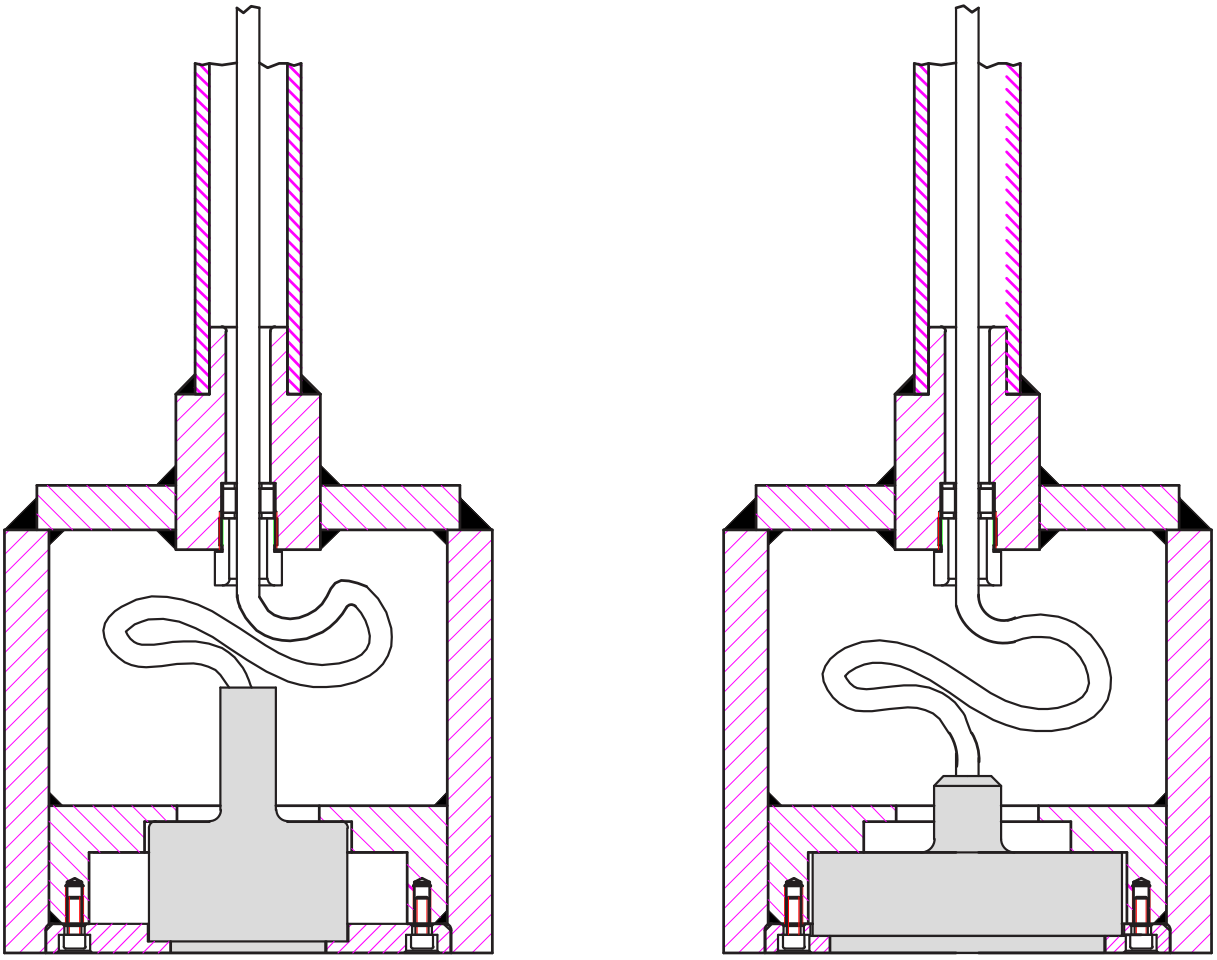
SKIPPER

Standard Tank Steel

ETNST
Installation Manual



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Document no: **DM-BETNST-SA**
Edition: 2013-05-15
Rev 1320

Contents

1. General information

The SKIPPER ETNST Standard Tank is used for installation of:
1. Echo Sounder transducer type (50 and 200 kHz).

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 ETNST Standard Tank is delivered final assembled. The parts necessary for the transducer mounting will be found packed with the 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 transducer as deep as possible on the hull.

- 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 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 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 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).

