



➤➤➤ MSB 11 - 15 kW
MSB 18,5 - 30 kW

Oil-injected screw
Compressors
Fixed & Variable speed
Tank and Basemounted

High performance
and efficiency.
A complete and adaptable
solution for your
compressed air demand



MARK





User benefits

Easy maintenance and accessibility

- All service components are quickly reached by removing the panels for service and cleaning.
- Easily handled from 3 sides
- Quickly removable oil filter and air oil separator cartridge.
- Oil level check through sight glass and oil change using the drain valve



User comfort

- All in one solution, tank mounted with dryer. Less space needed compared to a traditional installation
- Flexible handling thanks to three forklift openings
- The noise levels are very low thanks to the soundproofed canopy
- ES 3000 electronic controller with comprehensive information display ensures user-friendly operation

Reliability and prolonged lifetime

- Dust protection for internal components, air intake external filtration foam and inverter protection for IVR units
- Element built with low-wear bearings and exact tolerances granting a long lasting life
- Highly effective encapsulated air filter
- Oil filter and air-oil separator ensures less than 3 ppm of oil content in the compressed air.
- Longer belt life due to optimised tensioning system

Savings through efficient performance

- A high efficiency element ensures low energy consumption and long term performance
- IVR units will allow you to save up to 30 % in energy costs compared to fixed speed units

User safety

- Emergency stop
- Closed inverter cubicle
- Protection grid
- Corrosion-proof safety vessel

MSB 11 - 30 kW • Basemounted MSB 11 - 22 kW • Tankmounted

Compressed air drives your company. Consequently, choosing the right compressor is crucial. Going for our MSB range of belt driven oil-injected screw compressors is a choice you will not regret. The range has an intelligent design and offers a wide choice of variants, all built with quality components guaranteeing solid performance and reliable efficiency.



The Mark MSB range offers a wide choice of compressors from 11 to 30 kW, with fixed speed control or variable speed (IVR) control, basemounted or installed on an air vessel with dryer up to 22 kW. Following your needs, the MSB will allow you to choose the right solution for your compressed air demand in order to save costs on energy consumption and installation. Whatever model you choose, high standard components guarantee a solid performance while the optimised design ensures high reliability.

Fixed speed control - Load-unload regulation

A load/unload compressor delivers a constant air capacity. The regulation of the flow is assured by an inlet valve installed on the element air intake. This valve closes the intake when the unload pressure is achieved switching the compressor to an unload cycle. When the network pressure drops to the load pressure level, the valve opens and the compressor starts the load cycle.

Variable speed control - Frequency driven regulation (IVR)

Energy costs for compressors can represent more than 70 % of the life cycle costs. Using our MSB IVR you can reduce these costs up to 30 % thanks to the variable speed technology. The MSB IVR motor speed is modulated by a frequency converter in order to have a constant net pressure value and adjust the air supply to your air demand.

Optional and standard features

| OPTION | BASEMOUNTED | | TANKMOUNTED | |
|-------------------------|-------------|----------------|-------------|----------------|
| | Fixed speed | Variable speed | Fixed speed | Variable speed |
| 0,1 ppm filter option | x | x | ✓ | ✓ |
| Wooden crate | ✓ | ✓ | ✓ | ✓ |
| Automatic restart | standard | standard | standard | standard |
| ES 3000 net connection | ✓ | ✓ | ✓ | ✓ |
| Filtration panel | standard | standard | standard | standard |
| 15 bar air vessel | x | x | standard | standard |
| Automatic drain (dryer) | x | x | standard | standard |
| Forklift holes | standard | standard | standard | standard |

✓ = available x = not available

Maximum comfort, high quality and cost saving

»»» User comfort through low noise and easy & safe operation

The MSB range benefits from design experience, rigorous selection and careful assembly of components (e.g. insulation foam, deflectors and anti-vibration pads) to achieve a low noise level. As a result, the range offers a compact machine which can easily be installed in working environments, even close to the workplace. Consequently, pipeline length and pressure drops can be reduced which will allow you to save costs.

With the ES3000 electronic controller, operating your compressor is easy and straightforward. A clear and intuitive information display provides the needed information at a glance. The user-friendly management system focuses both on efficiency and safety:

Efficiency

- Start/stop function (including stop after default and automatic restart after power failure)
- Intelligent control system minimizing unload time
- Pressure & phase control
- Planning functionality (daily/weekly).

