

General Specifications

digitalYEWFLO

digitalYEWFLO Series
Vortex Flowmeter

GS 01F06A00-01EN

[Style: S2]



Vortex Flowmeter
(Integral Type : DY###)



Vortex Flow Converter
(Remote Type Converter : DYA)



Vortex Flowmeter
(Remote Type Detector : DY###-N)



Reduced Bore Type
(Integral Type/Remote Type Detector : DY###-/R#)

Based on the field proven technology

By the unique **SSP (Spectral signal processing)*** technology, digitalYEWFLO provides high accuracy and stability, even in harsh process conditions. Combined with high reliability and robust design, it delivers improvements in plant efficiency and reduced operating costs.

digitalYEWFLO Multi-Variable Type (Option: /MV) built-in temperature sensor, so that temperature measurement and Mass Flow calculation is available.

digitalYEWFLO Reduced Bore Type (Option: /R1, /R2) integrated and casting construction with concentric reduced bore piping.

It benefits piping cost reduction and lower flow range.

* SSP is YOKOGAWA's original technology for digital signal processing.

■ FEATURES

- **SSP (Spectral Signal Processing)** technology: SSP is built into the powerful electronics of digitalYEWFLO. SSP analyses the fluid conditions inside digitalYEWFLO and uses the data to automatically select the optimum adjustment for the application, **providing features never before realized in a vortex flowmeter.** SSP accurately senses vortices in the low flow range, providing outstanding flow stability.
- **Self-diagnostics:** The application condition, such as high vibration of the piping and pulsating flow, is predicted and indicated.
- **High Accuracy:** ±0.75% of Reading (Liquid)
±0.5% of Reading: Typical Accuracy/ Non-Guaranteed
±1% of Reading (Gas, Steam)
- **Wide Process Temperature Range:** High temperature version up to +450°C
Cryogenic version minimum -196°C
- **High Pressure measurement** Up to ANSI Class 1500 flange type
- **Simple Parameter settings:** Frequently-used selections grouped together in a quick-access format decreases commissioning time.
- **Dual output for Analog / Pulse:** Simultaneous output for flow rate or temperature (Option: /MV) and pulse.
- **Alarm output, Status output (Flow switch)** An alarm signal output, in case alarm occurs.
- **No moving parts stainless steel detector:** High durable and safety.
- **Signal cable length is up to 30m.**
- **Explosion proof construction, TIIS / FM / ATEX / CSA / IECEx.**

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[MULTI-VARIABLE TYPE] (OPTION: /MV)

digitalYEWFLOW build-in temperature sensor (Pt1000) in the vortex shedder bar.

Temperature measurement and Mass Flow Calculation by temperature is available.

(Read P.10)

- High Process Temperature Version Multi-Variable Type (Option: combination of /HT and /MV)

The combination of /HT and /MV is available up to +400 °C (+330 °C for Saturated Steam).

- digitalYEWFLOW build-in steam table (IAPWS-IF97), and Mass measurement of saturated steam and superheated steam (Mass Flow Calculation)
- Accuracy of digitalYEWFLOW Multi-Variable Type is $\pm 0.5\%$ of rate for temperature measurement, $\pm 2\%$ of rate for Mass Flow Calculation (saturated steam).

[REDUCED BORE TYPE] (OPTION: /R1, /R2)

Integrated and casting construction with concentric reduced bore piping makes ;

- Reduction of the piping cost and improving the safety of the work site
- Replace work and cost reduction: the same face-to-face dimension with standard type.
- Stability and expansion of the low flow rate

■ STANDARD SPECIFICATIONS

- Communication function includes FOUNDATION fieldbus, BRAIN and HART protocol.
Read GS 01F06F01-01EN for Fieldbus communication type marked with "◇".

Performance Specifications

Fluid to be Measured:

Liquid, Gas, Steam (Avoid multiphase flow and sticky fluids)

Measuring Flow Rates:

Read Table 6

Accuracy: $\pm 0.75\%$ of Reading (Liquid)
 $\pm 1\%$ of Reading (Gas, Steam)

Read P.13.

/MV: Read P.14

Repeatability: $\pm 0.2\%$ of Reading

Calibration:

This flowmeter is factory-calibrated using a water flow.

Temperature and flow calibration by water flow when Multi-Variable Type is selected.

Normal Operating Condition

Process Temperature Range:

–29 to +250 °C (Standard)
–196 to +100 °C (Cryogenic Version:
Option)
–29 to +450 °C (High Process
Temperature Version:
Option)

–29 to +400 °C (High Process
Temperature Version Multi-
Variable Type: Option)

When Multi-Variable Type is selected, read P.10.

Read Figure 1 for integral type.

Process Pressure Limit:

–0.1MPa (–1 kg/cm²) to flange rating.

Ambient Temperature Range:

–29 to +85 °C (Remote Type detector)
–40 to +85 °C (Remote Type converter)
–29 to +85 °C (Integral Type, read Figure 1)
–29 to +80 °C (Integral Type with Indicator,
read Figure 1)
–30 to +80 °C (Remote Type converter
with Indicator)

Ambient Humidity: 5 to 100% RH (at 40 °C)
(No Condensation)

Power Supply Voltage (◇): 10.5 to 42 V DC

10.5 to 30 V DC (Lightning Protector: option)
(Read Figure 2 ; Relationship Between
Power Supply Voltage and Load
Resistance)

Mechanical Specifications

Material (Standard Type):

Read Table.1

Wetted Parts:

Body*1; Stainless steel SCS14A, CF8M
*1 Flange materials for DY250 to DY400 are
SUS F304

Shedder Bar; Duplex stainless steel

Size 15mm S31803

Size 25mm to 400mm 1.4517

Gasket: SUS316 stainless steel with PTFE
coating.

Non-Wetted Parts:

Housing (Case, Cover):

Aluminum alloy ADC12

Name Plate: Stainless steel SUS304

DYA Mounting Bracket for 2B pipe:

Carbon steel

Coating Color:

Housing:

Polyurethane corrosion-resistant coating

Mint green (Munsell 5.6BG 3.3/2.9 equivalent)

DYA Mounting Bracket for 2B pipe:

Polyurethane corrosion-resistant coating

Frosty white (Munsell 2.5Y 8.4/1.2 equivalent)

Degree of Protection:

IP66/IP67 (IEC 60529), Type 4X (NEMA 250)

Type of Protection:

Read "■ OPTION SPECIFICATIONS"

Electrical Connection:

JIS G1/2 female, ANSI 1/2 NPT female,

ISO M20 × 1.5 female

Signal Cable:

Signal cable, used for remote detector and
converter.

Signal cable length is up to 30 m.

Outer Sheath Material: Heat resisting polyethylene

Durable Temperature: –40 to +150 °C

Weight:

Read "■ External Dimensions".

Mounting:

Integral type and Remote type detector:
 Flange mounting or wafer mounting by flange adjacent to the pipeline.
 Remote type converter: 2 inch pipe mounting.

Electrical Specifications

Note*: Pulse output, alarm output and status output use the common terminal, therefore these functions are not used simultaneously.

Output Signal (◇): Dual Output (Both Analog and Transistor contact output can be obtained simultaneously). In this case read the “■ Remarks on installation” for power supply and pulse output wiring.

Analog: 4 to 20 mA DC, 2-wire system.

Transistor Contact Output*:

Open collector, 3-wire system.
 Pulse, alarm, status output are selected by parameter setting.
 Contact rating: 10.5 to 30 V DC, 120 mA DC
 Low level: 0 to 2 V DC. (read Figure3)

Communication Requirements:

Communication Signal:

BRAIN or HART communication signal (superimposed on a 4 to 20 mA DC signal)

Note: HART is a registered trademark of the HART Communication Foundation.

Conditions of Communication Line:

Load Resistance:

250 to 600 Ω (including cable resistance).
 Read Figure 2.

Supply Voltage:

16.4 to 42 V DC for digital communications BRAIN and HART protocols.
 Read Figure 2.

BRAIN:

Space from other Power Line: 15cm or more (Parallel wiring should be avoided.)

Communication Distance:

Up to 2 km, when polyethylene insulated PVC-sheathed cables (CEV cables) are used.
 Communication distance varies depending on type of cable used and wiring.

Load Capacitance: 0.22 μF or less

Load Inductance: 3.3 mH or less

Input Impedance Communicating Device:

10 kΩ or more at 2.4 kHz.

Selection of HART 5/ HART 7

| | | | | |
|------------------------|--------------------------------------|--|--|---|
| Output Signal Code | | -E | -J | |
| Ordering Information | | — | Specify “5” | Specify “7” |
| HART Protocol Revision | | HART 5 | | HART 7 |
| Selection guide | Requirement for HART 7 functionality | NO | | YES Be sure to confirm the protocol revision of the HART configuration tool shown in *2. |
| | Other conditions | Not available to switch to HART 7 protocol after delivery. | Available to switch to HART 7 protocol after delivery by user configuration. | — |
| Remarks | | *1 | *2 | *2 |

- *1: “-E” is HART5 exclusive model and will be terminated. “-J” is recommended for HART communication.
- *2: HART protocol revision for the device and HART configuration tool HART7 communication is supported by FieldMate R2.02 or later.

HART protocol revision and availability

| | | |
|------------------|--|-----------|
| | Protocol revision supported by HART configuration tool | |
| | 5 | 7 |
| DY or DYA HART 5 | Available | Available |
| DY or DYA HART 7 | Not Available | Available |

Note: Protocol revision supported by HART configuration tool must be the same or higher than that of the digital YEWFL0.

Functions:

Damping Time Constant:

0 to 99 Sec (63% response time)

Note: Delay time is 0.5 Sec.

Analog output circuit time constant is 0.3 Sec.

Pulse Output Function*:

Pulse output is selected from scaled pulse, unscaled pulse, frequency (number of pulses output per second at 100% of output).

Pulse frequency: Max 10 kHz

Duty cycles: Approx. 50% (1:2 to 2:1)

Self-diagnostics and Alarm Output*:

In case alarm (over range output signal, EEPROM error, vibration noise, abnormal flow such as clogging, bubble) occurs, an alarm signal is output and indicated.

The alarm signal output goes from close (ON) to open (OFF) during alarming.

Analog Output Function:

Analog output is selected from flowrate and temperature value when option code /MV is selected.

Status Output Function*:

Flow Switch:

In case flow rate decreases under the flow set value, a status signal is output.

Status signal output mode can reverse (ON/ OFF).

Data Security During Power Failure:

Data (parameter, totalizer value, etc) storage by EEPROM. No back-up battery required.

Correction:

Instrument Error Correction:

Vortex flowmeter instrument errors can be corrected by segment approximations.

Reynolds Number Correction:

Output error at Reynolds number 20000 or less is corrected by using five-break-point line-segment approximation.

Gas Expansion Correction:

When measuring a compressibility gas and steam, this expansion factor is useful to correct the error at high velocity of flow (35m/s or more).

Down-scale or Up-scale burn out.

In case a CPU or EEPROM failure occurs, flow meter output the signal of Up-scale (21.6 mA or more).

Up-scale or Down-scale (3.6 mA or less) is user-selectable through the fail mode alarm jumper.

Indicator:

Flow rate (% or engineering units) or temperature value and totalizer can be indicated simultaneously.

Short message for self diagnostics indicated.

Local parameter setting can be operated by key switches.

In mounting direction, the right and left 90° is rotatable.

EMC Conformity Standards:

EN 61326-1 Class A, Table 2 (For use in industrial locations), EN 61326-2-3

Note1: This instrument is a Class A product, and it is designed for use in the industrial environment. Please use this instrument in the industrial environment only.

Note2: Use the metal conduit for the remote cable.

Pressure Equipment Directive:

Type of equipment: Pressure accessory – Piping

Type of fluid: liquid and gas

Group of fluid: 1 and 2

Module: H

| MODEL | DN (mm)* | PS* | | PS-DN | | CATEGORY** |
|-------|----------|-------|-------|----------|----------|-------------------------------------|
| | | (bar) | (MPa) | (bar·mm) | (MPa·mm) | |
| DY015 | 15 | 420 | 42 | 6300 | 630 | Sound Engineering Practice (SEP)*** |
| DY025 | 25 | 420 | 42 | 10500 | 1050 | Sound Engineering Practice (SEP)*** |
| DY040 | 40 | 420 | 42 | 16800 | 1680 | II**** |
| DY050 | 50 | 420 | 42 | 21000 | 2100 | II**** |
| DY080 | 80 | 420 | 42 | 33600 | 3360 | II**** |
| DY100 | 100 | 420 | 42 | 42000 | 4200 | II**** |
| DY150 | 150 | 420 | 42 | 63000 | 6300 | III |
| DY200 | 200 | 420 | 42 | 84000 | 8400 | III |
| DY250 | 250 | 420 | 42 | 105000 | 10500 | III |
| DY300 | 300 | 420 | 42 | 126000 | 12600 | III |
| DY400 | 400 | 250 | 25 | 100000 | 10000 | III |

* PS: Maximum allowable pressure for Flow tube, DN: Nominal size

** Table 6 covered by ANNEXII of Directive 2014/68/EU

*** Article 4, paragraph 3 of Directive 2014/68/EU

**** MODELS classified in CATEGORY II shall not be used for unstable gases of Group 1.

CE marking:

CE marking is attached for non-Explosion protected type(Note1) and ATEX Explosion protected type.

The product which is attached CE marking is in conformity with the statutory requirements of the applicable EU Directives.

Note1: /HX2(Anti-Corrosion Version I) of DY150 is not PED compliant. CE marking is not attached.

EU RoHS Directive:

EN IEC63000

Morocco Conformity Mark:

This conformity mark indicates that the product complies with Moroccan requirements.

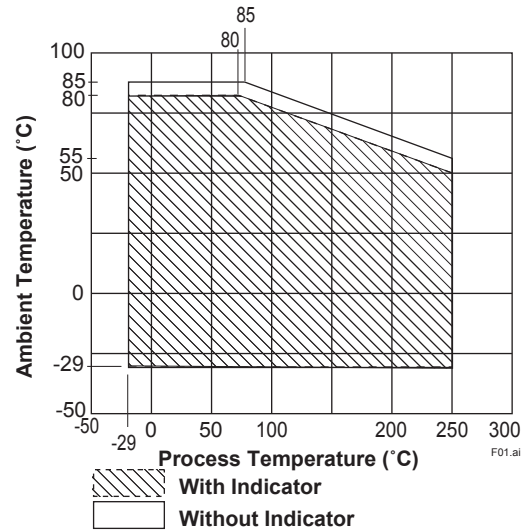


Figure 1 Ambient Temperature limit (Integral Type)

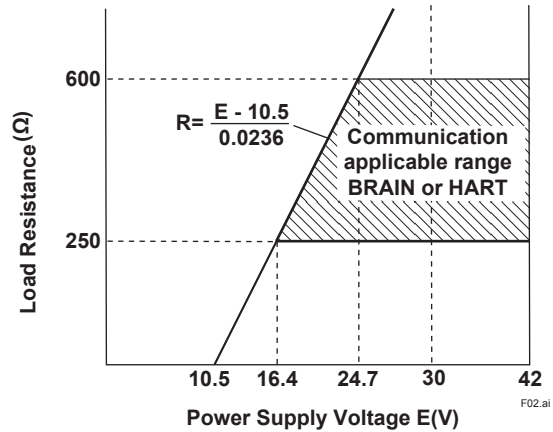


Figure 2 Relationship Between Power Supply and Load Resistance

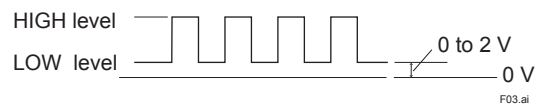


Figure 3 High and low level (Pulse output)

MODEL AND SUFFIX CODES

Vortex Flowmeter (Integral Type, Remote Type detector)

| Model | Suffix Codes | Description |
|--|----------------------------------|---|
| DY015 | ..... | Size 15 mm (1/2 inch) |
| DY025 | ..... | Size 25 mm (1 inch) |
| DY040 | ..... | Size 40 mm (1-1/2 inch) |
| DY050 | ..... | Size 50 mm (2 inch) |
| DY080 | ..... | Size 80 mm (3 inch) |
| DY100 | ..... | Size 100 mm (4 inch) |
| DY150 | ..... | Size 150 mm (6 inch) |
| DY200 | ..... | Size 200 mm (8 inch) |
| DY250 | ..... | Size 250 mm (10 inch) |
| DY300 | ..... | Size 300 mm (12 inch) |
| DY400 | ..... | Size 400 mm (16 inch) |
| Output Signal /Communication | -D | 4 to 20 mA DC, Pulse, BRAIN Communication |
| | -E | 4 to 20 mA DC, Pulse, HART Communication *1 |
| | -J | 4 to 20 mA DC, Pulse, HART 5/HART 7 Communication *2 |
| | -F | Digital communication (FOUNDATION Fieldbus protocol) *3 |
| | -N | Remote type detector |
| Body Material *6, *7 | A | SCS14 A *4 |
| | B | CF8M *5 |
| | X | Others |
| Shedder bar Material *6, *7 | L | Duplex Stainless Steel |
| | B | Stainless Steel |
| | E | Duplex Stainless Steel (for TIIS Approval) |
| | X | Others |
| Process Connection *8, *15 RF: Raised Face SF: Smooth Finish RJ: Ring Joint R13: DIN 2513 Type R13 | AJ1 | JIS 10 K Wafer |
| | AJ2 | JIS 20 K Wafer |
| | AJ4 | JIS 40 K Wafer |
| | AA1 | ANSI Class 150 Wafer |
| | AA2 | ANSI Class 300 Wafer |
| | AA4 | ANSI Class 600 Wafer |
| | AD1 | DIN PN10 Wafer |
| | AD2 | DIN PN16 Wafer |
| | AD3 | DIN PN25 Wafer |
| | AD4 | DIN PN40 Wafer |
| | BJ1 | JIS 10K Flange(RF) |
| | BJ2 | JIS 20K Flange(RF) |
| | BJ4 | JIS 40K Flange(RF) |
| | BA1 | ANSI Class 150 Flange(RF) |
| | BA2 | ANSI Class 300 Flange(RF) |
| | BA4 | ANSI Class 600 Flange(RF) |
| | BA5 | ANSI Class 900 Flange(RF) |
| | BA6 | ANSI Class1500 Flange(RF) *16,17 |
| | BS1 | ANSI Class 150 Flange(RF, SF) |
| | BS2 | ANSI Class 300 Flange(RF, SF) |
| | BS4 | ANSI Class 600 Flange(RF, SF) |
| | BS5 | ANSI Class 900 Flange(RF, SF) |
| | BD1 | DIN PN10 Flange(RF) |
| | BD2 | DIN PN16 Flange(RF) |
| | BD3 | DIN PN25 Flange(RF) |
| | BD4 | DIN PN40 Flange(RF) |
| | CA4 | ANSI Class 600 Flange(RJ) |
| | CA5 | ANSI Class 900 Flange(RJ) |
| CA6 | ANSI Class1500 Flange(RJ) *16,17 | |
| FD1 | DIN PN10 Flange(R13) | |
| FD2 | DIN PN16 Flange(R13) | |
| FD3 | DIN PN25 Flange(R13) | |
| FD4 | DIN PN40 Flange(R13) | |
| Electrical Connection *9 | -0 | JIS G 1/2 Female |
| | -2 | ANSI 1/2 NPT Female *10 |
| | -4 | ISO M201.5 Female |
| Indicator *11 | D | With Indicator |
| | N | None Indicator, Remote type detector |
| Options | /□ | Read Option Specifications |

Vortex Flowmeter Converter(Remote Type)

| Model | Suffix Codes | Description |
|------------------------------|--------------|---|
| DYA | ..... | Vortex Flowmeter Converter (Remote Type) |
| Output Signal /Communication | -D | 4 to 20 mA DC, Pulse BRAIN Communication |
| | -E | 4 to 20 mA DC, Pulse HART Communication *1 |
| | -J | 4 to 20 mA DC, Pulse HART 5/HART 7 Communication *2 |
| | -F | Digital communication (FOUNDATION Fieldbus protocol) *3 |
| Electrical Connection *9 | 0 | JIS G 1/2 Female |
| | 2 | ANSI 1/2 NPT Female *10 |
| | 4 | ISO M20 ×1.5 Female |
| Indicator | D | With Indicator |
| | N | None Indicator |
| Options | /□ /MV | Read Option Specifications Multi-Variable Type *12 |

Signal Cable

| Model | Suffix Codes | Description |
|------------------|---------------------|------------------------------|
| DYC | ..... | Signal Cable |
| Cable End | -0 | Without End finish *13 |
| | -1 | With End finish |
| Cable Length *14 | -05 | 5 m |
| | -10 | 10 m |
| | -15 | 15 m |
| | -20 | 20 m |
| | -25 | 25 m |
| | -30 | 30 m |
| | -35 | 35 m |
| | -40 | 40 m |
| | -45 | 45 m |
| | -50 | 50 m |
| | -55 | 55 m |
| | -60 | 60 m |
| | -65 | 65 m |
| | -70 | 70 m |
| | -75 | 75 m |
| | -80 | 80 m |
| | -85 | 85 m |
| -90 | 90 m | |
| -95 | 95 m | |
| Options | /C1 | Cable End Finish Parts 1 set |
| | /C2 | 2 set |
| | /C3 | 3 set |
| | /C4 | 4 set |
| | /C5 | 5 set |
| | /C6 | 6 set |
| | /C7 | 7 set |
| | /C8 | 8 set |
| | /C9 | 9 set |
| /MV | Multi-Variable Type | |

*1: Output signal code '-E': HART 5. (Output signal code '-J' is recommended for HART communication.)
 *2: Output signal code '-J': HART 5 or HART 7 selectable. Specify HART 5 or HART 7 when ordering.
 *3: For FOUNDATION Fieldbus protocol, read GS 01F06F01-01EN. For Fieldbus communication type, there are not setting keys on the display board.
 *4: In case of A (SCS14A), the process connection is available for JIS (AJ□, BJ□).
 *5: In case of B (CF8M), the process connection is available for ANSI (AA□, BA□, BS□, CA□) and DIN (AD□, BD□, FD□). In case of process connection code BA6 or CA6, body material is F316.
 *6: Read Table 1.
 *7: Users must consider the characteristics of selected wetted parts material and the influence of process fluids. The use of inappropriate materials can result in the leakage of corrosive process fluids and cause injury to personnel and/or damage to plant facilities. It is also possible that the instrument itself can be damaged and that fragments from the instrument can contaminate the user's process fluids.
 Be very careful with highly corrosive process fluids such as hydrochloric acid, sulfuric acid, hydrogen sulfide, sodium hypochlorite, and high-temperature steam (+150°C [+302°F] or above). Contact Yokogawa for detailed information of the wetted parts material.
 *8: Read Table 2.
 *9: In case of an explosion protect type, it depends for an electrical connection on the kind of an explosion protect type. Read "OPTION SPECIFICATIONS (FOR EXPLOSION PROTECTED TYPE)".
 *10: In case of /FF1 or /CF1, CF11, /KF2, /SF2 the screw length is deeper than ANSI standard for 0.5 to 2 threads.
 *11: Indicator is not available for remote type detector.
 *12: DYA-□□□/□MV and DY□□□-N□□□/□MV should be combined.
 *13: One set of end finish part is attached.
 *14: DYC Signal Cable can be used up to 30m. When you divide the cable below 30m, select the Cable End code [-0].
 *15: In case of the process connection FD□, the Option code /LT is not available.
 *16: In case of BA6 or CA6, combination with the option code/R1 is mandatory(DY025/R1 to DY150/R1), and it is not available to combine with option code /HT, /LT and /MV.
 *17: In case of DY040-□XX□A6-□□/□R1/HY or /NC, maximum working pressure is flange rating times 0.8.

Table 1 Body, Shedder Bar and Gasket Material

Body Material

| Model Code (Note3) | | | Standard (Note1) | Anti-Corrosion Version I (/HX1, /HX2, /HX3) (Note2) | Anti-Corrosion Version II (/HY) (Note2) | High Process Temperature Version (/HT) (Note2) | Cryogenic Version (/LT) (Note2) | NACE Material (/NC) | | | |
|--------------------|----------|----------|--------------------|---|---|--|---------------------------------|---------------------|---|------------------------------------|---|
| | | | | | | | | | | | |
| DY015 | DY025/R1 | DY040/R2 | A SCS14A | X (Note2) CW-12MW | X (Note2) SCS14A CF8M | — | X (Note2) 1.4308 | X CF8M | | | |
| DY025 | DY040/R1 | DY050/R2 | | | | | | | | | |
| DY040 | DY050/R1 | DY080/R2 | | | | | | | | | |
| DY050 | DY080/R1 | DY100/R2 | | | | | | | | | |
| DY080 | DY100/R1 | DY150/R2 | | | | | | | | | |
| DY100 | DY150/R1 | DY200/R2 | | | | | | | | | |
| DY150 | DY200/R1 | — | | | | B CF8M | | | — | X (Note2) SCS14A CF8M | — |
| DY200 | — | — | | | | | | | — | | — |
| DY250 | — | — | | | | | | | — | | — |
| DY300 | — | — | | | | | | | — | | — |
| DY400 | — | — | — | — | | | | | | | |

- (Note1) In case of the suffix code of the body material is [A], the code of the process connection is for one of AJ□,BJ□ or BP□. In case of the code [B], process connection code is for one of AA□,BA□,BS□,CA□,AD□,BD□ or FD□.
- In case of process connection code BA6 or CA6, body material is F316.
- (Note2) In cases of option code /HX1, /HX2, /HX3, /HY, /HT, /LT or /NC, select [X] for both body material code and select shedder bar material code in accordance with the shedder bar material chart.
- (Note3) Reduced bore type is Flange type only.

Shedder Bar Material

| Model Code (Note3) | | | Standard | | Anti-Corrosion Version I (/HX1, /HX2, /HX3) (Note1,2) | Anti-corrosion version II (/HY) (Note1,2) | High Process Temperature Version (/HT) (Note1,2) | Cryogenic Version (/LT) (Note1,2) | NACE Material (/NC) (Note1,2) |
|--------------------|----------|----------|--|--------------------|---|---|---|-----------------------------------|--|
| | | | TIIS Flame proof approval (/JF3) (Note2) | | | | | | |
| DY015 | DY025/R1 | DY040/R2 | L S31803 | E S31803 | X N10276 | X N10276 | — | X N10276 | X N10276 |
| DY025 | DY040/R1 | DY050/R2 | L 1.4517 | E 1.4517 | X (Note2) CW-12MW | X CW-12MW | X CW-12MW | X CW-12MW | X CW-12MW |
| DY040 | DY050/R1 | DY080/R2 | | | | | | | |
| DY050 | DY080/R1 | DY100/R2 | | | | | | | |
| DY080 | DY100/R1 | DY150/R2 | | | | | | | |
| DY100 | DY150/R1 | DY200/R2 | L 1.4517 | E 1.4517 | — | — | X CW-12MW or B CF8M (Note4) (Note6) | — | X CW-12MW or B CF8M (Note4) |
| DY150 | DY200/R1 | — | | | | | | | |
| DY200 | — | — | | | | | | | |
| DY250 | — | — | | | | | | | |
| DY300 | — | — | | | | | | | |
| DY400 | — | — | B CF8M | B CF8M | — | — | B CF8M (Note5) (Note6) | — | — |

- (Note1) Select body code [X] for /HX1, /HX2, /HX3, /HY, /HT, /LT and /NC. Available to combine with TIIS Flame proof type /JF3 or Multi-Variable type /MV.
- (Note2) The shedder bar code [E] is for TIIS Flame proof type /JF3 only. Select shedder bar code [X] for DY015 to DY200 when you combine TIIS Flame proof type /JF3 with /HX1, /HX2, /HX3, /HY, /HT, /LT or /NC.
- (Note3) Wafer type (Process Connection: A**): DY015 to DY100, Flange type (Process Connection: B**): DY015 to DY400. Reduced bore type is Flange type only.
- (Note4) Shedder bar code [X] or [B] is selectable for DY150/HT, DY150/NC, DY200/HT and DY200/NC.
- (Note5) Select shedder bar code only [B] for DY250/HT to DY400/HT.
- (Note6) In case of shedder bar code [B], combination of High Process Temperature Version /HT and TIIS Flame proof type /JF3 is not available.

Gasket Material (assemble to shedder bar)

| Model Code (Note1) | | | Standard | Anti-Corrosion Version I (/HX1, /HX2, /HX3) | Anti-Corrosion Version II (/HY) | High Process Temperature Version (/HT) | Cryogenic Version (/LT) | NACE Material (/NC) | Stainless steel plated with silver gasket (/SPG)(Note 2) |
|--------------------|----------|----------|--|---|--|---|--|--|--|
| DY015 | DY025/R1 | DY040/R2 | SUS316 stainless steel with PTFE coating | N10276 with PTFE coating | SUS316 stainless steel with PTFE coating | — | SUS316 stainless steel with PTFE coating | SUS316 stainless steel with PTFE coating | SUS316 stainless steel plated with silver |
| DY025 | DY040/R1 | DY050/R2 | | | | | | | |
| DY040 | DY050/R1 | DY080/R2 | | | | | | | |
| DY050 | DY080/R1 | DY100/R2 | | | | | | | |
| DY080 | DY100/R1 | DY150/R2 | | | | | | | |
| DY100 | DY150/R1 | DY200/R2 | | | | SUS316 stainless steel plated with silver | | | |
| DY150 | DY200/R1 | — | | | | | | | |
| DY200 | — | — | | | | | | | |
| DY250 | — | — | | | | | | | |
| DY300 | — | — | | | | | | | |
| DY400 | — | — | | | | | | | |

(Note1) Wafer type (Process Connection: A□□): DY015 to DY100, Flange type (Process Connection: B□□): DY015 to DY400
 Reduced bore type is Flange type only.
 (Note2) Option code /SPG is not available for /HT, /LT, /HX1, /HX2, /HX3.

Table 2 Flowmeter Selection Guide

| Process Connection | Wafer | | | Flange (Raised Face) | | | | Flange (Ring Joint) | | | Flange (Raised Face, Smooth Finish) | | | Flange (DIN 2513 Type R13) | | |
|--------------------|-------------|----------------|--------------------------|----------------------|----------------|----------------------|--------------------------|------------------------|---------------|-------------------|-------------------------------------|---------------|-------------------|----------------------------|----------------------|----------------|
| | Suffix Code | Model Code | | Suffix Code | Model Code | | | Suffix Code | Model Code | | Suffix Code | Model Code | | Suffix Code | Model Code | |
| | | Standard Type | Anti-Corrosion Version I | | Standard Type | Reduced Bore Type | Anti-Corrosion Version I | | Standard Type | Reduced Bore Type | | Standard Type | Reduced Bore Type | | Standard Type | |
| JIS 10K | AJ1 | DY015 to DY100 | DY015/HX1 to DY100/HX1 | BJ1 | DY015 to DY400 | DY025/R1 to DY200/R1 | DY040/R2 to DY200/R2 | DY015/HX2 to DY100/HX2 | — | — | — | — | — | — | — | |
| JIS 20K | AJ2 | DY015 to DY100 | DY015/HX1 to DY100/HX1 | BJ2 | DY015 to DY400 | DY025/R1 to DY200/R1 | DY040/R2 to DY200/R2 | DY015/HX3 to DY100/HX3 | — | — | — | — | — | — | — | |
| JIS 40K | AJ4 | DY015 to DY100 | DY015/HX1 to DY100/HX1 | BJ4 | DY015 to DY150 | — | — | — | — | — | — | — | — | — | — | |
| JPI Class 150 | AP1 | DY015 to DY100 | — | BP1 | DY015 to DY400 | DY025/R1 to DY200/R1 | DY040/R2 to DY200/R2 | — | — | — | — | — | — | — | — | |
| JPI Class 300 | AP2 | DY015 to DY100 | — | BP2 | DY015 to DY400 | DY025/R1 to DY200/R1 | DY040/R2 to DY200/R2 | — | — | — | — | — | — | — | — | |
| JPI Class 600 | AP4 | DY015 to DY100 | — | BP4 | DY015 to DY150 | — | — | — | — | — | — | — | — | — | — | |
| ANSI Class 150 | AA1 | DY015 to DY100 | DY015/HX1 to DY100/HX1 | BA1 | DY015 to DY400 | DY025/R1 to DY200/R1 | DY040/R2 to DY200/R2 | DY015/HX2 to DY150/HX2 | — | — | — | BS1 | DY015 to DY400 | DY025/R1 to DY200/R1 | DY040/R2 to DY200/R2 | — |
| ANSI Class 300 | AA2 | DY015 to DY100 | DY015/HX1 to DY100/HX1 | BA2 | DY015 to DY400 | DY025/R1 to DY200/R1 | DY040/R2 to DY200/R2 | DY015/HX3 to DY100/HX3 | — | — | — | BS2 | DY015 to DY400 | DY025/R1 to DY200/R1 | DY040/R2 to DY200/R2 | — |
| ANSI Class 600 | AA4 | DY015 to DY100 | DY015/HX1 to DY100/HX1 | BA4 | DY015 to DY200 | — | — | — | CA4 | DY015 to DY200 | — | BS4 | DY015 to DY200 | — | — | |
| ANSI Class 900 | — | — | — | BA5 | DY015 to DY200 | — | — | — | CA5 | DY015 to DY200 | — | BS5 | DY015 to DY200 | — | — | |
| ANSI Class 1500 | — | — | — | BA6 | — | DY025/R1 to DY150/R1 | — | — | CA6 | — | DY025/R1 to DY150/R1 | — | — | — | — | |
| DIN PN10 | AD1 | DY015 to DY100 | DY015/HX1 to DY100/HX1 | BD1 | DY015 to DY200 | — | — | — | — | — | — | — | — | — | FD1 | DY015 to DY200 |
| DIN PN16 | AD2 | DY015 to DY100 | DY015/HX1 to DY100/HX1 | BD2 | DY015 to DY200 | — | — | — | — | — | — | — | — | — | FD2 | DY015 to DY200 |
| DIN PN25 | AD3 | DY015 to DY100 | DY015/HX1 to DY100/HX1 | BD3 | DY015 to DY200 | — | — | — | — | — | — | — | — | — | FD3 | DY015 to DY200 |
| DIN PN40 | AD4 | DY015 to DY100 | DY015/HX1 to DY100/HX1 | BD4 | DY015 to DY200 | — | — | — | — | — | — | — | — | — | FD4 | DY015 to DY200 |

(Note) • ANSI standardized types are worked by serration finishing except the Smooth Finish type.
 • The Smooth Finish type is shipped without serration finishing.
 • Read "■ OPTION REDUCED BORE TYPE (/R1, /R2)" (read P.11), when you select reduced bore type /R1, /R2.

