

# Model 733F Hammer Union Pressure Transducers & Transmitters



## Description

Model 733F Hammer Union pressure transducers and transmitters are specially designed for oil and gas well applications, and are typically used for pressure monitoring in down hole drilling, fracturing, acidizing, mug logging, and cementing processes.

Both transducers and transmitters of this model are based on BCM SENSOR metal foil strain gauge technology which have high accuracy and low temperature effect. The transducers are with millivolt output from the Wheatstone bridge circuit, while the transmitters are with the conditioned output signal such as 4~20mA, 0.5~4.5Vdc ratiometric, 0~5Vdc, 1~5Vdc, and 0~10Vdc.

The 733F has an all-welded stainless-steel construction so that its diaphragm and the hammer union fittings are machined as one part to provide better reliability in aggressive environmental conditions than any construction sealed with an O-ring.

The Hammer Union fittings are also known as Wing Union fittings. The standard 733F is with 2" 1502 Hammer Union fittings which is widely used in oil and gas well applications. In case of any customized fittings, please consult with BCM SENSOR.



## Features

- 2" 1502 Hammer Union fittings
- robust design
- measuring ranges: 400bar, ..., 1200bar
- accuracy up to 0.3%fs
- selectable output:  
4~20 mA (standard), 0.5~4.5V ratiometric,  
0~5Vdc, 1~5Vdc, and 0~10Vdc.
- protection rating up to IP67

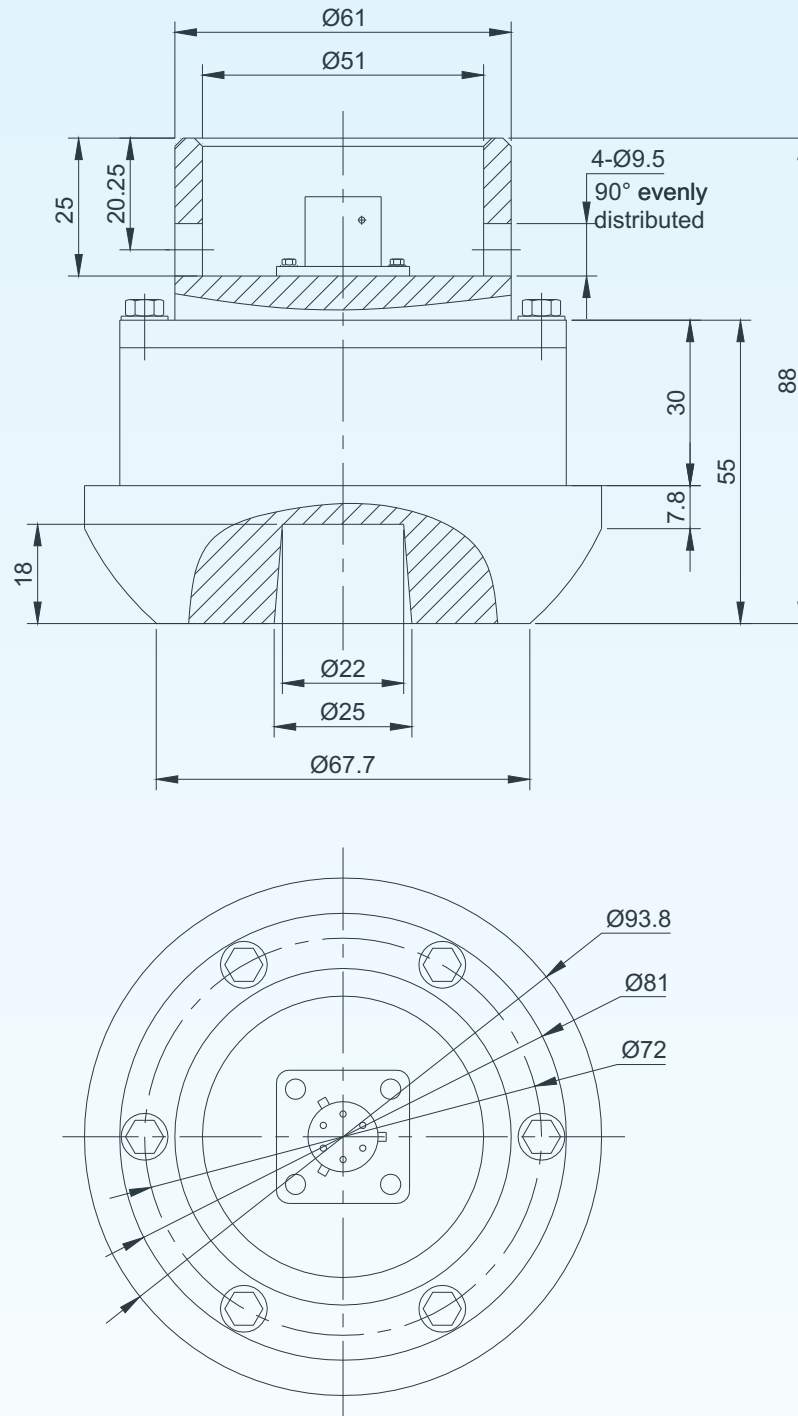
## Applications of Oil and Gas Well

- down hole drilling
- fracturing
- acidizing
- mug logging
- cementing
- service trucks

**BCM SENSOR TECHNOLOGIES BVBA**

# Model 733F Hammer Union Pressure Transducers & Transmitters

## Dimensions



Notes: All dimensions are in mm.

