



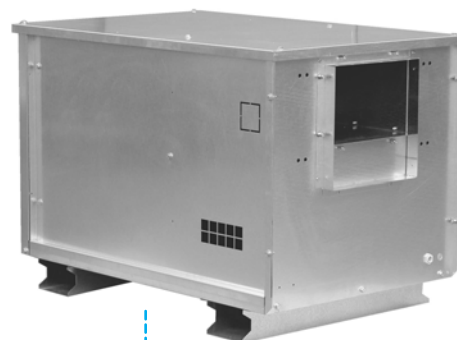
Smoke ventilators F400 / 120

Smoke and air ventilator

F 400/120 approval (400°C – 120 min.)

High-performance fan with forward or backward curved blades

Resilient packaged unit



M.A.G.M.A.

USE

- This ventilator is designed for **drawing air out of commercial and industrial premises** and **commercial kitchens**. **Ideal for smoke control in establishments open to the public and highrise buildings.**

- The casing has received F400/120 smoke control approval (400°C – 2 hrs) by CTICM* as per standard NF EN-3.

CE Marking: No. 1166-CPD-0051 (MP model)

CE Marking: No. 1166-CPD-0052 (BP model)

DESCRIPTION AND DESIGN

- Resilient, fully removable galvanised steel casing.

- Horizontal or vertical discharge.

- **2 impeller technologies: forward-curved blades (low pressure) or backward-curved blades (medium pressure).**



Double-inlet fan wheel with galvanised steel forward-curved blades.



Double-inlet fan wheel with galvanised steel backward-curved blades.

- Left access to drive pulleys/trapezoidal belt.

- Motor placed outside air stream and assembled on a sliding mount for adjustment of belt tension.

RANGE

20 models available in 2 versions (horizontal or vertical discharge).

Comfort: 1000 to 50,000 m³/h.

Smoke control: up to 75,000 m³/h.

Pressure: 120 to 2000 Pa.

OPTIONS AND ACCESSORIES

ASSEMBLY

Anti-vibration mounts.

Rain guard for vertical or horizontal discharge.

Flexible connection on suction and discharge.

Rectangular connection on suction and round connection on discharge.

DUAL SKIN OPTION – F400/120 Approved

Epoxy paint.

ELECTRICAL

Proximity switch (fitted wired).

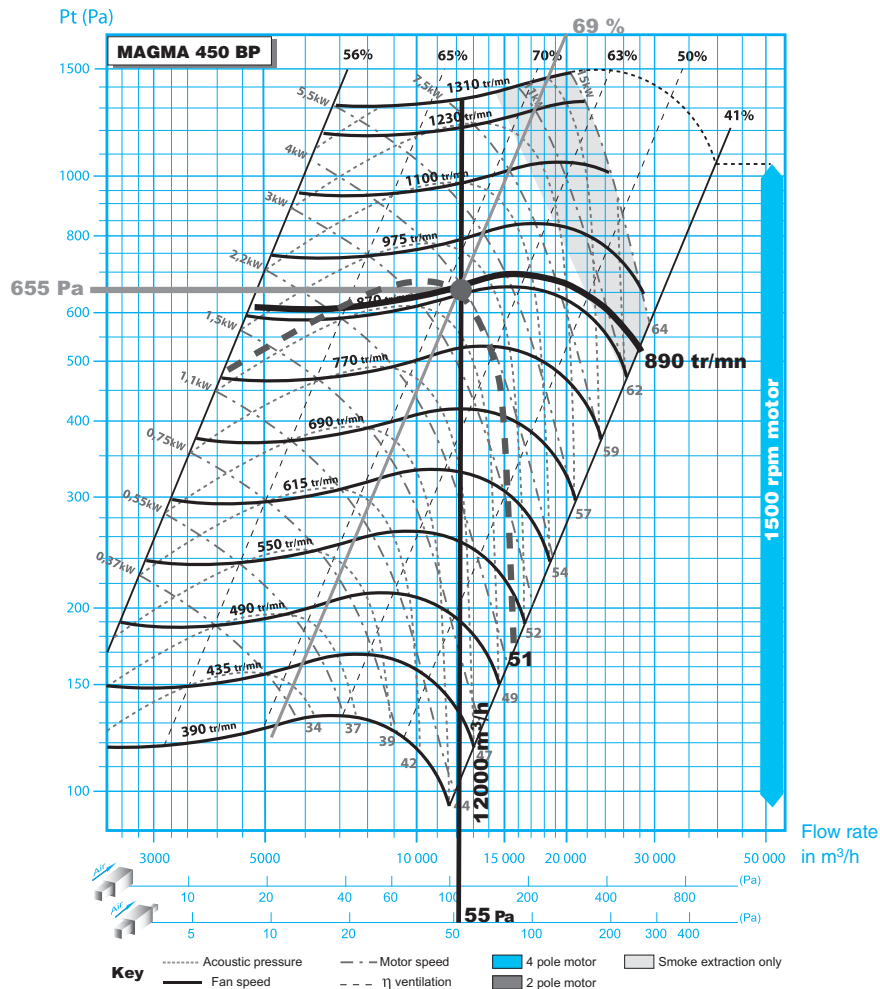
Pressure-drop switch (fitted wired).

Variable frequency drive.

2-speed control unit.

CONTROLVENT relay unit

SELECTION GUIDE



SPECIFICATIONS AND REQUIRED VALUES

Capacity: 12,000 m³/h

Static pressure: P_{st} = 600 Pa

Ducted discharge

SELECTION METHOD

1 / Locate the desired flow rate on the flow rate scale: **12,000 m³/h**.

2 / This line will cut, along the bottom of the curves, **ONLY ONE** dynamic pressure graduation (pdyn).

3 / The dynamic pressure must be taken into account according to whether the casing is connected to the discharge or not.

Ducted discharge =

Open-end discharge =

For this example, the total dynamic pressure will therefore be: **55 Pa**

4 / The total pressure for our example will therefore be:

$$(P_t = P_{stat} + P_{dyn})$$

$$P_t = 600 + 55 = \mathbf{655 Pa}$$

Place this value on the pressure scale.

The point where the flow rate and pressure lines intersect is **X**.

5 / Using this point (X), the following information can be determined for our example:

- Impeller rotation speed: **890 rpm**
- Sound pressure: **51 dBA**
- Power input: **4 kW**
- Total air handling capacity: **69%**

6 / To determine the appropriate motor power for your system, choose a motor with reserve power of between 10 and 20%.

