B200 Flow Control
SCREW COMPRESSORS

12R/10L PS
12R/10L PF
12R/10L HY

INSTALLATION
OPERATION
MAINTENANCE
SAFETY
STORAGE

Your distributor:

Z.I. La Plaine des Isles - F 89000 AUXERRE - FRANCE
Tel.: +33 (0)3.86.49.86.30 - Fax: +33 (0)3.86.49.87.17
contact@mouvex.com - www.mouvex.com
MOUVEX TRUCK SCREW COMPRESSOR
SAFETY, STORAGE, INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS
MODEL : B200 Flow Control

SAFETY INFORMATIONS

This is a SAFETY ALERT SYMBOL
When you see this symbol on the product, or in the manual, look for one of the following signal words and be alert to the potential for personal injury, death or major property damage.

DANGER

Warns of hazards that WILL cause serious personal injury, death or major property damage

WARNING

Warns of hazards that CAN cause serious personal injury, death or major property damage.

CAUTION

Warns of hazards that CAN cause personal injury or property damage.

NOTICE

Indicates special instructions which are very important and must be followed.

REMARKS :

MOUVEX truck screw-type compressors MUST be installed in systems designed by qualified personnel. The installation MUST be in compliance with local standards, national regulations and rules of safety.

This manual is designed to permit installation and commissioning of MOUVEX truck screw-type compressors and MUST accompany the compressor.

Maintenance of MOUVEX screw-type compressors must ONLY be carried out by qualified technicians. This maintenance must meet local and national standards as well as all safety regulations. Read this manual, including all instructions and warnings, in full BEFORE any use of MOUVEX compressors.

Do not remove the warning and use label stickers that are found on the compressors.

TABLE OF CONTENTS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. OVERALL DIMENSIONS</td>
<td>4</td>
</tr>
<tr>
<td>2. GENERAL DATA</td>
<td>7</td>
</tr>
<tr>
<td>2.1 Principle of operation</td>
<td>7</td>
</tr>
<tr>
<td>2.2 Technical characteristics</td>
<td>7</td>
</tr>
<tr>
<td>2.3 Operating ranges</td>
<td>8</td>
</tr>
<tr>
<td>3. INSTALLATION</td>
<td>9</td>
</tr>
<tr>
<td>3.1 B200 PF with truck power take-off</td>
<td>9</td>
</tr>
<tr>
<td>3.2 B200 PS with drive shaft</td>
<td>11</td>
</tr>
<tr>
<td>3.3 B200 HY with hydraulic motor</td>
<td>12</td>
</tr>
<tr>
<td>3.4 Piping</td>
<td>13</td>
</tr>
<tr>
<td>4. USE OF COMPRESSOR</td>
<td>15</td>
</tr>
<tr>
<td>4.1 Lubricant recommendations</td>
<td>15</td>
</tr>
<tr>
<td>4.2 Filling of lubricant</td>
<td>15</td>
</tr>
<tr>
<td>4.3 Operation</td>
<td>15</td>
</tr>
<tr>
<td>5. MAINTENANCE</td>
<td>16</td>
</tr>
<tr>
<td>5.1 Maintenance schedules</td>
<td>16</td>
</tr>
<tr>
<td>5.2 Compressor oil change</td>
<td>16</td>
</tr>
<tr>
<td>5.3 Inlet shaft replacement</td>
<td>17</td>
</tr>
<tr>
<td>5.4 Warranty claims</td>
<td>17</td>
</tr>
<tr>
<td>6. TROUBLESHOOTING</td>
<td>18</td>
</tr>
<tr>
<td>7. STORAGE CONDITIONS</td>
<td>18</td>
</tr>
<tr>
<td>7.1 Compressor</td>
<td>18</td>
</tr>
<tr>
<td>7.2 BSC2 oil</td>
<td>18</td>
</tr>
<tr>
<td>8. SCRAPPING</td>
<td>18</td>
</tr>
<tr>
<td>9. COMPRESSORS FORM INFORMATION</td>
<td>19</td>
</tr>
<tr>
<td>10. CERTIFICATE OF CONFORMITY</td>
<td>20</td>
</tr>
</tbody>
</table>

ADDITIONAL DOCUMENTATION

The table below gives the list of instructions in addition to this central instruction:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B200 application</td>
<td>Spare parts list</td>
</tr>
<tr>
<td>Torque limiter</td>
<td>NT 1401-AB00</td>
</tr>
<tr>
<td>Air cooler</td>
<td>NT 1401-AD00</td>
</tr>
<tr>
<td>12R/10L</td>
<td>PL 1401-X01</td>
</tr>
</tbody>
</table>
SAFETY CHECK LIST

1. Before operating the compressor, ensure the vessel to which the compressor is connected is certified to withstand the pressure and/or vacuum produced.
2. Verify adequately sized relief valves have been fitted to protect the vessel. Do not use solvents or inflammable products for cleaning the pipelines and the accessories.
3. Gas/air mixtures which are potentially volatile/explosive must not be introduced or allowed to be introduced into the compressor.
4. All pressure vessel and piping connected to the compressor must be isolated and in a safe operating condition.
5. Operators should wear ear protection when operating truck mounted compressors.
6. There are components within the compressor of sufficient weight to cause injury if mishandled. Use proper lifting devices as necessary.
7. Where necessary, this equipment should be grounded to control static electricity.
8. The temperature of the air leaving the compressor is elevated above ambient due to air compression. Check that the elevated temperatures do not adversely affect the product and any material used in design of the system. Attach clearly marked warning signs to warn of potentially hot surfaces on the compressor, piping and accessories which will burn if touched.
9. Mounting of the compressor must be correctly engineered and the compressor must be properly secured. Refer to the Compressor Mounting section of this manual.

