# AIRFLOW <br> LOW PRESSURE ROOTS BLOWER 



## Theory

ABL is a displacement blower, the pressure can be adjusted according to the requirement of the user in allowing range. There are two impellers in the blower body which rotate in the opposite direction, in order to let the impeller rotate, there are some tin gaps between the impeller to body, impeller to impeller. When the impeller rotates through the suction inlet, it can gather an amount of air between the body and impeller, then the impeller go on rotating, and the air will be pressured,


## Features

- Wide range of capacity and pressure.

Calibre: $50 \mathrm{~mm}-300 \mathrm{~mm}\left(2^{\prime \prime}-12^{\prime \prime}\right)$
Capacity: 0.82-127 m³/min (29-4482CFM)
Pressure: The pressure up to $6000 \mathrm{mmAq}\left(0.6 \mathrm{kgf} / \mathrm{cm}^{2}\right)$

- Delivers completely oil-free air.
- Low oscillation and low noise by dynamic balance which revised by computer.
- Smaller change in capacity against change in pressure.
- High efficiency due to spedial impeller design, great air-delivery low power.
- Simpler and solider structure, less trouble.
- Highest quality pilot \& accurate great applied, long life and low noise assured.
- Standardized product with strict quality control.
- Our impeller has used the most advanced technic, one time for all working process of the six-shaft method, to enhance the precision of leave wheel.


## Externality Construction



| NO. | NAME |
| :---: | :---: |
| 1 | Blower Body |
| 2 | Motor |
| 3 | Foundation |
| 4 | Pulley |
| 5 | Driving Belt |
| 6 | Belt Cover |
| 7 | Inlet Silencer |
| 8 | Rain Cover |
| 9 | Check Valve |
| 10 | Gauge Pipe |
| 11 | Outlet Pressure Gauge |
| 12 | T-Joint |
| 13 | Safety Valve |
| 14 | Outlet Silencer |

## Type Description



DIAMETER (mm)

LOW PRESSURE THREE-LOBE ROOTS BLOWER

Construction

| NO. | NAME | MATERIAL |
| :---: | :---: | :---: |
| 1 | Casing | HT250 |
| 2 | Bearing Housing | HT250 |
| 3 | Oil Box | HT250 |
| 4 | Oil Splash | Q235 |
| 5 | Bearing Washer | Q235 |
| 6 | Framework Oil Seal | Viton |
| 7 | Pulley | HT250 |
| 8 | Drive Rotor | Assembly |
| 9 | Driven Rotor | Assembly |
| 10 | V-Ring | Viton |
| 11 | Bearing | SUJ2 |
| 12 | Gear Box | SCM435 |
| 13 | Lock Washer | Q235 |
| 14 | Lock Nut | 45 |
| 15 | Gear Box | HT250 |
| 16 | Lubrication Plug | 45 |
| 17 | Oil Gauge | Assembly |
| 18 | Purge Plug | 45 |



## Conversion Table

| PRESSURE | atm | kPa | bar | $\mathrm{lbt} / \mathrm{in}^{2}$ (psi) | kgf/ $\mathrm{cm}^{2}$ | in $\mathbf{H g}$ | ftAq | $\mathbf{m m H g}$ (Torr) | mmAq |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 atm | 1 | 101.325 | 1.01325 | 14.696 | 1.0333 | 29.921 | 33.914 | 760 | 10333 |
| 1 kPa | 0.0099 | 1 | 0.01 | 0.145 | 0.0101 | 0.295 | 0.335 | 7.5 | 102 |
| 1 bar | 0.9869 | 100 | 1 | 14.504 | 1.0198 | 29.53 | 33.47 | 750 | 10198 |
| $1 \mathrm{lbt} / \mathrm{in}^{2}$ (psi) | 0.068 | 6.894 | 0.0689 | 1 | 0.0703 | 2.036 | 2.308 | 51.71 | 703 |
| $1 \mathrm{kgf} / \mathrm{cm}^{2}$ | 0.968 | 98.062 | 0.981 | 14.228 | 1 | 28.96 | 32.82 | 735.53 | 10000 |
| 1 in Hg | 0.0334 | 3.3863 | 0.0339 | 0.491 | 0.0345 | 1 | 1.133 | 25.4 | 345.3 |
| 1 ftAq | 0.0295 | 2.99 | 0.0299 | 0.434 | 0.0305 | 0.882 | 1 | 22.42 | 304.8 |
| 1 mmHg (Torr) | 0.013 | 0.1338 | 0.00138 | 0.019 | 0.0014 | 0.04 | 0.045 | 1 | 13.6 |
| 1 mmAq | 0.000097 | 0.0098 | 0.000098 | 0.0014 | 0.0001 | 0.003 | 0.0033 | 0.074 | 1 |


| CAPACITY | $\mathbf{m}^{\mathbf{3}} / \mathbf{m i n}$ | $\mathbf{1} / \mathbf{m i n}$ | $\mathbf{c m}^{\mathbf{3}} / \mathbf{s}$ | $\mathbf{i n}^{\mathbf{3}} / \mathbf{s}$ | $\mathbf{f t}^{3} / \mathbf{m i n}(\mathbf{c f m})$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1 ~ m}^{\mathbf{3}} / \mathbf{m i n}$ | 1 | 1000 | 16667 | 1016 | 35.288 |
| $\mathbf{1} \mathbf{~ I} \mathbf{m i n}$ | 0.001 | 1 | 16.67 | 1.02 | 0.0353 |
| $\mathbf{1 ~ c m}^{\mathbf{3}} / \mathbf{s}$ | 0.00006 | 0.06 | 1 | 0.061 | 0.02 |
| $\mathbf{1} \mathbf{~ i n}^{\mathbf{3}} / \mathbf{s}$ | 0.00098 | 0.983 | 16.39 | 1 | 0.035 |
| $\mathbf{1} \mathbf{~ f t}^{3} / \mathbf{m i n}(\mathbf{c f m})$ | 0.028 | 28.32 | 471.95 | 28.8 | 1 |

