

VersaFlow Vortex 100 Vortex Flow Meter Technical Datasheet

34-VF-03-05
September 3rd, 2008

Specification

The all-in-one solution

The VERSAFLOW is the only vortex flowmeter with integrated pressure and temperature compensation in 2-wire technology. The VERSAFLOW Vortex Flow Meter provides reliable measurement of operating, standard volumetric and mass flow of conductive and non-conductive liquids, gases and vapors, even with fluctuating pressures and temperatures.

Highlights

- 2-wire device with integrated pressure and temperature compensation
- Non-wearing, fully welded stainless steel construction with high corrosion, pressure and temperature resistance
- Optimal process reliability thanks to Intelligent Signal Processing (ISP) - stable readings, free of external perturbations
- Ready to use immediately thanks to plug & play
- Maintenance-free sensor design
- PACTware available at no extra cost
- Pressure and temperature can be called up via HART

Industries

- Chemical
- Oil & Gas
- Power plants
- Iron, Steel and Metal
- Paper and Pulp
- Water
- Automotive

Applications

- Vapor and saturated steam measurement
- Steam boiler monitoring
- Monitoring of compressor output
- Measurement of consumption in compressed air systems
- Measurement of consumption of industrial gases
- SIP and CIP processes in the food, beverage and pharmaceutical industries
- Measurement of conductive and non-conductive liquids



Figure 1 – VersaFlow Vortex Flow Meter

Options and variants

1. The universal device with temperature compensation for saturated steam integrated as standard



The VERSAFLOW as a compact flowmeter in a flange version is suitable for universal use in measuring liquids, gases and vapors.

The temperature compensation for saturated steam is integrated as standard, thus enabling direct compensation of the density; the mass and energy can also be measured.

Here ISP (Intelligent Signal Processing) provides stable measurement results free of external perturbations.

2. The easy to install sandwich version with optimised centering rings



The VERSAFLOW as a compact flowmeter in a sandwich version is suitable for universal use in the measurement of liquids, gases and vapors. The temperature compensation for saturated steam is integrated as standard.

The flowmeter is provided with additional optimised centering rings. The VERSAFLOW can be aligned centrally by turning the centering rings, eliminating any offset between the VERSAFLOW and the pipeline.

3. The only 2-wire device with integrated pressure and temperature compensation



The VERSAFLOW as a flange or sandwich flowmeter is optionally available with integrated pressure and temperature compensation for gases, wet gases, gas mixtures or vapors. The advantages of this unique design couldn't be clearer:

- No additional cost-intensive installation of pressure and temperature sensors
- No additional cabling work
- No faulty measurement results, because pressure, temperature and volume flow can be read at a single point
- Direct measurement of mass and/or energy

4. The highest process availability thanks to optional shut-off valve



As an option, HONEYWELL can supply the VERSAFLOW with a shut-off valve to allow the pressure sensor to be exchanged without interrupting the process. What is more, the pressure sensor can be shut off for the purpose of pressure or leak testing of the pipeline. Using the built-in two-way valve, the pressure sensor can also be calibrated and tested at a later time.

5. Dual measurement for twofold reliability



The VERSAFLOW is optionally available as a dual version.

This is a genuine redundant system with two independent sensors and two converters.

This provides twofold functional reliability and availability of the measurement.

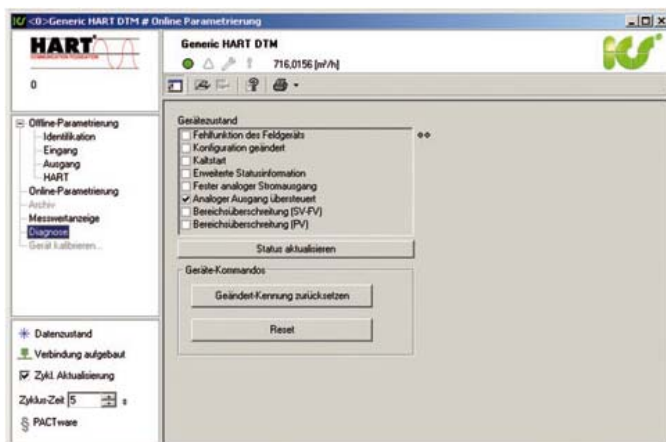
This variant is optimally suited for measurements in multiproduct pipelines.