NOTICE:

MOUVEX COMPRESSORS ARE NOT DESIGNED FOR HANDLING LIQUID, POWDER OR CONDENSATE. TO DO SO WILL VOID THE WARRANTY.

LIFTING POINTS:

The compressor can be picked up from underneath to be transported.

Discharge flanges threads can be used to install a lifting lug in order to transport the compressor.
1. OVERALL DIMENSIONS

B200 12R/10L
PS & PF

- Identification plate
- 4 holes Ø 12,5
- Swivel cover
- Drain plugs
- Breather plug
- Flange 1.5" BSP
- Oil gauge
- Oil fill plug
- Plug : speed measure
- Male splined shaft version = PF
- Male keyed shaft version = PS
- Weight: 26.3 kg
- Serial number stamped on the body

Direction of rotation
- Male splined shaft version = PF
- Male keyed shaft version = PS

Splines B8x32x36 DIN 5462
2 holes M10x15
2x 3 holes M10x15

Weight: 26.3 kg

Serial number stamped on the body
1. OVERALL DIMENSIONS (continued)

**Identification plate**
- 6 holes Ø 10,2

**Swivel cover**
- 2 holes M10x15

**Breather plug**
- Flange 1,5 BSP

**Oil gauge**
- Oil fill plug

**Drain plugs**

**Direction of rotation**

**Serial number stamped on the body**

**FEMALE SPLINED SHAFT VERSION FOR HYDRAULIC DRIVE = HY**

**B200 12R/10L HY**

**Weight:** 26.8 kg

**Serial number stamped on the body**

**Flange**
- 1,5 BSP

**Serial number stamped on the body**

**Breather plug**
- Flange 1,5 BSP

**Drain plugs**

**Direction of rotation**

**Serial number stamped on the body**

**FEMALE SPLINED SHAFT VERSION FOR HYDRAULIC DRIVE = HY**

**B200 12R/10L HY**

**Weight:** 26.8 kg

**Serial number stamped on the body**

**Flange**
- 1,5 BSP

**Serial number stamped on the body**

**Breather plug**
- 1,5 BSP

**Drain plugs**

**Direction of rotation**

**Serial number stamped on the body**

**FEMALE SPLINED SHAFT VERSION FOR HYDRAULIC DRIVE = HY**

**B200 12R/10L HY**

**Weight:** 26.8 kg

**Serial number stamped on the body**
1. OVERALL DIMENSIONS (continued)

SILENCER DN 40

G 1-1/2 prof/dpth 35 mm

CHECK AND RELIEF VALVE

DEBIT MAXIMUM / MAXIMUM FLOW RATE: 200 m³/hr
PÉRTE DE CHARGE DU CLAPET / DEBIT MAXIMUM / CHECK VALVE PRESSURE DROP AT MAXIMUM FLOW: < 0.18 BAR
RÉGLAGE DU TARAAGE / RELIEF VALVE SETTINGS: 5.0/2.5/2.5 BAR
PÉRTE DE CHARGE MAXIMALE AU TRAVERS DES SOUPAPES / MAXIMUM PRESSURE LOSS ON RELIEF VALVE: < 0.2 BAR
2. GENERAL DATA

2.1 Principle of operation

The male screw and the female screw mesh and rotate in opposite directions inside the casing fitted with inlet and discharge ports.

Rotation generates a volume increase on the inner face between threads and grooves, which corresponds to inlet, and a volume reduction on the upper face, which corresponds to compression.

On the discharge port side, a set of gears synchronizes the male screw and the female screw. Thus, the screws are not in contact. The discharged air does not enter in contact with any friction part and remains clean and free from particles.

On the drive shaft side, the female screw or the male screw according to the inlet shaft direction rotation is driven by a set of step-up gears.

Oil circulates, lubricating gears and ball bearings.

On the non-drive end side, the ball bearings are lubricated permanently with grease.

Sealing is provided between lubricated parts and the compression stage by means of labyrinth seals.

These seals do not enter in contact with the shaft and are not subject to wear.

Thanks to their technology, B200 compressors are reliable and have a long service life.

B200 compressors need very limited maintenance, which reduce vehicle downtime.

B200 versions 12R (1200 rpm) or 10L (1000 rpm) were defined so as to drive it directly through on the PTO or with a drive shaft. Thanks to this system, the installation is lighter and saves space on the side of the vehicle for other accessories.

2.2 Technical characteristics

The operating characteristics indicate the requirements to be met, on the B200 compressors, in order for the equipment to benefit from the associated warranty.

The operating characteristics for the B200 are given in the indicative operation conditions: ambient temperature and air inlet temperature 20°C, atmospheric pressure: 1013 mbars.

