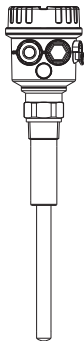


Bruksanvisning **Soliphant T FTM20, FTM21**

NO- Nivådetektor



no - Innhold

Sikkerhetsmerknader	3
Håndtering	4
Identifisering av deler	6
Anvendelse	10
Målesystem	11
Montering	12
Installering	16
Lyssignaler	18
Tilkoblinger	19
Vedlikehold	24
Ekstern rengjøring	25
Teknisk informasjon	26
Hylser/kompresjonskobling	27
Feilsøking	29
Reservedeler	30
Ekstra dokumentasjon	31



Advarsel!

= Forbudt!

Fører til feil bruk eller ødeleggelse.

no - Merknader om sikkerhet

Soliphant T FTM20, FTM21 er en punktnivåbryter for fin- til grovkornede faststoffmasser. Hvis den brukes feil, kan det oppstå farer.

Grensenivåbryteren kan kun monteres, settes i drift, drives og vedlikeholdes **av kvalifisert og autorisert personell**, under streng overholdelse av denne bruksanvisningen, alle relevante standarder, juridiske krav og sertifikat der det er nødvendig.

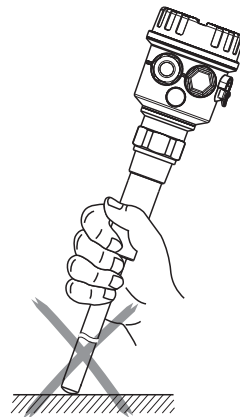
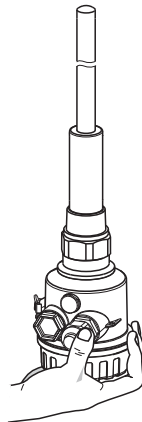
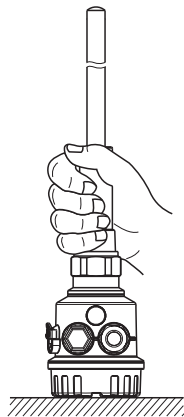
Monter en strømbryter som er lett tilgjengelig i nærheten av måleren. Merk strømbryteren som en skillebryter for måleren.

Bruk kun isolerte verktøy!

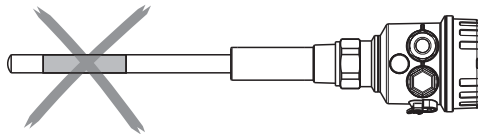
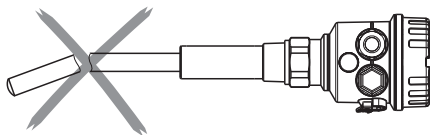
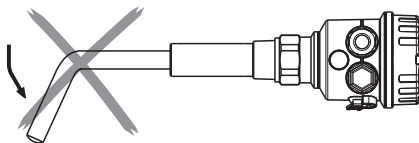
Bruk kun originaldeler!

no - Håndtering

Hold i huset, flensen eller
forlængelsesrøret.



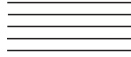
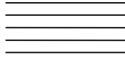
no - Må **ikke** bøyes
Må **ikke** forkortes
Må **ikke** forlenges



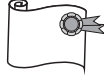


Order Code

FTM20-# # # #

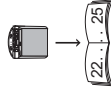


A^{*1} CSA General Purpose, CSA C US
 C CSA DIP+FM, DIP
 D Y^{*2} ATEX II 1/3 D
 4



A DIN 2999 R 1 316L
 G DIN 2999 R 1½ 316L
 M ANSI NPT 1¼ 316L
 N ANSI NPT 1½ 316L
 Y^{*2}

2 FEM22; PNP, 10... 45 V DC
 4 FEM24; DPDT, 19...253 V AC/55 V DC
 9^{*2}



2
3
4
5
6
7
9

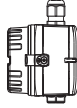
F16, IP66/67; M20
F16, IP66/67; NPT 1/2
F16, IP66/67; G 1/2
F18, IP66/67; M20
F18, IP66/67; NPT 3/4
F18, IP66/67; G 1/2
*2