In such pipelines, two different products are moved through one after the other.

Here one converter can be programmed for one product, and the other converter for the other product.

PACTware • Simple and intuitive

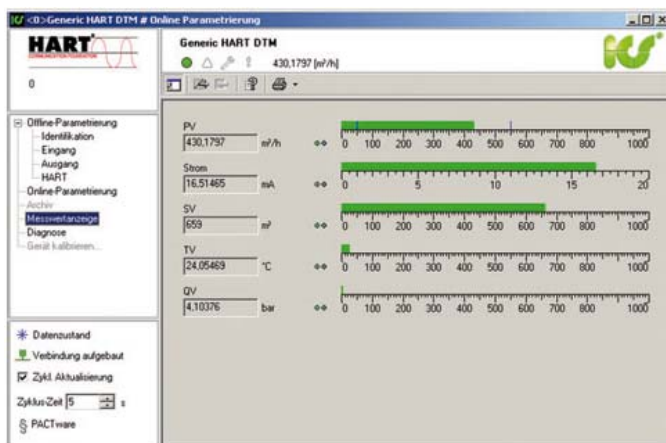
PACTware diagnosis



The VERSAFLOW is PACTware-ready. Each device is supplied ex factory with the appropriate DTM (Device Type Manager). A DTM is a device driver containing a user interface optimised for each device, and which makes the device functionality available independently of the field bus protocol.

A graphical user interface enables operation and configuration of the meter. Simple, program-based setup of devices is thus possible from the control room, even without a display or keyboard. The best possible operator control concepts have been implemented, optimised for the user's requirements.

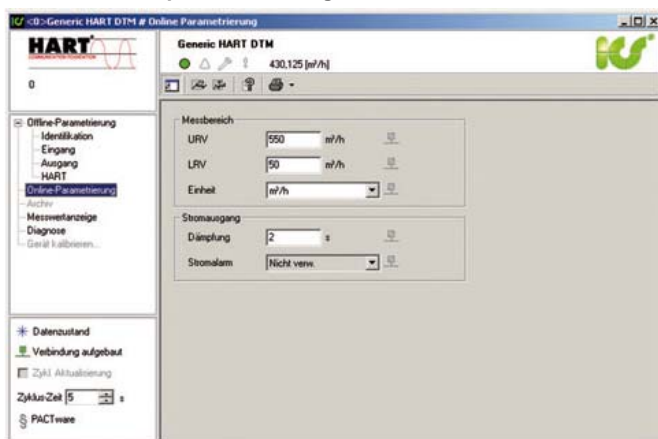
PACTware reading display



Features:

- Displays measured values
- Records measured information during operation
- Shows status of device
- Stepwise setup
- Displays summary of setup selection for final checking

PACTware online parameter configuration



Technical Data

Measuring system

Field of application	Flow measurement of liquids, gases and vapors
Operating method / measuring principle	Karman vortex street
Measured value	
Primary measured value:	Number of separated vortices
Secondary measured value:	Operating and standard volumetric flow, mass flow

Measuring accuracy

Accuracy	Re \geq 20000 \pm 0.75% for liquids Re \geq 20000 \pm 1% for gases and vapors 10000 < Re < 20000 \pm 2% for liquids, gases and vapors ¹
Repeatability	\pm 0.1%
Stability	\pm 0.1% over a period of 1 year

Operating conditions

Ambient temperature	-20...+65°C (Ex version) -40...+85°C (non-Ex version)
Storage temperature	-50...+85°C
Product temperature	-40...+240°C
Process products	liquids, gases, vapors
Density	taken into consideration when rating
Viscosity	< 10 cP
Reynolds' number	10000...2300000
Product pressure limit	Max. 100 bar, higher pressures on request

Inlet conditions

Inlet run	\geq 20 x DN
Outlet run:	\geq 5 x DN
Dimensions and weights	see table on page 11