**Speed:**

<table>
<thead>
<tr>
<th>B200</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>12R</td>
<td>840</td>
<td>960</td>
<td>1080</td>
<td>1200</td>
</tr>
<tr>
<td>10L</td>
<td>700</td>
<td>800</td>
<td>900</td>
<td>1000</td>
</tr>
</tbody>
</table>

Maximum discharge pressure (bar):

- 2
- 2
- 2.5
- 2.5

Maximum inlet temperature (°C):

- 40
- 40
- 40
- 40

**Characteristics of compressor:**


EXHAUST PRESSURE (bar)

SUCTION FLOW RATE (m³/h)

POWER (kW)
2. GENERAL DATA (continued)

2.3 Operating ranges

The operating ranges specified in the § TECHNICAL CHARACTERISTICS give the conditions that must be respected on mounting and packaging of the B200 compressors, in order to be able to benefit from the guarantees for these pieces of equipment.

The MOUVEX relief valve is designed in order to release any potential overflow. A speed reduction is therefore needless otherwise to increase the machine temperature.

We recommend to set a single working point corresponding to the maximum speed of the compressor, which allows an optimal cooling. This operating point (otherwise the range) must be absolutely fixed by the Motor management in order to avoid any use outside these limits. See § MOTOR MANAGEMENT.

MAXIMUM ACCEPTABLE DISCHARGE PRESSURE
(see § TECHNICAL CHARACTERISTICS)

The pressures correspond to the valve opening start pressure. In a period of 60 seconds, it is acceptable to have a pressure of 0.2 bar higher when the valve passes the complete flow rate.

B200 Flow Control : Débit et Puissance/Flow rate and Power
Aspiration Compresseur/Compressor suction 1 atm 20°C
Mesure débit selon/ Flow measurement : ISO 5162-2
3. INSTALLATION

3.1 B200 PF with truck power take-off

3.1.1 Installation of the compressor

The B200 PF compressors have a male splined shaft DIN 5462 / ISO 14 and a mounting flange ISO 7653-D that allows them to be installed directly on declutchable power take-offs.

**WARNING**

**Power Take Off specifications**:

- Must allow a gravity torque of 50 Nm and be able to accept a working torque of 124 Nm along all the unloading duration.

**Tank builders**:

- **MERCEDES**:
  - Original model in aluminium type NA 131 2C compatible, in compliance with the dispensation delivered by MERCEDES.
  - Every other model in cast iron or aluminium in compliance with the specifications above.

- **DAF / IVECO / MAN / RVI / SCANIA**:
  - Every original or not original model, whatever the material : cast iron or aluminium, in compliance with the specifications above.

- **VOLVO**:
  - Original model in aluminium type PTR DM compatible for the range FH/FM in compliance with the dispensation delivered by VOLVO.
  - Every other model in cast iron or aluminium in compliance with the specifications above.

**Not allowed**:

- Power take off with double outlet

**Installation and operating conditions**:

- The use of the discharge flexible supplied by MOUVEX, fitted in accordance with the B200 Instructions.
- The use of the fixation kit supplied by MOUVEX, fitted in accordance with the B200 Instructions.
- No extra bracket required to fix the B200.
- B200 must be fitted, operated and serviced in a proper installation in accordance with the B200 Instructions, with the PTO Manufacturer and Truck Builder Instructions.

Installation is done with screws or studs, minimum grade 8.8.

The B200 PF is provided with a mounting kit that includes a metallic PTO seal, and 4 specific nuts and washers that it is essential to use.

If this is possible, tighten the 4 nuts to 37 Nm for all the PTOs. Don’t put any grease on the studs.

The compressor can be mounted in slightly tilted position, but should remain within the angular values defined on the figures below.

To obtain only a slight inclination of the PTO flange, it is possible to bring the compressor back in a horizontal position, taking care to proceed as follows:

- Loosen the 8 screws 1095 without removing them.
- Put the compressor in the desired position.
- Tighten the screws 1095.
To obtain a strong inclination of the PTO flange, it is possible to bring the inclination of the compressor to an angle lower than 10°, taking care to proceed as follows:

- Loosen and remove the 8 screws 1095.
- Remove the screws 1095 and the cover 3.
- Turn the cover 3 in order to offset the ports and position them over the next set of tapped holes on the casing 1086.
- Engage the cover 3 in the desired position.
- Tighten the 8 screws 1095.

**CAUTION**

Screws 1095 must be:
- equipped with their lock washers, notches on the side of the screw head,
- sealed with Loctite® thread locking 243 or equivalent,
- tightened at 13 Nm.

### 3. INSTALLATION (continued)

#### 3.1.2 Adjustment of the drive speed

For compressors that are secured by flange on the power take-off or on the hydraulic motor, the compressor drive speed can only be measured indirectly on the male or female screw of the compressor, using a tachometer with a maximum capacity of 20,000 rpm.

A contact tachometer of the Multimetrix® RPM82 type is perfectly well suited for measuring the speed on the screws of the B200 compressor.

Since the male and female screws do not rotate at the same speed, refer to the tables in the paragraphs below in order to establish the correspondence between the drive shaft speeds and the speed of the screw on which the measurement is performed:

- Measure on the male screw: ......Table 1
- Measure on the female screw: ....Table 2

To access the rotating screws, unscrew screw 38 and remove plugs 20.

In order to check that the compressor is rotating in the right direction, check that the male and female screws rotate in the directions specified on the drawing below, whatever the drive variant (B200 12R and B200 10L):

The B200 compressors fitted with a check valve can withstand a short operating time (less than 30 seconds) in the opposite direction, as required for checking the rotation direction.

**NOTICE:**

Prolonged operation in a direction different from the direction indicated on the drawing below may cause serious damage to the compressor and would cancel the warranty.

