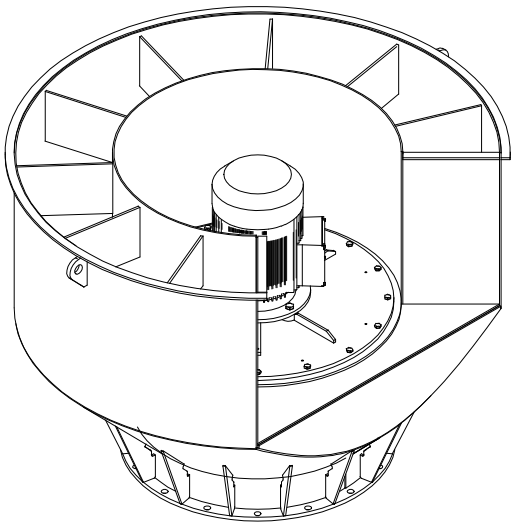
AERON

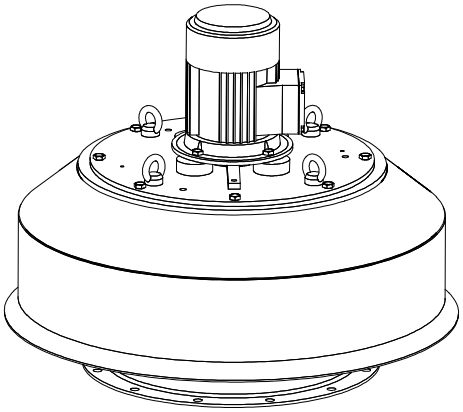
# PC-20
## Spark Proof and Explosion Proof Fans

# INDEX

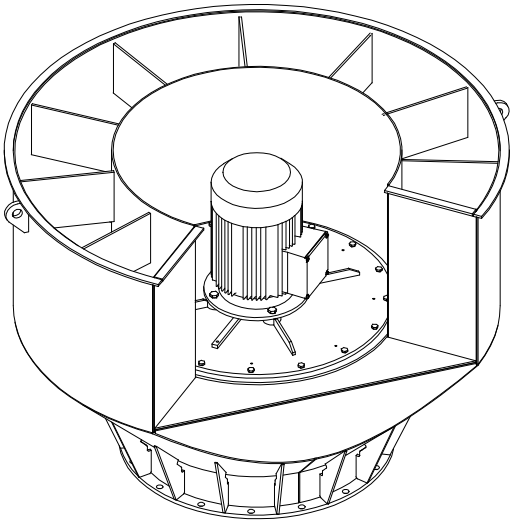
PUV - D1RX



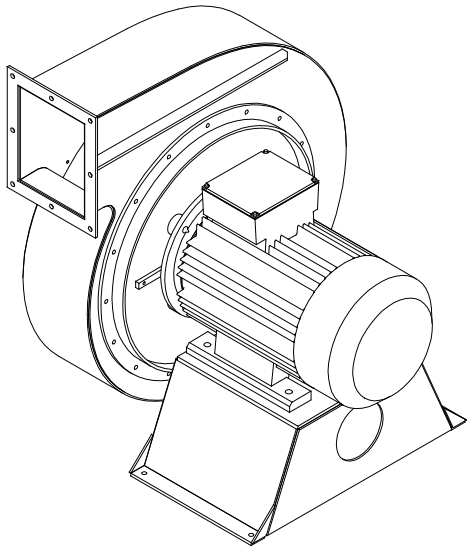
PUV - D1RX



PUV - D1RX



PUV - D1RX



# PUV-D1RX

## APPLICATIONS
Typical application for this fan is mechanical ventilation, extraction, in hazardous zones of cargo area and rooms onboard ships. Duct-top, above deck mounting.

From the Det Norske Veritas system requirements, mechanical ventilation in cargo area:

- A 100 General.
- 109 Electric fan motors are not to be installed in ventilation ducts when the ship has to carry flammable products.
- 111 Ventilation outlets from gas-dangerous spaces are to discharge upwards in location at least 10 m in the horizontal direction from ventilation intakes and openings for gas-safe spaces.

## DESIGN
The PUV-D1RX is designed primarily for ventilation, extraction, of pump-rooms and other places where explosive fumes occur. The fan is spark proof with a totally enclosed, naturally cooled and flameproof electric motor.

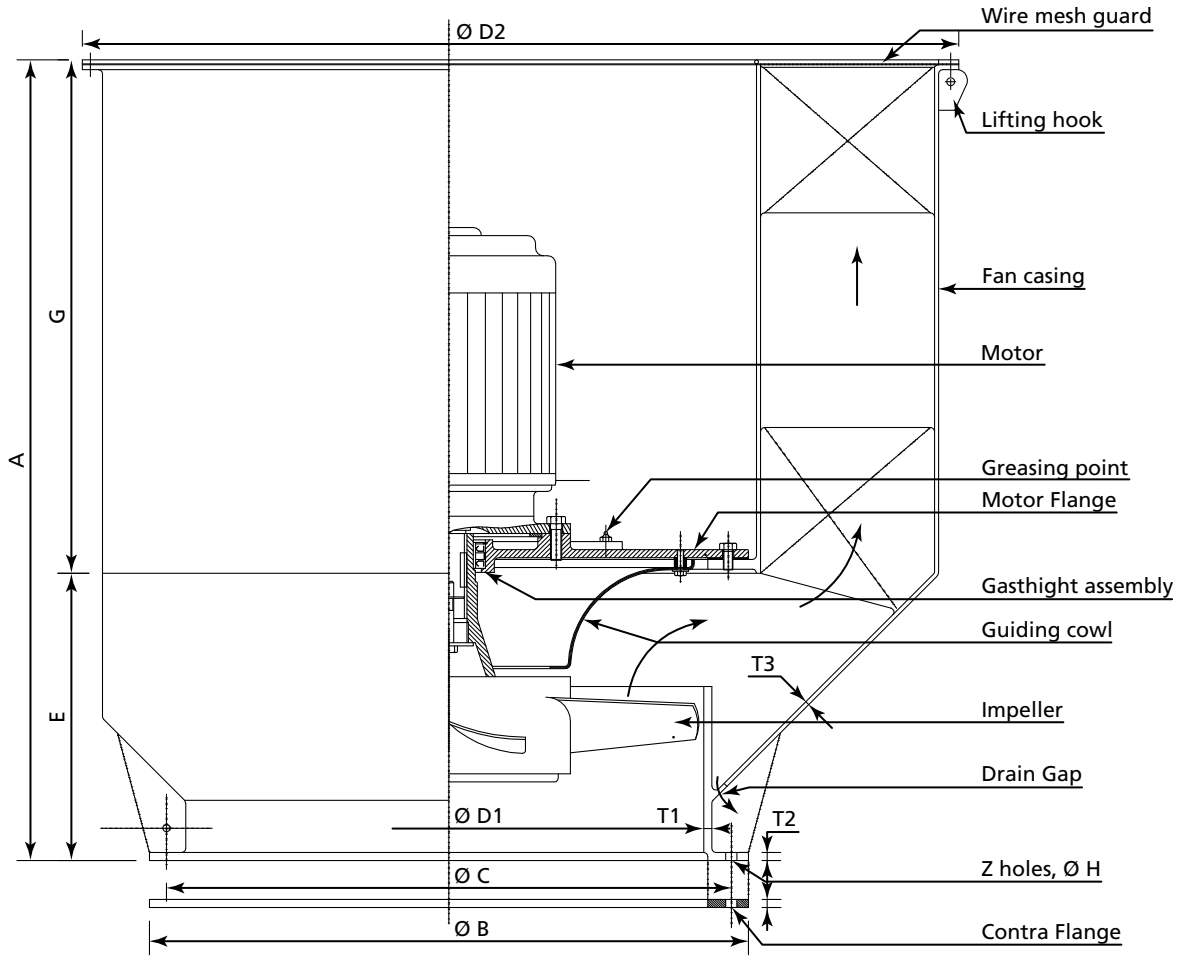
Long experience has contributed to a simple construction, with only one rotating part in addition to the motor itself. The propeller is mounted directly to the motor shaft, thus making it one unit with the motor flange, which can be lifted out for inspection.

## EXECUTION
The propeller, fan casing, motor flange and guiding plate are made of salt- and ammonia resistant aluminium. The propeller is aerodynamically shaped and balanced. The wire mesh guard is made of stainless steel. Greasing-point for the gas tight assembly is provided on top of motor flange.
The PUV-D1RX can be delivered in the range from size no 260 to size no 1100.

## ELECTRIC MOTOR
The motor is totally enclosed, naturally cooled and flameproof, designed for above deck mounting. Test – and Ex certificates are delivered with each motor.

## CLASSIFICATION SOCIETIES
The fan satisfies the demands of various classification societies.

# DIMENSION DRAWING




| Size | A | Ø B | Ø C | D1 | D2 | E | G | T1 | T2 | T3 | Z | H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 260 | 600 | 337 | 310 | 260 | 650 | 255 | 345 | 8 | 10 | 4 | 8 | 12 |
| 300 | 600 | 387 | 360 | 300 | 680 | 255 | 345 | 8 | 10 | 4 | 8 | 14 |
| 350 | 650 | 437 | 405 | 350 | 800 | 300 | 350 | 8 | 10 | 4 | 8 | 14 |
| 400 | 730 | 488 | 460 | 400 | 850 | 310 | 420 | 8 | 10 | 4 | 12 | 14 |
| 450 | 850 | 548 | 510 | 450 | 960 | 335 | 515 | 8 | 10 | 4 | 12 | 14 |
| 500 | 900 | 598 | 560 | 500 | 1010 | 380 | 520 | 8 | 10 | 4 | 12 | 14 |
| 550 | 920 | 660 | 630 | 550 | 1160 | 400 | 520 | 10 | 10 | 4 | 16 | 14 |
| 630 | 1050 | 740 | 698 | 630 | 1250 | 410 | 640 | 10 | 10 | 5 | 16 | 14 |
| 700 | 1150 | 810 | 775 | 700 | 1460 | 510 | 640 | 10 | 10 | 5 | 16 | 14 |
| 800 | 1180 | 912 | 870 | 800 | 1670 | 540 | 640 | 10 | 15 | 6 | 16 | 19 |
| 900 | 1380 | 1030 | 980 | 900 | 1870 | 615 | 765 | 10 | 15 | 6 | 16 | 19 |
| 1000 | 1470 | 1132 | 1080 | 1000 | 2070 | 705 | 765 | 10 | 15 | 6 | 20 | 19 |

# PPV-D10X

APPLICATIONS
Typical application for this fan is mechanical ventilation of hazardous zones and rooms onboard ships. Duct-top, above deck mounting.

