

- For wide flow rate range(0.3~6 M3/s) and high range ratio.
- Plug-in design can be easy for installation and repair
- Various sizes and type mounting blocks for all pipe system.
- Body materiel can be CPVC, Stainless Steel (SUS316), PTFE.
- High resolution and stability.
- Optional transmitter with waterproof case can be used for PLC or IPC connection.
- Low power consumption and wide rang working voltage of 9~28 Vdc.



SPECIFICATION

- ◆ Sensing Type: Hall effect
- ◆ Flow Rate Range: 0.3-6.0 m/s
- ◆ Material: Body - CPVC / SUS 316L / PTFE
Rotor - ECTFE
Axis and Bearing - Ceramic
O-Ring - EPDM / Viton
- ◆ Working Supply: Transmitter - 15~30Vdc
Sensor Only - 9~26Vdc (limit - 5 ~30 Vdc)
- ◆ Output Type: NPN / 4~20mAdc / RS485
- ◆ Accuracy: ±0.5% F.S. (K factor calibrated)
- ◆ Repeatability: ±0.5% F.S.
- ◆ Operating Temperature: 85°C for CPVC / 100°C for PTFE&SUS316L
- ◆ Operating Pressure: 10 Bar for PVC / CPVC pipe system (@ 20°C water)
16 Bar for CS / SUS pipe system
- ◆ Environment Temperature: -10~65°C
- ◆ Product Certification: CE Certification, IEC61000
- ◆ Electrical Wiring: PVC Wire
M12 Waterproof connector(IP65)

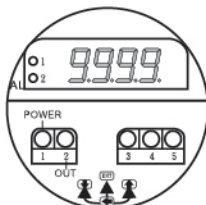
WIRING CONNECTION

● Type 10M & N(Code 5)



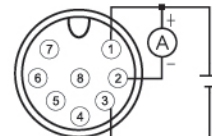
WHITE	EXC+ (9~36 Vdc)
RED	SIG+ (NPN)
BLACK	GND

● Type A & Y(Code 5)



1	Power+ (15~30 Vdc)
2	Out+ (4~20 mAdc)
3	EXC+ (9~26 Vdc)
4	SIG+ (NPN)
5	GND

● M12 Connector of Type Y(Code 5)



1 BN	Power+ (15~30 Vdc)
2 RD	Current+ (4~20 mAdc)
3 WH	Common Ground
4 BU	RX / D+
5 GN	TX / D-
6 YE	C1 / E1
7 GY	C2 / E2
8 BK	Ecom / Ccom

ORDER INFORMATION

GFS - Code1 - Code2 - Code3 - Code4 - Code5

Code1	Code2	Code3	Code4	Code5
SENSOR TYPE	BODY METRIEL	O-RING METRIEL	SENSOR SIZE	CONNECTION TYPE
P 9~28Vdc	C CPVC	E EPDM	S 6.8CM	10M 10M Wire(NPN Output)
O OPTION	S SUS 316L	V Viton	L 9.85CM	N Waterproof case(NPN Output)
	P PTFE			A Transmitter with waterproof case (4~20mAdc)
				Y RS-485 Transmitter with waterproof case (O C *2 / RS-485)

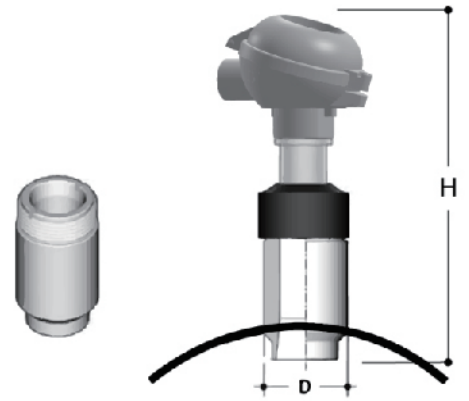
*Sensor size depend on pipe diameter.

