



# **MANUAL WELDOLET INSTALLATION**

## TABLE OF CONTENT

### Table of content

<b>1. PREFACE.....</b>	<b>3</b>
<b>1.1 PURPOSE .....</b>	<b>3</b>
<b>1.2 SYMBOLS AND CONVENTIONS.....</b>	<b>3</b>
<b>1.3 ABOUT THIS MANUAL.....</b>	<b>3</b>
1.3.1 CONVENTIONS.....	3
<b>2. INSTALLATION .....</b>	<b>4</b>
<b>3. ABOUT US .....</b>	<b>14</b>

## PREFACE

### 1. Preface

#### 1.1 Purpose

This manual explains the installation of the Weldolet.

For ease of reading and understanding, the manual is organized in logical steps, divided over several chapters and sections. Where necessary, the manual provides additional information about the above mentioned issues.

#### 1.2 Symbols and conventions

The following words and symbols indicate special messages:



#### **WARNING:**

This symbol indicates that failure to follow directions in the warning could result in bodily harm.



#### **CAUTION:**

This symbol indicates that failure to follow directions could result in damage to the equipment or loss of information.

**IMPORTANT:** This word indicates that the text that follows contains clarifying information or specific instructions.

**NOTE:** This word indicates that the text that follows contains comments, sidelights or interesting points of information.

#### 1.3 About this manual

##### 1.3.1 Conventions

- The symbols ●, ○ and 1. indicate a step to be performed or other instructions
- Text represented as **[Bold]** indicates the button below the screen display to be pressed
- Text in *ITALIC* refers to text displayed on the screen display
- Pages on the screen display are represented as figures.
- The picture shown in the manual might differ from the picture shown on the display.

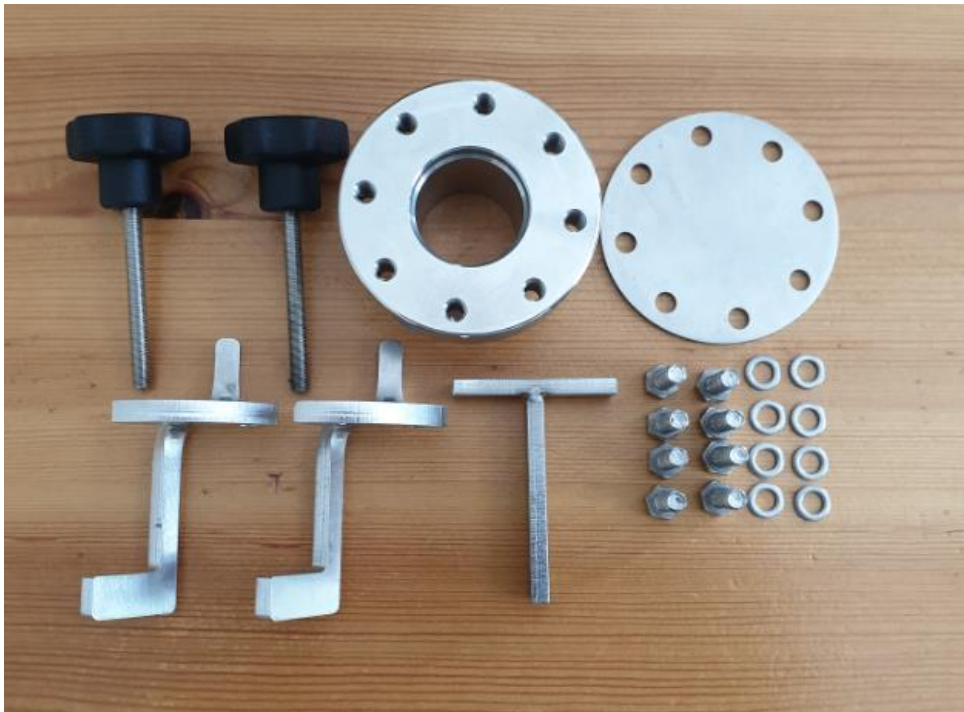
## INSTALLATION

### 2. Installation

#### Step 1.

Checking parts.

- Weldolet
- Two brackets
- T-Bracket
- Eight bolts M5 x 10 mm
- Eight spacers M5 x 1 mm
- Welding protection disk
- Two installation screws with black knobs



#### Step 2.

Explanation purpose of this tool.

