

# ARB AIR LOCKER *Air Operated Locking Differentials*

## CKMA12 & CKMA24

On-Board Air Compressor Kit,  
High Output

| ITEM # | QTY | DESCRIPTION                        | PART #   | NOTES |
|--------|-----|------------------------------------|----------|-------|
| 01     | 1   | O-RING (BS010V75)                  | 160242   | 5     |
| 02     | 1   | MANIFOLD CAP (1/4" NPT)            | 320214   |       |
| 03     | 1   | PRESSURE SWITCH (1/4" NPT)         | CO35     |       |
| 04     | 2   | O-RING (BS031N70)                  | 160241   | 5     |
| 05     | 1   | MANIFOLD TUBE                      | 320215   |       |
| 06     | 2   | HEX BOLT (M6 x 60mm)               | 200703   |       |
| 07     | 1   | COMPRESSOR HEAD ASSEMBLY           | 320102   |       |
| 08     | 1   | SAFETY VALVE POPPET                | 320205   | 1     |
| 09     | 1   | SAFETY VALVE SPRING                | 150115   | 1     |
| 10     | 1   | SAFETY VALVE FITTING               | 320204   | 1     |
| 11     | 1   | HEX BOLT (M6 x 125mm)              | 200704   |       |
| 12     | 4   | HEX BOLT (M6 x 12mm)               | 200702   |       |
| 13     | 1   | MANIFOLD SUPPORT BRACKET           | 320207   |       |
| 14     | #   | AIR LOCKER CONTROL SOLENOID (12V)  | 180103   |       |
| 15     | #   | NIPPLE (1/8" to 1/8" BSPT)         | 170501   |       |
| 16     | #   | PUSH-IN FITTING (5mm to 1/8" BSPP) | 170201   |       |
| 17     | 3   | O-RING (BS032S70)                  | 160247   | 5     |
| 18     | 1   | VALVE PLATE ASSEMBLY               | 320105   |       |
| 19     | 1   | BARREL                             | 320201   |       |
| 20     | 1   | PISTON ASSEMBLY (SERVICE KIT)      | 320302   | 6     |
| 21     | 1   | STICKER, CKM COMPRESSOR            | 210122   |       |
| 22     | 1   | MOUNT ASSEMBLY                     | 320101   |       |
| 23(a)  | 1   | MOTOR ASSEMBLY (12V)               | 320104   | 2     |
| 23(b)  | 1   | MOTOR ASSEMBLY (24V)               | 320106   | 2     |
| 24     | 4   | HEX BOLT (M6 x 25mm)               | 200405   |       |
| *      | 4   | CARRIAGE BOLT (M6 x 25mm)          | 6151082  |       |
| 25     | 4   | FLAT WASHER (M6)                   | 200709   |       |
| 26     | 1   | BACKING PLATE                      | 290603   |       |
| 27     | 4   | NYLON LOCK-NUT (M6)                | 6151223  |       |
| 28     | 1   | AXLE                               | 320203   |       |
| 29     | 1   | CAP SCREW (M5 x 20mm)              | 200711   | 6,7,8 |
| 30     | 1   | AIR FILTER FLANGE (1/4" NPT)       | 320212   |       |
| 31     | 1   | AIR FILTER BASE                    | 320501B  | 3     |
| 32     | 1   | AIR FILTER ELEMENT (DISK TYPE)     | 290503   | 3     |
| 33     | 1   | AIR FILTER COVER                   | 320501A  | 3     |
| 34     | 1   | O-RING (BS029N70)                  | 160250   | 5,8   |
| *      | 1   | WIRING LOOM (CKMA12 & CKMA24)      | 180409   | 4     |
| *      | 1   | RELAY (12V,40A)                    | CO42     |       |
| *      | 1   | SWITCH (12V)                       | 180209   |       |
| *      | 1   | SWITCH COVER (COMPRESSOR)          | 180212   |       |
| *      | 1   | SCOTCH LOCK ELEC. CONNECTOR (564)  | CO45     |       |
| *      | 2   | PLUG (1/8" BSPT)                   | 170802   |       |
| *      | 2   | EYE TERMINAL,10MM (YELLOW)         | 180702   |       |
| *      | 1   | EYE TERMINAL,10MM (BLUE)           | CO44     |       |
| *      | 1   | FUSE,40A,MAXI TYPE                 | 180703   |       |
| *      | 1   | MINI BLADE FUSE HOLDER, 5A FUSE    | 180418   | 9     |
| *      | 1   | EYE TERMINAL,8MM (RED)             | 180707   | 9     |
| *      | 1   | CABLE JOINER,INSULATED (RED)       | 180708   | 9     |
| *      | 1   | INSTALLATION GUIDE,CKMA            | 2102MA12 |       |

