OPERATION MANUAL

Electro-Pneumatic Regulator

IT10※※
IT20※※
IT40※※

－ I n d e x －

1. Outline

The model IT Electro-pneumatic regulator will proportionally convert an electrical signal to a pneumatic pressure. IT10※※、IT20※※、and IT40※※ are three models.

2. Specifications

Model		IT10**		IT20**					IT40**				
Output pressure range Mpa {kgf/cm²} Note.1		0.001~0.05 {0.01~0.5}	0.005~0.1 {0.05~1.0}	0.005~0.1 {0.05~1.0}	0.005~0.35 {0.05~3.5}	0.005~0.5 {0.05~5.1}	0.005~0.7 {0.05~7.1}	0.005~0.9 {0.05~9.1}	0.005~0.1 {0.05~1.9}	0.005~0.35 {0.05~3.5}	0.005~0.5 {0.05~5.1}	0.005~0.7 {0.05~7.1}	0
Supply pressure Mpa {kgf/cm²}		0.1~0.15 {1.0~1.5}	0.14~0.2 {1.4~2.0}	0.14~0.2 {1.4~2.0}	0.4~0.6 {4.1~6.1}	0.55~0.7 {5.5~7.1}	0.75~0.9 {7.5~9.1}	0.95 0.99 {9.5~10.1}	0.14~0.2 {1.4~2.0}	0.4~0.6 {4.1~6.1}	0.55~0.7 {5.5~7.1}	0.75~0.9 {7.5~9.1}	0
Input Signal Note.2	Current type	2-wire type: 4～20mADC, 3-wire type: 0～20mADC											
	Voltage type	3-wire type: 0～5VDC, 0～10VDC Max. current less than 2mA											
Power Supply Note.2,3		3-wire type: 12VDC Max. current less than 11mA											
Impedance	4～20mA	500Ω (Input signal is 20mA)											
	0～20mA	200Ω											
	0～5,10V	30kΩ											
Linearity		±1.0% or less (Full span)											
Hysteresis		0.5% or less (Full span)											
Repeatability		±0.5% or less (Full span)											
Temperature Characteristics		±0.12% or less (Full span)/° C											
Ambient temp. and Fluid temp.		0～50℃											
Port size	SUP, OUT port	M5, PT, PF, NPT1/8		PT, PF, NPT1/4, 3/8					PT, PF, NPT1/4, 3/8, 1/2				
	EXH port			PT, PF, NPT 1/4					PT, PF, NPT, 1/4				
	Gauge port			PT, PF, NPT 1/8					PT, PF, NPT 1/8				
Electrical connection		Conduit type {Pg9, Lead wire: 0.5~1.5mm²(φ6~8)} DIN connector type											
Weight g	Conduit type	330		400					720				
	DIN type	290		370					690				

Note.1: Zero adjustment range 0-30%(Full Span)
Span adjustment range 70-100%(Full Span)

Note.2: When using this device at an unstable, electrically noisy environment, shield cable should be employed and also line filter, zett-lap, spark killer should be installed to weed out the noise; thus to provide desirable power source and signal.

Note.3: Fixed power source is indispensable for 3 wire. Electricity from this power source should be stable and ripple regulation less 0.5%

Note.4: Shield cable as lead wire is recommended to resist against noise.

3. How to order

IT series How to order Electro-pneumatic regulator

40:4000 type
20:2000 type
10:1000 type

1:Conduit type (Conventional connection)
0:DIN connector

4:1/2(4000 type)
3:3/8(2000, 4000 type)
2:1/4(2000, 4000 type)
1:1/8(1000 type)
0:M5(1000 type)

1:Psi, Mpa
0:K, Mpa

NIL :Without gauge
Pressure gauge※

Type — Kind of terminal — Port — Pressure gauge※

I.T

Pressure range

0:0.05Mpa {0.51kgf/cm²}
1:0.1 〃 {1.0 kgf/cm²}
2:0.35〃 {3.51kgf/cm²}
3:0.5 〃 {5.1 kgf/cm²}
4:0.7 〃 {7.1 kgf/cm²}
5:0.9 〃 {9.2 kgf/cm²}

Thread

NIL: :PTorM thread
N:NPT
T:NPTF
F:PF

Input signal

0:Current type 4-20mA
1:Current type 0-20mA
2:Voltage type 0-5V
3:Voltage type 0-10V

Bracket:
NIL: :Without Bracket
B: With Bracket

※When the instruction of pressure gauge is not indicated in particular, it is shown as follows.

Mpa

Pressure range	0.05	0.1	0.35	0.5	0.7	0.9
Pressure gauge	0.2	0.2	0.5	0.7	1.0	1.0

4 - Parts

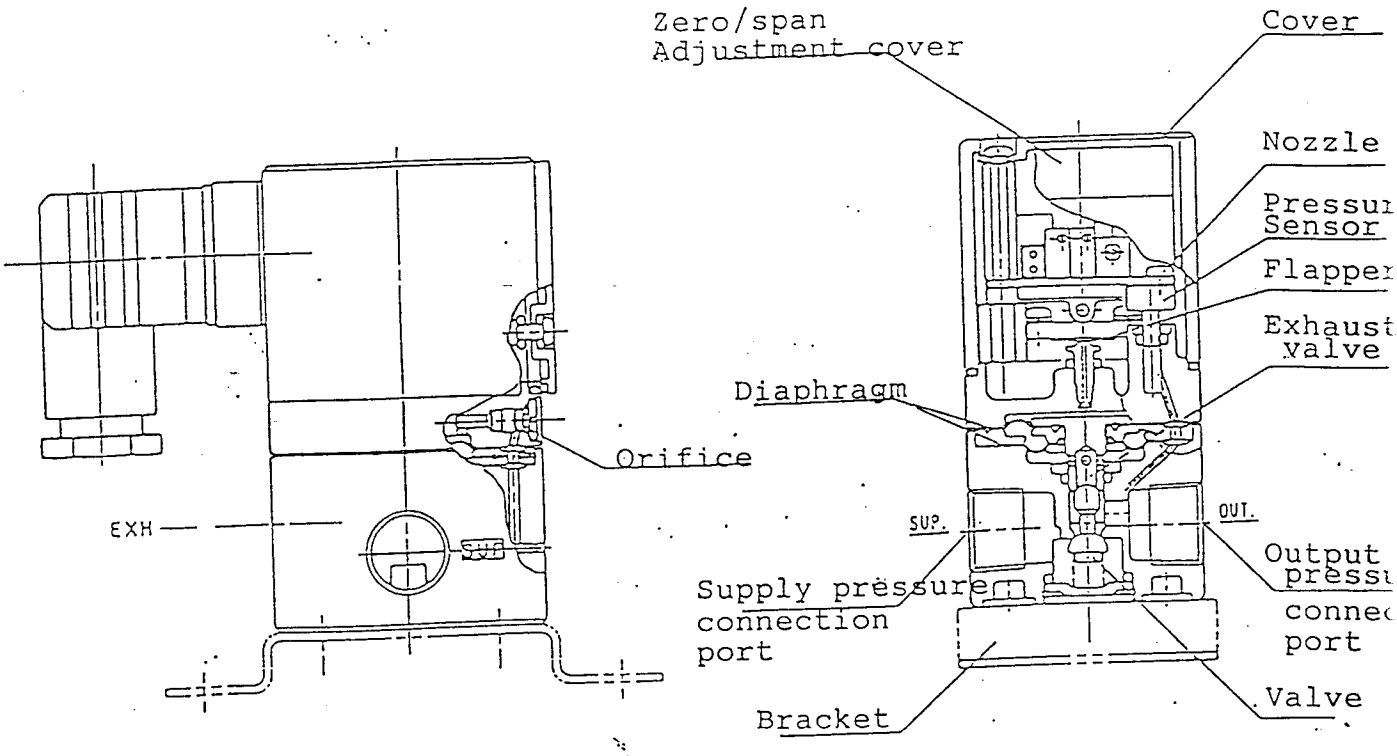
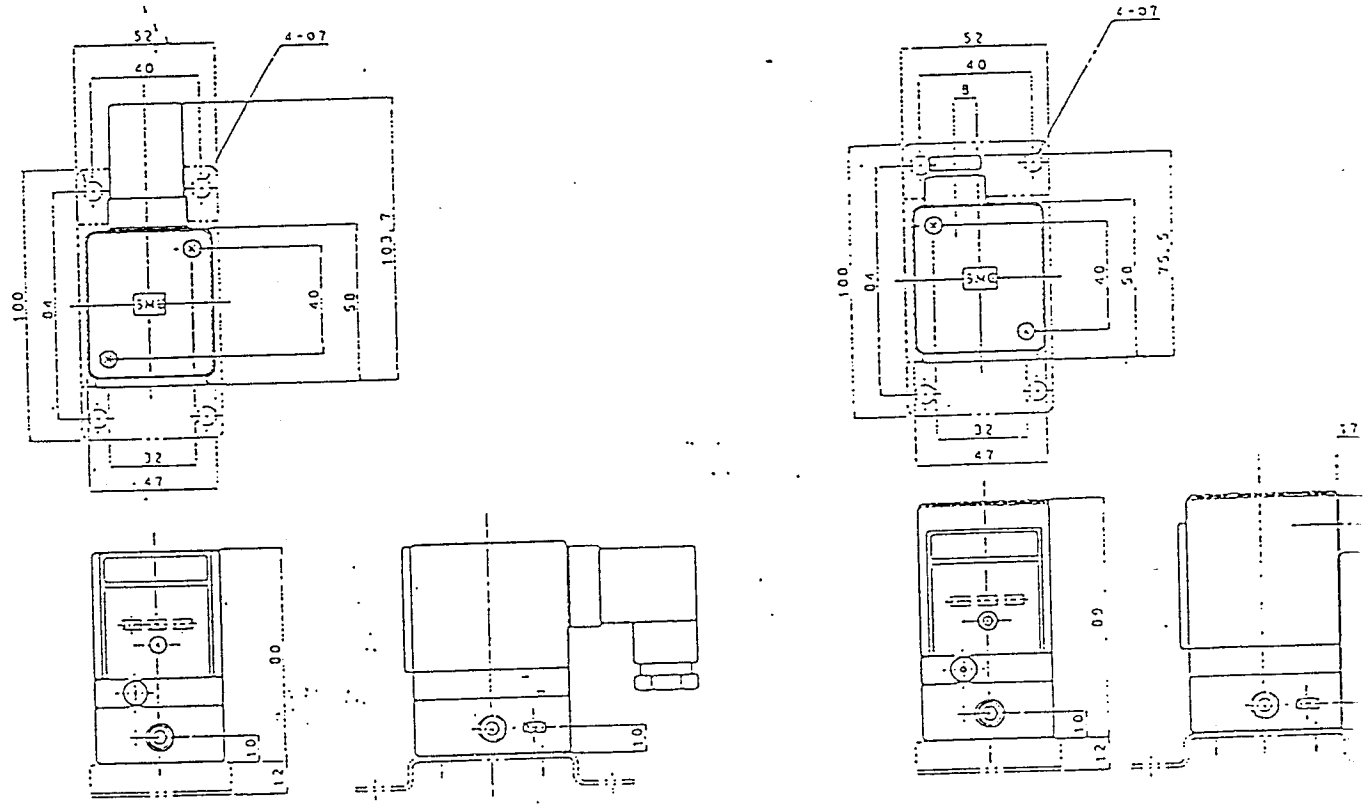