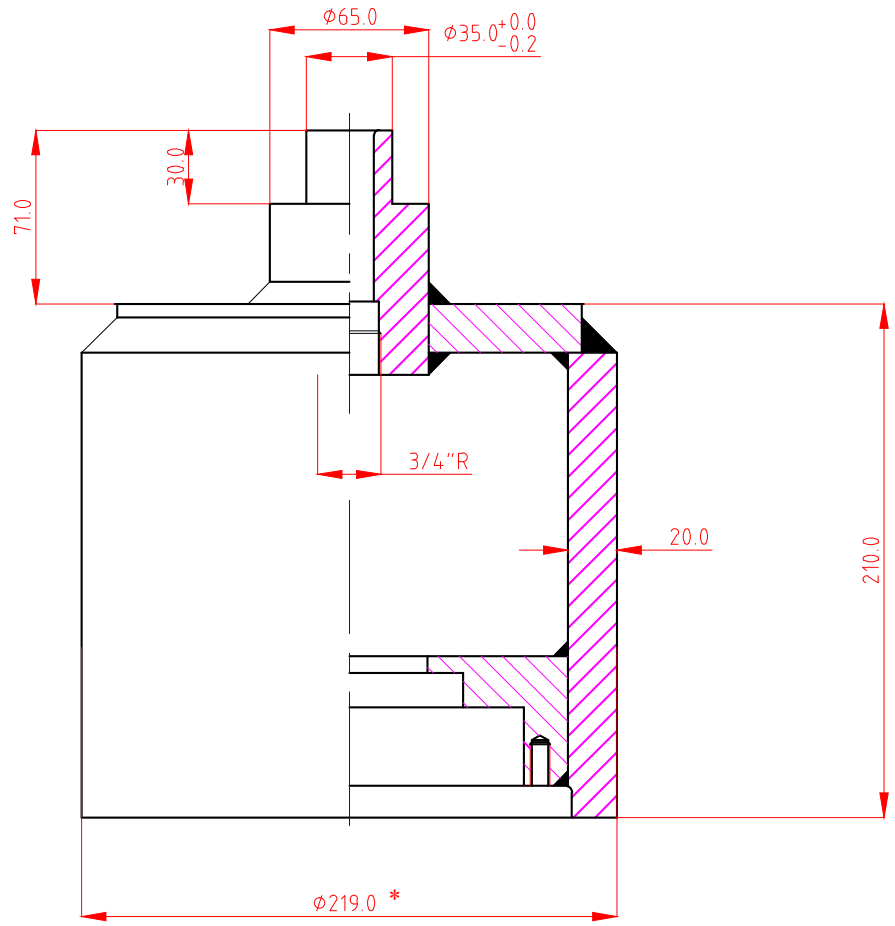
WELDING NOTES!

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. Transducer Tank ETNST

RevNo	Revision note	Date	Signature	Checked



× Note due to surface machining, the diameter may vary between 217 and 219,1

Part.no: ETNST.

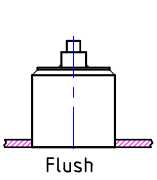
Material: ST.52.3N
Surface Treatment: Flugger 1240 Industriprimer. Colour: Red
Gen. tolerance: ±0.2

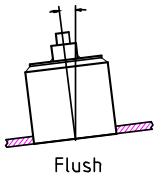
Itemref	Quantity	Title/Name, designation, material, dimension etc			Article No./Reference	
Designed by AM		Checked by VF	Approved by - date VF-2005/01/25	File name	Date 2010.02.12	Scale
Skipper Electronics AS				Transducer Tank		
				TB-2002-Rev-00-Customer only	Edition 100215	Sheet 1/1

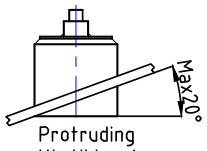
3. Installation and Welding Guidance for Transducer Tank

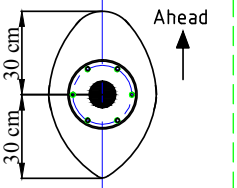
RevNo	Revision note	Date	Signature	Checked