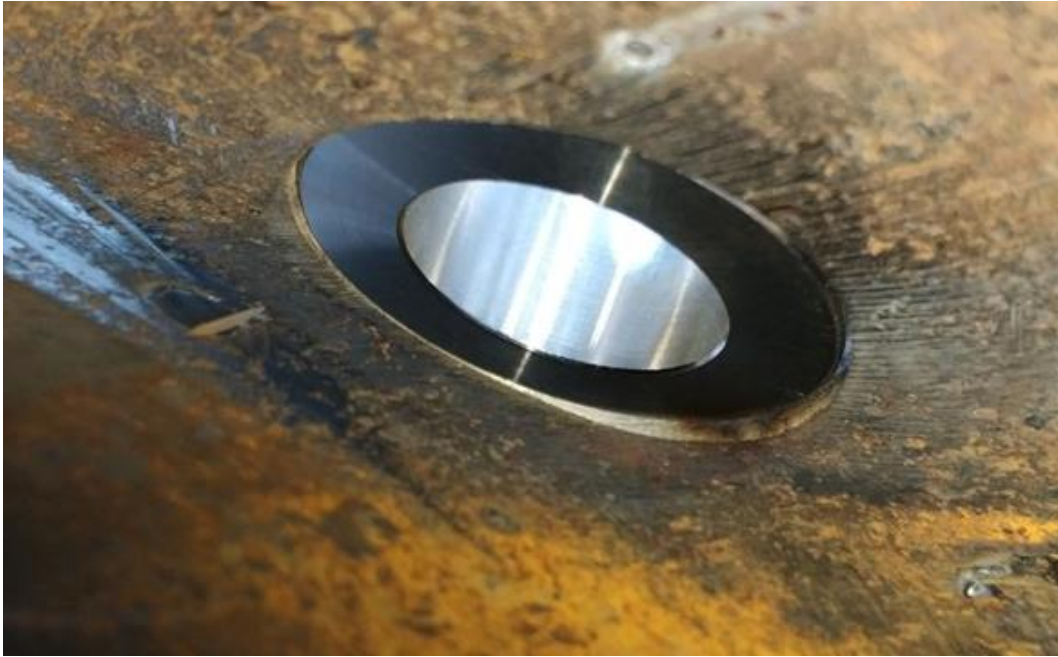
The purpose of this installation method is to make the weldolet flat or flush inside the pipe. The images below show what this means. The weldolet and sensor must lie flush with the flow direction of the pipe to make a good measurement possible. At two sides of the weldolet you will see that it is not completely flush/flat with the pipe because of the rounding of the pipe, this is no problem.



The arrow indicates the flow direction. The weldolet is perfectly flush.



Uneven edges will always be visible on two sides of the weldolet inside the pipe due to the roundness of the pipe.



Perfectly flush weldolet installation.