A Grunnleggende versjon

Y *2



F16
PBT

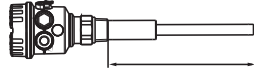


F18
Alu

*1 uten
*2 annet



ENDRESS+HAUSER
Soliphant T



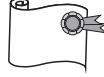
Order Code

FTM21-####

L

A
C
D
Y
4

^{*1}
CSA General Purpose, CSA C US
CSA DIP+FM, DIP
^{*2}
ATEX II 1/3 D



A
G
M
N
Y

DIN 2999 R 1 316L
DIN 2999 R 1½ 316L
ANSI NPT 1¼ 316L
ANSI NPT 1½ 316L
^{*2}

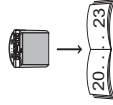
2
3
4
6
7
8
9

500 mm
1000 mm
1500 mm
20 inch
40 inch
60 inch
^{*2}



2
4
9

FEM 22; PNP, 10... 45 V DC
FEM 24; DPDT, 19...253 V AC/55 V DC
*²



2
3
4
5
6
7
9

F16, IP66/67; M20
F16, IP66/67; NPT 1/2
F16, IP66/67; G 1/2
F18, IP66/67; M20
F18, IP66/67; NPT 3/4
F18, IP66/67; G 1/2
*²



F16
PBT



F18
Alu

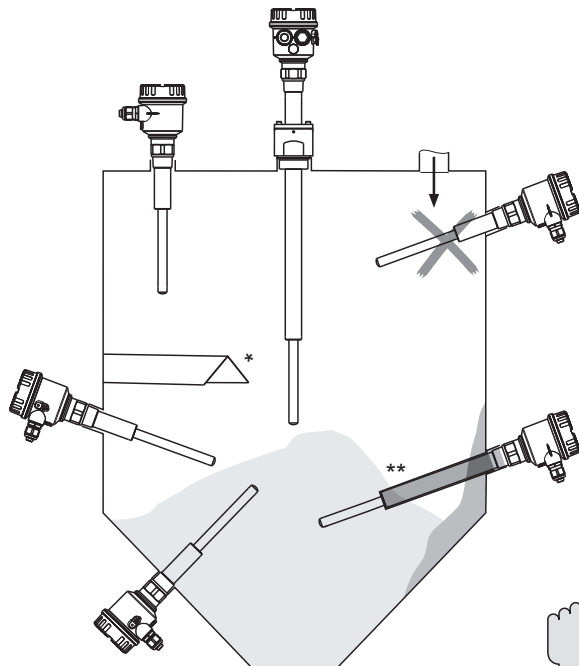
A
Y

Grunnleggende version
*²

*¹ uten
*² annet

no - Anvendelse

Registrere grensenivå i faststoffer



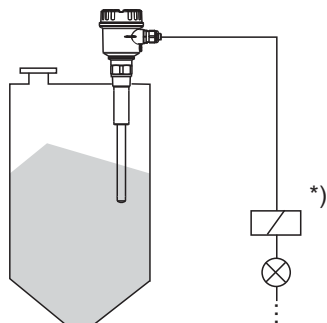
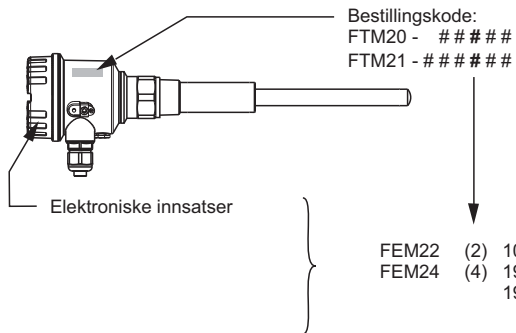
*

