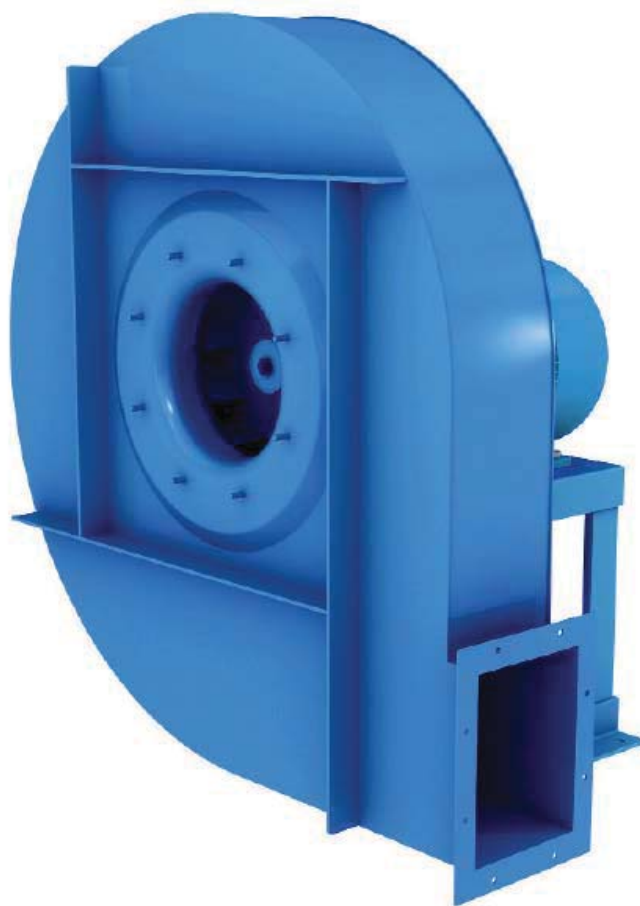


HIGH PRESSURE BLOWERS
CENTRIFUGAL AND AXIAL FANS
AIR FILTERS
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TUNNEL ENGINEERING

SAVIO S.r.l.



VENTILATORI CENTRIFUGHI
CENTRIFUGAL FANS
VENTILATEURS CENTRIFUGES
ZENTRIFUGAL VENTILATOREN



Serie
SP E-F-G

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CARATTERISTICHE TECNICHE

Serie di ventilatori ad accoppiamento diretto per alte pressioni (portate tra 2 e 310 m³/minuto e pressioni tra 200 e 2000 daPa), idonee per il trasporto di fumi e polveri, in miscela con l'aria fino alla temperatura massima di +80°C.

Per temperature fino a +150°C vengono dotati di ventolina di raffreddamento e verniciatura alluminio alta temperatura.

Questa serie di ventilatori è caratterizzata da un elevato rendimento. Vengono utilizzati per i trasporti pneumatici, nei mulini, nei pastifici, nelle industrie siderurgiche, chimiche, metallurgiche dove siano richieste piccole portate con medie ed alte pressioni.

PORTELLO D'ISPEZIONE

SPE = non disponibile

SPF = disponibile dal modello SPF 712/A al modello SPF 901/D non disponibile dal modello SPF 502/A al modello SPF 631/B

SPG = disponibile su tutti i modelli

COSTRUZIONE

Coclea in acciaio di forte spessore con girante in acciaio saldato a pale avanti.

TECHNICAL FEATURES

Set of direct-coupling fans for high pressure flow rates (from 2 through 310 m³/min and from 200 through 2000 daPa), suitable for conveyance of fumes and dust, mixed with air, having +80° C max. temperature.

For temperature values up to +150°C are equipped with cooling fan and they are varnished with Aluminium-paint suitable for high temperature.

This series of fans is characterised by high output. They are used for conveying air in mills, bakeries, iron and steel, chemical, metallurgic industries where small flow rates with medium and high pressure are needed.

INSPECTION DOOR

SPE = not available

SPF = available from the model SPF 712/A to the model SPF 901/D not available from the model SPF 502/A to the model SPF 631/B

SPG = available for all models

CONSTRUCTION FEATURES

Strong thickness steel fan casing with welded steel impeller and forward blades.

CARACTERISTIQUES TECHNIQUES

Série de ventilateurs à accouplement direct pour pressions hautes (débits compris entre 2 et 310 m³/min et pressions entre 200 et 2000 daPa), adaptés au transport des fumées et des poussières mélangées à l'air, jusqu'à une température maximale de +80°C.

Pour des températures atteignant +150°C les ventilateurs ont été dotés d'une turbine de refroidissement et peinture aluminium à haute température.

Cette série de ventilateurs sont caractérisées par un rendement élevé. Ils viennent utilisés pour les transports pneumatiques, moulins, industries sidérurgique, chimiques, métallurgique, où sont demandés des petits débits avec des moyennes et hautes pressions.

PORTE DE VISITE

SPE = ne pas disponible

SPF = disponible da le model SPF 712/A à le model SPF 901/D non disponible da le model SPF 502/A à le model SPF 631/B

SPG = disponible sur tous les models

CONSTRUCTION

Virole en acier en fort épaisseur avec turbine en acier soudée à pales en avant.

TECHNISCHE MERKMALE

Serie Ventilatoren mit direkter Kupplung für hohe Drücke (Fördermengen zwischen 2 und 310 cbm/min und Drücke zwischen 200 und 2000 daPa), geeignet zum Transport von Rauch und Staub gemischt mit Luft bis zu einer Höchsttemperatur von +80°C.

Für Temperaturen bis zu +150°C werden dieselben mit Kühlrad und hochtemperaturbeständiger Alulackierung versehen.

Diese Serie Ventilatoren zeichnet sich durch hohe Leistungen aus.

Sie finden ihren Einsatz bei den pneumatischen Transporten, in den Mühlen und Teigwarenfabriken, der Hüttenindustrie, sowie der chemischen und metallurgischen Industrie, wo kleine Fördermengen mit mittleren und hohen Drücken verlangt werden.

INSPEKTIONSLUKE

SPE = nicht erhältlich

SPF = erhältlich ab Modell SPF 712/A bis Modell SPF 901/D; nicht erhältlich ab Modell SPF 502/A bis Modell SPF 631/B

SPG = erhältlich an allen Modellen

BAUAUSFÜHRUNG

Förderschnecke aus starkbemessenem Stahl mit Laufrad aus geschweißtem Stahl und nach vorn gerichteten Ventilatorflügeln.

GENERAL PRINCIPLES OF THE FAN DESIGN

1) PARAMETERS

The main parameters, characteristic to a fan, are four in number:

Capacity (V) Pressure (p) Efficiency (η) Speed of rotation (n° min.⁻¹)

1.1) Capacity:

The capacity is the quantity of fluid moved by the fan, in volume, within a unit of time, and it is usually expressed in m³/h, m³/min., m³/sec.

1.2) Pressure:

The total pressure (pt) is the sum of the static pressure (pst), i.e. the energy required to withstand opposite frictions from the system, and the dynamic pressure (pd) or kinetic energy imparted to the moving fluid (pt = pst + pd).

The dynamic pressure depends on both fluid speed (v) and specific gravity (y).

$$pd = \frac{1}{2} \cdot y \cdot v^2$$

Where: pd = dynamic pressure (Pa)
 y = specific gravity of the fluid (Kg/m³)
 v = fluid speed at the fan opening worked by the system (m/sec)

$$v = \frac{V}{A}$$

Where: V = capacity (m³/sec)
 A = gauge of the opening worked by the system (m²)
 v = fluid speed at the fan opening worked by the system (m/sec)

1.3) Efficiency:

The efficiency is the ratio between the energy yielded by the fan and the energy input to the fan driving motor.

$$\eta = \frac{V \cdot pt}{1,02 \cdot P}$$

Where: η = efficiency = (%) P = absorbed power (kW)
 V capacity (m³/sec) pt = total pressure (daPa)

1.4) Speed of rotation:

The speed of rotation is the number of revolutions the fan impeller has to run in order to meet the performance requirements. As the number of revolutions varies (n), while the fluid specific gravity keeps steady (y), the following variations take place:

The capacity (V) is directly proportional to the speed of rotation, therefore :

$$V_1 = V \cdot \frac{n_1}{n}$$

Where: n = speed of rotation V₁ = new capacity obtained upon varying of the speed of rot.
 V = capacity n₁ = new speed of rotation

The total pressure (pt) varies as a function of the squared ratio of the speeds of rotation; therefore:

$$pt_1 = pt \cdot \left(\frac{n_1}{n}\right)^2$$

Where: n = speed of rotation pt₁ = new total pressure obtained upon varying of the speed of rot.
 pt = total pressure n₁ = new speed of rotation

The absorbed power (P) varies as a function of the cubed ratio of the speeds of rotation therefore:

$$P_1 = P \cdot \left(\frac{n_1}{n}\right)^3$$

Where: n = speed of rotation P₁ = new electrical input obtained upon varying of the speed of rot.
 P = abs. power n₁ = new speed of rotation

2) SIZING

The characteristics expressed in the following tables are referred to operation with fluid (air) at +15°C temperature and 760 mm Hg barometric pressure (specific gravity = 1.226 kg/m³).

The noise data are referred to a measurement taken in free field, at 1.5 m distance, with fan running at the maximum rate of efficiency.

The above-mentioned values undertake the following tolerance: ± 5% capacity - +3 dB(A) noise.

When the conveyed fluid conditions differ from the above-mentioned ones, the following should be considered, that the temperature and the barometric pressure are directly affecting the specific gravity of the fluid .

As the specific gravity varies, the volume flowrate (V) keeps on constant, and the pressure (pt) and power (P) vary directly as a function of the ratio of the specific gravities.

$$pt_1 = \frac{y_1}{y} \cdot pt \quad \left| \quad P_1 = \frac{y_1}{y} \cdot P$$

Where: pt = total pressure pt₁ = new total pressure obtained upon varying the specific gravity
 P = absorbed power P₁ = new abs. power obtained upon varying the specific gravity
 y = fluid spec. gravity y₁ = new specific gravity of the fluid

The specific gravity (y) may be calculated with the following formula:

$$y = \frac{P_b \cdot 13,59}{29,27 \cdot (273+t)}$$

Where: y = air specific gravity at t °C (Kg/m³)
 P_b = barometric pressure (mm Hg)
 13,59 = mercury specific gravity at 0° C (kg/dm³)
 273= absolute zero
 t= fluid temp. (°C)

For ease of calculation, the air weight at various temperatures and heights a.s.l. have been included in the table below:

| | | Temperature | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|-------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | -40°C | -20°C | 0°C | 10°C | 15°C | 20°C | 30°C | 40°C | 50°C | 60°C | 70°C | 80°C | 90°C | 100°C | 120°C | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C |
| Height above sea level in meters | 0 | 1,514 | 1,395 | 1,293 | 1,247 | 1,226 | 1,204 | 1,165 | 1,127 | 1,092 | 1,060 | 1,029 | 1,000 | 0,972 | 0,946 | 0,898 | 0,834 | 0,746 | 0,675 | 0,616 | 0,566 | 0,524 |
| | 500 | 1,435 | 1,321 | 1,225 | 1,181 | 1,161 | 1,141 | 1,103 | 1,068 | 1,035 | 1,004 | 0,975 | 0,947 | 0,921 | 0,896 | 0,851 | 0,790 | 0,707 | 0,639 | 0,583 | 0,537 | 0,497 |
| | 1000 | 1,355 | 1,248 | 1,156 | 1,116 | 1,096 | 1,078 | 1,042 | 1,009 | 0,977 | 0,948 | 0,920 | 0,894 | 0,870 | 0,846 | 0,803 | 0,746 | 0,667 | 0,604 | 0,551 | 0,507 | 0,469 |
| | 1500 | 1,275 | 1,175 | 1,088 | 1,050 | 1,032 | 1,014 | 0,981 | 0,949 | 0,920 | 0,892 | 0,866 | 0,842 | 0,819 | 0,797 | 0,756 | 0,702 | 0,628 | 0,568 | 0,519 | 0,477 | 0,442 |
| | 2000 | 1,196 | 1,101 | 1,020 | 0,984 | 0,967 | 0,951 | 0,919 | 0,890 | 0,862 | 0,837 | 0,812 | 0,789 | 0,767 | 0,747 | 0,709 | 0,659 | 0,589 | 0,533 | 0,486 | 0,447 | 0,414 |
| 2500 | 1,116 | 1,028 | 0,952 | 0,919 | 0,903 | 0,887 | 0,858 | 0,831 | 0,805 | 0,781 | 0,758 | 0,737 | 0,716 | 0,697 | 0,662 | 0,615 | 0,550 | 0,497 | 0,454 | 0,417 | 0,386 | |

PRINCIPES GENERAUX DES VENTILATEURS

1) PARAMETRES

Les principaux paramètres qui identifient un ventilateur sont au nombre de quatre :

Débit (V)
Pression (p)
Rendement (η)
Vitesse de rotation (n° min.⁻¹)

1.1) Débit :

Le débit est la quantité de fluide mise en mouvement par le ventilateur, en terme de volume dans l'unité de temps, et s'exprime généralement en m³/h, m³/min, m³/s.