Max 1° for Speed Logs
Max 7° for Echo Sounders

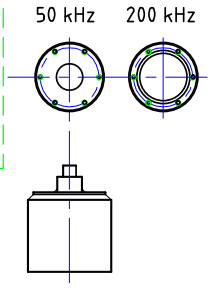


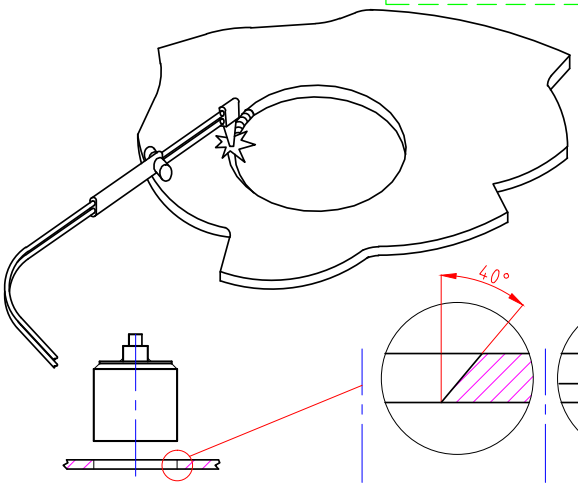




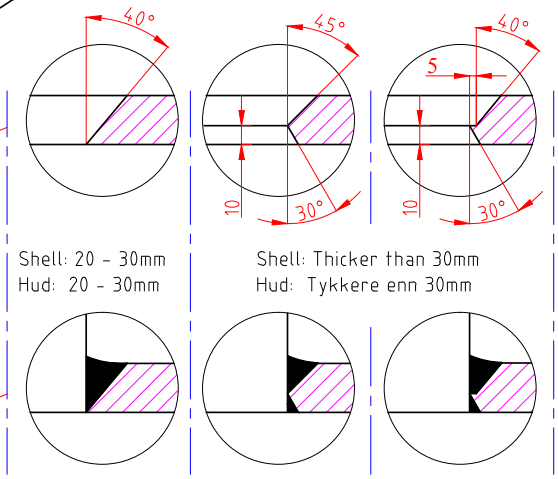


Build a streamlined blester around the tank



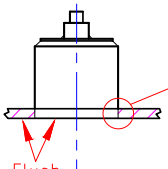


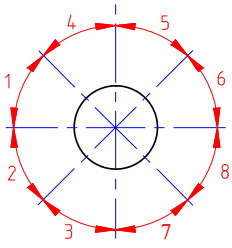
Material Tickness Top and Sides: 20mm
Materialtykkelse topp og sider: 20mm