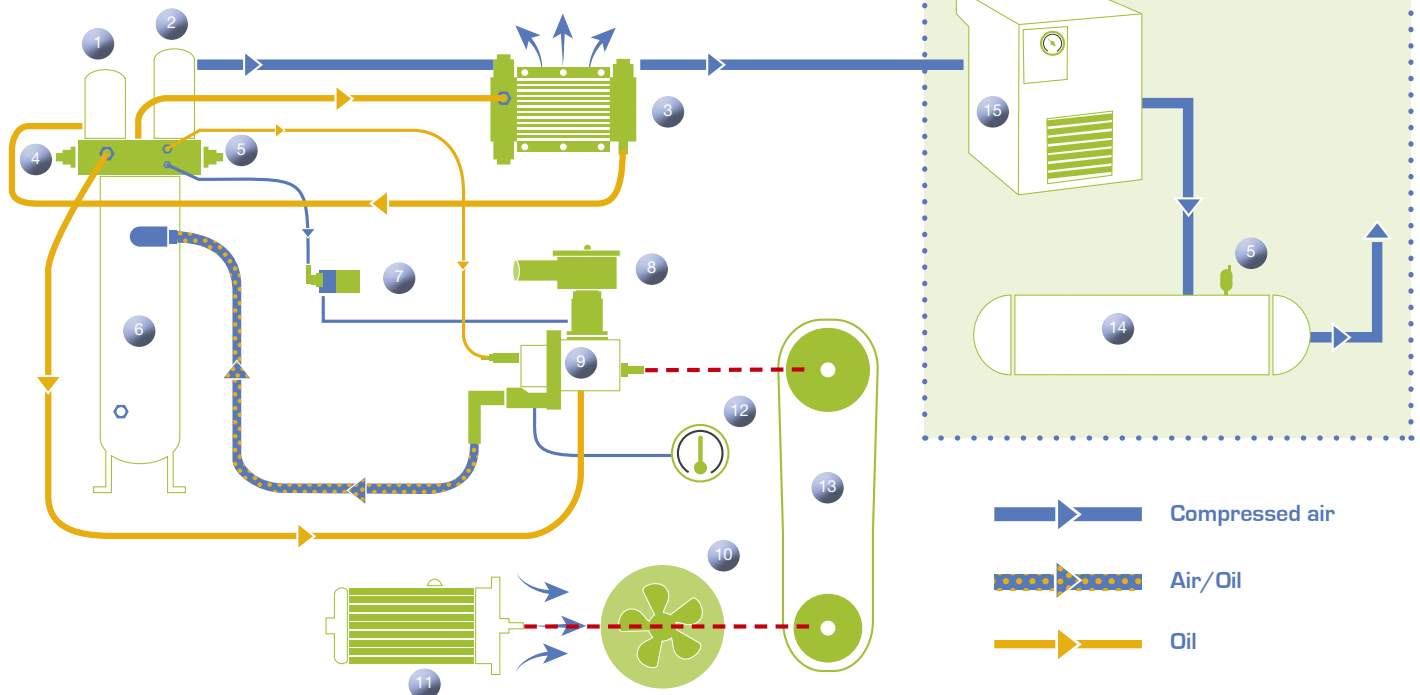
Safety

- General alarm
- Default (low or high temperature, turbine or main motor overload, wrong rotation, over pressure)
- Due maintenance and component change



»»» Optimised operating flow

The flow diagram below illustrates the operating process which makes the MSB range into a compact and efficient compressor.



»»» Components

- | | | |
|----------------------|------------------------------|---------------------------------|
| 1 oil filter | 6 oil vessel | 11 electric motor |
| 2 air-oil separator | 7 air suction solenoid valve | 12 temperature probe/thermostat |
| 3 oil-air cooler | 8 air suction filter | 13 transmission unit |
| 4 thermostatic valve | 9 screw compressor | 14 compressed air receiver |
| 5 safety valve | 10 fan | 15 refrigerant dryer |

MSB 11 - 15 kW Basemounted MSB 11 - 15 kW Tankmounted

The new MSB 11-15 combines the well-known reliability and performance with a smart design and the opportunity to have the unit installed on an air tank. Choosing the new TM version offers you:

- Installation cost saving.
- Small footprint, less space needed compared to a traditional installation.
- Reduced risk for air leakages, no costs for air loss.