Pressure Conversion Foumula
$1 \mathrm{kPa}=1000 \mathrm{~Pa}=1000 \mathrm{~N} / \mathrm{m}^{2}$
$1 \mathrm{mbar}=10.198 \mathrm{mmAq}$
$1 \mathrm{mmHg}($ Torr $)=133.8 \mathrm{~Pa}$

## Working Directions of Performance Table

- The performance parameter indicate the type, caliber, revolutions, discharge pressure, actual inlet air capacity and shaft power of the blower.
- The performance parameter indicate the air quantity in standard suction condition (temperature $20^{\circ} \mathrm{C}$, absolute pressure $1.0332 \mathrm{kgf} / \mathrm{cm}^{2}$ and relative humidity $65 \%$.
- The reference air capacity (temperature $0^{\circ} \mathrm{C}$ and absolute pressure $1.033 \mathrm{kgf} / \mathrm{cm}^{2}$ ) is generally indicated in $\mathrm{Nm}^{3} / \mathrm{min}$.
- The inlet air capacity can be converted as following
- The motor power is 1.1-1.3 multiple of shaft power.
- The error of the parameter is about $5 \%$.

$$
Q_{2}=Q_{1} \times \frac{P_{1}}{P_{2}} \times \frac{273+T_{2}}{273+T_{1}}
$$

$\mathrm{Q}_{1}$ : Air capacity ( $\mathrm{m}^{3} / \mathrm{min}$ ) based on absolute pressure $\mathrm{P}_{1}(\mathrm{mmAq})$ and temperature $\mathrm{T}_{1}\left({ }^{\circ} \mathrm{C}\right)$
$\mathrm{Q}_{2}$ : Air capacity ( $\mathrm{m}^{3} / \mathrm{min}$ ) based on absolute pressure $\mathrm{P}_{2}(\mathrm{~mm} \Lambda \mathrm{q})$ and temperature $\mathrm{T}_{2}\left({ }^{\circ} \mathrm{C}\right)$

## Performance Parameters

$\mathrm{Qs}_{\mathrm{s}}=$ Inlet air flow $\left(\mathrm{m}^{3} / \mathrm{minin}\right)$.
$\mathrm{La}=$ Power (kW). (S.F. 1.15)

