SIEMENS
Ingegno per la vita

Applicazioni Livelli

Restricted © Siemens AG 2016

siemens.com/level

SIEMENS

Ingegno per la vita

Livellostati

siemens.com/level

SITRANS LPS200 – paletta rotante

Industrie:

- Tutti i gestori di solidi granulari

Processi:

- Serbatoi di stoccaggio
- Serbatoi di miscelazione
- Trasportatori pneumatici
- Serbatoi di macerazione

Funzioni:

- Allarmi di livello alto o basso
- Sistema di controllo in backup

Restricted © Siemens AG 2016

SITRANS LPS200 – applicazioni per alte temperature

- **Power** – Rilevazione livello alto per misure con temperature fino a 600 ° C / 1112 ° F
(LPS con prolunga o cavo)

- **Klinker** – Rilevazione livello alto e/o basso anche con montaggio orizzontale su applicazioni con temperature finoa a 350 ° C / 662 ° F (LPS standard e con estensione rigida

Restricted © Siemens AG 2016

Industria della gomma

Una buona scelta per l’industria chimica e della gomma

Il LPS200 è ideale per la rilevazione di livello alto e basso di materiali come il nero carbone.

LPS200 Cavo per livello alto

LPS200 ad estensione angolare per il livello basso

Restricted © Siemens AG 2016

Industria della plastica

Materiali granulari plastici

Il LPS200 è una buona scelta per il livello puntuale di polvere di PVC nell'industria della plastica

Restricted © Siemens AG 2016

LVS200 – livellostato a vibrazione per solidi – industria del cemento

Industrie: tutti i gestori di solidi granulari

Materiali:

- Polveri leggere
- Trasportatori pneumatici
- **Processi:**
- Silos di stoccaggio
- Tramogge di miscelazione

Funzioni:

- Allarmi di livello alto o basso
- Sistema di controllo back-up

Condizioni:

- -40 a 150° C (-40 a 176° F)

Restricted © Siemens AG 2016

Sitrans LVS200 – industria del metallo e acciaio

Il LVS200 nella versione ad interfaccia è in grado di rilevare i sedimenti dentro l'acqua in una applicazione per la produzione di ferro.

Possiamo misurare l'interfaccia dei solidi dentro un liquido!

Restricted © Siemens AG 2016

SITRANS LVL200 – livellostato a vibrazione per liquidi - applicazioni ad alta temperatura

SIEMENS

Requisiti applicativi

- Livello puntuale in asfalto liquido con temperatura di 190 ° C
- Elemento piezo-elettrico avvitato permette misure con temperature fino a 250 ° C

Le applicazioni ad alta temperatura sono coperte!

Restricted © Siemens AG 2016

Sitrans LVL – industria chimica applicazioni resine

Requisiti applicativi

- Alte temperature fino a 250 ° C
- Serbatoi con agitazione
- Proprietà dei materiali che cambiano
  - Densità
  - Proprietà elettriche
- Ambiente corrosivo
- Alta viscosità

Una buona scelta per l’industria chimica e della gomma

Restricted © Siemens AG 2016

Sitrans LVL – applicazioni nell‘industria chimica, serbatoi di reazione

SIEMENS

Requisiti applicativi

- Qualifica SIL 2 (ridondante fino SIL 3)
- Controllo guasti sullo strumento per:
  - Corrosione
  - Rotture in linea
- Insensibile alla schiuma

Una buona scelta per l’industria chimica e della gomma

Restricted © Siemens AG 2016

Sitrans LVL – applicazioni gas liquefatto nell‘industria degli idrocarburi

SIEMENS

Requisiti applicativi

- Bassa densità
  - fino a 0.5 g/cm³
- Pressione fino a 16 bar
- Temperature range -40 ° C to 30 ° C
- Fail safe e qualifica SIL 2

Una buona scelta per HPI

Restricted © Siemens AG 2016

Sitrans LVL – produzione del latte nell‘industria alimentare

Requisiti applicativi

- Nessuna programmazione richiesta
- Protezione al sovra-riempimento e/o marcia a secco delle pompe
- Connessioni al processo igieniche
- Insensibile alle vibrazioni esterne

Approvato per l’industria alimentare

Restricted © Siemens AG 2016

Sitrans LVL – parchi serbatoi nelle raffinerie

Requisiti applicativi

- Rilevazione livello puntuale
- Protezione al sovrariempimento
- Tanks molto larghi
- Lubrificanti, olii e combustibiliOil, fuels and lubricants
- Custodia incapsulata
- SIL 2

Una buona scelta per HPI

Restricted © Siemens AG 2016

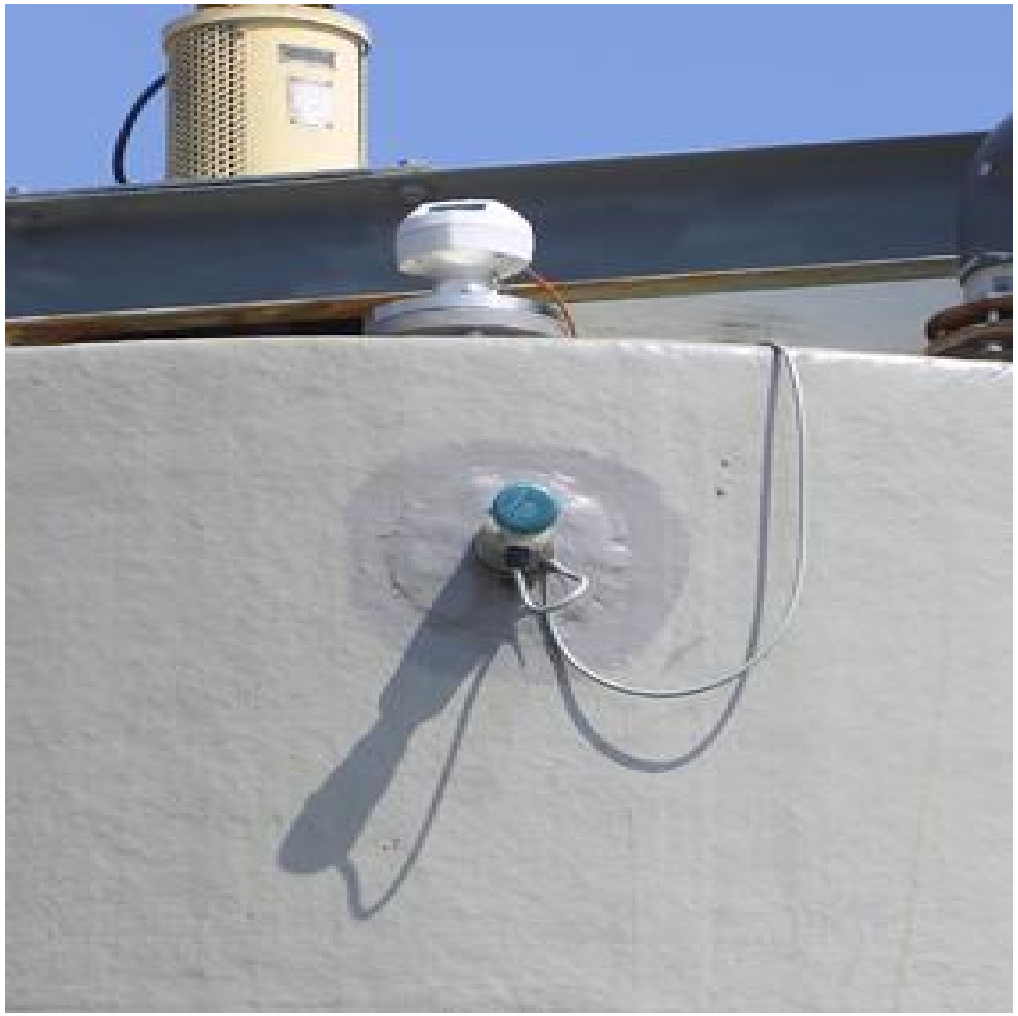
CLS100 – livellostato capacitivo

Contenitore in plastica di acidi

SITRANS LR 200 radar per la misura continua del livello

POINTEK CLS 100

- Allarme di livello alto come sicurezza contro lo sversamento



Restricted © Siemens AG 2016

CLS200: livellostato capacitivo

Protezione livello alto contro lo sversamento

- Alimentare: grassi e olii vegetali
- Challenge: creazione di schiuma durante il processo
- Processo meglio controllato
- Un antischiuma viene sommato automaticamente
- Olii con migliore qualità vengono prodotti
- Impatto ambientale ridotto
- Versione digitale disponibile

Restricted © Siemens AG 2016

CLS200: livellostato capacitivo

Pointek CLS200 protezione di minimo

- Industria alimentare
- Misura di solidi
  - Chicco di amido (bassa dk)
  - Challenge: appiccicoso e polveroso
- Ingrediente vitale per la produzione di caramelle gommose
  - Produttività incrementata

Restricted © Siemens AG 2016

SIEMENS
Ingegno per la vita

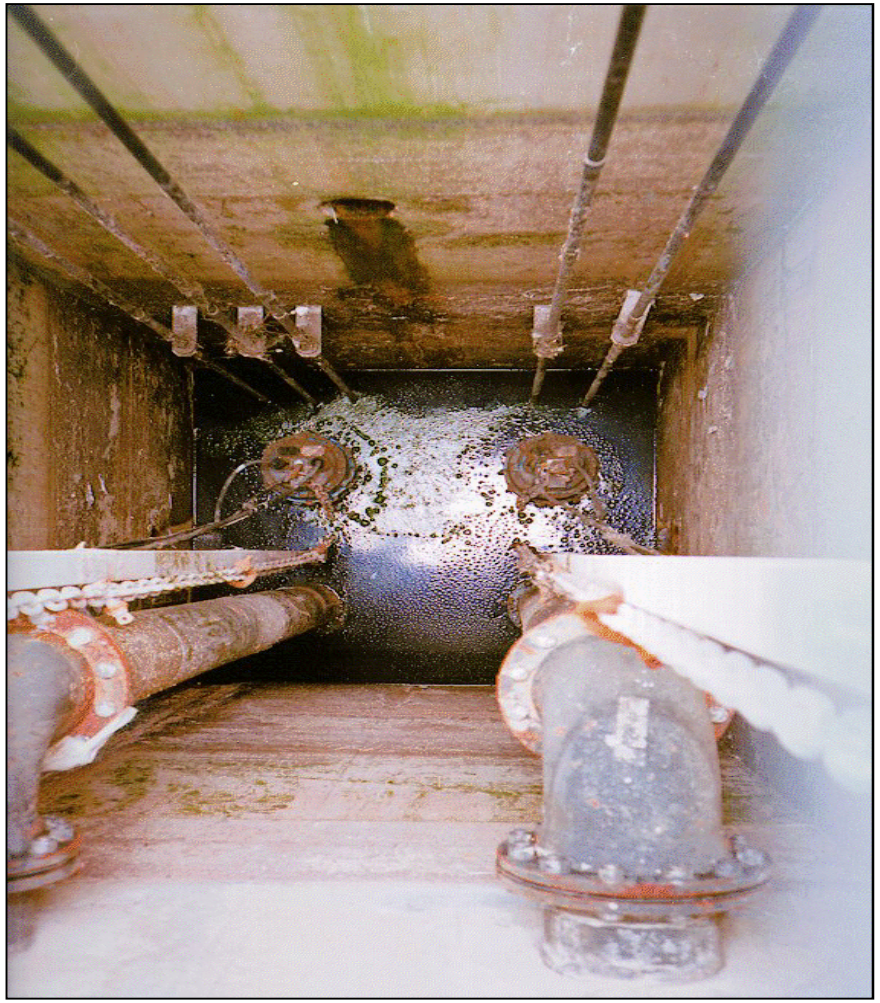
Ultrasuoni

siemens.com/level

Applicazioni: pozzi di sollevamento per acqua sporca

Restricted © Siemens AG 2016

Applicazioni: pozzi di sollevamento per acqua sporca



Restricted © Siemens AG 2016

Applicazioni Probe LU – mercato WWW

Liquido: acqua

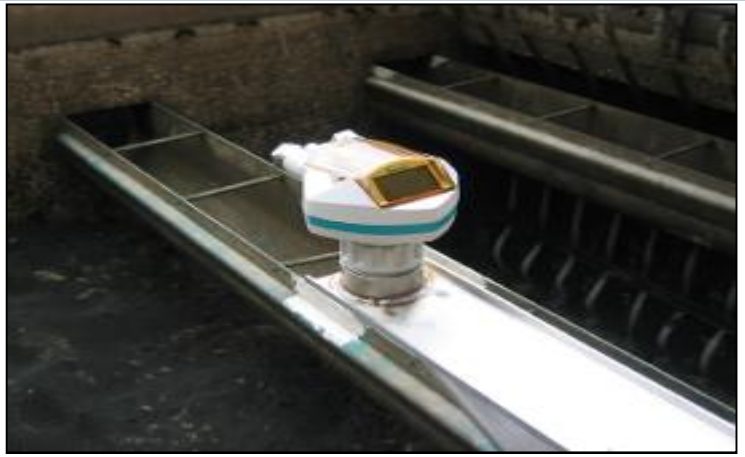
Applicazione: filtri a carbone

Montaggio: 2” NPT filettato

Pressione: Atmosferica

Temperatura: Atmosferica

Range di misura: 2 metri



Restricted © Siemens AG 2016

Applicazioni Probe LU – mercato WWW

Materiale: liquame

Condizioni di processo: umidità, condensa

Temp: Ambiente

Range: 6 - 10 metri

Restricted © Siemens AG 2016

Applicazioni Probe LU – mercato WWW

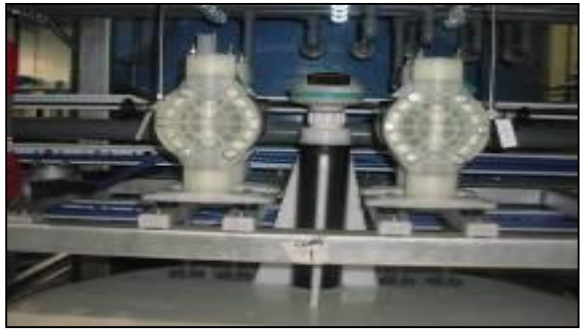
Materiali: chimici vari

Dettagli applicativi: piccoli tanks usati in sistemi skid

Condizioni di processo: Varie, generalmente calmi

Temp: Ambiente

Range: 1 - 5 metri



Restricted © Siemens AG 2016

Applicazioni Probe LU – mercato WWW

Materiale: acqua

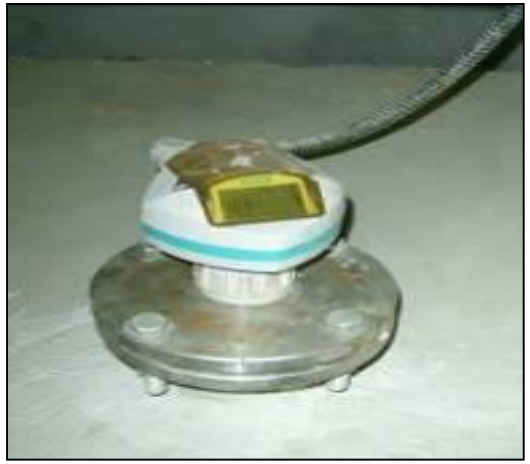
Applicazione: indicazione del livello in un sistema di trattamento acqua.