Shell: 20 - 30mm
Hud: 20 - 30mm

Shell: Thicker than 30mm
Hud: Tykkere enn 30mm





Welding sequence
Sveise rekkefølge

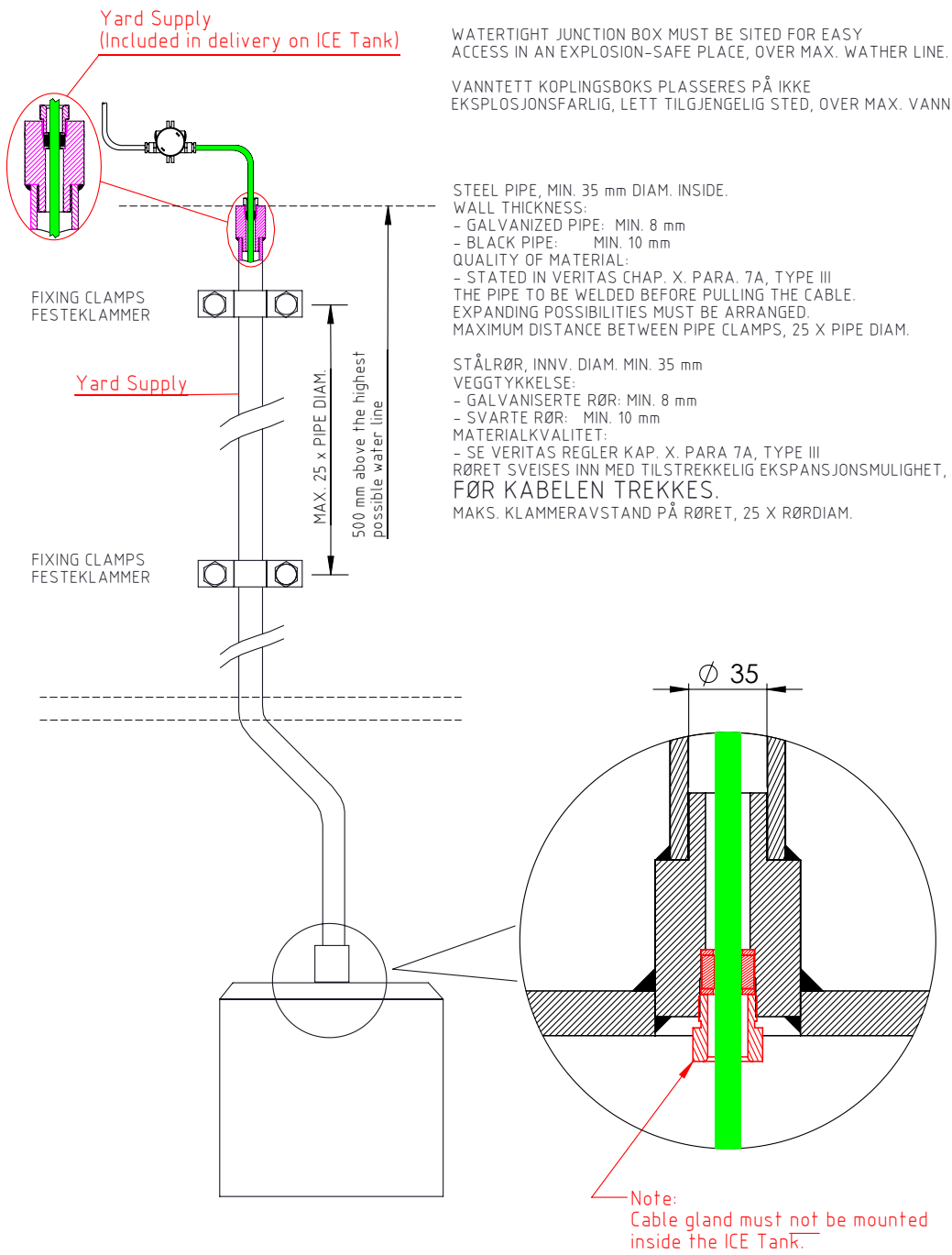
Weld the Tank according to procedure as shown.
Use low-Hydrogen electrodes, e.g OK 4800. In order to avoid contraction strain, hammer each Welding seam before applying. next. Allow the Tank to cool down during welding.
DO NOT HAMMER THE LAST WELDING SEAM!
Grind flush all Weldings within 5M in front of, and 3M to the side of the Transducer. Finally, paint the Transducer Tank inside and outside with a non-corrocive coating.

Sveis tanken i henhold til viste prosedyre. Bruk lavhydrogen elektroder, f.eks. OK 4800.
For å unngå krympespenninger mest mulig, hamres hver sveisestreng før neste legges, og tanken holdes så kald som mulig under sveising.
SISTE SVEISESTRENG MÅ IKKE HAMRES!
Planslip alle sveisesømmer innenfor et areal av 5M i front og 3M til hver side for svingeren. Til slutt males svingertanken utvendig og innvendig med korrosjonshindrende maling.

Itemref	Quantity	Title/Name, designation, material, dimension etc		Article No./Reference	
Designed by A.Matre	Checked by	Approved by - date	File name	Date 2007.10..16	Scale
SKIPPER Electronics AS		Installation and welding guidance for Tranducer Tank			
		TB-3001-Rev-03		Edition 12.05.24	Sheet 1/1

4. Cable Pipe for Transducer Tank

RevNo	Revision note	Date	Signature	Checked



WATERTIGHT JUNCTION BOX MUST BE SITED FOR EASY ACCESS IN AN EXPLOSION-SAFE PLACE, OVER MAX. WATHER LINE.

VANNTETT KOPLINGSBOKS PLASSERES PÅ IKKE EKSPLOSJONSFARLIG, LETT TILGJENGELIG STED, OVER MAX. VANNLINJE.

STEEL PIPE, MIN. 35 mm DIAM. INSIDE.
WALL THICKNESS:
- GALVANIZED PIPE: MIN. 8 mm
- BLACK PIPE: MIN. 10 mm

QUALITY OF MATERIAL:
- STATED IN VERITAS CHAP. X. PARA. 7A, TYPE III

THE PIPE TO BE WELDED BEFORE PULLING THE CABLE.
EXPANDING POSSIBILITIES MUST BE ARRANGED.
MAXIMUM DISTANCE BETWEEN PIPE CLAMPS, 25 X PIPE DIAM.