1.2) Pression :

La pression totale (pt) est la somme de la pression statique (pst), c'est-à-dire l'énergie nécessaire pour vaincre les frottements dus à l'installation, et de la pression dynamique (pd) ou énergie cinétique imprimée au fluide en mouvement (pt = pst + pd).

La pression dynamique dépend de la vitesse (v) et du poids spécifique du fluide (y).

$$pd = \frac{1}{2} \cdot y \cdot v^2 \quad \text{Où :} \quad \begin{array}{l} pd = \text{pression dynamique} \quad (\text{Pa}) \\ y = \text{poids spécifique du fluide} \quad (\text{kg/m}^3) \\ v = \text{vitesse du fluide à la bouche du ventilateur, souhaitée dans l'installation} \quad (\text{m/s}) \end{array}$$

$$v = \frac{V}{A} \quad \text{Où :} \quad \begin{array}{l} V = \text{débit} \quad (\text{m}^3/\text{s}) \\ A = \text{section de la bouche, souhaitée dans l'installation} \quad (\text{m}^2) \\ v = \text{vitesse du fluide à la bouche du ventilateur, souhaitée dans l'installation} \quad (\text{m/s}) \end{array}$$

1.3) Rendement :

Le rendement est le rapport entre l'énergie restituée par le ventilateur et l'énergie absorbée par le moteur actionnant le ventilateur.

$$\eta = \frac{V \cdot pt}{1,02 \cdot P} \quad \text{Où :} \quad \begin{array}{l} \eta = \text{rendement} = (\%) \\ V \text{ débit} \quad (\text{m}^3/\text{s}) \\ P = \text{puissance absorbée} \quad (\text{kW}) \\ pt = \text{pression totale} \quad (\text{daPa}) \end{array}$$

1.4) Vitesse de rotation :

La vitesse de rotation est le nombre de tours que la roue du ventilateur doit accomplir pour fournir les caractéristiques requises. En faisant varier le nombre de tours (n) et en maintenant constant le poids spécifique du fluide (y), on obtient les variations suivantes :

Le débit (V) est directement proportionnel à la vitesse de rotation, donc :

$$V_1 = V \cdot \frac{n_1}{n} \quad \text{Où :} \quad \begin{array}{l} n = \text{vitesse de rotation} \\ V = \text{débit} \\ V_1 = \text{nouveau débit obtenu par variation de la vitesse de rotation} \\ n_1 = \text{nouvelle vitesse de rotation} \end{array}$$

La pression totale (pt) varie comme le carré du rapport des vitesses de rotation, donc :

$$pt_1 = pt \cdot \left(\frac{n_1}{n}\right)^2 \quad \text{Où :} \quad \begin{array}{l} n = \text{vitesse de rotation} \\ pt = \text{pression totale} \\ pt_1 = \text{nouvelle pression totale obtenue par variation de la vitesse de rot.} \\ n_1 = \text{nouvelle vitesse de rotation} \end{array}$$

La puissance absorbée (P) varie comme le cube du rapport des vitesses de rotation, donc :

$$P_1 = P \cdot \left(\frac{n_1}{n}\right)^3 \quad \text{Où :} \quad \begin{array}{l} n = \text{vitesse de rotation} \\ P = \text{puissance absorbée} \\ P_1 = \text{nouvelle puissance absorbée obtenue par variation de la vitesse de rot.} \\ n_1 = \text{nouvelle vitesse de rotation} \end{array}$$

2) DIMENSIONNEMENT

Les caractéristiques, que nous reportons dans les tableaux suivants, se réfèrent à un fonctionnement avec un fluide (l'air) à la température de + 15°C et sous une pression barométrique de 760 mm Hg (poids spécifique = 1.226 kg/m³).

Les données relatives au bruit se réfèrent à une mesure en champ libre, à la distance de 1,5 m, lorsque le ventilateur fonctionne au débit maximal.

Les valeurs reportées sont sujettes aux tolérances suivantes : débit ± 5% - bruit +3 dB(A).

Lorsque les conditions du fluide véhiculé diffèrent de celles indiquées ci-dessus, il faut tenir compte de la température et de la pression barométrique qui influent directement sur le poids spécifique du fluide.

Lorsque le poids spécifique varie, le débit (V) reste constant en volume, la pression (pt) et la puissance (P) varient directement avec le rapport des poids spécifiques.

$$pt_1 = \frac{y_1}{y} \cdot pt \quad \left| \quad P_1 = \frac{y_1}{y} \cdot P \quad \text{Où :} \quad \begin{array}{l} pt = \text{pression totale} \\ P = \text{puissance absorbée} \\ y = \text{poids spécifique du fluide} \\ y_1 = \text{nouveau poids spécifique du fluide} \\ pt_1 = \text{nouvelle pression totale obtenue par variation du poids spécifique} \\ P_1 = \text{nouvelle puissance absorbée obtenue par variation du poids spéc.} \end{array}$$

Le poids spécifique (y) se calcule à l'aide de la formule suivante :

$$y = \frac{Pb \cdot 13,59}{29,27 \cdot (273+t)} \quad \text{Où :} \quad \begin{array}{l} y = \text{poids spécifique de l'air à t °C} \quad (\text{kg/m}^3) \\ Pb = \text{pression barométrique} \quad (\text{mm Hg}) \\ t = \text{température du fluide (°C)} \quad 13,59 = \text{poids spécifique du mercure à 0° C} \quad (\text{kg/dm}^3) \end{array}$$

Pour faciliter le calcul, le poids de l'air, sous différentes altitudes et différentes températures, est reporté ci-dessous :

| | | Température | | | | | | | | | | | | | | | | | | | | |
|--|-------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | -40°C | -20°C | 0°C | 10°C | 15°C | 20°C | 30°C | 40°C | 50°C | 60°C | 70°C | 80°C | 90°C | 100°C | 120°C | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C |
| Altitude en mètres au-dessus du niveau de la mer | 0 | 1,514 | 1,395 | 1,293 | 1,247 | 1,226 | 1,204 | 1,165 | 1,127 | 1,092 | 1,060 | 1,029 | 1,000 | 0,972 | 0,946 | 0,898 | 0,834 | 0,746 | 0,675 | 0,616 | 0,566 | 0,524 |
| | 500 | 1,435 | 1,321 | 1,225 | 1,181 | 1,161 | 1,141 | 1,103 | 1,068 | 1,035 | 1,004 | 0,975 | 0,947 | 0,921 | 0,896 | 0,851 | 0,790 | 0,707 | 0,639 | 0,583 | 0,537 | 0,497 |
| | 1000 | 1,355 | 1,248 | 1,156 | 1,116 | 1,096 | 1,078 | 1,042 | 1,009 | 0,977 | 0,948 | 0,920 | 0,894 | 0,870 | 0,846 | 0,803 | 0,746 | 0,667 | 0,604 | 0,551 | 0,507 | 0,469 |
| | 1500 | 1,275 | 1,175 | 1,088 | 1,050 | 1,032 | 1,014 | 0,981 | 0,949 | 0,920 | 0,892 | 0,866 | 0,842 | 0,819 | 0,797 | 0,756 | 0,702 | 0,628 | 0,568 | 0,519 | 0,477 | 0,442 |
| | 2000 | 1,196 | 1,101 | 1,020 | 0,984 | 0,967 | 0,951 | 0,919 | 0,890 | 0,862 | 0,837 | 0,812 | 0,789 | 0,767 | 0,747 | 0,709 | 0,659 | 0,589 | 0,533 | 0,486 | 0,447 | 0,414 |
| 2500 | 1,116 | 1,028 | 0,952 | 0,919 | 0,903 | 0,887 | 0,858 | 0,831 | 0,805 | 0,781 | 0,758 | 0,737 | 0,716 | 0,697 | 0,662 | 0,615 | 0,550 | 0,497 | 0,454 | 0,417 | 0,386 | |

ALLGEMEINE ANGABEN ÜBER DIE VENTILATOREN

1) PARAMETER

Die hauptsächlich Parameter, die einen Ventilator auszeichnen, sind vier :

Fördermenge (V) Druck (p) Leistung (η) Drehgeschwindigkeit (n° min.⁻¹)

1.1) Fördermenge:

Die Fördermenge ist das Volumen der Masse des vom Ventilator bewegten Fluids in der Zeiteinheit und wird normalerweise ausgedrückt in m³/h, m³/min., m³/sec.

1.2) Druck:

Der Gesamtdruck (pt) ist die Summe zwischen dem statischen Druck und der für die Überwindung der von der Anlage entgegengesetzten Reibungen erforderlichen Energie und dem dynamischen Druck (pd) oder der kinetischen Energie, die dem in Bewegung befindlichen Fluid eingeprägt ist (pt = p_{st} + pd).

Der dynamische Druck hängt von der Geschwindigkeit (v) und vom spezifischen Gewicht des Fluids (y) ab.

$$pd = \frac{1}{2} \cdot y \cdot v^2 \quad \text{Wo: } \begin{array}{l} pd = \text{dynamischer Druck} \quad (\text{Pa}) \\ y = \text{spezifisches Gewicht des Fluids} \quad (\text{Kg/m}^3) \\ v = \text{Geschwindigkeit des Fluids an der Düse des von der Anlage interessierten Ventilators} \quad (\text{m/sec}) \end{array}$$

$$v = \frac{V}{A} \quad \text{Wo: } \begin{array}{l} V = \text{Fördermenge} \quad (\text{m}^3/\text{sec}) \\ A = \text{Schnitt der von der Anlage interessierten Düse} \quad (\text{m}^2) \\ v = \text{Geschwindigkeit des Fluids an der Düse des von der Anlage interessierten Ventilators} \quad (\text{m/sec}) \end{array}$$

1.3) Leistung:

Die Leistung ist das Verhältnis zwischen der vom Ventilator abgegebenen Energie und der vom Motor, der den Ventilator antreibt, aufgenommenen.

$$\eta = \frac{V \cdot pt}{1,02 \cdot P} \quad \text{Wo: } \begin{array}{l} \eta = \text{Leistung} \quad (\%) \\ V = \text{Fördermenge} \quad (\text{m}^3/\text{sec}) \\ P = \text{aufgen.Kraft} \quad (\text{kW}) \\ pt = \text{Gesamtdruck} \quad (\text{daPa}) \end{array}$$

1.4) Drehgeschwindigkeit:

Die Drehgeschwindigkeit ist die Anzahl der Umdrehungen, die das Laufrad des Ventilators ausführen muß, um die verlangten Eigenschaften zu erfüllen.

Bei Veränderung der Umdrehungszahl (n) und bei konstanter Beibehaltung des spezifischen Gewichts des Fluids (y), werden folgende Variationen erreicht :

Die Fördermenge (V) ist direkt proportionell zur Drehgeschwindigkeit, also :

$$V_1 = V \cdot \frac{n_1}{n} \quad \text{Wo: } \begin{array}{l} n = \text{Drehgeschwind.} \\ V = \text{Fördermenge} \end{array} \quad \begin{array}{l} V_1 = \text{neue F.Menge, erreicht b.Variat.d.Drehgeschwindigk.} \\ n_1 = \text{neue Drehgeschwindigkeit} \end{array}$$

Der Gesamtdruck (pt) variiert mit der Quadratzahl des Verhältnisses der Drehgeschwindigkeiten, also:

$$pt_1 = pt \cdot \left(\frac{n_1}{n}\right)^2 \quad \text{Wo: } \begin{array}{l} n = \text{Drehgeschw.} \\ pt = \text{Gesamtdruck} \end{array} \quad \begin{array}{l} pt_1 = \text{neuer Ges.Druck, erreicht b.Variat.d.Drehgeschw.} \\ n_1 = \text{neue Drehgeschwindigkeit} \end{array}$$

Die aufgenommene Kraft (P) variiert mit der Kubikzahl des Verhältnisses der Drehgeschwindigkeiten, also:

$$P_1 = P \cdot \left(\frac{n_1}{n}\right)^3 \quad \text{Wo: } \begin{array}{l} n = \text{Drehgeschwind.} \\ P = \text{aufgen. Kraft} \end{array} \quad \begin{array}{l} P_1 = \text{neue aufgen.Kraft, erreicht b.Variat.d.Drehgeschw.} \\ n_1 = \text{neue Drehgeschwindigkeit} \end{array}$$

2) BEMESSUNG

Die von uns in den folgenden Tabellen ausgedrückten Eigenschaften beziehen sich auf den Betrieb mit Fluid (Luft) bei Temperatur von + 15° und barometrischem Druck von 760 mm Hg (spezifisches Gewicht = 1.226 kg/m³).

Die das Geräusch betreffenden Daten beziehen sich auf eine Messung auf freiem Feld in einer Entfernung von 1,5 m und Ventilator, funktionierend mit Höchstleistungskraft.

Die angegebenen Werte unterliegen den folgenden Toleranzen : Fördermenge ± 5% - Geräusch +3 dB(A).

Wenn die Bedingungen des bewegten Fluids sich von den o.a. unterscheiden ist zu beachten, daß Temperatur und barometrischer Druck direkt auf das spezifische Gewicht des Fluids einwirken.

