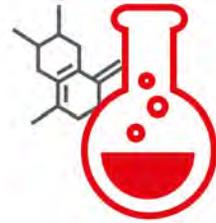




SONOFLOW Non-Invasive Flow Sensor

2020 Catalog



Selecting the correct sensor for the application is key and it is important to understand the parameters of the customer application to determine the sensor best equipped to meet their needs. Please refer to the required information below to assist with selecting the sensor.

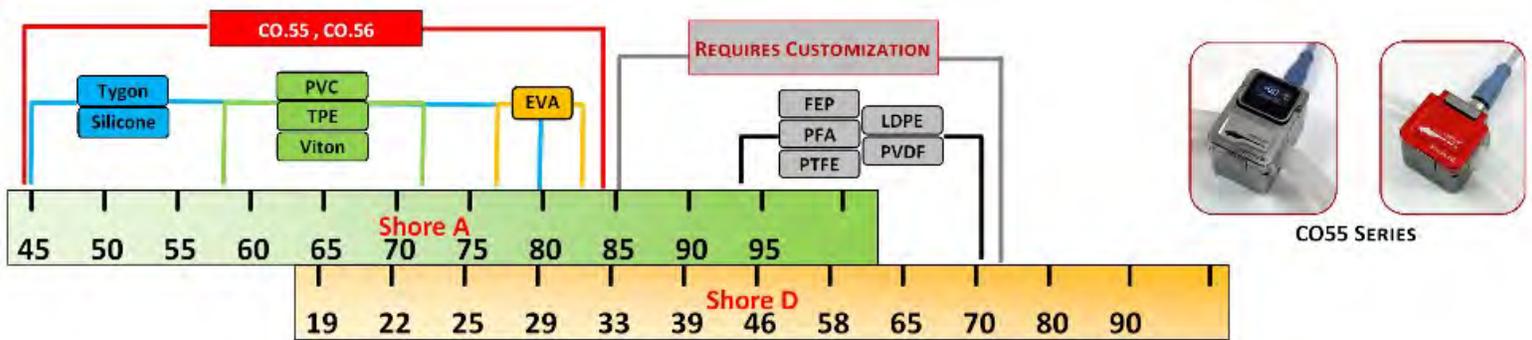
Tube Type	Tube OD
	Tube ID
	Material of Tube or make/P#
General	What is the application?
	Quantity per year
	Voltage 5,12,24 VDC
	Do you need Bubble detection?
	Length of Cable 1m or 5m
	How did you hear about us?

Application Parameters for Calibration	Min Flow ml/min
	Max Flow ml/min
	Avg or Target flow rate ml/min
	Max Temp
	Min Temp
	Average Run Temp
	Type of Media
	Max PSI
	Run PSI

Tubing Selection

What type of tubing are you using?

Below is a general outline of major tubing types. **Note: CO.55 sensors can be used with hard durometer tubing** utilizing a gel insert. Please contact a Sonotec to help identify the proper size for this tubing.



Flow Rates



Clamp on Sensors—Flow rates from **20ml to 200 liters** per minute can be measured with good accuracy depending on sensor size, tubing type, and calibration. Always recommend the smallest tubing size possible relative to the flow rate. Custom low flow calibration required for average flows under 100 ml/min.



In-Line Sensors—Flow rates from **0.4ml to 3 liters** per minute can be achieved.

The **CO.55 /xxx V2 Aluminum** series sensors allow for lower cost of ownership and are light weight. Fully capable of reading accuracy of 1.5% with proper calibration.

Measuring Modes

Real Time flow monitoring
 Volume totalizing
 Volume Dosing Switching output
 Flow Switch switching output

Outputs

RS485
 ModBus
 NPN/PNP
 0-20kHz
 4-20ma

Electronics

Power Supply 10-30 VDC
Current 30ma to 70ma



Sensors 1"OD & above have handle (H) closure.