Antenna: Kynar

Pressure: Atmosferica

Temperature: Atmosferica

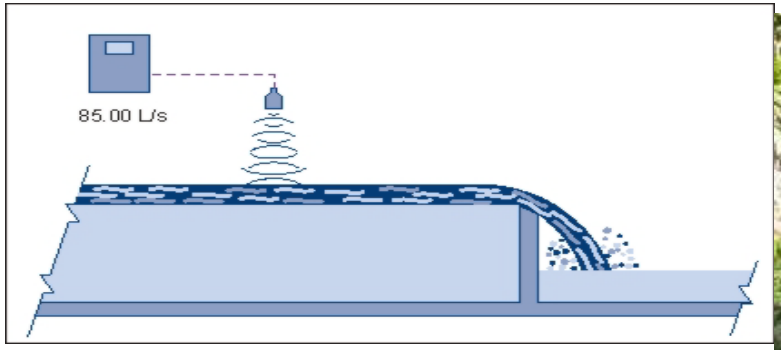
Range di misura: 2 metri



Restricted © Siemens AG 2016

Misura della portata su canale aperto

- Ingresso impianto trattamento
- Uscita impianto di trattamento
- Portate del processo in impianto trattamento
- Canali di irrigazione
- Stramazzi e canaline

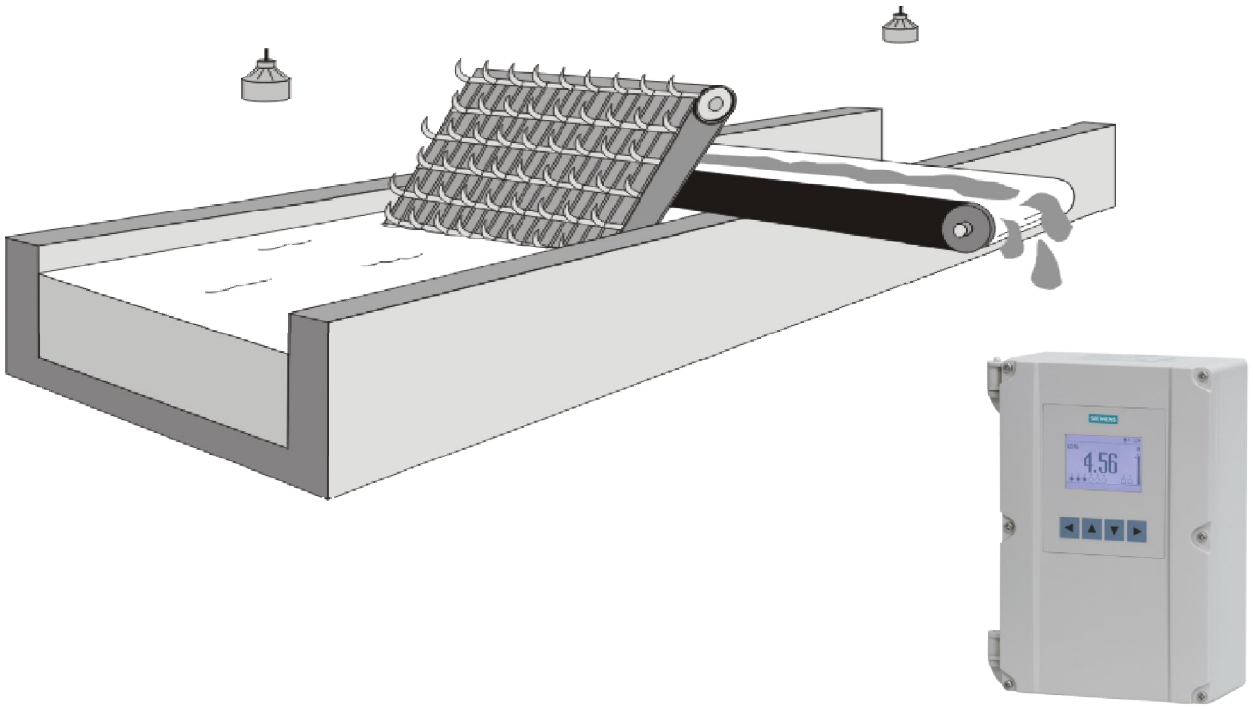


HydroRanger 200

Sitrans LUT430/440

Restricted © Siemens AG 2016

Applicazione: misura del livello differenziale sgrigliatore



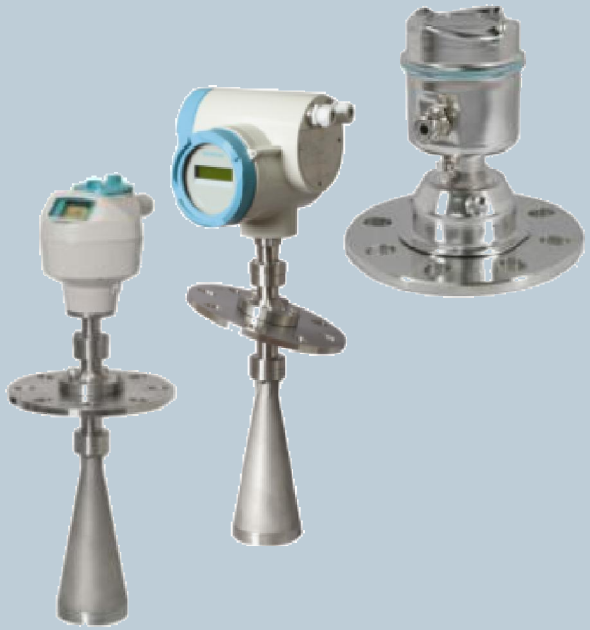
Restricted © Siemens AG 2016

Applicazioni: serbatoi di stoccaggio chimici

Restricted © Siemens AG 2016

SIEMENS

Ingegno per la vita



Radar

siemens.com/level

SITRANS LR – radar applicati per la misura di liquidi

Diesel

Whiskey

Metanolo

Oli alimentari

Olio di palma

Alluminato liquido

Restricted © Siemens AG 2016

LR250 applicazioni – oil and gas

Materiale: olio combustibile

dK: ca. 2,1

Antenna: Horn 2”

Pressione: 0 bar

Temperatura: ca. 15 °C – 25 °C

Range di misura: 10m (h), 6m (d)

Restricted © Siemens AG 2016

LR250 applicazioni – oil and gas

Materiale: Olio grezzo con gas H2S presente

dK: ~ 3

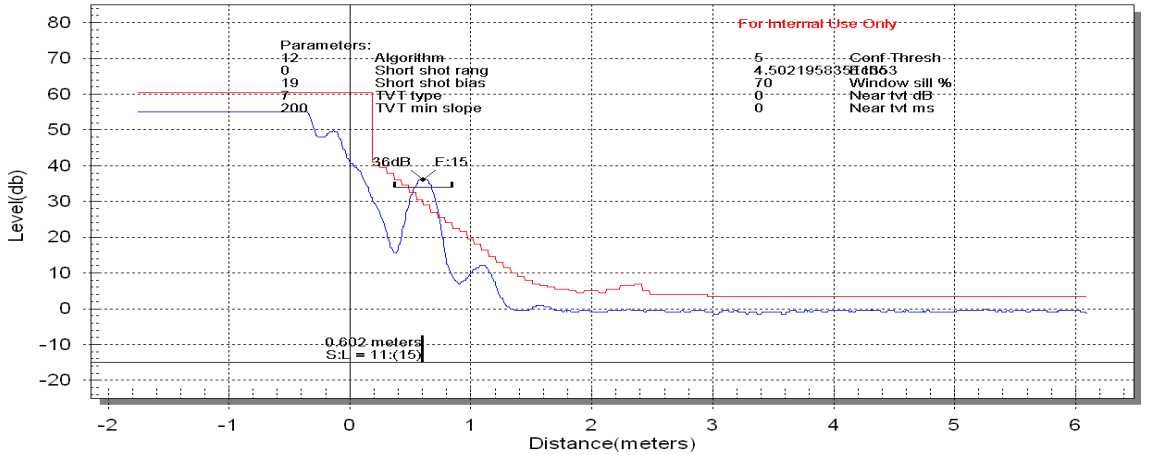
Tronchetto: 50mm (h), 50mm (d)

Antenna: 2“ horn, 2” filettato NPT

Pressione: Atmosferica

Temperatura: 20 - 40 °C

Range di misura: 0,3-2,4 m



Restricted © Siemens AG 2016

LR250 applications – oil and gas

Material: Oil with water

dK: between 2,3 - 60

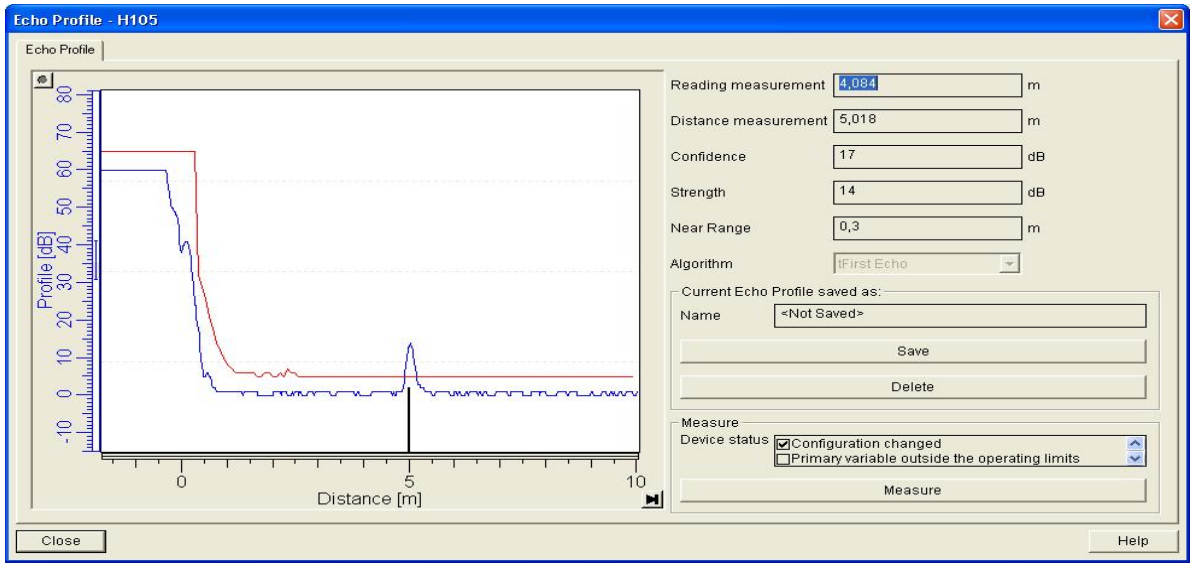
Nozzle: 100mm (h), 80mm (d)

Antenna: 1 ½“ horn

Pressure: +0,5bar (gas nitrogen)

Temperature: 20 – 40 °C

Measurement Range: 0,4 - 9,1 m



Restricted © Siemens AG 2016

LR250 applications – oil and gas recycled oil

Material: Recycled Oil, Zone 1

dK: ~2

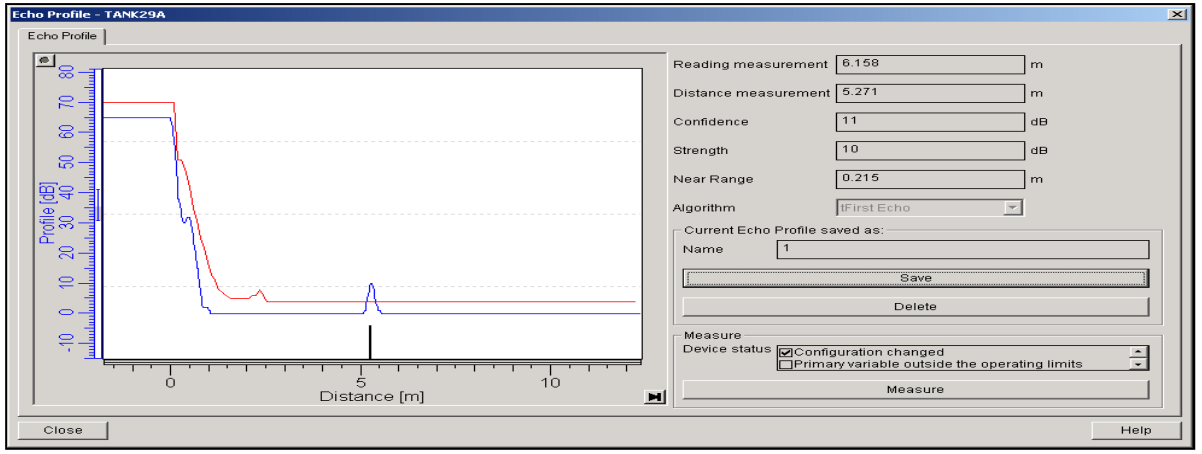
Application Details: height, 11 meters

Antenna: Horn 3 inch St Steel

Pressure: Atmospheric

Temperature: 95 ºC (flashpoint of 60 ºC)

Measurement Range: 11 meters



Restricted © Siemens AG 2016

LR250 applications – oil and gas

Material: Lubrication Oil

dK: <3

Nozzle: <80 mm height, 10.79 meters diameter 11.4 meters

Antenna: Horn 3 inch St Steel

Pressure: Atmospheric

Temperature: Ambient (40 ºC)

Measurement Range: 10 meters

Restricted © Siemens AG 2016

LR250 applications – oil and gas

Material: refinery. Control the level in the tower, to be able to control the rest of the plant.

dK: Low

Nozzle: 80mm

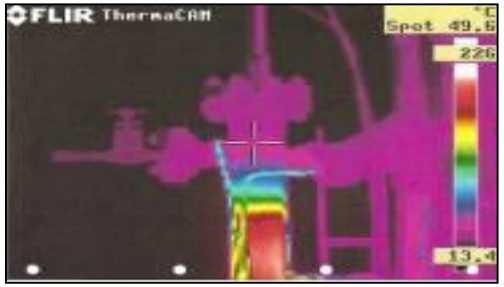
h: 800 mm

Pressure: 0,5 bar

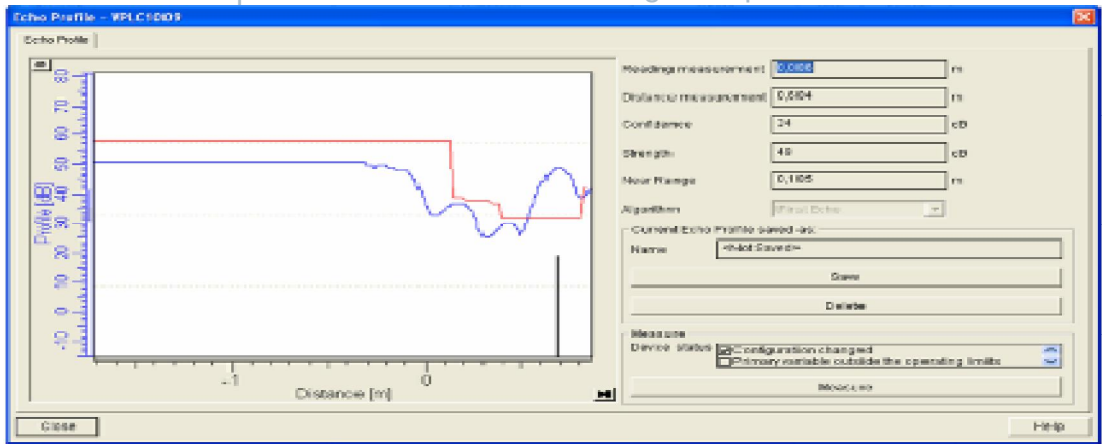
Temperature: ~250 ºC.

Measurement Range: 400 mm

Process Temp: 244ºC



Flange Temp: 49.6ºC



Restricted © Siemens AG 2016

LR250 applications – chemical/ HPI

Material: Methanol

dK: 33dK

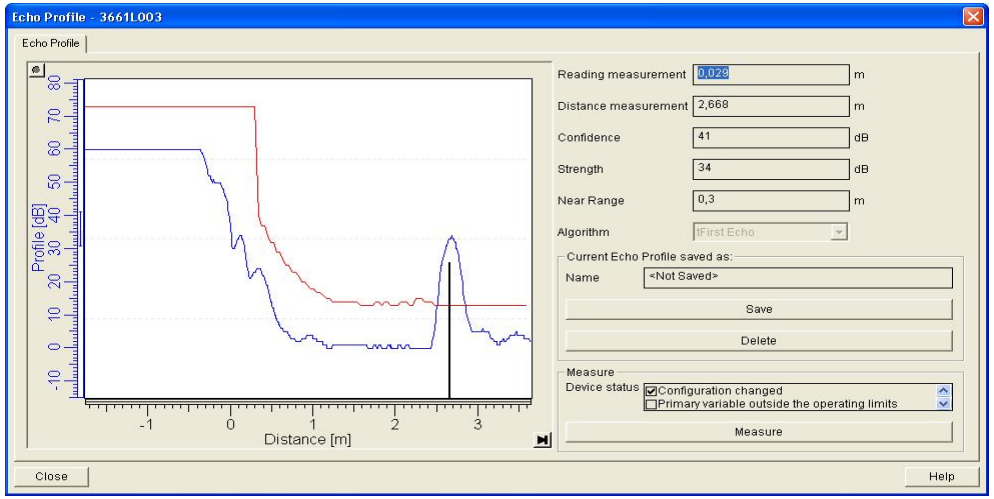
Nozzle: 180mm height, 100mm diameter

Antenna: 1 ½" horn

Pressure: +0,5bar (gas nitrogen)

Temperature: up to 50 ° C

Measurement Range: 0,5-2,7 m



Restricted © Siemens AG 2016

LR250 applications – chemical/ HPI

Material: Solvent Mix

dK: 2.1

Nozzle: 200mm (h), 300mm (d)

Antenna: 80mm

Pressure: Atmospheric

Temperature: 40 °C

Measurement Range: 7 meters

Restricted © Siemens AG 2016

LR250 applications – chemical/ HPI

Material: Toluene

dK: 2.2

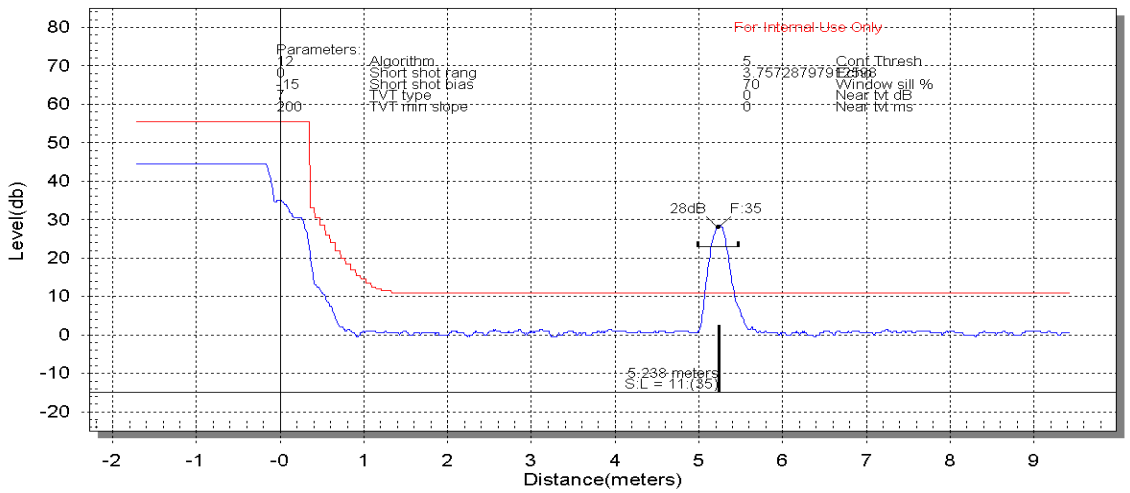
Nozzle: height=1000mm diameter=200mm

Antenna: 100mm

Pressure: Atmospheric

Temperature: 50 °C

Measurement Range: 9 meters



Restricted © Siemens AG 2016

LR250 applications – chemical/ HPI

Material: Toluene

dK: app 2.2

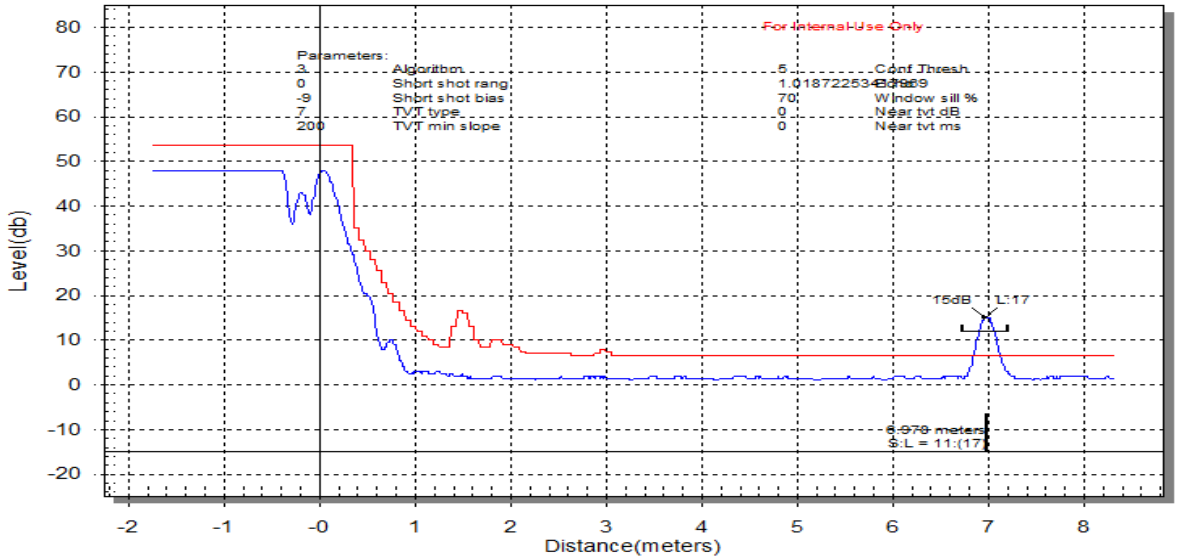
Nozzle: 100 mm

h: 400 mm

Pressure: Atmospheric

Temperature: 20 ºC.