MOUNTING BLOCK

■ Welding short pipe:

Material: SUS 316L(-XXXSW) / CS(-XXXBW)
 PVC(-XXXVW) / PP(-XXXPW)
 CPVC(-XXXCW) / PVDF(-XXXDW)

Pipe Size	Order Code (XXX)	Sensor Type	H	D (metal)	D (plastic)
2" - 8"	020~080	-S	237	44	50
10" - 16"	100~160	-L	268	50	

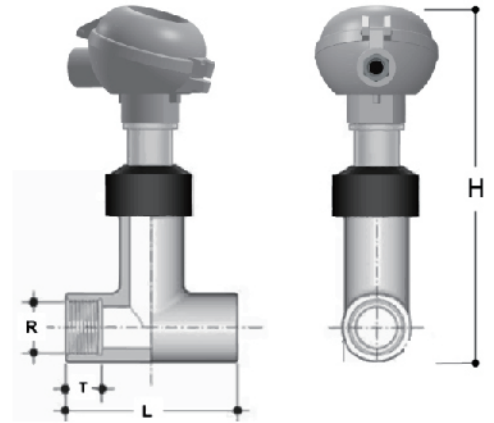


EX: Order SUS316L welding short pipe for 5 inch pipe, the code will be GFS-050SW.

■ Metal Tee

Material: SUS 304L internal thread(-XXXPTS/PT) / (-XXXNTS/NPT)
 CS internal thread(-XXXPTC/PT) / (-XXXNTC/NPT)

Pipe Size	Order Caode (XXX)	Sensor Type	R	T	L	H
1/2"	004	-S	1/2"	19	150	237.3
3/4"	006	-S	3/4"	19	140	240.0
1"	010	-S	1"	22.5	100	242.7
1-1/4"	012	-S	1-1/4"	22.5	150	245.9
1-1/2"	015	-S	1-1/2"	25	150	248.0
2"	020	-S	2"	25	150	252.4

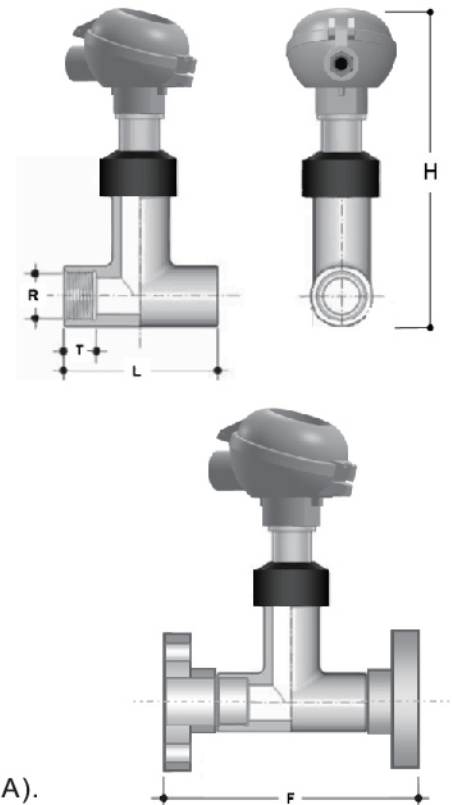


EX: Order SUS304L tee with PT internal thread for 2 inch pipe, the code will be GFS-020PTS.

■ Plastic Tee / Flange Fittings

Material: Socket for PVC(-XXXVS) / for CPVC(-XXXCS)
 Flange for PVC(-XXXVF) / for CPVC(-XXXCF)

Pipe Size	Order Caode (XXX)	Sensor Type	^{*a} R	T	L	H	^{*c} F
^{*b} 1/2"	004	-S	21.54	30.58	112.0	240.5	162.2
^{*b} 3/4"	006	-S	26.87	30.58	112.0	240.5	170.2
1"	010	-S	33.66	30.58	100.2	240.5	159.6
1-1/4"	012	-S	42.42	34.75	115.5	241.2	185.7
1-1/2"	015	-S	48.56	37.93	128.0	244.5	204.2
2"	020	-S	60.63	41.10	145.5	246.0	228.3
2-1/2"	025	-S	73.38	47.45	171.0	248.2	266.4
3"	030	-S	89.31	50.36	196.0	257.2	297.8
4"	040	-S	114.76	60.15	237.5	274.3	359.7



*a: Internal Diameter is according to ASTM SCH80 standard.

*b: Bushing using for pipe size of 1/2" and 3/4".

*c: There are optional of Flange JIS 10K(-XXXXFJ) and ANSI 150#(-XXXXFA).