Part Number	Description	Tube OD inch	Tube OD mm	Tube Size
200 01 0292*	SONOFLOW CO.55/035 V2 (Bridge)	1/8	3	
200 01 0292	SONOFLOW CO.55/035 V2	5/32	4.2	13
200 08 0026	SONOFLOW CO.55/044 V2	3/16	4.8	14
200 01 0293	SONOFLOW CO.55/060 V2	1/4	6.8	16 / 119
200 01 0297	SONOFLOW CO.55/080 V2	3/8	9.5	15 / 17
200 08 0006	SONOFLOW CO.55/100 V2	7/16	11.1	18 / 24
200 08 0027*	SONOFLOW CO.55/120 V2 (Bridge)	1/2		35,26
200 08 0027	SONOFLOW CO.55/120 V2	9/16	14.3	36
200 08 0004	SONOFLOW CO.55/140 V2	5/8	15.9	73 / 185
200 08 0008	SONOFLOW CO.55/160 V2	3/4	18.8	82 / 86 / 186
200 08 0007	SONOFLOW CO.55/190 V2	7/8	22.2	88 / 184
200 08 0047	SONOFLOW CO.55/230H V2	1	25	
200 08 0049	SONOFLOW CO.55/260H V2	1 1/8	26	
200 08 0076	SONOFLOW CO.55/300H V2	1 1/4	32	91
200 08 0050	SONOFLOW CO.55/340H V2	1 3/8	35	

*NOTE: Items marked * will use a bridge in the lid from the next larger size to accommodate the tubing. Longer than normal lead times may occur. Customer tubing sample required. Add part #900 09 0003 to your order for this customization.

The CO.55/xxxSD V2.0 Stainless Steel Sensors with Display are made for customers who require stainless steel for commercial applications, or for customers who want to see the measurement at the source. Fully capable of reading accuracy of $\pm 1.5\%$ with proper calibration.

Outputs

RS485
ModBus
NPN/PNP
0-20kHz
4-20ma

Measuring Modes

Real Time flow monitoring
Volume totalizing
Volume Dosing Switching output
Flow Switch switching output

Electronics

Power Supply 10-30VDC
Current 30ma to 70ma



Sizes 1"OD & above have handle (H) closure

Measuring Screen

- Displays sensor identification, flow rate, temperature, error codes
- Displayed information can be customized via software for unit of measurement, volume or running time



Format	128 x 64 Dots
Colour	White
Viewing area (W x H)	23.7 x 12.8 mm

Part Number	Description	Tube OD inch	Tube OD mm	Tube Size
200 08 0036*	SONOFLOW CO.55/035SD V2 (Bridge)	1/8	3	
200 08 0036	SONOFLOW CO.55/035SD V2	5/32	4.2	13
200 08 0032*	SONOFLOW CO.55/060SD V2 (Bridge)	3/16	4.8	14
200 08 0032	SONOFLOW CO.55/060SD V2	1/4	6.8	16 / 119
200 08 0057	SONOFLOW CO.55/080SD V2	3/8	9.5	15 / 17
200 08 0030	SONOFLOW CO.55/100SD V2	7/16	11.1	18 / 24
200 08 0074*	SONOFLOW CO.55/120SD V2 (Bridge)	1/2		35,26
200 08 0074	SONOFLOW CO.55/120SD V2	9/16	14.3	36
200 08 0058	SONOFLOW CO.55/140SD V2	5/8	15.9	73 / 185
200 08 0031	SONOFLOW CO.55/160SD V2	3/4	18.8	82 / 86 / 186
200 08 0070	SONOFLOW CO.55/190SD V2	7/8	22.2	88 / 184
200 08 0048	SONOFLOW CO.55/230SDH V2	1	25	
200 08 0042	SONOFLOW CO.55/260SDH V2	1 1/8	26	
200 08 0075	SONOFLOW CO.55/300SDH V2	1 1/4	91	
200 08 0051	SONOFLOW CO.55/340SDH V2	1 3/8	35	

*NOTE: Items marked * will use a bridge in the lid from the next larger size to accommodate the tubing. Longer than normal lead times may occur. Customer tubing sample required. Add part# 900 09 0003 to your order for this customization.

The CO.57 ST-D-B has the same accuracy for flow measurement as our other clamp-on sensors with the added functionality of integrated bubble detection and includes a separate analog output for flow and bubble detections. Bubble detection feature allows determination of bubble size or bubble count.