| Type | RPM | 1000 mmAq |  | 2000mmAq |  | 3000mmAq |  | 4000mmAq |  | 5000 mmAq |  | 6000 mmAq |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Qs | La | Qs | La | Qs | La | Qs | La | Qs | La | Qs | La |
| ABL-40 | 1500 | 0.51 | 0.30 | 0.47 | 0.39 | 0.43 | 0.48 | 0.39 | 0.58 | 0.35 | 0.67 | 0.31 | 0.76 |
|  | 1750 | 0.59 | 0.36 | 0.55 | 0.46 | 0.50 | 0.56 | 0.46 | 0.67 | 0.42 | 0.77 | 0.38 | 0.87 |
|  | 2000 | 0.67 | 0.40 | 0.62 | 0.53 | 0.57 | 0.64 | 0.52 | 0.76 | 0.47 | 0.89 | 0.42 | 1.00 |
|  | 2300 | 0.77 | 0.46 | 0.71 | 0.60 | 0.65 | 0.74 | 0.59 | 0.87 | 0.53 | 1.01 | 0.47 | 1.15 |
|  | 2600 | 0.89 | 0.74 | 0.83 | 0.87 | 0.77 | 1.01 | 0.71 | 1.15 | 0.65 | 1.29 | 0.59 | 1.43 |
|  | 3300 | 1.03 | 1.06 | 0.97 | 1.20 | 0.91 | 1.33 | 0.85 | 1.47 | 0.79 | 1.61 | 0.73 | 1.75 |
| ABL-50 | 850 | 1.03 | 0.48 | 0.90 | 0.74 | 0.80 | 0.98 | 0.72 | 1.23 | 0.64 | 1.48 | - | - |
|  | 950 | 1.19 | 0.54 | 1.06 | 0.82 | 0.96 | 1.09 | 0.87 | 1.38 | 0.80 | 1.66 | - | - |
|  | 1050 | 1.34 | 0.60 | 1.21 | 0.91 | 1.11 | 1.22 | 1.03 | 1.52 | 0.95 | 1.83 | - | - |
|  | 1150 | 1.50 | 0.66 | 1.37 | 0.99 | 1.27 | 1.33 | 1.19 | 1.67 | 1.11 | 2.00 | - | - |
|  | 1250 | 1.66 | 0.71 | 1.53 | 1.08 | 1.43 | 1.45 | 1.34 | 1.82 | 1.27 | 2.19 | 1.20 | 2.55 |
|  | 1350 | 1.81 | 0.77 | 1.68 | 1.16 | 1.58 | 1.56 | 1.50 | 1.96 | 1.43 | 2.36 | 1.36 | 2.75 |
|  | 1450 | 1.97 | 0.82 | 1.84 | 1.25 | 1.74 | 1.68 | 1.66 | 2.10 | 1.58 | 2.53 | 1.51 | 2.96 |
|  | 1550 | 2.13 | 0.87 | 2.00 | 1.33 | 1.90 | 1.79 | 1.81 | 2.24 | 1.74 | 2.70 | 1.67 | 3.16 |
|  | 1650 | 2.28 | 0.93 | 2.15 | 1.43 | 2.05 | 1.91 | 1.97 | 2.39 | 1.90 | 2.88 | 1.83 | 3.37 |
|  | 1750 | 2.44 | 0.99 | 2.31 | 1.51 | 2.21 | 2.02 | 2.13 | 2.54 | 2.05 | 3.05 | 1.99 | 3.57 |
|  | 1850 | 2.60 | 1.05 | 2.47 | 1.60 | 2.37 | 2.14 | 2.28 | 2.68 | 2.21 | 3.23 | 2.14 | 3.77 |
|  | 1950 | 2.75 | 1.10 | 2.62 | 1.68 | 2.52 | 2.25 | 2.44 | 2.83 | 2.37 | 3.40 | 2.30 | 3.98 |
| ABL-65 | 850 | 1.82 | 0.70 | 1.65 | 1.12 | 1.53 | 1.54 | 1.42 | 1.96 | 1.32 | 2.37 | 1.23 | 2.78 |
|  | 950 | 2.08 | 0.78 | 1.92 | 1.25 | 1.79 | 1.71 | 1.68 | 2.19 | 1.58 | 2.65 | 1.49 | 3.12 |
|  | 1050 | 2.35 | 0.86 | 2.18 | 1.38 | 2.05 | 1.90 | 1.94 | 2.42 | 1.84 | 2.93 | 1.76 | 3.44 |
|  | 1150 | 2.61 | 0.94 | 2.44 | 1.52 | 2.31 | 2.08 | 2.20 | 2.65 | 2.10 | 3.21 | 2.02 | 3.77 |
|  | 1250 | 2.87 | 1.04 | 2.70 | 1.64 | 2.57 | 2.25 | 2.46 | 2.88 | 2.36 | 3.48 | 2.28 | 4.09 |
|  | 1350 | 3.13 | 1.12 | 2.96 | 1.77 | 2.83 | 2.44 | 2.72 | 3.11 | 2.63 | 3.76 | 2.54 | 4.43 |
|  | 1450 | 3.39 | 1.20 | 3.22 | 1.91 | 3.09 | 2.62 | 2.98 | 3.34 | 2.89 | 4.04 | 2.80 | 4.75 |
|  | 1550 | 3.65 | 1.28 | 3.48 | 2.04 | 3.35 | 2.79 | 3.24 | 3.57 | 3.15 | 4.32 | 3.06 | 5.08 |
|  | 1650 | 3.91 | 1.36 | 3.74 | 2.17 | 3.62 | 2.98 | 3.51 | 3.80 | 3.41 | 4.60 | 3.32 | 5.41 |
|  | 1750 | 4.17 | 1.45 | 4.01 | 2.30 | 3.88 | 3.16 | 3.77 | 4.03 | 3.67 | 4.88 | 3.58 | 5.74 |
|  | 1850 | 4.44 | 1.53 | 4.27 | 2.44 | 4.14 | 3.35 | 4.03 | 4.26 | 3.93 | 5.15 | 3.85 | 6.06 |
|  | 1950 | 4.70 | 1.61 | 4.53 | 2.56 | 4.40 | 3.52 | 4.29 | 4.47 | 4.19 | 5.44 | 4.11 | 6.39 |

## Performance Parameters

$\mathrm{Os}=$ Inlet air flow $\left(\mathrm{m}^{3} / \mathrm{min}\right)$. $\mathrm{La}=$ Power (kW). (S.F. 1.15)