Materials

Sensor	1.4404/316 L; HastelloyC4
Electronics housing	Aluminum; 1.4404/316 L in preparation
Sensor gasket	1.4435/316L / FPM; Hastelloy C4 / FFKM

¹ Accuracy pressure - and temperature-compensated Re \geq 20000 +/- 1.5% for gases and vapours; 10000 < Re < 20000 +/- 2.5% for gases and vapours

Technical Data

Power supply

Ex version	14 VDC...30 VDC
Non-Ex version	14 VDC...36 VDC

Current output

Measuring range	4...20mA
Over Range	20.8 mA+/- 1 % (105 % +/- 1%)
Load	minimum 100 Ω; maximum R = ((U _b - 14 V) / 22.4 mA)
Error signal	NAMUR NE43 (-2.5 +/- 0.5%) 20.5 +/- 1,0% (105 % +/- 1.0%)
Maximum	22.0 mA (112.5%)
Mutidrop mode	4.0 mA

Digital output

HART	
Name of manufacturer (code)	Honeywell Messtechnik (69)
Name of model (type code)	VFC 070 (222)
Physical Layer	FSK
Equipment category	Transmitter

Pulse output

Pulse output	Pulse frequency max. 0.5 Hz
Power supply non-Ex	24 VDC as NAMUR, or open < 1 mA, maximum 36 V, closed 100 mA, U < 2 V
Power supply Ex	24 VDC as NAMUR, or open < 1 mA, maximum 30 V, closed

Display and operating interface

Local display	2 lines, 10 characters
Operating and display languages	German, English, French

Process connections

Process connection	EN or ASME flanges
Flange version	DN 15...DN 300; ½...12"
Sandwich version	DN 15...DN 100; ½...4"

Protection category

Protection category	IP 66/67
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Approvals

ATEX	ATEX II 2G EEx d ia [ja] IIC T6
FM	Class 1 Div. 1 ¹

Flow table

Measuring range limits

Size		Qmin	Qmax	Qmin	Qmax
DN to EN 1092-1	DN to ASMEB16.5	EN 1092-1 [m3/h]	EN 1092-1 [m3/h]	ASMEB16.5[m3/h]	ASMEB16.5[m3/h]

Water

15	1/2	0.45	5.07	0.44	4.94
25	1	0.81	11.40	0.81	11.40
40	1 1/2	2.04	28.58	2.04	28.58
50	2	3.53	49.48	3.53	49.48
80	3	7.74	108.37	7.74	108.37
100	4	13.30	186.22	13.30	186.21
150	6	30.13	421.86	30.13	421.86
200	8	52.66	737.18	52.66	737.18
250	10	81.43	1140.02	81.43	1140.02
300	12	114.83	1607.61	114.83	1607.61
Values based on water at 20°C					

Air

15	1/2	6.72	57.91	6.72	56.46
25	1	10.20	130.29	10.20	130.29
40	1 1/2	25.35	326.63	25.35	326.63
50	2	43.89	565.49	43.89	565.49
80	3	96.14	1238.64	96.14	1238.60
100	4	165.14	2128.27	165.19	2128.27
150	6	374.23	4821.60	374.23	4821.60
200	8	653.95	8425.53	633.95	8425.50
250	10	977.16	13028.81	977.16	13028.14
300	12	1377.95	18372.66	1377.95	18372.66
Values based on air at 20°C and 1.013 bar abs					

Flow rate limits

Product	Nominal diameters		Minimum flow rates	Maximum flow rates
	to EN	to ASME	[m/s]	[m/s]
Liquids	DN15...DN300	DN 1/2"...DN12"	$0.5 \times (998 / \rho)^{0.5 \ 1}$	$7 \times (998 / \rho)^{0.47 \ 1}$
Gas, vapor	DN15...DN300	DN 1/2"...DN12"	$6 \times (1.29 / \rho)^{0.5 \ 2}$	$7 \times (998 / \rho)^{0.47 \ 2}$

¹ Minimum flow rates 0.4m/s - maximum flow rates 10m/s

² Minimum flow rates 2m/s - maximum flow rates 80m/s

ρ = Operating density [kg/m³]