*Loctite® is a registered trademark.*
3. INSTALLATION (continued)

Reversing the rotation direction requires that the compressor be returned to the factory.

Speed pick-up on the male screw:

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Inlet shaft speed (rpm)</th>
<th>Male screw speed (rpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B200 12R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>850</td>
<td>13 910</td>
<td></td>
</tr>
<tr>
<td>1 000</td>
<td>16 365</td>
<td></td>
</tr>
<tr>
<td>1 100</td>
<td>18 000</td>
<td></td>
</tr>
<tr>
<td>1 200</td>
<td>19 640</td>
<td></td>
</tr>
<tr>
<td>B200 10L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>700</td>
<td>13 750</td>
<td></td>
</tr>
<tr>
<td>800</td>
<td>15 710</td>
<td></td>
</tr>
<tr>
<td>900</td>
<td>17 675</td>
<td></td>
</tr>
<tr>
<td>1 000</td>
<td>19 640</td>
<td></td>
</tr>
</tbody>
</table>

Speed pick-up on the female screw:

Table 2

<table>
<thead>
<tr>
<th></th>
<th>Inlet shaft speed (rpm)</th>
<th>Female screw speed (rpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B200 12R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>850</td>
<td>11 600</td>
<td></td>
</tr>
<tr>
<td>1 000</td>
<td>13 640</td>
<td></td>
</tr>
<tr>
<td>1 100</td>
<td>15 000</td>
<td></td>
</tr>
<tr>
<td>1 200</td>
<td>16 365</td>
<td></td>
</tr>
<tr>
<td>B200 10L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>700</td>
<td>11 450</td>
<td></td>
</tr>
<tr>
<td>800</td>
<td>13 095</td>
<td></td>
</tr>
<tr>
<td>900</td>
<td>14 730</td>
<td></td>
</tr>
<tr>
<td>1 000</td>
<td>16 365</td>
<td></td>
</tr>
</tbody>
</table>

3.2 B200 PS with drive shaft

3.2.1 Installation of the compressor
- Mount the compressor in a position where it is protected from dirt, debris and road spray. The mounting location should allow for regular inspection, cleaning and maintenance.
- The B200 compressor mounting points are located on the sides of the body.

3.2.2 Recommended drive conditions

The drive shaft must be sized so as to be able to accept the loads above and also the starting torque.

Operating torque at full speed

<table>
<thead>
<tr>
<th>B200</th>
<th>Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,5 bar</td>
</tr>
<tr>
<td>Torque 12R (Nm)</td>
<td>100</td>
</tr>
<tr>
<td>Torque 10L (Nm)</td>
<td>83</td>
</tr>
</tbody>
</table>

It is the responsibility of the installer to check that his design protects the transmission if the compressor blocks.

Compressors B200 12R PS and B200 10L PS must be protected by a 400 Nm torque limiter, in order to protect the truck’s transmission if the compressor is jammed. MOUVEX may not be held liable for any damages resulting from such jamming if the torque limiter has not been installed.

Comply strictly with the following instructions:

- The drive shaft slides perfectly well during rotation. Square slip joints are forbidden.
- Drive shaft length should be as short as possible and the drive shaft MUST be balanced.
The non balancing of the drive shafts can lead to mechanical ruptures that are susceptible of causing important property damage and/or serious injuries.

- The drive shaft and compressor shaft MUST be parallel within 1° and have a maximum of 10° compound misalignment. See Table:

<table>
<thead>
<tr>
<th>A</th>
<th>Universal joint angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.017</td>
<td>1°</td>
</tr>
<tr>
<td>0.035</td>
<td>2°</td>
</tr>
<tr>
<td>0.052</td>
<td>3°</td>
</tr>
<tr>
<td>0.070</td>
<td>4°</td>
</tr>
<tr>
<td>0.087</td>
<td>5°</td>
</tr>
<tr>
<td>0.105</td>
<td>6°</td>
</tr>
<tr>
<td>0.125</td>
<td>7°</td>
</tr>
<tr>
<td>0.141</td>
<td>8°</td>
</tr>
<tr>
<td>0.158</td>
<td>9°</td>
</tr>
<tr>
<td>0.176</td>
<td>10°</td>
</tr>
<tr>
<td>0.194</td>
<td>11°</td>
</tr>
<tr>
<td>0.213</td>
<td>12°</td>
</tr>
<tr>
<td>0.231</td>
<td>13°</td>
</tr>
<tr>
<td>0.249</td>
<td>14°</td>
</tr>
<tr>
<td>0.268</td>
<td>15°</td>
</tr>
</tbody>
</table>

- Universal joints MUST be in phase, with the drive shaft slip joint at mid-position. Use an even number of universal joints.
- Make sure that the compressor rotates in the direction of the arrow on the body.

The B200 compressors fitted with a check valve can withstand a short operating time (less than 30 seconds) in the opposite direction, as required for checking the rotation direction.

**NOTICE:**
- Prolonged operation in a direction different from the direction indicated on the drawing below may cause serious damage to the compressor and would cancel the warranty.

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### 3.3 B200 HY with hydraulic motor

The B200 HY compressors have a female splined shaft ANSI B92-1a that allows to flange directly on hydraulic motor equipped with a shaft 13T 718 SAE 16/32 and a mounting flange SAE B 2 or 4 holes.

