

# Houdec® Type 1198 Flow Indicators

## FEATURES AND BENEFITS

- Simple, reliable and economical way to verify liquid flows through industrial process lines.
- Many specials are available upon request to meet various conditions of pressure, temperature, fluid types and mechanical dimensions.

## DESCRIPTION

Houdec Innovation Model 1198 flow indicators provide a quick, reliable and economical way to verify fluid flows through industrial process lines. Model 1198 is available with three styles of indicators including paddle wheel, flap style, or drip tube/whistle shape.

**1198M type:** A paddle wheel indicator style is ideal for indicating flow of clear or opaque liquids as well as observations from a distance. It can be installed in any direction, upward, downward, vertical or horizontal lines.

**1198C type:** A flap indicates at a glance which direction the flow is moving in horizontal lines or vertical lines with upward flow.

**1198S type:** A port in the shape of a whistle or drip tube is ideal for gravity flow, extremely low flow or intermittent flow. The drip tube keeps the fluid from dripping on the sight glass, ensuring visibility.

## CONSTRUCTION

The body of the Model 1198 and the drip tube are available in carbon steel or stainless steel. The paddle wheel is available in polyethylene or stainless steel and the flap in the Model 1198C is stainless steel. The borosilicate glass allows observation from either side of the indicator.

In the small sizes, up to 2", the paddle wheel is centred on the axis of the pipe and is acted upon by the full flow. For the larger sizes, the paddle wheel is offset to one side of the pipe and is actuated by part of the flow.

The indicator's process connections include the following:

- BSP thread (1/2" to 2") to NFE 03005 standard.
- NPT thread (1/2" to 2") to NFE 03601/ASME B1.20.1
- Flanges, PN10/16 RF (for sizes DN15 to DN200) or ANSI B16-5 150 lbs. RF (for sizes 1/2" to 8")
- Butt Welds are available for 3/4" or 1-1/4" sch 10 pipe
- Special upon request



## SPECIFICATIONS

### Maximum Operating Conditions:

**Standard construction:** pressure 10 bar

**Special construction:** pressure 25 bar

Temperature 60 °C max for polyethylene paddle wheel

Temperature 200 °C max for SS paddle wheel

Temperature 200 °C max for SS flap

Temperature 200 °C max for SS whistle

Special designs for higher pressure and temperature et are available upon request. (Refer to Figure 4).

Klingersil® gaskets C4430 are standard. Other gasket materials such as fluorocarbon and PTFE are available depending on fluid types.

### Dimensions

(Refer to figures 1, 2 and 3).

### Flow rates

Type of flow indicator	Minimum flow rate (*)	Maximum flow rate
1198C	0.1m/s	unlimited
1198M Ø<2"	0.1m/s	1.5m/s
1198M Ø>2"	0.5m/s	3m/s

(\*) Minimum rate necessary for observation of the flow

Flow Indicator

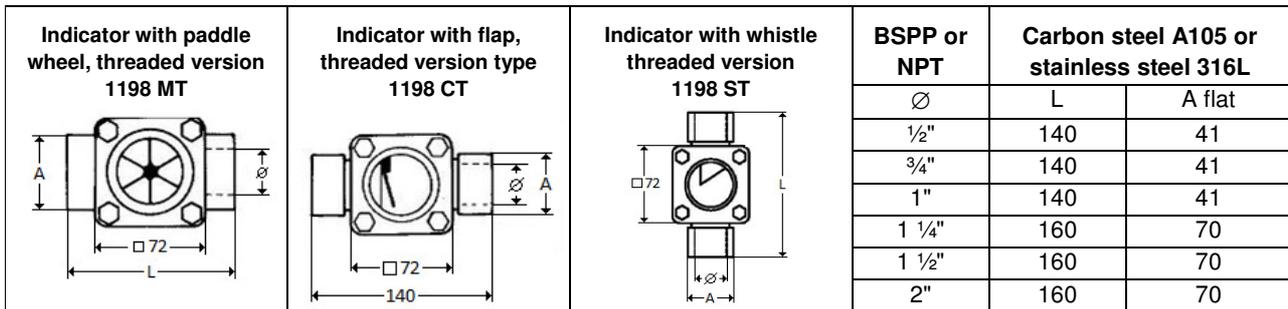
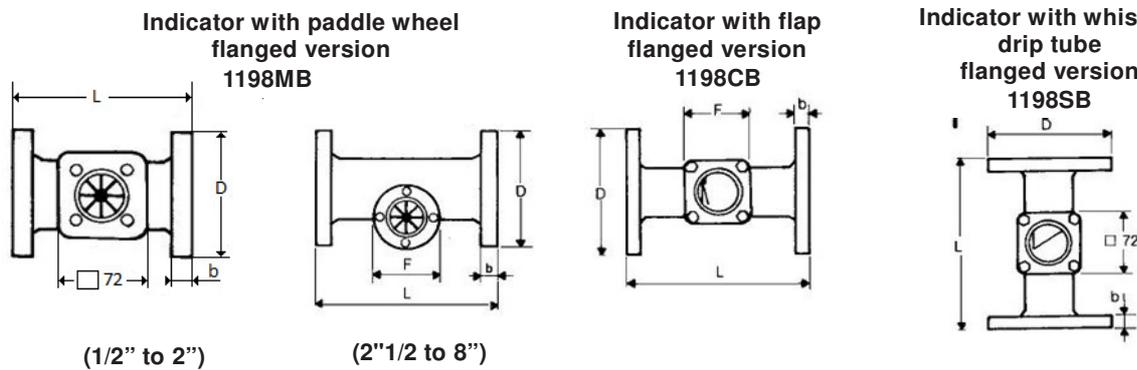


