POSITIONING TRANSMITTERS

SONDES

VESALA
www.vesala.fi

- For tracing ducts, pipes and sewers and blockages
- Smallest in the market: Diameters starting from 2.8mm
- For telecom and electric installation, civil engineering etc.
- Transmitting frequencies 33kHz and 512Hz

TEHTY SUOMESSA
MADE IN FINLAND

SONDES

precise positioning underground

Sondes can be used to locate, calibrate and identify underground ducts, pipes and cavities and their blockages.

They are small, battery-operated transmitters that are sending a radio signal through structures and the ground.

The 512 Hz sondes can be used in either plastic or metal pipes. The 33 kHz sonde is designed for plastic pipes.

The sonde can be positioned very precisely and it helps to avoid extensive trenches.

Frequencies

33 kHz is the most common frequency used by sondes. It offers good range and is particularly suitable for ***non-conductive structures*** such as plastic pipes or empty ducts.

Sondes using a frequency of ***512 Hz,*** on the other hand, work better on ***conductive materials*** such as cast iron pipes or stainless steel. Probes at this frequency are slightly larger and have a shorter range.

Sonde locating

To locate a sonde, you need a receiver that operates on the same frequency as the sonde.

Most professional cable locators support locating 33 kHz sondes. For lighter and more precise work, we recommend the ***Vesala CL43 miniature locator,*** which operates on both frequencies (33 kHz and 512 Hz) and is particularly convenient for locating sondes.

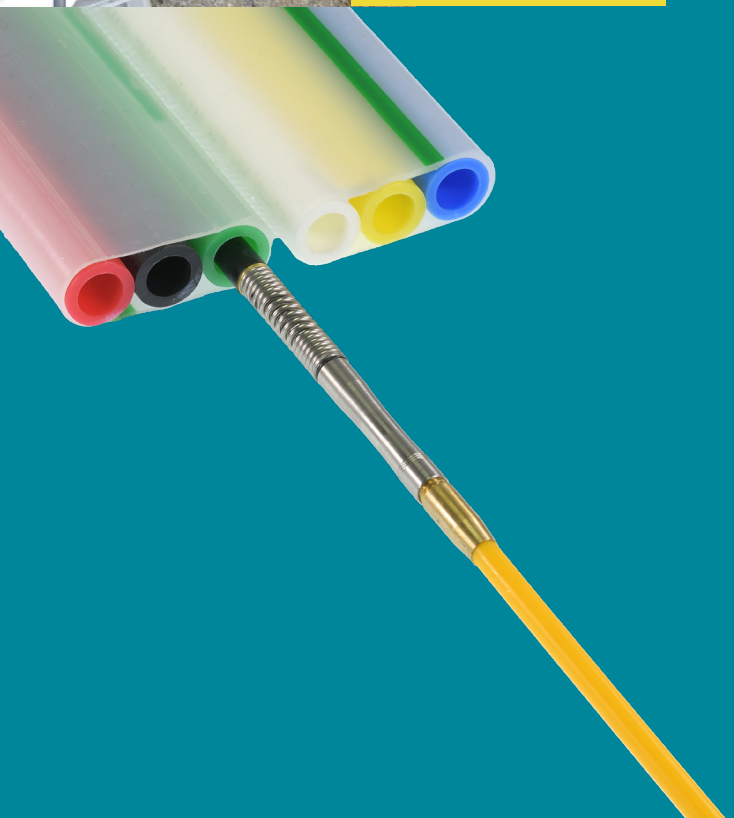
Transfer methods

The probe can be moved to the desired location in different ways, depending on the application:

- ***Blowing:*** The probe is moved through the channel using compressed air. This is the only possible method for ***calibrating long microchannels.*** A ***sonde catcher*** is placed at the end of the channel, which gently stops the device.
- ***Pushing or pulling with a push cable:*** Used especially for ***moving heavier sondes over short distances.***
- ***Floating in water or hanging from a string:*** Alternative methods for situations where the channel or pipe is partially filled or the passage is restricted.