#### 3.3.1 Hydraulic motor assembly

It is possible to change the orientation of the lantern 230, taking care to proceed as follows:

- Loosen and remove the 8 screws 1095.
- Rotate the lantern 230 so as to offset the ports and move them over the set of tapped holes on casing 1086 that approach the desired position.
- Make sure that at least one of the 2 collectors is located in the lower part of the lantern 230, otherwise turn the lantern 230 by 180°.
- Engage the lantern 230.
- Tighten the 8 screws 1095.
3. INSTALLATION (continued)

- Install the screwing plug 1204 in the highest collector on the lantern 230.

- Check that the rotation direction of the motor and the compressor are correct.
- Lubricate the motor shaft and the female splined shaft 1091 to facilitate subsequent disassembly.

**CAUTION**

Screws 1095 must be:
- equipped with their lock washers, notches on the side of the screw head,
- sealed with Loctite® thread locking 243 or equivalent,
- tightened at 13 Nm.

3.3.2 Adjustment of the drive speed

See § ADJUSTMENT OF THE DRIVE SPEED.

3.3.3 Motor management

The Motor management is mandatory, it has to ensure 2 missions:

- **To secure the operating range**: The operating point (otherwise the range) must be set to avoid any operation outside the range. If a risk remains (need to switch in complement a gear box button) an information sticker shall be affixed in the cabin.
- **To ensure a smooth start-up**: The start-up of the PTO must be carried out gradually without generating a peak of torque to avoid damaging the Compressor. This is particularly sensitive for the B200 PF which is equipped with a shaft groove designed to break at a torque of 650 Nm.

It is in particular to ensure that the parameter "TRANSMISSION INPUT SPEED" (N° 10.520 on MERCEDES) is set to a value less than 10. Otherwise, that will generate in a medium term a breakage of the B200 shaft.

3.4 Piping

3.4.1 Inlet

The suction side of the compressor MUST be fitted with an adequately sized air filter, which MUST be protected from water, road spray, or other debris. This filter is available from MOUVEX. Use of wrong filter will void warranty. The compressor filter must be connected by means of a hose capable of operating in vacuum and of a sufficient length to absorb the relative movements of the compressor relative to the chassis. The compressor is delivered with an inlet connection kit including the following items:

- A 2 m long hose which can be shortened if required in order to match with the truck configuration.
- 2 nipples to be threaded to the ends (Ø 51 filter side and Ø 58 compressor side).
- 2 heat shrinkable sleeves to be fitted at the ends on the junction between the nipple and the hose.
- 2 collars allowing to tight the hose on the filter and on the compressor.

The inlet filter should be positioned to draw in clean, cool air, and should be mounted away from any engine heat and exhaust.

The compressor inlet suction air must be filtered in order to eliminate particles bigger than 5 µm.

The maximum pressure drop at suction must be lower than 75 mbar.

A restriction indicator system must permit changing the suction filter when it creates a pressure drop greater than 75 mbar.

The maximum acceptable temperature at suction as a function of equipment operating conditions is given in the § TECHNICAL CHARACTERISTICS.

3.4.2 Outlet

The flange supplied must be equipped with its gasket, screw tightened at 44 Nm.

Piping MUST be at least as large as the compressor suction and discharge connections.

All the connections located between the compressor and the trailer hose connection point must be absolutely waterproof. For that reason, they must be welded.

The B200 PF compressors directly flanged onto the power take-off must be fitted with the metallic discharge hose delivered with the equipment. This woven stainless steel hose is designed to avoid having any stresses applied on the compressor flange and the rigid pipes of the systems, as induced by the relative movements of the compressor with respect to the chassis.

* Loctite® is a registered trademark.
For the B200 PF, it should cancel the stresses on the flange, as induced by the movement of the compressor, and respect the rules below:

- install a 90° elbow between the flange and the hose.
- support the stainless steel hose correctly at its end part.
- the hose output pins should be mounted in the same horizontal plane. Make sure that the installation allows a compressor displacement of ± 5 cm to be obtained.

- on the same horizontal plane, if the output pins are not parallel, the bending radius must be as large as possible, and in any case at least equal to 50 cm. Make sure that the installation allows a compressor displacement of ± 5 cm to be obtained.

During installation, position a pressure gage on the compressor output, so as to measure the operating pressure. The measurement should be done at the discharge flange level and should not exceed 2.5 bar over the allowable operating range of the compressor.

The compressor is delivered with a check and relief valve allowing 3 settings capabilities: 2 bar, 2.3 bar or 2.5 bar. It will have to be selected depending of the installation limits and by making sure the maximum pressure of 2.5 bar of the compressor is never exceeded. Be careful in particular with the pressure drop located between the check relief valve and the compressor especially if an air cooler and a silencer are used.

It is forbidden to insert a damping valve in the pipe linking the compressor to the tank hose connector in order to avoid any risk of water entering. However, if a valve has to be fitted, I would be after the hose and on the tank.

Ensure that ALL components are capable of operation at the maximum system pressure limits and that all vessels are adequately protected by SEPARATE relief valves.

3.4.3 Oil breather

Compressor B200 is fitted with an oil breather which is mounted on a hose for easier installation.

In case of the inclination of the compressor, it is essential to position the breather on the highest tapped hole. Invert the positions of the oil gage and the breather assembly, as appropriate.

Position the breather plug in a clear area, to avoid any oil condensation.