Figure 1 Standard dimensions for models 1198MT, 1198CT and 1198ST



Dimensions (mm) EN1092-1 PN10/16

DN	Ø D	b	□ or Ø or F	L
15	95	16	□ 72	150
20	105	18	□ 72	150
25	115	18	□ 72	150
32	140	18	□ 72	150
40	150	18	□ 72	150
50	165	18	□ 72	150
65	185	18	95	200
80	200	20	95	200
100	220	20	95	250
125	250	22	115	300
150	285	22	115	300
200	340	24	115	400

Dimensions (mm) EN1759-1 – Class 150lbs

DN	Ø D	b	□ or Ø or F	L
1/2"	89	11,1	□ 72	150
3/4"	98	12,7	□ 72	150
1"	108	14,3	□ 72	150
1 1/4"	117	15,9	□ 72	150
1 1/2"	127	17,5	□ 72	150
2"	152	19,0	□ 72	150
2 1/2"	178	22,2	95	200
3"	190	23,8	95	200
4"	229	23,8	95	250
5"	254	23,8	115	300
6"	279	25,4	115	300
8"	343	28,6	115	400

Figure 2 Standard dimensions for models 1198MB, 1198CB and 1198SB

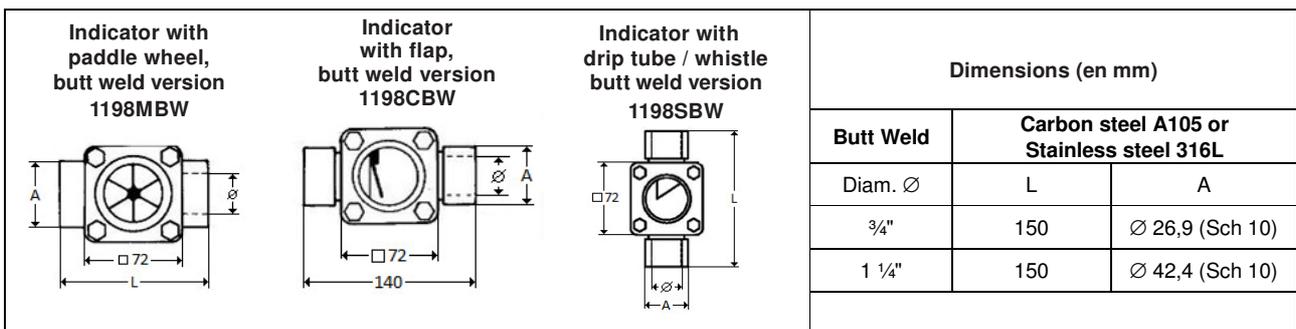


Figure 3 Standard dimensions for models 1198MBW, 1198CBW and 1198SBW

## Flow Indicator

### Ordering information Model 1198

TYPE	Code
1198ST	<b>Whistle indicator: Threaded – Vertical pipes with downward flow</b>
	C10 Carbon steel BSPP-F
	C11 Carbon steel NPT-F
	C50 Stainless steel BSPP-F
1198SB	<b>Whistle indicator: Flanged – Vertical pipes with downward flow</b>
	C12 Carbon steel PN10/16 FS
	C13 Carbon steel PN20/ANSI 150 RF
	C52 Stainless steel PN10/16 FS
1198SBW	<b>Whistle indicator: Butt Weld – Vertical pipes with downward flow</b>
	C14 Carbon steel PN10/16 FS
	C54 Stainless steel PN10/16 FS
1198CT	<b>Flap indicator: Threaded – Horizontal pipes or upward flow</b>
	C15 Carbon steel, stainless steel flap BSPP-F
	C16 Carbon steel, stainless steel flap NPT-F
	C55 Stainless steel, Stainless steel flap BSPP-F
1198CB	<b>Flap indicator: Flanged – Horizontal pipes or upward flow</b>
	C17 Carbon steel, stainless steel flap PN10/16 FS
	C18 Carbon steel, stainless steel flap PN20 ANSI 150 RF
	C57 Stainless steel, stainless steel flap PN10/16 FS
1198CBW	<b>Flap indicator: Butt Weld – Horizontal pipes or upward flow</b>
	C19 Carbon steel, stainless steel flap PN10/16 FS
	C59 Stainless steel, stainless steel flap PN10/16 FS