When calibrating microchannels, the sonde significantly speeds up the location and repair of defects.

At the same time, it ensures that the channel is in working order.



Wide range of sondes for different needs

H. Vesala Oy offers a wide range of sondes for different applications. All probe models have a ***mounting thread*** to which various accessories can be attached.

NanoSondes (Ø 2.8-4.6 mm)

Very compact and lightweight, designed especially for ***blowing applications and microchannel calibration.*** Shock absorber and calibrator included.

MicroSonde and MiniSonde (Ø 6.4-9.0 mm)

Versatile medium-sized sondes suitable for both blowing and pushing. Accessories available, such as ***a blowing kit (shock absorber, sail, calibrator)*** and ***spring clamps and cables for easier pushing.***

General purpose Sonde and MegaSonde (Ø 18-42 mm)

Larger and more durable sondes, specifically designed for pushing. These sondes have a long signal range and are designed to withstand demanding operating conditions.

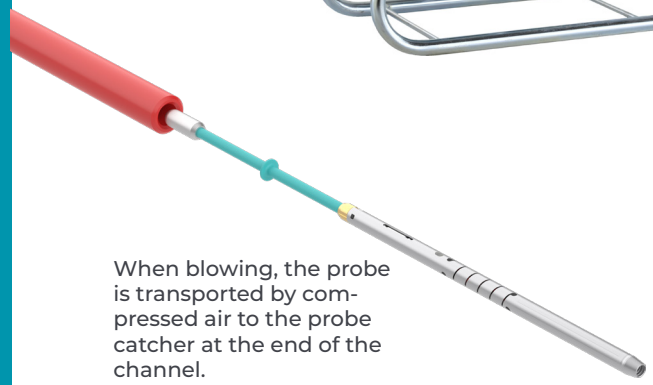
Push rod

i.e. push cable or push spring

Larger probes are moved in the channel using a push cable.

Available in different lengths: 50 m, 100 m, and 150 m.

The model shown in picture is Volta Z30130 (100 m).



When blowing, the probe is transported by compressed air to the probe catcher at the end of the channel.

NanoSondes VMS3-33 and MPL4-33

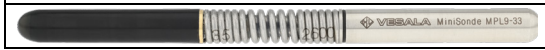
33 kHz jettable sondes for **microduct calibration**, locating and blockage detection

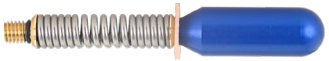
	Name	SKU	Includes calibres for duct sizes Ø mm	Jettability	Pushability	Abrasion resistance	Range m	Duct size Ø mm	Diameter Ø mm	Length mm	Weight incl. battery g	Mounting options	Battery type	Battery life h	Ingress protection	Mechanical protection
	NanoSonde VMS3-33	V14003	3.5 & 4 & 6	+++	+	++	2.1	3.5–8	2.8	61	1	M2 internal thread on both ends	BR211	6	IP40	IK00
	NanoSonde MPL4-33	V14010	6 & 8	+++	+	+++	2.7	6–8	4.6	92	5.1	M3.5 internal thread, 0.7 mm hole for fishing line	BR425	11	IP67	IK02