Measurement Range: 10m



Restricted © Siemens AG 2016

LR250 applications – chemical/ HPI

Material: Ethyl acetate

dK: Low (~6.0)

Nozzle: Height: 100 mm

Antenna: 1.5"

Pressure: Atmosphere

Temperature: 20 ºC

Measurement Range: 2 000 mm, volume 23000 m³

Restricted © Siemens AG 2016

LR250 applications – chemical/ HPI

Material: NaOH (Sodium Hydroxide)

dK: ~20

Nozzle: 120mm height, 65mm diameter

Antenna: 2 inches, degree 15º

Pressure: 760mmHg (environment pres.)

Temperature: 31.80 ° C

Measurement Range: 240mm – 1320mm

Restricted © Siemens AG 2016

LR250 applications – chemical/ HPI

Material:	Water, Methanol, Ethanol	methylene chloride
dK:	various (9 – 80)	
Nozzle:	DN80 (inst. in bypass)	
Antenna:	Horn w/o extension	
Pressure:	Atmospheric	
Temperature:	0 – 60 °C	
Measurement Range:	0 – 1400 mm	

Restricted © Siemens AG 2016

LR250 applications – chemical/ HPI

Material: Water mixed with fine mineral

dK: ~80

Nozzle: Open tank

Antenna: 3 inch horn

Pressure: Atmospheric

Temperature: 80 °C (fluid)

Measurement Range: 4 meters

Restricted © Siemens AG 2016

LR250 applications – chemical/ HPI

Material: Mixture of acetonitrile (tar, cobalt (0.03%), 2-picoline (high viscidity & severe steam)

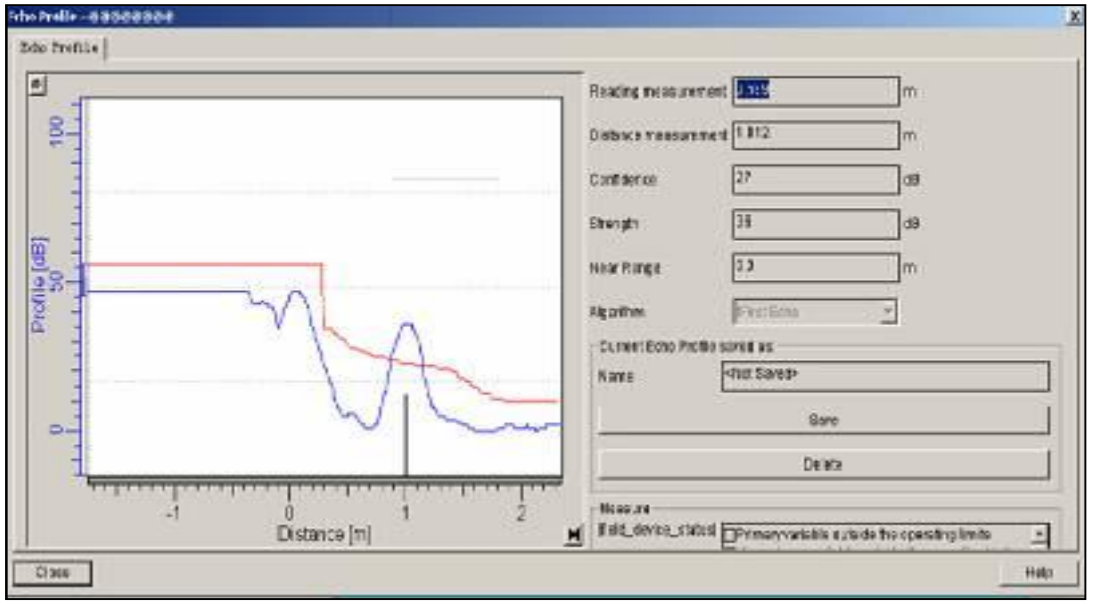
dK: 9.9 - 35.8

Nozzle: 80 mm h: 160 mm

Pressure: -0.9~2barG

Temperature: 130~150 ºC

Measurement Range: 3000mm



Restricted © Siemens AG 2016

LR250 applications – chemical/ HPI

Product: Resin mixture + IPE

Height: 1,79 meters

Temperature: 150°C

Pressure: 50 mbar

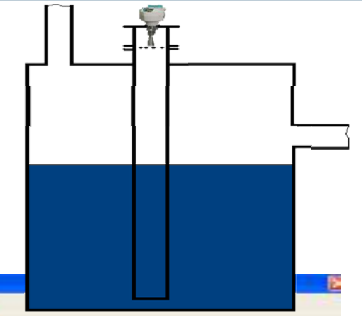
Steam: 6 bars

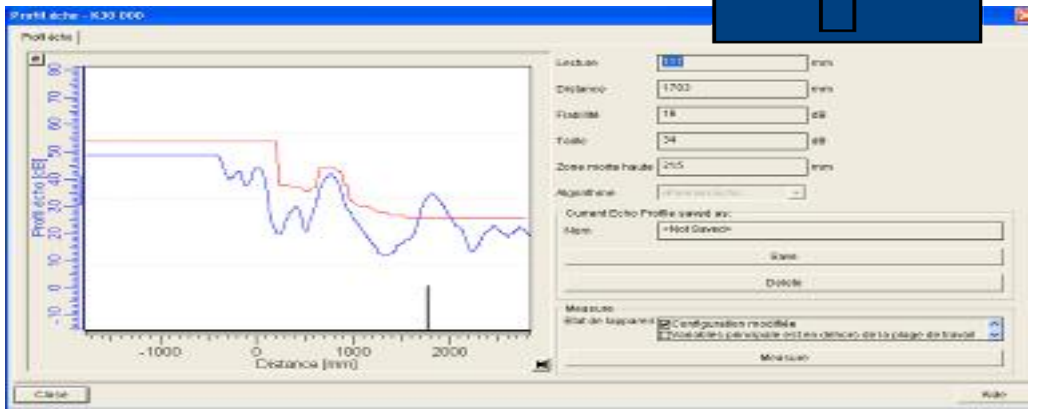
Application details: Vertical enamelled tank,