DESIGN
The PPV-D1OX is designed primarily for ventilation, both supply and extraction of pumprooms and other places where explosive fumes occur. The fan is spark-proof with a totally enclosed, naturally cooled and flameproof electric motor.

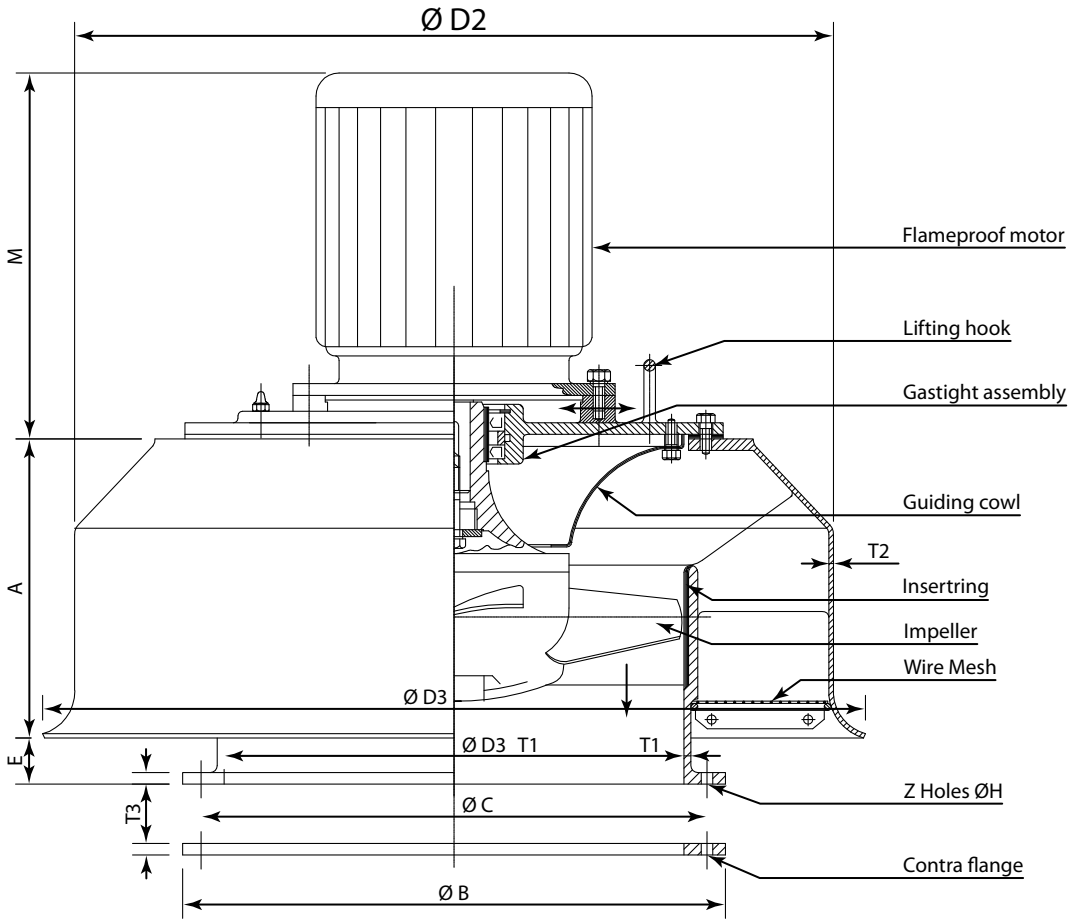
Long experience has contributed to a simple construction, with only one rotating part in addition to the motor itself. The propeller is mounted directly to the motor shaft, thus making it one unit with the motor flange, which can be lifted out for inspection.

EXECUTION
Fan casing consists of welded steel plates of heavy duty design and includes guiding vanes for the propeller.
The propeller and guiding plate are made of salt- and ammonia resistant aluminium, aerodynamically shaped and balanced.
The wire mesh guard is made of stainless steel.
Greasing-point for the gas tight assembly is provided on top of the cowl.
The PPV-D10X can be delivered in the range from size no 260 to size no 1250.

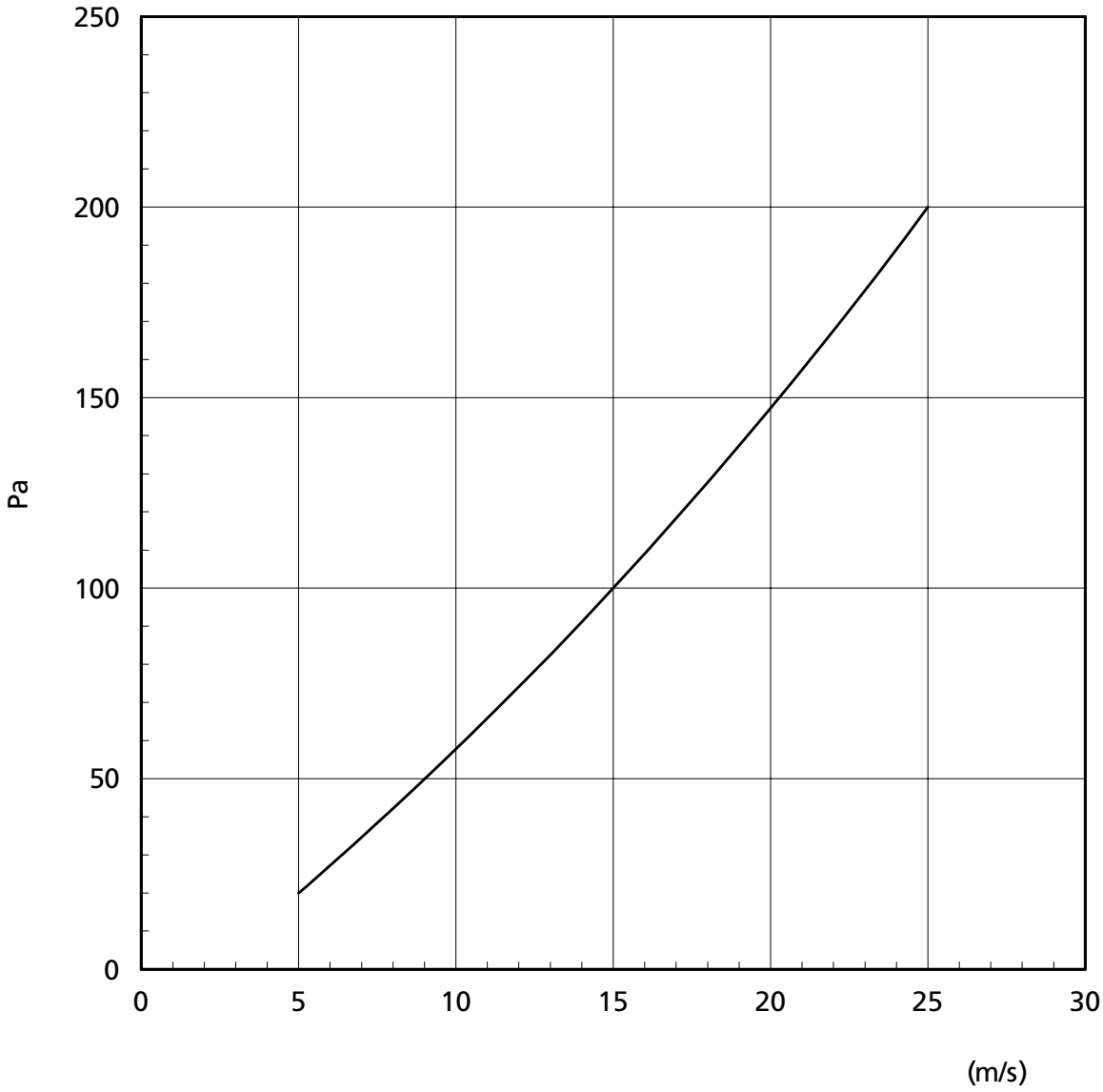
ELECTRIC MOTOR
The motor is totally enclosed, naturally cooled and flameproof, designed for above deck mounting. Test - and Ex certificates are delivered with each motor.

CLASSIFICATION SOCIETIES
The fan satisfies the demands of various classification societies.

