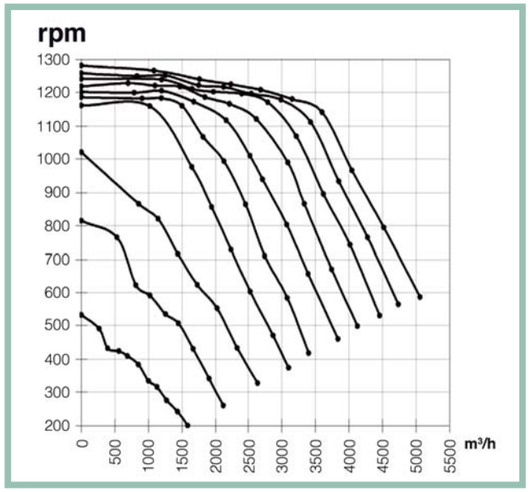
Value @ max.efficiency

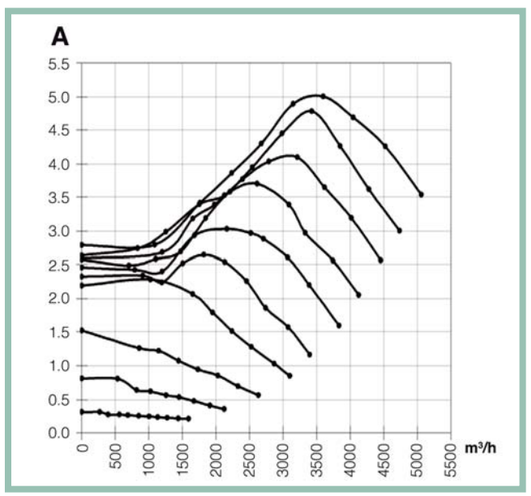
Air Flow:	2519 (m^3/h)
Static Pressure:	36.1 (mmH_2O)
Rpm:	1010 (min^{-1})
Power Input:	550 (W)

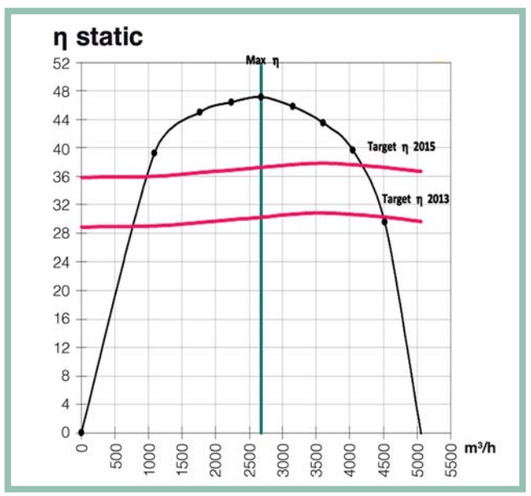
Overall efficiency (η): 49.8
Grade efficiency (N): 57.8







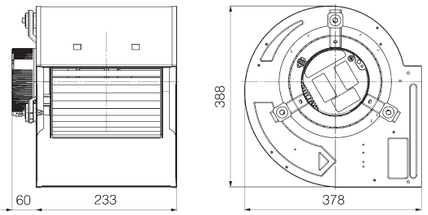




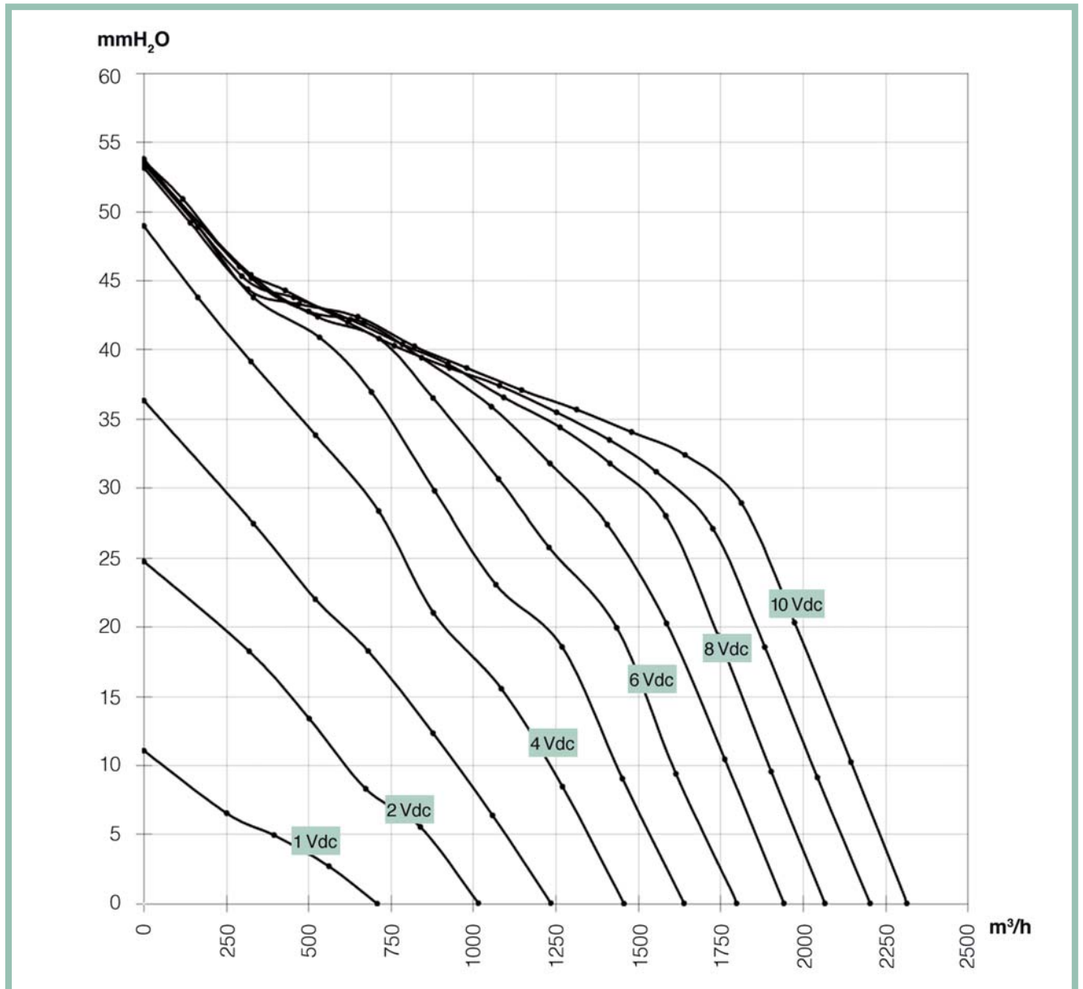
PERFORMANCE CURVES

DDe 9/7 - 1/3 HP HIGH SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1/3 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 9/7**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-008

Operating limits

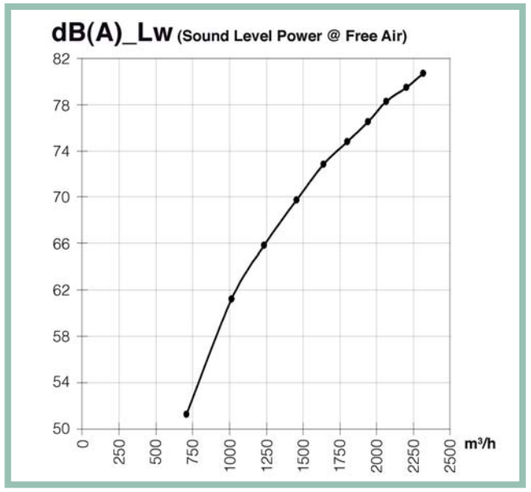
Win:	Min 15 - Max 450 (W)
Ampere:	Min 0.15 - Max 2.5 (A)
Static Pressure:	Min 0 - Max 55 (mmH_2O)

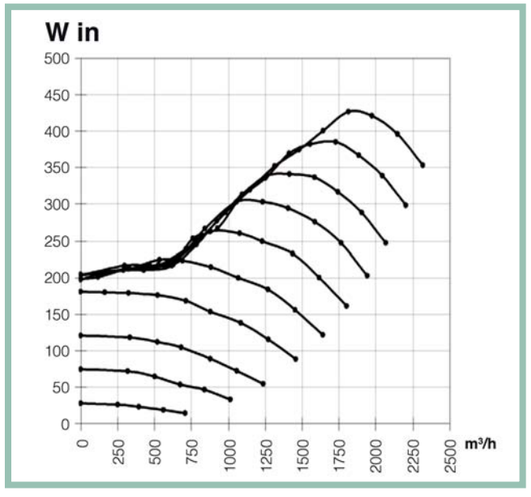
Measurement Category - A -
Free Inlet - Free Outlet

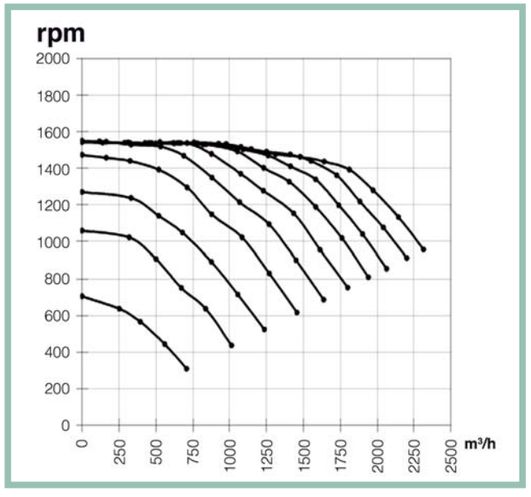
Value @ max.efficiency

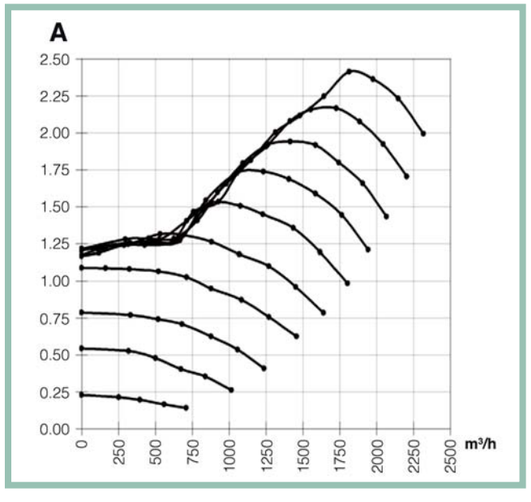
Air Flow:	1480 (m^3/h)
Static Pressure:	34.1 (mmH_2O)
Rpm:	1463 (min-1)
Power Input:	375 (W)

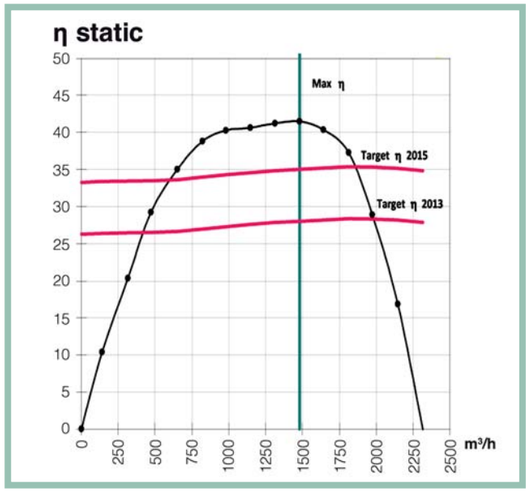
Overall efficiency (η): 40.9
Grade efficiency (N): 49.9