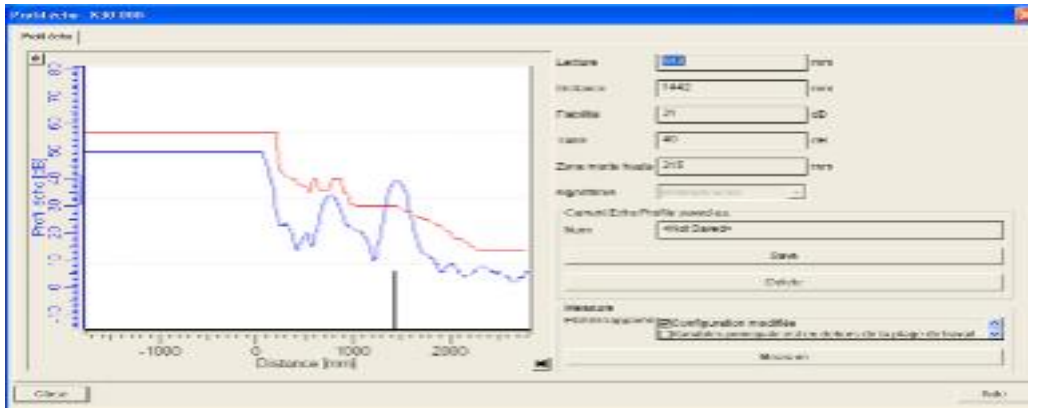
Level measurement in a hastelloy pipe

Process connection: DN80 PN10

Hazardous area: ATEX II Ex ia







Restricted © Siemens AG 2016

LR250 applications – chemical/ HPI

Material: Solvents

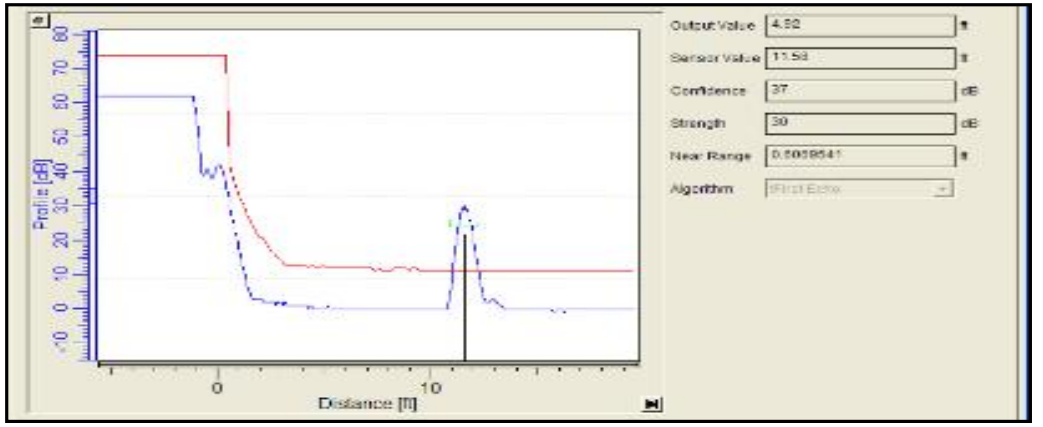
Dielectric Constant: Various 2 - 60

Antenna: 3" horn

Pressure: Ambient

Temp: Ambient

Range: 35ft



Restricted © Siemens AG 2016

LR250 applications – food & pharma

Material: Fish Oil

dK: Estimated 2.6

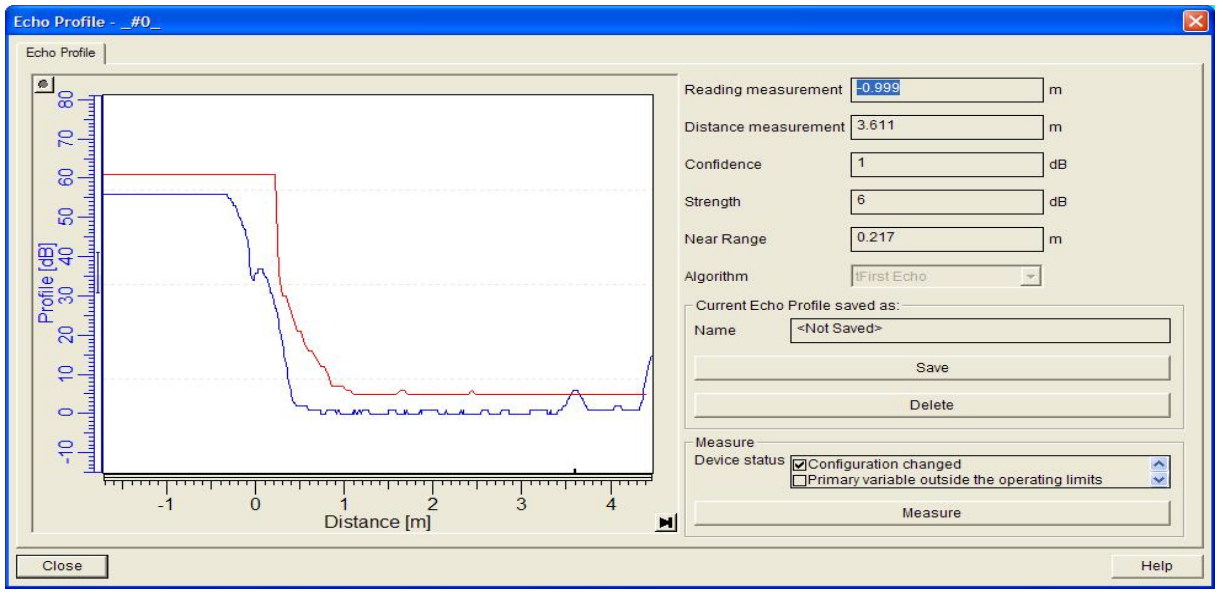
Nozzle: 75 mm

h: 50 mm

Pressure: Nitrogen Blanket

Temperature: 43 ºC

Measurement Range: 3600mm



Restricted © Siemens AG 2016

LR250 applications – food & pharma

Material: Ketchup, Mayonnaise

dK: from 20-50

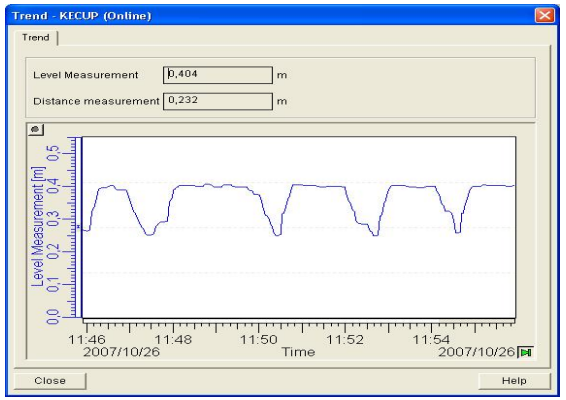
Nozzle: 50mm height, 50mm diameter

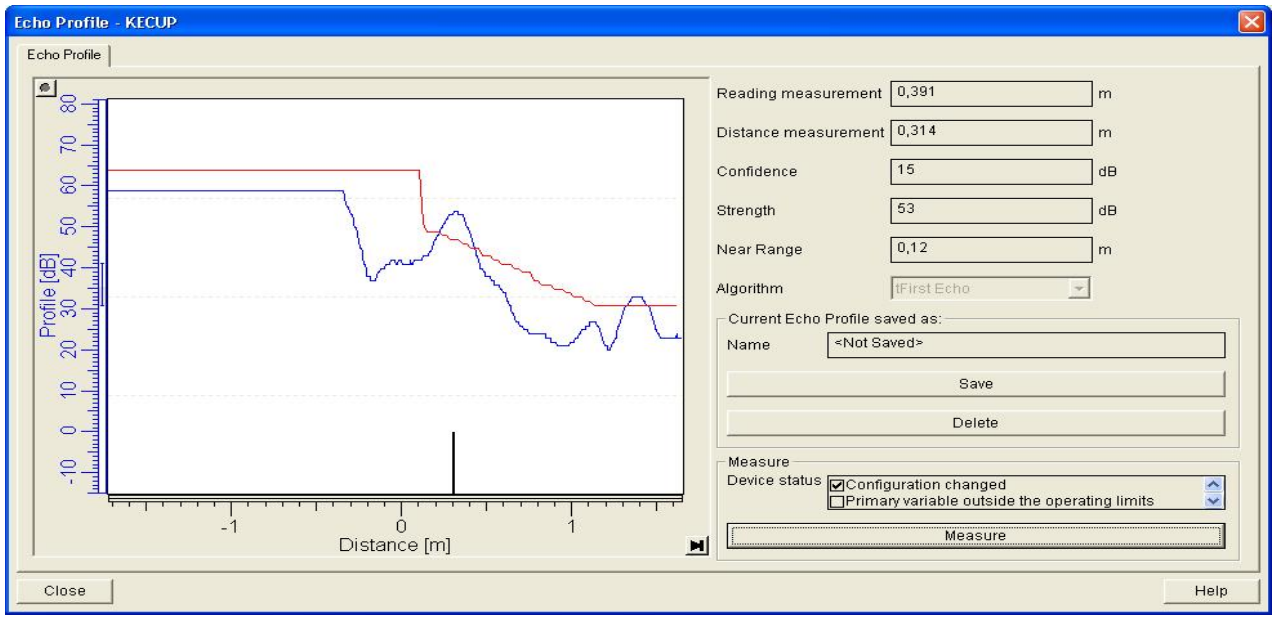
Antenna: 1 ½" horn

Pressure: Atmospheric

Temperature: 20 – 30 °C

Measurement Range: 0,15-0,7 m very short





Restricted © Siemens AG 2016

LR250 applications – food & pharma

Material: Palm oil

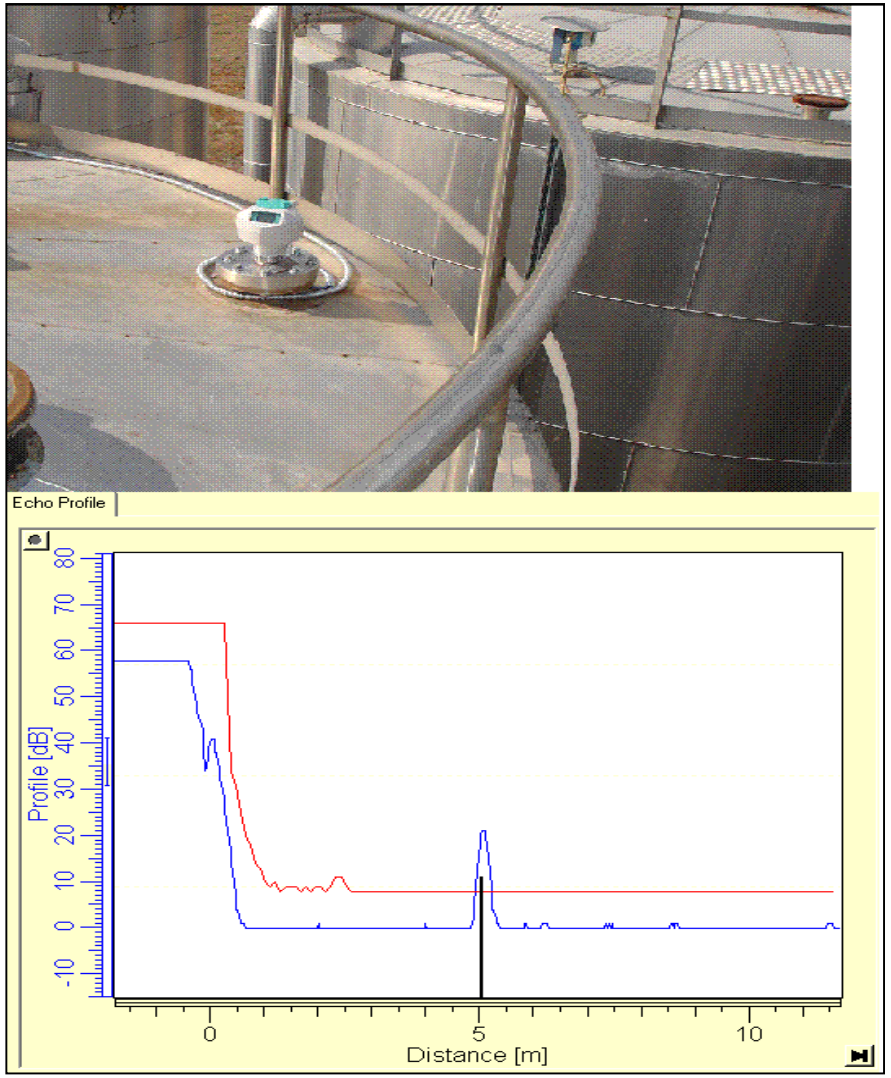
dK: ≤3

Nozzle: 100 mm h: 150 mm

Pressure: Atmospheric

Temperature: 65 °C

Measurement Range: 0-11000 mm



Restricted © Siemens AG 2016

LR250 applications – food & pharma

Height: 8 meters, metal tank, conical bottom

dK: ~18

Pressure: Atmospheric

Application Details:

Vertical stainless steel tank with agitation

Process connection: 2"

Restricted © Siemens AG 2016

LR250 applications – food & pharma

Product: Pulp liquid – Health food manufacturer

Height: 8 meters,

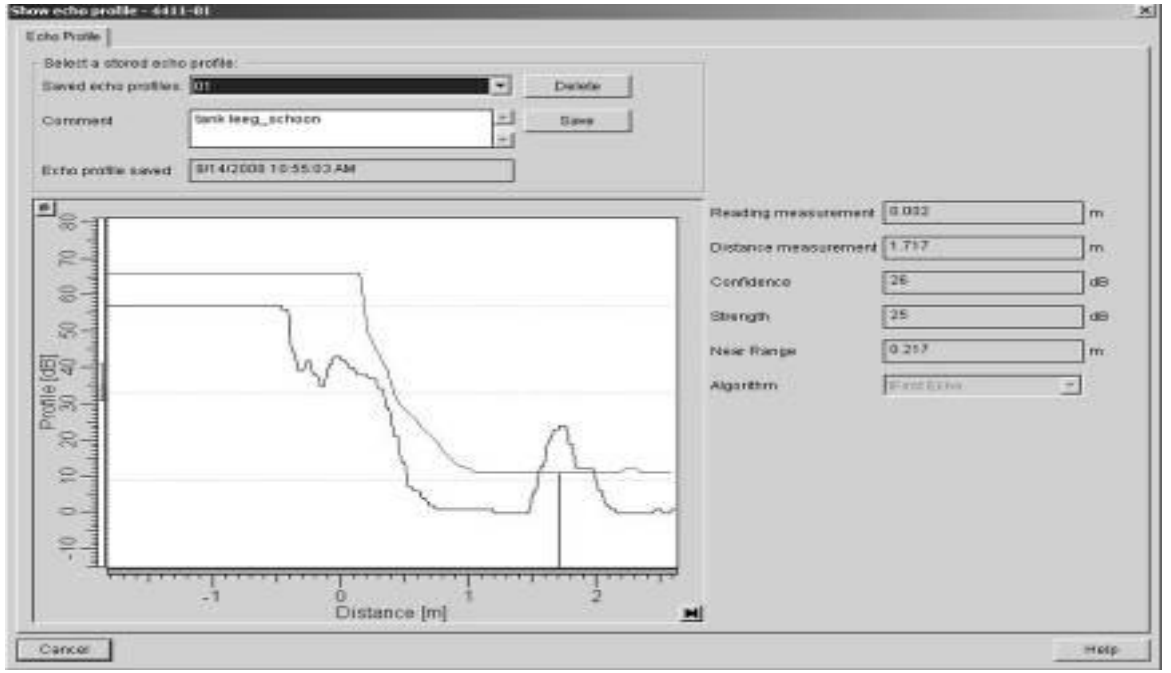
dK: ~18

Pressure: Temperature and pressure changes

Application Details:

Vertical stainless steel tank with agitation

Process connection: 2" horn on standpipe



Restricted © Siemens AG 2016

LR250 applications – food & pharma

Product: Chocolate

Height: 4 meters

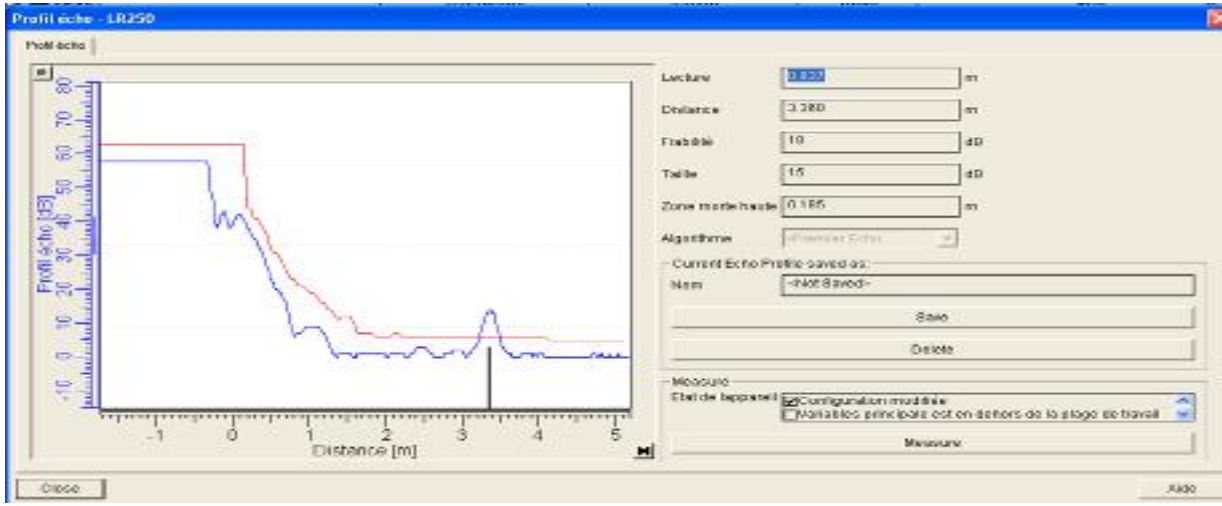
Temperature:60 °C

Pressure: Atmospheric

Application Details:

Vertical stainless steel tank with agitation

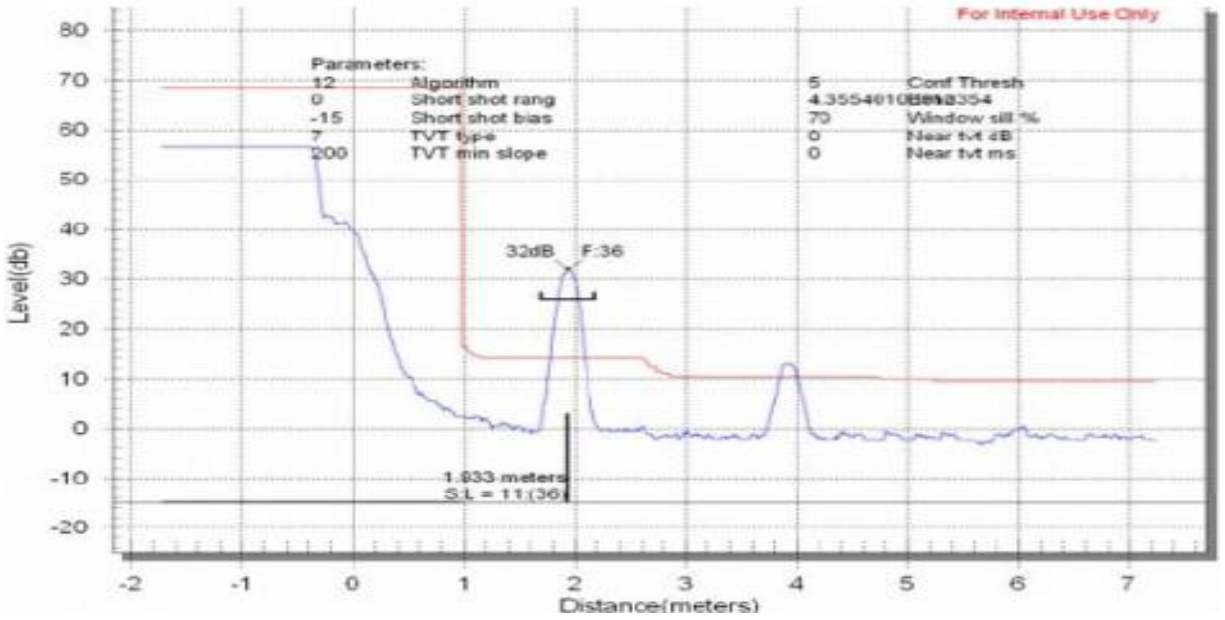
Process connection: 2"



Restricted © Siemens AG 2016

LR250 – pulp & paper

Material:	Paper Pulp
dK:	High
Tank:	7 m (h), 10 m (d)
Antenna:	2'' mm
Pressure:	Atmospheric
Temperature:	40 °C
Measurement Range:	6 meters

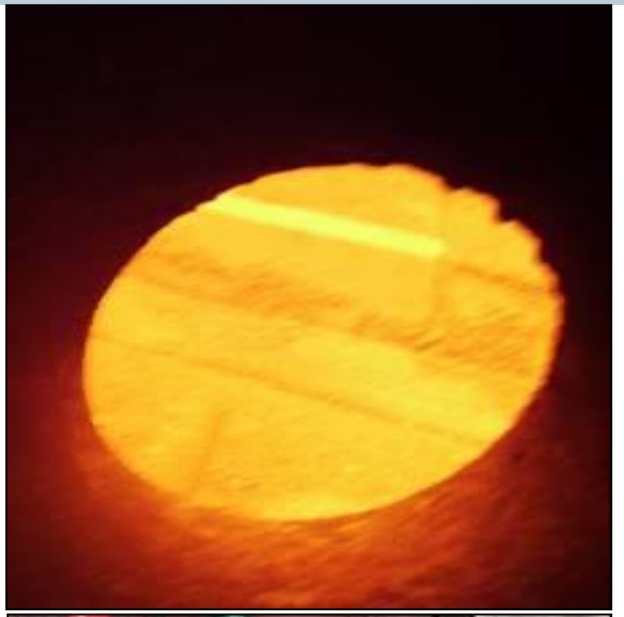


Restricted © Siemens AG 2016

LR250 applications – iron and steel (MAC)

Material:	Slag buildup on watersurface below waste insineration
dK:	High
Nozzle:	250mm
h:	450 mm
Pressure:	Atmospheric
Temperature:	Airtemp App. 400 ºC.

Measurement Range: 2 m



Restricted © Siemens AG 2016

LR250 applications – oil and gas

Material: Crude liquid (aluminate solution)

dK: Unknown

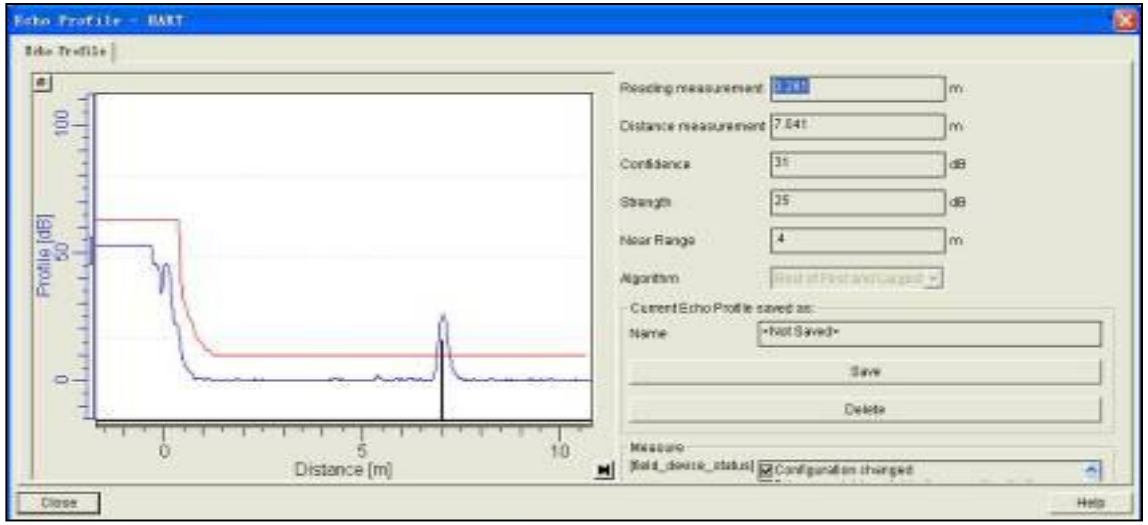
Nozzle: N/A

h: N/A

Pressure: Atmospheric

Temperature: 95~100 ºC

Measurement Range: 10000mm



Restricted © Siemens AG 2016

SITRANS LR
applied in key industries - solids

Cement

Hot mix asphalt

Plastic pellets

Talc

Lime

Plastic powder

Restricted ©

LR560 - application

Market:	**Mining**
Material:	**Ore (minerals)**
Filling method:	**Conveyor**
Installation:	**Bracket**
Temperature:	**Ambient 5C to +35C**
Range:	**9m**

Restricted © Siemens AG 2016

LR560 - application

Market:	**Water**
Material:	**Lime**
Filling method:	**Pneumatic from truck**
Installation:	**On man-way cover**
Temperature:	**Outdoor ambient -1C to +45C**
Range:	**12m**

Restricted © Siemens AG 2016

LR560 - application

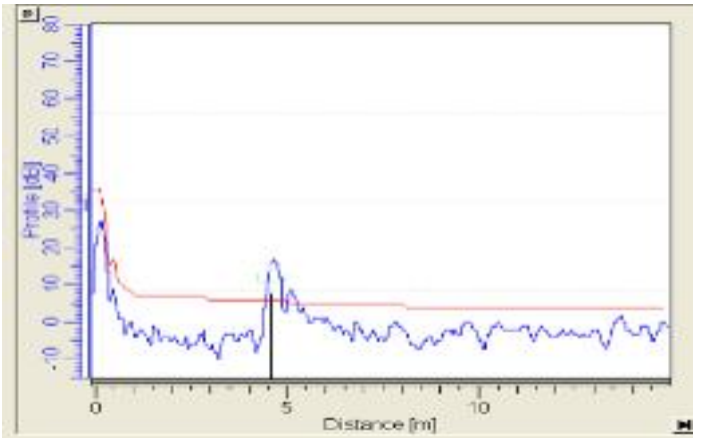
Market: MAC

Material: Silica Flour

Filling method: Pneumatic from truck

Installation: Unusual!