1198MT	<b>Paddle wheel indicator: Threaded – Horizontal or vertical pipes</b>
	C20 Carbon steel, polyethylene paddle wheel BSPP-F
	C21 Carbon steel, stainless steel paddle wheel BSPP-F
	C22 Carbon steel, polyethylene paddle wheel NPT-F
	C23 Carbon steel, stainless steel paddle wheel NPT-F
	C60 Stainless steel, polyethylene paddle wheel BSPP-F
	C61 Stainless steel, stainless steel paddle wheel BSPP-F
	C62 Stainless steel, polyethylene paddle wheel NPT-F
	C63 Stainless steel, stainless steel paddle wheel NPT-F
	1198MB
C24 Carbon steel, moulinet polyéthylène PN10/16 FS	
C25 Carbon steel, moulinet ino PN10/16 FS	
C26 Carbon steel, moulinet polyéthylène PN20 ANSI 150 RF	
C27 Carbon steel, moulinet Stainless steel PN20 ANSI 150 RF	
C64 Stainless steel, moulinet polyéthylène PN10/16 FS	
C65 Stainless steel, moulinet Stainless steel PN10/16 FS	
C66 Stainless steel, moulinet piolyéthylène PN20 ANSI 150 RF	
C67 Stainless steel, moulinet Stainless steel PN20 ANSI 150 RF	
1198MBW	<b>Paddle wheel indicator: Flanged – Horizontal or vertical pipes</b>
	C28 Carbon steel, moulinet polyethylene PN10/16 FS
	C29 Carbon steel, moulinet Stainless steel PN10/16 FS
	C68 Stainless steel, moulinet polyéthylène PN10/16 FS
	C69 Stainless steel, moulinet Stainless steel PN10/16 FS

**Code - Sight flanges**

Standard on all models: Aluminium sight flanges  
Epoxy primer+ zinc steel bolts

Z11 Carbon steel+ Epoxy primer + zinc steel bolts  
Z12 Stainless steel (ss body + ss bolts)

**Code - Options / Documentation**

Z9 Paint + Epoxy finish (carbon steel)

D0 - 3 . 1 material certificate (body)  
D2 – Welding file  
DX – To specify  
D11 - Documentation on CD Rom  
D12 – G/A drawing for approval of final  
D13 – Pressure test cert. + conformity cert.

**Available Spare Parts**

**for Flap or Whistle**

- 2 VTS glasses
- Painted Aluminium Sight Flange
- Carbon Steel Sight Flange
- Stainless Steel Sight Flange
- Klingersil gaskets (4)
- Fluorocarbon gaskets (2 Kling + 2 Fluor.)
- Set of gaskets - PTFE or Viton (2 Kling+2 PTFE or Viton)