For our example: $4 \times 1.15 = 4.6 \Rightarrow$ standard motor: **5.5 kW**



Smoke ventilators F400 / 120

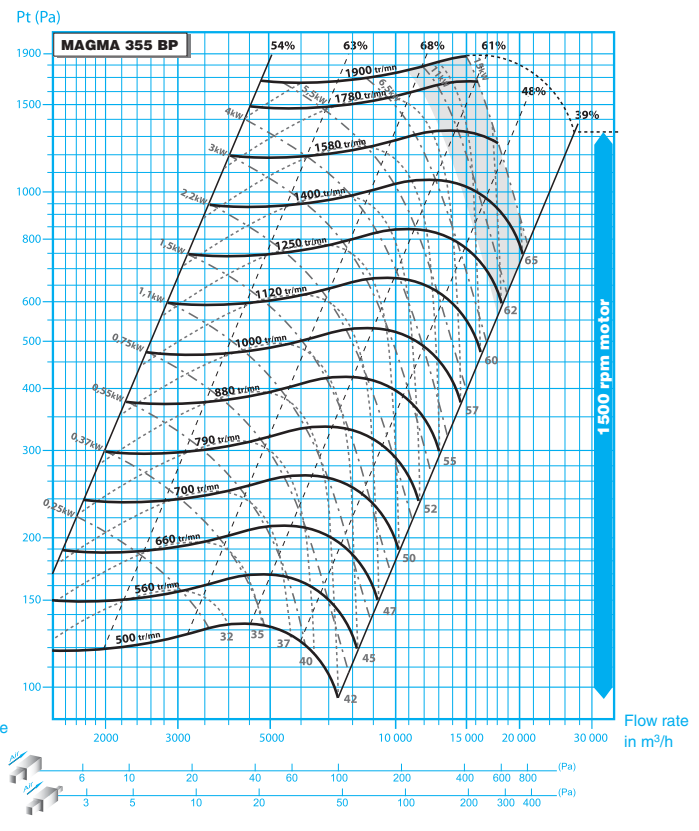
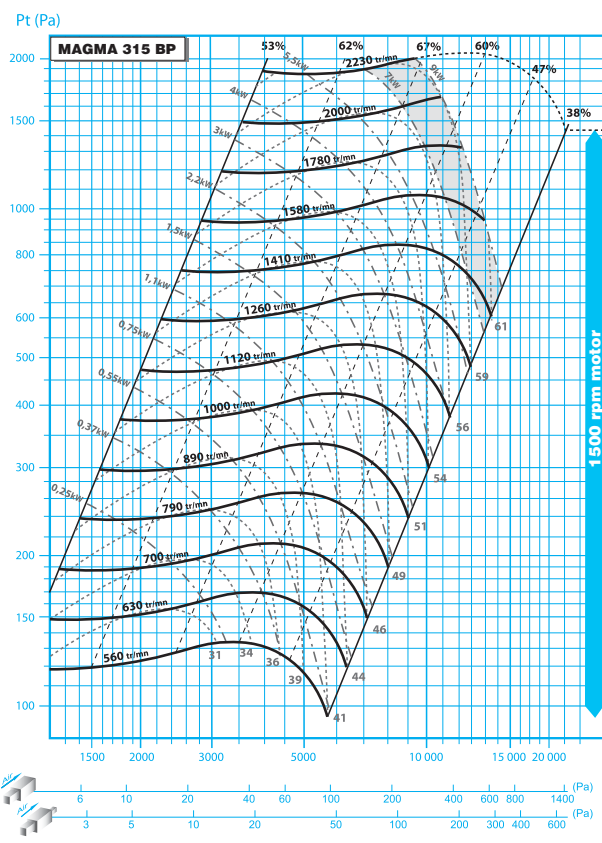
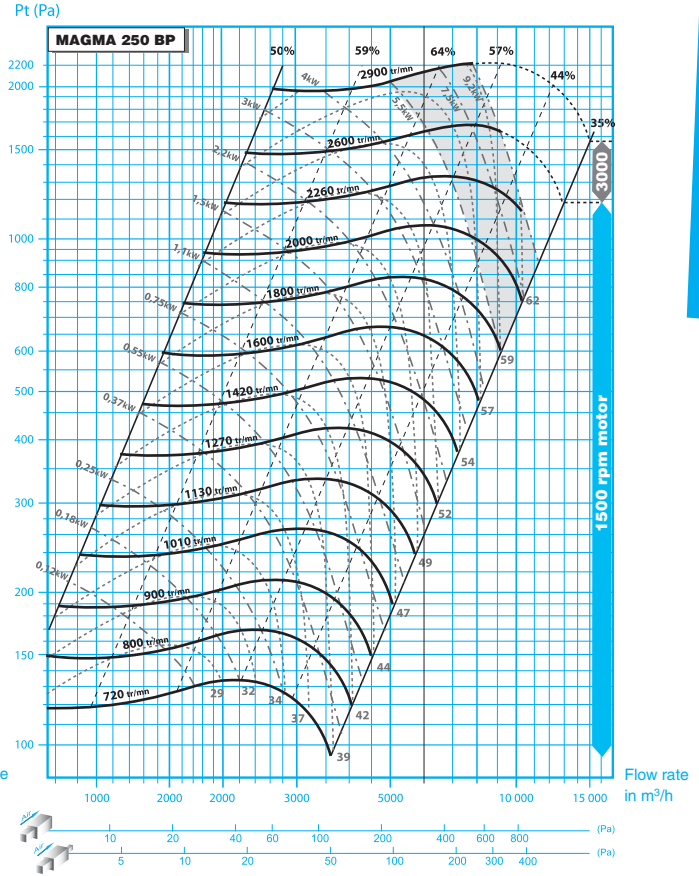
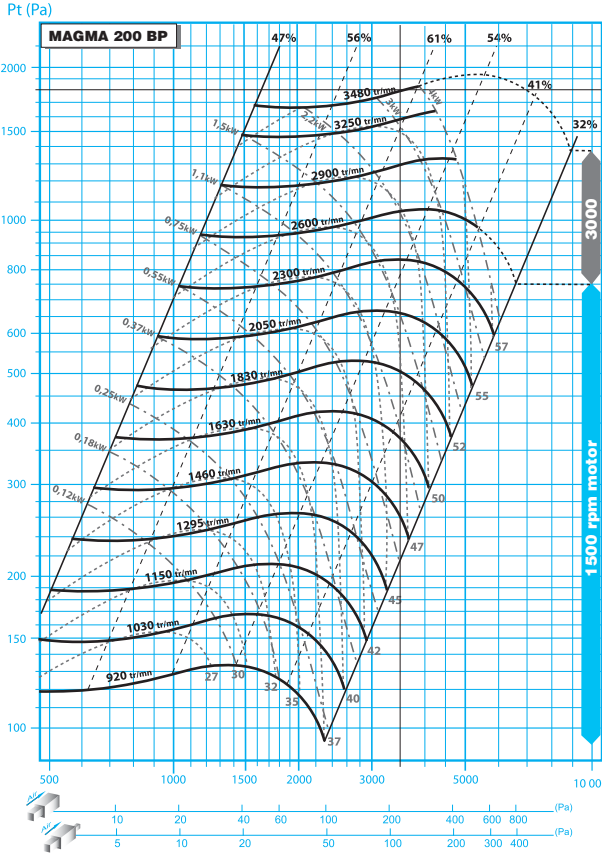
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VENTILATION STANDARD SPECIFICATIONS: BACKWARD-CURVED IMPELLER

Meets ISO 5801, 1.2 kg/m³ air density.

Sound pressure level measured in a hemispherical free field along a reflective surface 6 m from the connected noise source. Unit with ducted suction and discharge, Lp in dB(A).

M.A.G.M.A.



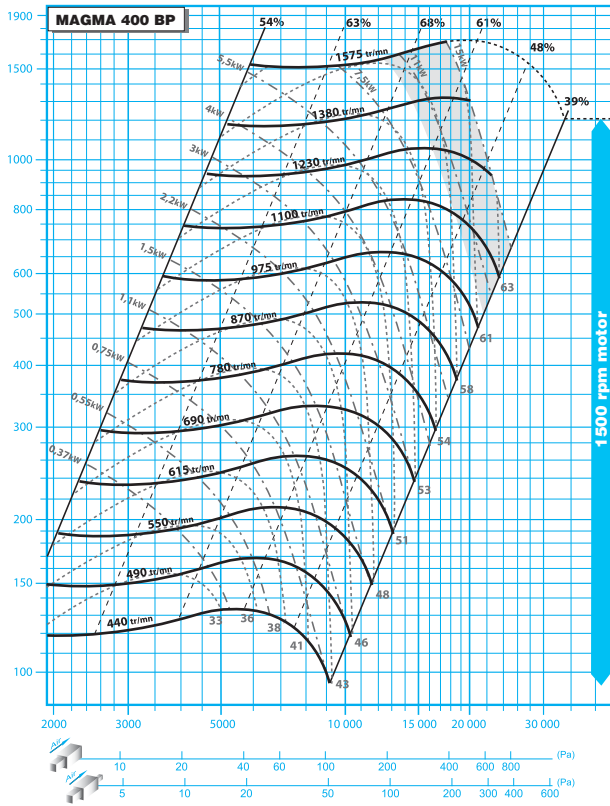
- Key**
- Acoustic pressure
 - Motor speed
 - Fan speed
 - η ventilation
 - 4 pole motor
 - 2 pole motor
 - Smoke extraction only