**BCM SENSOR TECHNOLOGIES BVBA**

# Model 733F Hammer Union Pressure Transducers & Transmitters



## Technical Data

Parameters	Units	Specifications	Notes
pressure medium		gases, viscous fluids, or fluids with particles	1
pressure ranges	bar	0~400, ~600, ~1000, ~1200	2
pressure reference		gauge	
proof pressure	%fs	150	3
burst pressure	%fs	300	
output signal (for transmitters)	mA	4~20 (standard)	
	Vdc	0.5~4.5 ratiometric, 0~5, 1~5, 0~10	
output sensitivity (for transducers)	mV/V	≥ 1	
zero offset (for transducers)	%fs	≤ ±1	
accuracy	%fs	≤ ±0.3, ≤ ±0.5 (standard)	4
creep	%fs/30min	≤ ±0.1	
long-term stability	%fs/year	≤ ±0.2	
power supply (Vs) (for transmitters)	Vdc	9 < Vs ≤ 36; 5 (for ratiometric output)	
excitation voltage (for transducers)	Vdc	10 (15Vdc max.)	
load resistance for voltage output	kΩ	> 5	
load resistance for current loop	Ω	≤ (Vs - 9V) / 0.02A	
input resistance (for transducers)	Ω	3100±10	
output resistance (for transducers)	Ω	3000±10	
insulation resistance	MΩ	5000 @100Vdc	
compensated temperature range	°C	-10 ~ +60	
operating temperature range	°C	-40 ~ +125	
storage temperature range	°C	-40 ~ +125	
temperature coefficient of zero	%fso/°C	≤ ±0.005	
temperature coefficient of span	%fso/°C	≤ ±0.005	
vibration resistance (20, ..., 2000 Hz)	g	10	
life time	cycles	10 <sup>8</sup>	
response time	ms	≤ 1	5
seal		all welded	
process connection		2" 1502 Hammer Union fittings	
electrical interface		6-pin connector	
diaphragm material		17-4PH stainless steel	
wetted parts material		17-4PH stainless steel	
electronics housing material		SUS430 stainless steel	
environment protection		IP67	
net weight	kilogram	~2	

- Notes:
1. The pressure medium should be compatible with wetted parts material and pressure diaphragm.
  2. For customized pressure ranges, consult BCM.
  3. "fs" refers to full scale pressure or rated pressure.
  4. Including non-linearity, hysteresis and repeatability.
  5. Response time for a 0 bar to fs step change, 10% to 90% rise time.

The listed specifications and dimensions are subject to change without prior notice.

## BCM SENSOR TECHNOLOGIES BVBA

## Ordering Information

<b>position (pos.) 1: model</b>							
733F							
<b>pos. 2: ranges and types</b>							
0/400bar G G: gauge pressure							
0/600bar G For transducers, the "0/" does not need to be indicated.							
0/1000bar G							
0/1200bar G							
<b>pos. 3: output signal</b>							
options for transmitters: 4/20mA (standard) 0.5/4.5V ratiometric 0/5V 1/5V 0/10V							
option for transducers: 1mV/V							
<b>pos. 4: accuracy</b>							
0.3%fs 0.5%fs (standard)							
<b>pos. 5: mechanical interface</b>							
1502(2")HU = 2" 1502 Hammer Union fittings							
<b>pos. 6: electrical interface</b>							
6-pinConnector							
<b>pos. 7: environment protection</b>							
IP67							
<b>pos. 8: customized specifications</b>							
"(*)" is necessary only if any customized parameter is required, otherwise it is neglectable.							
<b>pos.1</b>	<b>pos. 2</b>	<b>pos. 3</b>	<b>pos. 4</b>	<b>pos. 5</b>	<b>pos. 6</b>	<b>pos. 7</b>	<b>pos. 8</b>

### Examples of Ordering Code

- standard transmitter:

733F-0/600barG-4/20mA-0.5%fs-1502(2")HU-6-pinConnector-IP67

- standard transducer:

733F-600barG-1mV/V-0.5%fs-1502(2")HU-6-pinConnector-IP67

- customized transmitter:

733F-0/800barG-4/20mA-0.3%fs-1502(2")HU-6-pinConnector-IP67-(\*)

(\*): Customized pressure range = 0~800barG.