**Step 3.**

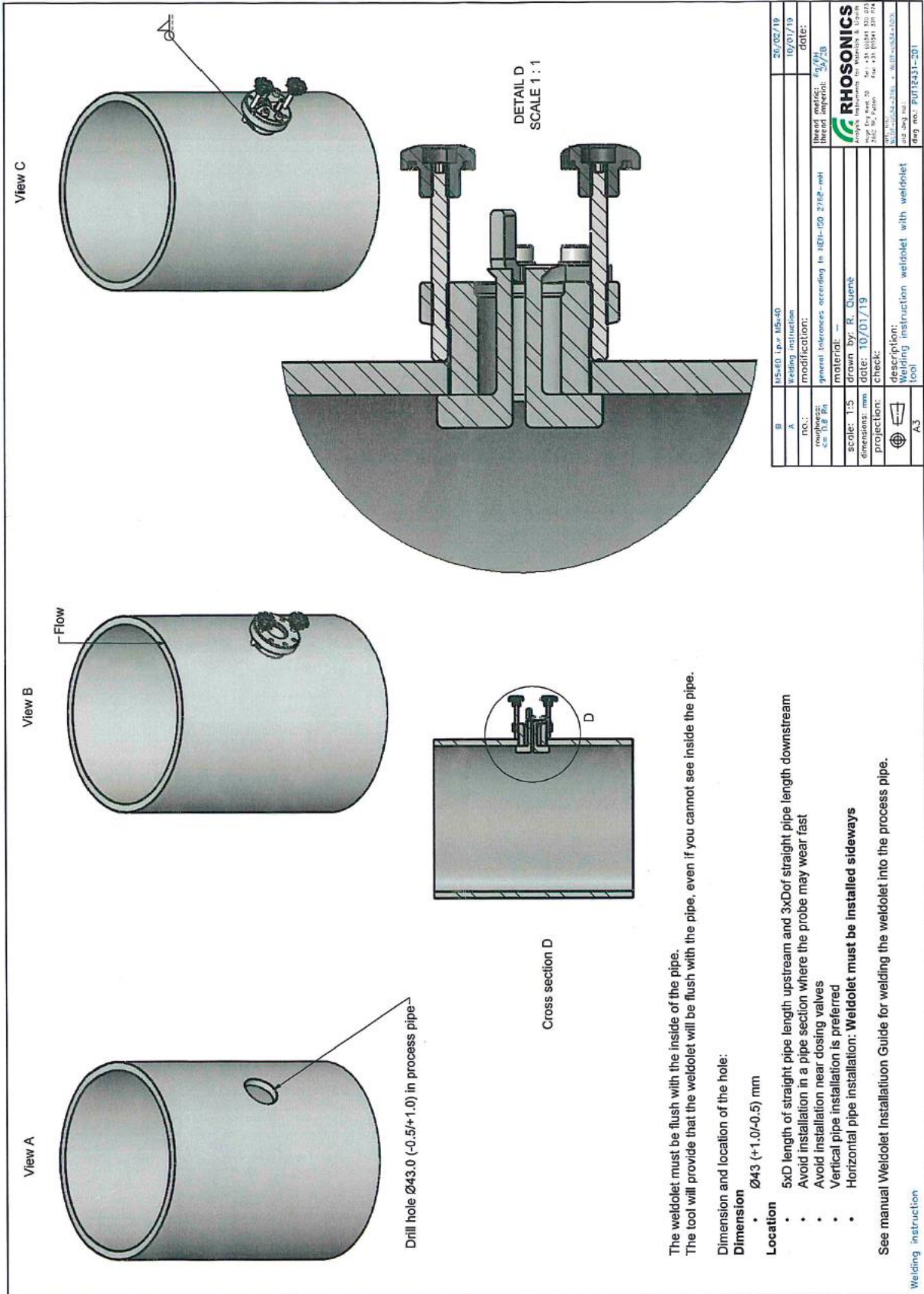
Drill a hole in the pipe. For the dimension and the right position please see attached drawing.



Drill a hole with a dimension of 43 mm  $\varnothing$ . (See Drawing with dimensions page 8)



Drawing with dimensions:



View A  
Drill hole  $\varnothing 43.0$  (+0.5/-1.0) in process pipe

View B  
Flow

View C

Cross section D

DETAIL D  
SCALE 1 : 1

B	MS-ED, 1p/v, MS-40	26/02/19
A	Welding instruction	10/07/19
DOC:	modification:	date:
roughness: Ra 0.8 Ra	general tolerances according to ISO 2768-mS	thread metric: $M_{10} \times 1.5$
scale: 1:5	material: —	thread imperial: 3/8"-28
dimensions: mm	drawn by: R. Quémé	
projection:	date: 10/07/19	
	check:	
	description:	
	Welding instruction weldolet with weldolet	
	tool	
A3		

The weldolet must be flush with the inside of the pipe.  
The tool will provide that the weldolet will be flush with the pipe, even if you cannot see inside the pipe.

Dimension and location of the hole:

- $\varnothing 43$  (+1.0/-0.5) mm
- 5xD length of straight pipe length upstream and 3xDof straight pipe length downstream
- Avoid installation in a pipe section where the probe may wear fast
- Avoid installation near closing valves
- Vertical pipe installation is preferred
- Horizontal pipe installation: **Weldolet must be installed sideways**

See manual Weldolet Installation Guide for welding the weldolet into the process pipe.