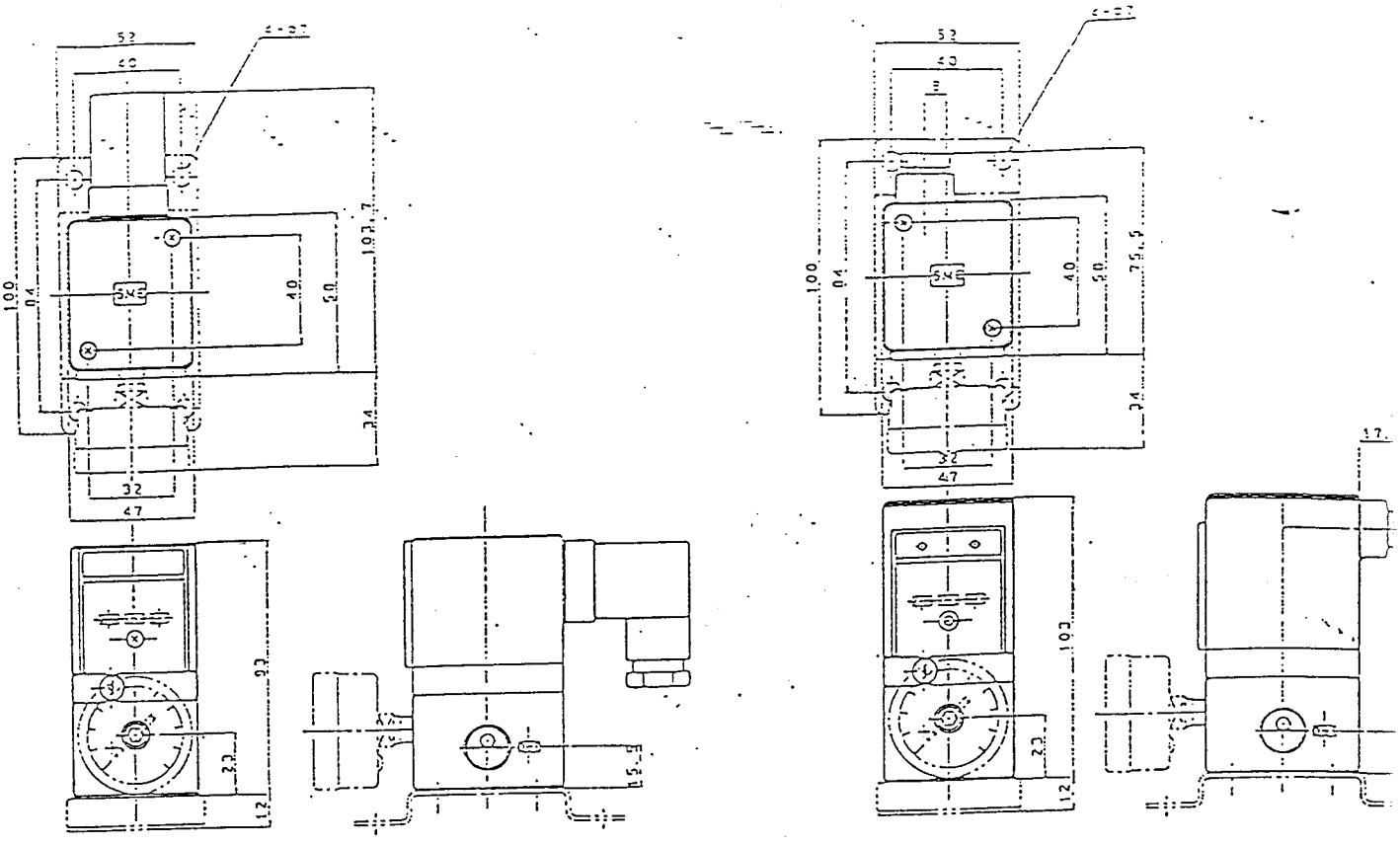
Figure - 1

5 - Dimensions



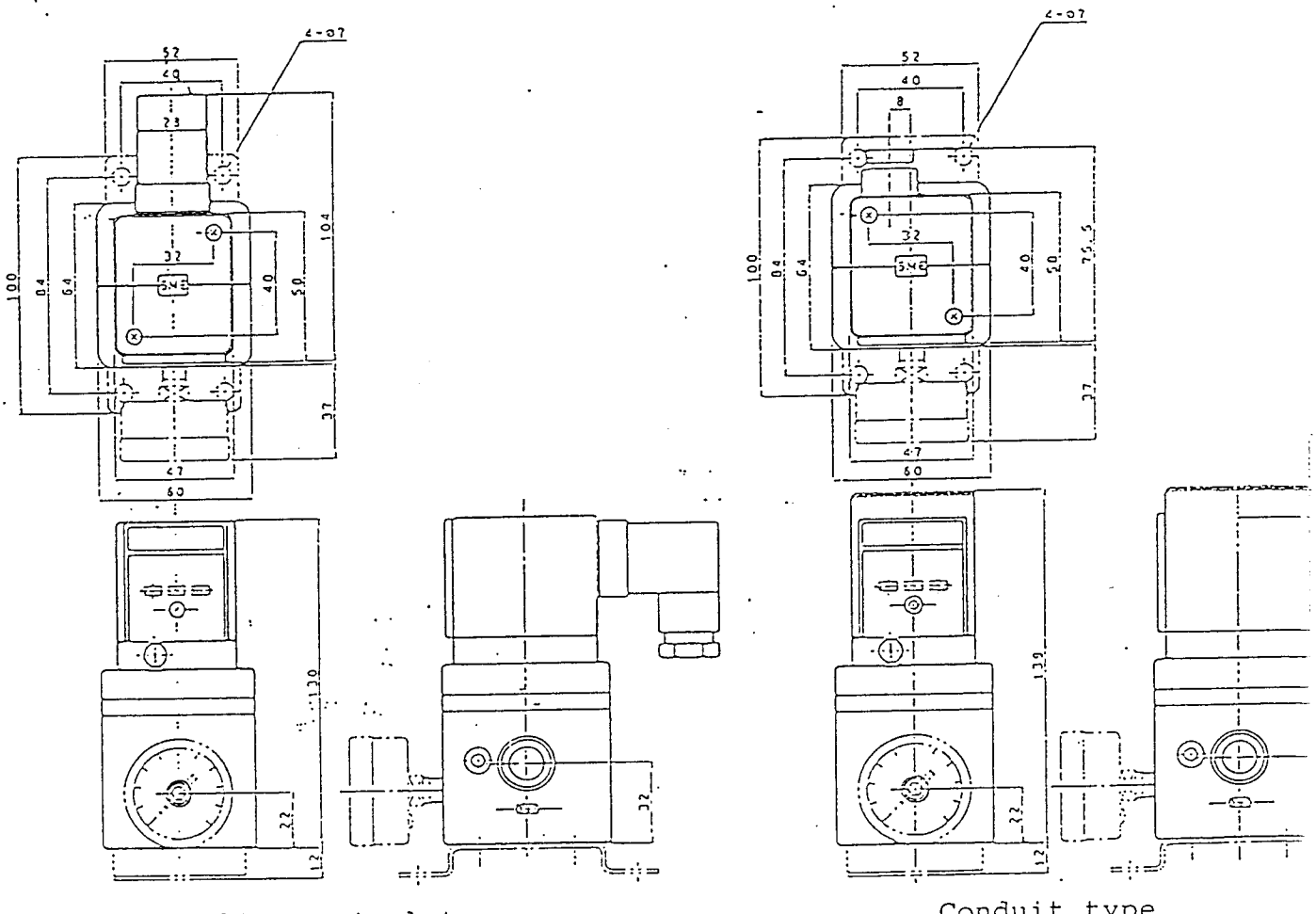
DIN terminal type

Conduit type



IT2000

Figure — 3



IT4000

6. Operation Principle

Greater the input signal, flapper ①, which is made of piezo-electric device is bent to the direction to close the nozzle②. Consequently, pressure in the back pressure chamber ③comes on to the upper of diaphragm④ and to push exhaust valve ⑤down and thence, working with this movement, inner valve ⑥ moves downward. And a part of supply pressure becomes output pressure. This output pressure is converted into electric signal through pressure sensor ⑦ and is feed back to controller ⑧. The controller ⑧ to attain an equilibrium this signal with the input signal and thus it always provides proportional output pressure with the input signal.