Do not crush the hose when positioning the breather, so as to allow any oil vapors to be evacuated.
**3. INSTALLATION (continued)**

The hose mustn’t be shortened, keeps imperatively its original length.

The breather must be placed above the compressor, preferably with the connecting hose running up towards the breather.

---

**4. USE OF COMPRESSOR**

### 4.1 Lubricant recommendations

The MOUVEX screw compressor operates with MOUVEX BSC2 oil.

With BSC2 oil, oil change is recommended every year or 500 working hours.

<table>
<thead>
<tr>
<th>B200</th>
<th>BSC2 oil</th>
<th>Warranty period (year)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First oil change (h)</td>
<td>Oil change</td>
</tr>
<tr>
<td>12R/10L PF</td>
<td>500</td>
<td>500 h / 1 year</td>
</tr>
<tr>
<td>12R/10L PS</td>
<td>500</td>
<td>500 h / 1 year</td>
</tr>
<tr>
<td>12R/10L HY</td>
<td>500</td>
<td>500 h / 1 year</td>
</tr>
</tbody>
</table>

The BSC2 oil covers operation from -30°C to +40°C.

### 4.2 Filling of lubricant

**CAUTION**

Our compressors are delivered without oil. The use of a compressor with an oil level different from 1.2 l ± 10% can lead to important property damage and serious injuries.

Before starting the system, fill the casing with oil so that the oil level is set between the min and max value of the gauge.

### 4.3 Operation

- The compressor must be started with the discharge valves open.
- The operator should remain nearby the equipment throughout the use to ensure the proper functioning of the system.
- Check the compressor drive shaft rotation direction:
  - B200 12R PS and B200 10L PS: The drive shaft rotation direction must match with the arrow on the body of the compressor.
  - B200 12R PF and B200 10L PF: Refer to § DIRECT INSTALLATION TRUCK POWER TAKE-OFF.

**NOTICE:**

Prolonged operation in a direction other than the direction of the arrow on the body can cause serious damages to the compressor and would cancel the warranty.

- Avoid if possible stopping or starting the compressor with the tank under pressure.
- At commissioning, check that the combinations of rotation speed and discharge pressure of the compressors are in conformity with those indicated in § TECHNICAL CHARACTERISTICS.

**CAUTION**

During operation, the temperature of the surface of a compressor and nearby parts can be in the region of 200°C. The compressor and the parts located nearby are thus susceptible of provoking serious burns and property damage. Be careful to not approach elements that are sensitive to heat and affix plates informing users that the compressor is hot, to prevent any risk of burns.
5. MAINTENANCE

5.1 Maintenance schedules

After every cleaning of the truck
Always run the compressor for 15 minutes to remove any water that inadvertently gets into the piping. DO NOT fog or introduce anti-corrosive liquids into the compressor to prevent corrosion. Use of liquids in the compressor will cause failure.

Weekly
1. The compressor should be run for at least 15 minutes to prevent moisture from collecting inside. This will reduce the risk of corrosion damage to the compressor and other equipment in the piping.
2. Inspect and clean air filter. Inspect DAILY if operating in dirty or severe environment. Check the condition of the inlet filter hose for splits and tears. Replace or repair as necessary.
3. Inspect compressor, system piping and components. Clean or repair as necessary.
4. Check power transmission line.
5. Check the air filter restriction indicator. When the indicator turns red, replace the filter cartridge. Before replacing the cartridge with a new one, clean the inside of the filter's body with a clean damp cloth.

Per manufacturer’s recommendations
Lubricate the universal seal (for B200 PS models).

Monthly
1. Check the relief valve(s) for wear and proper settings. Replace or adjust as necessary.
2. Check that the check valve works properly, replace as necessary.
3. Check the oil level and complete if necessary.

Yearly:
1. Check tightness of the 4 mounting nuts on the B200 PTO.

5.2 Compressor oil change

Oil recommendations: See § LUBRICANT RECOMMENDATIONS.

Depending on the inclination of the compressor, remove the lowest drain plug 44.
Put plug 44 back into place and remove filling plug 399 and fill the compressor with new oil, as recommended in § LUBRICANT RECOMMENDATIONS.
5.3 Inlet shaft replacement

The B200 PF inlet shaft has a groove that breaks the shaft in case of excess torque, as required to protect the gear box and the PTO.

Before replacing the inlet shaft, it is essential to make sure that the compressor is not damaged:

- Loosen and remove the 8 screws 1095.
- Remove the wheel, complete with the remaining part of the shaft.
- Rotate the wheel 6 manually and check that it can rotate freely and without any hard point over a complete rotation.
- Inspect the screws on the discharge part and make sure that there are not any marks of contact between the screws, or due to the presence of any foreign bodies.

**WARNING**

The compressor is to replace if:

- wheel 6 does not rotate.
- wheel 6 cannot rotate easily.
- marks can be seen on the screws.

Screws 1095 must be:
- equipped with their lock washers, notches on the side of the screw head,
- sealed with Loctite® * thread locking 243 or equivalent,
- tightened at 13 Nm.

5.4 Warranty claims

The compressor oil is considered as wear part.

No failure connected with wear part damage will be accepted under warranty conditions.