Variants

| TYPE | VOLTAGES COMPRESSOR - DRYER | TANKMOUNTED + DRYER | IVR |
|-----------|-----------------------------|---------------------|-----|
| MSB 11 kW | 400/3/50 - 230/1/50 | ✓ | ✗ |
| MSB 15 kW | 400/3/50 - 230/1/50 | ✓ | ✓ |

* Other voltages are considered at first order

Components

- 1 Powder coated soundproof canopy
- 2 Electronic controller ES3000
- 3 Oil vessel
- 4 High efficiency air filter
- 5 Oil filter and air-oil separator cartridge



Energy efficiency: Intelligent shut down

On fixed speed machines the "intelligent shut down" feature considerably reduces the electrical energy consumption during unload phase. This is achieved by calculating the minimum unload time evaluating pressure trend and the maximum number of programmed start-ups per hour. Once maximum pressure level has been reached, and with no further air demand, the compressor requirement switches to unload.

The energy saving is obtained by stopping the compressor, following the shortest possible unload period.

This ensures:

- the maximum number of start-ups per hour programmed is not exceeded
- immediate restart in order to satisfy a subsequent requirement of air.

Your energy efficient and solid performance

MSB 18,5 - 30 kW Basemounted MSB 18,5 - 22 kW Tankmounted

MSB 18,5-30 kW is a robust, reliable and efficient compressor today also available installed on an air tank with refrigerant dryer for the 18,5 and 22 kW models. MSB 18,5-30 kW offers you:

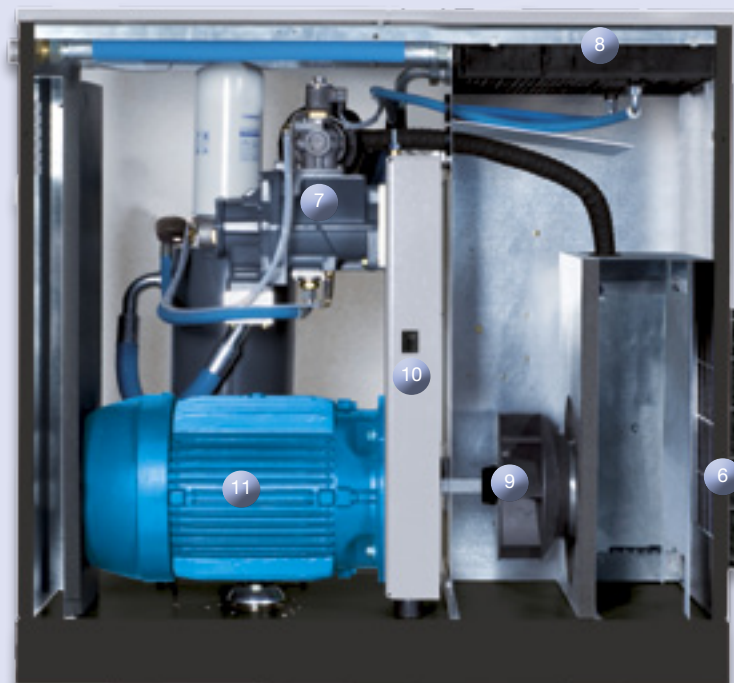
- High performance and efficiency
- Installation cost savings and a small footprint thanks to the TM model
- Easy and fast access for service



Variants

| TYPE | VOLTAGES COMPRESSOR - DRYER | TANKMOUNTED + DRYER | IVR |
|-------------|-----------------------------|---------------------|-----|
| MSB 18,5 kW | 400/3/50 - 230/1/50 | ✓ | ✓ |
| MSB 22 kW | 400/3/50 - 230/1/50 | ✓ | ✓ |
| MSB 30 kW | 400/3/50 - 230/1/50 | n.a. | ✓ |

* Other voltages are considered at first order

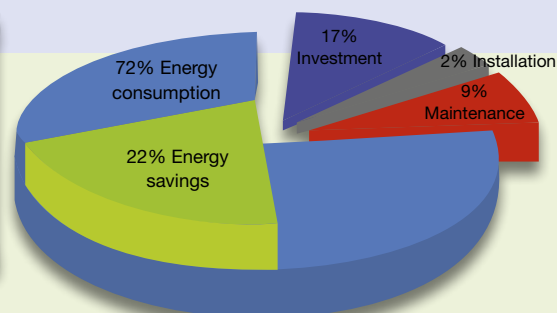


Components

- 6 Filtration foam
- 7 Asymmetrical oil lubricated screws
- 8 Aluminium combined air/air and air oil cooler
- 9 Cooling turbine
- 10 Pulley-belt assembly
- 11 Electric motor

Energy efficiency: Variable speed

Energy costs represent about 70% of the total operating cost of your compressor over a 5 year period. Most of the time, however, the air demand is not constant in a network. An inverter driven compressor is designed to reduce the speed of the main motor precisely following the profile of the compressed air demand. This results in a reduced power consumption, causing energy savings and a quick return on investment.