STÅLRØR, INNV. DIAM. MIN. 35 mm
VEGGTYKKELSE:
- GALVANISERTE RØR: MIN. 8 mm
- SVARTE RØR: MIN. 10 mm

MATERIALKVALITET:
- SE VERITAS REGLER KAP. X. PARA 7A, TYPE III

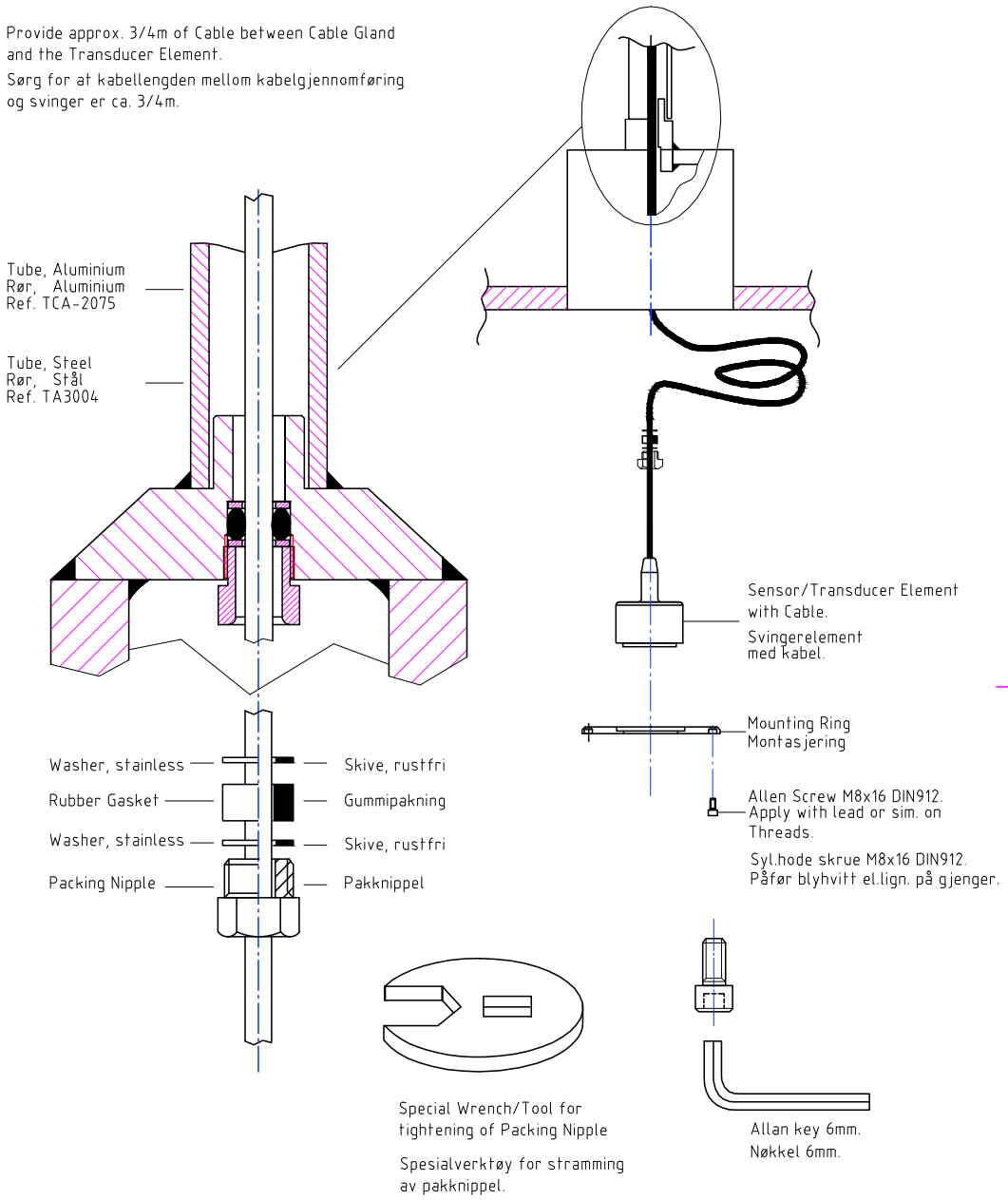
RØRET SVEISES INN MED TILSTREKKELIG EKSPANSJONSMULIGHET, FØR KABELEN TREKKES.
MAKS. KLAMMERAVSTAND PÅ RØRET, 25 X RØRDIAM.