# DIMENSION DRAWING

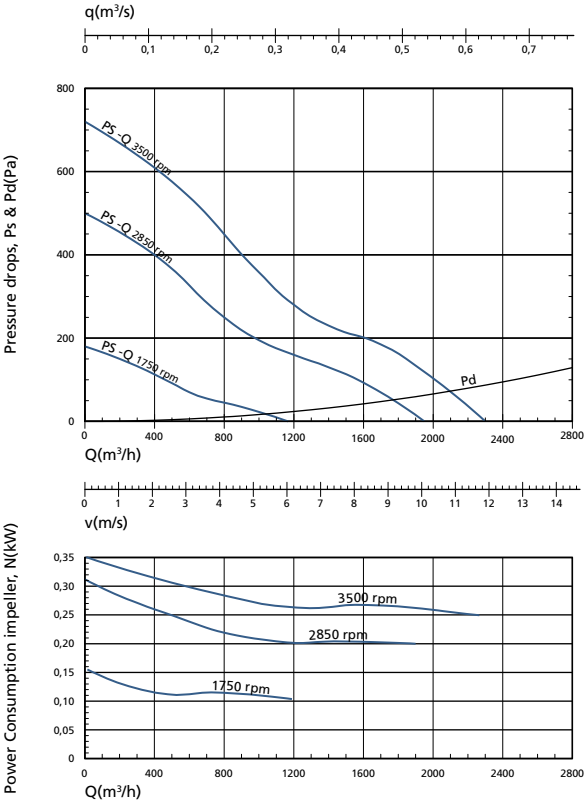



| Size | A | Ø B | Ø C | Ø D1 | Ø D2 | Ø D3 | E | T1 | T2 | T3 | Z | H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 260 | 230 | 337 | 310 | 260 | 550 | 590 | 73 | 6 | 3 | 8 | 8 | 12 |
| 300 | 245 | 387 | 360 | 300 | 600 | 640 | 60 | 6 | 3 | 10 | 8 | 14 |
| 350 | 230 | 437 | 405 | 350 | 650 | 700 | 84 | 6 | 3 | 10 | 8 | 14 |
| 400 | 260 | 488 | 460 | 400 | 700 | 750 | 60 | 6 | 3 | 10 | 12 | 14 |
| 450 | 265 | 550 | 510 | 450 | 800 | 850 | 110 | 6 | 3 | 12 | 12 | 14 |
| 500 | 281 | 600 | 560 | 500 | 900 | 950 | 115 | 6 | 3 | 12 | 12 | 14 |
| 550 | 250 | 660 | 630 | 550 | 1000 | 1060 | 142 | 6 | 4 | 12 | 16 | 14 |
| 630 | 352 | 740 | 698 | 630 | 1100 | 1160 | 150 | 6 | 4 | 12 | 16 | 14 |
| 700 | 447 | 810 | 775 | 700 | 1250 | 1300 | 135 | 6 | 4 | 12 | 16 | 14 |
| 800 | 470 | 912 | 870 | 800 | 1400 | 1480 | 135 | 6 | 5 | 12 | 16 | 19 |
| 900 | 505 | 1032 | 980 | 900 | 1600 | 1680 | 165 | 6 | 5 | 15 | 16 | 19 |
| 1000 | 630 | 1232 | 1080 | 1000 | 1800 | 1900 | 178 | 6 | 5 | 15 | 20 | 19 |
| 1250 | 750 | 1380 | 1320 | 1250 | 2250 | 2350 | 185 | 6 | 5 | 15 | 24 | 19 |