# Available separately or included with Air Locker kits.

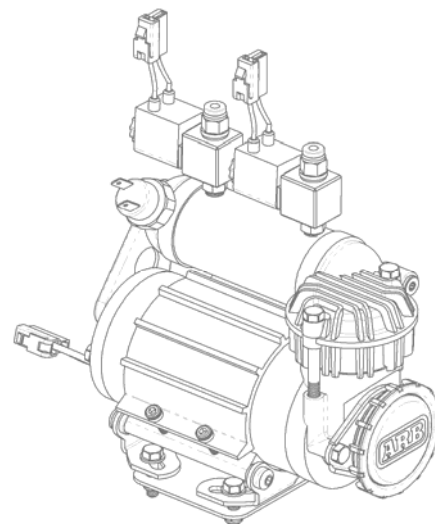
\* Not illustrated in exploded view.

## Specs:

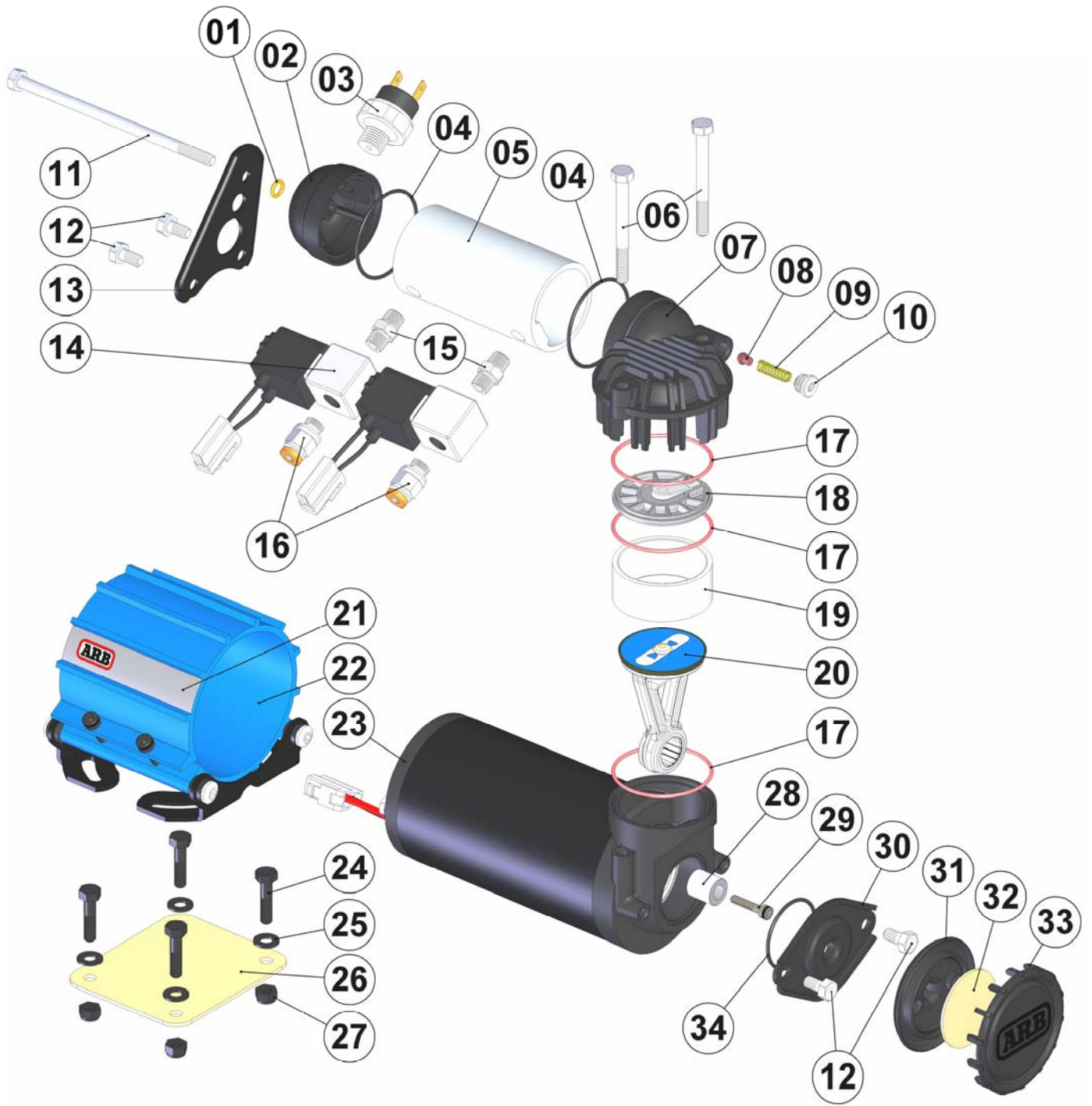
|                 |   |
|-----------------|---|
| Voltage         | 12 Volts (CKMA12), 24 Volts (CKMA24)                                      |
| Current Draw    | No-Load 14.2A (CKMA12 only)<br>Load 25.2A (CKMA12 only)                   |
| Air Flow        | 87.2L/min @ 0kPa [3.08CFM @ 0psi]<br>65.9L/min @ 200kPa [2.34CFM @ 29psi] |
| Total Weight    | 4.5kg [9.9lbs]  |
| Size            | 145mm x 190mm x 98mm (H,L,W)<br>[5.7" x 7.5" x 3.9"]                      |
| Manifold Port   | 1/4" NPT [Pressure Switch] x 1<br>1/8" BSPT [Solenoid nipple] x 2         |
| Pressure Switch | Open 690kPa [100psi]<br>Closed 490kPa [70psi]                             |
| Safety Valve    | OPEN @ > -1250Kpa [180 PSI]   |