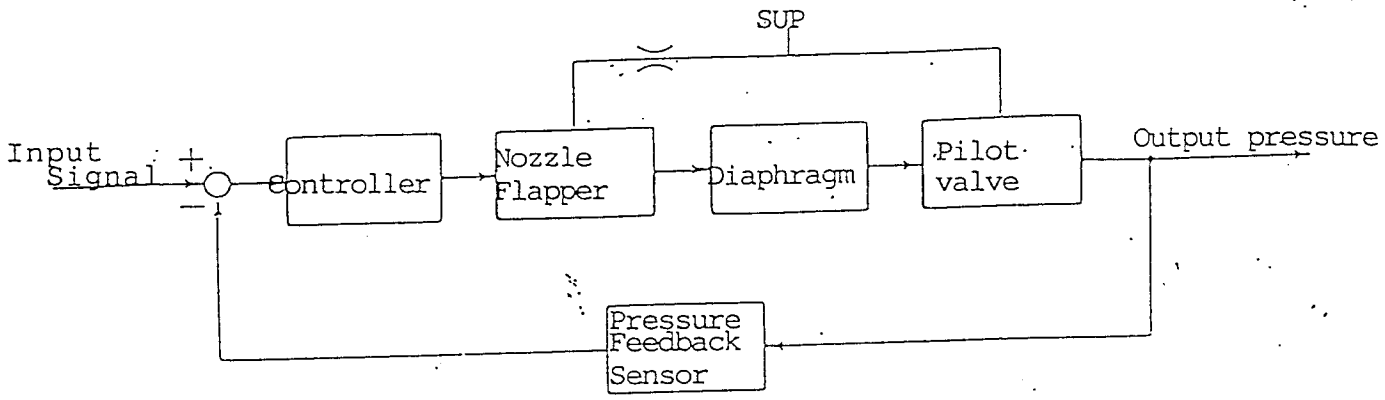


Figure — 5

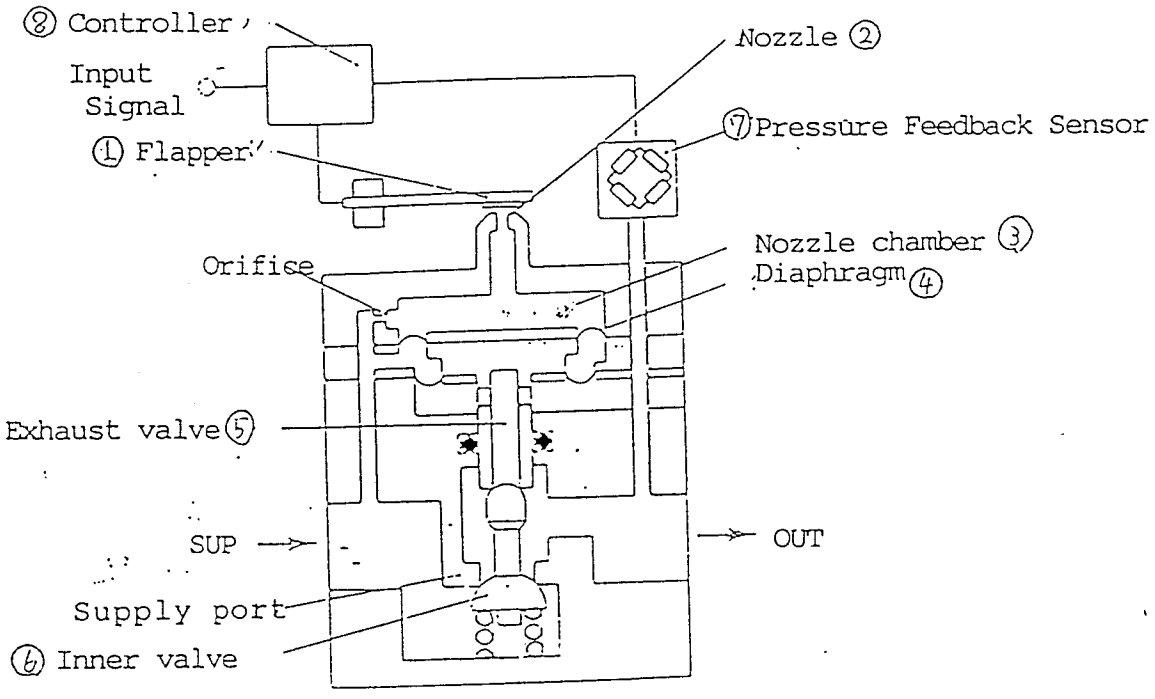


Figure — 6 Operation Principle

7. Piping and Wiring

7.1 Piping for pneumatic circuit

Port sizes are ~~1/8~~ M5, 1/4, 3/8 or 1/2 female screw for both SUP and OUT. Prior to connect the pipe, air-flashing should be thoroughly carried out to prevent cutting scales, sealing tape and other foreign matter invade into the device. Since this device contains precision elctronic parts, air to be used should particularly be clean and dry.

EXH port is M5, 1/8 female screw. Silencer(Our products AN series)is recommended in case of big capacity of output side for the purpose of relief function. Also, in case of convergence exhaust of piping outside from EXH port, port size more than ϕ5mm is required. When the piping less than ϕ5mm is used, the exahust air is throttled and bad operation such as hunting sometimes occurrs.

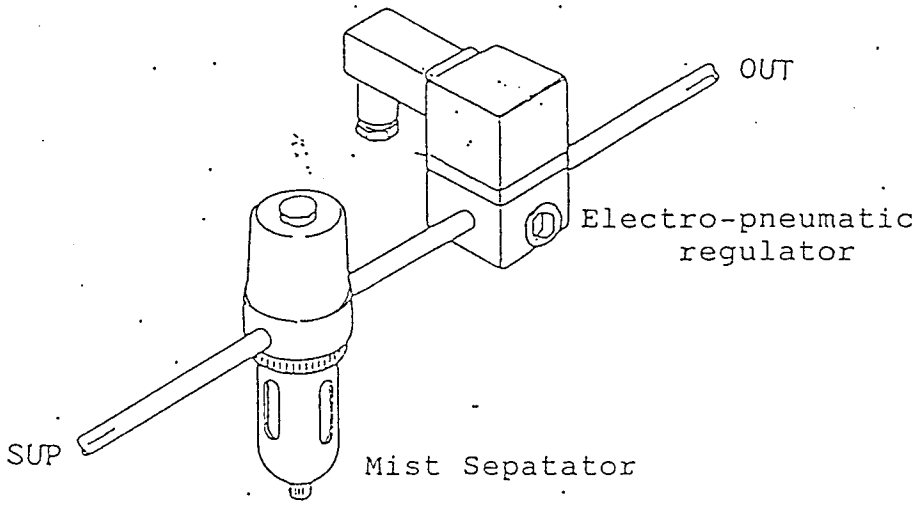


Figure-7 Air Piping

7. 2 Electric wiring

Take care thoroughly that the current signal type is different from the voltage signal type in wiring.

Applicable lead wire is 0.5∼1.5mm^2.

Be careful thoroughly of handling because the circuit is sometimes damaged when the monitor output terminal is short-circuited.

1. DIN type

1−1. Current type: 2-wire type 4~20(mA)
Impedance: Input signal 20(mA) under supplying 500(Ω)

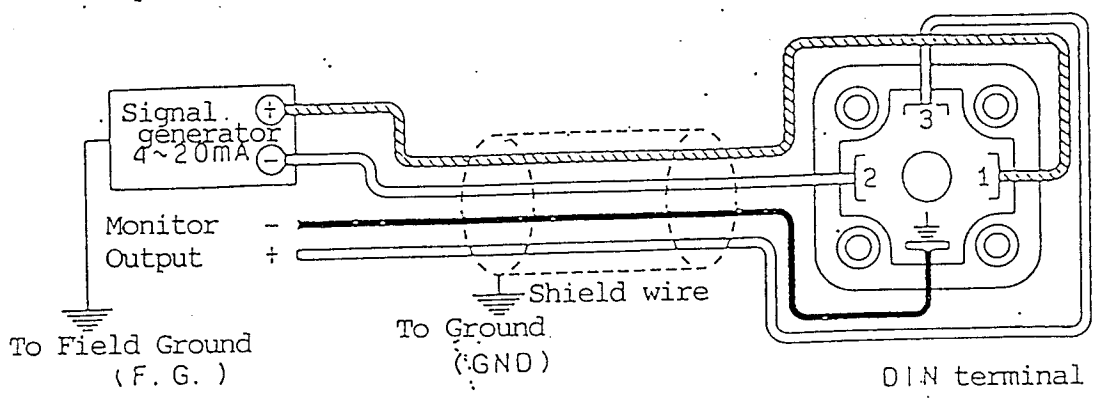


Fig. −8

1−2. Voltage type 3-wire type 0~5, 0~10(V)
Impedance: 30(kΩ)

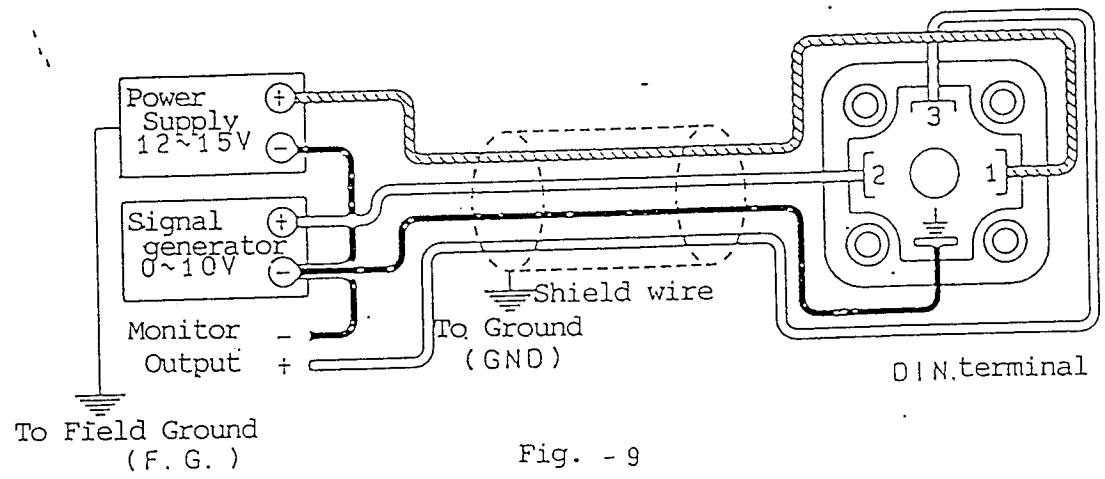


Fig. -9

1−3. Current type 4-wire type 0~20 (mA)
Impedance: 200(Ω)

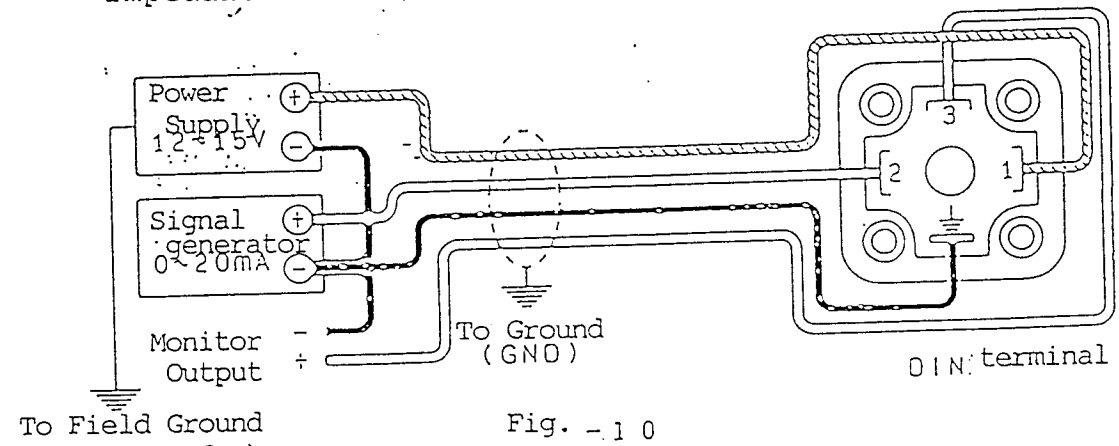


Fig. -10

2. Conduit type

2－1. Current type 2-wire type 4~20(mA)
Impedance: Input signal 20(mA) under supplying 500(Ω)