Outputs
RS485
ModBus
NPN/PNP
2 x 4-20ma

Measuring Modes
Real Time flow monitoring
Volume totalizing
Volume Dosing Switching output
Flow Switch switching output
Bubble detection for size or # of bubbles

Electronics	
Power Supply	10-30VDC
Current	30ma to 70ma

Measuring Screen

- Multiple lines on display to read flow rate, volume, bubble size or number of bubbles
- Displayed information can be customized via software for desired parameters



Part Number	Description	Tube OD inch	Tube OD mm	Tube Size
200 04 0022	SONOFLOW CO.57/100ST-D-B	7/16	11.1	18, 24
200 04 0021	SONOFLOW CO.57/160ST-D-B	3/4	18.8	82, 86, 186

IL.52 V2 Inline Sensor

The IL.52 V2 Inline sensors are designed for very low flow measurements. They are capable of accurately measuring flow rates as low as .4 ml/min. They are suitable for steam sterilization and equipped with a PEEK measurement channel with FFKM seals.

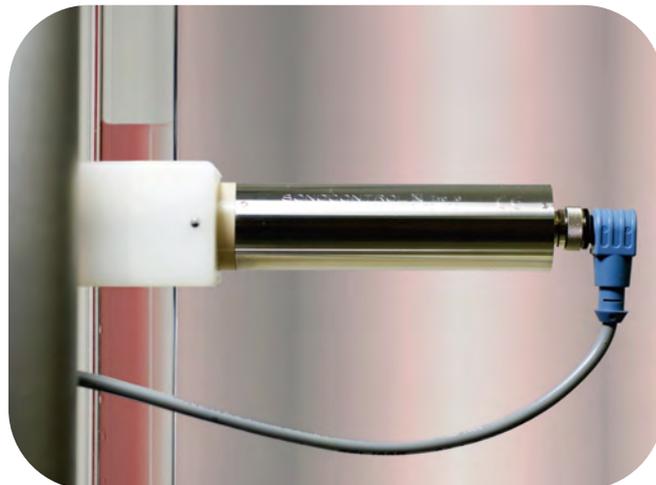
Outputs
RS485
ModBus
NPN/PNP
0-20kHz
4-20ma

Electronics	
Power Supply	10-30VDC
Current	30ma to 70ma



Part Number	Description	Barb OD Inches	Barb OD mm
200 08 0044	Sonoflow IL.52/3 V2.0 PEEK/FFKM	5/16	8.0

The SC.15 and SC.15 EX are full/empty limit sensors designed for use in pipes with diameters up to 63.5 mm (2.5 inches.) The fully non-invasive ultrasonic level sensors can be used with plastic, glass, or stainless steel pipes to determine if pipe is empty or full.



Key Features

- Fast .5 second response time
- Easy, non-invasive installation
- Suitable for use with pressurized pipes
- Available for use in hazardous areas (EX)

Electronics

- Power Supply** 12-40 V or 12-33 V (Ex)
- Current** Max 22mA, Max ripple 5%

Outputs

- 4-20mA
- 16mA $\pm 2\%$ Full
- 8 mA $\pm 2\%$ Empty
- 2 LED Indicators

Part Number	Description	Pipe OD mm
200 01 0163	SC 15 Size 1 SONOCONTROL Level Sensor	10-23
200 01 0164	SC 15 Size 2 SONOCONTROL Level Sensor	23-36
200 01 0165	SC 15 Size 3 SONOCONTROL Level Sensor	36-54
200 01 0196	SC 15 Size 4 SONOCONTROL Level Sensor	54-63.5
200 01 0187	SC 15 EX Size 1 SONOCONTROL Level Sensor	10-23
200 01 0188	SC 15 EX Size 2 SONOCONTROL Level Sensor	23-36
200 01 0189	SC 15 EX Size 3 SONOCONTROL Level Sensor	36-54
200 01 0197	SC 15 EX Size 4 SONOCONTROL Level Sensor	54-63.5

The **RD.10 Remote Display** is made specifically for all SONOTEC flow sensors.

Can be used with any version 2 flow sensor.

Key Features:

- Remote view of real-time flow rate, total volume, sensor temperature, min and max flow
- Reset the Volume totalizer
- Auto zero flow
- Includes M12 to M12 patch cable 800 10 0005



Measuring Screen



Measuring screen shows:

- Flow rate
- Volume
- Temperature
- Min Flow
- Max Flow
- Failure to link to sensor
- Error codes

Measuring Screen Format

128 x 64 Dots

White on Black Screen



RD.10 with Patch Cable– Sensor NOT included

Part Number	Description	Size
200 08 0053A	Display RD.10 with Cable	68 x 44 x 27 mm

NEW!