Bei Variation des spezifischen Gewichts bleibt die Fördermenge (V) in bezug auf das Volumen konstant, während der Druck (pt) und die Kraft (P) direkt mit dem Verhältnis der spezifischen Gewichte variieren.

$$pt_1 = \frac{y_1}{y} \cdot pt \quad \left| \quad P_1 = \frac{y_1}{y} \cdot P \quad \text{Wo: } \begin{array}{l} pt = \text{Gesamtdruck} \\ P = \text{aufgen. Kraft} \\ y = \text{spez.Gew. Fluid} \end{array} \quad \begin{array}{l} pt_1 = \text{neuer Gesamtdruck, erreicht b.Variat. d. spez.Gew.} \\ P_1 = \text{neue aufgen.Kraft, erreicht b.Variat. d. spez.Gew.} \\ y_1 = \text{spezifisches Gewicht des Fluids} \end{array}$$

Das spezifische Gewicht (y) kann mit der folgenden Formel berechnet werden :

$$y = \frac{Pb \cdot 13,59}{29,27 \cdot (273+t)} \quad \text{Wo: } \begin{array}{l} y = \text{spez.Gew. d.Luft b. temp. } ^\circ\text{C} \quad (\text{Kg/m}^3) \\ Pb = \text{barometrischer Druck} \quad (\text{mm Hg}) \\ t = \text{Temperatur d. Fluids } (^\circ\text{C}) \quad 13,59 = \text{spez.Gew.d. Quecksilbers b.0}^\circ\text{C} \quad (\text{kg/dm}^3) \end{array}$$

Zur Erleichterung der Berechnung geben wir das Gewicht der Luft bei den verschiedenen Temperaturen und Höhen an:

| | | Temperatur | | | | | | | | | | | | | | | | | | | | |
|----------------|-------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | -40°C | -20°C | 0°C | 10°C | 15°C | 20°C | 30°C | 40°C | 50°C | 60°C | 70°C | 80°C | 90°C | 100°C | 120°C | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C |
| Höhe ü.d.M. | 0 | 1,514 | 1,395 | 1,293 | 1,247 | 1,226 | 1,204 | 1,165 | 1,127 | 1,092 | 1,060 | 1,029 | 1,000 | 0,972 | 0,946 | 0,898 | 0,834 | 0,746 | 0,675 | 0,616 | 0,566 | 0,524 |
| | 500 | 1,435 | 1,321 | 1,225 | 1,181 | 1,161 | 1,141 | 1,103 | 1,068 | 1,035 | 1,004 | 0,975 | 0,947 | 0,921 | 0,896 | 0,851 | 0,790 | 0,707 | 0,639 | 0,583 | 0,537 | 0,497 |
| | 1000 | 1,355 | 1,248 | 1,156 | 1,116 | 1,096 | 1,078 | 1,042 | 1,009 | 0,977 | 0,948 | 0,920 | 0,894 | 0,870 | 0,846 | 0,803 | 0,746 | 0,667 | 0,604 | 0,551 | 0,507 | 0,469 |
| | 1500 | 1,275 | 1,175 | 1,088 | 1,050 | 1,032 | 1,014 | 0,981 | 0,949 | 0,920 | 0,892 | 0,866 | 0,842 | 0,819 | 0,797 | 0,756 | 0,702 | 0,628 | 0,568 | 0,519 | 0,477 | 0,442 |
| | 2000 | 1,196 | 1,101 | 1,020 | 0,984 | 0,967 | 0,951 | 0,919 | 0,890 | 0,862 | 0,837 | 0,812 | 0,789 | 0,767 | 0,747 | 0,709 | 0,659 | 0,589 | 0,533 | 0,486 | 0,447 | 0,414 |
| 2500 | 1,116 | 1,028 | 0,952 | 0,919 | 0,903 | 0,887 | 0,858 | 0,831 | 0,805 | 0,781 | 0,758 | 0,737 | 0,716 | 0,697 | 0,662 | 0,615 | 0,550 | 0,497 | 0,454 | 0,417 | 0,386 | |

SPE

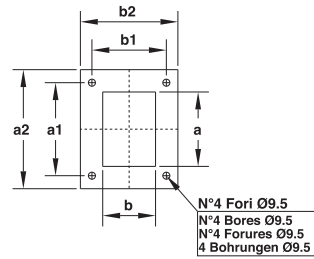
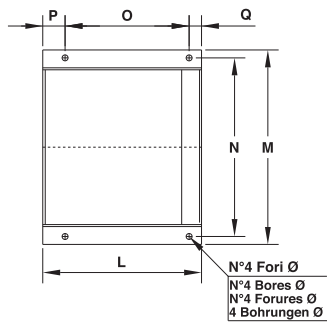
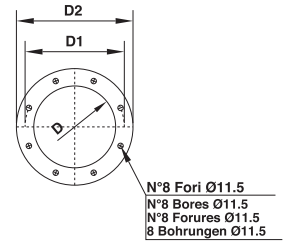
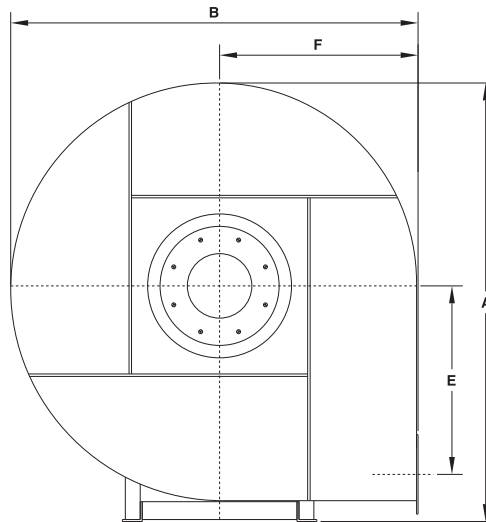
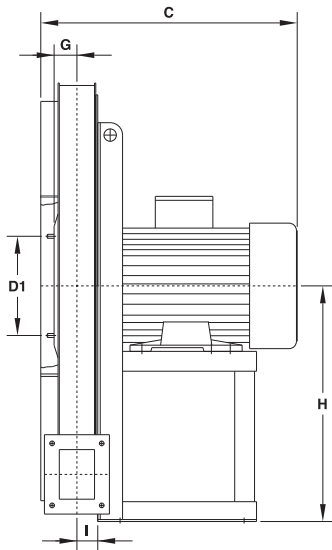
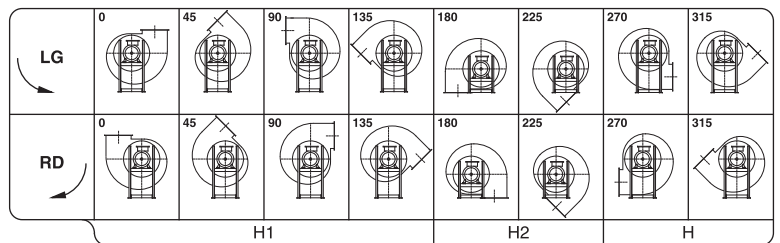


Tabella orientamenti
Table of discharge positions

Tableau d'orientation
Tabelle der Gehäusestellungen

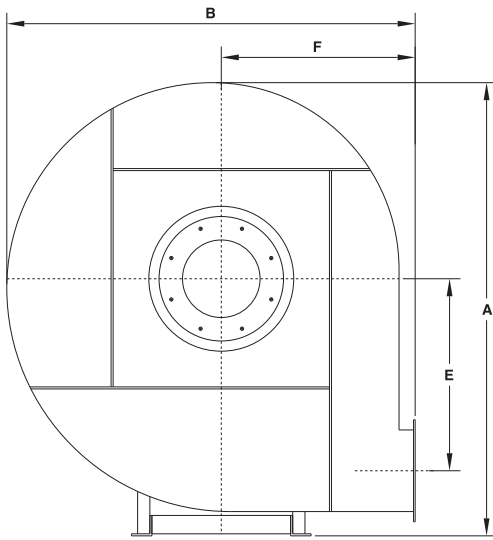
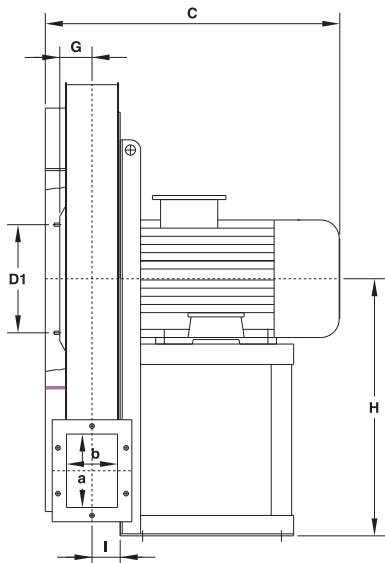


Il ventilatore è orientabile
The fan is revoluble
Le ventilateur est orientable
Ventilatorgehäuse ist drehbar

| Tipo-Type-Typ-Tipo Ventilatore Fan Ventilateur Ventilator | Motore Motor Moteur Motor | Ventilatore Fan Ventilateur Ventilator | | | | | | | | | | Basamento Base Chassis Sockel | | | | | | Flangia aspirante Inlet flange Bride a l'aspiration Flansch saugseitig | | | Flangia premente Outlet flange Bride en refoulement Flansch drückseitig | | | | | | Peso Weight Poids Gewicht kg | PD ² GD ² kgm ² | |
|---|------------------------------------|---|------|-----|-----|-----|----|-----|----------------|----------------|----|--|-----|-----|-----|----|----|---|-----|----------------|--|-----|----|----------------|----------------|----------------|--|--|----------------|
| | | A | B | C | E | F | G | H | H ₁ | H ₂ | I | L | M | N | O | P | Q | Ø | D | D ₁ | D ₂ | a | b | a ₁ | b ₁ | a ₂ | | | b ₂ |
| SPE 351/B SPE 351/A | 71 A2 71 B2 | 560 | 520 | 310 | 223 | 250 | 42 | 300 | 300 | 300 | 36 | 190 | 235 | 215 | 125 | 50 | 15 | 10 | 145 | 182 | 215 | 90 | 63 | 112 | 90 | 150 | 123 | 23 | 0,3 |
| SPE 401/A | 80 A2 | 560 | 520 | 330 | 223 | 250 | 42 | 300 | 300 | 300 | 36 | 190 | 235 | 215 | 125 | 50 | 15 | 10 | 145 | 182 | 215 | 90 | 63 | 112 | 90 | 150 | 123 | 24 | 0,4 |
| SPE 451/B SPE 451/A | 80 A2 80 B2 | 670 | 620 | 330 | 280 | 300 | 42 | 355 | 355 | 355 | 37 | 190 | 235 | 215 | 125 | 50 | 15 | 10 | 145 | 182 | 215 | 90 | 63 | 112 | 90 | 150 | 123 | 33 | 0,6 |
| SPE 501/A | 90 S2 | 670 | 620 | 370 | 280 | 300 | 42 | 355 | 355 | 355 | 38 | 215 | 270 | 245 | 137 | 60 | 18 | 10 | 145 | 182 | 215 | 90 | 63 | 112 | 90 | 150 | 123 | 35 | 1 |
| SPE 561/B SPE 561/A | 90 S2 90 L2 | 790 | 730 | 390 | 330 | 355 | 46 | 425 | 425 | 425 | 42 | 215 | 270 | 245 | 137 | 60 | 18 | 10 | 165 | 200 | 235 | 100 | 71 | 125 | 100 | 160 | 131 | 51 | 1,6 |
| SPE 631/A | 100 LA2 | 790 | 730 | 460 | 330 | 355 | 46 | 425 | 425 | 425 | 43 | 260 | 332 | 300 | 200 | 35 | 25 | 12 | 165 | 200 | 235 | 100 | 71 | 125 | 100 | 160 | 131 | 52 | 2,3 |
| SPE 712/A | 112 M2 | 890 | 825 | 460 | 380 | 400 | 50 | 475 | 475 | 475 | 42 | 260 | 332 | 300 | 200 | 35 | 25 | 12 | 165 | 200 | 235 | 100 | 71 | 125 | 100 | 160 | 131 | 72 | 3,2 |
| SPE 711/A | 132 SA2 | 890 | 825 | 520 | 380 | 400 | 50 | 475 | 475 | 475 | 42 | 320 | 392 | 360 | 250 | 45 | 25 | 12 | 165 | 200 | 235 | 100 | 71 | 125 | 100 | 160 | 131 | 78 | 4 |
| SPE 801/C SPE 801/A SPE 801/B | 132 SA2 132 SB2 132 MB2 | 990 | 920 | 520 | 430 | 450 | 50 | 530 | 530 | 530 | 42 | 320 | 392 | 360 | 250 | 45 | 25 | 12 | 165 | 200 | 235 | 100 | 71 | 125 | 100 | 160 | 131 | 108 | 6,3 |
| SPE 901/B SPE 901/C | 160 MR2 160 M2 | 1180 | 1100 | 680 | 520 | 530 | 56 | 630 | 630 | 630 | 49 | 425 | 440 | 400 | 340 | 55 | 30 | 14 | 185 | 219 | 255 | 112 | 80 | 140 | 112 | 172 | 140 | 175 | 10 |

Tabella non impegnativa
The above data are unbinding
Tableau sans engagement
Maße unverbindlich

Peso ventilatore in kg (senza motore)
Fan weight in kg (without motor)
Poids du ventilateur en kg (sans moteurs)
Ventilator Gewicht in kg (ohne Motor)



