

GOVERNMENT APPROVED TEST LABORATORY
IN TERMS OF ARP 0108: "REGULATORY REQUIREMENTS FOR EXPLOSION PROTECTED APPARATUS"

IA CERTIFICATE

Date Issued: **25 Apr 2019**
*Expiry date: **25 Apr 2029**
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Issue: 0

Ex – Type Examination Certificate

Certificate Number: **M-XPL/18.1314 X**
Equipment: **Submersible Pump**
Model / Type: **Varkie S370X**
Applicant: **Amandla Pumps**
P.O Box 26468
Eastrand
1462

Manufacturer: **Amandla Pumps**
Serial No: All serial numbers of equipment covered by a valid report or acceptable product certification mark.

Supplied by
Amandla Pumps
Identified by Inspection Authority number
M-XPL/18.1314 X

And as described in the Explolabs file number **XPL/20116/18.1314** is hereby certified "Explosion Protected (Refer to clause 1, for Ex Rating)", having been examined and inspected in accordance with the relevant requirements of South African Standards.

- SANS 60079-0: 2012 Ed 5** Explosive atmospheres Part 0: Equipment — General requirements
- IEC 60079-0: 2011 Ed 6**
- SANS 60079-1: 2015 Ed 5** Explosive atmospheres Part 1: Equipment protection by flameproof enclosures "d"
- IEC 60079-1: 2014 Ed 7**

Risk of ignition provided:

Protection afforded	Equipment Protection Level (EPL)	Performance of protection	Conditions of operation	T class or Max Surface Temp (°C)
	Group			
High	Mb Group I	Suitable for normal operation and severe operating conditions	Equipment de-energized when explosive atmosphere present	T150 °C

This certification indicates compliance with R10.1 of the Mines Health and Safety Act and/or EMR 9(2) of the Occupational Health and Safety Act, provided that the apparatus is used as relevant in accordance with:

- i) SANS 10086 and IEC/SANS 61241-14 requirements as applicable;
- ii) Any conditions mentioned in the above report;
- iii) Any relevant requirements and codes of practice enforced in terms of the Mine Health and Safety Act or Occupational Health and Safety Act; and
- iv) Any restrictions and conditions enforced by the Chief Inspector of Mines or the Principal Inspector or the Chief Inspector: Occupational Health and Safety.
- v) A revision certificate replaces all previous version of the certificate.
- vi) * - Only covers equipment Imported between the "Issued" and "Expire" dates.
- vii) If and when your QAN (Quality Assurance Notification) Certificate for your equipment manufacturer expires during the valid period of the IA Certification (issued for your equipment) and a new certificate is not submitted the existing IA Certification will then be cancelled. It is thus the client's responsibility to always submit the updated and valid QAN certificate(s) to Explolabs (Pty) Ltd

1. GENERAL

The marking of the Submersible Pump shall include the following:

Ex db I Mb

The pump was manufactured by Amandla pumps and has the following general length 822.6 mm. The pump comprises of a stator housing, DE shield (Oil box) and NDE shield, and was manufactured from Grade 240-270 Cast Iron. The pump had an internal volume of approximately 15.18ℓ. The stator made provision of a junction box that is incorporated with a previously approved cable gland.

The shaft was manufactured from SS431 with a die cast rotor.

Flameproof joint

Table 1: The pump incorporated the following flameproof joints

Location of joint	Type of joint	Seals
Stator housing and DE shield	Spigot	Nitrile 'O' ring
Bearing Cover and Shaft	Cylindrical	Nitrile 'O' ring
Bearing Cover and DE shield	Cylindrical	N/A
Stator housing and NDE shield	Spigot	Nitrile 'O' ring
Junction box cover and junction box	Spigot	Nitrile 'O' ring

Fasteners

Table 2: The pump consists of the following fasteners

Location	Qty	Size & Length
NDE Shield and Stator Housing	8	M12x 30 mm Cap Screw SS304
Junction box cover and junction box	6	M12x 30 mm Cap Screw SS304
Stator housing and DE shield	8	M12 x 55 mm SS304 Stud-nut and washer
DE shield and bearing cover	4	M12 x 75 mm Cap screw SS304

Electrical Rating

1450 rpm, 37 kW

Rated Ambient temp range

-20 °C ≤ Ta ≤ +40 °C

2. INSTALLATION INSTRUCTIONS

It is the manufacturer's responsibility to supply installation instructions with each unit offered for sale as required by IEC/SANS 60079-0 Clause 30.

3. SPECIAL CONDITIONS FOR SAFE USE *(denoted by "X" after certificate number)*

Some flamepath dimensions are different than the relevant values given in Table 1 of SANS 60079- For repair work the Original Equipment Manufacturer must be consulted for information regarding the flamepath length

The pump shall be used in a submerged fluid (clean or dirty water at normal ambient temperature) and shall not expose to the atmosphere when running.

4. SCHEDULE OF LIMITATIONS *(denoted by "U" after certificate number)*

None.

5. CONDITIONS OF CERTIFICATION

All production units must be covered by a QAN (Quality Assurance Notification), Product Mark Scheme or batch evaluation.

