



**Instrumentation
Engineering Data Sheet
mass flow controller**

Designation _____ Order No _____

GENERAL	1	Tag Number	mfc201-206			
	2	Service	H2			
	3	Line No.				
	4	P & ID No.				
PIPE	5	Line Size	1/4"			
	6	Line O.D	Wall Thickness	19.1mm	1.65mm	
	7	Pipe line Material	SS(TP316)			
PROCESS CONDITIONS	Meter	8	meter size			
		9	End connection size and rating	1/4"	or VTA	
		10	End connection Material	SS316L/1.4404		
		11	Mass flow calibrated Range Factory Setting	0 to 200g/h		
		12	Density range			
		13	meter tube shape			
		14	Sensor housing Material	SS316		
		15	meter tube Material	SS316		
		16	pressure level	PN100		
		17	tube housing Pressure range			
	18	turn down ratio				
	19	Permissibe Gas Volume%				
	20	Accuracy Mass Flow Rate	0.2%F.S.M			
	21	Actual Presr lose in bar				
	TRANSMITTER	22	outlet	4-20mA dc passive Ex-i+HART		
		23	Type Smart/Conventional	SMART		
		24	Power Supply	External 24vdc		
		25	Local Display			
		26	Local Display Integral With Meter/separate			
		27	Cable entry			
		28	Enclosure Rating	IP67		
29		EX .Protection requirement	ATEX CAT 3. ZONE1			
30		Transmitter Housing	SS316L			
PROCESS DATA		31	Fluid	State	H2	gas
	32	Flow	Min	Nor	Max	
	33	Design Pressure	Design Temperature	18bar	50C°	
	34	In let press	Out let press	12bar	8-10bar	
	35	Allowable Prossure Drop	2-4bar			
	36	Operating Viscosly (Cp)				
	37	Density (kg/m2)operating Conditions				
	38	Compressibilty Factor				
OPTIONS	39	Field Junction Box				
	40	local Indicator				
	41	Cable Glands				
	42	Hydraulic Pressure test				
	43	Mateial Certificate				
	44	Enclosure Rating Certificate	Included			
	45	Ex. Protection Certificate	Included			
	46	Model Number				

Note: NORMAL CLOSE VALVE

* Vendor to Advise

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Instrumentation
Engineering Data Sheet
mass flow controller

Designation		Order No		
GENERAL	1	Tag Number	mfc202-207	
	2	Service	C2H4(ethylene)	
	3	Line No.		
	4	P & ID No.		
PIPE	5	Line Size	1/2"	
	6	Line O.D	mm	
	7	Wall Thickness	mm	
PROCESS CONDITIONS	8	Pipe line Material	SS(TP316)	
	9	meter size		
	10	End connection size and rating	1/2" or VTA	
	11	End connection Material	SS316L/1.4404	
	12	Mass flow calibrated Range Factory Setting	0 to 12Kg/h	
	13	Density range		
	14	meter tube shape		
	15	Sensor housing Material	SS316	
	16	meter tube Material	SS316	
	17	pressure level	PN100	
	18	turn down ratio		
	19	Permissibe Gas Volume%		
	20	Accuracy Mass Flow Rate		
	21	Actual Presr lose in bar		
	TRANSMITTER	22	outlet	4-20mA dc passive Ex-i+HART
		23	Type Smart/Conventional	SMART
		24	Power Supply	External 24 v.dc
		25	Local Display	
		26	Local Display Integral With Meter/separate	
		27	Cable entry	
		28	Enclosure Rating	IP67
29		EX .Protection requirement	ATEX CAT 3. ZONE1	
30		Transmitter Housing	SS316L	
PROCESS DATA		31	Fluid	C2H4
	32	State	gas	
	33	Flow	Min Nor Max	
	34	Design Pressure	Design Temperature	
	35	In let press	Out let press	
	36	Allowable Prossure Drop	2-4bar	
	37	Operating Viscosly (Cp)		
	38	Density (kg/m2)operating Conditions		
OPTIONS	39	Compressibility Factor		
	40	Field Junction Box		
	41	local Indicator		
	42	Cable Glands		
	43	Hydraulic Pressure test		
	44	Mateial Certificate		
	45	Enclosure Rating Certificate	Included	
	46	Ex. Protection Certificate	Included	
<p>Note: NORMAL CLOSE VALVE</p> <p>* Vendor to Advise</p>				
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Instrumentation
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mass flow controller

