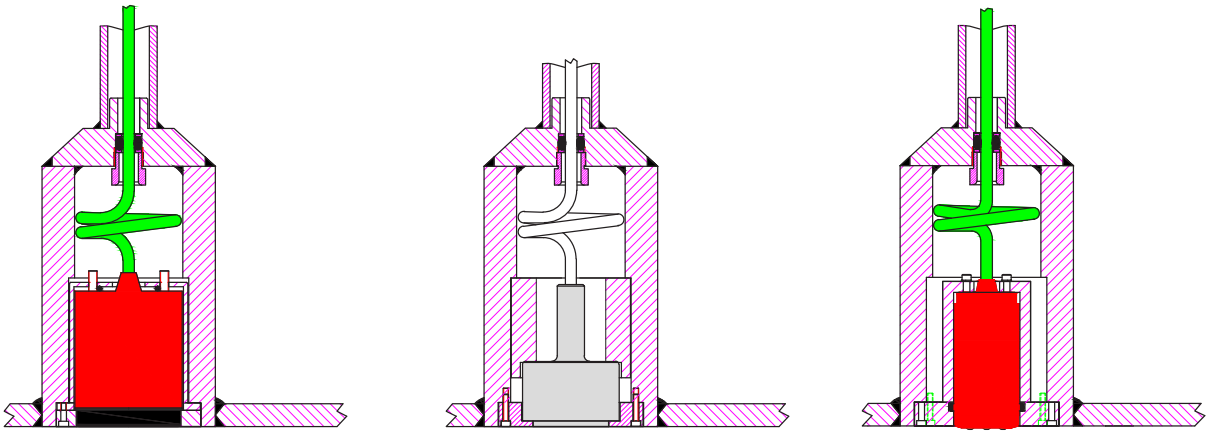
SKIPPER

Combo Tank Aluminium

ETNALC
Installation Manual



SKIPPER Electronics AS
Enebakkveien 150
P. O. Box 151, Manglerud
0612 Oslo, Norway
www.skipper.no

Telephone: +47 23 30 22 70
Telefax: +47 23 30 22 71
E-mail: support@skipper.no
Co. reg. no: NO-965378847-MVA

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Contents

1. General information

The SKIPPER ETNALC Combo Tank Aluminium is used for installation of:
1. Echo Sounder transducer type (24, 38, 50 and 200 kHz). Optional Ice/Sand protection for same.
2. DL850 Doppler Log.
3. EML224 Speed Log.

Caution!

Be aware that the sensor/transducer contains high precision parts and therefore proper handling when mounting is essential for the final result.

When handling the Tank, all lifting devices must be attached on the outside of the Tank. It is very important to not insert any chains, wire, rope or any other device into the Tank chamber. This to avoid damaging and any kind of pollution of the Tank

The SKIPPER ETNALC Combo Tank Aluminium is delivered final assembled. The parts necessary for the sensor and transducer mounting will be found packed with the sensor/transducer. First of all, it must be decided where the Tank should be installed. Normally, this will be in the fore part of the ship, in the centerline, or as close to the centerline as possible. Optimal system operation is achieved by fitting the sensor/transducer as deep as possible on the hull.

- The active surface of the sensor must be installed with front face a maximum of +/-1 degree to the ships horizontal plane. (Speed Logs)
- The active surface of the transducer must be installed with front face a maximum of +/-7 degree to the ships horizontal plane. (Echo Sounder).

Do not mount sensor/transducers close to the bow thruster propeller outlets, or aft of other hull installations (outlets, vents or other protruding details) who may create aeration or turbulence.

It is necessary to select a part of the hull that is submerged and free from turbulence and aeration under all load and speed conditions, and to avoid positions where air is trapped in heavy weather.

If a flat, horizontal section is not available for the sensor/transducer fitting, the shipyard must construct a suitable bed. Welding seams in this area should be smoothed and rounded off, in order not to create turbulence or aeration at speed.