| Type | RPM | 1000mmAq |  | 2000mmAq |  | 3000mmAq |  | 4000 mmAq |  | 5000mmAq |  | $6000 \mathrm{mmAq}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Qs | La | Qs | La | Qs | La | Qs | La | Qs | La | Qs | La |
| ABL-80 | 850 | 2.39 | 0.91 | 2.17 | 1.36 | 2.01 | 1.91 | 1.87 | 2.45 | 1.75 | 2.99 | 1.64 | 3.53 |
|  | 950 | 2.72 | 1.01 | 2.51 | 1.52 | 2.35 | 2.13 | 2.21 | 2.74 | 2.09 | 3.35 | 1.98 | 3.94 |
|  | 1050 | 3.06 | 1.12 | 2.85 | 1.68 | 2.69 | 2.36 | 2.55 | 3.02 | 2.43 | 3.69 | 2.32 | 4.36 |
|  | 1150 | 3.40 | 1.22 | 3.19 | 1.84 | 3.03 | 2.58 | 2.89 | 3.31 | 2.77 | 4.05 | 2.66 | 4.77 |
|  | 1250 | 3.74 | 1.33 | 3.53 | 2.00 | 3.37 | 2.81 | 3.23 | 3.60 | 3.11 | 4.39 | 3.00 | 5.20 |
|  | 1350 | 4.08 | 1.44 | 3.87 | 2.16 | 3.71 | 3.02 | 3.57 | 3.89 | 3.45 | 4.75 | 3.34 | 5.61 |
|  | 1450 | 4.42 | 1.54 | 4.21 | 2.32 | 4.05 | 3.25 | 3.91 | 4.17 | 3.79 | 5.09 | 3.68 | 6.03 |
|  | 1550 | 4.76 | 1.64 | 4.55 | 2.48 | 4.39 | 3.47 | 4.25 | 4.46 | 4.13 | 5.45 | 4.02 | 6.44 |
|  | 1650 | 5.10 | 1.76 | 4.89 | 2.65 | 4.73 | 3.70 | 4.59 | 4.75 | 4.47 | 5.81 | 4.36 | 6.85 |
|  | 1750 | 5.44 | 1.86 | 5.23 | 2.81 | 5.07 | 3.92 | 4.93 | 5.04 | 4.81 | 6.15 | 4.70 | 7.27 |
|  | 1850 | 5.78 | 1.97 | 5.57 | 2.97 | 5.41 | 4.15 | 5.27 | 5.32 | 5.15 | 6.51 | 5.04 | 7.68 |
|  | 1950 | 6.12 | 2.07 | 5.91 | 3.13 | 5.75 | 4.37 | 5.61 | 5.61 | 5.49 | 6.85 | 5.38 | 8.11 |
| ABL-100 | 800 | 4.12 | 1.50 | 3.84 | 2.40 | 3.63 | 3.30 | 3.45 | 4.20 | 3.29 | 5.11 | 3.14 | 6.00 |
|  | 900 | 4.72 | 1.69 | 4.44 | 2.70 | 4.23 | 3.71 | 4.04 | 4.73 | 3.88 | 5.74 | 3.74 | 6.75 |
|  | 1000 | 5.32 | 1.87 | 5.04 | 3.00 | 4.83 | 4.13 | 4.64 | 5.26 | 4.48 | 6.38 | 4.34 | 7.50 |
|  | 1100 | 5.92 | 2.06 | 5.64 | 3.30 | 5.43 | 4.54 | 5.24 | 5.77 | 5.08 | 7.02 | 4.94 | 8.26 |
|  | 1200 | 6.52 | 2.25 | 6.24 | 3.60 | 6.02 | 4.96 | 5.84 | 6.30 | 5.68 | 7.65 | 5.54 | 9.00 |
|  | 1300 | 7.12 | 2.44 | 6.84 | 3.90 | 6.62 | 5.36 | 6.44 | 6.83 | 6.28 | 8.29 | 6.14 | 9.75 |
|  | 1400 | 7.72 | 2.62 | 7.44 | 4.20 | 7.22 | 5.77 | 7.04 | 7.35 | 6.88 | 8.92 | 6.74 | 10.50 |
|  | 1500 | 8.32 | 2.82 | 8.04 | 4.50 | 7.82 | 6.19 | 7.64 | 7.88 | 7.48 | 9.57 | 7.33 | 11.26 |
|  | 1600 | 8.92 | 3.00 | 8.64 | 4.81 | 8.42 | 6.60 | 8.24 | 8.41 | 8.08 | 10.20 | 7.93 | 12.01 |
|  | 1650 | 9.22 | 3.09 | 8.94 | 4.96 | 8.72 | 6.81 | 8.54 | 8.67 | 8.38 | 10.52 | 8.23 | 12.37 |
|  | 1750 | 9.82 | 3.28 | 9.54 | 5.26 | 9.32 | 7.22 | 9.14 | 9.19 | 8.98 | 11.16 | 8.83 | 13.13 |
|  | 1850 | 10.42 | 3.47 | 10.13 | 5.55 | 9.92 | 7.64 | 9.74 | 9.72 | 9.58 | 11.80 | 9.43 | 13.88 |
|  | 1950 | 11.01 | 3.66 | 10.73 | 5.85 | 10.52 | 8.05 | 10.34 | 10.25 | 10.18 | 12.43 | 10.03 | 14.63 |
| ABL-125 | 800 | 5.79 | 2.28 | 5.40 | 3.53 | 5.10 | 4.80 | 4.85 | 6.05 | 4.63 | 7.31 | 4.43 | 8.58 |
|  | 900 | 6.62 | 2.55 | 6.24 | 3.98 | 5.94 | 5.39 | 5.69 | 6.81 | 5.47 | 8.22 | 5.27 | 9.65 |
|  | 1000 | 7.46 | 2.84 | 7.08 | 4.42 | 6.78 | 5.99 | 6.53 | 7.57 | 6.31 | 9.14 | 6.11 | 10.72 |
|  | 1100 | 8.30 | 3.13 | 7.91 | 4.85 | 7.62 | 6.59 | 7.37 | 8.33 | 7.15 | 10.05 | 6.95 | 11.79 |
|  | 1200 | 9.14 | 3.40 | 8.75 | 5.30 | 8.46 | 7.19 | 8.21 | 9.09 | 7.99 | 10.97 | 7.79 | 12.86 |
|  | 1300 | 9.98 | 3.69 | 9.59 | 5.74 | 9.30 | 7.79 | 9.04 | 9.83 | 8.82 | 11.88 | 8.62 | 13.94 |
|  | 1400 | 10.82 | 3.98 | 10.43 | 6.18 | 10.13 | 8.38 | 9.88 | 10.59 | 9.66 | 12.80 | 9.46 | 15.01 |
|  | 1500 | 11.66 | 4.26 | 11.27 | 6.62 | 10.97 | 8.98 | 10.72 | 11.35 | 10.50 | 13.71 | 10.30 | 16.08 |
|  | 1600 | 12.50 | 4.54 | 12.11 | 7.06 | 11.81 | 9.58 | 11.56 | 12.11 | 11.34 | 14.63 | 11.14 | 17.15 |
|  | 1650 | 12.92 | 4.68 | 12.53 | 7.28 | 12.23 | 9.89 | 11.98 | 12.49 | 11.76 | 15.09 | 11.56 | 17.69 |
|  | 1750 | 13.75 | 4.97 | 13.37 | 7.73 | 13.07 | 10.49 | 12.82 | 13.24 | 12.60 | 16.00 | 12.40 | 18.76 |
|  | 1850 | 14.59 | 5.26 | 14.21 | 8.17 | 13.91 | 11.09 | 13.66 | 14.00 | 13.44 | 16.92 | 13.24 | 19.83 |
|  | 1950 | 15.43 | 5.53 | 15.04 | 8.61 | 14.75 | 11.68 | 14.50 | 14.75 | 14.28 | 17.83 | 14.08 | 20.90 |