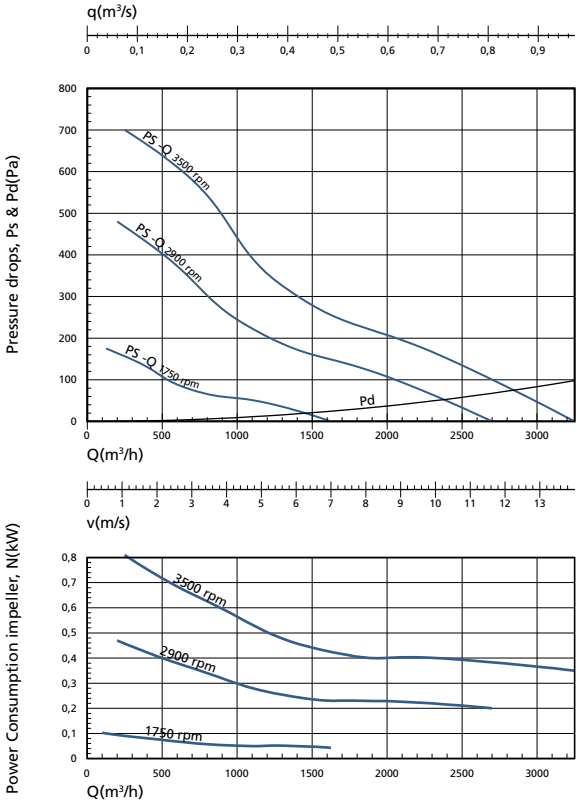


# PERFORMANCE DATA

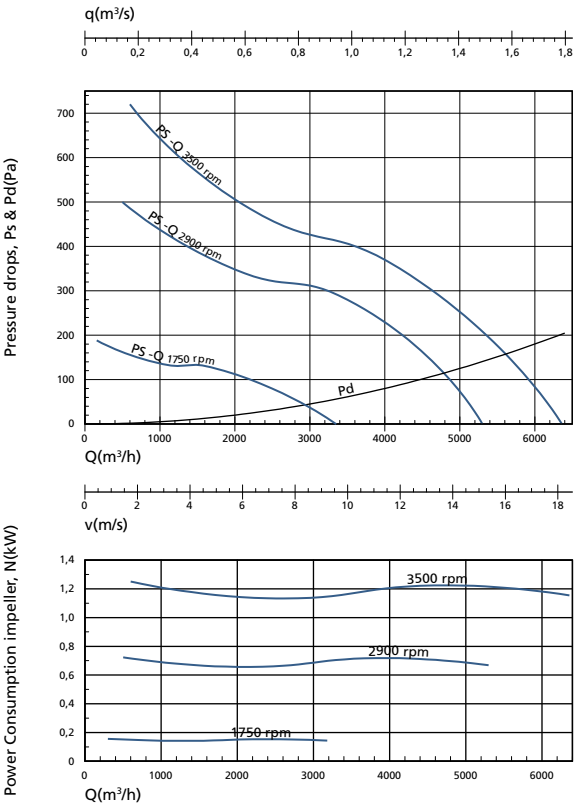
PPV/PUV 260 IMP: D5/30-20



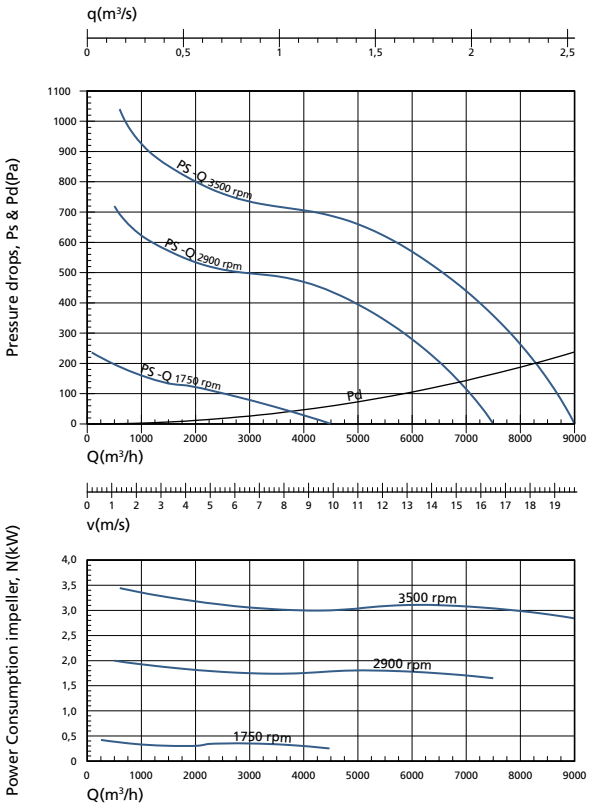

PPV/PUV 300 IMP: D5/30-20




PPV/PUV 350 IMP: D5/30-20

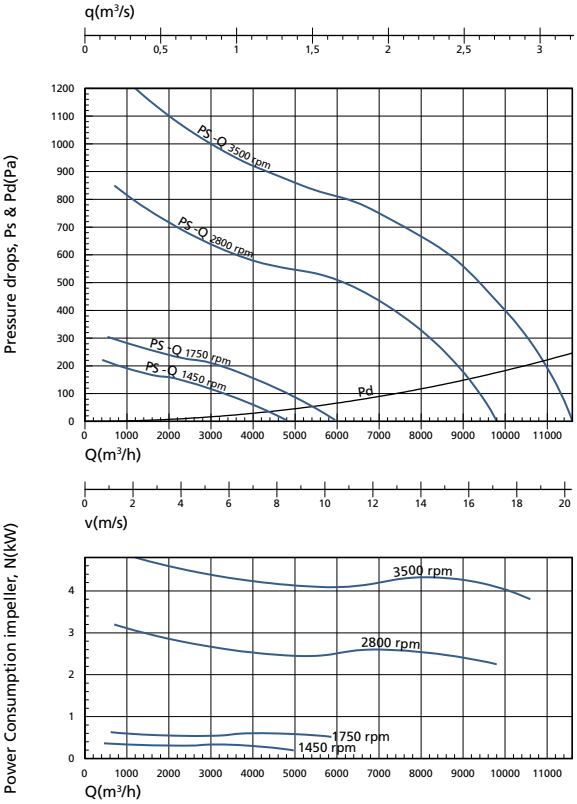



PPV/PUV 400 IMP: D5/30-20

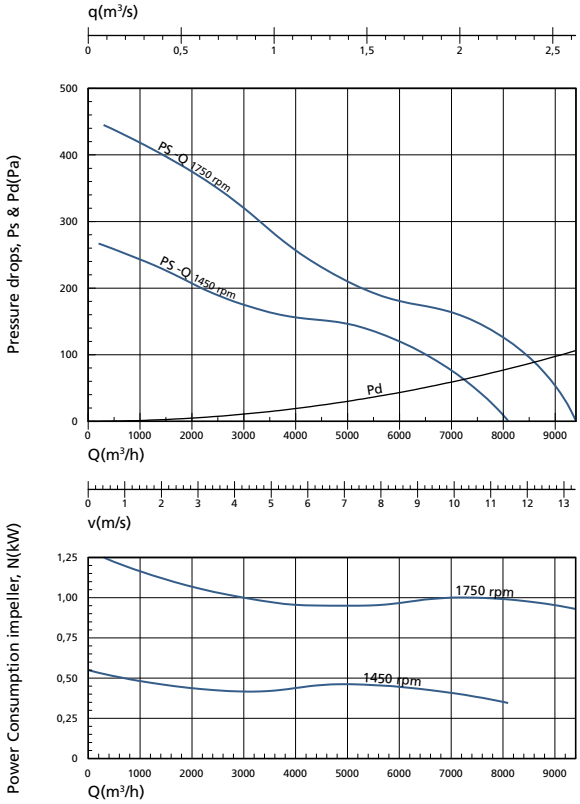


# PERFORMANCE DATA

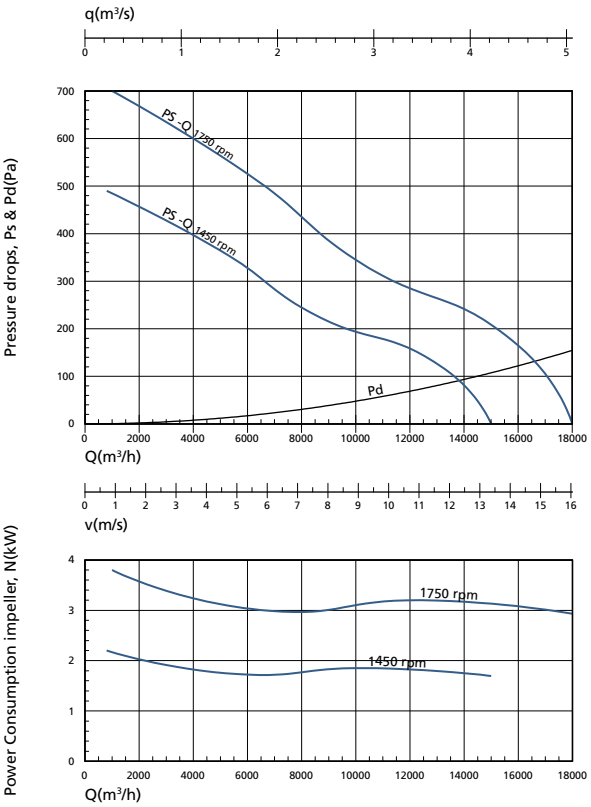
PPV/PUV 450 IMP: D7/30-20



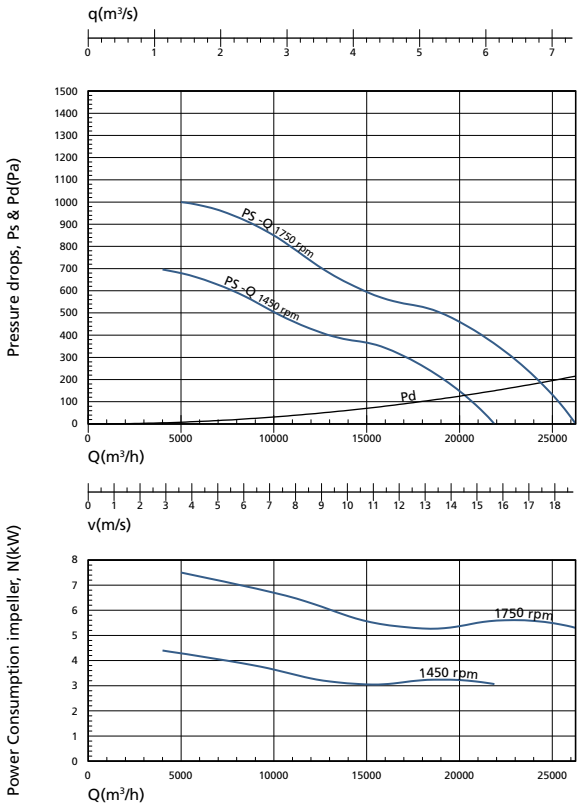

PPV/PUV 500 IMP: D8/30-20




PPV/PUV 630 IMP: D8/30-20

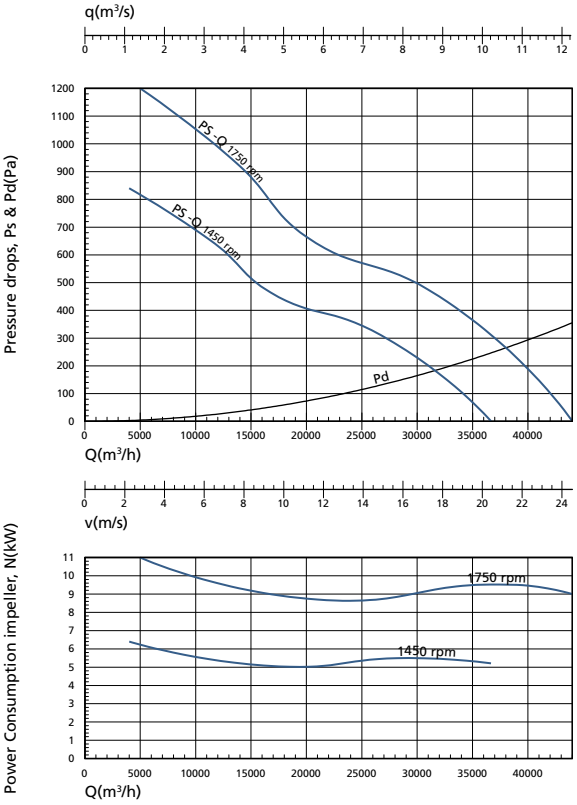



PPV/PUV 700 IMP: D8/30-20

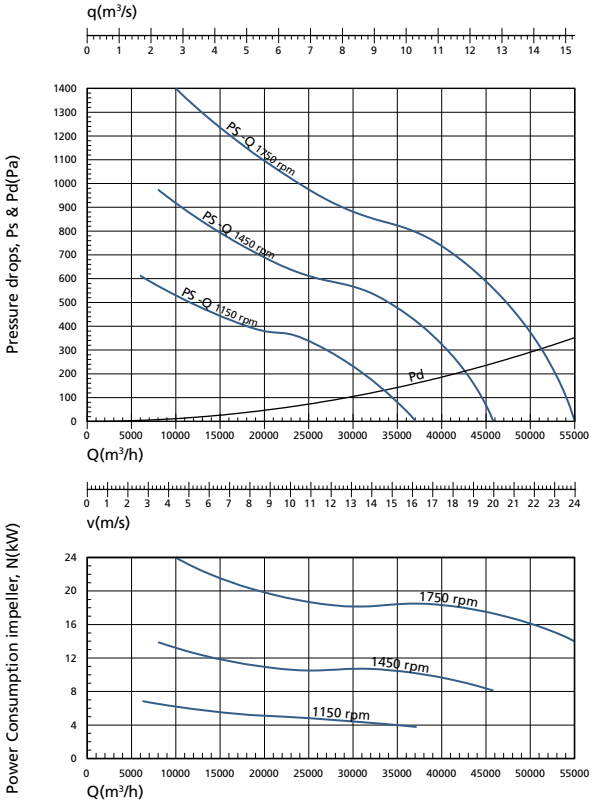


# PERFORMANCE DATA

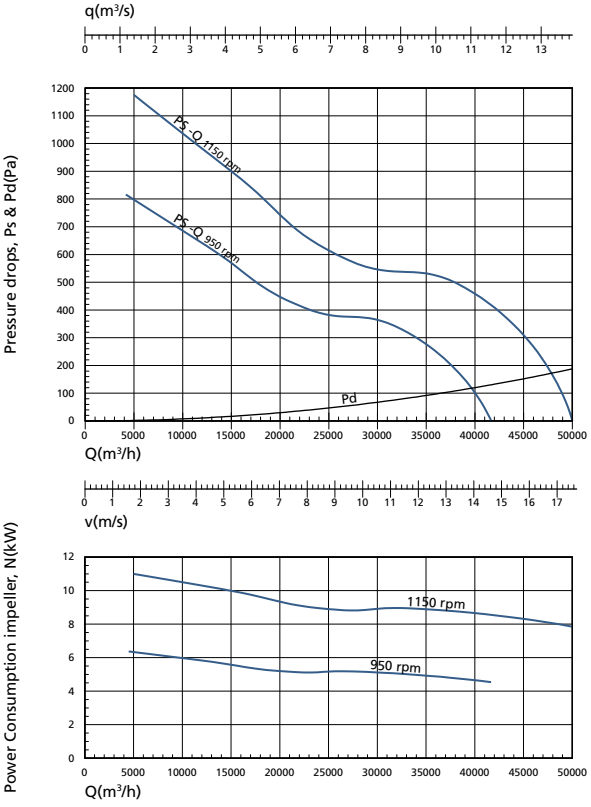
PPV/PUV 800 IMP: D8/30-20



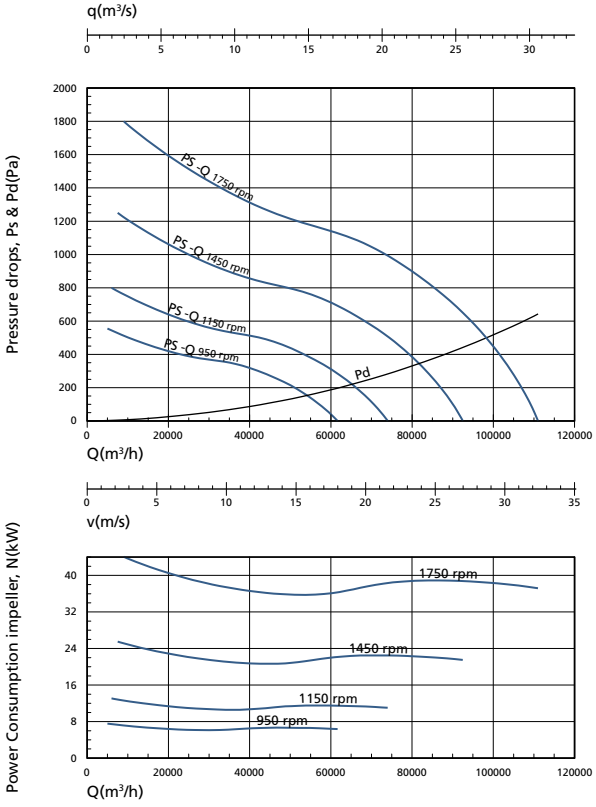

PPV/PUV 900 IMP: D10/17-27



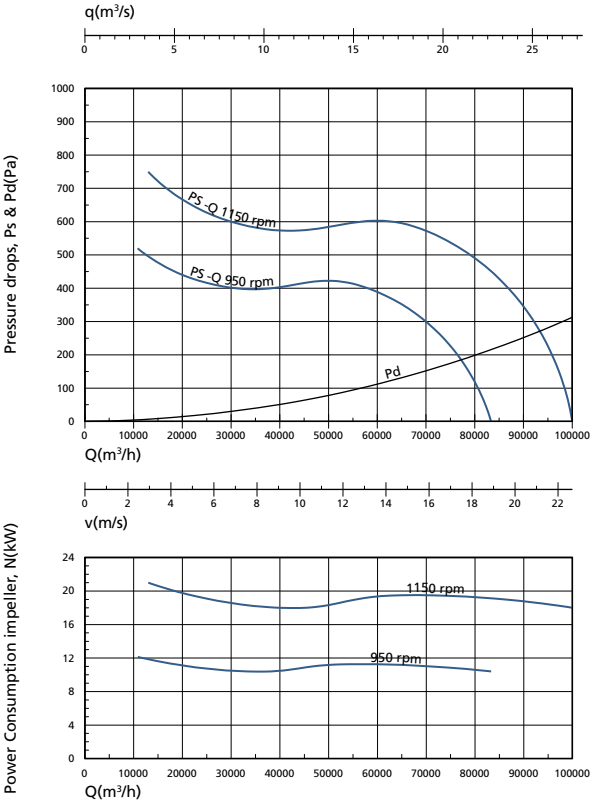

PPV/PUV 1000 IMP: D10/20-30

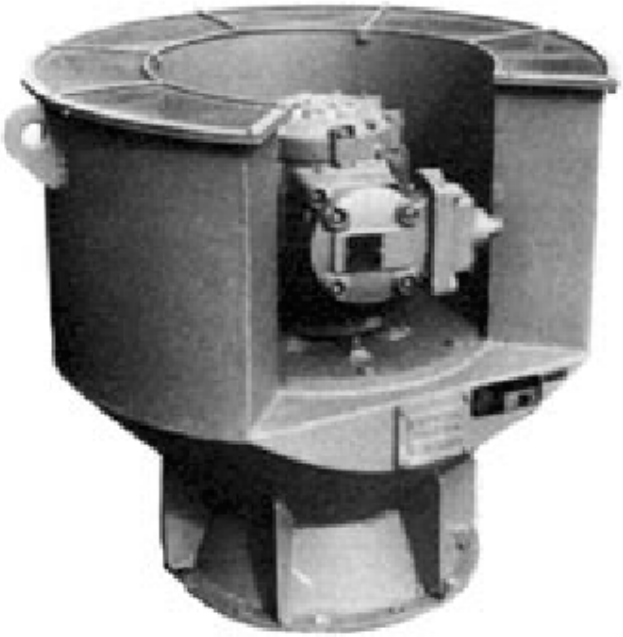



PPV/PUV 1100 IMP: A7L/16



LSV 250 B IMP: B12x300x80



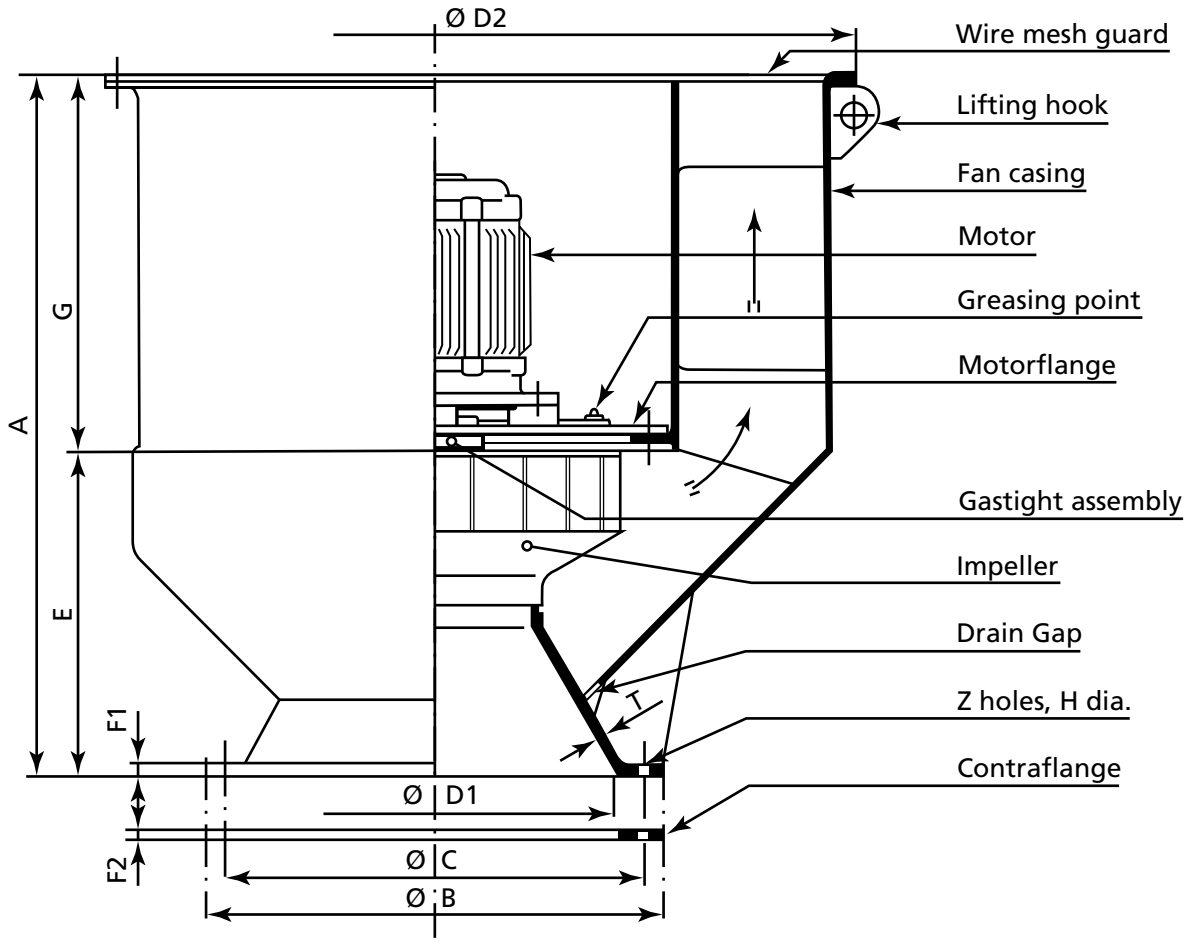


NYBORG CENTRIFUGAL EXHAUST FAN