Smoke ventilators F400 / 120

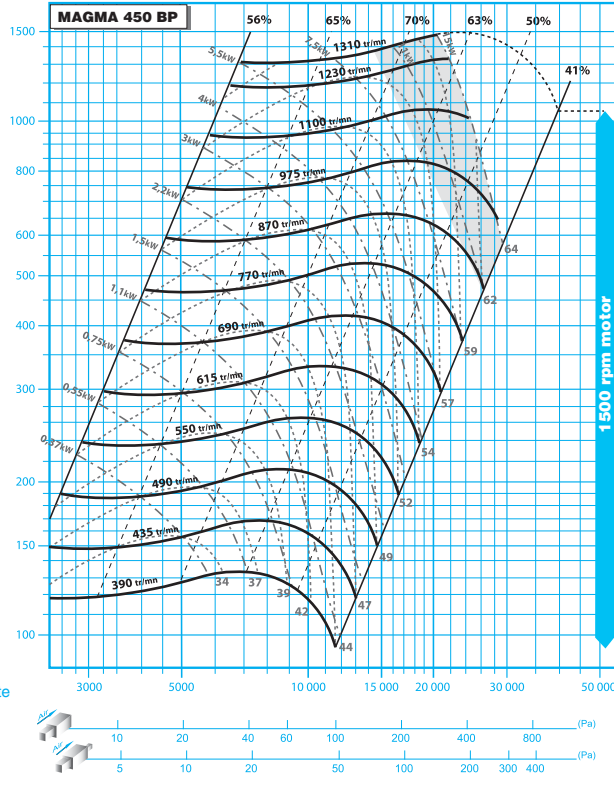
M.A.G.M.A.

Pt (Pa)



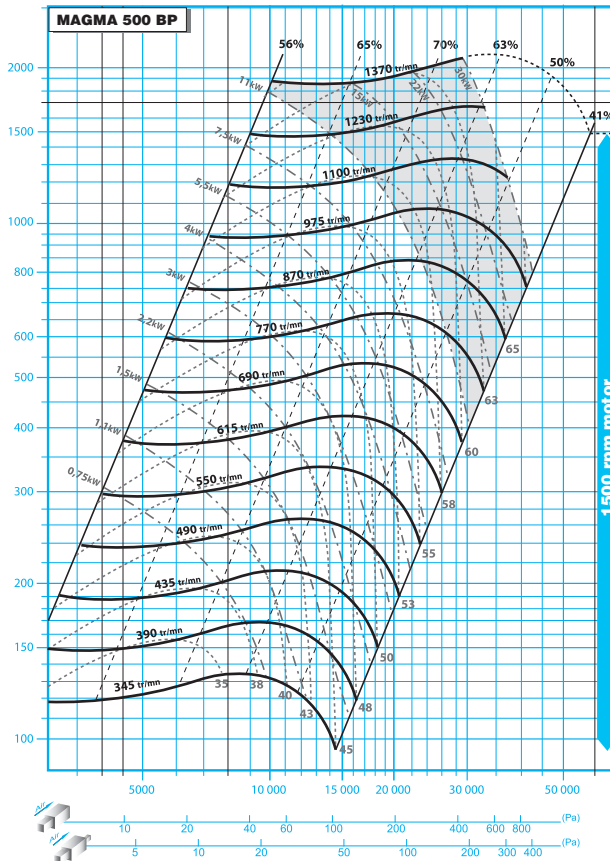
Flow rate in m³/h

Pt (Pa)



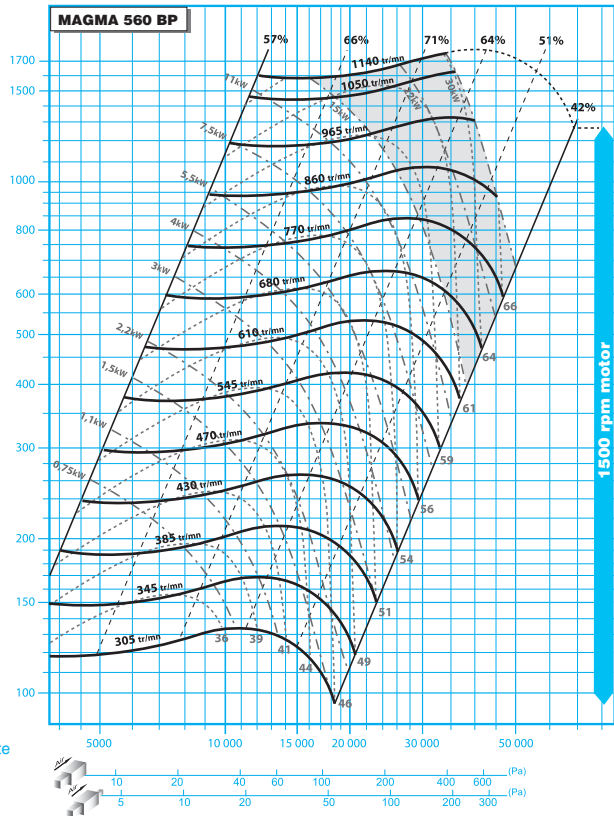
Flow rate in m³/h

Pt (Pa)



Flow rate in m³/h

Pt (Pa)



Flow rate in m³/h

Key

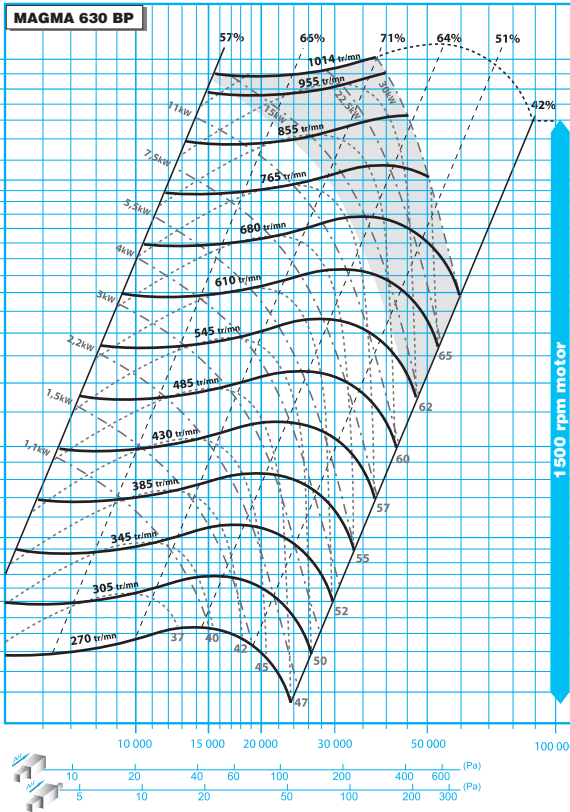
- Acoustic pressure
- Motor speed
- η ventilation
- 4 pole motor
- Smoke extraction only
- 2 pole motor



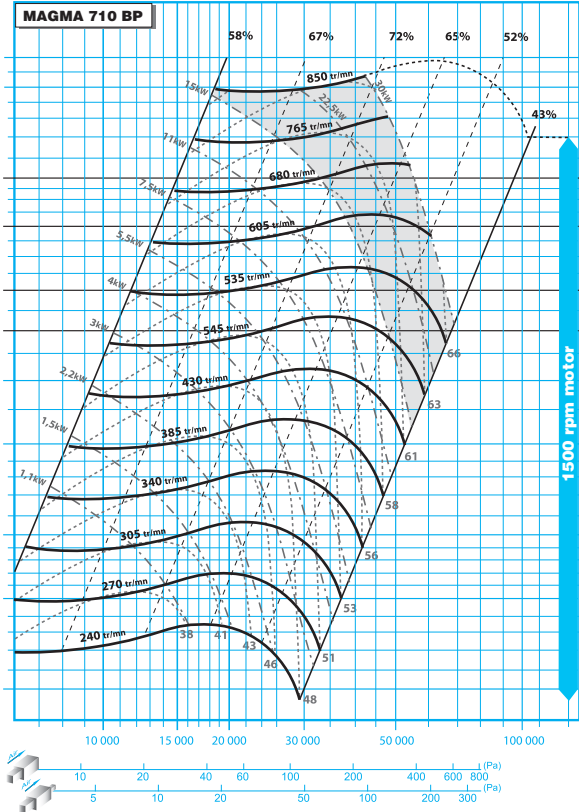
Smoke ventilators F400 / 120

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Pt (Pa)