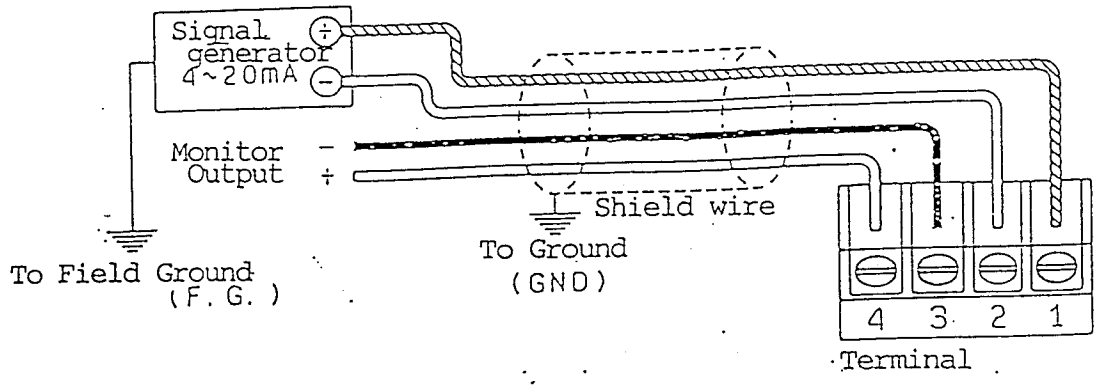


Fig.－11

2－2. Voltage type 0～5, 0～10 (V)
3-wire type
Impedance : 30 (kΩ)

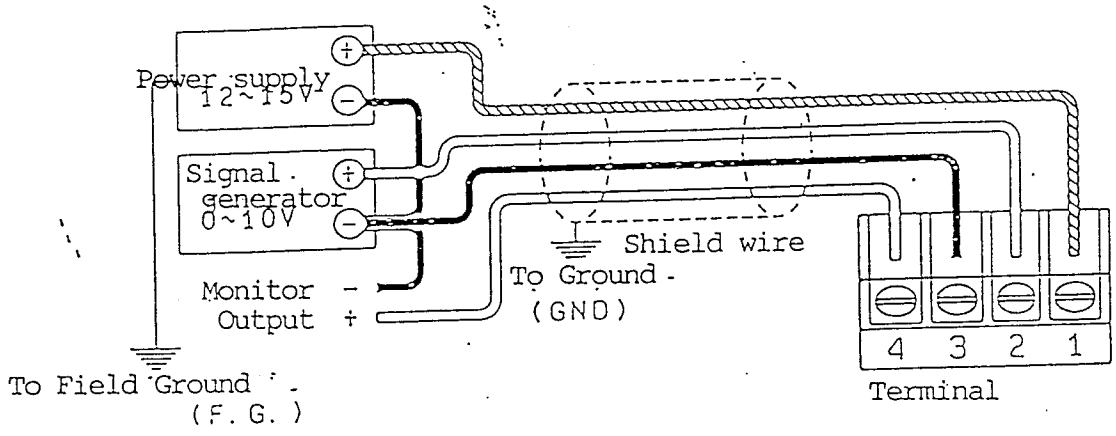


Fig.－12

2－3. Current type 0～20 (mA)
4-wire type
Impedance: 200 (Ω)

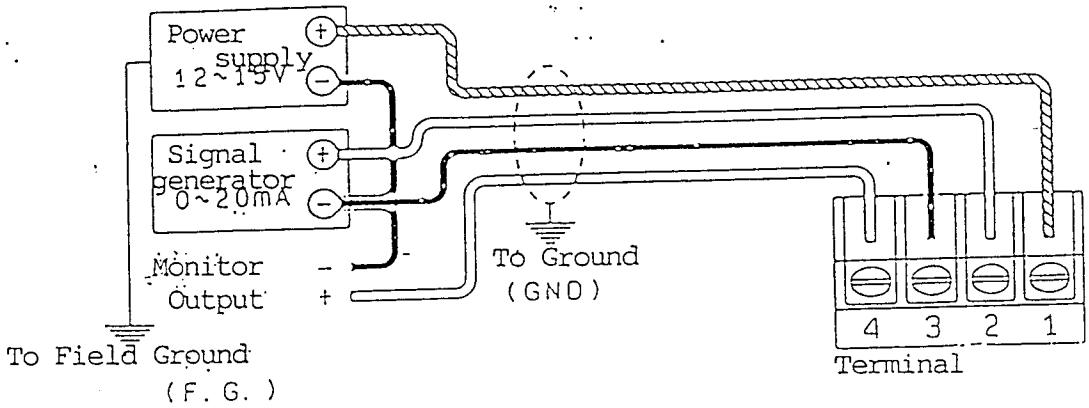


Fig.－13

8. Span, Zero and Reponse Adjustment

8.1 Adjustment of Span and Zero point

Span and zero point adjustment are performed by rotating the screws with a small screwdriver with the cover of regulating section pushed upward by hand Rotating the span adjusting screw clockwise will cause the span to increase and counterclockwise to decrease. Rotating the zero point adjustment screw clockwise will cause the starting point to become higher. It is best to monitor output pressure while adjusting. Be careful not to turn the adjustment screws past maximum adjustment range as the unit may be damaged.

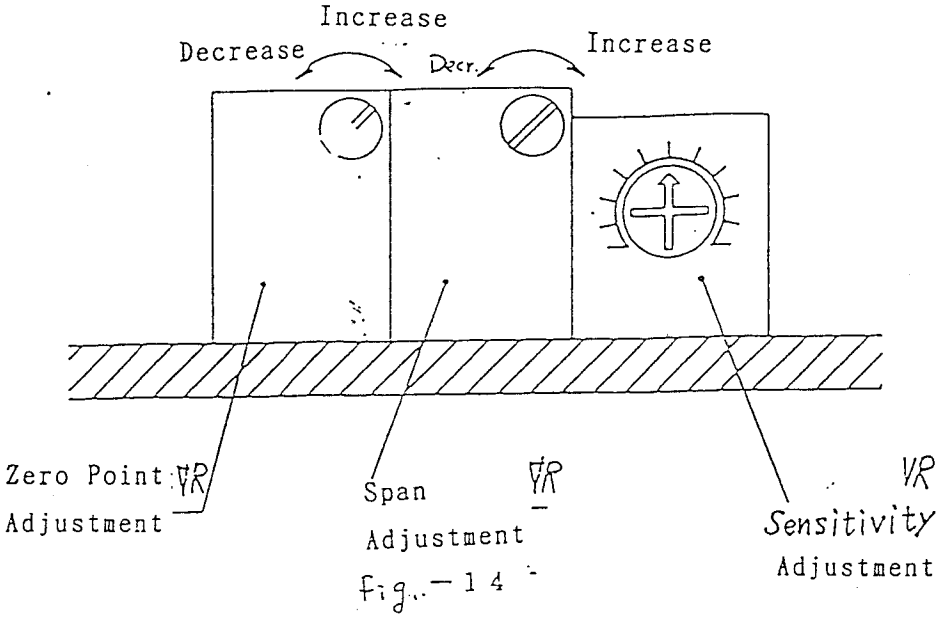
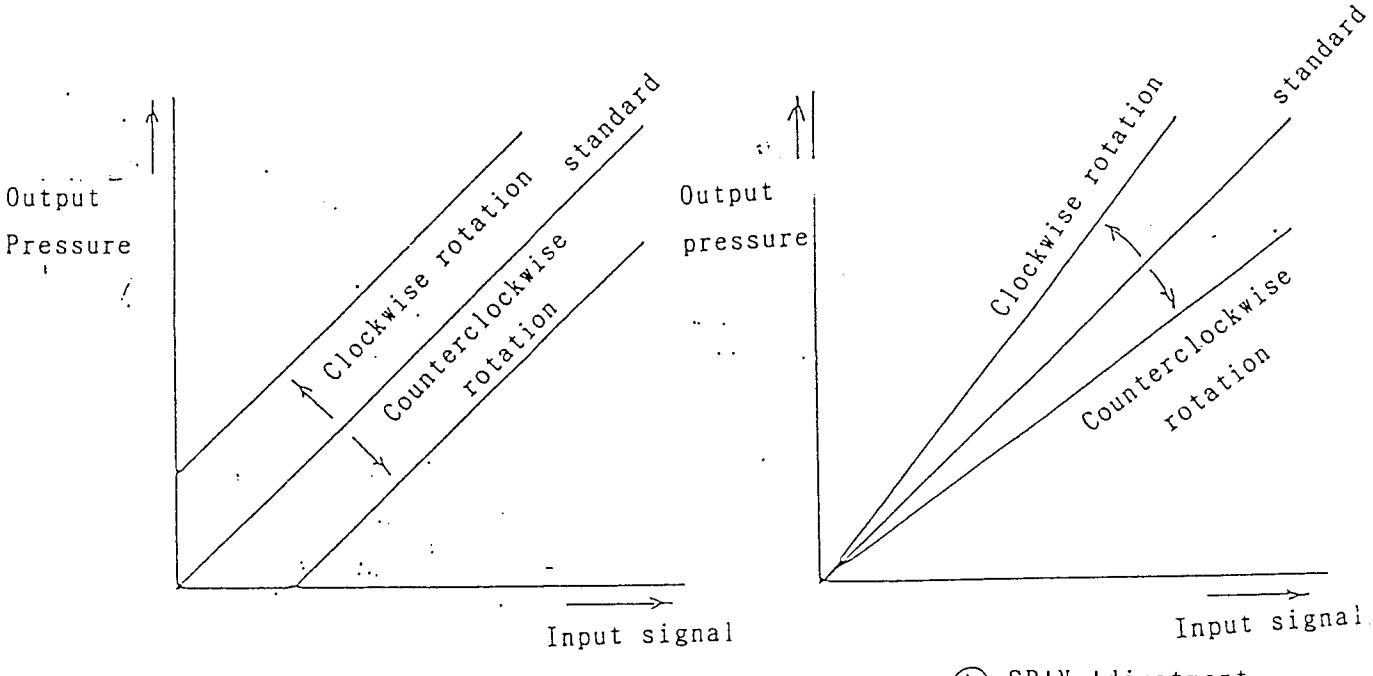


Fig. — 14

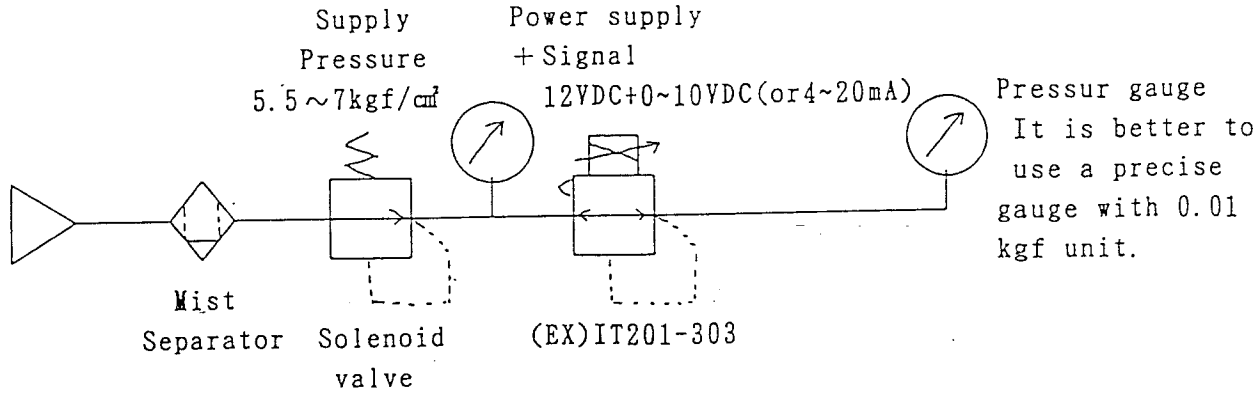


ⓐ ZERO Adjustment ⓑ SPAN Adjustment

Relation of Input-Output according to ZERO, SPAN Adjustment

The followings are the concrete methods to adjust. For example, in case of input signal 0～10VDC (4～20mA), output signal 0.5～5kgf/cm is gained by the following method.