SPF

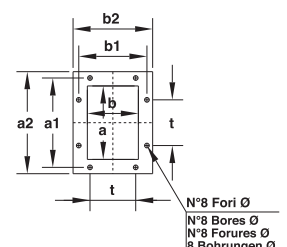
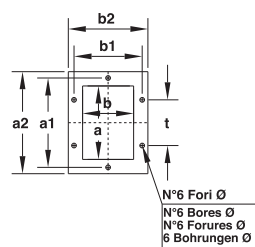
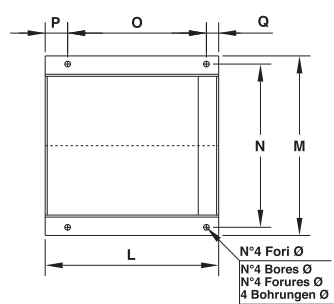
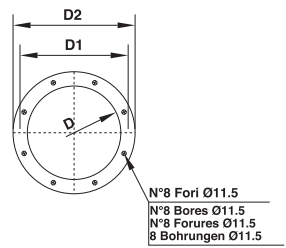
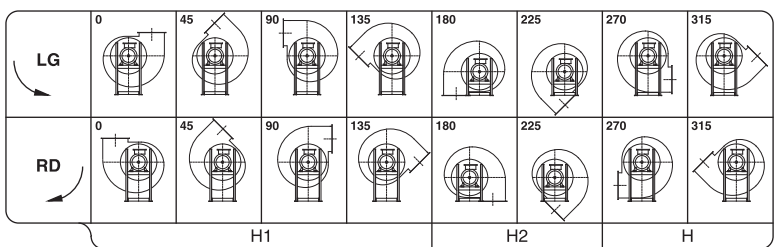


Tabella orientamenti
Table of discharge positions

Tableau d'orientation
Tabelle der Gehäusestellungen



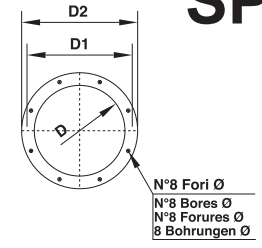
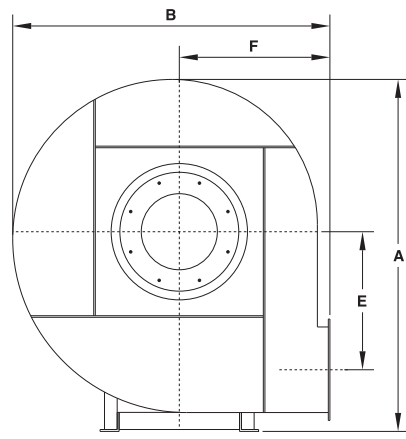
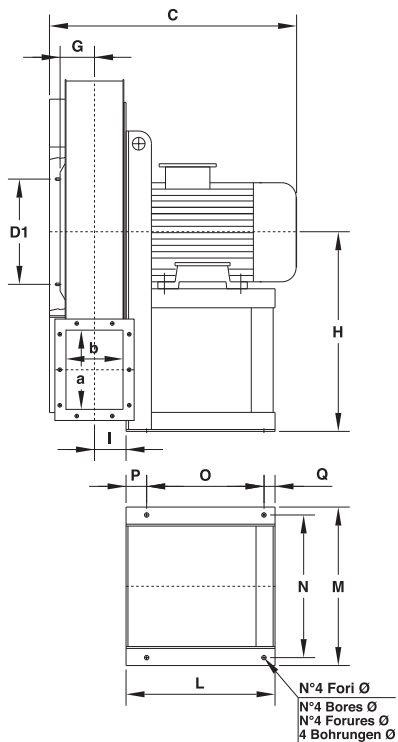
Il ventilatore è orientabile
The fan is revolvable
Le ventilateur est orientable
Ventilatorgehäuse ist drehbar

| Tipo-Type-Typ-Tipo | | Ventilatore Fan Ventilateur Ventilator | | | | | | | | | | Basamento Base Chassis Socket | | | | | | Flangia aspirante Inlet flange Bride a l'aspiration Flansch saugseitig | | | Flangia premente Outlet flange Bride en refoulement Flansch drückseitig | | | | | | Peso Weight Poids Gewicht | | PD ² GD ² | | | | | | | |
|--|---------------------------|--|------|-----|-----|-----|-----|-----|----------------|----------------|----|-------------------------------|-----|-----|-----|-----|----|--|-----|----------------|---|-----|-----|----------------|----------------|----------------|---------------------------|-----|---------------------------------|------|------|------------------|-----|-----|-----|--|
| Ventilatore Fan Ventilateur Ventilator | Motore Motor Moteur Motor | A | B | C | E | F | G | H | H ₁ | H ₂ | I | L | M | N | O | P | Q | Ø | D | D ₁ | D ₂ | a | b | a ₁ | b ₁ | a ₂ | b ₂ | t | N° | Ø | kg | kgm ² | | | | |
| SPF 502/A* | 90 L2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 502/B | 100 LA2 | 800 | 735 | 405 | 337 | 355 | 61 | 450 | 450 | 450 | 53 | 215 | 270 | 245 | 137 | 60 | 18 | 10 | 12 | 165 | 200 | 235 | 125 | 90 | 165 | 130 | 185 | 150 | 100 | 6 | 9,5 | 44 | 0,9 | | | |
| SPF 561/A | 112 M2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 561/B | 132 SA2 | 900 | 830 | 490 | 380 | 400 | 65 | 500 | 500 | 500 | 58 | 260 | 320 | 332 | 300 | 200 | 35 | 25 | 12 | 185 | 219 | 255 | 140 | 100 | 182 | 141 | 210 | 170 | 112 | 6 | 11,5 | 60 | 2,1 | | | |
| SPF 632/A | 132 SA2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 632/B | 132 SB2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 631/A | 132 SB2 | 1000 | 900 | 565 | 420 | 425 | 71 | 560 | 560 | 560 | 63 | 320 | 392 | 360 | 250 | 45 | 25 | 12 | 205 | 241 | 275 | 160 | 112 | 200 | 153 | 230 | 182 | 112 | 6 | 11,5 | 66 | 2,8 | | | | |
| SPF 631/B | 132 MB2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 712/A* | 132 SB2 | | | 590 | | | | | | | | 320 | 392 | 360 | 250 | 45 | 25 | 12 | | | | | | | | | | | | | | | | 108 | 5,5 | |
| SPF 712/B* | 132 MB2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 712/C | 160 MR2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 712/D | 160 M2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 711/A | 160 MR2 | 1120 | 1010 | 725 | 470 | 475 | 80 | 630 | 630 | 630 | 71 | 425 | 440 | 400 | 340 | 55 | 30 | 14 | 229 | 265 | 299 | 180 | 125 | 219 | 167 | 250 | 195 | 112 | 6 | 11,5 | 141 | 6,2 | | | | |
| SPF 711/B | 160 M2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 711/C | 160 L2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 802/A | 160 M2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 802/B | 160 L2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 802/C | 180 M2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 801/A | 160 M2 | 1250 | 1120 | 740 | 530 | 530 | 90 | 710 | 710 | 710 | 80 | 425 | 440 | 400 | 340 | 55 | 30 | 14 | 255 | 292 | 325 | 200 | 140 | 241 | 182 | 270 | 210 | 112 | 8 | 11,5 | 220 | 8,5 | | | | |
| SPF 801/B | 160 L2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 801/C | 180 M2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPF 801/D | 200 LR2 | | | 815 | | | | | | | | 500 | 570 | 510 | 385 | 75 | 40 | 16 | | | | | | | | | | | | | | | | | | |
| SPF 902/A | 180 M2 | | | 765 | | | | | | | | 470 | 500 | 450 | 370 | 65 | 35 | 14 | | | | | | | | | | | | | | | | | | |
| SPF 902/B | 200 LR2 | | | 840 | | | | | | | | 500 | 570 | 510 | 385 | 75 | 16 | 16 | | | | | | | | | | | | | | | | | | |
| SPF 902/C | 200 L2 | | | 840 | | | | | | | | 500 | 570 | 510 | 385 | 75 | 16 | 16 | | | | | | | | | | | | | | | | | | |
| SPF 902/D | 225 M2 | | | 915 | | | | | | | | 550 | 626 | 565 | 425 | 85 | 19 | 19 | | | | | | | | | | | | | | | | | | |
| SPF 901/A | 200 LR2 | 1410 | 1265 | 840 | 598 | 600 | 103 | 800 | 710 | 710 | 90 | 500 | 570 | 510 | 385 | 75 | 16 | 16 | 286 | 332 | 366 | 224 | 160 | 265 | 200 | 294 | 230 | 112 | 8 | 11,5 | 340 | 14,5 | | | | |
| SPF 901/B | 200 L2 | | | 840 | | | | | | | | 500 | 570 | 510 | 385 | 75 | 16 | 16 | | | | | | | | | | | | | | | | | | |
| SPF 901/C | 225 M2 | | | 915 | | | | | | | | 550 | 626 | 565 | 425 | 85 | 19 | 19 | | | | | | | | | | | | | | | | | | |
| SPF 901/D | 250 M2 | | | 915 | | | | | | | | 600 | 686 | 615 | 460 | 95 | 45 | 21 | | | | | | | | | | | | | | | | | | |

Tabella non impegnativa
The above date are unbinding
Tableau sans engagement
Maße unverbindlich

* Ventilatori non a listino, esecuzione su richiesta.
The fans are not in our Price List, production on request.
Ventilateurs hors catalogue, fabrication sur demande.
Der Ventilatoren sind nicht in unsere Preisliste erhalten, Produktion auf Anfrage

Peso ventilatore in kg (senza motore)
Fan weight in kg (without motor)
Poids du ventilateur en kg (sans moteurs)
Ventilator Gewicht in kg (ohne Motor)



SPG

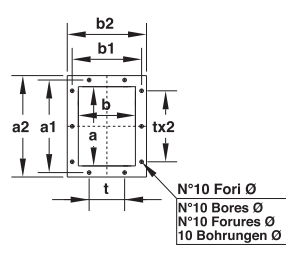
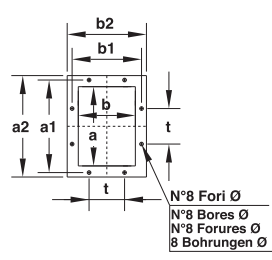
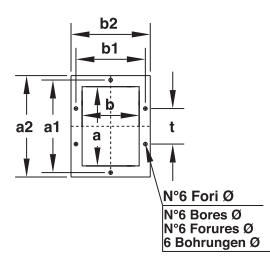
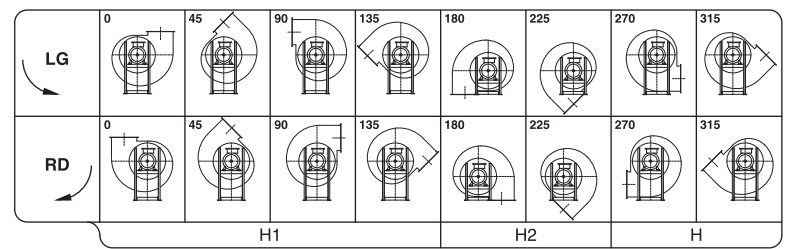


Tabella orientamenti
Table of discharge positions

Tableau d'orientation
Tabelle der Gehäusestellungen



Il ventilatore è orientabile
The fan is revolvable
Le ventilateur est orientable
Ventilatorgehäuse ist drehbar