Measuring range saturated steam: 1-7 bar

Pressure: bar		1		3.5		5.2		7	
Density: kg/m ³		1.1350		2.4258		3.2765		4.1673	
Temperature: °C		121		148		160		171	
Flow: kg/hr		min	max	min	max	min	max	min	max
DN to EN 1092-1	DN to ASME B16.5								
15	0.5	5.9	37.0	7.5	76.1	8.7	104.1	9.8	132.4
25	1	11.8	129.4	17.3	276.5	20.1	373.5	22.7	475.1
40	1.5	29.6	370.7	43.4	792.3	50.4	1070.2	56.8	1361.2
50	2	51.3	641.8	75.0	1371.7	87.2	1852.8	98.3	2356.6
80	3	112.4	1405.8	164.3	3004.7	191.0	4058.4	215.4	5161.8
100	4	193.1	2415.5	282.4	5162.8	328.2	6973.3	370.1	8869.2
150	6	439.6	5472.4	639.7	11695.8	743.5	15798.0	838.4	20093.0
200	8	821.9	10279.0	1201.6	21969.7	1396.5	29675.0	1574.7	37743.0
250	10	1313.9	16433.0	1920.9	35121.4	2232.5	47439.0	2517.7	60337.0
300	12	1908.3	23866.0	2789.8	51010.7	3242.4	68899.0	3656.6	87630.0

Measuring range saturated steam: 10.5 - 20 bar

Pressure: bar		10.5		14		17.5		20	
Density: kg/m ³		5.8880		7.6030		9.3170		10.5442	
Temperature: °C		186		199		209		215	
Flow: kg/h		min	max	min	max	min	max	min	max
DN to EN 1092-1	DN to ASME B16.5								
15	0.5	12.5	187.0	16.1	241.5	19.7	295.9	22.3	334.9
25	1	26.9	671.3	30.6	857.9	33.9	955.5	36.0	1020.2
40	1.5	67.5	1878.2	76.7	2150.7	84.9	2395.3	90.4	2557.7
50	2	116.9	3251.7	132.8	3723.4	147.0	4147.0	156.4	4428.1
80	3	256.0	7122.4	290.9	8155.8	322.1	9083.7	342.6	9699.3
100	4	439.9	12238.0	499.9	14013.0	553.4	15068.0	588.7	16666.0
150	6	996.6	27725.0	1132.5	31747.0	1253.7	35359.0	1333.7	37756.0
200	8	1872.1	52079.0	2127.3	59634.0	2354.9	66419.0	2505.2	70921.0
250	10	2992.7	83254.0	3400.7	95333.0	3764.6	106180.0	4004.9	113380.0
300	12	4346.5	120920.0	4939.1	138460.0	5467.5	154210.0	5816.5	164660.0

Measuring range saturated steam: 15 - 102 psig

Pressure: psig		15		51		75		102	
Density: lb/ft ³		0.0709		0.1516		0.2047		0.2604	
Temperature: °F		249		148		160		171	
Flow: lb/hr		min	max	min	max	min	max	min	max
DN to EN 1092-1	DN to ASME B16.5								
15	0.5	12.9	81.4	16.5	167.7	19.2	229.3	21.6	291.6
25	1	26.0	285.0	38.1	609.1	44.3	822.8	49.9	1046.4
40	1.5	65.3	816.6	95.5	1745.2	110.9	2357.3	125.1	2998.2
50	2	113.0	1413.7	165.3	3021.5	192.0	4081.1	216.6	5190.7
80	3	247.6	3096.5	362.0	6618.3	420.7	8939.2	474.4	11369.6
100	4	425.4	5320.6	622.0	11372.0	722.8	15359.7	815.2	19535.7
150	6	968.2	12053.9	1409.0	25762.0	1637.6	34797.3	1846.8	44257.7
200	8	1810.4	22641.3	2646.7	48392.0	3076.0	65363.4	3468.5	83134.3
250	10	2894.1	36196.5	4231.1	77361.0	4917.4	104491.1	5545.6	132900.8
300	12	4203.3	52569.0	6145.0	112360.0	7141.8	151759.8	8054.2	193017.4