| Type | RPM | 1000 mmAq |  | 2000mmAq |  | 3000 mmAq |  | 4000 mmAq |  | 5000 mmAq |  | 6000 mmAq |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Qs | La | Qs | La | Qs | La | Qs | La | Qs | La | Qs | La |
| ABL-150 | 780 | 12.64 | 3.82 | 12.08 | 6.11 | 11.64 | 8.39 | 11.27 | 10.68 | 10.95 | 12.97 | 10.66 | 15.26 |
|  | 830 | 13.54 | 4.06 | 12.97 | 6.50 | 12.54 | 8.93 | 12.17 | 11.37 | 11.85 | 13.81 | 11.55 | 16.24 |
|  | 880 | 14.44 | 4.30 | 13.87 | 6.89 | 13.44 | 9.47 | 13.07 | 12.05 | 12.75 | 14.64 | 12.45 | 27.22 |
|  | 930 | 15.34 | 4.55 | 14.77 | 7.28 | 14.34 | 10.01 | 13.97 | 12.74 | 13.64 | 15.47 | 13.35 | 18.20 |
|  | 990 | 16.42 | 4.84 | 15.85 | 7.75 | 15.41 | 10.65 | 15.05 | 13.56 | 14.72 | 16.47 | 14.43 | 19.37 |
|  | 1050 | 17.50 | 5.14 | 16.93 | 8.22 | 16.49 | 11.30 | 16.12 | 14.38 | 15.80 | 17.46 | 15.51 | 20.55 |
|  | 1110 | 18.57 | 5.43 | 18.01 | 8.69 | 17.57 | 11.95 | 17.20 | 15.20 | 16.88 | 18.46 | 16.59 | 21.72 |
|  | 1180 | 19.83 | 5.77 | 19.26 | 9.24 | 18.83 | 12.70 | 18.46 | 16.16 | 18.14 | 19.63 | 17.84 | 23.09 |
|  | 1250 | 21.09 | 6.11 | 20.52 | 9.78 | 20.09 | 13.45 | 19.72 | 17.12 | 19.39 | 20.79 | 19.10 | 24.46 |
|  | 1320 | 22.35 | 6.46 | 21.78 | 10.33 | 21.34 | 14.21 | 20.98 | 18.08 | 20.65 | 21.96 | 20.36 | 25.83 |
|  | 1390 | 23.61 | 6.80 | 23.04 | 10.88 | 22.60 | 14.96 | 22.23 | 19.04 | 21.91 | 23.12 | 21.62 | 27.20 |
|  | 1470 | 25.04 | 7.19 | 24.48 | 11.51 | 24.04 | 15.82 | 23.67 | 20.14 | 23.35 | 24.45 | 23.06 | 28.76 |
|  | 1560 | 26.66 | 7.63 | 26.09 | 12.21 | 25.66 | 16.79 | 25.29 | 21.37 | 24.97 | 25.95 | 24.67 | 30.53 |
|  | 1650 | 28.28 | 8.07 | 27.71 | 12.91 | 27.27 | 17.76 | 26.91 | 22.60 | 26.58 | 27.44 | 26.29 | 32.29 |
|  | 1750 | 30.08 | 8.56 | 29.51 | 13.70 | 29.07 | 18.83 | 28.70 | 23.97 | 28.38 | 29.11 | 28.09 | 34.24 |
|  | 1850 | 31.87 | 9.05 | 31.30 | 14.48 | 30.87 | 19.91 | 30.50 | 25.34 | 30.18 | 30.77 | 29.88 | 36.20 |
| ABL-200 | 780 | 23.65 | 7.06 | 22.70 | 9.52 | 21.97 | 13.76 | 21.36 | 17.99 | 20.81 | 22.23 | 20.32 | 26.47 |
|  | 830 | 25.31 | 7.52 | 24.36 | 10.13 | 23.63 | 14.64 | 23.02 | 19.15 | 22.48 | 23.66 | 21.99 | 28.17 |
|  | 880 | 26.98 | 7.97 | 26.03 | 10.74 | 25.30 | 15.52 | 24.68 | 20.30 | 24.14 | 25.08 | 23.65 | 29.86 |
|  | 930 | 28.64 | 8.42 | 27.69 | 11.35 | 26.96 | 16.40 | 26.34 | 21.45 | 25.80 | 26.51 | 25.31 | 31.56 |
|  | 990 | 30.63 | 8.96 | 29.68 | 12.08 | 28.95 | 17.46 | 28.34 | 2.84 | 27.80 | 28.22 | 27.31 | 33.60 |
|  | 1050 | 32.63 | 9.51 | 31.68 | 12.81 | 30.95 | 18.52 | 30.34 | 24.22 | 29.79 | 29.93 | 29.30 | 35.63 |
|  | 1110 | 34.63 | 10.05 | 33.68 | 13.55 | 32.95 | 19.58 | 32.33 | 25.61 | 31.79 | 31.64 | 31.30 | 37.67 |
|  | 1180 | 36.95 | 10.68 | 36.00 | 14.40 | 35.27 | 20.81 | 34.66 | 27.22 | 34.12 | 33.63 | 33.63 | 40.04 |
|  | 1250 | 39.28 | 11.32 | 38.33 | 15.26 | 37.60 | 22.05 | 36.99 | 28.84 | 36.45 | 35.63 | 35.96 | 42.42 |
|  | 1320 | 41.61 | 11.95 | 40.66 | 16.11 | 39.93 | 23.28 | 39.32 | 30.45 | 38.77 | 37.62 | 38.28 | 44.79 |
|  | 1390 | 43.94 | 12.59 | 42.99 | 16.96 | 42.26 | 24.52 | 41.64 | 32.07 | 41.10 | 39.62 | 40.61 | 47.17 |
|  | 1470 | 46.60 | 13.31 | 45.65 | 17.94 | 44.92 | 25.93 | 44.31 | 33.91 | 43.76 | 41.90 | 43.27 | 49.88 |
|  | 1560 | 49.59 | 14.12 | 48.64 | 19.04 | 47.91 | 27.51 | 47.30 | 35.99 | 46.76 | 44.46 | 46.27 | 52.94 |
|  | 1650 | 52.59 | 14.94 | 51.64 | 20.14 | 50.91 | 29.10 | 50.29 | 38.06 | 49.75 | 47.03 | 49.26 | 55.99 |
|  | 1750 | 55.91 | 15.85 | 54.96 | 21.36 | 54.23 | 30.86 | 53.62 | 40.37 | 53.08 | 49.86 | 52.59 | 59.39 |
|  | 1850 | 59.24 | 16.75 | 58.29 | 22.58 | 57.56 | 32.63 | 56.94 | 42.68 | 56.40 | 52.73 | 55.91 | 62.78 |
| ABL-250 | 830 | 37.22 | 10.80 | 36.20 | 17.28 | 35.42 | 23.75 | 34.77 | 30.23 | 34.19 | 36.71 | 33.67 | 43.19 |
|  | 880 | 39.61 | 11.45 | 38.59 | 18.32 | 37.81 | 25.19 | 37.16 | 32.05 | 36.58 | 38.92 | 36.06 | 45.79 |
|  | 930 | 42.00 | 12.10 | 40.98 | 19.36 | 40.20 | 26.62 | 39.55 | 33.88 | 38.97 | 41.13 | 38.45 | 48.39 |
|  | 990 | 44.86 | 12.88 | 43.85 | 20.61 | 43.07 | 28.33 | 42.41 | 36.06 | 41.84 | 43.79 | 41.31 | 51.52 |
|  | 1050 | 47.73 | 13.66 | 46.72 | 21.86 | 45.94 | 30.05 | 45.28 | 38.25 | 44.70 | 46.44 | 44.18 | 54.64 |
|  | 1110 | 50.60 | 14.44 | 49.58 | 23.10 | 48.81 | 31.77 | 48.15 | 40.43 | 47.57 | 49.10 | 47.05 | 57.76 |
|  | 1180 | 53.94 | 15.35 | 52.93 | 24.56 | 52.15 | 33.77 | 51.49 | 42.98 | 50.92 | 52.19 | 50.39 | 61.40 |
|  | 1250 | 57.29 | 16.26 | 56.27 | 26.02 | 55.50 | 35.77 | 54.84 | 45.53 | 54.26 | 55.29 | 53.74 | 65.05 |
|  | 1320 | 60.63 | 17.17 | 59.62 | 27.48 | 58.84 | 37.78 | 58.18 | 48.08 | 57.61 | 58.38 | 57.08 | 68.69 |
|  | 1390 | 63.98 | 18.08 | 62.96 | 28.93 | 62.19 | 39.78 | 61.53 | 50.63 | 60.95 | 61.48 | 60.43 | 72.33 |
|  | 1470 | 67.80 | 19.12 | 66.79 | 30.60 | 66.01 | 42.07 | 65.35 | 53.55 | 64.78 | 65.02 | 64.25 | 76.49 |