| Tipo-Type-Typ-Tipo Ventilatore Fan Ventilateur Ventilator | Motore Motor Moteur Motor | Ventilatore Fan Ventilateur Ventilator | | | | | | | | | | Basamento Base Chassis Sockel | | | | | | Flangia aspirante Inlet flange Bride a l'aspiration Flansch saugseitig | | | Flangia premente Outlet flange Bride en refoulement Flansch drückseitig | | | | | | Peso Weight Poids Gewicht | PD2 GD2 | | | | |
|---|------------------------------------|---|------|------|-----|-----|-----|-----|----------------|----------------|-----|--|-----|-----|-----|----|----|---|---|----------------|--|---|---|----------------|----------------|----------------|------------------------------------|------------|----------------|-----|-----|---|
| | | A | B | C | E | F | G | H | H ₁ | H ₂ | I | L | M | N | O | P | Q | Ø | D | D ₁ | D ₂ | a | b | a ₁ | b ₁ | a ₂ | | | b ₂ | t | N° | Ø |
| SPG 502/A | 100 LA2 | | | 510 | | | | | | | 260 | 332 | 300 | 200 | 35 | | | | | | | | | | | | | | | | 46 | 1 |
| SPG 502/B | 112 M2 | | | 510 | | | | | | | 260 | 332 | 300 | 200 | 35 | | | | | | | | | | | | | | | | 47 | |
| SPG 502/C* | 132 SA2 | | | 570 | 310 | 355 | 77 | 450 | 450 | 355 | 320 | 392 | 360 | 250 | 45 | | | | | | | | | | | | | | | 55 | | |
| SPG 501/A | 112 M2 | 800 | 735 | 510 | | | | | | | 260 | 332 | 300 | 200 | 35 | | | | | | | | | | | | | | | 50 | 1,2 | |
| SPG 501/B | 132 SA2 | | | 570 | | | | | | | 320 | 392 | 360 | 250 | 45 | | | | | | | | | | | | | | | 56 | | |
| SPG 501/C | 132 SB2 | | | 570 | | | | | | | 320 | 392 | 360 | 250 | 45 | | | | | | | | | | | | | | | | | |
| SPG 562/A | 132 SA2 | | | 595 | | | | | | | 320 | 392 | 360 | 250 | 45 | 25 | | | | | | | | | | | | | | 80 | 2 | |
| SPG 562/B | 132 SB2 | | | 595 | | | | | | | 320 | 392 | 360 | 250 | 45 | 25 | | | | | | | | | | | | | | | | |
| SPG 562/C | 132 MB2 | | | 595 | | | | | | | 320 | 392 | 360 | 250 | 45 | 25 | | | | | | | | | | | | | | | | |
| SPG 562/D* | 160 MR2 | 900 | 830 | 730 | 350 | 400 | 87 | 500 | 500 | 400 | 425 | 440 | 400 | 340 | 55 | 30 | 14 | | | | | | | | | | | | | 108 | 2,3 | |
| SPG 561/A | 132 SB2 | | | 595 | | | | | | | 320 | 392 | 360 | 250 | 45 | 25 | 12 | | | | | | | | | | | | | 85 | | |
| SPG 561/B | 132 MB2 | | | 595 | | | | | | | 320 | 392 | 360 | 250 | 45 | 25 | 12 | | | | | | | | | | | | | | | |
| SPG 561/C | 160 MR2 | | | 730 | | | | | | | 425 | 440 | 400 | 340 | 55 | 30 | 14 | | | | | | | | | | | | | 115 | | |
| SPG 561/D | 160 M2 | | | 730 | | | | | | | 425 | 440 | 400 | 340 | 55 | 30 | 14 | | | | | | | | | | | | | | | |
| SPG 632/A* | 132 MB2 | | | 615 | | | | | | | 320 | 392 | 360 | 250 | 45 | 25 | 12 | | | | | | | | | | | | | 98 | 2,9 | |
| SPG 632/B | 160 MR2 | | | | | | | | | | 425 | 440 | 400 | 340 | 55 | 30 | | | | | | | | | | | | | | | | |
| SPG 632/C | 160 M2 | | | | | | | | | | 425 | 440 | 400 | 340 | 55 | 30 | | | | | | | | | | | | | | 140 | | |
| SPG 632/D | 160 L2 | 1000 | 900 | 750 | 388 | 425 | 100 | 560 | 560 | 425 | 425 | 440 | 400 | 340 | 55 | 30 | 14 | | | | | | | | | | | | | 150 | 3,4 | |
| SPG 631/A | 160 M2 | | | | | | | | | | 425 | 440 | 400 | 340 | 55 | 30 | | | | | | | | | | | | | | | | |
| SPG 631/B | 160 L2 | | | | | | | | | | 425 | 440 | 400 | 340 | 55 | 30 | | | | | | | | | | | | | | 167 | | |
| SPG 631/C* | 180 M2 | | | 780 | | | | | | | 470 | 500 | 450 | 370 | 65 | 35 | | | | | | | | | | | | | | | | |
| SPG 712/A* | 160 L2 | | | 780 | | | | | | | 425 | 440 | 400 | 340 | 55 | 30 | 14 | | | | | | | | | | | | | 171 | 5,6 | |
| SPG 712/B | 180 M2 | | | 790 | | | | | | | 470 | 500 | 450 | 370 | 65 | 35 | 14 | | | | | | | | | | | | | 182 | | |
| SPG 712/C | 200 LR2 | | | 855 | | | | | | | 500 | 570 | 510 | 385 | 75 | 40 | 16 | | | | | | | | | | | | | 210 | | |
| SPG 711/A* | 180 M2 | 1120 | 1005 | 780 | 435 | 475 | 110 | 630 | 630 | 475 | 470 | 500 | 450 | 370 | 65 | 35 | 14 | | | | | | | | | | | | | 192 | 6,8 | |
| SPG 711/B | 200 LR2 | | | 855 | | | | | | | 500 | 570 | 510 | 385 | 75 | 40 | 16 | | | | | | | | | | | | | 230 | | |
| SPG 711/C | 200 L2 | | | 855 | | | | | | | 500 | 570 | 510 | 385 | 75 | 40 | 16 | | | | | | | | | | | | | 245 | | |
| SPG 711/D | 225 M2 | | | 930 | | | | | | | 550 | 626 | 565 | 425 | 85 | 40 | 19 | | | | | | | | | | | | | | | |
| SPG 802/A* | 200 LR2 | | | 875 | | | | | | | 500 | 570 | 510 | 385 | 75 | 40 | 16 | | | | | | | | | | | | | 255 | 9 | |
| SPG 802/B | 200 L2 | | | 875 | | | | | | | 500 | 570 | 510 | 385 | 75 | 40 | 16 | | | | | | | | | | | | | 270 | | |
| SPG 802/C | 225 M2 | | | 955 | | | | | | | 550 | 626 | 565 | 425 | 85 | 40 | 19 | | | | | | | | | | | | | 282 | | |
| SPG 802/D* | 250 M2 | 1250 | 1120 | 960 | 490 | 530 | 120 | 710 | 710 | 530 | 600 | 686 | 615 | 460 | 95 | 45 | 21 | | | | | | | | | | | | | 240 | 11 | |
| SPG 801/A* | 225 M2 | | | 955 | | | | | | | 550 | 626 | 565 | 425 | 85 | 40 | 19 | | | | | | | | | | | | | 302 | | |
| SPG 801/B | 250 M2 | | | 960 | | | | | | | 600 | 686 | 615 | 460 | 95 | 45 | 21 | | | | | | | | | | | | | 315 | | |
| SPG 801/C | 280 S2 | | | 1085 | | | | | | | 700 | 760 | 680 | 550 | 100 | 50 | 24 | | | | | | | | | | | | | 387 | 15 | |
| SPG 902/A* | 250 M2 | | | 980 | | | | | | | 600 | 686 | 615 | 460 | 95 | 45 | 21 | | | | | | | | | | | | | 405 | | |
| SPG 902/B | 280 S2 | | | | | | | | | | 700 | 760 | 680 | 550 | 100 | 50 | 24 | | | | | | | | | | | | | 475 | | |
| SPG 902/C | 280 M2 | | | | | | | | | | 700 | 760 | 680 | 550 | 100 | 50 | 24 | | | | | | | | | | | | | 420 | 19 | |
| SPG 902/D* | 315 S2 | 1410 | 1265 | 1110 | 552 | 600 | 135 | 800 | 710 | 600 | 770 | 860 | 770 | 605 | 110 | 55 | 24 | | | | | | | | | | | | | 487 | | |
| SPG 901/A | 280 S2 | | | | | | | | | | 650 | 760 | 680 | 500 | 100 | 50 | 24 | | | | | | | | | | | | | | | |
| SPG 901/B | 280 M2 | | | | | | | | | | 700 | 760 | 680 | 550 | 100 | 50 | 24 | | | | | | | | | | | | | | | |
| SPG 901/C | 315 S2 | | | | | | | | | | 770 | 860 | 770 | 605 | 110 | 55 | 24 | | | | | | | | | | | | | | | |
| SPG 901/D | 315 M2 | | | 1255 | | | | | | | 770 | 860 | 770 | 605 | 110 | 55 | 24 | | | | | | | | | | | | | | | |

Tabella non impegnativa
The above data are unbinding
Tableau sans engagement
Maße unverbindlich

* Ventilatori non a listino, esecuzione su richiesta.
The fans are not in our Price List, production on request.
Ventilateurs hors catalogue, fabrication sur demande.
Der Ventilatoren sind nicht in unsere Preisliste erhalten, Produktion auf Anfrage

Peso ventilatore in kg (senza motore)
Fan weight in kg (without motor)
Poids du ventilateur en kg (sans moteurs)
Ventilator Gewicht in kg (ohne Motor)

MANDATA - DISCHARGE STAGE - SOUFLAGE - DRUCKSEITIG

| Tipo - Type - Typ - Tipo Ventilatore Fan Ventilateur Motor Motor Motor | kW insl. | n. min. ⁻¹ | Lp dB/A | Rapp. Spec. m³/min. | q kg/m³ | Pt kgf/m² | Pa kW | Pe kW | ηe | ηp target 2015 | Tempo avviam. in sec. | V = m³/min | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|--------------------------|------------|---------------------------|------------|--------------|----------|----------|-------|----------------------|-----------------------------|-------------|----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|----|----|----|----|----|----|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | | | | 2 | 3 | 4 | 5 | 5,6 | 6,3 | 7,1 | 8 | 9 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 25 | 28 | 31 | 35 | | | | | | | | | | | | | |
| ErP | | | | | | | | | | | | Pt = kgf/m² | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPE 351/B | 71 B2 | 0,55 | 2770 | 69 | 1,02 | 5 | 243 | 0,33 | 0,48 | 41,1 | 40,7 | 49,4 | 6 | 250 | 252 | 245 | 240 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPE 351/A | 71 B2 | 0,55 | 2770 | 70 | 1,02 | 8 | 212 | 0,45 | 0,59 | 46,6 | 41,2 | 54,4 | 5 | 250 | 252 | 245 | 240 | 235 | 228 | 220 | 212 | 200 | | | | | | | | | | | | | | | | | | | | | | | |
| SPE 401/A | 80 A2 | 0,75 | 2830 | 72 | 1,03 | 10 | 270 | 0,71 | 0,88 | 50,2 | 42,3 | 56,9 | 6 | 310 | 315 | 315 | 312 | 310 | 307 | 302 | 296 | 288 | 270 | | | | | | | | | | | | | | | | | | | | | | |
| SPE 451/B | 80 A2 | 0,75 | 2830 | 73 | 1,04 | 6 | 410 | 0,51 | 0,64 | 58,5 | 41,4 | 86,1 | 10 | 380 | 400 | 410 | 410 | 408 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPE 451/A | 80 B2 | 1,1 | 2830 | 74 | 1,03 | 11 | 350 | 1,03 | 1,24 | 50,5 | 43,3 | 56,2 | 9 | 380 | 400 | 410 | 410 | 408 | 402 | 398 | 388 | 378 | 362 | 350 | | | | | | | | | | | | | | | | | | | | | |
| SPE 501/A | 90 S2 | 1,5 | 2840 | 76 | 1,04 | 11 | 435 | 1,37 | 1,63 | 48,1 | 44,0 | 53,1 | 9 | 480 | 500 | 520 | 525 | 520 | 505 | 498 | 482 | 470 | 455 | 440 | | | | | | | | | | | | | | | | | | | | | |
| SPE 561/B | 90 S2 | 1,5 | 2840 | 77 | 1,06 | 7 | 598 | 1,27 | 1,50 | 45,4 | 43,8 | 50,7 | 10 | 600 | 620 | 625 | 625 | 620 | 615 | 605 | 605 | 585 | 575 | 550 | 520 | | | | | | | | | | | | | | | | | | | | |
| SPE 561/A | 90 L2 | 2,2 | 2840 | 78 | 1,05 | 12 | 515 | 1,76 | 2,04 | 49,4 | 44,6 | 53,8 | 9 | 600 | 620 | 625 | 625 | 620 | 615 | 605 | 595 | 585 | 575 | 550 | | | | | | | | | | | | | | | | | | | | | |
| SPE 631/A | 100 LA2 | 3 | 2880 | 79 | 1,07 | 14 | 704 | 2,81 | 3,23 | 49,9 | 45,9 | 53,0 | 10 | 750 | 785 | 805 | 815 | 815 | 815 | 805 | 800 | 780 | 770 | 750 | 730 | 700 | | | | | | | | | | | | | | | | | | | |
| SPE 712/A | 112 M2 | 4 | 2900 | 82 | 1,09 | 16 | 910 | 3,90 | 4,42 | 53,8 | 46,7 | 56,0 | 13 | 845 | 850 | 850 | 855 | 855 | 860 | 865 | 875 | 880 | 890 | 905 | 910 | 910 | | | | | | | | | | | | | | | | | | | |
| SPE 711/A | 132 SA2 | 5,5 | 2900 | 83 | 1,10 | 16 | 1022 | 4,53 | 5,07 | 52,4 | 47,1 | 54,2 | 12 | 945 | 945 | 950 | 950 | 955 | 960 | 965 | 975 | 990 | 1000 | 1015 | 1020 | 1000 | | | | | | | | | | | | | | | | | | | |
| SPE 801/C | 132 SA2 | 5,5 | 2900 | 84 | 1,12 | 11 | 1250 | 4,78 | 5,36 | 41,9 | v | 43,6 | 16 | | | 1200 | 1200 | 1205 | 1210 | 1215 | 1220 | 1230 | 1240 | 1250 | | | | | | | | | | | | | | | | | | | | | |
| SPE 801/A | 132 SB2 | 7,5 | 2900 | 85 | 1,13 | 16 | 1295 | 5,99 | 6,64 | 49,6 | v | 50,7 | 11 | | | 1200 | 1200 | 1205 | 1210 | 1215 | 1220 | 1230 | 1240 | 1250 | | | | | | | | | | | | | | | | | | | | | |
| SPE 801/B | 132 MB2 | 9,2 | 2900 | 86 | 1,12 | 20 | 1257 | 7,36 | 8,12 | 50,5 | v | 51,1 | 10 | | | 1200 | 1200 | 1205 | 1210 | 1215 | 1220 | 1230 | 1240 | 1250 | | | | | | | | | | | | | | | | | | | | | |
| SPE 901/B | 160 MR2 | 11 | 2900 | 87 | 1,14 | 25 | 1435 | 11,00 | 12,04 | 48,6 | V | 48,5 | 15 | | | 1380 | 1380 | 1380 | 1390 | 1400 | 1410 | 1420 | 1450 | 1465 | | | | | | | | | | | | | | | | | | | | | |
| SPE 901/C | 160 M2 | 15 | 2900 | 88 | 1,13 | 35 | 1340 | 14,00 | 15,21 | 50,3 | v | 50,1 | 12 | | | 1380 | 1380 | 1380 | 1390 | 1400 | 1410 | 1420 | 1450 | 1465 | | | | | | | | | | | | | | | | | | | | | |