Designation		Order No		
GENERAL	1	Tag Number	mfc203-208	
	2	Service	C3H6(propylene)	
	3	Line No.		
	4	P & ID No.		
PIPE	5	Line Size	1/2"	
	6	Line O.D	19.1mm	
	7	Wall Thickness	1.65mm	
PROCESS CONDITIONS	8	Pipe line Material	SS(TP316)	
	9	meter size		
	10	End connection size and rating	1/2" or VTA	
	11	End connection Material	SS316L/1.4404	
	12	Mass flow calibrated Range Factory Setting	0 to 12Kg/h	
	13	Density range		
	14	meter tube shape		
	15	Sensor housing Material	SS316	
	16	meter tube Material	SS316	
	17	pressure level	PN100	
	18	turn down ratio		
	19	Permissibe Gas Volume%		
	20	Accuracy Mass Flow Rate		
	21	Actual Presr lose in bar		
	TRANSMITTER	22	outlet	4-20mA dc passive Ex-i+HART
		23	Type Smart/Conventional	SMART
		24	Power Supply	External 24vdc
		25	Local Display	
		26	Local Display Integral With Meter/separate	
		27	Cable entry	
		28	Enclosure Rating	IP67
29		EX .Protection requirement	ATEX CAT 3. ZONE1	
30		Transmitter Housing	SS316L	
PROCESS DATA		31	Fluid	C3H6
	32	State	gas	
	33	Flow	Min Nor Max	
	34	Design Pressure	Design Temperature	
	35	In let press	Out let press	
	36	Allowable Prossure Drop	2-4bar	
	37	Operating Viscosly (Cp)		
	38	Density (kg/m2)operating Conditions		
OPTIONS	39	Compressibility Factor		
	40	Field Junction Box		
	41	local Indicator		
	42	Cable Glands		
	43	Hydraulic Pressure test		
	44	Mateial Certificate		
	45	Enclosure Rating Certificate	Included	
	46	Ex. Protection Certificate	Included	
<p>Note: NORMAL CLOSE VALVE</p> <p>* Vendor to Advise</p>				
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Instrumentation
Engineering Data Sheet
mass flow controller

Designation		Order No		
GENERAL	1	Tag Number	mfc204-209	
	2	Service	C4H8(1Butene)	
	3	Line No.		
	4	P & ID No.		
PIPE	5	Line Size	1/4"	
	6	Line O.D	19.1mm	
	7	Wall Thickness	1.65mm	
PROCESS CONDITIONS	8	Pipe line Material	SS(TP316)	
	9	meter size		
	10	End connection size and rating	1/4" or VTA	
	11	End connection Material	SS316L Compression fitting	
	12	Mass flow calibrated Range Factory Setting	0 to 2Kg/h	
	13	Density range		
	14	meter tube shape		
	15	Sensor housing Material	SS316	
	16	meter tube Material	SS316	
	17	pressure level	PN100	
	18	tube housing Pressure range		
	19	turn down ratio		
	20	Permissible Gas Volume%		
	21	Accuracy Mass Flow Rate	0.2%F.S.M	
	22	Actual Pressure loss in bar		
	TRANSMITTER	23	outlet	4-20mA dc passive Ex-i+HART
		24	Type Smart/Conventional	SMART
		25	Power Supply	External 24vdc
		26	Local Display	
		27	Local Display Integral With Meter/separate	
		28	Cable entry	
29		Enclosure Rating	IP67	
30		EX Protection requirement	ATEX CAT 3. ZONE1	
PROCESS DATA	31	Transmitter Housing	SS316L	
	32	Fluid	C4H8 gas	
	33	Flow	Min Nor Max	
	34	Design Pressure	Design Temperature	
	35	In let press	Out let press	
	36	Allowable Pressure Drop	2-4bar	
	37	Operating Viscosity (Cp)		
	38	Density (kg/m ³) operating Conditions		
OPTIONS	39	Compressibility Factor		
	40	Field Junction Box		
	41	local Indicator		
	42	Cable Glands		
	43	Hydraulic Pressure test		
	44	Material Certificate	Included	
	45	Enclosure Rating Certificate	Included	
	46	Ex. Protection Certificate		
47	Model Number			
<p>Note: NORMAL CLOSE VALVE</p> <p>* Vendor to Advise</p>				
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Instrumentation Engineering Data Sheet mass flow controller

