

Gas mixer HON 983



PRODUCT INFORMATION

**Serving the Gas Industry
Worldwide**

Honeywell

GAS MIXER HON 983

Applications, characteristics, technical data

Applications

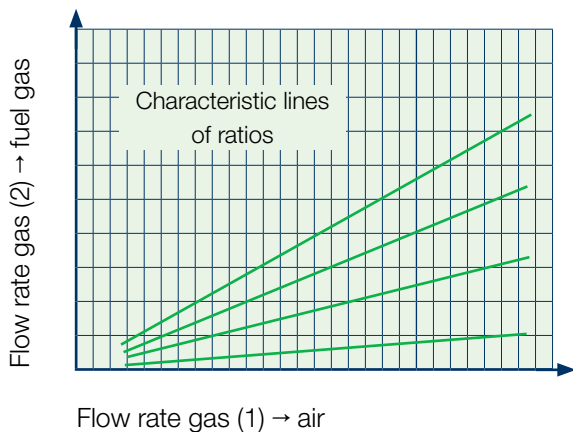
- air/fuel gas mixture for gas engines
- in general, mixing all sorts of gases (e.g. boosting low calorific-value gases e.g. waste dump gas)
- applicable for natural gas, sewage gas, dump gas, mine gas, propane, butane and neutral gases, filtered and dry

Characteristics

- simple construction
- instantaneous carburation (Venturi effect)
- mechanically adjustable fuel-gas mixing gap provides for flexible mixing ratios
- linear characteristic line
- turbulent mixing (homogenisation)

TECHNICAL DATA	
Max. admissible operating pressure (ps)	0.1 bar
Mixing ratio $Q_n \text{ air}/Q_n \text{ fuel gas}$	3.5 : 1 to 25 : 1
Max. efficiency ratio Q_{nmin}/Q_{nmax}	approx. 1 : 25
Material	body: aluminium alloy or cast aluminium alloy internal parts: aluminium alloy/steel or cast aluminium alloy/steel
Temperature range	up to + 80 degrees centigrade

Mixing ratio



Construction and mode of operation

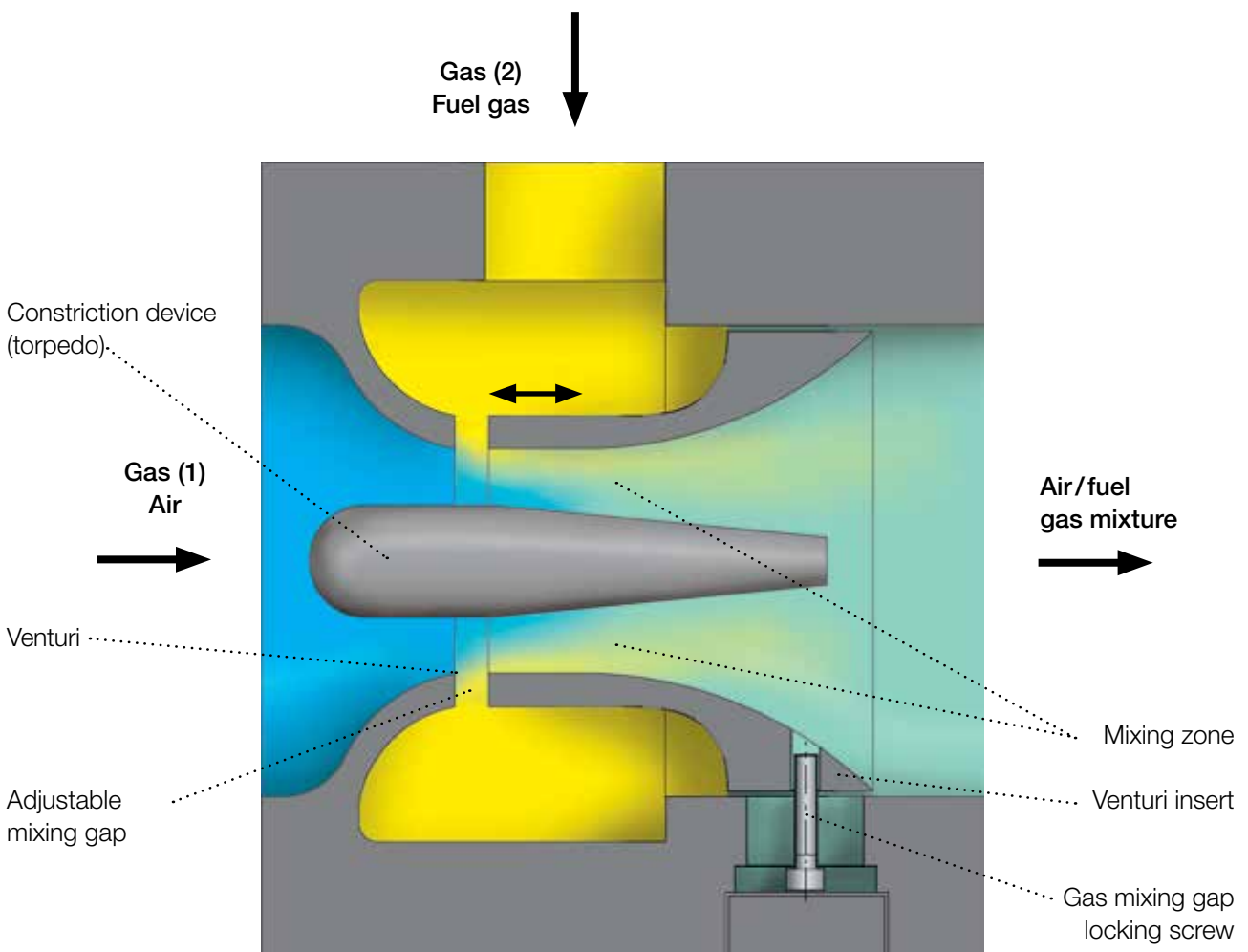
This gas mixer has been designed on the principle of the Venturi effect. There is a gas-pressure control system that brings gas (2) flowing in to the same pressure as gas (1). The Venturi accelerates the gas flowing in (1). Acceleration means the pressure of the gas goes down. The result is a pressure difference at the mixing gap. The pressure difference and the mixing gap, as adjusted, make sure that gas (2) is mixed with gas (1) proportionally (Venturi effect).