Beskyttelseskappe
eller

**

Beskyttelsesrør



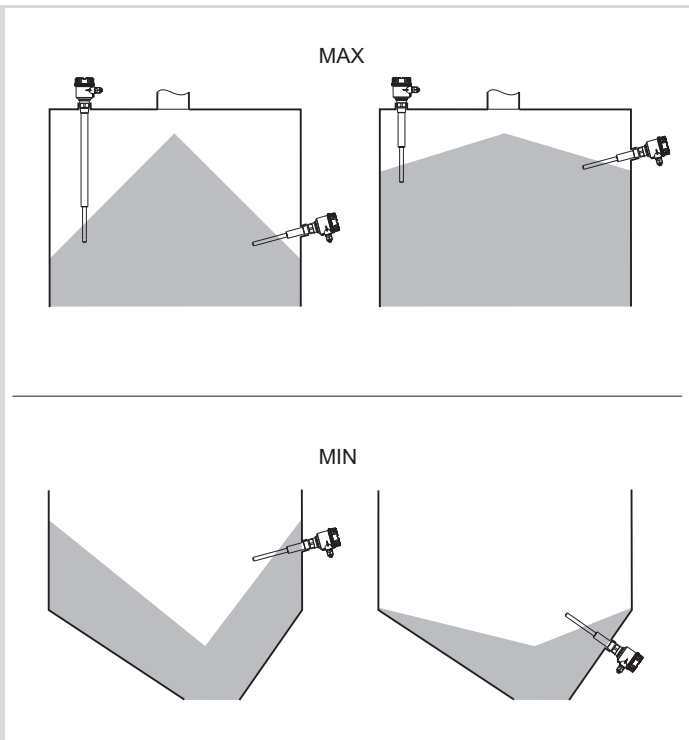


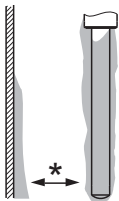
*) Ekstern belastning

no - Målesystem
for direkte tilkobling

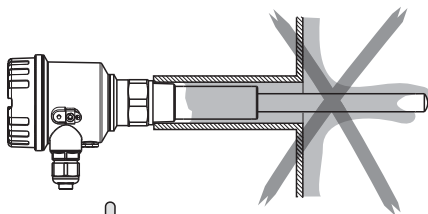
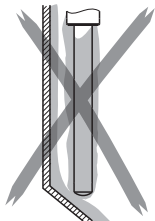
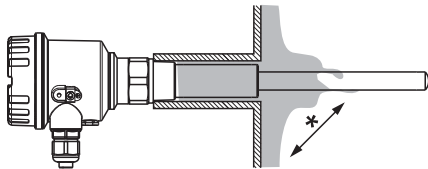
no - Montering

Installasjonssted avhenger av
profilen på faststoffmassen og
mediet



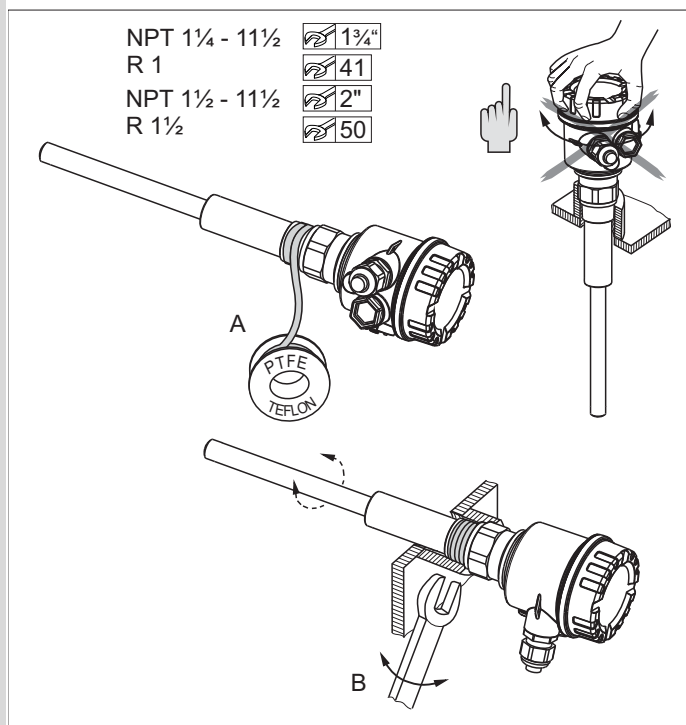


* Avstand!