Pa (Pascal) = kgf/m² x 9,807

N2015 = 49
TARGET

Tolleranza sulla portata ± 5 %
 Capacity tolerance ± 5 %
 Fördereranz ± 5 %
 Tolerance sur le débit ± 5 %
 Tolerancia en el caudal ± 5 %

Tolleranza sulla rumorosità ± 3 dB
 Noise level tolerance ± 3 dB
 Toleranz Schallpegel ± 3 dB
 Tolerance sur niveau sonore ± 3 dB
 Tolerancia de la intensidad acústica ± 3 dB

v: Ventilatore con rapporto specifico >1,11
 v: Fan with specific ratio >1,11
 v: Ventilateur avec un rapport spécifique >1,11
 v: Ventilatoren mit spezifisches Verhältnis >1,11
 v: Ventilador con relación específica >1,11

MANDATA - DISCHARGE STAGE - SOUFLAGE - DRUCKSEITIG

| Tipo - Type - Typ - Tipo Ventilatore Fan Ventilateur Ventilator Ventilador | Motore Motor Moteur Motor Motor | kW inst. | n. min. ⁻¹ | Lp dB/A | Rap. Spec. m³/min. | q kgf/m² | Pf kW | Pa kW | Pe kW | ne target 2015 | N | V = m³/min | | | | | | | | | | | | | | | | | | Pt = kgf/m² | | | | | | | | | | |
|---|---|-------------|--------------------------|------------|--------------------------|-------------|----------|----------|----------|----------------------|------|------------|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | | 16 | 18 | 20 | 22 | 25 | 28 | 31 | 35 | 40 | 45 | 50 | 56 | 63 | 71 | 80 | 90 | 100 | 112 | | 125 | 140 | 160 | 180 | 200 | 225 | 250 | 280 | 315 | 355 |
| | | | | | | | | | | | | 490 | 500 | 505 | 510 | 515 | 515 | 515 | 505 | 490 | | | | | | | | | | | | | | | | | | | | |
| SPG 502/A | 100 LA2 | 3 | 2900 | 77 | 1.05 | 25 | 514 | 3.00 | 3.44 | 61.0 | 46.1 | 63.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 502/B | 112 M2 | 4 | 2900 | 78 | 1.05 | 35 | 495 | 3.75 | 4.25 | 66.5 | 46.6 | 68.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 502/C* | 132 SA2 | 5.5 | 2900 | 80 | 1.05 | 35 | 494 | 3.78 | 4.23 | 67.4 | 46.6 | 69.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 501/A* | 112 M2 | 4 | 2900 | 79 | 1.05 | 28 | 560 | 3.65 | 4.14 | 61.8 | 46.6 | 64.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 501/B | 132 SA2 | 5.5 | 2900 | 80 | 1.05 | 39 | 541 | 4.74 | 5.30 | 65.5 | 47.2 | 67.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 501/C | 132 SB2 | 7.5 | 2900 | 81 | 1.05 | 40 | 538 | 4.76 | 5.28 | 65.9 | 47.2 | 67.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 562/A | 132 SA2 | 5.5 | 2900 | 82 | 1.06 | 35 | 652 | 5.40 | 6.05 | 61.6 | 47.6 | 63.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 562/B | 132 SB2 | 7.5 | 2900 | 82 | 1.06 | 50 | 635 | 7.00 | 7.76 | 66.8 | 48.3 | 67.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 562/C | 132 MB2 | 9.2 | 2900 | 82 | 1.06 | 52 | 629 | 7.19 | 7.93 | 67.1 | 48.3 | 67.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 562/D* | 160 MR2 | 11 | 2900 | 83 | 1.06 | 52 | 628 | 7.21 | 7.89 | 67.7 | 48.3 | 68.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 561/A | 132 SB2 | 7.5 | 2900 | 83 | 1.07 | 40 | 720 | 6.75 | 7.48 | 62.8 | 48.2 | 63.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 561/B | 132 MB2 | 9.2 | 2900 | 83 | 1.07 | 56 | 705 | 8.30 | 9.16 | 70.3 | 48.7 | 70.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 561/C | 160 MR2 | 11 | 2900 | 84 | 1.07 | 56 | 706 | 8.28 | 9.06 | 70.9 | 48.7 | 71.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 561/D | 160 M2 | 15 | 2900 | 84 | 1.07 | 56 | 706 | 8.27 | 8.99 | 71.4 | 48.7 | 71.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 632/A | 132 MB2 | 9.2 | 2900 | 85 | 1.08 | 42 | 797 | 7.89 | 8.71 | 63.0 | 48.6 | 63.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 632/B | 160 MR2 | 11 | 2900 | 86 | 1.08 | 56 | 800 | 10.00 | 10.95 | 66.8 | 49.0 | 66.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 632/C | 160 M2 | 15 | 2900 | 86 | 1.08 | 56 | 800 | 10.02 | 10.89 | 67.3 | 49.0 | 67.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 632/D | 160 L2 | 18.5 | 2950 | 86 | 1.08 | 56 | 800 | 10.07 | 10.89 | 67.7 | 49.0 | 67.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 631/A | 160 M2 | 15 | 2950 | 87 | 1.09 | 63 | 897 | 13.60 | 14.78 | 62.4 | 49.2 | 62.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 631/B | 160 L2 | 18.5 | 2950 | 87 | 1.08 | 81 | 879 | 16.66 | 18.00 | 64.6 | 49.4 | 64.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 631/C* | 180 M2 | 22 | 2950 | 87 | 1.08 | 82 | 875 | 16.79 | 18.08 | 64.6 | 49.4 | 64.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 712/A* | 160 L2 | 18.5 | 2950 | 88 | 1.10 | 71 | 1018 | 16.20 | 17.51 | 67.4 | 49.4 | 67.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 712/B | 180 M2 | 22 | 2950 | 88 | 1.09 | 97 | 979 | 20.52 | 22.11 | 70.0 | 49.5 | 69.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 712/C | 200 LR2 | 30 | 2950 | 88 | 1.09 | 98 | 975 | 20.69 | 22.14 | 70.4 | 49.5 | 69.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 711/A | 180 M2 | 22 | 2950 | 88 | 1.11 | 80 | 1143 | 20.50 | 22.08 | 67.6 | 49.5 | 67.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 711/B | 200 LR2 | 30 | 2950 | 89 | 1.11 | 109 | 1138 | 26.76 | 28.65 | 70.4 | 49.7 | 69.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 711/C | 200 L2 | 37 | 2950 | 89 | 1.11 | 109 | 1137 | 26.89 | 28.65 | 70.7 | 49.7 | 70.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 711/D | 225 M2 | 45 | 2950 | 89 | 1.11 | 110 | 1135 | 27.02 | 28.70 | 70.9 | 49.7 | 70.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 802/A* | 200 LR2 | 30 | 2950 | 90 | 1.12 | 100 | 1285 | 28.00 | 29.97 | 70.0 | v | 69.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 802/B | 200 L2 | 37 | 2950 | 90 | 1.12 | 125 | 1275 | 34.00 | 36.23 | 71.8 | v | 70.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 802/C | 225 M2 | 45 | 2950 | 90 | 1.12 | 124 | 1276 | 33.85 | 35.96 | 72.0 | v | 71.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 802/D* | 250 M2 | 55 | 2950 | 90 | 1.12 | 124 | 1277 | 33.73 | 35.72 | 72.2 | v | 71.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 801/A* | 225 M2 | 45 | 2950 | 91 | 1.14 | 125 | 1465 | 42.00 | 44.62 | 67.0 | v | 65.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 801/B | 250 M2 | 55 | 2950 | 91 | 1.14 | 160 | 1437 | 51.00 | 54.01 | 69.5 | v | 68.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 801/C | 280 S2 | 75 | 2950 | 91 | 1.14 | 162 | 1434 | 51.38 | 54.18 | 69.8 | v | 68.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 902/A* | 250 M2 | 55 | 2950 | 92 | 1.16 | 140 | 1685 | 54.00 | 57.18 | 67.3 | v | 66.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 902/B | 280 S2 | 75 | 2950 | 92 | 1.16 | 196 | 1615 | 69.18 | 72.95 | 71.0 | v | 69.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 902/C | 280 M2 | 90 | 2950 | 92 | 1.16 | 200 | 1612 | 70.08 | 73.66 | 71.5 | v | 70.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 902/D* | 315 S2 | 110 | 2950 | 92 | 1.16 | 199 | 1612 | 69.82 | 73.24 | 71.6 | v | 70.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 901/A | 280 S2 | 75 | 2950 | 93 | 1.18 | 160 | 1870 | 71.00 | 74.87 | 65.2 | v | 63.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 901/B | 280 M2 | 90 | 2950 | 93 | 1.18 | 200 | 1865 | 83.00 | 87.24 | 69.8 | v | 68.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 901/C | 315 S2 | 110 | 2950 | 93 | 1.18 | 229 | 1833 | 91.13 | 95.58 | 71.6 | v | 69.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPG 901/D | 315 M2 | 132 | 2950 | 93 | 1.18 | 230 | 1825 | 91.38 | 95.64 | 71.4 | v | 69.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* Ventilatori non a listino, esecuzione su richiesta.
 The fans are not in our Price List, production on request.
 Ventilateurs hors catalogue, fabrication sur demande.
 Der Ventilatoren sind nicht in unsere Preisliste erhalteten, Produktion auf Anfrage
 Ventilador no estandar, construcción bajo pedido

Pa (Pascal) = kgf/m² x 9,807

N2015 = 49 TARGET

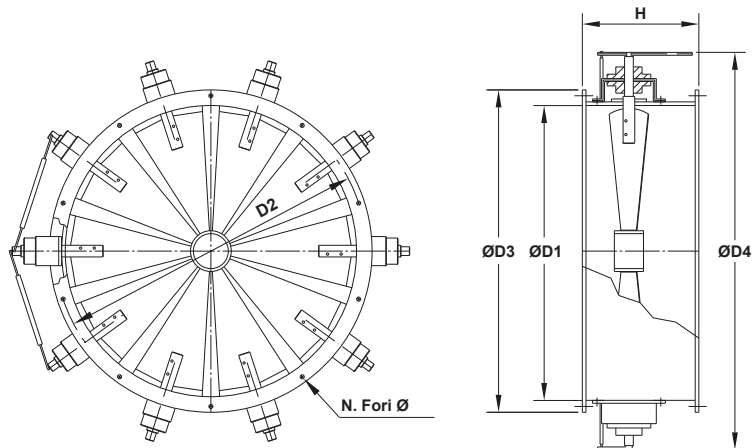
v: Ventilatore con rapporto specifico > 1.11
 v: Fan with specific ratio > 1.11
 v: Ventilateur avec un rapport spécifique > 1.11
 v: Ventilatoren mit spezifische Verhältnis > 1.11
 v: Ventilador con relación específica > 1.11

Tolleranza sulla portata ± 5 %
 Capacity tolerance ± 5 %
 Fördertoleranz ± 5 %
 Tolerance sur le débit ± 5 %
 Tolerancia en el caudal ± 5 %

Tolleranza sulla rumorosità ± 3 dB
 Noise level tolerance ± 3 dB
 Toleranz Schallpegel ± 3 dB
 Tolerance sur niveau sonore ± 3 dB
 Tolerancia de la intensidad acústica ± 3 dB

Regolatori di portata circolari "DAPO" Movimentazione manuale
Circular "DAPO" flow regulators Manual control
Régulateurs de débit circulaires "DAPO" Déplacement manuel
Runde Durchflußregler "DAPO" Manuelle Einstellung