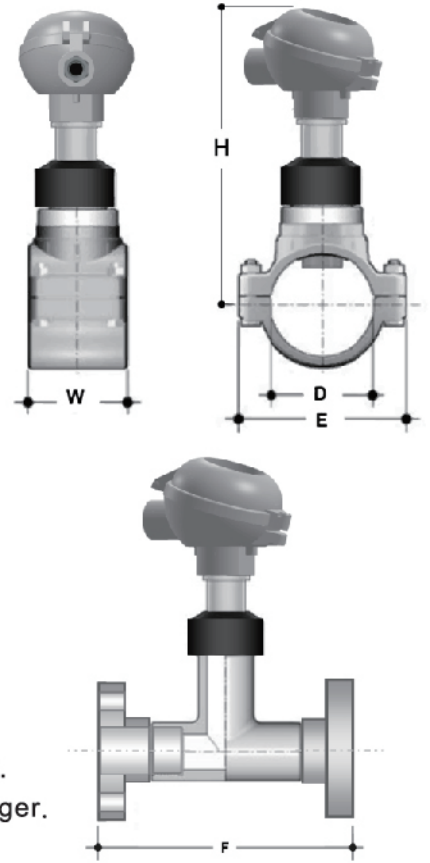
EX: Order PVC tee with Flange JIS10K for 2 in pipe, the code will be GFS-020VFJ.

■ Plastic Tee with Clamp Saddle / Flange Fittings

Clamp saddle for PP(-XXXPS) / for PVC(-XXXVS)

Flange for PVC(-XXXPF) / for PVC(-XXXVF)

Pipe Size	Order Caode (XXX)	Sensor Type	D	E	W	H	*c F
2"	020	-S	63.0	101.0	67.0	246.0	170.0
2-1/2"	025	-S	75.0	116.0	77.0	248.2	190.0
3"	030	-S	90.0	132.0	87.0	257.2	190.0
4"	040	-S	110.0	172.0	101.0	274.3	210.0
*d 5"	050	-L	-	-	-	282.0	250.0
6"	060	-L	160.0	237.0	168.0	312.1	300.0
8"	080	-L	225.0	333.0	125.0	340.8	300.0
*d 10"	100	-L	-	-	-	364.0	330.0
*d 12"	120	-L	-	-	-	383.0	380.0



*d: Making by welding short pipe and flange pipe fittings(*c).

*Clamp Saddle type of PVC(-XXXPSV), CPVC(-XXXPSC), PVDF(-XXXPSD).

*Cutting hole size of Clamp Saddle: 30mm for 2" and 2-1/2", 35mm for 3" or larger.

PIPE SIZE and FLOW RATE

Pipe Size	Minimum Flow 0.5m/s - M3/Hr	Maximum Flow 6.0m/s - M3/Hr	Pipe Size	Minimum Flow 0.5m/s - M3/Hr	Maximum Flow 6.0m/s - M3/Hr
1/2"	0.32	3.82	4"	14.1	169.8
3/4"	0.56	6.78	5"	22.1	265.2
1"	0.88	10.6	6"	31.8	381.6
1-1/4"	1.44	17.4	8"	56.6	678.6
1-1/2"	2.26	27.1	10"	88.4	1060.2
2"	3.54	42.4	12"	127.2	1527.1
2-1/2"	5.98	71.4	14"	173.2	2078.4
3"	9.04	108.6	16"	261.1	2714.4