OPTION SPECIFICATIONS

| Item | Specification | Applicable Model | Code |
|---|--|---------------------------------|--|
| Multi-Variable Type (Note 5) | Build in temperature sensor (Pt 1000) in vortex shedder bar. | DY / DYA | MV |
| Reduced bore type (Note 8) (Note 12) | Integrated and welded construction with concentric reduced bore piping. R1: Detector size (B) is one meter body size down of digitalYEWFLO to flange pipe size (A). | DY | R1 |
| | R2: Detector size (B) is two meter body size down of digitalYEWFLO to flange pipe size (A). | | R2 |
| Stainless Steel Tag Plate (Note 1) | SUS304 tag plate, hung on the case. | DY / DYA | SCT |
| Stainless Steel Bolt & Nut Assembly | SUS304 bolt/nut assembly. Used when a wafer type is installed. | DY Wafer Type | BL |
| Paint Color Change | Only for the covers: Read Table 3 | DY / DYA | Read Table3 |
| Hydrostatic / Pneumatic Test Certificate | Test pressure value is in accordance with Table 4. Test time: 10 minutes. Available for the Standard type. Test medium: Air, Nitrogen or Water. | DY | T01 (Note 11) |
| Hydrostatic Test Certificate | Test pressure value is in accordance with Table 4. Test time: 10 minutes. Available for the Standard type. Test medium: Water. | DY | T02 (Note 11) |
| Degrease Treatment (Note 2) | Degrease cleansing treatment. | DY | K1 |
| Epoxy Coating | Epoxy coating for case and cover. | DY / DYA | X1 |
| Piling up coating of epoxy and polyurethane | Epoxy and Polyurethane coating for the purpose of corrosion - proof improvement; salt damage, alkali, climate and acidity | DY / DYA | X2 |
| High Process Temperature Version | This specification temperature is from -29 to +450 °C Read Table 1, Figure 4. Read Table 5 for minimum velocity. Read Note 5 for the combination of High process temperature version (/HT) and Multi-variable type (/MV). Combination with Anti-corrosion version I (/HX1, /HX2, /HX3) is not available. | DY***-N | HT |
| Cryogenic Version (Note 7) | This specification temperature is from -196 to +100 °C Read Table 1, Figure 5. Combination with Reduced bore type(/R1,/R2), Anti-corrosion version I (/HX1, /HX2, /HX3) is not available. | DY***-N | LT |
| Stainless Steel Bracket for Remote Converter (DYA) | The bracket material for remote converter type (DYA) is SUS304. | DYA | SB |
| Stainless steel plated with silver gasket | Gasket material assembling to the shedder bar: SUS316 stainless steel plated with silver | DY | SPG |
| Lightning Protector | There is an arrester inside converter for power supply line. Maximum power supply voltage: 30VDC | DY Integral Type / DYA | A |
| NACE Material (Note 10) | Read Table 1. | DY | NC |
| Compliance with NAMUR (Note 6) | Compliance with NAMUR43. Current signal for measurement is 4mA up to 20.5mA. Set output 3.6mA or less when burn-out occurred. | DY / DYA | NM |
| Anti-corrosion Version I (Note13) | Read Table 1 for wetted parts material. Process pressure limit : -0.1MPa to flange rating * *: Flange rating is in according with standard material (SCS14A, CF8M) Combination with High process temperature version(/HT), Cryogenic version(/LT), Reduced bore type(/R1,/R2) is not available. DY150 is not PED compliant. Materials of construction meet NACE material recommendations per MR0175 without /NC. | DY | HX1 HX2 HX3 (Read Table2) |
| Anti-corrosion Version II | Read Table 1 for wetted parts material. DY150/R1, DY150/R2, and DY200/R2 are not available. | DY | HY |
| Converter Installing Direction 180° Change (Note4) | Converter installing direction 180° change inversely when shipped. | DY | CRC |
| Down-scale burn-out in CPU or EEPROM failure (Note 3) | Set output 3.6mA or less when burn-out occurred. | DY Integral Type / DYA | C1 |
| Stainless steel housing (Note 9) | Converter housing, case and cover material: SCS14A or CF8M stainless steel castings. | DY***-N / DYA | E1 |
| Flameproof Packing Adapter | Power source connection port and signal cable (remote type) connection port. JIS G1/2 female thread. Other cable shape: ø 8 to ø 12. /G11: One piece, /G12: Two pieces. | DY / JF3 | G11 |
| | | DYA / JF3 | G12 |
| Calibration Certificate (Note 14) | Level 2 Declaration and Calibration Equipment List | DY-D,-E,-J,-N DYA-D,-E,-J | L2 |
| | Level 3 Declaration and Primary Standard List | | L3 |
| | Level 4 Declaration and YOKOGAWA Measuring | | L4 |
| Material certificates: Mill sheets | Item to be specified | DY | 1. Meterbody |
| | | | 1. Meterbody, 2. Shedder bar |
| | | | 1. Meterbody, 2. Shedder bar, 3. Bottom plug |
| | | | 1. Meterbody, 2. Shedder bar, 3. Bottom plug, 4. Welding rod |
| Material certificates: 3.1 | Item to be specified | DY | 3.1 certificate to be attached according to EN10204. |
| | | | 1. Meterbody |
| | | | 1. Meterbody, 2. Shedder bar |
| | | | 1. Meterbody, 2. Shedder bar, 3. Bottom plug |
| Material certificates: 3.1 | Item to be specified | DY | 1. Meterbody, 2. Shedder bar, 3. Bottom plug |
| | | | 1. Meterbody, 2. Shedder bar, 3. Bottom plug, 4. Welding rod |
| | | | 1. Meterbody, 2. Shedder bar, 3. Bottom plug, 4. Welding rod |
| | | | 1. Meterbody, 2. Shedder bar, 3. Bottom plug, 4. Welding rod |
| PMI test certificate | Positive Material Identification certificate to be attached for the main 3 chemical components of specified materials. Each certificate to be attached. | DY | 1. Meterbody |
| | | | 1. Meterbody, 2. Shedder bar |
| | | | 1. Meterbody, 2. Shedder bar |
| ASME welding documents submission (Note 10) | <ul style="list-style-type: none"> Welder/Welding Operator Performance Qualification (or Welder Qualification Record) Welding Procedure Specification (WPS) Procedure Qualification Record (PQR) | DY | WP |
| | | | |
| Dye Penetrant test certificate | Dye Penetrant test certificate for the welded portion to be attached. Each certificate to be attached. | DY 2. is for DY250 to DY400. | PT |
| | | | |

(Note 1) Up to 30 alphanumeric characters can be engraved on the stainless tag plate. Capital/small letters are available for BRAIN communication “-D” and FOUNDATION Fieldbus “-F”. Only capital letters are available for HART communication “-E” or “-J”.

- (Note 2) There is a case that calibration water should stay in the meter tube. So this is not degrease treatment in the strict sense.
- (Note 3) The output is set 3.6mA or less (Standard type is set 21.6mA or more at shipping).
- (Note 4) The electrical connection turn to a downstream side.
- (Note 5) Read "■ OPTION MULTI-VARIABLE (BUILD-IN TEMPERATURE SENSOR) TYPE (/MV)" (read P.10)
In case of Remote type detector (DY***-N), select "/MV" both DY and DYA.
- (Note 6) /NM can not combine with Remote type (DY***-N).
- (Note 7) ATEX Flameproof Approval /KF2 and IECEx Flameproof Approval /SF2 are not Available.
- (Note 8) • Combination with Cryogenic version /LT, Anti-Corrosion version I /HX1, /HX2, /HX3 is not available.
• High process temperature version /HT and Multi-variable type /MV for DY025/R1 and DY040/R2 is not available.
• Flange type only and available process connections are JIS10k, 20k (BJ1, BJ2) and ANSI class 150, 300 (BA1,BA2,BS1,BS2).
• Model Code (A) means "DY***-" nominal size.
- (Note 9) • Applicable for Option code /FF1, /KF2, /SF2.
• Not applicable for Option code /P1, /P2, /P7, /X1, /X2, /HT, /LT, /SB /JF3, /CF1, /CF11.
• The materials of exterior parts, name plate, screw, bolts on the stainless steel housing and bracket, u-bolt, nuts for DYA/E1 and tag plate for /E1/SCT are SUS316, SUS316L or ASTM 316L.
- (Note 10) The wetted parts materials conform to NACE material recommendations per MR0175. Please refer to the standards for details.
Materials of construction of /HX1, /HX2, /HX3 also meet NACE material recommendations per MR0175 without /NC.
NACE Material /NC can not combine with ASME welding documents submission /WP.
- (Note 11) /T01 and /T02 can be selected only one code either.
- (Note 12) Read "■ OPTION REDUCED BORE TYPE (/R1, /R2)" (read P.11)
- (Note 13) • Flange type of DY015 to DY100; Applicable for process connections BJ1(JIS 10K), BJ2(JIS 20K), BA1(ANSI Class 150), BA2 (ANSI Class 300).
• Flange type of DY150: Applicable for process connection BA1 (ANSI Class 150).
• Wafer type: Applicable for process connections AJ1(JIS 10K), AJ2(JIS 20K), AJ4(JIS 40K), AA1(ANSI Class 150), AA2(ANSI Class 300), AA4(ANSI Class 600), AD1(DIN PN10), AD2(DIN PN16), AD3(DIN PN25), AD4(DIN PN40).
- (Note 14) • Single calibration of converter for FOUNDATION Fieldbus communication type (DYA-F) does not publish the calibration certificate because it is the digital communication.

Table 3 Paint Color and Codes

| Codes | Munsell Renotation Codes | Color |
|-------|--------------------------|-----------------|
| P1 | N1.5 equivalent | Black |
| P2 | 7.5BG4/1.5 equivalent | Shade green |
| P7 | — | Metallic silver |

Table 4 Test Pressure Value

| Flange Rating | Pressure |
|-------------------------|----------|
| JIS 10 K | 2.1 MPa |
| JIS 20 K | 5.0 MPa |
| JIS 40 K | 10.0 MPa |
| ANSI Class 150 | 2.9 MPa |
| ANSI Class 300 | 7.5 MPa |
| ANSI Class 600 | 14.9 MPa |
| ANSI Class 900 | 22.4 MPa |
| ANSI Class 1500 (Note1) | 37.3 MPa |
| DIN PN 10 | 1.5 MPa |
| DIN PN 16 | 2.4 MPa |
| DIN PN 25 | 3.8 MPa |
| DIN PN 40 | 5.9 MPa |

(Note 1) In case of DY040-□XX□A6-□□/HY or /NC, test pressure value is 29.8MPa.

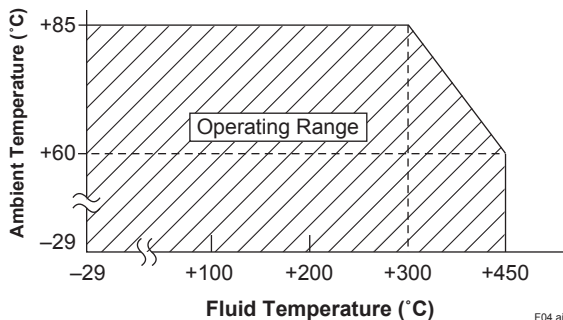


Figure 4 Fluid Temperature Range of High Process Temperature Version

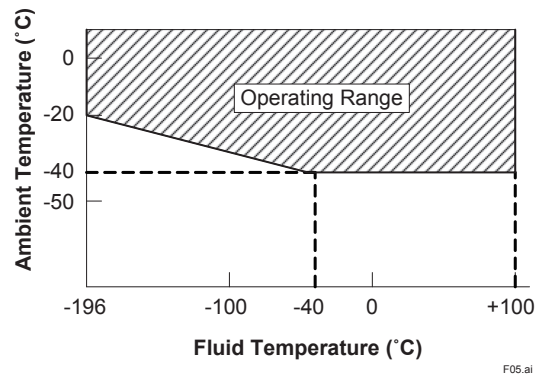


Figure 5 Fluid Temperature Range of Cryogenic Version

■ OPTION MULTI-VARIABLE (BUILT-IN TEMPERATURE SENSOR) TYPE (/MV)

This options is the same as standard specification except the following items.

| | | | | |
|-------------------------------------|--|---|--|--|
| Model Code | | | DY025 to DY100 : Wafer type DY025 to DY200 : Flange type | |
| Option Code (Note1) | | | Multi-Variable (Built-in temperature sensor) Type (Option Code: /MV) | High Process Temperature Version Multi-Variable Type (Option Code: /HT/MV) |
| Function (Note2) | Temperature indication / output | Temperature Range | -29 to +250°C | -29 to +400°C |
| | Saturated Steam mass flowrate (Note3) | Calculation Temperature Range | +100 to +250°C | +100 to +330°C |
| | Superheated Steam mass flowrate (Note4) | | +100 to +250°C | +100 to +400°C |
| | Gas Volume flowrate (Note5) | | -29 to +250°C | -29 to +400°C |
| | Liquid Mass flowrate (Note6) | | -29 to +250°C | -29 to +400°C |
| Temperature Response (50% Response) | | | 60 sec (Churning Underwater) | |
| Output | Analog Output | Select from flow rate or temperature (Note7) | | |
| | Pulse Output | Flow rate: same as standard type | | |
| | Alarm Output | Alarm Output same as standard type and Temperature Sensor Error, etc. | | |
| | Status Output | Flow Switch (Flow Rate): same as standard type | | |
| Display | Upper | Select from Flow Rate (% , Engineering Unit) or Temperature (%) (Note8) | | |
| | Lower | Select from Total Rate or Temperature (°C, °F) (Note9) | | |
| Remote Type | | | Select Vortex Flow Converter DYA-***/MV and Signal Cable DYC-***/MV (Note10) | |

(Note1) Multi-Variable Type (/MV) can not be combined with Cryogenic Version (/LT). Read the "■ DETAILED ACCURACY" for accuracy.

(Note2) Temperature measurement may be affected by installation conditions, such as thermal insulation of piping or the temperature distribution of the fluid. Read "■ REMARKS ON INSTALLATION" for thermal insulation of piping. When measuring mass flow of saturated steam, superheated steam thermal insulation of piping may be required.

(Note3) Mass flow rate is calculated from density calculated with density at the measured temperature derived by the built-in saturated steam table.

(Note4) Mass flow rate is calculated with the density at the measured temperature derived by the built-in steam table. For mass flow calculation of superheated steam, operating pressure is used as constant value.

(Note5) Volumetric flow rate is calculated by temperature/pressure compensation. For volumetric flow calculation of gas, operating pressure and pressure at standard/normal condition are used.

(Note6) Mass flow rate is calculated with density compensated by the secondary formula of measured temperature. Operating density is used as a base density and the 1st and 2nd coefficients have to be set.

(Note7) The factory setting is the flow rate output. When the temperature output is required, it is necessary to change the parameter.

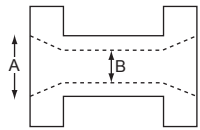
(Note8) In case of indicating the temperature %, the display indicate not only "%" but also "t". ("t" means temperature).

(Note9) "Total" is set for shipping when the total rate is specified in sizing data.

(Note10) In case of remote type, option code (/MV) is necessary for both Vortex Flow Converter (DYA) and Signal Cable (DYC). To correct the temperature error due to signal cable length, parameter setting of the signal cable length to Vortex Flow Converter (DYA) is required.

■ OPTION REDUCED BORE TYPE (/R1, /R2)

This option is the same as standard specification except the following items.

| | | Reduced Bore Type (Option: /R1, /R2) (Note1) | | | |
|---|-------|--|-------------------------|-----------------------------------|-----------------------------------|
| | | Model Code | Flange piping size (A) | R1 Detector size (inner dia.) (B) | R2 Detector size (inner dia.) (B) |
| (Note 2, Note 4)  | DY025 | 25mm | 15 (14.6) (mm) (Note 3) | 15 (14.6) (mm) (Note 3) | |
| | DY040 | 40mm | 25 (25.7) (mm) | 25 (25.7) (mm) | |
| | DY050 | 50mm | 40 (39.7) (mm) | 25 (25.7) (mm) | |
| | DY080 | 80mm | 50 (51.1) (mm) | 40 (39.7) (mm) | |
| | DY100 | 100mm | 80 (71) (mm) | 50 (51.1) (mm) | |
| | DY150 | 150mm | 100 (93.8) (mm) | 80 (71) (mm) | |
| | DY200 | 200mm | 150 (138.8) (mm) | 100 (93.8) (mm) | |
| Measurable minimum flow velocity | | Liquid, Gas, Steam | | Read Table 5. | |
| Range of measurable flow velocity | | Liquid, Gas, Steam | | Read Table 6. | |

[Pressure Loss]
 R1: about 15% increases to standard type.
 R2: about 28% increases to standard type.
 Read P.18

(Note 1) For accuracy, read “■ Detailed Accuracy”(P.13, P.14). Combination with Cryogenic version /LT, Anti-corrosion version I /HX1, /HX2, /HX3 is not available.

(Note 2) Flange type only: JIS10K, 20K (BJ1, BJ2) and ANSI150, 300 (BA1, BA2, BS1, BS2)

(Note 3) High process temperature version /HT and Multi-variable type /MV for DY025/R1 and DY040/R2 are not available.

(Note 4) Process connection code BA6 and CA6 are available for DY025/R1 to DY150/R1.

■ SIZING

The following items are the basic specifications.

In case of the definite sizing, it is necessary to check by the sizing software.

■ Measurable minimum flow velocity

Table 5 Relationship between Minimum Velocity and Density

| Model Code | | | Liquid | | Gas, Steam (Note1) | |
|---|---------------------------------|---------------------------------|--|--|--|--|
| Standard Type, Multi-Variable Type(/MV) | Reduced Bore Type (/R1) (Note2) | Reduced Bore Type (/R2) (Note2) | Standard Type, Cryogenic Version (/LT)(Note2), Multi-Variable Type (/MV) Unit: m/s | High Process Temperature Version(/HT), High Process Temperature Version Multi-Variable Type (/HT/MV) Unit: m/s | Standard Type, Cryogenic Version (/LT)(Note2), Multi-Variable Type (/MV) Unit: m/s | High Process Temperature Version(/HT), High Process Temperature Version Multi-Variable Type (/HT/MV) Unit: m/s |
| DY015 | DY025/R1 | DY040/R2 | $\sqrt{250/\rho}$ | — | $\sqrt{80/\rho}$ or 3 | — |
| DY025 | DY040/R1 | DY050/R2 | $\sqrt{122.5/\rho}$ | $\sqrt{490/\rho}$ | $\sqrt{45/\rho}$ or 2 | $\sqrt{125/\rho}$ or 2 |
| DY040 | DY050/R1 | DY080/R2 | $\sqrt{90/\rho}$ | $\sqrt{302.5/\rho}$ | $\sqrt{31.3/\rho}$ or 2 | $\sqrt{90.3/\rho}$ or 2 |
| DY050 | DY080/R1 | DY100/R2 | $\sqrt{90/\rho}$ | $\sqrt{160/\rho}$ | $\sqrt{31.3/\rho}$ or 2 | $\sqrt{61.3/\rho}$ or 2 |
| DY080 | DY100/R1 | DY150/R2 | $\sqrt{90/\rho}$ | $\sqrt{160/\rho}$ | $\sqrt{31.3/\rho}$ or 2 | $\sqrt{61.3/\rho}$ or 2 |
| DY100 | DY150/R1 | DY200/R2 | $\sqrt{90/\rho}$ | $\sqrt{160/\rho}$ | $\sqrt{31.3/\rho}$ or 2 | $\sqrt{61.3/\rho}$ or 2 |
| DY150 | DY200/R1 | — | $\sqrt{90/\rho}$ | $\sqrt{160/\rho}$ | $\sqrt{31.3/\rho}$ or 3 | $\sqrt{61.3/\rho}$ or 3 |
| DY200 | — | — | $\sqrt{122.5/\rho}$ | $\sqrt{202.5/\rho}$ | $\sqrt{45/\rho}$ or 3 | $\sqrt{80/\rho}$ or 3 |
| DY250 | — | — | $\sqrt{160/\rho}$ | $\sqrt{360/\rho}$ | $\sqrt{61.3/\rho}$ or 3 | $\sqrt{125/\rho}$ or 3 |
| DY300 | — | — | $\sqrt{160/\rho}$ | $\sqrt{360/\rho}$ | $\sqrt{61.3/\rho}$ or 3 | $\sqrt{125/\rho}$ or 3 |
| DY400 | — | — | $\sqrt{250/\rho}$ | $\sqrt{490/\rho}$ | $\sqrt{80/\rho}$ or 4 | $\sqrt{125/\rho}$ or 4 |

ρ : Density at operating conditions (kg/m³), Liquid density range is 400 to 2000 kg/cm³

(Note1) The case of gas, it is whichever is greater than a fixed value of each model and calculated from density.

(Note2) Reduced bore type /R1 or /R2 are not available to combine for Cryogenic version /LT.

■ Range of measurable flow velocity

Table 6 Range of measurable flow velocity

| Fluid | Model Code | | | Minimum flow velocity | Maximum flow velocity |
|------------|----------------|------------------------|------------------------|--|-----------------------|
| Liquid | DY015 to DY400 | DY025 /R1 to DY200 /R1 | DY040 /R2 to DY200 /R2 | “flow velocity obtained from Table 5” or “flow velocity at Reynolds number of 5000”, whichever is greater. For liquid Reynolds number of 5000: Read P.15 “Calculation formula”. | 10m/s |
| Gas, Steam | DY015 to DY400 | DY025 /R1 to DY200 /R1 | DY040 /R2 to DY200 /R2 | “flow velocity obtained from Table 5” or “flow velocity at Reynolds number of 5000”, whichever is greater. For Gas and steam Reynolds number of 5000: Read P.15 “Calculation formula”. | 80m/s |

When the flow velocity is lower than minimum, both the analog output and the pulse output is displayed as “0”.

■ Range of fixed accuracy flow velocity

Table 7 Range of fixed accuracy flow velocity

| Fluid | Model Code | | | Minimum flow velocity | Maximum flow velocity |
|------------|----------------|------------------------|------------------------|---|-----------------------|
| Liquid | DY015 to DY100 | DY025 /R1 to DY150 /R1 | DY040 /R2 to DY200 /R2 | “flow velocity obtained from Table 5” or “flow velocity at Reynolds number of 20000”, whichever is greater. For liquid Reynolds number of 20000: The value is four times velocity value in P.15 “Calculation formula”. | 10m/s |
| | DY150 to DY400 | DY200 /R1 | — | “flow velocity obtained from Table 5” or “flow velocity at Reynolds number of 40000”, whichever is greater. For liquid Reynolds number of 40000: The value is eight times velocity value in P.15 “Calculation formula”. | |
| Gas, Steam | DY015 to DY100 | DY025 /R1 to DY150 /R1 | DY040 /R2 to DY200 /R2 | “flow velocity obtained from Table 5” or “flow velocity at Reynolds number of 20000”, whichever is greater. For gas and steam Reynolds number of 20000: Read P.15 “Calculation formula”. | 80m/s |
| | DY150 to DY400 | DY200 /R1 | — | “flow velocity obtained from Table 5” or “flow velocity at Reynolds number of 40000”, whichever is greater. For gas and steam Reynolds number of 40000: Read P.15 “Calculation formula”. | |

■ DETAILED ACCURACY

Accuracy is the value in range of fixed accuracy flow velocity. Read Table 7.

Volumetric flow rate at operation condition

| | Model Code | Standard Type | Multi-Variable Type (/MV) | Reduced Bore Type (/R1) | Reduced Bore Type (/R2) |
|---------------|------------|---|---|---|---|
| Liquid | DY015 | ±1.0% (20000≤Re<2000*D) ±0.75% (2000*D≤Re) | | | |
| | DY025 | ±1.0% (20000≤Re<1500*D) ±0.75% (1500*D≤Re) | ±1.0% (20000≤Re<1500*D) ±0.75% (1500*D≤Re) | ±1.0% | ±1.0% |
| | DY040 | ±1.0% (20000≤Re<1000*D) ±0.75% (1000*D≤Re) | ±1.0% (20000≤Re<1000*D) ±0.75% (1000*D≤Re) | | |
| | DY050 | | | | |
| | DY080 | | | | |
| | DY100 | ±1.0% (40000≤Re<1000*D) ±0.75% (1000*D≤Re) | ±1.0% (40000≤Re<1000*D) ±0.75% (1000*D≤Re) | ±1.0% (40000≤Re) | |
| | DY150 | | | | |
| | DY200 | | | | |
| | DY250 | | | | |
| | DY300 | | | | |
| DY400 | | | | | |
| Gas, Steam | DY015 | ±1.0% (Velocity 35m/s or less) ±1.5% (Velocity 35m/s to 80m/s) | | | |
| | DY025 | | ±1.0% (Velocity 35m/s or less) ±1.5% (Velocity 35m/s to 80m/s) | ±1.0% (Velocity 35m/s or less) ±1.5% (Velocity 35m/s to 80m/s) | ±1.0% (Velocity 35m/s or less) ±1.5% (Velocity 35m/s to 80m/s) |
| | DY040 | | | | |
| | DY050 | | | | |
| | DY080 | | | | |
| | DY100 | | ±1.0% (Velocity 35m/s or less) ±1.5% (Velocity 35m/s to 80m/s) | ±1.0% (Velocity 35m/s or less) ±1.5% (Velocity 35m/s to 80m/s) | ±1.0% (Velocity 35m/s or less) ±1.5% (Velocity 35m/s to 80m/s) |
| | DY150 | | | | |
| | DY200 | | | | |
| | DY250 | | | | |
| | DY300 | | | | |
| DY400 | | | | | |

D: Inner diameter of digitalYEWFL0 (mm)

Re: Reynolds number (non unit)

Note: This table shows the accuracy of pulse output. In case of analog output, add up ± 0.1% of full scale to the values mentioned above.

Guarantee conditions of liquid volumetric flow rate: the accuracy of a product before shipment in our water actual test facility.

Totalized value of 2000 pulse or greater, straight pipe length: upper 10D or greater, lower 5D or greater, Fluid temp. 20 ± 10°C

Gas, Steam: The accuracy which is add up from liquid measurement accuracy.

The accuracy is confirmed by actual measured value of typical nominal size.

**Mass flow or Volumetric flow rate at Normal/Standard condition:
for Multi-Variable Type and combination of Multi-Variable Type and Reduced Bore Type**

| | Model Code | /MV | /MV/R1 | /MV/R2 |
|------------|------------|---|---|---|
| Liquid | DY025 | ±2.0% (20000≤Re<1500*D) ±1.5% (1500*D≤Re) | | |
| | DY040 | ±2.0%(20000≤Re<1000*D) ±1.5% (1000*D≤Re) | ±2.0% (20000≤Re) | ±2.0% (20000≤Re) |
| | DY050 | | | |
| | DY080 | | | |
| | DY100 | | | |
| | DY150 | ±2.0% (40000≤Re<1000*D) ±1.5% (1000*D≤Re) | ±2.0% (40000≤Re) | |
| DY200 | | | | |
| Gas, Steam | DY025 | ±2.0% (Velocity 35m/s or less) ±2.5% (Velocity 35m/s to 80m/s) | ±2.0% (Velocity 35m/s or less) ±2.5% (Velocity 35m/s to 80m/s) | ±2.0% (Velocity 35m/s or less) ±2.5% (Velocity 35m/s to 80m/s) |
| | DY040 | | | |
| | DY050 | | | |
| | DY080 | | | |
| | DY100 | | | |
| | DY150 | | | |
| | DY200 | | | |

- D: Inner diameter of digitalYEWFL0 (mm) Re: Reynolds number (non unit)
 (Note 1) This table shows the accuracy of pulse output. In case of analog output, add up ± 0.1% of full scale to the value mentioned above.
 (Note 2) Mass flow accuracy is a calculated value obtained by adding density calculation accuracy based on volumetric flow rate accuracy.
 (Note 3) For details on density calculation, read "OPTION MULTI-VARIABLE (BUILT-IN TEMPERATURE SENSOR) TYPE (/MV)".
 (Note 4) Mass flow rate of superheated steam and volumetric flow rate of gas are calculated by constant pressure.
 (Note 5) For the pressure, use the normal pressure value specified by sizing data.
 (Note 6) The accuracy of saturated steam mass flow rate is on the condition of 100% dryness.

for High Temperature Version Multi-Variable Type and combination of High Temperature Multi-Variable Type and Reduced Bore Type

| | Model Code | /HT/MV | /HT/MV/R1 | /HT/MV/R2 |
|------------------------|------------|---|---|---|
| Liquid | DY025 | ±2.0% (20000≤Re<1500*D) ±1.5% (1500*D≤Re) | | |
| | DY040 | ±2.0%(20000≤Re<1000*D) ±1.5% (1000*D≤Re) | ±2.0% (20000≤Re) | ±2.0% (20000≤Re) |
| | DY050 | | | |
| | DY080 | | | |
| | DY100 | | | |
| | DY150 | ±2.0% (40000≤Re<1000*D) ±1.5% (1000*D≤Re) | ±2.0% (40000≤Re) | |
| DY200 | | | | |
| Gas, Superheated Steam | DY025 | ±2.0% (Velocity 35m/s or less) ±2.5% (Velocity 35m/s to 80m/s) | ±2.0% (Velocity 35m/s or less) ±2.5% (Velocity 35m/s to 80m/s) | ±2.0% (Velocity 35m/s or less) ±2.5% (Velocity 35m/s to 80m/s) |
| | DY040 | | | |
| | DY050 | | | |
| | DY080 | | | |
| | DY100 | | | |
| | DY150 | | | |
| | DY200 | | | |
| Saturated Steam | DY025 | ±3.0% (Velocity 35m/s or less) ±3.5% (Velocity 35m/s to 80m/s) | ±3.0% (Velocity 35m/s or less) ±3.5% (Velocity 35m/s to 80m/s) | ±3.0% (Velocity 35m/s or less) ±3.5% (Velocity 35m/s to 80m/s) |
| | DY040 | | | |
| | DY050 | | | |
| | DY080 | | | |
| | DY100 | | | |
| | DY150 | | | |
| | DY200 | | | |

- D: Inner diameter of digitalYEWFL0 (mm) Re: Reynolds number (non unit)
 (Note 1) This table shows the accuracy of pulse output. In case of analog output, add up ± 0.1% of full scale to the value mentioned above.
 (Note 2) Mass flow accuracy is a calculated value obtained by adding density calculation accuracy based on volumetric flow rate accuracy.
 (Note 3) For details on density calculation, read "OPTION MULTI-VARIABLE (BUILT-IN TEMPERATURE SENSOR) TYPE (/MV)".
 (Note 4) Mass flow rate of superheated steam and volumetric flow rate of gas are calculated by constant pressure.
 (Note 5) For the pressure, use the normal pressure value specified by sizing data.
 (Note 6) The accuracy of saturated steam mass flow rate is on the condition of 100% dryness.

for Multi-Variable Type Temperature Accuracy

| | Model Code | Fluid Temperature | Accuracy | |
|---------------------------|----------------|-------------------|-------------------|-------------------|
| | | | /MV | /HT/MV |
| Saturated Steam Liquid | DY025 to DY200 | < 100°C | ±0.5 °C | ±1.0 °C |
| | | ≥100°C | ±0.5 % of Reading | ±1.0 % of Reading |
| Superheated Steam Gas | DY025 to DY200 | < 100°C | ±1.0 °C | ±1.0 °C |
| | | ≥ 100°C | ±1.0 % of Reading | ±1.0 % of Reading |

Note1: In case of analog output, add up ±0.1% of full scale to the value mentioned above.
 Note2: Measured temperature is not used for flowrate measurement.

■ **Calculation formula**

- How to calculate volume flow rate at operating conditions.

$$Q_f = 3600 \times v \times S \text{ or } Q_f = \frac{v \times D^2}{354}$$

- How to calculate the velocity of a Reynolds number.