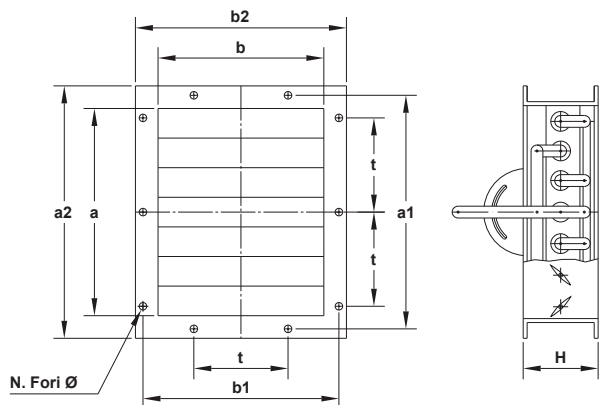
DIMENSIONI D'INGOMBRO in mm
 OVERALL DIMENSIONS in mm
 DIMENSIONS D'ENCOMBREMENT en mm
 MASSE in mm



| Tipo Type Typ Tipo | D ₁ | D ₂ | D ₃ | D ₄ | H | n° | fori Ø | Peso Weight Poids Gewicht kg |
|-----------------------------|----------------|----------------|----------------|----------------|-----|----|--------|--|
| 280 | 280 | 332 | 366 | 450 | 280 | 8 | 11,5 | 24 |
| 315 | 321 | 366 | 400 | 570 | 280 | | | 30 |
| 355 | 361 | 405 | 440 | 610 | 280 | | | 33 |
| 400 | 406 | 448 | 485 | 650 | 315 | 12 | 11,5 | 36 |
| 450 | 456 | 497 | 535 | 700 | 315 | | | 40 |
| 500 | 506 | 551 | 585 | 820 | 355 | 16 | 14 | 53 |
| 560 | 568 | 629 | 666 | 880 | 355 | | | 60 |
| 630 | 638 | 698 | 736 | 990 | 355 | | | 68 |
| 710 | 718 | 775 | 816 | 1070 | 355 | | | 75 |
| 800 | 808 | 861 | 906 | 1160 | 400 | 24 | 16 | 85 |
| 900 | 908 | 958 | 1006 | 1260 | 400 | | | 100 |
| 1000 | 1008 | 1067 | 1107 | 1360 | 400 | | | 130 |
| 1120 | 1130 | 1200 | 1248 | 1480 | 450 | 32 | 18 | 160 |
| 1250 | 1260 | 1337 | 1380 | 1610 | 450 | | | 180 |
| 1400 | 1420 | 1491 | 1540 | 1760 | 450 | | | 210 |
| 1600 | 1610 | 1663 | 1730 | 1960 | 500 | | | 230 |
| 1800 | 1810 | 1880 | 1950 | 2200 | 500 | 32 | 18 | 280 |
| 2000 | 2010 | 2073 | 2130 | 2380 | 500 | | | 340 |

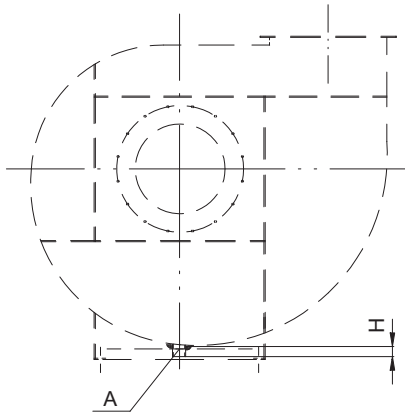
Regolatori di portata rettangolari sulla mandata
Movimentazione manuale
Rectangular flow regulators, outflow end
Manual control
Régulateurs de débit rectangulaires sur le refoulement
Déplacement manuel
Rechteckige Durchflußregler der Förderleistung
Manuelle Einstellung

DIMENSIONI D'INGOMBRO in mm
 OVERALL DIMENSIONS in mm
 DIMENSIONS D'ENCOMBREMENT en mm
 MASSE in mm



| Tipo Type Typ Tipo | a | b | a ₁ | b ₁ | a ₂ | b ₂ | H | t | n° | fori Ø | Peso Weight Poids Gewicht kg |
|-----------------------------|------|------|----------------|----------------|----------------|----------------|-----|-----|------|--------|--|
| 90 x 63 | 90 | 63 | 112 | 90 | 150 | 123 | 130 | - | 4 | 9 | 2,2 |
| 100 x 71 | 100 | 71 | 125 | 100 | 160 | 131 | 130 | - | | | 2,5 |
| 112 x 80 | 112 | 80 | 140 | 112 | 172 | 140 | 130 | - | | | 2,7 |
| 125 x 90 | 125 | 90 | 165 | 130 | 185 | 150 | 130 | 112 | 6 | 11,5 | 3 |
| 140 x 100 | 140 | 100 | 182 | 141 | 210 | 170 | 130 | | | | 3,3 |
| 160 x 112 | 160 | 112 | 200 | 153 | 230 | 182 | 130 | | | | 3,8 |
| 180 x 125 | 180 | 125 | 219 | 167 | 250 | 195 | 130 | | | | 4,5 |
| 200 x 140 | 200 | 140 | 241 | 182 | 270 | 210 | 130 | 8 | 11,5 | 5,3 | |
| 224 x 160 | 224 | 160 | 265 | 200 | 294 | 230 | 130 | | | 6,5 | |
| 250 x 180 | 250 | 180 | 292 | 219 | 320 | 250 | 130 | 10 | 11,5 | 7,5 | |
| 280 x 200 | 280 | 200 | 332 | 249 | 360 | 280 | 130 | | | 8,5 | |
| 315 x 224 | 315 | 224 | 366 | 273 | 395 | 304 | 130 | | | 9,6 | |
| 355 x 250 | 355 | 250 | 405 | 300 | 435 | 330 | 130 | 125 | 14 | 11,5 | 11 |
| 400 x 280 | 400 | 280 | 448 | 332 | 484 | 368 | 130 | | | | 13 |
| 450 x 315 | 450 | 315 | 497 | 366 | 533 | 402 | 130 | 14 | 14 | 11,5 | 18 |
| 500 x 355 | 500 | 355 | 551 | 405 | 587 | 441 | 150 | | | | 21 |
| 560 x 400 | 560 | 400 | 629 | 464 | 669 | 504 | 150 | 160 | 14 | 11,5 | 26 |
| 630 x 450 | 630 | 450 | 698 | 513 | 738 | 553 | 180 | | | | 30 |
| 710 x 500 | 710 | 500 | 775 | 567 | 815 | 607 | 180 | 16 | 14 | 11,5 | 34 |
| 800 x 560 | 800 | 560 | 871 | 639 | 921 | 689 | 200 | | | | 42 |
| 900 x 630 | 900 | 630 | 968 | 708 | 1018 | 758 | 200 | 18 | 14 | 11,5 | 48 |
| 1000 x 710 | 1000 | 710 | 1077 | 785 | 1127 | 835 | 200 | | | | 65 |
| 1120 x 800 | 1120 | 800 | 1210 | 881 | 1270 | 941 | 220 | 20 | 18 | 11,5 | 80 |
| 1250 x 900 | 1250 | 900 | 1347 | 978 | 1407 | 1038 | 220 | | | | 95 |
| 1400 x 1000 | 1400 | 1000 | 1501 | 1087 | 1560 | 1160 | 250 | 24 | 18 | 11,5 | 110 |
| 1600 x 1120 | 1600 | 1120 | 1683 | 1220 | 1760 | 1280 | 250 | | | | 150 |
| 1800 x 1250 | 1800 | 1250 | 1876 | 1357 | 1960 | 1410 | 280 | 32 | 22 | 11,5 | 200 |
| 2000 x 1400 | 2000 | 1400 | 2093 | 1511 | 2180 | 1580 | 280 | | | | 280 |

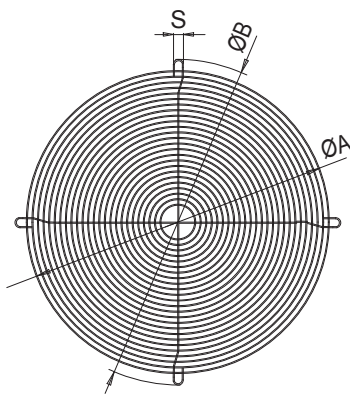
Regolatori di portata esterni adatti anche per aria polverosa, costruzione robusta per usi industriali. **Classe 1** = fino a 120°C. **Classe 2** = da 120 a 350°C. + pressione ≥ 700 mm H₂O.
External flow regulator designed for dusty air, sturdy construction, for industrial use. **Layout 1** = max. temperature 120°C. **Layout 2** = from 120 to 350°C. + pression ≥ 700 mm H₂O.
Régulateurs de débit extérieurs indiqués même pour air poussiéreux; construction robuste pour usage industriel. **Classe 1** = jusqu'à 120°C. **Classe 2** = de 120 a 350°C. + pression ≥ 700 mm H₂O.
Drallregler, geeignet auch für staubige Luft, robuste Bauweise für industriellen Gebrauch. **Klasse 1** = für temperature bis 120°C. **Klasse 2** = von 120 - 350°C. + druck ≥ 700 mm H₂O.



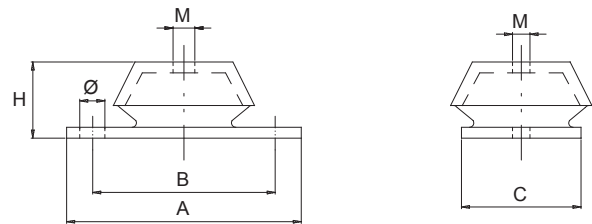
- MANICOTTO DI SCARICO: utilizzato per l'evacuazione dell'eventuale condensa presente nella coclea e viene posizionato nella parte inferiore della coclea stessa.
- EXHAUST SLEEVE: it is used for the drain of any condensation which may be present inside the volute and is positioned in the lower part of the volute itself.
- MANCHON DE DECHARGE : il est utilisé pour évacuer l'éventuelle condensation présente dans la vicole et est positionné en la partie inférieure de celle-ci.
- ABLASSMUFFE: wird zum Ablassen des eventuell in der Schnecke vorhandenen Kondenswassers benutzt und ist im unteren Teil derselben angeordnet.

| TIPO VENTILATORE TYPE FAN TYPE VENTILATEUR TYP VENTILATOR | SIGLA SERIAL No. SIGLE BEZEICHNUNG | A | H |
|--|---|------|----|
| SPE 351÷901 | MS 1/2" | 1/2" | 15 |
| SPF 502÷901 | MS 1/2" | 1/2" | 15 |
| SPG 502÷901 | MS 1/2" | 1/2" | 15 |

- RETE DI PROTEZIONE ANTINFORTUNISTICA: a maglie passo 12mm.
- ACCIDENT PREVENTION SAFETY NETTING: with mesh size of 12 mm.
- FILET DE PROTECTION POUR LA PREVENTION DES ACCIDENTS: mailles au pas de 12 mm.
- SCHUTZNETZ ZUR UNFALLVERHÜTUNG: mit Maschenweite 12 mm.



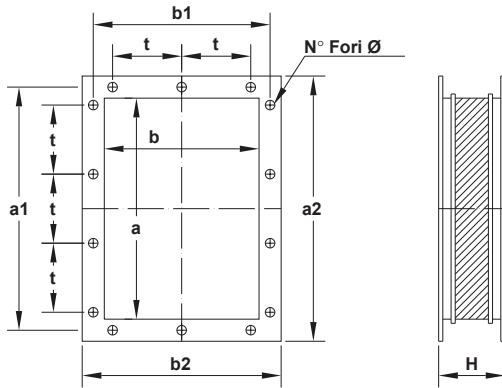
- AMMORTIZZATORI ANTIVIBRANTI: impediscono la trasmissione di vibrazione e rumori alle strutture sono realizzati in materiale metallo gomma speciale. - Temperatura di esercizio -20° +80°.
- VIBRATION DAMPERS: prevent noise and vibration transmission to the frameworks, made of special metal rubber material. Working temperature range -20°C to +80°C.
- AMORTISSEURS ANTIVIBRATOIRES: empêchant la transmission des vibrations et du bruit aux structures, réalisés en matière métal-caoutchouc. Température de service de -20°C a +80°C.
- SCHWINGUNGSDÄMPFER: verhindern die Übertragung von Schwingungen und Geräusche an die Strukturen, sind aus speziellem Metall-Gummi-Material hergestellt. - Betriebstemperatur -20°C +80°C.



| TIPO VENTILATORE TYPE FAN TYPE VENTILATEUR TYP VENTILATOR | SIGLA SERIAL No. SIGLE BEZEICHNUNG | ØA | ØB | S | Bracci Arms Bras Flügel N.° |
|--|---|-----|-----|----|---|
| SPE 351 | RTA 160 | 140 | 220 | 12 | 4 |
| SPE 401 | RTA 160 | 140 | 220 | 12 | 4 |
| SPE 451 | RTA 160 | 140 | 220 | 12 | 4 |
| SPE 501 | RTA 160 | 140 | 220 | 12 | 4 |
| SPE 561 | RTA 180 | 212 | 285 | 12 | 4 |
| SPE 631 | RTA 180 | 212 | 285 | 12 | 4 |
| SPE 712 | RTA 180 | 212 | 285 | 12 | 4 |
| SPE 711 | RTA 180 | 212 | 285 | 12 | 4 |
| SPE 801 | RTA 180 | 212 | 285 | 12 | 4 |
| SPE 901 | RTA 180 | 212 | 285 | 12 | 4 |
| SPF502 | RTA 180 | 212 | 285 | 12 | 4 |
| SPF 561 | RTA 180 | 212 | 285 | 12 | 4 |
| SPF 632 | RTA 180 | 212 | 285 | 12 | 4 |
| SPF 631 | RTA 180 | 212 | 285 | 12 | 4 |
| SPF 712 | RTA 180 | 212 | 285 | 12 | 4 |
| SPF 711 | RTA 180 | 212 | 285 | 12 | 4 |
| SPF 802 | RTA 250 | 312 | 385 | 12 | 4 |
| SPF 801 | RTA 250 | 312 | 385 | 12 | 4 |
| SPF 902 | RTA 250 | 312 | 385 | 12 | 4 |
| SPF 901 | RTA 250 | 312 | 385 | 12 | 4 |
| SPG 502 | RTA 180 | 212 | 285 | 12 | 4 |
| SPG 501 | RTA 180 | 212 | 285 | 12 | 4 |
| SPG 562 | RTA 250 | 312 | 385 | 12 | 4 |
| SPG 561 | RTA 250 | 312 | 385 | 12 | 4 |
| SPG 632 | RTA 250 | 312 | 385 | 12 | 4 |
| SPG 631 | RTA 250 | 312 | 385 | 12 | 4 |
| SPG 712 | RTA 250 | 312 | 385 | 12 | 4 |
| SPG 711 | RTA 250 | 312 | 385 | 12 | 4 |
| SPG 802 | RTA 250 | 312 | 385 | 12 | 4 |
| SPG 801 | RTA 250 | 312 | 385 | 12 | 4 |
| SPG 902 | RTA 355 | 357 | 430 | 12 | 4 |
| SPG 901 | RTA 355 | 357 | 430 | 12 | 4 |