GENERAL K FACTOR

● FOR SCH80 PVC/CPVC PIPE

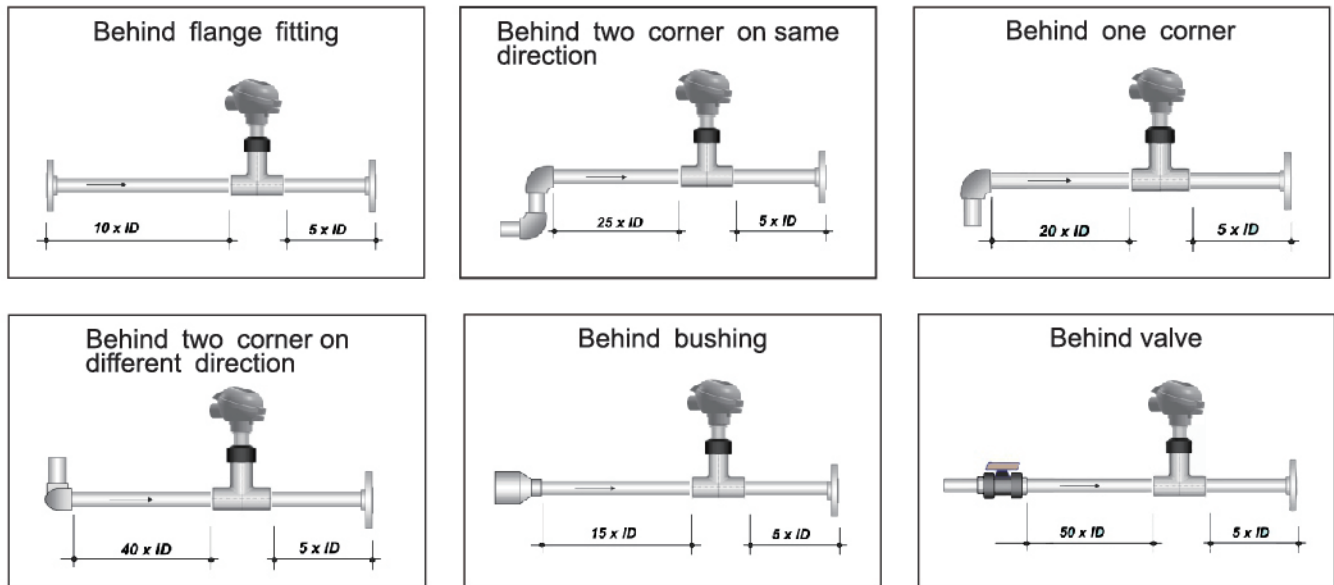
Pipe Size	K Factor	Pipe Size	K Factor
1/2"	215.65	2-1/2"	13.73
3/4"	121.30	3"	9.19
1"	89.12	4"	4.46
1-1/4"	57.04	5"	2.79
1-1/2"	41.56	6"	1.88
2"	19.83	8"	1.05

● FOR METAL PIPE

Pipe Size	K Factor		Pipe Size	K Factor	
	SCH40S	SCH80S		SCH40S	SCH80S
2"	17.32	19.38	8"	0.95	1.05
2-1/2"	12.05	13.73	10"	0.57	0.63
3"	8.15	9.19	12"	0.40	0.44
4"	4.00	4.46	14"	0.38	0.42
5"	2.52	2.79	16"	0.29	0.31
6"	1.68	1.88			

INSTALLING NOTE

- Standard installation diagram according to EN ISO 5167-1 (ID is for inner diameter)



*If can not be suit this situation, please make the calibration of K factor.

Installation angle

-Installing in horizontal pipe system

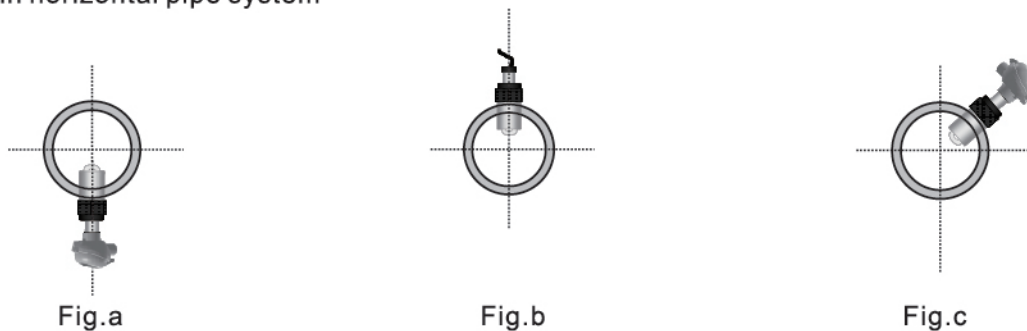


Fig.a: Installation for the pipe without sediment.

Fig.b: Installation for the pipe without bubble and must be full.

Fig.c: The best installation position can avoid the influences of sediment and bubble.

-Installing in vertical pipe system

It can be installed at any angle, the better installation flow direction is from bottom to top.

Installation Precautions