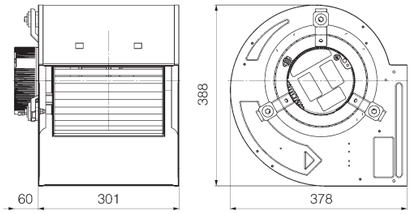




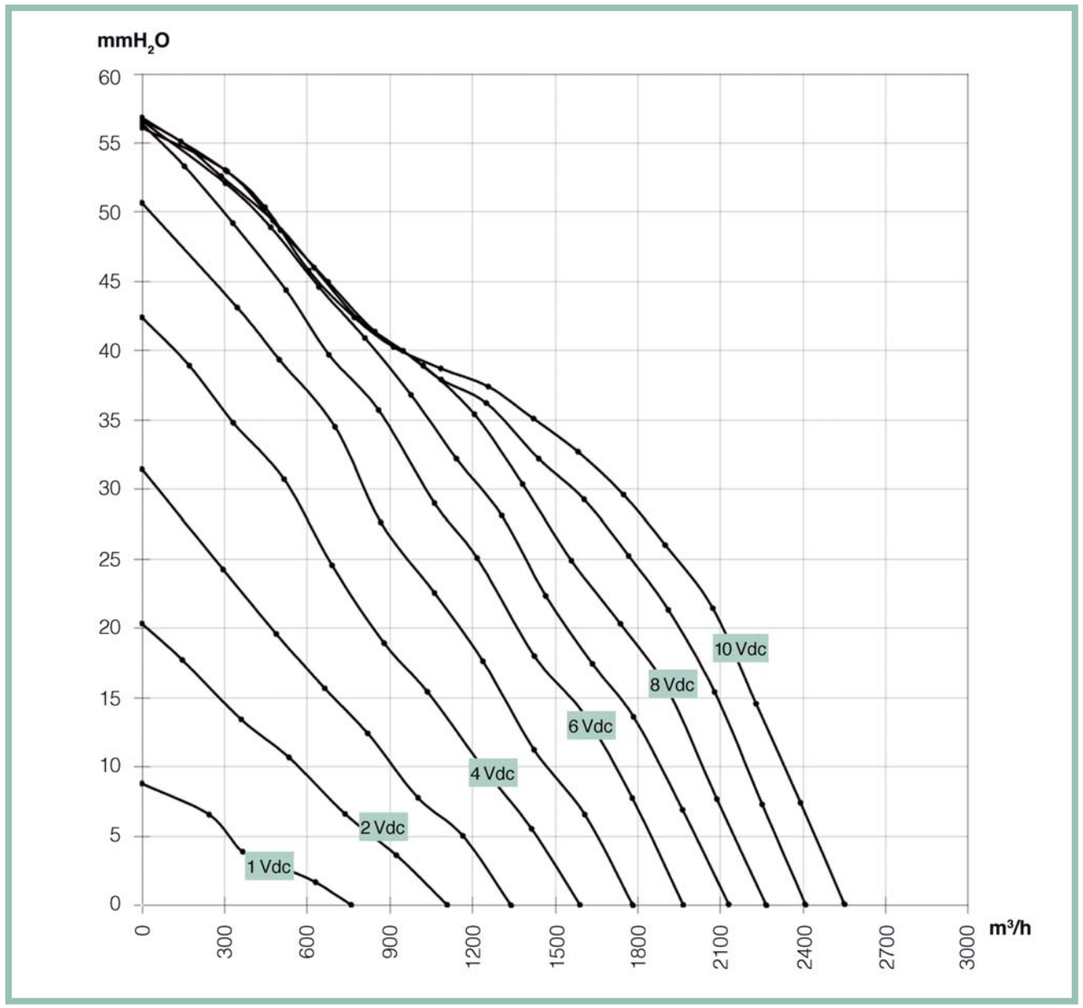
PERFORMANCE CURVES

DDe 9/9 - 1/3 HP HIGH SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1/3 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 9/9**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-009

Operating limits

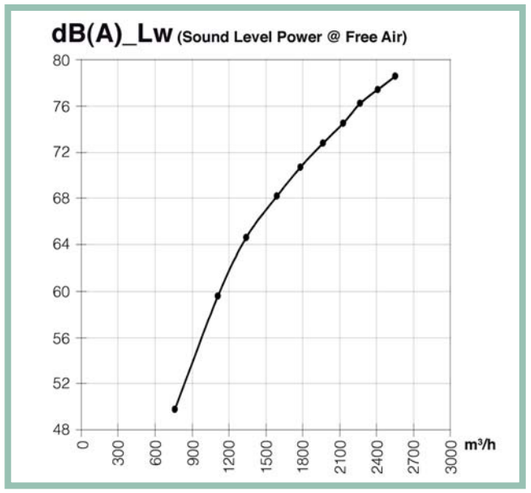
Win:	Min 15 - Max 450 (W)
Ampere:	Min 0.15 - Max 2.5 (A)
Static Pressure:	Min 0 - Max 55 (mmH_2O)

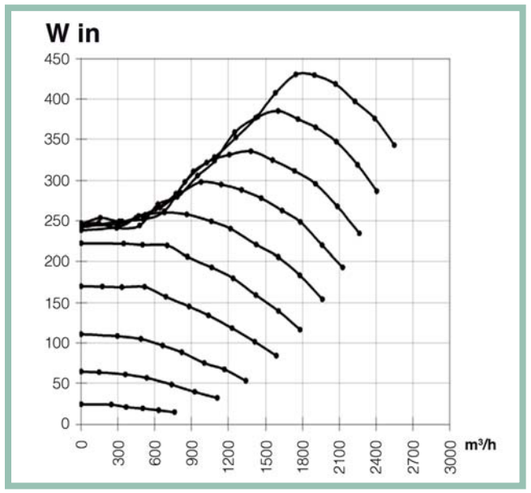
Measurement Category - A -
Free Inlet - Free Outlet

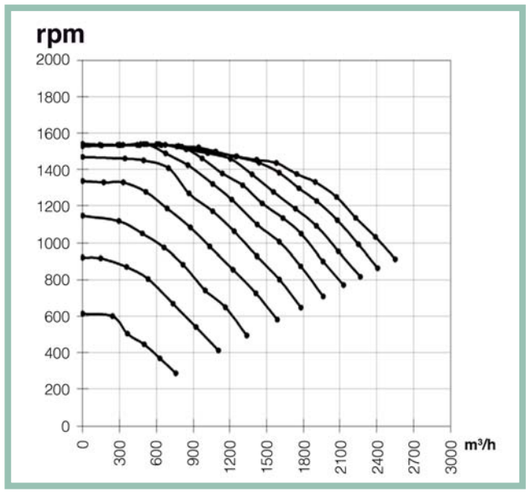
Value @ max.efficiency

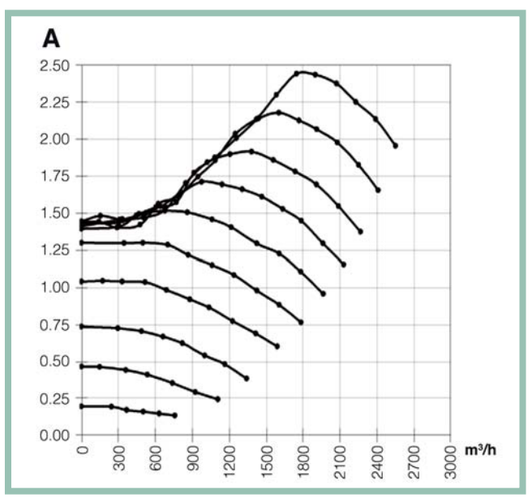
Air Flow:	1258 (m^3/h)
Static Pressure:	37.4 (mmH_2O)
Rpm:	1472 (min^{-1})
Power Input:	352 (W)

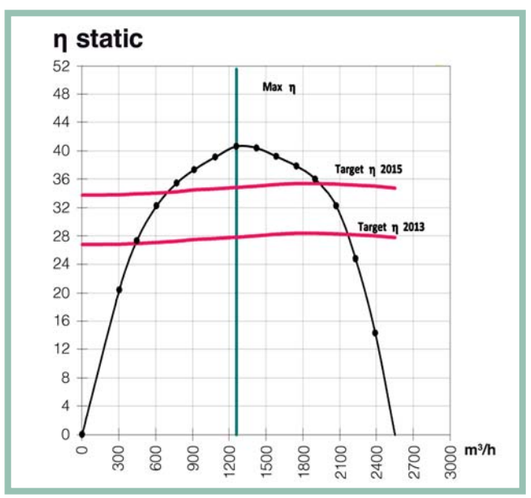
Overall efficiency (η): 40.7
Grade efficiency (N): 49.9