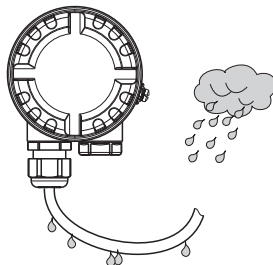
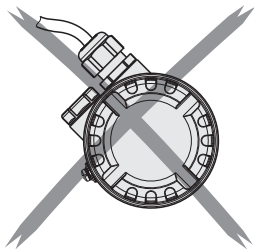


no - Ta hensyn til påbygging.

no - Skru fast Soliphant fast i
prosessanslutningen.
Benytt verktøy/fastnøkkel!

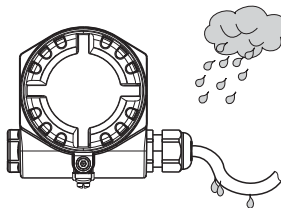
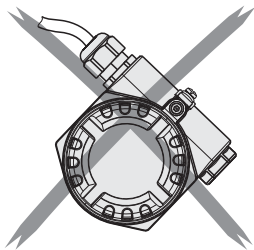


F16 (Polyester)

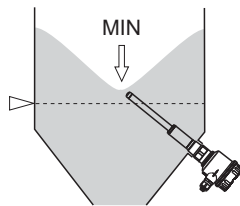
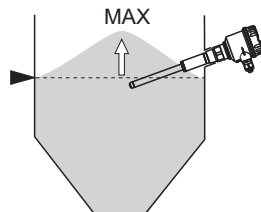
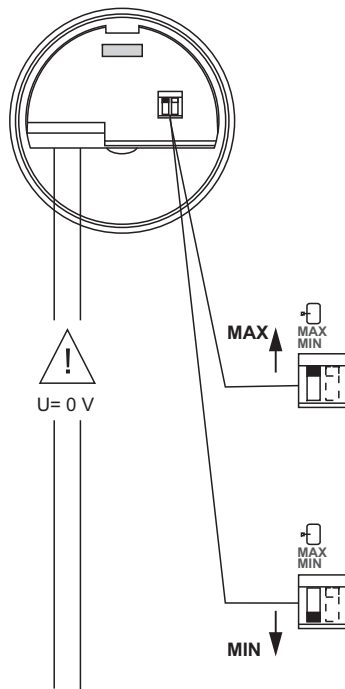


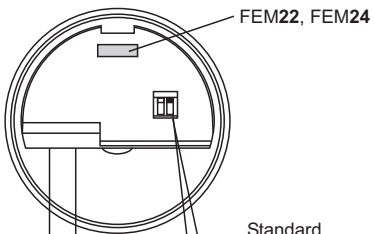
no – Retning på kabelinnføring

F18 (Aluminium)



no - Installering/innstilling
Sikkerhetsbryter, min./maks.



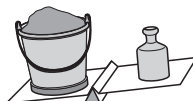
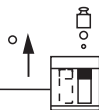


FEM22, FEM24

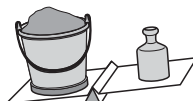
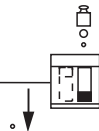
Standard



$U = 0 \text{ V}$



$>400\text{g/l}^*$

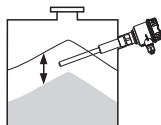


$>200\text{g/l}$

no – Tettheten på faststoffmassen.
Bulkvekt målt i g/l.