- $v = 5 \times v / D$ (Reynolds number of 5000)
- $v = 20 \times v / D$ (Reynolds number of 20000)
- $v = 40 \times v / D$ (Reynolds number of 40000)

where

$$Re = \frac{354 \times 10^3 \times Q_f}{v \times D} \dots\dots\dots (1)$$

$$v = \frac{\mu}{\rho_f} \times 10^3 \dots\dots\dots (2)$$

- Q_f: Volume flow rate at operating conditions (m³/h)
- D: Inner diameter of digitalYEWFLO (mm)
- S: Sectional area of digitalYEWFLO (m²)
- v: Flow velocity (m/s)
- Re: Reynolds number (non unit)
- ρ_f: Density at operating conditions (kg/m³)
- μ: Viscosity at operating conditions (mPa·s (cP))
- v: Kinematic viscosity at operating conditions (10⁻⁶m²/s (cSt))

■ **Typical fluid example**

Table 8 Range of Measurable Water Flow Rate
 (At standard condition of 15°C, ρ = 1000 kg/m³)

| Model Code | | | Measurable Flow Rate in m ³ /h | Range of Fixed Accuracy Flow Rate in m ³ /h |
|------------|----------|----------|---|--|
| DY015 | DY025/R1 | DY040/R2 | 0.30 to 6 | 0.94 to 6 |
| DY025 | DY040/R1 | DY050/R2 | 0.65 to 18 | 1.7 to 18 |
| DY040 | DY050/R1 | DY080/R2 | 1.3 to 44 | 2.6 to 44 |
| DY050 | DY080/R1 | DY100/R2 | 2.2 to 73 | 3.3 to 73 |
| DY080 | DY100/R1 | DY150/R2 | 4.3 to 142 | 4.6 to 142 |
| DY100 | DY150/R1 | DY200/R2 | 7.5 to 248 | 7.5 to 248 |
| DY150 | DY200/R1 | — | 17 to 544 | 18 to 544 |
| DY200 | — | — | 34 to 973 | 34 to 973 |
| DY250 | — | — | 60 to 1506 | 60 to 1506 |
| DY300 | — | — | 86 to 2156 | 86 to 2156 |
| DY400 | — | — | 177 to 3547 | 177 to 3547 |

Table 9 Range of Measurable Air Flow Rate at Selected Process Pressures

| Model Code | | | Flow Rate Limits | Minimum and Maximum Measurable Flow Rate in Nm ³ /h | | | | | | | | | |
|------------|-----------|-----------|------------------|--|------------|------------|------------|---------|---------|--------|---------|--------|---------|
| | | | | 0 MPa | 0.1 MPa | 0.2 MPa | 0.4 MPa | 0.6 MPa | 0.8 MPa | 1 MPa | 1.5 MPa | 2 MPa | 2.5 MPa |
| DY015 | DY025 /R1 | DY040 /R2 | min. | 4.8(11.1) | 6.7(11.1) | 8.2(11.1) | 10.5(11.1) | 12.5 | 16.1 | 19.7 | 28.6 | 37.5 | 46.4 |
| | | | max. | 48.2 | 95.8 | 143 | 239 | 334 | 429 | 524 | 762 | 1000 | 1238 |
| DY025 | DY040 /R1 | DY050 /R2 | min. | 11.0(19.5) | 15.5(19.5) | 19.0(19.5) | 24.5 | 29.0 | 33.3 | 40.6 | 59.0 | 77.5 | 95.9 |
| | | | max. | 149 | 297 | 444 | 739 | 1034 | 1329 | 1624 | 2361 | 3098 | 3836 |
| DY040 | DY050 /R1 | DY080 /R2 | min. | 21.8(30.0) | 30.8 | 37.8 | 48.7 | 61.6 | 79.2 | 97 | 149 | 184 | 229 |
| | | | max. | 356 | 708 | 1060 | 1764 | 2468 | 3171 | 3875 | 5634 | 7394 | 9153 |
| DY050 | DY080 /R1 | DY100 /R2 | min. | 36.2(38.7) | 51 | 62.4 | 80.5 | 102 | 131 | 161 | 233 | 306 | 379 |
| | | | max. | 591 | 1174 | 1757 | 2922 | 4088 | 5254 | 6420 | 9335 | 12249 | 15164 |
| DY080 | DY100 /R1 | DY150 /R2 | min. | 70.1 | 98.4 | 120 | 155 | 197 | 254 | 310 | 451 | 591 | 732 |
| | | | max. | 1140 | 2266 | 3391 | 5642 | 7892 | 10143 | 12394 | 18021 | 23648 | 29274 |
| DY100 | DY150 /R1 | DY200 /R2 | min. | 122 | 172 | 211 | 272 | 334 | 442 | 540 | 786 | 1031 | 1277 |
| | | | max. | 1990 | 3954 | 5919 | 9847 | 13775 | 17703 | 21632 | 31453 | 41274 | 51095 |
| DY150 | DY200 /R1 | — | min. | 268 | 377 | 485 | 808 | 1131 | 1453 | 1776 | 2583 | 3389 | 4196 |
| | | | max. | 4358 | 8659 | 12960 | 21559 | 30163 | 38765 | 47365 | 68867 | 90373 | 111875 |
| DY200 | — | — | min. | 575 | 809 | 990 | 1445 | 2202 | 2599 | 3175 | 4617 | 6059 | 7501 |
| | | | max. | 7792 | 15482 | 23172 | 38549 | 53933 | 69313 | 84693 | 123138 | 161591 | 200046 |
| DY250 | — | — | min. | 1037 | 1461 | 1788 | 2306 | 3127 | 4019 | 4911 | 7140 | 9370 | 11600 |
| | | | max. | 12049 | 23939 | 35833 | 59611 | 83400 | 107181 | 130968 | 190418 | 249881 | 309334 |
| DY300 | — | — | min. | 1485 | 2093 | 2561 | 3303 | 4479 | 5756 | 7033 | 10226 | 13419 | 16612 |
| | | | max. | 17256 | 34286 | 51317 | 85370 | 119441 | 153499 | 187556 | 272699 | 357856 | 443017 |
| DY400 | — | — | min. | 2790 | 3933 | 4812 | 7020 | 9821 | 12622 | 15422 | 22424 | 29426 | 36427 |
| | | | max. | 28378 | 56385 | 84391 | 140405 | 196418 | 252432 | 308445 | 448479 | 588513 | 728547 |

(1) Listed flow rate is at normal conditions STP (0°C, 1atm).

(2) Listed gauge pressure is at process temperature of 0°C.

(3) Maximum flow rate is the lower of 80m/s.

(4) Minimum flow rate: (value) is the lower limit of the accuracy range.

Table 10 Range of Measurable Saturated Steam Flow Rate at Selected Process Pressures

| Model Code | | | Flow Rate Limits | Minimum and Maximum Measurable Flow Rate in kg/h | | | | | | | | | |
|------------|-----------|-----------|------------------|--|------------|-----------|------------|------------|--------|---------|--------|---------|--------|
| | | | | 0.1 MPa | 0.2 MPa | 0.4 MPa | 0.6 MPa | 0.8 MPa | 1 MPa | 1.5 MPa | 2 MPa | 2.5 MPa | 3 MPa |
| DY015 | DY025 /R1 | DY040 /R2 | min. | 5.8(10.7) | 7.0(11.1) | 8.8(11.6) | 10.4(12.1) | 11.6(12.3) | 12.8 | 15.3 | 19.1 | 23.6 | 28.1 |
| | | | max. | 55.8 | 80 | 129 | 177 | 225 | 272 | 390 | 508 | 628 | 748 |
| DY025 | DY040 /R1 | DY050 /R2 | min. | 13.4(18.9) | 16.2(20.0) | 20.5 | 24.1 | 27.1 | 30 | 36 | 41 | 49 | 58 |
| | | | max. | 169.7 | 247.7 | 400 | 548 | 696 | 843 | 1209 | 1575 | 1945 | 2318 |
| DY040 | DY050 /R1 | DY080 /R2 | min. | 26.5(29.2) | 32 | 40.6 | 47.7 | 53.8 | 59 | 72 | 93 | 116 | 138 |
| | | | max. | 405 | 591 | 954 | 1310 | 1662 | 2012 | 2884 | 3759 | 4640 | 5532 |
| DY050 | DY080 /R1 | DY100 /R2 | min. | 44.0 | 53 | 67.3 | 79 | 89 | 98 | 119 | 156 | 192 | 229 |
| | | | max. | 671 | 979 | 1580 | 2170 | 2753 | 3333 | 4778 | 6228 | 7688 | 9166 |
| DY080 | DY100 /R1 | DY150 /R2 | min. | 84.9 | 103 | 130 | 152 | 171 | 189 | 231 | 300 | 371 | 442 |
| | | | max. | 1295 | 1891 | 3050 | 4188 | 5314 | 6435 | 9224 | 12024 | 14842 | 17694 |
| DY100 | DY150 /R1 | DY200 /R2 | min. | 148 | 179 | 227 | 267 | 300 | 330 | 402 | 524 | 647 | 772 |
| | | | max. | 2261 | 3300 | 5326 | 7310 | 9276 | 11232 | 16102 | 20986 | 25907 | 30883 |
| DY150 | DY200 /R1 | — | min. | 324 | 392 | 498 | 600 | 761 | 922 | 1322 | 1723 | 2127 | 2536 |
| | | | max. | 4950 | 7226 | 11661 | 16010 | 20315 | 24595 | 35258 | 45953 | 56729 | 67624 |
| DY200 | — | — | min. | 697 | 841 | 1068 | 1252 | 1410 | 1649 | 2364 | 3081 | 3803 | 4534 |
| | | | max. | 8851 | 12918 | 20850 | 28627 | 36325 | 43976 | 63043 | 82165 | 101433 | 120913 |
| DY250 | — | — | min. | 1256 | 1518 | 1929 | 2260 | 2546 | 2801 | 3655 | 4764 | 5882 | 7011 |
| | | | max. | 13687 | 19977 | 32243 | 44268 | 56172 | 68005 | 97489 | 127058 | 156854 | 186978 |
| DY300 | — | — | min. | 1799 | 2174 | 2762 | 3236 | 3646 | 4012 | 5235 | 6823 | 8423 | 10041 |
| | | | max. | 19602 | 28609 | 46175 | 63397 | 80445 | 97390 | 139614 | 181960 | 224633 | 267772 |
| DY400 | — | — | min. | 3381 | 4086 | 5187 | 6078 | 6848 | 8002 | 11472 | 14957 | 18468 | 22003 |
| | | | max. | 32217 | 47070 | 75834 | 104152 | 132193 | 160037 | 229449 | 299131 | 369366 | 440055 |

(1) Maximum flow rate is the lower of 80m/s.

(2) Minimum values are determined from Table 7. The values in parenthesis show the minimum linear flow rates (Re = 20,000 or 40,000) when they are higher than the minimum measurable flow rate.

■ Reference

Table 11 Inner Diameter and Nominal value

| Model Code | | | Inner Diameter mm | Nominal K-Factor Pulse/L | Nominal Pulse Rate | |
|------------|-----------|-----------|-------------------|--------------------------|--------------------|------------------------|
| | | | | | Hz / m/s | Hz / m ³ /h |
| DY015 | DY025 /R1 | DY040 /R2 | 14.6 | 376 | 62.7 | 104 |
| DY025 | DY040 /R1 | DY050 /R2 | 25.7 | 68.6 | 35.5 | 19.1 |
| DY040 | DY050 /R1 | DY080 /R2 | 39.7 | 18.7 | 23.1 | 5.19 |
| DY050 | DY080 /R1 | DY100 /R2 | 51.1 | 8.95 | 18.3 | 2.49 |
| DY080 | DY100 /R1 | DY150 /R2 | 71.0 | 3.33 | 13.2 | 0.925 |
| DY100 | DY150 /R1 | DY200 /R2 | 93.8 | 1.43 | 9.88 | 0.397 |
| DY150 | DY200 /R1 | — | 138.8 | 0.441 | 6.67 | 0.123 |
| DY200 | — | — | 185.6 | 0.185 | 5.00 | 0.0514 |
| DY250 | — | — | 230.8 | 0.0966 | 4.04 | 0.0268 |
| DY300 | — | — | 276.2 | 0.0563 | 3.37 | 0.0156 |
| DY400 | — | — | 354.2 | 0.0265 | 2.61 | 0.00736 |

■ Pressure Loss

Calculation of pressure loss for standard type

obtained from the following equations.

$$\Delta P = 108 \times 10^{-5} \times \rho_f \times v^2 \dots\dots (1)$$

or

$$\Delta P = 135 \times \rho_f \times \frac{Q_f^2}{D^4} \dots\dots (2)$$

where,

- ΔP: Pressure loss (kPa)
- ρ_f: Density at operating condition (kg/m³)
- v: Flow velocity (m/s)
- Q_f: Actual flow rate (m³/h)
- D: Inner diameter of digital YEW FLO (mm)

(Example)

DY050, hot water: 80°C, flowrate: 30 m³/h
 1. Since the density of water at 80°C is 972 kg/m³, substitute this value in equation (2):

$$\Delta P = 135 \times 972 \times 30^2 / 51.1^4 = 17.3 \text{ kPa}$$

2. Obtain the pressure loss using equation (1). The flow velocity when the flow rate is 30 m³/h is given by:

$$v = 354 \times Q_f / D^2 = \frac{354 \times 30}{51.1^2} = 4.07 \text{ m/s}$$

Therefore, substitute this value in equation (1):

$$\Delta P = 108 \times 10^{-5} \times 972 \times 4.07^2 = 17.3 \text{ kPa}$$

Calculation of pressure loss for reduced bore type (Option code: /R1)

obtained from the following equations.

$$\Delta P = 124 \times 10^{-5} \times \rho_f \times v^2 \dots\dots (3)$$

or

$$\Delta P = 155 \times \rho_f \times Q_f^2 / D^4 \dots\dots (4)$$

(Example)

DY040/R1, hot water: 50 °C, flowrate: 10 m³/h
 1. Since the density of water at 50 °C is 992 kg/m³, substitute this value in equation (4):

$$\Delta P = 155 \times 992 \times 10^2 / 25.7^4 = 35.3 \text{ kPa}$$

2. Obtain by using equation (3). The flow velocity when the flow rate is 10 m³/h is given by:

$$v = 354 \times Q_f / D^2 = 354 \times 10 / 25.7^2 = 5.4 \text{ m/s}$$

Therefore, substitute this value in equation (3):

$$\Delta P = 124 \times 10^{-5} \times 992 \times 5.4^2 = 35.3 \text{ kPa}$$

Calculation of pressure loss for reduced bore type (Option code: /R2)

obtained from the following equations.

$$\Delta P = 138 \times 10^{-5} \times \rho_f \times v^2 \dots\dots (5)$$

or

$$\Delta P = 173 \times \rho_f \times \frac{Q_f^2}{D^4} \dots\dots (6)$$

(Example)

DY050-/R2, hot water: 50 °C, flowrate: 15 m³/h
 1. Since the density of water at 50 °C is 992 kg/m³, substitute this value in equation (6):

$$\Delta P = 173 \times 992 \times 15^2 / 25.7^4 = 88.5 \text{ kPa}$$

2. Obtain by using equation (5). The flow velocity when the flow rate is 15m³/h is given by:

$$v = 354 \times Q_f / D^2 = \frac{354 \times 15}{25.7^2} = 8.0 \text{ m/s}$$

Therefore, substitute this value in equation (5):

$$\Delta P = 138 \times 10^{-5} \times 992 \times 8.0^2 = 88.5 \text{ kPa}$$

■ Cavitation

(Minimum back pressure, liquid service only):

Cavitation occurs when the flow line pressure is low and flow velocity is high during fluid measurement, preventing correct measurement of flow rate. The optimum line pressure can be obtained from the following equation.

$$P = 2.7 \times \Delta P + 1.3 \times P_o \dots\dots (7)$$

Where,

P: Line pressure, 2 to 7 times as large as internal diameter on downstream of flowmeter body surface. (kPa absolute).

ΔP: Pressure loss (kPa). Read the item above.

P_o: Saturation liquid vapor pressure at operating temperature (kPa absolute).

(Example) Confirmation of presence of cavitation

Suppose that the line pressure is 120 kPa abs and the flow rate scale is 0 to 30 m³/h. It is only necessary to confirm the pressure at the maximum flow rate ; therefore, the saturated steam pressure of water at 80°C is as follows from the table of saturated steam pressures:

P_o = 47.4 kPa abs

Therefore, substitute this value in equation (7):

$$P = 2.7 \times 17.3 + 1.3 \times 47.4 = 108.3 \text{ kPa abs}$$

Since the operating pressure of 120 kPa abs is higher than 108.3 kPa abs, no cavitation occurs.

■ Error that is due to the pressure change

In the measurement of gases and steam, in the case of handling the pressure as a fixed value it may have an error due to the pressure change occurs. In particular, since the pressure loss is increased at the same flow rate as compared to the standard form in reducer type, the difference occurs in the upstream line pressure and the downstream line pressure. Since the vortex flowmeter must be corrected downstream line pressure, setting the upstream line pressure is subject to errors due to pressure differential.

Downstream line pressure is expressed by the following equation.

$$P_d = P_u - \Delta P$$

P_d : downstream line pressure (kPa abs)

P_u : upstream line pressure (kPa abs)

ΔP : Pressure loss (kPa)

(Example) Calculation of the downstream line pressure

Calculate by a operating flow rate. This is an example of a volumetric flow rate at Normal condition (N: 1atm, 0 °C, 0%)

In this example, the maximum flow rate 0 ~ 1000Nm³/h, operating flow rate 700Nm³/h, the upstream line pressure 1000 kPa abs, temperature 30 °C, and the fluid density at operating condition 11.5kg/m³.

First, convert operating flow rate from volumetric flow rate at normal condition Q_n (Nm³/h) to the volumetric flow rate at operating condition Q_i (m³/h).

P_n : Pressure value at Normal condition (kPa)
 P_i : Pressure value at Operating condition (kPa)
 T_n : Temperature value at Normal condition (°C)
 T_i : Temperature value at Operating condition (°C)
 K: deviation factor

Then, calculation formula of the "■ Pressure Loss" ((2), (4) or (6)) to calculate the pressure loss ΔP in the operating flow rate from to obtain the downstream line pressure P_d .

<In the case of standard type DY050>

$$\Delta P = 135 \times 11.5 \times 78.7^2 / 51.1^4 = 1.4 \text{ (kPa)}$$

Therefore, it will be calculated as $P_d = 1000 - 1.4 = 998.6$ (kPa abs).

<In the case of reduced bore type DY050 / R1>

$$\Delta P = 155 \times 11.5 \times 78.7^2 / 39.7^4 = 4.4 \text{ (kPa)}$$

Therefore, it will be calculated as $P_d = 1000 - 4.4 = 995.6$ (kPa abs).

<In the case of reduced bore type DY050 / R2>

$$\Delta P = 173 \times 11.5 \times 78.7^2 / 25.7^4 = 28.2 \text{ (kPa)}$$

Therefore, it will be calculated as $P_d = 1000 - 28.2 = 971.8$ (kPa abs).

■ OPTION SPECIFICATIONS (FOR EXPLOSION PROTECTED TYPE)

* Select appropriate equipment in accordance with the laws and regulations of the relevant country/region, when it is used in a location where explosive atmospheres may be present.

* Process temperature and ambient temperature on this section are the specifications for explosion protected type. Read ■ STANDARD SPECIFICATIONS for the specifications of this product.

* Read "Contact rating" (in the Electrical Specifications, Transistor contact output) for the maximum current value of Pulse Circuit.

| Item | Specification | Code |
|---------------------|--|------|
| TIIS Certification | TIIS Flameproof Approval (Note 1) Flameproof Ex d IIC T6 Certified by TIIS. (TIIS is the abbreviation of Technology Institution of Industrial Safety.) Amb. Temp: -20 to +60°C Electrical connection: JIS G1/2 female | JF3 |
| Factory Mutual (FM) | FM Explosion proof Approval Applicable Standard: Class3600, Class3611, Class3615, Class3810, ANSI/NEMA 250 Type of Protection: Explosion proof for Class I, Division 1, Groups A, B, C and D; Dust-ignitionproof Class II/III, Division 1, Groups E, F, and G. "SEAL ALL CONDUITS WITHIN 18 INCHES." "WHEN INSTALLED IN DIV.2, SEALS NOT REQUIRED." Enclosure Rating: Type 4X Temperature Code: T6 Ambient Temperature: -40 to +60°C Ambient Humidity: 0 to 100%RH (No condensation) Coating of Enclosure: Epoxy resin coating or Polyurethane resin coating. Electrical Connection: ANSI 1/2NPT female | FF1 |
| ATEX | ATEX Flameproof Approval (Note 2) Applicable Standard: EN IEC 60079-0, EN 60079-1 Type of Protection: Ex db IIC T6...T1 Gb (Integral Type and Remote Type Detector) Ex db IIC T6 Gb (Remote Type Converter) Groups: II, Category: 2 G Temperature Class: T6...T1 (Integral Type and Remote Type Detector) T6 (Remote Type Converter) Process Temp.: T6 (-40 to +80°C), T5 (-40 to +100°C), T4 (-40 to +135°C), T3 (-40 to +200°C), T2 (-40 to +300°C) T1 (-40 to +450°C) (Use /HT version above +250°C), Ambient temperature: -30 to +60°C (With indicator) -40 to +60°C (Without indicator) Ambient Humidity: 0 to 100%RH (No condensation) Electrical Connection: ANSI 1/2NPT female, ISO M20 × 1.5 female | KF2 |

(Note 1) The flameproof packing adapter /G11 or /G12 is necessary except the electrical conduit work. In case the ambient temperature exceeds 50°C, use heat resistant cables with maximum allowable temperature of 70°C or above.

(Note 2) Cryogenic version /LT is not available.

| Item | Specification | Code |
|--------------------------------------|---|------|
| Canadian Standards Association (CSA) | CSA Explosion proof Approval Applicable Standard: C22.1-98, C22.2 No.0, C22.2 No.0.4, C22.2 No.0.5, C22.2 No.25, C22.2 No.30, C22.2 No.94, C22.2 No.142, C22.2, No.61010-1, ANSI/ISA-12.27.01 Type of Protection: explosion-proof for Class I, Groups B, C and D; Class II, Groups E, F, and G; Class III. For Class I, Division 2 locations- "FACTORY SEALED, CONDUIT SEAL NOT REQUIRED" Temperature Class: T6...T1 (Integral Type and Remote Type Detector) T6 (Remote Type Converter) Amb. Temp.: -50 to +60°C Process temp.: T6; +85°C, T5; +100°C, T4; +135°C, T3; +200°C, T2; +300°C, T1; +450°C Enclosure: Type 4X Coating of Enclosure: Epoxy resin coating or Polyurethane resin coating. Electrical Connection: ANSI 1/2 NPT female Altitude at Installation Site: Max. 2000 m above sea level Overvoltage category: I Pollution Degree: 2 This product is designed for indoor and outdoor use. | CF1 |
| | CSA Explosion proof Approval · The approval specification is the same with /CF1. · Process Sealing Certification Dual Seal Certified by CSA to the requirement of ANSI/ISA 12.27.01 No additional sealing required | CF11 |
| IECEX (Note 2) | IECEX Flameproof Approval (Note 1) Applicable Standard: IEC60079-0, IEC60079-1 Type of Protection: Ex db IIC T6...T1 Gb (Integral Type and Remote Type Detector) Ex db IIC T6 Gb (Remote Type Converter) Temperature Class: T6...T1 (Integral Type and Remote Type Detector) T6 (Remote Type Converter) Process Temp.: T6(-40 to +80°C), T5(-40 to +100°C), T4(-40 to +135°C), T3(-40 to +200°C), T2(-40 to +300°C), T1(-40 to +450°C) (Use /HT version above +250°C) Ambient temperature: -30 to +60°C (With indicator) -40 to +60°C (Without indicator) Ambient Humidity: 0 to 100%RH Electrical Connection: ANSI 1/2NPT female, ISO M20 × 1.5 female | SF2 |

(Note 1) Cryogenic version /LT is not available.

(Note 2) In the case that final destination is UAE or Taiwan and explosion protected type is required, select IECEx explosion protected type.

REMARKS ON INSTALLATION

Piping support

Typical vibration immunity level is 1G for normal piping condition. Piping support should be fixed in case of over 1G vibration level.

Installation direction

If a pipe is always filled with liquids, the pipe can be installed vertically or at inclined angle.

Adjacent pipes

The process pipeline inner diameter should be larger than the digitalYEWFLOW inner diameter. Use the following adjacent pipe.

| Model Code | Adjacent Pipe |
|---|--|
| DY015 up to DY050 DY025/R1 up to DY080/R1 DY040/R2 up to DY100/R2 | Sch40 or larger inner diameter than Sch40 |
| DY080 up to DY400 DY100/R1 up to DY200/R1 DY150/R2 up to DY200/R2 | Sch80 or larger inner diameter than Sch80 |
| DY025/R1 up to DY150/R1 Process connection code: BA6, CA6 | Sch160 or larger inner diameter than Sch160 |

Piping condition

In case the piping conditions are compounded, install on the straight pipe section where the upstream part is sufficiently rectified.

Straight pipe length and recommendations (1)

D: Nominal diameter (mm)

| Description | Figure |
|---|--------|
| Reducer pipe: Ensure the upstream straight pipe length to be 5D or more, and the downstream straight pipe length to be 5D or more for per reducer pipe. | |
| Expander pipe: Ensure the upstream straight pipe length to be 10D or more, and the downstream straight pipe length to be 5D or more for per expander pipe. | |
| Bent pipe and straight pipe length: 1. Single bent pipe 2. Double bent pipe; coplanar 3. Double bent pipe; non coplanar | |
| Valve position and straight pipe length: ■ Install the valve on the downstream side of the flowmeter. The upstream straight pipe length dependent on the element located on the upstream such as reducer/expander, bent and etc., read description as above. Keep 5D or more for downstream straight pipe length. ■ In case the valve has to be installed on the upstream of the flowmeter, ensure the upstream straight pipe length to be 20D or more, and the downstream straight pipe length be 5D or more. | |

● **Straight pipe length and recommendations (2)**

D: Nominal diameter (mm)

| Description | Figure |
|--|--------|
| <p>Fluid vibration: For a gas line which uses a position-type or roots-type blower compressor or a high-pressure liquid line (about 1MPa or more) which uses piston-type or plunger-type pump, fluid vibrations may be produced. In these case, install valve on the upstream side of digitalYEWFLO. For inevitable fluid vibration, put a vibration damping device such as throttling plate or expansion section in the upstream side of digitalYEWFLO.</p> | |
| <p>Piston-type or plunger pump: Install the accumulator on the upstream side of digitalYEWFLO to reduce fluid vibrations.</p> | |
| <p>Valve positon (T-type piping exist): When pulsation causes by a T-type piping exist, install the valve on the upstream of the flowmeter. Example: As shown in the figure, when the valve V1 is turned off, the fluid flow throught B as to meter A the flow is zero. But due to the pulsating pressure is detected, the meter is zero point become fluctuating. To avoid this, change the valve V1 location to V1'. Note: In case of the Reduced Bore Type, moisture may be remained upstream of the flowmeter. Drain it appropriately.</p> | |
| <p>Pressure and temperature taps: When the temperature/pressure correction, place a pressure tap in a position on the downstream side 2 to 7D from digitalYEWFLO. Then place a temperature tap in a position on the downstream side 1 to 2D from a pressure tap. When use a temperature tap only, place it in a position on the downstream side 3 to 9D from digitalYEWFLO.</p> | |
| <p>Mounting gasket: Avoid mounting gaskets which protrude into the pipe line. This may cause inaccurate readings. Use the gaskets with bolt holes, even if digitalYEWFLO is the wafer type. When using a spiral gasket (without bolt holes), confirm the size with the gasket -manufacturer, as standard items may not be used for certain flange ratings.</p> | |

● Straight pipe length and recommendations (3)

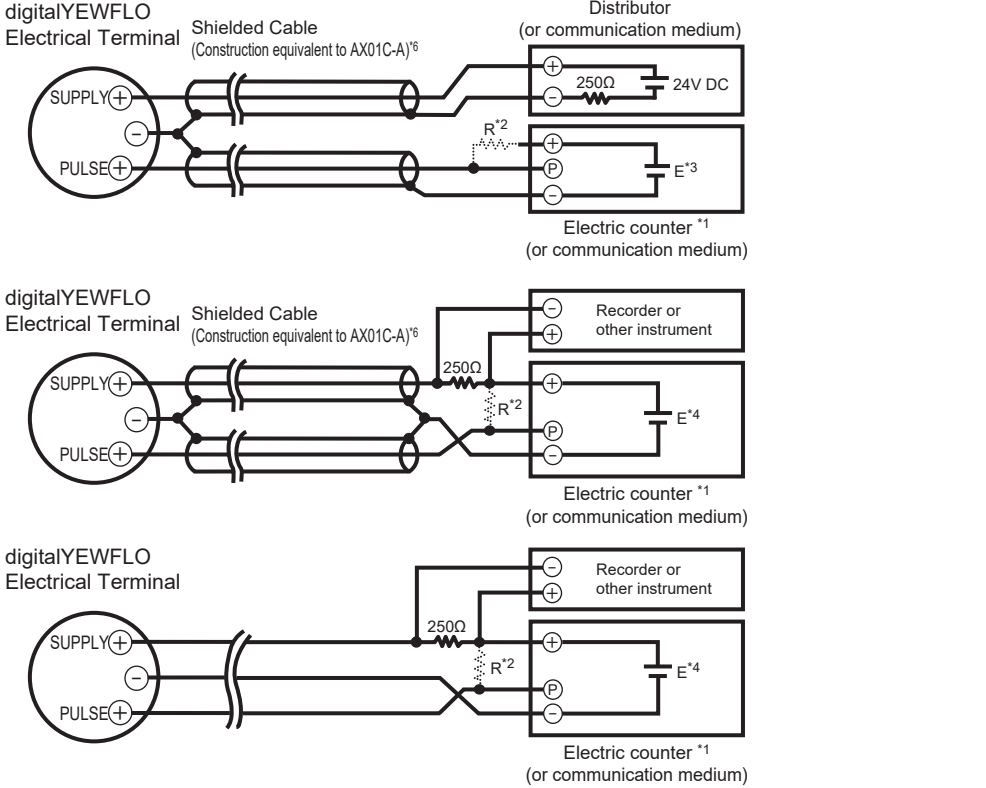
| Description | Figure |
|--|--------|
| <p>Heat-insulation:</p> <p>When an integral-type flowmeter or a remote type detector is installed and the pipe carrying high-temperature fluids is heat-insulated, do not wrap adiabatic materials around the installation the bracket (DY015 to DY100) or the nozzle (DY150 to DY400) of the converter.</p> | |
| <p>Flushing of the pipe line:</p> <p>Flush and clean scale, incrustation and sludge on the inside of pipe for newly installed pipe line and repaired pipe line before the operation. For flushing, the flow should flow through bypass-piping to avoid damaging the flowmeter. If there is no bypass-piping, install short pipe instead of the flowmeter.</p> | |

● The wiring example for the analog and pulse and status, alarm output.

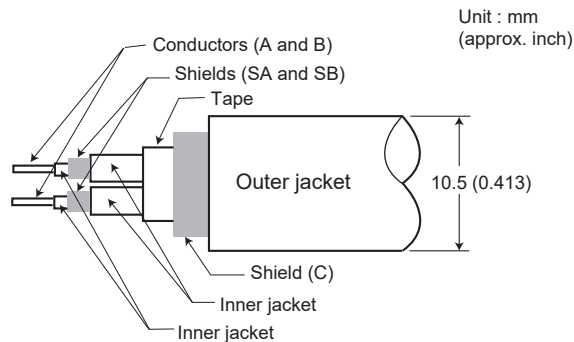
| Connection | Description |
|--|---|
| <p>Analog Output</p> <p>In this case, Communication is possible (up to a distance of 2km when a CEV cable is used.)</p> | <p>digitalYEWFLOW Electrical Terminal Distributor (or communication medium)</p> |
| <p>Pulse Output*3</p> <p>In this case, No communication is possible.</p> | <p>digitalYEWFLOW Electrical Terminal Shielded Cable *1 Electric counter</p> <p>Use the Three-wire shielded cable.</p> <p>This supply voltage requires a power source with a maximum output current of no less than $E/R+25\text{mA}$.</p> |
| <p>Status Output Alarm Output*3</p> <p>In this case, No communication is possible.</p> | <p>digitalYEWFLOW Electrical Terminal Shielded Cable Relay *1 Magnetic valve</p> <p>Use the Three-wire shielded cable.</p> <p>External Power supply 30V DC, 120mA max (Contact Rating)</p> <p>AC power supply</p> |

*1: To avoid the influence of external noise, use an electric counter which fits to the pulse frequency.
 *2: Resistor is not necessary in case of an electric counter which can receive contact pulse signal directly.
 *3: One Electrical Connection is available.

- The wiring example for the the simultaneous analog and pulse output, the calculation formula of the range of load resistance R for the pulse output.

| Connection | Description |
|---|--|
| <p>Simultaneous Analog -Pulse Output *5</p> <p>Example 1 In this case, Communication is possible (up to a distance of 2km when using a cable with construction equivalent to AX01C-A*6).</p> <p>Example 2 In this case, Communication is possible (up to a distance of 200m when using a cable with construction equivalent to AX01C-A*6) and R = 1kΩ).</p> <p>Example 3 In this case, No communication is possible (when shielded cable is not used).</p> |  <p>The diagrams illustrate three wiring examples for a digitalYEWFLOW Electrical Terminal. Each example shows a shielded cable with two conductors: SUPPLY (+) and PULSE (+). The SUPPLY line is connected to a 24V DC source through a 250Ω resistor. The PULSE line is connected to a load with resistance R². The load can be a Distributor (or communication medium), an Electric counter (or communication medium), or a Recorder or other instrument. The supply voltage is labeled E³ or E⁴.</p> |
| <p>The range of load resistance R² for the pulse output.</p> | <p>The load resistance should be selected by calculation as shown below.</p> $\frac{E \text{ (V)}}{120 \text{ (mA)}} \leq R \text{ (k}\Omega) \leq \frac{0.1}{C \text{ (}\mu\text{F)} \times f \text{ (kHz)}} \dots (1)$ <p>Example of CEV cable capacitance ≒ 0.1μF/km Where E : Supply voltage (V) C : Cable capacitance (μF) f : Frequency of pulse output (kHz) P : Power ratio of the load resistance (mW) R : Value of load resistance (kΩ)</p> $P \text{ (mW)} = \frac{E^2 \text{ (V)}}{R \text{ (k}\Omega)} \dots \dots \dots (2)$ |

- *1: To avoid the influence of external noise, use an electric counter which fits to the pulse frequency.
- *2: Resistor is not necessary in case of an electric counter which can receive contact pulse signal directly.
- *3: This flowmeter requires a power supply of greater than or equal to the maximum output current E (V) / R (kΩ).
- *4: This flowmeter requires a power supply of greater than or equal to the maximum output current E (V) / R (kΩ) + 25mA.
- *5: When using analog and pulse output simultaneously, the HART communication may be influenced by noise comparing analog output only. One Electrical Connection is available.
- *6: AX01C-A is the dedicated signal cable (without cable end finish, the maximum length is up to 200 m) for Yokogawa Magnetic Flowmeter ADMAG TI series.
The cable structure of AX01C-A is shown below.
Other shield cable which is equivalent architecture to AX01C-A can be used for DY. However the material of insulator may decrease the communication distance.