Protect the active element of the transducer/sensors during transport and installation, and
do not paint the surface.

Important

”Sensors for Speed Log and Echo Sounder are delivered with a fixed cable. Needed attention must be taken to allow easy replacement/pulling of new cable during maintenance”.

SKIPPER Electronics AS will recommend installation positions if GA-drawings (General arrangements), lines drawings and frame drawings are made available for study.

Condition.
The welding to hull structures and structural support of the items may be subject to separate approval by classification societies for each installation on board a ship.

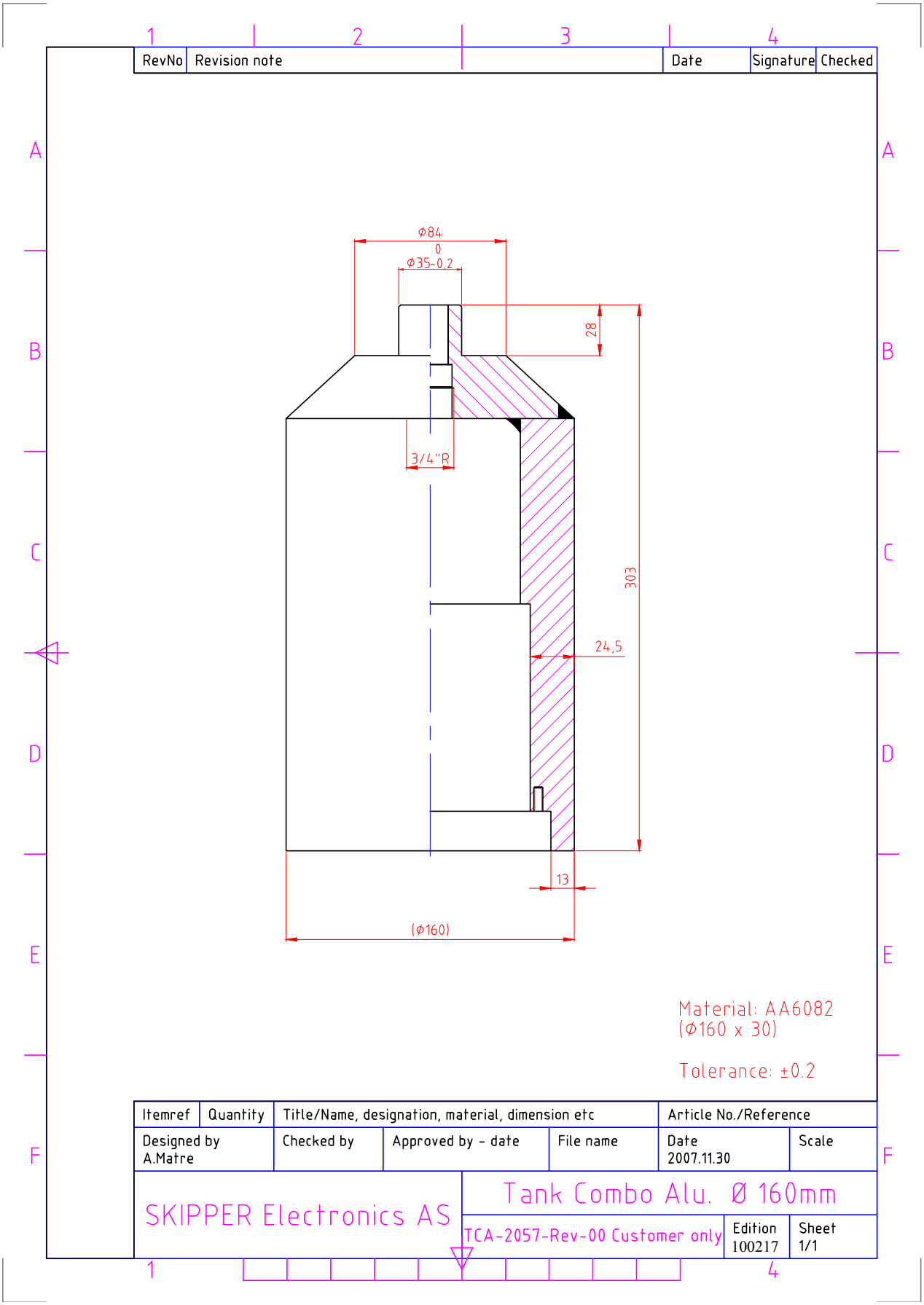
- Standard welding practice, methods and procedures should be observed, but may vary. (See welding notes).