Welding instruction

**Step 4.**  
Deburr the hole.



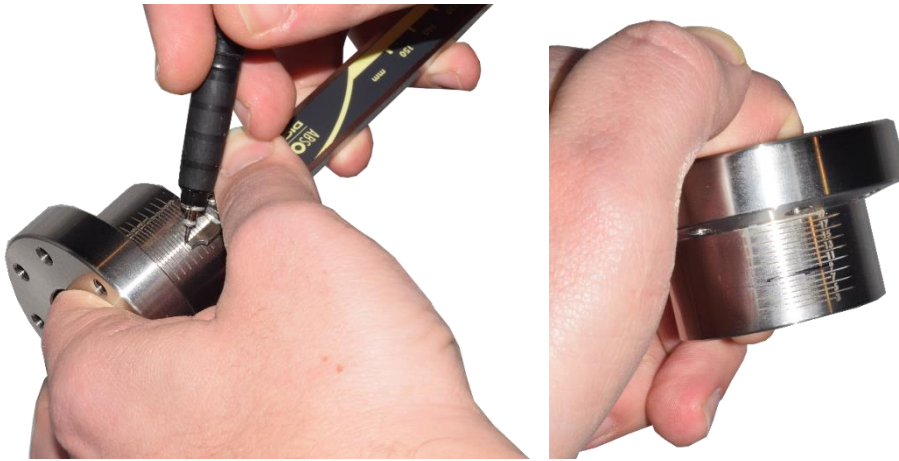
**Step 5.**  
Measuring the wall thickness of the pipe.





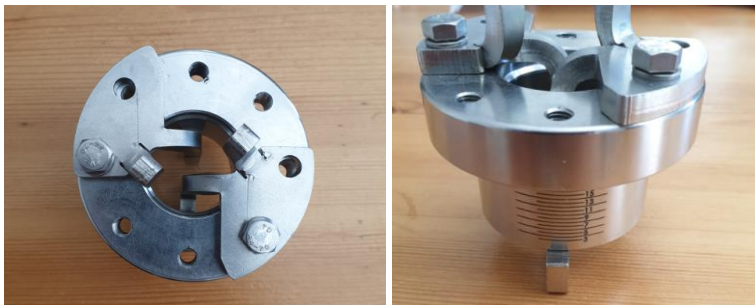
**Step 6.**

Mark wall thickness on the engraving of the weldolet. Do this on both sides of the weldolet.



**Step 7.**

Place both brackets inside the weldolet. Hand tight one M5 screw per bracket. Please pay attention to the alignment of the bracket. The bottom of the bracket needs to be in one line with the engraving.



**Step 8.**

Pull back the brackets sidewise, to make the weldolet and brackets fit easily inside the hole of the pipe.

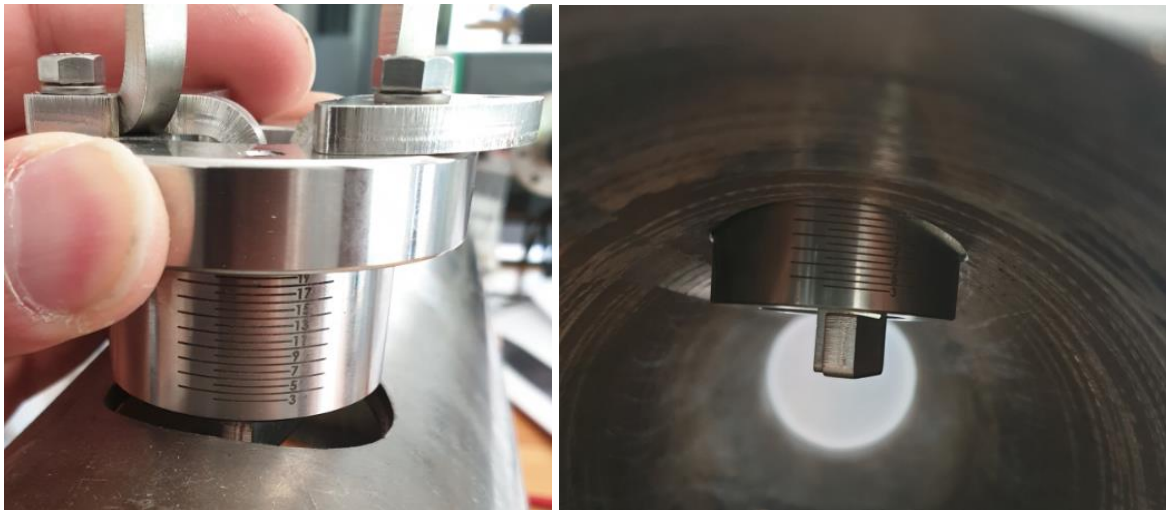


**CAUTION:**

Make sure to use the correct bolts (M5 x 10 mm). The bolts must not protrude the weldolet when welding operations are taking place.