Is designed primarily for ventilation of pump-rooms and other places where explosive fumes occur. The fan is spark-proof and designed for air extraction. Long experience has contributed to a simple construction with only one rotating part in addition to the motor itself. The impeller is mounted directly to the motor shaft, thus making one unit with the motor flange, which can be lifted out for inspection.

Fan casing and motor flange are made of salt- and ammonia resistive aluminium.
The impeller is made of salt- and ammonia resistive aluminium. It is aerodynamically shaped and balanced.
The wire mesh guard is made of stainless steel.
Greasing-point for the gastight assembly is provided on the top of the motor flange.
The motor is flameproof, totally enclosed, naturally cooled and designed for above deck mounting.
Test certificates are delivered with each motor. Counter flange of steel for duct connection.

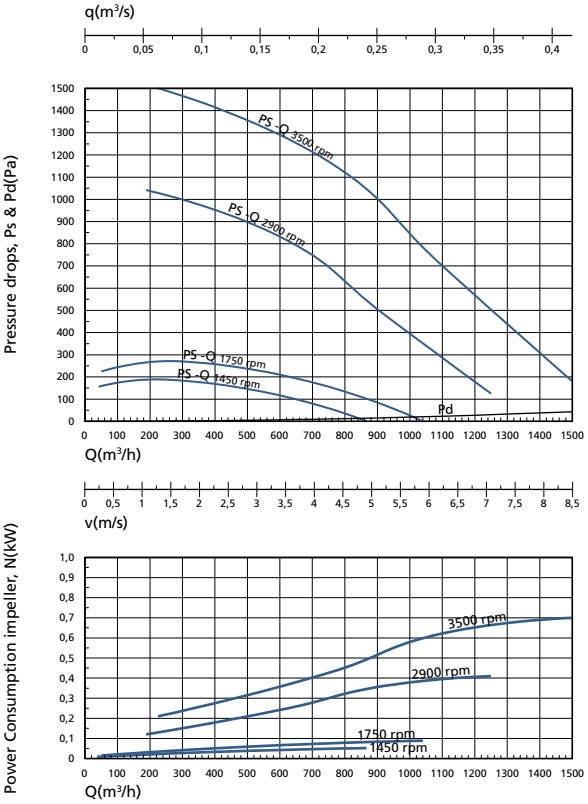
EQUIPMENT
Two spare sealing-rings for the gastight assembly, mounting and demounting tools for the impeller and instructions with data. The equipment is packed in a separate box.