WELDING NOTES!

All bottom parts and flanges for welding are precisely machined parts. During welding of these parts to the ship’s hull plates, careful attention must be paid to avoid construction strain on the bottom parts and flanges.

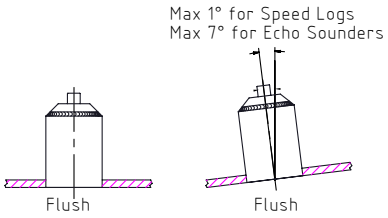
- **Let parts cool down during welding.**
- **Over heating may change fit and form and result in non-conformity with intended sensor/ transducer.**
- **Welding to thick hull steel plates will exert high stress on bottom parts and flanges.**
- **Especially care must be taken during welding of stainless steel flanges.**
- **Work must be performed by a qualified and certified welder.**

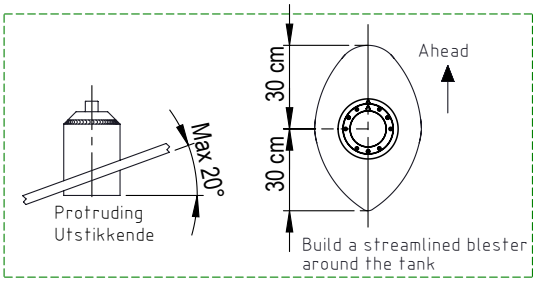
2. Combo Aluminium Tank Ø 160 mm

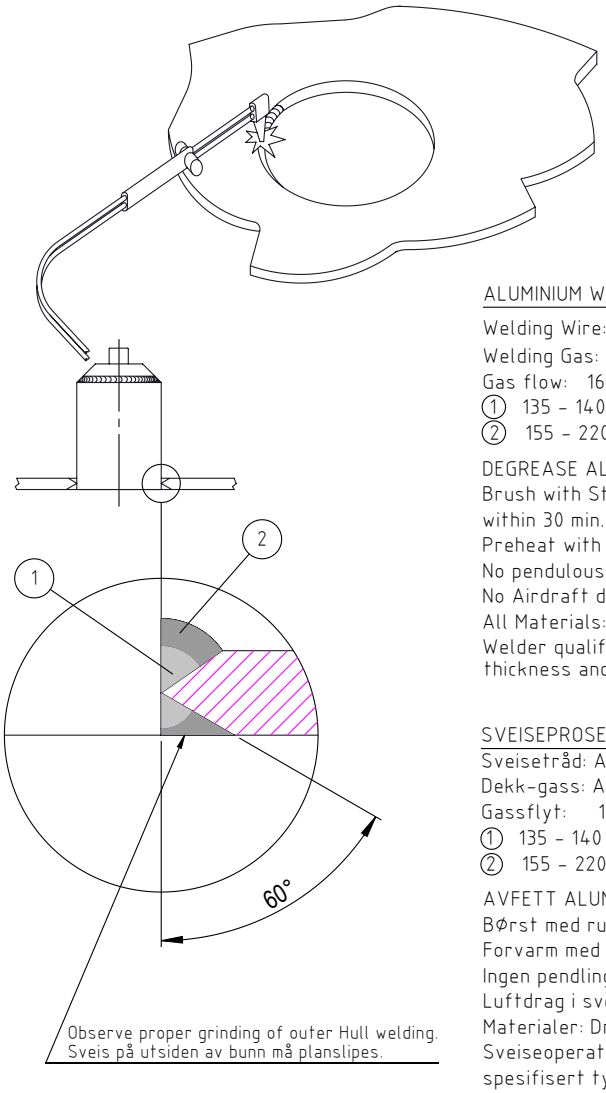


3. Aluminium Welding Procedure

RevNo	Revision note	Date	Signature	Checked







ALUMINIUM WELDING PROCEDYRE

Welding Wire: ALMg4.5Mn or equal (1.0) - 1.2 mm
Welding Gas: Argon 4.6 or Misio n 99.99
Gas flow: 16 - 19 L/min.