Pt (Pa)



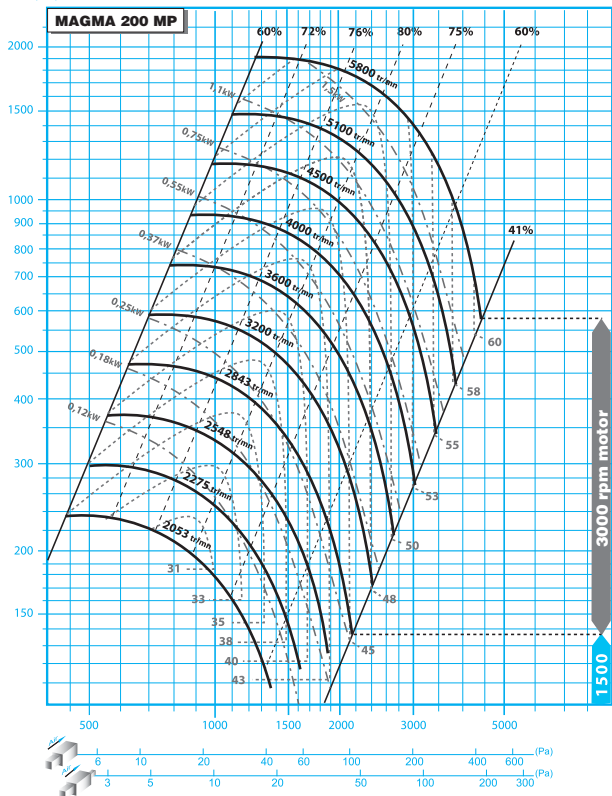
VENTILATION STANDARD SPECIFICATIONS: FORWARD-CURVED IMPELLER

Meets ISO 5801, 1.2 kg/m³ air density.

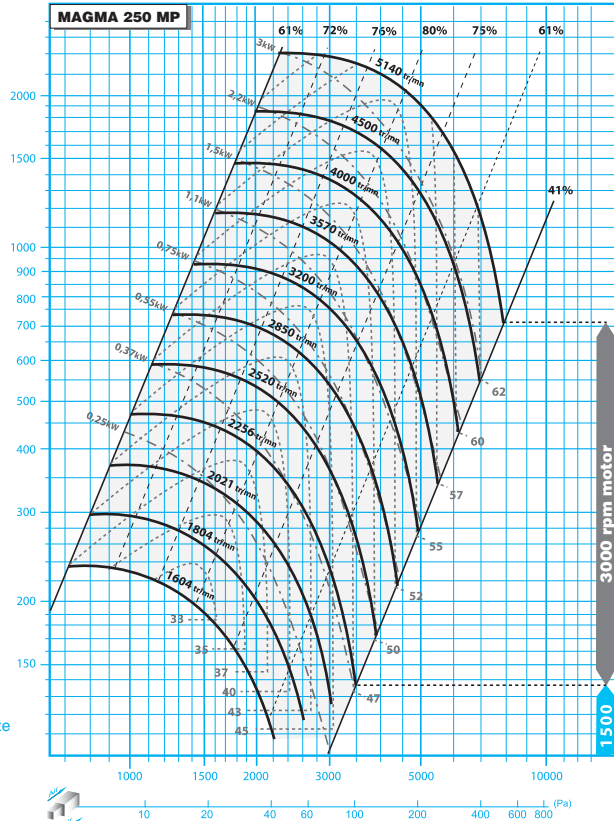
Sound pressure level measured in a hemispherical free field along a reflective surface 6 m from the connected noise source.

Unit with ducted suction and discharge, Lp in dB(A).

Pt (Pa)



Pt (Pa)



Key

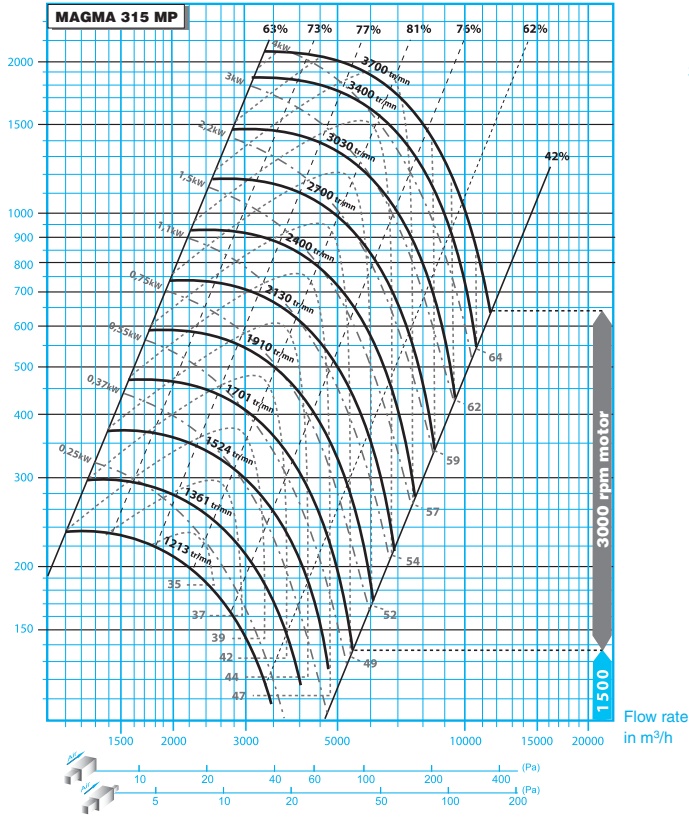
- Acoustic pressure
- Motor speed
- Fan speed
- η ventilation
- 4 pole motor
- 2 pole motor
- Smoke extraction only