Measuring range saturated steam: 152 - 290 psig

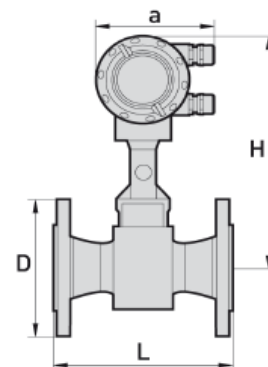
Pressure: psig		152		203		254		290	
Density: lb/ft ³		0.3679		0.4750		0.5821		0.6587	
Temperature: °F		367		389		408		419	
Flow: lb/hr		min	max	min	max	min	max	min	max
DN to EN 1092-1	DN to ASME B16.5								
15	0.5	27.5	411.9	35.5	531.9	43.5	651.8	49.2	737.7
25	1	59.3	1478.5	67.4	1889.6	74.6	2104.6	79.4	2247.1
40	1.5	148.7	4137.1	169.0	4737.3	187.1	5276.0	199.0	5633.7
50	2	257.5	7162.4	292.6	8201.4	323.9	9134.4	344.5	9753.5
80	3	563.9	15688.3	640.8	17964.6	709.4	20008.1	754.7	21364.1
100	4	969.0	26956.3	1101.1	30866.1	1218.9	33189.4	1296.7	36709.2
150	6	2195.2	61069.1	2494.5	69928.3	2761.5	77883.2	2937.7	83162.9
200	8	4123.6	114713.0	4685.7	131354.2	5187.0	146297.2	5518.1	156213.5
250	10	6591.8	183381.4	7490.5	209987.4	8292.1	233876.4	8821.4	249735.4
300	12	9573.8	266347.3	10879.1	304982.1	12042.9	339669.3	12811.7	362686.9

Dimensions and weights (metric)

Flange version EN 1092-1

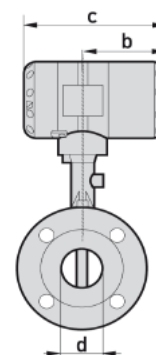
Size	Pressure rating	Dimensions [mm]					Weight [kg]	
		DN	PN	d	D	L	H	I
15	40	17.3	95	200	265	144	6.1	5.5
15	100	17.3	105	200	265	144	7.1	6.5
25	40	28.5	115	200	265	144	7.9	7.3
25	100	28.5	140	200	265	144	9.9	9.3
40	40	43.1	150	200	270	144	10.8	10.2
40	100	42.5	170	200	270	144	14.8	14.2
50	16	54.5	165	200	275	144	12.7	12.1
50	40	54.5	165	200	275	144	12.9	12.3
50	63	54.5	180	200	275	144	16.9	16.3
50	100	53.9	195	200	275	144	18.4	17.8
80	16	82.5	200	200	290	154	17.4	16.8
80	40	82.5	200	200	290	154	19.4	18.8
80	63	81.7	215	200	290	154	23.4	22.8
80	100	80.9	230	200	290	154	27.4	26.8
100	16	107.1	220	250	310	164	22	21.4
100	40	107.1	235	250	310	164	25	24.4
100	63	106.3	250	250	310	164	30	29.4
100	100	104.3	265	250	310	164	36	35.4
150	16	159.3	285	300	325	174	35.8	35.2
150	40	159.3	300	300	325	174	41.8	41.2
150	63	157.1	345	300	325	174	59.8	59.2
150	100	154.1	355	300	325	174	67.8	67.2
200	10	206.5	340	300	350	194	38.4	37.8
200	16	206.5	340	300	350	194	38.4	37.8
200	25	206.5	360	300	350	194	47.4	46.8
200	40	206.5	375	300	350	194	55.4	54.8
250	10	260.4	395	380	370	224	58.0	57.4
250	16	260.4	405	380	370	224	59.0	58.4
250	25	258.8	425	380	370	224	75.0	74.4
250	40	258.8	450	380	370	224	93.0	92.4
300	10	309.7	445	450	395	244	76.3	75.7
300	16	309.7	460	450	395	244	82.8	82.2
300	25	307.9	485	450	395	244	99.3	98.7
300	40	307.9	515	450	395	244	128.1	127.5