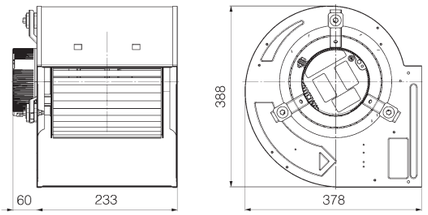




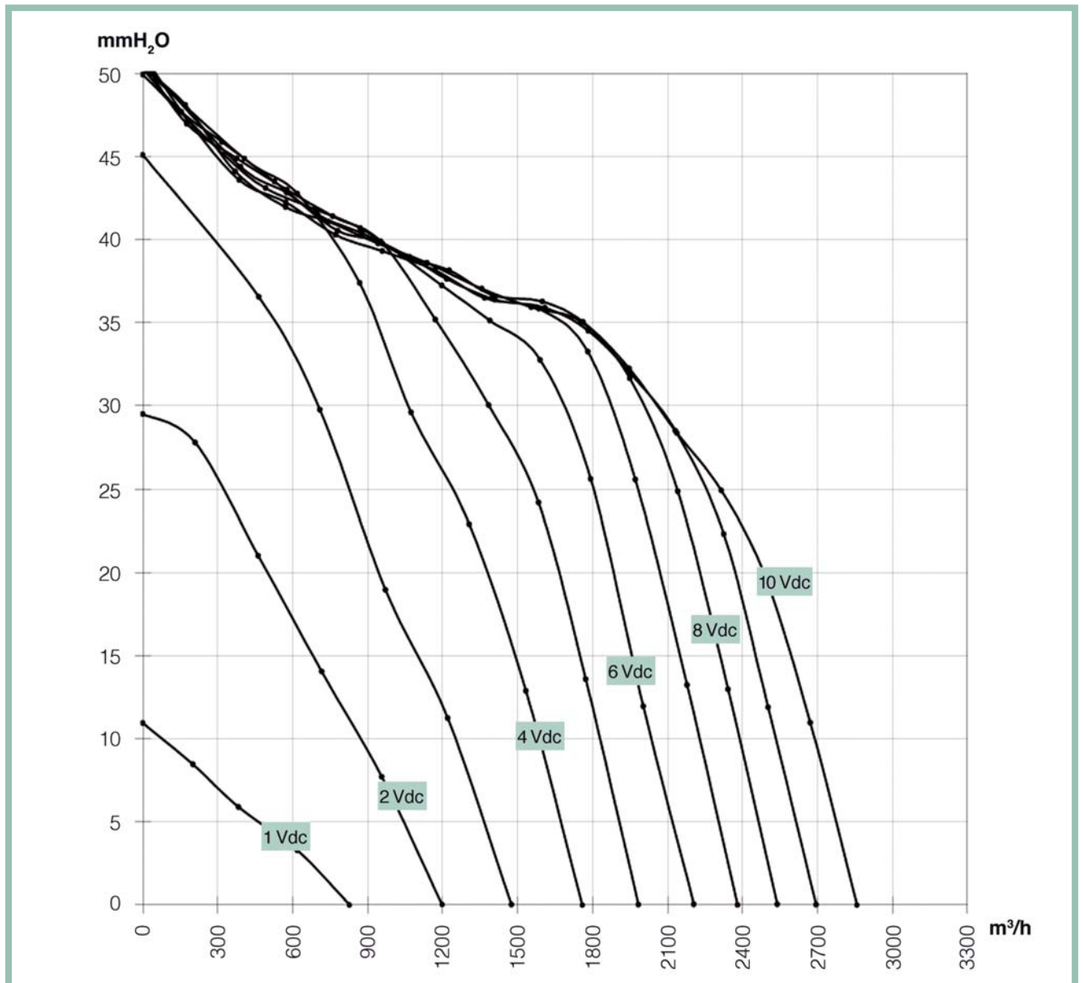
PERFORMANCE CURVES

DDe 9/7 - 1/2 HP HIGH SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1/2 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 9/7**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-005

Operating limits

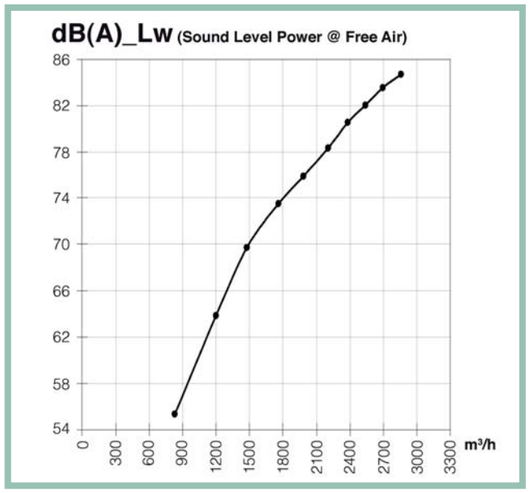
Win:	Min 17 - Max 600 (W)
Ampere:	Min 0.15 - Max 3.5 (A)
Static Pressure:	Min 0 - Max 51 (mmH_2O)

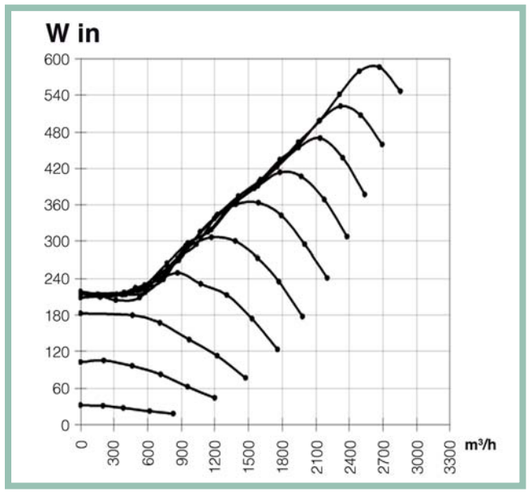
Measurement Category - A -
Free Inlet - Free Outlet

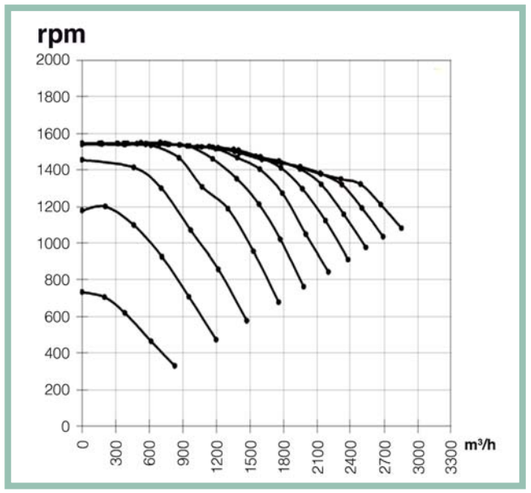
Value @ max.efficiency

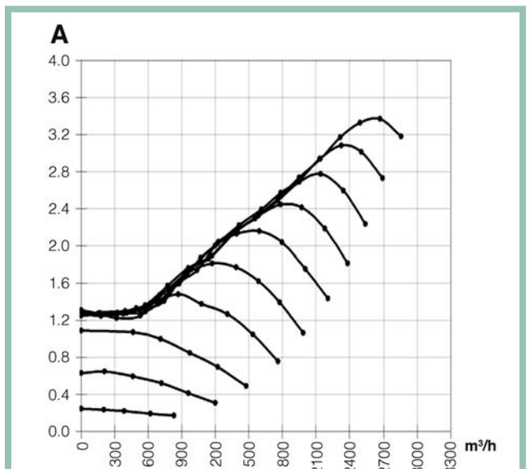
Air Flow:	1598 (m^3/h)
Static Pressure:	36.3 (mmH_2O)
Rpm:	1470 (min-1)
Power Input:	397.7 (W)

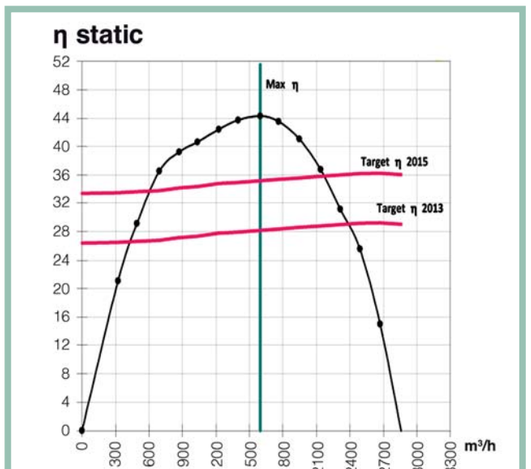
Overall efficiency (η): 44.3
Grade efficiency (N): 53.1







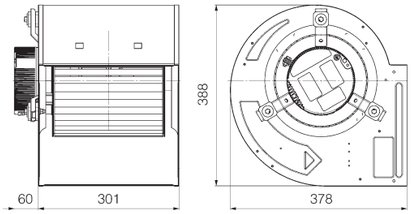




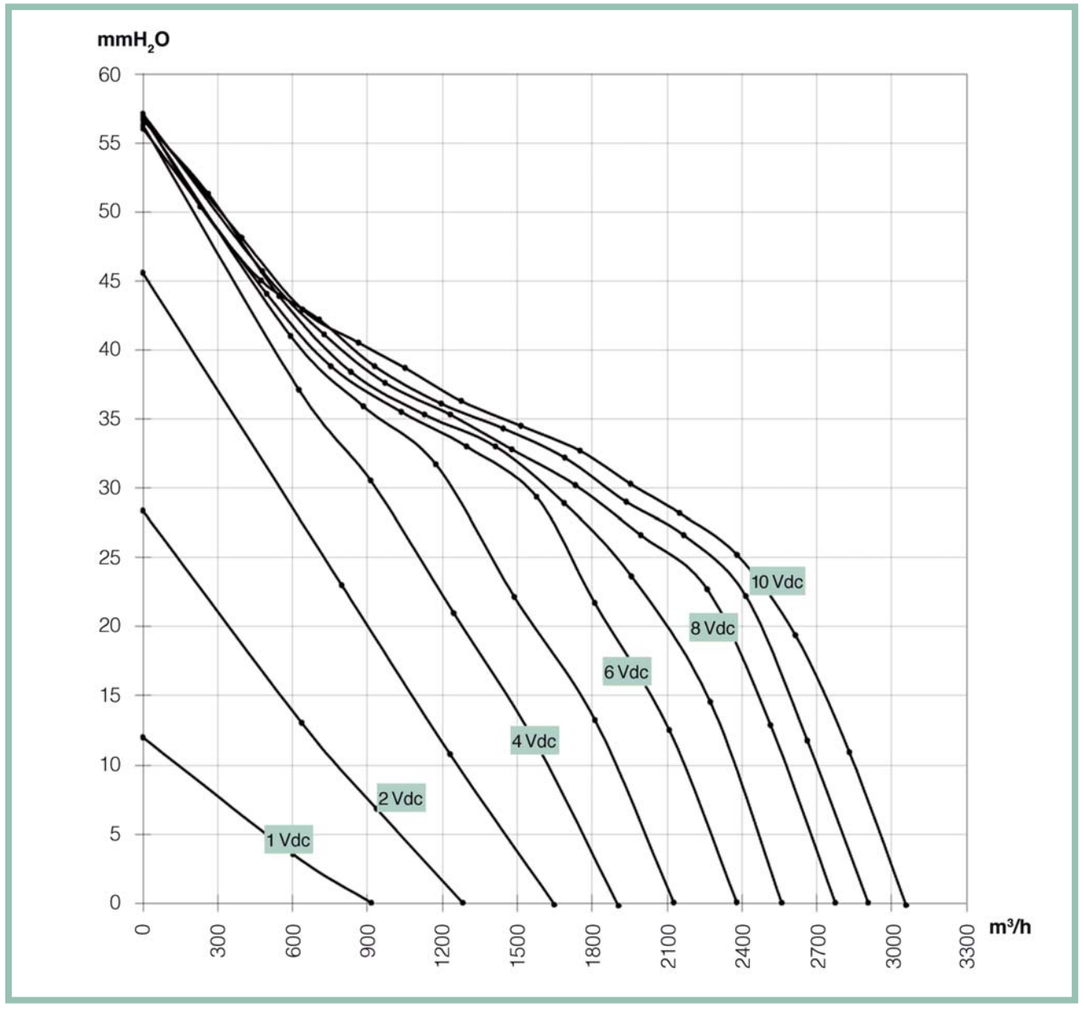
PERFORMANCE CURVES

DDe 9/9 - 1/2 HP HIGH SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1/2 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 9/9**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-003

Operating limits

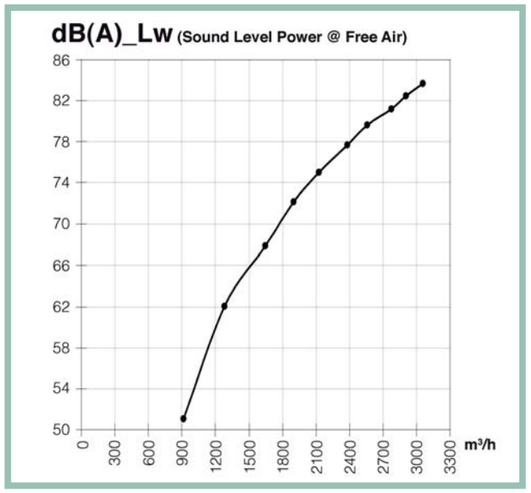
Win:	Min 17 - Max 600 (W)
Ampere:	Min 0.15 - Max 3.5 (A)
Static Pressure:	Min 0 - Max 57 (mmH_2O)