*

mindre følsom for oppsamlinger



Variasjonsnivå

LED



Standby



Bryterstatus



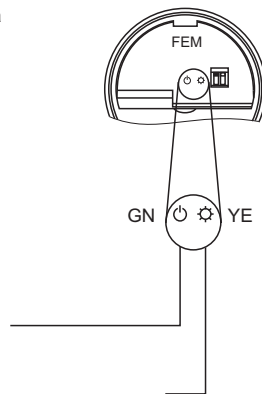
på



av

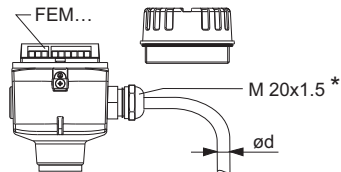


Utgangssignal





Følg lokale lover og forskrifter!

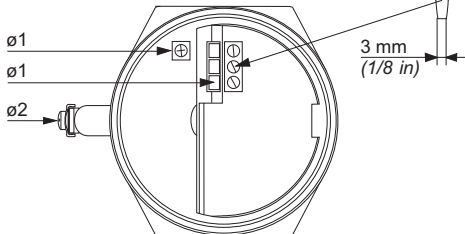


$\varnothing 1 \leq 2,5 \text{ mm}^2$

(max. AWG 14)

$\varnothing 1 \leq \varnothing 2 \leq 4,0 \text{ mm}^2$

(max. AWG 12)



AC 1000 V
EN 60900:2013

3 mm
(1/8 in)

no - Tilkoblinger

*Kabelinngang

Nikkelbelagt messing:

$\varnothing d = 7 \dots 10,5 \text{ mm}$ (0,28...0,41 in)

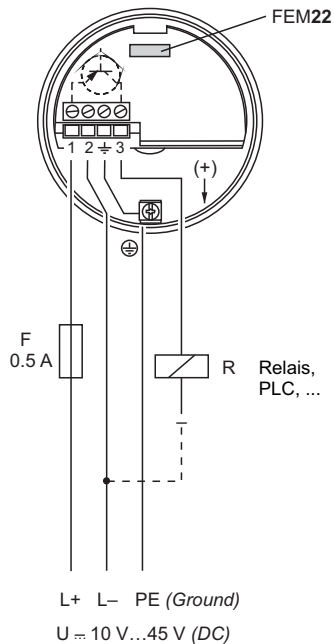
Plast:

$\varnothing d = 5 \dots 10 \text{ mm}$ (0,2...0,38 in)

Rustfritt stål:

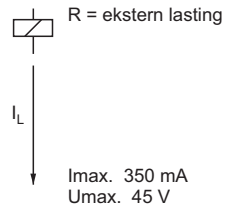
$\varnothing d = 7 \dots 12 \text{ mm}$ (0,28...0,47 in)

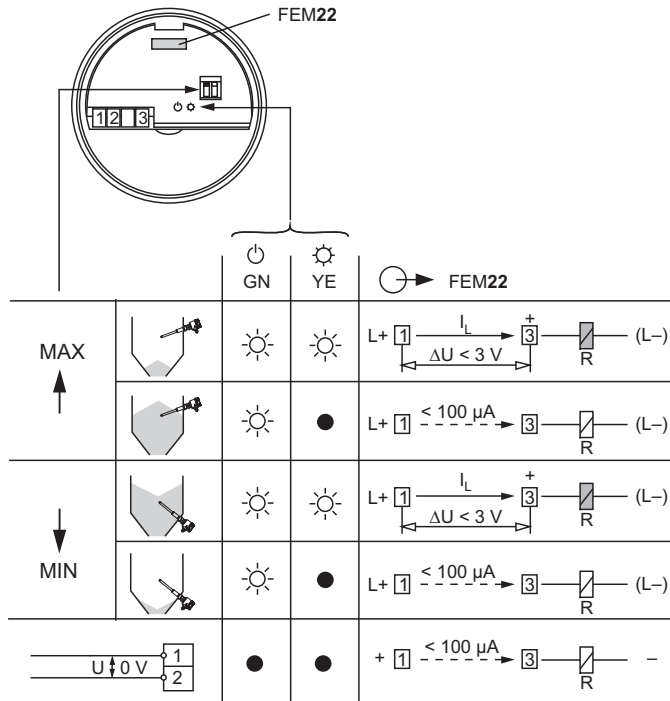
no - Tilkobling FEM22
DC-tilkobling (PNP)