① 135 - 140 A
② 155 - 220 A

DEGREASE ALUMINIUM CAREFULLY
Brush with Stainless Steel Brush
within 30 min. prior to welding.
Preheat with Propan Gas thickest part min. 130°.
No pendulous movment during welding.
No Airdraft during welding at welding Position.
All Materials: DnV, GL or equal Certificates.
Welder qualification: Valid Certificate for the specified thickness and welding Positions. DnV, GL or equal.

SVEISEPROSEDYRE FOR ALUMINIUM

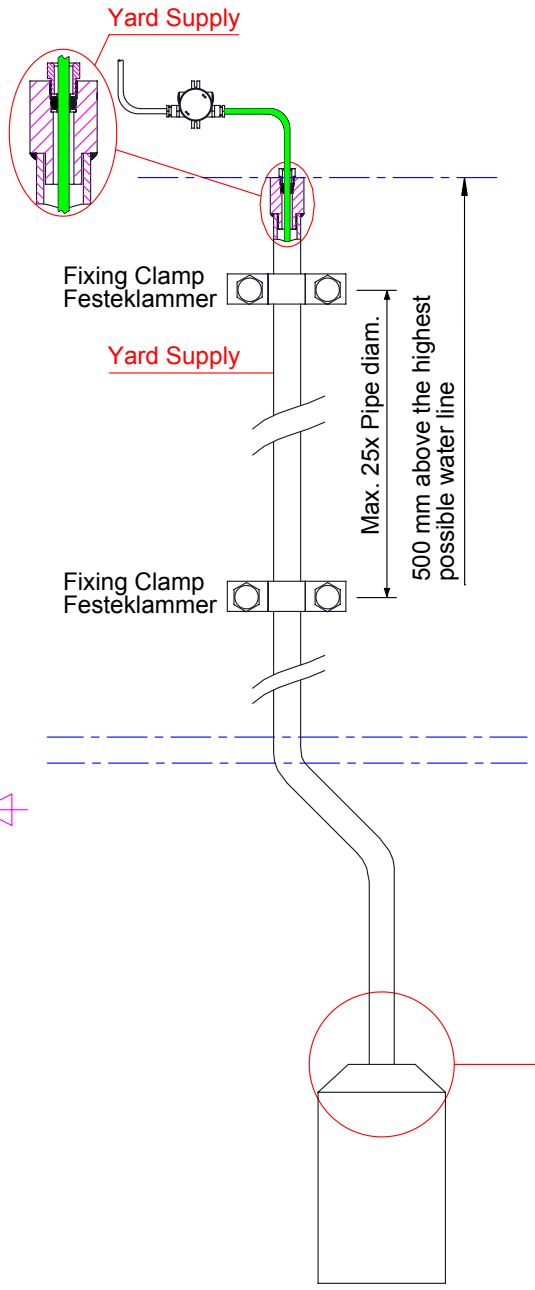
Sveisetråd: AlMg4,5Mn eller tilsv. (1,0) - 1,2 mm
Dekk-gass: Argon 4,6 eller Mision 99,99.
Gassflyt: 16 - 19 L/min.
① 135 - 140 A
② 155 - 220 A

AVFETT ALUMINIUMEN FORSIKTIG
Børst med rustfri stålbørste innen 30 min. før sveising.
Forvarm med propangass tykkeste del min. 130°C.
Ingen pendling under sveising.
Luftdrag i sveiseområdet må unngås.
Materialer: DnV, GL eller tilsv.sertifikater.
Sveiseoperatørs kvalifikasjoner: Gyldig sertifikat for spesifisert tykkelse og sveiseområde. DnV, GL eller tilsv.