# DIMENSION DRAWING

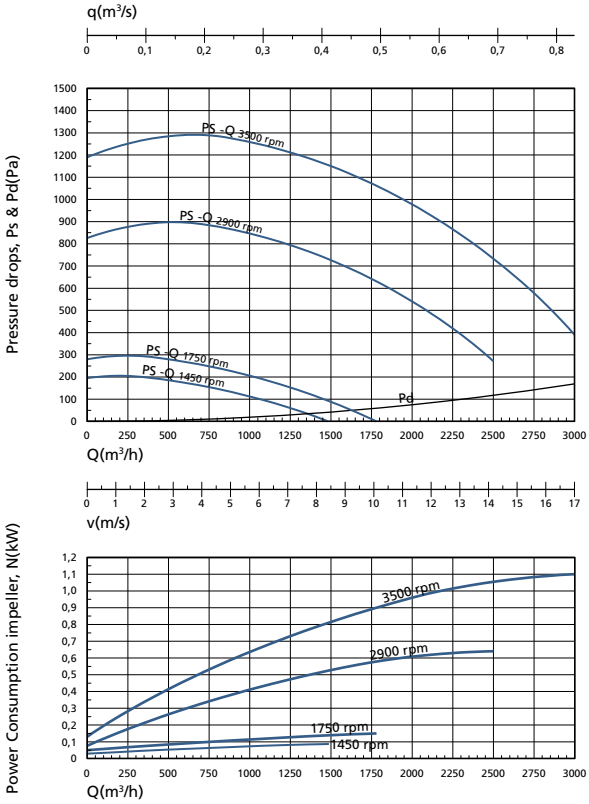



| Size No | A | B | C | D1 | D2 | E | F1 | F2 | G | Z | H | T | Weight less motor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 560 | 270 | 310 | 200 | 550 | 220 | 10 | 8 | 340 | 8 | 12 | 5 | |
| 250 | 610 | 330 | 292 | 250 | 600 | 270 | 10 | 8 | 340 | 8 | 12 | 5 | |
| 300 | 610 | 390 | 360 | 300 | 680 | 270 | 10 | 10 | 340 | 8 | 14 | 6 | |
| 350 | 650 | 437 | 405 | 350 | 810 | 310 | 10 | 10 | 340 | 8 | 14 | 6 | |
| 400 | 805 | 488 | 460 | 400 | 860 | 380 | 10 | 10 | 425 | 12 | 14 | 6 | |
| 450 | 910 | 558 | 510 | 450 | 960 | 400 | 15 | 12 | 510 | 12 | 14 | 6 | |
| 500 | 890 | 609 | 560 | 500 | 1010 | 380 | 15 | 12 | 510 | 12 | 14 | 6 | |
| 550 | 910 | 660 | 630 | 550 | 1160 | 400 | 15 | 12 | 510 | 12 | 14 | 6 | |

