

# DSF-30NG/ DSF-34NG Pyrometer Series

## Fiber Optic Pyrometer for Glass Industry



- Wide Temperature range from 600°C to 1800°C
- Loop-powered sensor with 4-20mA output (DSF-30NG)
- Simple installation and operation
- High accuracy
- Robust air purge design for maintenance-free operation
- Digital RS485 communication (DSF-34NG)
- Integrated peak picker

The digital pyrometers DSF-30NG and DSF-34NG are especially designed for applications in the glass industry. These pyrometers are ideal for temperature measurement in glass tanks, forehearths and feeders.

The robust cast housing with flanged tabs allows for ease of installation and can be located up to 98ft (30m) from the optical lens assembly. The special mono fiber optic cable is rated for ambient temperatures of up to 482°F (250°C).

A rugged stainless steel air purge with mounting bracket and either an alumina or inconel sight/target tube assembly allows for operation in dirty environments. The optical lens can be easily cleaned or replaced.

The DSF-30NG produces a linear 4-20mA output

signal that can be easily incorporated into existing measurement and control systems.

The DSF-30NG is equipped with a USB interface, while the DSF-34NG features an RS485 interface connection. IR sensor parameters such as emissivity, sub range, response time and peak picking can be easily adjusted by the PSCConnect software.

### Typical application areas:

- Glass temperature measured
  - in forehearth
  - in feeder
  - in glass tank
  - gobs
- Temperature measurement of refractory
  - tank side and bridge walls
  - in regenerator/throat area
  - melt tank crown

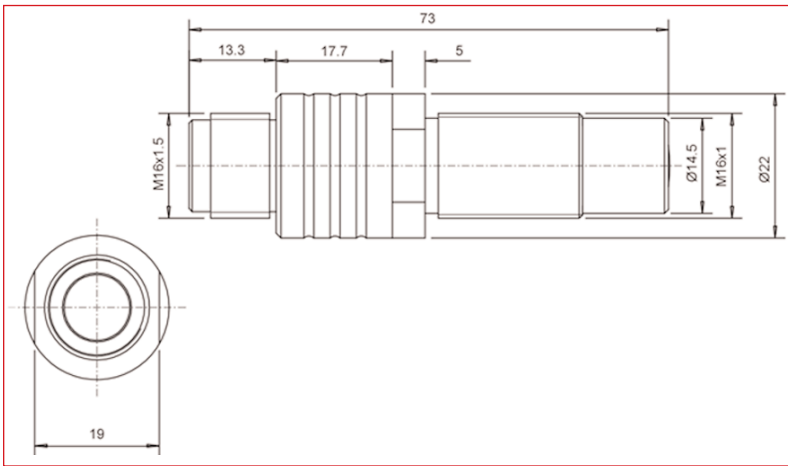
## TECHNICAL SPECIFICATIONS FOR DSF-30NG/DSF-34NG