MSB 11 - 30 kW Basemounted / MSB 11 - 22 kW - Tankmounted



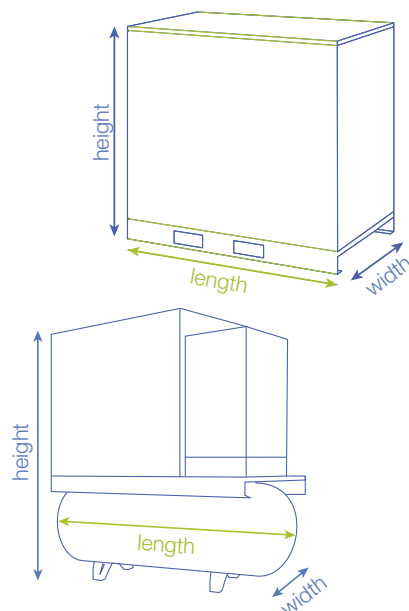
Technical data

| FIXED SPEED | | | | | | | | | | |
|-------------|-----|-----|----|------|-------|-------------------|-----|----|-----|------------|
| | BAR | psi | hp | kW | l/min | m ³ /h | cfm | | BM | TM + dryer |
| MSB 11 | 8 | 116 | 15 | 11 | 1820 | 109 | 64 | 61 | 283 | 495 |
| | 10 | 145 | 15 | 11 | 1580 | 95 | 56 | 61 | | |
| | 13 | 188 | 15 | 11 | 1190 | 71 | 42 | 61 | | |
| MSB 15 | 8 | 116 | 20 | 15 | 2380 | 143 | 84 | 62 | 302 | 514 |
| | 10 | 145 | 20 | 15 | 2120 | 127 | 75 | 62 | | |
| | 13 | 188 | 20 | 15 | 1610 | 97 | 57 | 62 | | |
| MSB 18,5 | 8 | 116 | 25 | 18,5 | 2910 | 174 | 103 | 66 | 414 | 632 |
| | 10 | 145 | 25 | 18,5 | 2620 | 157 | 92 | 66 | | |
| | 13 | 188 | 25 | 18,5 | 2120 | 127 | 75 | 66 | | |
| MSB 22 | 8 | 116 | 30 | 22 | 3590 | 215 | 127 | 68 | 430 | 660 |
| | 10 | 145 | 30 | 22 | 3100 | 186 | 109 | 68 | | |
| | 13 | 188 | 30 | 22 | 2540 | 152 | 90 | 68 | | |
| MSB 30 | 8 | 116 | 40 | 30 | 3970 | 238 | 140 | 69 | 458 | n.a. |
| | 10 | 145 | 40 | 30 | 3540 | 212 | 125 | 69 | | |
| | 13 | 188 | 40 | 30 | 2980 | 179 | 105 | 69 | | |