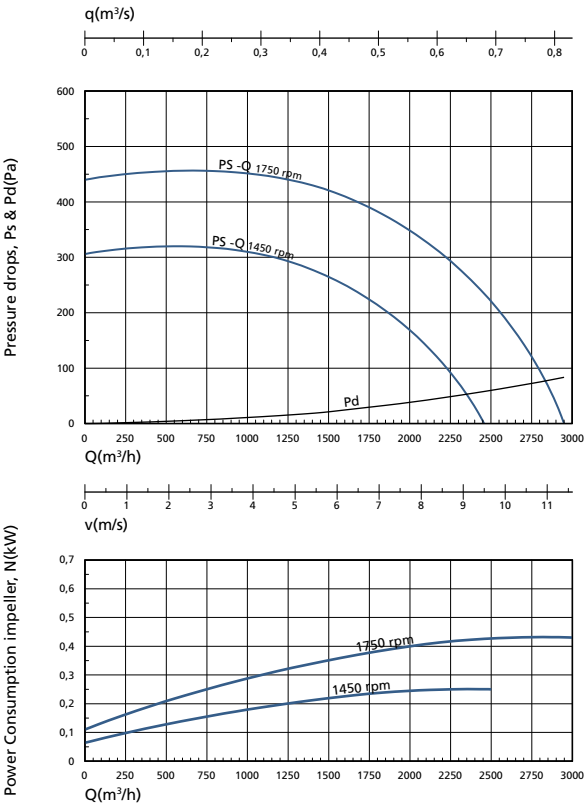
SUV 250 B IMP: 260x82



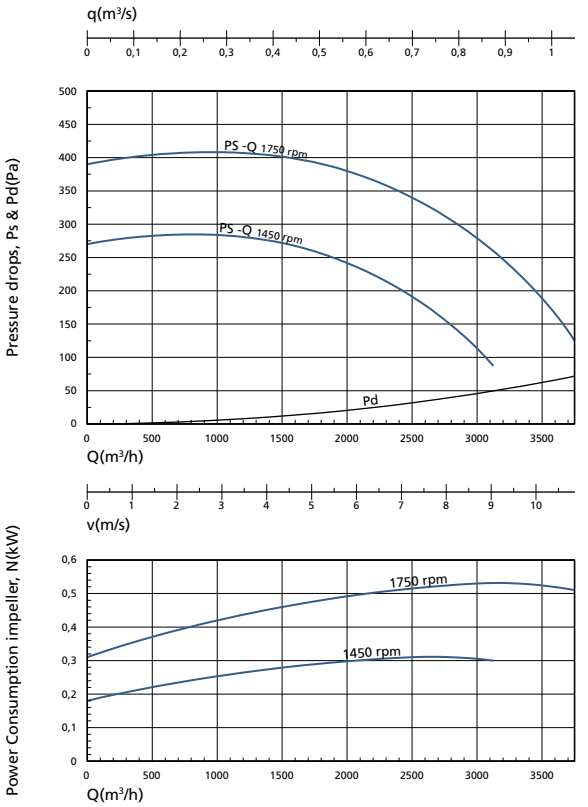

SUV 250 Z IMP: 250x70




SUV 300 Z IMP: 310x70

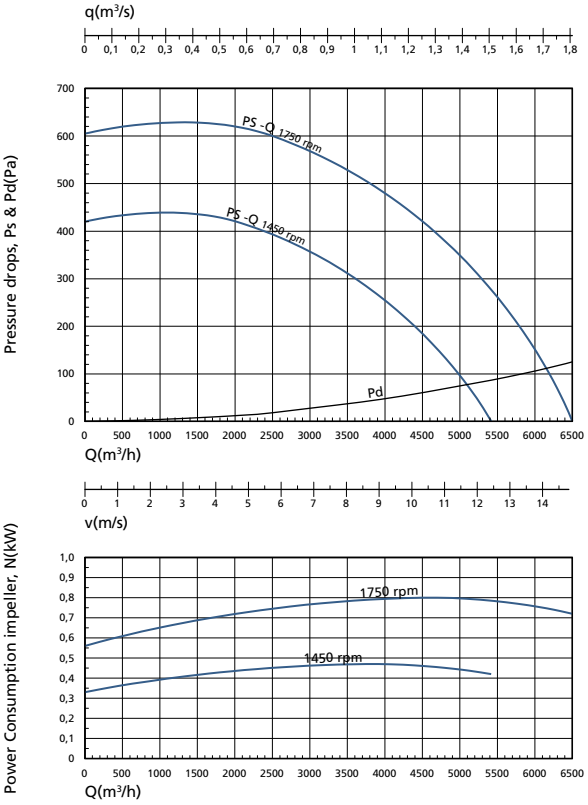



SUV 350 B IMP: 350x93

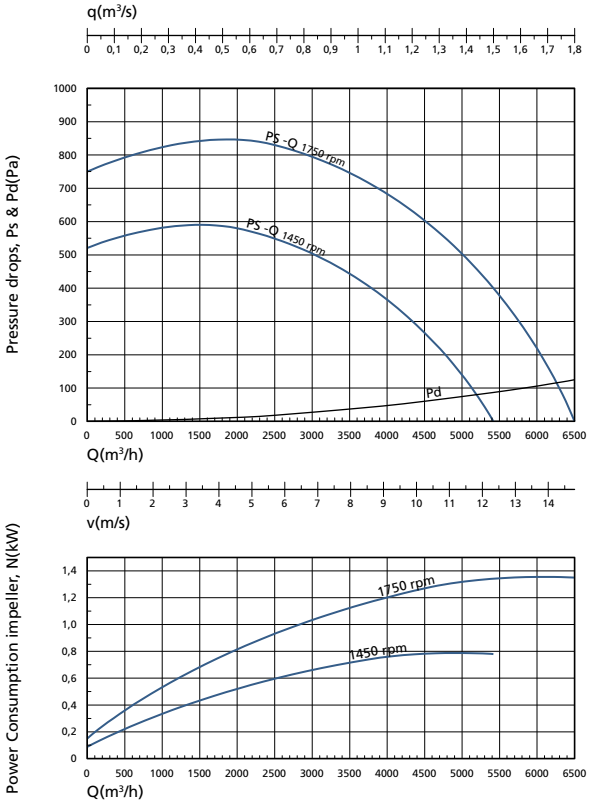


# PERFORMANCE DATA

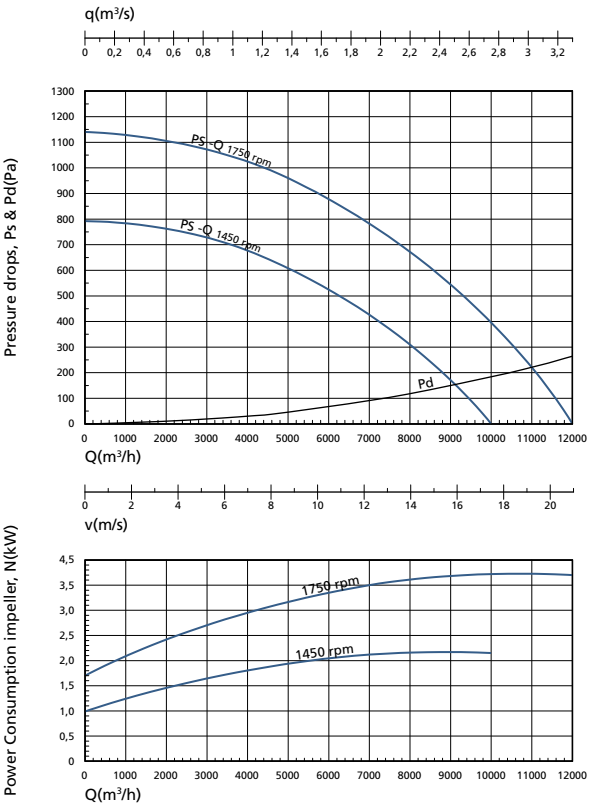
SUV 400 B IMP: 400x105



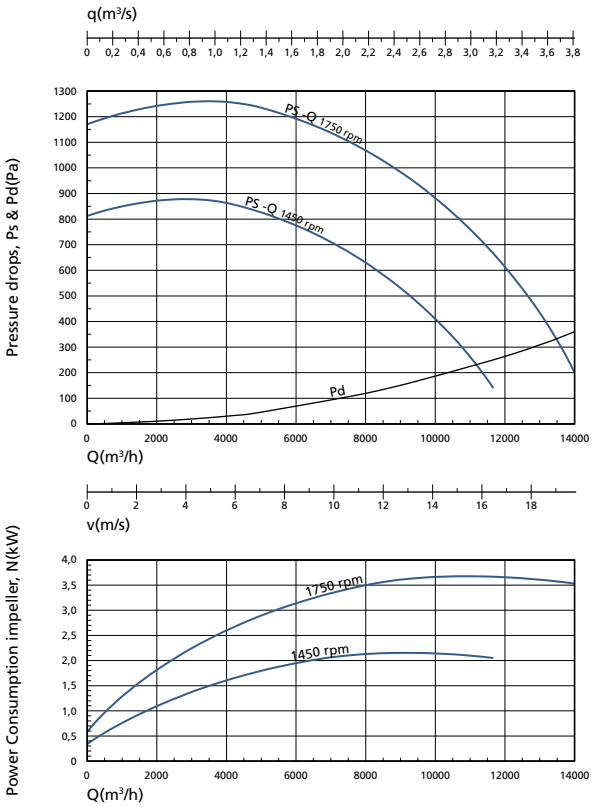

SUV 400 Z IMP: Z12x400x105



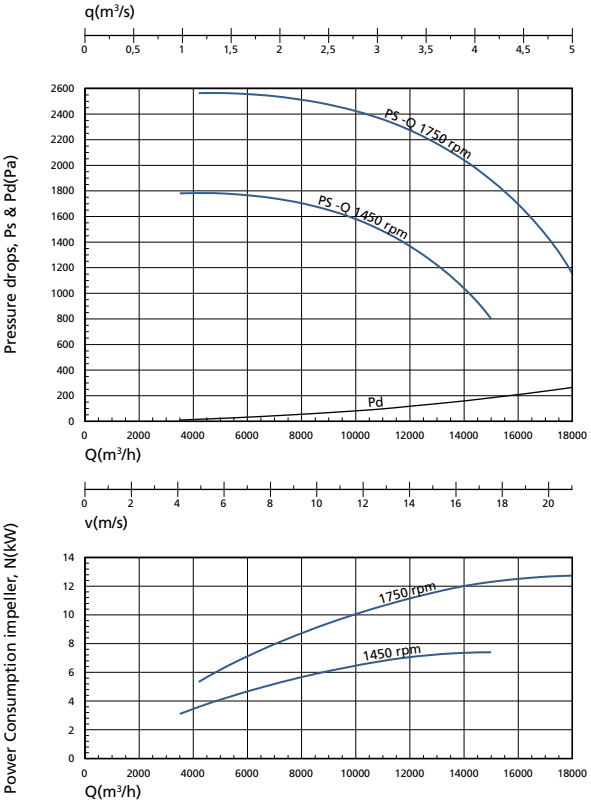

SUV 450 Z IMP: Z12x450x105




SUV 500 B IMP: B6x600x122

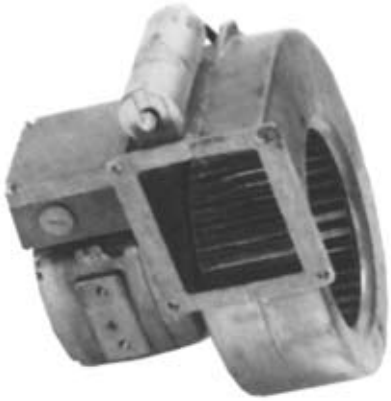


SUV 550 Z IMP: 615x100



# EX-140

550-900 m³/h



- Tested and approved according to IEN
- Suitable for battery charging stations, exhaust of solvents, clean benches and in the chemical and pulp industry
- Powered by specially constructed, high standard motors
- Maintenance free and very reliable
- Compact and easy to install

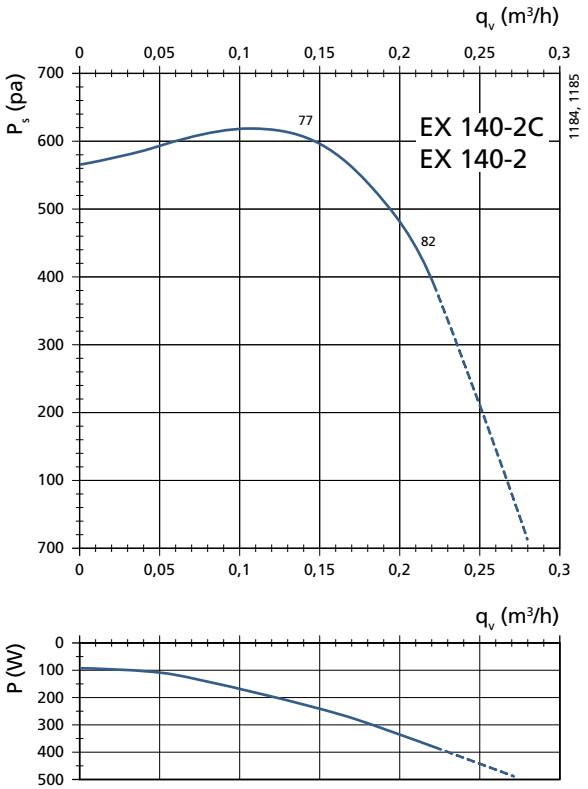
The motors are specially made EX motors.

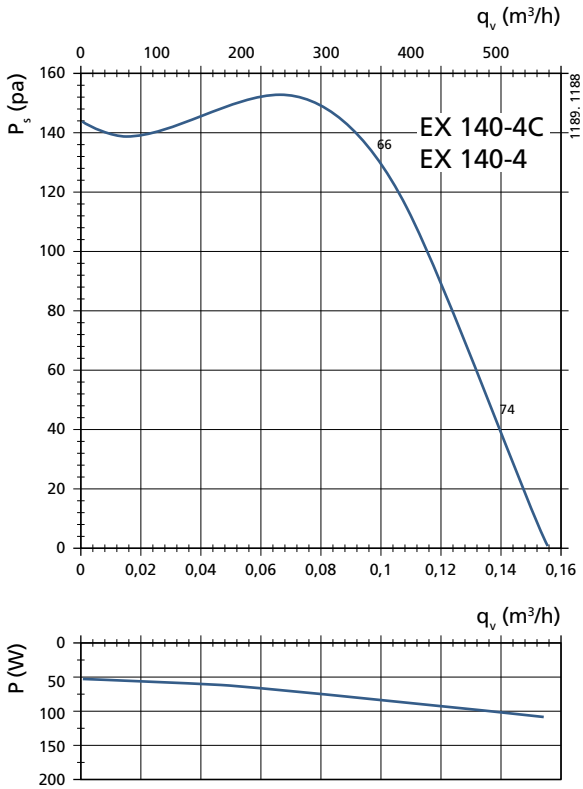
The fan cover is cast in silumin and the impellers are made in accordance with SS EN 50014 and SS EN 50019. Models with
improved safety are approved according to EEx e II T3.