The following situations will void warranty for all components of the compressor:

- Tampering with the setting of the relief valve.
- Presence of foreign material inside the compressor body.
- Traces of damage representative of abnormal use of the compressor.
- Use of non genuine parts.
- If the compressor is repaired by a repairer who is not a MOUVEX-approved repairer.
- Construction of the package not validated by our Design Office.
- Use of an oil other than BSC2.
- Presence of a dumping valve on the pipe linking the compressor to the tank hose connector.
- Motor management not fixed, allowing the operator a using outside the working range.

Before returning your equipment to the factory, you must first obtain an Equipment return approval (RMA) from our After Sales Department.

A Compressors form information shall be filled by the installer or distributor and send to MOUVEX in order to claim for a warranty.

*Loctite® is a registered trademark.
6. TROUBLESHOOTING

CAUTION:
OBSERVE ALL SAFETY WARNINGS CONTAINED IN THIS MANUAL.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible origin</th>
<th>Possible solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pressure issue</td>
<td>Too much pressure drop.</td>
<td>To check pipes diameter.</td>
</tr>
<tr>
<td></td>
<td>Relief valve damaged.</td>
<td>To check the opening point.</td>
</tr>
<tr>
<td></td>
<td>No return valve damaged.</td>
<td>To check the proper operating of the No return valve.</td>
</tr>
<tr>
<td>2. Flow rate issue</td>
<td>Wrong Compressor speed.</td>
<td>To adjust the speed by taking care of the range allowed.</td>
</tr>
<tr>
<td></td>
<td>Relief valve damaged.</td>
<td>To check the opening point.</td>
</tr>
<tr>
<td>3. Abnormal high temperature</td>
<td>Air filter clogged.</td>
<td>To clean the cartridge or to replace it.</td>
</tr>
<tr>
<td></td>
<td>Air pressure too high.</td>
<td>To see problems 1. / 2.</td>
</tr>
<tr>
<td></td>
<td>Outside temperature too high.</td>
<td>To respect the maximum external temperature allowed.</td>
</tr>
<tr>
<td></td>
<td>Lack of oil.</td>
<td>To check the oil level.</td>
</tr>
<tr>
<td></td>
<td>Compressor speed too low.</td>
<td>To adjust the speed by taking care of the range allowed.</td>
</tr>
<tr>
<td>4. Inlet pressure drop 75 mbar</td>
<td>Air filter clogged.</td>
<td>To clean the cartridge or to replace it.</td>
</tr>
<tr>
<td>(Clogging indicator red)</td>
<td>Air inlet hose folded.</td>
<td>To check the air inlet hose.</td>
</tr>
<tr>
<td>5. Compressor doesn’t operate</td>
<td>Torque limiter damaged.</td>
<td>To replace the torque limiter.</td>
</tr>
<tr>
<td></td>
<td>Transmission damaged.</td>
<td>To consult your Service point.</td>
</tr>
<tr>
<td>6. Torque limiter damaged</td>
<td>Screw Compressor damaged.</td>
<td>To consult your Service point.</td>
</tr>
<tr>
<td></td>
<td>Wrong motor / transmission management.</td>
<td>To consult your Truck dealer.</td>
</tr>
<tr>
<td></td>
<td>Oil too much viscous.</td>
<td>To be in compliance with the MOUVEX Instructions.</td>
</tr>
<tr>
<td>7. Oil leak</td>
<td>Too much oil.</td>
<td>To check the oil level.</td>
</tr>
<tr>
<td></td>
<td>Oil breather clogged.</td>
<td>To clean the oil breather.</td>
</tr>
<tr>
<td>8. Vibrations</td>
<td>Wrong motor speed.</td>
<td>To increase the speed by taking care of the range allowed.</td>
</tr>
<tr>
<td></td>
<td>Transmission damaged.</td>
<td>To check the driving shaft.</td>
</tr>
<tr>
<td></td>
<td>Lack of rigidity of the chassis.</td>
<td>To be in compliance with the Truck Manufacturer Instructions.</td>
</tr>
</tbody>
</table>

7. STORAGE CONDITIONS

7.1 Compressor

The equipment must be systematically stored in an area sheltered from bad weather.

The equipment must bear its original protective components until it is installed in its final application.

If installation is interrupted, put back in place the original protective components or equivalent components.

7.2 BSC2 oil

In its unopened original container in a dry, frost-free and light-free place.

The maximum shelf life is approx. 60 months.

8. SCRAPPING

The compressor must be scrapped in compliance with the regulations in force.

During this operation, particular care must be paid to the drainage stages of the compressor.
# 9. COMPRESSORS FORM INFORMATION

Before any material return, it is required to get an authorization from MOUVEX.

| MOUVEX After Sales Department | Tel : (33) 3 86 49 86 03 |
| Z.I. La Plaine des Isles        | Fax : (33) 3 86 49 86 48 |
| 89000 AUXERRE - FRANCE         | Date : Followed by : |

**In order to properly deal with the return material, please fill in this form.**

### A - Name and address of user

- Person to contact: ____________________________ Phone Nr: ____________________________

### B - Name and address of installer

- Person to contact: ____________________________ Phone Nr: ____________________________

### C - Material's serial number  
### D - Starting up date  

- Running time estimation: ____________________________

### E - Installation details

- ☐ PTO flanged
- ☐ Propshaft drive system (direct PTO drive)
- ☐ 30R ☐ 20R ☐ 19R ☐ 13R ☐ 22L ☐ 15L
- ☐ 12R ☐ 10L
- ☐ Torque limiter
- ☐ Pressure relief valve setting (value)  
- ☐ Belt drive system
- ☐ Package air cooler
- ☐ Package RTI
- ☐ Other (electric, thermic or hydraulic motor)