## Performance Parameters

| Type | RPM | 1000 mmAq |  | 2000 mmAq |  | 3000 mmAq |  | 4000 mmAq |  | 5000mmAq |  | 6000 mmAq |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Qs | La | Qs | La | Qs | La | Qs | La | Qs | La | Qs | La |
| ABL-300 | 620 | 48.68 | 4.34 | 47.02 | 22.94 | 45.75 | 31.55 | 44.68 | 40.15 | 43.73 | 48.75 | 42.88 | 57.36 |
|  | 660 | 52.07 | 15.26 | 50.42 | 24.42 | 49.15 | 33.58 | 48.08 | 42.74 | 47.13 | 51.90 | 46.28 | 61.06 |
|  | 700 | 55.47 | 16.19 | 53.82 | 25.90 | 52.55 | 35.62 | 51.47 | 45.33 | 50.53 | 55.04 | 49.68 | 64.76 |
|  | 740 | 58.87 | 17.11 | 57.21 | 27.38 | 55.94 | 37.65 | 54.87 | 47.92 | 53.93 | 58.19 | 53.08 | 68.46 |
|  | 780 | 62.27 | 18.04 | 60.61 | 28.86 | 59.34 | 39.69 | 58.27 | 50.51 | 57.33 | 61.33 | 56.47 | 72.16 |
|  | 830 | 66.52 | 19.20 | 64.86 | 30.71 | 63.59 | 42.23 | 62.52 | 53.75 | 61.57 | 65.26 | 60.72 | 76.78 |
|  | 880 | 70.76 | 20.35 | 69.11 | 32.56 | 67.84 | 44.77 | 66.77 | 56.99 | 65.82 | 69.20 | 64.97 | 81. |
|  | 930 | 75.01 | 21.51 | 73.36 | 34.41 | 72.09 | 47.32 | 71.01 | 60.22 | 70.07 | 73.13 | 69.22 | 86.03 |
|  | 990 | 80.11 | 22.90 | 78.45 | 36.63 | 77.18 | 50.37 | 76.11 | 64.11 | 75.17 | 77.85 | 74.31 | 91.58 |
|  | 1050 | 85.21 | 24.28 | 83.55 | 38.85 | 82.28 | 53.42 | 81.21 | 67.99 | 80.27 | 82.56 | 79.41 | 97.13 |
|  | 1110 | 90.30 | 25.67 | 88.65 | 41.07 | 87.38 | 56.48 | 86.31 | 71.88 | 85.36 | 87.28 | 84.51 | 102.68 |
|  | 1180 | 96.25 | 27.29 | 94.60 | 43.66 | 93.32 | 60.04 | 92.25 | 76.41 | 91.31 | 92.79 | 90.46 | 109.16 |
|  | 1250 | 102.20 | 28.91 | 100.54 | 46.25 | 99.27 | 63.60 | 98.20 | 80.95 | 97.26 | 98.29 | 96.40 | 115.64 |
|  | 1320 | 108.15 | 30.53 | 106.49 | 48.84 | 105.22 | 67.16 | 104.15 | 85.48 | 103.20 | 103.79 | 102.35 | 122.11 |
|  | 1390 | 114.09 | 32.15 | 112.44 | 51.43 | 111.17 | 70.72 | 110.09 | 90.01 | 109.15 | 109.30 | 108.30 | 128.59 |
|  | 1470 | 120.89 | 34.00 | 119.23 | 54.40 | 117.96 | 74.79 | 116.89 | 95.19 | 115.95 | 115.59 | 115.09 | 135.99 |