TYPE	DSF-30NG	DSF-34NG
<b>Technical Data</b>		
Temperature range	600°C to 1800°C	600°C to 1800°C
Sub temperature range	adjustable temperature range, minimum span 51°C	
Spectral range	0.8 μm to 1.1 μm	0.8 μm to 1.1 μm
Optics	FOH-G, aperture diameter D=0.43"(11mm)	
Distance ratio	> 100:1	
Measurement uncertainty	0.3% of measurement value (T <sub>U</sub> =23°C, ε =1,t95 =1s)	
Repeatability	0.1% of measurement value (T <sub>U</sub> =23°C, ε =1,t95 =1s)	
NETD <sup>1</sup>	0.1°C (T <sub>U</sub> =23°C, ε =1,t95 =1s)	
Response time (t95)	< 10ms, adjustable up to 10s	
Emissivity	0.05 bis 1.00, adjustable	
Storage	maximum value storage, adjustable via communication interface	
Output	4...20 mA, temperature linear, max. burden: 700Ω at 24V	
Interface	galvanically isolated USB interface	RS485, half duplex, galvanically isolated
Aiming	none	
Software	PSCConnect for Windows®	
Parameters	adjustable via interface and software (emissivity, response time, temperature unit °C or °F, storage, sub range, test signal 12 mA)	
Power supply	24V DC ± 25%	24V DC ± 25%
Power consumption	max 0.6 W	max 1.5 W
Operating temperature	0°C to 70°C (pyrometer), up to 250°C (fiber cable and optical head)	
Storage temperature	-20°C to 70°C	
Weight	approx 600 g (without fiber cable and optical head)	
Dimensions	approx 4.33" x 2.76" x 1.18" (110 mm x 70 mm x 30 mm)	
Housing	Aluminum cast housing	
Safety class	IP 65 (DIN 40 050)	
CE-Symbol	according to EU regulations (EN 50 011)	
Scope of delivery	DSF-30NG or DSF-34NG, manual, inspection sheets, software PSCConnect for Windows® (without connecting cable, fiber optic cable and optical lens assembly, please order separately)	
<b>Accessories, mechanical, electrical and optical<sup>1</sup></b>		
Connecting cable 3-pin	Length 16.4'(5m), 32.8'(10m), 49.2'(15m), 65.6'(20m). 82.0'(25m), or 98.4'(30m) (for DSF-30NG)	
Connecting cable 12-pin	Length 16.4'(5m), 32.8'(10m), 49.2'(15m), 65.6'(20m). 82.0'(25m), or 98.4'(30m) (for DSF-34NG)	
USB-connecting cable	Length 5.9'(1.8m) (for DSF 30NG)	
Fiber cable (stainless steel sheathed)	Length 16.4'(5m), 19.7'(6m), 24.6'(7.5m), 32.8'(10m), 49.2'(15m), 65.6'(20m) or 98.4'(30m)	
Power supply	24 VDC/1A	
Air purge unit for FOH-G	without sight tube, incl. mounting angle	
Air purge unit for FOH-G	with inconel sight tube, 5.5"(140mm), incl. mounting angle	
Air purge unit for FOH-G	with inconel sight tube, 23.6"(600mm), incl. mounting angle	
Air purge unit for FOH-G	with ceramic sight/target tube, 11.8"(300mm), incl. mounting angle	
Air purge unit for FOH-G	with ceramic sight/target tube, 23.6"(600mm), incl. mounting angle	

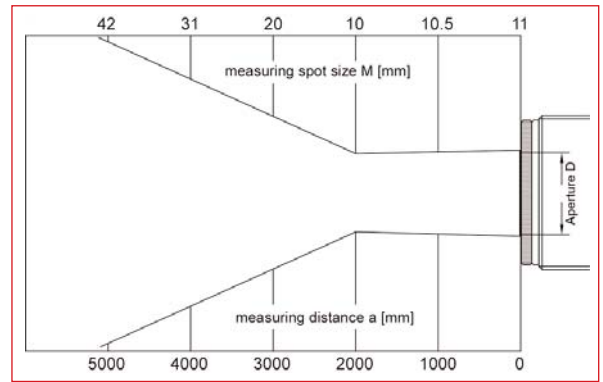
## Optics type FOH-G

Optics FOH-G	Measuring distance (a)						
in inches (mm)	0 (0)	19.69 (500)	39.37 (1000)	78.74 (2000)	118.11 (3000)	157.48 (4000)	196.85 (5000)
<b>Measuring spot size M in mm</b>							
DSF-30NG / 34NG (600°C to 1800°C)	0.43 (11)	0.42 (10.7)	0.41 (10.5)	0.39 (10)	0.79 (20)	1.22 (31)	1.65 (42)