Itemref	Quantity	Title/Name, designation, material, dimension etc			Article No./Reference	
Designed by A.Matre		Checked by	Approved by - date	File name	Date 2007.11.19	Scale
SKIPPER Electronics AS		Installation and welding guidance for Tranducer Tank- Alu.				
		TCA-2041-Rev-01			Edition 2013.05.15	Sheet 1/1

4. Cable Pipe for Aluminium Tank

RevNo	Revision note	Date	Signature	Checked



Watertight junction box must be sited for easy access in explosion-safe place, over max. waterline.

Aluminium Pipe, min. 35 mm diam. Inside.
Wall thickness:
- Minimum10 mm

Quality of material:
- Stated in Veritas Rules Pt.2 Ch.2 Metallic Materials Sec.9

The Pipe to be welded before pulling the Cable.
Expanding possibilities must be arranged.
Maximum distance between Pipe Clamps, 25x Pipe diam.

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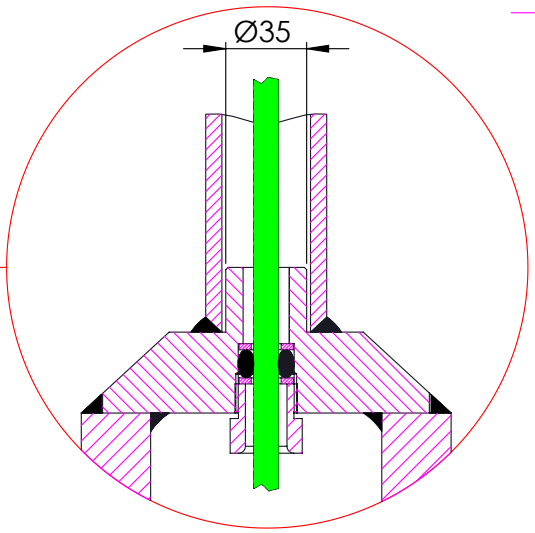
Vanntett koplingsboks plasseres på ikke eksplosjonsfarlig, lett tilgjengelig sted, over maks. vannlinje.

Aluminiumsrør innv. diam. min. 35 mm.
Veggtykkelse:
Minimum 10 mm.

Materialkvalitet:
- Se Veritas regler Pt.2 Ch.2 Metallic Materials Sec.9

Røret sveises inn med tilstrekkelig ekspansjonsmulighet, før kabelen trekkes.
Maks. klammeravstand på røret, 25x rørdiam.



Itemref	Quantity	Title/Name, designation, material, dimension etc		Article No./Reference	
Designed by A.Matre		Checked by	Approved by - date	File name	Date 2007.12.03	Scale