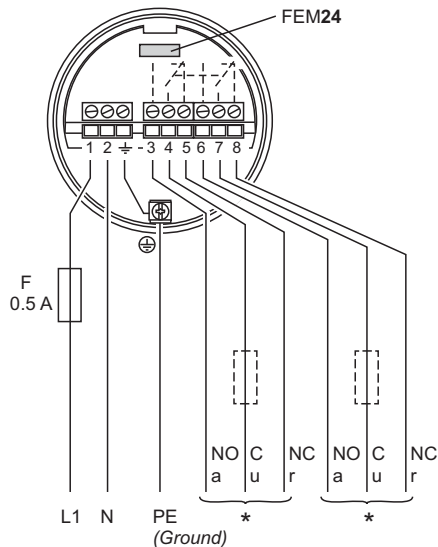
også for DI-moduler

EN 61131-2





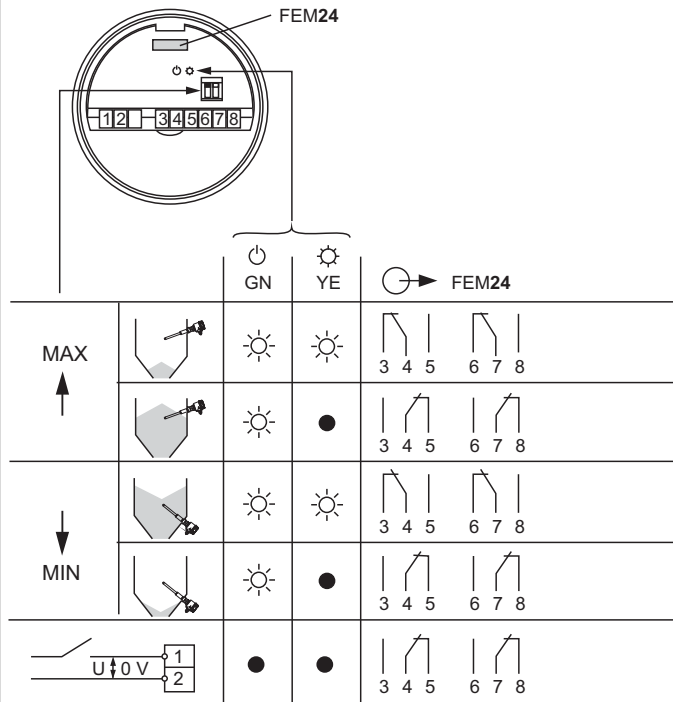
no - Tilkobling FEM24
 Universalkobling
 Reléutgang



$U_{\sim}$ 19...253 V (AC)

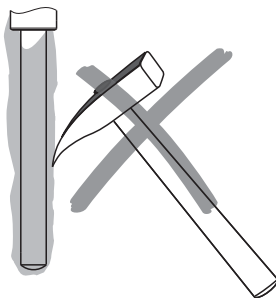
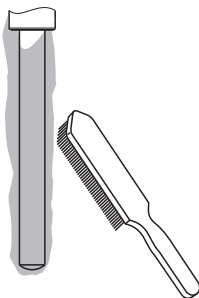
$U_{\dots}$ 19... 55 V (DC)

$U_{\sim}$ max. 253 V, $I_{\sim}$ max. 6 A
 $P_{\sim}$ max. 1500 VA, $\cos \varphi = 1$
 $P_{\dots}$ max. 750 VA, $\cos \varphi > 0.7$
 $I_{\dots}$ max. 6 A, $U_{\dots} < 30$ V
 $I_{\dots}$ max. 0.2 A, $U_{\dots} < 125$ V