Designation		Order No		
GENERAL	1	Tag Number	mfc 106-107	
	2	Service	mfc CH4O(methanol)	
	3	Line No.		
	4	P & ID No.		
	PIPE	5	Line Size	1/4" in
		6	Line O.D Wall Thickness	
		7	Pipe line Material	SS316
PROCESS CONDITIONS	Meter	8	meter size	
		9	End connection size and rating	1/4" in 1/4" Compression fitting or VTA*
		10	End connection Material	1/4" in 1/4" Compression fitting
		11	Mass flow calibrated Range Factory Setting	0g/h-3000g/h
		12	Density range	
		13	meter tube shape	
		14	Sensor housing Material	SS316
		15	meter tube Material	SS316
		16	Pressure level	PN100
		17	tube housing Pressure range	
		18	turn down ratio	
		19	Permissibe Gas Volume%	
	20	Accuracy Mass Flow Rate	0.2%F.S.M.	
	21	Transmitter Housing	SS316L	
	TRANSMITTER	22	outlet	4-20mA dc passive Ex-i
		23	Type Smart/Conventional	
		24	Power Supply	External 24vdc
		25	Local Display	
		26	Local Display Integral With Meter/separate	
		27	Cable entry	3 Meter cables with Mfc socket
		28	Enclosure Rating	IP65
		29	EX .Protection requirement	ATE CAT 3,Zone 2(II 3 G/D Ex na II T4)
		30	Transmitter Housing	ss316L
	PROCESS DATA	31	Fluid State	Liquid CH4O
		32	Flow Min Nor Max	
		33	Design Pressure Design Temperature	7Bar 60 C°
		34	inlet pressure outlet pressure	5 2bar
		35	Allowable Prossure Drop	3bar
		36	Operating Viscoslty (Cp)	
		37	Density (kg/m2)operating Conditions	
38		Compressibility Factor		
OPTIONS	39	Calibration	With factory calibration certificate	
	40	Certificater	Certificate of origin	
	41	Cable Glands		
	42	Hydraulic Pressure test		
	43	Mateial Certificate		
	44	Enclosure Rating Certificate		
	45	Ex. Protection Certificate		
	46	Model Number		

Note: The sizing of control valve shall be done by manufacturer and the proper valve shall be suggested.

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Instrumentation Engineering Data Sheet mass flow controller

Designation		Order No			
GENERAL	1	Tag Number	mfc 101		
	2	Service	mfc H2O		
	3	Line No.			
	4	P & ID No.			
	PIPE	5	Line Size	1/4" in	
		6	Line O.D Wall Thickness		
		7	Pipe line Material	SS316	
PROCESS CONDITIONS	Meter	8	meter size		
		9	End connection size and rating	1/4" in 1/4" Compression fitting or VTA*	
		10	End connection Material	1/4" in 1/4" Compression fitting	
		11	Mass flow calibrated Range Factory Setting	0g/h-3000g/h	
		12	Density range		
		13	meter tube shape		
		14	Sensor housing Material	SS316	
		15	meter tube Material	SS316	
		16	Pressure level	PN100	
		17	tube housing Pressure range		
		18	turn down ratio		
		19	Permissibe Gas Volume%		
	TRANSMITTER	20	Accuracy Mass Flow Rate	0.2%F.S.M.	
		21	Transmitter Housing	SS316L	
		22	outlet	4-20mA dc passive Ex-i	
		23	Type Smart/Conventional		
		24	Power Supply	External 24vdc	
		25	Local Display		
		26	Local Display Integral With Meter/separate		
		27	Cable entry	3 Meter cables with Mfc socket	
		28	Enclosure Rating	IP65	
		29	EX .Protection requirement	ATE CAT 3,Zone 2(II 3 G/D Ex na II T4)	
		30	Transmitter Housing	ss316L	
		PROCESS DATA	31	Fluid State	Liquid H2O
			32	Flow Min Nor Max	
			33	Design Pressure Design Temperature	7Bar 60 C°
			34	inlet pressure outlet pressure	5 2bar
			35	Allowable Prossure Drop	3bar
			36	Operating Viscoslty (Cp)	
			37	Density (kg/m2)operating Conditions	
38	Compressibility Factor				
OPTIONS	39	Calibration	With factory calibration certificate		
	40	Certificater	Certificate of origin		
	41	Cable Glands			
	42	Hydraulic Pressure test			
	43	Mateial Certificate			
	44	Enclosure Rating Certificate			
	45	Ex. Protection Certificate			
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