### F - Operating parameters

- ☐ Compressor's speed
- ☐ Operating pressure
- ☐ Motor speed (tachometer) at the time of the incident
- ☐ PTO ratio:
- ☐ Product transferred

### G - Suction conditions

- ☐ Air connection on truck chimney
- ☐ Direct air connection
- ☐ Flexible pipe between filter and compressor
- ☐ Inox pipe between filter and compressor

### H - DESCRIPTION OF THE FAILURE

- ☐ Blocking  ☐ Leakage  ☐ Noise, vibration
- ☐ Other: ____________________________

### I - Has the machine been replaced by a new one? If yes which is the serial number

### J - Has the machine been replaced by a removed one? If yes which is the serial number

### K - Remarks and comments of the user about the problem:

- ____________________________
- ____________________________
- ____________________________

Please send us back this completed form by fax or E-mail as quick as possible.
DECLARATION DE CONFORMITE
CERTIFICATE OF CONFORMITY - KONFORMITÄTSERKLÄRUNG

MOUVEX sas, 2 Rue des Caillottes – 89 000 Auxerre France, déclare que l’équipement suivant / declares the following equipment / erklärt, dass folgende Ausrüstung:

Modèle: ____________________________ N° de série: ____________________________
Designation / Bezeichnung: ____________________________ Serial N° / Serien Nr: ____________________________

Pour la Sté MOUVEX sas, fait à Auxerre le: ____________________________
For Mouvex sas company – Date: ____________________________
Fur die Fa Mouvex sas - Datum: ____________________________

Jean-François FOUIN - Responsable Qualité
Quality Manager / Qualitätsbeauftragter

Configuration:

□ Pompe / Compressore arbre nu
□ Pompe à mvt excentré (Eccentric Disc Pump / Ringkolbenpumpe)
□ Pompe à lobes (Lobes Pump / Drehkolbenpumpe)
□ Pompe péristaltique (Peristaltic Pump / Schlauchpumpe)
□ Pompe centrifuge (Centrifugal Pump / Kreiselkurbel)
□ Compressore per i vis (Screws compressor / Schraubenverdichter)
□ Pompe à palettes (Vanes Pump / Flügelzellenverdichter)
□ Refroidisseur (Hydraulic oil cooler / Hydraulikkühler)
□ Autre pompe (Other Pump / Andere Pumpe)

Type / Geräteart:

□ Pompe à mvt excentré (Eccentric Disc Pump / Ringkolbenpumpe)
□ Pompe à lobes (Lobes Pump / Drehkolbenpumpe)
□ Pompe péristaltique (Peristaltic Pump / Schlauchpumpe)
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□ Refroidisseur (Hydraulic oil cooler / Hydraulikkühler)
□ Autre pompe (Other Pump / Andere Pumpe)

Est conforme aux dispositions suivantes:

NF EN 12162:2009

Certification ATEX délivrée par l’INERIS*, Organisme Certificateur, et portant le marquage suivant : (C)

□ Directive « MACHINES » Directive 2006/42/EC as transposed by the national legislation, concerning safety equipments and arrangements relative to mechanical and electric risks applicable to rotative machines.
NF EN 12162:2009

□ Directive « ATEX » Directive 94/9/EC (23 March 1994) as transposed by the national legislation, concerning equipment intended to be used in explosive atmospheres. Conformity obtained by application of the standards:
ATEX Certification delivered by INERIS*, Notified Body, and with the following marking: (C)

L’équipement désigné ci-dessus doit être utilisé conformément à l’utilisation qui en a été prévue par sa conception et sa fabrication, et conformément aux normes en vigueur.
Nous, soussignés, déclarons que l’équipement concerné est conforme aux Directives listées ci-dessus et aux normes applicables s’y rapportant.

The equipment indicated above must be used according to the foreseen use by its design and its manufacturing, and according to the current standards.
We, undersigned, declare that the concerned equipment is in conformity with the Directives listed above and in the applicable standards in force.

□ „Maschinen-Richtlinie” 2006/42/EC wie umgesetzt im nationalen Recht hinsichtlich der Ausrüstungssicherheit und Sicherheitsanordnungen bezogen auf mechanische und elektrische Risiken, die für rotierende Maschinen gelten.
NF EN 12162:2009

□ „ATEX” Richtlinie 94/9/EG (23. März 1994) wie umgesetzt im nationalen Recht in Bezug auf Ausrüstungen für den Einsatz in explosionsgefährdeten Atmosphären. Die Konformität hat Geltung durch Anwendung folgender Normen:

Die ATEX-Zertifizierung wurde von der benannten Stelle INERIS* erteilt, und mit folgender Kennzeichnung: (C)

Oben stehend bezeichnete Ausrüstung ist entsprechend dem durch Konstruktion und Fabrikation vorgesehenen Verwendungszweck und entsprechend den geltenden Normen einzusetzen.

unterzeichnete Unternehmer erklären, dass die bezeichnete Ausrüstung den oben aufgeführten Richtlinien und den desbezüglich geltenden Normen entspricht.

II ___ G ___ II ___ – T ___ Temp Max produit pompé / Max Temp Flow / Max T° Medium = ______ °C

CTRL.D025 – rév.02 du 04/06/2012 - Déclaration de conformité CE-Atex

Page 1/2