①Piping



②After piping as above, switch on supply pressure and power supply.

③Ensure that the input signal is variable and output changes. When output signal is not change even if input signal is variable, turn left ZERO, SPAN adjustment volume completely. At that time, be careful of turning too much because the volume is endless and it may be damaged. The volume body is semi-transparent, so do not turn the volume more than it after inside mobile parts operate.

④Set the input signal 0VDC(4mA) and adjust the output pressure to be 0.5kgf/ ㎠ by turning ZERO adjustment volume. Pressure increases in case of turning right and decreases in case of turning left.

⑤Next, set the input signal 10VDC(20mA) and adjust the output pressure to be 5 kgf/㎠ by turning volume for SPAN adjustment. Pressure increases in case of turning right and decreases in case of turning left as same as ZERO adjustment volume.

⑥Set the input signal 0VDC(4mA) again, adjust the output pressure to be 0.5kgf/ ㎠ by using the ZERO adjustment volume.

⑦When the input signal is 0～10VDC (4～20mA) by repeating above operation two or three times, the output pressure can be adjusted to be 0.5 ～ 5kgf/㎠

8.2 Sensitivity Adjustment

Sensitivity Adjustment Screw is turned with a small screwdriver. Sensitivity is decreased by turning clockwise and is increased by turning counterclockwise.

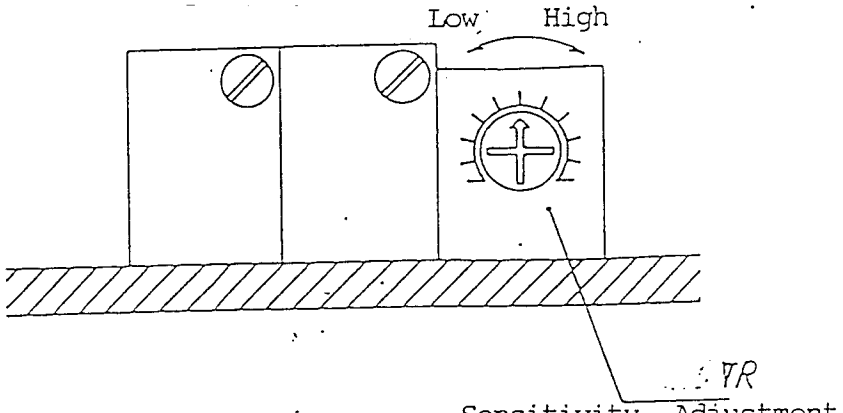


Fig. －16

8.3 Output pressure set value in case of shipment.

In case of shipment, the following values are adjusted.

Type	Output Pressure Mpa {kgf/㎠}	
IT1000	0.001～0.05	{0.01～0.51}
IT1010	0.005～0.1	{0.05～1.0 }
IT2010	0.005～0.1	{0.05～1.0 }
IT2020	0.005～0.35	{0.05～3.51}
IT2030	0.005～0.5	{0.05～5.1 }
IT2040	0.005～0.7	{0.05～7.1 }
IT2050	0.005～0.9	{0.05～9.2 }
IT4010	0.005～0.1	{0.05～1.0 }
IT4020	0.005～0.35	{0.05～3.51}
IT4030	0.005～0.5	{0.05～5.1 }
IT4040	0.005～0.7	{0.05～7.1 }
IT4050	0.005～0.9	{0.05～9.2 }

9. Maintenance and Inspection

9.1 When the supply pressure air become contaminated or when it contains moisture to such a degree that when the drain cock of the filter opened, condensate will be drained, it is also contaminated. This will cause trouble ; take corrective action to purify theair pressure source.

9.2 Replacement of Restriction Assembly

When the filter for restriction gets clogged with carbon particles, replace the restriction assembly. Before doing so, be sure to turn off the power supply and pressure air.

10. Monitor Output Signal

The wiring for the output signal voltage can be accessed throuth the main wiring conduit. The output terminal is number four on the terminal block. The monitoring device must have an input inpedance of 100k or greater.

Monitor Output Voltage

Pressure range Mpa {kgf/cm²}	Input signal	Valve-outlet pressure Mpa {kgf/cm²}	Monitor voltage VDC
0.05 {0.51}	Current type mA	0	3±0.2
		0.05{0.51}	3.74±0.2
	Voltage type VDC	0	5±0.2
		0.05{0.51}	7.2±0.2
0.1 {1.0}	Current type mA.	0	3±0.2
		0.1{1.0}	3.74±0.2
	Voltage type VDC	0	5±0.2
		0.1{1.0}	7.2±0.2
0.35 {3.6}	Current type mA	0	3±0.2
		0.35{3.6}	3.74±0.2
	Voltage type VDC	0	5±0.2
		0.35{3.6}	7.2±0.2
0.5 {5.1}	Current type mA	0	3±0.2
		0.5{5.1}	3.74±0.2
	Voltage type VDC	0	5±0.2
		0.5{5.1}	7.2±0.2
0.7 {7.1}	Current type mA	0	3±0.2
		0.7{7.1}	3.74±0.2
	Voltage type VDC	0	5±0.2
		0.7{7.1}	7.2±0.2
0.9 {9.2}	Current type mA	0	3±0.2
		0.9{9.2}	3.66±0.2
	Voltage type VDC	0	5±0.2
		0.9{9.2}	6.98±0.2

(Note) The output voltage may vary a litte from unit to unit.

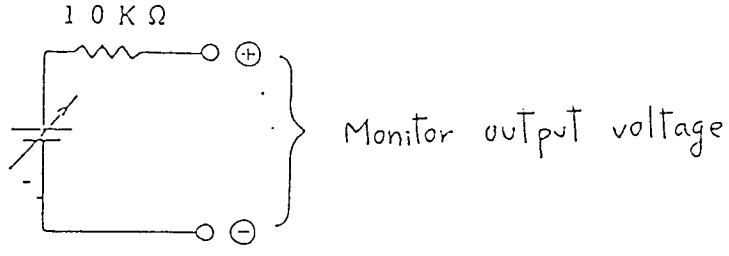


Figure-17 Monitor Output Voltage Equivalent Circuit

Electric Circuit

As it is shown in Fig. 18 (for voltage signal type) and in Fig. 19 (for current signal type), the circuit is designed by PID control, which pick up output pressure by pressure sensor.