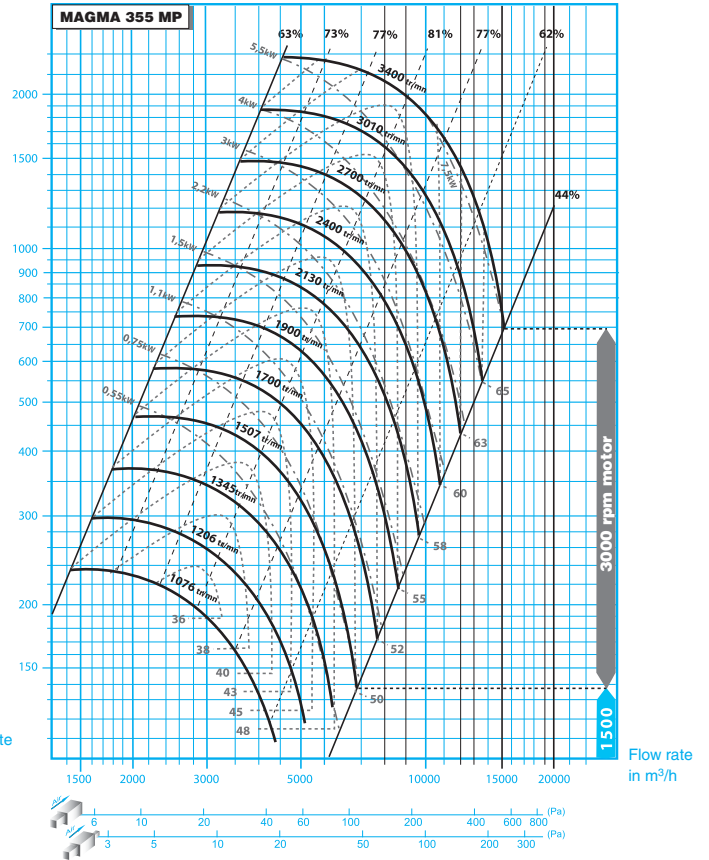
Smoke ventilators F400 / 120

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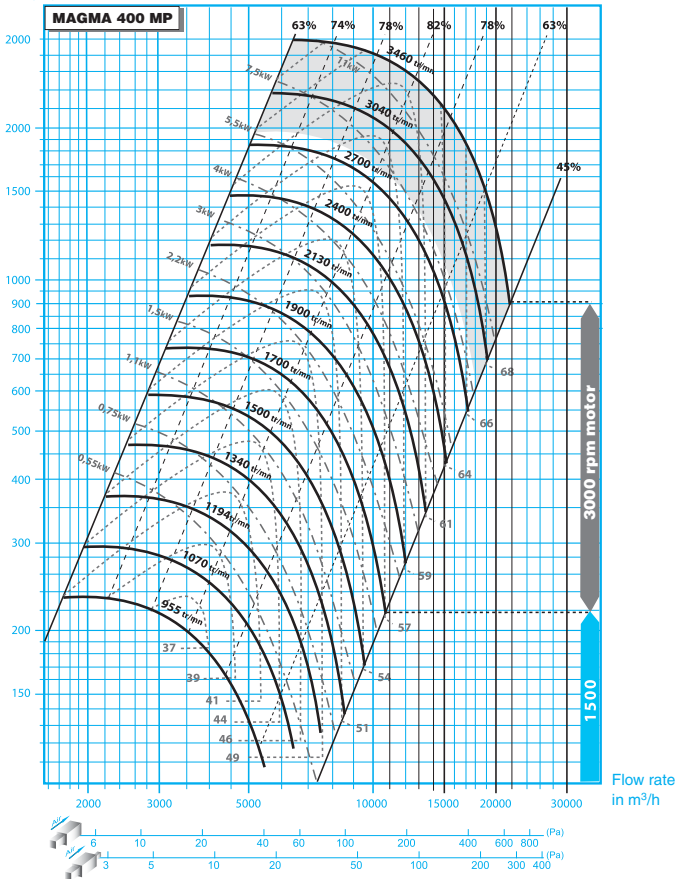
Pt (Pa)



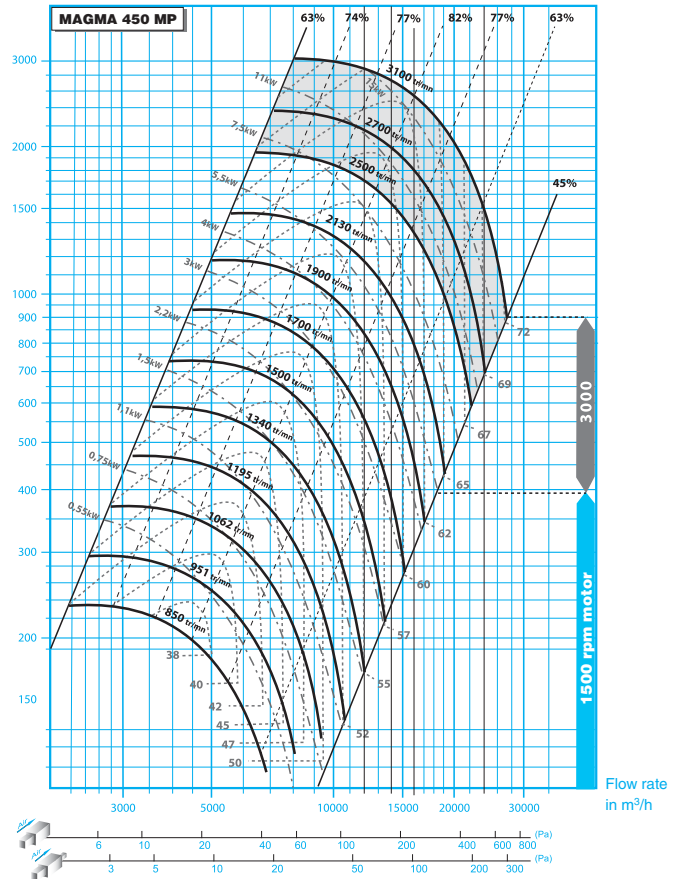
Pt (Pa)



Pt (Pa)



Pt (Pa)



Key

----- Acoustic pressure
—— Fan speed

--- Motor speed
--- η ventilation

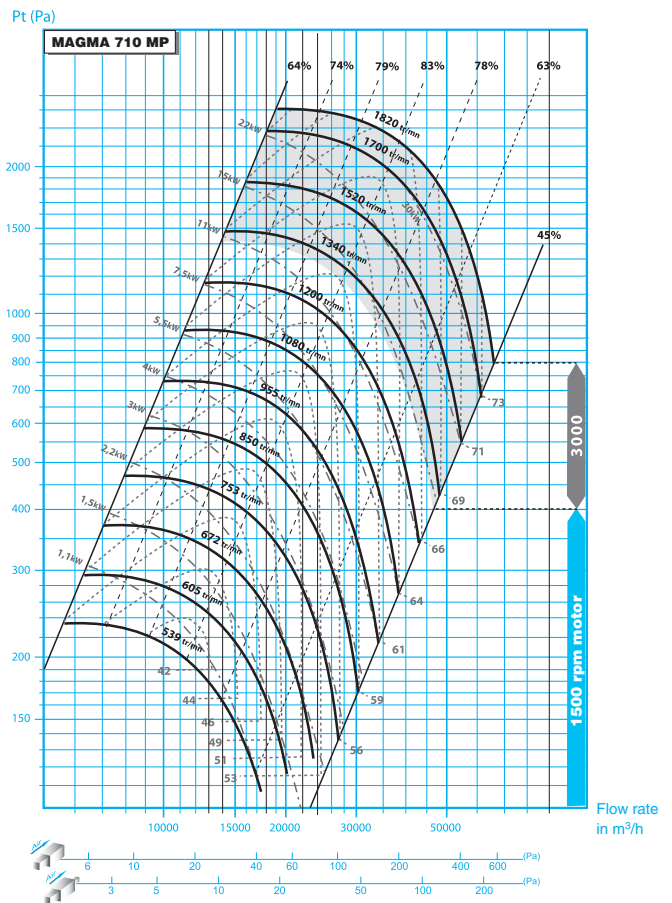
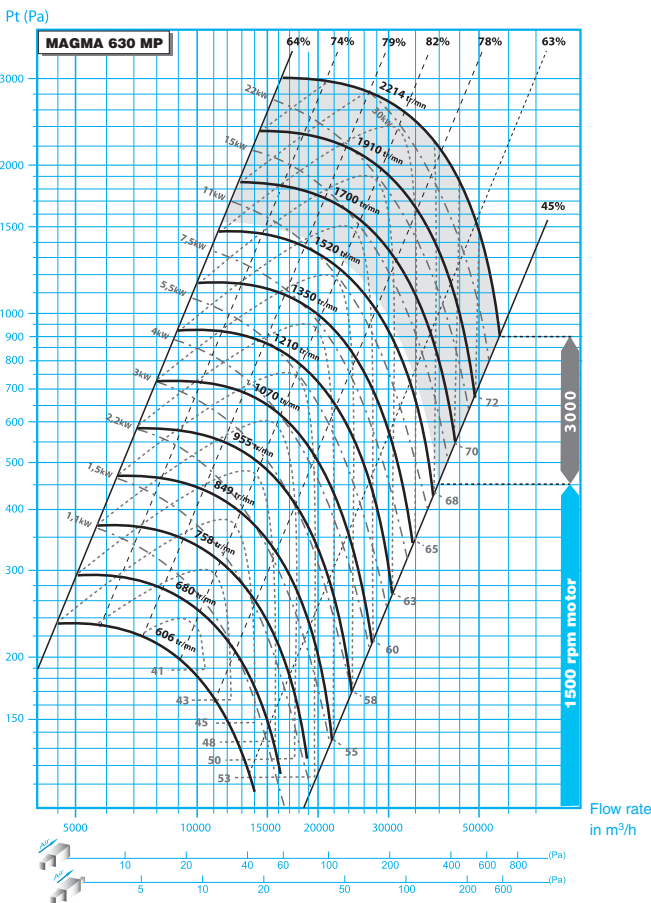
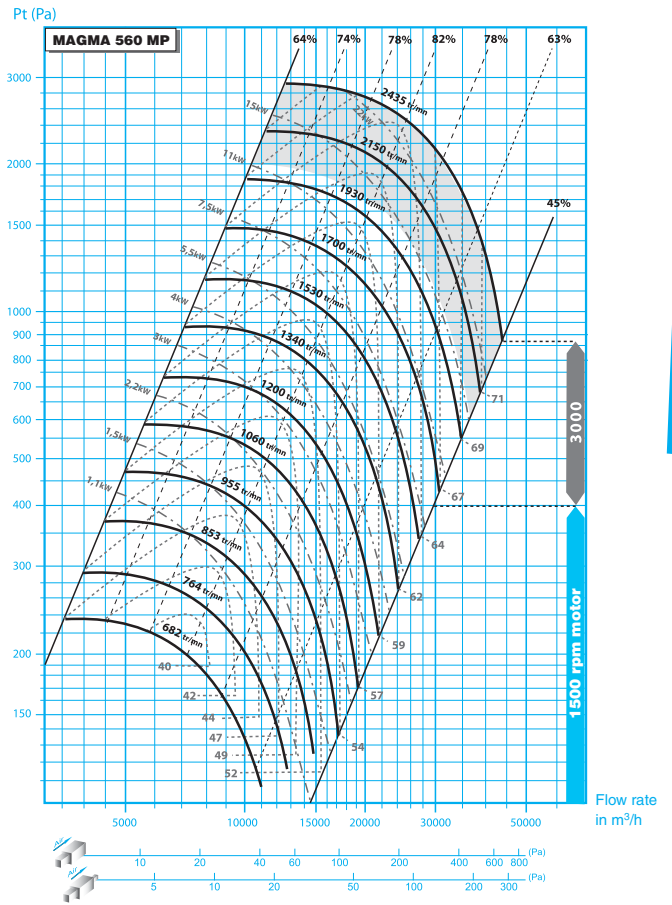
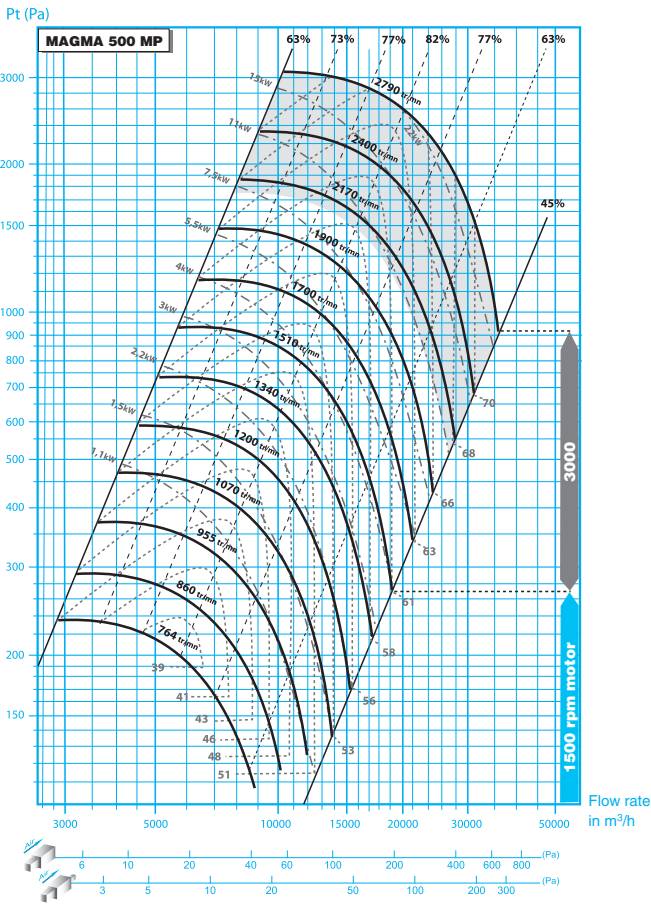
■ 4 pole motor
■ 2 pole motor