**Available Spare Parts**

**for Paddle Wheel**

- Stainless Steel Paddle Wheel
- Polyethylene Paddle Wheel
- 2 VTS glasses
- 2 drilled Pyrex glasses (only for old C1 construction)
- Painted Aluminium Sight Flange
- Carbon Steel Sight Flange
- Stainless Steel Sight Flange
- Klingersil gaskets (4)
- Fluorocarbon gaskets (2 Kling + 2 Fluor.)
- Set of gaskets - PTFE or Viton (2 Kling+2 PTFE or Viton)

- Set of cross bars for ball bearings
- Set of cross bars for paddle wheel
- Ball bearing (unit)

**Available nominal connection diameters**

Nominal Diameter ISO	Nominal Diameter ANSI
15	1/2"
20	3/4"
25	1"
32	1"1/4"
40	1"1/2"
50	2"
65	2"1/2"
80	3"
100	4"
125	5"
150	6"
200	8"

1198MT-2"-C22-Z9-Z11

## Flow Indicator

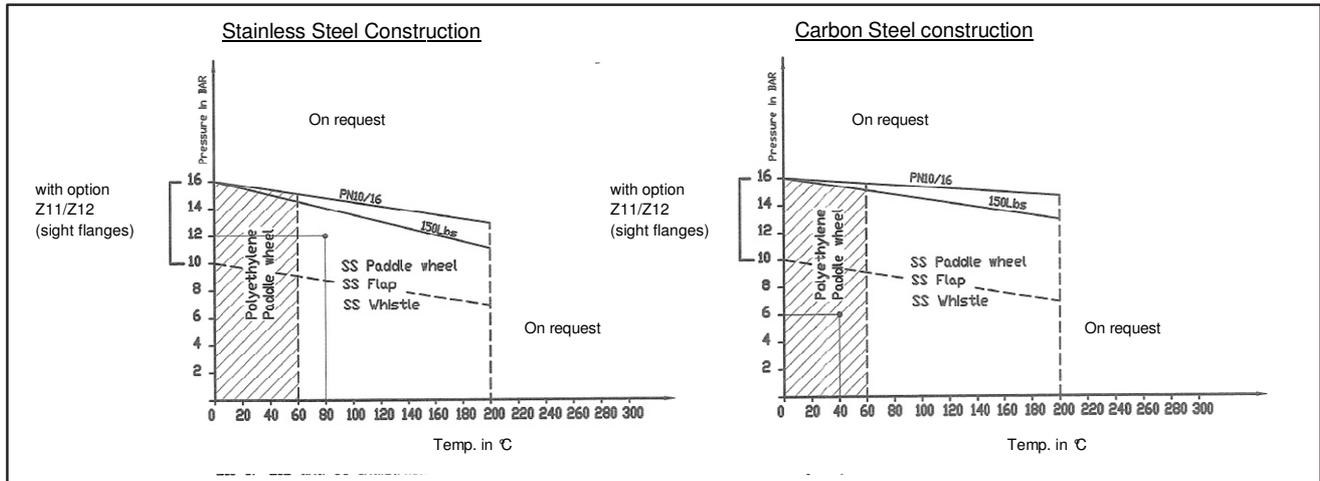


Figure 4 Temperature and pressure ratings

### INSTALLATION AND MAINTENANCE

The flow indicators are mounted directly on the pipe without any special precautions other than the direction of flow.  
 1198M type: pipes can be set at any angle.  
 1198C type: horizontal or vertical pipes with upward flow.  
 1198S type: Vertical pipes with downward flow.  
 These units need no maintenance other than being kept clean.

### HOUDEC SERVICE AND SUPPORT

Houdec is committed to assuring all of our customers receive the ideal flow solution for their application, along with outstanding service and support to back it up. We operate first class repair facilities located around the world to provide rapid response and support. Each location utilizes primary standard calibration equipment to ensure accuracy and reliability for repairs and recalibration. The primary standard calibration equipment to calibrate our flow products is certified by our local Weights and Measures Authorities and traceable to the relevant International Standards.

Visit [www.houdec.com](http://www.houdec.com) to locate the service location nearest to you.

### START-UP SERVICE AND IN-SITU CALIBRATION

- \* Houdec Innovation can provide start-up service prior to operation when required, if necessary under in-situ conditions, and the results will be traceable to the relevant international quality standards.

### CUSTOMER SEMINARS AND TRAINING

- \* Houdec can provide customer seminars and dedicated training to engineers, end users and maintenance persons.

Due to HOUDEC Innovation 's commitment to continuous improvement of our products, all specifications are subject to change without notice.

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