## Notes:

- 1 Comes pre-assembled with HEAD ASSY (07).
- 2 Motor voltage is the only difference between the CKMA12 and the CKMA24 compressors. Motor is serviceable with replacement brushes available as #320111.
- 3 AIR FILTER BASE (31) & COVER (33) available only in AIR FILTER ASSY #320501 which also includes the element.
- 4 Wiring loom #180409 suits 12 & 24 volt systems. See full wiring diagram attached.
- 5 Complete set of O-ring seals is also available as O-ring Service Kit #320301.
- 6 PISTON ASSEMBLY (20) comes only as a service kit also containing the BARREL (19), AXLE (28), and CAP SCREW (29).
- 7 Thread lock must be applied to threads of CAP SCREW (29) and then torqued to 10 Nm [7.4ft-lb]. CAP SCREW (29) should never be re-used once it has been fully torqued once.
- 8 Pre June 2009 CKMA's used O-RING 160243 and CAP SCREW 200708 (M4 x 20mm torque to 6Nm [4.4ft-lb]).
- 9 Only included in the CKMA24



**CKMA12 & CKMA24** Air Compressor – Exploded Parts Diagram

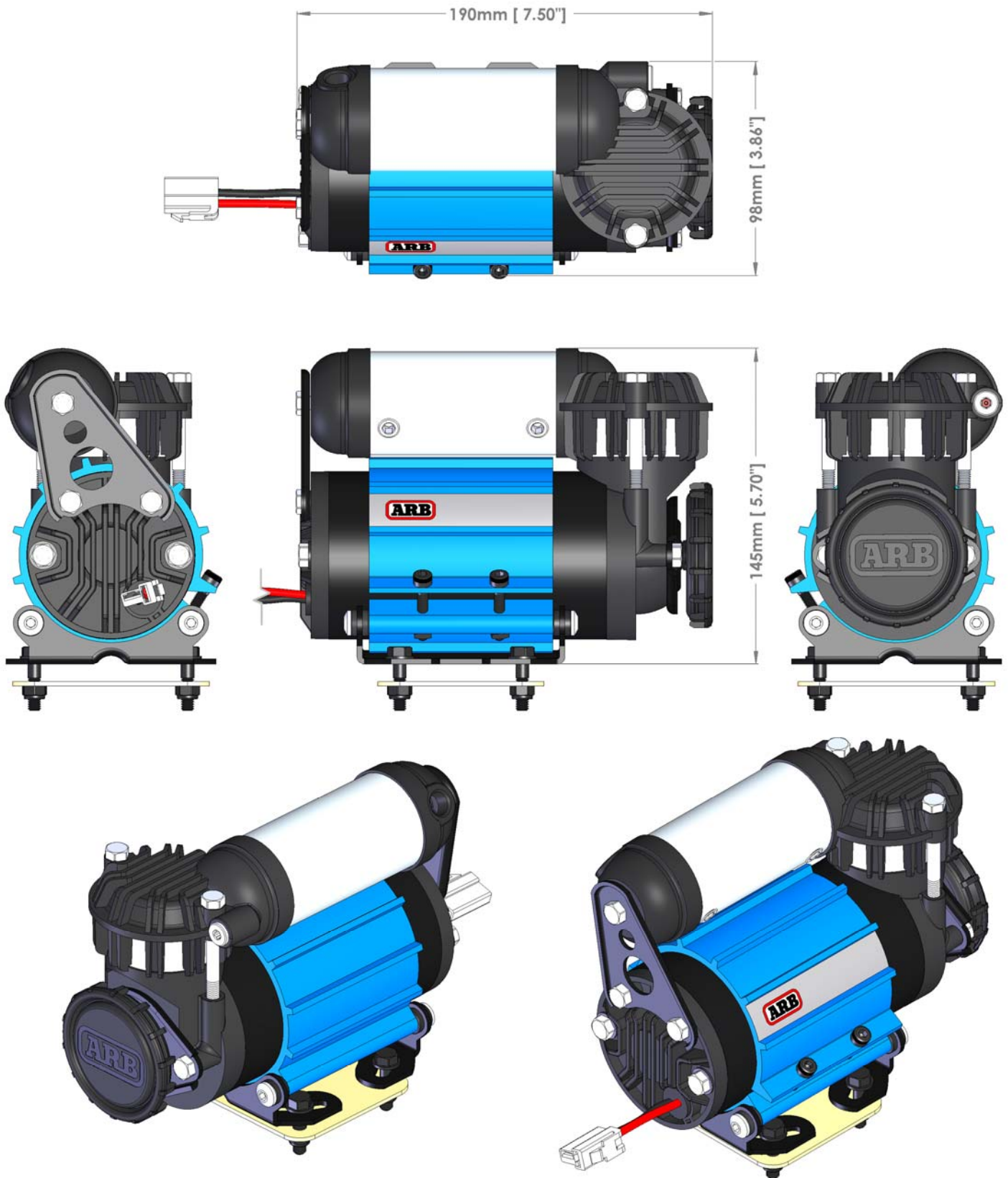


**CKMA12 & CKMA24**



# ARB AIR LOCKER *Air Operated Locking Differentials*

## **CKMA12 & CKMA24** Air Compressor – Overall Sizes



## Description:

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The ARB CKMA12 and CKMA24 compressor kits were designed specifically as a versatile, quick installing, compact yet high-flow air source to suit the ARB Air Locker, which also suits the harsh and demanding environment of the ARB Air Locker user.

## Features:

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- Available in 12V (CKMA12) or 24V (CKMA24) models.
- Ultra compact design makes it the highest flowing compressor in its class (voltage vs. size), and able to fit into tight areas where other high flowing compressors will not.
- Fully sealed components for moisture and dust resistance.
- Pressure switch controlled air manifold system specially designed to suit all ARB Air Locker equipped vehicles.
- Hard-anodized cylinder bore and PTFE (Teflon) impregnated carbon fibre piston seal for reduced friction and maximum trouble free life.