For optimum efficiency of the Venturi, the torpedo is designed for max. flow rates of gases (1) and (2). The downstream flow edges of the torpedo support the turbulent mixing of the two types of gases (homogenisation).

The adjustment of the gas mixing gap or adaptation to the operating conditions is achieved with the Venturi insert by means of a locking screw.

Mixture of air/fuel gas

not rich enough	too rich
increase mixing gap	reduce mixing gap

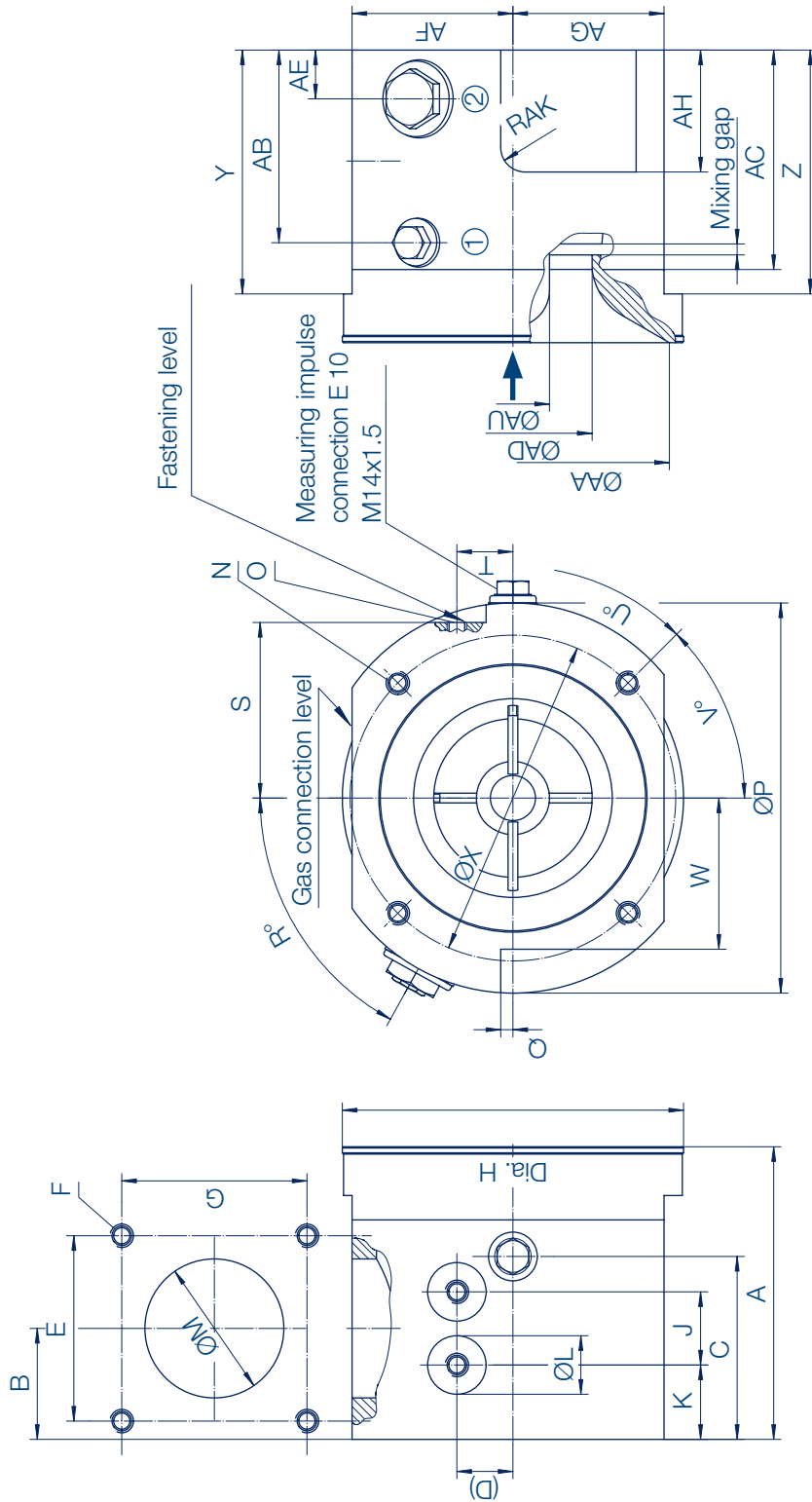


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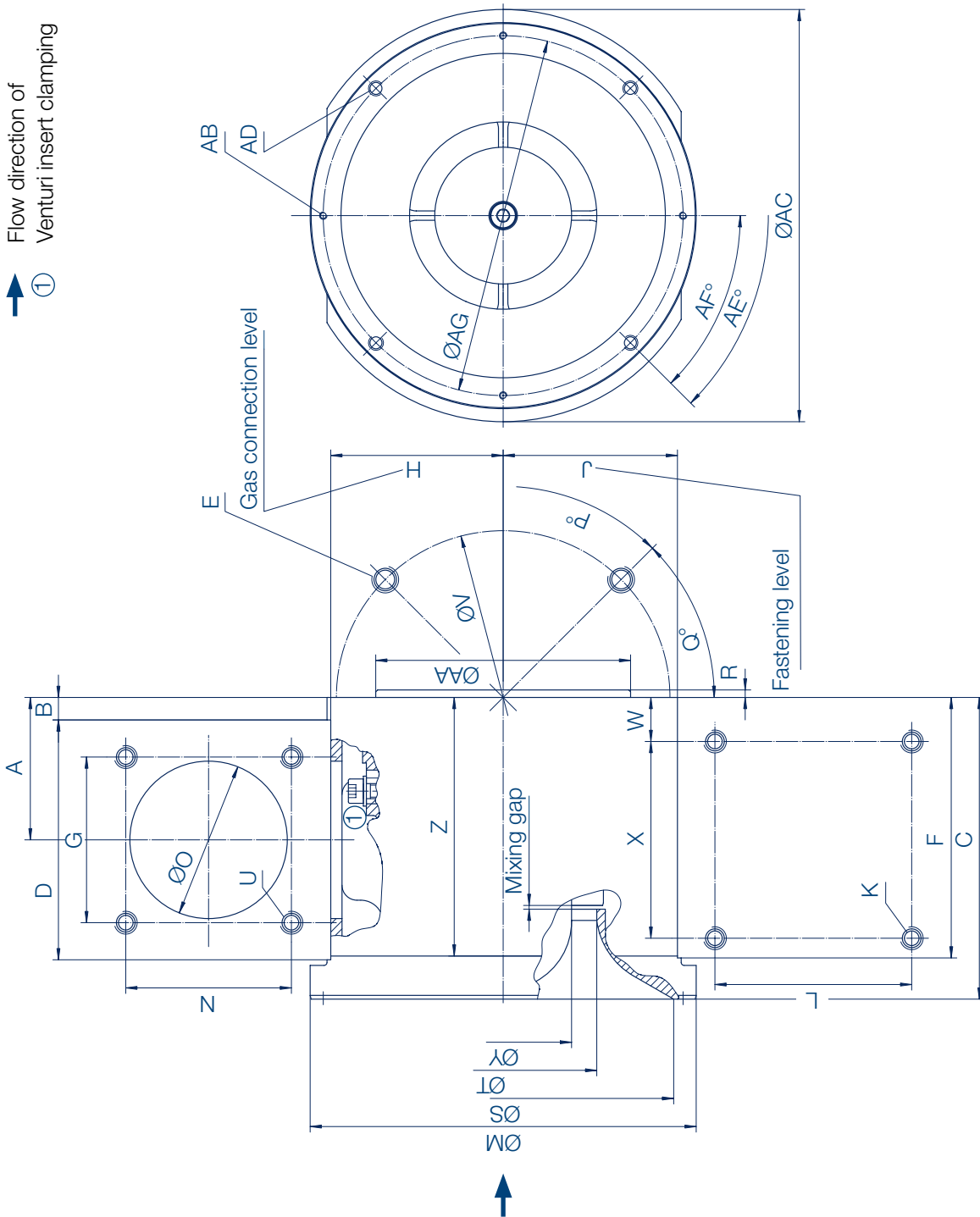
Dimensions