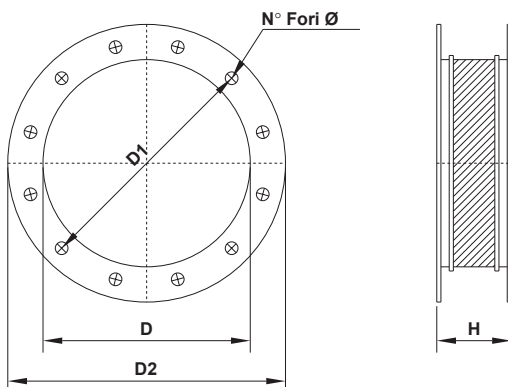
| TIPO VENTILATORE TYPE FAN TYPE VENTILATEUR TYP VENTILATOR | SIGLA SERIAL No. SIGLE BEZEICHNUNG | A | B | C | H | M | Ø | Peso Weight Poids Gewicht (Kg.) |
|--|---|-----|-----|-----|----|-----|-----|---|
| SPE 351 | AVFO 25/10 | 106 | 84 | 63 | 30 | M10 | Ø8 | 0.4 |
| SPE 401 | AVFO 25/10 | 106 | 84 | 63 | 30 | M10 | Ø8 | 0.4 |
| SPE 451 | AVFO 25/10 | 106 | 84 | 63 | 30 | M10 | Ø8 | 0.4 |
| SPE 501 | AVFO 25/10 | 106 | 84 | 63 | 30 | M10 | Ø8 | 0.4 |
| SPE 561 | AVFO 25/10 | 106 | 84 | 63 | 30 | M10 | Ø8 | 0.4 |
| SPE 631 | AVFO 25/10 | 106 | 84 | 63 | 30 | M10 | Ø8 | 0.4 |
| SPE 712 | AVFO 25/15 | 128 | 111 | 85 | 45 | M12 | Ø11 | 0.8 |
| SPE 711 | AVFO 25/15 | 128 | 111 | 85 | 45 | M12 | Ø11 | 0.8 |
| SPE 801 | AVFO 25/10 | 128 | 111 | 85 | 45 | M12 | Ø11 | 0.8 |
| SPE 901 | AVFO 25/15 | 128 | 111 | 85 | 45 | M12 | Ø11 | 0.8 |
| SPF502 | AVFO 25/10 | 106 | 84 | 63 | 30 | M10 | Ø8 | 0.4 |
| SPF 561 | AVFO 25/10 | 106 | 84 | 63 | 30 | M10 | Ø8 | 0.4 |
| SPF 632 | AVFO 25/10 | 106 | 84 | 63 | 30 | M10 | Ø8 | 0.4 |
| SPF 631 | AVFO 25/10 | 106 | 84 | 63 | 30 | M10 | Ø8 | 0.4 |
| SPF 712 | AVFO 25/15 | 128 | 111 | 85 | 45 | M12 | Ø11 | 0.8 |
| SPF 711 | AVFO 25/15 | 128 | 111 | 85 | 45 | M12 | Ø11 | 0.8 |
| SPF 802 | AVFO 25/15 | 128 | 111 | 85 | 45 | M12 | Ø11 | 0.8 |
| SPF 801 | AVFO 25/15 | 128 | 111 | 85 | 45 | M12 | Ø11 | 0.8 |
| SPF 902 | AVFO 25/20 | 190 | 160 | 108 | 50 | M16 | Ø16 | 1.1 |
| SPF 901 | AVFO 25/20 | 190 | 160 | 108 | 50 | M16 | Ø16 | 1.1 |
| SPG 502 | AVFO 25/10 | 106 | 84 | 63 | 30 | M10 | Ø8 | 0.4 |
| SPG 501 | AVFO 25/10 | 106 | 84 | 63 | 30 | M10 | Ø8 | 0.4 |
| SPG 562 | AVFO 25/10 | 106 | 84 | 63 | 30 | M10 | Ø8 | 0.4 |
| SPG 561 | AVFO 25/10 | 128 | 111 | 85 | 45 | M12 | Ø11 | 0.8 |
| SPG 632 | AVFO 25/15 | 128 | 111 | 85 | 45 | M12 | Ø11 | 0.8 |
| SPG 631 | AVFO 25/15 | 128 | 111 | 85 | 45 | M12 | Ø11 | 0.8 |
| SPG 712 | AVFO 25/15 | 128 | 111 | 85 | 45 | M12 | Ø11 | 0.8 |
| SPG 711 | AVFO 25/15 | 128 | 111 | 85 | 45 | M12 | Ø11 | 0.8 |
| SPG 802 | AVFO 25/20 | 190 | 160 | 108 | 50 | M16 | Ø16 | 1.1 |
| SPG 801 | AVFO 25/20 | 190 | 160 | 108 | 50 | M16 | Ø16 | 1.1 |
| SPG 902 | AVFO 25/20 | 190 | 160 | 108 | 50 | M16 | Ø16 | 1.1 |
| SPG 901 | AVFO 25/20 | 190 | 160 | 108 | 50 | M16 | Ø16 | 1.1 |

Giunti antivibranti in mandata
Vibration-damping couplings outflow-end
Joints antivibratoires refoulement
Elastische Verbindungen drückseitig



| Tipo Type Typ Tipo | mm | | | | | | | | Fori | | Peso Weight Poids Gewicht kg |
|-----------------------------|------|------|----------------|----------------|----------------|----------------|-----|-----|------|------|--|
| | a | b | a ₁ | b ₁ | a ₂ | b ₂ | t | H | n° | Ø | |
| 90 x 63 | 90 | 63 | 112 | 90 | 150 | 123 | - | 140 | 4 | 9 | 1 |
| 100 x 71 | 100 | 71 | 125 | 100 | 160 | 131 | - | 140 | 4 | 9 | 1,1 |
| 112 x 80 | 112 | 80 | 140 | 112 | 172 | 140 | - | 140 | 4 | 9 | 1,3 |
| 125 x 90 | 125 | 90 | 165 | 130 | 185 | 150 | 100 | 140 | 6 | 9,5 | 1,6 |
| 140 x 100 | 140 | 100 | 182 | 141 | 210 | 170 | 112 | 140 | 6 | 11,5 | 2,1 |
| 160 x 112 | 160 | 112 | 200 | 153 | 230 | 182 | 112 | 140 | 6 | 11,5 | 2,6 |
| 180 x 125 | 180 | 125 | 219 | 167 | 250 | 195 | 112 | 140 | 6 | 11,5 | 3,2 |
| 200 x 140 | 200 | 140 | 241 | 182 | 270 | 210 | 112 | 140 | 8 | 11,5 | 3,9 |
| 224 x 160 | 224 | 160 | 265 | 200 | 294 | 230 | 112 | 140 | 8 | 11,5 | 4,6 |
| 250 x 180 | 250 | 180 | 292 | 219 | 320 | 250 | 112 | 140 | 10 | 11,5 | 5,5 |
| 280 x 200 | 280 | 200 | 332 | 249 | 360 | 280 | 125 | 140 | 10 | 11,5 | 7 |
| 315 x 224 | 315 | 224 | 366 | 273 | 395 | 304 | 125 | 140 | 10 | 11,5 | 8,2 |
| 355 x 250 | 355 | 250 | 405 | 300 | 435 | 330 | 125 | 140 | 10 | 11,5 | 10 |
| 400 x 280 | 400 | 280 | 448 | 332 | 480 | 360 | 125 | 140 | 14 | 11,5 | 11,2 |
| 450 x 315 | 450 | 315 | 497 | 366 | 530 | 395 | 125 | 140 | 14 | 11,5 | 13 |
| 500 x 355 | 500 | 355 | 551 | 405 | 580 | 435 | 125 | 160 | 14 | 11,5 | 14,5 |
| 560 x 400 | 560 | 400 | 629 | 464 | 660 | 500 | 160 | 160 | 14 | 14 | 18 |
| 630 x 450 | 630 | 450 | 698 | 513 | 730 | 550 | 160 | 160 | 14 | 14 | 19,5 |
| 710 x 500 | 710 | 500 | 775 | 567 | 810 | 600 | 160 | 160 | 16 | 14 | 22 |
| 800 x 560 | 800 | 560 | 871 | 639 | 920 | 680 | 200 | 160 | 14 | 14 | 31 |
| 900 x 630 | 900 | 630 | 968 | 708 | 1020 | 750 | 200 | 160 | 18 | 14 | 37 |
| 1000 x 710 | 1000 | 710 | 1077 | 785 | 1120 | 830 | 200 | 200 | 18 | 14 | 45 |
| 1120 x 800 | 1120 | 800 | 1210 | 881 | 1260 | 940 | 200 | 200 | 20 | 18 | 56 |
| 1250 x 900 | 1250 | 900 | 1347 | 978 | 1390 | 1040 | 200 | 200 | 24 | 18 | 65 |
| 1400 x 1000 | 1400 | 1000 | 1501 | 1087 | 1560 | 1160 | 200 | 200 | 24 | 18 | 80 |
| 1600 x 1120 | 1600 | 1120 | 1683 | 1220 | 1760 | 1280 | 200 | 200 | 28 | 22 | 100 |
| 1800 x 1250 | 1800 | 1250 | 1876 | 1357 | 1960 | 1410 | 200 | 200 | 32 | 22 | 130 |
| 2000 x 1400 | 2000 | 1400 | 2093 | 1511 | 2180 | 1580 | 200 | 200 | 34 | 22 | 165 |

Giunti antivibranti in aspirazione
Vibration-damping couplings intake-end
Joints antivibratoires aspiration
Elastische Verbindungen saugseitig



| Tipo Type Typ Tipo | mm | | | | Fori | | Peso Weight Poids Gewicht kg |
|-----------------------------|------|----------------|----------------|-----|------|------|--|
| | D | D ₁ | D ₂ | H | n° | Ø | |
| 140 | 140 | 182 | 215 | 140 | 8 | 11,5 | 3 |
| 160 | 160 | 200 | 235 | 140 | 8 | 11,5 | 3,2 |
| 180 | 180 | 219 | 255 | 140 | 8 | 11,5 | 3,5 |
| 200 | 200 | 241 | 275 | 140 | 8 | 11,5 | 3,8 |
| 224 | 224 | 265 | 299 | 140 | 8 | 11,5 | 4,2 |
| 250 | 250 | 292 | 325 | 140 | 8 | 11,5 | 5 |
| 280 | 280 | 332 | 366 | 140 | 8 | 11,5 | 6,8 |
| 315 | 315 | 366 | 401 | 140 | 8 | 11,5 | 7,5 |
| 355 | 355 | 405 | 440 | 140 | 8 | 11,5 | 9 |
| 400 | 400 | 448 | 485 | 140 | 12 | 11,5 | 10 |
| 450 | 450 | 497 | 535 | 140 | 12 | 11,5 | 11,5 |
| 500 | 500 | 551 | 585 | 160 | 12 | 11,5 | 13 |
| 560 | 560 | 629 | 666 | 160 | 16 | 11,5 | 16 |
| 630 | 630 | 698 | 736 | 160 | 16 | 13 | 17,5 |
| 710 | 710 | 775 | 816 | 160 | 16 | 13 | 20 |
| 800 | 800 | 861 | 906 | 160 | 16 | 13 | 22 |
| 900 | 900 | 958 | 1006 | 160 | 16 | 13 | 25 |
| 1000 | 1000 | 1067 | 1107 | 200 | 24 | 14 | 28 |
| 1120 | 1120 | 1200 | 1248 | 200 | 24 | 14 | 42 |
| 1250 | 1250 | 1337 | 1380 | 200 | 24 | 14 | 46 |
| 1400 | 1400 | 1491 | 1540 | 200 | 24 | 16 | 52 |
| 1600 | 1600 | 1663 | 1730 | 200 | 24 | 16 | 62 |
| 1800 | 1810 | 1880 | 1950 | 200 | 32 | 18 | 85 |
| 2000 | 2010 | 2073 | 2130 | 200 | 32 | 18 | 110 |



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