Side view



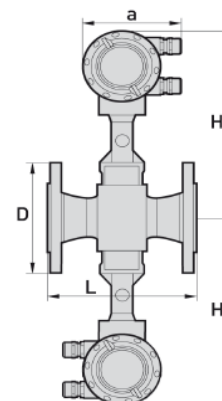
a = 133 mm / 5.24 inches

Front view



b = 105 mm / 4.13 inches
c = 179 mm / 7.05 inches

Option:
Version with two transmitters

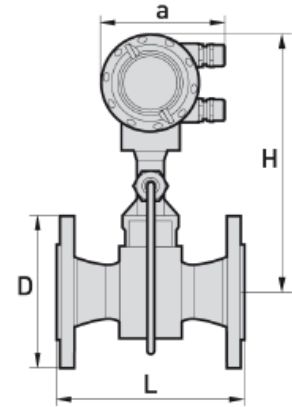


Specified weight + 2.80 kg

Flange version ASME B16.5

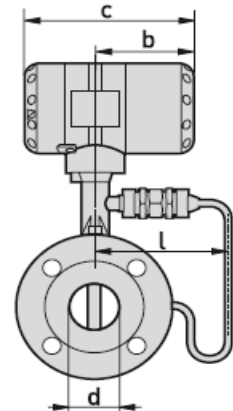
Size	Pressure rating	Dimensions [mm]					Weight [kg]	
		DN	PN	d	D	L	H	I
1/2	150	15.8	90	200	265	144	5.1	4.5
1/2	300	15.8	95	200	265	144	5.5	4.9
1/2	600	13.9	95	200	265	144	5.7	5.1
1	150	26.6	110	200	265	144	6.8	6.2
1	300	26.6	125	200	265	144	7.8	7.2
1	600	24.3	125	200	265	144	8.1	7.5
1 1/2	150	40.9	125	200	270	144	8.9	8.3
1 1/2	300	40.9	155	200	270	144	11	10.4
1 1/2	600	38.1	155	200	270	144	12	11.4
2	150	52.6	150	200	275	144	11.6	11
2	300	52.6	165	200	275	144	13	12.4
2	600	49.3	165	200	275	144	14.5	13.9
3	150	78	190	200	290	154	20.4	19.8
3	300	78	210	200	290	154	23.4	22.8
3	600	73.7	210	200	290	154	24.4	23.8
4	150	102.4	230	250	310	164	24	23.4
4	300	102.4	255	250	310	164	32	31.4
4	600	97.2	275	250	310	164	41	40.4
6	150	154.2	280	300	325	174	36.8	36.2
6	300	154.2	320	300	325	174	51.8	51.2
6	600	146.3	355	300	325	174	76.8	46.2
8	150	202.7	345	300	350	194	50.6	50.0
8	300	202.7	380	300	350	194	75.4	74.8
10	150	254.5	405	380	370	224	75.0	74.4
10	300	254.5	455	380	370	224	107.0	106.4
12	150	304.8	485	450	395	244	106.9	106.3
12	300	304.8	520	450	395	244	151.9	151.3

Side view



a = 133 mm / 5.24 inches

Front view



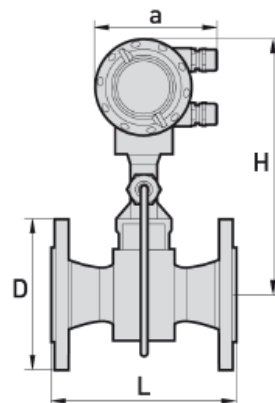
b = 105 mm / 4.13 inches
c = 179 mm / 7.05 inches

Dimensions and weights (Imperial)