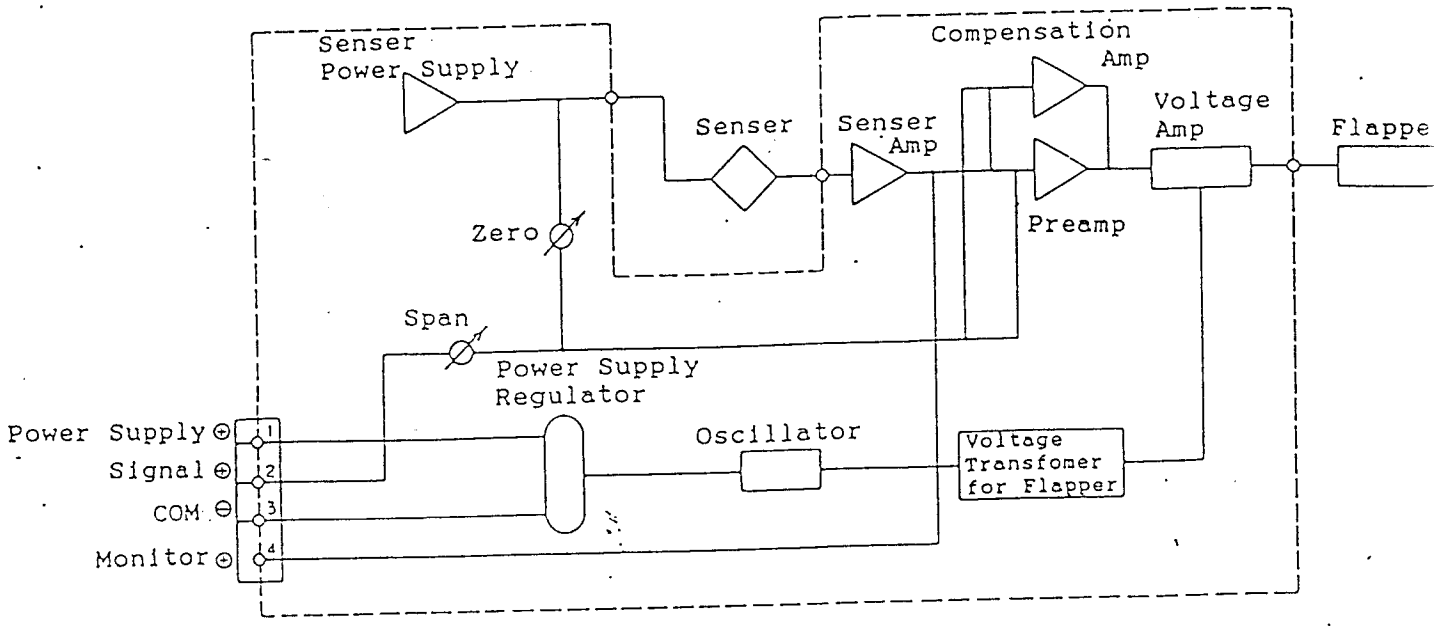


Fig. 18

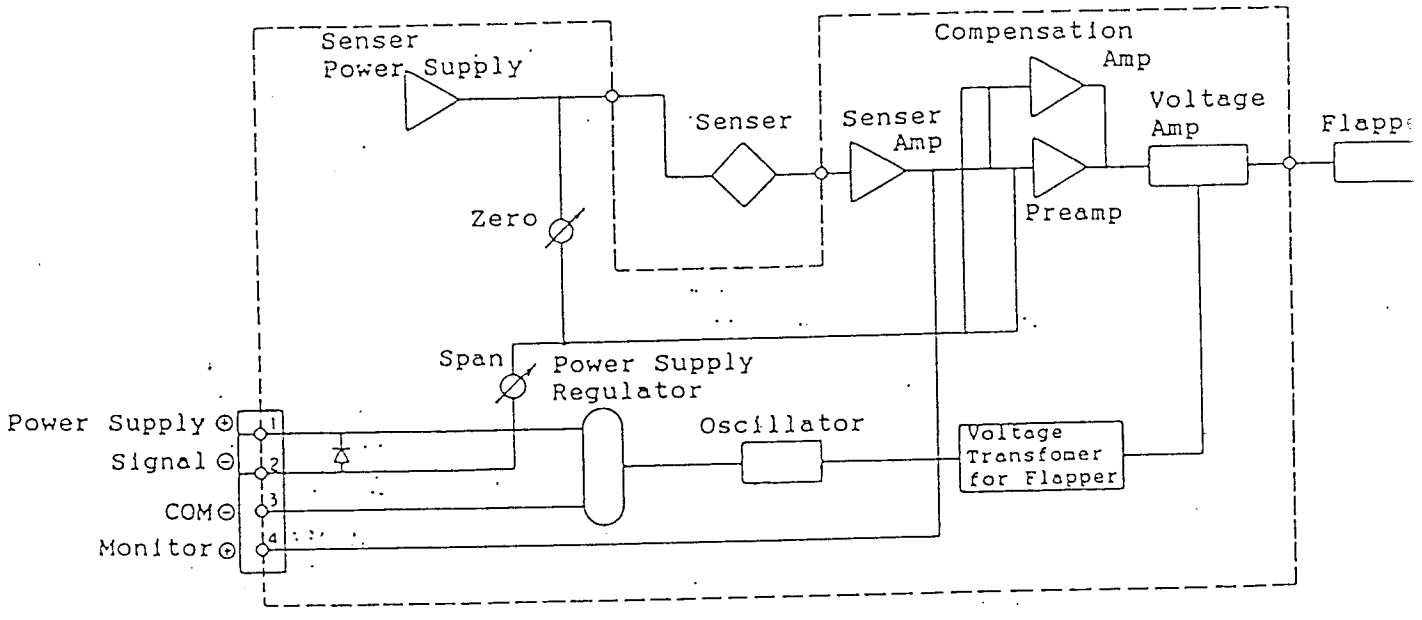


Fig. 19

12. Troubleshooting

Most problems with IT systems are a result of poor air quality, poor electrical power source, signal, and/or incorrect wiring connections. If there is a problem, check firstly the power supply, wiring and compressed air.

Refer to Fig.20 and Fig.21 below.

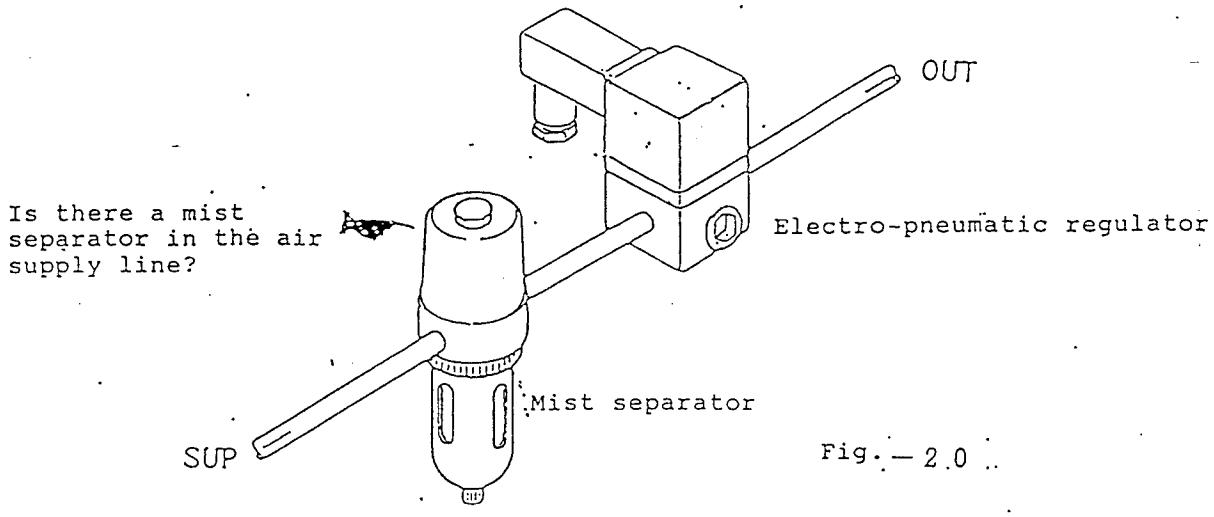


Fig.—20

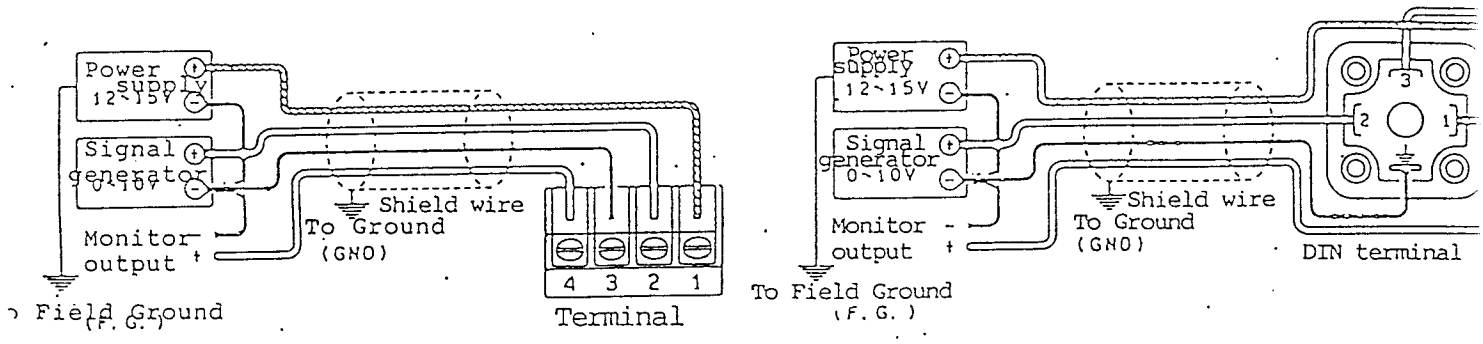


Figure-21

12.1 How to check

12.1.1. Is pneumatics normal?

①Supply pressure should be "ON". Also, power supply and controlled voltage should be off temporarily. (Note 1)

②Push lightly the flapper with the tip of finger in low direction. At that time, ensure whether there is the output pressure or not.

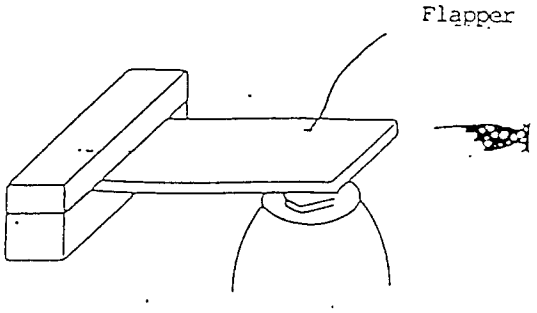


Fig.-22

③When there is the output pressure, pneumamtics is normal. Take a step shown in 12.1.2. " Is the flapper voltage normal? "

④When there is not the output pressure, pneumatics is out of order. Check the following items.

⑤Supply pressure should be "OFF " temporarily and the orifice should be removed. Then ensure that any dust or carbon are not attached to the end of orifice. Any dust or carbon lead that the output pressure cannot be build up entirely.

Remove with -screwdriver. When mounting again after ensuring, tighten it clockwise completely.

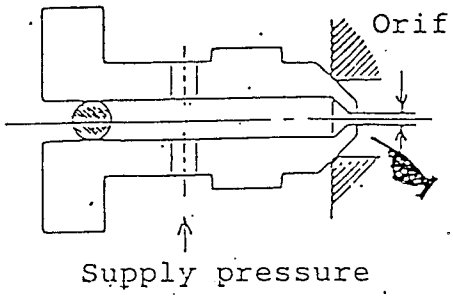


Fig.－23

⑥When there is no problem with the orifice , the diaphragm "o " ring is damaged. Therefore, replace parts. ~~Refer to Page~~ .

(Note.1)Flapper is made of ceramic material, so sufficient care should be taken in case of ensuring the output pressure because excessive force and displacement cause the damage.

12.1.2. Is the flapper voltage normal?

1. Take the measurement (Note 2) with the supply pressure turned "OFF " and the electrical power supply turned "ON" . Leave the span and zero adjustments as is. When this flapper voltage is 100v ± 20v, both circuit are normal.