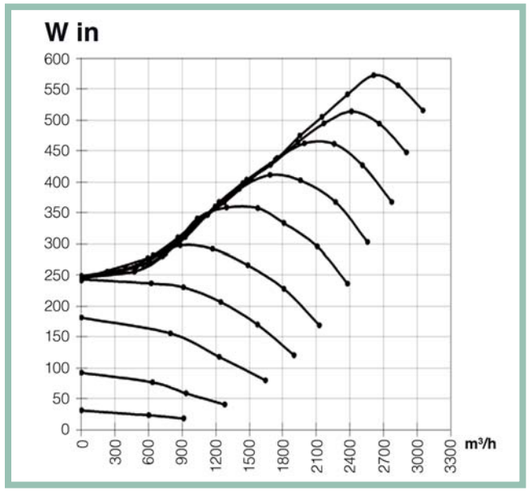
Measurement Category - A -
Free Inlet - Free Outlet

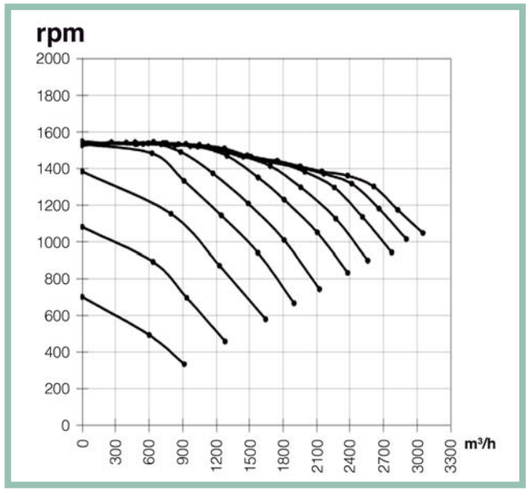
Value @ max.efficiency

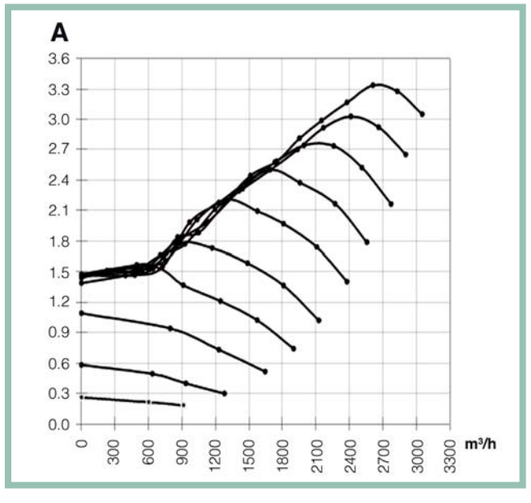
Air Flow:	1752 (m^3/h)
Static Pressure:	32.7 (mmH_2O)
Rpm:	1438 (min^{-1})
Power Input:	438 (W)

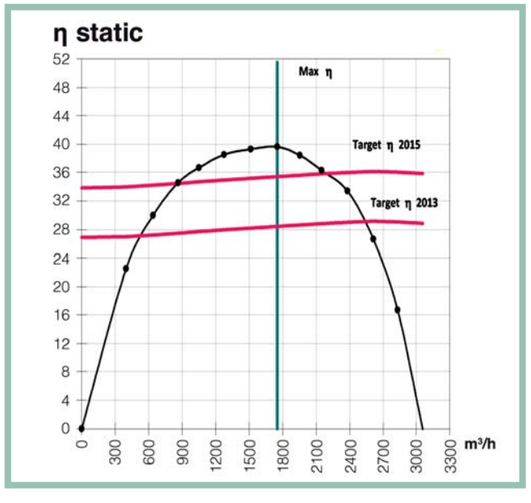
Overall efficiency (η): 39.6
Grade efficiency (N): 48.2







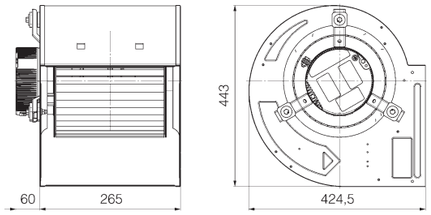




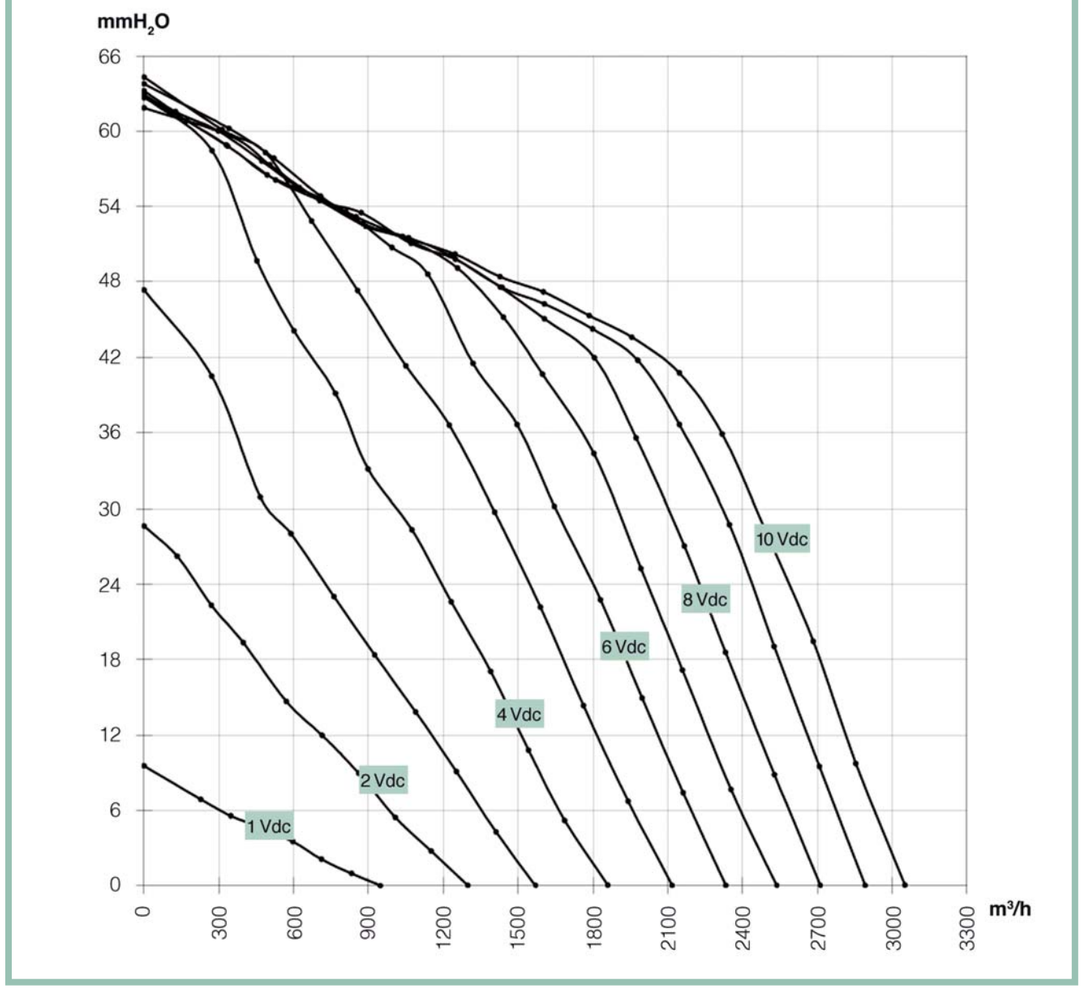
PERFORMANCE CURVES

DDe 10/8 - 1/2 HP HIGH SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1/2 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 10/8**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-014

Operating limits

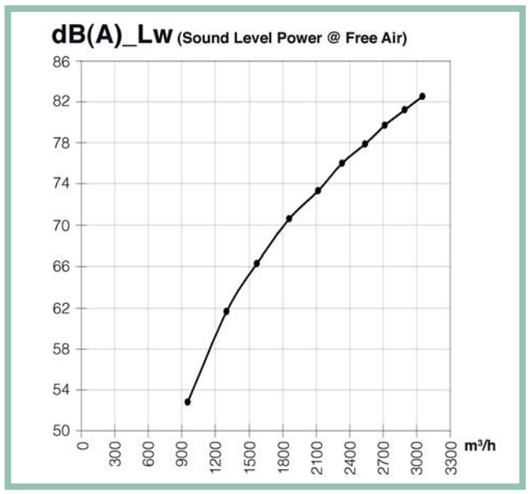
Win:	Min 15 - Max 600 (W)
Ampere:	Min 0.15 - Max 3.5 (A)
Static Pressure:	Min 0 - Max 65 (mmH_2O)

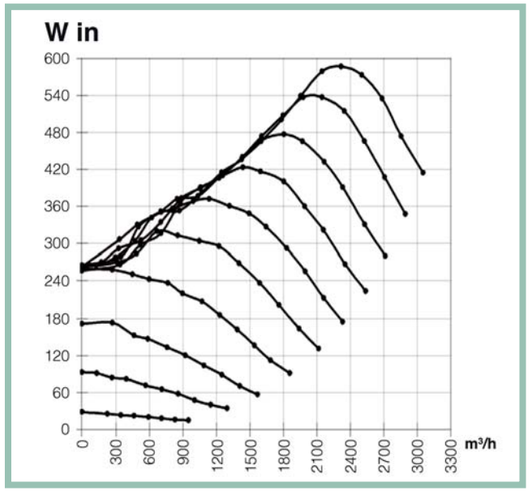
Measurement Category - A -
Free Inlet - Free Outlet

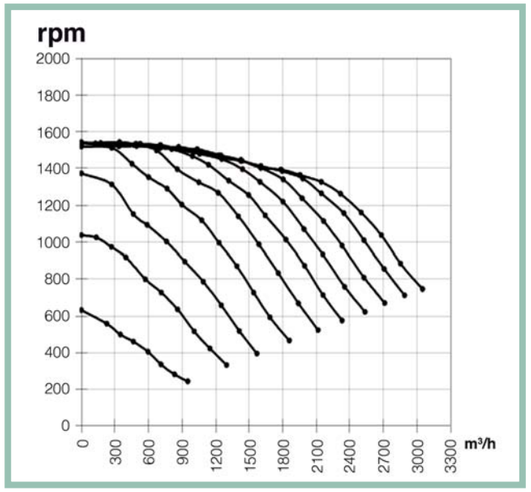
Value @ max.efficiency

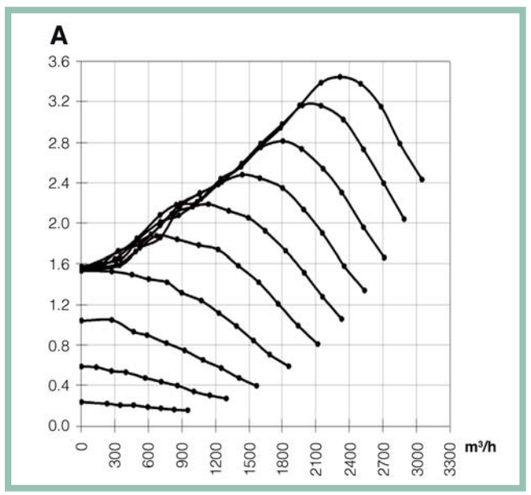
Air Flow:	1602 (m^3/h)
Static Pressure:	47.2 (mmH_2O)
Rpm:	1404 (min^{-1})
Power Input:	465.1 (W)