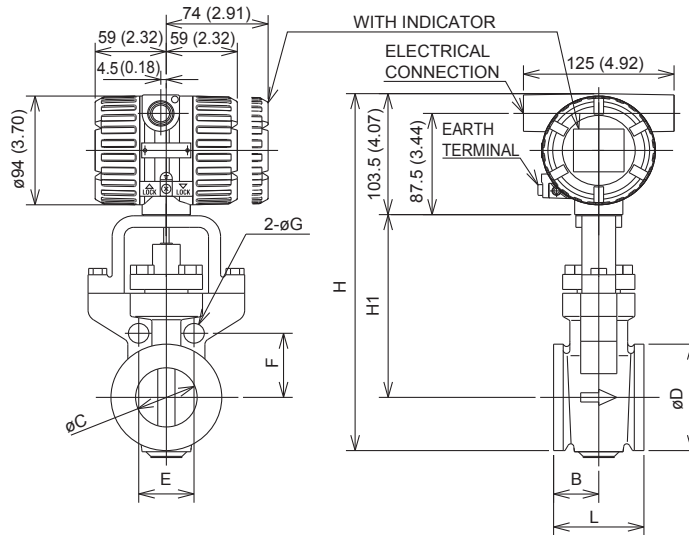


AX01C-A (Read IM 01E24A01-01)

EXTERNAL DIMENSIONS

■ Wafer type (DY015 to DY100)

Unit : mm
(approx. inch)



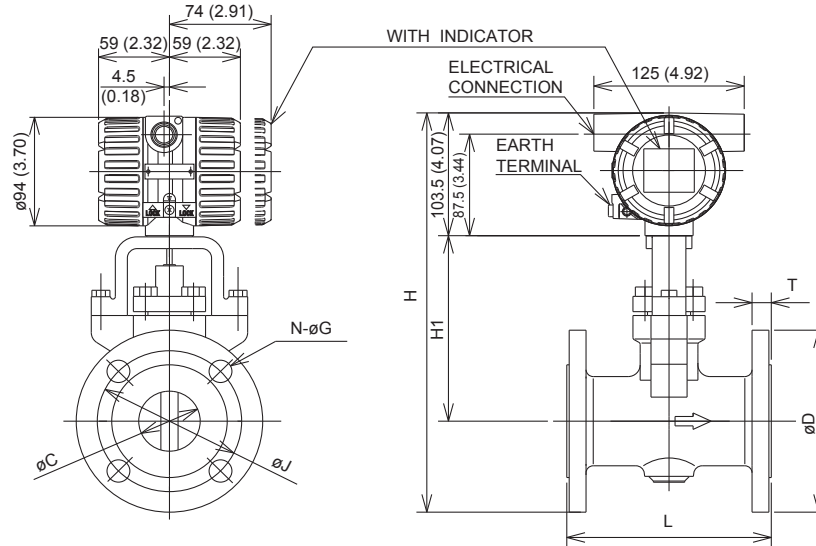
| TYPE | INTEGRAL/REMOTE | | | | | | | | | | | | | | | | | | | | |
|--------------------|-----------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| MODEL CODE | DY015 | | | | | DY025 | | | | | DY040 | | | | | | | | | | |
| PROCESS CONNECTION | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 to AD4 | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 to AD4 | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 to AD4 |
| L | 70 (2.76) | | | | | 70 (2.76) | | | | | 70 (2.76) | | | | | | | | | | |
| B | 35 (1.38) | | | | | 35 (1.38) | | | | | 35 (1.38) | | | | | | | | | | |
| C | 14.6 (0.57) | | | | | 25.7 (1.01) | | | | | 39.7 (1.56) | | | | | | | | | | |
| D | 35.1 (1.38) | | | | | 50.8 (2.00) | | | | | 73 (2.87) | | | | | | | | | | |
| H | 248 (9.76) | | | | | 258 (10.16) | | | | | 276 (10.87) | | | | | | | | | | |
| H1 | 127 (5.00) | | | | | 129 (5.08) | | | | | 136 (5.35) | | | | | | | | | | |
| E | 49.5 (1.95) | 49.5 (1.95) | 56.6 (2.23) | 42.7 (1.68) | 47.1 (1.85) | 47.1 (1.85) | 46 (1.81) | 63.6 (2.50) | 63.6 (2.50) | 67.2 (2.65) | 56 (2.21) | 62.9 (2.48) | 62.9 (2.48) | 60.1 (2.37) | 74.2 (2.92) | 74.2 (2.92) | 84.9 (3.34) | 69.7 (2.74) | 80.8 (3.18) | 80.8 (3.18) | 77.8 (3.06) |
| F | 24.7 (0.97) | 24.7 (0.97) | 28.3 (1.11) | 21.4 (0.84) | 23.5 (0.93) | 23.5 (0.93) | 23 (0.91) | 31.8 (1.25) | 31.8 (1.25) | 33.6 (1.32) | 28 (1.10) | 31.4 (1.24) | 31.4 (1.24) | 30.1 (1.19) | 37.1 (1.46) | 37.1 (1.46) | 42.4 (1.67) | 34.8 (1.37) | 40.4 (1.59) | 40.4 (1.59) | 38.9 (1.53) |
| G | 13 (0.51) | 13 (0.51) | 17 (0.67) | 14 (0.55) | 14 (0.55) | 14 (0.55) | 13 (0.51) | 17 (0.67) | 17 (0.67) | 17 (0.67) | 14 (0.55) | 17 (0.67) | 17 (0.67) | 13 (0.51) | 17 (0.67) | 17 (0.67) | 21 (0.83) | 17 (0.67) | 20 (0.79) | 20 (0.79) | 17 (0.67) |
| WEIGHT kg (lb) | 2.8 (6.2) | | | | | 3.7 (8.2) | | | | | 4.3 (9.5) | | | | | | | | | | |

| TYPE | INTEGRAL/REMOTE | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|-----------------|-------------|-------------|----------|-------------|-------------|------------|-------------|-------------|-------------|----------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| MODEL CODE | DY050 | | | | | DY080 | | | | | | DY100 | | | | | | | | | | | |
| PROCESS CONNECTION | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 to AD4 | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 AD2 | AD3 AD4 | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 AD2 | AD3 AD4 |
| L | 75 (2.95) | | | | | 100 (3.94) | | | | | | 120 (4.72) | | | | | | | | | | | |
| B | 37.5 (1.48) | | | | | 40 (1.57) | | | | | | 50 (1.97) | | | | | | | | | | | |
| C | 51.1 (2.01) | | | | | 71 (2.80) | | | | | | 93.8 (3.69) | | | | | | | | | | | |
| D | 92 (3.62) | | | | | 127 (5.00) | | | | | | 157.2 (6.19) | | | | | | | | | | | |
| H | 307.5 (12.11) | | | | | 342 (13.47) | | | | | | 372 (14.65) | | | | | | | | | | | |
| H1 | 158 (6.22) | | | | | 175 (6.89) | | | | | | 190 (7.48) | | | | | | | | | | | |
| E | (Note 3) | 45.9 (1.81) | 49.8 (1.96) | (Note 3) | 48.6 (1.91) | 48.6 (1.91) | (Note 3) | 57.4 (2.26) | 61.2 (2.41) | 65.1 (2.56) | (Note 3) | 64.4 (2.54) | 64.4 (2.54) | 61.2 (2.41) | 61.2 (2.41) | 67 (2.64) | 70.8 (2.79) | 78.5 (3.09) | 72.9 (2.87) | 76.6 (3.02) | 82.6 (3.25) | 68.9 (2.71) | 72.7 (2.86) |
| F | (Note 3) | 55.4 (2.18) | 60.1 (2.36) | (Note 3) | 58.7 (2.31) | 58.7 (2.31) | (Note 3) | 69.3 (2.73) | 73.9 (2.91) | 78.5 (3.09) | (Note 3) | 77.7 (3.06) | 77.7 (3.06) | 73.9 (2.91) | 73.9 (2.91) | 80.8 (3.18) | 85.5 (3.37) | 94.7 (3.73) | 88 (3.46) | 92.5 (3.64) | 99.7 (3.93) | 83.1 (3.27) | 87.8 (3.46) |
| G | (Note 3) | 17 (0.67) | 17 (0.67) | (Note 3) | 17 (0.67) | 17 (0.67) | (Note 3) | 17 (0.67) | 21 (0.83) | 21 (0.83) | (Note 3) | 20 (0.79) | 20 (0.79) | 17 (0.67) | 17 (0.67) | 17 (0.67) | 21 (0.83) | 21 (0.83) | 23 (0.91) | 17 (0.67) | 20 (0.79) | 23 (0.91) | 17 (0.67) |
| WEIGHT kg (lb) | 6.0 (13.2) | | | | | 9.4 (20.7) | | | | | | 12.8 (28.2) | | | | | | | | | | | |

(Note 1) Integral weight is the same as Remote.
 (Note 2) In case of with Indicator, add 0.2kg (0.4lb).
 (Note 3) The holes are not provided.
 (Note 4) The flow direction is opposite (right to left when facing onto indicator) in case of code/CRC.

■ Flange type (DY015 to DY100)

Unit : mm
(approx. inch)



| TYPE | INTEGRAL/REMOTE | | | | | | | | | | | | | | | | | | | |
|--------------------|-----------------|-------------|-------------|-------------|-------------|--------------|-------------|-----------------------|--------------|-------------|-------------|---------------|---------------|---------------|---------------|--------------|--------------|-----------------------|--------------|--------------|
| MODEL CODE | DY015 | | | | | | | DY025 | | | | | | | | | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD4 FD1 to FD4 | CA4 | CA5 | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD4 FD1 to FD4 | CA4 | CA5 |
| L | 130 (5.12) | | | | | | | 150 (5.91) | | | | | | | | | | | | |
| C | 14.6 (0.58) | | | | | | | 25.7 (1.01) | | | | | | | | | | | | |
| D | 95 (3.74) | 95 (3.74) | 115 (4.53) | 88.9 (3.50) | 95.3 (3.75) | 120.7 (4.75) | 95 (3.74) | 95.3 (3.75) | 120.7 (4.75) | 125 (4.92) | 125 (4.92) | 130 (5.12) | 108 (4.25) | 124 (4.88) | 124 (4.88) | 149.4 (5.88) | 115 (4.53) | 124 (4.88) | 149.4 (5.88) | |
| H | 278 (10.94) | 278 (10.94) | 288 (11.34) | 275 (10.83) | 278 (10.94) | 291 (11.46) | 278 (10.94) | 278 (10.94) | 291 (11.46) | 295 (11.61) | 295 (11.61) | 297.5 (11.91) | 286.5 (11.28) | 294.5 (11.59) | 294.5 (11.59) | 307 (12.09) | 290 (11.42) | 294.5 (11.59) | 307 (12.09) | |
| H1 | 127 (5.00) | | | | | | | 129 (5.08) | | | | | | | | | | | | |
| T | 12 (0.47) | 14 (0.55) | 20 (0.79) | 11.2 (0.44) | 14.2 (0.56) | 21 (0.83) | 28.8 (1.13) | 16 (0.63) | 19.9 (0.78) | 28.8 (1.13) | 14 (0.55) | 16 (0.63) | 22 (0.87) | 14.2 (0.56) | 17.5 (0.69) | 24 (0.94) | 34.9 (1.37) | 18 (0.71) | 24 (0.94) | 34.9 (1.37) |
| J | 70 (2.76) | 70 (2.76) | 80 (3.15) | 60.5 (2.38) | 66.5 (2.62) | 82.6 (3.25) | 65 (2.56) | 66.5 (2.62) | 82.6 (3.25) | 90 (3.54) | 90 (3.54) | 95 (3.74) | 79.2 (3.12) | 89 (3.50) | 89 (3.50) | 101.6 (4.00) | 85 (3.35) | 89 (3.50) | 101.6 (4.00) | |
| N | 4 | | | | | | | 4 | | | | | | | | | | | | |
| G | 15 (0.59) | 15 (0.59) | 19 (0.75) | 15.7 (0.62) | 15.7 (0.62) | 22.4 (0.88) | 14 (0.55) | 15.7 (0.62) | 22.4 (0.88) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 15.7 (0.62) | 19 (0.75) | 19 (0.75) | 25.4 (1.00) | 14 (0.55) | 19 (0.75) | 25.4 (1.00) | |
| WEIGHT kg (lb) | 4.2 (9.26) | 4.3 (9.48) | 5.9 (13.01) | 4.1 (9.04) | 4.3 (9.48) | 4.6 (10.14) | 6.7 (14.77) | 4.2 (9.26) | 4.5 (9.92) | 6.8 (14.99) | 6.9 (15.21) | 7.1 (15.66) | 8.6 (18.96) | 6.6 (14.55) | 7.2 (15.88) | 7.7 (16.98) | 11.1 (24.48) | 6.9 (15.21) | 7.9 (17.42) | 11.4 (25.14) |

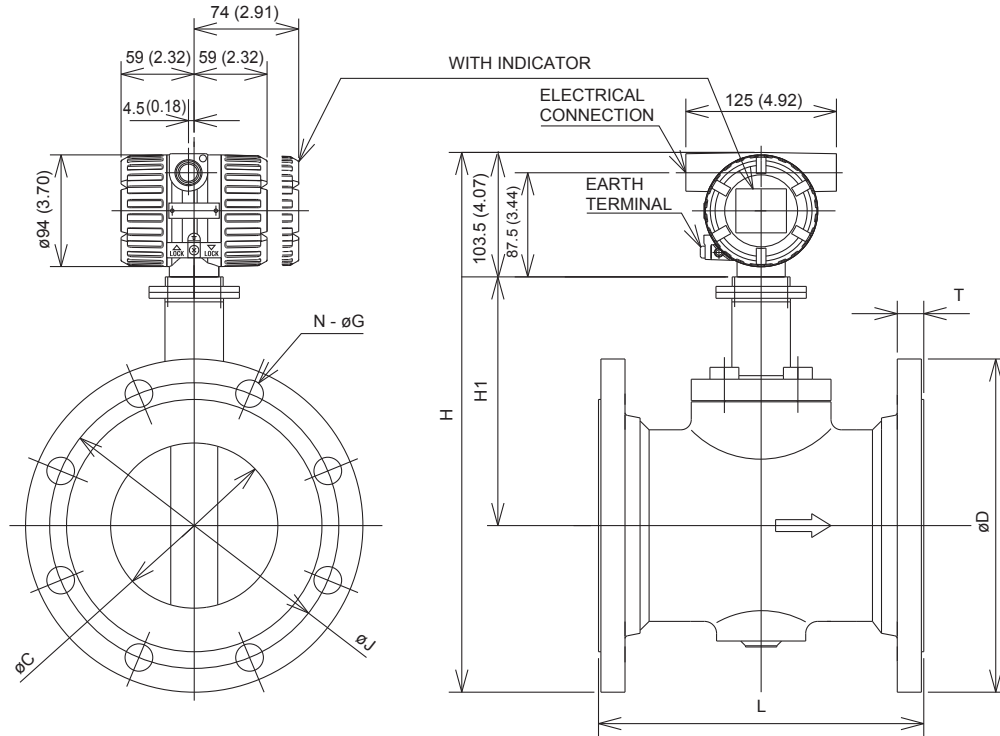
| TYPE | INTEGRAL/REMOTE | | | | | | | | | | | | | | | | | | | |
|--------------------|-----------------|---------------|---------------|-------------|--------------|--------------|---------------|-----------------------|--------------|---------------|--------------|--------------|--------------|---------------|--------------|--------------|---------------|-----------------------|--------------|---------------|
| MODEL CODE | DY040 | | | | | | | DY050 | | | | | | | | | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD4 FD1 to FD4 | CA4 | CA5 | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD4 FD1 to FD4 | CA4 | CA5 |
| L | 150 (5.91) | | | | | | | 170 (6.69) | | | | | | | | | | | | |
| C | 39.7 (1.56) | | | | | | | 51.1 (2.01) | | | | | | | | | | | | |
| D | 140 (5.51) | 140 (5.51) | 160 (6.30) | 127 (5.00) | 155.4 (6.12) | 155.4 (6.12) | 177.8 (7.00) | 150 (5.91) | 155.4 (6.12) | 177.8 (7.00) | 155 (6.10) | 155 (6.10) | 165 (6.50) | 152.4 (6.00) | 165.1 (6.50) | 165.1 (6.50) | 215.9 (8.50) | 165 (6.50) | 165.1 (6.50) | 215.9 (8.50) |
| H | 309.5 (12.19) | 309.5 (12.19) | 319.5 (12.58) | 303 (11.93) | 317 (12.48) | 317 (12.48) | 328.5 (12.93) | 314.5 (12.38) | 317 (12.48) | 328.5 (12.93) | 339 (13.35) | 339 (13.35) | 344 (13.54) | 337.5 (13.29) | 344 (13.54) | 344 (13.54) | 389.5 (15.34) | 344 (13.54) | 344 (13.54) | 389.5 (15.34) |
| H1 | 136 (5.35) | | | | | | | 158 (6.22) | | | | | | | | | | | | |
| T | 16 (0.63) | 18 (0.71) | 26 (1.02) | 17.5 (0.69) | 20.6 (0.81) | 28.8 (1.13) | 38.2 (1.50) | 18 (0.71) | 28.8 (1.13) | 38.2 (1.50) | 16 (0.63) | 18 (0.71) | 26 (1.02) | 19.1 (0.75) | 22.4 (0.88) | 31.8 (1.25) | 44.5 (1.75) | 20 (0.79) | 33.3 (1.31) | 46 (1.81) |
| J | 105 (4.13) | 105 (4.13) | 120 (4.72) | 98.6 (3.88) | 114.3 (4.50) | 114.3 (4.50) | 124 (4.88) | 110 (4.33) | 114.3 (4.50) | 124 (4.88) | 120 (4.72) | 120 (4.72) | 130 (5.12) | 120.7 (4.75) | 127 (5.00) | 127 (5.00) | 165.1 (6.50) | 125 (4.92) | 127 (5.00) | 165.1 (6.50) |
| N | 4 | | | | | | | 4 | | | | | | | | | | | | |
| G | 19 (0.75) | 19 (0.75) | 23 (0.91) | 15.7 (0.62) | 22.4 (0.88) | 22.4 (0.88) | 28.4 (1.12) | 18 (0.71) | 22.4 (0.88) | 28.4 (1.12) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 25.4 (1.00) | 18 (0.71) | 19 (0.75) | 25.4 (1.00) |
| WEIGHT kg (lb) | 8.2 (18.08) | 8.4 (18.52) | 11.9 (26.24) | 8.1 (17.86) | 9.3 (20.51) | 11.3 (24.92) | 16.2 (35.72) | 8.8 (19.4) | 11.7 (25.8) | 16.3 (35.94) | 11.1 (24.48) | 11.6 (25.58) | 14.3 (31.53) | 11.7 (25.8) | 13.2 (29.11) | 14.8 (32.63) | 26.5 (58.43) | 11.3 (24.92) | 15.8 (34.84) | 26.9 (59.31) |

| TYPE | INTEGRAL/REMOTE | | | | | | | | | | | | | | | | | | | | | |
|--------------------|-----------------|---------------|---------------|--------------|---------------|---------------|--------------|-----------------------|-----------------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|---------------|---------------|-----------------------|-----------------------|---------------|---------------|
| MODEL CODE | DY080 | | | | | | | DY100 | | | | | | | | | | | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD2 FD1 to FD2 | BD3 to BD4 FD3 to FD4 | CA4 | CA5 | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD2 FD1 to FD2 | BD3 to BD4 FD3 to FD4 | CA4 | CA5 |
| L | 200 (7.87) | | | | | | | 220 (8.66) | | | | | | | | | | | | | | |
| C | 71 (2.80) | | | | | | | 93.8 (3.69) | | | | | | | | | | | | | | |
| D | 185 (7.28) | 200 (7.87) | 210 (8.27) | 190.5 (7.50) | 209.6 (8.25) | 209.6 (8.25) | 241.3 (9.50) | 200 (7.87) | 200 (7.87) | 209.6 (8.25) | 241.3 (9.50) | 210 (8.27) | 225 (8.90) | 250 (9.84) | 228.6 (9.00) | 254 (10.00) | 273 (10.75) | 292.1 (11.50) | 220 (8.66) | 235 (9.25) | 273 (10.75) | 292.1 (11.50) |
| H | 371 (14.61) | 378.5 (14.90) | 383.5 (15.10) | 374 (14.72) | 383.5 (15.10) | 383.5 (15.10) | 399 (15.71) | 378.5 (14.90) | 378.5 (14.90) | 383.5 (15.10) | 399 (15.71) | 398.5 (15.69) | 406 (15.98) | 418.5 (16.48) | 409 (16.10) | 420.5 (16.56) | 430 (16.93) | 439.5 (17.30) | 403.5 (15.89) | 411 (16.18) | 430 (16.93) | 439.5 (17.30) |
| H1 | 175 (6.89) | | | | | | | 190 (7.48) | | | | | | | | | | | | | | |
| T | 18 (0.71) | 22 (0.87) | 32 (1.26) | 23.9 (0.94) | 28.4 (1.12) | 38.2 (1.50) | 44.5 (1.75) | 20 (0.79) | 24 (0.95) | 39.7 (1.56) | 46 (1.81) | 18 (0.71) | 24 (0.95) | 36 (1.42) | 23.9 (0.94) | 31.8 (1.25) | 44.5 (1.75) | 50.9 (2.00) | 20 (0.79) | 24 (0.95) | 46 (1.81) | 52.4 (2.06) |
| J | 150 (5.91) | 160 (6.30) | 170 (6.69) | 152.4 (6.00) | 168.2 (6.62) | 168 (6.61) | 190.5 (7.50) | 160 (6.30) | 160 (6.30) | 170 (6.69) | 180 (7.09) | 175 (6.89) | 185 (7.28) | 205 (8.07) | 190.5 (7.50) | 200.2 (7.88) | 216 (8.50) | 235 (9.25) | 180 (7.09) | 190 (7.48) | 216 (8.50) | 235 (9.25) |
| N | 8 | | | | | | | 8 | | | | | | | | | | | | | | |
| G | 19 (0.75) | 23 (0.91) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) | 22.4 (0.88) | 25.4 (1.00) | 18 (0.71) | 18 (0.71) | 22.4 (0.88) | 25.4 (1.00) | 19 (0.75) | 23 (0.91) | 25 (0.98) | 19 (0.75) | 22.4 (0.88) | 25.4 (1.00) | 31.8 (1.25) | 18 (0.71) | 22 (0.87) | 25.4 (1.00) | 31.8 (1.25) |
| WEIGHT kg (lb) | 17.4 (38.37) | 20 (44.1) | 25.4 (56.01) | 20 (44.1) | 23.8 (52.48) | 25.4 (56.01) | 35.7 (78.72) | 19.4 (42.78) | 20 (44.1) | 27.1 (59.76) | 36.3 (80.04) | 22.8 (50.27) | 26.8 (59.09) | 38.1 (84.01) | 27.4 (60.42) | 35.9 (79.16) | 50.8 (112.01) | 55.9 (123.26) | 23.2 (51.16) | 27.4 (60.42) | 52.8 (116.42) | 56.6 (124.8) |

(Note 1) Integral weight is the same as Remote.
 (Note 2) In case of with Indicator, add 0.2kg (0.4lb).
 (Note 3) The flow direction is opposite (right to left when facing onto indicator) in case of code/CRC.

■ Flange type (DY150 to DY400)

Unit : mm
(approx. inch)



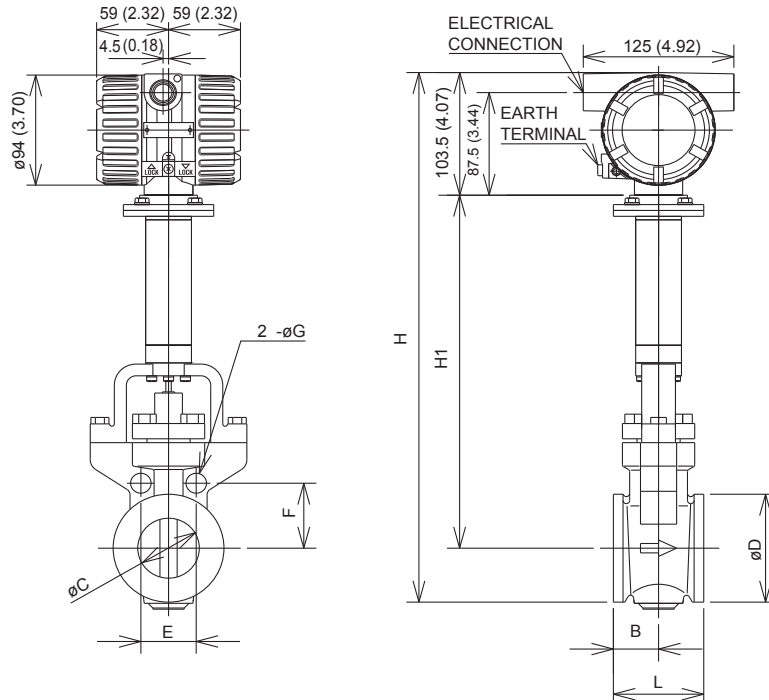
| TYPE | INTEGRAL/REMOTE | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|-----------------|-------------|---------------|---------------|---------------|---------------|---------------|-----------------------|-----------------------|-------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| MODEL CODE | DY150 | | | | | | | | | | DY200 | | | | | | | | | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD2 FD1 to FD2 | BD3 to BD4 FD3 to FD4 | CA4 | CA5 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 FD1 | BD2 FD2 | BD3 FD3 | BD4 FD4 | CA4 | CA5 |
| L | 270 (10.63) | | | | | | | | | | 310 (12.20) | | | | | | | | | | | | |
| C | 138.8 (5.46) | | | | | | | | | | 185.6 (7.31) | | | | | | | | | | | | |
| D | 280 (11.02) | 305 (12.01) | 355 (13.98) | 279.4 (11.00) | 317.5 (12.50) | 356 (14.02) | 391 (15.00) | 285 (11.22) | 300 (11.81) | 356 (14.02) | 381 (15.00) | 330 (12.99) | 350 (13.78) | 342.9 (13.50) | 381 (15.00) | 419.1 (16.50) | 469.9 (18.50) | 340 (13.39) | 360 (14.17) | 375 (14.76) | 419.1 (16.50) | 469.9 (18.50) | |
| H | 453 (17.83) | 465 (18.31) | 490 (19.29) | 452 (17.80) | 471 (18.54) | 491 (19.33) | 503 (19.80) | 455 (17.91) | 463 (18.23) | 491 (19.33) | 503 (19.80) | 510 (20.08) | 520 (20.47) | 516 (20.31) | 535 (21.06) | 554 (21.81) | 579 (22.80) | 515 (20.28) | 515 (20.28) | 525 (20.67) | 532 (20.94) | 554 (21.81) | 579 (22.80) |
| H1 | 209 (8.23) | | | | | | | | | | 241 (9.49) | | | | | | | | | | | | |
| T | 216 (8.50) | | | | | | | | | | 248 (9.76) | | | | | | | | | | | | |
| J | 240 (9.45) | 260 (10.24) | 295 (11.61) | 241.3 (9.50) | 269.7 (10.62) | 292 (11.50) | 317.5 (12.50) | 240 (9.45) | 250 (9.84) | 292 (11.50) | 317.5 (12.50) | 290 (11.42) | 305 (12.01) | 298.5 (11.75) | 330.2 (13.00) | 349.3 (13.75) | 393.7 (15.50) | 295 (11.61) | 295 (11.61) | 310 (12.20) | 320 (12.60) | 349.3 (13.75) | 393.7 (15.50) |
| N | 8 (0.31) | 12 (0.47) | 12 (0.47) | 8 (0.31) | 12 (0.47) | 12 (0.47) | 12 (0.47) | 8 (0.31) | 12 (0.47) | 12 (0.47) | 12 (0.47) | 8 (0.31) | 12 (0.47) | 12 (0.47) | 8 (0.31) | 12 (0.47) | 12 (0.47) | 8 (0.31) | 12 (0.47) | 12 (0.47) | 12 (0.47) | 12 (0.47) | 12 (0.47) |
| G | 23 (0.91) | 25 (0.98) | 33 (1.30) | 22.4 (0.88) | 22.4 (0.88) | 28.4 (1.12) | 31.8 (1.25) | 22 (0.87) | 26 (1.02) | 28.4 (1.12) | 31.8 (1.25) | 23 (0.91) | 22.4 (0.88) | 25 (0.98) | 31.8 (1.25) | 38.1 (1.50) | 46.3 (1.82) | 22 (0.87) | 22 (0.87) | 26 (1.02) | 30 (1.18) | 31.8 (1.25) | 38.1 (1.50) |
| WEIGHT kg (lb) | 33.4 (73.65) | 43.4 (95.7) | 76.4 (168.46) | 36.4 (80.26) | 54.4 (119.95) | 84.4 (186.10) | 106 (233.73) | 33.4 (73.65) | 42.9 (94.59) | 90 (198.45) | 107 (235.94) | 45.4 (100.11) | 52.4 (115.54) | 55.4 (122.16) | 80.4 (177.28) | 136 (299.88) | 182 (401.31) | 46.3 (102.09) | 46.3 (102.09) | 53.6 (118.19) | 55.9 (123.26) | 139 (306.52) | 183 (403.52) |

| TYPE | INTEGRAL/REMOTE | | | | | | | | | | | |
|--------------------|-----------------|-------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|-------------|---------------|--------------|
| MODEL CODE | DY250 | | DY300 | | DY400 | | | | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 |
| L | 370 (14.57) | | 400 (15.75) | | 520 (20.47) | | | | | | | |
| C | 230.8 (9.09) | | 276.2 (10.87) | | 354.2 (13.94) | | | | | | | |
| D | 400 (15.75) | 430 (16.93) | 406.4 (16.00) | 444.5 (17.50) | 445 (17.52) | 490 (19.00) | 482.6 (19.00) | 520.7 (20.50) | 560 (22.05) | 605 (23.82) | 596.9 (23.5) | 647.7 (25.5) |
| H | 581 (22.87) | 596 (23.46) | 584 (22.99) | 603 (23.74) | 633 (24.92) | 651 (25.63) | 652 (25.67) | 671 (26.42) | 757.5 (29.82) | 780 (30.71) | 776 (30.55) | 801 (31.54) |
| H1 | 277 (10.91) | | 307 (12.09) | | 374 (14.72) | | | | | | | |
| T | 24 (0.94) | 34 (1.34) | 30.2 (1.19) | 47.8 (1.88) | 24 (0.94) | 36 (1.42) | 31.8 (1.25) | 50.8 (2.00) | 28 (1.10) | 46 (1.81) | 46 (1.81) | 36.6 (1.44) |
| J | 355 (13.98) | 380 (14.96) | 362 (14.25) | 387.4 (15.25) | 400 (15.75) | 430 (16.93) | 431.8 (17.00) | 450.9 (17.75) | 510 (20.08) | 540 (21.26) | 539.8 (21.25) | 571.5 (22.5) |
| N | 12 (0.47) | 12 (0.47) | 12 (0.47) | 16 (0.63) | 16 (0.63) | 16 (0.63) | 16 (0.63) | 16 (0.63) | 16 (0.63) | 16 (0.63) | 16 (0.63) | 20 (0.79) |
| G | 25 (0.98) | 27 (1.06) | 25.4 (1.00) | 28.5 (1.12) | 25 (0.98) | 27 (1.06) | 25.4 (1.00) | 31.8 (1.25) | 27 (1.06) | 33 (1.30) | 28.5 (1.12) | 35.1 (1.38) |
| WEIGHT kg (lb) | 78 (171.99) | 100 (220.5) | 90 (198.45) | 125 (275.63) | 100 (220.5) | 128 (282.24) | 140 (308.7) | 178 (392.49) | 265 (584.2) | 308 (679) | 300 (661.4) | 370 (815.7) |

(Note 1) Integral weight is the same as Remote.
 (Note 2) In case of with Indicator, add 0.2kg (0.4lb).
 (Note 3) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.
 (Note 4) In case of code HX2, add 5.1kg (11.2lb).