Equipment for calibrating microducts and locating blockages by jetting: shock absorber, sail and calibre										Calibrated microduct			
Compatible sonde		Weight g	Length mm	Mounting	Shock absorber diameter Ø mm	Shock absorber length mm	Sail diameter Ø mm	Calibre Ø mm	SKU, 3 pcs pack	Nominal dimension Ø mm	Calibration-%	Smallest bending radius mm	Recommended bending radius mm
NanoSonde VMS3-33	Included in the product V14003	0.2	39	M2	1.75	35	3.29	2.8	V14735	3.5	80	100	>200
		0.3	46	M2	1.75	40	3.76	3.2	V14740	4.0	80	80	>120
		0.8	72	M2	1.75	60	5.64	4.8	V14760	6.0	80	45	>50
	Accessory	0.7	65	M2	1.75	55	5.17	4.4	V14755	5.5	80	45	>80
	Accessory	1.8	97	M2	1.75	80	7.52	6.4	V14780	8.0	80	45	>50
NanoSonde MPL4-33	Included in the product V14010	0.8	78	M3.5	1.75	66.5	5.64	4.8	V14762	6.0	80	140	>230
		1.8	104	M3.5	1.75	86.5	7.52	6.4	V14782	8.0	80	120	>170

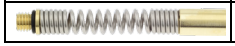
MicroSondes and MiniSonde MPL6-33, VMS6-33, MPL7-33 and MPL9-33

33 kHz jettable and pushable sondes for **calibrating plastic pipes**, locating and blockage detection

	Name	SKU	Jettability	Pushability	Abrasion resistance	Range m	Duct size Ø mm	Diameter Ø mm	Length mm	Weight incl. battery g	Mounting	Battery type	Battery life h	Ingress protection	Mechanical protection
	MicroSonde MPL6-33	V14020	+++	++	+	2.3	8–12	6.4	84	9	M5 internal thread	BR425	9	IP67	IK04
	MicroSonde VMS6-33	V19010	++	++	+++	4.7	8–12	6.4	114	14	M5 internal thread	BR535	6	IP67	IK07
	**MiniSonde MPL9-33**	V14042	++	+++	++	5.3	≥12	9.0	138	35	M5 internal thread M6 internal thread	BR535	6	IP68	IK08

Accessories for microduct calibration and blockage detection by jetting: shock absorber, sail and calibre												Calibrated microduct									
														MPL6-33 performance		VMS6-33 performance		MPL7-33 performance		MPL9-33 performance	
	Name	SKU	Weight g	Length mm	Sonde mounting	Spring diameter Ø mm	Shock absorber length mm	Sail diameter Ø mm	Sail SKU	Calibre Ø mm	Calibre SKU	Nominal dimension Ø mm	Calibration-%	Minimum bending radius mm	Recommended bending radius mm	Minimum bending radius mm	Recommended bending radius mm	Minimum bending radius mm	Recommended bending radius mm	Minimum bending radius mm	Recommended bending radius mm
	IV566-66	V14571	8.5	62	M5 external thread	6.4	51.3	7.19	V14408	6.6	T20845	8	83	150	>600	200	>700				
	IV566-80	V14576	13	68	M5 external thread	6.4	51.3	9.05	V14410	8.0	T20842	10	80	*	>170	140	>280	150	>280		
	IV566-96	V14581	11	72	M5 external thread	6.4	51.3	10.91	V14412	9.6	T20843	12	80	*	*	*	>190	*	>190		
	IV696-96	V14701	19	73	M6 external thread	9	52	10.91	V14412	9.6	T20843	12	80					*	>460	220	>460
	IV696-112	V14706	36	78	M6 external thread	9	52	12.77	V14414	11.2	T20844	14	80					*	*	*	*
	IV696-128	V14711	24	84	M6 external thread	9	52	14.63	V14416	12.8	T20839	16	80					*	*	*	*

*) The minimum allowed bending radius of the microduct is the limiting factor

Accessories for pushing: Flexible mounting makes pushing around corners easier							
	Name	SKU	Weight g	Length mm	Diameter Ø mm	Sonde mounting	Push rod mounting
	FM55	V14805	7	55	6.4	M5 external thread	M5 internal thread
	FM56	V14800	7	55	6.4	M5 external thread	M6 internal thread