HON 983 - 100/50 and HON 983 140/65

- ↑ Flow direction
- ① Mixing gap check
- ② Mixing gap adjustment



HON 983 - 200/100 and HON 983 - 300/150



GAS MIXER HON 983

Dimensions

DIMENSIONS FOR HON 983-100/50 AND HON 983-140/65 IN MM (UNLESS INDICATED OTHERWISE)											
Device design	A	B	C	D	E	F	G	Dia. H	J	K	
HON 983-100/50	104	36.0	68	–	57	M6 – 9 deep	57	100	–	–	
HON 983-140/65	120	45.5	75	23	76	M8 – 12 deep	76	140	30	30.5	
	ØL	ØM	N		O	ØP	Q	R°	S	T	
HON 983-100/50	–	40	M8 – 16 deep		–	129	–	67°	–	–	
HON 983-140/65	24	57	M8 – 16 deep		M8 – 12 deep	160	5	61°	72	23	
	U°	V°	W	ØX	Y	Z	ØAA	AB	AC	ØAD	AE
HON 983-100/50	4x90°	45°	–	104.8	82	–	84.0	–	81	50	24
HON 983-140/65	4x90°	45°	62	133.6	100	100	128.4	79	90	65	20
	AF	AG	AH	ØAU		RAK					
HON 983-100/50	49	–	–	see table below		–					
HON 983-140/65	66	62	50			10					

DIMENSIONS FOR HON 983-200/100 AND HON 983-300/150 IN MM (UNLESS INDICATED OTHERWISE)										
Device design	A	B	C	D	E	F	G	H	J	K
HON 983-200/100	76	12	161	128	M12 – 18 deep	139	88.4	92	93	M10 – 15 deep
HON 983-300/150	77	13	180	128	M12 – 18 deep	173	88.4	141	142	M10 – 20 deep
	L	ØM	N	ØO	P°	Q°	R	ØS	ØT	U
HON 983-200/100	105	206	88.4	84	4x90°	45°	4	182	100	M10 – 15 deep
HON 983-300/150	105	–	88.4	84	4x90°	45°	–	247	150	M10 – 15 deep
	ØV	W	X	ØY		Z	ØAA	AB	ØAC	AD
HON 983-200/100	178	23.5	105	see table below		138	136	M4 – 10 deep	220	M8 – 18 deep
HON 983-300/150	245	24.5	105			–	–	–	312	M10 – 20 deep
	AE°	AF°	ØAG							
HON 983-200/100	4x90°	45°	192							
HON 983-300/150	6x60°	30°	290							

TORPEDO SIZES (OPTIONAL)	
Device design	Torpedo Ø in mm
HON 983-100/50	18, 25, 30, 33, 36
HON 983-140/65	25, 32, 38, 42
HON 983-200/100	38, 53, 63, 70, 76
HON 983-300/150	58, 79, 93, 103, 112

Example

HON 983 - 200 / 100 - 48

Type

Size of device

Dia. of Venturi

Dia. of torpedo

SIZE OF DEVICE	
Device	Input in mm
HON 983	100
	140
	200
	300
VENTURI	
Device	Venturi Ø in mm
HON 983	50
	65
	100
	150
CONSTRICTION DEVICE (TORPEDO)	
Device	Torpedo Ø in mm
HON 983	optional depending on device design (see table on page 6)

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For More Information

To learn more about Honeywell's
Advanced Gas Solutions, visit
www.honeywellprocess.com or contact
your Honeywell account manager

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