Flange version ASME B16.5

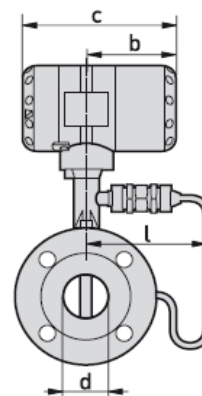
Size	Pressure rating	Dimensions [inches]					Weight [lb]	
		DN	PN	d	D	L	H	I
1/2	150	0.62	3.54	7.87	10.43	5.67	11.24	9.92
1/2	300	0.62	3.74	7.87	10.43	5.67	12.13	10.8
1/2	600	0.54	3.74	7.87	10.43	5.67	12.57	11.24
1	150	1.05	4.33	7.87	10.43	5.67	14.99	13.67
1	300	1.05	4.92	7.87	10.43	5.67	17.2	15.87
1	600	0.96	4.92	7.87	10.43	5.67	17.86	16.53
1 1/2	150	1.61	4.92	7.87	10.63	5.67	19.62	18.3
1 1/2	300	1.61	6.1	7.87	10.63	5.67	24.25	22.93
1 1/2	600	1.5	6.1	7.87	10.63	5.67	26.46	25.13
2	150	2.07	5.91	7.87	10.83	5.67	25.57	24.25
2	300	2.07	6.5	7.87	10.83	5.67	28.66	27.34
2	600	1.94	6.5	7.87	10.83	5.67	31.97	30.64
3	150	3.07	7.48	7.87	11.42	6.06	44.97	43.65
3	300	3.07	8.27	7.87	11.42	6.06	51.59	50.26
3	600	2.9	8.27	7.87	11.42	6.06	52.79	52.47
4	150	4.03	9.06	9.84	12.21	6.46	52.91	51.59
4	300	4.03	10.04	9.84	12.21	6.46	70.55	69.22
4	600	3.83	10.83	9.84	12.21	6.46	90.39	89.07
6	150	6.07	11.02	11.81	12.8	6.85	81.13	79.81
6	300	6.07	12.6	11.81	12.8	6.85	114.2	112.88
6	600	5.76	13.98	11.81	12.8	6.85	169.31	101.85
8	150	7.98	13.58	11.81	13.78	7.64	146.39	145.65
8	300	7.98	14.96	11.81	13.78	7.64	190.32	189.65
8	600	7.63	16.54	11.81	13.78	7.64	331.57	330.25
10	150	10.02	15.51	14.96	14.57	8.82	197.09	195.77
10	300	10.02	17.91	14.96	14.57	8.82	252.21	239.86
10	600	9.56	20.08	14.96	14.57	8.82	419.76	418.43
12	150	12	19.09	17.72	15.55	9.61	318.34	317.02
12	300	12	20.47	17.72	15.55	9.61	415.35	414.02
12	600	11.37	22.05	17.72	15.55	9.61	543.21	541.89

Side view



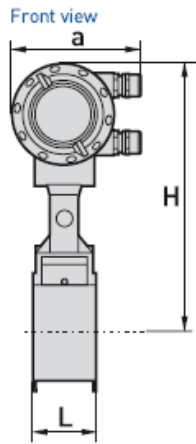
a = 133 mm / 5.24 inches

Front view

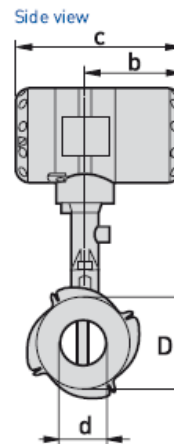


b = 105 mm / 4.13 inches
c = 179 mm / 7.05 inches

Dimensions and weights (metric)



$a = 133 \text{ mm} / 5.24 \text{ inches}$

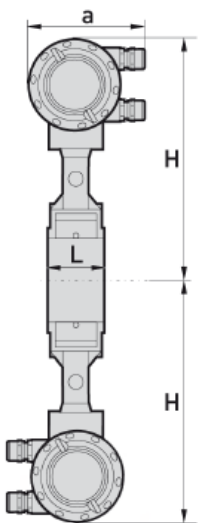


$b = 105 \text{ mm} / 4.13 \text{ inches}$
 $c = 179 \text{ mm} / 7.05 \text{ inches}$