**C3 Software for Sonoflow Sensors
USB Cable Package**

Includes:

- USB stick with Monitor Software
- RS485 USB communication Cable
- Power & Communication Splitter Cable



**C3 Software for Sonoflow Sensors
USB Data Converter Package**

Includes:

- Data Stick with C3 Software
- USB Data Converter
- USB Cable A-B 2M
- M12 Cable 8-pole 2M
- Switching Power Supply 12V

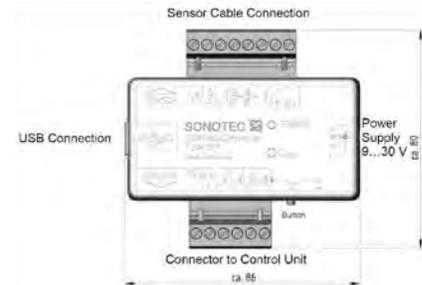


C3 Software USB Package
Sensor NOT INCLUDED

**Monitor SONOFLOW Software for V2.0 Sensors
Data Converter Package for Calibration**

Includes:

- Data Stick with Monitor Software
- USB Data Converter Type 13
- USB Cable A-B 2M
- M12 Cable 8-pole 2M
- Switching Power Supply 12V



Multi Sensor Packages also include:

- Additional RS485-USB Communication Cables (1 for each sensor)
- Additional Power & Communication Splitter Cables (1 for each sensor)
- USB Port Powered Hub



Part Number	Description	Option	Retail Price \$
700 05 1011A	C3 Software for SONOFLOW (NEW!) USB Cable Package	USB Cable	1,000.00
700 01 0365	C3 Software for SONOFLOW (NEW!) Data Converter Package	Data Converter Type 13	1,250.00
700 01 0273	CO.55 V2 Monitor Software Data Converter Package	Data Converter Type 13	1,500.00
700 05 1002A	Dual Sensor C3 Software for SONOFLOW Set-up Package	2X Sensors	1,650.00
700 05 1003A	Mulit Sensor C3 Software for SONOFLOW Set-up Package	3X Sensors	2,350.00
700 05 1004A	Mulit Sensor C3 Software for SONOFLOW Set-up Package	4X Sensors	2,950.00

SONOFLOW Tablet provides power directly Sensor and interfaces to the sensor CO.55/xxx units. (Sensor not included)

Includes:

- Windows 10 Tablet with MS office
- Preprogramed with SONOTEC Software
- SONOTEC stylist, Power cable, Communication cable

Key features include:

- Preprogramed no hassle setup to view Volume, Flow, Temperature and log data
- Stand alone unit, Tablet powers everything and allows for calibration and adjustment of sensor



Part Number	Description
800 20 0001A	SONOFLOW TABLET

SONOFLOW PORTAPOWER (Sensor not included) - Allows powering of device with no wall connection. Includes rechargeable power brick, power cable and voltage convertor cable.

XL version: Up to 5 days battery life when using SD or RD options

ST version: Up to 3 days battery life when using SD or RD options

NO NEED FOR WALL POWER AND FULLY PORTABLE



Part Number	Description	Option
800 20 0002A	SONOFLOW PORTAPOWER XL	Up to 5 Day Battery life
800 20 0003A	SONOFLOW PORTAPOWER ST	Up to 3 Day Battery life

SONOFLOW Power Cable provides AC power directly to the RD.10 or SONOFLOW sensor units. (Sensor not included)

Includes:

- M12 to Female power cable
- 5VDC to 12VDC cable
- Wall to USB adapter

Key features include:

- Plug the flow sensor directly into a wall outlet
- Use a battery or portable power bank to power the unit



AC Power Cable (Sensor not included)

SONOFLOW Power Cable M12– 8C provides AC power directly to the SONOFLOW sensors and enables manual auto zero or volume reset of the sensor with included switch if you are not using the RD.10. (Sensor not included.)

Includes:

- M12 to Female power cable
- 5VDC to 12VDC cable
- Wall to USB adapter
- IP 65 rated momentary push button switch

Key features include:

- Plug the flow sensor directly into a wall outlet
- Use a battery or portable power back to power the unit
- Zero the sensor or reset the volume without connecting to a laptop or controller



AC Power Cable with Auto Zero Switch (Sensor not included)

Part Number	Description
800 10 0010A	SONOFLOW Power Cable Wall Plug
800 10 0011A	SONOFLOW M12-8C Power Cable with Auto Zero Switch

M12 Cables for Power and Communication are standard industrial 8 pin cables and are available in 1 meter or 5 meter lengths. These are used to power and connect all outputs on SONOFLOW sensors. Cables are M12 to open lead.