■ Smoke extraction only



Smoke ventilators F400 / 120

M.A.G.M.A.





Key - - - - Acoustic pressure - - - - Motor speed 4 pole motor Smoke extraction only
 - - - - Fan speed - - - - η ventilation 2 pole motor



Smoke ventilators F400 / 120

M.A.G.M.A.

CASINGS AND DRIVES

| Range | Model | Code | ● | Range | Model | Code | ● |
|--|---------|---------|-------|--|-------|---------|---|
| BACKWARD-CURVED IMPELLER  | 200BP | 7072266 | ● | FORWARD-CURVED IMPELLER  | 200MP | 7072277 | ● |
| | 250BP | 7072267 | ● | | 250MP | 7072278 | ● |
| | 315BP | 7072268 | ● | | 315MP | 7072279 | ● |
| | 355BP | 7072269 | ● | | 355MP | 7072280 | ● |
| | 400BP | 7072270 | ● | | 400MP | 7072281 | ● |
| | 450BP | 7072272 | ● | | 450MP | 7072283 | ● |
| | 500BP | 7072273 | ● | | 500MP | 7072284 | ● |
| | 560BP | 7072274 | ● | | 560MP | 7072285 | ● |
| 630BP | 7072275 | ● | 630MP | 7072287 | ● | | |
| 710BP | 7072276 | ● | 710MP | 7072288 | ● | | |