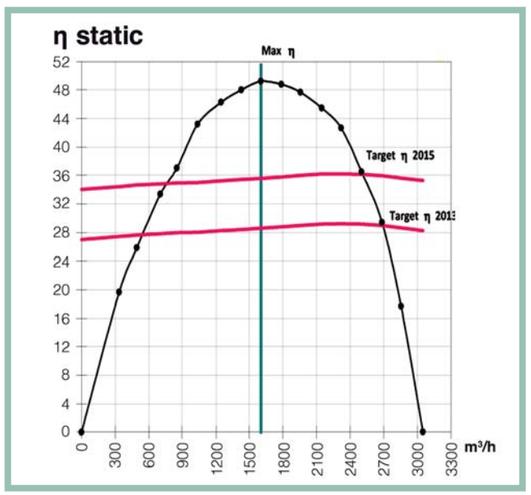
Overall efficiency (η): 49.2
Grade efficiency (N): 57.6







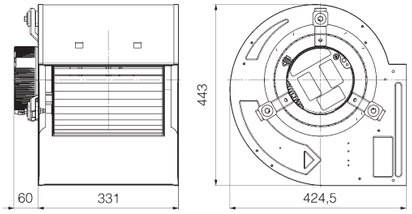




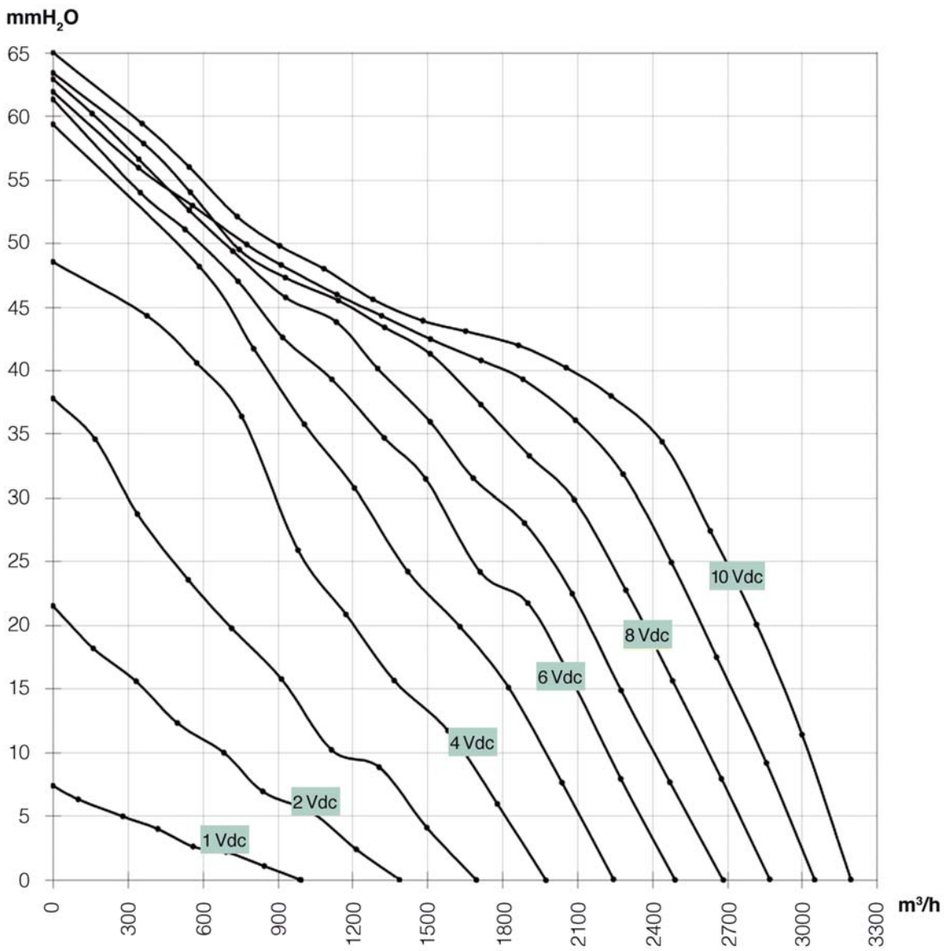
PERFORMANCE CURVES

DDe 10/10 - 1/2 HP HIGH SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1/2 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 10/10**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-011

Operating limits

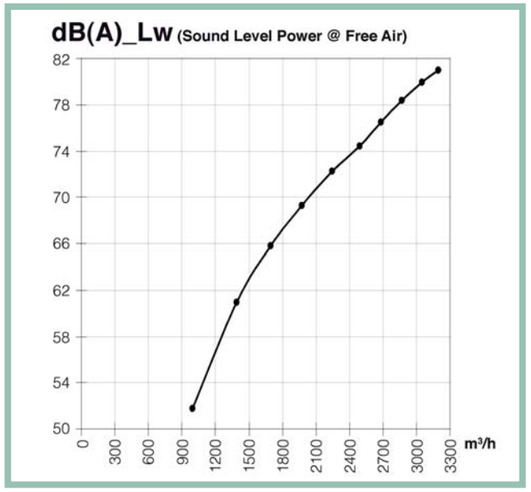
Win:	Min 15 - Max 600 (W)
Ampere:	Min 0.15 - Max 3.5 (A)
Static Pressure:	Min 0 - Max 65 (mmH_2O)

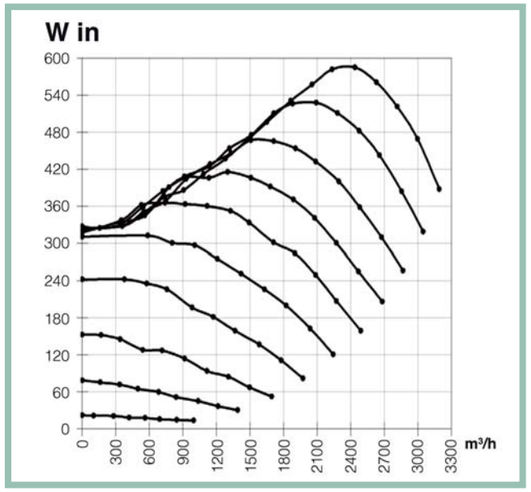
Measurement Category - A -
Free Inlet - Free Outlet

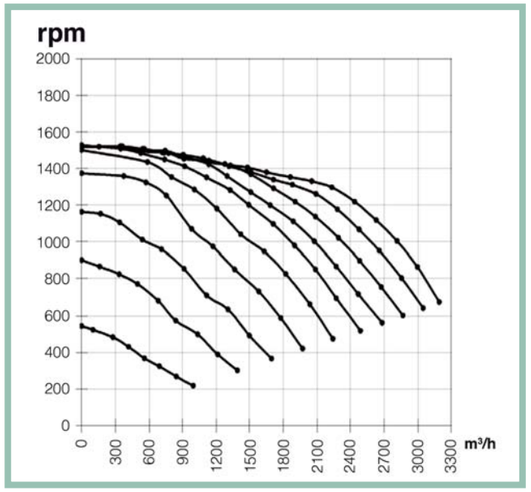
Value @ max.efficiency

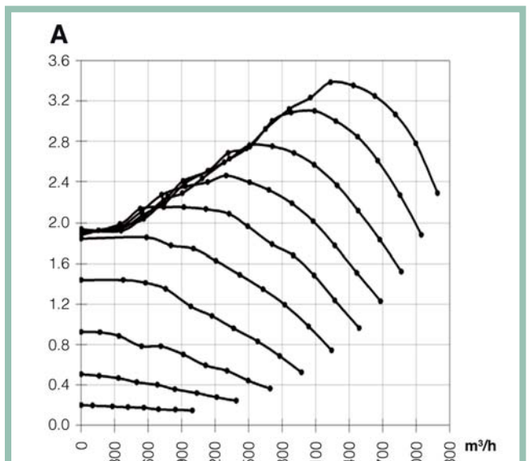
Air Flow:	2055 (m^3/h)
Static Pressure:	40.2 (mmH_2O)
Rpm:	1321 (min^{-1})
Power Input:	556.6 (W)

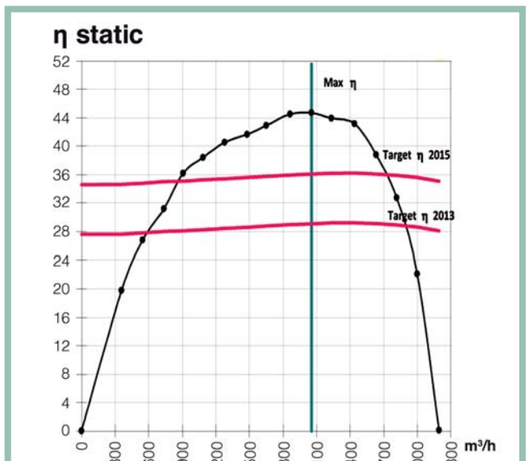
Overall efficiency (η): 44.7
Grade efficiency (N): 52.6