M12 8 Pin cable for CO.55, CO.57 and IL.52

The **M12 to M12 Patch Cable** is used to connect the Sonotec Remote Display (RD1.0) to the SONOFLOW sensor.



M12 to M12 patch cable for RD.10

The **4-20mA to 0 - ±5V and 4-20mA to 0 - ±10V Signal Conditioners** allow connection of SONOFLOW sensors to devices that require a voltage input. The cables are shipped open lead.

Connecting Cable and EX Connecting Cables are required for use with our Sonocontrol 15 Level Sensors. EX rated cables are suitable for use in hazardous areas.



Connecting Cable for SC15 Level Sensors



4-20 mA to 0-5V Signal Conditioner
Sensor not included

Part Number	Description	Option	Use With
800 10 0003	Cable for Power & Communication	1M	CO.55, CO.56, IL.52
800 10 0004	Cable for Power & Communication	5M	CO.55, CO.56, IL.52
800 10 0005	M12 (M) to M12(F) Patch Cable 8C	1M	RD.10
800 10 0012A	4-20mA to ±0-5V Signal Conditioner	3M	CO.55, CO.56, IL.52
800 10 0013A	4-20mA to ±0-10V Signal Conditioner	3M	CO.55, CO.56, IL.52
400 01 0005	Connecting Cable for Level Sensor	5M	SC.15
400 01 0004	EX Connecting Cable for Level Sensor	5M	SC.15

Tubing Reference Chart Metric/Inch/Fractional

SONOFLOW Sensor	LS/IP #	WMB #	Tube ID mm	Tube OD mm	Tube ID Inches	Tube OD Inches	Tube ID Inches	Tube OD Inches
CO.55/035	13	13	0.80	4.00	0.031	0.156	1/32	5/32
CO.55/044	14	14	1.60	4.80	0.063	0.188	1/16	3/16
CO.55/060	16	16	3.20	6.35	0.125	0.250	1/8	1/4
CO.55/060		119	1.60	6.35	0.060	0.250	1/16	1/4
CO.55/080*	25	25	4.80	8.00	0.188	0.315	3/16	5/16
CO.55/080*		120	3.20	8.00	0.130	0.315	1/8	5/16
CO.55/080	15	15	4.80	9.60	0.188	0.375	3/16	3/8
CO.55/080	17	17	6.35	9.60	0.250	0.375	1/4	3/8
CO.55/100	18	18	8.00	11.11	0.313	0.438	5/16	7/16
CO.55/100	24	24	6.35	11.11	0.250	0.438	1/4	7/16
CO.55/120*	35	35	8.00	12.80	0.313	0.500	5/16	1/2
CO.55/120*	26	26	6.35	12.70	0.250	0.500	1/4	1/2
CO.55/120	36	36	9.60	14.40	0.375	0.563	3/8	9/16
CO.55/140	73	73	9.60	16.00	0.375	0.625	3/8	5/8
CO.55/140		185	8.00	16.00	0.313	0.625	5/16	5/8
CO.55/160		82	12.70	19.10	0.500	0.750	1/2	3/4
CO.55/160		86	6.35	19.20	0.375	0.756	3/8	3/4
CO.55/160		186	12.00	20.00	0.472	0.787	15/32	25/32
CO.55/190		88	12.70	22.30	0.500	0.875	1/2	7/8
CO.55/190		184	15.90	22.30	0.625	0.875	5/8	7/8
CO.55/230H		187	16.00	24.00	0.625	0.945	5/8	15/16
CO.55/230H		89	16.00	25.50	0.625	1.000	5/8	1
CO.55/260H		90	19.00	28.60	0.748	1.125	3/4	1 1/8
CO.55/300H		91	19.00	31.75	0.748	1.250	3/4	1 1/4
CO.55/340H		92	25.40	35.00	1.000	1.375	1	1 3/8

* These tube sizes can be accommodated by customization of another sensor size, they currently do not have their own sensor size.

updated 11/19/2018



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