- High Process Temperature Version (/HT): DY025/HT to DY100/HT
- Cryogenic Version (/LT): DY015/LT to DY100/LT
- Wafer type

Unit : mm
(approx. inch)



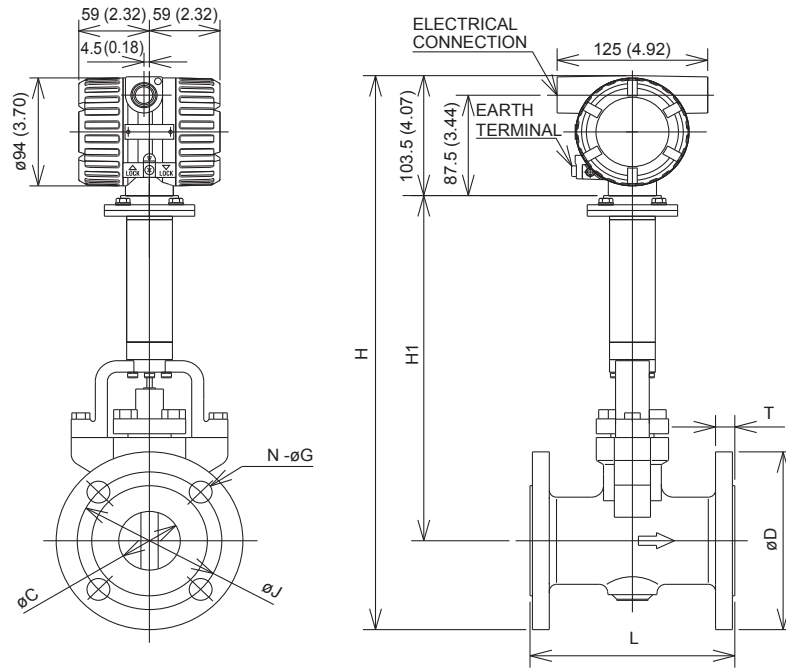
| TYPE | REMOTE | | | | | | | | | | | | | | | | | | | | |
|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|-------------|-------------|-------------|-----------|-------------|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| MODEL CODE | DY015/LT | | | | | | DY025/LT, DY025/HT | | | | | | DY040/LT, DY040/HT | | | | | | | | |
| PROCESS CONNECTION | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 to AD4 | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 to AD4 | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 to AD4 |
| L | 70 (2.76) | | | | | | 70 (2.76) | | | | | | 70 (2.76) | | | | | | | | |
| B | 35 (1.38) | | | | | | 35 (1.38) | | | | | | 35 (1.38) | | | | | | | | |
| C | 14.6 (0.57) | | | | | | 25.7 (1.01) | | | | | | 39.7 (1.56) | | | | | | | | |
| D | 35.1 (1.38) | | | | | | 50.8 (2.00) | | | | | | 73 (2.87) | | | | | | | | |
| H | 391 (15.39) | | | | | | 401 (15.79) | | | | | | 419 (16.50) | | | | | | | | |
| H1 | 270 (10.63) | | | | | | 272 (10.71) | | | | | | 279 (10.98) | | | | | | | | |
| E | 49.5 (1.95) | 49.5 (1.95) | 56.6 (2.23) | 42.7 (1.68) | 47.1 (1.85) | 47.1 (1.85) | 46 (1.81) | 63.6 (2.50) | 63.6 (2.50) | 67.2 (2.65) | 56 (2.20) | 62.9 (2.48) | 62.9 (2.48) | 60.1 (2.37) | 74.2 (2.92) | 74.2 (2.92) | 84.9 (3.34) | 69.7 (2.74) | 80.8 (3.18) | 80.8 (3.18) | 77.8 (3.06) |
| F | 24.7 (0.97) | 24.7 (0.97) | 28.3 (1.11) | 21.4 (0.84) | 23.5 (0.93) | 23.5 (0.93) | 23 (0.91) | 31.8 (1.25) | 31.8 (1.25) | 33.6 (1.32) | 28 (1.10) | 31.4 (1.24) | 31.4 (1.24) | 30.1 (1.19) | 37.1 (1.46) | 37.1 (1.46) | 42.4 (1.67) | 34.8 (1.37) | 40.4 (1.59) | 40.4 (1.59) | 38.9 (1.53) |
| G | 13 (0.51) | 13 (0.51) | 17 (0.67) | 14 (0.55) | 14 (0.55) | 14 (0.55) | 13 (0.51) | 17 (0.67) | 17 (0.67) | 17 (0.67) | 14 (0.55) | 17 (0.67) | 17 (0.67) | 13 (0.51) | 17 (0.67) | 17 (0.67) | 21 (0.83) | 14 (0.55) | 20 (0.79) | 20 (0.79) | 17 (0.67) |
| WEIGHT kg (lb) | 3.2 (7.06) | | | | | | 4.1 (9.04) | | | | | | 4.7 (10.36) | | | | | | | | |

| TYPE | REMOTE | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|--------------------|-------------|-------------|----------|-------------|-------------|--------------------|-------------|-------------|-------------|----------|-------------|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| MODEL CODE | DY050/LT, DY050/HT | | | | | | DY080/LT, DY080/HT | | | | | | DY100/LT, DY100/HT | | | | | | | | | | |
| PROCESS CONNECTION | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 to AD4 | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 AD2 | AD3 AD4 | AJ1 | AJ2 | AJ4 | AP1 AA1 | AP2 AA2 | AP4 AA4 | AD1 AD2 | AD3 AD4 |
| L | 75 (2.95) | | | | | | 100 (3.94) | | | | | | 120 (4.72) | | | | | | | | | | |
| B | 37.5 (1.48) | | | | | | 40 (1.57) | | | | | | 50 (1.97) | | | | | | | | | | |
| C | 51.1 (2.01) | | | | | | 71 (2.80) | | | | | | 93.8 (3.69) | | | | | | | | | | |
| D | 92 (3.62) | | | | | | 127 (5.00) | | | | | | 157.2 (6.19) | | | | | | | | | | |
| H | 450.5 (17.74) | | | | | | 485 (19.09) | | | | | | 515 (20.28) | | | | | | | | | | |
| H1 | 301 (11.85) | | | | | | 318 (12.52) | | | | | | 333 (13.11) | | | | | | | | | | |
| E | (Note 1) | 45.9 (1.81) | 49.8 (1.96) | (Note 1) | 48.6 (1.91) | 48.6 (1.91) | (Note 1) | 57.4 (2.26) | 61.2 (2.41) | 65.1 (2.56) | (Note 1) | 64.4 (2.54) | 64.4 (2.54) | 61.2 (2.41) | 61.2 (2.41) | 67 (2.64) | 70.8 (2.79) | 78.5 (3.09) | 72.9 (2.87) | 76.6 (3.02) | 82.6 (3.25) | 68.9 (2.71) | 72.7 (2.86) |
| F | (Note 1) | 55.4 (2.18) | 60.1 (2.37) | (Note 1) | 58.7 (2.31) | 58.7 (2.31) | (Note 1) | 69.3 (2.73) | 73.9 (2.91) | 78.5 (3.09) | (Note 1) | 77.7 (3.06) | 77.7 (3.06) | 73.9 (2.91) | 73.9 (2.91) | 80.8 (3.18) | 85.5 (3.37) | 94.7 (3.73) | 88 (3.46) | 92.5 (3.64) | 99.7 (3.93) | 83.1 (3.27) | 87.8 (3.46) |
| G | (Note 1) | 17 (0.67) | 17 (0.67) | (Note 1) | 17 (0.67) | 17 (0.67) | (Note 1) | 17 (0.67) | 21 (0.83) | 21 (0.83) | (Note 1) | 20 (0.79) | 20 (0.79) | 17 (0.67) | 17 (0.67) | 17 (0.67) | 21 (0.83) | 23 (0.91) | 17 (0.67) | 20 (0.79) | 23 (0.91) | 17 (0.67) | 21 (0.83) |
| WEIGHT kg (lb) | 6.4 (14.11) | | | | | | 9.8 (21.61) | | | | | | 13.2 (29.11) | | | | | | | | | | |

(Note 1) The holes are not provided.
(Note 2) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

- High Process Temperature Version (/HT): DY025/HT to DY100/HT
- Cryogenic Version (/LT): DY015/LT to DY100/LT
- Flange type

Unit : mm
(approx. inch)



| TYPE | REMOTE | | | | | | | | | | | | | | | | | | | |
|--------------------|-------------|-------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| MODEL CODE | DY015/LT | | | | | | | | | DY025/LT, DY025/HT | | | | | | | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD4 | CA4 | CA5 | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD4 | CA4 | CA5 |
| L | 130 (5.12) | | | | | | | | | 150 (5.91) | | | | | | | | | | |
| C | 14.6 (0.57) | | | | | | | | | 25.7 (1.01) | | | | | | | | | | |
| D | 95 (3.74) | 95 (3.74) | 115 (4.53) | 88.9 (3.50) | 95.3 (3.75) | 95.3 (3.75) | 120.7 (4.75) | 95 (3.75) | 95.3 (3.75) | 120.7 (4.75) | 125 (4.92) | 125 (4.92) | 130 (5.12) | 108 (4.25) | 124 (4.88) | 124 (4.88) | 149.4 (5.88) | 115 (4.53) | 124 (4.88) | 149.4 (5.88) |
| H | 421 (16.57) | 421 (16.57) | 431 (16.97) | 418 (16.46) | 421 (16.57) | 421 (16.57) | 434 (17.09) | 421 (16.57) | 421 (16.57) | 434 (17.09) | 438 (17.24) | 438 (17.24) | 441 (17.36) | 430 (16.93) | 438 (17.24) | 438 (17.24) | 450 (17.72) | 438 (17.05) | 438 (17.24) | 450 (17.18) |
| H1 | 270 (10.63) | | | | | | | | | 272 (10.71) | | | | | | | | | | |
| T | 12 (0.47) | 14 (0.55) | 20 (0.79) | 11.2 (0.44) | 14.2 (0.56) | 21 (0.83) | 28.8 (1.13) | 16 (0.63) | 19.9 (0.78) | 28.8 (1.13) | 14 (0.55) | 16 (0.63) | 22 (0.87) | 14.2 (0.56) | 17.5 (0.69) | 24 (0.94) | 34.9 (1.37) | 18 (0.71) | 24 (0.94) | 34.9 (1.37) |
| J | 70 (2.76) | 70 (2.76) | 80 (3.15) | 60.5 (2.38) | 66.5 (2.62) | 66.5 (2.62) | 82.6 (3.25) | 66 (2.56) | 66.5 (2.62) | 82.6 (3.25) | 90 (3.54) | 90 (3.54) | 95 (3.74) | 80 (3.12) | 85 (3.30) | 85 (3.30) | 101.6 (4.00) | 85 (3.35) | 85 (3.50) | 101.6 (4.00) |
| N | 4 | | | | | | | | | 4 | | | | | | | | | | |
| G | 15 (0.59) | 15 (0.59) | 19 (0.75) | 15.7 (0.62) | 15.7 (0.62) | 15.7 (0.62) | 22.4 (0.88) | 14 (0.55) | 15.7 (0.62) | 22.4 (0.88) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 15.7 (0.62) | 19 (0.75) | 19 (0.75) | 25.4 (1.00) | 14 (0.55) | 19 (0.75) | 25.4 (1.00) |
| WEIGHT kg (lb) | 4.6 (10.14) | 4.7 (10.36) | 13.1 (28.89) | 4.5 (9.92) | 4.7 (10.36) | 4.7 (10.36) | 11.0 (24.33) | 4.6 (10.14) | 4.5 (9.92) | 11.0 (24.33) | 16.1 (35.49) | 16.5 (36.38) | 19.8 (43.66) | 15.4 (33.95) | 16.7 (36.81) | 17.8 (39.25) | 25.3 (55.77) | 16.1 (35.49) | 18.3 (40.35) | 26.2 (57.74) |

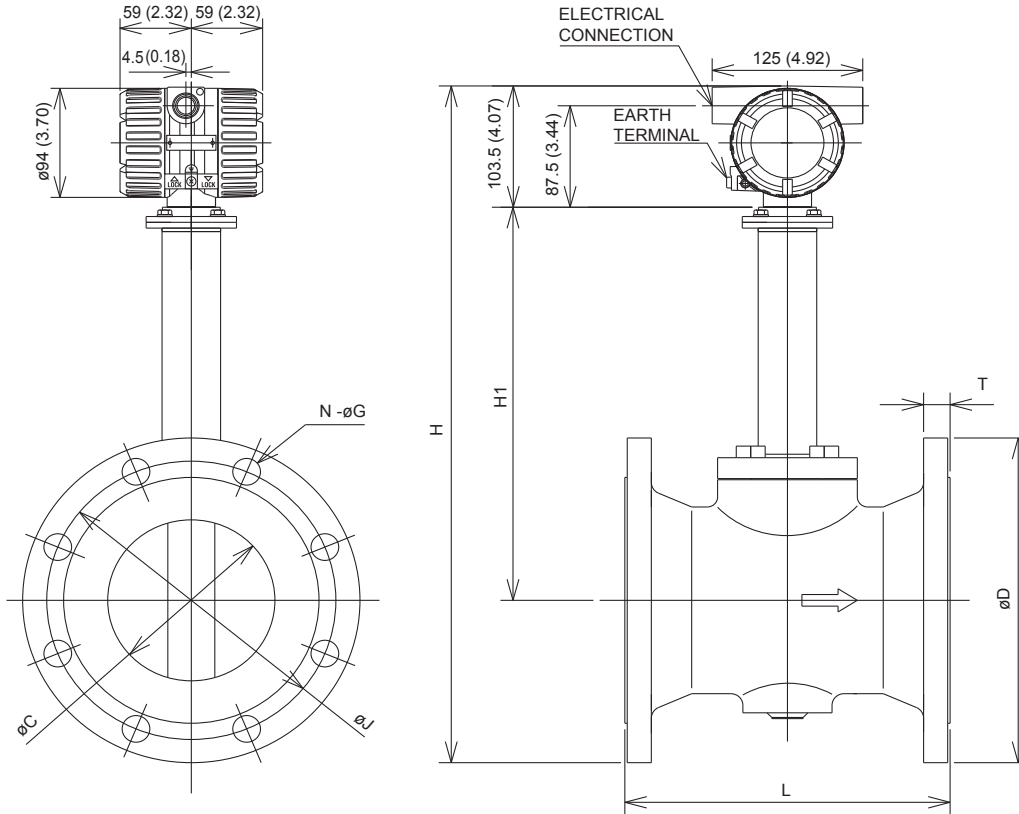
| TYPE | REMOTE | | | | | | | | | | | | | | | | | | | |
|--------------------|--------------------|-------------|--------------|-------------|--------------|--------------|--------------|-------------|--------------|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| MODEL CODE | DY040/LT, DY040/HT | | | | | | | | | DY050/LT, DY050/HT | | | | | | | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD4 | CA4 | CA5 | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD4 | CA4 | CA5 |
| L | 150 (5.91) | | | | | | | | | 170 (6.69) | | | | | | | | | | |
| C | 39.7 (1.56) | | | | | | | | | 51.1 (2.01) | | | | | | | | | | |
| D | 140 (5.51) | 140 (5.51) | 160 (6.30) | 127 (5.00) | 155.4 (6.12) | 155.4 (6.12) | 177.8 (7.00) | 150 (5.91) | 155.4 (6.12) | 177.8 (7.00) | 155 (6.10) | 155 (6.10) | 165 (6.50) | 152.4 (6.00) | 165.1 (6.50) | 165.1 (6.50) | 215.9 (8.50) | 165 (6.50) | 165.1 (6.50) | 215.9 (8.50) |
| H | 453 (17.83) | 453 (17.83) | 463 (18.23) | 446 (17.56) | 460 (18.11) | 460 (18.11) | 472 (18.58) | 458 (18.03) | 460 (18.11) | 472 (18.58) | 482 (18.98) | 482 (18.98) | 487 (19.17) | 470 (18.50) | 481 (18.94) | 487 (19.17) | 513 (20.20) | 487 (19.17) | 487 (19.17) | 513 (20.20) |
| H1 | 279 (10.98) | | | | | | | | | 301 (11.85) | | | | | | | | | | |
| T | 16 (0.63) | 18 (0.71) | 26 (1.02) | 17.5 (0.69) | 20.6 (0.81) | 28.8 (1.13) | 38.2 (1.50) | 18 (0.71) | 28.8 (1.13) | 38.2 (1.50) | 16 (0.63) | 18 (0.71) | 26 (1.02) | 19.1 (0.75) | 22.4 (0.88) | 31.8 (1.25) | 44.5 (1.75) | 20 (0.79) | 33.3 (1.31) | 46 (1.81) |
| J | 105 (4.13) | 105 (4.13) | 120 (4.72) | 98.6 (3.89) | 114.3 (4.50) | 114.3 (4.50) | 124 (4.89) | 110 (4.33) | 114.3 (4.50) | 124 (4.89) | 120 (4.72) | 120 (4.72) | 130 (5.12) | 105 (4.13) | 112 (4.41) | 112 (4.41) | 138.8 (5.46) | 112 (4.41) | 112 (4.41) | 138.8 (5.46) |
| N | 4 | | | | | | | | | 4 | | | | | | | | | | |
| G | 19 (0.75) | 19 (0.75) | 23 (0.91) | 15.7 (0.62) | 22.4 (0.88) | 22.4 (0.88) | 28.4 (1.12) | 18 (0.71) | 22.4 (0.88) | 28.4 (1.12) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 15.7 (0.62) | 19 (0.75) | 19 (0.75) | 25.4 (1.00) | 18 (0.71) | 19 (0.75) | 25.4 (1.00) |
| WEIGHT kg (lb) | 8.6 (18.96) | 8.8 (19.4) | 12.3 (27.12) | 8.5 (18.74) | 9.7 (21.39) | 9.7 (21.39) | 16.6 (36.6) | 8.5 (18.74) | 8.5 (18.74) | 16.6 (36.6) | 26.4 (58.18) | 27.5 (60.61) | 32.4 (71.41) | 26.8 (59.06) | 29.9 (65.89) | 33.5 (73.81) | 45.2 (99.65) | 26.8 (59.06) | 27.3 (60.15) | 32.4 (71.41) |

| TYPE | REMOTE | | | | | | | | | | | | | | | | | | | | | |
|--------------------|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|-------------|-------------|---------------|
| MODEL CODE | DY080/LT, DY080/HT | | | | | | | | | DY100/LT, DY100/HT | | | | | | | | | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD2 | BD3 to BD4 | CA4 | CA5 | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD2 | BD3 to BD4 | CA4 | CA5 |
| L | 200 (7.87) | | | | | | | | | 220 (8.66) | | | | | | | | | | | | |
| C | 71 (2.80) | | | | | | | | | 93.8 (3.69) | | | | | | | | | | | | |
| D | 185 (7.28) | 200 (7.87) | 210 (8.27) | 190.5 (7.50) | 209.6 (8.25) | 209.6 (8.25) | 241.3 (9.50) | 200 (7.87) | 200 (7.87) | 209.6 (8.25) | 241.3 (9.50) | 210 (8.27) | 225 (8.86) | 250 (9.84) | 228.6 (9.00) | 254 (10.00) | 254 (10.00) | 292.1 (11.50) | 220 (8.66) | 235 (9.25) | 273 (10.75) | 292.1 (11.50) |
| H | 514 (20.24) | 522 (20.55) | 527 (20.75) | 517 (20.35) | 527 (20.75) | 527 (20.75) | 542 (21.34) | 522 (20.55) | 522 (20.55) | 527 (20.75) | 542 (21.34) | 542 (21.34) | 549 (21.61) | 562 (22.13) | 552 (21.73) | 564 (22.20) | 573 (22.56) | 583 (22.95) | 547 (21.54) | 554 (21.81) | 583 (22.95) | 583 (22.95) |
| H1 | 318 (12.52) | | | | | | | | | 333 (13.11) | | | | | | | | | | | | |
| T | 18 (0.71) | 22 (0.87) | 32 (1.26) | 23.9 (0.94) | 28.4 (1.12) | 38.2 (1.50) | 44.5 (1.75) | 20 (0.79) | 24 (0.94) | 39.7 (1.56) | 46 (1.81) | 18 (0.71) | 24 (0.94) | 36 (1.42) | 23.9 (0.94) | 31.8 (1.25) | 44.5 (1.75) | 50.9 (2.00) | 20 (0.79) | 24 (0.94) | 46 (1.81) | 52.4 (2.06) |
| J | 150 (5.91) | 180 (6.89) | 170 (6.69) | 152.4 (6.00) | 168.2 (6.61) | 168 (6.61) | 190.5 (7.50) | 160 (6.30) | 160 (6.30) | 175 (6.89) | 180 (7.09) | 175 (6.89) | 185 (7.28) | 195 (7.68) | 160 (6.30) | 170 (6.69) | 185 (7.28) | 200 (7.87) | 170 (6.69) | 180 (7.09) | 190 (7.48) | 216 (8.50) |
| N | 8 | | | | | | | | | 8 | | | | | | | | | | | | |
| G | 19 (0.75) | 23 (0.91) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) | 22.4 (0.88) | 25.4 (1.00) | 18 (0.71) | 18 (0.71) | 22.4 (0.88) | 25.4 (1.00) | 19 (0.75) | 23 (0.91) | 25 (0.99) | 19 (0.75) | 22.4 (0.88) | 25.4 (1.00) | 31.8 (1.25) | 18 (0.71) | 22 (0.87) | 25.4 (1.00) | 31.8 (1.25) |
| WEIGHT kg (lb) | 17.8 (39.25) | 23.4 (51.58) | 23.8 (52.48) | 20.4 (44.98) | 24.2 (53.36) | 24.2 (53.36) | 36.1 (79.6) | 19.8 (43.66) | 19.8 (43.66) | 20.4 (44.98) | 24.2 (53.36) | 27.5 (60.61) | 36.7 (80.82) | 43.2 (95.16) | 27.2 (59.98) | 38.5 (84.89) | 38.3 (84.89) | 51.2 (112.9) | 27.5 (60.61) | 27.8 (61.3) | 33.2 (73.2) | 35.2 (77.5) |

(Note 1) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

■ High Process Temperature Version (/HT): DY150/HT to DY400/HT
 ■ Flange type

Unit : mm
 (approx. inch)



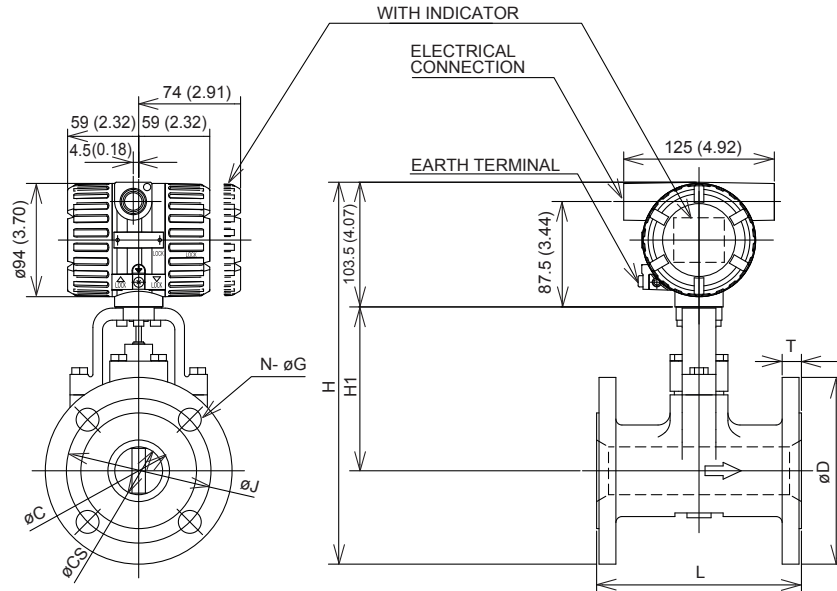
| TYPE | REMOTE | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|-------------------------|-------------|---------------|---------------|---------------|--------------|---------------|-----------------------|-----------------------|-------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------|
| | DY150/HT | | | | | | | | | | DY200/HT | | | | | | | | | | | | | |
| MODEL CODE | | | | | | | | | | | | | | | | | | | | | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD2 FD1 to FD2 | BD3 to BD4 FD3 to FD4 | CA4 | CA5 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 FD1 | BD2 FD2 | BD3 FD3 | BD4 FD4 | CA4 | CA5 | |
| L | 270 (10.63) | | | | | | | | | | 310 (12.20) | | | | | | | | | | | | | |
| C | 138.8 (5.46) | | | | | | | | | | 185.6 (7.31) | | | | | | | | | | | | | |
| D | 280 (11.02) | 305 (12.01) | 355 (13.98) | 279.4 (11.00) | 317.5 (12.50) | 356 (14.02) | 381 (15.00) | 285 (11.22) | 300 (11.81) | 356 (14.02) | 381 (15.00) | 330 (12.99) | 350 (13.78) | 342.9 (13.50) | 381 (15.00) | 419.1 (16.50) | 469.9 (18.50) | 340 (13.39) | 340 (13.39) | 360 (14.17) | 375 (14.76) | 419.1 (16.50) | 469.9 (18.50) | |
| H | Shedder Bar Material: X | 583 (22.95) | 595 (23.43) | 620 (24.41) | 582 (22.91) | 601 (23.66) | 621 (24.45) | 633 (24.92) | 585 (23.03) | 593 (23.35) | 621 (24.45) | 633 (24.92) | 640 (25.20) | 650 (25.59) | 646 (25.43) | 665 (26.18) | 684 (26.93) | 709 (27.91) | 645 (25.39) | 645 (25.39) | 655 (25.79) | 662 (26.06) | 684 (26.93) | 709 (27.91) |
| | Shedder Bar Material: B | 589 (23.23) | 602 (23.70) | 627 (24.69) | 589 (23.19) | 608 (23.94) | 628 (24.72) | 640 (25.20) | 592 (23.31) | 600 (23.62) | 628 (24.72) | 640 (25.20) | 647 (25.47) | 657 (25.87) | 653 (25.71) | 672 (26.46) | 691 (27.20) | 716 (28.19) | 652 (25.67) | 652 (25.67) | 662 (26.06) | 669 (26.34) | 691 (27.20) | 716 (28.19) |
| H1 | 339 (13.35) | | | | | | | | | | 371 (14.61) | | | | | | | | | | | | | |
| | Shedder Bar Material: B | 346 (13.62) | | | | | | | | | | 378 (14.88) | | | | | | | | | | | | |
| T | 22 (0.87) | 28 (1.10) | 44 (1.73) | 25.4 (1.00) | 36.6 (1.44) | 54.4 (2.14) | 62 (2.44) | 22 (0.87) | 28 (1.10) | 55.7 (2.19) | 63.6 (2.50) | 22 (0.87) | 30 (1.18) | 28.4 (1.12) | 41.1 (1.62) | 62 (2.44) | 69.9 (2.75) | 24 (0.95) | 24 (0.95) | 30 (1.18) | 34 (1.34) | 63.6 (2.50) | 71.4 (2.81) | |
| J | 240 (9.45) | 260 (10.24) | 295 (11.61) | 241.3 (9.50) | 269.7 (10.62) | 292 (11.50) | 317.5 (12.50) | 240 (9.45) | 250 (9.84) | 292 (11.50) | 317.5 (12.50) | 290 (11.42) | 305 (12.01) | 298.5 (11.75) | 330.2 (13.00) | 349.3 (13.75) | 393.7 (15.50) | 295 (11.61) | 295 (11.61) | 310 (12.20) | 320 (12.60) | 349.3 (13.75) | 393.7 (15.50) | |
| N | 8 | 12 | 12 | 8 | 12 | 12 | 12 | 8 | 8 | 12 | 12 | 12 | 12 | 8 | 12 | 12 | 8 | 12 | 12 | 12 | 12 | 12 | 12 | |
| G | 23 (0.91) | 25 (0.98) | 33 (1.30) | 22.4 (0.88) | 22.4 (0.88) | 28.4 (1.12) | 31.8 (1.25) | 22 (0.87) | 26 (1.02) | 28.4 (1.12) | 31.8 (1.25) | 23 (0.91) | 25 (0.98) | 22.4 (0.88) | 25.4 (1.00) | 31.8 (1.25) | 38.1 (1.50) | 22 (0.87) | 22 (0.87) | 26 (1.02) | 30 (1.18) | 31.8 (1.25) | 38.1 (1.50) | |
| WEIGHT kg (lb) | 33.4 (73.65) | 43.4 (95.7) | 76.4 (168.46) | 36.4 (80.26) | 54.4 (119.95) | 84.4 (186.1) | 106 (233.73) | 33.4 (73.65) | 42.9 (94.59) | 90 (198.45) | 107 (235.94) | 45.4 (100.11) | 52.4 (115.54) | 55.4 (122.16) | 80.4 (177.28) | 136 (299.88) | 182 (401.31) | 46.3 (102.09) | 46.3 (102.09) | 53.6 (118.19) | 55.9 (123.26) | 139 (306.5) | 183 (403.52) | |

| TYPE | REMOTE | | | | | | | | | | | |
|--------------------|--------------|-------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|-------------|---------------|---------------|
| | DY250/HT | | DY300/HT | | DY400/HT | | | | | | | |
| MODEL CODE | | | | | | | | | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 |
| L | 370 (14.57) | | 400 (15.75) | | 520 (20.47) | | | | | | | |
| C | 230.8 (9.09) | | 276.2 (10.87) | | 354.2 (13.94) | | | | | | | |
| D | 400 (15.75) | 430 (16.93) | 406.4 (16.00) | 444.5 (17.50) | 445 (17.52) | 480 (18.90) | 482.6 (19.00) | 520.7 (20.50) | 560 (22.05) | 605 (23.82) | 596.9 (23.5) | 647.7 (25.5) |
| H | 720 (28.35) | 735 (28.94) | 723 (28.46) | 742 (29.21) | 772 (30.39) | 790 (31.10) | 791 (31.14) | 810 (31.89) | 887.5 (34.94) | 910 (35.83) | 906 (35.67) | 931.4 (36.67) |
| H1 | 416 (16.38) | | 446 (17.56) | | 504 (19.84) | | | | | | | |
| T | 24 (0.94) | 34 (1.34) | 30.2 (1.19) | 47.8 (1.88) | 24 (0.94) | 36 (1.42) | 31.8 (1.25) | 50.8 (2.00) | 28 (1.10) | 46 (1.81) | 36.6 (1.44) | 57.2 (2.25) |
| J | 355 (13.98) | 380 (14.96) | 362 (14.25) | 374 (14.71) | 400 (15.75) | 430 (16.93) | 431.8 (17.00) | 450.9 (17.75) | 510 (20.08) | 540 (21.26) | 539.8 (21.25) | 571.5 (22.5) |
| N | 12 | 12 | 12 | 16 | 16 | 16 | 12 | 16 | 16 | 16 | 16 | 16 |
| G | 25 (0.98) | 27 (1.06) | 25.4 (1.00) | 28.5 (1.12) | 25 (0.98) | 27 (1.06) | 25.4 (1.00) | 31.8 (1.25) | 27 (1.06) | 33 (1.30) | 28.5 (1.12) | 35.1 (1.38) |
| WEIGHT kg (lb) | 78 (171.99) | 100 (220.5) | 90 (198.45) | 125 (275.63) | 100 (220.5) | 128 (282.24) | 140 (308.7) | 178 (392.49) | 265 (584.2) | 308 (679) | 300 (661.4) | 370 (815.7) |

(Note 1) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

■ Reduced Bore Type (/R1): DY025/R1 to DY150/R1
 ■ Flange type

Unit : mm
 (approx. inch)



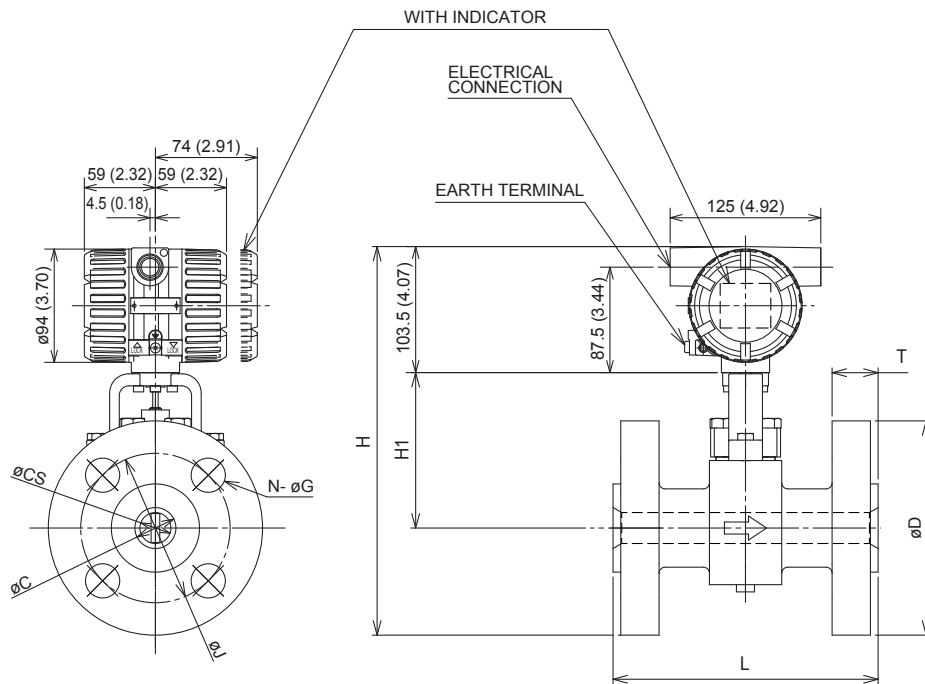
| TYPE | INTEGRAL/REMOTE | | | | | | | | | | | |
|--------------------|-----------------|-------------|---------------|---------------|---------------|---------------|-------------|--------------|-------------|-------------|---------------|--------------|
| MODEL CODE | DY025/R1 | | | | DY040/R1 | | | | DY050/R1 | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 |
| L | 150 (5.91) | | | | 150 (5.90) | | | | 170 (6.69) | | | |
| C | 25.7 (1.01) | | | | 39.7 (1.56) | | | | 51.1 (2.01) | | | |
| CS | 14.6 (0.57) | | | | 25.7 (1.01) | | | | 39.7 (1.56) | | | |
| D | 125 (4.92) | 125 (4.92) | 108 (4.25) | 124 (4.88) | 140 (5.51) | 140 (5.51) | 127 (5.00) | 155.4 (6.12) | 155 (6.10) | 155 (6.10) | 152.4 (6.00) | 165.1 (6.50) |
| H | 293 (11.54) | 293 (11.54) | 284.5 (11.20) | 292.5 (11.52) | 302.5 (11.91) | 302.5 (11.91) | 296 (11.65) | 310 (12.20) | 317 (12.48) | 317 (12.48) | 315.5 (12.42) | 322 (12.68) |
| H1 | 127 (5.00) | | | | 129 (5.08) | | | | 136 (5.35) | | | |
| T | 14 (0.55) | 16 (0.63) | 14.2 (0.56) | 17.5 (0.69) | 16 (0.63) | 18 (0.71) | 17.5 (0.69) | 20.6 (0.81) | 16 (0.63) | 18 (0.71) | 19.1 (0.75) | 22.4 (0.88) |
| J | 90 (3.54) | 90 (3.54) | 79.2 (3.12) | 89 (3.50) | 105 (4.13) | 105 (4.13) | 98.6 (3.88) | 114.3 (4.5) | 120 (4.72) | 120 (4.72) | 120.7 (4.75) | 127 (5.00) |
| N | 4 | | | | 4 | | | | 4 | | | |
| G | 19 (0.75) | 19 (0.75) | 15.7 (0.62) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 15.7 (0.62) | 22.4 (0.88) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 19 (0.75) |
| WEIGHT kg (lb) | 6.1 (13.4) | 6.5 (14.3) | 5.5 (12.1) | 7 (15.4) | 9.5 (20.9) | 10.1 (22.3) | 9.4 (20.7) | 12.6 (27.8) | 10.5 (23.1) | 11.1 (24.5) | 11.4 (25.1) | 13.6 (30.0) |

| TYPE | INTEGRAL/REMOTE | | | | | | | | | | | |
|--------------------|-----------------|---------------|--------------|---------------|---------------|-------------|--------------|---------------|---------------|--------------|---------------|---------------|
| MODEL CODE | DY080/R1 | | | | DY100/R1 | | | | DY150/R1 | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 |
| L | 200 (7.87) | | | | 220 (8.66) | | | | 270 (10.63) | | | |
| C | 71 (2.80) | | | | 93.8 (3.69) | | | | 138.8 (5.46) | | | |
| CS | 51.1 (2.01) | | | | 71 (2.80) | | | | 93.8 (3.69) | | | |
| D | 185 (7.28) | 200 (7.87) | 190.5 (7.50) | 209.6 (8.25) | 210 (8.27) | 225 (8.86) | 228.6 (9.00) | 254 (10.00) | 280 (11.02) | 305 (12.01) | 279.4 (11.00) | 317.5 (12.50) |
| H | 354 (13.94) | 361.5 (14.23) | 357 (14.06) | 366.5 (14.43) | 383.5 (15.10) | 391 (15.39) | 393 (15.47) | 405.5 (15.97) | 433.5 (17.07) | 446 (17.56) | 433 (17.05) | 452 (17.80) |
| H1 | 158 (6.22) | | | | 175 (6.89) | | | | 190 (7.48) | | | |
| T | 18 (0.71) | 22 (0.87) | 23.9 (0.94) | 28.4 (1.12) | 18 (0.71) | 24 (0.94) | 23.9 (0.94) | 31.8 (1.25) | 22 (0.87) | 28 (1.10) | 25.4 (1.00) | 36.6 (1.44) |
| J | 150 (5.91) | 160 (6.30) | 152.4 (6.00) | 168.2 (6.62) | 175 (6.89) | 185 (7.28) | 190.5 (7.50) | 200.2 (7.88) | 240 (9.45) | 260 (10.24) | 241.3 (9.50) | 269.7 (10.62) |
| N | 8 | 8 | 4 | 8 | 8 | | | | 8 | 12 | 8 | 12 |
| G | 19 (0.75) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) | 19 (0.75) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) | 23 (0.91) | 25 (0.98) | 22.4 (0.88) | 22.4 (0.88) |
| WEIGHT kg (lb) | 18.6 (41.0) | 21.7 (47.8) | 21.9 (48.3) | 26.9 (59.3) | 25 (55.1) | 30 (66.1) | 30.6 (67.5) | 41 (90.4) | 45.9 (101.2) | 56.3 (124.1) | 49.4 (108.9) | 71.7 (158.1) |