## Installation Dimensions



## Anchor Bolt



| Anchor Bolt <br> GB799-88 | A | H | E | GxG | Application Type |
| :---: | :---: | :---: | :---: | :---: | :---: |
| M12 | 160 | 36 | 224 | $100 \times 100$ | ABL-50, 65,80 |
| M16 | 220 | 45 | 275 | $120 \times 120$ | ABL-100, 125, 150 |
| M20 | 300 | 55 | 345 | $150 \times 150$ | ABL-200, 250, 300 |

Note: 1 . The note E on the drawing is the minimum size, it shall be deepedned properly according to the soill condition in the installation place.
2. GxG is the size the preformed holes for the secondary casting.

## Safety Valve



| Type | A | H | Application Type | Weight (kg) |
| :---: | :---: | :---: | :---: | :---: |
| SV1/4" | 25 | 150 | ABL-50, 65, 80 | 1.6 |
| SV2" | 25 | 180 | ABL-100, 125, 150 | 2.5 |
| SV3" | 30 | 250 | ABL-200 | 5.0 |
| SV4" | 25 | 316 | ABL-250, 300 | 8.5 |

## Installation Dimensions



## Check Valve



| Type | $\boldsymbol{\varnothing A}$ | B | ØC | ØD | Weight (kg) | Application Type |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DCV-50 | 25 | 20 | 104 | 52.7 | 1.1 | ABL-50 |
| DCV-65 | 36 | 24 | 124 | 65.9 | 1.4 | ABL-65 |
| DCV-80 | 46 | 24 | 134 | 78.1 | 1.6 | ABL-80 |
| DCV-100 | 67 | 24 | 159 | 102.3 | 2.3 | ABL-100 |
| DCV-125 | 88 | 25 | 190 | 126.6 | 3.4 | ABL-125 |
| DCV-150 | 108 | 26 | 220 | 151 | 5.0 | ABJ-150 |
| DCV-200 | 138 | 28 | 270 | 200 | 10.0 | ABL-200 |
| DCV-250 | 185 | 28 | 335 | 251.4 | 18.0 | ABL-250 |
| DCV-300 | - | 181 | 380 | 300 | 48.0 | ABL-300 |

## Suction Silencer



| Type | A | $\boldsymbol{\sigma B}$ | $\boldsymbol{\sigma C}$ | D | ØE | ØF | n-ØH | Weight (kg) | Application Type |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SS50 | 550 | 140 | 160 | 270 | 120 | 155 | $4-\varnothing 18$ | 11.0 | ABL-50 |
| SS65 | 550 | 165 | 180 | 270 | 140 | 175 | $4-\varnothing 18$ | 14.7 | ABL-65 |
| SS80 | 820 | 210 | 230 | 440 | 150 | 185 | $8-\varnothing 18$ | 25.4 | ABL-80 |
| SS100 | 820 | 240 | 275 | 440 | 175 | 210 | $8-\varnothing 18$ | 28.0 | ABL-100 |
| SS125 | 1310 | 280 | 315 | 690 | 210 | 250 | $8-\varnothing 22$ | 42.0 | ABL-125 |
| SS150 | 1310 | 300 | 345 | 690 | 240 | 280 | $8-\varnothing 22$ | 45.3 | ABL-150 |
| SS200 | 1500 | 400 | 460 | 800 | 290 | 330 | $12-\varnothing 22$ | 67.8 | ABL-200 |
| SS250 | 1700 | 400 | 480 | 900 | 355 | 400 | $12-\varnothing 22$ | 81.2 | ABL-250 |
| SS300 | 1825 | 500 | 600 | 940 | 400 | 445 | $16-\varnothing 22$ | 108.0 | ABL-300 |