**Step 9.**

Place the Weldolet in the pipe. The brackets inside the pipe need to be in line with the flow direction.

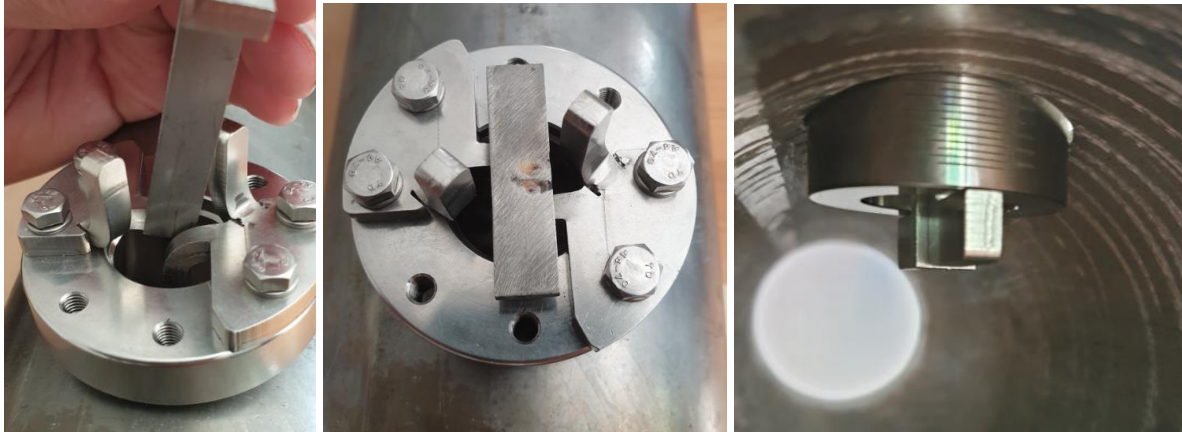


Move the brackets in line with the weldolet to mount the other 2 pieces of M5 screws.



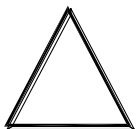
**Step 10.**

Place the T-Protection bracket. The purpose of this bracket is to prevent the brackets from bending. This can happen when too much force is applied on the outside with the screw treats with black knobs. Make sure the T-Bracket lies strait on the installation tool.



**Step 11.**

Lift the weldolet using the screw treats with black knobs. Please make sure that the bracket inside the pipe is lined out in flow direction. Gently lift the weldolet by turning the black knobs, only hand tight the black knobs. If you feel resistance, then stop turning the black knobs. Check if the mark on the weldolet is visible and lined up with the outside of the pipe. Do not screw the black knobs too tight, because this will bent and damage the tool beyond usability.



**CAUTION:**

Only fix hand tight, too much torque will damage the tool.

**Step 12.**

Spot weld the weldolet. Be aware that the Weldolet is made of stainless steel, so please use the correct welding materials. Make 3 or 4 spot welds to secure the weldolet in place.



**Step 13.**

Disassemble the installation tool. (Screw treats with black knobs, T-piece, 4 pieces M5 bolts and 2 mounting brackets).

**Step 14.**

Place the welding protection disk. The surface of the weldolet must not be damaged or adjusted. The surface is important, because it determines the distance from the sensor and ensures that the sensor of the SDM comes flush into the pipe. The purpose of this disk is to protect the surface against welding spatters.





**Step 15.**

Weld the weldolet all the way around and make sure it is watertight.



For installation of the SDM, see the *SDM manual* for further information.





## ABOUT US

### 3. ABOUT US

#### MEASURING BEYOND LIMITS

Rhosonics helps the mineral processing industry to replace nuclear density gauges by non-nuclear ultrasonic density meters, through which a process optimization can be achieved, allowing a safer, more reliable, sustainable and cost effective operation. This is how Rhosonics contributes to a nuclear free world. We use craftsmanship, capability and creativity to create measurements beyond limits.

#### CONTACT US

Rhosonics Analytical B.V.

Hoge Eng West 30  
3882 TR Putten, The Netherlands

Phone: +31 341 – 37 00 73

Email: [info@rhosonics.com](mailto:info@rhosonics.com)

Website: [www.rhosonics.com](http://www.rhosonics.com)





**ADDRESS**  
Hoge Eng West 30  
3882 TR Putten

**CONTACT**  
+31 341 37 00 73  
[info@rhosonics.com](mailto:info@rhosonics.com)