MOTORS

| 1 SPEED MOTOR | | | | | | 2 SPEED MOTOR | | | | | |
|---------------|-------------|------------|-----------|---------|---|---------------|-------------|------------|-----------|---------|---|
| Capacity | Max speed | N° of pole | Intensity | Code | ● | Capacity | Max speed | N° of pole | Intensity | Code | ● |
| 0,12 kW | 1500 tr/min | 4 | 0,44 A | 7072747 | ● | 0,55 kW | 3000 tr/min | 2/4 | 1,3 A | 7072680 | ● |
| 0,18 kW | 1500 tr/min | 4 | 0,58 A | 7072748 | ● | 0,6 kW | 1500 tr/min | 4/8 | 1,87 A | 7072729 | ● |
| 0,25 kW | 3000 tr/min | 2 | 0,66 A | 7072708 | ● | 0,8 kW | 3000 tr/min | 2/4 | 2,08 A | 7072683 | ● |
| 0,25 kW | 1500 tr/min | 4 | 0,71 A | 7072749 | ● | 0,8 kW | 1500 tr/min | 4/8 | 2 A | 7072730 | ● |
| 0,37 kW | 3000 tr/min | 2 | 0,85 A | 7072709 | ● | 1,1 kW | 3000 tr/min | 2/4 | 2,51 A | 7072684 | ● |
| 0,37 kW | 1500 tr/min | 4 | 1,04 A | 7072750 | ● | 1,2 kW | 1500 tr/min | 4/8 | 2,94 A | 7072731 | ● |
| 0,55 kW | 3000 tr/min | 2 | 1,23 A | 7072710 | ● | 1,5 kW | 3000 tr/min | 2/4 | 3,78 A | 7072686 | ● |
| 0,55 kW | 1500 tr/min | 4 | 1,36 A | 7072751 | ● | 1,6 kW | 1500 tr/min | 4/8 | 4,05 A | 7072732 | ● |
| 0,75 kW | 3000 tr/min | 2 | 1,57 A | 7072711 | ● | 2,2 kW | 3000 tr/min | 2/4 | 4,91 A | 7072687 | ● |
| 0,75 kW | 1500 tr/min | 4 | 1,71 A | 7072752 | ● | 2,2 kW | 1500 tr/min | 4/8 | 4,9 A | 7072733 | ● |
| 1,1 kW | 3000 tr/min | 2 | 2,32 A | 7072712 | ● | 2,5 kW | 3000 tr/min | 2/4 | 5,18 A | 7072688 | ● |
| 1,1 kW | 1500 tr/min | 4 | 2,53 A | 7072754 | ● | 2,8 kW | 1500 tr/min | 4/8 | 6,11 A | 7072734 | ● |
| 1,5 kW | 3000 tr/min | 2 | 3,01 A | 7072713 | ● | 3,1 kW | 3000 tr/min | 2/4 | 6,33 A | 7072689 | ● |
| 1,5 kW | 1500 tr/min | 4 | 3,19 A | 7072755 | ● | 3,8 kW | 1500 tr/min | 4/8 | 8,2 A | 7072735 | ● |
| 2,2 kW | 3000 tr/min | 2 | 4,48 A | 7072714 | ● | 4,4 kW | 3000 tr/min | 2/4 | 8,94 A | 7072690 | ● |
| 2,2 kW | 1500 tr/min | 4 | 4,61 A | 7072756 | ● | 5 kW | 1500 tr/min | 4/8 | 10,4 A | 7072736 | ● |
| 3 kW | 3000 tr/min | 2 | 5,75 A | 7072715 | ● | 6 kW | 3000 tr/min | 2/4 | 11,5 A | 7072691 | ● |
| 3 kW | 1500 tr/min | 4 | 5,94 A | 7072757 | ● | 7,2 kW | 1500 tr/min | 4/8 | 15,3 A | 7072737 | ● |
| 4 kW | 3000 tr/min | 2 | 7,55 A | 7072716 | ● | 8 kW | 3000 tr/min | 2/4 | 15,1 A | 7072692 | ● |
| 4 kW | 1500 tr/min | 4 | 7,62 A | 7072758 | ● | 11 kW | 1500 tr/min | 4/8 | 22,5 A | 7072738 | ● |
| 5,5 kW | 3000 tr/min | 2 | 10,3 A | 7072717 | ● | 12 kW | 3000 tr/min | 2/4 | 23,1 A | 7072698 | ● |
| 5,5 kW | 1500 tr/min | 4 | 10,6 A | 7072759 | ● | 14 kW | 1500 tr/min | 4/8 | 27,4 A | 7072739 | ● |
| 7,5 kW | 3000 tr/min | 2 | 13,6 A | 7072718 | ● | 16 kW | 3000 tr/min | 2/4 | 30,7 A | 7072699 | ● |
| 7,5 kW | 1500 tr/min | 4 | 14,2 A | 7072760 | ● | 17 kW | 1500 tr/min | 4/8 | 33,4 A | 7072740 | ● |
| 9,2 kW | 3000 tr/min | 2 | 17 A | 7072720 | ● | 20 kW | 1500 tr/min | 4/8 | 38,6 A | 7072741 | ● |
| 9,2 kW | 1500 tr/min | 4 | 17,7 A | 7072761 | ● | 20 kW | 3000 tr/min | 2/4 | 36,9 A | 7072700 | ● |
| 11 kW | 3000 tr/min | 2 | 20 A | 7072721 | ● | 25 kW | 3000 tr/min | 2/4 | 45,9 A | 7072701 | ● |
| 11 kW | 1500 tr/min | 4 | 21 A | 7072762 | ● | 28 kW | 1500 tr/min | 4/8 | 50,6 A | 7072742 | ● |
| 15 kW | 3000 tr/min | 2 | 27 A | 7072722 | ● | 33 kW | 3000 tr/min | 2/4 | 62,9 A | 7072702 | ● |
| 15 kW | 1500 tr/min | 4 | 28,4 A | 7072763 | ● | 35 kW | 1500 tr/min | 4/8 | 66,5 A | 7072743 | ● |
| 18,5 kW | 1500 tr/min | 4 | 34,5 A | 7072764 | ● | 37 kW | 1500 tr/min | 4/8 | 69,5 A | 7072744 | ● |
| 18,5 kW | 3000 tr/min | 2 | 33,1 A | 7072723 | ● | 37 kW | 3000 tr/min | 2/4 | 66,1 A | 7072703 | ● |
| 22 kW | 1500 tr/min | 4 | 41,4 A | 7072765 | ● | 44 kW | 1500 tr/min | 4/8 | 82,1 A | 7072745 | ● |
| 22 kW | 3000 tr/min | 2 | 38,7 A | 7072724 | ● | | | | | | |
| 30 kW | 1500 tr/min | 4 | 54,8 A | 7072766 | ● | | | | | | |
| 30 kW | 3000 tr/min | 2 | 53,1 A | 7072725 | ● | | | | | | |
| 37 kW | 1500 tr/min | 4 | 65,4 A | 7072767 | ● | | | | | | |
| 37 kW | 3000 tr/min | 2 | 65,3 A | 7072726 | ● | | | | | | |
| 45 kW | 1500 tr/min | 4 | 78,9 A | 7072768 | ● | | | | | | |

Your smoke ventilator system is composed of the casing and the drive + the motor selected.

Example using a **MAGMA 450MP** model with a **single-speed, 4 kW, 3000 rpm** motor

450MP casing + drive = **7072283**

4kW, 3000 rpm motor = **7072716**

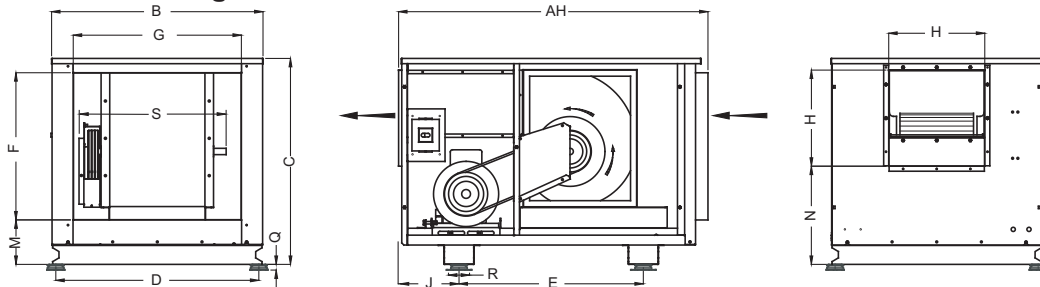
TOTAL OF UNIT = 7072283 + 7072716



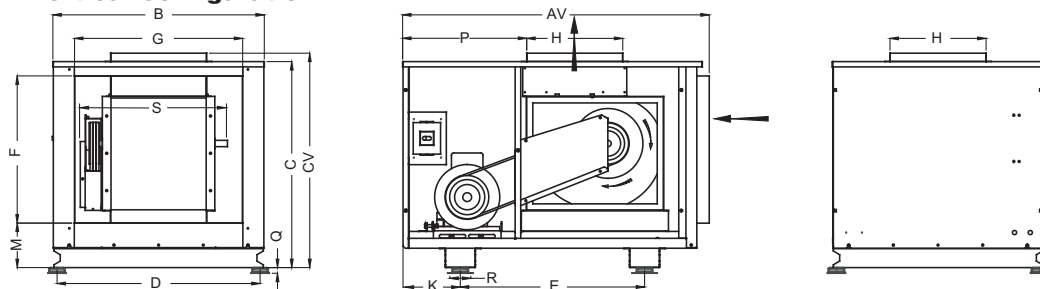
Smoke ventilators F400 / 120

DIMENSIONS

Horizontal configuration



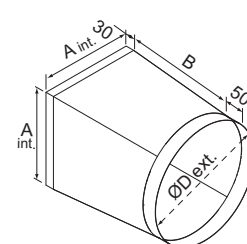
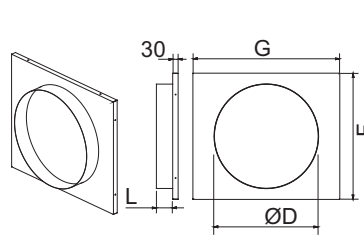
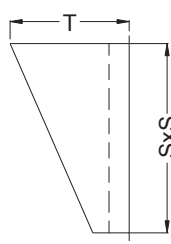
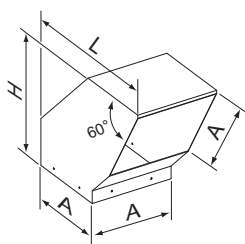
Vertical configuration