*Please note that the fans in this range are not speed controllable.*

| Type | | EX 140-4C | EX 140-2C | EX 140-4 | EX 140-2 |
|---|---|---|---|---|---|
| voltage/Frequency | 50 Hz | 230 V~ | 230 V~ | 400 V~ | 400 V~ |
| Input | kW | 0,11 | 0,39 | 0,11 | 0,45 |
| Current | A | 0,56 | 1,80 | 0,37 | 0,83 |
| Air flow | m3/s(m3/h) | 0,15 (555) | 0,22 (800) | 0,16 (560) | 0,26 (920) |
| r.p.m | min-1 | 1475 | 2785 | 1470 | 2800 |
| Ambient temp. | °C | -20 to +40 | -20 to +40 | -20 to +40 | -20 to +40 |
| Sound pressure level | dB(A) | 46 | 59 | 47 | 57 |
| Weight | kg | 7 | 7 | 7 | 7 |
| EX. Capacitor 400V | µF | 10 | 12 | – | – |
| Wiring diagram | | 9 | 9 | 10 | 10 |

# PERFORMANCE DATA




## EX 140-4C

| | | | Mid-frequency band, Hz | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Hz | Tot | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
| $L_{WA}$ Inlet | db(A) | 66 | 41 | 57 | 61 | 62 | 58 | 56 | 50 | 45 |
| $L_{WA}$ Outlet | db(A) | 67 | 41 | 60 | 59 | 63 | 60 | 55 | 51 | 47 |
| $L_{WA}$ Surrounding | db(A) | 53 | 32 | 41 | 37 | 42 | 50 | 47 | 45 | 37 |

Conditions at measurement: $q_v$ = 0,10m³/s, $P_t$ = 168 Pa

## EX 140-2C

| | | | Mid-frequency band, Hz | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Hz | Tot | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
| $L_{WA}$ Inlet | db(A) | 77 | 54 | 67 | 73 | 70 | 66 | 68 | 51 | 57 |
| $L_{WA}$ Outlet | db(A) | 79 | 65 | 69 | 71 | 74 | 69 | 71 | 63 | 61 |
| $L_{WA}$ Surrounding | db(A) | 66 | 32 | 39 | 43 | 54 | 60 | 60 | 61 | 50 |

Conditions at measurement: $q_v$ = 0,14m³/s, $P_t$ = 690 Pa

## EX 140-4

| | | | Mid-frequency band, Hz | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Hz | Tot | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
| $L_{WA}$ Inlet | db(A) | 66 | 43 | 53 | 61 | 61 | 58 | 56 | 51 | 45 |
| $L_{WA}$ Outlet | db(A) | 66 | 40 | 54 | 58 | 62 | 59 | 53 | 48 | 43 |
| $L_{WA}$ Surrounding | db(A) | 54 | 28 | 27 | 27 | 38 | 52 | 48 | 44 | 38 |

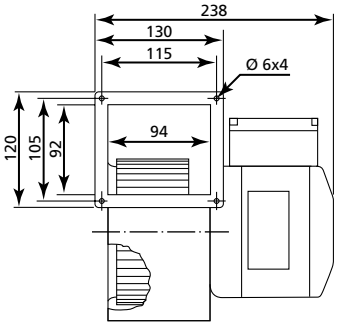
Conditions at measurement: $q_v$ = 0,10m³/s, $P_t$ = 167 Pa

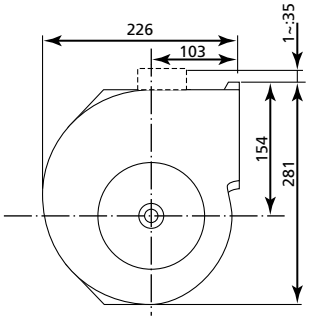
## EX 140-2

| | | | Mid-frequency band, Hz | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Hz | Tot | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
| $L_{WA}$ Inlet | db(A) | 77 | 53 | 69 | 73 | 72 | 68 | 69 | 63 | 60 |
| $L_{WA}$ Outlet | db(A) | 79 | 65 | 71 | 71 | 75 | 70 | 71 | 64 | 62 |
| $L_{WA}$ Surrounding | db(A) | 64 | 32 | 42 | 42 | 55 | 61 | 58 | 51 | 49 |

Conditions at measurement: $q_v$ = 0,16m³/s, $P_t$ = 698 Pa

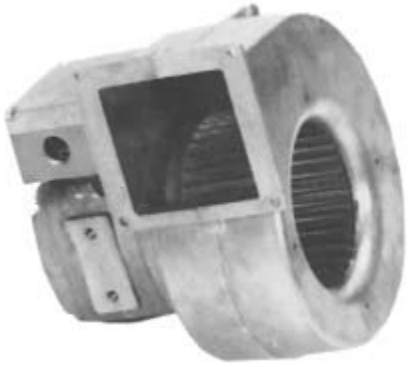
***NB!*** *The fan diagrams show the total sound power level, $L_{WA}$ at the fan inlet only.*



# EX-180

900 m³/h



- Tested and approved according to IEN
- Suitable for battery charging stations, exhaust of solvents, clean benches and in the chemical and pulp industry
- Powered by specially constructed, high standard motors
- Maintenance free and very reliable
- Compact and easy to install

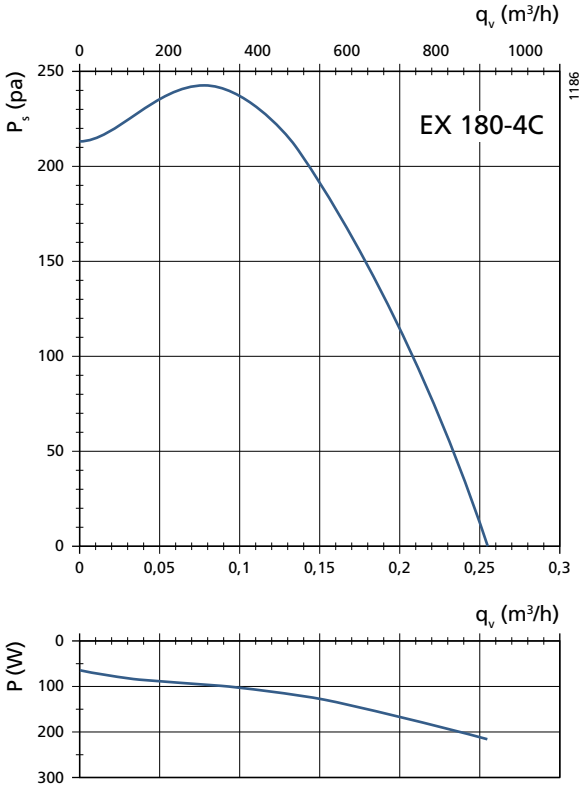
The motors are specially made EX motors.

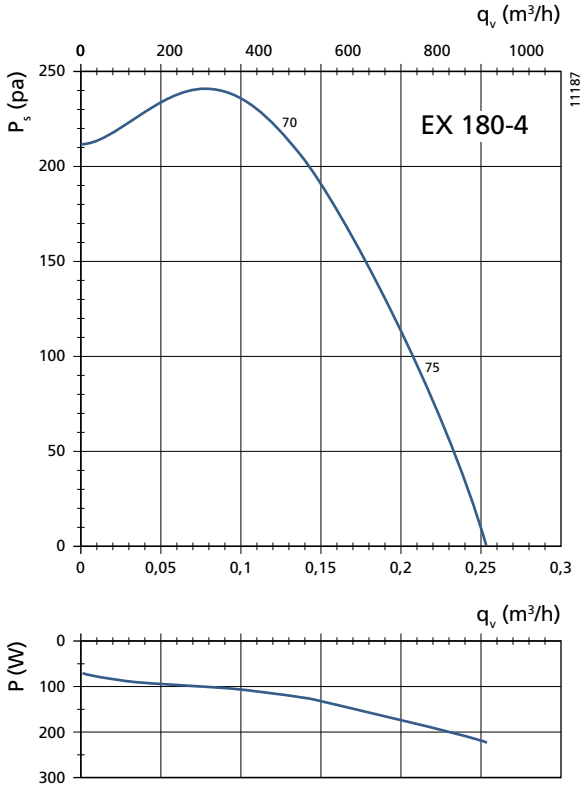
The fan cover is cast in silumin and the impellers are made in accordance with SS EN 50014 and SS EN 50019. Models with improved safety are approved according to EEx e II T3.

*Please note that the fans in this range are not speed controllable.*

| Type | | EX 140-4C | EX 140-2C |
|---|---|---|---|
| voltage/Frequency | 50 Hz | 230 V~ | 400 V~ |
| Input | kW | 0,21 | 0,20 |
| Current | A | 0,95 | 1,44 |
| Air flow | m3/s(m3/h) | 0,25 (890) | 0,26 (920) |
| r.p.m | min-1 | 1420 | 1430 |
| Ambient temp. | °C | -20 to +40 | -20 to +40 |
| Sound pressure level | dB(A) | 48 | 46 |
| Weight | kg | 8 | 7 |
| EX. Capacitor 400V | µF | 10 | – |
| Wiring diagram | | 9 | 10 |

# PERFORMANCE DATA




## EX 180-4C

| | | | Mid-frequency band, Hz | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Hz | Tot | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
| $L_{WA}$ Inlet | db(A) | 70 | 46 | 59 | 64 | 65 | 62 | 58 | 55 | 48 |
| $L_{WA}$ Outlet | db(A) | 69 | 43 | 58 | 62 | 65 | 63 | 56 | 53 | 47 |
| $L_{WA}$ Surrounding | db(A) | 55 | 20 | 39 | 37 | 41 | 52 | 51 | 43 | 32 |
| Conditions at measurement: $q_v$ = 0,12m³/s, $P_t$ = 245 Pa | | | | | | | | | | |

## EX 180-4

| | | | Mid-frequency band, Hz | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Hz | Tot | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
| $L_{WA}$ Inlet | db(A) | 70 | 42 | 57 | 65 | 65 | 62 | 57 | 54 | 49 |
| $L_{WA}$ Outlet | db(A) | 70 | 48 | 57 | 65 | 66 | 63 | 57 | 53 | 49 |
| $L_{WA}$ Surrounding | db(A) | 53 | 23 | 36 | 33 | 41 | 50 | 47 | 43 | 39 |
| Conditions at measurement: $q_v$ = 0,13m³/s, $P_t$ = 241 Pa | | | | | | | | | | |

***NB!*** *The fan diagrams show the total sound power level, $L_{WA}$ at the fan inlet only.*