(Note 1) Integral weight is the same as Remote.
 (Note 2) In case of with Indicator, add 0.2kg (0.4lb).
 (Note 3) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

- Reduced Bore Type (/R1): DY025/R1 to DY150/R1
- High pressure flange type

Unit : mm
(approx. inch)

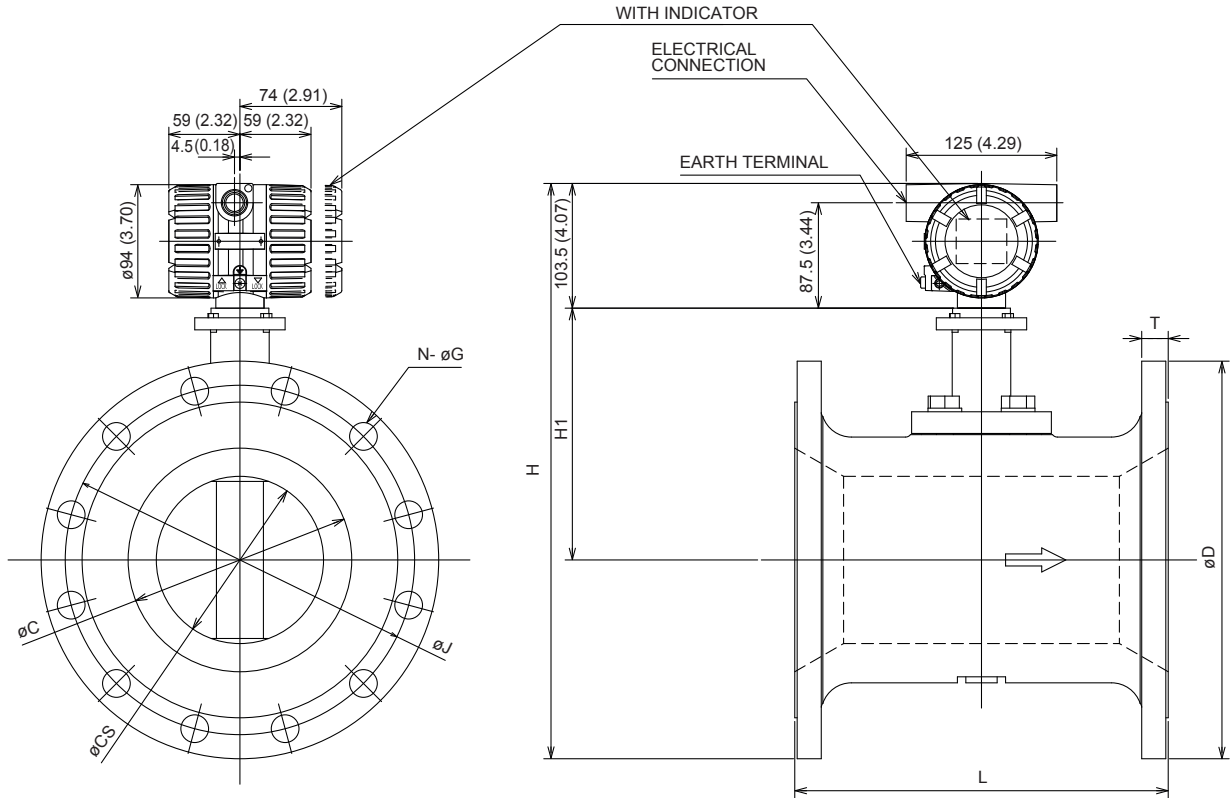


| TYPE | INTEGRAL/REMOTE | | | | | | | | | | | |
|----------------|-----------------|-------------|---------------|-------------|---------------|-------------|---------------|--------------|---------------|---------------|---------------|---------------|
| | DY025/R1 | | DY040/R1 | | DY050/R1 | | DY080/R1 | | DY100/R1 | | DY150/R1 | |
| MODEL CODE | BA6 | CA6 | BA6 | CA6 | BA6 | CA6 | BA6 | CA6 | BA6 | CA6 | BA6 | CA6 |
| L | 220 (8.66) | | 220 (8.66) | | 230 (9.06) | | 280 (11.02) | | 300 (11.81) | | 400 (15.75) | |
| C | 20.7 (0.81) | | 34 (1.34) | | 42.8 (1.69) | | 66.6 (2.62) | | 87.3 (3.44) | | 131.8 (5.19) | |
| CS | 14.6 (0.57) | | 25.7 (1.01) | | 39.7 (1.56) | | 51.1 (2.01) | | 71 (2.80) | | 93.8 (3.69) | |
| D | 149.4 (5.88) | | 177.8 (7.00) | | 215.9 (8.50) | | 266.7 (10.50) | | 311.2 (12.25) | | 393.7 (15.50) | |
| H | 305.2 (12.02) | | 321.4 (12.65) | | 347.5 (13.68) | | 394.9 (15.55) | | 434.1 (17.09) | | 490.4 (19.31) | |
| H1 | 127 (5.00) | | 129 (5.08) | | 136 (5.35) | | 158 (6.22) | | 175 (6.89) | | 190 (7.48) | |
| T | 34.9 (1.37) | | 38.2 (1.50) | | 44.5 (1.75) | 46.1 (1.81) | 54.2 (2.13) | 55.8 (2.20) | 60.3 (2.37) | 61.8 (2.43) | 89 (3.50) | 92.1 (3.63) |
| J | 101.6 (4.00) | | 124 (4.88) | | 165.1 (6.50) | | 203.2 (8.00) | | 241.3 (9.50) | | 317.5 (12.50) | |
| N | 4 | | 4 | | 8 | | 8 | | 8 | | 12 | |
| G | 25.4 (1.00) | | 28.4 (1.12) | | 25.4 (1.00) | | 31.8 (1.25) | | 35.1 (1.38) | | 38.1 (1.50) | |
| WEIGHT kg (lb) | 14.4 (31.7) | 15.7 (34.6) | 22.9 (50.5) | 24.7 (54.5) | 37.2 (82.0) | 40.2 (88.6) | 68.5 (151.0) | 72.7 (160.3) | 103.5 (228.2) | 108.5 (239.2) | 229.3 (505.5) | 235.7 (519.6) |

(Note 1) Integral weight is the same as Remote.
 (Note 2) In case of with Indicator, add 0.2kg (0.4lb).
 (Note 3) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

- Reduced Bore Type (/R1): DY200/R1
- Flange type

Unit : mm
(approx. inch)

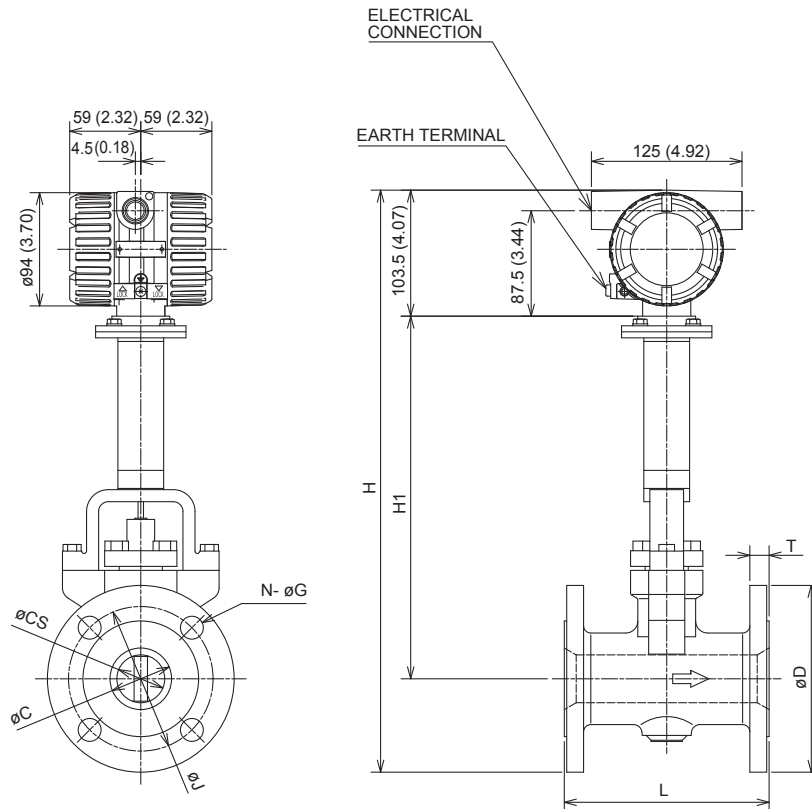


| TYPE | INTEGRAL/REMOTE | | | | |
|--------------------|-------------------------------|---------------|---------------|---------------|-------------|
| MODEL CODE | DY200/R1 | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | |
| L | 310 (12.20) | | | | |
| C | 185.6 (7.31) | | | | |
| CS | 138.8 (5.46) | | | | |
| D | 330 (12.99) | 350 (13.78) | 342.9 (13.50) | 381 (15.00) | |
| H | Shedder Bar Material: L, E, X | 477.5 (18.80) | 487.5 (19.19) | 484 (19.06) | 503 (19.80) |
| | Shedder Bar Material: B | 484.5 (19.07) | 494.5 (19.47) | 491 (19.33) | 510 (20.08) |
| H1 | Shedder Bar Material: L, E, X | 209 (8.23) | | | |
| | Shedder Bar Material: B | 216 (8.50) | | | |
| T | 22 (0.87) | 30 (1.18) | 28.4 (1.12) | 41.1 (1.62) | |
| J | 290 (11.42) | 305 (12.01) | 298.5 (11.75) | 330.2 (13.00) | |
| N | 12 | 12 | 8 | 12 | |
| G | 23 (0.91) | 25 (0.98) | 22.4 (0.88) | 25.4 (1.00) | |
| WEIGHT kg (lb) | 58.7 (129.4) | 74.1 (163.4) | 70.7 (155.9) | 102.9 (226.9) | |

(Note 1) Integral weight is the same as Remote.
 (Note 2) In case of with Indicator, add 0.2kg (0.4lb).
 (Note 3) The flow direction is reversed (right to left: when facing onto indicator) in case of code/CRC.

■ High Process Temperature Version Reduced Bore Type (/HT/R1): DY040/HT/R1 to DY150/HT/R1
 ■ Flange type

Unit : mm
 (approx. inch)



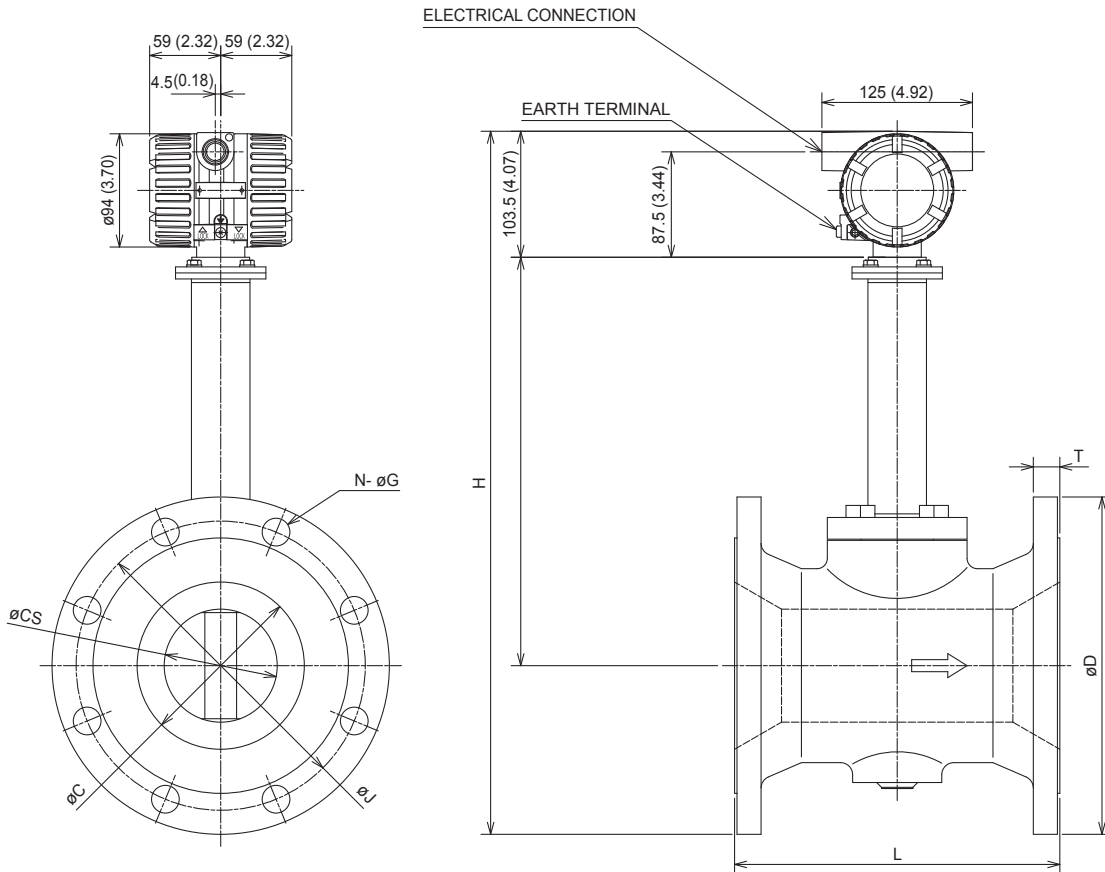
| TYPE | REMOTE | | | | | | | | | | | |
|--------------------|---------------|---------------|-------------|--------------|-------------|-------------|---------------|--------------|-------------|---------------|--------------|---------------|
| MODEL CODE | DY040/HT/R1 | | | | DY050/HT/R1 | | | | DY080/HT/R1 | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 |
| L | 150 (5.90) | | | | 170 (6.69) | | | | 200 (7.87) | | | |
| C | 39.7 (1.56) | | | | 51.1 (2.01) | | | | 71 (2.79) | | | |
| CS | 25.7 (1.01) | | | | 39.7 (1.56) | | | | 51.1 (2.01) | | | |
| D | 140 (5.51) | 140 (5.51) | 127 (5.00) | 155.4 (6.12) | 155 (6.10) | 155 (6.10) | 152.4 (6.00) | 165.1 (6.50) | 185 (7.28) | 200 (7.87) | 190.5 (7.50) | 209.6 (8.25) |
| H | 445.5 (17.54) | 445.5 (17.54) | 439 (17.28) | 453 (17.83) | 460 (18.11) | 460 (18.11) | 458.5 (18.05) | 465 (18.30) | 497 (19.57) | 504.5 (19.86) | 500 (19.68) | 509.5 (20.05) |
| H1 | 272 (10.71) | | | | 279 (10.98) | | | | 301 (11.85) | | | |
| T | 16 (0.63) | 18 (0.71) | 17.5 (0.69) | 20.6 (0.81) | 16 (0.63) | 18 (0.71) | 19.1 (0.75) | 22.4 (0.88) | 18 (0.71) | 22 (0.87) | 23.9 (0.94) | 28.4 (1.11) |
| J | 105 (4.13) | 105 (4.13) | 98.6 (3.88) | 114.3 (4.50) | 120 (4.72) | 120 (4.72) | 120.7 (4.75) | 127 (5.00) | 150 (5.91) | 160 (6.30) | 152.4 (6.00) | 168.2 (6.62) |
| N | 4 | | | | 4 | | | | 8 | | | |
| G | 19 (0.75) | 19 (0.75) | 15.7 (0.62) | 22.4 (0.88) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) |
| WEIGHT kg (lb) | 10 (22.0) | 10.5 (23.1) | 9.8 (21.6) | 13 (28.7) | 10.9 (24.0) | 11.5 (25.4) | 11.8 (26.0) | 14 (30.9) | 19 (41.9) | 22.1 (48.7) | 22.3 (49.2) | 27.3 (60.2) |

| TYPE | REMOTE | | | | | | | |
|--------------------|---------------|-------------|--------------|---------------|---------------|--------------|---------------|---------------|
| MODEL CODE | DY100/HT/R1 | | | | DY150/HT/R1 | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 |
| L | 220 (8.66) | | | | 270 (10.63) | | | |
| C | 93.8 (3.69) | | | | 138.8 (5.46) | | | |
| CS | 71 (2.79) | | | | 93.8 (3.69) | | | |
| D | 210 (8.27) | 225 (8.86) | 228.6 (9.00) | 254 (10.00) | 280 (11.02) | 305 (12.01) | 279.4 (11.00) | 317.5 (12.50) |
| H | 526.5 (20.73) | 534 (21.02) | 536 (21.10) | 548.5 (21.59) | 576.5 (22.70) | 589 (23.19) | 576 (22.68) | 595.5 (23.44) |
| H1 | 318 (12.52) | | | | 333 (13.11) | | | |
| T | 18 (0.71) | 24 (0.94) | 23.9 (0.94) | 31.8 (1.25) | 22 (0.87) | 28 (1.10) | 25.4 (1.00) | 36.6 (1.44) |
| J | 175 (6.89) | 185 (7.28) | 190.5 (7.50) | 200.2 (7.88) | 240 (9.45) | 260 (10.24) | 241.3 (9.50) | 269.7 (10.62) |
| N | 8 | | | | 12 | | | |
| G | 19 (0.75) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) | 23 (0.91) | 25 (0.98) | 22.4 (0.88) | 22.4 (0.88) |
| WEIGHT kg (lb) | 25.4 (56.0) | 30.4 (67.0) | 31 (68.3) | 41.4 (91.3) | 45.9 (101.2) | 56.3 (124.1) | 49.4 (108.9) | 71.7 (158.1) |

(Note 1) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

- High Process Temperature Version Reduced Bore Type (/HT/R1): DY200/HT/R1
- Flange type

Unit : mm
(approx. inch)

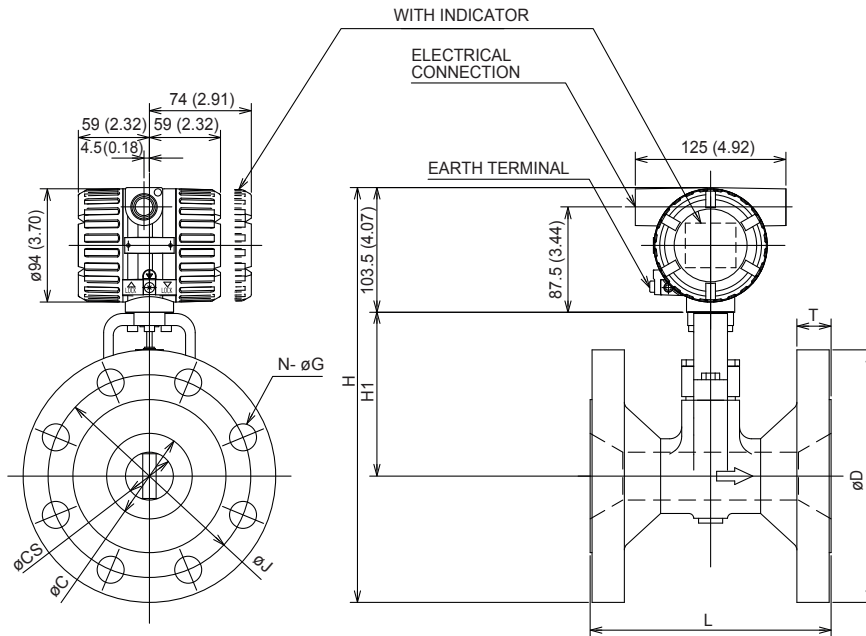


| TYPE | REMOTE | | | | |
|--------------------|-------------------------|---------------|---------------|---------------|-------------|
| MODEL CODE | DY200/HT/R1 | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | |
| L | 310 (12.20) | | | | |
| C | 185.6 (7.31) | | | | |
| CS | 138.8 (5.46) | | | | |
| D | 330 (12.99) | 350 (13.78) | 342.9 (13.5) | 381 (15.0) | |
| H | Shedder Bar Material: X | 607.5 (23.92) | 617.5 (24.31) | 614 (24.17) | 633 (24.92) |
| | Shedder Bar Material: B | 614.5 (24.19) | 624.5 (24.59) | 621 (24.45) | 640 (25.20) |
| H1 | Shedder Bar Material: X | 339 (13.35) | | | |
| | Shedder Bar Material: B | 346 (13.62) | | | |
| T | 22 (0.87) | 30 (1.18) | 28.4 (1.11) | 41.1 (1.62) | |
| J | 290 (11.42) | 305 (12.01) | 298.5 (11.75) | 330.2 (13.00) | |
| N | 12 | 12 | 8 | 12 | |
| G | 23 (0.91) | 25 (0.98) | 22.4 (0.88) | 25.4 (1.00) | |
| WEIGHT kg (lb) | 58.7 (129.4) | 74.1 (163.4) | 70.7 (155.9) | 102.9 (226.9) | |

(Note 1) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

- Reduced Bore Type (/R2): DY040/R2 to DY200/R2
- Flange type

Unit : mm
(approx. inch)

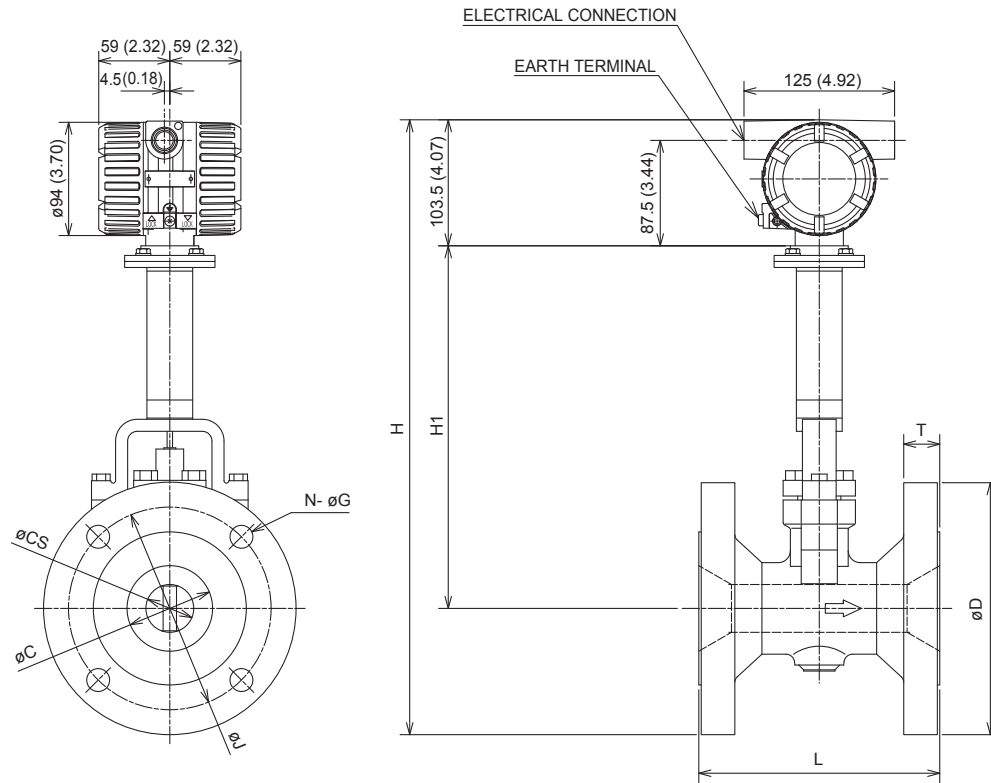


| TYPE | INTEGRAL/REMOTE | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|-----------------|---------------|-------------|---------------|-------------|-------------|---------------|---------------|-------------|---------------|---------------|---------------|---------------|-------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| MODEL CODE | DY040/R2 | | | | DY050/R2 | | | | DY080/R2 | | | | DY100/R2 | | | | DY150/R2 | | | | DY200/R2 | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 |
| L | 150 (5.90) | | | | 170 (6.69) | | | | 200 (7.87) | | | | 220 (8.66) | | | | 270 (10.63) | | | | 310 (12.20) | | | |
| C | 39.7 (1.56) | | | | 51.1 (2.01) | | | | 71 (2.79) | | | | 93.8 (3.69) | | | | 138.8 (5.46) | | | | 185.6 (7.30) | | | |
| CS | 14.6 (0.57) | | | | 25.7 (1.01) | | | | 39.7 (1.56) | | | | 51.1 (2.01) | | | | 71 (2.79) | | | | 93.8 (3.69) | | | |
| D | 140 (5.51) | 140 (5.51) | 127 (4.94) | 155.4 (6.12) | 155 (6.10) | 155 (6.10) | 152.4 (6.00) | 165.1 (6.50) | 185 (7.28) | 200 (7.87) | 190.5 (7.50) | 209.6 (8.25) | 210 (8.27) | 225 (8.86) | 228.6 (9.00) | 254 (10.00) | 280 (11.02) | 305 (12.01) | 279.4 (11.00) | 317.5 (12.50) | 330 (12.99) | 350 (13.78) | 342.9 (13.50) | 381 (15.00) |
| H | 300.5 (11.83) | 300.5 (11.83) | 294 (11.57) | 308.2 (12.13) | 310 (12.20) | 310 (12.20) | 308.7 (12.15) | 315.1 (12.40) | 332 (13.07) | 339.5 (13.37) | 334.8 (13.18) | 344.3 (13.55) | 366.5 (14.43) | 374 (14.72) | 375.8 (14.80) | 388.5 (15.30) | 418.5 (16.48) | 431 (16.97) | 418.2 (16.46) | 437.3 (17.22) | 458.5 (18.05) | 468.5 (18.44) | 465 (18.31) | 484 (19.06) |
| H1 | 127 (4.94) | | | | 129 (5.07) | | | | 136 (5.35) | | | | 158 (6.22) | | | | 175 (6.89) | | | | 190 (7.48) | | | |
| T | 16 (0.63) | 18 (0.71) | 17.5 (0.69) | 20.6 (0.81) | 16 (0.63) | 18 (0.71) | 19.1 (0.75) | 22.4 (0.88) | 18 (0.71) | 22 (0.87) | 23.9 (0.94) | 28.4 (1.11) | 18 (0.71) | 24 (0.94) | 23.9 (0.94) | 31.8 (1.25) | 22 (0.87) | 28 (1.10) | 25.4 (1.00) | 36.6 (1.44) | 22 (0.87) | 30 (1.18) | 28.4 (1.11) | 41.1 (1.62) |
| J | 105 (4.13) | 105 (4.13) | 98.6 (3.88) | 114.3 (4.50) | 120 (4.72) | 120 (4.72) | 120.7 (4.75) | 127 (5.00) | 150 (5.91) | 160 (6.30) | 152.4 (6.00) | 168.2 (6.62) | 175 (6.89) | 185 (7.28) | 190.5 (7.50) | 200.2 (7.88) | 240 (9.45) | 260 (10.24) | 241.3 (9.50) | 269.7 (10.62) | 290 (11.42) | 305 (12.01) | 298.5 (11.75) | 330.2 (13.00) |
| N | 4 | | | | 4 | 8 | 4 | 8 | 8 | 8 | 4 | 8 | 8 | | | | 8 | 12 | 8 | 12 | 12 | 12 | 8 | 12 |
| G | 19 (0.75) | 19 (0.75) | 15.7 (0.62) | 22.4 (0.88) | 19 (0.75) | | | | 19 (0.75) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) | 19 (0.75) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) | 23 (0.91) | 25 (0.98) | 22.4 (0.88) | 22.4 (0.88) | 23 (0.91) | 25 (0.98) | 22.4 (0.88) | 25.4 (1.00) |
| WEIGHT kg (lb) | 7.7 (17.0) | 7.9 (17.4) | 7.6 (16.8) | 8.8 (19.4) | 10 (22.0) | 10.5 (23.1) | 10.6 (23.4) | 12.1 (26.7) | 13.6 (30.0) | 16.2 (35.7) | 16.2 (35.7) | 20 (44.1) | 20.9 (46.1) | 24.9 (54.9) | 25.5 (56.2) | 34 (75.0) | 40.3 (88.8) | 50.3 (110.9) | 43.3 (95.5) | 61.3 (135.1) | 61.9 (136.5) | 68.9 (151.9) | 71.9 (158.5) | 96.9 (213.6) |

(Note 1) Integral weight is the same as Remote.
 (Note 2) In case of with Indicator, add 0.2kg (0.4lb).
 (Note 3) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

■ High Process Temperature Version Reduced Bore Type (/HT/R2): DY050/HT/R2 to DY200/HT/R2

Unit : mm
(approx. inch)

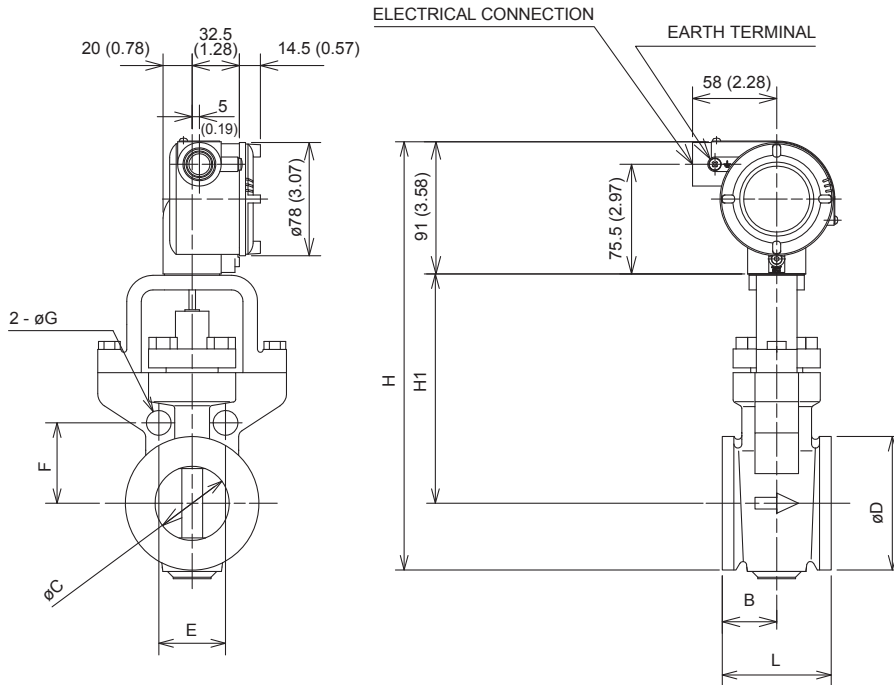


| TYPE | REMOTE | | | | | | | | | | | | | | | | | | | |
|----------------|-------------|-------------|---------------|---------------|-------------|---------------|---------------|---------------|---------------|-------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | DY050/HT/R2 | | | | DY080/HT/R2 | | | | DY100/HT/R2 | | | | DY150/HT/R2 | | | | DY200/HT/R2 | | | |
| MODEL CODE | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 |
| L | 170 (6.69) | | | | 200 (7.87) | | | | 220 (8.66) | | | | 270 (10.63) | | | | 310 (12.20) | | | |
| C | 51.1 (2.01) | | | | 71 (2.79) | | | | 93.8 (3.69) | | | | 138.8 (5.46) | | | | 185.6 (7.30) | | | |
| CS | 25.7 (1.01) | | | | 39.7 (1.56) | | | | 51.1 (2.01) | | | | 71 (2.79) | | | | 93.8 (3.69) | | | |
| D | 155 (6.10) | 155 (6.10) | 152.4 (6.00) | 165.1 (6.50) | 185 (7.28) | 200 (7.87) | 190.5 (7.50) | 209.6 (8.25) | 210 (8.27) | 225 (8.86) | 228.6 (9.00) | 254 (10.00) | 280 (11.02) | 305 (12.01) | 279.4 (11.00) | 317.5 (12.5) | 330 (12.99) | 350 (13.78) | 342.9 (13.5) | 381 (15.00) |
| H | 453 (17.95) | 453 (17.95) | 451.7 (17.78) | 458.1 (18.03) | 475 (18.70) | 482.5 (19.00) | 477.8 (18.81) | 487.3 (19.19) | 509.5 (20.06) | 517 (20.35) | 518.8 (20.43) | 531.5 (20.93) | 561.5 (22.11) | 574 (22.60) | 561.2 (22.09) | 580.3 (22.85) | 601.5 (23.68) | 611.5 (24.07) | 608 (23.94) | 627 (24.69) |
| H1 | 272 (10.71) | | | | 279 (10.98) | | | | 301 (11.85) | | | | 318 (12.52) | | | | 333 (13.11) | | | |
| T | 16 (0.63) | 18 (0.71) | 19.1 (0.75) | 22.4 (0.88) | 18 (0.71) | 22 (0.87) | 23.9 (0.94) | 28.4 (1.11) | 18 (0.71) | 24 (0.94) | 23.9 (0.94) | 31.8 (1.25) | 22 (0.87) | 28 (1.10) | 25.4 (1.0) | 36.6 (1.44) | 22 (0.87) | 30 (1.18) | 28.4 (1.11) | 41.1 (1.62) |
| J | 120 (4.72) | 120 (4.72) | 120.7 (4.75) | 127 (5.00) | 150 (5.91) | 160 (6.30) | 152.4 (6.00) | 168.2 (6.62) | 175 (6.89) | 185 (7.28) | 190.5 (7.50) | 200.2 (7.88) | 240 (9.45) | 260 (10.24) | 241.3 (9.50) | 269.7 (10.62) | 290 (11.42) | 305 (12.01) | 298.5 (11.75) | 330.2 (13.00) |
| N | 4 | 8 | 4 | 8 | 8 | 8 | 4 | 8 | 8 | | | | 8 | 12 | 8 | 12 | 12 | 12 | 8 | 12 |
| G | 19 (0.75) | | | | 19 (0.75) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) | 19 (0.75) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) | 23 (0.91) | 25 (0.98) | 22.4 (0.88) | 22.4 (0.88) | 23 (0.91) | 25 (0.98) | 22.4 (0.88) | 25.4 (1.00) |
| WEIGHT kg (lb) | 10.4 (23.0) | 10.9 (24.0) | 11 (24.3) | 12.5 (27.6) | 14 (30.9) | 16.6 (36.6) | 16.6 (36.6) | 20.4 (45.0) | 21.3 (47.0) | 25.3 (55.8) | 25.9 (57.1) | 34.4 (75.8) | 40.3 (88.8) | 50.3 (110.9) | 43.3 (95.5) | 61.3 (135.1) | 61.9 (136.5) | 68.9 (151.9) | 71.9 (158.5) | 96.9 (213.6) |