| BP/M Type | AH | AV | B | C | CV | D | E | F | G | H | J | K | M | N | P | Q | R | S | Max. weight |
|-----------|------|------|------|------|------|------|------|------|------|-----|-------|-------|-----|-----|-----|----|-----|------|-------------|
| 200 | 993 | 982 | 595 | 695 | 735 | 555 | 680 | 400 | 500 | 258 | 141.5 | 129.5 | 240 | 380 | 445 | 28 | 125 | 396 | 185 |
| 250 | 1130 | 1118 | 727 | 774 | 814 | 679 | 746 | 500 | 600 | 324 | 192 | 180 | 210 | 399 | 477 | 28 | 125 | 456 | 209 |
| 315 | 1342 | 1329 | 896 | 866 | 906 | 860 | 747 | 600 | 700 | 408 | 287.5 | 274.5 | 211 | 402 | 558 | 28 | 125 | 567 | 266 |
| 355 | 1472 | 1459 | 1006 | 980 | 1020 | 966 | 877 | 700 | 800 | 457 | 287.5 | 274.5 | 211 | 467 | 590 | 28 | 125 | 655 | 335 |
| 400 | 1558 | 1545 | 1120 | 1026 | 1067 | 1071 | 946 | 800 | 900 | 509 | 300 | 293 | 174 | 460 | 570 | 28 | 125 | 709 | 407 |
| 450 | 1724 | 1712 | 1191 | 1111 | 1151 | 1143 | 1111 | 900 | 1000 | 570 | 300 | 293 | 174 | 480 | 615 | 39 | 182 | 810 | 455 |
| 500 | 1883 | 1872 | 1387 | 1226 | 1225 | 1340 | 1180 | 900 | 1000 | 640 | 351.5 | 341 | 240 | 512 | 736 | 39 | 182 | 854 | 547 |
| 560 | 1883 | 1872 | 1387 | 1260 | 1302 | 1338 | 1180 | 1100 | 1100 | 718 | 351.5 | 341 | 180 | 483 | 732 | 39 | 182 | 975 | 572 |
| 630 | 2111 | 2104 | 1575 | 1424 | 1463 | 1507 | 1016 | 1200 | 1300 | 806 | 536.5 | 529.5 | 167 | 558 | 735 | 44 | 240 | 1064 | 731 |
| 710 | 2273 | 2264 | 1765 | 1605 | 1613 | 1697 | 1176 | 1200 | 1400 | 900 | 538.5 | 529.5 | 276 | 607 | 734 | 44 | 240 | 1196 | 839 |

Dimensions in mm








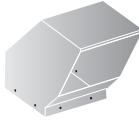
ACCESSORIES





| BP/MP Type | Vertical rain guard | | Horizontal rain guard | | Metal connection | | | | | | |
|------------|---------------------|------|-----------------------|-----|------------------|---------|------|------|-----------|------|---|
| | A | H | L | S | T | Suction | | dia. | Discharge | | |
| | | | | | | F | G | | L | A | B |
| 200 | 260 | 387 | 492 | 440 | 380 | 402 | 502 | 80 | 260 | 355 | |
| 250 | 326 | 473 | 615 | 440 | 380 | 502 | 602 | 80 | 326 | 400 | |
| 315 | 410 | 587 | 778 | 540 | 430 | 602 | 702 | 80 | 410 | 500 | |
| 355 | 459 | 653 | 873 | 540 | 430 | 702 | 802 | 80 | 459 | 560 | |
| 400 | 511 | 720 | 969 | 670 | 520 | 802 | 902 | 65 | 511 | 630 | |
| 450 | 572 | 800 | 1083 | 670 | 520 | 902 | 1002 | 100 | 572 | 710 | |
| 500 | 642 | 893 | 1217 | 840 | 625 | 902 | 1002 | 100 | 642 | 800 | |
| 560 | 720 | 1000 | 1370 | 840 | 625 | 1102 | 1202 | 100 | 720 | 900 | |
| 630 | 808 | 1113 | 1532 | 940 | 681 | 1202 | 1302 | 100 | 808 | 1000 | |
| 710 | 902 | 1240 | 1714 | 940 | 681 | 1202 | 1402 | 80 | 902 | 1250 | |

Dimensions in mm

ASSEMBLY ACCESSORIES AND OPTIONS

| MAGMA | | 200 | 250 | 315 | 355 | 400 | 450 | 500 | 560 | 630 | 710 |
|--|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Anti-vibration mounts  | Code | 7 072 634 | | | | | 7 072 635 | | | 7 072 637 | |
| | • | • | | | | | • | | | • | |
| "M0 flexible connection - W: 160 mm - ROUND"  | Code | 7 072 626 | 7 072 627 | 7 072 628 | 7 072 629 | 7 072 630 | 7 072 631 | 7 072 632 | 7 072 633 | 7 072 624 | 7 072 625 |
| | • | • | • | • | • | • | • | • | • | • | • |
| "M0 flexible connection - W: 160 mm - SUCTION side"  | Code | 7 072 506 | 7 072 510 | 7 072 512 | 7 072 514 | 7 072 517 | 7 072 498 | | 7 072 499 | 7 072 500 | 7 072 501 |
| | • | • | • | • | • | • | • | | • | • | • |
| "M0 flexible connection - W: 160 mm - DISCHARGE side"  | Code | 7 072 502 | 7 072 503 | 7 072 504 | 7 072 505 | 7 072 507 | 7 072 509 | 7 072 511 | 7 072 513 | 7 072 516 | 7 072 518 |
| | • | • | • | • | • | • | • | • | • | • | • |
| "Round connection - SUCTION"  | Code | 7 072 607 | 7 072 608 | 7 072 609 | 7 072 610 | 7 072 611 | 7 072 602 | 7 072 603 | 7 072 604 | 7 072 605 | 7 072 606 |
| | • | • | • | • | • | • | • | • | • | • | • |
| "Round connection - DISCHARGE"  | Code | 7 072 612 | 7 072 613 | 7 072 614 | 7 072 615 | 7 072 616 | 7 072 617 | 7 072 618 | 7 072 620 | 7 072 621 | 7 072 622 |
| | • | • | • | • | • | • | • | • | • | • | • |
| "Rain guard with bird screen for HORIZONTAL motors"  | Code | 7 072 599 | | 7 072 600 | | 7 072 601 | | 7 072 574 | | 7 072 598 | |
| | • | • | | • | | • | | • | | • | |
| "Rain guard with bird screen for VERTICAL motors"  | Code | 7 072 548 | 7 072 551 | 7 072 553 | 7 072 555 | 7 072 560 | 7 072 562 | 7 072 564 | 7 072 566 | 7 072 568 | 7 072 569 |
| | • | • | • | • | • | • | • | • | • | • | • |
| Dual-skin insulation | Code | 7072468 | 7072470 | 7072472 | 7072473 | 7072474 | 7072475 | 7072476 | 7072477 | 7072478 | 7072479 |
| | • | • | • | • | • | • | • | • | • | • | • |
| Epoxy paint | Code | 7072488 | 7072489 | 7072490 | 7072491 | 7072492 | 7072493 | 7072494 | 7072495 | 7072496 | 7072497 |
| | • | • | • | • | • | • | • | • | • | • | • |
| "Sealed casing with drain port and inspection hatch - For kitchen use" | Code | 7072367 | 7072459 | 7072460 | 7072461 | 7072462 | 7072463 | 7072464 | 7072465 | 7072466 | 7072467 |
| | € | 185 | 188 | 194 | 202 | 212 | 216 | 220 | 232 | 239 | 252 |

| Product name | Max. current | Motor | Codes | • |
|---|--------------|----------|---------|---|
|  | 15 A | 1 speed | 7072658 | • |
| | 20 A | 1 speed | 7072659 | • |
| | 40 A | 1 speed | 7072660 | • |
| | 63 A | 1 speed | 7072661 | • |
| | 80 A | 1 speed | 7072663 | • |
| | 15 A | 2 speeds | 7072666 | • |
| | 20 A | 2 speeds | 7072667 | • |
| | 40 A | 2 speeds | 7072668 | • |
| | 63 A | 2 speeds | 7072669 | • |
| | 80 A | 2 speeds | 7072670 | • |

| Product name | Range | Codes | • |
|--|-----------------|---------|---|
|  | 40 to 300 Pa | 7072638 | • |
| | 100 to 1000 Pa | 7072643 | • |
| | 1000 to 5000 Pa | 7072645 | • |

This document is non-contractual. As part of its policy of continual product improvement, CIAT reserves the right to make any technical modification it feels appropriate without prior notification.

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CERTIFIED ISO 9001
QUALITY SYSTEM