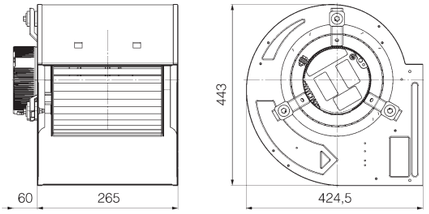




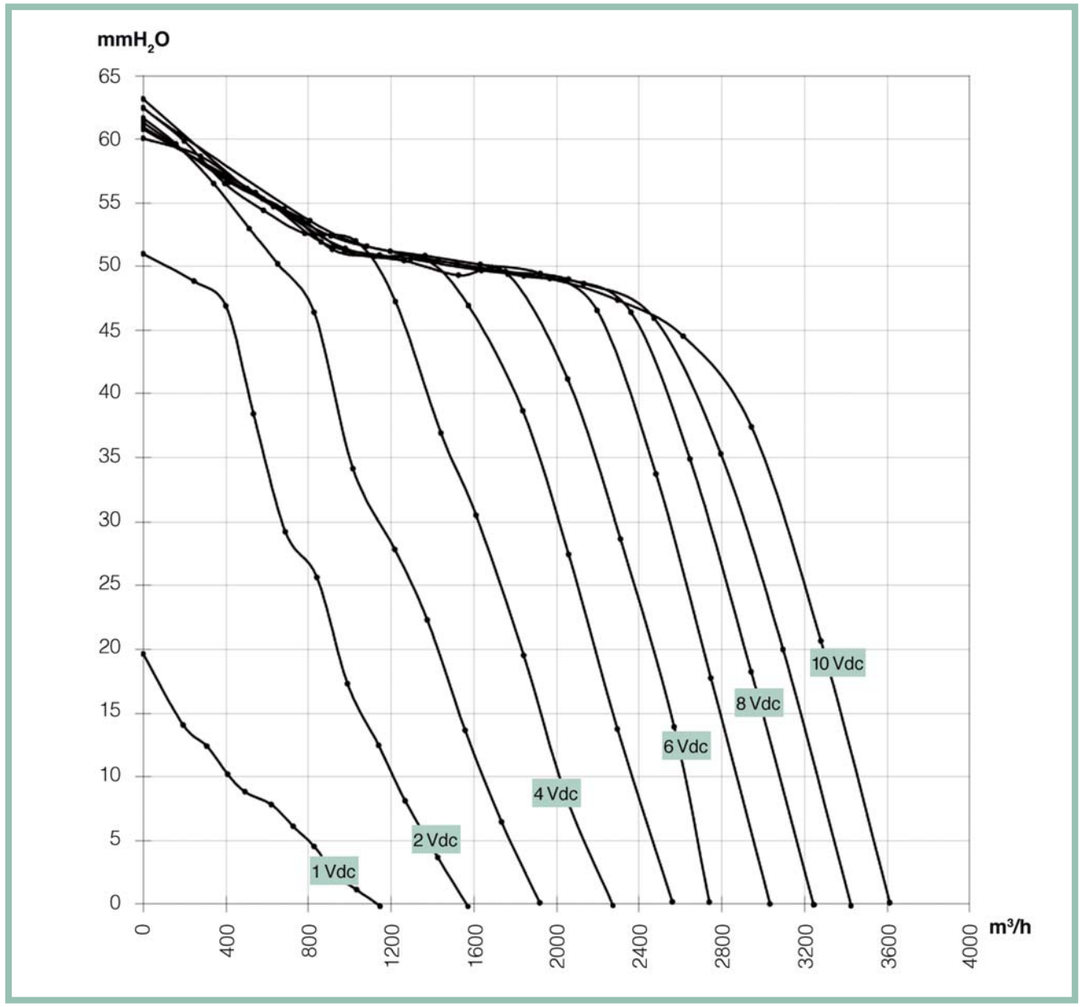
PERFORMANCE CURVES

DDe 10/8 - 3/4 HP HIGH SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	3/4 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 10/8**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-020

Operating limits

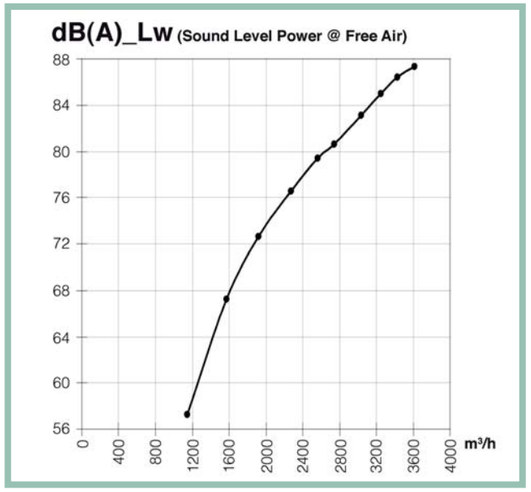
Win:	Min 20 - Max 900 (W)
Ampere:	Min 0.15 - Max 4.5 (A)
Static Pressure:	Min 0 - Max 65 (mmH_2O)

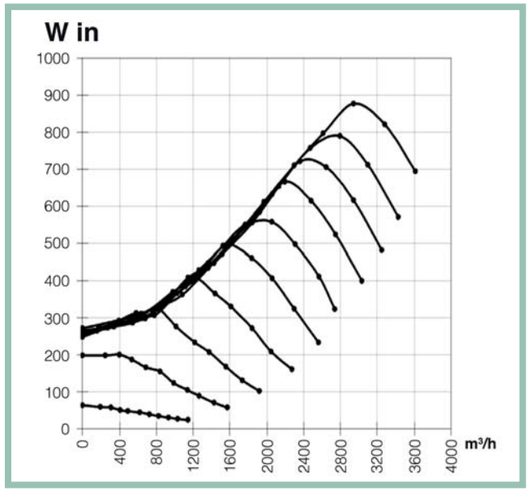
Measurement Category - A -
Free Inlet - Free Outlet

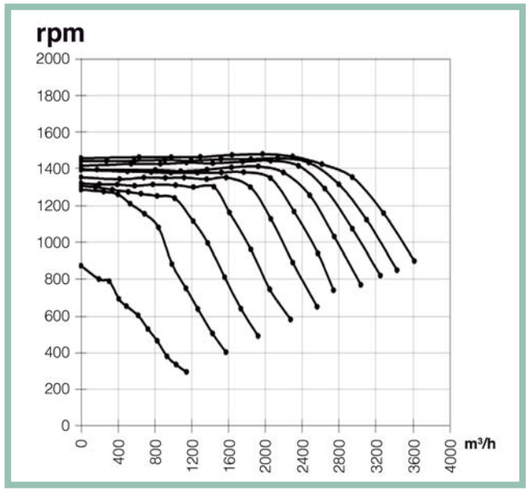
Value @ max.efficiency

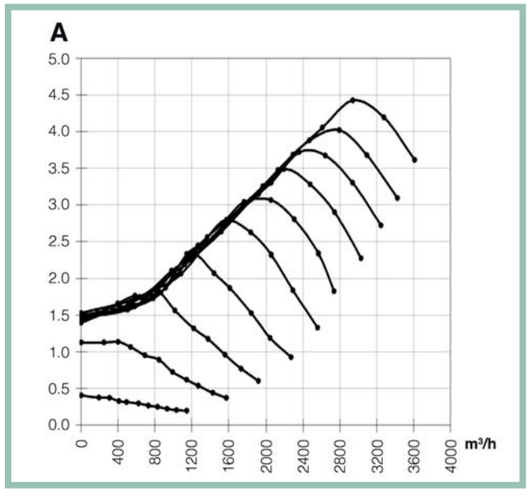
Air Flow:	1843 (m^3/h)
Static Pressure:	49.2 (mmH_2O)
Rpm:	1452 (min-1)
Power Input:	554.9 (W)

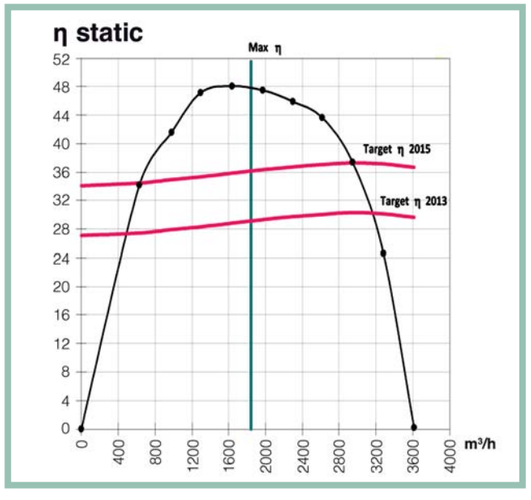
Overall efficiency (η): 49.2
Grade efficiency (N): 57.2







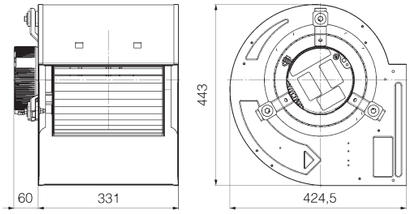




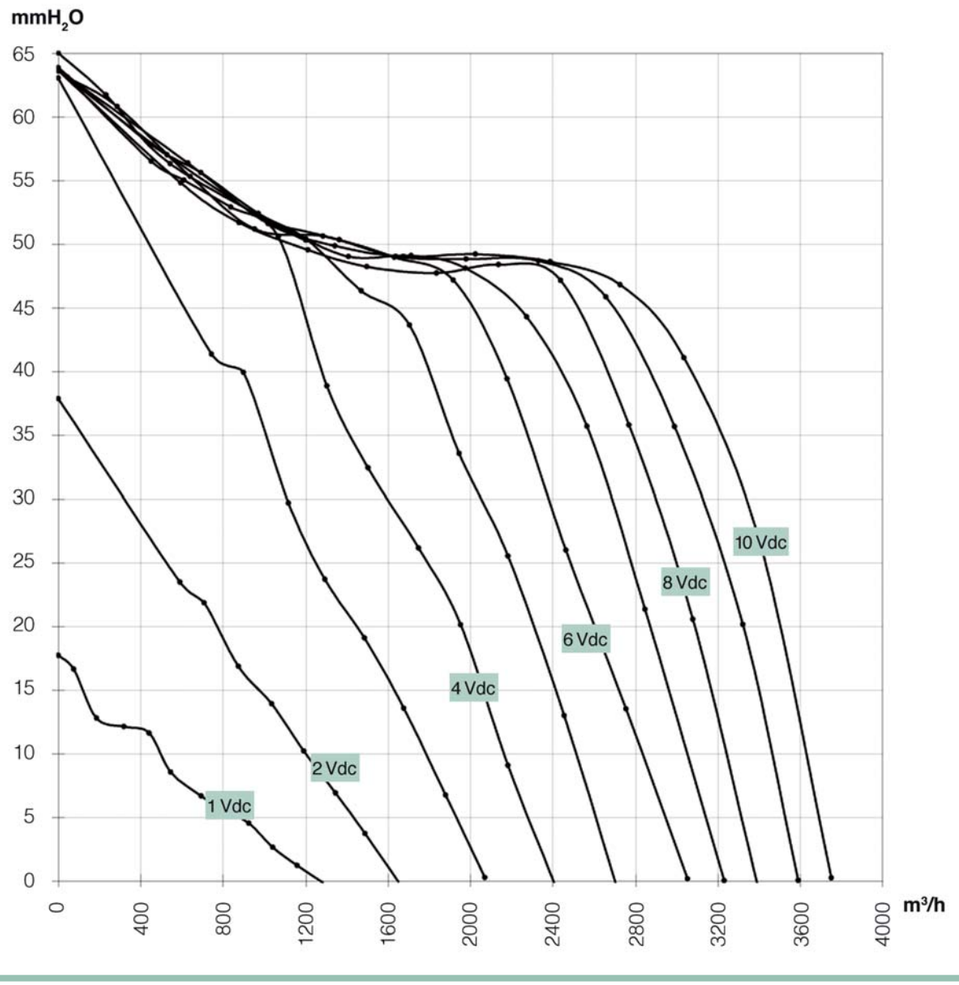
PERFORMANCE CURVES

DDe 10/10 - 3/4 HP HIGH SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	3/4 HP
Range Voltage:	200-264 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 10/10**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-021