(Note 1) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

■ Stainless Steel Housing: DY015/E1 to DY100/E1
 ■ Wafer Type

Unit : mm
 (approx. inch)



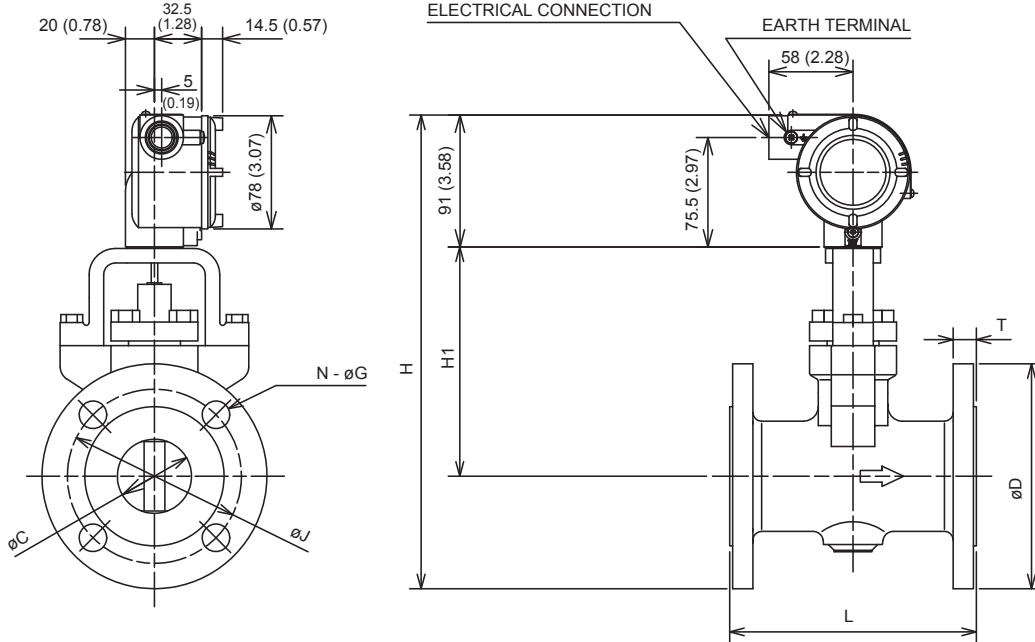
| TYPE MODEL CODE | REMOTE | | | | | | | | | | | | | | | | | | | | |
|--------------------|--------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-----------|-------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | DY015/E1 | | | | | | DY025/E1 | | | | | | DY040/E1 | | | | | | | | |
| PROCESS CONNECTION | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 to AD4 | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 to AD4 | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 to AD4 |
| L | 70 (2.76) | | | | | | 70 (2.76) | | | | | | 70 (2.76) | | | | | | | | |
| B | 35 (1.38) | | | | | | 35 (1.38) | | | | | | 35 (1.38) | | | | | | | | |
| C | 14.6 (0.57) | | | | | | 25.7 (1.01) | | | | | | 39.7 (1.56) | | | | | | | | |
| D | 35.1 (1.38) | | | | | | 50.8 (2.00) | | | | | | 73 (2.87) | | | | | | | | |
| H | 235.5 (9.27) | | | | | | 245.4 (9.66) | | | | | | 263.5 (10.37) | | | | | | | | |
| H1 | 127 (5.00) | | | | | | 129 (5.08) | | | | | | 136 (5.35) | | | | | | | | |
| E | 49.5 (1.95) | 49.5 (1.95) | 56.6 (2.23) | 42.7 (1.68) | 47.1 (1.85) | 47.1 (1.85) | 46 (1.81) | 63.6 (2.50) | 63.6 (2.50) | 67.2 (2.65) | 56 (2.20) | 62.9 (2.48) | 62.9 (2.48) | 60.1 (2.37) | 74.2 (2.92) | 74.2 (2.92) | 84.9 (3.34) | 69.7 (2.74) | 80.8 (3.18) | 80.8 (3.18) | 77.8 (3.06) |
| F | 24.7 (0.97) | 24.7 (0.97) | 28.3 (1.11) | 21.4 (0.84) | 23.5 (0.93) | 23.5 (0.93) | 23 (0.91) | 31.8 (1.25) | 31.8 (1.25) | 33.6 (1.32) | 28 (1.10) | 31.4 (1.24) | 31.4 (1.24) | 30.1 (1.19) | 37.1 (1.46) | 37.1 (1.46) | 42.4 (1.67) | 34.8 (1.37) | 40.4 (1.59) | 40.4 (1.59) | 38.9 (1.53) |
| G | 13 (0.51) | 13 (0.51) | 17 (0.67) | 14 (0.55) | 14 (0.55) | 14 (0.55) | 13 (0.51) | 17 (0.67) | 17 (0.67) | 17 (0.67) | 14 (0.55) | 17 (0.67) | 17 (0.67) | 13 (0.51) | 17 (0.67) | 17 (0.67) | 21 (0.83) | 14 (0.55) | 20 (0.79) | 20 (0.79) | 17 (0.67) |
| WEIGHT kg (lb) | 2.9 (6.4) | | | | | | 3.8 (8.4) | | | | | | 4.4 (9.7) | | | | | | | | |

| TYPE MODEL CODE | REMOTE | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-----|-----|---------|---------|
| | DY050/E1 | | | | | | DY080/E1 | | | | | | DY100/E1 | | | | | | | | | | |
| PROCESS CONNECTION | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 to AD4 | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 AD2 | AD3 AD4 | AJ1 | AJ2 | AJ4 | AA1 | AA2 | AA4 | AD1 AD2 | AD3 AD4 |
| L | 75 (2.95) | | | | | | 100 (3.94) | | | | | | 120 (4.72) | | | | | | | | | | |
| B | 37.5 (1.48) | | | | | | 40 (1.57) | | | | | | 50 (1.97) | | | | | | | | | | |
| C | 51.1 (2.01) | | | | | | 71 (2.80) | | | | | | 93.8 (3.69) | | | | | | | | | | |
| D | 92 (3.62) | | | | | | 127 (5.00) | | | | | | 157.2 (6.19) | | | | | | | | | | |
| H | 295 (11.61) | | | | | | 329.5 (12.97) | | | | | | 359.6 (14.16) | | | | | | | | | | |
| H1 | 158 (6.22) | | | | | | 175 (6.89) | | | | | | 190 (7.48) | | | | | | | | | | |
| E | 45.9 (1.81) | 49.8 (1.96) | 48.6 (1.91) | 48.6 (1.91) | 57.4 (2.26) | 61.2 (2.41) | 65.1 (2.56) | 64.4 (2.54) | 64.4 (2.54) | 61.2 (2.41) | 61.2 (2.41) | 67 (2.64) | 70.8 (2.79) | 78.5 (3.09) | 72.9 (2.87) | 76.6 (3.02) | 82.6 (3.25) | 68.9 (2.71) | 72.7 (2.86) | | | | |
| F | 55.4 (2.18) | 60.1 (2.37) | 58.7 (2.31) | 58.7 (2.31) | 69.3 (2.73) | 73.9 (2.91) | 78.5 (3.09) | 77.7 (3.06) | 77.7 (3.06) | 73.9 (2.91) | 73.9 (2.91) | 80.8 (3.18) | 85.5 (3.37) | 94.7 (3.73) | 88 (3.46) | 92.5 (3.64) | 99.7 (3.93) | 83.1 (3.27) | 87.8 (3.46) | | | | |
| G | 17 (0.67) | 17 (0.67) | 17 (0.67) | 17 (0.67) | 17 (0.67) | 21 (0.83) | 21 (0.83) | 20 (0.79) | 20 (0.79) | 17 (0.67) | 17 (0.67) | 17 (0.67) | 21 (0.83) | 23 (0.91) | 17 (0.67) | 20 (0.79) | 23 (0.91) | 17 (0.67) | 21 (0.83) | | | | |
| WEIGHT kg (lb) | 6.1 (13.4) | | | | | | 9.5 (20.9) | | | | | | 12.9 (28.4) | | | | | | | | | | |

(Note 1) The holes are not provided.
 (Note 2) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

■ Stainless Steel Housing: DY015/E1 to DY100/E1
 ■ Flange type

Unit : mm
(approx. inch)



| TYPE | REMOTE | | | | | | | | | | | | | | | | | | | |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------|---------------|---------------|---------------|---------------|-------------|-------------|-------------|-------------|---------------|-----------------------|-------------|---------------|
| MODEL CODE | DY015/E1 | | | | | | | | | DY025/E1 | | | | | | | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD4 FD1 to FD4 | CA4 | CA5 | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD4 FD1 to FD4 | CA4 | CA5 |
| L | 130 (5.12) | | | | | | | | | 150 (5.91) | | | | | | | | | | |
| C | 14.6 (0.58) | | | | | | | | | 25.7 (1.01) | | | | | | | | | | |
| D | 95 (3.74) | 95 (3.74) | 115 (4.53) | 88.9 (3.5) | 95.3 (3.75) | 95.3 (3.75) | 120.7 (4.75) | 95 (3.74) | 95.3 (3.75) | 120.7 (4.75) | 125 (4.92) | 125 (4.92) | 130 (5.12) | 108 (4.25) | 124 (4.88) | 124 (4.88) | 149.4 (5.87) | 115 (4.53) | 124 (4.88) | 149.4 (5.87) |
| H | 265.5 (10.45) | 265.5 (10.45) | 275.5 (10.85) | 262.5 (10.33) | 265.5 (10.45) | 265.5 (10.45) | 278.5 (10.96) | 265.5 (10.45) | 265.5 (10.45) | 278.5 (10.96) | 282.5 (11.12) | 282.5 (11.12) | 285 (11.22) | 274 (10.79) | 282 (11.10) | 282 (11.10) | 294.7 (11.60) | 277.5 (10.93) | 282 (11.10) | 294.7 (11.60) |
| H1 | 127 (5) | | | | | | | | | 129 (5.08) | | | | | | | | | | |
| T | 12 (0.47) | 14 (0.55) | 20 (0.79) | 11.2 (0.44) | 14.2 (0.56) | 21 (0.83) | 28.8 (1.13) | 16 (0.63) | 19.9 (0.78) | 28.8 (1.13) | 14 (0.55) | 16 (0.63) | 22 (0.87) | 14.2 (0.56) | 17.5 (0.69) | 24 (0.95) | 34.9 (1.37) | 18 (0.71) | 24 (0.95) | 34.9 (1.37) |
| J | 70 (2.76) | 80 (3.15) | 80 (3.15) | 60.5 (2.38) | 66.5 (2.62) | 82.6 (3.25) | 85 (3.35) | 65 (2.56) | 66.5 (2.62) | 82.6 (3.25) | 90 (3.54) | 90 (3.54) | 95 (3.74) | 79.2 (3.12) | 89 (3.51) | 89 (3.51) | 101.6 (4.00) | 85 (3.35) | 89 (3.51) | 101.6 (4.00) |
| N | 4 | | | | | | | | | 4 | | | | | | | | | | |
| G | 15 (0.59) | 15 (0.59) | 19 (0.75) | 15.7 (0.62) | 15.7 (0.62) | 15.7 (0.62) | 22.4 (0.88) | 14 (0.55) | 15.7 (0.62) | 22.4 (0.88) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 15.7 (0.62) | 19 (0.75) | 19 (0.75) | 25.4 (1.00) | 14 (0.55) | 19 (0.75) | 25.4 (1.00) |
| WEIGHT kg (lb) | 4.3 (9.5) | 4.4 (9.7) | 6 (13.2) | 4.2 (9.3) | 4.4 (9.7) | 4.7 (10.4) | 6.8 (15.0) | 4.3 (9.5) | 4.6 (10.1) | 6.9 (15.2) | 7 (15.4) | 7.2 (15.9) | 8.7 (19.2) | 6.7 (14.8) | 7.3 (16.1) | 7.8 (17.2) | 11.2 (24.7) | 7 (15.4) | 8 (17.6) | 11.5 (25.4) |

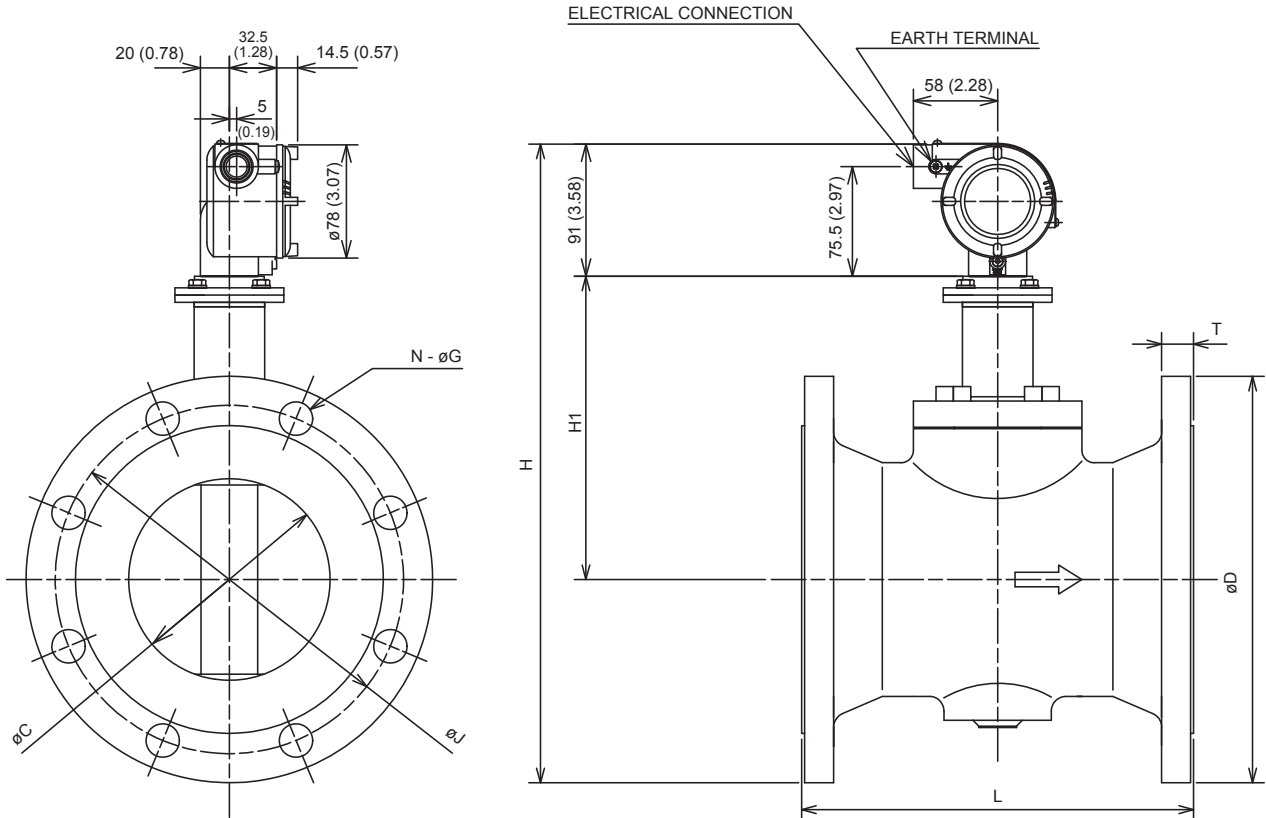
| TYPE | REMOTE | | | | | | | | | | | | | | | | | | | |
|--------------------|-------------|-------------|-------------|---------------|---------------|---------------|---------------|-----------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|-----------------------|---------------|--------------|
| MODEL CODE | DY040/E1 | | | | | | | | | DY050/E1 | | | | | | | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD4 FD1 to FD4 | CA4 | CA5 | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD4 FD1 to FD4 | CA4 | CA5 |
| L | 150 (5.90) | | | | | | | | | 170 (6.69) | | | | | | | | | | |
| C | 39.7 (1.56) | | | | | | | | | 51.1 (2.01) | | | | | | | | | | |
| D | 140 (5.51) | 140 (5.51) | 160 (6.30) | 127 (5.00) | 154.4 (6.12) | 154.4 (6.12) | 177.8 (7.00) | 150 (5.90) | 154.4 (6.12) | 177.8 (7.00) | 155 (6.10) | 155 (6.10) | 165 (6.50) | 152.4 (6.00) | 165.1 (6.50) | 165.1 (6.50) | 215.9 (8.50) | 165 (6.50) | 165.1 (6.50) | 215.9 (8.50) |
| H | 297 (11.69) | 297 (11.69) | 307 (12.09) | 290.5 (11.44) | 304.7 (12.00) | 304.7 (12.00) | 315.9 (12.44) | 302 (11.89) | 304.7 (12.00) | 315.9 (12.44) | 326.5 (12.85) | 326.5 (12.85) | 331.5 (13.05) | 325.2 (12.81) | 331.5 (13.05) | 331.5 (13.05) | 357 (14.06) | 331.5 (13.05) | 331.5 (13.05) | 357 (14.06) |
| H1 | 136 (5.36) | | | | | | | | | 158 (6.22) | | | | | | | | | | |
| T | 16 (0.63) | 18 (0.71) | 26 (1.02) | 17.5 (0.69) | 20.6 (0.81) | 28.8 (1.13) | 38.2 (1.51) | 18 (0.71) | 28.8 (1.13) | 38.2 (1.51) | 16 (0.63) | 18 (0.71) | 26 (1.02) | 19.1 (0.75) | 22.4 (0.88) | 31.8 (1.25) | 44.5 (1.75) | 20 (0.79) | 33.3 (1.31) | 46 (1.81) |
| J | 105 (4.13) | 105 (4.13) | 120 (4.72) | 98.6 (3.88) | 114.3 (4.50) | 114.3 (4.50) | 124 (4.88) | 110 (4.33) | 114.3 (4.50) | 124 (4.88) | 120 (4.72) | 120 (4.72) | 130 (5.12) | 120.7 (4.75) | 127 (5.00) | 127 (5.00) | 165.1 (6.50) | 125 (4.92) | 127 (5.00) | 165.1 (6.50) |
| N | 4 | | | | | | | | | 4 | | | | | | | | | | |
| G | 19 (0.75) | 19 (0.75) | 23 (0.91) | 15.7 (0.62) | 22.4 (0.88) | 22.4 (0.88) | 28.4 (1.12) | 18 (0.71) | 22.4 (0.88) | 28.4 (1.12) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 15.7 (0.62) | 19 (0.75) | 19 (0.75) | 25.4 (1.00) | 18 (0.71) | 19 (0.75) | 25.4 (1.00) |
| WEIGHT kg (lb) | 8.3 (18.3) | 8.5 (18.7) | 12 (26.5) | 8.2 (18.1) | 8.2 (18.1) | 11.4 (25.1) | 16.3 (36.0) | 8.9 (19.6) | 11.2 (24.7) | 14.4 (31.8) | 14.4 (31.7) | 14.4 (31.7) | 18.4 (40.8) | 11.8 (26.0) | 13.3 (29.3) | 14.9 (32.8) | 26.6 (58.6) | 11.4 (25.1) | 15.9 (35.1) | 27 (60.0) |

| TYPE | REMOTE | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---------------|-------------|-------------|---------------|---------------|---------------|---------------|-----------------------|-----------------------|---------------|---------------|-------------|---------------|--------------|---------------|--------------|---------------|---------------|-----------------------|-----------------------|---------------|---------------|
| MODEL CODE | DY080/E1 | | | | | | | | | | DY100/E1 | | | | | | | | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD2 FD1 to FD2 | BD3 to BD4 FD3 to FD4 | CA4 | CA5 | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD2 FD1 to FD2 | BD3 to BD4 FD3 to FD4 | CA4 | CA5 |
| L | 200 (7.88) | | | | | | | | | | 220 (8.66) | | | | | | | | | | | |
| C | 71 (2.80) | | | | | | | | | | 93.8 (3.69) | | | | | | | | | | | |
| D | 185 (7.28) | 200 (7.87) | 210 (8.27) | 190.5 (7.50) | 209.6 (8.25) | 209.6 (8.25) | 241.3 (9.50) | 200 (7.87) | 200 (7.87) | 209.6 (8.25) | 241.3 (9.50) | 210 (8.27) | 225 (8.86) | 250 (9.84) | 228.6 (9.00) | 254 (10.00) | 273 (10.75) | 292.1 (11.50) | 220 (8.66) | 235 (9.25) | 273 (10.75) | 292.1 (11.50) |
| H | 358.5 (14.11) | 366 (14.41) | 371 (14.61) | 361.5 (14.23) | 370.8 (14.58) | 370.8 (14.58) | 386.5 (15.22) | 366 (14.41) | 366 (14.41) | 370.8 (14.58) | 386.5 (15.22) | 386 (15.20) | 393.5 (15.49) | 406 (15.98) | 395.3 (15.56) | 408 (16.06) | 417.5 (16.44) | 427 (16.81) | 391 (15.39) | 398.5 (15.69) | 417.5 (16.44) | 427 (16.81) |
| H1 | 175 (6.89) | | | | | | | | | | 190 (7.48) | | | | | | | | | | | |
| T | 18 (0.71) | 22 (0.87) | 32 (1.26) | 23.9 (0.94) | 28.4 (1.12) | 38.2 (1.51) | 44.5 (1.75) | 20 (0.79) | 24 (0.94) | 39.7 (1.56) | 46 (1.81) | 18 (0.71) | 24 (0.94) | 36 (1.42) | 23.9 (0.94) | 31.8 (1.25) | 44.5 (1.75) | 50.9 (2.00) | 20 (0.79) | 24 (0.94) | 46 (1.81) | 52.4 (2.06) |
| J | 150 (5.91) | 160 (6.30) | 170 (6.69) | 152.4 (6.00) | 168.2 (6.62) | 168.2 (6.62) | 190.5 (7.50) | 160 (6.30) | 160 (6.30) | 168 (6.61) | 190.5 (7.50) | 175 (6.89) | 185 (7.28) | 205 (7.87) | 190.5 (7.50) | 200.2 (7.88) | 216 (8.50) | 235 (9.25) | 180 (7.09) | 190 (7.48) | 216 (8.50) | 235 (9.25) |
| N | 8 | | | | | | | | | | 8 | | | | | | | | | | | |
| G | 19 (0.75) | 23 (0.91) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) | 22.4 (0.88) | 25.4 (1.00) | 18 (0.71) | 18 (0.71) | 22.4 (0.88) | 25.4 (1.00) | 19 (0.75) | 23 (0.91) | 25 (0.98) | 19 (0.75) | 22.4 (0.88) | 25.4 (1.00) | 31.8 (1.25) | 18 (0.71) | 22 (0.87) | 25.4 (1.00) | 31.8 (1.25) |
| WEIGHT kg (lb) | 17.5 (38.6) | 20.1 (44.3) | 25.5 (56.2) | 20.1 (44.3) | 23.9 (52.7) | 25.5 (56.2) | 35.8 (79.0) | 20.1 (44.3) | 20.1 (44.3) | 27.2 (60.1) | 36.4 (80.2) | 36.4 (80.2) | 44.5 (98.0) | 50.9 (112.5) | 38.2 (84.2) | 44.5 (98.0) | 56 (123.4) | 50.9 (112.5) | 23.3 (51.4) | 27.5 (61.0) | 52.9 (117.0) | 56.7 (125.0) |

(Note 1) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

■ Stainless Steel Housing: DY150/E1 to DY400/E1
 ■ Flange type

Unit : mm
 (approx. inch)



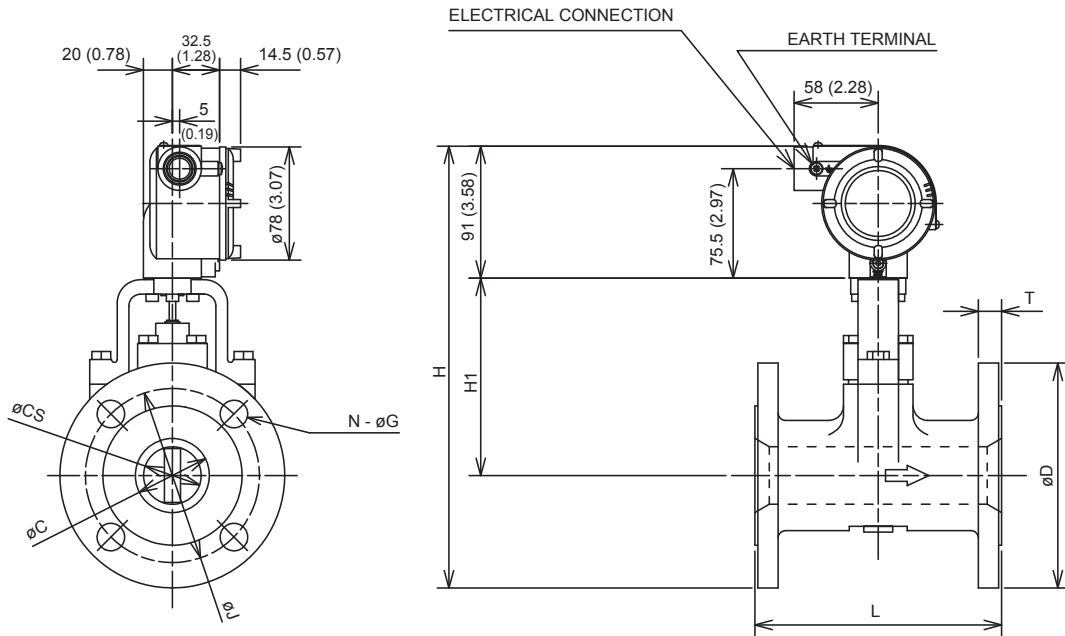
| TYPE MODEL CODE | DY150/E1 | | | | | | | | | | | | | | REMOTE | | | | | | | | | | DY200/E1 | | | | | | | | | | |
|--------------------|-------------------------------|---------------|---------------|---------------|---------------|-------------|---------------|--------------------------------|--------------------------------|-------------|---------------|-------------|-------------|---------------|---------------|---------------|---------------|-------------|-------------|-------------|---------------|---------------|---------------|--|----------|--|--|--|--|-------------|-------------|-------------|--|-------------|-------------|
| | BJ1 | BJ2 | BJ4 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 to BD2 FD1 to FD2 | BD3 to BD4 FD3 to FD4 | CA4 | CA5 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BA4 BS4 | BA5 BS5 | BD1 FD1 | BD2 FD2 | BD3 FD3 | BD4 FD4 | CA4 | CA5 | | | | | | | | | | | | |
| L | 270 (10.63) | | | | | | | | | | | | | | 310 (12.20) | 336 (13.23) | 270 (10.63) | 325 (12.80) | 340 (13.39) | 310 (12.21) | | | | | | | | | | 370 (14.57) | 386 (15.20) | 310 (12.21) | | 375 (14.76) | 390 (15.35) |
| C | 138.8 (5.46) | | | | | | | | | | | | | | 185.6 | | | | | | | | | | | | | | | | | | | | |
| D | 280 (11.02) | 305 (12.01) | 355 (13.98) | 279.4 (11.00) | 317.5 (12.50) | 356 (14.02) | 381 (15.00) | 285 (11.22) | 300 (11.81) | 356 (14.02) | 381 (15.00) | 330 (12.99) | 350 (13.78) | 342.9 (13.50) | 381 (15.00) | 419.1 (16.50) | 469.9 (18.50) | 340 (13.39) | 340 (13.39) | 360 (14.17) | 375 (14.76) | 419.1 (16.50) | 469.9 (18.50) | | | | | | | | | | | | |
| H | Shedder Bar Material: L, E, X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 440 (17.32) | 452.4 (17.81) | 477.5 (18.80) | 439.7 (17.31) | 458.5 (18.05) | 478 (18.82) | 490.5 (19.31) | 442.5 (17.42) | 450 (17.72) | 478 (18.82) | 490.5 (19.31) | 497 (19.57) | 507 (19.96) | 503.5 (19.82) | 522.5 (20.57) | 541.5 (21.32) | 567 (22.32) | 502 (19.76) | 502 (19.76) | 512 (20.16) | 519.5 (20.45) | 541.5 (21.32) | 567 (22.32) | | | | | | | | | | | | |
| H1 | Shedder Bar Material: B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 447 (17.60) | 459.4 (18.09) | 484.5 (19.07) | 446.7 (17.59) | 465.5 (18.33) | 485 (19.09) | 497.5 (19.59) | 440 (17.70) | 457 (17.99) | 485 (19.09) | 497.5 (19.59) | 504 (19.84) | 514 (20.24) | 510.5 (20.10) | 529.5 (20.85) | 548.5 (21.59) | 574 (22.60) | 509 (20.04) | 509 (20.04) | 519 (20.43) | 526.5 (20.73) | 548.5 (21.59) | 574 (22.60) | | | | | | | | | | | | |
| T | 209 (8.23) | | | | | | | | | | | | | | 241 (9.49) | | | | | | | | | | | | | | | | | | | | |
| J | 216 (8.50) | | | | | | | | | | | | | | 248 (9.76) | | | | | | | | | | | | | | | | | | | | |
| N | 22 (0.87) | 28 (1.10) | 44 (1.73) | 25.4 (1.00) | 36.6 (1.44) | 54.4 (2.14) | 62 (2.44) | 22 (0.87) | 28 (1.10) | 55.7 (2.19) | 63.6 (2.50) | 22 (0.87) | 30 (1.18) | 28.4 (1.12) | 41.1 (1.62) | 62 (2.44) | 69.9 (2.75) | 24 (0.94) | 24 (0.94) | 30 (1.18) | 34 (1.34) | 63.6 (2.50) | 71.4 (2.81) | | | | | | | | | | | | |
| G | 240 (9.45) | 260 (10.24) | 295 (11.61) | 241.3 (9.50) | 269.7 (10.62) | 292 (11.50) | 317.5 (12.50) | 240 (9.45) | 250 (9.84) | 292 (11.50) | 317.5 (12.50) | 290 (11.50) | 305 (12.01) | 298.5 (11.74) | 330.2 (13.00) | 349.3 (13.75) | 393.7 (15.50) | 295 (11.61) | 295 (11.61) | 310 (12.20) | 320 (12.60) | 349.3 (13.75) | 393.7 (15.50) | | | | | | | | | | | | |
| WEIGHT kg (lb) | 8 (0.91) | 12 (0.98) | 12 (1.30) | 8 (0.88) | 12 (0.88) | 12 (1.12) | 12 (1.25) | 8 (0.87) | 8 (1.02) | 12 (1.12) | 12 (1.25) | 12 (0.91) | 12 (0.98) | 8 (0.88) | 12 (1.00) | 12 (1.25) | 12 (1.50) | 8 (0.87) | 8 (0.87) | 12 (1.02) | 12 (1.18) | 12 (1.25) | 15.0 (1.50) | | | | | | | | | | | | |

| TYPE MODEL CODE | DY250/E1 | | | | | | | | REMOTE | | | | | | | | DY300/E1 | | | | | | | | DY400/E1 | | | | | | | |
|--------------------|-------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------|--|--|--|--|--|--|--|
| | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | | | | | | | | |
| L | 370 (14.57) | | | | | | | | 400 (15.75) | | | | | | | | 520 (20.47) | | | | | | | | | | | | | | | |
| C | 230.8 (9.09) | | | | | | | | 276.2 (10.87) | | | | | | | | 354.2 (13.94) | | | | | | | | | | | | | | | |
| D | 400 (15.75) | 430 (16.93) | 406.4 (16.00) | 444.5 (17.52) | 445 (16.93) | 480 (19.00) | 482.6 (19.00) | 520.7 (20.50) | 560 (22.05) | 605 (23.82) | 480 (19.00) | 520.7 (20.50) | 560 (22.05) | 605 (23.82) | 605 (23.82) | 647.7 (25.50) | 560 (22.05) | 605 (23.82) | 510 (20.08) | 540 (21.25) | 539.8 (21.25) | 571.5 (22.50) | | | | | | | | | | |
| H | Shedder Bar Material: L, E, X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H1 | Shedder Bar Material: B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T | 24 (0.94) | 34 (1.34) | 30.2 (1.19) | 47.8 (1.88) | 24 (0.94) | 36 (1.42) | 31.8 (1.25) | 50.8 (2.00) | 28 (1.10) | 46 (1.81) | 36 (1.44) | 57.2 (2.25) | 24 (0.94) | 34 (1.34) | 30.2 (1.19) | 47.8 (1.88) | 24 (0.94) | 36 (1.42) | 31.8 (1.25) | 50.8 (2.00) | 28 (1.10) | 46 (1.81) | 36 (1.44) | 57.2 (2.25) | | | | | | | | |
| J | 355 (13.98) | 380 (14.96) | 362 (14.25) | 387.4 (15.25) | 400 (15.75) | 430 (16.93) | 431.8 (17.00) | 450.9 (17.75) | 510 (20.08) | 540 (21.25) | 431.8 (17.00) | 450.9 (17.75) | 510 (20.08) | 540 (21.25) | 539.8 (21.25) | 571.5 (22.50) | 510 (20.08) | 540 (21.25) | 431.8 (17.00) | 450.9 (17.75) | 510 (20.08) | 540 (21.25) | 539.8 (21.25) | 571.5 (22.50) | | | | | | | | |
| N | 25 (0.98) | 27 (1.06) | 25.4 (1.00) | 28.5 (1.12) | 25 (0.98) | 27 (1.06) | 25.4 (1.00) | 28.5 (1.12) | 25 (0.98) | 27 (1.06) | 25.4 (1.00) | 28.5 (1.12) | 25 (0.98) | 27 (1.06) | 25.4 (1.00) | 28.5 (1.12) | 25 (0.98) | 27 (1.06) | 25.4 (1.00) | 28.5 (1.12) | 25 (0.98) | 27 (1.06) | 25.4 (1.00) | 28.5 (1.12) | | | | | | | | |
| G | 78.1 (172.1) | 100.1 (220.7) | 90.1 (198.7) | 125.1 (275.8) | 100.1 (220.7) | 128.1 (282.4) | 140.1 (308.9) | 178.1 (392.6) | 106.1 (234.0) | 133.5 (293.8) | 143 (314.8) | 171.1 (376.1) | 107.1 (236.1) | 145.5 (320.3) | 152.5 (336.1) | 186.1 (411.5) | 107.1 (236.1) | 145.5 (320.3) | 152.5 (336.1) | 186.1 (411.5) | 107.1 (236.1) | 145.5 (320.3) | 152.5 (336.1) | 186.1 (411.5) | | | | | | | | |

(Note 1) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.
 (Note 2) In case of code /HX2, add 5.1kg (11.2lb).