Temperature: ambient



Restricted © Siemens AG 2016

LR560 - application

Market: Lime application

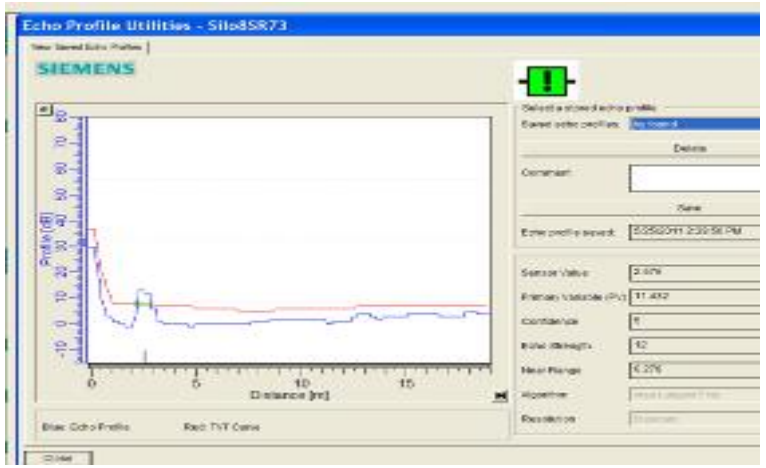
Material: Hydrated lime

Filling method: Pneumatic

Installation: An Opening

Temperature: Outdoor ambient -30C to +35C

Measurement Range: 14m



Restricted © Siemens AG 2016

LR560 - application

Market: Food & Beverage

Material: Malted Barley (orzo maltizzato)

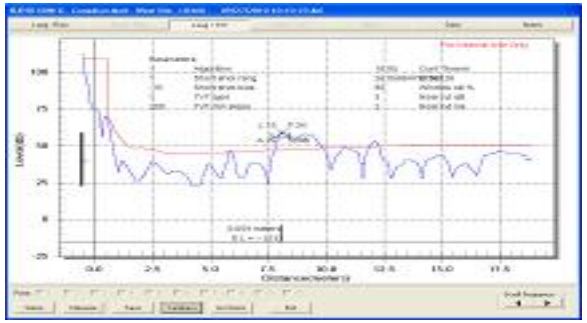
Filling method: Pneumatic from rail car

Installation: On man-way cover

Temperature: Outdoor ambient -25C to +35C

Measurement Range: 12m

LR460



LR560

http://www.controlglobal.com/articles/2011/radar-technology-level-measurement.html

Restricted © Siemens AG 2016

LR560 - application

Market: Glass Manufacturer (uses recycled)

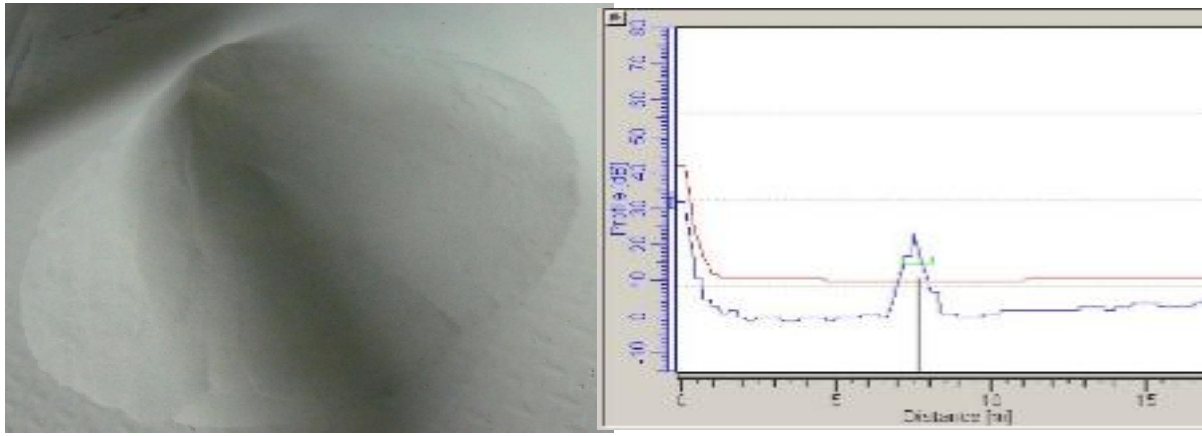
Material: Glass powder / beads (perle/gocce)

Filling method: Pneumatic, very dusty

Installation: *Standpipe*

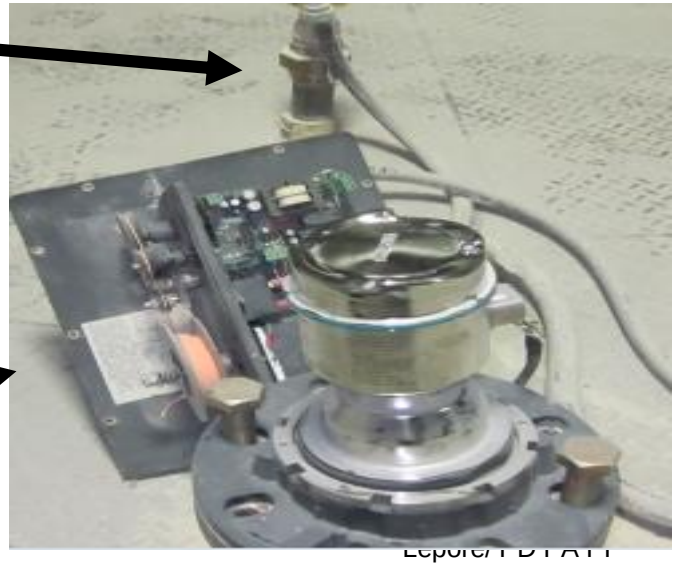
Temperature: Ambient

Measurement Range: 13m



TDR

Yo-Yo electronics



Restricted © Siemens AG 2016

LR560 - application

Market: Mining

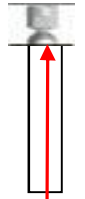
Material: Nickel Ore (minerale)

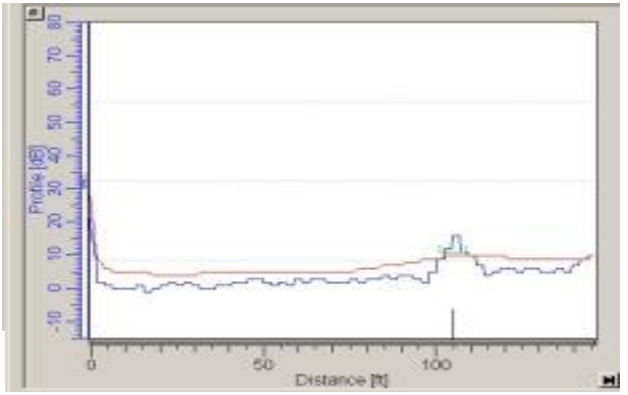
Filling method: Rail car dumping

Installation: *Test 6.8m long standpipe x 0.3m dia.*

Temperature: Ambient

Measurement Range: 30m





Restricted © Siemens AG 2016

LR560 - application

Market: MAC

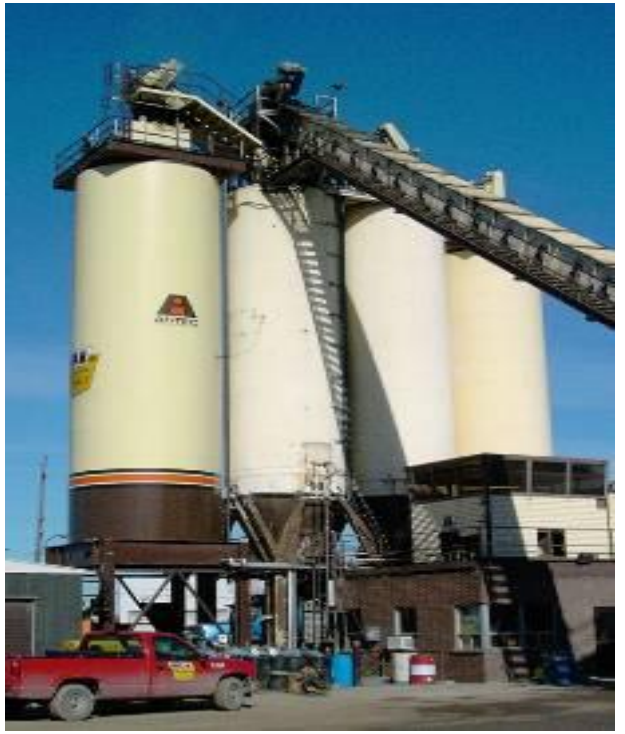
Material: Hot Mix Asphalt

Filling method: Batcher (tramoggia dosatrice)

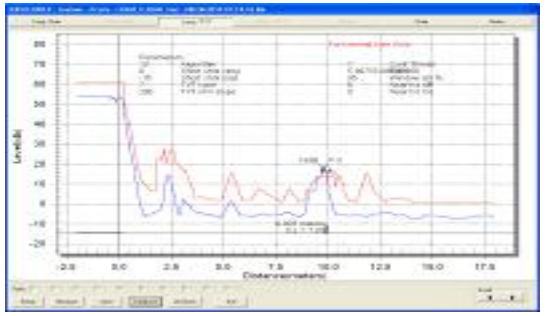
Installation: *100mm dia. X 200mm long nozzle*

Temperature: Ambient

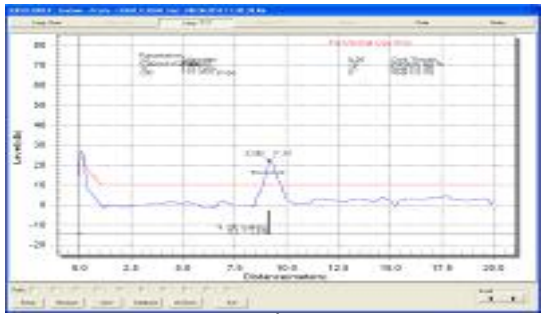
Measurement Range: 15m



LR260



LR560



Restricted © Siemens AG 2016

LR560 - application

Market: MAC

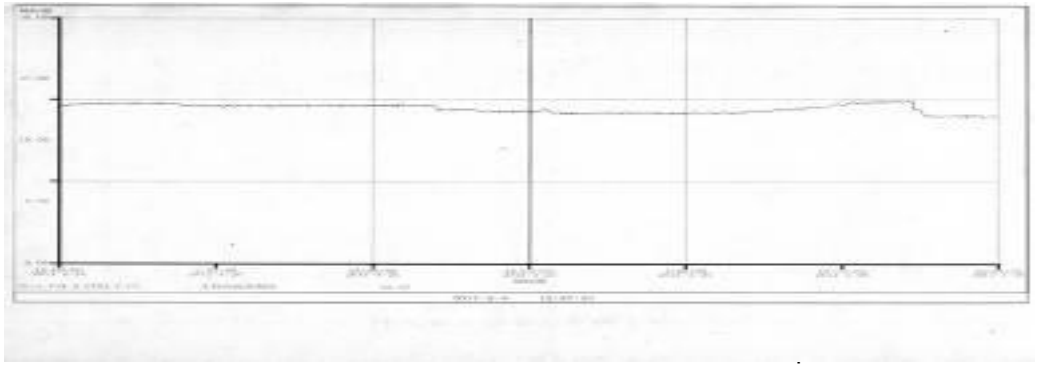
Material: limestone powder (calcare)

Filling method: Pneumatic

Installation:

Temperature: Ambient

Measurement Range: 36m



Restricted © Siemens AG 2016

LR560 - application

Market: MAC

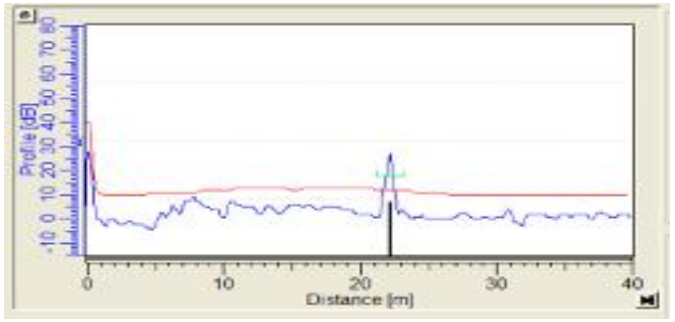
Material: finished cement

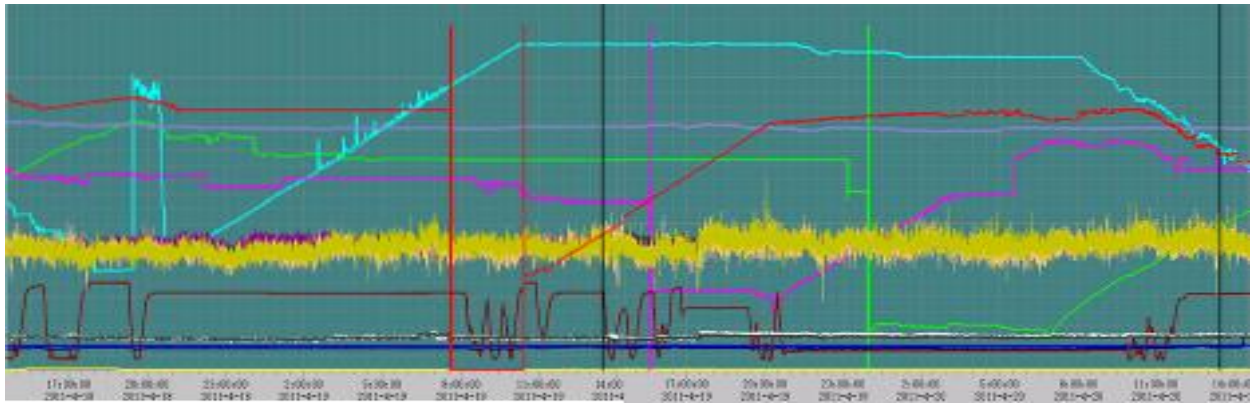
Filling method: air feed

Installation:

Temperature: Ambient

Measurement Range: 35m





Restricted © Siemens AG 2016

LR560 - application

Market: Petrochemical

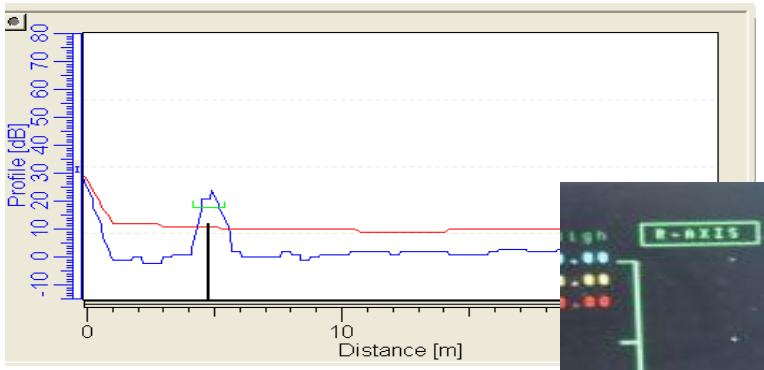
Material: PE powder

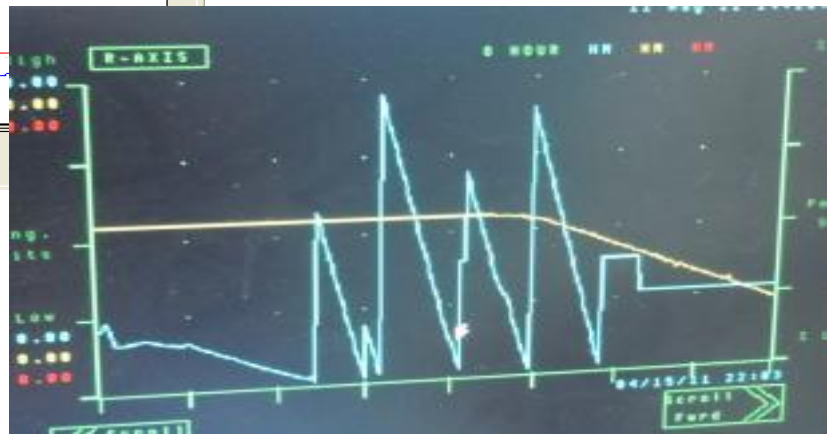
Filling method: pneumatic

Installation: *long standpipe*

Temperature: Ambient

Measurement Range: 28m





LR560 yellow trend – good

E&H blue trend, spikes not good

Restricted © Siemens AG 2016

LR560 - application

Market: Pharma

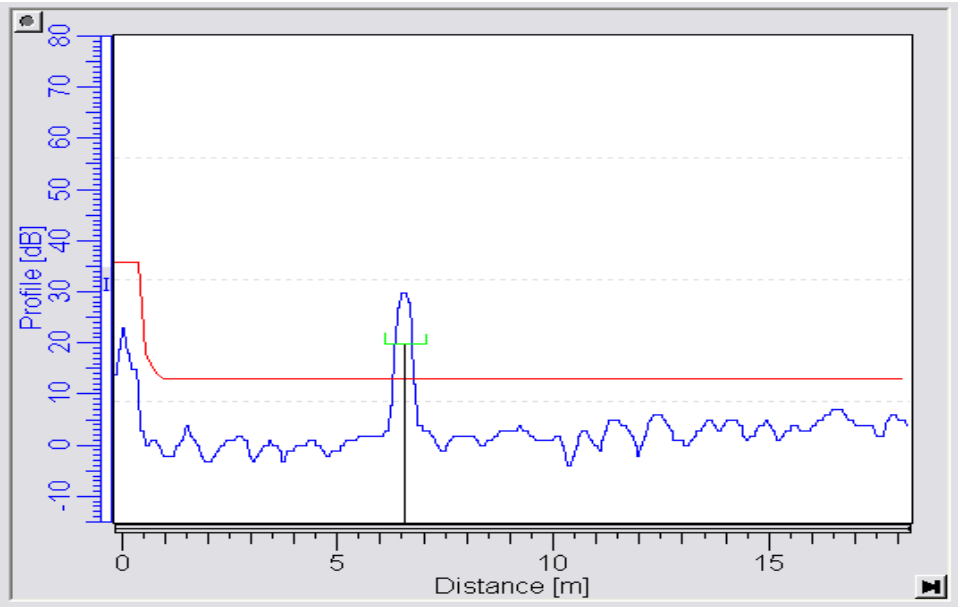
Material: Starch (flour) (amido)