Operating limits

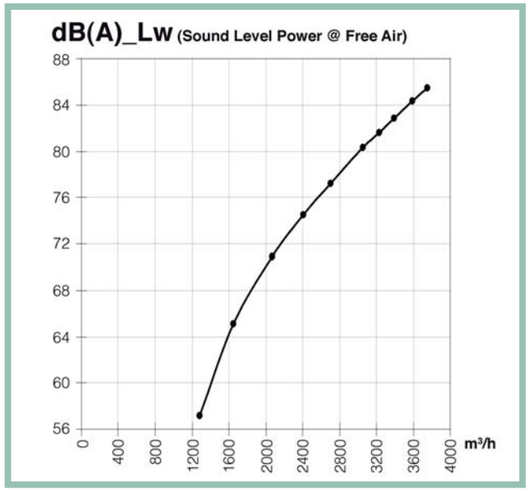
Win:	Min 20 - Max 900 (W)
Ampere:	Min 0.15 - Max 4.5 (A)
Static Pressure:	Min 0 - Max 65 (mmH_2O)

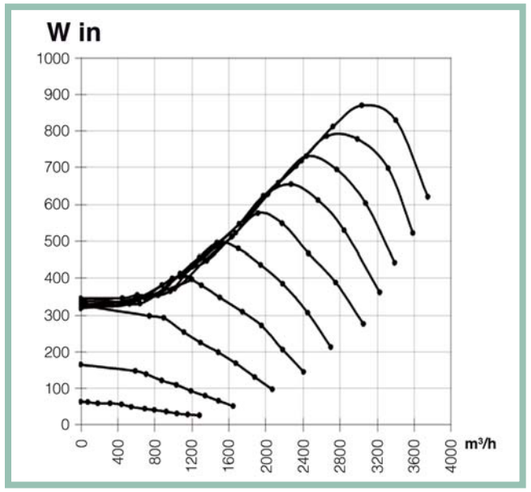
Measurement Category - A -
Free Inlet - Free Outlet

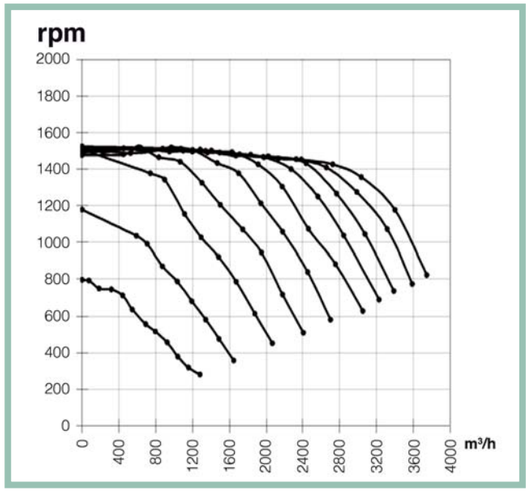
Value @ max.efficiency

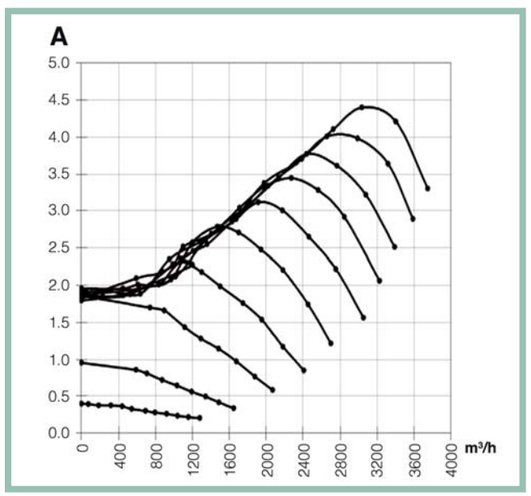
Air Flow:	2386 (m^3/h)
Static Pressure:	48.6 (mmH_2O)
Rpm:	1452 (min-1)
Power Input:	719.2 (W)

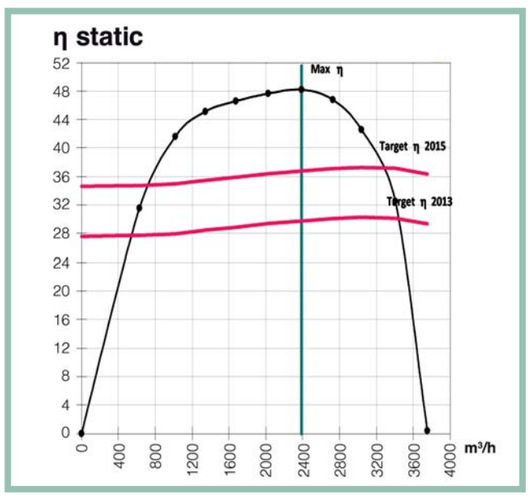
Overall efficiency (η): 48.2
Grade efficiency (N): 55.4







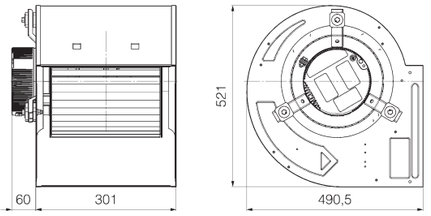




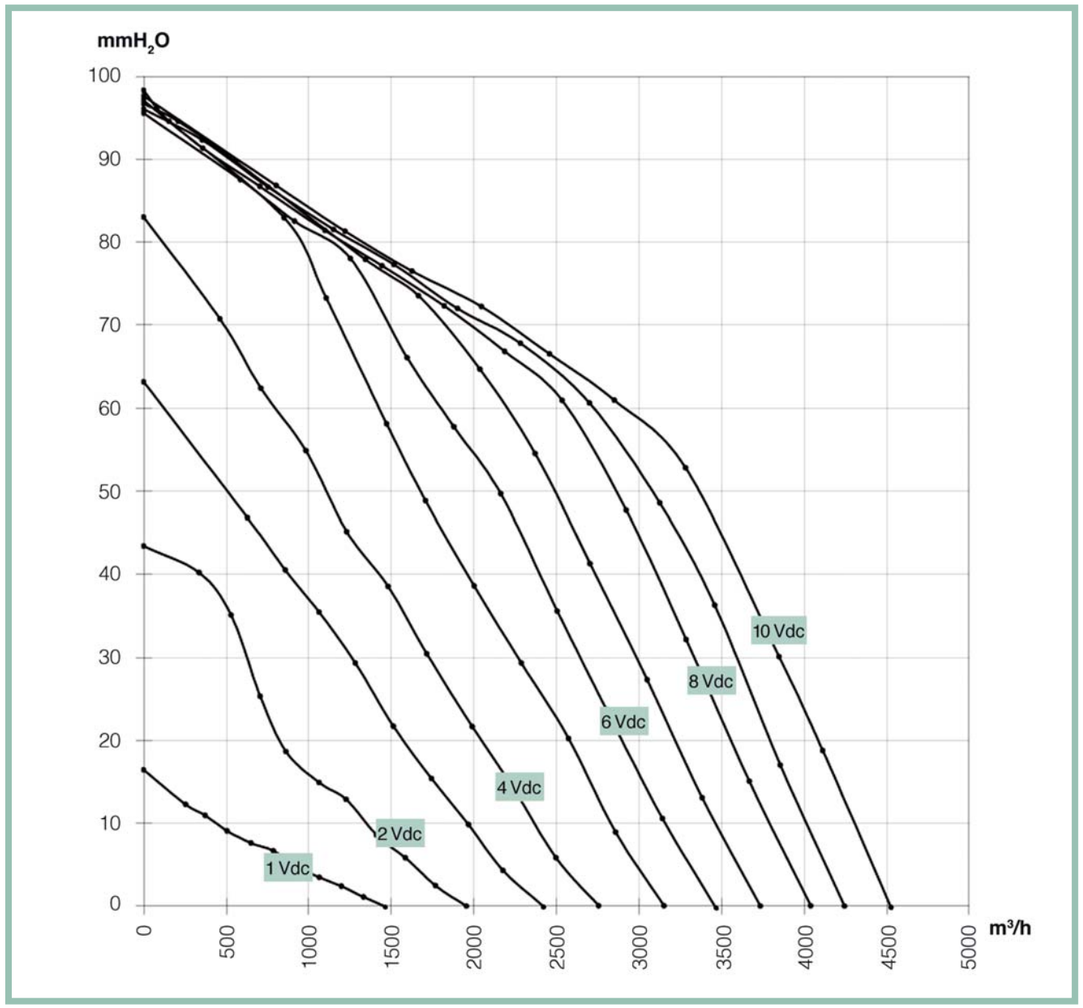
PERFORMANCE CURVES

DDe 12/9 - 1 HP HIGH SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 12/9**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-017

Operating limits

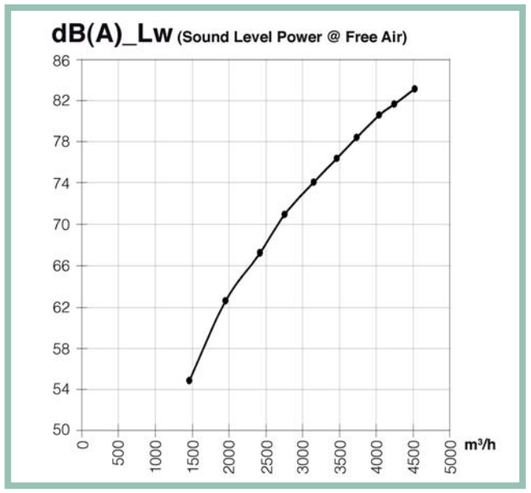
Win:	Min 25 - Max 1200 (W)
Ampere:	Min 0.2 - Max 6.0 (A)
Static Pressure:	Min 0 - Max 98 (mmH_2O)

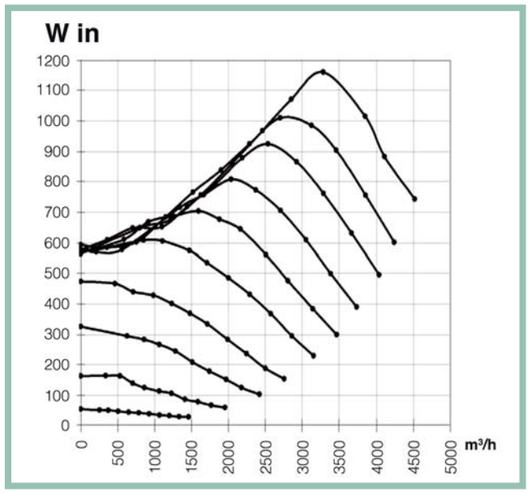
Measurement Category - A -
Free Inlet - Free Outlet