■ Stainless Steel Housing Reduced Bore Type (/R1/E1): DY025/R1/E1 to DY150/R1/E1
 ■ Flange type

Unit : mm
 (approx. inch)

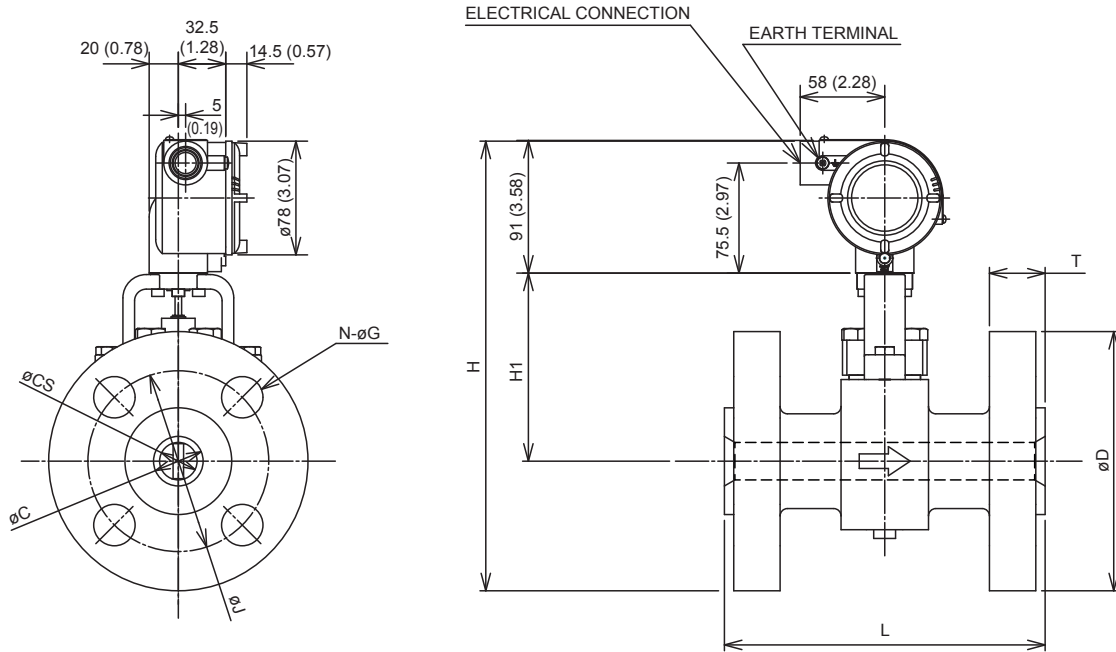


| TYPE | REMOTE | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---------------|---------------|-------------|-------------|-------------|-------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|-------------|---------------|---------------|-------------|---------------|---------------|--------------|--------------|---------------|---------------|---------------|
| MODEL CODE | DY025/R1/E1 | | | | DY040/R1/E1 | | | | DY050/R1/E1 | | | | DY080/R1/E1 | | | | DY100/R1/E1 | | | | DY150/R1/E1 | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 |
| L | 150 (5.91) | | | | 150 (5.91) | | | | 170 (6.69) | | | | 200 (7.87) | | | | 220 (8.66) | | | | 270 (10.63) | | | |
| C | 25.7 (1.01) | | | | 39.7 (1.56) | | | | 51.1 (2.01) | | | | 71 (2.79) | | | | 93.8 (3.69) | | | | 138.8 (5.46) | | | |
| CS | 14.6 (0.57) | | | | 25.7 (1.01) | | | | 39.7 (1.56) | | | | 51.1 (2.01) | | | | 71 (2.79) | | | | 93.8 (3.69) | | | |
| D | 125 (4.92) | 125 (4.92) | 108 (4.25) | 124 (4.88) | 140 (5.51) | 140 (5.51) | 127 (4.94) | 155.4 (6.12) | 155 (6.10) | 155 (6.10) | 152.4 (6.00) | 165.1 (6.50) | 185 (7.28) | 200 (7.87) | 190.5 (7.50) | 209.6 (8.25) | 210 (8.27) | 225 (8.86) | 228.6 (9.00) | 254 (10.00) | 280 (11.02) | 305 (12.01) | 279.4 (11.00) | 317.5 (12.50) |
| H | 280.5 (11.04) | 280.5 (11.04) | 272 (10.71) | 280 (11.02) | 290 (11.42) | 290 (11.42) | 283.5 (11.16) | 297 (11.72) | 304.5 (11.99) | 304.5 (11.99) | 303.2 (11.94) | 309.5 (12.16) | 341.5 (13.44) | 349 (13.74) | 344.5 (13.57) | 353.8 (13.93) | 371 (14.61) | 378.5 (14.90) | 380.3 (14.97) | 393 (15.47) | 421 (16.57) | 433.5 (17.07) | 420.7 (16.56) | 439.5 (17.31) |
| H1 | 127 (5.00) | | | | 129 (5.07) | | | | 136 (5.35) | | | | 158 (6.22) | | | | 175 (6.89) | | | | 190 (7.48) | | | |
| T | 14 (0.55) | 16 (0.63) | 14.2 (0.56) | 17.5 (0.69) | 16 (0.63) | 18 (0.71) | 17.5 (0.69) | 20.6 (0.81) | 16 (0.63) | 18 (0.71) | 19.1 (0.75) | 22.4 (0.88) | 18 (0.71) | 22 (0.87) | 23.9 (0.94) | 28.4 (1.11) | 18 (0.71) | 24 (0.94) | 23.9 (0.94) | 31.8 (1.25) | 22 (0.87) | 28 (1.10) | 25.4 (1.00) | 36.6 (1.44) |
| J | 90 (3.54) | 90 (3.54) | 79.2 (3.12) | 89 (3.50) | 105 (4.13) | 105 (4.13) | 98.6 (3.88) | 114.3 (4.50) | 120 (4.72) | 120 (4.72) | 120.7 (4.75) | 127 (5.00) | 150 (5.91) | 160 (6.30) | 152.4 (6.00) | 168.2 (6.62) | 175 (6.89) | 185 (7.28) | 190.5 (7.50) | 200.2 (7.88) | 240 (9.45) | 260 (10.24) | 241.3 (9.50) | 269.7 (10.62) |
| N | 4 | | | | 4 | | | | 4 | | | | 8 | | | | 8 | | | | 8 | | | |
| G | 19 (0.75) | 19 (0.75) | 15.7 (0.62) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 15.7 (0.62) | 22.4 (0.88) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 19 (0.75) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) | 19 (0.75) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) | 23 (0.91) | 25 (0.98) | 22.4 (0.88) | 22.4 (0.88) |
| WEIGHT kg (lb) | 6.2 (13.7) | 6.6 (14.6) | 5.6 (12.3) | 7.1 (15.7) | 9.7 (21.4) | 10.2 (22.5) | 9.5 (21.0) | 12.7 (30.1) | 10.6 (23.4) | 11.2 (24.7) | 11.5 (25.4) | 13.7 (30.2) | 18.7 (41.2) | 21.8 (48.1) | 22 (49.0) | 27 (60.0) | 25.1 (55.3) | 30.1 (66.4) | 30.7 (67.7) | 41.4 (91.3) | 46 (101.4) | 56.4 (124.3) | 49.5 (109.1) | 71.8 (158.3) |

(Note 1) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

- Stainless Steel Housing Reduced Bore Type (/R1/E1): DY025/R1/E1 to DY150/R1/E1
- High pressure flange type

Unit : mm
(approx. inch)

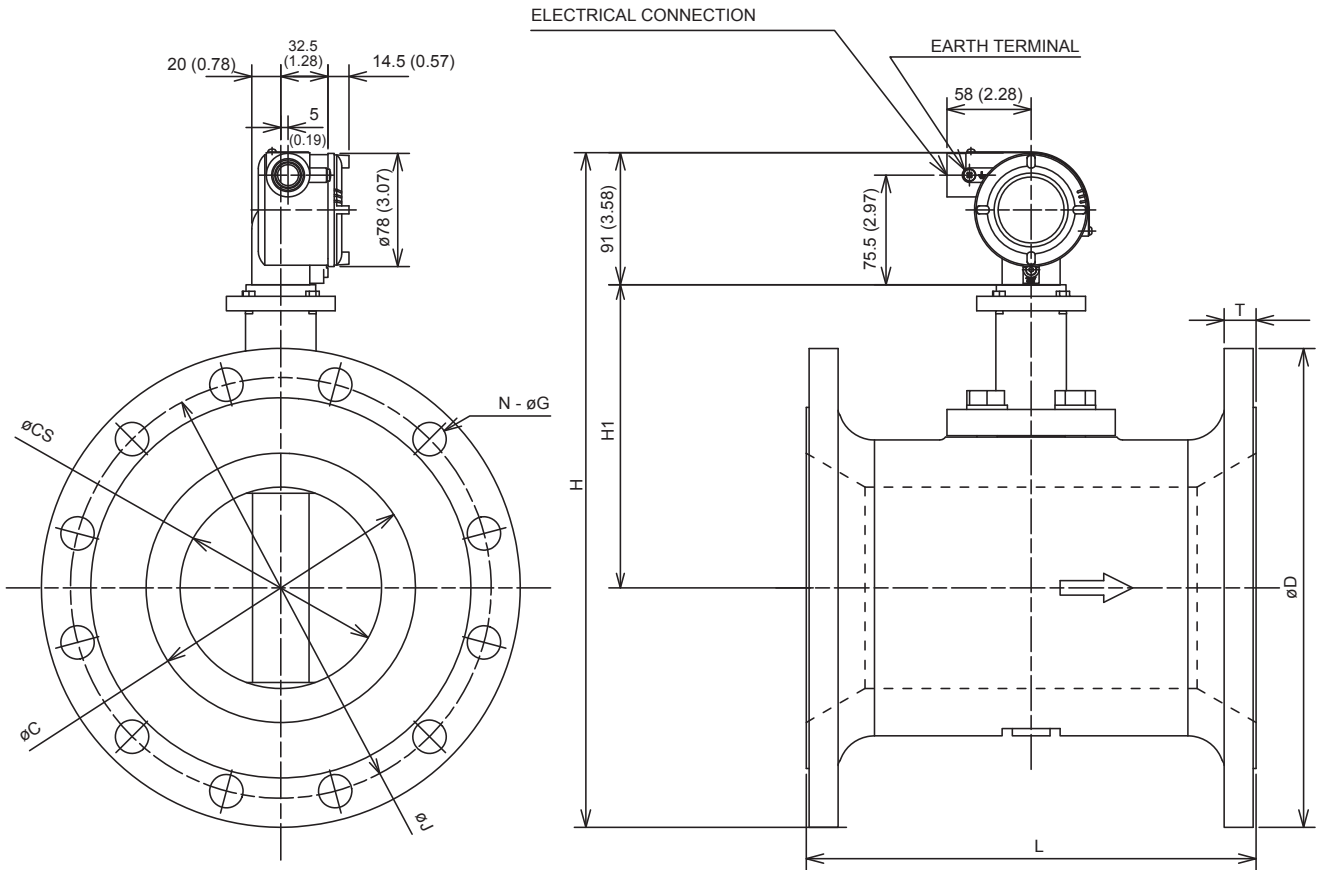


| TYPE | INTEGRAL/REMOTE | | | | | | | | | | | |
|----------------|-----------------|-------------|---------------|-------------|--------------|-------------|---------------|--------------|---------------|---------------|---------------|---------------|
| | DY025/E1/R1 | | DY040/E1/R1 | | DY050/E1/R1 | | DY080/E1/R1 | | DY100/E1/R1 | | DY150/E1/R1 | |
| MODEL CODE | BA6 | CA6 | BA6 | CA6 | BA6 | CA6 | BA6 | CA6 | BA6 | CA6 | BA6 | CA6 |
| L | 220 (8.66) | | 220 (8.66) | | 230 (9.06) | | 280 (11.02) | | 300 (11.81) | | 400 (15.75) | |
| C | 20.7 (0.81) | | 34 (1.34) | | 42.8 (1.69) | | 66.6 (2.62) | | 87.3 (3.44) | | 131.8 (5.19) | |
| CS | 14.6 (0.57) | | 25.7 (1.01) | | 39.7 (1.56) | | 51.1 (2.01) | | 71 (2.80) | | 93.8 (3.69) | |
| D | 149.4 (5.88) | | 177.8 (7.00) | | 215.9 (8.50) | | 266.7 (10.50) | | 311.2 (12.25) | | 393.7 (15.50) | |
| H | 292.7 (11.52) | | 308.9 (12.16) | | 335 (13.19) | | 382.4 (15.06) | | 421.6 (16.60) | | 477.9 (18.81) | |
| H1 | 127 (5.00) | | 129 (5.08) | | 136 (5.35) | | 158 (6.22) | | 175 (6.89) | | 190 (7.48) | |
| T | 34.9 (1.37) | | 38.2 (1.50) | | 44.5 (1.75) | 46.1 (1.81) | 54.2 (2.13) | 55.8 (2.20) | 60.3 (2.37) | 61.8 (2.43) | 89 (3.50) | 92.1 (3.63) |
| J | 101.6 (4.00) | | 124 (4.88) | | 165.1 (6.50) | | 203.2 (8.00) | | 241.3 (9.50) | | 317.5 (12.50) | |
| N | 4 | | 4 | | 8 | | 8 | | 8 | | 12 | |
| G | 25.4 (1.00) | | 28.4 (1.12) | | 25.4 (1.00) | | 31.8 (1.25) | | 35.1 (1.38) | | 38.1 (1.50) | |
| WEIGHT kg (lb) | 14.5 (32.0) | 15.8 (34.8) | 23 (50.7) | 24.8 (54.7) | 37.3 (82.2) | 40.3 (88.8) | 68.6 (151.2) | 72.8 (160.5) | 103.6 (228.4) | 108.6 (239.4) | 229.4 (505.7) | 235.8 (519.8) |

(Note 1) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

- Stainless Steel Housing Reduced Bore Type (/R1/E1): DY200/R1/E1
- Flange type

Unit : mm
(approx. inch)

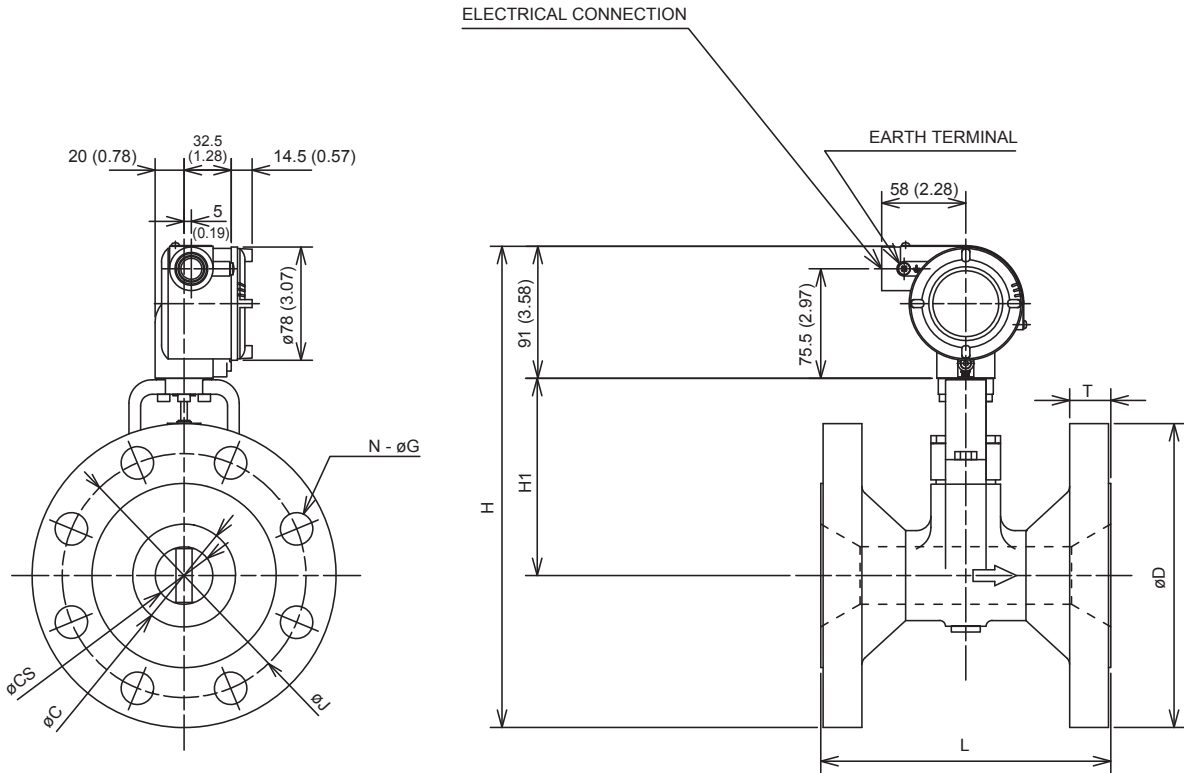


| TYPE | REMOTE | | | | |
|--------------------|-------------------------------|--------------|---------------|---------------|---------------|
| MODEL CODE | DY200/R1/E1 | | | | |
| PROCESS CONNECTION | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | |
| L | 310 (12.20) | | | | |
| C | 185.6 (7.31) | | | | |
| CS | 138.8 (5.46) | | | | |
| D | 330 (12.99) | 350 (13.78) | 342.9 (13.50) | 381 (15.00) | |
| H | Shedder Bar Material: L, E, X | 465 (18.31) | 475 (18.70) | 471.5 (18.56) | 490.5 (19.31) |
| | Shedder Bar Material: B | 472 (18.58) | 482 (18.98) | 478.5 (18.84) | 497.5 (19.59) |
| H1 | Shedder Bar Material: L, E, X | 209 (8.23) | | | |
| | Shedder Bar Material: B | 216 (8.50) | | | |
| T | 22 (0.87) | 30 (1.18) | 28.4 (1.12) | 41.1 (1.62) | |
| J | 290 (11.42) | 305 (12.01) | 298.5 (11.75) | 330.2 (13.00) | |
| N | 12 | 12 | 8 | 12 | |
| G | 23 (0.91) | 25 (0.98) | 22.4 (0.88) | 25.4 (1.00) | |
| WEIGHT kg (lb) | 58.8 (129.6) | 74.2 (163.6) | 70.8 (156.1) | 103 (227.1) | |

(Note 1) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

■ Stainless Steel Housing Reduced Bore Type (/R2/E1): DY040/R1/E1 to DY200/R2/E1
 ■ Flange type

Unit : mm
 (approx. inch)

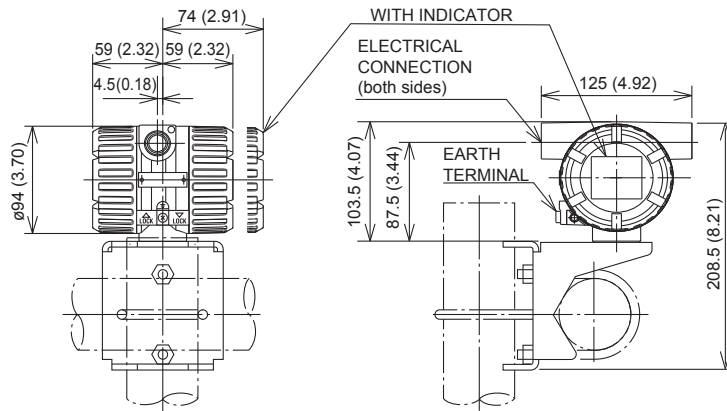


| TYPE | REMOTE | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|-------------|-------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------|---------------|---------------|-------------|---------------|---------------|--------------|--------------|---------------|---------------|---------------|--------------|-------------|---------------|---------------|
| | DY040/R2/E1 | | | | DY050/R2/E1 | | | | DY080/R2/E1 | | | | DY100/R2/E1 | | | | DY150/R2/E1 | | | | DY200/R2/E1 | | | |
| MODEL CODE | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 | BJ1 | BJ2 | BA1 BS1 | BA2 BS2 |
| L | 150 (5.91) | | | | 170 (6.69) | | | | 200 (7.87) | | | | 220 (8.66) | | | | 270 (10.63) | | | | 310 (12.20) | | | |
| C | 39.7 (1.56) | | | | 51.1 (2.01) | | | | 71 (2.79) | | | | 93.8 (3.69) | | | | 138.8 (5.46) | | | | 185.6 (7.30) | | | |
| CS | 14.6 (0.57) | | | | 25.7 (1.01) | | | | 39.7 (1.56) | | | | 51.1 (2.01) | | | | 71 (2.79) | | | | 93.8 (3.69) | | | |
| D | 140 (5.51) | 140 (5.51) | 127 (4.94) | 155.4 (6.12) | 155 (6.10) | 155 (6.10) | 152.4 (6.00) | 165.1 (6.50) | 185 (7.28) | 200 (7.87) | 190.5 (7.50) | 209.6 (8.25) | 210 (8.27) | 225 (8.86) | 228.6 (9.00) | 254 (10.00) | 280 (11.02) | 305 (12.01) | 279.4 (11.00) | 317.5 (12.50) | 330 (12.99) | 350 (13.78) | 342.9 (13.50) | 381 (15.00) |
| H | 288 (11.34) | 288 (11.34) | 281.5 (11.08) | 295.7 (11.64) | 297.5 (11.71) | 297.5 (11.71) | 296.2 (11.66) | 302.5 (11.91) | 319.5 (12.58) | 327 (12.87) | 322.5 (12.70) | 331.8 (13.06) | 354 (13.94) | 361.5 (14.23) | 363.3 (14.30) | 376 (14.80) | 406 (15.98) | 418.5 (16.48) | 405.7 (15.97) | 424.5 (16.71) | 446 (17.56) | 456 (17.95) | 452.5 (17.82) | 471.5 (18.56) |
| H1 | 127 (5.00) | | | | 129 (5.07) | | | | 136 (5.35) | | | | 158 (6.22) | | | | 175 (6.89) | | | | 190 (7.48) | | | |
| T | 16 (0.63) | 18 (0.71) | 17.5 (0.69) | 20.6 (0.81) | 16 (0.63) | 18 (0.71) | 19.1 (0.75) | 22.4 (0.88) | 18 (0.71) | 22 (0.87) | 23.9 (0.94) | 28.4 (1.11) | 18 (0.71) | 24 (0.94) | 23.9 (0.94) | 31.8 (1.25) | 22 (0.87) | 28 (1.10) | 25.4 (1.00) | 36.6 (1.44) | 22 (0.87) | 30 (1.18) | 28.4 (1.11) | 41.1 (1.62) |
| J | 105 (4.13) | 105 (4.13) | 98.6 (3.88) | 114.3 (4.50) | 120 (4.72) | 120 (4.72) | 120.7 (4.75) | 127 (5.00) | 150 (5.91) | 160 (6.30) | 152.4 (6.00) | 168.2 (6.62) | 175 (6.89) | 185 (7.28) | 190.5 (7.50) | 200.2 (7.88) | 240 (9.45) | 260 (10.24) | 241.3 (9.50) | 269.7 (10.62) | 290 (11.42) | 305 (12.01) | 298.5 (11.75) | 330.2 (13.00) |
| N | 4 | | | | 4 | 8 | 4 | 8 | 8 | 8 | 4 | 8 | 8 | | | | 8 | 12 | 8 | 12 | 12 | 12 | 8 | 12 |
| G | 19 (0.75) | 19 (0.75) | 15.7 (0.62) | 22.4 (0.88) | 19 (0.75) | | | | 19 (0.75) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) | 19 (0.75) | 23 (0.91) | 19 (0.75) | 22.4 (0.88) | 23 (0.91) | 25 (0.98) | 22.4 (0.88) | 22.4 (0.88) | 23 (0.91) | 25 (0.98) | 22.4 (0.88) | 25.4 (1.00) |
| WEIGHT kg (lb) | 7.8 (17.2) | 8 (17.6) | 7.7 (17.1) | 8.9 (20.0) | 10.1 (22.3) | 10.6 (23.4) | 10.7 (23.6) | 12.2 (26.9) | 13.7 (30.2) | 16.3 (36.0) | 16.3 (36.0) | 20.1 (44.3) | 21 (46.3) | 25 (55.1) | 25.6 (56.4) | 34.1 (75.2) | 40.4 (89.1) | 50.4 (111.1) | 43.4 (95.7) | 61.4 (135.4) | 62 (136.7) | 69 (152.1) | 72 (158.7) | 97 (213.8) |

(Note 1) The flow direction is reversed (right to left when facing onto indicator) in case of code/CRC.

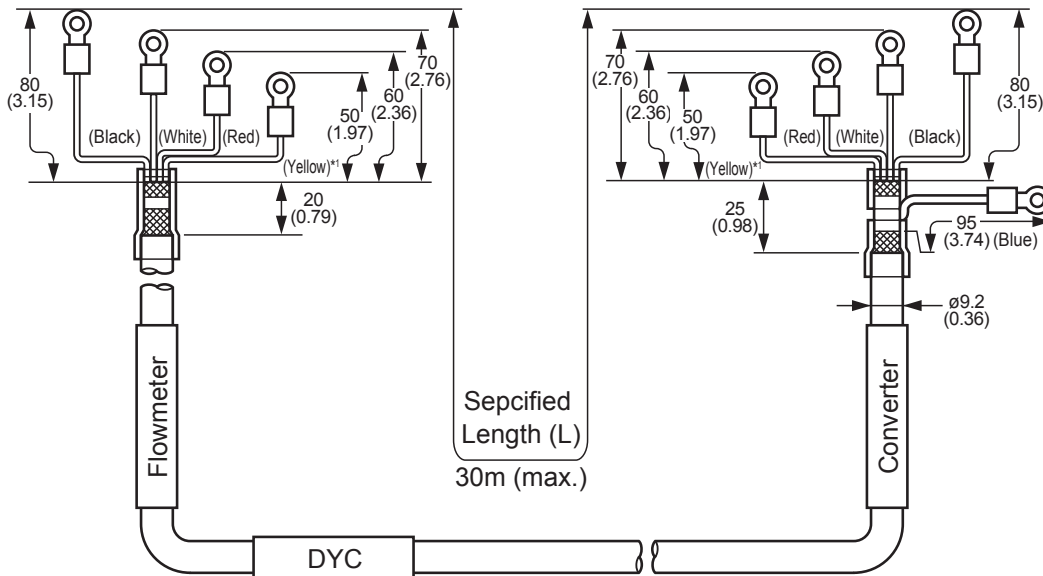
■ Remote Type Converter (DYA)

Unit : mm
(approx. inch)



Weight: 1.9 kg (4.2lb), 4.1 kg (9.0lb) for /E1.
Note: For flowmeters with indicator, add 0.2 kg.(0.4lb), 0.3 kg (0.7lb) for /E1.

■ Signal Cable for Remote Type (DYC)

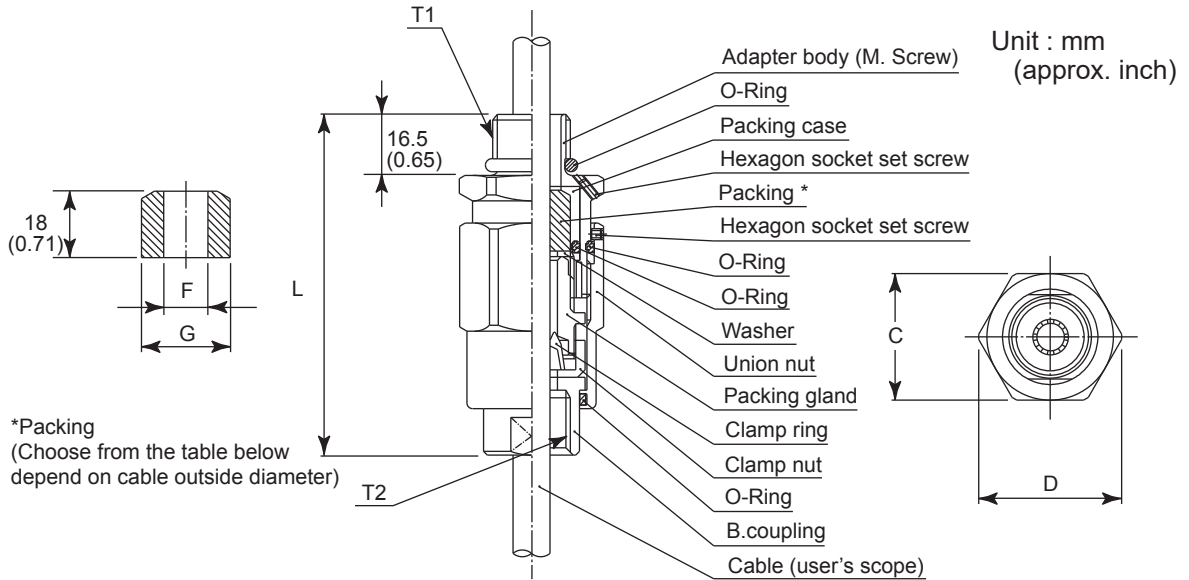


Cable Color and Terminal

| Color | Terminal | |
|-----------------------|------------|-----------|
| | Flow meter | Converter |
| Yellow ^(*) | T | T |
| Red | A | A |
| White | B | B |
| Black | ⊕ | C |
| Blue | | ⊕ |

(*) Only for /MV

■ Flameproof Packing Adapter (/G11, /G12)



*Packing
(Choose from the table below depend on cable outside diameter)

| Size | | | | | Cable outer diameter | Packing dimensions | | Identification mark | Weight kg (lb) |
|-------|-------|--------------|--------------|----------------|------------------------------------|--------------------|------------------|---------------------|----------------|
| T1 | T2 | C | D | L | | F | G | | |
| G 1/2 | G 1/2 | 35 (1.38) | 39 (1.54) | 94.5 (3.72) | ø8.0 to ø10.0 (ø0.31 to ø0.39) | ø10.0 (ø0.39) | ø20.0 (ø0.79) | 16 8-10 | 0.26 (0.57) |
| | | | | | ø10.0 to ø12.0 (ø0.39 to ø0.47) | ø12.0 (ø0.47) | | 16 10-12 | |

■ ORDERING INFORMATION

Specify the following when ordering :

- a) Model and suffix codes.
- b) Sizing data: Mandatory for ordering.
Create the sizing data by using the latest digitalYEWFLO Sizing Program.
*Note: In case of the high pressure type of process connection code BA6 or CA6, combination with the option code/R1 is mandatory. Select Reduced Bore type when you create the sizing data.
- c) Selection of UPPER DISP. FLOWRATE
Except: the Remote Type Detector (-N)
- d) Tag No.:
Tag plate on the converter: up to 16 characters
Stainless Steel Tag Plate (/SCT): up to 30 characters
Software Tag:
BRAIN (-D): up to 16 characters
HART (-E or -J [HART 5]): up to 8 characters
HART (-J [HART 7]): up to 32 characters
Fieldbus (-F): up to 32 characters
- e) Multi-Variable Type Selection (/MV)
- f) Final Destination Selection
- g) TIIS Flameproof Type for Inspection Carry-in Code. (/JF3)
- h) HART Protocol Revision:
For Output signal/Communication (Code: -J), specify HART 5 or HART 7.
- i) Calibration Certificate (/L2, /L3 or /L4): Customer Name
*: Not available for remote type converter single calibration, FOUNDATION fieldbus communication type (DYA-F).

===== RELATED MATERIAL =====
 Model DY Vortex Flowmeter T1 1F6A0-01E
 digitalYEWFLO Series Vortex Flowmeter
 FOUNDATION Fieldbus
 Communication Type GS 01F06F01-01EN

===== REFERENCE =====
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 EU WEEE (Waste Electrical and Electronic Equipment) Directive is only valid in the EU.
 This instrument is intended to be sold and used only as a part of equipment which is excluded from WEEE Directive, such as large-scale stationary industrial tools, a large-scale fixed installation and so on, and, therefore, subjected to the exclusion from the scope of the WEEE Directive. The instrument should be disposed of in accordance with local and national legislation/regulations.