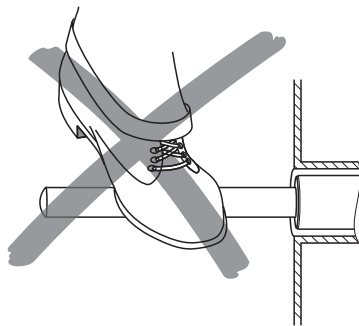


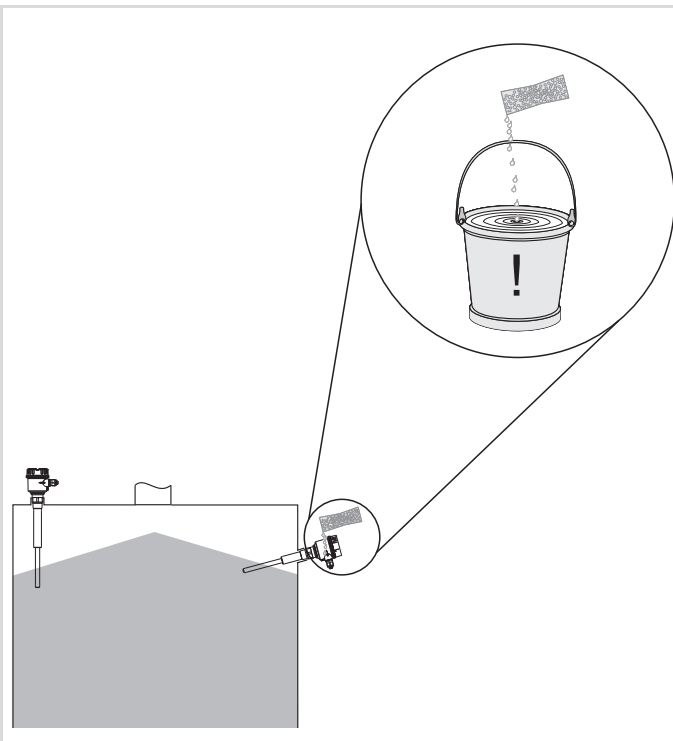
no - Vedlikehold

Fjern påbygging!



Ikke bruk som trinn!





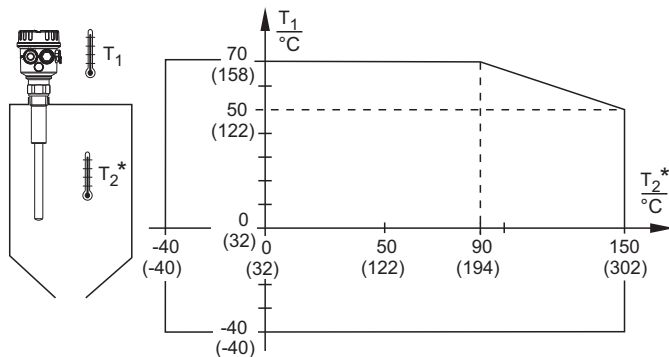
no - Ekstern rengjøring

Rengjøringsmiddelet må ikke ha en korroderende effekt på overflater og forseglinger.