Designed by	Date	Scale	Checked by	Approved by - date
AM	2007.12.18		VF	

Skipper Electronics AS	Cable pipe for Transd.Tank Steel			
	TA-3004	Revision 01	Edition date 2013.05.07	Sheet 1/1

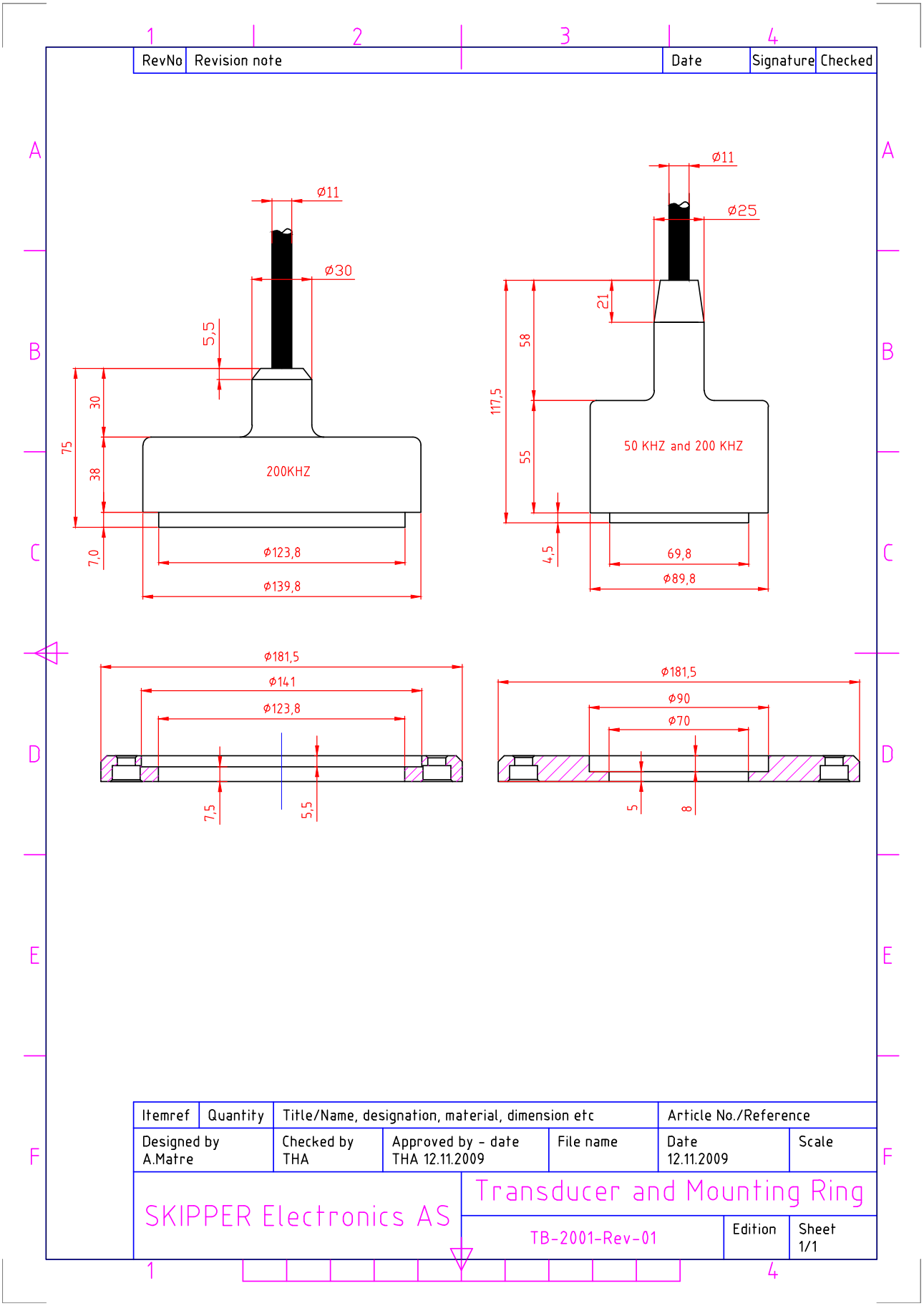
5. Mounting of Transducer

RevNo	Revision note	Date	Signature	Checked



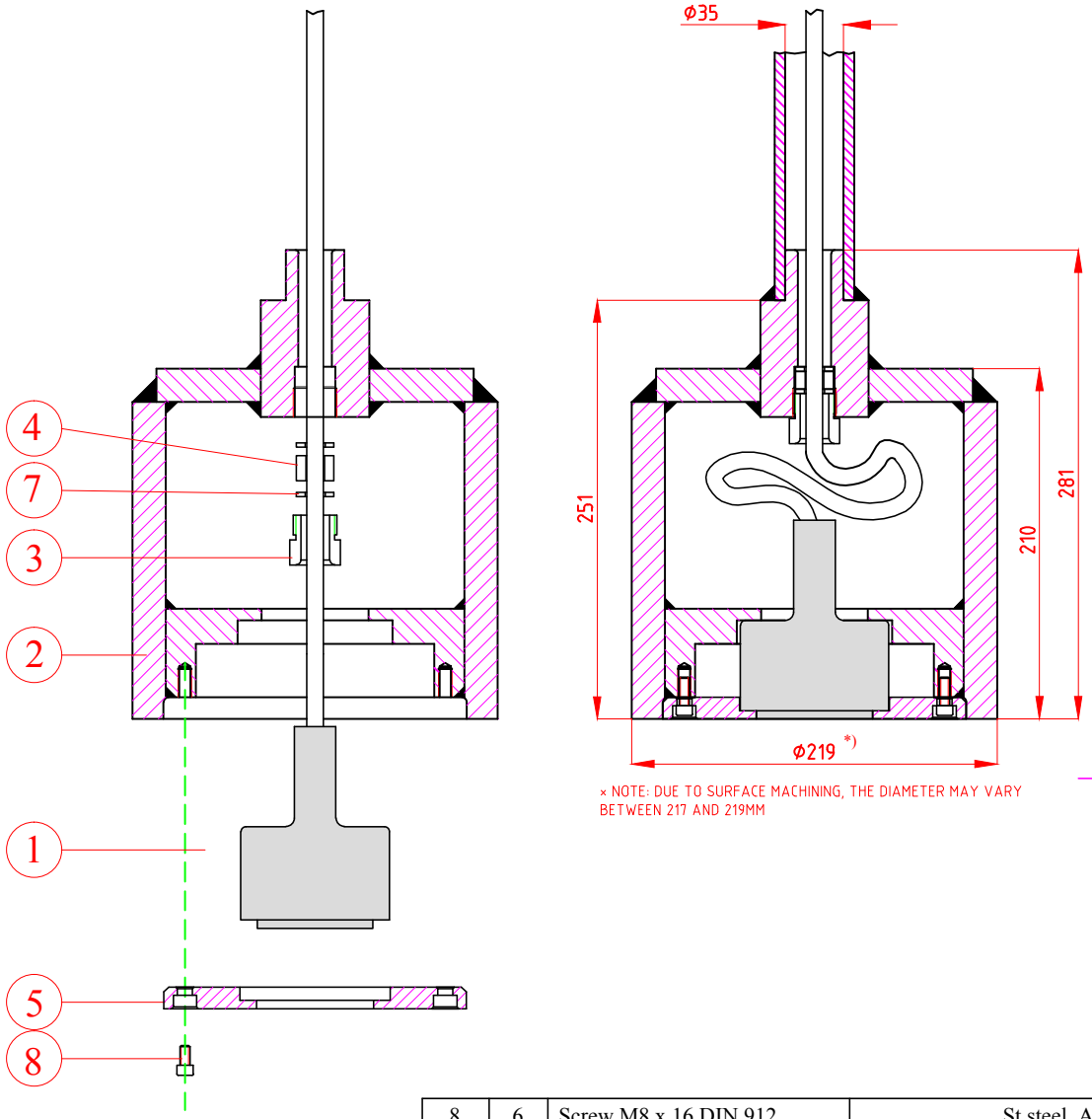
Itemref	Quantity	Title/Name, designation, material, dimension etc			Article No./Reference	
Designed by AM		Checked by VF	Approved by - date	File name	Date 2007.12.18	Scale
Skipper Electronics AS			Mounting of Transducer			
			TB-3003-Rev-01		Edition	Sheet 1/1

6. Transducer and Mounting Ring



7. Transducer Tank 50kHz

RevNo	Revision note	Date	Signature	Checked



ITEM	QTY.	DESCRIPTION	DWG.NO/MATERIAL
8	6	Screw M8 x 16 DIN 912	St.steel A4
7	2	Washer M12 DIN 125	St.steel A4
5	1	Ring 50 kHz	TC-2010-Rev-00
4	1	Gasket	SB-6029-Rev-00
3	1	PG-Nipple	TC-2013-Rev-00
2	1	Transducer Tank ETNST	TB-2002-Rev-01
1	1	Sensor 50 kHz	