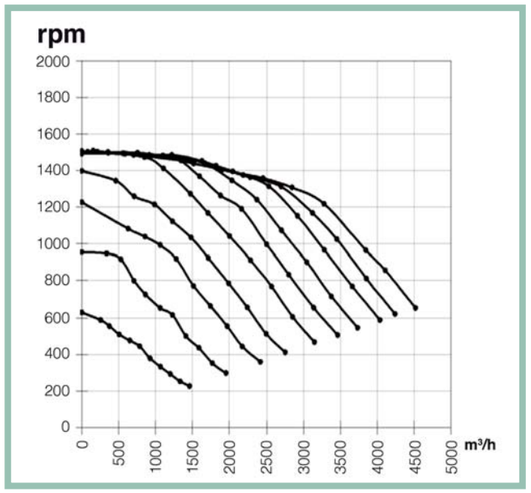
Value @ max.efficiency

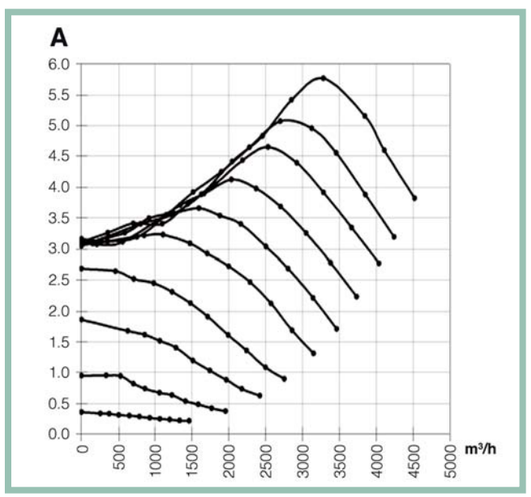
Air Flow:	2046 (m^3/h)
Static Pressure:	72,2 (mmH_2O)
Rpm:	1394 (min^{-1})
Power Input:	860 (W)

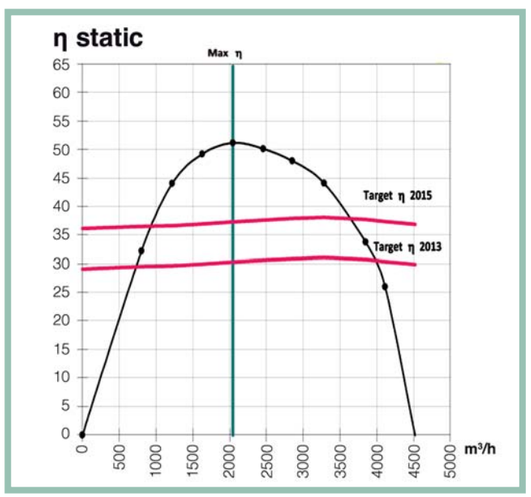
Overall efficiency (η): 51.1
Grade efficiency (N): 57.9







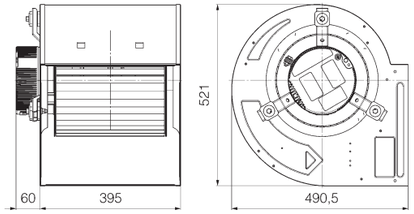




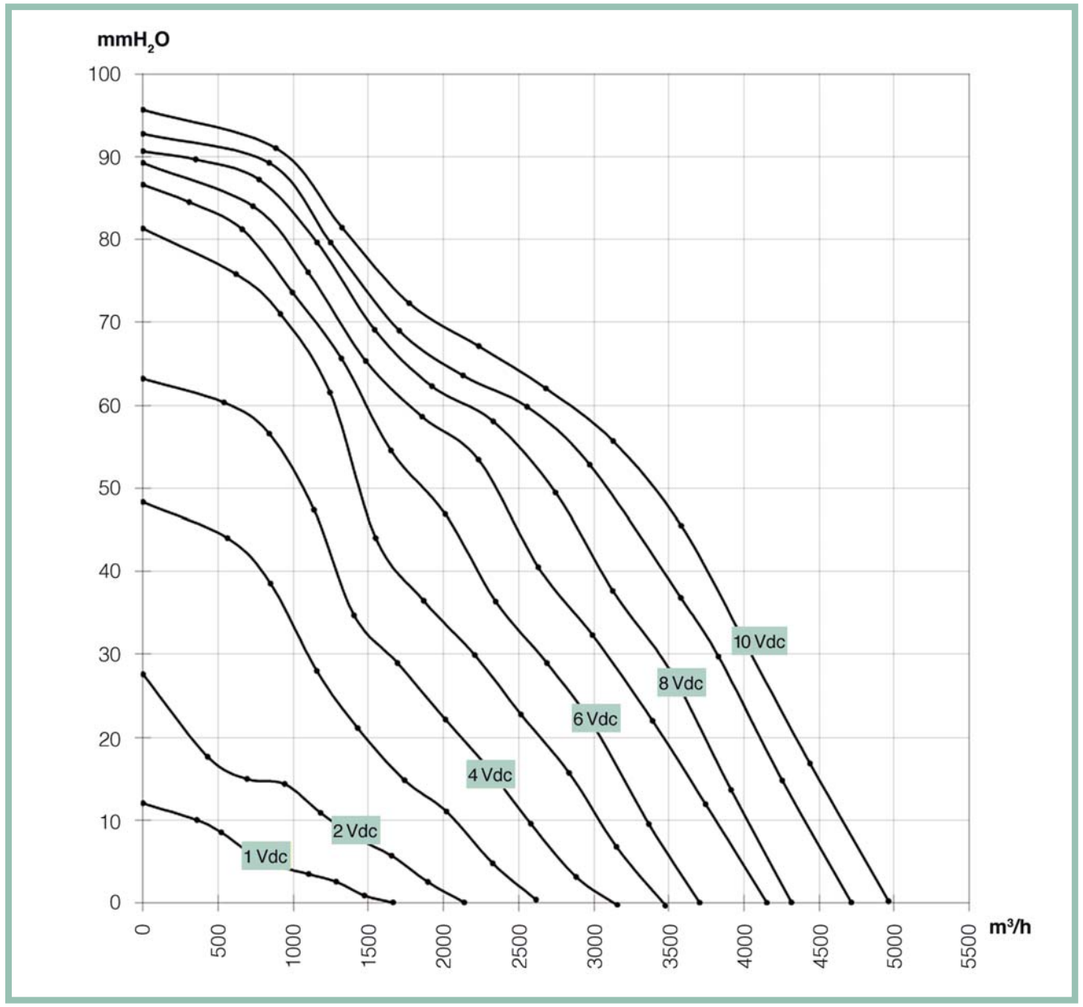
PERFORMANCE CURVES

DDe 12/12 - 1 HP HIGH SPEED

ErP 2015



Motor Type:	**ECM 3.0**
Nominal Voltage:	230 V
Frequency:	50-60 Hz
Nominal Watts:	1 HP
Range Voltage:	200-254 V
Range Frequency:	50-60 Hz
Input Signal:	0-10 Vdc
Electrical Insulation Class:	Cl.B (130°C)
Protection Degree:	Electronically Prot.
Mechanical Protection:	IP.20
Motor Bearing:	Ball Bearing
Ventilator Type:	**DDe 12/12**
Blowers Material:	Metal
Housing Material:	Metal
Motor Support Material:	Metal



Test: PDDe-016

Operating limits

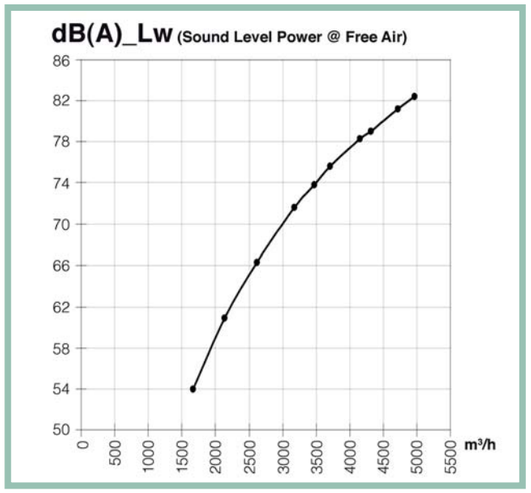
Win:	Min 25 - Max 1200 (W)
Ampere:	Min 0.2 - Max 6.0 (A)
Static Pressure:	Min 0 - Max 96 (mmH_2O)

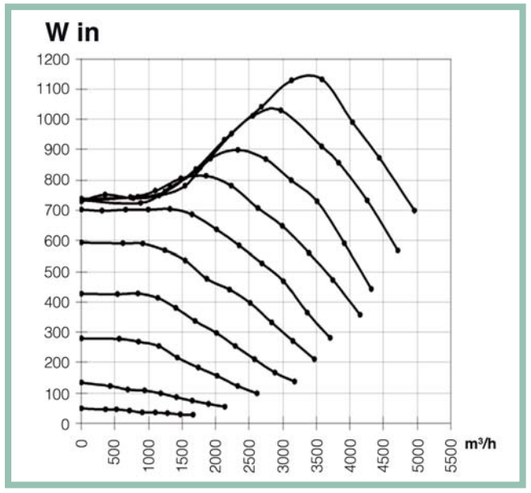
Measurement Category - A -
Free Inlet - Free Outlet

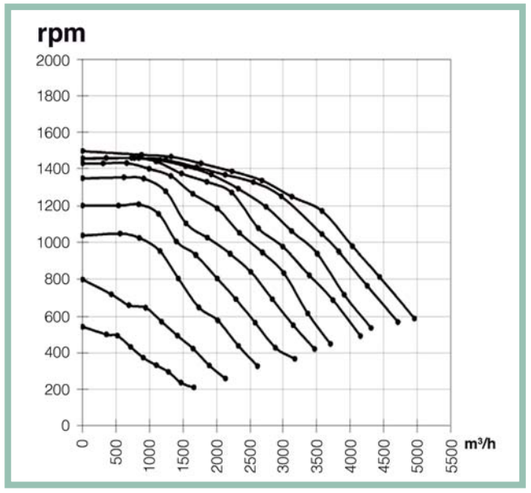
Value @ max.efficiency

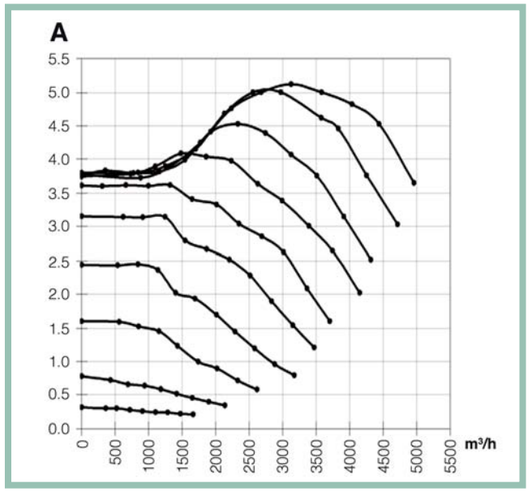
Air Flow:	2683 (m^3/h)
Static Pressure:	62.0 (mmH_2O)
Rpm:	1337 (min^{-1})
Power Input:	1041 (W)

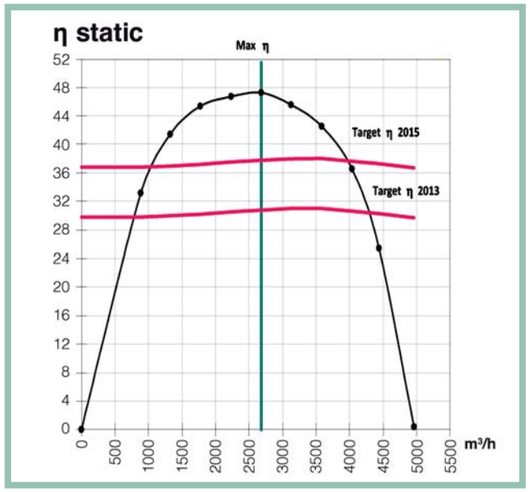
Overall efficiency (η): 47.3
Grade efficiency (N): 53.5











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