Filling method: Pneumatic from truck car

Installation: Inside hole in insulation

Temperature: Indoor ambient 0C to +35C

Measurement Range: 14m



Restricted © Siemens AG 2016

LR560 - application

Market: Glass

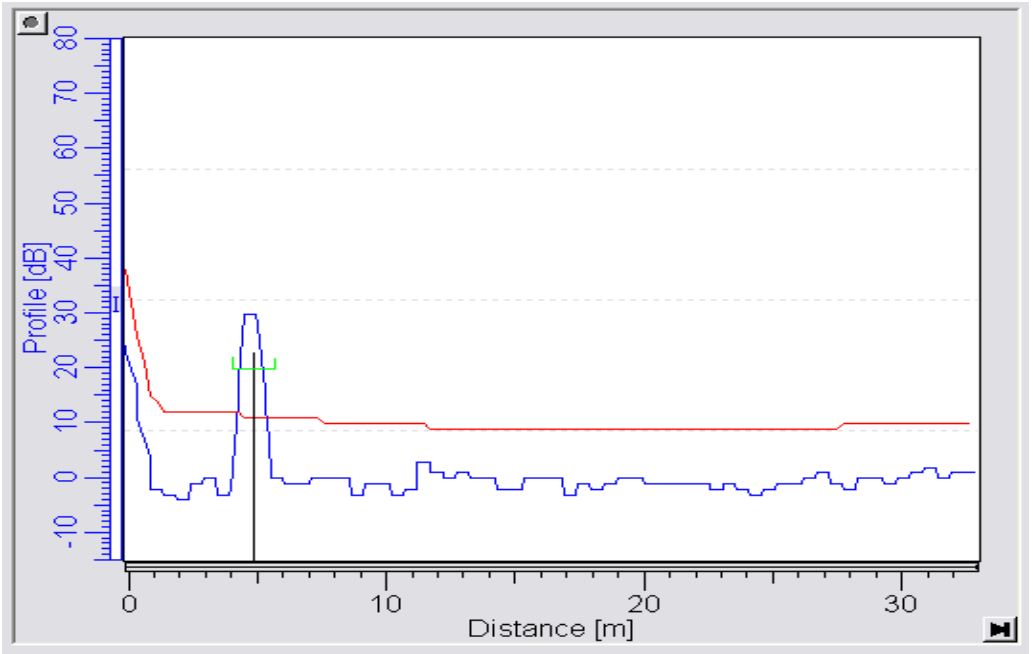
Material: Crushed recycle glass (frantumato)

Filling method: Feeder into top distributor

Installation: Directly at silo top

Temperature: Indoor ambient -5C to +35C

Measurement Range: 28m



Restricted © Siemens AG 2016

LR560 - application

Market: Plastic foil

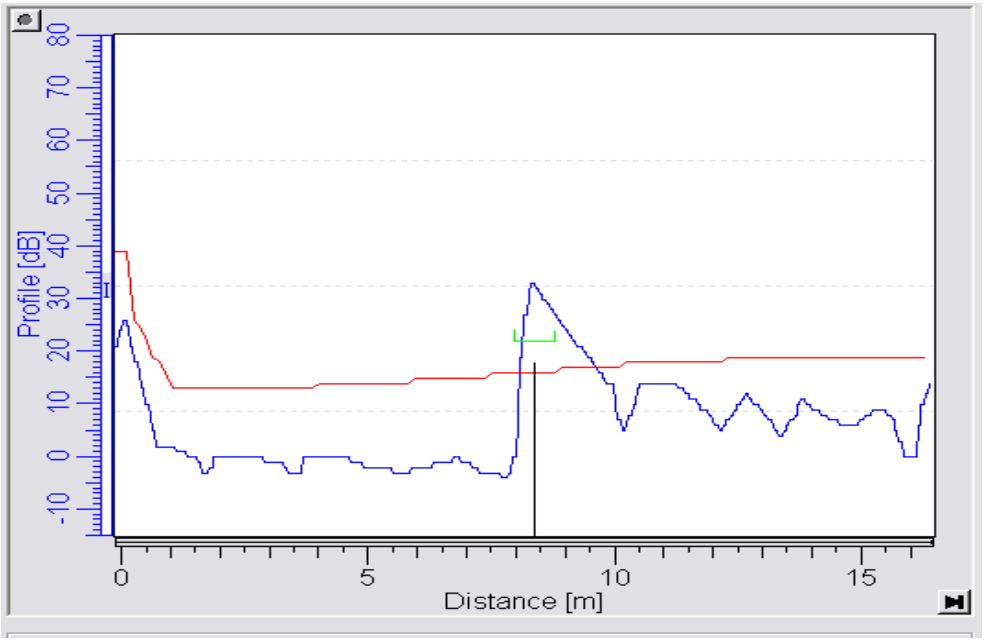
Material: PE pellets

Filling method: Pneumatic from truck car

Installation: 4” nozzle with flange

Temperature: Outdoor ambient -25C to +35C

Measurement Range: 11m



Restricted © Siemens AG 2016

LR560 - application

Market: Food & Beverage

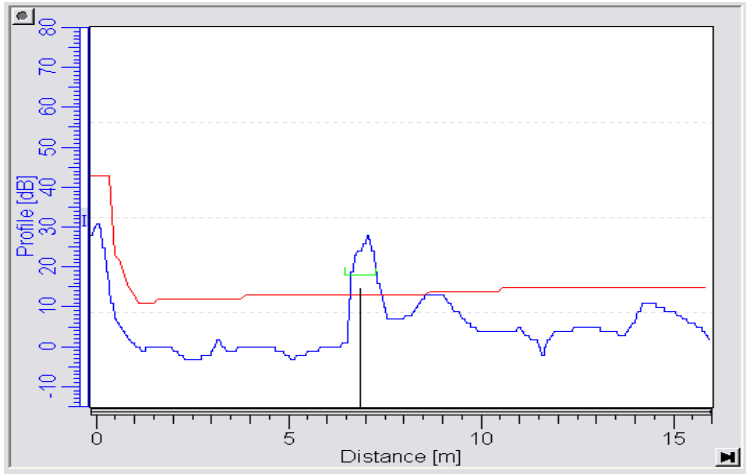
Material: Sugar flour

Filling method: Pneumatic from truck car

Installation: 6” nozzle with clamp / flange

Temperature: Indoor ambient -5C to +35C

Measurement Range: 11m



Restricted © Siemens AG 2016

LR560 - application

Market: Water Industrie

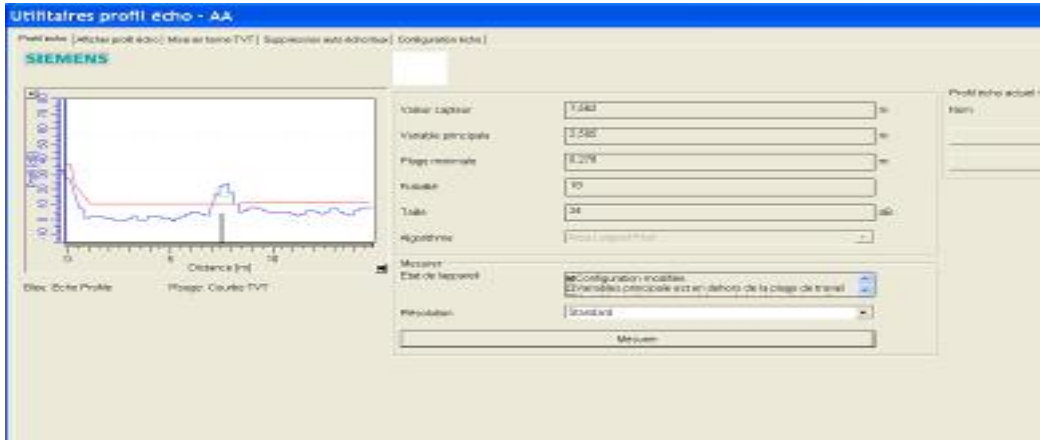
Material: Lime

Filling method: Pneumatic

Installation: Nozzle DN80

Temperature: Outdoor ambient -5 ° C to +40 ° C

Measurement Range: 10m



Restricted © Siemens AG 2016

LR560 - application

Market: Grain and Animal food

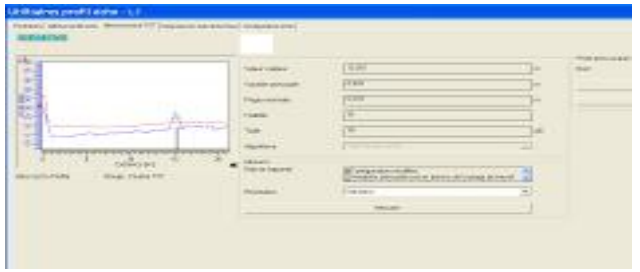
Material: Wheat and flour (grano/frumento)

Filling method: Pneumatic

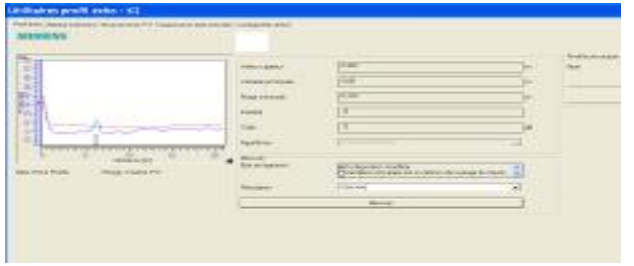
Installation: Nozzle DN100 (250mm height)

Temperature: Outdoor ambient -10 ° C to +30 ° C

Measurement Range: 18m



Wheat



Flour

Restricted © Siemens AG 2016

LR560 - application

Market: MAC Limestone

Material: Lime kiln (calce per forno)

Filling method: By charging trolley (carrello)

Installation: Standpipe approx. 1m

Temperature: Warm, even in winter

Measurement Range: Approx. 6 m

Restricted © Siemens AG 2016

LR560 - application

Market: MAC Cement

Material: Finished Cement

Filling method: By chain conveyor

Installation: Finished (not on the picture):

Inclined standpipe approx. 0,5m long to measure product close to silo ceiling

Temperature: Ambient

Measurement Range: Approx. 4 m

Restricted © Siemens AG 2016

LR560 - application

Market: Water

Material: lime powder

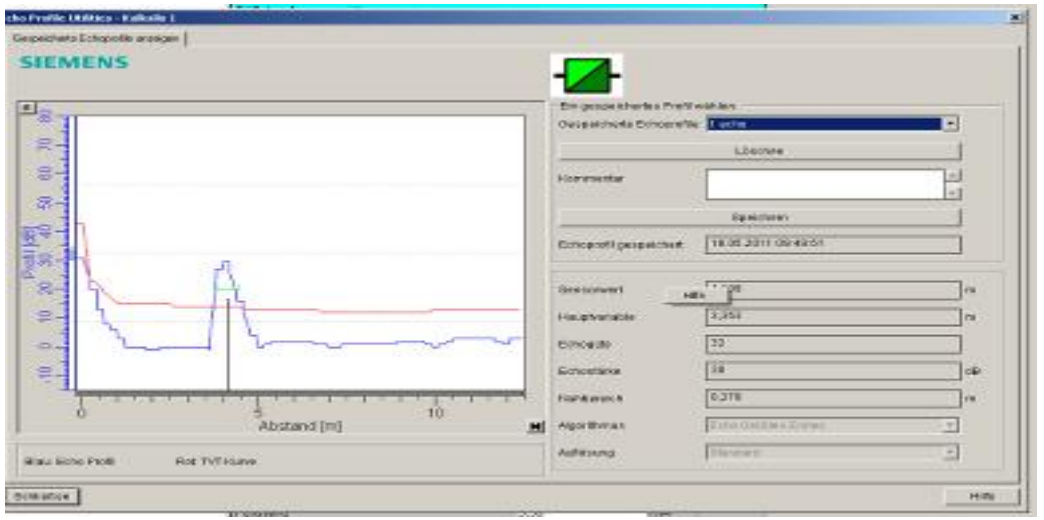
Filling method: Pneumatic from truck

Installation: silo roof, 60 cm from silo wall

60 cm high DN150 nozzle

Temperature: Outdoor ambient

Measurement Range: 12 m



Restricted © Siemens AG 2016

LR560 - application

Market: pulp & paper

Material: soda powder

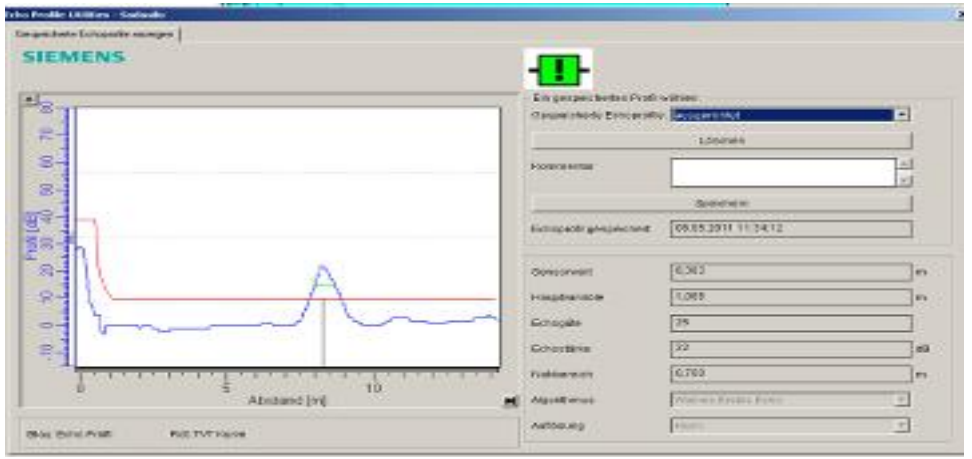
Filling method: Pneumatic from truck

Installation: silo roof, 50 cm from silo wall

Temperature: Outdoor ambient

Measurement Range: 13 m

A remains of the obstructions on the rope



Restricted © Siemens AG 2016

LR560 - application

Market: pulp & paper

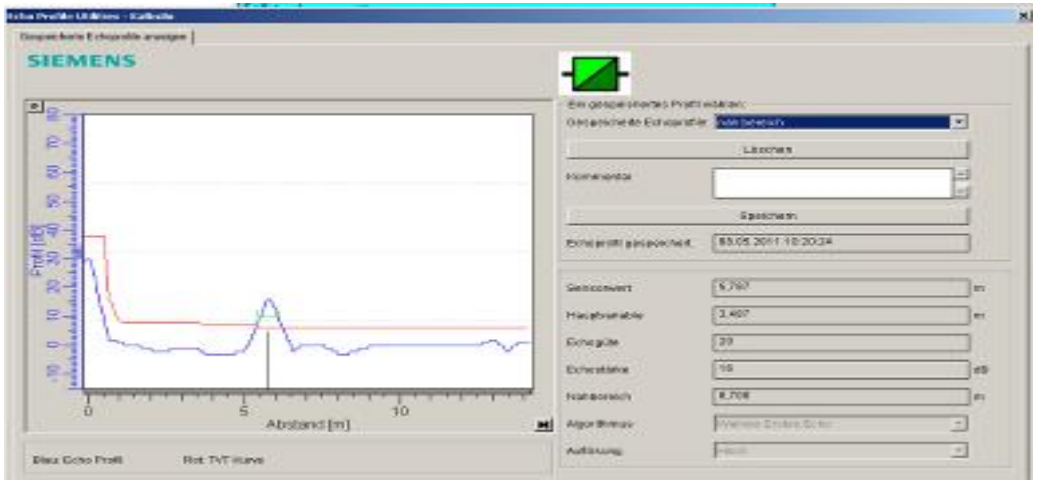
Material: lime powder

Filling method: Pneumatic from truck

Installation: silo roof, 50 cm from silo wall

Temperature: Outdoor ambient

Measurement Range: 13 m



Restricted © Siemens AG 2016

LR560 - application

Market: environment

Material: shredded wood, grass, garden waste (erba)

Filling method: snail conveyor

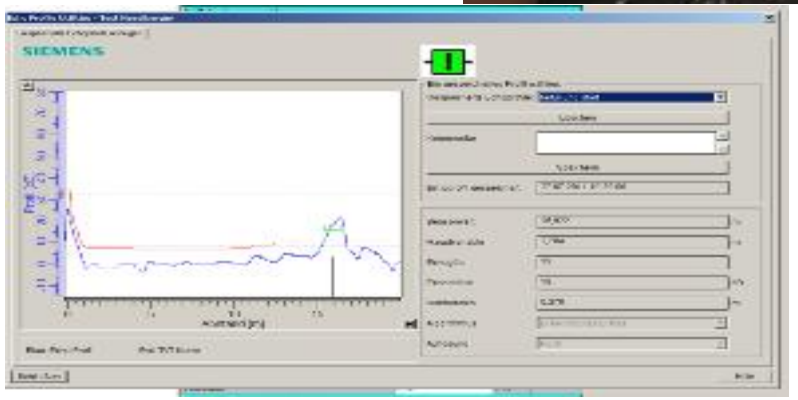
Installation: Very narrow, horizontal bunker
2.5x3.0 m with many fittings

Temperature: Outdoor ambient

Measurement Range: 21 m







Restricted © Siemens AG 2016

LR560 - application

Market: Chemical

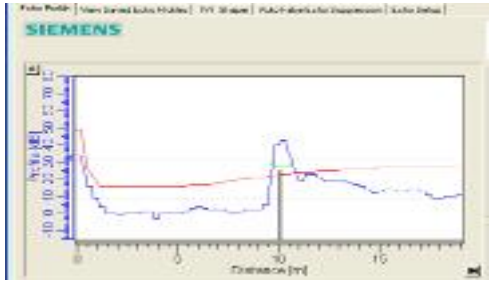
Material: polyethylene's plastic pellets (dk 2-2.5)