- Anodized mounting bracket dissipates motor heat and allows compressor to be repositioned 180°.
- Anti-vibration / sound deadening is integrated into the mount.
- Relocatable splash resistant air filter assembly for cleaner, cooler air supply and versatile waterproof air intake positioning.
- High density and high flow washable sintered bronze air filter element.
- Full wiring loom included for simplified installation and easy plug-in connectivity to Air Locker control solenoids.
- Heavy duty Maxi-Fuse equipped for professional in-line circuit protection.
- Motor is 100% ball bearing equipped, and features a unique linear brush pre-load system for extra long life, low heat and quiet operation throughout the life of the unit.
- Compressor piston is equipped with a German made high shock load rated cylindrical roller bearing.
- Constructed entirely of light weight, high strength, engineering grade materials, including military and aerospace standard components.
- Over-pressure safety valve equipped.
- Motor has internal thermal protection against extreme temperature damage.
- \*Motor has integrated EMC noise suppression to protect sensitive auto electronic systems.

## Kit Includes:

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- Fully assembled and tested air compressor (12V or 24V).
- Complete wiring loom w/ Air Locker solenoid plug-in contacts.
- OEM quality IP54 rated compressor isolating dash switch.
- Air Locker supply rated pressure switch (490-690 KPa [70-100 PSI]).
- Relocatable splash resistant air filter with washable high-flow sintered bronze filter cartridge.
- Mounting hardware with reinforcing backing plate.
- Comprehensive photo illustrated installation guide.

\* CKMA12 and CKMA24 are certified compliant to EN 55014.1 (AS/NZS CISPR 14.1) and meets or surpasses the following Australian and European directives.

 N17876  - 2004/108/EC – EMC directive

**ARB Part # 180409** Air Compressor Loom – Wiring Diagram