no - Teknisk informasjon

Omgivelsestemperatur T_1

Prosesstemperatur T_2



Prosesstrykk

$\left. \begin{matrix} * p_e \\ * T_2 \end{matrix} \right\} \triangleleft$

Prosesstilkobling/-tilbehør

$p_e = \text{max. 25 bar (363 psi) } *$

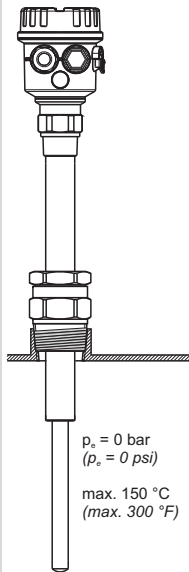
Faststofftetthet

min. 200 g/l

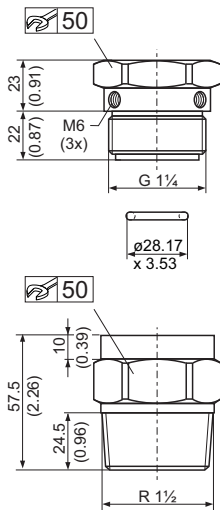


Kornstørrelse

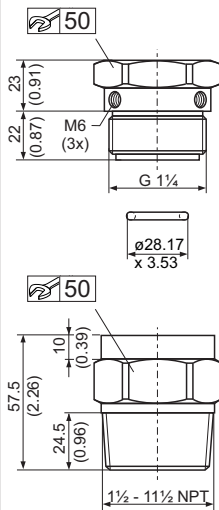




52023313: R 1½
DIN 2999
AISI 316L

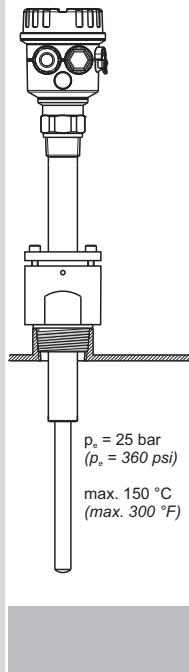


52024578: 1½ - 1½ NPT
ANSI B 1.20.1
AISI 316L



no - Kompresjonsfitting
for drift uten trykk, IP65

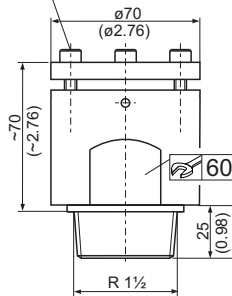
mm (in)



$p_e = 25 \text{ bar}$
 $(p_e = 360 \text{ psi})$
 max. 150°C
 (max. 300°F)

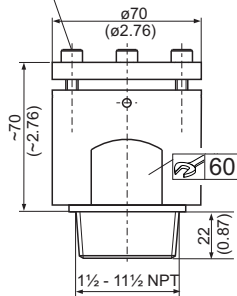
52023312: R $1\frac{1}{2}$
 DIN 2999
 AISI 316L

M 6x25



52025090: $1\frac{1}{2}$ - $11\frac{1}{2}$ NPT
 ANSI B 1.20.1
 AISI 316L

M 6x25



Feil	Årsak	Løsning
Veksler ikke	Ikke noe strøm	Kontroller om den er på
	Feil på signallinje	Kontroller signallinje
	Feil på elektronikkinnsets	Bytt
	Faststoffet har for lav egenvekt	Angi tettheten til >200 g/l på elektronisk innsets, se side 19
	Stang har belegg	Rengjør stang
	FEM24: Kontakter sveiset sammen (etter kortslutning)	Bytt FEM24; sett sikringen i kontaktkretsen
Veksler feil	Sikkerhetsbryter min./maks. er feil	Still inn riktig på elektrisk innsets
Sporadisk feil i veksling	Ekstrem RFI	Bruk skjermet kabel
	Ekstrem vibrasjon	Koble fra sensor mekanisk, snu pendelstang 90°
	Vann i huset	Tøm; skru deksel og kabelmuffe godt fast
	FEM22: Utgang overbelastet	Reduser belastning, (kabel) kapasitans

no - Feilsøking

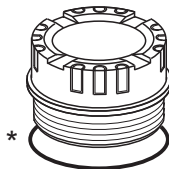
no - Reservedeler

Elektronikkinnsetser, deksler og pakninger



52025688 (FEM22)

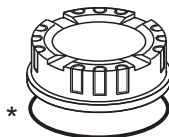
52025691 (FEM24)



Alu (F18)

52005910

EPDM



PA (F16)

52025790

EPDM

* Smør med silikonfett eller grafitt

Teknisk informasjon

TI00389F Soliphant T FTM20, FTM21

Merknader om sikkerhet

XA00300F



II 1/3 D, EEx ia IIC/IIB

no - Ekstra dokumentasjon

www.endress.com/worldwide