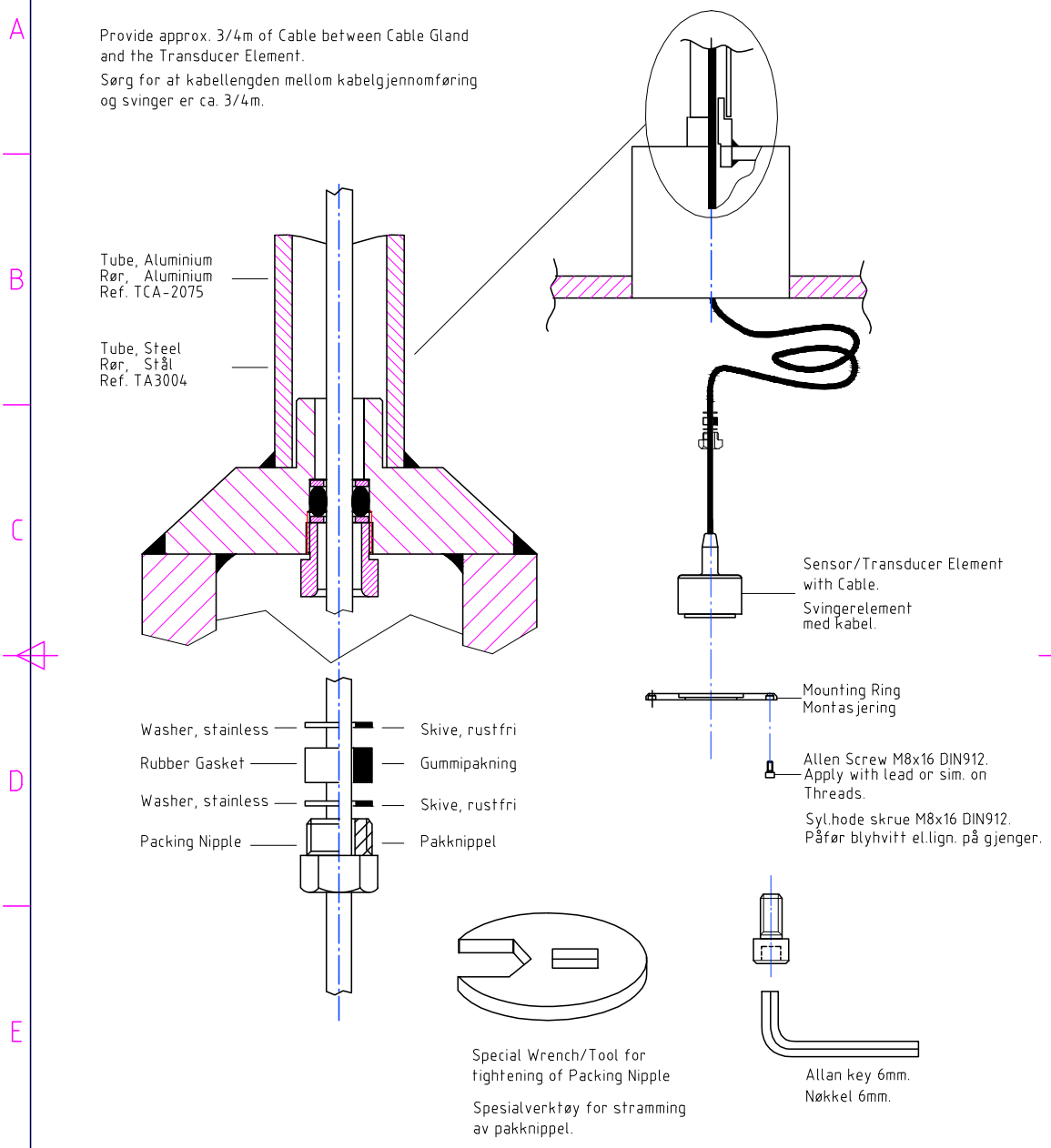
SKIPPER Electronics AS

Cable pipe for transducer tank aluminium

TCA-2075	Revision 00	Draw. Edition 2013.05.15	Sheet 01

5. Transducer Mounting

RevNo	Revision note	Date	Signature	Checked