## Horizontal Outlet Silencer



| Type | A | ØB | ØE | ØF | n-ØH | Weight (kg) | Application Type |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DS50 | 592 | 140 | 125 | 165 | $4-\varnothing 18$ | 13.0 | ABL-50 |
| DS65 | 596 | 165 | 145 | 185 | $4-\varnothing 18$ | 16.8 | ABL-65 |
| DS80 | 796 | 218 | 160 | 200 | $8-\varnothing 18$ | 28.3 | ABL-80 |
| DS100 | 796 | 240 | 180 | 220 | $8-Ø 18$ | 33.3 | ABL-100 |
| DS125 | 1260 | 280 | 210 | 250 | $8-Ø 18$ | 45.1 | ABL-125 |
| DS150 | 1264 | 300 | 240 | 285 | $8-\varnothing 22$ | 49.1 | ABL-150 |
| DS200 | 1644 | 400 | 295 | 340 | $8-\varnothing 22$ | 84.0 | ABL-200 |
| DS250 | 1718 | 100 | 350 | 395 | $12-Ø 22$ | 97.0 | ABL-250 |
| DS300 | 1848 | 500 | 400 | 445 | $12-\varnothing 22$ | 135.0 | ABL-300 |

Vertical Outlet Silencer


| Type | A | B | C | ØD | ØE | ØF | n-ØH | I | J | Weight (kg) | Application Type |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VDS50 | 420 | 120 | 150 | 140 | 125 | 165 | $4-Ø 18$ | 125 | 160 | 19.0 | ABL-50 |
| VDS65 | 480 | 130 | 175 | 191 | 145 | 185 | $4-\varnothing 18$ | 170 | 210 | 27.0 | ABL-65 |
| VDS80 | 595 | 145 | 200 | 216 | 160 | 200 | $8-Ø 18$ | 190 | 235 | 36.9 | ABL-80 |
| VDS100 | 660 | 155 | 225 | 267 | 180 | 220 | $8-\varnothing 18$ | 230 | 280 | 51.8 | ABL-100 |
| VDS125 | 800 | 190 | 250 | 280 | 210 | 250 | $8-\varnothing 18$ | 240 | 300 | 65.9 | ABL-125 |
| VDS150 | 920 | 210 | 300 | 356 | 240 | 285 | $8-\varnothing 22$ | 290 | 376 | 99.6 | ABL-150 |
| VDS200 | 1050 | 256 | 325 | 406 | 295 | 340 | $8-\varnothing 22$ | 350 | 425 | 131.5 | ABL-200 |
| VDS250 | 1200 | 300 | 375 | 480 | 350 | 395 | $12-Ø 22$ | 400 | 500 | 184.3 | ABL-250 |
| VDS300 | 1300 | 350 | 410 | 520 | 400 | 445 | $12-Ø 22$ | 450 | 550 | 243.0 | ABL-300 |

## "T"-Joint



| Type | A | ØВ | бС | n-ØF | $\varnothing \mathrm{D}$ | $\boldsymbol{\emptyset E}$ | n-ØH | g | Weight (kg) | Application Type |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| HJ50 | 150 | 165 | 125 | 4-ø18 | 120 | 155 | 4-Ø18 | 11/4 | 7.3 | ABL-50 |
| HJ65 | 150 | 185 | 145 | 4-ø18 | 140 | 175 | 4-018 | $11 / 4$ | 9.0 | ABL-65 |
| HJ80 | 180 | 200 | 160 | 8-Ø18 | 150 | 185 | 8-018 | $11 / 4$ | 9.6 | ABL-80 |
| HJ100 | 180 | 220 | 180 | 8-Ø18 | 175 | 210 | $8-018$ | 2 | 10.7 | ABL-100 |
| HJ125 | 250 | 250 | 210 | 8-ø18 | 210 | 250 | $8-\varnothing 22$ | 2 | 14.5 | ABL-125 |
| HJ150 | 250 | 285 | 240 | 8-Ø22 | 240 | 280 | 8-Ø22 | 2 | 20.8 | ABL-150 |
| HJ200 | 250 | 340 | 295 | 8-Ø22 | 290 | 330 | 12-Ø22 | 3 | 26.0 | ABL-200 |
| HJ250 | 250 | 395 | 350 | 12-Ø22 | 355 | 400 | 12-Ø22 | 3 | 35.0 | ABL-250 |
| HJ300 | 300 | 445 | 400 | 12-Ø22 | 400 | 445 | 16-Ø22 | 3 | 44.7 | ABL-300 |

Flexible Connector


| Type | A | ØE | ØF | n-ØH | Weight (kg) | Application Type |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| KXT50 | 105 | 125 | 165 | $4-\varnothing 18$ | 3.0 | ABL-50 |
| KXT65 | 115 | 145 | 185 | $4-\varnothing 18$ | 3.5 | ABL-65 |
| KXT80 | 135 | 160 | 200 | $8-\varnothing 18$ | 4.0 | ABL-80 |
| KXT100 | 150 | 180 | 220 | $8-\varnothing 18$ | 5.0 | ABL-100 |
| KXT125 | 165 | 210 | 250 | $8-\varnothing 18$ | 6.5 | ABL-125 |
| KXT150 | 180 | 240 | 285 | $8-\varnothing 22$ | 9.5 | ABL-150 |
| KXT200 | 190 | 295 | 340 | $8-\varnothing 22$ | 16.0 | ABL-200 |
| KXT250 | 230 | 350 | 395 | $12-\varnothing 22$ | 25.0 | ABL-250 |
| KXT300 | 250 | 400 | 445 | $12-\varnothing 22$ | 42.0 | ABL-300 |

## Applications



2 Clean up the bottle's dead angle by gas




11 Do body massage, promote the blood circulation


12 Use gas conveying materials