Itemref	Quantity	Title/Name, designation, material, dimension etc	Article No./Reference

Designed by	Checked by	Approved by - date	File name	Date	Scale
AM	VF			2005/05/02	

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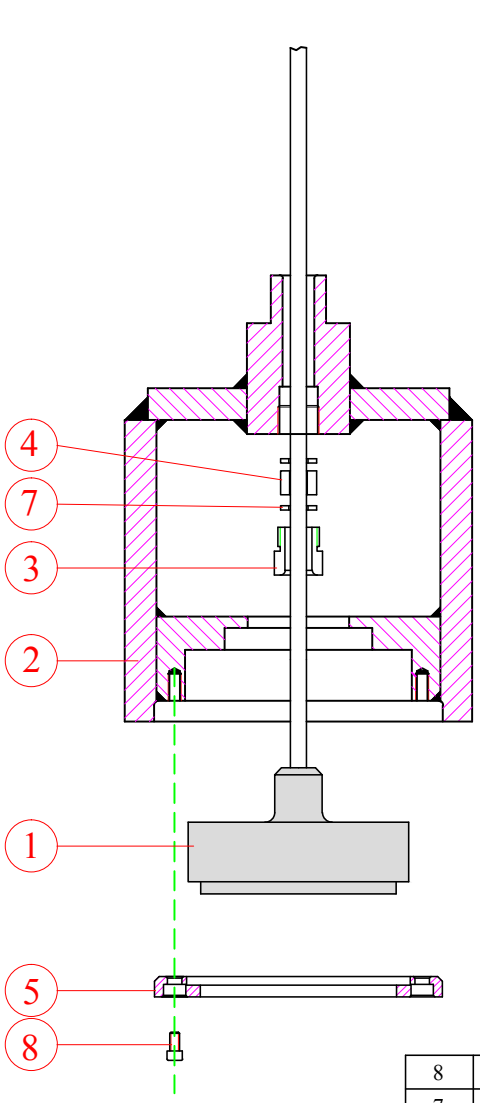
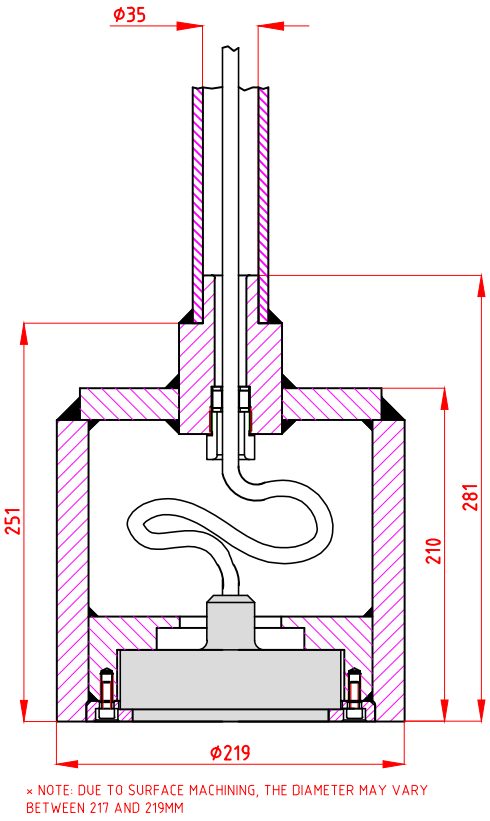
Transducer Tank 50kHz

TB-0050	Revision	Draw. Edition	Sheet
	00	100215	01

8. Transducer Tank 200kHz

RevNo	Revision note	Date	Signature	Checked





ITEM	QTY.	DESCRIPTION	DWG.NO/MATERIAL
8	6	Screw M8 x 16 DIN 912	St.steel A4
7	2	Washer M12 DIN 125	St.steel A4
5	1	Ring 200 kHz	TC-2011-Rev-00
4	1	Gasket	SB-6029-Rev-00
3	1	PG-Nipple	TC-2013-Rev-00
2	1	Transducer Tank ETNST	TB-2002-Rev-01
1	1	Sensor 200 kHz	

Itemref	Quantity	Title/Name, designation, material, dimension etc			Article No./Reference	
Designed by AM		Checked by VF	Approved by - date	File name	Date 2005/05/02	Scale

Skipper Electronics AS

Transducer Tank 200kHz

TB-0200-Rev-00	Revision 00	Draw. Edition 100215	Sheet 01