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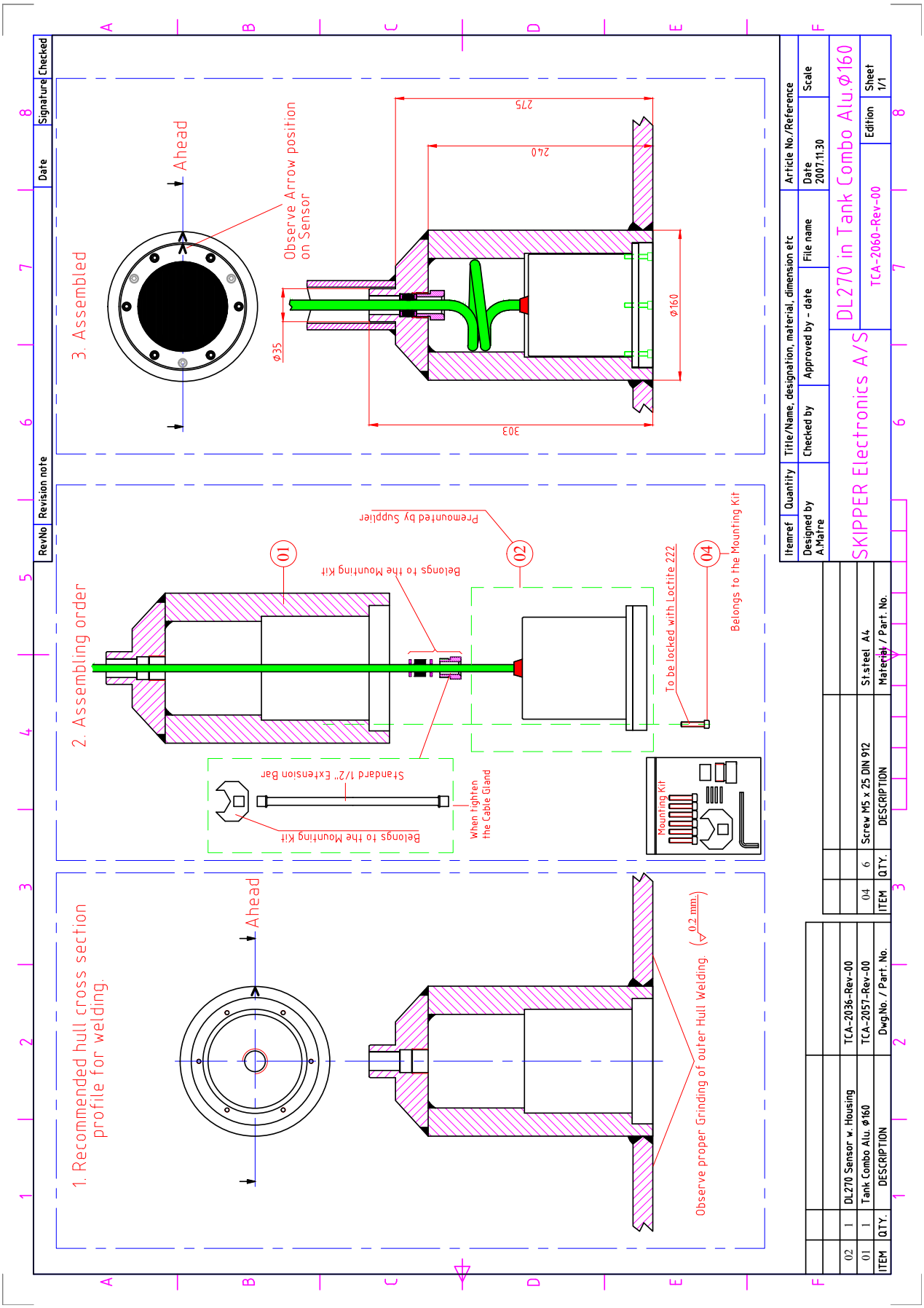
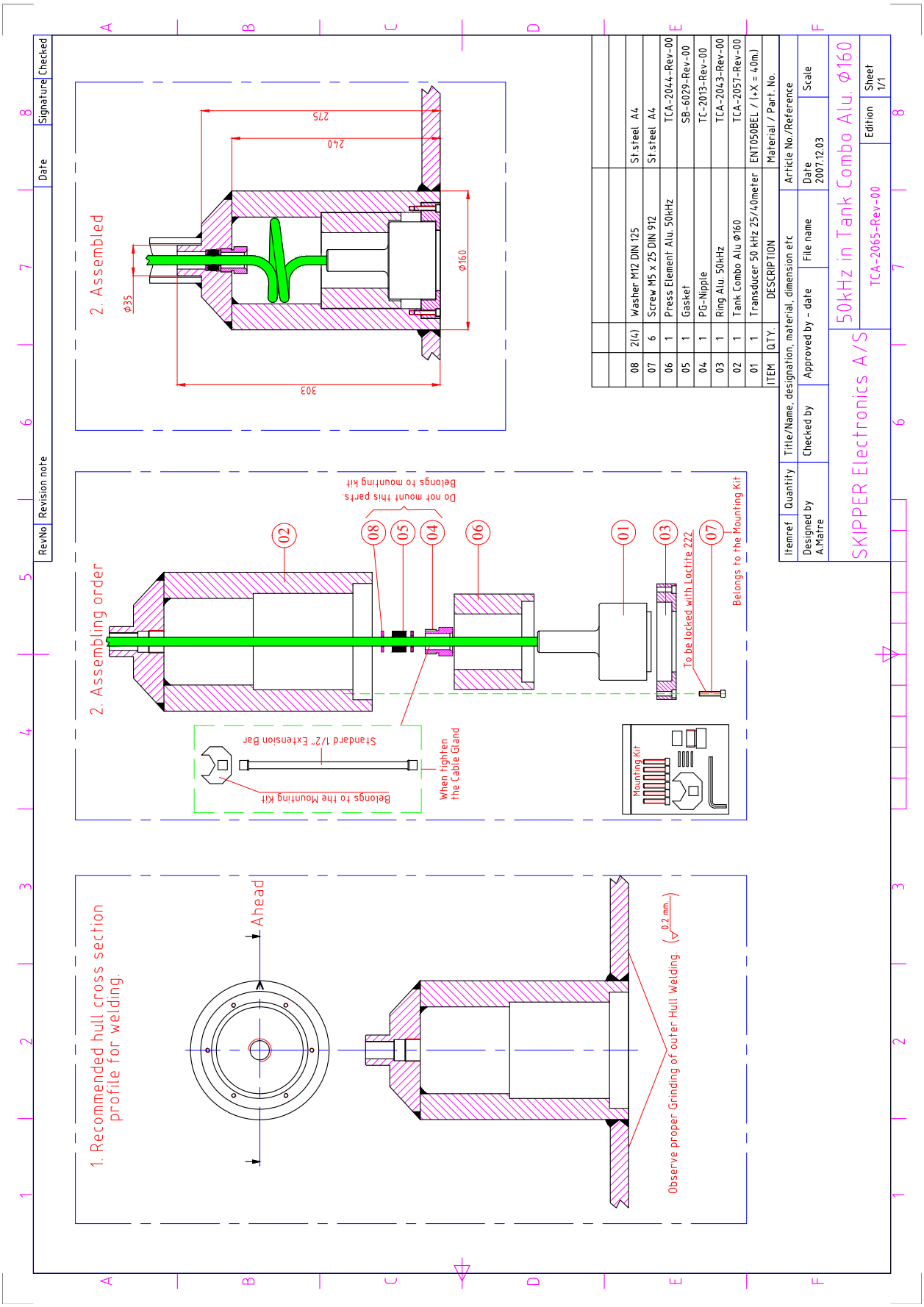
Designed by AM		Checked by VF	Approved by - date	File name	Date 2007.12.18	Scale
Skipper Electronics AS			Mounting of Transducer			
			TB-3003-Rev-01		Edition	Sheet 1/1

6. DL 270 in 160 mm Aluminium Combo Tank



7. 50 kHz in 160 mm Aluminium Combo Tank



8. EML224 in 160 mm Aluminium Combo Tank