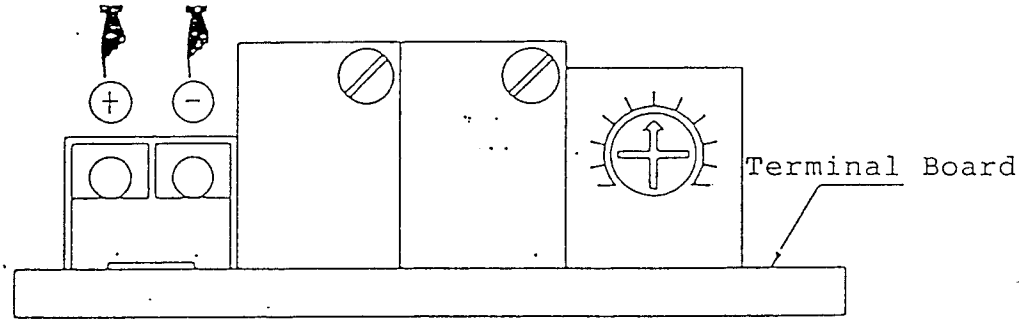


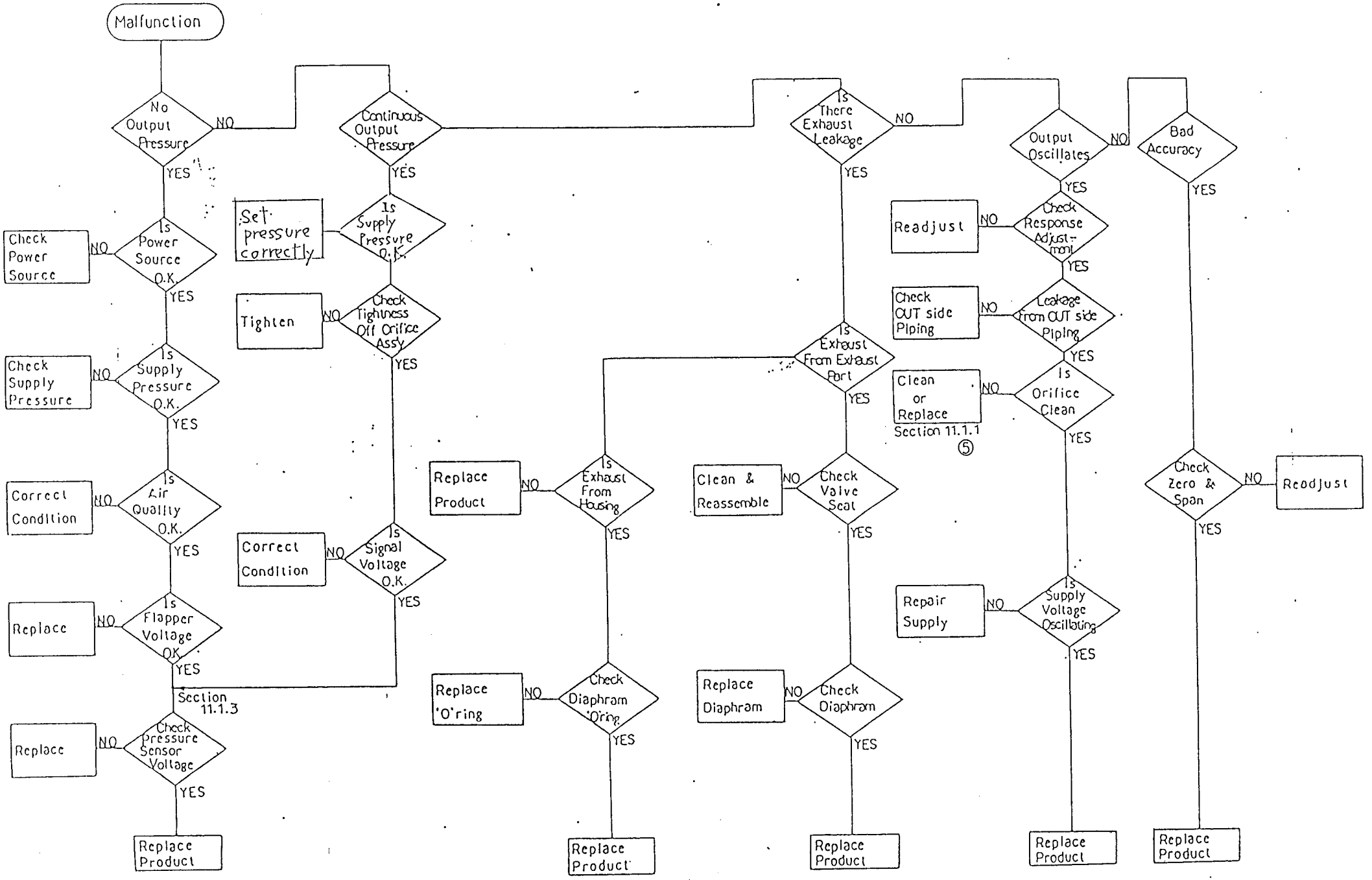
Fig. －24

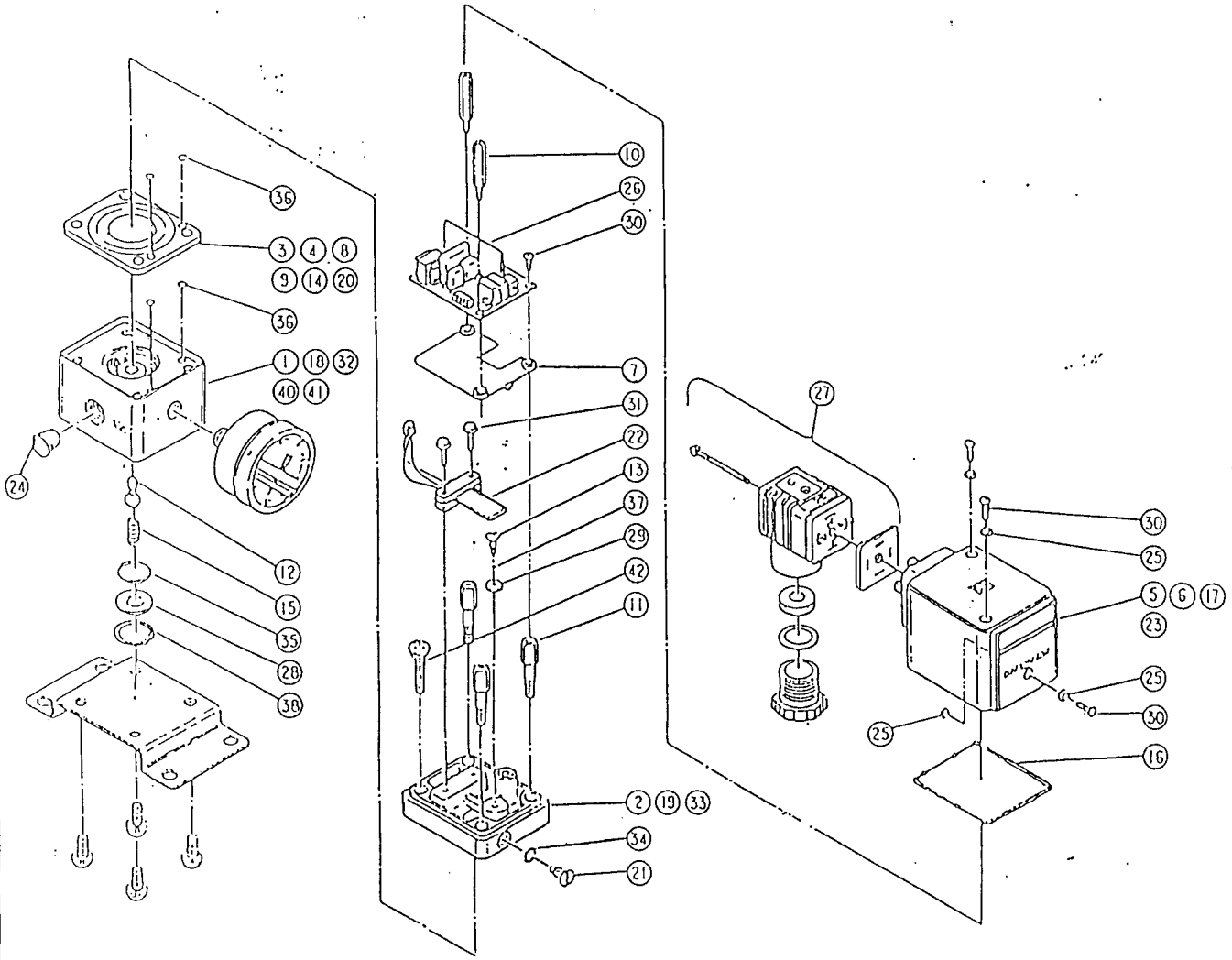
When the flapper voltage is low, electric parts are bad, so replace the terminal board.

(Note2): Note in case of measuring voltage.

Little current flows, so use a high impedence voltage meter.

Troubleshooting Flow Chart





Pressure gauge and bracket should be options.

42		十字穴付ナベセトネジ	SUS	1	M5x22ゼムス
41		芯材	SUS440	1	ø1
40		芯材	SUS440	1	ø2
39		プラグ	S541	1	R(PT1/8)
38		C型止メ輪	SUS	1	JIS B 2004 ※A10
37		"O"リング	NBR	1	ø1.0xø0.7
36		"O"リング	NBR	4	ø3xø1
35		"O"リング	NBR	1	P-14
34		"O"リング	NBR	1	ø4.5xø1.0
33		"O"リング	NBR	1	P-3
32		"O"リング	NBR	1	P-7 ミニフリック
31		十字穴付ナベセトネジ	SUS	2	M3x14ゼムス
30		十字穴付ナベセトネジ	SUS	4	M3x8
29		フジッスタブルロックナット	S65CM	1	ALN-4
28	T21-5-42	スプリング受ケ	SUP	1	
27	GDM3014JS	DINポチ		1	
26	別紙参照	圧力アンプ		1	
25	P3020347	平パッキン	ウレタン	4	
24	P3020117	フィルター	SUS	1	
23	P302030-2	ケーブルASSY(DIN)		1	
22	P302030-1	フラッパASSY		1	
21	P3020341	固定取り	SUS303	1	
20	P3020321	ダイヤフラム押エ	A2017	1	クロメート
19	P3020119	"O"リング押エ	C2001P	1	
18	P302042	"O"リング押エ	A2017	1	クロメート
17	P3020319	パッキンB	NBR	1	
16	P3020318	パッキンA	NBR	1	
15	P2240170	戻りスプリング	SUS304WPB	1	
14	P302043	押え	A5056	1	
13	P3020315	ノズル	SUS303	1	
12	P2240166	バルブ	SUS303	1	
11	P3020313	取付ボルト	SUS303	3	
10	P3020312	取付ボルト	C3604D	2	Niメッキ
9	P3020311	ダイヤフラムB	NBR	1	
8	P3020310	ダイヤフラムA	NBR	1	
7	P302030	スペーサ	ABS	1	
6	P302037	取付台カバー	PP	1	
5	P302036	ケースカバー	ABS	1	
4	P302035	ダイヤフラムデスク	AOC12	1	クロメート
3	P302034	受圧ばリング	AOC12	1	クロメート
2	P302033	ノズル押え	AOC12	1	クロメート
1	P302041	バイロット押本体	AOC12	1	クロメート