Optics FOH-G



Optics FOH-G

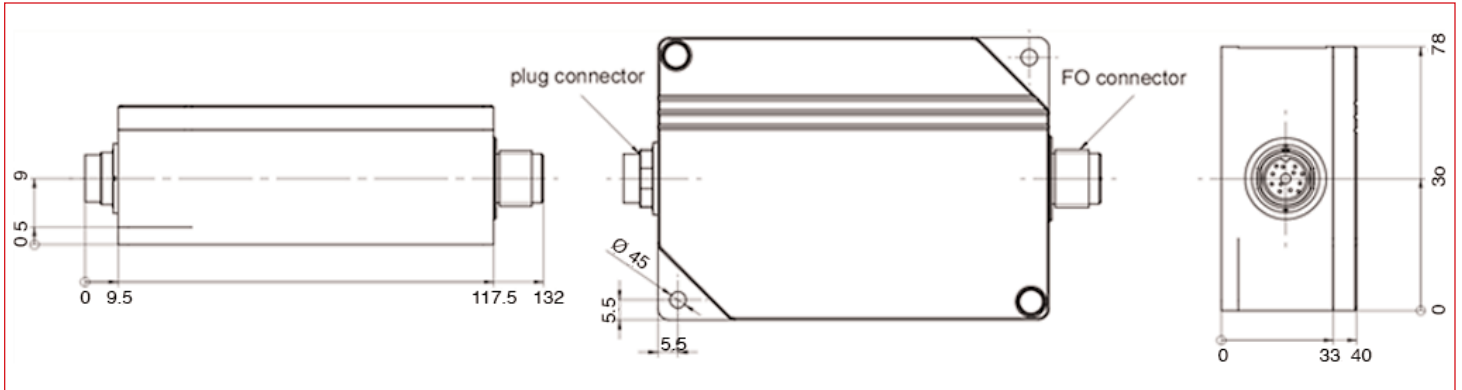


Inside view



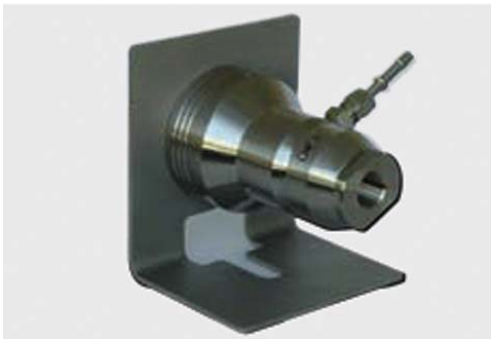
# Dimensions, accessories and applications

## Pyrometer Dimensions

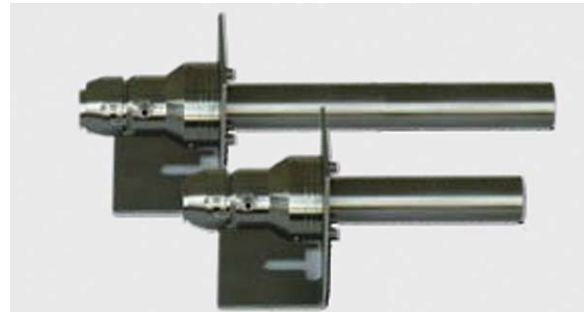


## Accessories

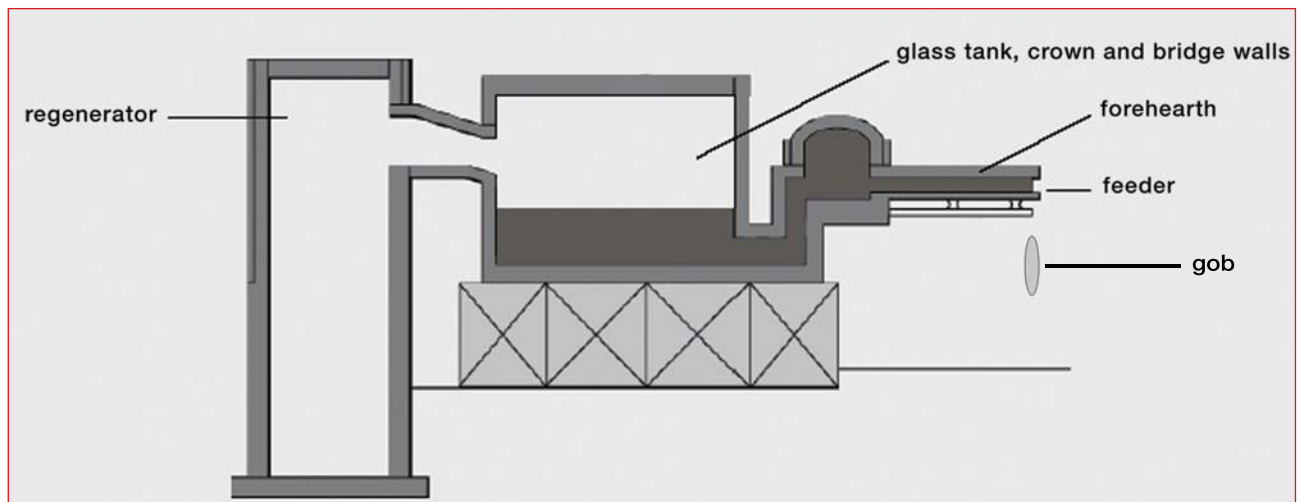
Mounting angle with air purge assembly



Mounting angle with air purge and inconel tube



Typical applications for the DSF-30NG/ DSF-34NG Pyrometers



### PROCESS SENSORS CORPORATION

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