Sandwich version EN

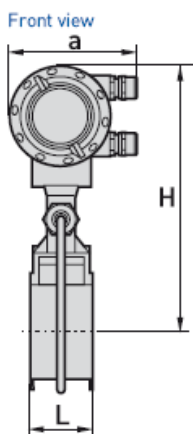
Size	Pressure rating	Dimensions [mm]					Weight [kg]	
		DN	PN	d	D	L	H	I
15	100	16	45	65	265	144	4.1	3.5
25	100	24	65	65	265	144	4.9	4.3
40	100	38	82	65	270	144	5.5	4.9
50	100	50	102	65	275	144	6.6	6
80	100	74	135	65	290	155	8.8	8.2
100	100	97	158	65	310	164	10.1	9.5

Option: Version with two transmitters

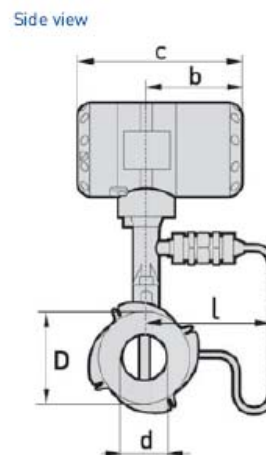


Specified weight + 2.80 kg

Dimensions and weights (Imperial)



a = 133 mm / 5.24 inches



b = 105 mm / 4.13 inches
c = 179 mm / 7.05 inches

Sandwich version ASME

Size	Pressure rating	Dimensions [inches]					Weight [lb]			
		DN	PN	d	D	L	H	I	With pressure sensor	Without pressure sensor
1/2	150			0.63	1.77	2.56	10.43	5.67	9.04	7.72
1/2	300			0.63	1.77	2.56	10.43	5.67	9.04	7.72
1/2	600			0.55	1.77	2.56	10.43	5.67	9.04	7.72
1	150			0.94	2.56	2.56	10.43	5.67	10.8	9.48
1	300			0.94	2.56	2.56	10.43	5.67	10.8	9.48
1	600			0.94	2.56	2.56	10.43	5.67	10.8	9.48
1 1/2	150			1.5	3.23	2.56	10.63	5.67	12.13	10.8
1 1/2	300			1.5	3.23	2.56	10.63	5.67	12.13	10.8
1 1/2	600			1.5	3.23	2.56	10.63	5.67	12.13	10.8
2	150			1.97	4.02	2.56	10.83	5.67	14.55	13.23
2	300			1.97	4.02	2.56	10.83	5.67	14.55	13.23
2	600			1.97	4.02	2.56	10.83	5.67	14.55	13.23
3	150			2.91	5.31	2.56	11.42	6.1	19.4	18.08
3	300			2.91	5.31	2.56	11.42	6.1	19.4	18.08
3	600			2.91	5.31	2.56	11.42	6.1	19.4	18.08
4	150			3.82	6.22	2.56	12.21	6.46	22.27	20.94
4	300			3.82	6.22	2.56	12.21	6.46	22.27	20.94
4	600			3.82	6.22	2.56	12.21	6.46	22.27	20.94

Order form

You can help us to assist you as quickly as possible by giving us a few items of information. Then just fax them to us. Your personal HONEYWELL consultant will contact you within 24 hours.

Device data

Nominal connection diameter:			
Pressure rating:			
Sealing surface:			
Pipeline material			
Connection type	<input type="checkbox"/> Flange	<input type="checkbox"/> Sandwich	
Construction:	<input type="checkbox"/> Compact	<input type="checkbox"/> Separate, 5m cable length	<input type="checkbox"/> Separate, 10 m cable length
Display	<input type="checkbox"/> With	<input type="checkbox"/> Without	
Approvals	<input type="checkbox"/> No EEx	<input type="checkbox"/> ATEX II 2G EEx d ia [ia] IIC T6	<input type="checkbox"/> FM Class 1 Div. 1

Rating data

Product:	
Operating pressure:	
Rated pressure:	
Operating temperature:	
Rated temperature:	
Operating density:	
Viscosity:	
Flow rate range:	
Comments:	

Contact data

Company:	
Contact person:	
Telephone number:	
Fax number:	
E-mail:	

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Ordering Information

Contact your nearest Honeywell sales office, or

In the U.S.:

Honeywell Process Solutions
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Minato-ku, Tokyo, Japan 105-0023

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