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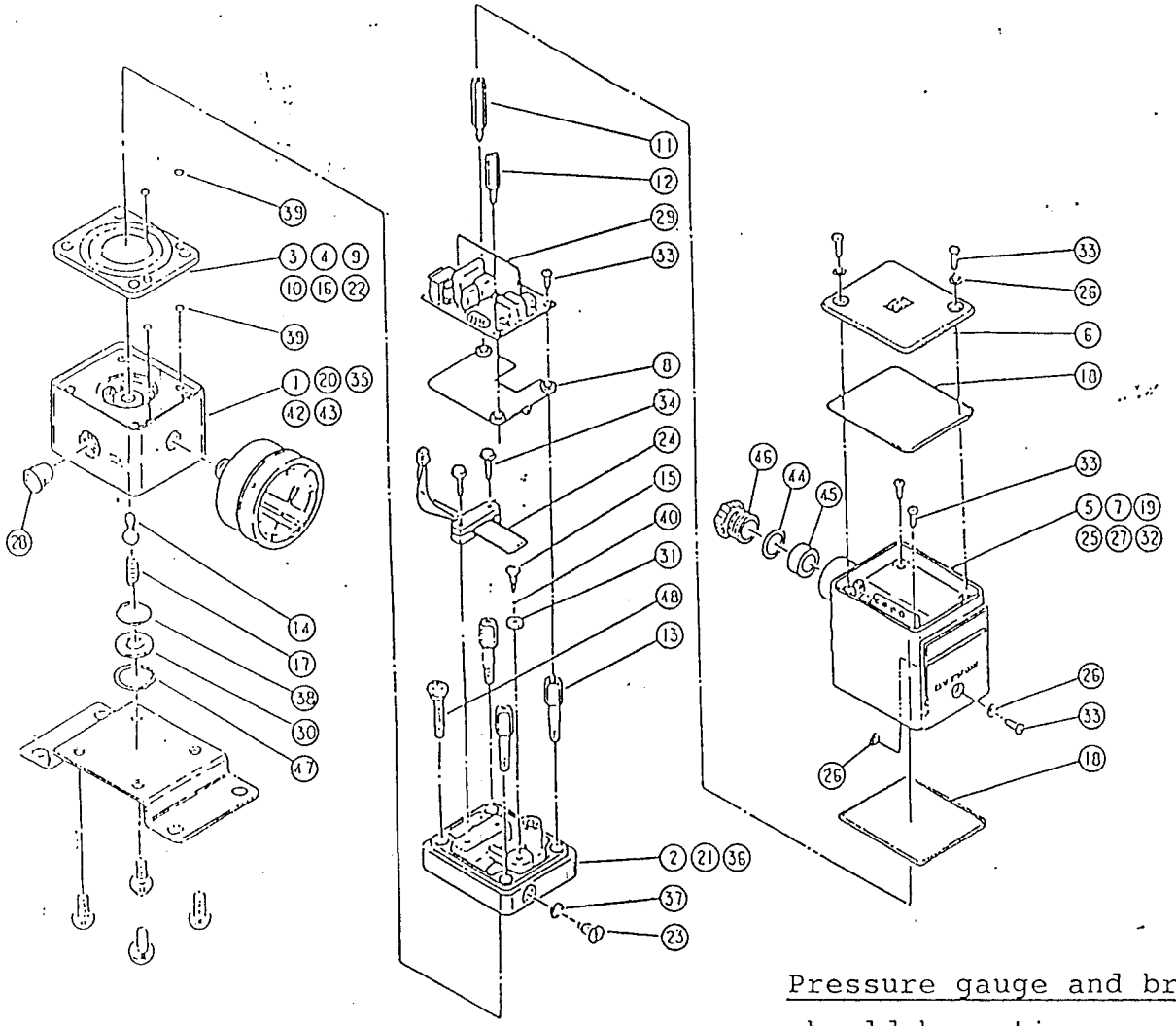
42				1	M5X22
41		Steel ball	SUS440	1	ϕ 1
40		Steel ball	SUS440	1	ϕ 2
39		Plug	SS41	1	R(PT1/8)
38		C type snap ring	SUS	1	JIS B 2804 18 for hole
37		'O"ring	NBR	1	ϕ 1.8xϕ 1.7
36		'O"ring	NBR	4	ϕ 3xϕ 1
35		'O"ring	NBR	1	P-14
34		'O"ring	NBR	1	ϕ 4.5xϕ 1.0
33		'O"ring	NBR	1	P-3
32		'O"ring	NBR	1	P-7
31			SUS	2	M3x14
30			SUS	4	M3x8
29		Adjustable lock nut	S65CM	1	ALN-4
28	T21-5-42	Spring seat	SUP	1	
27	GOM3014J5	DIN terminal		1	
26	Refer to another sheet	Pressure amplifier		1	
25	P3020347	Flat packing	URETHANE	4	
24	P3020117	Filter	SUS	1	
23	P302030-2	Cable Assy(DIN)		1	
22	P302030-1	Flapper Assy		1	
21	P3020341	Orifice	SUS303	1	
20	P3020321	Diaphragm cover cap	A2017	1	Chromate
19	P3020119	'O"ring cover cap	C2801P	1	
18	P302042	'O"ring cover cap	A2017	1	Chromate
17	P3020319	Packing B	NBR	1	
16	P3020318	Packing A	NBR	1	
15	P2240178	Valve ~~body~~ spring	SUS304YPB	1	
14	P302043	Exhaust valve	A5056	1	
13	P3020315	Nozzle	SUS303	1	
12	P2240166	Valve	SUS303	1	
11	P3020313	Mounting bolt	SU303	3	
10	P3020312	Mounting bolt	C36040	2	NI plating
9	P3020311	Diaphragm B	NBR	1	
8	P3020310	Diaphragm A	NBR	1	
7	P302038	Spacer	ABS	1	
6	P302037	Adjustment cover	PP	1	
5	P302036	Case cover	ABS	1	
4	P302035	Diaphragm desk	ADC12	1	Chromate
3	P302034	Constant pressure ring	ADC12	1	Chromate
2	P302033	Nozzle body	ADC12	1	Chromate
1	P302041	Pilot valve body	ADC12	1	Chromate



Pressure gauge and bracket should be options.

48		十字穴付ナベネジ	SUS	1	M5x22セムス
47		C型止メ具	SUS	1	
46		ケーブルブランドスクリュー	ABS	1	OIN46320 P09
45		シールパッキン	NBR	1	OIN46320 P09
44		メタルワッシャー	SPC	1	OIN46320 P09
43		芯材	SUS440	1	Ø1
42		芯材	SUS440	1	Ø2
41		プラグ	SS41	1	R(PT1/8)
40		"O"リング	NBR	1	Ø1.0xØ0.7
39		"O"リング	NBR	4	Ø3xØ1
38		"O"リング	NBR	1	P-14
37		"O"リング	NBR	1	Ø4.5xØ1.0
36		"O"リング	NBR	1	P-3
35		"O"リング	NBR	1	P-6 ミニブリック
34		十字穴付ナベネジ	SUS	2	M3x14セムス
33		十字穴付ナベネジ	SUS	6	M3x8
32		タッピングネジ	SUS304	2	M3x4
31		フジットスタブルロックナット	S65CM	1	ALN-4
30	T21-5-42	スプリング受ケ	SUP	1	
29	別紙参照	圧力アンプ		1	
28	P3020117	フィルター	SUS	2	
27	P3020346	底手台用パッキン	NBR	1	
26	P3020347	平パッキン	ウレタン	4	
25	P302030-3	ケーブルASSY		1	
24	P302030-1	フラッパASSY		1	
23	P3020341	固定板リ	SUS303	1	
22	P3020321	ダイヤフラム押エ	A2017	1	クロメート
21	P3020119	"O"リング押エ	C2001P	1	
20	P302042	"O"リング押エ	A2017	1	クロメート
19	P3020319	パッキンB	NBR	1	
18	P3020310	パッキンA	NBR	2	
17	P2240170	引張スプリング	SUS304YPB	1	
16	P302043	取付板	A5056	1	
15	P3020315	ノズル	SUS303	1	
14	P2240166	バルブ	SUS303	1	
13	P3020313	取付ボルト	SUS303	3	
12	P3020345	取付ボルト	C36040	1	Niメッキ
11	P3020344	取付ボルト	C36040	1	Niメッキ
10	P3020311	ダイヤフラムB	NBR	1	
9	P3020310	ダイヤフラムA	NBR	1	
8	P302030	スペーサ	ADS	1	
7	P302037	調整ダカバー	PP	1	
6	P3020343	ケースカバーB	ADS	1	
5	P3020342	ケースカバーA	ADS	1	
4	P302035	ダイヤフラムディスク	ADC12	1	クロメート
3	P302034	定圧ダリング	ADC12	1	クロメート
2	P302033	ノズル押ド	ADC12	1	クロメート
1	P302041	バイロット弁本体	ADC12	1	クロメート

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48		Cross-recessed pan head screw	SUS	1	M5x22
47		C type snap ring	SUS	1	
46		Cable brand screw	ABS	1	DIN46320 P09
45		Seal packing	NBR	1	DIN46320 P09
44		Metal washer	SPC	1	DIN46320 P09
43		Steel ball	SUS440	1	φ1.2
42		Steel ball	SUS440	1	φ2
41		Plug	SS41	1	R(PT1/8)
40		'O"ring	NBR1	1	φ1.8xφ0.7
39		'O"ring	NBR	4	φ3xφ1
38		'O"ring	NBR	1	P-14
37		'O"ring	NBR	1	φ4.5xφ1.0
36		'O"ring	NBR	1	P-3
35		'O"ring	NBR	1	P-6
34		Cross-recessed pan head screw	SUS	2	M3x14
33		Cross-recessed pan head screw	SUS	6	M3x8
32		Tapping screw	SUS304	2	M3x4
31		Adjustable lock nut	S65CM	1	ALN-4
30	T21-5-42	Spring seat	SUS	1	
29	Refer to anothe sheet	Pressure amplifier		1	
28	P3020117	Filter	SUS	2	
27	P3020346	Packing for terminal board	NBR	1	
26	P3020347	Flat packing	Urethane	4	
25	P302030-3	Cable Assy		1	
24	P302030-1	Flapper Assy		1	
23	P3020341	Orifice	SUS303	1	
22	P3020321	Diaphragm cap	A2017	1	Chromate
21	P3020119	'O"ring cap	C2801P	1	
20	P302042	'O"ring cap	A2017	1	Chromate
19	P3020319	Packing B	NBR	1	
18	P3020318	Packing A	NBR	2	
17	P2240178	Valve [redacted] spring	SUS304YPB	1	
16	P302043	Exhaust valve	A5056	1	
15	P3020315	Nozzle	SUS303	1	

14	P2240166	Valve	SUS303	1	
13	P3020313	Mounting bolt	SUS303	3	
12	P3020345	Mounting bolt	C360408	1	NI plating
11	P3020344	Mounting bolt	C360408	1	NI plating
10	P3020311	Diaphragm B	NBR	1	
9	P3020310	Diaphragm A	NBR	1	
8	P302038	Spacer	ABS	1	
7	P302037	Adjustment cover	PP	1	
6	P3020343	Case cover B	ABS	1	
5	P3020342	Case cover A	ABS	1	
4	P302035	Diaphragm desk	ADC12	1	Chromate
3	P302034	Constant pressure ring	ADC12	1	Chromate
2	P302033	Nozzle body	ADC12	1	Chromate
1	P302041	Pilot valve body	ADC12	1	Chromate