

Reža v okrogli cevi - antena z vsesmernim diagramom v azimutni ravnini in horizontalno polarizacijo

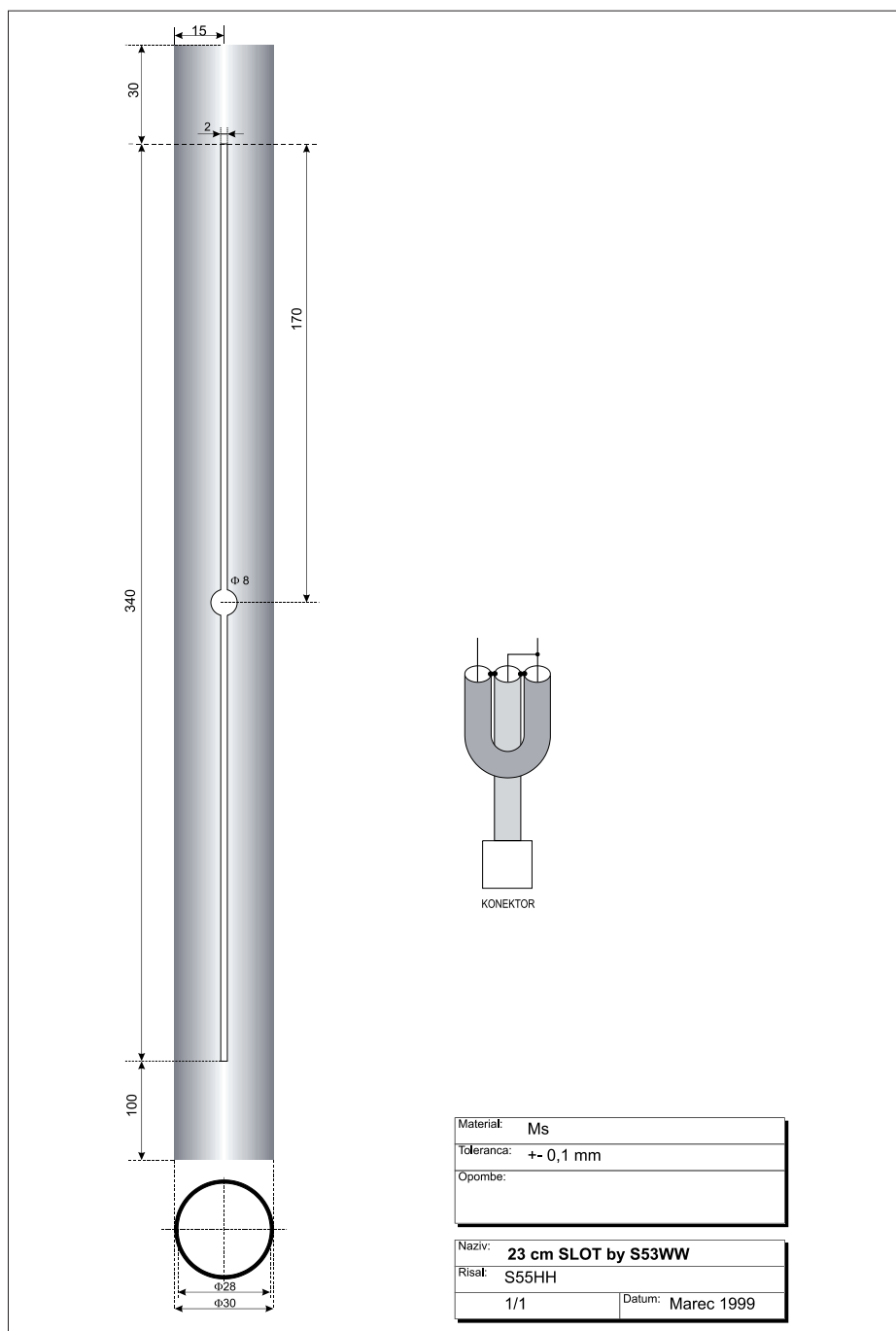
Slot in a round tube - an antenna with omnidirectional pattern in the azimuth plane and horizontal polarisation

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Relativno preprosta antena, ki je zelo uporabna kot antena za radijske svetilnike, je vzdolžna reža v okrogli cevi. V strokovni literaturi je znana pod imenom Alfordova reža. Tu opisana antena deluje v frekvenčnem pasu 23 cm. Režo napajamo v sredini s koaksialnim kablom. Vhodna upornost resonančne reže, ki jo napajamo v sredini je med 150 in 200 ohmi. Zato izvedemo napajanje z balunom, ki nam istočasno transformira vhodno impedanco reže navzdol v razmerju 4:1 in zagotovi simetrično vzbujanje. Slika 1 prikazuje dimenzije antene. Režo dolžine 340 mm in širine 2 mm izrežemo v bakreno cev z zunanjim premerom 30 mm in debelino stene 1 mm. V sredini najprej izvrtamo luknjo premera 8 mm, da bomo lažje priključili koaksialni kabel. Nato izrežemo režo. Spodnjih 100 mm cevi služi za pritrditev na nosilec. Za napajanje uporabimo tanek teflonski kabel, npr. RG-188 ali podobno. Na enem koncu naredimo balun, kakor je to prikazano na sliki 1. Kabel nato potisnemo skozi cev do sredine reže in balun zalotamo na oba roba reže.

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Longitudinal slot cut in a round tube is a relatively simple antenna that is very useful as a beacon antenna. It is also known as Alford slot antenna or slotted cylinder. Described antenna operates in a 23 cm amateur frequency band. Slot is fed at centre with coaxial cable. Resonant slot input resistance lies between 150 and 200 ohms. Balun feed is used therefore to transform the input impedance in the ratio of 4:1 and to obtain symmetrical excitation at the same time. Figure 1 shows the dimensions of the antenna. Slot with length of 340 mm and width of 2 mm is cut in the copper tube with outer diameter of 30 mm and with wall thickness of 1 mm. Drill a 8 mm hole at the centre first to ease the connection of the coaxial cable. Then



cut the slot. Lower end of the tube with length of 100 mm is intended for mounting on the mounting plate. Thin teflon coaxial cable is used for feeding, e.g. RG-188 or similar. At

one end balun is prepared as shown on figure 1. Cable is pushed through the tube and balun is soldered on both edges of the slot.