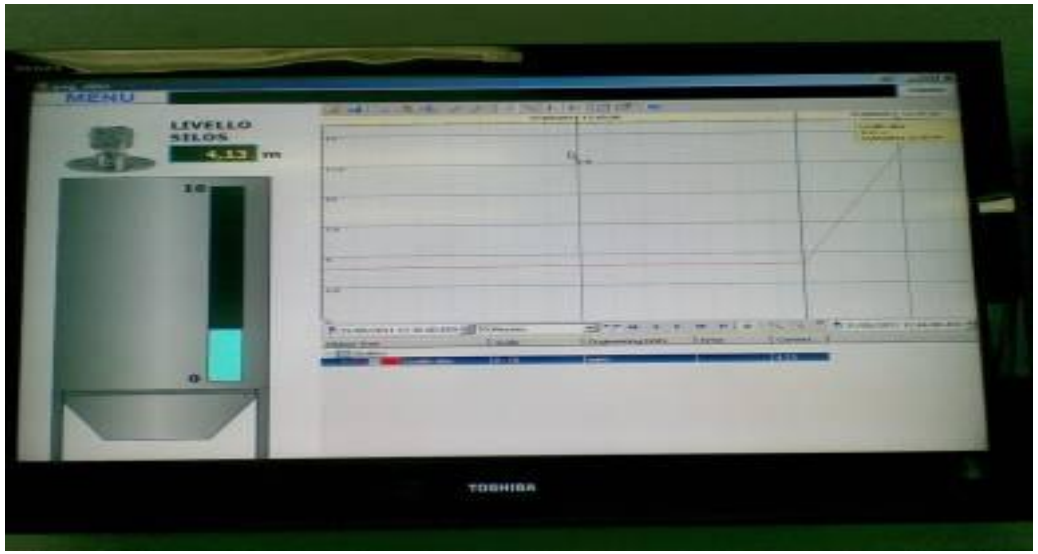
Filling method: from the top through truck at the bottom

Installation: nozzle 3" flange, about 200 mm high

Temperature: Outdoor ambient -25C to +40C

Measurement Range: 16 m – diameter 4 mt – conical bottom 2.2 mt high





Restricted © Siemens AG 2016

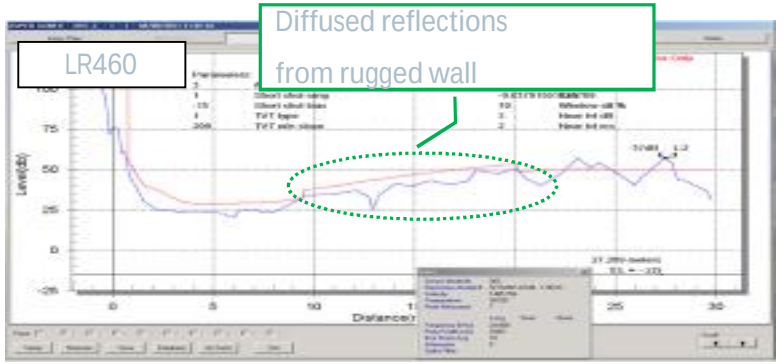
LR560 - application

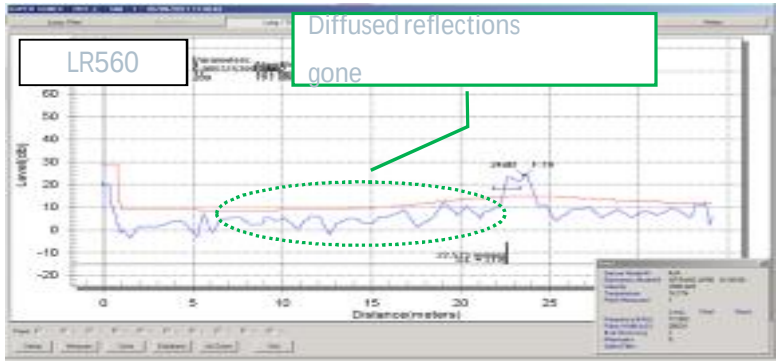
Market: Mining

Material: Limestone

Filling: Conveyor

Installation: On manhole cover where close to feeder and side wall





Restricted © Siemens AG 2016

LR560 - application

Market: Wood processing

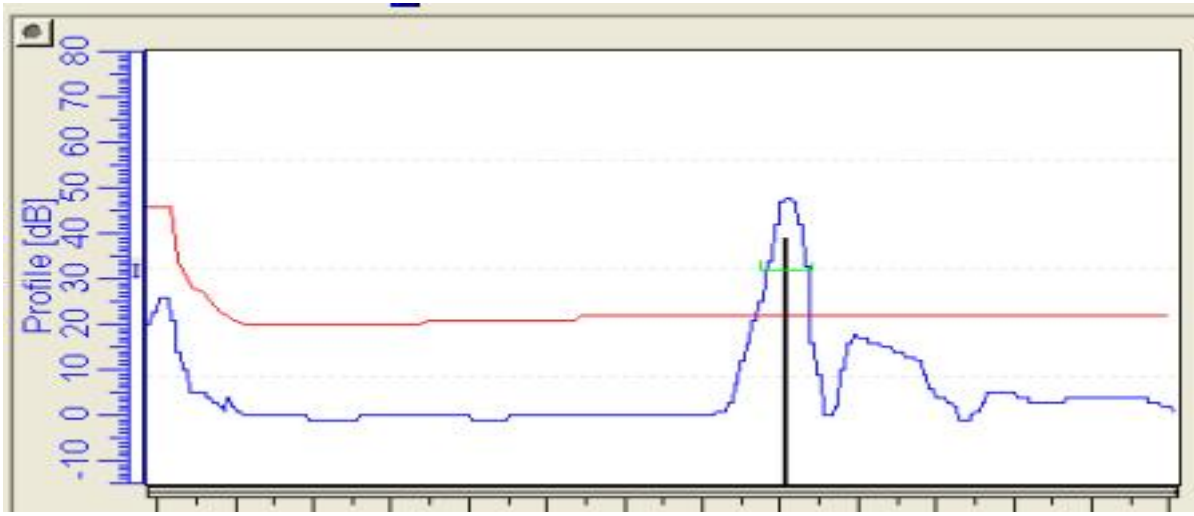
Material: Wood chips

Filling method: conveyor from top of the silo

Installation: On top of silo

Temperature: Outdoor ambient -30C to +35C

Measurement Range: 12m



Restricted © Siemens AG 2016

LR560 - application

Market: Animal Food

Material: Rye (segale)

Filling method: free fall from feeder belt

Installation: 3”hole in concrete silo roofing

Temperature: Outdoor ambient -25C to +35C

Measurement Range: 25 m (picture)

Restricted © Siemens AG 2016

LR560 - application

Market: Food & Beverage

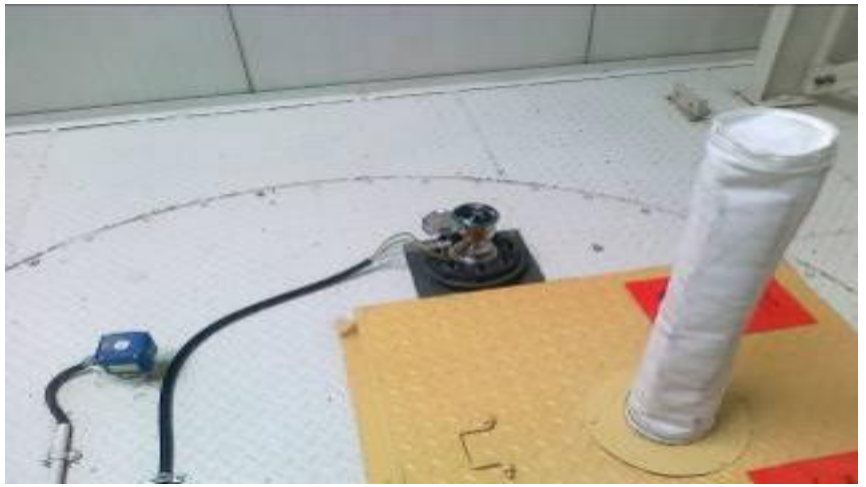
Material: Pet food

Filling method: Pneumatic

Installation: Inside the building

Temperature: 0C to +40C

Measurement Range: 6 m and 8 m



Restricted © Siemens AG 2016

LR560 - application

Market: Food & Beverage

Material: Mixed cereals

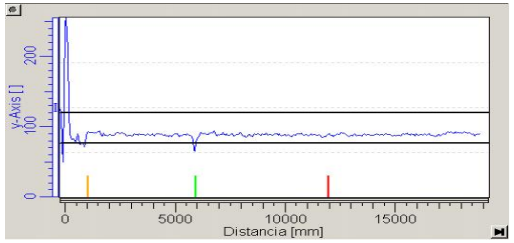
Filling method: Pneumatic

Installation: On man-way cover

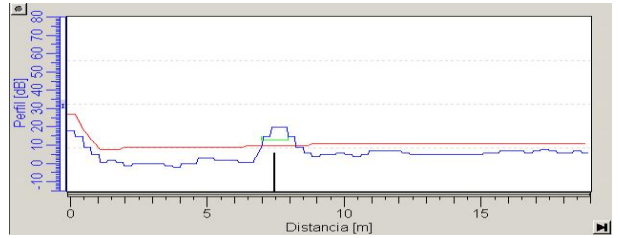
Temperature: Indoor ambient 0 C to +45C

Measurement Range: 18 m

LG200



LR560



Restricted © Siemens AG 2016

LR560 - application

Market: Food & Beverage

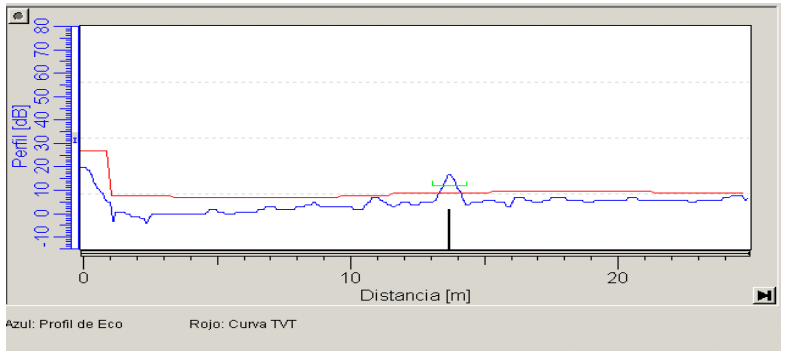
Material: Mixed cereals

Filling method: Pneumatic

Installation: On narrow nozzle

Temperature: Indoor ambient 0 C to +45C

Measurement Range: 20 m



Restricted © Siemens AG 2016

LR560 - application

Market: MAC

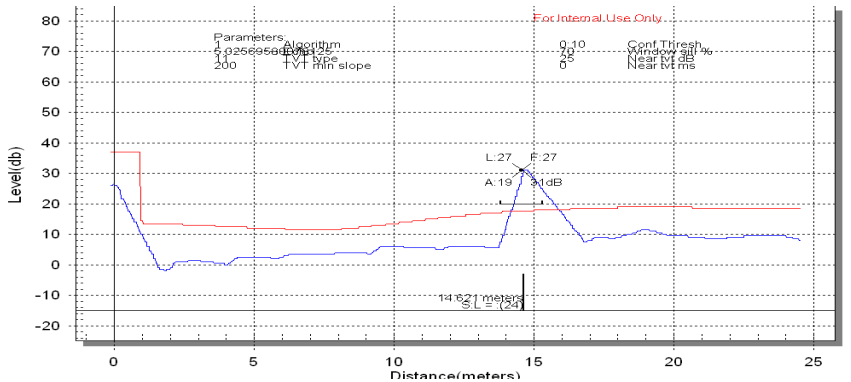
Material: Lime

Filling method: Pneumatic

Installation: On man-way cover

Temperature: +100C

Measurement Range: 18 m



Restricted © Siemens AG 2016

LR560 - application

Market: MAC

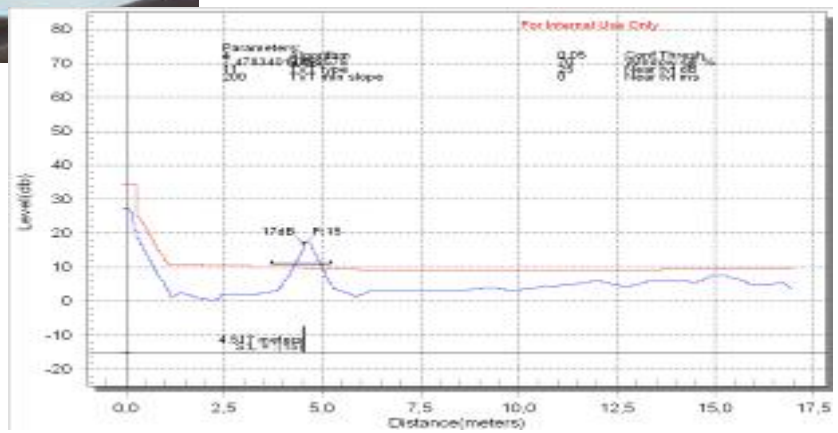
Material: Pottery Sand (ceramica)

Filling method: Pneumatic

Installation: 6” nozzle – 2 m length

Temperature: Outdoor ambient -5 C to +45C

Measurement Range: 18 m



Restricted © Siemens AG 2016

LR560 - application

Market: Chemical

Material: Plastic Pellets

Filling method: Pneumatic

Installation: 3” nozzle

Temperature: Outdoor ambient -5 C to +45C

Measurement Range: 20 m

Restricted © Siemens AG 2016

LR560 - application

Market: Food & Beverage

Material: Grain

Filling method: Gravity

Installation: On concrete floor, 4” holes

Temperature: ambient

Measurement Range: 40m

Restricted © Siemens AG 2016

LR560 - application

Market: MAC

Material: Finished Cement

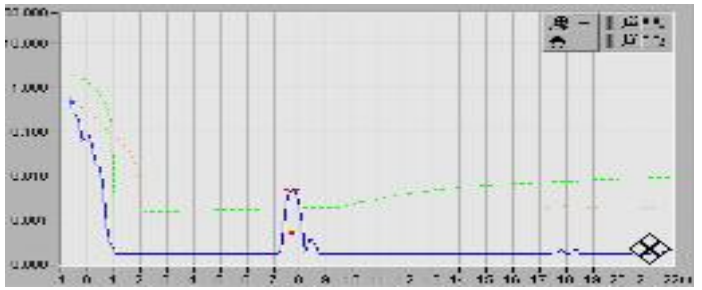
Filling method: Pneumatic

Installation: Mounted on existing 600mm long standpipe

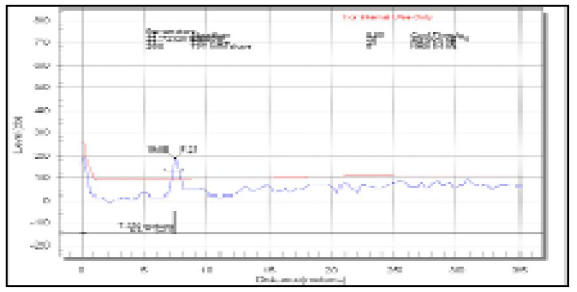
Temperature: Indoor ambient -25C to +35C

Measurement Range: 30m

LR400S



LR560



Restricted © Siemens AG 2016

LR560 - application

Market: MAC

Material: Filler (materiale di riempimento)

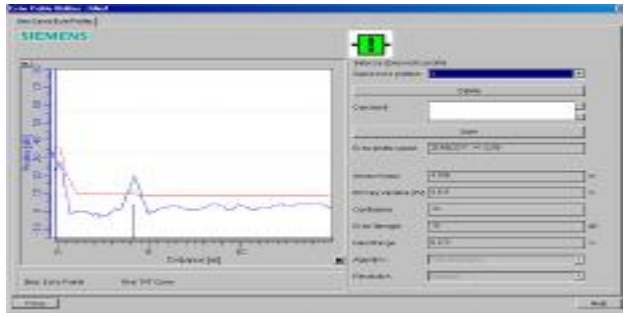
Filling method: Pneumatic

Installation: Flange mounting

Temperature: Outdoor ambient -25C to +35C

Measurement Range: 10m

LR560



Restricted © Siemens AG 2016

LR560 - application

Market: Steel

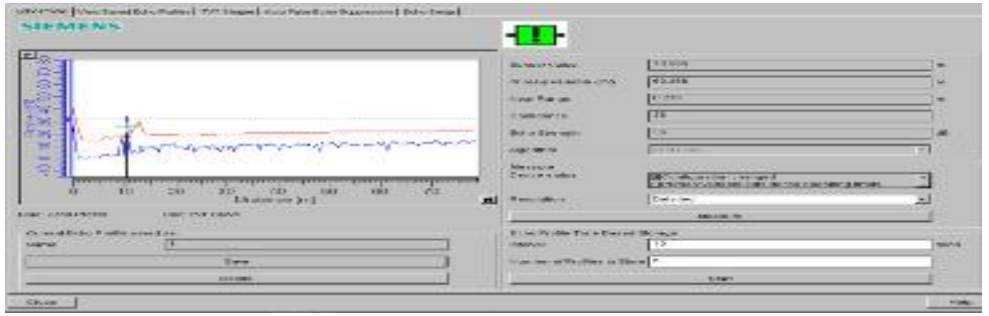
Material: COG Gas Holder

Filling method:

Installation: Customer stand off

Temperature: Outdoor ambient -25C to +35C

Measurement Range: 82 m – 77m to piston



Restricted © Siemens AG 2016

LR560 - application

Market: MAC

Material: Hot mix Asphalt

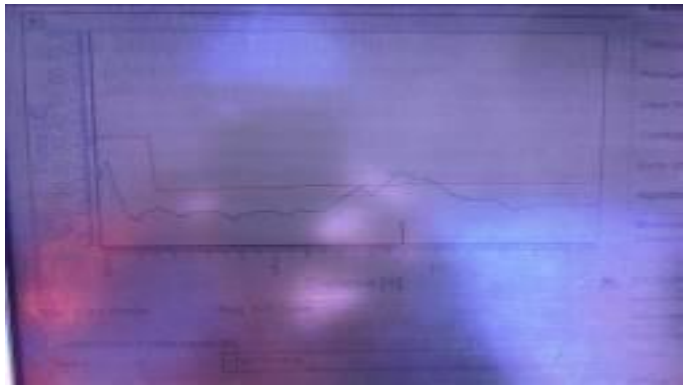
Filling method: Bucket

Installation: Flange cut into vessel lagging

Temperature: Outdoor product temp 100 deg C

Measurement Range: 10m

LR560



Restricted © Siemens AG 2016

LR560 - application

Market: F&B

Material: Sugar

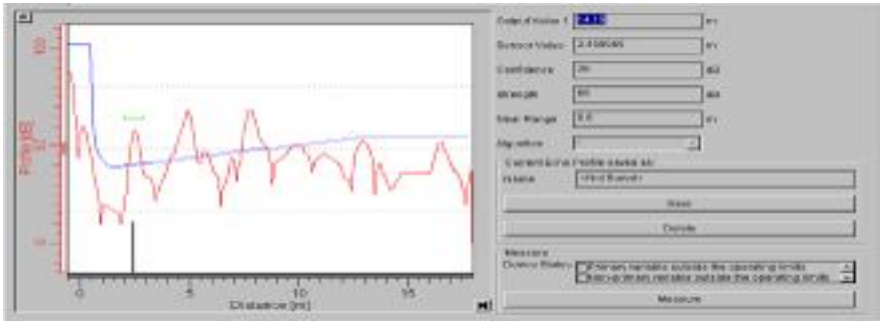
Filling method: Pneumatic

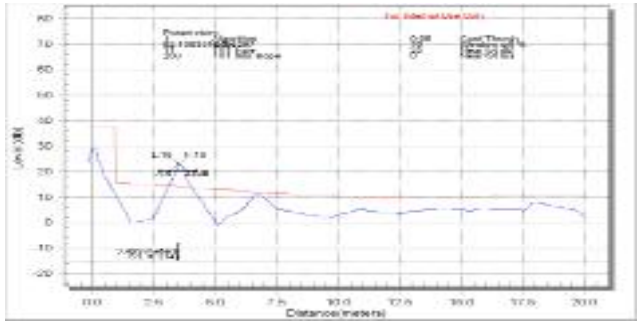
Temperature: Outdoor ambient -25C to +35C

Measurement Range: 10m

LR460

LR560





Restricted © Siemens AG 2016

LR560 - application

Market: Aggregate

Material: Sand / Different Grades

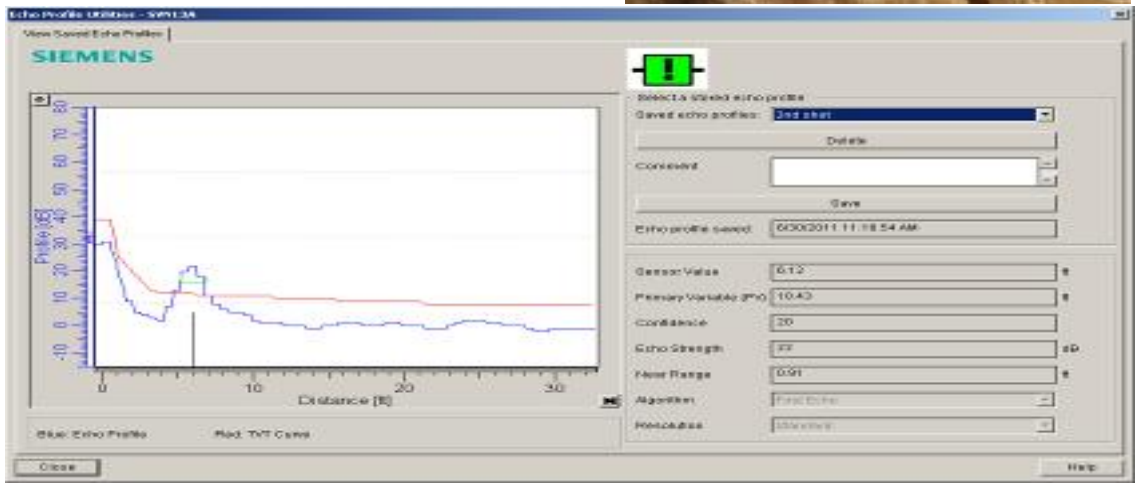
Filling method: Conveyor

Installation: Nozzle height 13 inches by 6 inches in diameter
Temperature: Outdoor ambient -25C to +35C

Measurement Range: 10m

Demo

Setting Up



Restricted © Siemens AG 2016

LR560 - application

Market: Power

Material: Coal

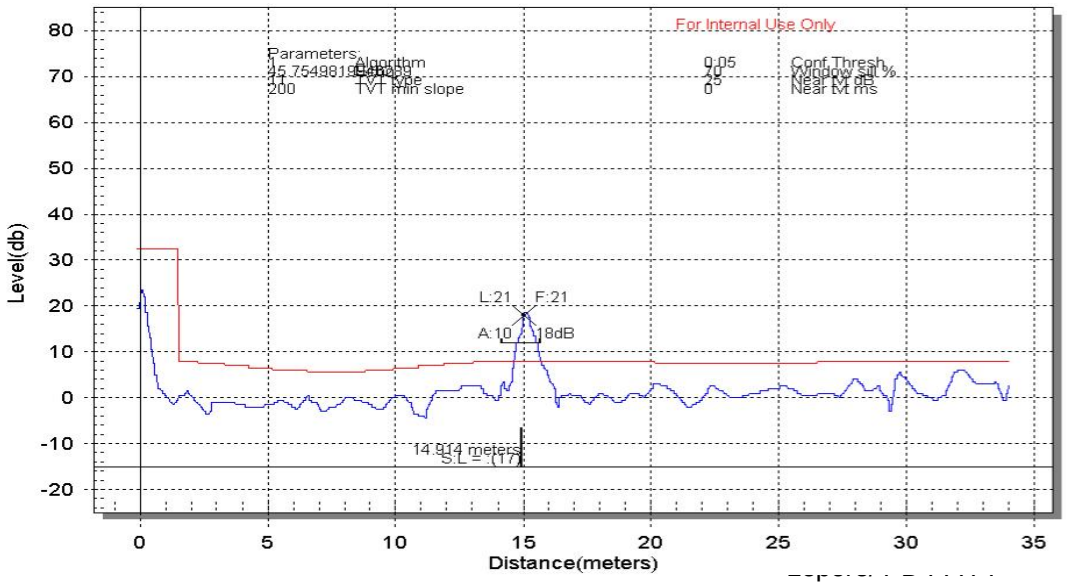
Filling method: Conveyer

Installation: Through a 4 inch hold by 12 inch thick concrete roof

Temperature: Outdoor ambient -10C to +45C

Measurement Range: 29m

LR560



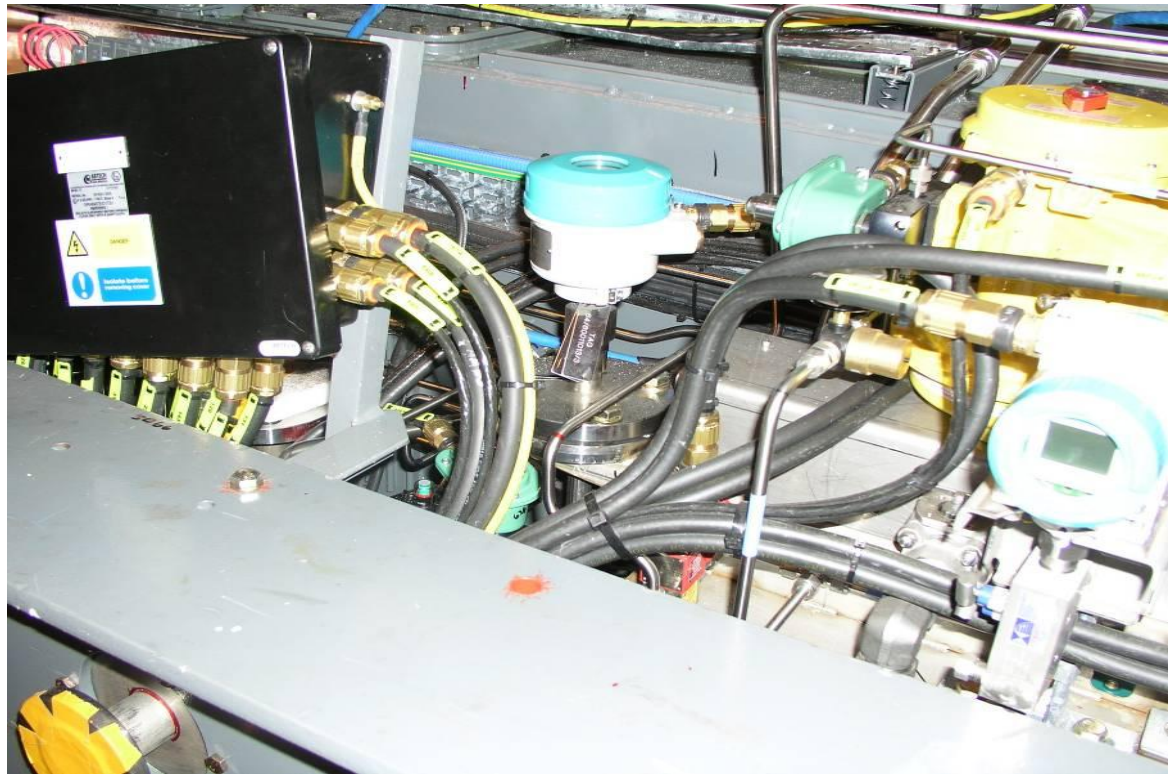
Restricted © Siemens AG 2016

SIEMENS
Ingegno per la vita

Radar a guida d’onda

siemens.com/level

Lubrication & Waste Oils



Challenge:

- Low DK materials (Oils)
- Span<1m
- Provide Level of Oil for Turbine
- Provide overfill alarm for drains

Environment:

- OEM Skid platform
- Limited Room

Benefit:

- **Customer can shorten to suit skid type using shorten kit**
- **Siemens Internal Business (Energy)**

Industry: **Power**

Restricted © Siemens AG 2016

Biodiesel Plant

Challenge:

- Low DK materials (Oils) Soy, palm, rape
- Span>6m
- Expanding fuels technology

Environment:

- Petrochemical site
- Ambient Temperature
- Ambient Pressure

Solution:

- Siemens project solution, level, pressure, temperature

Benefit:

- **Customer gets simple quick start up no need fill/empty vessel**
- **New renewable energy projects**

Product group: **Level**

Industry: **Oil & Gas (OEM)**

Restricted © Siemens AG 2016

Solar Power Plant– Thermal/Cooling Fluids

Challenge:

- Low DK materials Oils
- High Temperatures and Pressures

Environment:

- Pressure 1 - 123 Bar G
- Temperature 150-400 degreesC
- Installed in Bypass pipes

Solution:

- Siemens project solution, level, pressure, temperature

Benefit:

- **Customer gets solution to High Temperature application**
- **New renewable energy projects**

Product group: **Level**

Industry: **Power**

Restricted © Siemens AG 2016

Heating Oils

Challenge:

- Low DK materials (Oils)
- High Temperature

Environment:

- 3 meter high
- Horizontal Cylinders
- 350 degreesC

Benefit:

- **Other technologies cannot handle temperatures**
- **Repeatable performance**

Product group: **Level**

Industry: **Chemical**

Restricted © Siemens AG 2016

Solvent Production

Product group: **Level**

Industry: **Chemical**

Challenge:

- Low DK materials (dk=2)
- Mounting location
- Replace 6Ghz Radar

Environment:

- 9 meter high
- Various Solvents
- 20 degrees C

Benefit:

- **Customer was provided a solution on low dielectric regardless of mounting**
- **Repeatable performance**

Restricted © Siemens AG 2016

Malt Wort Kettle

Challenge:

- Foamy Liquid
- Steam
- Low Headroom
- Problems for Ultrasonics and Radar

Environment:

- Steam
- 80 degrees C
- Foam

Solution:

- Flexible Rod Probes with Hygenic Fitting
- NACC special construction

Benefit:

- **Customer gets solution to problem application**

Product group: **Level**

Industry: **Food & Beverage**

Restricted © Siemens AG 2016

Feedwater Measurement

Challenge:

- High temperature
- Replacement of tested technology

Environment:

- Power Plant Boiler House
- Sealing critical
- 200 C

Solution:

- HT/HP Coaxial Probe
- Steam Seal
- Success down to relationship with user

Benefit:

- **Customer gets better process control and cost savings**
- **Replaces ageing technology**

Product group: **Level**

Industry: **Power**

Restricted © Siemens AG 2016

Feedwater Measurement

Challenge:

- High temperature
- Replacement of tested technology
-

Environment:

- Power Industry
- Sealing critical

Solution:

- Coaxial Steam Probe
- Steam Compensation
- Displacer Replacer
- Success down to relationship with user

Benefit:

- **Less Maintenance required**
- **Better process control**

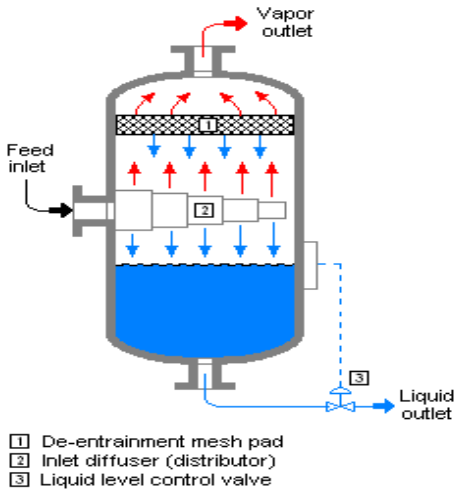
- **Replaces ageing technology**

Product group: **Level**

Industry: **Power**

Restricted © Siemens AG 2016

Interface Measurement – Knock out drum



Challenge:

- Oil/Water Interface
- Build up
- Originally had std size coax
-

Solution:

- Coaxial Interface Probe
- Enlarged construction to avoid blocking
- Single entry to vessel

Benefit:

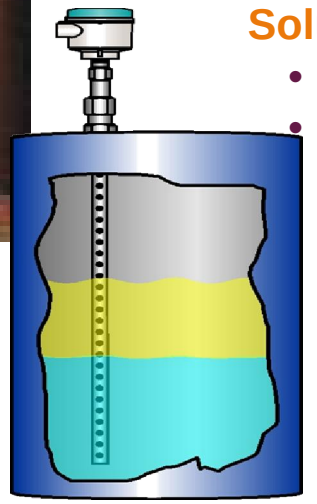
- **No need for two devices as previously**
- **Better quality product due to better proces control**

Product group: **Level**

Industry: **Oil/Gas**

Restricted © Siemens AG 2016

Interface Measurement – Chemical Industry



Challenge:

- Solvent/Water Interface
- 2 – 3” of solvent
- Erratic behaviour of other devices

Solution:

- Coaxial Interface Probe
- Sensitivity was set for pickup of xylene
  Reliable interface detected

Benefit:

- **Separation process is better controlled**
- **Quality of product improved**
- **No erratic readings as before**

Product group: **Level**

Industry: **Chemical**

Restricted © Siemens AG 2016

Acid Measurement

Challenge:

- Hydrosulpfonic Acid
- Build up is possible
- Critical Level Measurement
- Batch reactor process level must be maintained
- Aggressive

Solution:

- Single Rod Probe
- Good in case of build up
- PFA coating for resistance

Product group: **Level**

Industry: **Chemical**

Benefit:

- **Customer gets solution to critical application even with build up**
- **Cost effective solution provided**

Restricted © Siemens AG 2016

Hydrocarbon Measurement

Product group: **Level**

Industry: **Oil/Gas**

Challenge:

- Hydrocarbon Extraction from Gas
- Remote sites
- Reliability needed

Solution:

- Coaxial probe
- Output signal feeds control system with level and when full operator is called to send truck to empty vessel via modem

Benefit:

- **Customer gets reliable solution**
- **Provide useful data to ensure correct dispatch**
- **Saves money of rogue calls**

Restricted © Siemens AG 2016

Fine Chemicals

Challenge:

- Pharmacuetical Ingredients
- Clean environment
- Sanitary Process connection needed
- Material has coating properties

Solution:

- Sanitary Rod version
- Single Rod ideal for coating materials
- Tri-Clamp connection
- Polished stainless steel

Benefit:

- **Sanitary connection aids install and cleanability**
- **Build up is negated by hi polished finish**

Product group: **Level**

Industry: **Pharma**

Restricted © Siemens AG 2016

Distillate Level Measurement

Challenge:

- 2” dia column of light distilled liquid
- High pressure 700 psi (48 Bar)
- High Temperature 385F (196C)
- Non contact radar failed

Solution:

- Coaxial HT/HP Probe
- No seals
- Low dk materials no issue

Benefit:

- **Customer gets solution to hi temp application**
- **Reliable measurement attained**

Product group: **Level**

Industry: **Petrochemical**

Restricted © Siemens AG 2016

Hydrocarbon Interface Measurement

Challenge:

- Interface Hydrocarbon/Water
- Elevated Temperature
- Low DK

Environment:

- Chemical Plant
- Styrene Monomer plant
- 90 deg C
- Aggressive to skin

Solution:

- Coaxial Interface Probe

Benefit:

- **Customer gets reliable/repeatable low maintenance solution**
- **Replaces old mechanical technology**

Product group: **Level**

Industry: **Chemical**

Restricted © Siemens AG 2016

Glycol Measurement

Product group: **Level**

Industry: **Oil & Gas**

Challenge:

- Glycol De-Hydration
- Elevated Temperature

Environment:

- Gas Separation Plant
- High Temperatures
- 200+ deg C
- 5 Bar

Solution:

- Coaxial HT/HP Probe

Benefit:

- **Customer gets reliable/repeatable solution**
- **Siemens relationship won project**

Restricted © Siemens AG 2016

Riferimenti

Raffaele Lepore
Product Manager Level Products
RC-IT / PD PA PI

Strada del Drosso, 49
10135 – Turin

Italy

Mobile: +39 3355698847

E-mail:
raffaele.lepore@siemens.com

siemens.com

Restricted © Siemens AG 2016