| VARIABLE SPEED |  | |  | |  | | | | | | | | | | | | | | |  |  | |
|-------------------|---|-------------------|---|------|---|------|-----|----------------|------|------|----------------|------|-----|----------------|------|-----|-----------------|------|------|---|---|------|
| | BAR | psi | hp | kW | Min. F.A.D. | | | F.A.D. 5,5 bar | | | F.A.D. 7,5 bar | | | F.A.D. 9,5 bar | | | F.A.D. 12,5 bar | | | | | |
| | | | | | l/min | m³/h | cfm | l/min | m³/h | cfm | l/min | m³/h | cfm | l/min | m³/h | cfm | l/min | m³/h | cfm | | | |
| MSB 15 IVR | 8 (4 - 9,5) | 116 (58 - 138) | 20 | 15 | 660 | 39 | 23 | 2517 | 151 | 88 | 2400 | 144 | 84 | 2150 | 129 | 75 | n.a. | n.a. | n.a. | 63 | 319 | 531 |
| | 10 (4 - 12,5) | 145 (58 - 181) | | | 470 | 28 | 17 | n.a. | n.a. | n.a. | 2200 | 132 | 77 | 2100 | 126 | 73 | 1733 | 104 | 60 | 63 | | |
| MSB 18,5 IVR | 8 (4 - 9,5) | 116 (58 - 138) | 25 | 18,5 | 880 | 53 | 31 | 3167 | 190 | 112 | 3017 | 181 | 105 | 2700 | 162 | 94 | n.a. | n.a. | n.a. | 67 | 452 | 660 |
| | 10 (4 - 12,5) | 145 (58 - 181) | | | 670 | 40 | 23 | n.a. | n.a. | n.a. | 2733 | 164 | 95 | 2600 | 156 | 91 | 2217 | 133 | 77 | 67 | | |
| MSB 22 IVR | 8 (4 - 9,5) | 116 (58 - 138) | 30 | 22 | 1020 | 61 | 36 | 3700 | 222 | 131 | 3517 | 211 | 123 | 3183 | 191 | 111 | n.a. | n.a. | n.a. | 69 | 458 | 688 |
| | 10 (4 - 12,5) | 145 (58 - 181) | | | 850 | 51 | 30 | n.a. | n.a. | n.a. | 3233 | 194 | 113 | 3083 | 185 | 107 | 2633 | 158 | 92 | 69 | | |
| MSB 30 IVR | 8 (4 - 9,5) | 116 (58 - 138) | 40 | 30 | 1240 | 75 | 44 | 4167 | 250 | 148 | 3967 | 238 | 138 | 3600 | 216 | 125 | n.a. | n.a. | n.a. | 70 | 504 | n.a. |
| | 10 (4 - 12,5) | 145 (58 - 181) | | | 980 | 59 | 35 | n.a. | n.a. | n.a. | 3633 | 218 | 127 | 3467 | 208 | 121 | 2983 | 179 | 104 | 70 | | |

Dimensions

| | DIMENSIONS | | | | | |
|---------------|---------------|------|-----------|------|----------|-----|
| Model | length std mm | | height mm | | width mm | |
| | BM | TM | BM | TM | BM | TM |
| MSB 11 - 15 | 995 | 1935 | 1100 | 1735 | 670 | 665 |
| MSB 18,5 - 22 | 1330 | 1940 | 1220 | 1841 | 780 | 805 |
| MSB 30 | 1330 | | 1220 | | 780 | |



>>> SMART TECHNICAL ADVANTAGES



COMPACT AND SAFE

- Small footprint
- Complete installation
- 15 bar air vessel till 22 kW
- Corrosion-proof safety vessel



OPTIMAL SERVICE ACCESSIBILITY

- Easy to remove panels for service
- Easy access to all service parts
- Drain valve on oil outlet for simplified oil change
- Removable filtration foam for cleaning



ALWAYS IN CONTROL WITH ES 3000

- Standard on all models
- Option net connection up to 6 machines

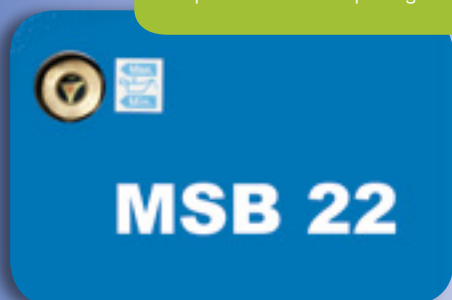


QUALITY OPERATIONS

- Improved air quality (0,1 ppm filter as option)
- Protection of your compressed air system through purified air
- Clean air leads to higher final product quality and increased overall production

EASY CHECK-UP

- Oil sight glass visible through canopy for oil level inspection without opening



EASY INSTALLATION

- Both the base- and tankmounted units come standard with forklift openings allowing easy installation



Oil-injected Screw
compressors,
Fixed & Variable speed
Range MSB 11 - 30 BM
• MSB 11 - 22 TM



- A high quality product and **technology you can trust**
- Choosing our high performance compressor ensures your compressed air **availability**
- Our products are **simple, easy to use** and give strong **reliability**
- **Serviceability** and aftermarket are guaranteed
- Original Parts and Services
- Dealers are always nearby and complete the strong **partnership** you can expect



Increase your profit and improve the image of your company



Contact your local Mark representative now!

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