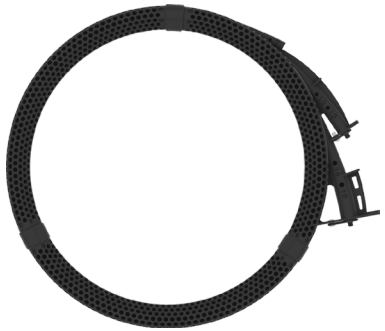
Sondes and MegaSonde PL18-33, PL18-33R, PL18-05 and PL42-05

The general-purpose Sonde PL18-33 and Sonde PL18-33R for **non-conductive pipes**
Sonde PL18-05 and MegaSonde PL42-05 **pushed transmitters also for conductive pipes** for locating, detecting blockages and calibrating

	Name	Operating frequency	SKU	Jettability	Pushability	Abrasion resistance	Range in air m	Range thru cast iron m	Duct size Ø mm	Diameter Ø mm	Length mm	Weight including battery g	Mounting threads	Battery type	Battery life h	Ingress protection	Mechanical protection
	Sonde PL18-33	33 kHz	V14052	+	+++	+	10	0	≥21	18	85	61–70	M6 internal thread M10 external thread M12 internal thread	LS14250	20	IP68	IK08
	Sonde PL18-33R	33 kHz	V14054	+	+++	+++	10	0	≥21	18	85	70–79	M6 internal thread M10 external thread M12 internal thread	LS14250	20	IP68	IK08
	Sonde PL18-05	512 Hz	V14062	No	+++	+	6.4	4.2	≥21	18	110	94–103	M6 internal thread M10 external thread M12 internal thread	LS14250	8	IP68	IK08
	MegaSonde PL42-05	512 Hz	V14080	No	++	++	16	10	≥50	42	234	990	M12 internal thread, hole for string	8xLR6	5	IP68	IK08

Accessories for pushing								
	Name	**Purpose**	**SKU**	**Weight g**	**Length mm**	**Diameter Ø mm**	**Sonde mounting**	**Push rod mounting**
	PL18-FM	Flexible, makes pushing around corners easier. *Not compatible with PL42-05.*	V14194	90	97	18	Replaces the battery compartment	M12 internal thread M6 internal thread
	PL-MSA5	Adapter for push rod	V14057	26	39	14	M12 external thread	M5 internal thread
	PL-MSA6		V14058					M6 internal thread

Batteries and Sonde Catchers

	Type	Specifications	Compatible sondes	SKU	Pcs in the package
	BR211	3.0 V, 3 mAh, LiCFx	VMS3-33	V14007	10
	BR425	3.0 V, 25 mAh, LiCFx	MPL4-33 MPL6-33	V14027	10
	BR535	3.0 V, 70 mAh, LiCFx	VMS6-33 MPL7-33 MPL9-33	V14047	10
	LS14250	3.6 V, 1200 mAh, Li-SOCl2	PL18-33 PL18-33R PL18-05	J12536	1
	Sonde Catcher SC39	Rugged one-piece catcher for larger sondes Outer diameter of connected duct 7–22 mm Mass of stopped sonde ≤70 g Speed of stopped sonde ≤20 m/s Track diameter 362 mm	VMS3-33 (not recommended) MPL4-33 MPL6-33 VMS6-33 MPL7-33 MPL9-33 PL18-33 PL18-33R	V18010	1
	**Sonde Catcher SC42**	Gentle catcher for smaller sondes Modular construction, easy to transport Outer diameters of connected duct: 7 mm, 10-12 mm, 14-16 mm Mass of stopped sonde ≤40 g Speed of stopped sonde ≤20 m/s Track diameter 420 mm	VMS3-33 MPL4-33 MPL6-33 VMS6-33 MPL7-33 MPL9-33 (not recommended)	V18020	1

TEST EQUIPMENT

FOR TELECOM AND ELECTRICITY PROFESSIONALS

VESALA

www.vesala.fi

Manufacturer:
H. VESALA Oy
Peräsimentie 1,
03100 NUMMELA FINLAND
Tel. +358 44 200 2005
Email: info@vesala.fi

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